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SENSITIVITY ANALYSIS OF BIOCHEMICAL SYSTEMS USING HIGH-THROUGHPUT COMPUTING

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ABSTRACT

Mathematical modelling is playing an increasingly important role in helping us to understand biological systems. The construction of biological models typically requires the use of experimentally-measured parameter values. However, varying degrees of uncertainty surround virtually all parameters in these models.

Sensitivity analysis is one of the most important tools for the analysis of models, and shows how the outputs of a model, such as concentrations and reaction fluxes, are dependent on the parameters which make up the input. Unfortunately, small changes in parameter values can lead to the results of a sensitivity analysis changing significantly. The results of such analyses must therefore be interpreted with caution, particularly if a high degree of uncertainty surrounds the parameter values. Global sensitivity analysis methods can help in such situations by allowing sensitivities to be calculated over a range of possible parameter values. However, these techniques are computationally expensive, particularly for larger, more detailed models.

Software was developed to enable a number of computationally-intensive modelling tasks, including two global sensitivity analysis methods, to be run in parallel in a high-throughput computing environment. The use of high-throughput computing enabled the run time of these analyses to be drastically reduced, allowing models to be analysed to a degree that would otherwise be impractical or impossible.

Global sensitivity analysis using high-throughput computing was performed on a selection of both theoretical and physiologically-based models. Varying degrees of parameter uncertainty were considered. These analyses revealed instances in which the results of a sensitivity analysis were valid, even under large degrees of parameter variation. Other cases were found for which only a slight change in parameter values could completely change the results of the analysis.

Parameter uncertainties are a real problem in biological systems modelling. This work shows how, with the help of high-throughput computing, global sensitivity analysis can become a practical part of the modelling process.

DECLARATION

The University of Manchester
PhD by published work Candidate Declaration

Candidate Name: Edward Lander Kent

Faculty: Engineering and Physical Sciences

Thesis Title: Sensitivity analysis of biochemical systems using high-throughput computing

Declaration to be completed by the candidate:

I declare that no portion of this work referred to in this thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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CHAPTER

ONE

INTRODUCTION

1.1 Systems biology

Complex systems are made up of a number of smaller components, each performing its own function. The behaviour of the system as a whole depends on how these components interact with one another. This is certainly the case for systems engineered by us. Consider, for example, an electronic circuit board, or a car engine, where each component has a clearly defined purpose. The higher-level behaviour of such a system (intended or otherwise) is a result of the interactions between these components. Biological systems, though not engineered by us, are no different. For example, a series of enzyme-catalysed reactions, converting one chemical species to another through a number of intermediate steps could be considered a biological system. Likewise, the set of steps involved in transcribing a gene to produce a strand of mRNA, with various factors serving to promote and inhibit this process, can be considered a biological system. The dynamics of such systems are often non-linear, with complex behaviour resulting as an emergent property of the interactions between relatively simple components.[1–6]

The aim of systems biology is simple, but perhaps difficult to achieve – to gain an understanding of how biological systems function by looking at the interactions and dynamics between the individual components. This is in contrast to more traditional methods of molecular biology, in which individual components, such as enzymes or genes, are generally studied in isolation [7].

Though its aim may be simple, systems biology can be approached in different ways. So-called top-down systems biology uses large datasets, obtained through high-throughput 'omics' techniques, to measure genome-wide responses to perturbations [4]. These data can be integrated and analysed to make predictions regarding some lower-level biological process, and can lead to hypotheses which can be tested in further rounds of experimentation.

Conversely, bottom-up systems biology starts by examining the behaviour of the constituent parts of a system, incorporating a high level of mechanistic detail [4]. By incorporating experimentally-measured data on the properties of these components, such as the

kinetic properties of an enzyme, detailed mathematical models can be constructed, integrating the properties of the individual components to predict the dynamics of the overall system.

A key aspect of systems biology is the iterative cycle of 'wet' experimentation and 'dry' mathematical modelling [4]. Experimentally-measured data are used in the construction of the mathematical models. These models can be perturbed and analysed in ways that would not be possible through experimentation, in order to test predictions and create further hypotheses. In turn, these hypotheses can be tested through further experimentation, and the cycle begins again.

1.2 Modelling and simulation of biochemical systems

The use of mathematical modelling is a key component of the bottom-up systems biology approach. Typically, rate equations are constructed to describe the dynamics of the individual components, or variables, of the system, and the interactions between them. Collections of these rate equations can be treated as a set of ordinary differential equations (ODEs), and integrated to determine the behaviour of the overall system [6]. This method can be used to model systems at a molecular level, such as metabolic pathways, signal transduction pathways and gene regulatory systems, to higher-level units such as populations of cells.

At the molecular level, detailed reaction kinetics can be incorporated to represent enzyme-catalysed reactions. Appropriate reaction kinetics must be chosen for each reaction, depending on the enzyme catalytic mechanism, and whether modifiers such as activators or inhibitors are involved. Michaelis-Menten kinetics [8] (Equation 1.2.1) are one of the simplest and widely-used rate laws to describe the rate of change of substrate $\mathbf{X}$, exhibiting saturation in the presence of large amounts of substrate.

$$\frac{\mathrm{d}\mathbf{X}}{\mathrm{d}t} = \frac{V_{\max}\mathbf{X}}{K_m + \mathbf{X}} \tag{1.2.1}$$

After constructing the rate equations, parameter values must be selected for the model. These parameter values, together with the rate equations and initial starting state, will describe all aspects of the system. In the case of Michaelis Menten kinetics shown in Equation 1.2.1, the parameters are $V_{\max}$, the maximum rate of the reaction, and K_m, the Michaelis constant, which represents the concentration of substrate at which the reaction rate is half the value of $V_{\max}$. In many cases, these parameters can be measured experimentally *in vitro*, using isolated forms of the enzyme and substrate. However, it is often the case that individually measuring each parameter experimentally is not practical or possible. In these cases, parameters can be fitted using higher-level experimental data, obtained from the literature, or simply estimated. [1]

1.3 Sensitivity analysis

Sensitivity analysis is one of the most important tools for the analysis of models. In its most basic form, sensitivity analysis is the study of how much the output of a model depends on the input. Saltelli et al. [9] provide the following definition:

> "The study of how uncertainty in the output of a model (numerical or otherwise) can be apportioned to different sources of uncertainty in the model input."

In the context of biochemical systems modelling, sensitivity analysis tells us how much the outputs of the model, such as concentrations of chemical species, and reaction fluxes, depend on the parameter values of the rate equations.

1.3.1 Methods

In biochemical systems modelling, sensitivity analysis is typically performed by calculating sensitivity coefficients, which measure the impact of a perturbation of a model parameter p on a variable of the system y:

$$S_i^j = \frac{\mathrm{d}y_i}{\mathrm{d}p_j} \tag{1.3.1}$$

It is customary to scale these coefficients to account for differences in the magnitude of parameters and variables:

$$S_i^j = \frac{\frac{\mathrm{d}y_i}{y_i}}{\frac{\mathrm{d}p_j}{p_j}} = \frac{\mathrm{d}y_i}{\mathrm{d}p_j} \cdot \frac{p_j}{y_i} \tag{1.3.2}$$

A specific type of sensitivity analysis is metabolic control analysis (MCA), in which control coefficients are calculated to determine how the steady state reaction fluxes and variable concentrations depend on the reactions in the system [10–12]. For example, the concentration control coefficient for species $\mathbf{A}$ and reaction v_i is defined as:

$$C_i^A = \frac{\mathrm{d}\mathbf{A}}{\mathrm{d}v_i} \cdot \frac{v_i}{\mathbf{A}} \tag{1.3.3}$$

It is important to note that in MCA, control coefficients can only be calculated for parameters which affect the rate of a reaction in a linear fashion, such as an enzyme concentration, $V_{\max}$ or k_{cat} [10]. Sensitivity coefficients calculated for parameters which do not linearly affect a reaction rate are known as response coefficients, and are equivalent to the sensitivity coefficients defined in Equation 1.3.2.

One of the strengths of MCA is that it provides theorems which show how the distribution of control on a flux J or concentration S is distributed among the reactions v_i:

$$\sum_i C^J_{v_i} = 1 \tag{1.3.4}$$

$$\sum_i C^S_{v_i} = 0 \tag{1.3.5}$$

Perturbation by finite difference

Most models are too complex to solve analytically, and so a numerical ODE solver is used. In these cases we cannot analytically calculate the sensitivity coefficients described above. One way to approximate these coefficients is to perturb the model. For example, consider a simple model with a single parameter p and output $y = f(t, p)$. The sensitivity of y with respect to p is defined as:

$$S = \frac{\delta y}{\delta p} = \lim_{h \to 0} \frac{f(t, p + h) - f(t, p)}{h}. \tag{1.3.6}$$

Thus, for a sufficiently small discrete h, we can approximate S by

$$S \approx \frac{f(t, p + h) - f(t, p)}{h} \tag{1.3.7}$$

This method is simple to implement, and is therefore used by a number of popular software packages such as COPASI [13] (described in detail in Section 2.1.2) to calculate sensitivity coefficients.

Forward sensitivity analysis

An alternative method for calculating sensitivities is known as forward sensitivity analysis (reviewed in [14, 15]). If our model is composed of a set of ODEs, with model output $y \in \mathbb{R}^N$ and parameter set $p \in \mathbb{R}^{N_p}$, then:

$$\begin{aligned} \dot{y} &= g(t, y, p) \\ y(t_0) &= y_0(p). \end{aligned} \tag{1.3.8}$$

The vector s_i represents the sensitivity of the solution y with respect to parameter p_i, and is defined as:

$$s_i(t) = \frac{\delta y(t)}{\delta p_i}. \tag{1.3.9}$$

This vector satisfies the following equations, known as the forward sensitivity equations:

$$\begin{aligned} \dot{s}_i &= \frac{\delta f}{\delta y} s_i + \frac{\delta f}{\delta p_i} \\ s_i(t_0) &= \frac{\delta y_0(p)}{\delta p_i} \end{aligned} \tag{1.3.10}$$

which are derived by differentiating the original system 1.3.8 using the chain rule.

Sensitivity analysis can then be performed by solving the combined system of equations 1.3.8 and 1.3.10. This system of ODEs will be of size $N(N_S + 1)$, where N_S is the number of parameters for which we wish to calculate sensitivity coefficients.

Adjoint sensitivity analysis

The forward sensitivity analysis method described above requires solving an ODE system of size $N(N_S + 1)$, where N_S is the number of parameters for which we wish to calculate sensitivity coefficients, and N is the dimension of the output. The computational cost of computing sensitivities using this method can be high, especially when we wish to calculate sensitivities for a large number of parameters. In this situation, a method known as adjoint sensitivity analysis (reviewed in [14–16]) can be more efficient.

Rather than calculate solution sensitivities s_i, the adjoint sensitivity analysis method calculates the gradients of derived functionals of the solution with respect to the model parameters. If the solution of Equation 1.3.8 is $y(t)$, then the adjoint sensitivities are calculated by evaluating the gradient $\mathrm{d}G/\mathrm{d}p$ of

$$G(p) = \int_{t_0}^{t_f} g(t, y, p)\mathrm{d}t, \tag{1.3.11}$$

or the gradient $\mathrm{d}g/\mathrm{d}p$ of the function $g(t, y, p)$ at time t_f, where g must be smooth enough that such that $\delta g/\delta y$ exist and are bounded.

The gradient of G with respect to p is then

$$\frac{\mathrm{d}G}{\mathrm{d}p} = \lambda^T(t_0)s(t_0) + \int_{t_0}^{t_f} \left(\frac{\delta g}{\delta p} + \lambda^T \frac{\delta f}{\delta p} \right) \mathrm{d}t \tag{1.3.12}$$

where λ is selected such that

$$\dot{\lambda} = -\left(\frac{\delta f}{\delta y}\right)^T \lambda - \left(\frac{\delta g}{\delta y}\right)^T, \lambda(t_f) = 0 \tag{1.3.13}$$

and

$$s(t_0) = \frac{\delta y_0}{\delta p}. \tag{1.3.14}$$

Significantly, the parameters p are not explicitly defined in Equation 1.3.13, meaning that once the solution λ has been calculated, the gradient of G with respect to any parameter p can be found using Equation 1.3.12.

Both the forward and adjoint sensitivity analysis methods described above are implemented in the SUNDIALS Suite of Nonlinear and Differential/Algebraic Equation Solvers [14], specifically in the CVODES sensitivity-enabled solver [15].

1.3.2 Uses

The uses of sensitivity analysis are numerous. One good example is incremental model design [17]. Sensitivity analysis is able to tell us which parameters exert the most control on a particular property of the system – if a parameter has a large sensitivity coefficient, this implies that a relatively small change in the parameter value will result in a large change in the model output. It is therefore important that an accurate value for this parameter is determined. Conversely, if a parameter has a small sensitivity coefficient, a less accurate estimate of the parameter value may be acceptable.

Sensitivity analysis can also be used to generate experimentally-testable hypotheses [18]. For example, sensitivity coefficients tell us how the system should react to perturbations in parameter values. Some parameters represent quantities such as enzyme concentrations, or concentrations of external effectors, which can be perturbed experimentally. If the results of experimental perturbations of these parameters match with the model predictions, then this serves a validation of the model. Alternatively, an unexpected result would reveal weaknesses in the model, suggesting improvement is needed.

Another good example for a use of sensitivity analysis is for drug target identification [18]. A good drug should perturb a system in such a way that it has a large effect on the target of interest, and little effect on the rest of the system – this would be reflected by a high sensitivity coefficient for the target of interest, and low sensitivity coefficients elsewhere. As an example, Bakker et al. [19] analysed a model of the glycolysis pathway in *Trypanosoma brucei*, the pathogen which causes African sleeping sickness. Metabolic control analysis was used to identify which reactions would make the best target for an inhibitor in order to induce a large reduction in glycolytic flux of the parasite, but not the host.

Finally, sensitivity analysis can be used as a measure of model robustness. A robust system will be able to maintain its function in the presence of environmental changes [20–22]. For a model, this means that the variables or outputs are resistant to perturbations of parameter values. Robustness coefficients can therefore be defined as the inverse of sensitivity coefficients [23, 24]. A small sensitivity coefficient represents a robust component of the model, whereas a high-magnitude sensitivity indicates a lack of robustness, or fragility.

1.4 Global sensitivity analysis

1.4.1 Underdetermined systems

Typically, sensitivity analysis is performed in a fixed parameter space, in which all parameters of the system except one are held at their initial values, while a single parameter is infinitesimally perturbed at a time – we refer to this as a local sensitivity analysis.

Any results generated from a local sensitivity analysis are only valid for small pertur-

bations around a specific set of rigid parameters. Since all but the most trivial biochemical models are non-linear, it is therefore possible for a slight change of one or more parameter values to lead to a complete change in the model behaviour. In this situation, the results of sensitivity analysis could change drastically.

This presents a problem, since we can rarely be certain that the parameters in use in a model are completely accurate [25–27]. In an ideal situation, we might wish for all model parameters to be accurately measured with a constant protocol under physiologically-relevant conditions. Even in this case, uncertainty in parameter values can arise for reasons such as:

- Experimental error
- Differences in *in vitro* and *in vivo* conditions
- Environmental changes, such as temperature and pH
- Natural variability

In practice, the situation above is seldom achievable, and it may not be practical or even possible to measure parameter values. Instead, parameters are often obtained from a variety of sources, such as literature data, or fitting to some experimentally-measured high-level property. In this case, uncertainties often arise from:

- Literature data spanning several organisms and physiological conditions
- Inconsistent protocols used across the literature
- Lack of data available for certain parameters
- Unidentifiable parameter values when fitting

Given the varying degrees of uncertainty surrounding virtually all parameters in a biochemical system model, the results of a local sensitivity analysis should be therefore be viewed with caution.

Calculating second-order sensitivities (essentially the sensitivities of the sensitivities) can provide a wider perspective [28] by calculating how robust the sensitivity coefficients are to small perturbations in the immediate vicinity of the local parameter values. However, while this technique can give a larger perspective than first-order sensitivities, it is still essentially a local technique.

1.4.2 Expanding the parameter space

A way to avoid the weaknesses in local sensitivity analysis caused by parameter uncertainties is to perform a *global sensitivity analysis*, in which sensitivity coefficients are calculated for a range of possible parameter values, known as the parameter space [27–

34]. The size of the parameter space, *i.e.* by how much each parameter is allowed to vary, should depend on how confident we are in the accuracy of the parameter values. For example, if we are confident that a parameter has an accurately measured value, then we may allow only small variations (for example, $\pm 10\%$ of the original values). Conversely, there may be parameters for which we have no data at all; in these cases we may allow these parameters to span a wide range of possible values.

Many techniques exist for performing global sensitivity analysis on biochemical models, which we describe in detail in Chapter 4. Depending on the technique used, the output of a global sensitivity analysis may not be a single sensitivity coefficient value for each parameter; rather, the output could be a range of potential sensitivity values which can be obtained, depending on the parameter set chosen. Interpreting and displaying this data is not trivial, and in Chapter 5 we show how this this can be achieved.

Local sensitivity analysis is computationally cheap to perform, relative to other model analysis techniques. In all but the largest and most complex models, the availability of computational resources is unlikely to be a concern. Global sensitivity analysis, conversely, typically requires large amounts of computational power. This will depend to some extent on the method used – some techniques require fewer CPU cycles than others. However, in all but the simplest models, the amount of computational power required will be relatively high compared to a local analysis. This can determine whether or not a global sensitivity analysis is performed as part of the modelling process, as researchers without large computing resources are unlikely to apply it.

In Section 1.5 we introduce the concept of high-throughput computing, which can be used to reduce the amount of time required to perform a number of computationally-intensive tasks, including global sensitivity analysis, by using multiple distributed computing resources in parallel.

1.5 High-throughput computing

1.5.1 The rise of distributed computing

The provisioning of large amounts of computing power has been a challenge for computer scientists for many decades. In the 1960s, large mainframe supercomputers provided the only ready access for large amounts of computational power. Such machines, such as the Cray CDC 6600, were typically standalone machines built from specialist hardware, and were very expensive to purchase.

As early as the 1970s, collections of smaller, less expensive machines began to be combined to provide the equivalent power of a more expensive single unit. The use of such a collection of autonomous machines, connected by a computer network to achieve a common objective, is known as distributed computing. [35]

By the 1990s, scientists began to take advantage of the low cost of commodity desktop computing hardware; collections of such machines could be combined at lower cost

than a supercomputer of equivalent power [36, 37]. In addition to dedicated clusters of commodity machines, non-dedicated machines can be configured to provide access to CPU cycles in periods where they would otherwise be idle. Such an arrangement can effectively provide a researcher with 'free' access to powerful computing resources.

Effectively utilizing the computational power provided by a network of distributed commodity machines is a complex task; specialist scheduling software is used to ensure that the available resources are being used effectively. Many competing scheduling systems exist, including Condor [38, 39], PBS [40], Maui [41], NQE [42] and LSF [43].

1.5.2 High-throughput verses high-performance computing

A concept promoted by a number of batch scheduling systems, in particular Condor, is that of high-throughput computing (HTC). In essence, high-throughput computing aims to deliver large amounts of computing power over long periods of time (typically measured over months or years). This is in contrast to the benchmark applied in the related field of high-performance computing (HPC), where performance is measured in floating point operations per second (FLOPS) [39, 44]. Processes running in a high-performance computing environment are often tightly-coupled, requiring frequent inter-process communication. Practically, this requires the computing nodes to be located close to one another, and connected with low-latency interconnects. High-throughput computing jobs, conversely, can typically be run independently, with little inter-process communication. HTC is therefore more suitable in an environment where computing nodes are separated from one another.

The challenges of high-throughput computing arise when the pool of machines is geographically distributed, heterogeneous and dynamic, with resources continually coming online and offline. A good high-throughput scheduler should be able to manage and efficiently utilize these resources, while providing a stable, fault-tolerant and reliable computing platform.

1.6 Thesis overview

The aim of this thesis is to show how the concepts of global sensitivity analysis and high-throughput computing can be combined to provide a powerful platform for the analysis of biochemical models. As we allude to in Section 1.4, global sensitivity analysis techniques tend to be computationally intensive, and despite the utility/importance of global sensitivity analysis, it is rarely performed as part of the modelling process. We believe that the reasons for this are two-fold – a lack of computing power combined with computationally-expensive methods, and a lack of available, user-friendly software.

In Chapters 2 and 3 we introduce Condor-COPASI, a software tool we developed to ease the process of running a number of biochemical model simulation and analysis tasks in parallel in a high-throughput computing environment. This allows us to run to two

different global sensitivity analysis techniques that would not have been feasible without the use of high-throughput computing.

In Chapters 4 and 5 we show the results of applying these global sensitivity analysis techniques to a variety of models, all of which represent real biological systems. We perform a comparison of the techniques, and analyse results.

In Chapters 6 and 7, we expand this analysis to cover a range of small, simple models, based on phenomena seen in real biological systems. We examine how the structure of these models, in addition to the types of reaction kinetics used, affects the response of sensitivity coefficients to a large variation in parameter values.

Finally, in Chapter 8 we summarise our results, and suggest possible future directions that could be followed for this research.

1.7 Alternative format

This thesis is presented in the alternative format thesis style. Publications are presented as separate chapters in their published/submitted format; the pagination and layout for these chapters differs from that in the rest of the thesis. Each publication chapter is preceded by an introductory chapter, outlining the content of the publication, providing contextual information, describing our motivation for producing the manuscript, and linking this work with previous chapters. References are provided on a per-chapter basis. The supplementary information for the publication chapters is included in the appendices.

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CHAPTER

TWO

SOFTWARE TOOLS FOR BIOCHEMICAL MODELLING

2.1 Tools for model simulation and analysis

Constructing, simulating and analysing mathematical models requires the use of supporting software. Such software can range from a general-purpose programming environment, to tools specifically designed for building a specific type of model or performing a particular type of analysis.

Many software packages are available for modelling biochemical systems [1] – too many to list comprehensively. However, prominent examples include MATLAB [2], often used in conjunction with the Systems Biology Toolbox [3], Mathematica [4], Cell Designer [5], COPASI [6] and VCell [7].

When designing software, compromises must be made between flexibility and ease of use. In the field of systems biology this is particularly important – experienced modellers familiar with complex programming environments produce models alongside experimentalists, many of whom are unfamiliar with computer programming, and prefer more user-friendly software. Many biologists are now adopting modelling and systems biology approaches. These users are often not accustomed to programming, nor are they familiar with numerical analysis (sometimes not even calculus). User-friendly software will therefore be the only way for these researchers to be able to model biological systems.

2.1.1 Standards in systems biology

Deciding on which software package to use for biochemical modelling will depend on a number of factors such as personal preference (for example, some people prefer a command-line interface over a graphical interface), familiarity (people often prefer to use software they already know how to use, rather than learning how to use a new interface), and is partly pragmatic (different software packages can perform different tasks). With so many software packages in use, it is very important that models can be transferred between them. To enable this, a standard file format must be agreed upon.

The Systems Biology Markup Language (SBML) [8] standard is an XML-based file

format for storing biochemical models, and enables models to be transferred between compatible software. SBML was defined, and is improved, by a community of researchers in computational systems biology. Its development is through community-generated proposals and voting. A group of elected "editors" is also active in making sure that the standards are properly published.

The SBML standard allows models to be shared from repositories such as BioModels [9]. and eases collaborations between researchers who use different software.

2.1.2 COPASI – a tool for biochemical pathway simulation

One popular software package which is compatible with SBML is COPASI [6] (COmplex PAthway Simulator). COPASI allows models of biochemical systems to be constructed and analysed using a graphical user interface. A number of modelling and simulations tools are available, including deterministic and stochastic simulations algorithms, parameter estimation, optimisation, and sensitivity analysis.

COPASI can also be run in command-line mode, without the graphical interface. This makes it possible to run simulations and analyses on remote machines, with any generated output written to one or more text files. Crucially, this command-line mode allows COPASI to be used in a high-throughput computing environment. In this mode, the user must first prepare the model using the graphical interface, configure any tasks that are to be run, and decide what output should be generated.

2.2 The Condor high-throughput computing environment

Condor is a system for high-throughput computing, allowing computing jobs to be run on a pool of machines [10, 11]. The pool can contain dedicated computers, though one of the main strengths of Condor is its ability to utilize non-dedicated machines during periods when they would otherwise be idle. For example, in academic institutions, large numbers of computers are in use during working hours on weekdays, but will sit unused overnight and at weekends. Condor is able to detect when a machine is not being used by its owner, and can then assign computing jobs to be run on it. Condor is compatible with most major operating systems, including Windows, Linux and OSX. In order to submit a computing job to run on Condor, a job description file must first be prepared. This file contains information about the executable file to be run, any files that must be transferred to remote machines, and the software and hardware requirements of the job, such as the operating system and minimum amount of memory required (a typical example is shown in Figure 2.1). Once the job description has been prepared, it is submitted, and added to a queue for resources. A machine known as the Master decides when, and on which machine, each job is to be run. Condor pools can contain thousands of machines. The computing power of such pools can be most readily exploited when a computing task can be split into multiple, independent, jobs which can be run in parallel. However, the

```
#Condor job
universe       = vanilla
executable = /usr/local/Copasi-AllSE//CopasiSE.$$(OpSys).$$(Arch)
arguments = --nologo --home . auto_copasi_0.cps --save auto_copasi_0.cps
transfer_input_files = auto_copasi_0.cps
log =  auto_copasi_0.cps.log
error = auto_copasi_0.cps.err
output = auto_copasi_0.cps.out
rank = Kflops / CPUs
Requirements = ( (OpSys == "WINNT61" && Arch == "INTEL" ) ||
(OpSys == "WINNT61" && Arch == "X86_64" ) ||
(Opsys == "LINUX" && Arch == "X86_64" ) || (OpSys == "OSX" && Arch == "PPC" ) ||
(OpSys == "OSX" && Arch == "INTEL" ) || (OpSys == "LINUX" && Arch == "INTEL" ) )
&& (Memory > 0 ) && (machine != "localhost.localdomain")

should_transfer_files = YES
when_to_transfer_output = ON_EXIT
queue
```

Figure 2.1: **A typical Condor job specification file.**

requirement to split large tasks into multiple smaller ones, along with a complex Condor job submission process involving command-line tools, makes this difficult for the majority users.

2.3 Condor-COPASI

In the next chapter, I present a manuscript which describes Condor-COPASI, a software package I developed for running computationally-intensive modelling tasks in parallel on a Condor high-throughput computing pool, with a simple, user-friendly graphical user interface.

COPASI can be run in command-line mode on Condor without the need for any additional software. However, preparing the necessary files can be repetitive and time-consuming, while submitting them to run on Condor can be difficult for most users who are unfamiliar with command-line software.

In addition, it is not always clear which is the most efficient way to split a task into parallel, particularly for tasks which involve many repeats of a process which itself has a relatively short run-time. Since submitting each job to Condor carries an overhead, a compromise must be made between fully exploiting the parallel nature of the Condor pool, and not overloading the system by queuing too many small parallel jobs.

Condor-COPASI is designed to make it very easy to run COPASI simulation and analysis on a Condor pool, with all user interaction taking place through a simple graphical user interface. All aspects of parallel job preparation and submission are handled automatically, and a load-balancing algorithm was developed to ensure tasks are split into parallel in the most efficient way.

2.3.1 Author contributions

EK wrote the software and prepared the first draft of the manuscript. PM and EK developed the specifications of the software. PM, EK and SH tested the software. All authors read, improved, and approved the final manuscript.

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CHAPTER

THREE

PUBLICATION: CONDOR-COPASI – HIGH-THROUGHPUT COMPUTING FOR BIOCHEMICAL NETWORKS

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SOFTWARE Open Access

Condor-COPASI: high-throughput computing for biochemical networks

Edward Kent[1], Stefan Hoops[2] and Pedro Mendes[2,3*]

Abstract

Background: Mathematical modelling has become a standard technique to improve our understanding of complex biological systems. As models become larger and more complex, simulations and analyses require increasing amounts of computational power. Clusters of computers in a high-throughput computing environment can help to provide the resources required for computationally expensive model analysis. However, exploiting such a system can be difficult for users without the necessary expertise.

Results: We present Condor-COPASI, a server-based software tool that integrates COPASI, a biological pathway simulation tool, with Condor, a high-throughput computing environment. Condor-COPASI provides a web-based interface, which makes it extremely easy for a user to run a number of model simulation and analysis tasks in parallel. Tasks are transparently split into smaller parts, and submitted for execution on a Condor pool. Result output is presented to the user in a number of formats, including tables and interactive graphical displays.

Conclusions: Condor-COPASI can effectively use a Condor high-throughput computing environment to provide significant gains in performance for a number of model simulation and analysis tasks. Condor-COPASI is free, open source software, released under the Artistic License 2.0, and is suitable for use by any institution with access to a Condor pool. Source code is freely available for download at http://code.google.com/p/condor-copasi/, along with full instructions on deployment and usage.

Keywords: Systems biology, Computational modelling, High-throughput computing, Distributed computing, Simulation

Background

Mathematical modelling is becoming increasingly recognized as an important tool in the study of biological systems [1]. Databases such as BioModels [2] provide access to peer-reviewed published models, which can be freely downloaded in the standards-compliant SBML format [3]. Model construction, however, is only the first in a number of steps that can be used to gain insight into the function of a complex biological system.

Many models consist of a set of ordinary differential equations (ODEs) describing how the concentrations of various chemical species change with time. The dynamic behaviour of the model can be examined through integration of the ODEs, a relatively computationally simple task. In many cases, it can be helpful to simulate the model behaviour using a stochastic or hybrid algorithm [4], which can yield more information than a deterministic solution can provide. Solving a model using a stochastic method requires more computational power than solving it deterministically [4], and must be repeated many times to yield information on the distribution of potential trajectories.

In addition to examining the dynamic behaviour of a model, we may also wish to analyse it using techniques such as sensitivity analysis – examining the influence of specific model parameters (such as kinetic rate constants) on a systems-level property (such as the flux through the main branch of a pathway). Other tasks commonly used to examine models include optimizations (finding the best set of parameters to maximize or minimize the value of a

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particular objective function), or parameter fitting (finding the best set of parameters so that the model behaviour most represents that seen experimentally).

COPASI

A number of software tools are available for biological systems modelling. Some of these, such as MATLAB, are very flexible, but require users to have a knowledge of programming. Other tools, such as COPASI [5], are designed with a user-friendly interface, and do not require any programming expertise, while still providing sophisticated algorithms and analyses.

COPASI allows users to construct and analyse models using a graphical user interface (GUI). Simulations using a deterministic, stochastic or hybrid method can be performed at the click of a button. In addition to time-course simulations, COPASI can perform a range of model analysis tasks, including steady-state analysis, sensitivity analysis, parameter estimation, and optimizations.

As models become more detailed and complex, simulation and analysis requires increasing amounts of computational power, potentially requiring more power than can be offered by even the most high-powered desktop machine.

Client-server simulation tools

The limitations of using personal computers to perform computationally intensive simulations have led to the development of a number of server-based systems biology tools. These allow a user to set up mathematical models and to display any results on their local machine, but to perform computationally-intensive simulations on one or more remote machines.

One such example is JWS Online [6], a modelling tool accessed through a web-based Java applet, which performs all simulations on a remote server. The computational capacity is limited by the performance of the server, and so it is not ideally suited for computationally intensive tasks. VCell [7] is another tool for model simulation and analysis. Models are prepared using a local Java interface, and simulations are performed on a distributed computing cluster operated by the VCell team, up to a maximum of 100 simulation repeats per submission. Parameter estimations can also be performed, but these are run locally.

Another way of running simulations remotely is to incorporate them into an automated distributed workflow, using a management tool such as Taverna [8]. COPASI Web Services [9] enables COPASI simulation and analysis tasks to be incorporated into a distributed workflow by setting up COPASI simulation servers to offer computing cycles. Using automated workflows allows for very flexible usage patterns, though creating workflows can be a complex process. In addition, users must have the computational resources available for running simulations.

Condor

Condor is a system for high-throughput computing, allowing computing jobs to be run on a pool of machines [10,11]. The pool can contain dedicated computers, though one of the main strengths of Condor is its ability to utilize non-dedicated machines during periods when they would otherwise be idle. For example, in academic institutions, large numbers of computers are in use during working hours on weekdays, but will sit unused overnight and at weekends. Condor is often configured to detect when a machine is not being used by its owner, and can then assign queued computing jobs to be run on it. Condor is compatible with most major operating systems, including Windows, Linux and OSX.

In order to submit a computing job to run on Condor, a job description file must first be prepared. This file contains information about the executable file to be run, any files that must be transferred to remote machines, and the software and hardware requirements of the job, such as the operating system and minimum amount of memory required. Once the job description has been prepared, it is submitted, and added to a queue for resources. A machine known as the Master decides when, and on which machine each job is to be run.

Condor pools can contain thousands of machines. The computing power of such pools can be most readily exploited when a computing task can be split into multiple, independent, jobs which can be run in parallel. However, the requirement to split large tasks into multiple smaller ones, along with a complex Condor job submission process involving command line tools, makes this difficult for many users.

Condor-COPASI

COPASI can be used, without any modification, with high-throughput computing environments such as Condor. However, in order to exploit the parallel nature of a Condor pool, any simulations or analyses must be manually split into multiple small, independent jobs; a task that can be difficult. In addition, Condor requires users to use command-line tools to submit jobs and to monitor their status. This can be difficult, and may deter many users from making use of these facilities.

Therefore, we developed Condor-COPASI, a tool which integrates COPASI with Condor, allowing users to perform a selection of model analysis and simulation tasks in parallel using a Condor pool. Condor-COPASI is designed to be very simple to use, with all user interaction taking place through a GUI. The process of splitting tasks into an optimal number of parallel jobs, and submitting them to the Condor pool is handled automatically,

without requiring user interaction. Once jobs have been submitted to the Condor pool, Condor-COPASI monitors their status, automatically emailing a notification to the user upon completion. Results can be displayed within the interface in a variety of formats, including tables and interactive graphical displays, or can be exported for further processing.

Implementation

Condor-COPASI is a server-based application, accessed by users through a web interface which is compatible with all modern web browsers. Access to the web interface is controlled on a per-user basis; the administrator must create an account for each user of the system. A database is used to store user account information, along with information about the computing jobs each user has submitted, such the submission and end times, the number of parallel jobs used and CPU hours used. Historical usage data is stored, and statistics can be displayed though the web interface to monitor how the system is being used. Other files, such as COPASI models, and outputted results are stored as flat files in a directory of the system.

We designed Condor-COPASI to run as a server-based application, since the alternative – a local application to be run on each users machine – would require Condor to be installed and configured on each individual local machine. Installing Condor and configuring it to be able to submit jobs is a complicated process, and in many cases impractical. In addition, Condor requires that the machine which is used to submit jobs must remain powered on while remote jobs are running; an onerous requirement for many users, particularly when jobs have a long run time and are submitted from a portable machine. Running as a server-based application removes this requirement for the individual users, since only the server must remain powered on while jobs are running.

Condor-COPASI is written in the Python programming language [12], using the Django web development framework [13]. It must be installed on a server which has access to a Condor pool and permission to submit jobs. Additionally a web server must also be installed (though this is somewhat standard). Finally, a Django-compatible database must be available – choices currently include MySQL, PostgreSQL, Oracle and SQLite.

Condor-COPASI allows users to submit a number of predefined tasks, each of which is amenable to running in parallel (see Use Cases for full details). Tasks are submitted by uploading a pre-prepared COPASI model using the web interface (Figure 1). Condor-COPASI then automatically determines the best way to split the task into parallel, automatically creates the necessary files, and submits the parallel jobs to Condor.

While the web interface is written in Python, all simulation and analysis tasks are performed using the COPASI Simulation Engine. Condor-COPASI works by automatically modifying the XML-based COPASI file format, generating a custom COPASI model file for each parallel job. In addition to the model file, a Condor job specification file is automatically generated for each parallel job. These files are submitted to the Condor pool, along with a copy of the COPASI Simulation Engine (CopasiSE) binary for the appropriate machine architecture. The COPASI Simulation Engine carries out all computation on the remote machine, writing output to a text file. These text files are transferred back to the Condor-COPASI server, where they are processed and collated.

Various graphical plots can be produced. Static two-dimensional charts such as depicting the dynamics of mean and standard deviation of particle numbers in stochastic simulations are generated using the Python Matplotlib library [14] (Figure 2, Figure 3). An interactive bar chart, showing maximal and minimal sensitivity values of various model parameters for different potential parameter sets is also available. A scroll bar can be dragged to change the range of the parameter set, while the chart values update automatically. This feature is provided using the Google MotionChart API [15], the chart is displayed using a mixture of javascript and flash; all data is processed and rendered locally, and no data is sent to Google.

Results

Available use cases

Condor-COPASI currently provides access to seven use cases, each of which is likely to require significant amounts of computational power, and can be efficiently split into smaller independent parallel jobs.

Global sensitivity analysis

The global sensitivity analysis procedure, as described in [16], involves performing a number of optimizations – one maximization and one minimization for each parameter. Since each optimization can be run independently, the task can be trivially split, with one parallel job for each maximization or minimization. For example, a model with 30 parameters for which a sensitivity is to be calculated will generate 60 parallel jobs.

COPASI provides access to a number of optimization algorithms, including deterministic such as Truncated Newton [17] and stochastic such as Particle Swarm [18]. Any of these algorithms can be selected for use in this task. If a user wishes to try more than one optimization algorithm, multiple tasks should be prepared and submitted, each with a different algorithm selected.

Results are provided in table format, and through graphical summaries of the importance of each parameter to the target property of the model. Charts showing progress of the optimization tasks can also be generated, displaying

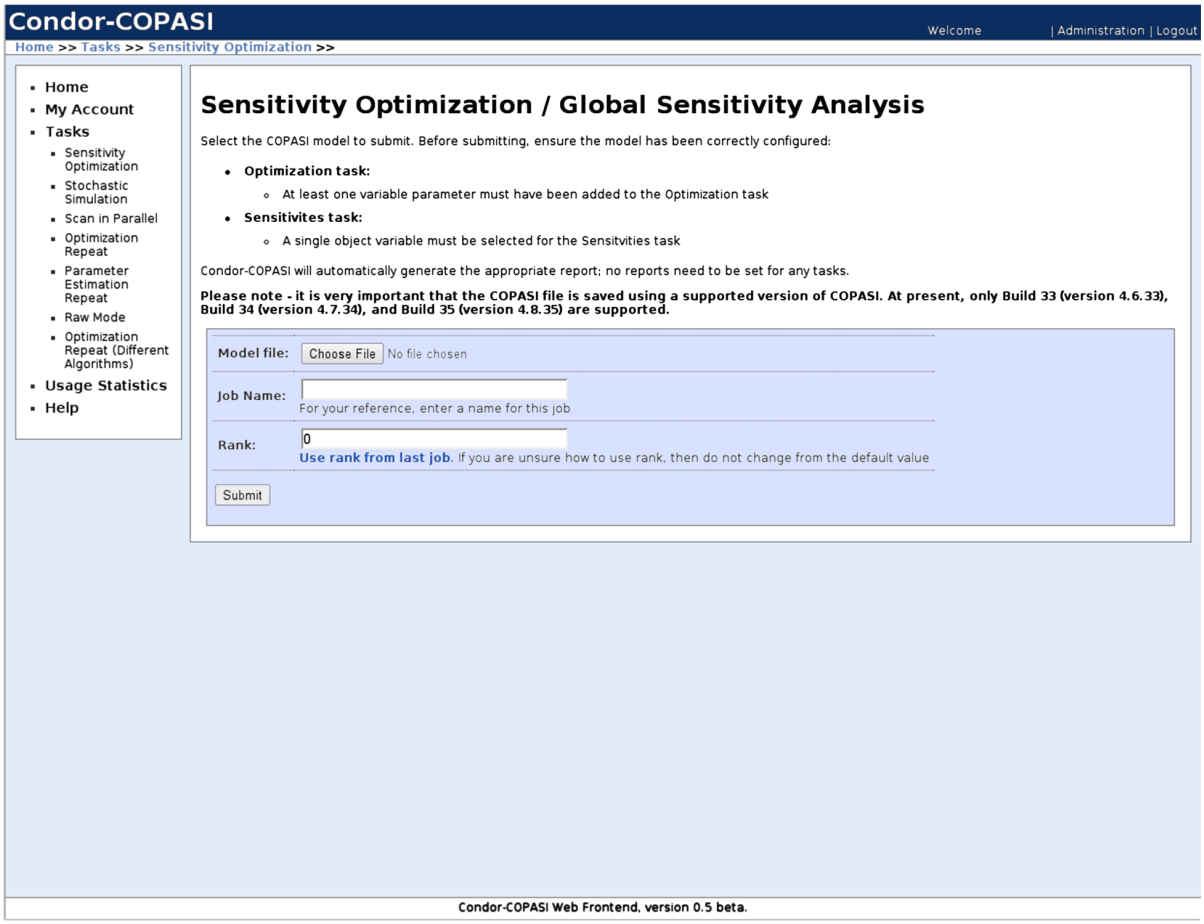

Figure 1 Screenshot of job submission process. A screenshot of the submission process for the global sensitivity analysis task. Other than preparing a COPASI model file, very little user interaction is required – all aspects of the Condor submission process are handled automatically.

the best optimization value against the number of steps taken by the algorithm.

Stochastic simulation repeat

This task allows for multiple repeats of a stochastic time-course simulation to be performed – a necessary procedure to determine the distribution of the trajectories. The results of each repeat are recorded, and for each time point particle number means and standard deviations are calculated. Plots of the results can be displayed in the web interface, and all result outputs can be downloaded as a tab-separated text file. Splitting of this task is carried out using the load balancing algorithm described below.

Parallel scan

The Parameter Scan task in COPASI automatically scans through various values for one or more parameters, performing a subtask such as steady-state analysis, a time-course simulation, or an optimization for each set of parameters. It can also be used to repeat a subtask a number of times using the same parameter values, or to sample parameter values from a random distribution. Condor-COPASI can split this task into parallel, using a non-overlapping range of parameter values for each chunk. The number of subtask repeats to perform in each parallel job is determined using the load balancing algorithm.

Due to the diverse nature of possible outputs from this task, Condor-COPASI does not produce graphical plots. Instead, a text-based output must be prepared for the task by the user, before the task is submitted. After the task has finished, a collated text file containing the output from all parallel jobs is made available to download; this file is identical to the output that would have been produced had the parameter scan run on a single machine.

Optimization repeat

Many of the optimization algorithms available in COPASI are stochastic, and will return a different solution each time they are run. Condor-COPASI can repeat an optimi-

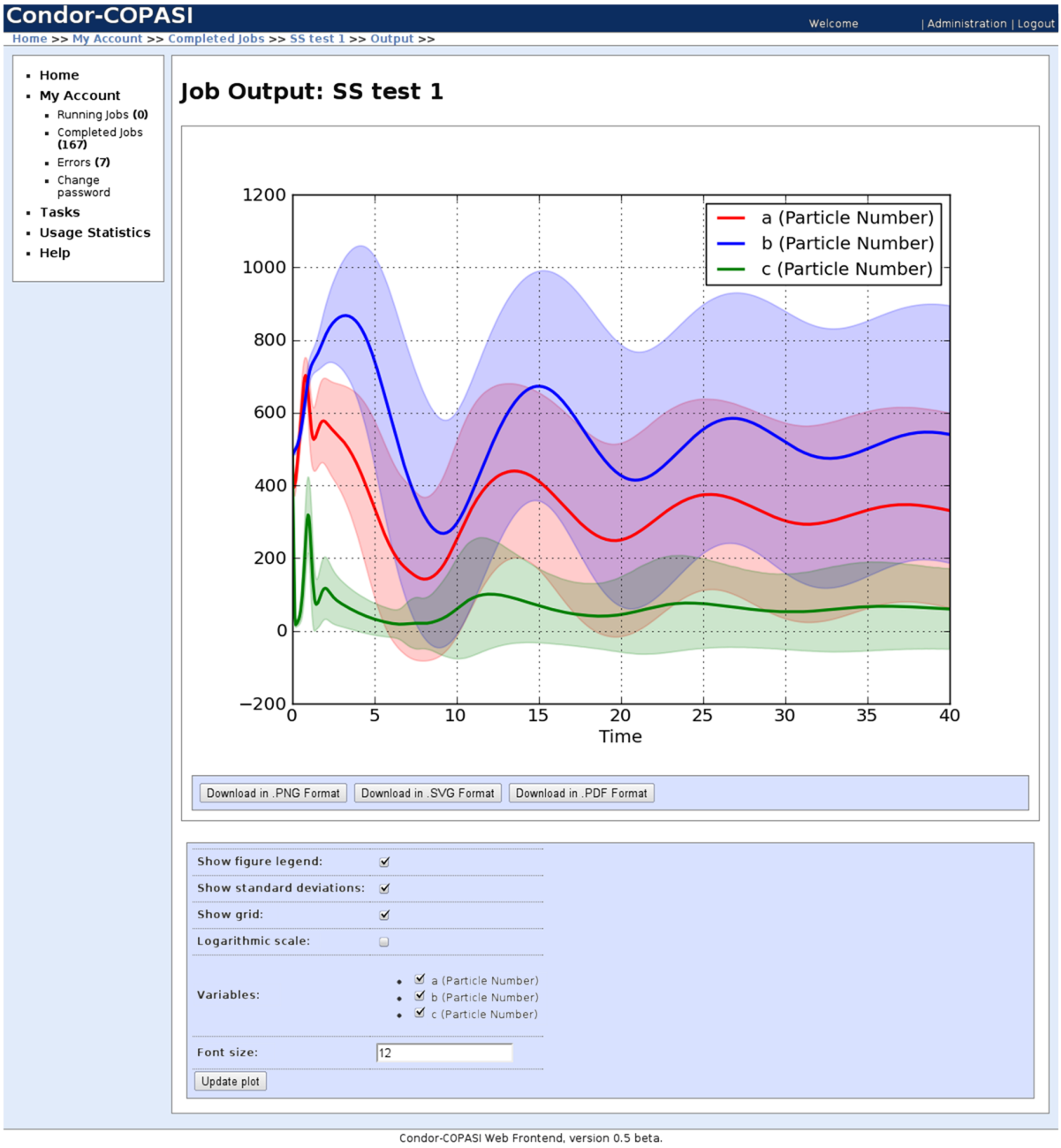

Figure 2 Stochastic simulation output screenshot. Screenshot showing showing the output of a stochastic simulation repeat task. For each of the three chemical species, particle number means and standard deviations are displayed.

zation multiple times, using the same algorithm for each repeat, and from these repeats, determine the best objective value and associated parameter set. The number of optimization repeats to be performed for each parallel job is determined using the load balancing algorithm. Once the task has finished running, a COPASI model file containing the best parameter values can be downloaded. Alternatively, the parameter values can be displayed in the browser.

Parameter estimation repeat

The Parameter Estimation task in COPASI is able to find the best parameter set to fit experimental data. Like the optimization task, many of the algorithms available

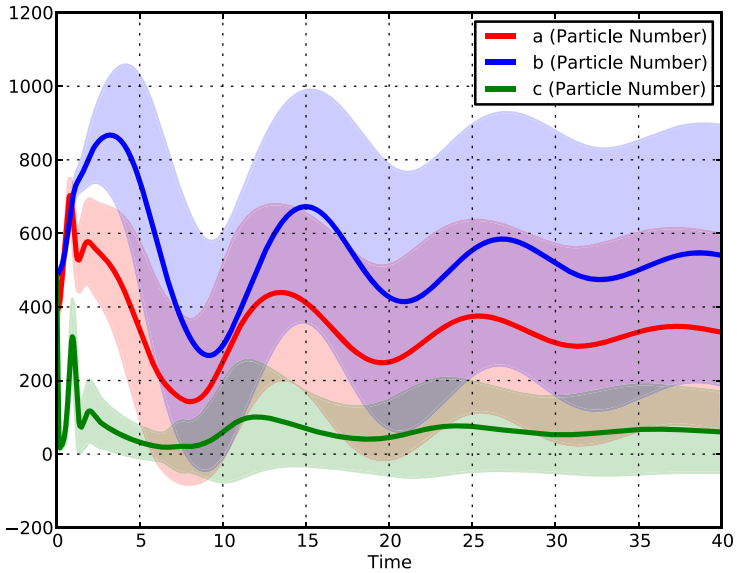

Figure 3 Enlarged stochastic simulation output plot. An enlarged version of the plot shown in Figure 2.

are stochastic, and each time they are run will return a different solution. Condor-COPASI can repeat a parameter estimation multiple times, using the same algorithm for each repeat, determining the best solution from all repeats, using the load balancing algorithm to determine how many repeats to perform in each parallel job. Once the task has completed, a COPASI model file containing the best parameter set found by the parameter estimation can be downloaded, or the parameter values can be displayed on-screen.

Optimization with different Algorithms

Since COPASI has many optimization algorithms available, and it is not clear which one works best for each problem, a modeller often wishes to run the problem through several of them. Condor-COPASI can run an optimization several times using a different algorithm for each one. The user can select which algorithms will run, and can configure all tuning parameters of those algorithms. Each optimization is run as a separate parallel job, and after all jobs have completed, the best algorithm(s) are determined. In addition, a COPASI model file containing the best available parameter set as determined by the optimization can be downloaded, or the parameter values viewed in the browser.

Raw mode

The raw mode task is designed for advanced users, and allows one or more COPASI tasks to be repeated an arbitrary number of times. The user is able to specify all command-line arguments for the CopasiSE binary, and must specify any required input and output files. One repeat is performed per parallel job, and any output files generated must be manually collated and processed by the user. This mode extends the applications of Condor-COPASI to a number of other possibilities, however it requires the user to understand the use of COPASI through the command line interface, as well as a basic knowledge of distributed computing.

Load balancing

The Stochastic Simulation, Parallel Scan, Optimization Repeat and Parameter Estimation Repeat use cases all involve repeating a particular task multiple times, and can be run in parallel by performing a certain number of repeats per job. For these tasks, the user specifies the total number of repeats to perform, while the number of repeats to perform per job, and subsequently the total number of parallel jobs, is determined using a load balancing algorithm.

The load balancing algorithm constructs the parallel jobs such that they each run for an approximately equal length of time, t, a parameter which is set by the system administrator. The algorithm first measures how long a single repeat of the task to be performed takes to complete. The parallel jobs are then built up with an appropriate number of repeats, such that the total run time of each job is approximately equal to t. If a single run takes longer than t, the algorithm will time out, and assign only one repeat per job.

It is important to choose a good value for t. If it is too small, each task will produce a large number of parallel jobs, each with few repeats. In this situation, the overhead

associated with submitting jobs to the Condor pool will become a significant factor, and in an extreme situation, running the job on Condor could take longer than if all jobs had been run sequentially on a single machine. However, if t is too large, then each task will produce a small number of parallel jobs, each taking a long time to complete. In this situation, the computational capacity of the Condor pool will not be fully exploited, and the benefits of running in parallel will be negated. In addition, jobs may run for too long, risking eviction from the machines they are running on – non-dedicated machines in the pool are normally only available when they would otherwise be idle, such as overnight and at weekends – meaning there is often an upper bound on the length of time a job can run for.

To determine the best value for t, we ran an optimization repeat task with t values ranging from 0.1 to 1000 minutes (Figure 4). We found that setting t to 15 minutes gave a good trade-off between job submission overhead and gaining the benefits of running jobs in parallel. However, factors such as the number of machines in the Condor pool, and the speed of network communications between the server and machines in the pool will impact on this value. Therefore, we advise administrators to consider adjusting this value if necessary.

We also include an option for applicable tasks to override the load balancing algorithm, and to construct jobs with only one repeat per parallel job. This is useful in situations where the user knows *a priori* that each repeat is likely to take longer than t, saving them from having to wait for the load balancing algorithm to time out, or in situations where one wishes to make the run-time for each parallel job as short as possible.

Error handling

Condor handles various types of error – if jobs are evicted from the machine they are running on, they will automatically be re-queued and executed on an available machine. In cases where a job fails (for example, due to a malformed job specification file), the job will remain in the queue, but will be marked as 'held'. We note that while Condor supports application checkpointing for compatible software, which allows evicted jobs to resume on a different machine without loss of computation time, COPASI does not support checkpointing, so all evicted jobs must begin again from the start.

Condor-COPASI monitors the status of each submitted job – the queue of jobs is periodically polled to check for jobs marked as 'held', and the exit status of all completed jobs is checked (a non-zero exit status indicates an error) by parsing the log files. When an error is detected, Condor-COPASI will try to determine whether it happened before COPASI was executed on the remote machine (indicating a malformed job specification file) or

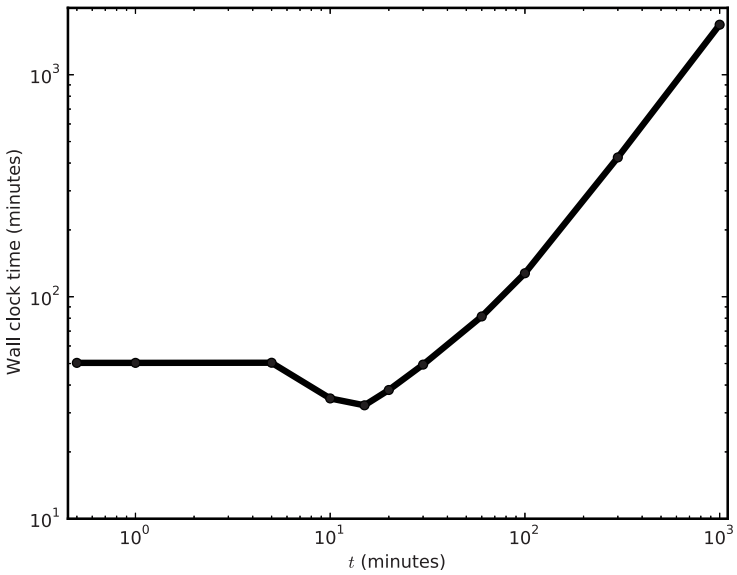

Figure 4 Tuning the load balancing algorithm. The load balancing algorithm uses a parameter t to determine, where possible, the ideal run time for a single parallel job. We determined that the optimal t value, minimizing the wall clock time for the task, was 15 minutes. At $t <= 5$ minutes, only one repeat was performed per parallel job, and the job submission overhead outweighed the benefits of running in parallel. At $t >= 20$ minutes, too many repeats were performed by each parallel job, and the benefits of running in parallel were reduced. Our tests were performed by running 1500 repeats of an optimization task, where each optimization had a 5 minute run time, on a Condor pool containing 2000 available executing nodes.

after (indicating a problem with the way the task was set up in COPASI).

After detecting an error, Condor-COPASI will email the user to notify them that the task did not complete successfully. The web interface will display the probable cause of the job failure (Figure 5), and allow the user to download a compressed copy of all files generated by Condor-COPASI, including Condor log files, automatically generated COPASI model files, and any returned results files. Such files can assist the user in determining the cause of the failure, and allow them to manually collate any results generated if they will be useful.

Finally, Condor-COPASI will log all activity to a text file, including any errors and exceptions encountered. Examining this file can be helpful to determine the cause of a failure if it is otherwise not clear.

Performance

To illustrate the effectiveness of Condor-COPASI, we collated data from 12 months of real-world usage on our installation of Condor-COPASI; for each task submitted, we recorded the total CPU time used by all parallel jobs, the wall clock time of the task, and the number of parallel jobs used. The cumulative total of CPU time used does not include any time spent queuing for resources to become available, or any other delays caused by the Condor job submission process. It is analogous to the time it would take to run each parallel job sequentially on a single-core local machine, and therefore provides a good measure of how long the computing task would have taken to perform without using Condor-COPASI. The wall clock time represents the total waiting time between submission of the task to Condor-COPASI and its completion, and includes time where possibly no jobs were running because the Condor pool was running jobs for other users. Therefore, the total waiting time for each task is not necessarily dependent only on the nature and size of the task. The wall clock times reported come from a production system where Condor was shared with other users and are therefore indicative of typical usage.

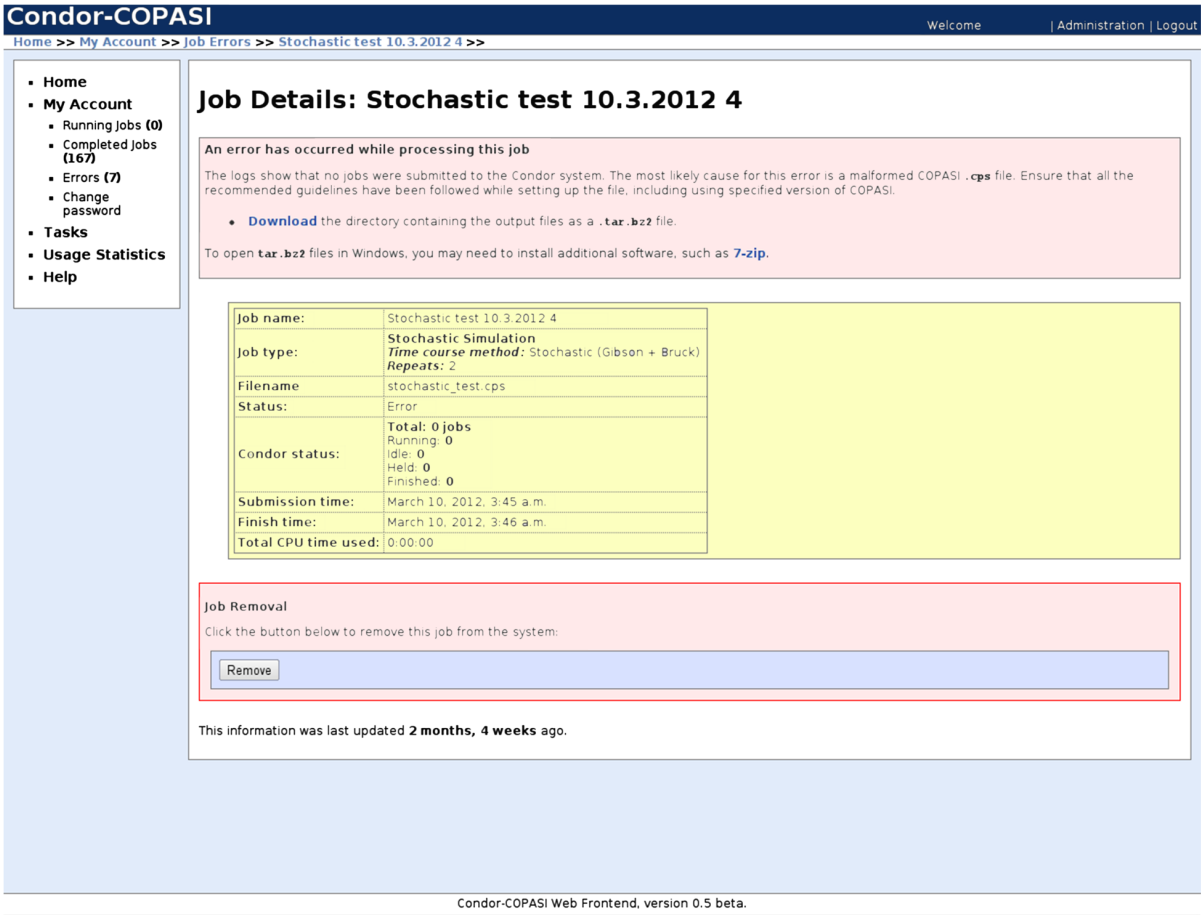

Figure 5 Screenshot of failed job submission. A screenshot of a task which failed to run on Condor. Condor-COPASI is able to handle failed jobs, and can analyze log files to determine the probable cause of failure, along with suggestions on how to fix any problems.

In all cases, the tasks were run on our local Condor pool of approximately 2000 execute nodes. The most common hardware configuration in the pool is an Intel Core2 Quad processor at 3GHz, with 4GB of RAM. However, we note that the pool is heterogeneous, with a number of different hardware configurations, and nodes continuously coming online and offline.

To illustrate the improvements in run time using Condor-COPASI, we calculated the speed up-factor for each task, defined as CPU time/wall clock time. The speed-up factors were plotted against the number of parallel jobs used (Figure 6). In general, speed-up factors of between 10^0 and 10^3 are seen. For tasks except global sensitivity analysis, there is a roughly linear relationship between the number of parallel jobs used, and the speed-up factor achieved. We note that the global sensitivity analysis task cannot be parallelized as efficiently as the other task types, so the highest speed-up factors for this task type were lower than other task types. Some tasks achieved a low speed-up factor ($< 10^0$); most of these tasks had a low CPU time and used few parallel jobs, so there was little benefit to running in parallel. Of particular note are two global sensitivity analysis tasks with speed-up factors of around 0.1 and 0.3, with 60 parallel jobs each. For these tasks, the CPU time used was very low (around 6 minutes), while several hours were spent waiting for resources in the Condor pool.

Specific examples

To further illustrate the benefits of running tasks on Condor-COPASI, we describe 5 detailed examples of tasks that were run (summarized in Table 1), showing the extent to which they were parallelized, and the speed-up factor achieved (defined as CPU time/wall clock time).

Global sensitivity analysis - we ran a global sensitivity analysis on a model of NFκB signal transduction [19], examining the control of 27 parameters on the frequency of nuclear NFκB oscillation, using a parameter space consisting of the original parameter set $\pm$20%. The task completed on Condor-COPASI in approximately 7 hours using 54 parallel jobs, using a cumulative total of 368 hours of computing time, achieving a speed-up factor of 53.

Global sensitivity analysis - we ran a global sensitivity analysis on a model of the MAPK signalling cascade [20], examining the control of 30 parameters on the concentration of nuclear MAPK-PP, using a parameter space consisting of the original parameter set $\pm$50%. The task completed on Condor-COPASI in approximately 7 hours using 60 parallel jobs, using a cumulative total of 90 hours of computing time, achieving a speed-up factor of 13.

Stochastic simulation repeat - we ran 1,000,000 repeats of a stochastic time-course simulation of a three-variable calcium oscillation model [21]. Condor-COPASI completed the task in approximately 20 hours (including time taken queuing for resources and processing the resulting output files), using a cumulative total of 2,280 hours of computing time across 340 parallel jobs, achieving a speed-up factor of 114.

Scan in parallel - we used the parallel parameter scan task to perform 300,000 Monte Carlo simulations of an NFκB signal transduction model [19]. Condor-COPASI completed the task in approximately 31 hours, using 14,926 parallel jobs, using a cumulative total of 3,980 hours of computing time, achieving a speed-up factor of 128.

Scan in parallel - we used the parallel parameter scan task to perform 1,000,000 Monte Carlo simulations of a MAPK signalling cascade model [20]. Condor-COPASI completed the task in approximately 3 hours, using 1,849 parallel jobs, using a cumulative total of 429 hours of computing time, achieving a speed-up factor of 143.

Discussion

Performance

Condor-COPASI enabled us to significantly reduce the run time of many simulation and analysis tasks. In 12 months of real-world usage on our installation, we saw tasks running up to 442 times faster than if they had been run on a single computing core, with an average speed-up of 32 times. This has enabled us to perform model simulations and analyses that would otherwise not have been feasible, with some individual analysis tasks using more than a year of computing time, but completing in less than a day.

In an ideal situation, for most task types, the decrease in run time for running a particular task on Condor compared to running it on a single computing core should be proportional to the number of executing nodes available in the Condor pool. So, for example, if we have a task that takes 1000 minutes to run on a single core, and a Condor pool available with 1000 equally fast executing nodes, then the speed increase would be 1000-fold and the task would complete in 1 minute.

In practice, various limitations, overheads and discrepancies in the local network architecture and Condor pool mean the overall running time for a task will always be more then the theoretical minimum, and it is rarely possible to predict exactly how long a task will take to complete.

There is an overhead associated with submitting and running each parallel job – the Condor Master must add the job to the queue for resources and assign it to an appropriate executing node when one becomes available. The submitting node must then send the associated model and data files, along with a copy of the COPASI binary, over the network before job execution can start. In a situation where we have a small number of jobs to submit, each of which will take a long time to execute, the

Table 1 Example tasks run on Condor-COPASI on a pool of 2000 nodes, showing wall clock time on Condor, total CPU time, and speedup factor (CPU time/wall clock time)

Task type	Description	Number of parallel jobs	Wall clock time	CPU time used	Speed-up factor
Global sensitivity analysis	27 parameters from NFκB signalling model [19]	54	7 hours	368 hours	53
Global sensitivity analysis	30 parameters from MAPK signalling model [20]	60	7 hours	90 hours	13
Stochastic simulation	1,000,000 repeats of calcium oscillation model [21]	340	20 hours	2,280 hours	114
Parallel scan	300,000 repeats of NFκB signalling model [19]	14,926	31 hours	3,980 hours	128
Parallel scan	100,000 repeats of MAPK signalling model [20]	1,849	3 hours	429 hours	143

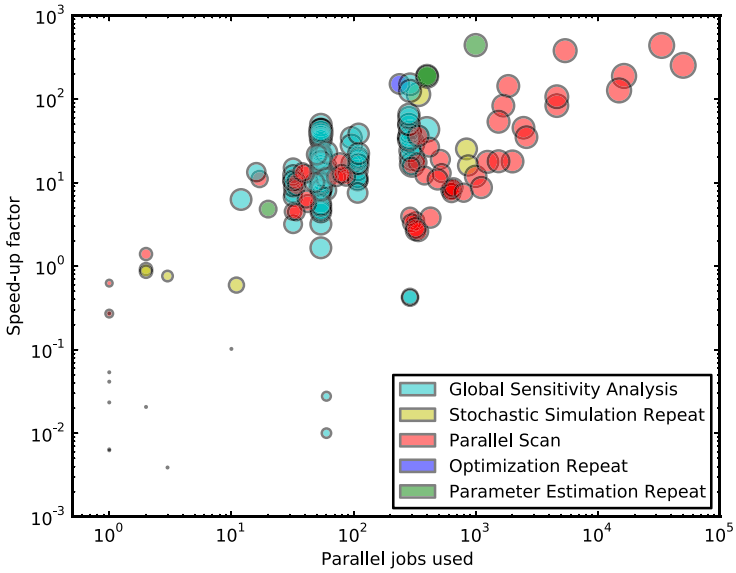

Figure 6 Speed-up Factors. The speed-up factor (CPU time/wall clock time) and number of parallel jobs used were recorded for 190 tasks submitted during 12 months of real-world usage on our Condor-COPASI installation, with a Condor pool of approximately 2000 execute nodes. The color of each marker indicates the type of task performed, and the area of each marker is proportional to the base-10 logarithm of the CPU time used.

overhead will likely not be significant. However, if we have a large number of jobs to submit (especially in the situation where there are more jobs than executing nodes available to run them), each of which will can be executed in a short amount of time, then the submission overhead will be more significant, and could become a limiting factor in the execution time for the task. In this situation, it may be preferable to construct the parallel jobs so that they each perform a certain number of repeats, increasing the job execution time while keeping the submission overhead constant, thus reducing the impact of the submission overhead. The load balancing algorithm described above attempts to find an ideal compromise between the degree to which the job is parallelized and the job submission overhead.

Another factor that can affect the execution time of our jobs is the potentially heterogeneous nature of the machines in the Condor pool – disparities in hardware specification will mean that the job execution time will vary from machine to machine. Thus, unless we specify exact hardware requirements for our jobs, their execution time will vary depending on the specification of the machine they are assigned to.

We must also consider that we may be competing for the available resources with other users. Therefore, the number of available executing nodes will depend on how many other users are using the Condor pool, and our priority within the queue relative to others.

Finally, the extent to which we can parallelize our task depends on the task type. Where the task involves repeating a subtask a certain number of times, we can parallelize up to the extent where we have one repeat per parallel job. Other task types, such as the global sensitivity analysis, can only be parallelized according to the number of parameters we are investigating. For example, an analysis on a model with 10 parameters will produce 20 parallel jobs (one maximizing optimization and one minimizing optimization for each parameter). In this situation, having more than 20 executing nodes available will not speed up overall job execution any more than having just 20.

In summary, the degree to which running a task on Condor will speed up execution compared to running the same task on a single local machine depends on the type of task being performed, and the degree to which it can be parallelized, and will also depend on a number of other factors, such as submission overheads and demand for the available resources. However, in testing, we saw vast improvements in the run-time of all task types (see Table 1).

Comparison with existing software

Unlike tools such as COPASI Web Services, Condor-COPASI works as a standalone piece of software, performing all aspects of file preparation, simulation and results processing with a user-friendly interface, requiring minimal user interaction. Other tools, such as VCell and JWS Online, provide user-friendly graphical interfaces, but are less able to fully exploit the parallel nature of a distributed computing pool.

Other cluster management tools

Condor is one of a number of systems designed for cluster management and job scheduling; other systems with widespread deployment include Oracle Grid Engine (formally known as Sun Grid Engine) [22], Maui [23], and PBS [24,25]. The strengths of Condor (namely cross-platform support including Windows, Linux and OSX, its ability to utilize non-dedicated resources, and its fully open-source nature), make it an attractive choice for academic institutions, particularly those looking to utilize existing hardware. However, we recognize that many potential users may only have access to other distributed computing systems. If demand dictated, it could be possible to add support for other systems at a later date, though differences in job preparation, submission, and monitoring would make this task non-trivial. As an alternative, we note that it is possible to install Condor alongside other job schedulers; the Condor scheduler will only assign jobs to computing nodes with available computational capacity.

We also note the growing popularity of cloud computing systems, such as Amazon's Elastic Compute Cloud (EC2), which allow users to lease any required computational capacity by the hour, without having to invest in dedicated hardware. Such systems are particularly appealing to researchers who need only occasional access to large amounts of computational power. It is currently possible to use Condor on Amazon EC2 by running one or more EC2 instances as executing nodes. However, setting up such an arrangement is difficult, requiring a detailed knowledge of network configuration, and is likely to be beyond the capacity of most casual users. Therefore, a possible future extension of Condor-COPASI could be to automatically configure and launch EC2 or other cloud computing instances to form a Condor pool, and to use this to complement, or as an alternative to, a local Condor pool.

Conclusions

Condor-COPASI enables the use of ubiquitous distributed computing by making it easy to submit systems biology simulation and analysis tasks without requiring any knowledge of programming or managing networks of workstations. The computational power available in such pools of computers can be vast, particularly in institutions such as Universities, which have thousands of computers serving as terminals for only a portion of the day. Being able to efficiently utilize such a resource can enable large-scale simulations and analyses to be performed that would otherwise require too much computing power to be feasible.

Availability and requirements

Project name: Condor-COPASI
Project home page: http://code.google.com/p/condor-copasi/
Operating system: Server-side software: Linux; user interface can be accessed on any operating system through a modern web browser
Programming language: Python and Django
Other requirements: Python 2.6; Django 1.2; a web server with Python support such as Apache; copies of the COPASI Simulation Engine (CopasiSE) binary in 32-bit and 64-bit mode for Windows, OSX and Linux; the LXML and Matplotlib Python libraries; Condor version 7.4 or higher, a database application – either MySQL, PostgreSQL, SQLite or Oracle – with an appropriate Python wrapper.
License: Artistic License 2.0
Restrictions to use by non-academics: None

Full instructions on deployment, and an instruction manuals users are available on the project home page: http://code.google.com/p/condor-copasi.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

EK wrote the software and prepared the first draft of the manuscript. PM and EK developed the specifications of the software. PM, EK and SH tested the software. All authors read, improved, and approved the final manuscript.

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CHAPTER

FOUR

GLOBAL SENSITIVITY ANALYSIS

4.1 Introduction

The concept of global sensitivity analysis was introduced in Chapter 1. In essence, global sensitivity analysis allows us to examine the impact each parameter of a model has on the output, while taking into account the uncertainties that surround all parameter values. This is in contrast to a local sensitivity analysis, in which the model parameters are held at fixed values, while one is perturbed at a time.

4.2 Global sensitivity analysis methods

A local sensitivity analysis is typically performed by calculating sensitivity coefficients for each of the parameters of a model. However, there is no corresponding 'standard' method for performing a global sensitivity analysis, and many different techniques are available. The output of a global sensitivity analysis will vary depending on the technique, as will the amount of computational power required to perform an analysis.

The first step when performing a global sensitivity analysis is to define the parameter space, *i.e.* the range of possible values that each model parameter is able to take. This can be decided one parameter at a time, taking into account our confidence in the accuracy of each parameter, for example by calculating the degree of experimental error, or by searching the literature for a range of reported values. Alternatively, all parameters can be varied by a fixed amount from their initial values, for example by $\pm 20\%$. This can be useful if the degree of uncertainty surrounding parameters is unknown, or if we wish to test the response of the model to specific variations of parameter values.

After the parameter space has been defined, it can be explored using a global sensitivity analysis method. In all but the most trivial models, the parameter space is usually so large that scanning through all possible combinations of parameter values is impossible. – even if we were only to try two values for each parameter, a model with 30 parameters would yield 2^{30} (approximately 10^9) different combinations of parameter sets. In

this situation, a number of global sensitivity analysis techniques exist that can explore the parameter space in a more computationally-efficient manner.

4.2.1 Derivative-based methods

In situations when the number of parameter value combinations is too large to explore systematically, random sampling can be employed – combinations of parameter values can be sampled, and sensitivity coefficients calculated for each set of values using a local derivative-based sensitivity analysis. By taking enough samples, a set of sensitivity coefficients can be calculated that is representative for the parameter space.

At this point, a measure of the global sensitivities can be calculated by averaging the absolute sensitivity values for each parameter [1]. Alternatively, the distribution of sampled sensitivity coefficients can be plotted directly, showing the full range of possible model behaviours.

4.2.2 Sobol' method

An alternative way of performing global sensitivity analysis is to assess what contribution the variance of each parameter of the system has on the variance of the output [2]. The method proposed by Sobol' [3] works by decomposing the variance of the output of the model (D) into a summation of the variances of all combinations of input parameters:

$$D = \sum_{s=1}^{N_p} \sum_{j_1<\ldots<j_s}^{N_p} D_{j_1,\ldots,j_s} \tag{4.2.1}$$

where N_p is the number of input parameters, and $D_{j_1,\ldots,j_s}$ are the partial variances. The global sensitivity indices $SI_{j_1,\ldots,j_s}$ are then defined as:

$$SI_{j_1,\ldots,j_s} = \frac{D_{j_1,\ldots,j_s}}{D} \tag{4.2.2}$$

These sensitivity indices are non-negative, and will sum to one. However, calculating and interpreting all of the terms in the summation can be impractical. To assist with this, total sensitivity indices SI_j^T are defined, accounting for the effect of parameter p_j, both separately and in interaction with all other parameters of the model:

$$SI_j^T = SI_j + \sum_{s=1}^{N_p} SI_{j_s} + \cdots + SI_{1,2,\ldots,N_p} \tag{4.2.3}$$

The total sensitivity indices can be calculated directly from the model using Monte Carlo sampling using the method developed by Sobol' [3] and later improved by Saltelli [4].

4.2.3 Optimisation-based method

Random sampling can be computationally expensive, since large numbers of samples often need to be taken. Alternative methods for global sensitivity analysis, which can explore a parameter space in a more computationally efficient manner, are therefore desirable. One such technique [5] uses an optimisation algorithm to explore the parameter space, finding upper and lower bounds on the values a sensitivity coefficient can obtain. However, despite relative efficiency of this method compared to random sampling, large amounts of computational power are required, particularly for high-dimensional models.

4.2.4 High-throughput computing

Fortunately, the run time of both sampling-based and optimisation-based global sensitivity analysis techniques can be vastly reduced by the use of parallel computation. In the case of derivative-based random sampling, the sensitivity coefficients for each sampled parameter set can be calculated independently of the other samples. In the case of the optimisations, two optimisations must be run for each sensitivity coefficient (one to find the upper bound, and one to find the lower bound); each of these optimisations can be run independently. Since each technique can be split into tasks which require no inter-process communication, they are ideal for running in a high-throughput computing environment such as Condor.

4.3 What can we learn from global sensitivity analysis?

In the next chapter, I present a manuscript describing the results of using Condor-COPASI to perform global sensitivity analyses. A selection of physiologically-based models were analysed under varying degrees of parameter variation, representing increasing levels of uncertainty surrounding the parameter values. The reaction of these models to variations in the parameter values is explored, showing how global sensitivity analysis can help to understand these models and the biological systems they represent. In addition, a comparison is done on the performance of the derivative-based sampling and optimisation-based global sensitivity analysis techniques that were employed here.

4.3.1 Author contributions

EK set up the computation for global sensitivity analyses on the MAPK, NFκB and cell cycle models, processed and created the figures for all models, and wrote the first draft of the manuscript. SN set up the computation for global sensitivity analyses on the glycolysis models. UK and PM contributed to, and edited the manuscript.

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CHAPTER

FIVE

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What can we learn from global sensitivity analysis?

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Abstract

Most biological models of intermediate size and probably all large models cope with the fact that many parameters are unknown. In addition, it may not possible to identify them unambiguously on the basis of experimental data. Obviously, this poses the question how reliable predictions made using such models are.

In order to increase predictive strength, one can try to identify all parameters - either by boiling down the model or by investing a lot of experimental effort. Alternatively, one can live with the unidentifiability of parameters and investigate how certain features are preserved with parameter variations. One of the often studied features are sensitivities of, for example, steady state fluxes or concentrations, with respect to parameter changes. Once more, the results are crucially dependent on the exact location in parameter space. However, global sensitivity analysis is used to investigate sensitivities taking parameter variations and uncertainties into account. Here, optimisation and random sampling techniques might be employed. When using random sampling of parameters with a subsequent statistical analysis, it is tempting to assume that the real physiological values lie somewhere in the middle of the distribution.

Here, we investigate with the aid of different global sensitivity analysis methods, how physiological values relate to those found in distributions, and how these distributions can aid us in understanding

biological systems and the accompanying models. In addition, we compare and analyse the performance of different global sensitivity methods.

Author Summary

Introduction

The most used method for modelling biological systems is to describe their reaction networks through ordinary differential equations (ODEs) [1]. Rate equations are constructed to describe the time-dependent change of the value of model variables as a function of each other. Such rate equations can be used to describe various types of enzyme-catalysed biochemical reactions, such as metabolic, signalling and gene networks, among others. These models require the use of specific parameters that represent physical interactions and processes such as rate constants, Michaelis constants, and binding affinities.

A general issue in mathematical modelling is the choice of parameter values, which should reflect the properties of the real system. Unfortunately it is frequently impossible to determine or estimate what those values should be, and thus the accuracy of many parameter values is often questionable. Parameter values are obtained from a variety of different sources, including *in vitro* and *in vivo* experimental data. *In vitro* experiments do not necessarily match the conditions *in vivo*, while parameter fitting often results in ambiguous parameter sets, i.e. where groups of parameters have strong correlations and the individual values are not identifiable [2]. Sometimes models include parameter values that were estimated from experiments with different biological systems than the target one. Values may also be adopted based only on high-level constraints (like considering a rate constant to be limited by diffusion, or an equilibrium constant limited by thermodynamic constraints). All of these constitute sources of uncertainty about parameter values, and some models may be dominated by such issues. It is therefore important that models be carefully studied to expose how much the parameter values actually affect the modelling results. One should be cautious with strong conclusions that are based on model properties that depend strongly on parameters with high uncertainty.

A widely used method for assessing the relative importance of model parameters is known as *sensitivity analysis*. Sensitivity coefficients measure the impact of parameters on variables of the model (state properties), and are mathematically equal to the partial derivatives of the state properties by each

parameter:

$$S_i^j = \frac{\mathrm{d}v_i}{\mathrm{d}p_j} \tag{1}$$

where v_i is the variable and p_j the parameter. When it is useful to remove scale from sensitivity coefficients, a scaled version of the partial derivative is used instead:

$$S_i^j = \frac{\frac{\mathrm{d}v_i}{v_i}}{\frac{\mathrm{d}p_j}{p_j}} = \frac{\mathrm{d}\log v_i}{\mathrm{d}\log p_j} \tag{2}$$

A specialised form of sensitivity analysis that is quite widely used is metabolic control analysis (MCA) [3,4] which assesses how systems-level properties, such as a steady-state concentrations or fluxes, depend on the velocity of individual reactions. MCA expresses these sensitivities through so-called control coefficients [5], which are scaled sensitivity coefficients taken on parameters that affect the rate of reaction linearly (such as a k_{cat} or V_{max}, but not a K_m). In MCA terminology [5], generic sensitivity coefficients taken on arbitrary model parameters are known as response coefficients (control coefficients are therefore special cases of response coefficients).

Sensitivity analysis can be also used as a way to assess the robustness of a model. Given the fact that most parameters depend on some properties of the environment, which is subject to stochastic variations (e.g. local fluctuations in temperature), a robust system will be resilient to relatively small perturbations in parameter values. This will be reflected in low-magnitude sensitivity coefficients [6,7]. Conversely, a sensitive system will have high-magnitude sensitivity coefficients, indicating that for those parameters, relatively small perturbations will have a large effect on the system (this is the case in some sensory systems, such as retina cells that are extremely sensitive to light) [8].

Typically sensitivity analysis is applied to a specific operating point of the model, *i.e.* around a specific value of each parameter. This follows the definitions in Eqs. 1 and 2 which are based on the concept of infinitesimal changes of calculus. Thus each parameter is perturbed by a small magnitude while holding all other parameters constant. In this case we refer to *local* sensitivity analysis to emphasise the fact that the sensitivity coefficients depend on the specific set of parameter values used. Because all but the most trivial of kinetic models are nonlinear, the values of sensitivity coefficients are different at different operating points of a model. Therefore there is the possibility that, for a certain model, some parameters

may be deemed unimportant by this type of local sensitivity analysis which may have a strong effect (large control) in other regions of parameter space. For example, after changing the expression of a particular enzyme, the distribution of control (the spectrum of sensitivity coefficients) may be completely different from the original one. Given the uncertainty surrounding many parameter values, as discussed above, it is clear that the insights gained from local sensitivity analysis should be considered with a great deal of caution. After all, if the real value of some parameter is considerably different from what was assigned in the model, the entire set of sensitivity coefficients of the model will have little resemblance to those of the real system.

Global sensitivity analysis techniques attempt to avoid this weakness by calculating sensitivity coefficient values in broader regions of parameter space either surrounding the fixed initial values defined in the model or simply by selecting appropriate ranges. Therefore, while a local sensitivity analysis will generate a single sensitivity coefficient for each perturbed parameter, a global sensitivity analysis will yield a range of possible values, depending on the parameter set used. The range of potential sensitivities for a particular parameter may span several orders of magnitude, suggesting that an accurate parameter set is vital to determine whether or not the parameter has high control. If the range of potential sensitivities for a parameter contains only high-magnitude values, we can infer that the parameter has high control irrespective of the exact physiological parameter set, while only low-magnitude values would suggest that that the parameter can only exert low control. Finally, the potential sensitivities for a parameter can span both positive and negative values, indicating that the parameter could potentially exert positive or negative control on the system, depending on the parameter set used.

A common way of performing a global sensitivity analysis is to use random sampling [9–15]. Firstly a parameter space is defined, then parameter sets are randomly selected from this parameter space. For each parameter set, a sensitivity analysis is performed, and the sensitivity coefficients are recorded. After taking enough random samples, plots of the distribution of sensitivity coefficients within the parameter space can be produced. This method is relatively simple to implement, and can be performed in software such as COPASI [16]. The downside is that large numbers of samples must be taken, particularly for models with large numbers of parameters, since the parameter space grows exponentially with the number of parameters. Therefore, sampling enough parameter sets can require vast amounts of computing power.

An alternative method for global sensitivity analysis is to use optimisations [17]. As with the sampling-based technique, a parameter space must first be defined. However, rather than sample the entire

parameter space, an optimisation algorithm is used to find the upper and lower bounds on the values each sensitivity coefficient can take. For each sensitivity coefficient to be calculated, two optimisations must be run – one to maximise the sensitivity coefficient value, and one to minimise it. This technique can be much more computationally efficient than random sampling. However, it is impossible to determine if the trajectory of the optimisation algorithm has reached a true global maximum or minimum. In addition, the distributions of the various sensitivity coefficients are not obtained.

Despite the computational efficiency of using an optimisation algorithm to perform global sensitivity analysis, it is not a widely-used technique. We performed global sensitivity analysis using sampling-based and optimisation-based techniques on a selection of models. We evaluate how robust these models are to expansions of the parameter space and what kind of insights can be gained by analysing distributions of sensitivities. We also analyse how the assumed real or physiological sensitivities (published with the models) are situated within the sampled distributions. This latter point is especially important, since it is tempting to assume that it is more likely that the real value will lie in the centre of a distribution and papers reasoning like this, e.g. by applying statistical analyses based on averaging the data have been published [15, 18]. Finally, for several of the models, we compare the performance of the random sampling and optimisation-based global sensitivity analysis approaches.

Results

Models of biochemical networks cover a wide range of stoichiometric structures and dynamics. The behaviours displayed by these models can be quite diverse due to many different factors, and accordingly it is expected that they also display different properties with respect to parameter sensitivity. Therefore, this study covers a range of models attempting to expose different scenarios regarding global parameter sensitivity. Models were chosen based on their stoichiometric structure (metabolic/signalling) and dynamics (stationary/periodic). An emphasis was also put on models which have a solid experimental basis, assuming that their parameter values are close to their physiological value. The models chosen were of stationary MAPK signalling [19], oscillatory NFκB signalling [20], oscillatory eukaryotic cell cycle [21],and metabolic models of the glycolytic pathway in *Saccharomyces cerevisiae* [22] and *Trypanosoma brucei* [23].

The behaviour of each of the models was explored using sampling-based sensitivity analysis. In

addition, we carried out analyses using the optimisation-based approach [17] on the three signalling models in order to compare the performance of the two techniques. The results for each model are summarised below, with the full output of each analysis presented in the Supplementary Information.

MAPK Model

The first model analysed is a model of MAPK signalling published by Huang *et al.* [19]. This model includes 22 components of a "canonical" MAPK signalling pathway amounting to 30 parameters. With the published parameter values the model runs to a stable steady state. We studied the sensitivity of the steady-state concentration of the double-phosphorylated MAPK (MAPK-PP in the model, which is the transcription factor at the end of the signalling cascade) towards each parameter in the model. The relevance of these parameter sensitivities is related to the fact that the concentration of that species is the final link of the signal transduction and is essentially the pathway function. If the sensitivity towards any parameter is large it could mean that the signal would be susceptible to environmental noise (through that parameter); it would also mean that an accurate determination of the values of those parameters with high sensitivity would be very important.

Local sensitivity analysis of the original parameters shows that no single parameter has a large effect on the variable. The red lines in Supplementary Table 1 depict these local sensitivity coefficients in the reference parameter set.

We carried out random sampling of parameter values to assess the sensitivities of the parameters in a more global way. For each sensitivity coefficient, a histogram was produced showing the distribution of sampled sensitivity coefficient values. On these histograms the 'local' sensitivity value obtained with the reference parameter set is shown as a dotted red line, and zero is shown as a dashed magenta line. In addition, for each distribution, we calculated the normalised height of the peak (frequency/total number of samples), the sensitivity value at which the peak is located, and performed a Shapiro-Wilk Normality test. Results for selected parameters are displayed in Figure 1, and the full results are presented in Supplementary Table 1. We summarise the results below.

Expanding the parameter space by only $\pm 5\%$ around the original parameter set shows – in contrast to the parameter set studied by Huang *et al.* [19] – that a number of parameters may able to gain a high degree of control over [MAPK-PP], with sensitivity coefficients ranging between -182 and 218. In many cases, large-magnitude sensitivity coefficients are found on one direction only (for example parameter

5 which can only gain high-magnitude positive control). In some cases, parameters could gain high-magnitude positive and negative control (for example parameter 2), while other parameters could only gain low-magnitude control close to the local sensitivity value (for example parameter 7).

The distributions obtained by random sampling were Gaussian-like for some parameters (such as parameters 7 and 25), but the majority were sharp and narrow.

Larger domains of variation for parameter values were also considered. Parameter values were sampled $\pm 10\%$ and $\pm 30\%$ around their reference values. In both cases, the sampling method was able to find large-magnitude positive and negative sensitivity coefficients for every parameter, implying all parameters can exert extremely large positive or negative control over [MAPK-PP]. It should be noted that, even though high-magnitude sensitivity coefficients occur in some of the sampled parameter sets, the narrow distribution peaks show that, in the vast majority of cases, the sampled sensitivity coefficient values are close to that of the reference model.

Another way to study sensitivity analysis in a more global way is to ask the question of how large and how small can a sensitivity coefficient be given any possible value for the parameters (inside a certain domain) [17]. We applied this strategy using the particle swarm optimisation algorithm (see Methods). The results of the optimisations, showing the upper and lower bounds on the values a sensitivity coefficient can take, are displayed as dotted blue lines, superimposed on the distributions obtained by sampling.

In the case of $\pm 5\%$ and $\pm 10\%$ parameter variations, the optimisations performed poorly, frequently finding only low-magnitude control for parameters which the sampling technique was able to find high-magnitude control, implying the optimisations had not converged to global optima (Figure 4A). The optimisation method performed better in the case of the $\pm 30\%$ variation (Figure 4B), often finding sensitivity coefficients several orders of magnitude larger than the sampling method (for example parameter 2, where sampling found a minimum control of approximately 6.11×10^4 verses 3.07×10^6 found by the optimisation). However, in these cases, both values are so large as to make little difference.

In summary, the MAPK model of Huang *et al.* [19] shows that if the parameter values had 10% or more uncertainty, the model behaviour, and therefore any conclusions from it, could be considerably different. However, in its reference state the model is fairly robust against environmental noise. Full results for this model are given in the Supplementary Material, Table 1.

NFκB Model

The second model represents NFκB signalling in mouse embryonic fibroblast cells, published by Ashall *et al.* [20]. The model contains 14 variables and 27 parameters. With the published parameter values, this model exhibits stable oscillations, the period and amplitude of which are thought to play a role in regulating gene expression. Therefore, a relevant sensitivity is that relating the effect of parameter values on the period of the oscillations of nuclear NFκB.

Global sensitivity analysis was performed using the sampling and optimisation techniques under parameter variations of $\pm 5\%$, $\pm 10\%$ and $\pm 20\%$ of the original values. The full results are available in Supplementary Table 2, with selected examples shown in Figure 2.

The original parameter set of [20] results in a distribution of control where no single parameter dominates. These results are depicted in Supplementary Table 2 and Figure 2, where the values of these 'local' sensitivity coefficients are shown as dotted red lines.

The results of both the sampling-based and optimisation-based analyses show that as the parameter space was widened to a domain that covers $\pm 5\%$ around the original parameter values, the difference in maximum and minimum control for most parameters remained small. Parameters 14, 16, 17 and 27 became able to exert both positive or negative control. This means that depending on the values of the other parameters, these particular ones could either have a positive or negative effect on the period of the oscillations. This phenomenon was verified both using the sampling and optimisation approaches. The distributions obtained by sampling appear to be Gaussian or skewed-Gaussian for many parameters; a high Shapiro-Wilk score confirms this. As can be seen in the examples displayed in Figure 2, the peaks of the distributions do not correspond with the local sensitivity values for a number of parameters. This means that the physiological state does not correspond to the most probable value that could be determined by a global sensitivity analysis (assuming the model of [20] reflects physiological conditions).

Further exploration of this model's behaviour, by expanding the parameter space to a domain $\pm 10\%$ around the original parameter values, shows more parameters able to exert both positive and negative control, yet the degree of control exerted by each one remains relatively small. The distributions obtained by random sampling still appear to be Gaussian, though the peaks of the distributions now correspond to the local sensitivity coefficient values for most parameters.

Allowing parameter variation to be $\pm 20\%$ around the reference state, we observe that the oscillation period can now be extremely sensitive to a number of parameters (with sensitivities > 1000). More than

half of all parameters are now also able to exert both positive and negative control. The distributions of sensitivity values, as shown in Figure 2, remain mostly Gaussian-like (confirmed by high Shapiro-Wilk statistics), though sometimes appear sharp and narrow due to a large difference between the maximum and minimum values as found by the optimisation technique (for example, parameter 20).

Parameter variations of ±30% of the reference state result in a situation where oscillatory behaviour is no longer guaranteed, and therefore the sensitivity coefficient is no longer defined. Full results for the NFκB model are given in the supplementary material Table 2.

In all of the above cases, the two methods for global sensitivity produced similar results for parameter variations of ±5% and ±10%. With parameter variations of ±20%, the optimisation method often found much higher-magnitude sensitivity coefficients than the sampling method. In all cases, it seems likely that the optimisations converged to find global optima (see Figures 4C and 4D).

Cell Cycle Model

The model of yeast cell cycle by Chen *et al.* [21] represents, in great detail, the mechanisms of regulation of cell division. Similarly to the previous model this one also oscillates, though in this case this happens through switching in a hysteretic cycle, rather than a stable oscillation (limit cycle). Nevertheless, the period of the resulting oscillation (cell cycle) is one of the most important variables of this system. Thus we studied the sensitivity of the 142 parameters of the model towards the period of the entire cell cycle (*i.e.* time between cell divisions). Global sensitivity analyses using the sampling and optimisation methods were performed under parameter variations of ±5% and ±10%. The full results are available in Supplementary Table 3, with selected examples shown in Figure 3.

Local sensitivity analysis of the parameter set published by Chen *et al.* [21] showed the control to be relatively well distributed among most parameters (with the exception of a few parameters that have very low or zero control over the period).

In contrast to the previous model, variation of parameter values within ±5% is already enough to change the distribution of control completely. In this range all parameters that have non-zero control in the reference state are now able to cause both positive and negative effects on the cell cycle period. As depicted in Supplementary Table 3 and Figure 3, the distributions of sensitivity values are already sharp for all parameters, with the peaks of the distributions remaining close to the local sensitivity values.

When varying the parameters by ±10% a number of sensitivities reach high-magnitude negative or

positive values ((< -10) or > 10), but the distribution peaks remain close to zero. Once more, the distributions are sharp and narrow for all parameters. When the variation reaches $\pm 20\%$ (not shown),the periodicity may be abolished completely, and the sensitivity coefficient is no longer defined.

With this model, when comparing the two global sensitivity methods, we observe that random sampling tends to find higher-magnitude coefficients than the optimisations.

Glycolysis models

We examined two different models of glycolysis as examples of metabolic models: one in *Saccharomyces cerevisiae* [22] and another in *Trypanosoma brucei* [23]. They differ in that the latter has a unique compartment, the glycosome, which results in separate pools of ATP between upper and lower glycolysis. Both models, in their original parameter values, exhibit stable steady state behaviour.

Since the two models display very similar behaviour in terms of sensitivity analysis, their results are reported together. For each model we calculated concentration- and flux-control coefficients. These are the same as the sensitivity coefficients of those variables with respect to the limiting rate parameters (V_m, which have a linear effect on the rates of reaction). Due to the particularities of the sensitivity distributions, the parameter variation was investigated in higher resolution than the previous examples. Domains of variation of parameter values were defined around their original parameter values by $\pm 5\%$, $\pm 10\%$, $\pm 20\%$, $\pm 30\%$, $\pm 40\%$, $\pm 50\%$. Additionally, we investigated a larger domain: $[0.1 \cdot p, 10 \cdot p]$ (with p the original parameter value). The full results of these analyses are included in Supplementary Tables 4–31. Below is a summary of the main points.

In all cases, the shapes of the distributions changed for all sensitivity coefficients as the parameter variation was increased. As the shapes changed, a number of trends were observed:

When the parameter variation was confined to $\pm 5\%$, most of the sensitivity distributions have a single peak at, or near, the value of the sensitivity of the reference state (indicated as a red line in the examples displayed in Figures 5A and 6A). As the parameter variation is allowed to increase, a second peak appears in several distributions. Initially, this second peak is smaller than the peak at the reference value, but as the parameter variation is expanded further, the second peak becomes dominant. A typical example is the concentration control coefficient of adpg by the glucose transporter in the *Trypanosoma* model (Figure 5). In this case, at $\pm 5\%$ variation of parameter values, the distribution of the values of this control coefficient have a peak at the same value as the reference model [23]. When the parameter

variation is increased to ±20%, the distribution shifts slightly to the left. With ±30% variation, a second, smaller, peak appears around zero. When the parameter variation is expanded to ±40%, the new peak at zero already has higher frequency than the original peak, and when the variation reaches ±50%, the new peak at zero is clearly dominant. Thus, it appears that, depending on the variability of the parameter values, there are two main types of models: one where glucose transport exerts high control over the concentration of adpg, and another where that metabolic step has no control over that concentration.

Other bimodal distributions of control are also observed, where the values at the peaks of the distributions are finite values (*i.e.* both are different from zero). An example is the concentration control coefficient of glycerol kinase over the concentration of glycerol, also in the *Trypanosoma* model. In this case, with only ±5% parameter variation, there is a single peak at the local sensitivity value (*circa* 0.65). As the parameter variation is expanded, a new peak appears at around 0.95. This new type of behaviour has a higher control of glycerol concentration by glycerol kinase than in the original model [23].

In other cases no new peaks are observed even at high parameter variation, but the sensitivity values at the peaks of the distributions shift away from their reference values. For example, the concentration-control coefficient of alcohol dehydrogenase on the concentration of acetaldehyde in the *S. cerevisiae* model (Figure 6). As the parameter variation expands, the peak shifts from is original position of −1.66 to the right, becoming closer to zero. This means that when all parameters are allowed to vary widely, this reaction exerts less control over acetaldehyde than in the reference state. Therefore this model [22] is positioned on a type of behaviour that would not be easy to generate with random parameters — this implies that evolution has pushed the model to a rare configuration.

Finally, in some cases, the distributions change little as the range of parameter variation is expanded. For example, the concentration control coefficient of glycerol transport over the concentration of glycerol in the *Trypanosoma* model (Figure 7) remains at the same value as in the reference model (0.99) even as the parameter variation is expanded. This means that this particular reaction would exert a high control in most conditions. This is a strong conclusion because it is essentially independent of parameter values.

It should be noted that in the largest parameter value domain — when parameters are allowed to vary between 0.1–10× their original value — the distributions all appear to be very narrow, with long flat tails extending to one or both sides. In these cases, the bounds of the distributions are widely distant from the peak of the distribution.

As already mentioned, both models behave in very similar ways, which is likely due to their similar

stoichiometric structure (they represent the same pathway). However, there are distinct differences, for example the distribution of control on the flux through the upper part of glycolysis (hexokinase reaction). With the original parameter values, the control of the flux is almost exclusively in the hexokinase reaction in the *Saccharomyces cerevisiae* model, and in the glucose transport reaction in the *Trypanosoma* model. Both models are robust to variations of parameter values of up to ±20%, with no other reactions able to exert a high control on the flux in these cases. Parameter variations of between ±30% and ±50% allow a number of other reactions to potentially gain a high control (notably phosphofruktokinase is able to gain control in both models), though the distribution peaks remain very close to the local sensitivity values in all cases, implying that for the distribution of control to change requires an unlikely configuration of parameters.

Discussion

Global sensitivity analysis of several published models was carried out in order to investigate how informative are the values of local sensitivities in terms of global behaviour of models. Global sensitivity analysis through random parameter sampling reveals details of model behaviour in a more general sense. An alternative method for global sensitivity analysis using optimisation was compared with the sampling approach. Several interesting observations arose from this study, which are worthwhile discussing here.

One of the most popular ways to carry out global sensitivity analysis is to sample values of the model parameters from (uniform) random distributions and characterise each sample through local sensitivity analysis. The resulting data is then aggregated in the context of a distribution of values of the sensitivity coefficients (histograms of their frequencies). One may be tempted to interpret these results by assuming that the most frequently observed value of the sensitivity would be what the model supports best. [15]. The results presented here, however, indicate that such interpretation is not warranted.

If the above hypothesis would be true, then the observed values of sensitivity coefficients in biological systems would be close to the peaks of the distributions obtained by parameter sampling. But in the five biological systems investigated here, this was not the case. Are these models good representations of their systems?

The MAPK model was originally defined [19] for an exploratory study and so it did not attempt to match any particular experimental results. As such this model is not relevant to the present argument.

The NFκB [20] and the cell cycle models [21] have parameter values with a considerable degree of uncertainty. While the models do indeed mimic a number of properties of their corresponding biological systems, one cannot make definitive statements whether most of their parameter values are close to reality.

But in the case of the two glycolytic models, the majority of their parameter values were determined experimentally with reasonable accuracy. Most of them are enzyme kinetic parameters derived from *in vitro* experiments with purified enzymes. Thus one can reasonably assume that the parameter values in those two models are close to reality. We shall therefore use them to examine the hypothesis that the observed sensitivity values coincide with the mode of the distributions.

When the sampling is carried out in the narrow vicinity of the published parameter values the original sensitivity coefficients are indeed very close to the peaks of the distributions. As the domain of sampling becomes wider, the peaks of most distributions shift away from those reference sensitivity coefficient values. In some cases the distributions even become bimodal, which make the concept of "most probable value" even more tenuous.

Examine the case of the control coefficient for the glucose transport reaction on the concentration of adpg in the *Trypanosoma* glycolysis model [23] (Figure 5). In the published model this has a high control, as its value is 7.1. Sampling parameter values within $\pm 20\%$ around the original values, the peak of the distribution remains close to the value of the published model. But as the parameter sampling domain expands to $\pm 30\%$, a second peak appears at a low value, indicating that for many parameter combinations the concentration of adpg has a low sensitivity to glucose transport. With a sampling domain of $\pm 40\%$, there is again only one peak, but now it is for a smaller sensitivity – -0.585. Thus, the most frequent sensitivity that is encountered at random is -0.585 (if parameters are allowed to vary at least $\pm 40\%$), yet the physiological relevant value is 7.1! Similar scenarios can be shown for most parameter sensitivities of the two glycolytic models. Indeed, similar scenarios exist for the other three models, even if we cannot state that their reference values are "physiological".

The importance of this observation is that one must not interpret the distributions of sensitivity coefficients delineated in global sensitivity analysis as leading to any form of likelihood. What do the peaks of these distributions then mean? Simply that if one was to draw parameters *entirely at random* the most likely value of the sensitivity would be that one. But biology does not evolve entirely at random — natural selection guides evolution. If a certain phenotype (spectrum of sensitivity parameters) endows

the organism with superior fitness, that phenotype will be selected. The fact that such phenotype is not the most frequent one bears no weight in its survival or otherwise. Even if some phenotype is frequently obtained with random sets of parameter values, there is no reason to believe that it would be particularly successful either. Therefore the peaks of the distributions are not necessarily of biological relevance and one should interpret these distributions with much care.

Robustness

Robustness is a widely-discussed topic in systems biology [24–29]. It is usually defined as a property of systems which remains largely unchanged under changes in the environment. This is usually translated into a property (a variable of the models) which remains mostly unchanged in the presence of large environmental perturbations. This concept of robustness is then essentially the opposite of sensitivity as the latter measures how much a variable is affected by a parameter perturbation — thus a quantitative measure of robustness could be the inverse of the corresponding sensitivity coefficient [6, 7].

Note that the concept of robustness applies to specific properties of a system (variables of a model) and not necessarily for the entire system. Indeed some have suggested that there is some form of conservation of robustness; when some variable becomes very robust to perturbations, others become more fragile (sensitive) [24]. This also agrees with the concept that robustness is the inverse of sensitivity; it is well known that there is conservation of sensitivity in biological systems, expressed in the form of summation theorems in metabolic control analysis [3].

Measurements of single sensitivity coefficients in a small area around an operating point are not necessarily very expressive about the true robustness of a model. That can only be achieved with global sensitivity analysis, such as studied here.

As a case in point, Ihekwaba *et al.* [30] studied the robustness of sensitivity coefficients under large parameter perturbations on a similar NFκ model. Parameters were individually perturbed up to $\pm 50\%$. Under this parameter variation, 9 parameters were found to be able to exert control with magnitude greater than 1, with sensitivity coefficient values ranging between -20 and 10. In contrast, our analysis, under a parameter variation of only $\pm 20\%$ found 15 parameters able to exert a control of magnitude greater than 1, with values ranging between -500 and 1000. This difference is not surprising, since in our method allowed for all parameters to vary from their original values simultaneously, whereas the technique used by Ihekwaba *et al.* varied only one parameter at a time.

In a similar study by Achar *et al.* [14], parameters of the *Trypanosoma* glycolysis model [23] were sampled from log-normal distributions, and the impact on the control of flux was measured. Their results match with ours – the situation in the reference model, in which the control on the flux through the main branch is mainly in the glucose transport reaction is not the only possible scenario. Incorporating a degree of uncertainty surrounding the parameter values results in situations where other reactions can also gain a high degree of control, notably phosphoglycerate mutase and glyceraldehyde-3-phosphate dehydrogenase. One should therefore be cautious in drawing conclusions regarding which reaction exerts the most control on the flux.

Two observations that were common to all models examined are: 1) if the parameter variation in global sensitivity analysis is small enough the conclusions are the same as for the classical (local) sensitivity analysis; 2) given a sufficiently large domain of variation, all sensitivities will become very large. What differs from model to model is the range of parameter variation at which the model changes from one single behaviour to several possible behaviours. We argue that the size of the parameter variation domain where the sensitivity starts showing multiple behaviours is a measure of the overall robustness of the model. By this measure, the MAPK and cell cycle models were non-robust to changes in parameter values of as little as $\pm 5\%$, while the NFκB model was robust to changes up to $\pm 10\%$. The robustness of the glycolysis models varied depending on the systems property for which the sensitivities were calculated. For example, in the *Trypanosoma* model, the concentration control coefficient for the glucose transport reaction on the concentration of adpg 5 was robust to variations of $\pm 5\%$, but by $\pm 10\%$ the control could be positive, zero, or negative. The control coefficient for Alcohol dehydrogenase on the concentration of Acetaldehyde in the *S. cerevisiae* model 6, however, was robust to parameter variations of up to $\pm 50\%$.

Robustness is important at many levels and biological systems do display some remarkable robust properties. For example circadian rhythms do not seem to be affected by temperature changes. Other systems require high sensitivity to a signal. For example the vision system seems to be so sensitive that a single photon can generate a nervous impulse [8]. In both cases the properties are fundamental parts of those systems and arose by selection.

But an entirely different kind of robustness is desirable in most systems: robustness against noise. Small perturbations on the parameters should not destroy the model's control structure completely. We desire systems that are stable enough not to react to small magnitude fluctuations. It is in such cases that the concept of a system's robustness makes sense.

Including global sensitivity analysis can help to analyse this important property of models. The MAPK signalling and cell cycle models showed that very small changes in the parameter values can already substantially chance the impact of each parameter on the system. In contrast, the two metabolic models show much stronger robustness towards parameter changes, a property we would expect in a physiological system.

It seems critical to repeat the obvious: Sensitivity analysis of models which are heavily underdetermined should be not taken seriously unless a global analysis indicates that the results are robust towards dramatic parameter changes.

Comparison of methods

Our results show that the performance of the optimisation-based and sampling-based techniques was mixed. In some cases the sampling-based approach found more extreme values for sensitivity coefficients, while in others the optimisation based approach was more successful. This seems to depend on the solution space of the specific models, since there were clearly different trends between the different models – the optimisation technique performed well for the NFκB model, but less well for MAPK and cell cycle models. However, this also indicates that none of the methods provides a guarantee for finding absolute maximal or minimal values, as it is difficult to determine if an optimisation has converged to a global optima (as demonstrated in Figure 4) or if enough samples have been taken. It is, however, questionable whether the exactness of the bounds is of any practical value at all. Most of the time, the problem finding the absolute maximum appears when searching a large parameter space and the resulting maximal value becomes very high. An extremely large magnitude of a control coefficient means that a tiny perturbation will result in an almost catastrophic change of behaviour, something which we would not expect in a physiological biological system. As also discussed in [17], these extreme values are often singular values like bifurcation points and it might be of little importance to assess, if at those points in parameter space the control is in the magnitude of hundreds or thousands. The general trends in the results of both methods coincided well making both methods applicable for analysing models with respect to global sensitivities.

While the optimisation approach is computationally more efficient (Table 1), it only offers the information of bounds for parameter sensitivities. Often however, the distribution resulting from random sampling offer a very rich picture from which substantial information can be obtained, if interpretation is done with care. In addition, compute time in terms of wall clock time was vastly improved compared

to a single-threaded CPU, since the easily-parallelizible nature of the sampling-based technique enabled us to fully exploit our powerful Condor high-throughput computing pool. For the optimisation-based technique, each optimisation can be run in parallel, but this does not allow us to fully exploit the parallel nature of our Condor pool. Without access to a large Condor pool, or similar high-throughput computing cluster, the wall clock times would have been higher for both techniques. The optimisation technique is still feasible. However, the sampling technique uses too much CPU time to be feasible on a single machine, with analyses of the cell cycle model taking over a year to complete.

Our results show that, when a large amount of CPU power is available in the form of a parallel computing cluster, random sampling appears to be the better analysis technique, finding sensitivity coefficients further from the local values than using optimisations, and providing additional insight by showing the shapes of the distributions.

Conclusion

Global sensitivity analysis is a methodology that allows us to study how perturbations in each parameter affect the properties of a model. In contrast to the more common local sensitivity analysis, the global version allows for large changes in parameter values. The results of these investigations reveal which parameters are sensitive and therefore should be determined with precision. If the real value of a parameter with high sensitivity is estimated poorly in a model then this could have strong consequences on the behaviour of the model, whereas if the parameter had a low sensitivity, determining an accurate value would be less important. By increasing the size of the parameter variation, we are able to see a model go from a single behaviour (that of the reference system) to many possible behaviours (at different nominal values of parameters, but all within the range of variation). We argue that the amount of variation at which the model behaviour becomes uncertain is a measure of robustness of the entire system. Systems for which multiple outcomes appear at small variations are very sensitive systems. Those for which the multiple behaviours appear only at large variations are robust systems. Up until now the concept of robustness was appropriate for each parameter in isolation; our study suggests a measure of robustness of the entire system.

Materials and Methods

Each model was imported into COPASI [16] from an SBML [31] file, obtained from the BioModels database [32].

Optimisation-based analyses

The optimisation-based sensitivity analyses were performed using the COPASI optimisation task. For a given range of parameter variation, two optimisations were prepared for each sensitivity coefficient – one to maximise and one to minimise it. The sensitivity task was configured to calculate parameter sensitivities against an appropriate systems-level property. For the MAPK model the steady-state concentration of PP-MAPK was used. For the NFκB model, the period of oscillation of nuclear NFκB was used; the period of oscillation was calculated using the COPASI events system, after simulating the model for a time-course of 10^6 seconds. and for the cell cycle model, the period of cell division was used; the period is explicitly defined in the model and was calculated after simulating the model for a time-course of 1000 minutes.

Sensitivities were calculated by perturbing each parameter by 0.1% using the COPASI Sensitivities task, and then and measuring the effect on the target property. In all cases, sensitivity coefficients were scaled.

For each optimisation the Particle Swarm optimisation algorithm was used [33]. Different algorithm settings were used for each model, due to differences in the time taken to compute parameter sensitivities (Table 2).

Condor-COPASI [34]. Condor-COPASI was used to automate the process of defining optimisations for each sensitivity coefficient, and to execute the optimisations in parallel on our Condor pool.

Sampling-based analyses

The sampling-based analyses were prepared using the COPASI parameter scan task. Parameters were sampled from uniform random distributions. 1,000,000 samples were taken for the MAPK model, 300,000 samples taken for NFκB, 100,000 for the cell cycle model, the *Trypanosoma* glycolysis model and the *Saccharomyces cerevisiae* glycolysis model (summarised in Table 3). For the MAPK, NFκB and cell cycle models, sensitivities were calculated in the same way as the optimisation-based analyses. For the

glycolysis models, control coefficients were calculated using the COPASI 'Metabolic Control Analysis' task.

Condor-COPASI [34] was used to split the sampling tasks for the MAPK, NFκB and cell cycle models into multiple parallel jobs, each of which was run in parallel on our Condor pool. The sampling tasks for the glycolysis models were manually split into smaller parts and run on a distributed computing cluster using the COPASI command-line mode.

A Python script [35] was written to process the sampled sensitivity coefficients, and the MatPlotLib graphics plotting library [36] was used to produce the histograms.

Acknowledgments

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Figure Legends

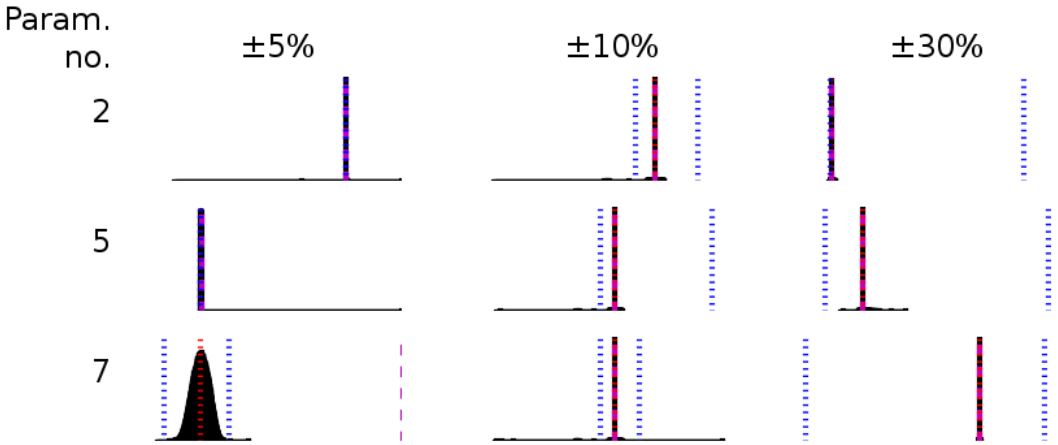

Figure 1. Selected global sensitivity analysis results for the MAPK model [19]. Shown are the results for parameters 2 ((MAPKKK activation).k1), 5 ((binding MAPK-Pase and P-MAPK).k1) and 7 ((binding MAPK-Pase and PP-MAPK).k1) under parameter variations of ±5%, ±10% and ±30% of the reference values. The distribution x axes show the sensitivity coefficient values, and the y axes show the frequency these values occurred during sampling. The local sensitivity value is shown as a dotted red line, zero is shown as a dashed magenta line. The bounds found by the optimisation technique are displayed as dotted blue lines. The full results for all parameters are shown in Supplementary Table 1).

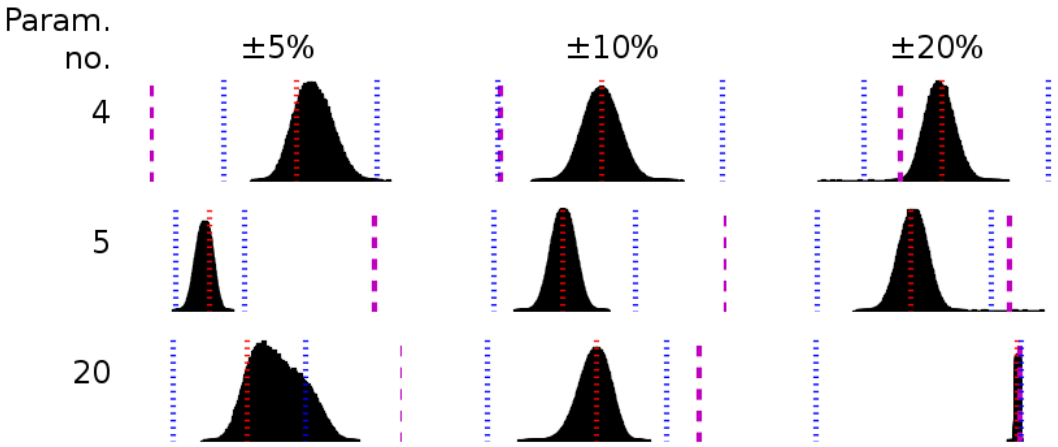

Figure 2. Selected global sensitivity analysis results for the NFκB model [20]. Shown are the reults for parameters 4 ((R13 IKKa IKKi).k1), 5 ((R14 A20 dependent IKKi IKKn).k1) and 20 ((R3 tIKBa dependent IkBa transcrip).k1) under parameter variations of ±5%, ±10% and ±20% of the reference values. For a description of the distributions refer to the description in Figure 1. Full results for all parameters are shown in Supplementary Table 2.

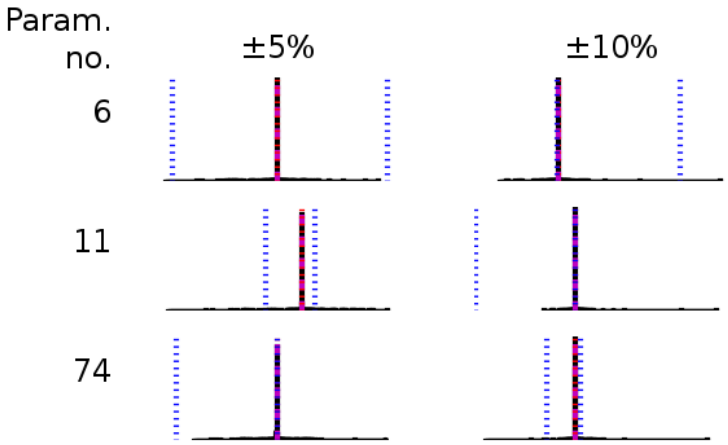

Figure 3. Selected global sensitivity analysis results for the cell cycle model [21]. Shown are the results for parameters 6 (Values[J20ppx]), 11 (Values[Jatem]) and 74 (Values[kd2f6]) under parameter variations of ±5% and ±10% of the reference values. For a description of the distributions refer to the description in Figure 1. Full results for all parameters are shown in Supplementary Table 3.

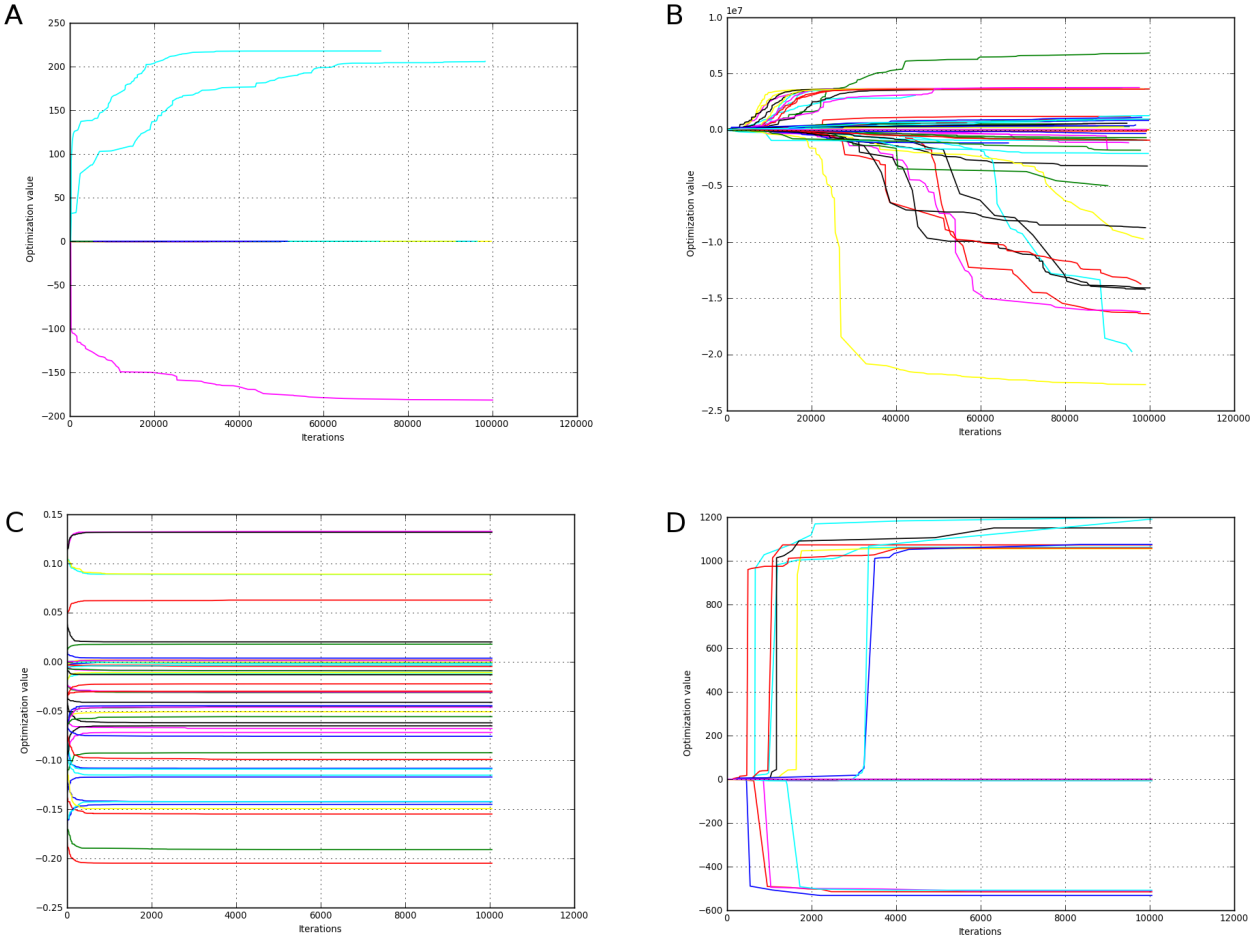

Figure 4. optimisation algorithm trajectory convergence for MAPK and NFκB models. (A) MAPK model at $\pm 5\%$, (B) MAPK model at $\pm 30\%$, (C) NFκB model at $\pm 5\%$, (D) NFκB model at $\pm 20\%$. The results of random sampling on the same parameter spaces suggest that (A) did not converge to a global optima for most parameters, (B) did converge for most parameters, and (C) and (D) did converge for the majority of parameters. It is not possible to determine which trajectories converged by studying these plots alone.

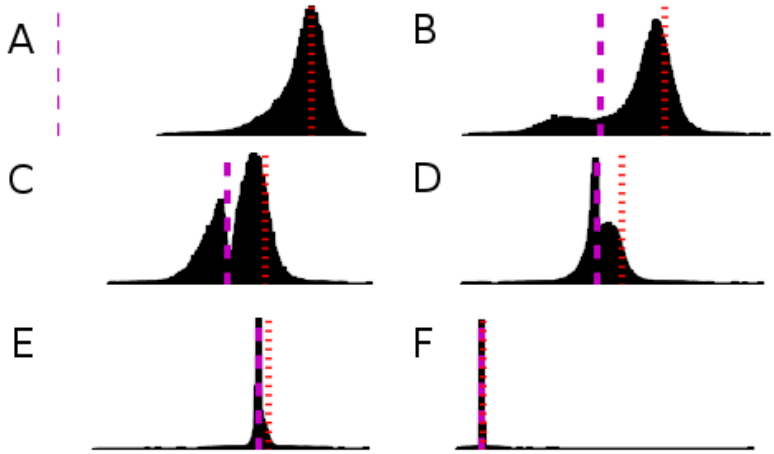

Figure 5. Control on concentration of adpg exerted by the glucose transport reaction in the *Trypanosoma brucei* model [23]. Subfigures A-F correspond to parameter variations of ±5% (A), ±20% (B), ±30% (C), ±40% (D), ±50% (E), and 0.1−10× (F) the original parameter values. For a full description of the distributions, refer to Figure 1.

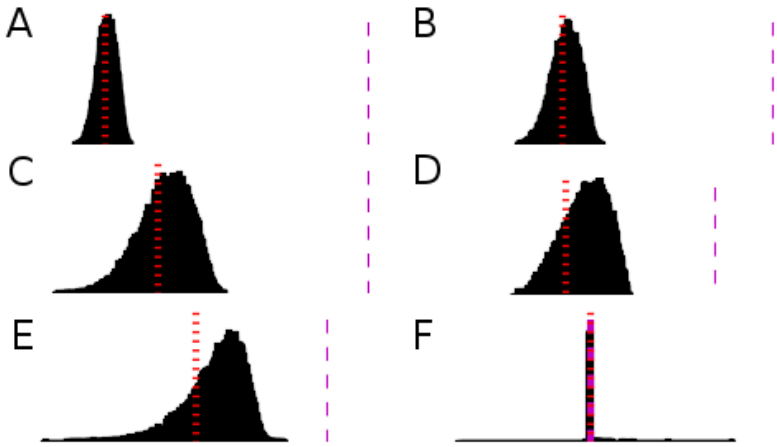

Figure 6. Control on the concentration of Acetaldehyde exerted by the Alcohol dehydrogenase reaction in the *S. cerevisiae* model [22]. Subfigures A-F correspond to parameter variations of ±5% (A), ±10% (B), ±20% (C), ±40% (D), ±50% (E), and 0.1−10× (F) the original parameter values. For a full description of the distributions, refer to Figure 1.

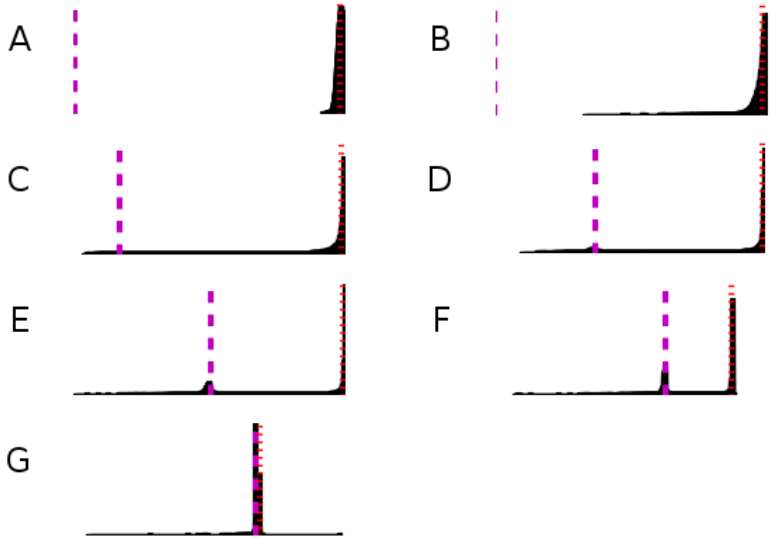

Figure 7. Control of upper glycolytic flux in *Trypanosoma brucei* model [23] exerted by the glucose transport reaction. Subfigures A-G represent the parameter variations of ±5% (A), ±10% (B), ±20% (C), ±30% (D), ±40% (E), ±50% (F) and 0.1−10× (G).

Tables

Table 1. Comparison of CPU time and wall clock time used for optimisation- and sampling-based analysis techniques

Model	Parameter variation	optimisation CPU time (hours)	optimisation wall clock time (hours)	Sampling CPU time (hours)	Sampling wall clock time (hours)
MAPK	±5%	86.6	6.2	394.7	8.7
MAPK	±10%	89.7	7.3	429.0	3.0
MAPK	±30%	84.0	5.9	379.0	10.8
NFκB	±5%	126.3	12.5	1056.1	12.6
NFκB	±10%	126.7	13.0	1194.7.2	11.2
NFκB	±20%	128.3	27.6	1104.4	10.4
Cell cycle	±5%	401.7	11.5	9353.4	21.4
Cell cycle	±10%	405.1	12.5	9096.1	36.0

We used our Condor high-throughput computing pool to run the optimisation- and sampling-based analysis tasks in parallel. CPU time is the total number of CPU hours used across the Condor pool, and is roughly equivalent to the time it would take to run the analysis sequentially on a single CPU. Wall clock time is time taken between submitting the analysis task to the Condor pool, and receiving the processed results.

Table 2. optimisation algorithm settings

Model	Iteration limit	Swarm size
MAPK	2000	50
NFκB	500	20
Cell cycle	100	10

Settings used for the Particle Swarm optimisation algorithm for each model in the sampling-based global sensitivity analysis. Different algorithm settings were used for each model due to differences in the time taken to compute parameter sensitivities for each model.

Table 3. Monte Carlo sampling settings

Model	Number of samples taken
MAPK	10^6
NFκB	3×10^5
Cell cycle	10^5
Trypanosoma brucei glycolysis	10^5
Saccharomyces cerevisiae glycolysis	10^5

The number of random samples taken for each model for the sampling-based global sensitivity analysis.

CHAPTER

SIX

GLOBAL SENSITIVITY ANALYSIS AND MODEL STRUCTURE

6.1 Introduction

In Chapter 5, two global sensitivity analysis techniques were employed to analyse a selection of models, all of which were based on physiological systems. The response of these models to variations of parameter values was mixed. In particular, we found that some models were very sensitive to relatively small variations of parameter values. For example the MAPK signalling model by Huang and Ferrell [1], for which allowing the parameter values to vary by $\pm 10\%$ from their original values led to situations in which all parameter sensitivities could obtain high-magnitude positive and negative values. Other models had parts which were more robust, for example, the *Trypanosoma brucei* model by Albert et al. [2]. In this model, the concentration control coefficient of the glycerol transport reaction on the concentration of glycerol changed very little from its reference value, even under parameter variations of $\pm 50\%$. Other control coefficients were not so robust, for example the concentration control coefficient of the glucose transport reaction on the concentration of pyruvate – in this case, parameter variations of only 10% enabled this coefficient to have values between 0.5 and 5000.

6.2 Global sensitivity analysis and model structure

The question therefore arises – what is the reason for the differences in model behaviour that were observed as the parameter values were allowed to vary? One hypothesis is that the underlying structure, or stoichiometry of the models, and differences in the reaction kinetics could account for this.

In the next chapter I present a manuscript describing how this hypothesis was investigated. A number of small models were constructed with various pathway structures seen in physiological systems, incorporating a selection of irreversible and reversible reaction kinetics. Global sensitivity analysis was performed on each of these models by allowing

parameters to vary by $\pm 50\%$ of their original values; sensitivity coefficients were calculated for both reaction fluxes and metabolite concentrations. These analyses show which model properties affect the behaviour of a model under a large uncertainty surrounding the parameter values, and uncover a number of trends between the robustness of certain types of sensitivity coefficient and model structure.

6.2.1 Author contributions

EK constructed the models, performed the global sensitivity analyses, analysed the results, and wrote the first draft of the manuscript. PM edited and contributed to the manuscript.

6.3 References

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CHAPTER

SEVEN

PUBLICATION: GLOBAL SENSITIVITY ANALYSIS AND MODEL STRUCTURE

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Global sensitivity analysis and model structure

Edward Kent, Pedro Mendes

February 11, 2013

Abstract

Sensitivity analysis is a commonly used technique for the analysis of biochemical models. However, the predictive power of sensitivity analysis can be undermined if there is uncertainty surrounding the parameter values of the model. The use of a global sensitivity analysis technique can overcome this uncertainty by measuring how sensitivity coefficients respond to variations in parameter values. Recent work using global sensitivity analyses on a selection of physiologically-relevant found contrasting behaviours among the different models under variations of parameter values.

A hypothesis formulated on the basis of these results is that some reaction network structures result in specific distributions of sensitivity coefficients. To test this hypothesis we constructed a number of small, simple models with arbitrary parameter values, encompassing a selection of physiologically-relevant pathway structures and kinetics. Global sensitivity analysis was performed on all models under a relatively large variation in parameter values ($\pm 50\%$ of the original values). Two types of global sensitivity analysis method were employed – a method using random sampling, and a method using optimisations. High-throughput computing was used to run the analyses in parallel, significantly reducing the run-time. The results of these analyses uncovered a number of trends between model structure, and the robustness of certain types of sensitivity coefficient under parameter variations.

Introduction

Mathematical modelling is an important tool to assist with our understanding of biological systems. A common way to do this is to construct a system of ordinary differential equations (ODEs), with rate equations describing how the model variables change over time. The behaviour of such models is determined by the structure of the network, the kinetic equations used for each reaction, and the parameter values, which describe aspects of the system such as enzyme concentration, binding affinities and Michaelis constants. [14]

Determining the values of the model parameters is important. Parameters can be obtained from a number of sources, including estimates based on experimental data collected *in vitro* and *in vivo*. However, determining accurate values for these parameters can be difficult – often the only available literature data is obtained from different biological organisms to the one we are modelling, there are differences between *in vivo* and *in vitro* conditions, and parameter estimation techniques are frequently unable to determine a single unambiguous set of parameters based on experimental data [16]. It is therefore important that we check how any results and conclusions drawn from modelling are affected by the uncertainties in parameter values.

An important and commonly used tool for the analysis of biochemical models is sensitivity analysis. Sensitivity analysis quantifies how much the output of the model, such as steady-state concentrations and fluxes, is dependent on the inputs of the model, *i.e.* the parameter values of the rate equations. Sensitivity coefficients can be calculated to check the impact of each of the parameters on a model variable:

$$S_i^j = \frac{\frac{\mathrm{d}v_i}{v_i}}{\frac{\mathrm{d}p_j}{p_j}} \tag{1}$$

where v_i represents the output variable of interest and p_j the parameter. As defined in the equation above, sensitivity coefficients are usually scaled by measuring relative rather than absolute change.

A common type of sensitivity analysis in biochemical systems modelling is metabolic control analysis (MCA) [17, 11]. MCA uses control coefficients to calculate how much the model outputs, such as fluxes and concentrations, depend on each reaction of the system. Control coefficients are scaled sensitivities, calculated for parameters which linearly affect the rate of a reaction, such as a $V_{\max}$ or k_{cat} (but not a K_m). In MCA terminology, a sensitivity calculated for an arbitrary model parameter is known as a response coefficient. Throughout this manuscript, we use the term sensitivity coefficient to refer to a scaled sensitivity calculated for any model parameter.

A parameter has high control on the model output if a perturbation of the parameter value results in a large change in the output – this will be reflected in a large sensitivity coefficient. Likewise a parameter with low control means that a perturbation will have little effect, and the sensitivity coefficient will be small. Sensitivity coefficients can be negative, indicating that increasing a parameter value decreases the value of the variable.

A problem with sensitivity analysis as described above is that it operates in

a local parameter space – all parameters are held constant, while one parameter is perturbed at a time by an infinitesimal amount. Since all but the most trivial biochemical models are non-linear, the possibility therefore exists that sensitivity coefficients could change drastically if the parameter values of the model were only slightly different; in extreme cases, the distribution of control could change completely. Uncertainties of varying degrees surround nearly all parameters in biochemical systems models. Therefore, any conclusions drawn from a 'local' sensitivity analysis must be viewed with some caution, especially if there are large uncertainties in parameter values.

Global sensitivity analysis techniques can be used to avoid this problem by calculating what possible values a sensitivity coefficient can take, given a certain amount of variation in parameter values. These techniques normally require the use of Monte Carlo sampling, to select various combinations of parameter values [32, 33]. However, other techniques have been proposed, such as that by Sahle et al. [31], which uses an optimisation algorithm to find the bounds on the values a sensitivity coefficient can take. However, global sensitivity analysis is not often performed, due to the amount of computational power required, and a lack of supporting software.

In recent work, [20] we explored how different physiological models performed under variations of parameter values. The behaviour observed varied depending on the model – in some models, the sensitivity coefficients were robust to large changes in parameter values, while in other models even small changes drastically altered the results. The models we looked at were of real physiological systems, mostly incorporating experimentally-measured parameters. To gain a better understanding of which model characteristics lead to differences in behaviour, we performed global sensitivity analysis on a selection of small, simple models, with varying structures and reaction mechanism.

Methods

Models

A number of small models were constructed, encompassing a number of different pathway structures and reaction mechanisms often observed in physiological systems. In each case, unless otherwise specified, models with both irreversible and reversible reactions were constructed. Arbitrary dimensionless parameter values were selected for the models. In general, reactions were given a forward limiting rate (Vmax) of 10, reverse rate of 3, and Michaelis constant of 1, depending on the reaction kinetics, and whether irreversible or reversible reactions were used. The end points of the pathways (the metabolites at the beginning

and end) were fixed at a constant value of 1, with all other metabolites given a starting concentration of 0. Unless otherwise noted, scaled sensitivity coefficients (Equation 1) were calculated by perturbing each individual parameter and measuring the response on the concentration of the penultimate metabolite (usually labelled S_4) and the flux through the pathway.

Arbitrary parameter values were selected for the models. In general, reactions were given a forward rate of 10, reverse rate of 3, and Michaelis constant of 1, depending on the reaction kinetics, and whether irreversible or reversible reactions were used. Models were constructed and simulations carried out using the COPASI [13] software.

Mass action kinetics

The simplest form of reaction kinetics is mass action [7]. For irreversible reactions, the reaction rate is determined by a single rate constant (k_1) and the concentration of substrate (S) (Equation 2. For reversible reactions, the reaction rate is determined by two rate constants (k_1 and k_2) and the concentration of substrate (S) and product (P) (Equation 3).

$$v = k_1 \mathrm{S} \tag{2}$$

$$v = k_1 \mathrm{S} - k_2 \mathrm{P} \tag{3}$$

We constructed models with 4 chained reactions of either irreversible or reversible mass action kinetics (Figure 1).

$$\mathrm{S}_1 \xrightarrow{v_1} \mathrm{S}_2 \xrightarrow{v_2} \mathrm{S}_3 \xrightarrow{v_3} \mathrm{S}_4 \xrightarrow{v_4} \mathrm{S}_5$$

Figure 1: **Schematic of the mass action model.** All reactions have irreversible or reversible mass action kinetics. The concentrations of S_1 and S_5 are fixed.

Michaelis-Menten kinetics

Michaelis-Menten kinetics [25] are more realistic for enzyme-catalysed reactions, exhibiting saturation with high levels of substrate (and product in the reversible case). Michaelis-Menten kinetics were originally defined for irreversible reactions only (Equation 4), but a reversible equivalent can also be derived (Equation 5) [7]:

$$v = \frac{V_{v_1} \mathrm{S}}{K_{v_1} + \mathrm{S}} \tag{4}$$

$$v = \frac{\frac{V_{v1}^{f}\mathrm{S}}{K_{v1}^{S}} - \frac{V_{v1}^{r}\mathrm{P}}{K_{v1}^{P}}}{1 + \frac{\mathrm{S}}{K_{v1}^{S}} + \frac{\mathrm{P}}{K_{v1}^{P}}} \tag{5}$$

We constructed models with 4 chained reactions of either irreversible or reversible Michaelis-Menten kinetics (Figure 1).

Branched pathway

A pathway branch occurs when a metabolite is used as a substrate for more than one reaction. We constructed a simple pathway with a single branch splitting into two branches (Figure 2). Irreversible (Equation 4) or reversible (Equation 5) Michaelis-Menten kinetics were used for all reactions. Sensitivities were calculated for the concentration of S_4^a and the flux through the top branch only.

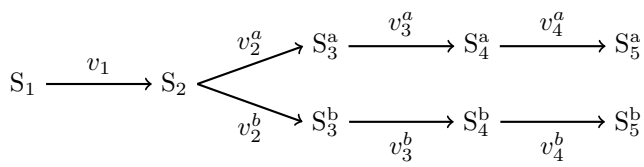

Figure 2: **Schematic of the branch pathway model.** Irreversible and reversible Michaelis-Menten kinetics were used for each reaction. The concentrations of S_1, S_5^a and S_5^b were fixed.

Cofactors

Another commonly observed feature of biochemical (metabolic) models is the presence of cofactors in addition to substrate and product. These cofactors, such as the pair NADH-NAD+ form mass conservation relations that constrain the dynamics. A model was constructed (Figure 3) incorporating cofactors A and AH, with one reaction consuming A and producing AH, and another reaction consuming AH to produce A. Moiety conservation results in the concentration A + AH remaining constant. Convenience kinetics [23] were used for reactions v_2 and v_3 (Equation. 6 for the irreversible case, and Equation 7 for the reversible case, with substrates A and B, and products P and Q), as they allow for multi-substrate multi-product reactions, and display properties similar to Michaelis-Menten. Michaelis-Menten kinetics were used for reactions v_1 and v_4 Models with irreversible and reversible reactions were constructed.

$$v = \frac{V \cdot \frac{A}{\mathrm{km_A}} \cdot \frac{B}{\mathrm{km_B}}}{1 + \frac{A}{\mathrm{km_A}} + \frac{B}{\mathrm{km_B}} + \frac{A \cdot B}{\mathrm{km_A} \cdot \mathrm{km_B}}} \tag{6}$$

$$v = \frac{\mathrm{V_f} \cdot \frac{A}{\mathrm{km_A}} \cdot \frac{B}{\mathrm{km_B}} - \mathrm{V_r} \cdot \frac{P}{\mathrm{km_P}} \cdot \frac{Q}{\mathrm{km_Q}}}{1 + \frac{A}{\mathrm{km_A}} + \frac{B}{\mathrm{km_B}} + \frac{A \cdot B}{\mathrm{km_A} \cdot \mathrm{km_B}} + \frac{P}{\mathrm{km_P}} + \frac{Q}{\mathrm{km_Q}} + \frac{P \cdot Q}{\mathrm{km_P} \cdot \mathrm{km_Q}}} \tag{7}$$

Four different models were constructed with differing concentrations of A and AH – case 1:A=0.1, AH=1; case 2: A=1, AH=0.1; case 3: A=1, AH=10; case 4: A=10, AH=1.

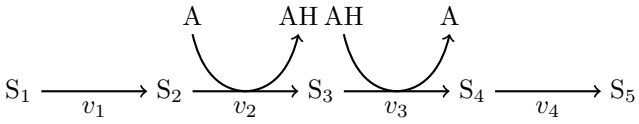

Figure 3: **Schematic of the model with cofactors.** The concentrations of S_1 and S_5 were fixed.

Detailed enzyme catalytic mechanism

Michaelis-Menten kinetics are derived by assuming that the intermediate enzyme-substrate complex is at continuous equilibrium with the substrate [25], or that is at quasi-steady-state [4]. However, we can also construct reactions which explicitly include the intermediate enzyme binding step, without the need for assumptions. Equation 8 shows these steps for an irreversible reaction, and Equation 9 for a reversible reaction. Each reaction step is assumed to follow mass action kinetics, and enzyme concentrations are explicitly modelled as variables.

$$\mathrm{S_1} + \mathrm{E_1} \underset{(v1_1).k_2}{\overset{(v1_1).k_1}{\rightleftharpoons}} \mathrm{ES_1} \xrightarrow{(v1_2).k_1} \mathrm{E_1} + \mathrm{S_2} \tag{8}$$

$$\mathrm{S_1} + \mathrm{E_1} \underset{(v1_1).k_2}{\overset{(v1_1).k_1}{\rightleftharpoons}} \mathrm{ES_1} \underset{(v1_1).k_2}{\overset{(v1_2).k_1}{\rightleftharpoons}} \mathrm{E_1} + \mathrm{S_2} \tag{9}$$

We constructed models of 4 chained reactions (Figure 1), in which each reaction is actually composed of two 'sub-reactions' with an intermediate enzyme complex. Each reaction is assumed to be catalysed by a different enzyme, with all enzymes having same concentration. Models with four different enzyme concentrations were constructed – very low (E = 0.0001), low (E = 0.1), medium (E = 1) and high (E = 10) with both irreversible and reversible reactions.

Cooperative kinetics

Enzyme-catalysed reactions will often exhibit cooperativity, in which the reaction rate is enhanced or impaired by the presence of a ligand. The use of a Hill coefficient [2] enables cooperativity to be incorporated into the rate of irreversible (Equation 10) and reversible [12] (Equation 11) reactions. A coefficient

$h > 1$ indicates positive cooperativity. $h < 1$ indicates negative cooperativity, and $h = 1$ indicates no cooperativity.

$$v = \frac{V \cdot \mathrm{S}^h}{\mathrm{S}_0.5 + \mathrm{S}^h} \tag{10}$$

$$v = \frac{\frac{\mathrm{Vf} \cdot \mathrm{S}}{\mathrm{Shalve}} \cdot \left(1 - \frac{\mathrm{P}}{\mathrm{S} \cdot \mathrm{Keq}}\right) \cdot \left(\frac{\mathrm{S}}{\mathrm{Shalve}} + \frac{\mathrm{P}}{\mathrm{Phalve}}\right)^{h-1}}{1 + \left(\frac{\mathrm{S}}{\mathrm{Shalve}} + \frac{\mathrm{P}}{\mathrm{Phalve}}\right)^{h}} \tag{11}$$

We constructed models of 4 chained irreversible and reversible reactions (Figure 1), with all reactions having a Hill coefficient of $h = 0.5$ or $h = 1$. In the case when $h = 1$, the reaction kinetics are equivalent to Michaelis-Menten kinetics.

Feedback inhibition

Inhibition is commonly observed in enzyme-catalysed reactions, in which the presence of an inhibitor reduces the rate of the reaction. Inhibition can occur when an inhibitor binds to an active site on an enzyme, preventing the binding of substrate (competitive inhibition), or when an inhibitor binds elsewhere (non-competitive inhibition) [7]. In the case when a downstream metabolite inhibits an enzyme at the beginning of a pathway, there is a negative feedback.

Competitive and non-competitive inhibition can be incorporated into irreversible and reversible reactions – Equation 12 shows irreversible competitive inhibition, Equation 13 shows irreversible non-competitive inhibition, Equation 14 shows reversible competitive inhibition, and Equation 15 shows reversible non-competitive inhibition.

$$v = \frac{V \cdot \mathrm{S}}{\mathrm{Km} + \mathrm{S} + \frac{\mathrm{Km} \cdot \mathrm{Inhibitor}}{\mathrm{Ki}}} \tag{12}$$

$$v = \frac{V \cdot \mathrm{S}}{(\mathrm{Km} + \mathrm{S}) \cdot \left(1 + \frac{\mathrm{Inhibitor}}{\mathrm{Ki}}\right)} \tag{13}$$

$$v = \frac{\frac{\mathrm{Vf} \cdot \mathrm{S}}{\mathrm{Kms}} - \frac{\mathrm{Vr} \cdot \mathrm{P}}{\mathrm{Kmp}}}{1 + \frac{\mathrm{S}}{\mathrm{Kms}} + \frac{\mathrm{P}}{\mathrm{Kmp}} + \frac{\mathrm{Inhibitor}}{\mathrm{Ki}}} \tag{14}$$

$$v = \frac{\frac{\mathrm{Vf} \cdot \mathrm{S}}{\mathrm{Kms}} - \frac{\mathrm{Vr} \cdot \mathrm{P}}{\mathrm{Kmp}}}{\left(1 + \frac{\mathrm{S}}{\mathrm{Kms}} + \frac{\mathrm{P}}{\mathrm{Kmp}}\right) \cdot \left(1 + \frac{\mathrm{Inhibitor}}{\mathrm{Ki}}\right)} \tag{15}$$

We constructed models with 4 chained reactions, containing a negative feedback loop, in which the concentration of S_4 inhibits the rate of reaction v_1 (Figure 4). Models were constructed with irreversible and reversible reactions,

and with competitive and non-competitive inhibition.

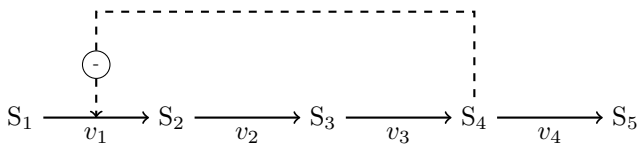

Figure 4: **Schematic of the inhibition model.** Metabolite S_4 inhibits reaction v_1 in either a competitive or non-competitive manner. All other reactions follow Michaelis-Menten kinetics. The concentrations of S_1 and S_5 are fixed.

Signalling cascade

An important class of biochemical pathways are signalling cascades, which serve to propagate an input at the beginning of the pathway to produce an effect downstream, often altering the profile of the signal in the process [3, 37, 27, 9, 8]. A key component of signalling pathways are cycles of covalent protein modification, such as phosphorylation and dephosphorylation, which convert a protein between inactive and active forms [1]. Signalling pathways are composed of a cascade of these cycles, in which the activated form of a protein serves to promote the activation of the next protein in the chain. They are considerably different from metabolic pathways because they only transfer a signal, but not mass.

We constructed models of a signalling cascade, comprising 2 phosphorylation-dephosphorylation cycles (Figure 5), 3 cycles (Figure 6) and 4 cycles (Figure 7). All reactions follow irreversible Michaelis-Menten kinetics, with activated species S_n^* representing the enzyme concentration for the activation reactions.

There is no concept of flux in signalling models, since none of the model end-points are fixed. We therefore only calculate concentration sensitivities, perturbing each model parameter and measuring the response on the concentration of the activated protein at the end-point of the cascade.

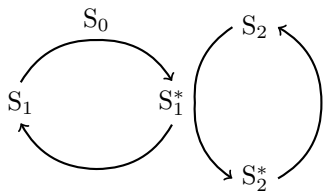

Figure 5: **2-stage signalling cascade.**

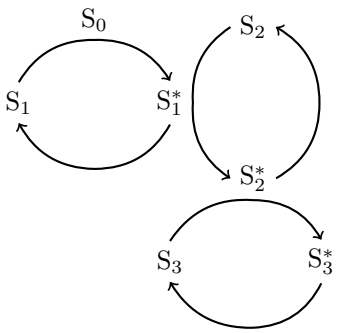

Figure 6: **3-stage signalling cascade.**

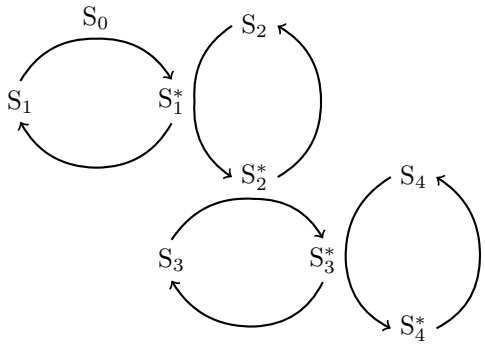

Figure 7: **4-stage signalling cascade.**

Global sensitivity analysis techniques

Local and global sensitivity analysis was performed on all models to calculate scaled flux and concentration sensitivities. For the local analysis, the original model parameter values were used, and for the global analysis, parameters were allowed to vary by $\pm 50\%$ from their original values.

Sensitivities were calculated using the COPASI [13] sensitivities task, by perturbing each parameter by 0.01%, and measuring the response on concentration and flux. Unless otherwise noted, flux sensitivities were calculated on the the flux through the main pathway branch, and concentration sensitivities were calculated on the concentration of the penultimate metabolite in each pathway.

Global sensitivity analysis was performed using two methods – Monte Carlo sampling, and optimisations. Monte Carlo sampling was used to select sets of parameter values from uniform random distributions. Sensitivity coefficients were calculated for each set of parameter values, and 100,000 samples were taken for each model. The COPASI [13] parameter scan task was used to sample the parameter values, and the sensitivities task was used to calculate the

sensitivity coefficients as for the local analysis. Histograms were produced for each sensitivity coefficient, showing the range of values that could be obtained, and the frequency at which they occurred. In addition, the normalised height of the distribution peak was calculated, along with the corresponding sensitivity value at the peak. Finally, a Shapiro-Wilk Normality test [34] was performed on each distribution. The sampled sensitivity coefficients were processed using a Python [28] script, and the histograms were produced using the MatPlotLib [24] library.

The optimisation method, proposed by Sahle et al. [31], uses an optimisation algorithm to find the upper and lower bounds on the values a sensitivity coefficient can take. The COPASI [13] optimization task was used with the Particle Swarm algorithm (iteration limit: 2000, swarm size: 50) [18] to find these bounds. Two optimisations were run for each sensitivity coefficient – one to find the maximum value that could be obtained, and one to find the minimum value. For comparison, the results of the optimisations are displayed superimposed onto the distributions produced by random sampling.

Condor-COPASI [19] was used to run both global sensitivity analysis methods in parallel on The University of Manchester's Engineering and Physical Sciences' Condor high-throughput computing cluster.

Results

We summarize the results of the analysis for each model. The full results are presented in the Supplementary Information.

Mass action kinetics

In the irreversible case, the control on the flux is initially solely in the parameter (v1).k1, and the control on concentration in (v1).k1 and (v4).k1. Allowing the parameters to vary results in no change in the control exerted by any parameter. This behaviour is expected, since it can be shown that in this case the flux is directly proportional to the rate constant for reaction $v1$ [6].

In the reversible case, the control on flux and concentration is distributed among all parameters, but with the majority of control in parameter (v1).k1. As the parameters are allowed to vary, all parameters are able to exert a control on the flux of magnitude > 1, with the highest control still at the start of the pathway. Smaller changes are observed in the concentration sensitivities, with no parameter able to exert a large control. The distributions produced by sampling appear Gamma-like, with a single long tale extending away from zero.

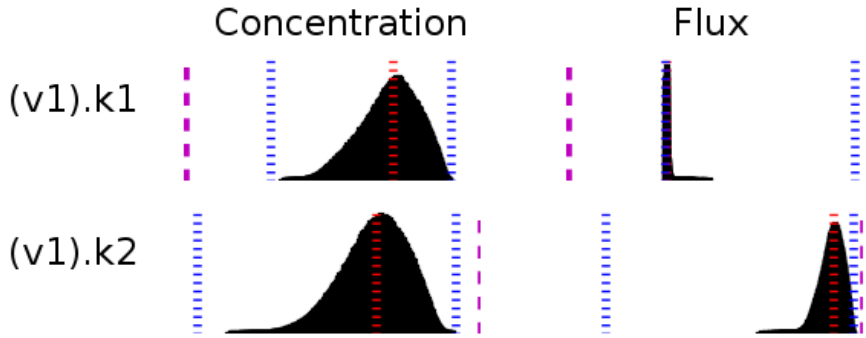

Figure 8: **Concentration and flux sensitivities for parameters (v1).k1 and (v1).k2 in the reversible mass action model.** The distribution x axes show the sensitivity coefficient values, and the y axes show the frequency these values occurred during sampling. The local sensitivity value is shown as a dotted red line, zero is shown as a dashed magenta line. The bounds found by the optimisation technique are displayed as dotted blue lines. The full results for all parameters are shown in Supplementary Tables 1 and 2).

Michaelis-Menten kinetics

As with the mass action kinetics, in the irreversible Michaelis-Menten pathway, control on the flux is only exerted by the first reaction in the chain (though in this case both parameters – V and K_m – can have control), while control on the concentration is exerted by both reaction $v1$ and reaction $v4$. Allowing the parameters to vary allows some parameters to exert extremely high-magnitude control (> 1000) on the concentration. Control on the flux is more robust, with control exerted by $(v1).Km$ able to change slightly, but the control exerted by $(v1).V$ not changing at all.

In the reversible case, the control on concentration and flux is initially distributed among all parameters. Allowing the parameters to vary allows the concentration sensitivities to change slightly – notably the Vf parameter for all reactions can exert a control > 1. The distributions all appear Gaussian- or Gamma-like, with a long tail extending away from zero. The control on the flux is much less robust, and all parameters become able to exert a high-magnitude (< -10 or > 10) positive and negative control. In this case, the distribution peaks appear to be tall and narrow, with long, flat tails.

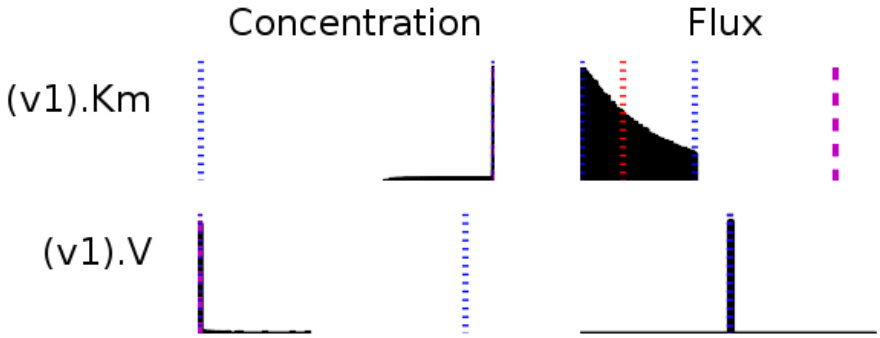

Figure 9: **Concentration and flux sensitivities for parameters (v1).Km and (v1).F in the irreversible Michaelis-Menten model.** For a description of the distributions refer to Figure 8. The full results for all parameters are shown in Supplementary Table 3).

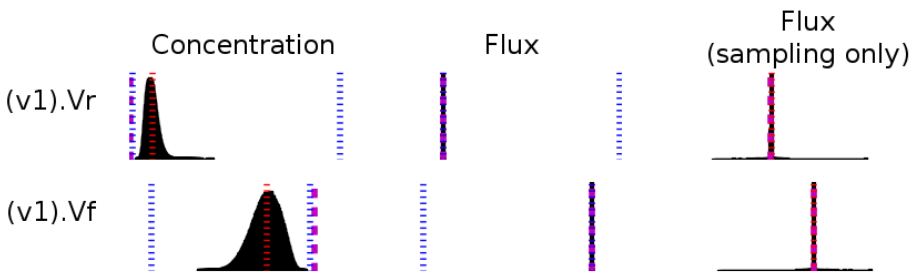

Figure 10: **Concentration and flux sensitivities for parameters (v1).k1 and (v1).k2 in the reversible Michaelis-Menten model.** For a description of the distributions refer to Figure 8. The full results for all parameters are shown in Supplementary Table 4).

Branched pathway

In the irreversible case, the control on the flux is initially exerted by the parameters of reactions $v1$, $v2a$ and $v2b$ (i.e. those that control the initial flux, or the proportion of flux going into each branch). The control on the concentration of S_4^a is controlled by these parameters, and also those of reaction $v4a$ (i.e. the reaction that depletes S_4^a). Allowing all parameters to vary leads to relatively small changes in the flux sensitivities, with much larger changes in the concentration sensitivities – all parameters with non-zero local control become able to exert a high-magnitude control (> 100 or < -100), with the exception

of v4a.Km which only has a maximal sensitivity of 1.

In the reversible pathway, initially the control on concentration and flux is distributed among all parameters. The opposite situation to the irreversible pathway is seen when the parameters are varied - the concentration sensitivities change slightly from their local values, whereas the flux control sensitivities can change drastically, with all parameters able to exert high-magnitude positive and negative control.

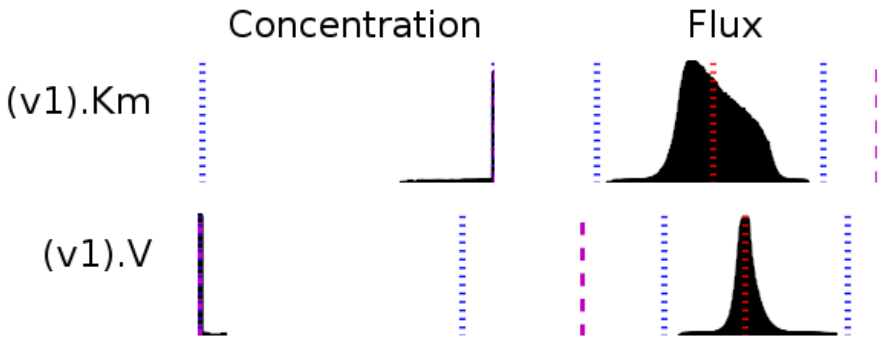

Figure 11: **Concentration and flux sensitivities for parameters (v1).Km and (v1).V in the irreversible branch pathway model.** For a description of the distributions refer to Figure 11. The full results for all parameters are shown in Supplementary Table 5).

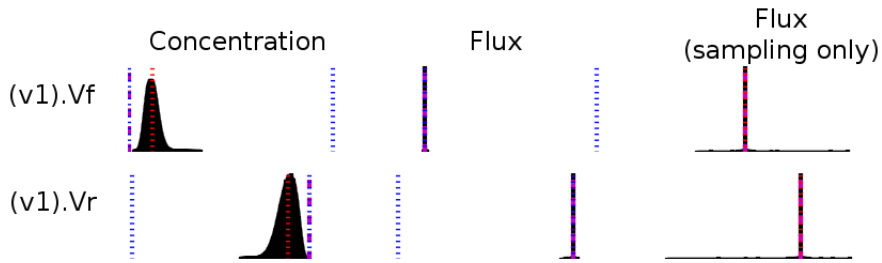

Figure 12: **Concentration and flux sensitivities for parameters (v1).Vf and (v1).Vr in the reversible branch pathway model.** For a description of the distributions refer to Figure 8. The full results for all parameters are shown in Supplementary Table 6).

Cofactors

We constructed reversible and irreversible pathways containing cofactors A and AH of varying concentrations. Four scenarios are considered, with concentrations of A and AH of – case 1:A=0.1, AH=1; case 2: A=1, AH=0.1; case 3: A=1, AH=10; case 4: A=10, AH=1.

In the irreversible pathways, case 1 (A=0.1, AH=1) did not reach steady state, either initially or in the sampled parameter sets. Case 2 (A=1, AH=0.1) did not reach a steady state initially, but the majority of sampled models did reach steady state. Here, there results are similar to the standard Michaelis-Menten pathway, with only reaction $v1$ able to exert control on the flux, and reactions $v1$ and $v4$ exerting control on the concentration. Allowing the parameter values to vary enabled parameters $(v1).Km$, $(v1).V$ and $(v4).Km$ to gain relatively high magnitude control on the concentration, but little change was seen on the concentration of flux. The results were similar for cases 3 (A=1, AH=10) and 4 (A=10, AH=1), with the concentration sensitivities able to gain higher magnitude.

In the reversible cases, the concentration sensitivities remained relatively stable, but the flux sensitivities changed significantly – all parameters became able to exert a high-magnitude positive and negative control. The variation in concentration sensitivities appears to depend on ratio of A to AH (10:1 results in higher-magnitude control than 1:10), and also total enzyme concentration (a total concentration of 11 resulted in higher-magnitude sensitivities than 1.1). This phenomenon may also be present in the flux sensitivities, though in all cases they are all such high-magnitude as to make little difference.

Detailed enzyme catalytic mechanism

We considered 4 different enzyme concentrations – very low ($E = 0.0001$), low ($E = 0.1$), medium ($E = 1$), and high ($E = 10$).

In the irreversible case, control on the flux is only exerted by the first two reaction steps (v1_1 and v1_2). Control on the concentration is exerted by the first two reaction steps, and the final two (v4_1 and v4_2).

Allowing the parameters to vary enabled the concentration sensitivities to potentially gain very high-magnitude control (> 100), whereas the flux sensitivities did not vary much beyond their local values. The enzyme concentration appears to have no effect on the flux control coefficients, either initially or when the parameters are varied, nor does it have any effect on the initial concentration sensitivities. However, higher enzyme concentrations appear to lead to higher-magnitude potential control on concentrations by v1_1 and v1_2.

In the reversible pathway, the situation is reversed, with stable concentra-

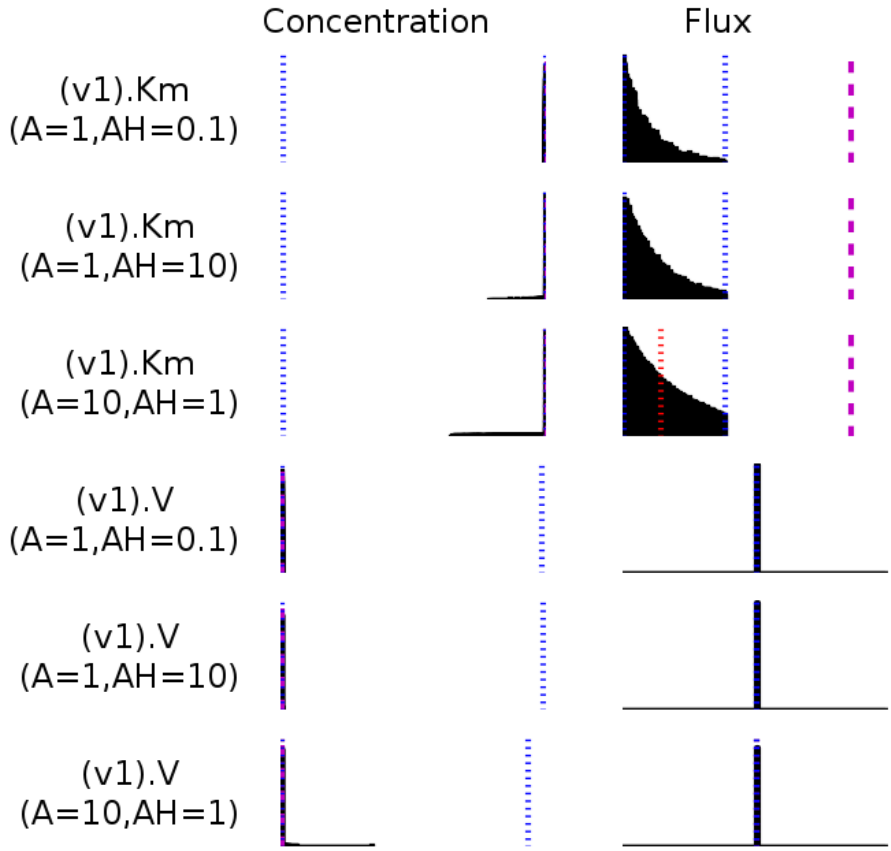

Figure 13: **Concentration and flux sensitivities for parameters (v1).Km and (v1).V in the irreversible model with cofactors of varying concentrations.** For a description of the distributions refer to Figure 8. Note that in many cases, the model did not reach a steady state with the initial parameter values, and so no local sensitivity value is shown. The full results for all parameters are shown in Supplementary Tables 7-9).

tion sensitivities, and unstable flux sensitivities – all can potentially gain high-magnitude positive and negative control. The enzyme concentration has no effect on the initial local sensitivities, nor on the concentration sensitivities after varying the parameters.

Cooperative kinetics

A Hill coefficient $h = 2$ implies positive cooperativity, and $h = 0.5$ implies negative cooperativity.

The results on pathways incorporating Hill coefficients are similar to those

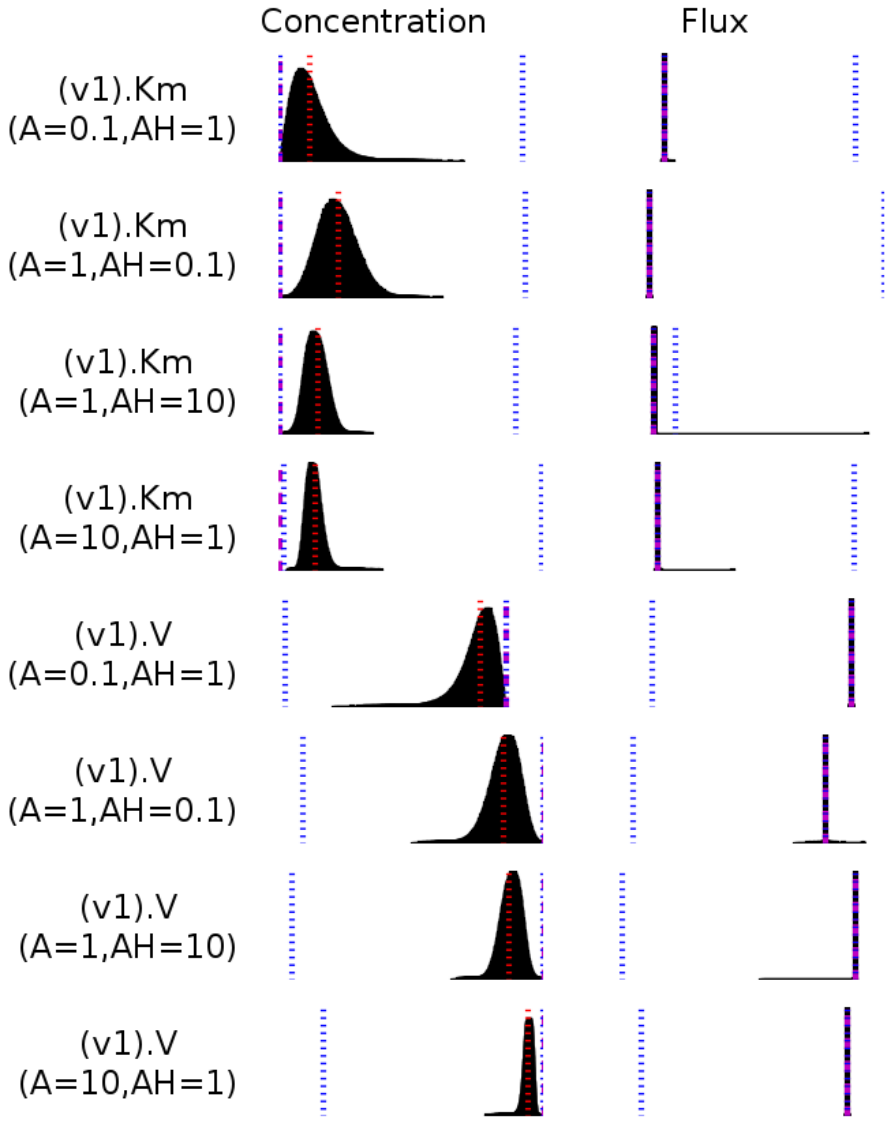

Figure 14: **Concentration and flux sensitivities for parameters (v1).Km and (v1).V in the reversible model with cofactors of varying concentrations.** For a description of the distributions refer to Figure 8. The full results for all parameters are shown in Supplementary Tables 10-13).

of the Michaelis-Menten pathway (equivalent to $h = 1$, or no cooperativity.

In the irreversible pathway, initially only the parameters of reaction $v1$ and the h parameter can exert any control on the flux. This is also true for the concentration sensitivities, with the addition of parameter $v4$ also having control. Allowing the parameters to vary has no effect on the flux sensitivity for param-

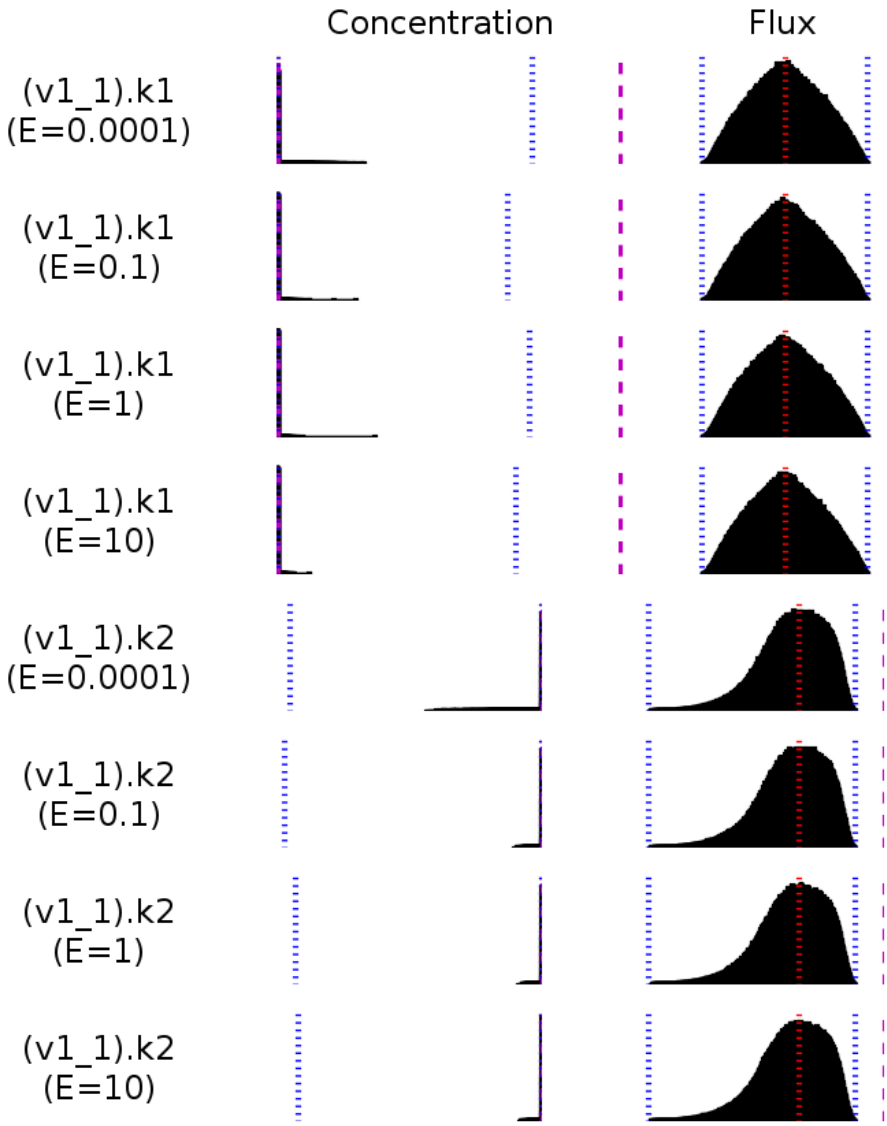

Figure 15: **Concentration and flux sensitivities for parameters (v1_1).k1 and (v1_1).k2 in the irreversible model with explicit enzyme binding steps under varying enzyme concentrations.** For a description of the distributions refer to Figure 8. Note that in many cases, the model did not reach a steady state with the initial parameter values, and so no local sensitivity value is shown. The full results for all parameters are shown in Supplementary Tables 14-17).

eter $(v1).V$, and a small effect on parameter $(v1)$.Shalve. The Hill coefficient has little effect.

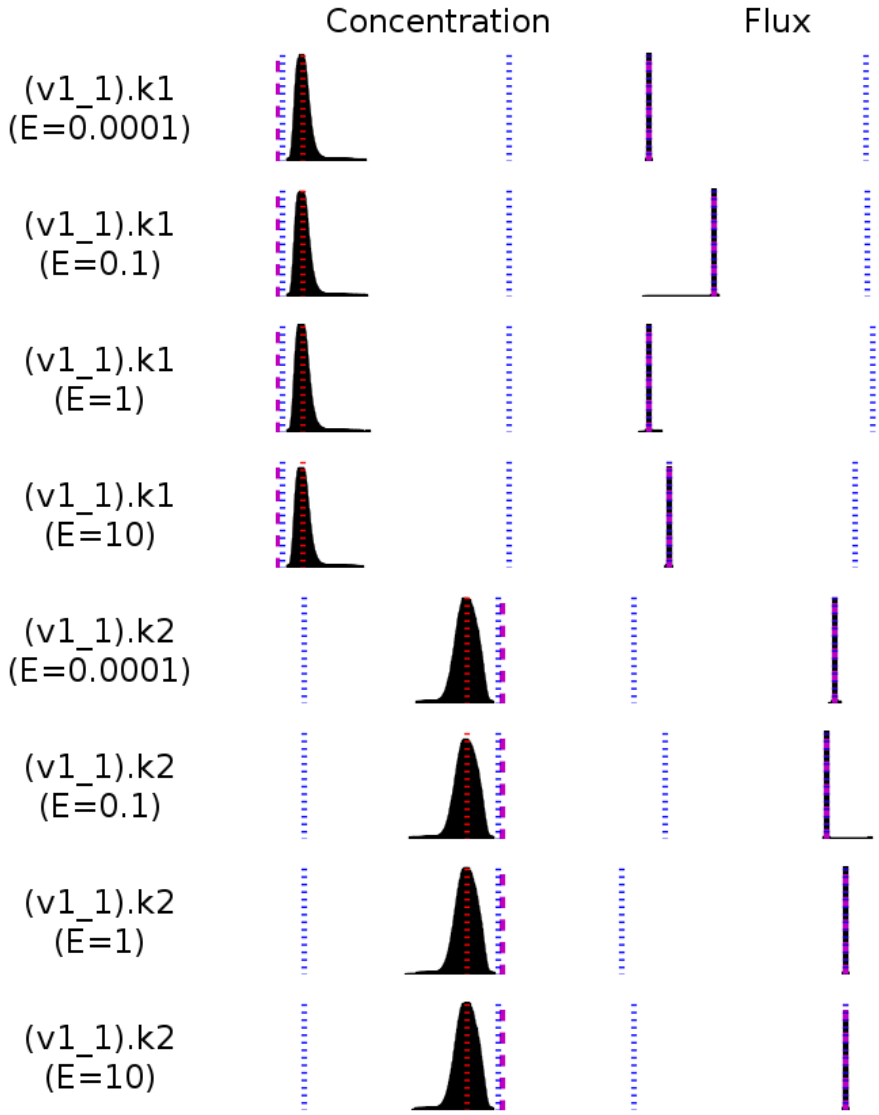

Figure 16: **Concentration and flux sensitivities for parameters (v1_1).k1 and (v1_1).k2 in the reversible model with explicit enzyme binding steps under varying enzyme concentrations.** For a description of the distributions refer to Figure 16. The full results for all parameters are shown in Supplementary Tables 18-21).

In the reversible case, the concentration sensitivities are relatively stable. However, all parameters become able to exert high-magnitude positive and negative control on the flux. We note that the concentration sensitivities have the

potential to become larger when $h = 2$ than when $h = 1$ (see Michaelis-Menten pathway), or $h = 0.5$. However, the Hill coefficient itself has little effect on the flux sensitivities.

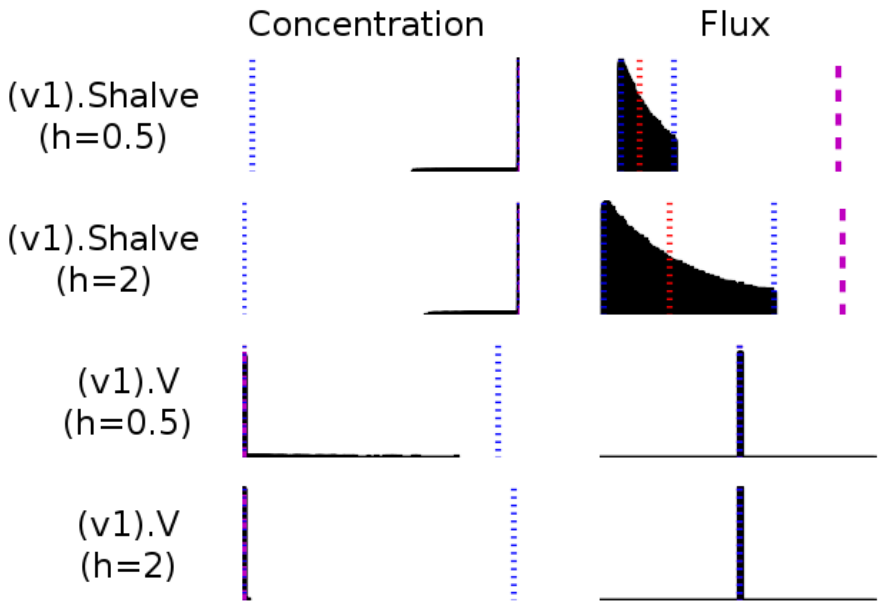

Figure 17: **Concentration and flux sensitivities for parameters (v1).Shalve and (v1).V in the irreversible Hill equation model, with Hill coefficients of $h = 0.5$ and $h = 2$.** For a description of the distributions refer to Figure 8. The full results for all parameters are shown in Supplementary Tables 22 and 23).

Feedback inhibition

We consider two types of inhibition – competitive and non-competitive (see Introduction). In the irreversible pathway, for both competitive and non-competitive cases, the control on both concentration and flux is limited to reactions $v1$ and $v4$. Allowing the parameters to vary results in small variations in the sensitivities. The non-competitive pathway seems slightly more robust, with smaller variations seen than in the competitive pathway.

In the reversible case, the control is initially distributed among all parameters. Allowing the parameters to vary lead to small changes in the concentration sensitivities, but much larger changes in the flux sensitivities – all parameters become able to exert high-magnitude positive and negative control. Again, the

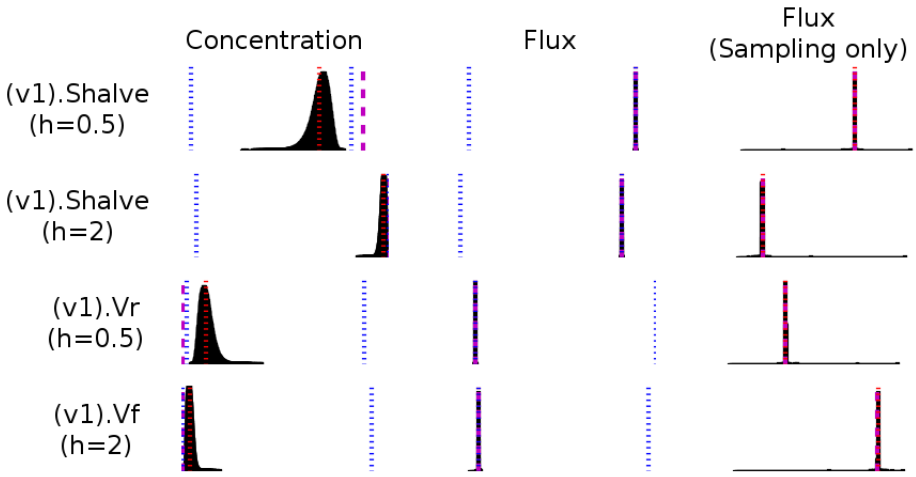

Figure 18: **Concentration and flux sensitivities for parameters (v1).Shalve and (v1).V in the reversible Hill equation model, with Hill coefficients of $h = 0.5$ and $h = 2$.** For a description of the distributions refer to Figure 16. The full results for all parameters are shown in Supplementary Tables 24 and 25).

competitive pathway seems less stable, with sensitivities becoming higher in magnitude than in the non-competitive pathway.

Signalling cascade

Finally, we consider models of a signalling cascade of 2, 3 and 4 stages. For this model, only concentration sensitivities are calculated, since there is no concept of a flux – only information transfer.

In the 2-stage model, all parameters initially have low control, with the highest sensitivities located in the second stage of the cascade (S2). By allowing parameter values to vary, most parameters can gain a control with magnitude > 1. Of particular note, the parameters in the first stage of the signalling cascade (S1) can gain higher control than their counterparts in stage 2.

In the 3-stage and 4-stage models the results are similar – initially the control is located at the end of the cascade. However, by allowing the parameter values to vary, the parameters at the start of the cascade are able to exert the highest control. The longer the cascade, the higher the sensitivity coefficients can become.

This seems to indicate that the signalling cascades can act to amplify a signal at the start of the cascade so that it has a large effect at the end. This

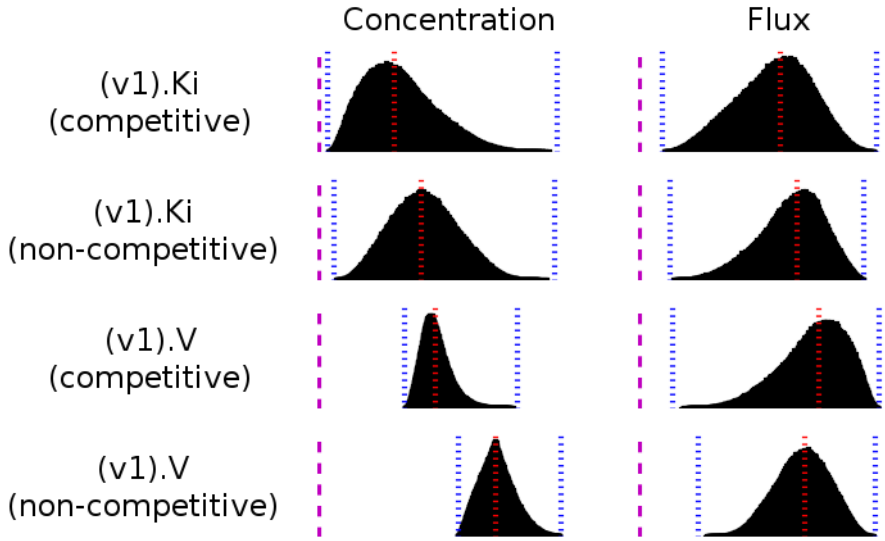

Figure 19: **Concentration and flux sensitivities for parameters (v1).Ki and (v1).V in the irreversible models with competitive and non-competitive inhibition.** For a description of the distributions refer to Figure 8. The full results for all parameters are shown in Supplementary Tables 26 and 27).

amplification phenomenon is not present in the initial parameter set, and seems to require a special (rare) configuration of parameter values to occur, since the probability of each parameter gaining a high control remains very low according to the distributions (indeed, the high control was not found by sampling, only be the optimisation). The results from the random sampling suggest, however, that the likelihood of drawing a random set of parameters that will lead to a model with a high level of amplification actually decreases when more chains are added to the cascade. This possibly counter-intuitive result could be explained by the fact that the potential parameter space of the model increases as more reactions are added.

Discussion

The results uncover a number of trends in the way the sensitivity coefficients in each of the models behave as the parameter values are varied. We discuss these below.

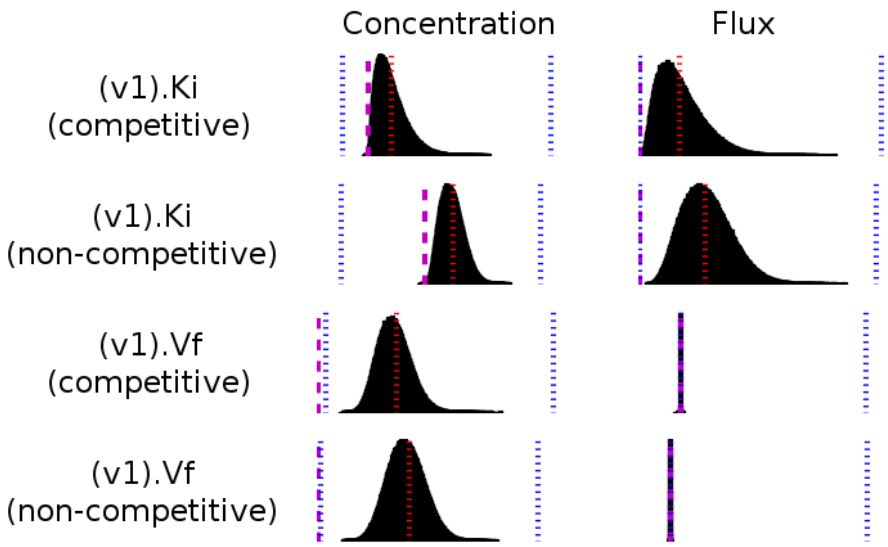

Figure 20: **Concentration and flux sensitivities for parameters (v1).Ki and (v1).V in the reversible models with competitive and non-competitive inhibition.** For a description of the distributions refer to Figure 16. The full results for all parameters are shown in Supplementary Tables 28 and 29).

Sensitivity coefficient robustness

Robustness is usually defined as a property of the system which is resistant to changes in the environment. In the context of biochemical modelling, a robust system should be able to maintain its function in the presence of parameter perturbations. [39, 21, 22, 36, 15, 26]

The concept of robustness can be seen as the opposite of sensitivity – a low-magnitude sensitivity coefficient indicates a model property that is robust to parameter perturbation, while a high-magnitude sensitivity coefficient indicates a fragility. So-called robustness coefficients can be defined as the inverse of a sensitivity coefficient [30, 29, 38].

Under a global sensitivity analysis, sensitivity coefficients themselves may also be robust, exhibiting little change under variations of the parameter values. Non-robustness, or fragility, may also be observed, where relatively small changes in parameter values can lead to a sensitivity coefficient being able to obtain a wide range of possible values, sometimes both positive and negative, often spanning several orders of magnitude. The robustness of sensitivity coefficients can be seen as a second-order model property, *i.e.* how robust a model is to small parameter perturbations, in the parameter space surrounding the

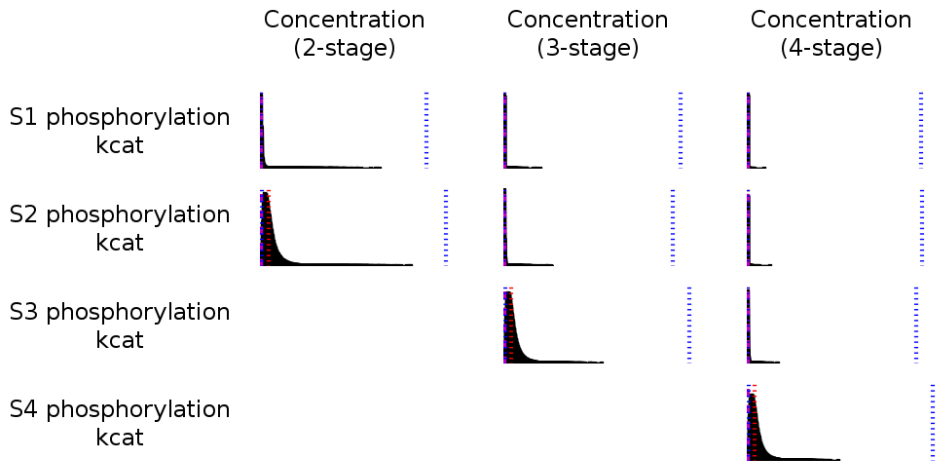

Figure 21: **Concentration sensitivities for the kcat parameter in the phosphorylation reaction of stages S1 and S2 in the 2-stage signalling model; stages S1, S2 and S3 in the 3-stage model and stages S1, S2, S3 and S4 and in the 4-stage model.** For a description of the distributions refer to Figure 16. The full results for all parameters are shown in Supplementary Tables 30-32).

initial parameter set.

We observed differences in the robustness of sensitivity coefficients, depending on the directionality of the network (irreversible or reversible), and the type of sensitivity coefficient calculated (concentration or flux).

In the irreversible models (with the exception of the branch inhibition and signalling pathways), only the parameters of reaction v_1 have any control on the amount of flux through the pathway. This is to be expected, since there is no feedback mechanism. In the branch pathway, the parameters of reactions v_1, v_2^a and v_2^b all have control on the flux – this is explained by the fact that reactions v_2^a and v_2^b affect the proportion of flux which goes into each branch. In the pathways with inhibition, the parameters of both reactions v_1 and v_4 have control on the flux – in this case, there is feedback from reaction v_4. In all cases, the control exerted by all parameters is relatively small, the range of sensitivity coefficients found by the global sensitivity analyses are close to the sensitivity value in the reference parameter set.

In the irreversible models, the concentration of the penultimate metabolite in each pathway is initially controlled by the parameters of the first and last reactions of the pathway (the last reaction depletes the concentration of the penultimate metabolite, so this is expected). When the parameter values are allowed to vary, the sensitivity coefficients of the parameters of these reactions

can become extremely high-magnitude, often several orders of magnitude larger than the initial value. In all cases, parameters with an initial control of zero do not become able to exert any control when the parameter values are varied.

A different trend is seen in the reversible models. Because of the feedback, all parameters have some degree of control on both the concentration and flux with the initial parameter values. As the parameter values are allowed to vary, the concentration sensitivities remain relatively robust, changing only slightly from their original values. The flux sensitivities behave differently, with most sensitivity coefficients able to gain high-magnitude positive and negative control, depending on the parameter set chosen.

To reiterate, in the irreversible models, the non-zero concentration sensitivities were generally non-robust, while the non-zero flux sensitivities were robust to a $\pm 50\%$ variation in parameter values. The opposite is true in the reversible models – the concentration sensitivities were robust to parameter variations, while the flux sensitivities were non-robust.

Since only concentration sensitivity coefficients were calculated for the signalling model, the above observations do not apply. However, a trend was observed between the potential magnitude of a sensitivity coefficient, and the position of the corresponding parameter in the signalling cascade. In general, the further a parameter is from the end of the cascade, the larger the range of its potential sensitivities is. Therefore, the longer the cascade, the larger the sensitivity coefficients can become. For example, the kcat parameter of the first phosphorylation reaction in the 2-, 3-, and 4- stage cascades can obtain sensitivities of 2.64, 4.68 and 8.29 respectively. This is noteworthy when we consider the role of a signalling cascade – these cascades do not simply transfer a signal, but act to modify it, perhaps by amplification [10]. For an amplified signal, we would therefore expect to see a high-magnitude sensitivity coefficient for the reaction at the start of the pathway. Our results support previous studies that show the capacity for amplification by a signalling cascade increases exponentially with the number of cycles [5, 35].

Distribution shapes

Trends were also observed in the distribution shapes produced by random sampling. When only small changes in sensitivity coefficient values are observed, the distributions appear to be broad, and are often asymmetric with a flat tail extending away from zero. Many of the distributions appear Gaussian-like (confirmed by a high Shapiro-Wilk score), for example concentration sensitivities for the reversible pathway with cofactors (Figure 3). Other distribution shapes are also seen, including triangular (for example the flux sensitivities for parameter

(v1_1).k1 in the irreversible pathway with explicit enzyme binding steps (Figure 15)), and the distribution for the flux sensitivities for the (v1).Km parameter in the irreversible pathway with cofactors (Figure 13). In the cases where the range of potential sensitivity values varied drastically from the local values (often spanning several orders of magnitude), the distributions appear to have a sharp narrow peak, with long flat tails.

In all cases, the distribution peaks appear close to the reference sensitivity value. It is tempting to interpret these distributions as leading to some form of likelihood. However, we caution against this. The parameter values used to produce the distributions were drawn at random. Real biological systems, however, are not constructed at random, but instead evolve through natural selection. If a particular set of parameter values (genotype) provides the system with some advantage (phenotype), then they will be selected for.

A case in point is the set of signalling cascade pathways – high-magnitude sensitivity coefficients enable these pathways to amplify a signal. However, the distributions show that this property requires an unusual configuration of parameter values (at least in the range of values we considered) – so rare that they were only found by the optimisations, and did not occur in any of the sampled parameter sets. Additionally, while the capacity for a cascade to amplify a signal increases with the number of chains, the likelihood of this property occurring through random chance decreases. This implies that the ability of a signalling cascade to amplify a signal is a property that must be selected for, and will not occur at random.

Methodology comparison

Two global sensitivity analysis methodologies were employed in this study – using random sampling to select sets of parameter values, and using optimisations to search the parameter space to find upper and lower bounds on the values each sensitivity coefficient could take.

Both methods performed well, although the optimisation method often found sensitivities several orders of magnitude larger than the sampling method was able to. In these cases, it is perhaps of little importance whether the control is of the order of 10^2 or 10^5, simply that a high-magnitude sensitivity is possible. This is in contrast to previous work, on larger, more complex models, where the sampling method often outperformed the optimisation method, indicating that the optimisation algorithm had terminated without reaching a global optima [20]. The exception to this was the signalling cascade pathways – in these models high-magnitude sensitivity coefficients were only found by the optimisation method, indicating that this behaviour could only be achieved with a very rare

combination of parameter values. The two global sensitivity analysis methods therefore complement each other.

Both methods were run in parallel on our high-throughput computing cluster of roughly 2000 executing nodes using Condor-COPASI [19], enabling significant reductions in run-time to be achieved. On average, calculating sensitivity coefficients using the sampling method required 4.3 hours of CPU time per pathway, while the optimisation method required an average of 5.4 hours. Running the tasks in parallel reduced the average wall clock time for each pathway to approximately 1 hour. In addition, our Condor pool has the capacity to run the analysis on many pathways simultaneously, which enabled us to run all analyses in a single 12 hour period, using a cumulative total of 33 days of CPU time.

For a single pathway, both methodologies would have been feasible (if very slow) without access to a distributed computing environment. It is clear, however, that our use of high-throughput computing was advantageous, especially since we analysed a large selection of pathways. This contrasts with previous work on larger more complex models [20], in which the sampling method required too much computational capacity to be feasible without the use of distributed computing.

Conclusion

Global sensitivity analysis allows us to study how the parameters of a model affect the outputs of the model, such as steady-state concentrations and fluxes, while taking into account uncertainties surrounding parameter values which are present in virtually every model. We performed global sensitivity analysis on a selection of simple biochemical pathways, encompassing a range of different structures and reaction kinetics. Our results revealed trends between the different pathways, showing that in some cases, the values a sensitivity coefficient can obtain are mostly a function of the structure and kinetics of the network, and are not dependent on an exact set of parameter vales. In other cases, sensitivity coefficients are able to obtain a wide range of potential values, suggesting that accurately determining parameter values is important if one wishes to draw conclusions regarding the distribution of control on a particular systems property. We introduce the concept of sensitivity coefficient robustness to address this property – a robust sensitivity coefficient will change little under large variations in parameter values, whereas a non-robust coefficient would exhibit large changes. In general, we found that concentration sensitivity coefficients were robust to parameter variations of $\pm 50\%$ of the original values in pathways with irreversible reactions, while flux sensitivities were robust when reversible reactions were considered.

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CHAPTER

EIGHT

DISCUSSION AND FUTURE DIRECTIONS

8.1 Summary

The aim of this thesis is to show how the concepts of global sensitivity analysis and high-throughput computing can be combined to provide a powerful platform for the analysis of biochemical models.

In Chapter 3 we introduced Condor-COPASI, a tool for running model simulation and analysis tasks in parallel on the Condor high-throughput computing environment. Condor-COPASI is accessed through a simple graphical interface, and its ease of use makes it accessible to modellers from a variety of backgrounds. Significantly, it enables high-throughout computing resources to be accessed without the use of command-line tools and configuration files that users would traditionally be required to work with. Global sensitivity analysis tasks are particularly well suited to running in a high-throughput computing environment such as Condor. These tasks often require large amounts of computing power, and are amenable to being split into smaller tasks, and run in parallel. Condor-COPASI can be used to perform two global sensitivity analysis methods – one method employs random sampling, and the other uses an optimisation algorithm.

In Chapter 5, Condor-COPASI was used to perform global sensitivity analysis on a selection of physiologically-based models – a model of the MAPK signalling cascade [1], a model of the NFκB signalling pathway [2], a model of the eukaryotic cell cycle [3], and models of the glycolysis pathway in *Trypanosoma brucei* [4] and *Saccharomyces cerevisiae* [5]. We performed global sensitivity analysis under increasing ranges of parameter variation, equivalent to incorporating increasing uncertainty surrounding the parameter values. The behaviour of the models under this uncertainty was varied. The MAPK and cell cycle models were not robust, with relatively small variations in parameter values resulting in a complete change in the distribution of control. The NFκB and glycolysis models, however, were more robust. The output of the random sampling method, on the glycolysis models in particular, uncovered some interesting behaviour. The results here implied that the behaviour of the published model is not the most likely behaviour if the parameter values had been selected at random. However, we suggest that one should not

draw conclusions from this, nor from the mean values of the samples, since evolution is not random – if a particular parameter set provides an organism with some advantage, then it will be selected for.

In addition, a comparison between the two global sensitivity analysis methodologies was performed. In general, the sampling method performed better, though required vastly more CPU cycles than the optimisation technique. However, using Condor-COPASI with our high-throughput computing pool, the wall clock time of the two methods could be made broadly similar. Thus, in practical terms, with the availability of high-throughput computing resources, the two methods are equally usable.

In Chapter 7 we investigated which aspects of a model's composition affect its response to a global sensitivity analysis. A number of small core models were studied, incorporating varying model structures, and different types of reaction kinetics. We found that in some situations, sensitivity coefficients changed very little, even under large variations in parameter values, indicating they are more a function of reaction structure, and that an accurate determination of parameter values is not important. In other cases, we find that variations of the parameter values of a model can enable sensitivity coefficients to obtain a wide range of possible values, suggesting that accurate determination of parameter values here is more important. Of particular note, we found that, for models with only irreversible reactions, the flux sensitivities tend to be robust to large variations in parameter values, while the opposite is true for the concentration sensitivities. The situation is reversed when only reversible reactions are considered – the concentration sensitivities become robust to parameter variations, while the flux sensitivities are not robust. Our analysis here on signalling-cascade models agrees with previous research, showing that the potential for a cascade to amplify a signal increases with the number of chains in the cascade.

In summary, we have shown how global sensitivity analysis can be used as a powerful tool for model analysis. The techniques we used are computationally expensive, however the use of high-throughput computing led to large reductions in the run time of these techniques, enabling us to perform analyses that would have been either impractical or impossible otherwise.

In some of the models studied, it was shown that the conclusions drawn from a local sensitivity analysis can be strengthened, by demonstrating that they remain valid, even when a large uncertainty surrounding the parameter values is accounted for. In other cases, it was shown that even a small amount of uncertainty can lead to a situation where the distribution of control can change completely, meaning any results from a local sensitivity analysis should be viewed with a high degree of caution. Parameter uncertainties are a real problem in systems modelling, and with the help of high-throughput computing, global sensitivity analysis can, and should, become a practical part of the modelling process.

8.2 Discussion

The problems associated with uncertainties in parameter values in biochemical models are well known [6–8]. Numerous sources of error can affect parameter values, both when they have been measured directly or estimated from some higher level experimental data. These errors can weaken the predictive power of models — one would therefore expect model analysis techniques which can account for parameter uncertainties, such as global sensitivity analysis, to be widely used. In fact, while local sensitivity analysis is frequently performed, global sensitivity analysis is a much less prevalent technique. We suggest in Chapter 1 that the lack of widespread use of GSA in biochemical modelling can be attributed to two key factors — methodologies that are too computationally expensive, and a lack of user-friendly software supporting global sensitivity analysis techniques. The development of software toolboxes such as SBML-SAT [9] and SensSB [10] have helped with regard to the second point, by providing access to a number of global sensitivity analysis techniques. However, these software packages are unable to utilize distributed computing resources, have limitations with regard to usability and compatibility, and are not widely used. The popular modelling software COPASI [11] can be manually configured to run sampling and optimisation-based global sensitivity analysis, but this is not automated, and any results generated must be processed with external software.

Condor-COPASI, presented in Chapter 3, helps with both of the issues identified above. The user-friendly interface makes it very easy to run two types of global sensitivity analysis — the derivative-based sampling method, and the optimisation-based method — while the use of high-throughput computing allows the run-time of global sensitivity analyses to be vastly reduced. The reductions in run time were particularly well demonstrated in the analyses performed in Chapter 5 — for example, for the analysis of the MAPK model, the run time of the optimisation technique was reduced from 87 hours on a single CPU, to 6 hours using HTC (an approximately 14-fold reduction), and the run time of the sampling technique was reduced from 395 hours to 9 hours (approximately a 45-fold reduction). Similar reductions in the run time were observed for the analyses on the NFκB, cell cycle and glycolysis models. While the run times of these analyses were still large compared with local analyses (which typically take in the order of seconds or minutes to perform), the use of HTC enabled them to become short enough to become a practical part of the modelling process.

In the analyses in Chapter 5, we examined how sensitivity coefficients changed over varying degrees of parameter uncertainty. In this way we were able to incorporate hypothetical parameter uncertainties, and evaluate what degree of uncertainty the model could tolerate before the results of the global sensitivity analysis changed significantly from the local analysis — a measure that can be viewed as a global measure of model robustness. An alternative method for incorporating uncertainty is that employed by Achcar et al. [12], in which uncertainty is considered on a parameter-by-parameter basis by examining the range of reported literature values for each parameter. Incorporating uncertainty in

this way can help to constrain model behaviour in models where some good estimates of parameter values are available, potentially allowing more uncertainty to be incorporated in parameters for which no good estimates are available.

Interpreting the results of a global sensitivity analysis can be more challenging than for an equivalent local analysis. As evidenced by the results summarised in Chapters 5 and 7, and presented in full in Appendices A and B, GSA methods can produce vast quantities of data, including sensitivity coefficient bounds and distribution shapes. One of the easiest ways of interpreting the output is to examine the bounds of sensitivity coefficient values, either from the sampling or optimisation method. From these bounds we can identify parameters which, in the parameter space examined, will always exert a high degree of control; alternatively, we can find parameters which can potentially have a high degree of control, which were not identified by the local analysis. Likewise, the equivalent is true for parameters with a low degree of control.

Incorporating the full range of sampled sensitivity coefficient values when analysing the results of a global sensitivity analysis can be difficult. Some methods, such as that employed by Kucherenko et al. [13], opt to take an average of the sampled values to estimate the overall effect. We caution against this, since examining both the bounds and shapes of the distributions can yield far more information than a simple average. For example, a parameter may only be able to exert a high degree of control with an unusual (and unlikely) configuration of parameter values. If, however, these parameter values (genotype) provide the system with an advantage (phenotype), then they will be selected for. A good example of this can be seen in the signalling cascades analysed in Chapter 7. A possible function of a signalling cascade is to amplify a signal, and such systems are therefore likely to have high-magnitude sensitivity coefficients. The resulting distribution shapes show that it is possible for the sensitivity coefficients to be high-magnitude, but that this requires a set of parameter values that is unlikely to occur by chance. Interestingly, we also observe that the likelihood of drawing a random set of parameters that will lead to a model with a high level of amplification actually decreases when more chains are added to the cascade. This possibly counter-intuitive result can be explained by the fact that the parameter space of the model increases exponentially as more reactions are added.

Translating the results of a global sensitivity analysis into biologically testable hypotheses depends on both the results of the analysis and the question that was being asked of the model. For example, the analyses of the MAPK signalling and cell cycle models in Chapter 5 show that the distribution of control changed so much under a small degree of parameter variation that any parameter could potentially exert a high degree of control. In practice, this means that the results of the local sensitivity analysis should be viewed with caution, though offers no experimentally-testable predictions. The analyses of the glycolysis models were more revealing. For example, the local sensitivity analysis of the *T. brucei* model [14] suggests the majority of control on the flux is exerted by the glucose transport reaction. The global analyses, however, suggest four other reactions that

could also potentially have a high degree of control, while giving confidence in the prediction from the local analysis that the other reactions have low control. These results are experimentally testable, can suggest parameter values of the model for which accurate measurements are most important, and can even offer suggestions on potential new drug targets.

8.3 Future directions

The software and methods used in this thesis are amenable to further research and development. Firstly, our Condor-COPASI software is, as its name suggests, limited to use on the Condor high-throughput computing environment. Condor is one of a number of such platforms, and many institutions use some other system instead. Updating Condor-COPASI to support other high-throughput or distributed computing systems would make it accessible to more researchers than in its current form. Additionally, cloud computing is an attractive alternative to a locally-maintained distributed computing platform such as Condor. Cloud computing provides computing power as and when it is needed; resources are leased only for the time they are needed, without needing to invest in dedicated hardware. Adapting Condor-COPASI to work with a cloud computing framework, such as Amazon EC2[1] would make computationally-intensive modelling tasks, including global sensitivity analysis, accessible to all researchers, including those who do not have access to a distributed computing resource.

There is scope to improve the efficiency of the global sensitivity analysis techniques employed in Chapters 5 and 7. For both of the techniques used, a balance had to be found between ensuring the parameter space was fully explored, and keeping the run time of the analyses to an acceptable level. In general, larger models, with bigger parameter spaces require more exploration, either by taking more samples, or running the optimisation for more iterations. However, running these analyses for too long increases the run time, and can waste valuable CPU cycles. It would therefore be useful to conduct research into finding the balance between number of samples, or tuning parameters for the optimisation algorithm, and model size.

Finally, it would be desirable to make the output of the analyses employed here easier to interpret. The full output of these analyses is shown in Appendices A and B. This output provides a comprehensive and valuable picture of the behaviour of the models under parameter uncertainties. However, it is evident that displaying and interpreting these data is difficult and time consuming. Finding a way of better condensing and visualising this information would therefore be valuable.

[1] `http://aws.amazon.com/ec2/`

8.4 Final thoughts

The use of mathematical modelling in biology will play an increasingly important role in years to come. Models are likely to become progressively larger and more complex as more biological detail is incorporated. Analysing such models will therefore require more and more computing power. CPU clock speeds have plateaued in recent years, and it is clear that that the algorithms used for simulation and analysis will have to adapt to make more use of parallel resources. The use of high-throughput computing environments is one way to help here. The hope is that this thesis has demonstrated how such resources can be utilized to conduct analyses that would have previously been impossible, and how the right software can make them available to all modellers.

8.5 References

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APPENDIX

A

SUPPLEMENTARY INFORMATION FOR CHAPTER 5

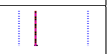
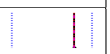
Publication title: Supplementary information for Chapter 5

Page number: 42

Supplementary information (Tables 1 – 3)

Below we present the full outputs of the global sensitivity analyses on the MAPK, NFκB and Cell Cycle models using both random-sampling and optimisation-based approaches. The results of random sampling are presented as distributions for each sensitivity – distribution x axes show the sensitivity coefficient values, and the y axes show the frequency these values occurred during sampling. The initial sensitivity value is shown as a dotted red line, zero is shown as a dashed magenta line. The bounds found by the optimisation technique, where calculated, are shown on a second distribution as dotted blue lines.

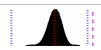
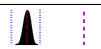
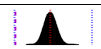
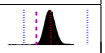
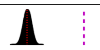
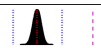
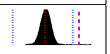
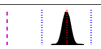
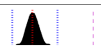
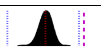
Table 1: Table showing distributions for the sampling-based global sensitivity analysis for the MAPK model. Local sensitivity values are shown as a dotted red line, the best values found by the optimization-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Name	±5%	±5% (with opt)	±10%	±10% (with opt)	±30%	±30% (with opt)
1	(MAPKKK activation).k1						
	Local	5.17E-03		5.17E-03		5.17E-03	
	Min	-4.21E+01	2.37E-03	-4.73E+03	-5.33E+02	-9.56E+03	-1.64E+07
	Max	2.00E+01	1.26E-02	2.26E+02	3.66E-02	5.69E+04	3.14E+05
	Normalized peak height	9.96E-01		9.96E-01		9.62E-01	
	Peak sensitivity value	6.98E-03		3.71E-03		-3.22E+00	
	Shapiro-Wilk score	3.846E-04		8.250E-03		6.026E-02	
2	(MAPKKK inactivation).k1						
	Local	-5.14E-03		-5.14E-03		-5.14E-03	
	Min	-6.17E+01	-1.13E-02	-4.48E+03	-5.35E+02	-3.54E+04	-2.54E+04
	Max	1.99E+01	-2.60E-03	2.49E+02	1.17E+03	6.11E+04	3.07E+06
	Normalized peak height	9.87E-01		9.96E-01		9.69E-01	
	Peak sensitivity value	-2.38E-03		1.69E-01		2.42E+00	
	Shapiro-Wilk score	2.345E-04		1.294E-02		4.865E-02	
3	(binding MAPK and PP-MAPKK).k1						
	Local	1.04E-03		1.04E-03		1.04E-03	
	Min	-1.57E+01	5.71E-04	-4.57E+03	-4.06E+03	-3.54E+04	-1.15E+06
	Max	1.99E+01	2.12E-03	2.43E+02	1.25E+03	6.81E+04	3.61E+06
	Normalized peak height	1.00E+00		9.96E-01		9.50E-01	
	Peak sensitivity value	3.14E-04		-4.56E-02		4.22E+00	
	Shapiro-Wilk score	1.148E-04		1.065E-02		5.574E-02	
4	(binding MAPK and PP-MAPKK).k2						
	Local	-5.23E-04		-5.23E-04		-5.23E-04	
	Min	-6.19E+01	-1.12E-03	-4.23E+03	-5.38E+02	-3.54E+04	-3.23E+06
	Max	-3.49E-04	-2.72E-04	2.49E+02	9.27E+02	5.30E+04	9.23E+05
	Normalized peak height	1.00E+00		9.97E-01		9.62E-01	
	Peak sensitivity value	-3.44E-03		-2.18E-01		-3.34E+00	
	Shapiro-Wilk score	4.667E-05		1.116E-02		5.223E-02	
5	(binding MAPK-Pase and P-MAPK).k1						
	Local	-1.54E-03		-1.54E-03		-1.54E-03	
	Min	-5.66E-03	-2.90E-03	-4.23E+03	-5.40E+02	-3.54E+04	-6.07E+04
	Max	1.99E+01	-7.41E-04	2.49E+02	3.48E+03	6.76E+04	2.95E+05
	Normalized peak height	7.80E-01		9.98E-01		9.81E-01	
	Peak sensitivity value	-6.76E-04		1.52E-01		-4.04E+00	
	Shapiro-Wilk score	1.795E-04		4.019E-03		3.215E-02	
6	(binding MAPK-Pase and P-MAPK).k2						
	Local	7.71E-04		7.71E-04		7.71E-04	
	Min	-7.71E+01	3.88E-04	-4.23E+03	-7.99E+02	-1.08E+04	-1.97E+07
	Max	2.87E-03	1.39E-03	3.23E+02	1.08E+03	6.81E+04	3.61E+06
	Normalized peak height	1.00E+00		9.98E-01		9.75E-01	
	Peak sensitivity value	-9.87E-04		-3.44E-02		-1.06E+00	
	Shapiro-Wilk score	3.707E-05		7.020E-03		3.971E-02	
7	(binding MAPK-Pase and PP-MAPK).k1						
	Local	-4.81E-02		-4.81E-02		-4.81E-02	
	Min	-5.83E-02	-5.67E-02	-4.31E+03	-5.36E+02	-3.54E+04	-9.72E+06
	Max	-3.66E-02	-4.15E-02	3.82E+03	8.69E+02	5.73E+04	3.62E+06
	Normalized peak height	5.12E-04		9.99E-01		9.85E-01	
	Peak sensitivity value	-4.77E-02		3.24E-02		7.89E-01	
	Shapiro-Wilk score	9.947E-01		1.892E-03		2.608E-02	
8	(binding MAPK-Pase and PP-MAPK).k2						
	Local	2.40E-02		2.40E-02		2.40E-02	
	Min	1.86E-02	2.08E-02	-4.23E+03	1.81E-02	-3.54E+04	-1.28E+05
	Max	5.54E+01	2.84E-02	3.23E+02	1.21E+03	6.78E+04	8.36E+05
	Normalized peak height	5.41E-01		9.99E-01		9.80E-01	
	Peak sensitivity value	2.14E-02		-1.78E-01		-2.47E+00	
	Shapiro-Wilk score	3.989E-04		4.800E-03		3.113E-02	

9	(binding MAPKK-Pase and P-MAPKK).k1						
	Local	-4.75E-04		-4.75E-04		-4.75E-04	
	Min	-7.73E+01	-1.62E-03	-4.86E+03	-5.39E+02	-3.54E+04	-9.15E+05
	Max	7.17E-02	2.18E+02	3.23E+02	6.82E+03	5.31E+04	3.68E+06
	Normalized peak height	1.00E+00		9.95E-01		9.66E-01	
	Peak sensitivity value	-1.81E-03		-1.60E-01		-2.10E+00	
	Shapiro-Wilk score	1.034E-04		1.303E-02		5.703E-02	
10	(binding MAPKK-Pase and P-MAPKK).k2						
	Local	2.37E-04		2.37E-04		2.37E-04	
	Min	-3.68E-02	-1.82E+02	-4.23E+03	-5.39E+02	-9.57E+03	-1.62E+07
	Max	2.55E-01	7.91E-04	3.23E+02	1.18E+03	6.76E+04	3.63E+06
	Normalized peak height	2.18E-01		9.93E-01		9.69E-01	
	Peak sensitivity value	2.18E-04		-7.52E-02		1.53E+00	
	Shapiro-Wilk score	1.420E-02		9.742E-03		5.090E-02	
11	(binding MAPKK-Pase and PP-MAPKK).k1						
	Local	-2.25E-03		-2.25E-03		-2.25E-03	
	Min	-6.22E+01	-5.08E-03	-4.57E+03	-5.40E+02	-3.54E+04	-1.42E+07
	Max	1.12E-01	-1.00E-03	1.29E+03	-4.40E-04	6.75E+04	1.19E+06
	Normalized peak height	1.00E+00		9.83E-01		9.63E-01	
	Peak sensitivity value	-3.59E-03		1.22E-01		3.23E+00	
	Shapiro-Wilk score	1.329E-04		1.065E-02		5.296E-02	
12	(binding MAPKK-Pase and PP-MAPKK).k2						
	Local	1.12E-03		1.12E-03		1.12E-03	
	Min	-1.58E+01	5.01E-04	-4.85E+03	2.19E-04	-3.54E+04	-9.88E+02
	Max	2.47E-01	2.54E-03	2.83E+02	1.09E+03	4.50E+04	6.84E+06
	Normalized peak height	9.67E-01		9.97E-01		9.68E-01	
	Peak sensitivity value	5.90E-04		1.08E-01		2.82E+00	
	Shapiro-Wilk score	1.864E-04		5.833E-03		5.703E-02	
13	(binding P-MAPKKK and MAPKK).k1						
	Local	2.28E-03		2.28E-03		2.28E-03	
	Min	-4.60E+01	7.97E-04	-3.64E+03	-5.28E+02	-1.58E+04	-9.56E+05
	Max	5.16E-01	6.93E-03	3.23E+02	2.39E-02	6.11E+04	5.44E+05
	Normalized peak height	1.00E+00		9.82E-01		9.62E-01	
	Peak sensitivity value	1.90E-03		-5.77E-03		-7.83E-01	
	Shapiro-Wilk score	2.031E-04		1.736E-02		5.387E-02	
14	(binding P-MAPKKK and MAPKK).k2						
	Local	-1.14E-03		-1.14E-03		-1.14E-03	
	Min	-1.59E+01	-3.64E-03	-1.42E+03	-4.88E+02	-1.58E+04	-5.88E+03
	Max	9.87E-01	-3.79E-04	3.23E+02	6.75E+03	6.76E+04	3.62E+06
	Normalized peak height	1.00E+00		9.82E-01		9.65E-01	
	Peak sensitivity value	-1.36E-03		8.27E-02		-2.07E+00	
	Shapiro-Wilk score	2.940E-04		2.062E-02		5.049E-02	
15	(binding P-MAPKKK and P-MAPKK).k1						
	Local	8.99E-03		8.99E-03		8.99E-03	
	Min	5.70E-03	4.65E-03	-4.23E+03	-5.39E+02	-7.32E+03	-5.34E+03
	Max	2.00E+01	1.89E-02	2.40E+02	1.17E+03	6.79E+04	4.27E+05
	Normalized peak height	7.34E-01		9.83E-01		9.67E-01	
	Peak sensitivity value	8.70E-03		-9.44E-02		-1.10E+00	
	Shapiro-Wilk score	2.388E-03		1.170E-02		4.070E-02	
16	(binding P-MAPKKK and P-MAPKK).k2						
	Local	-4.50E-03		-4.50E-03		-4.50E-03	
	Min	-6.23E+01	-9.90E-03	-4.23E+03	-5.40E+02	-3.54E+04	-4.99E+06
	Max	2.12E-01	-2.21E-03	3.23E+02	-1.14E-03	6.11E+04	3.63E+06
	Normalized peak height	1.00E+00		9.84E-01		9.68E-01	
	Peak sensitivity value	-3.70E-03		-1.98E-02		-3.01E+00	
	Shapiro-Wilk score	1.888E-04		1.135E-02		4.857E-02	
17	(binding PP-MAPKK and P-MAPK).k1						
	Local	3.31E-02		3.31E-02		3.31E-02	
	Min	2.70E-02	2.53E-02	-4.86E+03	1.99E-02	-3.54E+04	-1.75E+06
	Max	2.00E+01	4.60E-02	2.40E+02	1.22E+03	6.77E+04	2.48E+05
	Normalized peak height	3.87E-01		9.97E-01		9.76E-01	
	Peak sensitivity value	3.20E-02		-8.54E-02		-3.14E+00	
	Shapiro-Wilk score	7.489E-03		2.204E-03		2.269E-02	
18	(binding PP-MAPKK and P-MAPK).k2						
	Local	-1.65E-02		-1.65E-02		-1.65E-02	
	Min	-5.85E-02	-2.42E-02	-4.23E+03	-5.39E+02	-3.54E+04	-1.41E+07
	Max	-1.32E-02	-1.20E-02	4.63E+03	-8.95E-03	5.70E+04	3.63E+06
	Normalized peak height	1.87E-03		9.98E-01		9.64E-01	
	Peak sensitivity value	-1.66E-02		2.09E-01		3.76E+00	
	Shapiro-Wilk score	9.929E-01		3.650E-03		4.280E-02	
19	(binding of MAPKKK activator).k1						
	Local	1.02E-02		1.02E-02		1.02E-02	
	Min	-6.71E+01	4.89E-03	-2.94E+03	-5.40E+02	-3.54E+04	-1.17E+06
	Max	1.05E-01	2.35E-02	2.56E+02	1.17E+03	5.69E+04	5.29E+05
	Normalized peak height	7.15E-01		9.84E-01		9.64E-01	
	Peak sensitivity value	7.47E-03		1.66E-03		-1.10E+00	
	Shapiro-Wilk score	4.421E-04		2.747E-02		5.976E-02	

20	(binding of MAPKKK activator).k2						
	Local	-5.09E-03		-5.09E-03		-5.09E-03	
	Min	-6.17E+01	-1.24E-02	-4.37E+03	-5.48E+02	-3.54E+04	-9.99E+02
	Max	2.36E-01	-2.33E-03	3.23E+02	1.09E+03	6.11E+04	3.67E+06
	Normalized peak height	7.43E-01		9.95E-01		9.67E-01	
	Peak sensitivity value	-2.40E-03		2.19E-01		2.42E+00	
	Shapiro-Wilk score	2.151E-04		1.326E-02		4.938E-02	
21	(binding of MAPKKK inactivator).k1						
	Local	-1.03E-02		-1.03E-02		-1.03E-02	
	Min	-6.16E+01	-2.38E-02	-4.86E+03	-6.38E-02	-3.54E+04	-9.97E+02
	Max	4.66E-01	-4.94E-03	3.23E+02	1.17E+03	5.69E+04	3.63E+06
	Normalized peak height	9.49E-01		9.83E-01		9.65E-01	
	Peak sensitivity value	-9.16E-03		-1.89E-01		2.45E+00	
	Shapiro-Wilk score	5.566E-04		9.646E-03		5.684E-02	
22	(binding of MAPKKK inactivator).k2						
	Local	5.13E-03		5.13E-03		5.13E-03	
	Min	-4.21E+01	2.59E-03	-4.23E+03	-5.30E+02	-3.54E+04	-1.37E+07
	Max	5.48E-02	1.13E-02	2.83E+02	2.98E-02	6.79E+04	3.46E+05
	Normalized peak height	9.77E-01		9.97E-01		9.69E-01	
	Peak sensitivity value	6.31E-03		-9.22E-02		-1.26E+00	
	Shapiro-Wilk score	3.338E-04		1.109E-02		4.746E-02	
23	(dephosphorylation of P-MAPK).k1						
	Local	-3.27E-03		-3.27E-03		-3.27E-03	
	Min	-6.19E+01	-5.74E-03	-4.71E+03	-5.56E+02	-3.54E+04	-6.93E+05
	Max	-2.33E-03	-2.01E-03	3.23E+02	-1.29E-03	6.78E+04	1.27E+06
	Normalized peak height	1.00E+00		9.96E-01		9.64E-01	
	Peak sensitivity value	-5.43E-03		1.68E-01		2.87E+00	
	Shapiro-Wilk score	9.096E-05		1.072E-02		4.788E-02	
24	(dephosphorylation of P-MAPKK).k1						
	Local	-2.24E-03		-2.24E-03		-2.24E-03	
	Min	-6.03E+01	-6.88E-03	-4.87E+03	-5.25E+02	-3.54E+04	-9.97E+02
	Max	2.70E+00	-7.87E-04	3.23E+02	1.07E+03	6.76E+04	3.63E+06
	Normalized peak height	1.00E+00		9.82E-01		9.59E-01	
	Peak sensitivity value	-1.45E-03		1.81E-01		4.66E+00	
	Shapiro-Wilk score	1.528E-04		1.179E-02		5.789E-02	
25	(dephosphorylation of PP-MAPK).k1						
	Local	-9.94E-02		-9.94E-02		-9.94E-02	
	Min	-1.40E-01	-1.22E-01	-4.89E+03	-5.24E+02	-3.54E+04	-8.71E+06
	Max	-5.10E-02	-8.34E-02	5.86E+03	-7.10E-02	6.79E+04	3.61E+06
	Normalized peak height	8.88E-04		9.93E-01		9.74E-01	
	Peak sensitivity value	-9.93E-02		3.85E-01		-1.60E+00	
	Shapiro-Wilk score	9.949E-01		2.678E-03		3.721E-02	
26	(dephosphorylation of PP-MAPKK).k1						
	Local	-8.63E-03		-8.63E-03		-8.63E-03	
	Min	-6.26E+01	-1.80E-02	-4.23E+03	-8.72E+02	-3.54E+04	-3.32E+05
	Max	3.82E-01	-4.47E-03	3.23E+02	-2.43E-03	5.69E+04	8.75E+05
	Normalized peak height	5.77E-01		9.83E-01		9.66E-01	
	Peak sensitivity value	-5.64E-03		3.86E-02		-3.19E+00	
	Shapiro-Wilk score	3.496E-04		1.298E-02		5.287E-02	
27	(phosphorylation of MAPK).k1						
	Local	3.52E-03		3.52E-03		3.52E-03	
	Min	2.02E-03	2.15E-03	-5.39E+03	-4.84E+02	-3.54E+04	-2.11E+06
	Max	1.02E-02	6.16E-03	3.80E+03	1.15E+03	5.54E+04	3.76E+06
	Normalized peak height	1.25E-03		9.97E-01		9.65E-01	
	Peak sensitivity value	3.55E-03		8.05E-02		-1.77E+00	
	Shapiro-Wilk score	9.958E-01		5.574E-03		5.442E-02	
28	(phosphorylation of MAPKK).k1						
	Local	1.34E-03		1.34E-03		1.34E-03	
	Min	-4.47E+01	4.43E-04	-4.56E+03	-5.16E+02	-3.54E+04	-2.27E+07
	Max	3.15E-01	4.32E-03	2.83E+02	7.88E+02	5.69E+04	5.76E+05
	Normalized peak height	1.00E+00		9.82E-01		8.67E-01	
	Peak sensitivity value	2.05E-03		-4.63E-02		4.47E+00	
	Shapiro-Wilk score	1.671E-04		1.332E-02		5.419E-02	
29	(phosphorylation of P-MAPK).k1						
	Local	1.07E-01		1.07E-01		1.07E-01	
	Min	-4.14E+01	9.13E-02	-4.21E+03	-5.27E+02	-3.54E+04	-9.24E+05
	Max	2.01E+01	1.28E-01	3.86E+03	1.07E+03	5.30E+04	1.11E+06
	Normalized peak height	4.10E-01		9.98E-01		9.71E-01	
	Peak sensitivity value	1.04E-01		8.79E-02		-4.62E-02	
	Shapiro-Wilk score	1.093E-02		4.101E-03		4.601E-02	
30	(phosphorylation of P-MAPKK).k1						
	Local	5.25E-03		5.25E-03		5.25E-03	
	Min	3.22E-03	2.56E-03	-4.32E+03	-5.02E+02	-3.54E+04	-1.82E+06
	Max	2.00E+01	2.06E+02	2.83E+02	1.15E+03	6.79E+04	9.53E+05
	Normalized peak height	5.26E-01		9.91E-01		9.68E-01	
	Peak sensitivity value	6.21E-03		1.64E-01		1.24E+00	
	Shapiro-Wilk score	1.078E-03		9.039E-03		5.425E-02	

Table 2: Table showing distributions for the sampling-based global sensitivity analysis for the NFkB model. Local sensitivity values are shown as a dotted red line, the best values found by the optimization-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Name	±5%	±5% (with opt)	±10%	±10% (with opt)	±20%	±20% (with opt)
1	(R10 IkBa Cyto Nuc).k1						
	Local	-1.34E-01		-1.34E-01		-1.34E-01	
	Min	-1.47E-01	-1.55E-01	-1.64E-01	-1.77E-01	-2.03E-01	-5.15E+02
	Max	-1.21E-01	-1.17E-01	-1.10E-01	-9.66E-02	-8.88E-02	-6.43E-02
	Normalized peak height	3.60E-03		3.72E-03		3.99E-03	
	Peak sensitivity value	-1.35E-01		-1.34E-01		-1.34E-01	
	Shapiro-Wilk score	9.998E-01		1.000E+00		9.996E-01	
2	(R11 IkBa Nuc Cyto).k1						
	Local	-2.03E-02		-2.03E-02		-2.03E-02	
	Min	-2.63E-02	-3.13E-02	-3.47E-02	-4.27E-02	-4.91E-02	-7.62E-02
	Max	-3.43E-03	-1.17E-02	-7.60E-03	-3.02E-03	2.26E-02	1.06E+03
	Normalized peak height	2.90E-03		3.45E-03		4.61E-03	
	Peak sensitivity value	-1.94E-02		-1.96E-02		-1.91E-02	
	Shapiro-Wilk score	9.416E-01		9.986E-01		9.951E-01	
3	(R12 IKKn IKKa).k1						
	Local	-5.91E-02		-5.91E-02		-5.91E-02	
	Min	-6.41E-02	-6.78E-02	-7.03E-02	-7.54E-02	-8.11E-02	-9.16E-02
	Max	-5.26E-02	-5.07E-02	-4.86E-02	-4.53E-02	-2.25E-02	3.79E-01
	Normalized peak height	3.07E-03		2.84E-03		3.91E-03	
	Peak sensitivity value	-5.86E-02		-5.88E-02		-5.65E-02	
	Shapiro-Wilk score	9.982E-01		9.943E-01		9.961E-01	
4	(R13 IKKa IKKi).k1						
	Local	4.04E-02		4.04E-02		4.04E-02	
	Min	2.84E-02	2.02E-02	1.27E-02	-1.30E-03	-8.07E-02	-3.61E-02
	Max	6.62E-02	6.28E-02	7.20E-02	8.80E-02	1.05E-01	1.47E-01
	Normalized peak height	3.16E-03		3.61E-03		5.73E-03	
	Peak sensitivity value	4.44E-02		4.03E-02		3.76E-02	
	Shapiro-Wilk score	9.972E-01		9.997E-01		9.982E-01	
5	(R14 A20 dependent IKKi IKKn).k1						
	Local	-1.18E-01		-1.18E-01		-1.18E-01	
	Min	-1.44E-01	-1.42E-01	-1.51E-01	-1.67E-01	-1.84E-01	-2.30E-01
	Max	-1.02E-01	-9.25E-02	-8.54E-02	-6.58E-02	3.91E-02	-2.21E-02
	Normalized peak height	3.44E-03		3.42E-03		5.84E-03	
	Peak sensitivity value	-1.21E-01		-1.18E-01		-1.18E-01	
	Shapiro-Wilk score	9.986E-01		1.000E+00		9.993E-01	
6	(R15 A20 transcrip).k1						
	Local	1.11E-01		1.11E-01		1.11E-01	
	Min	9.81E-02	8.90E-02	8.31E-02	6.87E-02	-4.36E-02	2.81E-02
	Max	1.34E-01	1.33E-01	1.40E-01	1.55E-01	1.66E-01	2.09E-01
	Normalized peak height	3.28E-03		3.65E-03		6.51E-03	
	Peak sensitivity value	1.14E-01		1.11E-01		1.09E-01	
	Shapiro-Wilk score	9.978E-01		9.995E-01		9.991E-01	
7	(R16 tA20 transcrip).k1						
	Local	1.11E-01		1.11E-01		1.11E-01	
	Min	9.81E-02	8.91E-02	8.30E-02	6.49E-02	-2.93E-02	-6.80E+00
	Max	1.34E-01	1.32E-01	1.40E-01	1.55E-01	1.66E-01	2.10E-01
	Normalized peak height	3.30E-03		3.62E-03		6.08E-03	
	Peak sensitivity value	1.14E-01		1.09E-01		1.09E-01	
	Shapiro-Wilk score	9.978E-01		9.991E-01		9.992E-01	
8	(R17 tA20 Sink).k1						
	Local	-1.76E-01		-1.76E-01		-1.76E-01	
	Min	-2.05E-01	-2.05E-01	-2.21E-01	-2.34E-01	-2.58E-01	-2.91E-01
	Max	-1.54E-01	-1.45E-01	-1.28E-01	-1.04E-01	-7.30E-02	-1.94E-02
	Normalized peak height	2.87E-03		2.65E-03		2.80E-03	
	Peak sensitivity value	-1.78E-01		-1.77E-01		-1.74E-01	
	Shapiro-Wilk score	9.975E-01		9.958E-01		9.962E-01	
9	(R18 A20 Sink).k1						
	Local	-1.66E-01		-1.66E-01		-1.66E-01	
	Min	-1.89E-01	-1.91E-01	-1.99E-01	-2.12E-01	-2.23E-01	-2.65E-01
	Max	-1.51E-01	-1.42E-01	-1.34E-01	-1.15E-01	9.44E-03	1.20E+03
	Normalized peak height	3.40E-03		3.52E-03		6.34E-03	
	Peak sensitivity value	-1.69E-01		-1.66E-01		-1.64E-01	
	Shapiro-Wilk score	9.986E-01		9.955E-01		9.991E-01	
10	(R19 IKKa dependent IkBa Phosphorylation).k1						
	Local	-2.01E-02		-2.01E-02		-2.01E-02	
	Min	-2.58E-02	-3.08E-02	-3.41E-02	-3.98E-02	-5.50E-02	-6.12E-02
	Max	-1.21E-02	-1.10E-02	-7.39E-03	-2.58E-03	4.03E-02	1.06E+03
	Normalized peak height	3.09E-03		3.39E-03		6.24E-03	
	Peak sensitivity value	-1.78E-02		-1.92E-02		-1.85E-02	
	Shapiro-Wilk score	9.972E-01		9.985E-01		9.938E-01	

11	(R1 NFkB IkBa Assoc/Dissoc (backward)).k1						
	Local	-7.84E-03		-7.84E-03		-7.84E-03	
	Min	-1.14E-02	-1.31E-02	-1.69E-02	-2.23E-02	-2.77E-02	-5.09E-02
	Max	-3.48E-03	-3.28E-03	-2.32E-03	2.01E-04	3.10E-02	1.07E+03
	Normalized peak height	3.76E-03		3.58E-03		7.55E-03	
	Peak sensitivity value	-7.15E-03		-7.65E-03		-7.16E-03	
	Shapiro-Wilk score	9.979E-01		9.953E-01		9.808E-01	
12	(R1 NFkB IkBa Assoc/Dissoc (forward)).k1						
	Local	1.09E-02		1.09E-02		1.09E-02	
	Min	2.60E-03	3.71E-03	2.41E-03	-3.37E-03	-2.80E-02	-6.91E+00
	Max	1.47E-02	1.79E-02	2.04E-02	2.71E-02	3.15E-02	5.60E-02
	Normalized peak height	2.31E-03		3.80E-03		6.13E-03	
	Peak sensitivity value	9.24E-03		1.08E-02		1.06E-02	
	Shapiro-Wilk score	9.886E-01		1.000E+00		9.987E-01	
13	(R20 IKKa dependent NF-kB.IkBa Phosphorylation).k1						
	Local	-9.34E-02		-9.34E-02		-9.34E-02	
	Min	-1.21E-01	-1.15E-01	-1.25E-01	-1.45E-01	-1.57E-01	-2.03E-01
	Max	-7.85E-02	-7.19E-02	-6.21E-02	-4.94E-02	-7.55E-03	-1.63E-02
	Normalized peak height	3.10E-03		3.45E-03		4.32E-03	
	Peak sensitivity value	-9.76E-02		-9.38E-02		-9.21E-02	
	Shapiro-Wilk score	9.957E-01		9.998E-01		9.990E-01	
14	(R21 pIkBa Sink).k1						
	Local	-1.43E-04		-1.43E-04		-1.43E-04	
	Min	-1.70E-03	-1.46E-03	-2.58E-03	-2.09E-03	-7.34E-03	-3.57E-03
	Max	1.71E-03	1.86E-03	2.61E-03	2.50E-03	1.13E-02	3.25E-03
	Normalized peak height	2.13E-02		4.27E-02		1.24E-01	
	Peak sensitivity value	1.49E-06		1.41E-06		7.40E-06	
	Shapiro-Wilk score	9.121E-01		8.637E-01		6.542E-01	
15	(R22 pIkBa.NF-kB Sink).k1						
	Local	-2.51E-03		-2.51E-03		-2.51E-03	
	Min	-4.54E-03	-4.66E-03	-5.34E-03	-5.07E-03	-9.50E-03	-8.17E-03
	Max	-7.55E-04	-6.09E-04	6.65E-05	-5.33E-04	9.94E-03	6.77E-04
	Normalized peak height	8.88E-03		8.47E-03		1.68E-02	
	Peak sensitivity value	-2.63E-03		-2.57E-03		-2.43E-03	
	Shapiro-Wilk score	9.626E-01		9.872E-01		9.735E-01	
16	(R23 nNF-kB nIkBa Assoc/Dissoc (backward)).k1						
	Local	4.72E-05		4.72E-05		4.72E-05	
	Min	-1.65E-03	-9.82E-04	-2.46E-03	-1.80E-03	-7.67E-03	-5.80E-03
	Max	1.58E-03	1.74E-03	2.51E-03	2.06E-03	1.45E-02	2.95E-03
	Normalized peak height	3.13E-02		3.83E-02		9.84E-02	
	Peak sensitivity value	5.13E-05		4.91E-05		6.22E-05	
	Shapiro-Wilk score	8.798E-01		8.957E-01		6.716E-01	
17	(R23 nNF-kB nIkBa Assoc/Dissoc (forward)).k1						
	Local	-3.31E-03		-3.31E-03		-3.31E-03	
	Min	-7.10E-03	-8.81E-03	-1.07E-02	-1.52E-02	-2.25E-02	-5.11E+02
	Max	-4.43E-05	2.02E-03	4.74E-03	1.40E-02	1.85E-02	4.80E-02
	Normalized peak height	3.77E-03		3.76E-03		5.09E-03	
	Peak sensitivity value	-3.87E-03		-3.81E-03		-4.19E-03	
	Shapiro-Wilk score	9.990E-01		9.998E-01		9.967E-01	
18	(R24 nIkBa Sink).k1						
	Local	-4.08E-02		-4.08E-02		-4.08E-02	
	Min	-9.75E-02	-6.21E-02	-6.97E-02	-8.61E-02	-9.78E-02	-1.39E-01
	Max	-2.96E-02	-2.24E-02	-1.61E-02	-7.43E-03	1.38E-02	1.06E+03
	Normalized peak height	2.69E-03		3.65E-03		3.92E-03	
	Peak sensitivity value	-4.58E-02		-4.10E-02		-3.78E-02	
	Shapiro-Wilk score	9.628E-01		9.997E-01		9.975E-01	
19	(R2 tIkBa transcrip).k1						
	Local	-7.38E-02		-7.38E-02		-7.38E-02	
	Min	-9.52E-02	-1.08E-01	-1.28E-01	-1.50E-01	-3.70E-01	-5.32E+02
	Max	-2.12E-02	-4.56E-02	-3.65E-02	-2.33E-02	-9.62E-03	1.33E-02
	Normalized peak height	2.58E-03		3.59E-03		7.05E-03	
	Peak sensitivity value	-6.62E-02		-7.35E-02		-7.01E-02	
	Shapiro-Wilk score	9.846E-01		9.952E-01		9.840E-01	
20	(R3 tIkBa dependent IkBa transcrip).k1						
	Local	-7.38E-02		-7.38E-02		-7.38E-02	
	Min	-9.52E-02	-1.09E-01	-1.28E-01	-1.52E-01	-3.63E-01	-6.50E+00
	Max	-2.13E-02	-4.61E-02	-3.65E-02	-2.34E-02	-9.60E-03	1.48E-02
	Normalized peak height	2.54E-03		3.59E-03		6.95E-03	
	Peak sensitivity value	-6.59E-02		-7.29E-02		-7.09E-02	
	Shapiro-Wilk score	9.846E-01		9.952E-01		9.840E-01	
21	(R4 tIkBa Sink).k1						
	Local	-1.05E-01		-1.05E-01		-1.05E-01	
	Min	-1.64E-01	-1.49E-01	-1.66E-01	-1.86E-01	-2.23E-01	-2.85E-01
	Max	-7.97E-02	-6.51E-02	-4.45E-02	-1.15E-02	1.80E-01	1.15E+03
	Normalized peak height	2.72E-03		3.43E-03		5.84E-03	
	Peak sensitivity value	-1.16E-01		-1.03E-01		-1.04E-01	
	Shapiro-Wilk score	9.920E-01		9.999E-01		9.995E-01	

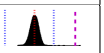
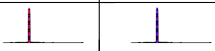
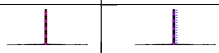
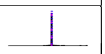
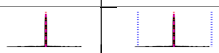
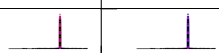
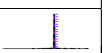
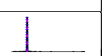
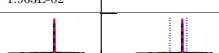
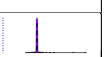
22	(R5 IkBa Sink).k1						
	Local	-7.04E-02		-7.04E-02		-7.04E-02	
	Min	-8.67E-02	-9.94E-02	-1.04E-01	-1.28E-01	-1.43E-01	-1.94E-01
	Max	-5.24E-02	-4.47E-02	-3.54E-02	-2.16E-02	7.97E-02	1.07E+03
	Normalized peak height	3.54E-03		3.41E-03		5.69E-03	
	Peak sensitivity value	-6.73E-02		-6.92E-02		-6.83E-02	
	Shapiro-Wilk score	9.982E-01		1.000E+00		9.993E-01	
23	(R6 NF-kB dependent IkBa degradation).k1						
	Local	-5.92E-03		-5.92E-03		-5.92E-03	
	Min	-8.89E-03	-9.19E-03	-9.77E-03	-1.06E-02	-1.28E-02	-1.84E-02
	Max	-3.81E-03	-3.28E-03	-2.50E-03	-7.06E-04	1.68E-02	1.19E+03
	Normalized peak height	4.96E-03		4.98E-03		1.04E-02	
	Peak sensitivity value	-6.19E-03		-5.80E-03		-5.84E-03	
	Shapiro-Wilk score	9.978E-01		9.971E-01		9.873E-01	
24	(R7 nNF-kB.nIkBa nNF-kB).k1						
	Local	0.00E+00		0.00E+00		0.00E+00	
	Min	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-0.00E+00	0.00E+00
	Max	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-0.00E+00	0.00E+00
	Normalized peak height	1.00E+00		1.00E+00		1.00E+00	
	Peak sensitivity value	5.00E-04		5.00E-04		5.00E-04	
	Shapiro-Wilk score	1.000E+00		1.000E+00		1.000E+00	
25	(R8 nNF-kB NF-kB transport).k1						
	Local	-3.54E-02		-3.54E-02		-3.54E-02	
	Min	-4.32E-02	-4.12E-02	-4.38E-02	-4.84E-02	-6.11E-02	-4.63E-01
	Max	-3.13E-02	-2.99E-02	-2.75E-02	-2.51E-02	-1.16E-02	-1.65E-02
	Normalized peak height	3.15E-03		2.62E-03		4.14E-03	
	Peak sensitivity value	-3.66E-02		-3.51E-02		-3.52E-02	
	Shapiro-Wilk score	9.958E-01		9.950E-01		9.929E-01	
26	(R8a NF-kB nNF-kB transport).k1						
	Local	-6.59E-02		-6.59E-02		-6.59E-02	
	Min	-7.50E-02	-7.58E-02	-7.83E-02	-8.61E-02	-9.21E-02	-1.13E-01
	Max	-6.07E-02	-5.58E-02	-5.40E-02	-5.05E-02	7.59E-03	-3.48E-02
	Normalized peak height	3.32E-03		3.36E-03		6.86E-03	
	Peak sensitivity value	-6.70E-02		-6.60E-02		-6.61E-02	
	Shapiro-Wilk score	9.962E-01		9.896E-01		9.982E-01	
27	(R9 nNF-kB.nIkBa NF-kB.IkBa transport).k1						
	Local	-9.45E-05		-9.45E-05		-9.45E-05	
	Min	-2.33E-03	-1.62E-03	-2.60E-03	-2.88E-03	-7.21E-03	-5.08E+02
	Max	1.99E-03	1.67E-03	2.90E-03	1.91E-03	8.93E-03	6.30E-03
	Normalized peak height	7.10E-03		1.95E-02		3.84E-02	
	Peak sensitivity value	-1.57E-04		-8.17E-06		-6.12E-06	
	Shapiro-Wilk score	9.539E-01		8.347E-01		7.981E-01	

Table 3: Table showing distributions for the sampling-based global sensitivity analysis for the Cell Cycle model. Local sensitivity values are shown as a dotted red line, the best values found by the optimization-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Name	±5%	±5% (with opt)	±10%	±10% (with opt)
1	Values[C0]				
	Local	-7.66E-05		-7.66E-05	
	Min	-5.30E-01	-2.46E-01	-1.68E+00	-1.06E+02
	Max	1.12E+00	2.09E-01	1.95E+00	8.25E-01
	Normalized peak height	2.73E-02		5.05E-02	
	Peak sensitivity value	-2.30E-05		1.75E-06	
	Shapiro-Wilk score	1.985E-02		1.938E-02	
2	Values[CDC15T]				
	Local	-5.38E-05		-5.38E-05	
	Min	-5.30E-01	-7.22E-04	-1.66E+00	-3.42E-03
	Max	1.11E+00	7.34E-04	1.91E+00	5.35E+00
	Normalized peak height	3.72E-02		6.78E-02	
	Peak sensitivity value	-1.56E-05		-3.07E-05	
	Shapiro-Wilk score	1.847E-02		1.806E-02	
3	Values[Dn3]				
	Local	-9.43E-05		-9.43E-05	
	Min	-5.30E-01	-2.15E-03	-1.59E+00	-8.69E+01
	Max	5.74E-01	3.79E-02	2.67E+00	9.59E-01
	Normalized peak height	1.99E-02		6.24E-02	
	Peak sensitivity value	-4.00E-05		1.14E-05	
	Shapiro-Wilk score	2.503E-02		1.400E-02	
4	Values[ESP1T]				
	Local	-1.13E-04		-1.13E-04	
	Min	-5.31E-01	-4.26E-02	-1.38E+00	-5.96E-02
	Max	6.46E-01	7.16E-04	2.27E+00	1.78E+00
	Normalized peak height	2.16E-02		5.24E-02	
	Peak sensitivity value	-5.01E-05		-4.71E-05	
	Shapiro-Wilk score	2.379E-02		1.475E-02	
5	Values[IET]				
	Local	-8.33E-05		-8.33E-05	
	Min	-5.31E-01	-3.79E-02	-7.00E+00	-3.67E-03
	Max	5.23E-01	6.79E-04	5.67E+00	2.23E-02
	Normalized peak height	2.79E-02		2.57E-01	
	Peak sensitivity value	-1.34E-05		-8.26E-05	
	Shapiro-Wilk score	2.236E-02		5.094E-03	
6	Values[J20ppx]				
	Local	-8.03E-05		-8.03E-05	
	Min	-5.30E-01	-4.97E-01	-1.39E+00	-3.22E-02
	Max	4.88E-01	5.29E-01	3.87E+00	2.89E+00
	Normalized peak height	2.56E-02		1.06E-01	
	Peak sensitivity value	2.37E-06		-7.00E-06	
	Shapiro-Wilk score	2.215E-02		1.223E-02	
7	Values[Jacdh]				
	Local	4.41E-05		4.41E-05	
	Min	-5.30E-01	-6.55E-04	-1.24E+00	-1.07E-01
	Max	4.46E-01	2.75E-03	3.18E+00	6.73E-02
	Normalized peak height	2.58E-02		1.08E-01	
	Peak sensitivity value	1.04E-06		-5.75E-06	
	Shapiro-Wilk score	2.244E-02		9.482E-03	
8	Values[Jaiep]				
	Local	2.24E-05		2.24E-05	
	Min	-5.30E-01	-7.07E-04	-2.95E+00	-4.75E-03
	Max	2.77E-01	7.06E-04	1.95E+00	1.57E-01
	Normalized peak height	2.18E-02		1.13E-01	
	Peak sensitivity value	1.03E-05		4.78E-05	
	Shapiro-Wilk score	2.395E-02		1.240E-02	
9	Values[Jamcm]				
	Local	-8.02E-05		-8.02E-05	
	Min	-5.30E-01	-1.32E-01	-2.45E+00	-6.11E-03
	Max	7.84E-01	1.44E-01	3.65E+00	8.76E-04
	Normalized peak height	3.38E-02		1.30E-01	
	Peak sensitivity value	2.30E-05		1.58E-05	
	Shapiro-Wilk score	2.060E-02		8.947E-03	
10	Values[Jasbf]				
	Local	1.34E-04		1.34E-04	
	Min	-5.30E-01	-2.19E-01	-1.24E+00	-7.08E-02
	Max	9.07E-01	9.71E-03	4.62E+00	2.12E-02
	Normalized peak height	4.03E-02		1.50E-01	
	Peak sensitivity value	-1.15E-06		8.78E-07	
	Shapiro-Wilk score	1.963E-02		6.909E-03	
11	Values[Jatem]				
	Local	-4.58E-05		-4.58E-05	
	Min	-5.30E-01	-1.46E-01	-1.28E+00	-3.99E+00
	Max	3.41E-01	4.95E-02	5.60E+00	7.81E-03
	Normalized peak height	2.28E-02		1.48E-01	
	Peak sensitivity value	-9.15E-06		2.29E-05	
	Shapiro-Wilk score	2.303E-02		6.625E-03	
12	Values[Jd2c1]				
	Local	-2.27E-05		-2.27E-05	
	Min	-5.30E-01	-3.88E-02	-1.34E+00	-7.86E-04
	Max	6.63E-01	3.43E-01	2.04E+00	9.06E-01
	Normalized peak height	3.10E-02		7.85E-02	
	Peak sensitivity value	4.81E-06		6.49E-06	
	Shapiro-Wilk score	2.173E-02		1.161E-02	

13	Values[Jd2f6]				
	Local	5.54E-05		5.54E-05	
	Min	-5.30E-01	-1.93E-02	-1.24E+00	-1.44E-01
	Max	5.40E-01	2.16E-02	1.95E+00	7.71E-04
	Normalized peak height	2.70E-02		6.69E-02	
	Peak sensitivity value	1.32E-05		5.03E-05	
	Shapiro-Wilk score	2.212E-02		1.299E-02	
14	Values[Jicdh]				
	Local	-5.31E-05		-5.31E-05	
	Min	-5.30E-01	-4.20E-02	-2.12E+00	-8.42E-04
	Max	3.85E-01	2.11E-01	2.71E+00	1.63E-02
	Normalized peak height	2.34E-02		1.10E-01	
	Peak sensitivity value	-1.29E-05		-1.59E-05	
	Shapiro-Wilk score	2.430E-02		1.149E-02	
15	Values[Jiiep]				
	Local	-8.80E-05		-8.80E-05	
	Min	-5.30E-01	-1.37E-02	-1.52E+00	-1.12E-01
	Max	6.45E-01	6.55E-04	7.07E+00	7.39E-04
	Normalized peak height	2.83E-02		1.78E-01	
	Peak sensitivity value	-2.83E-05		-1.20E-05	
	Shapiro-Wilk score	2.314E-02		5.633E-03	
16	Values[Jimcm]				
	Local	-4.14E-05		-4.14E-05	
	Min	-5.31E-01	-2.65E+00	-1.24E+00	-3.59E-02
	Max	1.02E+00	6.83E-02	2.71E+00	5.54E-02
	Normalized peak height	2.93E-02		5.28E-02	
	Peak sensitivity value	-3.51E-05		-1.83E-05	
	Shapiro-Wilk score	2.105E-02		1.651E-02	
17	Values[Jisbf]				
	Local	2.65E-04		2.65E-04	
	Min	-5.30E-01	-1.97E-01	-2.07E+00	-1.57E+01
	Max	3.89E-01	9.54E-04	4.34E+00	7.22E-04
	Normalized peak height	2.34E-02		1.39E-01	
	Peak sensitivity value	-4.50E-06		2.88E-05	
	Shapiro-Wilk score	2.425E-02		1.048E-02	
18	Values[Jitem]				
	Local	-2.15E-04		-2.15E-04	
	Min	-5.30E-01	-1.50E-01	-2.58E+00	-6.99E-04
	Max	6.46E-01	1.73E-02	5.96E+00	6.32E-01
	Normalized peak height	2.84E-02		1.65E-01	
	Peak sensitivity value	1.39E-05		1.54E-05	
	Shapiro-Wilk score	2.218E-02		6.706E-03	
19	Values[Jn3]				
	Local	6.08E-05		6.08E-05	
	Min	-5.31E-01	-6.82E-02	-3.28E+00	-2.24E+00
	Max	3.10E-01	1.50E-01	8.28E+00	2.30E+01
	Normalized peak height	1.58E-02		1.66E-01	
	Peak sensitivity value	3.21E-05		3.27E-05	
	Shapiro-Wilk score	2.750E-02		6.880E-03	
20	Values[Jpds]				
	Local	2.65E-05		2.65E-05	
	Min	-5.30E-01	-1.06E-01	-1.24E+00	-4.04E-01
	Max	5.28E-01	7.50E-03	5.70E+00	2.31E-01
	Normalized peak height	2.55E-02		1.43E-01	
	Peak sensitivity value	-8.57E-07		-2.01E-05	
	Shapiro-Wilk score	2.263E-02		6.339E-03	
21	Values[Jspn]				
	Local	-2.94E-05		-2.94E-05	
	Min	-5.30E-01	-6.64E-04	-1.24E+00	-7.27E-02
	Max	3.21E-01	6.86E-04	3.17E+00	3.50E+00
	Normalized peak height	2.02E-02		7.55E-02	
	Peak sensitivity value	2.29E-05		1.65E-05	
	Shapiro-Wilk score	2.577E-02		1.502E-02	
22	Values[KEZ2]				
	Local	-3.68E-05		-3.68E-05	
	Min	-5.30E-01	-4.89E-02	-2.01E+00	-1.06E-02
	Max	2.76E-01	1.61E-01	1.95E+00	8.37E-04
	Normalized peak height	2.29E-02		1.03E-01	
	Peak sensitivity value	5.64E-06		1.86E-05	
	Shapiro-Wilk score	2.327E-02		1.268E-02	
23	Values[KEZ]				
	Local	-1.50E-04		-1.50E-04	
	Min	-5.30E-01	-1.23E-01	-1.45E+00	-1.30E+00
	Max	4.65E-01	1.27E-01	8.92E+00	7.91E-04
	Normalized peak height	2.76E-02		2.49E-01	
	Peak sensitivity value	-8.78E-06		-1.51E-05	
	Shapiro-Wilk score	2.342E-02		4.486E-03	
24	Values[TEM1T]				
	Local	-2.28E-05		-2.28E-05	
	Min	-5.30E-01	-1.57E-03	-1.24E+00	-1.57E-02
	Max	3.36E-01	8.35E-04	3.61E+00	8.03E+00
	Normalized peak height	2.17E-02		9.66E-02	
	Peak sensitivity value	-1.57E-05		1.97E-05	
	Shapiro-Wilk score	2.470E-02		1.232E-02	
25	Values[b0]				
	Local	-1.01E-04		-1.01E-04	
	Min	-5.30E-01	-4.47E-03	-1.24E+00	-6.65E-01
	Max	3.43E-01	1.66E+00	5.85E+00	1.09E+00
	Normalized peak height	1.57E-02		1.02E-01	
	Peak sensitivity value	-1.91E-05		8.36E-06	
	Shapiro-Wilk score	2.822E-02		8.427E-03	
26	Values[bub2h]				
	Local	-3.59E-05		-3.59E-05	
	Min	-5.30E-01	-5.54E-04	-1.59E+00	-1.81E-01
	Max	5.16E-01	3.45E-01	7.14E+00	1.91E-02
	Normalized peak height	2.80E-02		2.01E-01	
	Peak sensitivity value	-1.08E-05		2.24E-06	
	Shapiro-Wilk score	2.178E-02		6.096E-03	

27	Values[bub2l]				
	Local	-6.62E-05		-6.62E-05	
	Min	-5.31E-01	-4.66E+00	-2.56E+00	-8.10E-01
	Max	5.97E-01	1.41E-01	4.85E+00	1.17E-01
	Normalized peak height	2.31E-02		1.13E-01	
	Peak sensitivity value	-4.17E-05		-1.10E-07	
	Shapiro-Wilk score	2.419E-02		1.392E-02	
28	Values[ebudb5]				
	Local	0.00E+00		0.00E+00	
	Min	-5.30E-01	-2.44E-02	-2.12E+00	-9.97E-02
	Max	5.46E-01	2.18E-01	2.47E+00	1.19E-02
	Normalized peak height	5.21E-01		5.22E-01	
	Peak sensitivity value	-1.16E-06		-1.95E-05	
	Shapiro-Wilk score	1.591E-02		8.588E-03	
29	Values[ebudn2]				
	Local	0.00E+00		0.00E+00	
	Min	-5.30E-01	-1.36E-01	-2.00E+00	-7.33E-01
	Max	5.38E-01	7.86E-04	1.95E+00	7.18E+00
	Normalized peak height	5.23E-01		5.14E-01	
	Peak sensitivity value	3.78E-06		-1.70E-05	
	Shapiro-Wilk score	1.462E-02		9.700E-03	
30	Values[ebudn3]				
	Local	0.00E+00		0.00E+00	
	Min	-5.30E-01	-3.17E-01	-1.35E+00	-1.69E-02
	Max	4.73E-01	5.78E-03	7.08E+00	1.09E-01
	Normalized peak height	5.23E-01		5.81E-01	
	Peak sensitivity value	1.04E-06		5.18E-06	
	Shapiro-Wilk score	1.584E-02		4.758E-03	
31	Values[ec1b2]				
	Local	2.13E-04		2.13E-04	
	Min	-5.30E-01	-1.92E-01	-1.60E+00	-1.85E-01
	Max	4.44E-01	7.82E-04	2.53E+00	5.75E-04
	Normalized peak height	2.54E-02		9.73E-02	
	Peak sensitivity value	-1.19E-05		-2.58E-05	
	Shapiro-Wilk score	2.172E-02		1.111E-02	
32	Values[ec1b5]				
	Local	-1.49E-04		-1.49E-04	
	Min	-5.30E-01	-1.99E-01	-1.24E+00	-4.77E-02
	Max	5.36E-01	2.39E-01	1.98E+00	2.82E-01
	Normalized peak height	3.03E-02		8.50E-02	
	Peak sensitivity value	-4.35E-06		7.92E-07	
	Shapiro-Wilk score	2.170E-02		1.273E-02	
33	Values[ec1k2]				
	Local	-8.09E-05		-8.09E-05	
	Min	-5.30E-01	-8.36E-04	-1.24E+00	-4.76E-04
	Max	4.78E-01	1.15E-01	2.92E+00	7.27E-02
	Normalized peak height	2.82E-02		1.05E-01	
	Peak sensitivity value	-1.17E-05		1.13E-05	
	Shapiro-Wilk score	2.333E-02		1.217E-02	
34	Values[ec1n2]				
	Local	-1.92E-04		-1.92E-04	
	Min	-5.31E-01	-4.20E-01	-1.84E+00	-1.44E+00
	Max	6.52E-01	7.27E-02	7.56E+00	2.24E-02
	Normalized peak height	2.54E-02		1.54E-01	
	Peak sensitivity value	-3.33E-05		-5.34E-05	
	Shapiro-Wilk score	2.353E-02		5.681E-03	
35	Values[ec1n3]				
	Local	-1.88E-04		-1.88E-04	
	Min	-5.30E-01	-4.32E-02	-1.24E+00	-2.31E-01
	Max	3.24E-01	8.26E-04	1.95E+00	6.83E-04
	Normalized peak height	2.13E-02		6.77E-02	
	Peak sensitivity value	-6.13E-06		-1.27E-05	
	Shapiro-Wilk score	2.418E-02		1.296E-02	
36	Values[ef6b2]				
	Local	-9.72E-05		-9.72E-05	
	Min	-5.30E-01	-3.32E-02	-1.59E+00	-2.06E-01
	Max	3.60E-01	1.79E-02	5.93E+00	9.91E-04
	Normalized peak height	2.41E-02		1.76E-01	
	Peak sensitivity value	-2.68E-06		-2.72E-05	
	Shapiro-Wilk score	2.490E-02		6.825E-03	
37	Values[ef6b5]				
	Local	-8.31E-06		-8.31E-06	
	Min	-5.30E-01	-2.02E-01	-2.99E+00	-1.79E-01
	Max	2.98E-01	1.51E-01	3.04E+00	2.93E-01
	Normalized peak height	2.23E-02		1.34E-01	
	Peak sensitivity value	-9.76E-06		-4.83E-05	
	Shapiro-Wilk score	2.300E-02		1.001E-02	
38	Values[ef6k2]				
	Local	1.36E-05		1.36E-05	
	Min	-5.31E-01	-3.22E-01	-1.24E+00	-6.53E-02
	Max	7.81E-01	9.85E-02	2.85E+00	1.04E-03
	Normalized peak height	3.70E-02		1.06E-01	
	Peak sensitivity value	-3.52E-06		1.36E-05	
	Shapiro-Wilk score	2.049E-02		1.066E-02	
39	Values[ef6n2]				
	Local	-1.09E-04		-1.09E-04	
	Min	-5.31E-01	-1.75E-03	-1.43E+00	-5.80E+00
	Max	3.33E-01	3.34E-01	3.45E+00	2.11E-02
	Normalized peak height	1.89E-02		8.08E-02	
	Peak sensitivity value	-3.70E-05		-1.72E-05	
	Shapiro-Wilk score	2.530E-02		1.235E-02	
40	Values[ef6n3]				
	Local	-3.80E-04		-3.80E-04	
	Min	-5.30E-01	-7.85E-04	-1.24E+00	-1.50E+00
	Max	5.98E-01	1.61E-01	3.54E+00	1.01E-03
	Normalized peak height	2.90E-02		1.04E-01	
	Peak sensitivity value	2.31E-06		-9.19E-06	
	Shapiro-Wilk score	2.143E-02		9.262E-03	

41	Values[eicdhb2]				
	Local	-6.91E-05		-6.91E-05	
	Min	-5.30E-01	-7.51E-04	-1.47E+00	-7.67E-02
	Max	2.47E-01	1.67E-01	3.09E+00	2.47E-02
	Normalized peak height	2.13E-02		9.97E-02	
	Peak sensitivity value	8.28E-06		2.71E-05	
	Shapiro-Wilk score	2.479E-02		1.145E-02	
42	Values[eicdhb5]				
	Local	5.93E-05		5.93E-05	
	Min	-5.30E-01	-7.67E-02	-2.04E+00	-1.33E-01
	Max	4.68E-01	5.93E-04	3.80E+00	1.54E-01
	Normalized peak height	2.42E-02		1.23E-01	
	Peak sensitivity value	2.27E-05		-1.36E-05	
	Shapiro-Wilk score	2.364E-02		1.003E-02	
43	Values[eicdhn2]				
	Local	-2.33E-04		-2.33E-04	
	Min	-5.30E-01	-9.04E-03	-1.41E+00	-5.90E-02
	Max	5.36E-01	4.03E-02	2.65E+00	8.73E-02
	Normalized peak height	2.37E-02		7.62E-02	
	Peak sensitivity value	-2.04E-05		-1.24E-05	
	Shapiro-Wilk score	2.108E-02		1.074E-02	
44	Values[eicdhn3]				
	Local	-7.71E-05		-7.71E-05	
	Min	-5.30E-01	-1.13E-01	-1.85E+00	-1.29E-03
	Max	2.93E-01	5.71E-02	1.95E+00	9.46E-04
	Normalized peak height	2.24E-02		9.88E-02	
	Peak sensitivity value	1.95E-06		-7.82E-07	
	Shapiro-Wilk score	2.465E-02		1.203E-02	
45	Values[eorib2]				
	Local	1.29E-04		1.29E-04	
	Min	-5.30E-01	-1.34E-01	-2.98E+00	-7.63E-02
	Max	4.18E-01	7.91E-03	6.84E+00	3.56E-02
	Normalized peak height	2.71E-02		2.46E-01	
	Peak sensitivity value	-7.23E-06		1.13E-05	
	Shapiro-Wilk score	2.227E-02		5.489E-03	
46	Values[eorib5]				
	Local	1.32E-04		1.32E-04	
	Min	-5.39E-01	-6.20E-04	-2.52E+00	-1.71E+00
	Max	8.66E-01	1.98E-01	2.21E+00	3.62E+00
	Normalized peak height	3.35E-02		1.05E-01	
	Peak sensitivity value	1.20E-05		1.07E-05	
	Shapiro-Wilk score	1.916E-02		1.149E-02	
47	Values[esbfb5]				
	Local	-2.23E-04		-2.23E-04	
	Min	-5.30E-01	-8.98E-04	-1.24E+00	-1.53E-02
	Max	4.75E-01	2.34E-01	3.81E+00	8.68E-04
	Normalized peak height	3.00E-02		1.34E-01	
	Peak sensitivity value	-3.13E-07		1.46E-05	
	Shapiro-Wilk score	2.247E-02		1.008E-02	
48	Values[esbfn2]				
	Local	-1.29E-04		-1.29E-04	
	Min	-5.38E-01	-7.80E-04	-3.62E+00	-1.47E-02
	Max	6.46E-01	3.83E-02	3.08E+00	1.15E+00
	Normalized peak height	2.77E-02		1.34E-01	
	Peak sensitivity value	-2.65E-06		2.86E-05	
	Shapiro-Wilk score	2.150E-02		9.908E-03	
49	Values[esbfn3]				
	Local	-1.81E-04		-1.81E-04	
	Min	-5.29E-01	-1.43E+00	-1.24E+00	-1.33E-01
	Max	3.73E-01	6.84E-03	1.95E+00	2.24E+00
	Normalized peak height	1.16E-02		3.51E-02	
	Peak sensitivity value	-3.63E-05		3.17E-05	
	Shapiro-Wilk score	3.629E-02		2.786E-02	
50	Values[ka15”]				
	Local	-1.73E-05		-1.73E-05	
	Min	-5.30E-01	-2.58E-01	-1.24E+00	-6.79E-04
	Max	4.49E-01	2.09E+00	1.95E+00	3.88E-01
	Normalized peak height	2.40E-02		6.48E-02	
	Peak sensitivity value	-1.67E-06		7.09E-07	
	Shapiro-Wilk score	2.274E-02		1.659E-02	
51	Values[ka15’]				
	Local	1.78E-04		1.78E-04	
	Min	-5.30E-01	-7.96E-04	-1.89E+00	-1.33E-01
	Max	3.53E-01	6.61E-04	3.49E+00	8.47E-04
	Normalized peak height	2.59E-02		1.33E-01	
	Peak sensitivity value	1.52E-06		-1.92E-05	
	Shapiro-Wilk score	2.294E-02		1.021E-02	
52	Values[ka15p]				
	Local	1.10E-04		1.10E-04	
	Min	-5.30E-01	-6.27E-04	-2.90E+00	-4.29E-01
	Max	3.82E-01	7.24E-04	5.53E+00	8.96E-04
	Normalized peak height	2.81E-02		2.11E-01	
	Peak sensitivity value	7.66E-07		3.21E-05	
	Shapiro-Wilk score	2.274E-02		6.777E-03	
53	Values[ka20”]				
	Local	-1.09E-04		-1.09E-04	
	Min	-5.30E-01	-3.05E-02	-1.24E+00	-4.90E+00
	Max	3.73E-01	3.68E-02	4.99E+00	1.01E-03
	Normalized peak height	1.96E-02		1.06E-01	
	Peak sensitivity value	-4.27E-05		-3.37E-05	
	Shapiro-Wilk score	2.454E-02		8.500E-03	
54	Values[ka20’]				
	Local	-9.51E-05		-9.51E-05	
	Min	-5.30E-01	-8.91E-04	-1.95E+00	-5.84E+00
	Max	4.28E-01	7.25E-04	3.00E+00	2.86E+02
	Normalized peak height	2.24E-02		9.59E-02	
	Peak sensitivity value	-3.71E-05		-6.80E-05	
	Shapiro-Wilk score	2.378E-02		1.075E-02	

55	Values[kacdh”]				
	Local	-2.29E-05		-2.29E-05	
	Min	-5.30E-01	-1.21E-01	-2.25E+00	-1.13E-01
	Max	3.94E-01	1.91E-01	4.35E+00	1.03E-03
	Normalized peak height	2.14E-02		1.23E-01	
	Peak sensitivity value	-3.93E-05		-9.71E-06	
	Shapiro-Wilk score	2.395E-02		9.596E-03	
56	Values[kacdh’]				
	Local	-1.06E-04		-1.06E-04	
	Min	-5.79E-01	-2.26E-01	-1.24E+00	-6.61E-02
	Max	6.48E-01	4.32E-04	4.79E+00	6.93E-04
	Normalized peak height	3.10E-02		1.38E-01	
	Peak sensitivity value	6.37E-06		-1.46E-05	
	Shapiro-Wilk score	2.179E-02		8.591E-03	
57	Values[kaiep]				
	Local	-1.49E-04		-1.49E-04	
	Min	-5.31E-01	-3.48E-01	-1.97E+00	-7.73E+00
	Max	5.33E-01	9.24E-04	2.79E+00	1.96E-01
	Normalized peak height	1.90E-02		6.02E-02	
	Peak sensitivity value	-3.02E-05		-3.86E-05	
	Shapiro-Wilk score	2.550E-02		1.540E-02	
58	Values[kamcm]				
	Local	-3.31E-04		-3.31E-04	
	Min	-5.31E-01	-8.33E-02	-2.45E+00	-3.01E+00
	Max	3.93E-01	7.42E-02	1.95E+00	4.60E-03
	Normalized peak height	1.44E-02		4.77E-02	
	Peak sensitivity value	-3.80E-05		-6.01E-06	
	Shapiro-Wilk score	3.122E-02		1.864E-02	
59	Values[kasb2]				
	Local	-5.17E-05		-5.17E-05	
	Min	-5.30E-01	-2.02E-01	-2.86E+00	-1.25E-01
	Max	3.67E-01	5.93E-04	4.42E+00	9.90E-04
	Normalized peak height	2.45E-02		1.72E-01	
	Peak sensitivity value	1.06E-06		-6.44E-06	
	Shapiro-Wilk score	2.323E-02		8.717E-03	
60	Values[kasb5]				
	Local	-1.71E-04		-1.71E-04	
	Min	-5.31E-01	-7.72E-04	-1.24E+00	-1.19E-01
	Max	5.39E-01	6.49E-04	1.95E+00	6.36E-02
	Normalized peak height	2.84E-02		7.77E-02	
	Peak sensitivity value	-8.17E-06		-2.33E-05	
	Shapiro-Wilk score	2.182E-02		1.315E-02	
61	Values[kasbf]				
	Local	-2.34E-04		-2.34E-04	
	Min	-5.29E-01	-2.75E-02	-2.26E+00	-2.70E-01
	Max	8.52E-01	8.71E-01	8.28E+00	7.60E-01
	Normalized peak height	1.64E-02		1.04E-01	
	Peak sensitivity value	-1.56E-05		-4.24E-05	
	Shapiro-Wilk score	3.553E-02		9.907E-03	
62	Values[kasesp]				
	Local	1.92E-04		1.92E-04	
	Min	-5.30E-01	-2.53E-02	-1.94E+00	-1.37E-01
	Max	7.55E-01	1.71E-02	7.86E+00	7.42E+00
	Normalized peak height	3.29E-02		2.16E-01	
	Peak sensitivity value	-4.44E-06		-3.92E-06	
	Shapiro-Wilk score	2.029E-02		5.071E-03	
63	Values[kasf2]				
	Local	1.47E-05		1.47E-05	
	Min	-5.30E-01	-6.99E-04	-1.85E+00	-5.47E-02
	Max	4.50E-01	4.82E-02	1.95E+00	6.19E-02
	Normalized peak height	2.48E-02		7.64E-02	
	Peak sensitivity value	2.78E-05		1.60E-05	
	Shapiro-Wilk score	2.349E-02		1.230E-02	
64	Values[kasf5]				
	Local	-3.31E-04		-3.31E-04	
	Min	-5.30E-01	-2.17E-03	-1.45E+00	-7.16E-04
	Max	4.29E-01	6.34E-04	1.95E+00	1.45E-01
	Normalized peak height	2.93E-02		9.32E-02	
	Peak sensitivity value	2.10E-06		-1.05E-05	
	Shapiro-Wilk score	2.311E-02		1.409E-02	
65	Values[kasrent]				
	Local	-8.15E-05		-8.15E-05	
	Min	-5.45E-01	-2.14E-01	-1.24E+00	-4.33E-01
	Max	8.56E-01	8.91E-04	4.78E+00	9.83E-04
	Normalized peak height	3.28E-02		1.16E-01	
	Peak sensitivity value	-1.06E-05		-1.23E-05	
	Shapiro-Wilk score	1.988E-02		8.809E-03	
66	Values[kasrentp]				
	Local	2.06E-04		2.06E-04	
	Min	-5.30E-01	-5.51E-02	-1.24E+00	-2.87E+00
	Max	3.33E-01	5.74E-04	3.31E+00	7.38E-02
	Normalized peak height	2.41E-02		1.10E-01	
	Peak sensitivity value	2.00E-05		3.71E-05	
	Shapiro-Wilk score	2.247E-02		1.128E-02	
67	Values[kaswi]				
	Local	6.85E-05		6.85E-05	
	Min	-5.30E-01	-1.86E-03	-1.67E+00	-1.77E-01
	Max	5.47E-01	7.08E-04	2.20E+00	3.30E-01
	Normalized peak height	3.03E-02		9.97E-02	
	Peak sensitivity value	-2.71E-06		1.61E-05	
	Shapiro-Wilk score	2.171E-02		1.172E-02	
68	Values[kd14]				
	Local	-1.22E-04		-1.22E-04	
	Min	-5.32E-01	-2.45E-01	-3.28E+00	-3.55E-01
	Max	7.50E-01	2.45E-01	4.31E+00	2.05E+00
	Normalized peak height	2.39E-02		9.81E-02	
	Peak sensitivity value	4.04E-05		6.48E-05	
	Shapiro-Wilk score	2.312E-02		2.636E-02	

69	Values[kd1c1]				
	Local	-8.44E-05		-8.44E-05	
	Min	-5.30E-01	-2.11E-02	-1.24E+00	-2.41E-01
	Max	3.37E-01	8.29E-04	1.95E+00	5.16E-02
	Normalized peak height	2.33E-02		7.57E-02	
	Peak sensitivity value	-1.44E-05		-8.86E-06	
	Shapiro-Wilk score	2.291E-02		1.474E-02	
70	Values[kd1f6]				
	Local	-9.53E-05		-9.53E-05	
	Min	-5.30E-01	-6.63E-04	-1.48E+00	-2.96E-01
	Max	3.83E-01	1.88E-02	5.54E+00	3.10E-02
	Normalized peak height	2.53E-02		1.73E-01	
	Peak sensitivity value	3.64E-06		-1.23E-06	
	Shapiro-Wilk score	2.395E-02		8.057E-03	
71	Values[kd1pds']				
	Local	-2.26E-05		-2.26E-05	
	Min	-5.31E-01	-1.39E-01	-2.91E+00	-1.37E-01
	Max	6.04E-01	4.50E-04	1.95E+00	6.95E-02
	Normalized peak height	2.69E-02		9.90E-02	
	Peak sensitivity value	-3.79E-05		-5.16E-05	
	Shapiro-Wilk score	2.233E-02		1.366E-02	
72	Values[kd20]				
	Local	1.43E-04		1.43E-04	
	Min	-5.30E-01	-2.69E-01	-1.46E+00	-5.04E+01
	Max	5.31E-01	1.08E-01	1.95E+00	6.45E+00
	Normalized peak height	1.54E-02		3.77E-02	
	Peak sensitivity value	3.80E-05		3.12E-05	
	Shapiro-Wilk score	2.968E-02		2.004E-02	
73	Values[kd2c1]				
	Local	-2.07E-04		-2.07E-04	
	Min	-5.31E-01	-1.87E+00	-2.67E+00	-5.34E-01
	Max	2.92E-01	1.87E-01	6.77E+00	6.03E-01
	Normalized peak height	1.68E-02		1.39E-01	
	Peak sensitivity value	-3.96E-05		8.28E-06	
	Shapiro-Wilk score	2.496E-02		8.875E-03	
74	Values[kd2f6]				
	Local	-1.27E-04		-1.27E-04	
	Min	-5.30E-01	-6.42E-01	-3.58E+00	-1.14E+00
	Max	6.94E-01	6.22E-04	5.26E+00	2.08E-01
	Normalized peak height	2.50E-02		1.29E-01	
	Peak sensitivity value	-3.20E-05		-7.22E-05	
	Shapiro-Wilk score	2.332E-02		9.665E-03	
75	Values[kd2pds"]				
	Local	-2.47E-05		-2.47E-05	
	Min	-5.30E-01	-1.01E-03	-2.71E+00	-1.33E-03
	Max	3.60E-01	4.88E-04	3.23E+00	1.85E+00
	Normalized peak height	1.71E-02		8.93E-02	
	Peak sensitivity value	-9.37E-06		-4.40E-05	
	Shapiro-Wilk score	2.501E-02		1.042E-02	
76	Values[kd3c1]				
	Local	-1.08E-04		-1.08E-04	
	Min	-5.31E-01	-9.09E-02	-1.24E+00	-1.99E+00
	Max	6.18E-01	1.46E-01	5.87E+00	3.38E-01
	Normalized peak height	2.59E-02		1.27E-01	
	Peak sensitivity value	-4.74E-06		-1.10E-05	
	Shapiro-Wilk score	2.239E-02		7.941E-03	
77	Values[kd3f6]				
	Local	-7.06E-05		-7.06E-05	
	Min	-5.30E-01	-8.03E-02	-1.24E+00	-1.63E+00
	Max	3.52E-01	1.40E-01	2.82E+00	5.60E-04
	Normalized peak height	1.89E-02		6.62E-02	
	Peak sensitivity value	-5.08E-05		-4.05E-05	
	Shapiro-Wilk score	2.295E-02		1.235E-02	
78	Values[kd3pds"]				
	Local	-1.09E-04		-1.09E-04	
	Min	-5.30E-01	-2.75E-03	-1.38E+00	-9.11E-04
	Max	6.15E-01	6.25E-02	1.95E+00	7.20E-04
	Normalized peak height	3.08E-02		7.79E-02	
	Peak sensitivity value	-7.12E-06		-1.24E-05	
	Shapiro-Wilk score	2.201E-02		1.614E-02	
79	Values[kdb2"]				
	Local	-1.57E-04		-1.57E-04	
	Min	-5.30E-01	-6.41E-03	-1.51E+00	-1.66E+00
	Max	4.81E-01	7.82E-04	4.73E+00	2.86E-01
	Normalized peak height	2.62E-02		1.34E-01	
	Peak sensitivity value	-8.77E-06		-4.25E-05	
	Shapiro-Wilk score	2.258E-02		8.442E-03	
80	Values[kdb2']				
	Local	-1.95E-04		-1.95E-04	
	Min	-5.30E-01	-7.27E-04	-1.28E+00	-7.92E-04
	Max	8.52E-01	2.04E-03	5.04E+00	6.74E-02
	Normalized peak height	3.86E-02		1.57E-01	
	Peak sensitivity value	-2.17E-07		5.26E-06	
	Shapiro-Wilk score	2.025E-02		7.971E-03	
81	Values[kdb2p]				
	Local	-5.91E-05		-5.91E-05	
	Min	-5.30E-01	-2.61E-02	-1.24E+00	-6.05E+00
	Max	3.47E-01	2.77E-02	7.28E+00	3.13E-02
	Normalized peak height	2.12E-02		1.59E-01	
	Peak sensitivity value	5.40E-06		-4.91E-05	
	Shapiro-Wilk score	2.359E-02		5.184E-03	
82	Values[kdb5"]				
	Local	-1.59E-04		-1.59E-04	
	Min	-5.30E-01	-5.71E-04	-1.76E+00	-6.60E-04
	Max	3.69E-01	3.76E-02	4.27E+00	4.81E-02
	Normalized peak height	2.34E-02		1.33E-01	
	Peak sensitivity value	-8.92E-06		-1.06E-05	
	Shapiro-Wilk score	2.283E-02		9.259E-03	

83	Values[kdb5']				
	Local	1.35E-05		1.35E-05	
	Min	-5.30E-01	-2.27E-03	-1.92E+00	-7.33E-02
	Max	3.13E-01	1.28E-01	6.23E+00	5.41E-01
	Normalized peak height	2.23E-02		1.72E-01	
	Peak sensitivity value	1.52E-05		5.15E-05	
	Shapiro-Wilk score	2.430E-02		7.095E-03	
84	Values[kdbud]				
	Local	0.00E+00		0.00E+00	
	Min	-3.40E-04	0.00E+00	-4.97E-01	-7.54E-01
	Max	4.96E-04	0.00E+00	6.44E-01	6.26E-03
	Normalized peak height	1.00E+00		9.72E-01	
	Peak sensitivity value	2.09E-09		-2.54E-06	
	Shapiro-Wilk score	3.352E-03		1.369E-03	
85	Values[kdcdh]				
	Local	-4.34E-04		-4.34E-04	
	Min	-5.31E-01	-2.22E-03	-3.79E+00	-7.42E-01
	Max	5.72E-01	1.74E-01	2.14E+00	1.69E-02
	Normalized peak height	2.02E-02		7.72E-02	
	Peak sensitivity value	-1.29E-04		-8.39E-05	
	Shapiro-Wilk score	2.325E-02		1.122E-02	
86	Values[kdib2]				
	Local	-5.02E-05		-5.02E-05	
	Min	-5.30E-01	-6.51E-02	-1.24E+00	-1.19E+00
	Max	4.43E-01	7.63E-04	1.95E+00	5.79E-02
	Normalized peak height	2.87E-02		8.90E-02	
	Peak sensitivity value	9.70E-06		-4.15E-06	
	Shapiro-Wilk score	2.198E-02		1.343E-02	
87	Values[kdib5]				
	Local	-9.54E-05		-9.54E-05	
	Min	-5.31E-01	-3.19E-02	-1.24E+00	-1.41E-02
	Max	4.84E-01	5.30E-04	6.34E+00	1.31E-01
	Normalized peak height	3.00E-02		1.93E-01	
	Peak sensitivity value	-5.77E-07		-1.38E-05	
	Shapiro-Wilk score	2.254E-02		6.940E-03	
88	Values[kdiesp]				
	Local	2.32E-05		2.32E-05	
	Min	-5.30E-01	-1.00E-01	-1.42E+00	-3.83E+00
	Max	4.94E-01	1.07E-02	1.95E+00	5.30E-02
	Normalized peak height	2.70E-02		7.71E-02	
	Peak sensitivity value	1.53E-05		-2.69E-06	
	Shapiro-Wilk score	2.210E-02		1.302E-02	
89	Values[kdif2]				
	Local	-1.86E-04		-1.86E-04	
	Min	-5.30E-01	-5.62E-03	-1.24E+00	-7.91E-04
	Max	5.14E-01	7.62E-04	2.43E+00	7.59E-02
	Normalized peak height	3.05E-02		9.56E-02	
	Peak sensitivity value	-4.79E-06		-2.85E-05	
	Shapiro-Wilk score	2.074E-02		1.149E-02	
90	Values[kdif5]				
	Local	2.78E-04		2.78E-04	
	Min	-5.30E-01	-1.48E-01	-2.67E+00	-2.52E-02
	Max	4.12E-01	1.44E-03	1.95E+00	8.69E-04
	Normalized peak height	2.84E-02		1.29E-01	
	Peak sensitivity value	5.05E-06		-8.50E-06	
	Shapiro-Wilk score	2.294E-02		1.164E-02	
91	Values[kdirent]				
	Local	-9.59E-05		-9.59E-05	
	Min	-6.28E-01	-1.55E-03	-2.12E+00	-7.73E-04
	Max	4.64E-01	9.13E-04	1.95E+00	5.39E-02
	Normalized peak height	2.58E-02		8.04E-02	
	Peak sensitivity value	2.75E-05		3.91E-05	
	Shapiro-Wilk score	2.239E-02		1.304E-02	
92	Values[kdirentp]				
	Local	2.09E-05		2.09E-05	
	Min	-5.30E-01	-2.21E-02	-1.35E+00	-3.33E-01
	Max	5.64E-01	2.74E-03	4.22E+00	2.96E+00
	Normalized peak height	2.60E-02		1.14E-01	
	Peak sensitivity value	-4.39E-05		-3.31E-05	
	Shapiro-Wilk score	2.081E-02		1.023E-02	
93	Values[kdn2]				
	Local	1.43E-04		1.43E-04	
	Min	-5.30E-01	-1.48E-01	-1.75E+00	-6.79E+00
	Max	5.28E-01	1.61E+00	1.95E+00	8.15E-01
	Normalized peak height	1.80E-02		4.74E-02	
	Peak sensitivity value	6.57E-05		5.19E-05	
	Shapiro-Wilk score	2.427E-02		2.066E-02	
94	Values[kdnet]				
	Local	1.86E-04		1.86E-04	
	Min	-5.28E-01	-5.57E-04	-3.02E+00	-1.01E+00
	Max	3.56E-01	7.23E-01	3.84E+00	4.12E-01
	Normalized peak height	1.74E-02		9.23E-02	
	Peak sensitivity value	-8.96E-06		1.49E-05	
	Shapiro-Wilk score	2.885E-02		2.639E-02	
95	Values[kdori]				
	Local	1.30E-05		1.30E-05	
	Min	-5.30E-01	-6.17E-04	-1.99E+00	-4.35E+00
	Max	4.35E-01	9.48E-04	1.95E+00	9.49E-02
	Normalized peak height	2.49E-02		9.80E-02	
	Peak sensitivity value	7.29E-06		-9.58E-07	
	Shapiro-Wilk score	2.269E-02		1.332E-02	
96	Values[kdppx"]				
	Local	-2.19E-04		-2.19E-04	
	Min	-5.30E-01	-2.25E-02	-1.24E+00	-8.30E-04
	Max	5.07E-01	2.29E-01	1.95E+00	6.79E+00
	Normalized peak height	2.51E-02		6.22E-02	
	Peak sensitivity value	-2.34E-05		-2.72E-05	
	Shapiro-Wilk score	2.337E-02		1.901E-02	

97	Values[kdppx']				
	Local	-2.23E-04		-2.23E-04	
	Min	-5.30E-01	-6.58E-04	-1.59E+00	-2.40E-02
	Max	5.36E-01	3.78E-02	1.95E+00	3.22E+00
	Normalized peak height	2.52E-02		7.09E-02	
	Peak sensitivity value	-4.47E-05		-3.00E-05	
	Shapiro-Wilk score	2.297E-02		1.474E-02	
98	Values[kdspn]				
	Local	5.82E-05		5.82E-05	
	Min	-5.29E-01	-7.02E-04	-1.75E+00	-2.57E-03
	Max	3.42E-01	3.44E+00	1.95E+00	6.48E+00
	Normalized peak height	1.71E-02		5.18E-02	
	Peak sensitivity value	5.01E-05		1.15E-05	
	Shapiro-Wilk score	2.757E-02		2.593E-02	
99	Values[kdswi]				
	Local	9.43E-05		9.43E-05	
	Min	-5.31E-01	-3.68E+00	-1.24E+00	-1.63E+00
	Max	5.21E-01	7.37E-03	1.95E+00	3.63E+01
	Normalized peak height	1.63E-02		3.48E-02	
	Peak sensitivity value	-5.73E-05		-4.37E-05	
	Shapiro-Wilk score	2.959E-02		2.894E-02	
100	Values[ki15]				
	Local	2.22E-05		2.22E-05	
	Min	-5.30E-01	-4.61E-01	-1.32E+00	-9.02E-04
	Max	4.84E-01	1.46E-01	1.95E+00	1.03E-01
	Normalized peak height	2.49E-02		6.48E-02	
	Peak sensitivity value	-1.12E-05		-3.68E-06	
	Shapiro-Wilk score	2.356E-02		1.682E-02	
101	Values[kicdh"]				
	Local	7.74E-05		7.74E-05	
	Min	-5.30E-01	-4.69E-02	-1.34E+00	-2.90E-01
	Max	5.32E-01	1.05E-02	6.67E+00	6.11E-01
	Normalized peak height	2.47E-02		1.54E-01	
	Peak sensitivity value	4.12E-06		-2.64E-06	
	Shapiro-Wilk score	2.408E-02		6.111E-03	
102	Values[kicdh']				
	Local	5.98E-05		5.98E-05	
	Min	-5.31E-01	-2.45E-01	-2.28E+00	-1.85E+00
	Max	4.88E-01	7.56E-04	6.55E+00	2.09E-02
	Normalized peak height	2.80E-02		2.09E-01	
	Peak sensitivity value	1.57E-06		3.28E-05	
	Shapiro-Wilk score	2.285E-02		6.827E-03	
103	Values[kiiep]				
	Local	1.52E-04		1.52E-04	
	Min	-5.30E-01	-1.09E-01	-1.24E+00	-3.55E+00
	Max	4.37E-01	1.71E-01	3.88E+00	2.21E-01
	Normalized peak height	1.82E-02		7.27E-02	
	Peak sensitivity value	3.66E-05		2.20E-05	
	Shapiro-Wilk score	2.589E-02		9.396E-03	
104	Values[kimcm]				
	Local	9.37E-05		9.37E-05	
	Min	-5.29E-01	-2.28E-01	-2.36E+00	-2.79E+01
	Max	7.33E-01	3.32E+00	2.25E+00	1.91E+00
	Normalized peak height	1.93E-02		4.95E-02	
	Peak sensitivity value	2.14E-05		3.05E-05	
	Shapiro-Wilk score	2.773E-02		1.995E-02	
105	Values[kisbf"]				
	Local	-1.03E-05		-1.03E-05	
	Min	-5.30E-01	-1.47E-01	-3.08E+00	-6.96E-04
	Max	3.25E-01	3.00E-03	7.69E+00	1.66E-02
	Normalized peak height	2.34E-02		2.41E-01	
	Peak sensitivity value	-8.27E-07		2.27E-05	
	Shapiro-Wilk score	2.525E-02		5.743E-03	
106	Values[kisbf']				
	Local	2.33E-04		2.33E-04	
	Min	-5.32E-01	-7.73E-01	-2.14E+00	-1.05E+00
	Max	6.75E-01	9.26E-03	3.14E+00	8.48E-01
	Normalized peak height	1.47E-02		5.61E-02	
	Peak sensitivity value	3.51E-05		1.24E-05	
	Shapiro-Wilk score	3.202E-02		2.229E-02	
107	Values[kiswi]				
	Local	1.28E-04		1.28E-04	
	Min	-5.30E-01	-2.86E-01	-2.45E+00	-4.12E-02
	Max	5.57E-01	7.33E-04	2.40E+00	2.06E-02
	Normalized peak height	3.04E-02		1.27E-01	
	Peak sensitivity value	-6.30E-06		-4.85E-06	
	Shapiro-Wilk score	2.185E-02		1.052E-02	
108	Values[kkpnet"]				
	Local	-1.52E-04		-1.52E-04	
	Min	-5.30E-01	-7.26E-04	-1.24E+00	-1.93E+00
	Max	5.99E-01	2.54E+00	3.75E+00	1.40E+00
	Normalized peak height	2.62E-02		9.36E-02	
	Peak sensitivity value	-3.25E-05		-2.94E-05	
	Shapiro-Wilk score	2.255E-02		1.288E-02	
109	Values[kkpnet']				
	Local	-4.87E-04		-4.87E-04	
	Min	-5.49E-01	-6.91E-03	-3.81E+00	-7.34E-01
	Max	3.21E-01	6.41E-02	2.96E+00	1.19E+00
	Normalized peak height	2.40E-02		1.53E-01	
	Peak sensitivity value	6.75E-06		-1.67E-05	
	Shapiro-Wilk score	2.268E-02		8.989E-03	
110	Values[kppc1]				
	Local	-7.69E-06		-7.69E-06	
	Min	-5.30E-01	-3.08E-02	-2.13E+00	-8.72E-04
	Max	3.47E-01	2.51E-03	7.45E+00	6.47E+00
	Normalized peak height	2.20E-02		1.90E-01	
	Peak sensitivity value	4.02E-06		1.40E-05	
	Shapiro-Wilk score	2.432E-02		5.643E-03	

111	Values[kppf6]				
	Local	1.53E-05		1.53E-05	
	Min	-5.30E-01	-4.53E-01	-2.33E+00	-1.11E-03
	Max	3.56E-01	3.84E-01	8.72E+00	6.22E+00
	Normalized peak height	2.33E-02		2.36E-01	
	Peak sensitivity value	6.65E-06		2.36E-05	
	Shapiro-Wilk score	2.388E-02		5.328E-03	
112	Values[kppnet”]				
	Local	-1.07E-04		-1.07E-04	
	Min	-5.31E-01	-7.07E-04	-2.98E+00	-1.12E+02
	Max	4.10E-01	7.96E-04	4.63E+00	5.84E-01
	Normalized peak height	2.13E-02		1.33E-01	
	Peak sensitivity value	2.29E-05		4.95E-05	
	Shapiro-Wilk score	2.199E-02		9.534E-03	
113	Values[kppnet’]				
	Local	-1.10E-04		-1.10E-04	
	Min	-5.30E-01	-2.33E-02	-1.85E+00	-8.84E-01
	Max	5.49E-01	9.26E-03	1.04E+01	7.36E-04
	Normalized peak height	3.03E-02		2.78E-01	
	Peak sensitivity value	2.86E-06		-5.78E-06	
	Shapiro-Wilk score	2.210E-02		3.712E-03	
114	Values[ks14]				
	Local	-9.16E-05		-9.16E-05	
	Min	-5.29E-01	-2.40E-01	-2.31E+00	-2.90E+00
	Max	4.17E-01	6.46E-01	5.25E+00	4.61E-01
	Normalized peak height	1.76E-02		9.97E-02	
	Peak sensitivity value	-8.21E-05		-6.19E-06	
	Shapiro-Wilk score	2.764E-02		2.229E-02	
115	Values[ks1pds”]				
	Local	1.72E-04		1.72E-04	
	Min	-5.30E-01	-2.45E-03	-2.81E+00	-1.95E-03
	Max	5.54E-01	5.00E-02	1.95E+00	2.23E-01
	Normalized peak height	2.41E-02		9.21E-02	
	Peak sensitivity value	8.90E-06		2.76E-05	
	Shapiro-Wilk score	2.192E-02		1.331E-02	
116	Values[ks20”]				
	Local	2.99E-05		2.99E-05	
	Min	-5.31E-01	-1.49E-02	-1.89E+00	-1.87E+00
	Max	3.41E-01	1.44E-01	1.95E+00	2.77E+00
	Normalized peak height	1.55E-02		4.66E-02	
	Peak sensitivity value	-5.49E-05		-4.08E-05	
	Shapiro-Wilk score	2.733E-02		1.605E-02	
117	Values[ks20’]				
	Local	-9.05E-05		-9.05E-05	
	Min	-5.34E-01	-8.51E-04	-1.39E+00	-6.49E-04
	Max	6.73E-01	1.74E-01	2.40E+00	9.62E-01
	Normalized peak height	3.42E-02		9.98E-02	
	Peak sensitivity value	6.99E-06		5.68E-06	
	Shapiro-Wilk score	2.262E-02		1.177E-02	
118	Values[ks2pds”]				
	Local	1.87E-05		1.87E-05	
	Min	-5.30E-01	-8.67E-04	-1.52E+00	-1.09E+01
	Max	3.25E-01	1.02E-03	4.69E+00	6.75E-01
	Normalized peak height	1.72E-02		9.44E-02	
	Peak sensitivity value	3.20E-05		6.38E-05	
	Shapiro-Wilk score	2.530E-02		9.439E-03	
119	Values[ksb2”]				
	Local	-7.18E-05		-7.18E-05	
	Min	-5.31E-01	-1.34E-01	-1.45E+00	-2.58E-01
	Max	4.50E-01	1.43E-02	5.24E+00	1.29E-01
	Normalized peak height	1.41E-02		6.92E-02	
	Peak sensitivity value	-6.04E-05		-3.60E-05	
	Shapiro-Wilk score	2.992E-02		1.176E-02	
120	Values[ksb2’]				
	Local	-2.51E-05		-2.51E-05	
	Min	-5.31E-01	-1.23E-01	-2.54E+00	-2.17E+00
	Max	3.46E-01	7.17E-04	2.81E+00	1.91E-01
	Normalized peak height	1.55E-02		6.52E-02	
	Peak sensitivity value	-3.28E-05		-2.12E-05	
	Shapiro-Wilk score	2.850E-02		1.589E-02	
121	Values[ksb5”]				
	Local	-5.74E-05		-5.74E-05	
	Min	-5.30E-01	-1.14E-01	-1.24E+00	-6.74E-03
	Max	4.84E-01	5.74E-04	7.72E+00	8.24E-04
	Normalized peak height	2.39E-02		1.64E-01	
	Peak sensitivity value	-1.48E-05		-6.45E-05	
	Shapiro-Wilk score	2.268E-02		6.334E-03	
122	Values[ksb5’]				
	Local	-3.90E-05		-3.90E-05	
	Min	-5.30E-01	-3.24E-01	-2.36E+00	-2.35E-02
	Max	4.28E-01	5.88E-04	2.07E+00	1.30E-01
	Normalized peak height	2.56E-02		1.06E-01	
	Peak sensitivity value	-6.83E-06		-5.71E-06	
	Shapiro-Wilk score	2.391E-02		1.206E-02	
123	Values[ksbud]				
	Local	0.00E+00		0.00E+00	
	Min	-7.07E-01	-2.06E-02	-1.61E+00	-1.73E-03
	Max	4.41E-01	2.06E-01	3.40E+00	5.26E-01
	Normalized peak height	5.21E-01		5.31E-01	
	Peak sensitivity value	-3.56E-06		1.09E-05	
	Shapiro-Wilk score	1.354E-02		7.322E-03	
124	Values[ksc1”]				
	Local	-1.19E-04		-1.19E-04	
	Min	-5.38E-01	-1.02E-03	-2.17E+00	-8.77E-03
	Max	4.43E-01	2.97E+00	1.95E+00	2.06E+00
	Normalized peak height	2.05E-02		6.55E-02	
	Peak sensitivity value	3.40E-05		3.46E-05	
	Shapiro-Wilk score	2.448E-02		2.000E-02	

125	Values[ksc1']				
	Local	2.31E-05		2.31E-05	
	Min	-5.79E-01	-7.70E-04	-1.24E+00	-9.08E-03
	Max	3.33E-01	7.99E-04	9.68E+00	4.09E-01
	Normalized peak height	2.19E-02		2.08E-01	
	Peak sensitivity value	1.04E-05		-1.19E-05	
	Shapiro-Wilk score	2.270E-02		3.942E-03	
126	Values[kscdh]				
	Local	-1.31E-04		-1.31E-04	
	Min	-5.30E-01	-6.25E-04	-3.79E+00	-4.93E-04
	Max	4.46E-01	1.00E-02	4.24E+00	4.63E+00
	Normalized peak height	1.77E-02		1.04E-01	
	Peak sensitivity value	7.04E-05		1.09E-04	
	Shapiro-Wilk score	2.501E-02		8.820E-03	
127	Values[ksf6" ']				
	Local	-2.68E-05		-2.68E-05	
	Min	-5.30E-01	-1.02E-03	-1.28E+00	-1.38E-03
	Max	3.17E-01	1.75E-01	7.38E+00	4.37E-01
	Normalized peak height	2.39E-02		2.02E-01	
	Peak sensitivity value	6.49E-06		1.46E-05	
	Shapiro-Wilk score	2.374E-02		5.764E-03	
128	Values[ksf6"]				
	Local	-1.94E-04		-1.94E-04	
	Min	-5.30E-01	-4.18E-02	-2.19E+00	-2.31E+01
	Max	6.68E-01	2.71E-03	7.08E+00	3.55E-01
	Normalized peak height	2.80E-02		1.66E-01	
	Peak sensitivity value	3.58E-06		5.98E-05	
	Shapiro-Wilk score	2.348E-02		4.690E-03	
129	Values[ksf6']				
	Local	-1.03E-04		-1.03E-04	
	Min	-5.30E-01	-1.75E-02	-2.72E+00	-7.05E-04
	Max	2.87E-01	4.71E-01	2.95E+00	1.96E+00
	Normalized peak height	1.85E-02		9.67E-02	
	Peak sensitivity value	1.54E-05		1.09E-05	
	Shapiro-Wilk score	2.435E-02		1.140E-02	
130	Values[ksn2"]				
	Local	-1.54E-04		-1.54E-04	
	Min	-5.31E-01	-5.24E-01	-1.60E+00	-7.45E+00
	Max	3.92E-01	9.48E-04	2.61E+00	4.60E-01
	Normalized peak height	1.58E-02		5.37E-02	
	Peak sensitivity value	-1.87E-05		-1.36E-05	
	Shapiro-Wilk score	2.732E-02		2.080E-02	
131	Values[ksn2']				
	Local	0.00E+00		0.00E+00	
	Min	-0.00E+00	0.00E+00	-0.00E+00	0.00E+00
	Max	-0.00E+00	0.00E+00	-0.00E+00	0.00E+00
	Normalized peak height	1.00E+00		1.00E+00	
	Peak sensitivity value	5.00E-06		5.00E-06	
	Shapiro-Wilk score	1.000E+00		1.000E+00	
132	Values[ksnet]				
	Local	-1.15E-04		-1.15E-04	
	Min	-5.32E-01	-9.21E-01	-3.96E+00	-2.89E+00
	Max	6.86E-01	1.26E-01	2.20E+00	9.05E-02
	Normalized peak height	2.35E-02		8.28E-02	
	Peak sensitivity value	1.39E-06		-5.18E-06	
	Shapiro-Wilk score	2.507E-02		3.358E-02	
133	Values[ksori]				
	Local	-4.16E-05		-4.16E-05	
	Min	-5.30E-01	-6.27E-04	-1.24E+00	-3.54E+00
	Max	3.98E-01	1.85E-03	1.95E+00	6.53E+01
	Normalized peak height	2.27E-02		7.31E-02	
	Peak sensitivity value	-1.52E-06		-5.31E-06	
	Shapiro-Wilk score	2.480E-02		1.493E-02	
134	Values[kspds']				
	Local	0.00E+00		0.00E+00	
	Min	0.00E+00	0.00E+00	-0.00E+00	0.00E+00
	Max	0.00E+00	0.00E+00	-0.00E+00	0.00E+00
	Normalized peak height	1.00E+00		1.00E+00	
	Peak sensitivity value	5.00E-06		5.00E-06	
	Shapiro-Wilk score	1.000E+00		1.000E+00	
135	Values[ksppx]				
	Local	1.69E-05		1.69E-05	
	Min	-5.30E-01	-2.33E-01	-1.24E+00	-1.70E-01
	Max	2.48E-01	1.36E-01	4.97E+00	7.43E-01
	Normalized peak height	1.79E-02		1.13E-01	
	Peak sensitivity value	3.10E-05		2.14E-05	
	Shapiro-Wilk score	2.394E-02		1.086E-02	
136	Values[ksspn]				
	Local	-1.25E-04		-1.25E-04	
	Min	-5.32E-01	-2.42E+00	-1.39E+00	-5.22E+00
	Max	8.01E-01	2.17E-01	5.42E+00	8.51E-04
	Normalized peak height	2.12E-02		7.61E-02	
	Peak sensitivity value	-6.65E-05		-5.69E-05	
	Shapiro-Wilk score	2.757E-02		2.217E-02	
137	Values[ksswi"]				
	Local	7.37E-06		7.37E-06	
	Min	-5.29E-01	-1.46E-01	-2.00E+00	-1.45E+02
	Max	3.67E-01	6.14E-01	3.96E+00	7.66E+00
	Normalized peak height	1.57E-02		7.71E-02	
	Peak sensitivity value	9.09E-05		1.62E-05	
	Shapiro-Wilk score	2.859E-02		1.437E-02	
138	Values[ksswi']				
	Local	-3.65E-05		-3.65E-05	
	Min	-5.30E-01	-2.18E-01	-1.46E+00	-1.01E+01
	Max	8.71E-01	8.66E-04	3.51E+00	3.52E+00
	Normalized peak height	3.31E-02		9.38E-02	
	Peak sensitivity value	2.67E-05		2.71E-05	
	Shapiro-Wilk score	2.097E-02		1.141E-02	

139	Values[lte1h]				
	Local	1.54E-04		1.54E-04	
	Min	-5.31E-01	-7.82E-03	-1.24E+00	-4.92E-01
	Max	4.01E-01	8.33E-04	4.53E+00	3.16E-01
	Normalized peak height	2.89E-02		1.56E-01	
	Peak sensitivity value	-5.60E-06		7.36E-06	
	Shapiro-Wilk score	2.389E-02		8.686E-03	
140	Values[lte1l]				
	Local	-4.32E-05		-4.32E-05	
	Min	-5.29E-01	-7.17E-04	-1.24E+00	-1.05E-02
	Max	2.91E-01	3.54E-02	1.95E+00	4.78E-01
	Normalized peak height	1.81E-02		5.31E-02	
	Peak sensitivity value	3.87E-05		1.09E-05	
	Shapiro-Wilk score	2.634E-02		2.431E-02	
141	Values[mad2h]				
	Local	-3.85E-04		-3.85E-04	
	Min	-5.30E-01	-6.31E-04	-2.82E+00	-1.37E-01
	Max	2.81E-01	2.25E-01	4.20E+00	5.21E-01
	Normalized peak height	2.02E-02		1.54E-01	
	Peak sensitivity value	-4.18E-06		2.62E-05	
	Shapiro-Wilk score	2.374E-02		7.722E-03	
142	Values[mad2l]				
	Local	4.69E-05		4.69E-05	
	Min	-5.31E-01	-4.65E-02	-1.47E+00	-1.10E-03
	Max	3.36E-01	5.38E-04	4.27E+00	7.43E-04
	Normalized peak height	2.50E-02		1.42E-01	
	Peak sensitivity value	2.21E-06		3.02E-05	
	Shapiro-Wilk score	2.497E-02		9.193E-03	

Table 4: Concentration control coefficients for *Trypanosoma brucei* model with parameter variation of ±5%

	(glucosetransport)	(hexokinase)	(phosphoglycerateisomerase)	(phophofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)
adpg Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	7.11E+00 2.82E+00 8.58E+00 5.68E-03 7.14E+00 9.340E-01	5.06E-02 3.31E-02 6.81E-02 3.52E-03 4.92E-02 9.997E-01	-3.17E-03 -4.74E-03 -1.31E-03 4.14E-03 -3.08E-03 9.965E-01	-2.57E-02 -3.87E-02 -1.12E-02 4.15E-03 -2.48E-02 9.974E-01	-5.67E-01 -7.92E-01 -2.97E-01 4.36E-03 -5.44E-01 9.977E-01	-9.47E-02 -1.36E-01 -3.06E-02 4.10E-03 -9.29E-02 9.941E-01	-2.37E+00 -3.39E+00 -1.11E+00 3.96E-03 -2.26E+00 9.985E-01	-1.39E+00 -1.92E+00 -6.56E-01 3.80E-03 -1.32E+00 9.995E-01	1.77E-01 -4.88E-02 3.50E-01 2.02E-03 1.80E-01 9.780E-01	7.55E-16 -8.70E-15 7.64E-15 1.44E-01 1.32E-18 9.974E-01
adpc Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	-5.14E-01 -6.60E-01 -3.01E-01 2.53E-03 -5.41E-01 9.881E-01	-3.66E-03 -4.63E-03 -2.85E-03 3.46E-03 -3.66E-03 9.983E-01	-1.09E-04 -2.85E-04 -4.40E-05 3.11E-03 -9.59E-05 9.709E-01	-7.90E-04 -2.08E-03 -3.00E-04 3.14E-03 -6.68E-04 9.710E-01	-1.10E-02 -3.38E-02 -2.18E-03 3.08E-03 -8.39E-03 9.701E-01	-3.67E-03 -8.14E-03 -1.10E-03 2.69E-03 -3.28E-03 9.869E-01	-6.52E-02 -1.83E-01 -1.60E-02 3.16E-03 -5.93E-02 9.753E-01	-3.83E-02 -1.03E-01 -9.27E-03 3.17E-03 -3.29E-02 9.775E-01	-3.37E-02 -5.19E-02 -1.31E-02 2.31E-03 -3.56E-02 9.891E-01	0.00E+00 -1.14E-13 1.09E-13 2.15E-01 7.63E-17 8.959E-01
dihydroxyacetonephosphate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	-1.12E-01 -2.42E-01 1.33E-01 2.95E-03 -1.32E-01 9.847E-01	-8.00E-04 -1.58E-03 1.76E-03 4.96E-03 -8.45E-04 9.535E-01	1.87E-03 1.41E-03 2.55E-03 3.50E-03 1.82E-03 9.963E-01	1.47E-02 1.13E-02 1.96E-02 3.47E-03 1.44E-02 9.974E-01	2.89E-01 2.46E-01 3.37E-01 3.22E-03 2.85E-01 9.971E-01	-7.31E-02 -8.33E-02 -6.45E-02 3.18E-03 -7.31E-02 9.975E-01	-6.54E-02 -1.95E-01 -1.74E-02 3.24E-03 -5.22E-02 9.683E-01	-3.84E-02 -1.11E-01 -1.06E-02 3.21E-03 -3.11E-02 9.705E-01	6.36E-02 4.04E-02 9.81E-02 2.80E-03 6.50E-02 9.945E-01	-2.29E-17 -2.28E-16 2.08E-16 6.61E-02 8.56E-20 9.920E-01
glyceraldehyde3phosphate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	-1.73E-01 -3.56E-01 1.30E-01 2.75E-03 -1.76E-01 9.846E-01	-1.23E-03 -2.36E-03 1.56E-03 4.18E-03 -1.45E-03 9.563E-01	1.89E-03 1.40E-03 2.52E-03 3.33E-03 1.90E-03 9.964E-01	1.49E-02 1.13E-02 1.94E-02 3.63E-03 1.48E-02 9.975E-01	2.93E-01 2.51E-01 3.42E-01 3.02E-03 2.91E-01 9.972E-01	6.17E-02 5.18E-02 6.96E-02 3.37E-03 6.07E-02 9.992E-01	-9.23E-02 -2.61E-01 -2.32E-02 3.12E-03 -7.35E-02 9.705E-01	-5.41E-02 -1.49E-01 -1.40E-02 2.97E-03 -4.10E-02 9.728E-01	5.22E-02 3.24E-02 8.37E-02 3.07E-03 5.05E-02 9.933E-01	-3.55E-17 -2.73E-16 3.49E-16 6.61E-02 8.09E-20 9.920E-01
2phosphoglycerate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	9.33E-01 4.90E-01 1.19E+00 2.85E-03 9.84E-01 9.886E-01	6.64E-03 5.02E-03 8.64E-03 3.54E-03 6.57E-03 9.976E-01	1.97E-04 7.73E-05 5.59E-04 3.35E-03 1.63E-04 9.699E-01	1.43E-03 5.33E-04 4.17E-03 3.59E-03 1.21E-03 9.701E-01	1.99E-02 3.38E-03 6.37E-02 3.17E-03 1.45E-02 9.688E-01	6.66E-03 1.93E-03 1.49E-02 2.78E-03 5.30E-03 9.857E-01	1.18E-01 2.65E-02 3.46E-01 3.23E-03 9.13E-02 9.742E-01	6.94E-02 1.55E-02 2.02E-01 3.11E-03 6.21E-02 9.762E-01	6.11E-02 2.41E-02 9.49E-02 2.24E-03 5.41E-02 9.882E-01	-8.41E-17 -1.41E-14 1.17E-14 1.76E-01 9.99E-18 8.909E-01
glucose Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	3.20E+00 1.75E+00 6.76E+00 3.04E-03 2.75E+00 9.738E-01	-1.04E+00 -1.05E+00 -1.02E+00 7.65E-03 -1.04E+00 8.998E-01	-1.17E-02 -1.76E-02 -8.03E-03 3.18E-03 -1.18E-02 9.894E-01	-7.39E-02 -1.15E-01 -5.07E-02 3.53E-03 -7.24E-02 9.890E-01	-1.69E-01 -6.40E-01 -4.43E-02 3.91E-03 -1.21E-01 9.517E-01	-2.68E-02 -8.09E-02 -6.92E-03 3.56E-03 -2.43E-02 9.720E-01	-6.92E-01 -2.51E+00 -1.67E-01 3.87E-03 -5.52E-01 9.544E-01	-4.06E-01 -1.45E+00 -1.01E-01 3.87E-03 -3.11E-01 9.572E-01	5.93E-02 2.69E-03 4.07E-01 5.20E-03 2.88E-02 8.932E-01	2.20E-16 -4.22E-15 3.97E-15 1.44E-01 -1.83E-18 9.777E-01
fructose6phosphate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	1.54E+00 1.13E+00 2.32E+00 2.71E-03 1.45E+00 9.800E-01	1.10E-02 6.03E-03 2.82E-02 3.80E-03 9.67E-03 9.510E-01	4.77E-03 3.46E-03 6.57E-03 3.31E-03 4.74E-03 9.955E-01	-1.07E+00 -1.09E+00 -1.06E+00 3.69E-03 -1.07E+00 9.951E-01	-1.09E-01 -2.13E-01 -6.67E-02 3.30E-03 -9.79E-02 9.706E-01	6.21E-03 -5.42E-03 1.21E-02 3.12E-03 6.89E-03 9.780E-01	-1.92E-01 -5.87E-01 -5.30E-02 3.14E-03 -1.59E-01 9.655E-01	-1.13E-01 -3.40E-01 -3.28E-02 3.20E-03 -8.15E-02 9.677E-01	1.40E-01 9.18E-02 2.19E-01 2.81E-03 1.40E-01 9.929E-01	4.79E-17 -9.50E-16 7.03E-16 1.21E-01 -5.76E-19 9.724E-01
3phosphoglycerate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	3.53E+00 1.88E+00 5.18E+00 4.14E-03 3.48E+00 9.992E-01	2.51E-02 1.65E-02 4.20E-02 3.53E-03 2.44E-02 9.787E-01	7.47E-04 2.54E-04 2.10E-03 3.03E-03 5.50E-04 9.656E-01	5.43E-03 1.80E-03 1.52E-02 2.93E-03 4.50E-03 9.662E-01	7.54E-02 1.27E-02 2.45E-01 2.97E-03 4.92E-02 9.637E-01	2.52E-02 6.92E-03 5.90E-02 2.47E-03 1.99E-02 9.795E-01	4.48E-01 9.33E-02 1.30E+00 2.90E-03 3.73E-01 9.696E-01	2.63E-01 5.28E-02 7.35E-01 2.76E-03 2.08E-01 9.710E-01	2.31E-01 8.19E-02 4.39E-01 2.35E-03 2.00E-01 9.873E-01	2.58E-22 -1.51E-14 1.62E-14 3.43E-01 3.43E-18 9.258E-01
glycerol Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	9.22E+00 6.46E+00 1.11E+01 4.99E-03 9.09E+00 9.947E-01	6.57E-02 4.17E-02 9.98E-02 3.24E-03 6.67E-02 9.957E-01	-2.07E-03 -3.63E-03 -9.11E-04 3.48E-03 -1.88E-03 9.908E-01	-1.73E-02 -2.99E-02 -8.11E-03 3.63E-03 -1.63E-02 9.915E-01	-4.20E-01 -6.78E-01 -2.28E-01 3.34E-03 -3.95E-01 9.948E-01	-1.47E-01 -1.98E-01 -9.96E-02 3.83E-03 -1.41E-01 9.999E-01	-2.56E+00 -3.82E+00 -1.68E+00 3.52E-03 -2.49E+00 9.911E-01	-1.50E+00 -2.22E+00 -1.01E+00 3.47E-03 -1.43E+00 9.921E-01	-1.41E+00 -1.90E+00 -7.51E-01 3.24E-03 -1.44E+00 9.914E-01	1.05E-15 -8.96E-15 1.15E-14 9.28E-02 1.02E-17 9.965E-01
pyruvate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	5.54E+00 2.59E+00 2.39E+01 8.02E-03 4.52E+00 9.079E-01	3.94E-02 2.09E-02 1.85E-01 7.56E-03 3.54E-02 8.859E-01	1.17E-03 3.18E-04 6.49E-03 5.38E-03 8.64E-04 9.009E-01	8.51E-03 2.20E-03 4.53E-02 5.37E-03 5.58E-03 9.026E-01	1.18E-01 1.69E-02 6.57E-01 4.88E-03 7.10E-02 9.057E-01	3.96E-02 8.88E-03 1.73E-01 4.28E-03 2.66E-02 9.176E-01	7.02E-01 1.24E-01 3.47E+00 4.52E-03 4.37E-01 9.111E-01	4.12E-01 7.47E-02 2.02E+00 4.60E-03 2.72E-01 9.110E-01	3.62E-01 1.17E-01 1.59E+00 4.83E-03 2.96E-01 9.177E-01	-7.85E+00 -3.33E+01 -4.70E+00 7.44E-03 -6.66E+00 8.856E-01

	(phosphoglyceratekinase)	(pyruvatekinase)	(atputilisation)	(glycerolkinase)	(phosphoglyceratemutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglyceratetransport)	(gly3pdhapantiporter)	(glyceroltransport)
adpg Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	-1.91E-01 -3.56E-01 -5.38E-02 3.02E-03 -2.01E-01 9.962E-01	-2.21E-01 -2.99E-01 -5.35E-02 2.64E-03 -2.46E-01 9.739E-01	-4.54E-02 -6.25E-02 -1.12E-02 2.62E-03 -4.89E-02 9.742E-01	-2.04E-01 -3.10E-01 -7.19E-02 2.78E-03 -2.34E-01 9.756E-01	-1.87E+00 -2.92E+00 -5.30E-01 3.78E-03 -1.83E+00 9.942E-01	-3.52E-01 -4.67E-01 -9.13E-02 2.97E-03 -3.73E-01 9.683E-01	3.47E-18 -3.81E-17 9.60E-18 4.08E-01 -1.60E-20 9.489E-01	-1.01E-17 -1.18E-14 3.14E-16 5.34E-02 1.61E-17 4.097E-01	-5.47E-06 -1.17E-05 -8.68E-07 2.77E-03 -5.23E-06 9.904E-01	2.02E-06 -4.64E-07 4.83E-06 2.41E-03 1.94E-06 9.897E-01	-3.41E-03 -5.02E-03 -1.28E-03 3.14E-03 -3.58E-03 9.850E-01
adpc Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	-5.25E-03 -8.34E-03 -2.86E-03 2.85E-03 -4.96E-03 9.932E-01	-6.07E-03 -8.87E-03 -2.39E-03 2.73E-03 -6.37E-03 9.864E-01	7.27E-01 6.99E-01 7.53E-01 2.53E-03 7.26E-01 9.935E-01	1.54E-02 6.64E-03 2.27E-02 2.61E-03 1.62E-02 9.908E-01	-5.14E-02 -1.01E-01 -1.59E-02 2.65E-03 -5.21E-02 9.864E-01	-9.68E-03 -1.42E-02 -3.58E-03 2.54E-03 -1.07E-02 9.864E-01	9.75E-18 -2.87E-17 2.45E-17 4.11E-01 -1.98E-20 9.187E-01	-4.52E-20 -7.48E-17 2.20E-18 7.56E-02 9.96E-21 3.674E-01	-1.50E-07 -2.33E-07 -7.05E-08 3.48E-03 -1.49E-07 9.968E-01	-3.85E-07 -6.40E-07 -1.74E-07 2.63E-03 -3.93E-07 9.948E-01	2.58E-04 1.18E-04 3.69E-04 3.25E-03 2.64E-04 9.956E-01
dihydroxyacetonephosphate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	-5.13E-03 -8.75E-03 -2.89E-03 2.70E-03 -4.54E-03 9.877E-01	-5.94E-03 -9.40E-03 -2.36E-03 2.56E-03 -6.23E-03 9.895E-01	-1.22E-03 -1.88E-03 -4.90E-04 2.60E-03 -1.37E-03 9.899E-01	-6.36E-03 -2.94E-02 -1.01E-03 4.10E-03 -3.81E-03 9.346E-01	-5.03E-02 -1.09E-01 -1.61E-02 2.65E-03 -4.16E-02 9.832E-01	-9.47E-03 -1.50E-02 -3.59E-03 2.49E-03 -1.01E-02 9.889E-01	9.33E-20 -9.65E-19 2.87E-19 4.09E-01 -6.10E-22 9.486E-01	1.12E-18 -3.50E-17 1.13E-15 4.58E-02 3.89E-18 4.631E-01	-1.47E-07 -2.33E-07 -7.90E-08 3.25E-03 -1.38E-07 9.965E-01	7.28E-07 6.24E-07 1.07E-06 3.78E-03 7.07E-07 9.634E-01	-1.06E-04 -4.10E-04 -1.68E-05 3.32E-03 -6.30E-05 9.484E-01
glyceraldehyde3phosphate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	-7.29E-03 -1.21E-02 -4.19E-03 2.60E-03 -7.67E-03 9.882E-01	-8.44E-03 -1.26E-02 -3.43E-03 2.51E-03 -9.56E-03 9.872E-01	-1.73E-03 -2.55E-03 -7.25E-04 2.58E-03 -1.90E-03 9.873E-01	-4.30E-04 -1.99E-02 3.30E-03 5.50E-03 1.41E-03 8.897E-01	-7.14E-02 -1.50E-01 -2.20E-02 2.64E-03 -6.57E-02 9.841E-01	-1.34E-02 -2.05E-02 -5.03E-03 2.43E-03 -1.45E-02 9.868E-01	1.32E-19 -1.20E-18 3.53E-19 4.14E-01 3.10E-22 9.483E-01	1.13E-18 -3.84E-17 9.71E-16 4.21E-02 -1.59E-18 5.131E-01	-2.09E-07 -3.35E-07 -1.10E-07 3.38E-03 -2.01E-07 9.968E-01	5.97E-07 5.24E-07 8.58E-07 4.55E-03 6.04E-07 9.692E-01	-7.19E-06 -2.80E-04 5.82E-05 4.61E-03 1.58E-05 9.093E-01
2phosphoglycerate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	9.52E-03 5.34E-03 1.50E-02 2.55E-03 9.90E-03 9.917E-01	-4.61E-01 -4.97E-01 -4.30E-01 1.93E-03 -4.56E-01 9.760E-01	-9.48E-02 -1.03E-01 -8.72E-02 3.09E-03 -9.49E-02 9.990E-01	-2.80E-02 -4.24E-02 -1.22E-02 2.52E-03 -3.02E-02 9.904E-01	9.32E-02 2.74E-02 1.86E-01 2.55E-03 9.61E-02 9.862E-01	-7.35E-01 -8.13E-01 -6.65E-01 2.88E-03 -7.29E-01 9.968E-01	7.25E-18 -1.41E-16 1.85E-17 4.13E-01 -4.04E-20 9.055E-01	8.21E-20 -3.70E-18 1.25E-16 7.40E-02 -4.90E-20 3.675E-01	2.73E-07 1.26E-07 4.23E-07 3.61E-03 2.57E-07 9.969E-01	6.99E-07 3.17E-07 1.16E-06 2.73E-03 6.91E-07 9.941E-01	-4.68E-04 -7.12E-04 -2.30E-04 3.40E-03 -4.77E-04 9.957E-01
glucose Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	-5.57E-02 -1.08E-01 -3.23E-02 3.10E-03 -5.01E-02 9.766E-01	-6.44E-02 -1.15E-01 -2.72E-02 2.66E-03 -6.21E-02 9.937E-01	-1.33E-02 -2.30E-02 -5.62E-03 2.69E-03 -1.41E-02 9.948E-01	-5.89E-02 -3.11E-01 -7.06E-03 4.26E-03 -3.79E-02 9.204E-01	-5.45E-01 -1.29E+00 -1.77E-01 2.94E-03 -4.96E-01 9.747E-01	-1.03E-01 -1.91E-01 -4.07E-02 2.70E-03 -9.85E-02 9.922E-01	1.01E-18 -1.67E-17 3.05E-18 4.12E-01 -5.44E-21 9.406E-01	-2.56E-19 -5.69E-16 2.40E-17 1.77E-01 -5.53E-20 2.821E-01	-1.60E-06 -2.79E-06 -7.44E-07 3.77E-03 -1.55E-06 9.937E-01	6.79E-07 2.84E-08 5.96E-06 6.71E-03 3.81E-07 8.786E-01	-9.85E-04 -4.71E-03 -1.31E-04 4.12E-03 -7.11E-04 9.355E-01
fructose6phosphate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	-1.51E-02 -2.63E-02 -8.62E-03 2.57E-03 -1.43E-02 9.852E-01	-1.75E-02 -2.79E-02 -7.18E-03 2.29E-03 -1.87E-02 9.895E-01	-3.59E-03 -5.61E-03 -1.50E-03 2.49E-03 -3.93E-03 9.903E-01	-6.96E-03 -6.31E-02 2.94E-03 5.52E-03 -2.31E-03 9.038E-01	-1.48E-01 -3.20E-01 -4.62E-02 2.66E-03 -1.43E-01 9.813E-01	-2.78E-02 -4.47E-02 -1.09E-02 2.29E-03 -3.11E-02 9.884E-01	2.74E-19 -1.28E-18 9.36E-19 4.12E-01 -4.06E-22 9.515E-01	2.79E-18 -8.62E-17 2.57E-15 4.33E-02 1.99E-19 4.933E-01	-4.33E-07 -6.84E-07 -2.26E-07 3.41E-03 -4.15E-07 9.966E-01	1.60E-06 1.37E-06 2.50E-06 4.62E-03 1.57E-06 9.557E-01	-1.16E-04 -1.00E-03 5.11E-05 4.93E-03 -3.15E-05 9.209E-01
3phosphoglycerate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	3.60E-02 1.67E-02 6.78E-02 2.72E-03 3.39E-02 9.798E-01	-4.03E-01 -4.51E-01 -3.54E-01 2.77E-03 -3.97E-01 9.966E-01	-8.28E-02 -9.41E-02 -7.29E-02 3.09E-03 -8.26E-02 9.990E-01	-1.06E-01 -1.88E-01 -4.15E-02 2.42E-03 -9.75E-02 9.892E-01	-3.41E+00 -5.13E+00 -2.50E+00 2.99E-03 -3.21E+00 9.808E-01	-6.42E-01 -7.16E-01 -5.66E-01 3.26E-03 -6.41E-01 9.974E-01	6.33E-18 -1.10E-16 1.64E-17 4.11E-01 4.13E-20 9.162E-01	3.11E-19 -1.57E-17 5.34E-16 7.88E-02 -2.11E-20 3.573E-01	-9.98E-06 -1.82E-05 -4.87E-06 3.08E-03 -1.01E-05 9.926E-01	2.65E-06 9.96E-07 5.46E-06 2.76E-03 2.63E-06 9.857E-01	-1.77E-03 -3.22E-03 -7.02E-04 3.05E-03 -1.80E-03 9.937E-01
glycerol Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	-2.06E-01 -3.64E-01 -9.12E-02 3.14E-03 -1.98E-01 9.915E-01	-2.39E-01 -3.20E-01 -8.51E-02 3.22E-03 -2.55E-01 9.789E-01	-4.91E-02 -6.56E-02 -1.81E-02 2.81E-03 -5.17E-02 9.781E-01	6.53E-01 3.79E-01 8.69E-01 2.25E-03 6.61E-01 9.886E-01	-2.02E+00 -3.14E+00 -7.72E-01 3.80E-03 -1.97E+00 9.994E-01	-3.80E-01 -4.90E-01 -1.39E-01 3.16E-03 -4.00E-01 9.739E-01	3.75E-18 -1.12E-17 9.08E-18 4.12E-01 -8.45E-21 9.484E-01	-1.82E-18 -2.20E-15 6.19E-17 5.34E-02 -2.45E-18 4.156E-01	-5.91E-06 -1.16E-05 -1.76E-06 2.60E-03 -5.57E-06 9.885E-01	-1.61E-05 -2.59E-05 -8.94E-06 2.97E-03 -1.62E-05 9.950E-01	-9.89E-01 -9.96E-01 -9.82E-01 2.93E-03 -9.88E-01 9.886E-01
pyruvate Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	5.65E-02 2.27E-02 2.43E-01 5.39E-03 4.82E-02 9.055E-01	6.54E-02 2.00E-02 2.58E-01 4.67E-03 5.55E-02 9.212E-01	1.35E-02 4.30E-03 5.39E-02 5.09E-03 1.12E-02 9.225E-01	-1.66E-01 -6.60E-01 -5.81E-02 4.72E-03 -1.46E-01 9.185E-01	5.54E-01 1.32E-01 3.07E+00 5.49E-03 3.80E-01 9.104E-01	1.04E-01 3.18E-02 4.24E-01 4.77E-03 7.91E-02 9.201E-01	-1.03E-18 -3.88E-18 5.99E-18 4.12E-01 2.82E-21 9.487E-01	4.87E-19 -4.16E-17 1.29E-15 1.28E-01 4.15E-19 3.722E-01	1.62E-06 6.30E-07 7.01E-06 6.17E-03 1.38E-06 9.077E-01	4.15E-06 1.40E-06 1.94E-05 5.48E-03 3.55E-06 9.133E-01	-2.78E-03 -1.04E-02 -9.89E-04 5.13E-03 -2.50E-03 9.152E-01

dihydroxyacetonephosphate cytosol	Local	-3.10E-01	-2.20E-03	-1.68E-04	-1.28E-03	-2.24E-02	-7.65E-03	-1.35E-01	-7.90E-02	6.75E-01	-6.46E-17	-1.08E-02	-1.25E-02	-2.58E-03	3.30E-02	-1.06E-01	-2.00E-02	1.97E-19	-9.46E-20	-3.10E-07	-8.20E-07	5.52E-04
	Min	-6.80E-01	-4.36E-03	-5.23E-04	-3.96E-03	-7.17E-02	-1.74E-02	-3.74E-01	-2.24E-01	4.77E-01	-6.72E-16	-1.90E-02	-2.25E-02	-4.48E-03	1.19E-02	-2.79E-01	-3.57E-02	-9.71E-19	-2.05E-16	-5.93E-07	-1.37E-06	2.00E-04
	Max	1.51E-01	1.81E-03	-4.80E-05	-3.58E-04	-3.99E-03	-2.01E-03	-2.96E-02	-1.84E-02	9.66E-01	7.08E-16	-4.72E-03	-4.26E-03	-8.98E-04	5.71E-02	-2.77E-02	-6.31E-03	6.25E-19	4.76E-18	-1.23E-07	-3.43E-07	9.67E-04
	Normalized peak height	2.99E-03	4.10E-03	3.28E-03	3.45E-03	3.13E-03	2.58E-03	2.80E-03	2.93E-03	3.00E-03	6.88E-02	2.64E-03	2.78E-03	2.83E-03	2.58E-03	3.13E-03	2.70E-03	4.10E-01	1.02E-01	3.40E-03	2.34E-03	3.28E-03
	Peak sensitivity value	-3.66E-01	-2.51E-03	-1.24E-04	-1.03E-03	-1.72E-02	-6.19E-03	-1.17E-01	-6.78E-02	6.28E-01	-6.46E-19	-1.11E-02	-1.23E-02	-2.59E-03	3.30E-02	-1.06E-01	-2.10E-02	2.71E-22	4.72E-20	-2.91E-07	-8.57E-07	5.26E-04
	Shapiro-Wilk score	9.918E-01	9.788E-01	9.700E-01	9.709E-01	9.687E-01	9.841E-01	9.745E-01	9.757E-01	9.882E-01	9.899E-01	9.914E-01	9.958E-01	9.963E-01	9.933E-01	9.825E-01	9.945E-01	9.533E-01	3.433E-01	9.877E-01	9.892E-01	9.973E-01
nadh	Local	1.19E+00	8.44E-03	1.92E-04	1.37E-03	1.64E-02	1.21E-02	1.67E-01	-1.51E+00	-3.09E-02	2.01E-16	1.34E-02	1.55E-02	3.19E-03	-3.88E-02	1.31E-01	2.47E-02	-2.44E-19	7.06E-20	3.85E-07	-3.54E-07	-6.48E-04
	Min	6.43E-01	6.15E-03	3.81E-05	1.85E-04	-6.22E-03	5.52E-03	4.13E-02	-1.61E+00	-9.88E-02	-1.11E-15	7.09E-03	6.11E-03	1.27E-03	-5.86E-02	4.12E-02	8.89E-03	-6.69E-19	-5.54E-18	1.86E-07	-9.74E-07	-9.47E-04
	Max	1.56E+00	1.10E-02	5.92E-04	4.42E-03	7.44E-02	2.28E-02	4.56E-01	-1.36E+00	3.43E-02	1.23E-15	2.14E-02	2.31E-02	4.64E-03	-1.67E-02	2.64E-01	3.79E-02	3.39E-18	1.56E-16	6.25E-07	4.42E-07	-2.80E-04
	Normalized peak height	2.72E-03	3.85E-03	3.30E-03	3.14E-03	3.18E-03	2.44E-03	2.98E-03	3.64E-03	3.34E-03	8.48E-02	2.63E-03	2.69E-03	2.69E-03	2.73E-03	2.67E-03	2.61E-03	4.12E-01	1.43E-01	3.53E-03	3.31E-03	3.18E-03
	Peak sensitivity value	1.23E+00	8.36E-03	1.54E-04	1.02E-03	1.17E-02	1.18E-02	1.34E-01	-1.51E+00	-2.91E-02	-7.54E-19	1.29E-02	1.69E-02	3.46E-03	-4.25E-02	1.26E-01	2.59E-02	-1.83E-21	2.94E-20	3.65E-07	-4.21E-07	-6.69E-04
	Shapiro-Wilk score	9.864E-01	9.989E-01	9.687E-01	9.693E-01	9.692E-01	9.866E-01	9.752E-01	9.991E-01	9.989E-01	9.720E-01	9.921E-01	9.870E-01	9.869E-01	9.908E-01	9.867E-01	9.869E-01	9.420E-01	2.789E-01	9.960E-01	9.979E-01	9.947E-01
glycerol3phosphate	Local	9.63E-01	6.85E-03	2.45E-03	1.91E-02	3.66E-01	-4.66E-02	4.02E-01	2.36E-01	-2.28E+00	2.02E-16	3.25E-02	3.76E-02	7.73E-03	-1.21E-01	3.18E-01	5.99E-02	-5.90E-19	1.45E-18	9.31E-07	-2.61E-05	-2.02E-03
	Min	-3.91E-01	-4.19E-03	1.65E-03	1.33E-02	2.75E-01	-6.37E-02	7.32E-02	4.23E-02	-2.76E+00	-1.45E-15	1.51E-02	1.17E-02	2.38E-03	-2.07E-01	7.70E-02	1.75E-02	-1.84E-18	-4.64E-17	3.89E-07	-3.54E-05	-3.15E-03
	Max	1.89E+00	1.25E-02	3.73E-03	2.94E-02	5.33E-01	-1.78E-02	1.09E+00	6.14E-01	-1.88E+00	1.53E-15	5.32E-02	6.01E-02	1.25E-02	-4.22E-02	6.97E-01	1.00E-01	1.08E-17	1.58E-15	1.64E-06	-1.94E-05	-8.13E-04
	Normalized peak height	2.50E-03	3.66E-03	2.94E-03	3.24E-03	2.81E-03	2.98E-03	3.05E-03	2.92E-03	3.45E-03	6.30E-02	2.75E-03	2.89E-03	3.06E-03	2.67E-03	2.83E-03	2.79E-03	4.10E-01	4.86E-02	3.50E-03	3.12E-03	2.77E-03
	Peak sensitivity value	1.15E+00	7.83E-03	2.34E-03	1.91E-02	3.45E-01	-4.94E-02	3.08E-01	1.74E-01	-2.28E+00	1.30E-18	3.17E-02	4.03E-02	7.97E-03	-1.19E-01	3.18E-01	6.43E-02	-9.02E-22	1.51E-18	8.69E-07	-2.58E-05	-2.16E-03
	Shapiro-Wilk score	9.862E-01	9.680E-01	9.890E-01	9.899E-01	9.832E-01	9.875E-01	9.766E-01	9.781E-01	9.956E-01	9.911E-01	9.937E-01	9.940E-01	9.943E-01	9.916E-01	9.863E-01	9.931E-01	9.400E-01	4.656E-01	9.935E-01	9.965E-01	9.955E-01
glucose6phosphate	Local	1.66E+00	1.18E-02	-1.68E-01	-1.04E+00	-1.04E-01	6.02E-03	-1.84E-01	-1.08E-01	1.35E-01	4.60E-17	-1.45E-02	-1.68E-02	-3.45E-03	-6.64E-03	-1.42E-01	-2.67E-02	2.64E-19	2.69E-18	-4.16E-07	1.54E-06	-1.11E-04
	Min	1.26E+00	6.65E-03	-1.85E-01	-1.06E+00	-2.02E-01	-5.30E-03	-5.51E-01	-3.33E-01	8.60E-02	-7.18E-16	-2.48E-02	-2.63E-02	-5.35E-03	-5.88E-02	-3.19E-01	-4.36E-02	-1.02E-18	-8.67E-17	-6.87E-07	1.32E-06	-8.54E-04
	Max	2.38E+00	3.02E-02	-1.50E-01	-1.02E+00	-6.60E-02	1.19E-02	-4.92E-02	-2.93E-02	2.04E-01	9.29E-16	-8.36E-03	-6.79E-03	-1.40E-03	3.00E-03	-4.59E-02	-1.06E-02	7.63E-19	3.05E-15	-2.11E-07	2.34E-06	5.62E-05
	Normalized peak height	2.64E-03	3.88E-03	3.02E-03	3.24E-03	3.06E-03	3.18E-03	3.15E-03	3.24E-03	2.75E-03	1.20E-01	2.56E-03	2.43E-03	2.46E-03	5.11E-03	2.62E-03	2.33E-03	4.13E-01	5.94E-02	3.44E-03	4.33E-03	4.31E-03
	Peak sensitivity value	1.55E+00	1.01E-02	-1.70E-01	-1.04E+00	-9.08E-02	6.41E-03	-1.52E-01	-8.93E-02	1.37E-01	-7.08E-19	-1.40E-02	-1.86E-02	-3.47E-03	-2.90E-03	-1.27E-01	-3.07E-02	8.32E-23	-6.78E-18	-3.79E-07	1.51E-06	-3.34E-05
	Shapiro-Wilk score	9.805E-01	9.529E-01	9.986E-01	9.960E-01	9.710E-01	9.785E-01	9.660E-01	9.681E-01	9.934E-01	9.713E-01	9.853E-01	9.892E-01	9.899E-01	9.050E-01	9.814E-01	9.883E-01	9.515E-01	4.208E-01	9.960E-01	9.576E-01	9.215E-01
3phosphoglycerate cytosol	Local	3.53E+00	2.51E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.48E-01	2.63E-01	2.31E-01	0.00E+00	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	1.03E-06	2.65E-06	-1.77E-03
	Min	1.94E+00	1.63E-02	2.44E-04	1.68E-03	1.21E-02	6.47E-03	9.10E-02	5.51E-02	8.17E-02	-1.69E-14	1.79E-02	-4.51E-01	-9.37E-02	-1.91E-01	-5.11E+00	-7.20E-01	-1.51E-16	-1.70E-17	5.11E-07	9.39E-07	-3.17E-03
	Max	4.90E+00	4.24E-02	2.10E-03	1.60E-02	2.42E-01	5.84E-02	1.27E+00	7.37E-01	4.39E-01	1.52E-14	6.87E-02	-3.57E-01	-7.23E-02	-4.14E-02	-2.50E+00	-5.79E-01	1.35E-17	5.81E-16	1.53E-06	5.66E-06	-7.38E-04
	Normalized peak height	3.84E-03	3.58E-03	3.08E-03	3.16E-03	2.95E-03	2.62E-03	2.80E-03	2.66E-03	2.31E-03	3.40E-01	2.75E-03	2.76E-03	3.10E-03	2.45E-03	2.77E-03	3.02E-03	4.09E-01	8.56E-02	3.07E-03	2.92E-03	2.98E-03
	Peak sensitivity value	3.48E+00	2.44E-02	5.98E-04	4.11E-03	5.21E-02	2.12E-02	2.98E-01	1.97E-01	2.05E-01	1.76E-18	3.38E-02	-4.00E-01	-8.28E-02	-1.05E-01	-3.27E+00	-6.40E-01	6.93E-20	5.18E-20	1.10E-06	2.69E-06	-1.77E-03
	Shapiro-Wilk score	9.991E-01	9.793E-01	9.659E-01	9.666E-01	9.642E-01	9.796E-01	9.701E-01	9.712E-01	9.871E-01	9.318E-01	9.798E-01	9.966E-01	9.988E-01	9.890E-01	9.810E-01	9.971E-01	9.004E-01	3.227E-01	9.916E-01	9.857E-01	9.938E-01
phosphoenolpyruvate	Local	4.22E-01	3.01E-03	8.93E-05	6.49E-04	9.02E-03	3.02E-03	5.36E-02	3.14E-02	2.76E-02	-1.05E-16	4.31E-03	-4.91E-01	-1.01E-01	-1.27E-02	4.22E-02	7.95E-03	7.72E-18	3.72E-20	1.24E-07	3.16E-07	-2.12E-04
	Min	2.39E-01	2.24E-03	3.61E-05	2.52E-04	2.02E-03	1.02E-03	1.41E-02	8.96E-03	1.20E-02	-1.23E-14	2.43E-03	-5.29E-01	-1.10E-01	-1.86E-02	1.36E-02	3.29E-03	-1.93E-17	-1.76E-18	6.21E-08	1.57E-07	-3.08E-04
	Max	5.57E-01	3.88E-03	2.25E-04	1.66E-03	2.86E-02	6.61E-03	1.49E-01	8.99E-02	4.33E-02	1.32E-14	6.63E-03	-4.58E-01	-9.29E-02	-5.95E-03	8.28E-02	1.19E-02	1.95E-17	9.35E-17	2.02E-07	5.29E-07	-1.08E-04
	Normalized peak height	2.64E-03	3.72E-03	3.09E-03	3.17E-03	3.14E-03	2.68E-03	3.17E-03	3.03E-03	2.39E-03	2.27E-01	2.70E-03	1.84E-03	3.23E-03	2.79E-03	2.65E-03	2.64E-03	4.09E-01	1.10E-01	3.47E-03	2.71E-03	3.28E-03
	Peak sensitivity value	4.45E-01	2.95E-03	8.14E-05	5.51E-04	6.98E-03	2.83E-03	4.59E-02	2.81E-02	2.96E-02	-8.53E-18	4.16E-03	-4.84E-01	-1.01E-01	-1.29E-02	4.47E-02	8.62E-03	-4.19E-21	9.83E-20	1.20E-07	3.13E-07	-2.17E-04
	Shapiro-Wilk score	9.917E-01	9.982E-01	9.707E-01	9.706E-01	9.695E-01	9.871E-01	9.747E-01	9.769E-01	9.912E-01	8.969E-01	9.939E-01	9.748E-01	9.989E-01	9.927E-01	9.868E-01	9.883E-01	9.204E-01	2.930E-01	9.958E-01	9.955E-01	9.966E-01
bisphosphoglycerate	Local	-5.89E+00	-4.19E-02	5.08E-03	4.06E-02	8.47E-01	1.55E-01	3.68E+00	2.16E+00	4.96E-03	-1.01E-15	-8.02E-02	-9.29E-02	-1.91E-02	1.64E-01	-7.86E-01	-1.48E-01	1.46E-18	3.25E-18	-2.30E-06	5.67E-08	2.74E-03
	Min	-8.45E+00	-8.68E-02	3.06E-03	2.50E-02	5.68E-01	1.11E-01	2.45E+00	1.44E+00	-3.42E-01	-6.73E-15	-2.39E-01	-2.46E-01	-5.05E-02	5.70E-02	-2.41E+00	-3.97E-01	-9.44E-18	-1.10E-16	-7.91E-06	-4.48E-06	9.66E-04
	Max	-4.13E+00	-2.44E-02	8.54E-03	6.69E-02	1.32E+00	2.14E-01	5.82E+00	3.22E+00	2.02E-01	7.64E-15	-3.26E-02	-2.64E-02	-5.68E-03	3.86E-01	-1.78E-01	-4.21E-02	4.86E-18	6.07E-15	-7.66E-07	1.90E-06	6.01E-03
	Normalized peak height	3.41E-03	3.93E-03	3.38E-03	3.51E-03	3.16E-03	3.24E-03	3.15E-03	3.18E-03	3.50E-03	7.30E-02	3.55E-03	2.91E-03	2.85E-03	2.84E-03	2.95E-03	2.76E-03	4.11E-01	8.15E-02	4.50E-03	3.72E-03	3.05E-03
	Peak sensitivity value	-5.82E+00	-4.00E-02	5.01E-03	4.05E-02	7.88E-01	1.51E-01	3.63E+00	2.19E+00	2.56E-02	1.63E-18	-6.59E-02	-9.04E-02	-1.56E-02	1.59E-01	-4.94E-01	-1.16E-01	5.31E-21	-1.55E-18	-2.20E-06	4.14E-07	2.53E-03
	Shapiro-Wilk score	9.923E-01	9.810E-01	9.918E-01	9.921E-01	9.916E-01	9.951E-01	9.922E-01	9.934E-01	9.825E-01	9.780E-01	9.572E-01	9.772E-01	9.782E-01	9.843E-01	9.677E-01	9.764E-01	9.490E-01	3.856E-01	9.543E-01	9.700E-01	9.907E-01
atpg	Local	-2.48E+00	-1.77E-02	1.11E-03	8.98E-03	1.98E-01	3.30E-02	8.27E-01	4.85E-01	-6.16E-02	-2.63E-16	6.66E-02	7.71E-02	1.58E-02	7.12E-02	6.52E-01	1.23E-01	-1.21E-18	-7.32E-18	1.91E-06	-7.06E-07	1.19E-03
	Min	-7.92E+00	-1.02E-01	2.44E-04	2.00E-03	4.27E-02	8.92E-03	1.89E-01	1.14E-01	-6.71E-01	-4.19E-15	3.58E-02	2.83E-02	5.86E-03	7.72E-03	1.90E-01	4.38E-02	-3.68E-18	-9.05E-15	9.21E-07	-8.01E-06	1.44E-04
	Max	-6.73E-01	-3.77E-03	4.64E-03	3.81E-02	8.33E-01	1.06E-01	3.46E+00	2.03E+00	6.69E-03	4.34E-15	1.59E-01	1.54E-01	3.25E-02	5.21E-01	1.76E+00	2.59E-01	4.11E-18	2.44E-16	3.61E-06	6.04E-08	6.73E-03
	Normalized peak height	3.36E-03	5.51E-03	4.09E-03	4.33E-03	4.23E-03	3.47E-03	4.24E-03	4.24E-03	7.27E-03	1.45E-01	3.55E-03	2.70E-03	2.98E-03	6.16E-03	2.92E-03	2.91E-03	4.12E-01	6.11E-02	3.45E-03	7.33E-03	4.65E-03
	Peak sensitivity value	-1.96E+00	-1.25E-02	7.87E-04	6.32E-03	1.33E-01	2.66E-02	6.55E-01	3.74E-01	-2.21E-02	-3.12E-18	5.79E-02	6.53E-02	1.49E-02	3.98E-02	5.71E-01	1.16E-01	1.45E-21	-1.15E-17	1.90E-06	-2.42E-07	6.09E-04
	Shapiro-Wilk score	9.633E-01	9.188E-01	9.412E-01	9.408E-01	9.384E-01	9.620E-01	9.419E-01	9.450E-01	8.738E-01	9.699E-01	9.651E-01	9.888E-01	9.899E-01	9.053E-01	9.666E-01	9.872E-01	9.539E-01	4.304E-01	9.898E-01	8.597E-01	9.218E-01
ampc	Local	-1.22E+00	-8.69E-03	-2.58E-04	-1.87E-03	-2.61E-02	-8.72E-03	-1.55E-01	-9.08E-02	-7.98E-02	-6.07E-20	-1.24E-02	-1.44E-02	1.73E+00	3.66E-02	-1.22E-01	-2.30E-02	-3.42E-16	-1.07E-19	-3.57E-07	-9.14E-07	6.12E-04
	Min	-1.55E+00	-1.11E-02	-6.68E-04	-5.06E-03	-7.89E-02	-1.91E-02	-4.25E-01	-2.50E-01	-1.21E-01	-3.55E-13	-1.88E-02	-2.12E-02	1.70E+00	1.74E-02	-2.38E-01	-3.43E-02	-8.65E-16	-1.23E-16	-6.06E-07	-1.48E-06	3.20E-04
	Max	-7.16E-01	-6.59E-03	-1.02E-04	-6.98E-04	-5.77E-03	-2.90E-03	-4.20E-02	-2.53E-02	-3.41E-02	2.48E-13	-7.12E-03	-6.22E-03	1.75E+00	5.57E-02	-4.03E-02	-9.66E-03	3.78E-15	5.77E-18	-1.90E-07	-4.44E-07	8.83E-04
	Normalized peak height	2.46E-03	4.26E-03	3.15E-03	3.32E-03	2.94E-03	2.60E-03	3.00E-03	3.02E-03	2.24E-03	2.16E-01	2.60E-03	2.74E-03	2.63E-03	2.75E-03	2.67E-03	2.59E-03	4.09E-01	5.63E-02	3.60E-03	2.57E-03	3.09E-03
	Peak sensitivity value	-1.27E+00	-8.64E-03	-2.09E-04	-1.81E-03	-2.23E-02	-9.57E-03	-1.45E-01	-7.73E-02	-8.63E-02	-3.98E-18	-1.27E-02	-1.48E-02	1.73E+00	3.92E-02	-1.21E-01	-2.53E-02	1.76E-18	3.82E-20	-3.49E-07	-9.01E-07	6.20E-04
	Shapiro-Wilk score	9.870E-01	9.985E-01	9.702E-01	9.704E-01	9.695E-01	9.870E-01	9.749E-01	9.771E-01	9.894E-01	9.040E-01	9.934E-01	9.861E-01	9.930E-01	9.911E-01	9.869E-01	9.862E-01	9.301E-01	4.042E-01	9.968E-01	9.952E-01	9.953E-01
nad	Local	-2.14E-02	-1.52E-04	-3.47E-06	-2.46E-05	-2.95E-04	-2.18E-04	-3.01E-03	2.72E-02	5.57E-04	-3.62E-18	-2.42E-04	-2.80E-04	-5.76E-05	6.99E-04	-2.37E-03	-4.46E-04	4.40E-21	-1.27E-21	-6.93E-09	6.38E-09	1.17E-05
	Min	-3.02E-02	-2.24E-04	-1.22E-05	-9.08E-05	-1.44E-03	-4.66E-04	-9.22E-03	2.11E-02	-5.47E-04	-2.18E-17	-4.26E-04	-4.83E-04	-9.81E-05	2.90E-04	-5.49E-03	-8.15E-04	-6.08E-20	-2.63E-18	-1.24E-08	-7.46E-09	4.94E-06
	Max	-1.23E-02	-1.01E-04	-6.63E-07	-3.18E-06	9.51E-05	-8.81E-05	-6.93E-04	3.49E-02	1.88E-03	7.40E-18	-1.15E-04	-1.02E-04	-2.14E-05	1.21E-03	-7.11E-04	-1.60E-04	1.25E-20	8.98E-20	-2.95E-09	1.74E-08	1.92E-05
	Normalized peak height	3.52E-03	3.62E-03	3.19E-03	3.30E-03	3.23E-03	2.53E-03	3.09E-03	2.90E-03	3.59E-03	9.24E-02	2.55E-03	2.52E-03	2.62E-03	2.51E-03	2.51E-03	2.45E-03	4.11E-01	1.38E-01	3.36E-03	3.43E-03	2.91E-03
	Peak sensitivity value	-2.08E-02	-1.48E-04	-2.80E-06	-1.72E-05	-1.25E-04	-2.06E-04	-2.05E-03	2.71E-02	5.45E-04	-2.00E-20	-2.39E-04	-2.94E-04	-6.19E-05	7.15E-04	-2.28E-03	-4.94E-04	1.22E-23	-1.32E-21	-6.52E-09	6.81E-09	1.17E-05
	Shapiro-Wilk score	9.989E-01	9.943E-01	9.607E-01	9.609E-01	9.589E-01	9.824E-01	9.677E-01	9.957E-01	9.997E-01	9.731E-01	9.899E-01	9.927E-01	9.935E-01	9.931E-01	9.834E-01	9.913E-01	1.000E+00	3.083E-01	9.935E-01	9.965E-01	9.970E-01
fructose16bisphosphate	Local	4.06E-01	2.89E-03	4.32E-03	3.39E-02	-1.00E-01	5.73E-03	-1.77E-01	-1.04E-01	1.29E-01	4.42E-17	-1.39E-02	-1.61E-02	-3.31E-03	-6.40E-03	-1.36E-01	-2.56E-02	2.53E-19	2.53E-18	-3.99E-07	1.48E-06	-1.07E-04
	Min	2.34E-02	1.38E-04	3.27E-03	2.59E-02	-1.83E-01	-5.48E-03	-4.98E-01	-2.80E-01	8.30E-02	-6.68E-16	-2.40E-02	-2.49E-02	-4.98E-03	-5.12E-02	-2.93E-01	-4.01E-02	-1.04E-18	-7.88E-17	-6.27E-07	1.29E-06	-7.47E-04
	Max	1.03E+00	1.35E-02	5.71E-03	4.39E-02	-6.30E-02	1.15E-02	-4.95E-02	-3.05E-02	2.00E-01	8.42E-16	-8.14E-03	-6.55E-03	-1.34E-03	3.14E-03	-4.37E-02	-9.84E-03	6.87E-19	2.63E-15	-1.90E-07	2.15E-06	5.06E-05
	Normalized peak height	2.56E-03	4.13E-03	3.14E-03	3.32E-03	3.03E-03	3.19E-03	3.13E-03	2.83E-03	2.87E-03	1.32E-01	2.68E-03	2.54E-03	2.61E-03	4.75E-03	2.73E-03	2.39E-03	4.10E-01	6.11E-02	3.47E-03	4.29E-03	4.10E-03
	Peak sensitivity value	3.61E-01	2.02E-03	4.22E-03	3.34E-02	-8.87E-02	6.84E-03	-1.55E-01	-9.35E-02	1.26E-01	3.62E-19	-1.27E-02	-1.83E-02	-3.75E-03	-1.78E-03	-1.36E-01	-2.85E-02	2.43E-22	3.78E-18	-3.77E-07	1.45E-06	-4.79E-05
	Shapiro-Wilk score	9.826E-01	9.490E-01	9.959E-01	9.971E-01	9.746E-01	9.818E-01	9.700E-01	9.721E-01	9.937E-01	9.732E-01	9.874E-01	9.874E-01	9.877E-01	9.111E-01	9.836E-01	9.867E-01	9.512E-01	4.740E-01	9.968E-01	9.670E-01	9.269E-01
ampg	Local	1.67E+01	1.19E-01	-7.43E-03	-6.05E-02	-1.33E+00	-2.22E-01	-5.57E+00	-3.27E+00	4.15E-01	1.77E-15	-4.48E-01	-5.19E-01	-1.07E-01	-4.79E-01	-4.89E+00	-8.26E-01	8.15E-18	3.08E-16	-1.29E-05	4.75E-06	-8.01E-03
	Min	1.30E+01	7.13E-02	-1.20E-02	-9.54E-02	-1.95E+00	-3.14E-01	-8.18E+00	-4.69E+00	-1.21E-01	-1.77E-14	-7.48E-01	-6.51E-01	-1.36E-01	-8.87E-01	-6.75E+00	-1.01E+00	-2.68E-17	-3.04E-14	-2.41E-05	-1.19E-06	-1.43E-02
	Max	2.05E+01	1.85E-01	-4.36E-03	-3.56E-02	-8.35E-01	-1.41E-01	-3.53E+00	-2.08E+00	1.11E+00	2.08E-14	-2.45E-01	-2.29E-01	-4.70E-02	-1.46E-01	-1.95E+00	-3.90E-01	2.23E-17	4.01E-13	-4.83E-06	1.57E-05	-2.63E-03
	Normalized peak height	4.43E-03	2.91E-03	3.46E-03	3.62E-03	3.40E-03	3.48E-03	3.18E-03	3.42E-03	2.33E-03	1.45E-01	3.07E-03	3.08E-03	2.85E-03	2.32E-03	3.86E-03	3.31E-03	4.12E-01	7.47E-02	2.65E-03	2.82E-03	2.66E-03
	Peak sensitivity value	1.62E+01	1.19E-01	-7.32E-03	-5.73E-02	-1.32E+00	-2.13E-01	-5.53E+00	-3.15E+00	3.57E-01	-1.44E-17	-4.19E-01	-5.50E-01	-1.16E-01	-5.01E-01	-4.03E+00	-8.66E-01	1.09E-20	2.54E-17	-1.24E-05	4.02E-06	-8.71E-03
	Shapiro-Wilk score	9.994E-01	9.951E-01	9.938E-01	9.941E-01	9.962E-01	9.961E-01	9.935E-01	9.940E-01	9.838E-01	9.971E-01	9.924E-01	9.722E-01	9.719E-01	9.881E-01	9.986E-01	9.646E-01	9.459E-01	5.970E-01	9.905E-01	9.833E-01	9.920E-01
atpc	Local	1.92E-01	1.36E-03	4.05E-05	2.91E-04	4.09E-03	1.37E-03	2.43E-02	1.43E-02	1.25E-02	2.20E-21	1.95E-03	2.26E-03	-2.71E-01	-5.75E-03	1.91E-02	3.61E-03	9.62E-18	1.69E-20	5.61E-08	1.44E-07	-9.61E-05
	Min	1.07E-01	1.01E-03	1.68E-05	1.10E-04	8.92E-04	4.43E-04	6.07E-03	3.60E-03	5.36E-03	-3.48E-14	1.10E-03	9.40E-04	-2.98E-01	-8.76E-03	6.29E-03	1.46E-03	-8.03E-17	-8.08E-19	2.84E-08	6.84E-08	-1.38E-04
	Max	2.61E-01	1.77E-03	1.10E-04	8.15E-04	1.32E-02	3.12E-03	7.06E-02	3.90E-02	1.97E-02	3.72E-14	3.25E-03	3.46E-03	-2.46E-01	-2.68E-03	3.74E-02	5.44E-03	2.44E-17	3.85E-17	9.60E-08	2.36E-07	-4.93E-05
	Normalized peak height	2.35E-03	3.76E-03	3.52E-03	3.60E-03	3.46E-03	3.03E-03	3.53E-03	3.24E-03	2.55E-03	2.17E-01	3.58E-03	3.23E-03	2.42E-03	3.00E-03	2.83E-03	2.87E-03	4.11E-01	1.01E-01	3.87E-03	2.98E-03	3.32E-03
	Peak sensitivity value	1.84E-01	1.35E-03	3.68E-05	2.70E-04	3.14E-03	1.36E-03	2.21E-02	1.36E-02	1.31E-02	-2.53E-17	1.95E-03	2.33E-03	-2.70E-01	-6.00E-03	1.89E-02	3.90E-03	-1.42E-21	3.74E-20	5.43E-08	1.45E-07	-9.77E-05
	Shapiro-Wilk score	9.891E-01	9.990E-01	9.699E-01	9.697E-01	9.699E-01	9.881E-01	9.748E-01	9.770E-01	9.939E-01	9.105E-01	9.966E-01	9.908E-01	9.937E-01	9.958E-01	9.884E-01	9.906E-01	9.183E-01	3.406E-01	9.955E-01	9.969E-01	9.986E-01

	glycerol3phosphate cytosol																			
Local	7.65E-01	5.43E-03	4.16E-04	3.17E-03	5.53E-02	1.89E-02	3.33E-01	1.93E-01	-1.67E+00	1.60E-16	2.68E-02	3.10E-02	6.37E-03	-8.17E-02	2.02E-01	4.94E-02	-4.87E-19	2.34E-19	7.68E-07	2.03E-06	-1.37E-03
Min	-3.72E-01	-4.34E-03	1.35E-04	9.73E-04	1.02E-02	5.59E-03	7.58E-02	4.64E-02	-1.83E+00	-1.08E-15	1.41E-02	1.23E-02	2.50E-03	-1.28E-01	7.98E-02	1.85E-02	-1.26E-18	-1.13E-17	3.57E-07	9.27E-07	-2.01E-03
Max	1.50E+00	9.34E-03	1.18E-03	9.16E-03	1.64E-01	4.10E-02	8.90E-01	5.01E-01	-1.50E+00	1.38E-15	4.28E-02	4.67E-02	9.34E-03	-3.54E-02	5.34E-01	7.53E-02	4.97E-18	8.20E-16	1.23E-06	3.46E-06	-6.01E-04
Normalized peak height	2.49E-03	3.92E-03	3.33E-03	3.32E-03	2.96E-03	2.55E-03	2.98E-03	2.85E-03	3.26E-03	6.24E-02	2.70E-03	2.78E-03	2.92E-03	2.46E-03	2.68E-03	2.61E-03	4.10E-01	1.56E-01	3.65E-03	2.68E-03	3.02E-03
Peak sensitivity value	8.61E-01	5.98E-03	3.19E-04	2.55E-03	4.43E-02	1.53E-02	2.78E-01	1.69E-01	-1.67E+00	5.86E-19	2.76E-02	3.30E-02	6.87E-03	-8.76E-02	2.57E-01	5.20E-02	6.06E-22	-5.46E-20	7.36E-07	1.86E-06	-1.41E-03
Shapiro-Wilk score	9.855E-01	9.654E-01	9.704E-01	9.708E-01	9.692E-01	9.858E-01	9.745E-01	9.766E-01	9.995E-01	9.915E-01	9.928E-01	9.893E-01	9.893E-01	9.930E-01	9.865E-01	9.886E-01	9.481E-01	2.919E-01	9.958E-01	9.930E-01	9.961E-01

Table 5: Concentration control coefficients for *Trypanosoma brucei* model with parameter variation of ±10%

	(glucosetransport)	(hexokinase)	(phosphoglycerateisomerase)	(phosphofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphatoexidase)	(pyruvatetransport)	(phosphoglyceratekinase)	(pyruvatekinase)	(atputilisation)	(glycerolkinase)	(phosphoglycerate mutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglycerate transport)	(gly3phapantiporter)	(glycerol transport)
adpg																					
Local	7.11E+00	5.06E-02	-3.11E-03	-2.57E-02	-5.01E-01	-9.47E-02	-2.93E+00	-1.93E+00	1.77E-01	7.55E-16	-1.91E-01	-2.21E-01	-4.34E-02	-2.04E-01	-1.57E+00	-3.92E-01	3.47E-18	-1.01E-17	-5.44E-03	2.02E-03	-3.31E-03
Min	-8.34E+00	-4.33E-01	-7.22E-03	-5.53E-02	-1.14E+00	-1.96E-01	-4.69E+00	-2.74E+00	-1.00E+00	-2.19E-14	-5.62E-01	-3.37E-01	-7.22E-02	-3.73E-01	-4.27E+00	-5.35E-01	-1.51E-16	-1.53E-14	-1.83E-05	-1.80E-05	-6.90E-03
Max	1.09E+01	9.59E-02	3.35E-03	3.01E-02	1.19E+00	1.05E-01	4.39E+00	2.36E+00	4.78E-01	3.04E-14	1.34E-01	9.06E-02	1.78E-02	7.14E-01	1.06E+00	1.30E-01	1.19E-17	3.41E-16	1.52E-06	6.30E-06	4.16E-03
Normalized peak height	8.91E-03	2.39E-02	6.16E-03	6.37E-03	9.24E-03	6.27E-03	7.52E-03	7.52E-03	6.01E-03	1.76E-01	3.36E-03	3.45E-03	3.54E-03	7.50E-03	4.65E-03	4.09E-03	4.09E-01	9.04E-02	2.58E-03	6.78E-03	4.76E-03
Peak sensitivity value	6.91E+00	4.70E-02	-2.67E-03	-2.12E-02	-5.08E-01	-8.44E-02	-2.03E+00	-1.13E+00	2.69E-01	5.29E-18	-1.61E-01	-2.66E-01	-5.65E-02	-2.39E-01	-1.58E+00	-3.95E-01	4.24E-20	4.64E-18	-5.03E-06	2.69E-06	-3.24E-03
Shapiro-Wilk score	8.662E-01	8.019E-01	9.785E-01	9.732E-01	9.390E-01	9.767E-01	9.647E-01	9.642E-01	9.631E-01	9.378E-01	9.956E-01	9.443E-01	9.448E-01	9.528E-01	9.928E-01	9.327E-01	7.936E-01	3.612E-01	9.760E-01	9.778E-01	9.831E-01
adpc																					
Local	-5.14E-01	-3.66E-03	-1.09E-04	-7.90E-04	-1.10E-02	-3.67E-03	-6.52E-02	-3.93E-02	-3.37E-02	0.00E+00	-5.25E-03	-6.07E-03	7.27E-01	1.94E-02	-5.14E-02	-9.68E-03	9.75E-18	-4.52E-20	-1.50E-07	-3.83E-07	2.58E-04
Min	-7.06E-01	-7.37E-03	-5.86E-04	-4.45E-03	-6.65E-02	-1.21E-02	-3.14E-01	-1.77E-01	-6.55E-02	-2.60E-13	-1.27E-02	1.12E-02	6.64E-01	3.24E-03	2.06E-01	-1.81E-02	-1.91E-16	-2.67E-16	-3.59E-07	-9.07E-07	5.63E-05
Max	-1.09E-01	-2.04E-03	-1.97E-05	-1.27E-04	-2.95E-04	-3.74E-04	-4.36E-03	-2.61E-03	-5.72E-03	2.66E-13	-1.64E-03	-9.11E-04	7.75E-01	2.78E-02	-4.63E-03	-1.21E-03	2.56E-17	2.65E-18	-3.53E-08	-8.51E-08	4.76E-04
Normalized peak height	2.46E-03	5.08E-03	4.83E-03	4.79E-03	4.60E-03	2.57E-03	3.63E-03	3.67E-03	2.16E-03	3.01E-01	3.07E-03	2.66E-03	2.45E-03	2.43E-03	3.72E-03	2.50E-03	4.09E-01	3.06E-01	3.59E-03	2.59E-03	3.09E-03
Peak sensitivity value	-5.79E-01	-3.47E-03	-6.52E-05	-4.19E-04	-3.64E-03	-1.81E-03	-2.31E-02	-1.54E-02	-4.30E-02	1.41E-16	-5.63E-03	-6.93E-03	7.20E-01	1.84E-02	-4.49E-02	-1.09E-02	1.06E-19	9.32E-20	-1.28E-07	-4.30E-07	2.60E-04
Shapiro-Wilk score	9.706E-01	9.833E-01	9.186E-01	9.168E-01	9.175E-01	9.683E-01	9.330E-01	9.387E-01	9.810E-01	4.923E-01	9.883E-01	9.834E-01	9.931E-01	9.804E-01	9.346E-01	9.853E-01	8.686E-01	1.327E-01	9.865E-01	9.884E-01	9.967E-01
dihydroxyacetonephosphate																					
Local	-1.72E-01	-8.00E-04	1.87E-03	1.47E-02	2.89E-01	-7.31E-02	-6.54E-02	-3.93E-02	6.36E-02	-2.29E-17	-5.13E-03	-5.91E-03	-1.22E-03	-6.36E-03	-5.03E-02	-9.47E-03	9.33E-20	1.12E-18	-1.47E-07	7.28E-07	-1.06E-04
Min	-3.29E-01	-2.27E-03	1.07E-03	8.66E-03	2.09E-01	-9.43E-02	-3.04E-01	-2.15E-01	2.56E-02	-3.73E-16	-1.32E-02	-1.15E-02	-2.30E-03	-5.20E-02	-2.38E-01	-1.98E-02	-4.35E-18	-3.49E-17	-3.29E-07	5.28E-07	-6.47E-04
Max	3.04E-01	8.07E-03	3.33E-03	2.50E-02	4.01E-01	-5.70E-02	-6.20E-03	-3.91E-03	1.64E-01	4.18E-16	-1.92E-03	-7.66E-04	-1.77E-04	6.23E-04	-4.92E-03	-1.17E-03	3.51E-19	1.15E-15	-3.83E-08	1.75E-06	9.54E-06
Normalized peak height	3.16E-03	9.65E-03	3.44E-03	3.63E-03	3.20E-03	3.17E-03	3.57E-03	4.41E-03	3.30E-03	1.08E-01	2.78E-03	2.54E-03	2.53E-03	6.67E-03	3.86E-03	2.39E-03	4.06E-01	6.42E-02	3.25E-03	5.25E-03	4.68E-03
Peak sensitivity value	-1.80E-01	-1.01E-03	1.84E-03	1.41E-02	2.80E-01	-7.21E-02	-2.89E-02	-1.50E-02	6.55E-02	2.07E-19	-4.38E-03	-6.20E-03	-1.37E-03	-1.40E-03	-4.81E-02	-1.16E-02	2.45E-22	9.36E-20	-1.28E-07	7.05E-07	-3.21E-05
Shapiro-Wilk score	9.654E-01	8.688E-01	9.866E-01	9.899E-01	9.937E-01	9.966E-01	9.228E-01	9.278E-01	9.866E-01	9.124E-01	9.739E-01	9.848E-01	9.842E-01	8.604E-01	9.264E-01	9.856E-01	7.984E-01	5.712E-01	9.847E-01	8.928E-01	8.977E-01
glyceraldehyde3phosphate																					
Local	-1.73E-01	-1.24E-03	1.89E-03	1.49E-02	2.93E-01	6.17E-02	-9.23E-02	-5.41E-02	5.22E-02	-3.55E-17	-7.29E-03	-8.44E-03	-1.73E-03	-4.30E-04	-7.14E-02	-1.34E-02	1.32E-19	1.13E-18	-2.09E-07	5.97E-07	-7.19E-06
Min	-4.40E-01	-3.02E-03	1.07E-03	8.40E-03	2.10E-01	4.15E-02	-4.12E-01	-2.13E-01	2.26E-02	-4.71E-16	-1.79E-02	-1.62E-02	-3.14E-03	-4.44E-02	-3.55E-01	-2.54E-02	-1.42E-17	-3.64E-17	-4.43E-07	4.57E-07	-6.18E-04
Max	3.12E-01	8.33E-03	3.30E-03	2.51E-02	4.02E-01	7.85E-02	-8.52E-03	-5.94E-03	1.41E-01	4.69E-16	-2.72E-03	-1.23E-03	-2.69E-04	6.49E-03	-6.02E-03	-1.66E-03	4.79E-19	9.63E-16	-5.04E-08	1.46E-06	1.13E-04
Normalized peak height	2.46E-03	7.43E-03	3.42E-03	3.66E-03	3.13E-03	3.54E-03	3.36E-03	3.37E-03	3.33E-03	1.02E-01	2.79E-03	2.56E-03	2.55E-03	1.24E-02	4.21E-03	2.30E-03	4.07E-01	6.35E-02	3.22E-03	6.16E-03	9.71E-03
Peak sensitivity value	-2.57E-01	-1.62E-03	1.84E-03	1.45E-02	2.88E-01	5.99E-02	-4.38E-02	-2.45E-02	4.59E-02	2.25E-19	-5.61E-03	-1.01E-02	-1.98E-03	1.48E-03	-5.72E-02	-1.47E-02	7.08E-22	1.19E-19	-1.81E-07	6.08E-07	2.82E-05
Shapiro-Wilk score	9.626E-01	8.755E-01	9.867E-01	9.904E-01	9.940E-01	9.994E-01	9.279E-01	9.332E-01	9.826E-01	9.282E-01	9.791E-01	9.825E-01	9.811E-01	8.103E-01	9.298E-01	9.844E-01	6.238E-01	5.744E-01	9.866E-01	8.638E-01	8.521E-01
2phosphoglycerate																					
Local	9.33E-01	6.64E-03	1.97E-04	1.44E-03	1.99E-02	6.66E-03	7.18E-01	6.94E-02	6.11E-02	-8.41E-17	9.82E-03	-4.61E-01	-9.98E-02	-2.80E-02	9.32E-02	-7.35E-01	7.25E-18	8.21E-20	2.81E-07	6.99E-07	-4.68E-04
Min	1.80E-01	3.47E-03	3.88E-05	2.62E-04	4.31E-04	7.05E-04	7.54E-03	3.99E-03	1.12E-02	-2.74E-14	3.14E-03	-5.36E-01	-1.14E-01	-5.39E-02	8.73E-03	-9.08E-01	-3.57E-16	-5.36E-18	6.06E-08	1.65E-07	-9.08E-04
Max	1.34E+00	1.37E-02	1.03E-03	8.67E-03	1.18E-01	2.14E-02	5.46E-01	3.21E-01	1.24E-01	2.63E-14	2.47E-02	-4.04E-01	-8.14E-02	-5.79E-03	3.86E-01	-6.05E-01	1.94E-17	3.19E-16	6.32E-07	1.66E-06	-1.13E-04
Normalized peak height	2.74E-03	5.09E-03	4.81E-03	5.23E-03	4.36E-03	2.58E-03	3.52E-03	3.63E-03	2.29E-03	1.91E-01	3.11E-03	1.94E-03	3.11E-03	2.50E-03	3.63E-03	3.03E-03	4.07E-01	2.30E-01	3.49E-03	2.50E-03	3.09E-03
Peak sensitivity value	1.06E+00	6.41E-03	1.22E-04	7.54E-04	6.14E-03	4.21E-03	4.71E-02	3.05E-02	7.37E-02	6.41E-18	8.32E-03	-4.48E-01	-9.62E-02	-3.43E-02	6.48E-02	-7.23E-01	6.22E-21	9.92E-20	2.19E-07	7.80E-07	-4.59E-04
Shapiro-Wilk score	9.718E-01	9.839E-01	9.178E-01	9.164E-01	9.164E-01	9.661E-01	9.320E-01	9.373E-01	9.813E-01	4.993E-01	9.862E-01	9.741E-01	9.984E-01	9.819E-01	9.327E-01	9.948E-01	7.498E-01	1.706E-01	9.865E-01	9.869E-01	9.967E-01
glucose																					
Local	3.20E+00	-1.04E+00	-1.17E-02	-7.39E-02	-1.09E-01	-2.68E-02	-6.92E-01	-4.06E-01	5.93E-02	2.20E-16	-5.57E-02	-6.44E-02	-1.33E-02	-5.89E-02	-5.45E-01	-1.03E-01	1.01E-18	-2.56E-19	-1.66E-03	6.79E-07	-9.85E-04
Min	1.28E+00	-1.05E+00	-2.80E-02	-1.86E-01	-1.72E+00	-1.66E-01	-6.80E+00	-4.14E+00	-1.50E-02	-1.16E-14	-2.96E-01	-1.90E-01	-3.73E-02	-1.11E+00	-3.53E+00	-3.31E-01	-2.81E-17	-1.00E-15	-3.77E-06	-7.94E-08	-1.04E-02
Max	1.44E+01	-7.11E-01	-5.94E-03	-3.61E-02	-1.29E-02	-1.42E-03	-4.27E-02	-2.75E-02	1.53E+00	1.10E-14	-2.06E-02	-8.18E-03	-1.71E-03	-7.72E-04	-4.67E-02	-1.21E-02	3.86E-18	3.20E-17	-4.22E-07	2.66E-05	-1.27E-05
Normalized peak height	4.67E-03	3.13E-02	3.72E-03	4.07E-03	7.67E-03	4.51E-03	7.19E-03	7.46E-03	2.78E-02	1.92E-01	6.24E-03	3.00E-03	2.95E-03	1.52E-02	5.09E-03	3.03E-03	4.05E-01	2.81E-01	3.10E-03	3.92E-02	8.22E-03
Peak sensitivity value	2.04E+00	-1.04E+00	-1.14E-02	-7.29E-02	-6.15E-02	-1.45E-02	-2.49E-01	-1.82E-01	5.82E-03	6.99E-19	-4.86E-02	-7.13E-02	-1.28E-02	-1.02E-02	-4.22E-01	-1.03E-01	2.95E-21	3.50E-19	-1.37E-06	6.73E-08	-2.15E-04
Shapiro-Wilk score	9.186E-01	5.771E-01	9.675E-01	9.604E-01	8.422E-01	9.113E-01	8.541E-01	8.607E-01	7.554E-01	8.258E-01	9.107E-01	9.858E-01	9.875E-01	7.920E-01	8.915E-01	9.827E-01	8.964E-01	1.965E-01	9.804E-01	6.996E-01	8.535E-01
fructose6phosphate																					
Local	1.54E+00	1.10E-02	4.79E-03	-1.07E+00	-1.09E-01	6.21E-03	-1.92E-01	-1.13E-01	1.40E-01	4.79E-17	-1.51E-02	-1.64E-02	-4.59E-03	-6.99E-03	-1.48E-01	-2.78E-02	2.74E-19	2.79E-18	-4.33E-07	1.60E-06	-1.16E-04
Min	1.00E+00	4.12E-03	2.48E-03	-1.11E+00	-3.32E-01	-1.61E-02	-9.62E-01	-5.81E-01	5.92E-02	-1.90E-15	-4.09E-02	-3.53E-02	-7.14E-03	-1.40E-01	-7.98E-01	-5.99E-02	-8.16E-18	-8.75E-17	-9.32E-07	1.18E-06	-1.54E-03
Max	2.96E+00	9.08E-02	1.00E-02	-1.05E+00	-5.09E-02	1.55E-02	-1.69E-02	-9.15E-03	4.08E-01	2.07E-15	-5.41E-03	-2.12E-03	-4.62E-04	1.07E-02	-1.18E-02	-3.26E-03	9.16E-19	4.51E-15	-1.09E-07	4.89E-06	1.60E-04
Normalized peak height	2.77E-03	9.56E-03	3.84E-03	3.54E-03	3.77E-03	3.66E-03	4.01E-03	4.21E-03	3.44E-03	1.83E-01	3.06E-03	2.38E-03	2.50E-03	1.41E-02	4.40E-03	2.30E-03	4.05E-01	9.70E-02	3.16E-03	7.25E-03	8.80E-03
Peak sensitivity value	1.31E+00	7.29E-03	4.40E-03	-1.07E+00	-8.00E-02	8.96E-03	-8.39E-02	-5.40E-02	1.32E-01	9.73E-19	-1.15E-02	-1.96E-02	-3.96E-03	8.03E-04	-1.25E-01	-3.46E-02	3.88E-21	2.11E-18	-3.67E-07	1.54E-06	8.45E-06
Shapiro-Wilk score	9.545E-01	8.233E-01	9.825E-01	9.926E-01	9.322E-01	9.524E-01	9.181E-01	9.226E-01	9.829E-01	8.455E-01	9.697E-01	9.848E-01	9.847E-01	8.173E-01	9.221E-01	9.849E-01	8.739E-01	4.000E-01	9.861E-01	8.632E-01	8.592E-01
3phosphoglycerate																					
Local	3.33E+00	2.91E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.88E-01	2.63E-01	2.41E-01	2.58E-22	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	-9.99E-06	2.65E-06	-1.77E-03
Min	5.84E-01	1.09E-02	1.09E-04	6.45E-04	1.48E-03	1.73E-03	2.13E-02	1.32E-02	2.62E-02	-2.51E-14	8.10E-03	-4.90E-01	-1.06E-01	-3.43E-01	-8.79E+00	-7.95E-01	-3.38E-16	-1.78E-17	-2.94E-05	4.26E-07	-6.43E-03
Max	8.13E+00	9.16E-02	5.16E-03	3.71E-02	5.01E-01	1.02E-01	2.35E+00	1.44E+00	8.20E-01	3.77E-14	1.57E-01	-2.90E-01	-5.91E-02	-1.39E-02	-1.93E+00	-4.93E-01	1.73E-17	1.99E-15	-2.00E-06	1.12E-05	-2.95E-04
Normalized peak height	5.04E-03	5.66E-03	5.51E-03	4.77E-03	3.05E-03	3.84E-03	3.99E-03	3.99E-03	2.87E-03	3.71E-01	4.38E-03	2.97E-03	3.61E-03	2.96E-03	3.99E-03	3.22E-03	4.10E-01	3.30E-01	3.15E-03	3.57E-03	4.12E-03
Peak sensitivity value	3.25E+00	2.23E-02	3.09E-04	2.63E-03	2.52E-02	9.27E-03	1.62E-01	8.25E-02	1.35E-01	-1.71E-17	2.99E-02	-3.90E-01	-8.26E-02	-1.16E-01	-2.88E+00	-6.24E-01	7.10E-20	-6.47E-19	-9.92E-06	1.63E-06	-1.51E-03
Shapiro-Wilk score	9.965E-01	9.035E-01	9.114E-01	9.119E-01	9.121E-01	9.530E-01	9.279E-01	9.295E-01	9.655E-01	6.079E-01	9.159E-01	9.966E-01	9.990E-01	9.611E-01	9.386E-01	9.974E-01	8.259E-01	1.447E-01	9.803E-01	9.491E-01	9.672E-01
glycerol																					
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.59E+00	-1.90E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.55E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	-9.89E-01
Min	1.43E+00	2.42E-02	-6.01E-03	-4.96E-02	-1.08E+00	-2.60E-01	-5.56E+00	-3.06E+00	-2.22E+00	-1.60E-14	-5.78E-01	-3.60E-01	-7.61E-02	2.65E-01	-5.32E+00	-5.67E-01	-1.66E-16	-3.17E-15	-1.93E-05	-3.86E-05	-9.98E-01
Max	1.39E+01	1.65E-01	2.03E-03	1.47E-02	1.50E-01	-3.84E-02	-1.31E-01	-7.43E-02	-5.40E-01	1.98E-14	-3.13E-03	-1.74E-03	-3.45E-04	9.41E-01	-1.27E-02	-2.42E-03	1.27E-17	8.49E-17	-4.74E-08	-5.11E-06	-9.74E-01
Normalized peak height	5.99E-03	3.81E-03	5.60E-03	5.40E-03	4.87E-03	4.41E-03	4.71E-03	4.38E-03	2.74E-03	1.42E-01	3.46E-03	3.11E-03	3.05E-03	1.80E-03	4.72E-03	3.60E-03	4.08E-01	1.11E-01	2.89E-03	3.17E-03	2.49E-03
Peak sensitivity value	8.76E+00	6.14E-02	-1.54E-03	-1.36E-02	-3.47E-01	-1.34E-01	-2.12E+00	-1.20E+00	-1.52E+00	1.15E-17	-1.66E-01	-2.68E-01	-5.82E-02	6.32E-01	-1.72E+00	-4.18E-01	-3.59E-20	-1.42E-18	-3.56E-06	-1.51E-05	-9.90E-01
Shapiro-Wilk score	9.908E-01	9.795E-01	9.762E-01	9.755E-01	9.831E-01	9.976E-01	9.758E-01	9.779E-01	9.804E-01	9.730E-01	9.774E-01	9.578E-01	9.558E-01	9.690E-01	9.930E-01	9.494E-01	7.884E-01	3.340E-01	9.681E-01	9.806E-01	9.835E-01

pyruvate																					
Local	5.54E+00	3.94E-02	1.17E-03	8.51E-03	1.18E-01	3.96E-02	7.02E-01	4.12E-01	3.62E-01	-7.85E+00	5.65E-02	6.54E-02	1.35E-02	-1.66E-01	5.54E-01	1.04E-01	-1.03E-18	4.87E-19	1.62E-06	4.15E-06	-2.78E-03
Min	4.45E-01	1.31E-02	1.31E-04	8.28E-04	1.61E-03	1.99E-03	2.14E-02	1.33E-02	3.06E-02	-9.66E+03	9.17E-03	4.57E-03	9.60E-04	-2.34E+02	2.47E-02	6.87E-03	-1.39E-15	-1.03E-14	2.03E-07	5.14E-07	-3.55E+00
Max	5.57E+03	5.74E+01	2.78E+00	2.04E+01	2.90E+02	8.36E+01	1.59E+03	8.84E+02	5.19E+02	-3.48E+00	8.35E+01	8.75E+01	1.72E+01	-1.67E-02	7.24E+02	1.41E+02	4.31E-16	1.18E-14	2.65E-03	6.30E-03	-3.33E-04
Normalized peak height	6.37E-01	8.24E-01	8.19E-01	8.18E-01	7.89E-01	8.08E-01	7.90E-01	7.79E-01	7.34E-01	8.11E-01	7.66E-01	7.33E-01	7.20E-01	7.49E-01	6.63E-01	7.31E-01	8.39E-01	8.87E-01	8.29E-01	7.64E-01	7.47E-01
Peak sensitivity value	3.23E+00	4.18E-02	1.52E-03	1.10E-02	1.47E-01	4.38E-02	8.18E-01	4.55E-01	2.90E-01	-8.30E+00	5.09E-02	4.83E-02	9.57E-03	-1.34E-01	3.87E-01	7.72E-02	2.48E-19	-5.92E-19	1.53E-06	3.66E-06	-2.11E-03
Shapiro-Wilk score	4.728E-02	4.637E-02	4.732E-02	4.728E-02	4.596E-02	4.802E-02	4.632E-02	4.752E-02	5.048E-02	4.815E-02	5.065E-02	5.379E-02	5.325E-02	5.198E-02	5.422E-02	5.246E-02	3.886E-02	4.872E-02	4.474E-02	5.062E-02	5.010E-02
dihydroxyacetonephosphate cytosol																					
Local	-3.10E-01	-2.20E-03	-1.68E-04	-1.28E-03	-2.24E-02	-7.65E-03	-1.35E-01	-7.90E-02	6.75E-01	-6.46E-17	-1.08E-02	-1.25E-02	-2.58E-03	3.30E-02	-1.06E-01	-2.00E-02	1.97E-19	-9.46E-20	-3.10E-07	-8.20E-07	5.52E-04
Min	-1.13E+00	-8.38E-03	-9.98E-04	-7.48E-03	-1.57E-01	-3.02E-02	-7.07E-01	-4.03E-01	3.04E-01	-8.79E-16	-3.21E-02	-3.68E-02	-6.95E-03	4.09E-03	-6.66E-01	-6.35E-02	-1.04E-17	-7.62E-16	-1.04E-06	-1.98E-06	7.99E-05
Max	5.13E-01	9.29E-03	-1.56E-05	-1.05E-04	-2.65E-04	-4.78E-04	-4.84E-03	-3.02E-03	1.49E+00	8.39E-16	-2.23E-03	-1.11E-03	-2.15E-04	9.12E-02	-6.57E-03	-1.61E-03	7.63E-19	7.17E-18	-4.07E-08	-1.25E-07	1.42E-03
Normalized peak height	3.47E-03	6.90E-03	4.67E-03	4.55E-03	4.97E-03	2.91E-03	3.72E-03	4.01E-03	4.10E-03	1.14E-01	3.08E-03	3.23E-03	3.04E-03	2.70E-03	5.00E-03	3.41E-03	4.05E-01	4.24E-01	4.18E-03	2.45E-03	3.39E-03
Peak sensitivity value	-3.92E-01	-2.29E-03	-7.01E-05	-6.98E-04	-6.61E-03	-3.94E-03	-4.31E-02	-2.76E-02	5.96E-01	-1.38E-20	-8.72E-03	-1.11E-02	-2.28E-03	3.22E-02	-7.74E-02	-1.74E-02	-1.79E-21	-1.29E-19	-2.20E-07	-1.05E-06	4.93E-04
Shapiro-Wilk score	9.868E-01	9.410E-01	9.193E-01	9.219E-01	9.200E-01	9.603E-01	9.351E-01	9.375E-01	9.642E-01	9.248E-01	9.711E-01	9.799E-01	9.823E-01	9.803E-01	9.111E-01	9.763E-01	8.419E-01	1.278E-01	9.439E-01	9.837E-01	9.861E-01
nadh																					
Local	1.19E+00	8.44E-03	1.92E-04	1.37E-03	1.64E-02	1.21E-02	1.67E-01	-1.51E+00	-3.09E-02	2.01E-16	1.34E-02	1.55E-02	3.19E-03	-3.88E-02	1.31E-01	2.47E-02	-2.44E-19	7.06E-20	3.85E-07	-3.54E-07	-6.48E-04
Min	2.05E-01	4.33E-03	-1.12E-05	-2.08E-04	-1.52E-02	3.02E-03	9.83E-03	-1.72E+00	-2.17E-01	-1.34E-15	3.96E-03	1.96E-03	4.19E-04	-7.40E-02	1.05E-02	3.06E-03	-6.91E-19	-6.83E-18	7.40E-08	-1.74E-06	-1.20E-03
Max	1.77E+00	1.68E-02	1.37E-03	1.03E-02	1.48E-01	3.13E-02	7.43E-01	-1.19E+00	6.41E-02	1.28E-15	3.03E-02	3.04E-02	6.12E-03	-6.89E-03	5.64E-01	5.16E-02	6.58E-18	2.77E-16	8.97E-07	9.36E-07	-1.50E-04
Normalized peak height	2.78E-03	5.02E-03	5.09E-03	5.13E-03	4.36E-03	2.30E-03	3.26E-03	3.88E-03	3.84E-03	1.25E-01	2.67E-03	2.65E-03	2.69E-03	2.37E-03	3.66E-03	2.57E-03	4.08E-01	2.80E-01	3.42E-03	3.22E-03	3.07E-03
Peak sensitivity value	1.41E+00	7.98E-03	7.77E-05	4.40E-04	-1.77E-03	8.23E-03	6.59E-02	-1.48E+00	-3.34E-02	4.21E-19	1.16E-02	1.67E-02	3.60E-03	-4.55E-02	1.24E-01	2.80E-02	3.38E-21	1.17E-19	3.29E-07	-2.84E-07	-6.62E-04
Shapiro-Wilk score	9.662E-01	9.909E-01	9.141E-01	9.143E-01	9.169E-01	9.693E-01	9.340E-01	9.982E-01	9.897E-01	9.666E-01	9.873E-01	9.863E-01	9.847E-01	9.822E-01	9.362E-01	9.869E-01	8.966E-01	1.548E-01	9.825E-01	9.955E-01	9.959E-01
glycerol3phosphate																					
Local	9.63E-01	6.85E-03	2.45E-03	1.91E-02	3.66E-01	-4.66E-02	4.02E-01	2.36E-01	-2.28E+00	2.02E-16	3.25E-02	3.76E-02	7.73E-03	-1.21E-01	3.18E-01	5.99E-02	-5.90E-19	1.45E-18	9.31E-07	-2.61E-05	-2.02E-03
Min	-1.40E+00	-3.25E-02	1.16E-03	9.28E-03	2.29E-01	-7.35E-02	1.96E-02	1.19E-02	-3.39E+00	-2.81E-15	8.12E-03	4.44E-03	1.01E-03	-2.93E-01	2.46E-02	7.11E-03	-1.80E-18	-4.97E-17	1.42E-07	-4.54E-05	-4.45E-03
Max	2.45E+00	1.74E-02	5.56E-03	4.32E-02	7.61E-01	6.17E-03	1.73E+00	1.03E+00	-1.49E+00	2.15E-15	7.87E-02	8.45E-02	1.68E-02	-2.26E-02	1.64E+00	1.36E-01	2.21E-17	1.86E-15	2.54E-06	-1.43E-05	-3.77E-04
Normalized peak height	2.69E-03	6.79E-03	3.41E-03	3.63E-03	3.30E-03	3.04E-03	3.32E-03	3.27E-03	4.26E-03	1.10E-01	2.68E-03	2.87E-03	2.97E-03	2.25E-03	4.48E-03	2.60E-03	4.07E-01	8.68E-02	3.73E-03	3.09E-03	2.77E-03
Peak sensitivity value	1.56E+00	8.29E-03	2.28E-03	1.76E-02	3.31E-01	-5.22E-02	1.67E-01	1.08E-01	-2.14E+00	-8.32E-19	3.06E-02	3.54E-02	7.12E-03	-1.36E-01	2.21E-01	5.61E-02	4.32E-21	-8.81E-19	6.79E-07	-2.64E-05	-2.26E-03
Shapiro-Wilk score	9.680E-01	9.079E-01	9.714E-01	9.726E-01	9.623E-01	9.712E-01	9.412E-01	9.446E-01	9.887E-01	9.480E-01	9.884E-01	9.941E-01	9.948E-01	9.825E-01	9.314E-01	9.924E-01	8.389E-01	3.979E-01	9.711E-01	9.889E-01	9.932E-01
glucose6phosphate																					
Local	1.66E+00	1.18E-02	-1.68E-01	-1.04E+00	-1.04E-01	6.02E-03	-1.84E-01	-1.08E-01	1.35E-01	4.60E-17	-1.45E-02	-1.68E-02	-3.45E-03	-6.64E-03	-1.42E-01	-2.67E-02	2.64E-19	2.69E-18	-4.16E-07	1.54E-06	-1.11E-04
Min	1.08E+00	4.42E-03	-2.05E-01	-1.08E+00	-3.36E-01	-1.53E-02	-9.50E-01	-5.53E-01	5.47E-02	-2.05E-15	-3.88E-02	-3.47E-02	-6.92E-03	-1.30E-01	-6.95E-01	-5.54E-02	-3.77E-18	-8.49E-17	-9.04E-07	1.15E-06	-1.51E-03
Max	2.97E+00	1.11E-01	-1.35E-01	-1.01E+00	-4.97E-02	1.52E-02	-1.65E-02	-9.60E-03	3.33E-01	2.19E-15	-5.01E-03	-2.03E-03	-4.61E-04	8.83E-03	-1.20E-02	-3.16E-03	9.18E-19	4.79E-15	-1.10E-07	4.35E-06	1.36E-04
Normalized peak height	2.65E-03	1.11E-02	2.96E-03	3.20E-03	4.01E-03	3.63E-03	4.17E-03	3.91E-03	2.93E-03	1.64E-01	3.02E-03	2.64E-03	2.52E-03	1.36E-02	3.87E-03	2.31E-03	4.06E-01	9.44E-02	3.07E-03	6.51E-03	9.24E-03
Peak sensitivity value	1.35E+00	8.20E-03	-1.67E-01	-1.03E+00	-7.45E-02	8.86E-03	-6.83E-02	-4.79E-02	1.32E-01	-1.93E-18	-1.10E-02	-1.96E-02	-3.88E-03	7.03E-04	-9.23E-02	-3.01E-02	9.04E-22	4.10E-19	-3.44E-07	1.49E-06	1.31E-05
Shapiro-Wilk score	9.551E-01	8.268E-01	9.982E-01	9.918E-01	9.311E-01	9.523E-01	9.172E-01	9.223E-01	9.831E-01	8.440E-01	9.703E-01	9.855E-01	9.853E-01	8.175E-01	9.216E-01	9.855E-01	9.322E-01	3.769E-01	9.865E-01	8.676E-01	8.595E-01
3phosphoglycerate cytosol																					
Local	3.53E+00	2.51E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.48E-01	2.63E-01	2.31E-01	0.00E+00	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	1.03E-06	2.65E-06	-1.77E-03
Min	7.03E-01	1.06E-02	1.10E-04	7.26E-04	1.15E-03	1.67E-03	1.91E-02	1.16E-02	2.46E-02	-2.96E-14	8.70E-03	-4.89E-01	-1.04E-01	-3.48E-01	-8.93E+00	-7.91E-01	-1.92E-16	-2.13E-17	1.77E-07	4.15E-07	-5.62E-03
Max	7.39E+00	8.78E-02	4.67E-03	3.42E-02	5.10E-01	1.05E-01	2.45E+00	1.40E+00	8.44E-01	2.39E-14	1.59E-01	-2.93E-01	-5.82E-02	-1.40E-02	-1.89E+00	-4.87E-01	1.77E-17	1.66E-15	2.01E-06	1.15E-05	-2.45E-04
Normalized peak height	4.58E-03	5.65E-03	5.13E-03	5.12E-03	4.85E-03	3.30E-03	3.95E-03	3.86E-03	2.95E-03	3.69E-01	4.49E-03	2.83E-03	3.59E-03	3.12E-03	4.03E-03	3.30E-03	4.09E-01	3.05E-01	3.14E-03	3.94E-03	3.59E-03
Peak sensitivity value	3.33E+00	2.22E-02	3.95E-04	2.18E-03	2.48E-02	1.11E-02	1.40E-01	1.26E-01	1.41E-01	6.66E-18	2.50E-02	-3.99E-01	-8.29E-02	-1.14E-01	-3.01E+00	-6.25E-01	9.01E-21	-2.54E-19	1.07E-06	2.08E-06	-1.42E-03
Shapiro-Wilk score	9.967E-01	9.056E-01	9.082E-01	9.090E-01	9.097E-01	9.521E-01	9.258E-01	9.273E-01	9.649E-01	6.109E-01	9.143E-01	9.966E-01	9.988E-01	9.603E-01	9.387E-01	9.974E-01	8.509E-01	1.678E-01	9.912E-01	9.475E-01	9.664E-01
phosphoenolpyruvate																					
Local	4.22E-01	3.01E-03	8.93E-05	6.49E-04	9.02E-03	3.02E-03	5.36E-02	3.14E-02	2.76E-02	-1.05E-16	4.31E-03	-4.91E-01	-1.01E-01	-1.27E-02	4.22E-02	7.95E-03	7.72E-18	3.72E-20	1.24E-07	3.16E-07	-2.12E-04
Min	9.90E-02	1.71E-03	1.52E-05	9.84E-05	1.18E-04	2.23E-04	2.41E-03	1.36E-03	3.92E-03	-2.85E-14	1.32E-03	-5.74E-01	-1.21E-01	-2.37E-02	2.80E-03	7.93E-04	-5.59E-16	-2.35E-18	2.59E-08	6.20E-08	-4.06E-04
Max	6.36E-01	6.13E-03	4.82E-04	3.53E-03	5.45E-02	1.06E-02	2.65E-01	1.57E-01	5.76E-02	3.37E-14	1.02E-02	-4.30E-01	-8.65E-02	-2.13E-03	1.81E-01	1.50E-02	2.01E-17	1.24E-16	3.06E-07	7.33E-07	-4.10E-05
Normalized peak height	2.49E-03	4.87E-03	4.75E-03	4.65E-03	4.29E-03	2.75E-03	3.69E-03	3.67E-03	2.38E-03	2.26E-01	3.02E-03	1.91E-03	3.15E-03	2.61E-03	3.88E-03	2.54E-03	4.07E-01	2.07E-01	3.80E-03	2.57E-03	3.22E-03
Peak sensitivity value	4.74E-01	2.92E-03	4.77E-05	3.71E-04	2.65E-03	2.27E-03	2.35E-02	1.51E-02	3.17E-02	-1.68E-17	4.04E-03	-4.62E-01	-1.03E-01	-1.49E-02	3.62E-02	9.11E-03	1.66E-19	-7.36E-21	1.03E-07	2.97E-07	-2.14E-04
Shapiro-Wilk score	9.827E-01	9.859E-01	9.170E-01	9.152E-01	9.150E-01	9.674E-01	9.307E-01	9.367E-01	9.846E-01	5.013E-01	9.886E-01	9.735E-01	9.987E-01	9.850E-01	9.341E-01	9.881E-01	7.268E-01	1.749E-01	9.835E-01	9.893E-01	9.980E-01
bisphosphoglycerate																					
Local	-5.89E+00	-4.19E-02	5.08E-03	4.06E-02	8.47E-01	1.55E-01	3.68E+00	2.16E+00	4.96E-03	-1.01E-15	-8.02E-02	-9.29E-02	-1.91E-02	1.64E-01	-7.86E-01	-1.48E-01	1.46E-18	3.25E-18	-2.30E-06	5.67E-08	2.74E-03
Min	-1.12E+01	-2.08E-01	1.96E-03	1.64E-02	4.13E-01	8.44E-02	1.81E+00	1.01E+00	-6.43E-01	-1.68E-14	-7.07E-01	-4.07E-01	-7.91E-02	1.44E-02	-4.25E+00	-5.92E-01	-4.87E-17	-1.17E-16	-1.78E-05	-1.08E-05	2.67E-04
Max	-2.22E+00	-1.50E-02	1.23E-02	9.86E-02	1.75E+00	2.89E-01	7.35E+00	4.51E+00	4.27E-01	1.31E-14	-1.30E-02	-5.80E-03	-1.25E-03	5.40E-01	-3.13E-02	-8.60E-03	8.37E-18	3.56E-15	-2.49E-07	3.09E-06	8.55E-03
Normalized peak height	3.71E-03	6.32E-03	3.40E-03	3.67E-03	2.99E-03	3.57E-03	2.87E-03	3.23E-03	4.56E-03	1.34E-01	7.36E-03	3.21E-03	3.17E-03	2.69E-03	4.06E-03	3.02E-03	4.06E-01	7.33E-02	7.10E-03	5.05E-03	2.89E-03
Peak sensitivity value	-5.10E+00	-3.56E-02	4.53E-03	3.64E-02	8.08E-01	1.45E-01	3.39E+00	1.97E+00	5.14E-02	9.15E-18	-4.59E-02	-4.41E-02	-9.39E-03	1.10E-01	-2.69E-01	-5.38E-02	1.59E-20	-1.34E-18	-1.28E-06	9.80E-07	2.26E-03
Shapiro-Wilk score	9.849E-01	9.093E-01	9.775E-01	9.776E-01	9.774E-01	9.853E-01	9.803E-01	9.823E-01	9.646E-01	9.580E-01	8.684E-01	9.424E-01	9.437E-01	9.583E-01	9.234E-01	9.423E-01	8.522E-01	4.250E-01	8.539E-01	9.160E-01	9.744E-01
atpg																					
Local	-2.48E+00	-1.77E-02	1.11E-03	8.98E-03	1.98E-01	3.30E-02	8.27E-01	4.85E-01	-6.16E-02	-2.63E-16	6.66E-02	7.71E-02	1.58E-02	7.12E-02	6.52E-01	1.23E-01	-1.21E-18	-7.32E-18	1.91E-06	-7.06E-07	1.19E-03
Min	-2.06E+01	-9.92E-01	5.30E-05	4.57E-04	9.94E-03	1.98E-03	4.00E-02	2.52E-02	-2.73E+00	-1.59E-14	2.36E-02	8.48E-03	1.83E-03	9.83E-04	4.79E-02	1.10E-02	-5.76E-18	-1.34E-14	4.55E-07	-3.93E-05	1.89E-05
Max	-1.77E-01	-7.20E-04	1.21E-02	1.03E-01	2.96E+00	2.88E-01	1.11E+01	6.57E+00	3.21E-02	2.16E-14	4.36E-01	3.14E-01	6.40E-02	1.99E+00	4.72E+00	4.82E-01	8.45E-17	2.18E-16	5.53E-06	2.13E-07	1.57E-02
Normalized peak height	6.24E-03	4.18E-02	8.39E-03	9.09E-03	1.16E-02	6.52E-03	9.77E-03	1.03E-02	4.65E-02	2.02E-01	7.25E-03	3.61E-03	3.51E-03	2.31E-02	5.38E-03	3.32E-03	4.07E-01	1.02E-01	3.45E-03	5.24E-02	1.07E-02
Peak sensitivity value	-1.23E+00	-6.17E-03	3.83E-04	3.68E-03	7.34E-02	1.67E-02	2.88E-01	1.72E-01	3.76E-04	5.81E-18	4.61E-02	5.72E-02	1.10E-02	1.39E-02	3.40E-01	8.66E-02	-3.10E-20	6.20E-18	1.61E-06	-4.18E-09	1.83E-04
Shapiro-Wilk score	8.820E-01	6.525E-01	8.322E-01	8.237E-01	8.013E-01	8.753E-01	8.128E-01	8.196E-01	7.153E-01	7.798E-01	8.776E-01	9.668E-01	9.683E-01	7.531E-01	8.673E-01	9.633E-01	7.574E-01	3.538E-01	9.660E-01	6.608E-01	8.192E-01
ampc																					
Local	-1.22E+00	-8.69E-03	-2.58E-04	-1.87E-03	-2.61E-02	-8.72E-03	-1.55E-01	-9.08E-02	-7.98E-02	-6.07E-20	-1.24E-02	-1.44E-02	1.73E+00	3.66E-02	-1.22E-01	-2.30E-02	-3.42E-16	-1.07E-19	-3.57E-07	-9.14E-07	6.12E-04
Min	-1.67E+00	-1.82E-02	-1.40E-03	-1.09E-02	-1.49E-01	-2.76E-02	-7.33E-01	-4.18E-01	-1.51E-01	-5.47E-13	-2.84E-02	-2.66E-02	1.67E+00	6.88E-03	-5.04E-01	-4.24E-02	-8.51E-16	-6.90E-16	-8.24E-07	-2.03E-06	1.16E-04
Max	-2.93E-01	-5.09E-03	-4.82E-05	-3.41E-04	-7.36E-04	-8.16E-04	-9.68E-03	-6.06E-03	-1.29E-02	5.71E-13	-3.83E-03	-1.81E-03	1.77E+00	6.66E-02	-1.03E-02	-2.74E-03	4.13E-14	6.59E-18	-7.63E-08	-1.93E-07	1.10E-03
Normalized peak height	2.32E-03	5.13E-03	4.83E-03	5.09E-03	4.28E-03	2.49E-03	3.56E-03	3.34E-03	2.14E-03	3.10E-01	2.91E-03	2.85E-03	2.47E-03	2.47E-03	3.75E-03	2.56E-03	4.06E-01	3.47E-01	3.68E-03	2.50E-03	3.13E-03
Peak sensitivity value	-1.47E+00	-8.64E-03	-1.41E-04	-1.15E-03	-1.21E-02	-4.98E-03	-8.31E-02	-4.49E-02	-1.00E-01	1.02E-16	-1.36E-02	-1.63E-02	1.73E+00	4.36E-02	-1.11E-01	-2.68E-02	1.38E-17	-3.26E-20	-3.05E-07	-9.54E-07	5.88E-04
Shapiro-Wilk score	9.690E-01	9.863E-01	9.186E-01	9.170E-01	9.181E-01	9.688E-01	9.330E-01	9.393E-01	9.813E-01	4.947E-01	9.895E-01	9.837E-01	9.929E-01	9.810E-01	9.371E-01	9.856E-01	5.921E-01	1.481E-01	9.863E-01	9.895E-01	9.971E-01
nad																					
Local	-2.14E-02	-1.52E-04	-3.47E-06	-2.46E-05	-2.95E-04	-2.18E-04	-3.01E-03	2.72E-02	5.57E-04	-3.62E-18	-2.42E-04	-2.80E-04	-5.76E-05	6.99E-04	-2.37E-03	-4.46E-04	4.40E-21	-1.27E-21	-6.93E-09	6.38E-09	1.17E-05
Min	-3.86E-02	-3.50E-04	-2.62E-05	-1.97E-04	-3.17E-03	-7.14E-04	-1.65E-02	1.62E-02	-1.22E-03	-2.78E-17	-7.47E-04	-8.20E-04	-1.67E-04	8.41E-05	-1.15E-02	-1.38E-03	-5.38E-19	-1.66E-17	-2.16E-08	-2.06E-08	1.56E-06
Max	-5.02E-03	-6.56E-05	1.28E-07	3.32E-06	2.60E-04	-3.90E-05	-1.20E-04	4.56E-02	4.11E-03	2.88E-17	-4.87E-05	-2.35E-05	-5.06E-06	1.85E-03	-1.27E-04	-3.28E-05	1.57E-20	1.18E-19	-1.07E-09	3.36E-08	2.72E-05
Normalized peak height	3.43E-03	4.12E-03	5.52E-03	5.53E-03	5.58E-03	2.88E-03	4.16E-03	3.16E-03	4.33E-03	1.23E-01	3.11E-03	3.11E-03	3.19E-03	2.51E-03	3.98E-03	3.10E-03	4.08E-01	4.59E-01	3.81E-03	3.94E-03	3.08E-03
Peak sensitivity value	-2.02E-02	-1.41E-04	-1.15E-06	-6.97E-06	3.85E-05	-1.12E-04	-1.04E-03	2.61E-02	5.14E-04	2.15E-20	-2.17E-04	-2.87E-04	-5.98E-05	8.81E-04	-1.18E-03	-4.96E-04	-9.85E-23	-7.81E-21	-5.77E-09	6.88E-09	1.10E-05
Shapiro-Wilk score	9.990E-01	9.751E-01	8.924E-01	8.915E-01	8.901E-01	9.572E-01	9.127E-01	9.896E-01	9.913E-01	9.663E-01	9.755E-01	9.899E-01	9.912E-01	9.864E-01	9.251E-01	9.878E-01	6.025E-01	8.936E-02	9.694E-01	9.939E-01	9.942E-01
fructose16bisphosphate																					
Local	4.06E-01	2.89E-03	4.32E-03	3.39E-02	-1.00E-01	5.73E-03	-1.77E-01	-1.04E-01	1.29E-01	4.42E-17	-1.39E-02	-1.61E-02	-3.31E-03	-6.40E-03	-1.36E-01	-2.56E-02	2.53E-19	2.53E-18	-3.99E-07	1.48E-06	-1.07E-04
Min	-1.30E-01	-7.10E-04	2.32E-03	1.88E-02	-2.57E-01	-1.30E-02	-7.43E-01	-4.64E-01	5.18E-02	-1.34E-15	-3.44E-02	-3.07E-02	-5.97E-03	-9.05E-02	-6.78E-01	-5.09E-02	-5.16E-18	-8.03E-17	-8.84E-07	1.13E-06	-1.24E-03
Max	1.41E+00	4.02E-02	8.14E-03	5.96E-02	-4.86E-02	1.47E-02	-1.66E-02	-1.09E-02	3.29E-01	1.66E-15	-5.26E-03	-2.43E-03	-5.20E-04	9.71E-03	-1.20E-02	-3.79E-03	8.41E-19	3.57E-15	-9.77E-08	3.42E-06	1.30E-04
Normalized peak height	2.36E-03	9.06E-03	3.62E-03	3.76E-03	3.21E-03	3.30E-03	3.14E-03	3.60E-03	3.14E-03	1.82E-01	2.74E-03	2.56E-03	2.61E-03	9.99E-03	4.11E-03	2.35E-03	4.08E-01	8.99E-02	3.30E-03	5.28E-03	7.99E-03
Peak sensitivity value	1.57E-01	8.24E-04	4.19E-03	3.28E-02	-7.54E-02	8.57E-03	-7.22E-02	-4.83E-02	1.19E-01	-1.72E-19	-1.03E-02	-1.73E-02	-3.87E-03	5.47E-04	-1.20E-01	-2.94E-02	-1.99E-21	1.82E-18	-3.02E-07	1.48E-06	1.04E-05
Shapiro-Wilk score	9.586E-01	8.446E-01	9.854E-01	9.892E-01	9.445E-01	9.620E-01	9.298E-01	9.347E-01	9.846E-01	8.569E-01	9.778E-01	9.829E-01	9.811E-01	8.350E-01	9.305E-01	9.842E-01	9.159E-01	5.302E-01	9.860E-01	8.964E-01	8.723E-01
ampg																					
Local	1.67E+01	1.19E-01	-7.45E-03	-6.05E-02	-1.33E+00	-2.22E-01	-5.57E+00	-3.27E+00	4.15E-01	1.77E-15	-4.48E-01	-5.19E-01	-1.07E-01	-4.79E-01	-4.39E+00	-8.26E-01	8.15E-18	3.08E-16	-1.29E-05	4.75E-06	-8.01E-03
Min	4.66E+00	3.96E-02	-1.79E-02	-1.39E-01	-2.66E+00	-4.42E-01	-1.08E+01	-6.90E+00	-4.46E-01	-3.67E-14	-1.20E+00	-7.24E-01	-1.53E-01	-1.13E+00	-1.34E+01	-1.13E+00	-3.82E-16	-1.55E-13	-4.03E-05	-3.36E-06	-1.94E-02
Max	2.41E+01	3.34E-01	-9.25E-04	-1.34E-02	-4.70E-01	-5.68E-02	-2.02E+00	-1.18E+00	1.47E+00	4.25E-14	-5.63E-02	-3.34E-02	-6.93E-03	-4.48E-02	-2.56E-01	-4.99E-02	2.73E-17	3.21E-13	-9.69E-07	2.48E-05	-7.90E-04
Normalized peak height	5.02E-03	3.88E-03	4.14E-03	4.09E-03	3.59E-03	3.92E-03	3.40E-03	3.83E-03	2.42E-03	1.63E-01	3.58E-03	3.36E-03	3.39E-03	1.85E-03	5.61E-03	3.93E-03	4.07E-01	1.48E-01	2.74E-03	2.83E-03	2.61E-03
Peak sensitivity value	1.55E+01	1.20E-01	-6.37E-03	-5.16E-02	-1.22E+00	-1.91E-01	-5.00E+00	-2.91E+00	9.68E-02	-3.78E-17	-3.81E-01	-5.47E-01	-1.20E-01	-2.71E-01	-3.74E+00	-8.64E-01	1.34E-19	-1.98E-16	-9.28E-06	1.58E-06	-9.35E-03
Shapiro-Wilk score	9.979E-01	9.819E-01	9.758E-01	9.773E-01	9.876E-01	9.919E-01	9.808E-01	9.811E-01	9.564E-01	9.561E-01	9.797E-01	9.482E-01	9.469E-01	9.676E-01	9.879E-01	9.388E-01	8.108E-01	6.801E-01	9.729E-01	9.577E-01	9.843E-01

	(glucosetransport)	(hexokinase)	(phosphoglycerateisomerase)	(phophofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)	(phosphoglyceratekinase)	(pyruvatekinase)	(atputilisation)	(glycerolkinase)	(phosphoglycerate mutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglycerate transport)	(gly3phdhapatiporter)	(glycerol transport)
adpg																					
Local	7.71E-00	5.06E-02	-3.17E-03	-2.57E-02	-5.67E-01	-9.47E-02	-2.37E+00	-1.39E+00	1.77E-01	7.55E-16	-1.91E-01	-2.21E-01	-4.54E-02	-2.04E-01	-1.87E+00	-3.52E-01	3.47E-18	-1.01E-17	-5.47E-06	2.02E-06	-3.71E-03
Min	-1.49E+01	-9.74E-01	-1.47E-02	-1.22E-01	-2.11E+00	-3.36E-01	-9.22E+00	-5.66E+00	-2.56E+00	-7.00E-14	-8.92E-01	-4.06E-01	-9.13E-02	-5.03E-01	-1.57E+01	-6.49E-01	-1.64E-16	-6.78E-14	-4.07E-05	4.67E-05	-1.07E-02
Max	1.83E+01	1.42E-01	1.25E-02	1.22E-01	2.50E+00	2.22E-01	8.62E+00	4.61E+00	8.40E-01	8.68E-14	4.12E-01	2.26E-01	4.85E-02	1.92E+00	1.28E+01	4.19E-01	2.20E-17	6.78E-16	3.41E-06	1.80E-05	1.07E-02
Normalized peak height	7.06E-03	2.30E-02	9.53E-03	9.90E-03	9.62E-03	6.41E-03	8.33E-03	8.27E-03	1.39E-02	4.04E-01	2.97E-03	3.34E-03	3.52E-03	1.08E-02	1.49E-02	4.09E-03	3.90E-01	3.12E-01	7.68E-03	2.03E-02	5.83E-03
Peak sensitivity value	6.10E+00	3.53E-02	-1.56E-03	-1.67E-02	-3.35E-01	-6.84E-02	-1.35E+00	-9.29E-01	-9.04E-03	-1.21E-17	-1.95E-01	-2.34E-01	-5.57E-02	-2.62E-02	-1.25E+00	-3.58E-01	5.09E-22	2.72E-17	3.44E-08	-3.01E-07	-7.03E-04
Shapiro-Wilk score	8.762E-01	4.688E-01	9.674E-01	9.599E-01	8.743E-01	9.780E-01	9.188E-01	9.236E-01	8.515E-01	4.783E-01	9.867E-01	9.359E-01	9.321E-01	8.105E-01	9.293E-01	9.354E-01	7.977E-01	1.130E-01	9.278E-01	7.813E-01	9.731E-01
adpc																					
Local	-5.74E-01	-3.66E-03	-1.09E-04	-7.90E-04	-1.10E-02	-3.67E-03	-6.52E-02	-3.83E-02	-3.37E-02	0.00E+00	-5.25E-03	-6.07E-03	7.27E-01	1.54E-02	-5.34E-02	-9.68E-03	9.75E-18	-4.32E-20	-1.50E-07	-3.83E-07	2.58E-04
Min	-7.55E-01	-1.46E-02	-1.47E-03	-1.12E-02	-1.24E-01	-1.85E-02	-4.54E-01	-2.85E-01	-1.24E-01	-7.84E-13	-2.86E-02	-1.62E-02	5.92E-01	3.32E-04	-7.17E-01	-2.85E-02	-2.06E-16	-1.49E-16	-6.18E-07	-1.43E-06	8.25E-07
Max	1.17E-02	5.48E-03	-6.35E-06	-3.72E-05	4.32E-04	-5.65E-05	-3.36E-04	-2.23E-04	-7.97E-04	7.74E-13	-5.46E-04	-1.04E-04	8.16E-01	3.50E-02	-3.54E-04	-1.24E-04	4.33E-17	3.76E-18	-6.94E-10	-2.20E-08	7.35E-04
Normalized peak height	2.84E-03	8.57E-03	1.34E-02	1.38E-02	1.55E-02	5.01E-03	8.09E-03	8.21E-03	3.13E-03	6.15E-01	4.75E-03	2.42E-03	2.50E-03	2.31E-03	1.36E-02	2.58E-03	3.62E-01	3.64E-01	4.67E-03	3.24E-03	3.17E-03
Peak sensitivity value	-6.26E-01	-3.17E-03	-2.76E-05	-2.10E-04	-3.76E-04	-5.28E-04	-5.05E-03	-3.50E-03	-9.47E-03	3.10E-16	-3.68E-03	-5.67E-03	7.20E-01	1.68E-02	-6.45E-03	-1.90E-03	-6.80E-20	5.85E-21	-8.19E-08	-1.66E-07	1.87E-04
Shapiro-Wilk score	9.346E-01	9.160E-01	8.035E-01	7.885E-01	8.194E-01	9.195E-01	8.517E-01	8.571E-01	9.600E-01	3.145E-01	9.083E-01	9.784E-01	9.919E-01	9.765E-01	6.596E-01	9.730E-01	9.093E-01	2.533E-01	9.364E-01	9.713E-01	9.790E-01
dihydroxyacetonephosphate																					
Local	-1.12E-01	-8.00E-04	1.87E-03	1.47E-02	2.89E-01	-7.31E-02	-6.54E-02	-3.84E-02	6.36E-02	-2.29E-17	-5.13E-03	-5.94E-03	-1.22E-03	-6.36E-03	-5.03E-02	-9.47E-03	9.33E-20	1.12E-18	-1.47E-07	7.28E-07	-1.06E-04
Min	-6.42E-01	-1.48E-02	6.00E-04	5.01E-03	1.51E-01	-1.19E-01	-4.06E-01	-2.71E-01	9.78E-03	-1.11E-15	-2.16E-02	-7.67E-02	-3.73E-03	-7.67E-02	-7.13E-01	-3.45E-02	-4.78E-18	-3.32E-17	-6.93E-07	3.76E-07	-1.01E-03
Max	4.00E-01	1.49E-02	6.62E-03	5.30E-02	5.57E-01	-4.34E-02	-3.09E-03	-1.71E-03	7.23E-01	1.26E-15	-9.47E-04	-1.21E-04	-2.37E-05	2.98E-02	-4.48E-04	-1.54E-04	3.83E-19	2.96E-15	-9.33E-10	3.24E-06	2.20E-04
Normalized peak height	4.06E-03	1.70E-02	4.77E-03	5.47E-03	3.59E-03	3.45E-03	7.89E-03	9.21E-03	8.15E-03	2.79E-01	4.10E-03	2.84E-03	2.65E-03	2.62E-02	1.48E-02	3.34E-03	3.66E-01	1.52E-01	5.43E-03	6.23E-03	1.53E-02
Peak sensitivity value	-2.05E-01	-9.12E-04	1.59E-03	1.35E-02	2.73E-01	-6.94E-02	-7.72E-03	-5.35E-03	3.65E-02	5.71E-19	-2.78E-03	-2.25E-03	-3.92E-04	-3.78E-04	-4.37E-03	-2.58E-03	-2.17E-21	-7.55E-19	-7.35E-08	6.46E-07	-8.19E-06
Shapiro-Wilk score	9.609E-01	7.705E-01	9.429E-01	9.536E-01	9.803E-01	9.863E-01	8.750E-01	8.814E-01	9.279E-01	7.686E-01	9.333E-01	9.719E-01	9.745E-01	8.307E-01	6.881E-01	9.657E-01	8.127E-01	2.578E-01	9.282E-01	8.623E-01	8.801E-01
glyceraldehyde3phosphate																					
Local	-1.73E-01	-1.23E-03	1.89E-03	1.49E-02	2.93E-01	6.17E-02	-9.23E-02	-5.41E-02	8.22E-02	-3.55E-17	-7.29E-03	-8.44E-03	-1.73E-03	-4.30E-04	-7.14E-02	-1.34E-02	1.32E-19	1.13E-18	-2.09E-07	5.97E-07	-7.19E-06
Min	-7.05E-01	-1.97E-02	6.15E-04	4.97E-03	1.45E-01	3.12E-02	-5.19E-01	-3.38E-01	9.34E-03	-7.03E-16	-2.71E-02	-2.35E-02	-4.60E-03	-6.22E-02	-1.01E+00	-4.01E-02	-1.11E-17	-3.69E-17	-9.25E-07	3.42E-07	-1.08E-03
Max	6.06E-01	1.69E-02	7.10E-03	5.11E-02	5.78E-01	9.90E-02	-3.62E-03	-1.77E-03	4.91E-01	8.40E-16	-1.02E-03	-2.17E-04	-4.62E-05	3.09E-02	-7.58E-04	-2.55E-04	5.19E-19	1.77E-15	-1.67E-09	3.17E-06	4.00E-04
Normalized peak height	3.60E-03	1.58E-02	5.13E-03	5.01E-03	3.58E-03	3.55E-03	7.22E-03	7.51E-03	7.30E-03	2.13E-01	3.72E-03	2.51E-03	2.43E-03	2.19E-02	1.50E-02	2.78E-03	3.66E-01	1.13E-01	5.09E-03	7.86E-03	1.80E-02
Peak sensitivity value	-3.21E-01	-1.32E-03	1.58E-03	1.28E-02	2.71E-01	5.45E-02	-1.01E-02	-5.97E-03	3.85E-02	-1.05E-20	-3.90E-03	-2.00E-03	-4.77E-04	7.69E-04	-9.31E-03	-2.62E-03	4.78E-22	1.06E-19	-8.25E-08	5.79E-07	1.51E-05
Shapiro-Wilk score	9.431E-01	8.125E-01	9.442E-01	9.539E-01	9.796E-01	9.940E-01	8.808E-01	8.866E-01	8.962E-01	8.148E-01	9.434E-01	9.732E-01	9.751E-01	8.264E-01	6.936E-01	9.674E-01	5.798E-01	4.077E-01	9.301E-01	8.510E-01	8.740E-01
2phosphoglycerate																					
Local	9.33E-01	6.04E-03	1.97E-04	1.43E-03	1.99E-02	6.06E-03	1.18E-01	6.94E-02	6.11E-02	-8.41E-17	9.52E-03	-4.01E-01	-9.48E-02	-2.80E-02	9.32E-02	-7.30E-01	7.25E-18	8.21E-20	2.81E-07	6.99E-07	-4.08E-04
Min	-1.91E-02	-1.01E-02	1.11E-05	6.21E-05	-9.56E-04	7.79E-05	4.24E-04	2.33E-04	1.55E-03	-1.61E-13	8.29E-04	-6.44E-01	-1.37E-01	-7.10E-02	5.95E-04	-1.10E+00	-1.75E-16	-1.55E-17	2.00E-09	4.79E-08	-1.37E-03
Max	1.57E+00	2.84E-02	3.44E-03	2.87E-02	2.39E-01	3.80E-02	9.18E-01	5.81E-01	2.57E-01	1.60E-13	5.35E-02	-3.58E-01	-7.02E-02	-9.03E-04	1.35E+00	-4.97E-01	3.32E-17	4.32E-16	1.15E-06	2.87E-06	-3.20E-06
Normalized peak height	2.97E-03	8.63E-03	1.72E-02	1.91E-02	1.66E-02	5.63E-03	8.98E-03	9.43E-03	3.40E-03	5.69E-01	4.79E-03	2.25E-03	3.12E-03	2.45E-03	1.48E-02	3.16E-03	3.60E-01	4.44E-01	4.72E-03	3.41E-03	3.19E-03
Peak sensitivity value	1.10E+00	5.77E-03	5.05E-05	3.91E-04	6.06E-04	8.56E-04	9.14E-03	7.50E-03	1.75E-02	-4.54E-17	5.70E-03	-4.14E-01	-9.62E-02	-3.14E-02	1.07E-02	-6.77E-01	1.04E-19	-2.85E-20	1.34E-07	2.61E-07	-2.58E-04
Shapiro-Wilk score	9.458E-01	9.129E-01	8.036E-01	7.889E-01	8.188E-01	9.179E-01	8.520E-01	8.576E-01	9.642E-01	3.120E-01	9.006E-01	9.690E-01	9.957E-01	9.765E-01	6.579E-01	9.852E-01	9.213E-01	1.167E-01	9.367E-01	9.681E-01	9.756E-01
glucose																					
Local	4.20E+00	-1.04E+00	-1.17E-02	-7.39E-02	-1.09E-01	-2.68E-02	-6.92E-01	-4.06E-01	5.93E-02	2.20E-16	-5.57E-02	-6.44E-02	-1.33E-02	-5.89E-02	-5.45E-01	-1.03E-01	1.01E-18	-2.56E-19	-1.60E-06	6.79E-07	-9.85E-04
Min	1.12E+00	-1.07E+00	-5.45E-02	-4.22E-01	-4.35E+00	-3.85E-01	-1.41E+01	-9.20E+00	-4.46E-01	-1.29E-13	-8.11E-01	-4.28E-01	-9.15E-02	-2.37E+00	-2.27E+01	-8.54E-01	-2.68E-17	-7.57E-16	-6.95E-06	-9.72E-07	-1.91E-02
Max	2.75E+01	3.58E-01	-1.62E-03	-1.57E-02	-3.24E-03	9.09E-02	-5.30E-03	-3.26E-03	3.49E+00	2.84E-13	-1.06E-02	-1.29E-03	-3.26E-04	-2.25E-06	-6.21E-03	-2.03E-03	9.47E-18	1.78E-13	-7.53E-09	8.37E-05	-2.50E-08
Normalized peak height	1.25E-02	5.97E-02	5.45E-03	6.30E-03	3.03E-02	1.83E-02	2.31E-02	2.49E-02	1.18E-01	6.71E-01	1.43E-02	5.26E-03	5.12E-03	1.02E-01	3.98E-02	6.62E-03	3.64E-01	9.93E-01	4.47E-03	1.72E-01	4.62E-02
Peak sensitivity value	1.31E+00	-1.04E+00	-9.64E-03	-5.86E-02	-1.85E-02	-2.12E-03	-6.85E-02	-4.47E-02	5.19E-03	-1.36E-17	-2.94E-02	-1.77E-02	-3.65E-03	-1.19E-03	-6.29E-02	-2.38E-02	1.31E-20	4.79E-17	-6.98E-07	8.63E-08	-2.86E-05
Shapiro-Wilk score	8.407E-01	4.169E-01	9.209E-01	9.146E-01	7.406E-01	8.084E-01	7.474E-01	7.491E-01	7.093E-01	2.472E-01	7.552E-01	9.175E-01	9.215E-01	7.278E-01	5.434E-01	9.056E-01	8.574E-01	9.539E-04	9.358E-01	6.490E-01	8.123E-01
fructose6phosphate																					
Local	1.54E+00	1.10E-02	4.77E-03	-1.07E+00	-1.09E-01	6.21E-03	-1.92E-01	-1.13E-01	1.40E-01	4.79E-17	-1.51E-02	-1.75E-02	-3.59E-03	-6.96E-03	-1.48E-01	-2.78E-02	2.74E-19	2.79E-18	-4.33E-07	1.60E-06	-1.16E-04
Min	3.77E-01	2.29E-03	1.40E-03	-1.20E+00	-8.68E-01	-7.42E-02	-3.09E+00	-1.80E+00	2.72E-04	-3.14E-14	-2.18E-01	-9.98E-02	-2.24E-02	-5.63E-01	-4.20E+00	-1.91E-01	-1.06E-17	-1.67E-16	-1.95E-06	4.79E-09	-3.25E-03
Max	6.84E+00	1.10E+00	2.43E-02	-1.01E+00	-1.76E-02	2.72E-02	1.64E-01	8.02E-02	1.26E+00	3.51E-14	2.95E-03	1.48E-03	3.20E-04	5.95E-02	1.90E-02	2.24E-03	1.57E-18	2.00E-14	3.80E-08	1.76E-05	6.34E-04
Normalized peak height	1.11E-02	1.01E-01	6.05E-03	4.87E-03	9.43E-03	9.24E-03	2.14E-02	2.09E-02	7.24E-03	6.37E-01	1.40E-02	4.72E-03	4.89E-03	8.80E-02	2.95E-02	5.92E-03	3.62E-01	3.42E-01	4.89E-03	1.65E-02	3.56E-02
Peak sensitivity value	1.09E+00	6.13E-03	4.14E-03	-1.07E+00	-6.55E-02	9.19E-03	-2.34E-02	-1.11E-02	7.80E-02	-5.82E-18	-8.20E-03	-4.45E-03	-9.43E-04	6.20E-04	-1.68E-02	-6.34E-03	-4.06E-21	3.78E-18	-1.90E-07	1.41E-06	6.67E-06
Shapiro-Wilk score	9.241E-01	4.464E-01	8.919E-01	9.767E-01	8.787E-01	9.249E-01	8.473E-01	8.478E-01	9.257E-01	3.029E-01	8.898E-01	9.089E-01	9.721E-01	7.885E-01	6.596E-01	9.612E-01	8.268E-01	9.593E-02	9.381E-01	7.752E-01	8.557E-01
3phosphoglycerate																					
Local	3.56E+00	2.51E-02	7.47E-04	5.43E-03	7.74E-02	2.52E-02	4.88E-01	2.63E-01	2.31E-01	2.58E-22	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	-9.98E-06	2.05E-06	-1.77E-03
Min	-9.53E-02	-3.71E-02	2.88E-05	1.62E-04	-1.87E-03	2.48E-04	1.74E-03	1.13E-03	5.67E-03	-8.49E-14	2.37E-03	-5.78E-01	-1.32E-01	-9.45E-01	-2.19E+01	-1.01E+00	-7.79E-17	-5.87E-17	-8.33E-05	1.04E-07	-1.48E-02
Max	2.10E+01	3.96E-01	1.84E-02	1.57E-01	1.86E+00	2.65E-01	7.54E+00	4.04E+00	2.04E+00	8.19E-14	9.14E-01	-2.44E-02	-4.78E-03	-3.49E-03	-1.22E+00	-3.30E-02	3.01E-17	1.99E-15	-2.17E-08	3.77E-05	-1.60E-05
Normalized peak height	9.28E-03	1.93E-02	2.61E-02	3.05E-02	4.38E-02	1.22E-02	2.40E-02	2.09E-02	8.03E-03	4.58E-01	2.25E-02	4.20E-03	4.85E-03	7.71E-03	8.59E-03	4.90E-03	3.59E-01	4.69E-01	4.74E-03	1.20E-02	7.65E-03
Peak sensitivity value	2.94E+00	1.60E-02	1.48E-04	1.02E-03	9.22E-04	2.77E-03	2.81E-02	1.53E-02	4.12E-02	-6.26E-17	1.47E-02	-3.87E-01	-8.76E-02	-2.75E-02	-2.10E+00	-5.80E-01	9.95E-21	-3.24E-19	-7.47E-06	6.11E-07	-4.83E-04
Shapiro-Wilk score	9.490E-01	6.064E-01	7.484E-01	7.482E-01	7.979E-01	8.799E-01	8.446E-01	8.359E-01	8.260E-01	3.499E-01	5.729E-01	9.587E-01	9.409E-01	7.888E-01	8.115E-01	9.641E-01	9.347E-01	9.787E-02	9.350E-01	7.627E-01	8.095E-01

Table 6: Concentration control coefficients for *Trypanosoma brucei* model with parameter variation of ±20%

glycerol																					
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	-9.89E-01
Min	-1.27E+00	-2.91E-01	-1.48E-02	-1.29E-01	-1.99E+00	-4.43E-01	-1.01E+01	-6.23E+00	-4.42E+00	-9.32E-14	-8.94E-01	-4.35E-01	-9.16E-02	1.57E-01	-1.53E+01	-7.05E-01	-5.51E-17	-1.24E-14	-3.57E-05	-6.93E-05	-9.99E-01
Max	2.00E+01	2.95E-01	7.27E-03	6.28E-02	7.43E-01	1.71E-02	1.57E+00	8.48E-01	-2.73E-01	4.07E-14	7.43E-02	4.07E-02	9.32E-03	9.78E-01	1.69E+00	6.89E-02	1.87E-17	1.40E-16	5.92E-07	-1.65E-06	-9.60E-01
Normalized peak height	4.65E-03	7.97E-03	8.78E-03	9.14E-03	6.91E-03	4.95E-03	6.01E-03	6.32E-03	4.71E-03	3.32E-01	3.21E-03	2.67E-03	2.56E-03	2.32E-03	9.41E-03	2.95E-03	3.76E-01	4.33E-01	6.69E-03	3.76E-03	4.20E-03
Peak sensitivity value	7.62E+00	4.01E-02	-5.08E-04	-7.50E-03	-2.06E-01	-1.10E-01	-1.59E+00	-9.83E-01	-1.49E+00	3.74E-17	-1.36E-01	-2.45E-01	-5.61E-02	9.10E-01	-1.18E+00	-3.74E-01	1.08E-20	-4.13E-18	-6.70E-09	-9.32E-06	-9.97E-01
Shapiro-Wilk score	9.652E-01	9.231E-01	9.665E-01	9.652E-01	9.749E-01	9.844E-01	9.705E-01	9.714E-01	9.802E-01	6.965E-01	9.533E-01	9.538E-01	9.487E-01	9.341E-01	9.083E-01	9.567E-01	8.693E-01	8.401E-02	9.187E-01	9.387E-01	9.460E-01
pyruvate																					
Local	5.54E+00	3.94E-02	1.17E-03	8.51E-03	1.18E-01	3.96E-02	7.02E-01	4.12E-01	3.62E-01	-7.85E+00	5.65E-02	6.54E-02	1.35E-02	-1.66E-01	5.54E-01	1.04E-01	-1.03E-18	4.87E-19	1.62E-06	4.15E-06	-2.78E-03
Min	-2.26E-01	-7.71E-02	3.10E-05	1.80E-04	-6.89E-03	2.69E-04	1.63E-03	9.91E-04	5.06E-03	-8.58E+03	2.14E-03	4.48E-04	1.23E-04	-2.58E+02	1.69E-03	6.55E-04	-5.87E-16	-1.27E-14	6.51E-09	8.88E-08	-3.34E+00
Max	5.74E+03	6.01E+01	6.40E+00	4.48E+01	5.93E+02	1.15E+02	3.18E+03	2.55E+03	8.56E+02	-2.37E+00	1.09E+02	9.02E+01	1.81E+01	-3.06E-03	1.82E+03	1.39E+02	6.76E-16	1.33E-14	3.28E-03	6.62E-03	-1.07E-05
Normalized peak height	7.29E-01	6.77E-01	9.08E-01	9.01E-01	8.84E-01	8.68E-01	8.93E-01	9.26E-01	8.76E-01	7.85E-01	8.21E-01	7.98E-01	7.94E-01	8.18E-01	8.62E-01	7.88E-01	8.06E-01	8.79E-01	8.84E-01	8.01E-01	7.96E-01
Peak sensitivity value	2.64E+00	1.32E-02	3.23E-03	2.26E-02	2.90E-01	5.78E-02	1.59E+00	1.27E+00	4.33E-01	-6.66E+00	5.68E-02	4.56E-02	9.19E-03	-1.32E-01	9.11E-01	7.02E-02	-2.24E-19	6.90E-18	1.65E-06	3.40E-06	-1.68E-03
Shapiro-Wilk score	6.200E-02	5.901E-02	3.473E-02	3.512E-02	3.561E-02	4.250E-02	3.559E-02	3.295E-02	5.210E-02	6.015E-02	5.836E-02	6.075E-02	6.238E-02	5.664E-02	4.826E-02	6.286E-02	6.441E-02	3.874E-02	5.000E-02	5.325E-02	5.845E-02
dihydroxyacetonephosphate cytosol																					
Local	-3.10E-01	-2.20E-03	-1.68E-04	-1.28E-03	-2.24E-02	-7.65E-03	-1.35E-01	-7.90E-02	6.75E-01	-6.46E-17	-1.08E-02	-1.25E-02	-2.58E-03	3.30E-02	-1.06E-01	-2.00E-02	1.97E-19	-9.46E-20	-3.10E-07	-8.20E-07	5.52E-04
Min	-2.73E+00	-2.38E-02	-4.60E-03	-3.15E-02	-3.83E-01	-8.92E-02	-1.44E+00	-1.19E+00	1.53E-01	-1.60E-15	-1.10E-01	-1.12E-01	-2.20E-02	4.99E-04	-2.78E+00	-2.25E-01	-7.78E-18	-7.23E-16	-4.10E-06	-5.81E-06	1.20E-05
Max	1.35E+00	3.64E-02	8.81E-04	5.73E-03	1.89E-02	-3.95E-05	-2.88E-04	-1.34E-04	4.24E+00	2.00E-15	-4.01E-04	-8.47E-05	-1.49E-05	2.61E-01	-3.04E-04	-9.69E-05	1.41E-18	2.41E-17	-6.45E-10	-2.82E-08	3.42E-03
Normalized peak height	6.54E-03	1.58E-02	4.16E-02	3.83E-02	3.63E-02	1.42E-02	1.62E-02	2.23E-02	9.05E-03	2.23E-01	9.01E-03	1.01E-02	9.01E-03	6.80E-03	3.77E-02	1.29E-02	3.69E-01	5.28E-01	1.62E-02	6.14E-03	6.02E-03
Peak sensitivity value	-3.27E-01	-1.76E-03	-2.11E-05	-1.38E-04	-1.49E-04	-6.19E-04	-6.78E-03	-5.48E-03	4.00E-01	-1.79E-18	-3.19E-03	-1.26E-03	-4.44E-04	6.35E-03	-7.26E-03	-1.78E-03	1.69E-21	-1.42E-19	-5.19E-08	-1.93E-07	2.52E-04
Shapiro-Wilk score	9.897E-01	8.919E-01	7.556E-01	7.748E-01	7.848E-01	8.540E-01	8.315E-01	8.160E-01	8.573E-01	7.529E-01	8.461E-01	8.355E-01	8.480E-01	9.044E-01	6.572E-01	8.177E-01	7.758E-01	1.217E-01	7.579E-01	9.440E-01	8.831E-01
nadh																					
Local	1.19E+00	8.44E-03	1.92E-04	1.37E-03	1.64E-02	1.21E-02	1.67E-01	-1.51E+00	-3.09E-02	2.01E-16	1.34E-02	1.55E-02	3.19E-03	-3.88E-02	1.31E-01	2.47E-02	-2.44E-19	7.06E-20	3.85E-07	-3.54E-07	-6.48E-04
Min	-9.49E-02	-1.23E-02	-8.80E-05	-6.68E-04	-2.67E-02	1.45E-03	7.73E-04	-2.02E+00	-1.34E+00	-1.60E-15	9.30E-04	1.62E-04	3.56E-05	-1.27E-01	8.15E-04	1.97E-04	-1.21E-18	-9.85E-18	3.31E-09	-3.41E-06	-2.04E-03
Max	2.38E+00	3.00E-02	3.02E-03	2.82E-02	2.60E-01	4.80E-02	1.03E+00	-1.02E+00	9.59E-02	1.42E-15	7.35E-02	5.51E-02	1.06E-02	-1.02E-03	1.81E+00	9.70E-02	1.42E-17	4.02E-16	1.78E-06	1.74E-06	-9.32E-06
Normalized peak height	4.02E-03	7.81E-03	1.49E-02	1.79E-02	9.86E-03	4.21E-03	7.15E-03	4.09E-03	1.27E-02	1.96E-01	4.56E-03	2.84E-03	2.83E-03	2.80E-03	1.37E-02	3.32E-03	3.70E-01	3.51E-01	4.97E-03	3.78E-03	3.33E-03
Peak sensitivity value	1.40E+00	7.50E-03	1.63E-05	3.94E-05	-6.72E-03	3.85E-03	1.57E-02	-1.44E+00	-2.70E-02	8.79E-19	6.92E-03	1.38E-02	2.94E-03	-3.84E-02	1.26E-02	4.21E-03	-5.95E-21	-1.80E-19	2.19E-07	-5.76E-07	-4.71E-04
Shapiro-Wilk score	9.354E-01	9.299E-01	8.100E-01	8.010E-01	8.354E-01	9.307E-01	8.612E-01	9.968E-01	8.473E-01	8.870E-01	9.292E-01	9.743E-01	9.777E-01	9.787E-01	6.826E-01	9.668E-01	8.032E-01	1.775E-01	9.126E-01	9.973E-01	9.732E-01
glycerol3phosphate																					
Local	9.63E-01	6.85E-03	2.45E-03	1.91E-02	3.66E-01	-4.66E-02	4.02E-01	2.36E-01	-2.28E+00	2.02E-16	3.25E-02	3.76E-02	7.73E-03	-1.21E-01	3.18E-01	5.99E-02	-5.90E-19	1.45E-18	9.31E-07	-2.61E-05	-2.02E-03
Min	-2.77E+00	-8.51E-02	6.45E-04	5.12E-03	1.65E-01	-9.32E-02	-4.22E-03	-2.40E-03	-6.95E+00	-7.33E-15	1.46E-03	3.22E-04	7.21E-05	-7.09E-01	1.09E-03	4.45E-04	-4.45E-18	-6.44E-17	2.20E-09	-8.30E-05	-7.42E-03
Max	5.32E+00	1.23E-01	1.25E-02	8.49E-02	1.27E+00	5.30E-02	2.88E+00	1.84E+00	-1.10E+00	4.39E-15	1.52E-01	1.57E-01	3.06E-02	-4.19E-03	5.57E+00	2.97E-01	9.71E-18	2.58E-15	5.56E-06	-7.31E-06	-7.48E-05
Normalized peak height	5.31E-03	1.87E-02	6.24E-03	5.35E-03	4.66E-03	4.30E-03	8.86E-03	9.36E-03	7.62E-03	2.76E-01	4.15E-03	3.90E-03	3.65E-03	4.42E-03	2.06E-02	4.98E-03	3.62E-01	1.30E-01	6.66E-03	4.03E-03	3.32E-03
Peak sensitivity value	1.59E+00	7.36E-03	1.75E-03	1.50E-02	3.05E-01	-5.68E-02	2.89E-02	1.32E-02	-2.01E+00	-1.65E-18	1.66E-02	6.50E-03	1.43E-03	-3.42E-02	2.06E-02	9.49E-03	2.57E-21	4.74E-19	2.22E-07	-2.30E-05	-1.66E-03
Shapiro-Wilk score	9.608E-01	8.677E-01	9.119E-01	9.251E-01	9.307E-01	9.652E-01	8.856E-01	8.828E-01	9.472E-01	8.213E-01	9.396E-01	9.379E-01	9.461E-01	9.453E-01	7.014E-01	9.260E-01	8.783E-01	2.991E-01	8.613E-01	9.638E-01	9.711E-01
glucose6phosphate																					
Local	1.66E+00	1.18E-02	-1.68E-01	-1.04E+00	-1.04E-01	6.02E-03	-1.84E-01	-1.08E-01	1.35E-01	4.60E-17	-1.45E-02	-1.68E-02	-3.45E-03	-6.64E-03	-1.42E-01	-2.67E-02	2.64E-19	2.69E-18	-4.16E-07	1.54E-06	-1.11E-04
Min	4.90E-01	2.67E-03	-2.53E-01	-1.15E+00	-7.99E-01	-5.90E-02	-2.43E+00	-1.57E+00	-1.21E-02	-1.76E-14	-1.30E-01	-7.43E-02	-1.41E-02	-5.08E-01	-2.86E+00	-1.08E-01	-4.48E-18	-1.60E-16	-1.71E-06	-1.93E-07	-3.36E-03
Max	5.73E+00	9.41E-01	-1.08E-01	-9.71E-01	-1.65E-02	2.23E-02	1.89E-01	1.43E-01	1.25E+00	3.82E-14	5.60E-03	2.78E-03	6.66E-04	7.37E-02	4.83E-02	4.43E-03	1.37E-18	3.26E-15	5.39E-08	1.28E-05	8.06E-04
Normalized peak height	9.13E-03	8.26E-02	3.29E-03	3.78E-03	9.17E-03	8.25E-03	1.85E-02	2.01E-02	7.11E-03	5.81E-01	9.30E-03	3.84E-03	3.57E-03	8.02E-02	2.23E-02	3.85E-03	3.60E-01	1.16E-01	4.67E-03	1.31E-02	3.94E-02
Peak sensitivity value	1.22E+00	5.96E-03	-1.64E-01	-1.03E+00	-6.07E-02	8.32E-03	-1.99E-02	-1.18E-02	8.06E-02	2.08E-17	-7.53E-03	-3.20E-03	-6.29E-04	7.12E-04	-1.71E-02	-4.50E-03	-7.28E-22	-1.32E-18	-1.80E-07	1.40E-06	7.85E-06
Shapiro-Wilk score	9.254E-01	4.582E-01	9.943E-01	9.842E-01	8.788E-01	9.231E-01	8.466E-01	8.465E-01	9.235E-01	3.183E-01	8.952E-01	9.683E-01	9.720E-01	7.880E-01	6.611E-01	9.605E-01	8.892E-01	4.222E-01	9.373E-01	7.855E-01	8.510E-01
3phosphoglycerate cytosol																					
Local	3.53E+00	2.51E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.48E-01	2.63E-01	2.31E-01	0.00E+00	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	1.03E-06	2.65E-06	-1.77E-03
Min	-1.08E-01	-4.13E-02	2.54E-05	1.40E-04	-1.80E-03	2.48E-04	9.27E-04	6.36E-04	5.64E-03	-8.92E-14	2.39E-03	-5.85E-01	-1.28E-01	-1.02E+00	-2.04E+01	-9.70E-01	-1.89E-16	-4.01E-17	3.35E-08	1.09E-07	-1.54E-02
Max	1.82E+01	4.03E-01	2.01E-02	1.52E-01	1.61E+00	2.55E-01	6.61E+00	3.94E+00	2.16E+00	1.50E-13	8.55E-01	-1.27E-02	-3.20E-03	-3.63E-03	-1.23E+00	-2.51E-02	2.88E-17	4.07E-15	2.96E-06	3.72E-05	-7.51E-06
Normalized peak height	7.82E-03	1.98E-02	2.85E-02	3.04E-02	3.66E-02	1.19E-02	2.05E-02	2.12E-02	8.53E-03	5.00E-01	2.03E-02	4.35E-03	4.68E-03	8.20E-03	7.55E-03	4.86E-03	3.58E-01	5.96E-01	3.29E-03	1.19E-02	8.11E-03
Peak sensitivity value	2.94E+00	1.67E-02	1.36E-04	9.74E-04	6.11E-04	2.16E-03	3.07E-02	1.44E-02	3.69E-02	6.82E-17	1.56E-02	-3.89E-01	-8.81E-02	-2.35E-02	-2.14E+00	-5.99E-01	-5.00E-20	-1.01E-18	8.49E-07	5.73E-07	-4.45E-04
Shapiro-Wilk score	9.521E-01	6.083E-01	7.501E-01	7.485E-01	7.968E-01	8.806E-01	8.448E-01	8.353E-01	8.300E-01	3.420E-01	5.740E-01	9.597E-01	9.425E-01	7.950E-01	8.167E-01	9.639E-01	9.045E-01	5.069E-02	9.847E-01	7.707E-01	8.142E-01
phosphoenolpyruvate																					
Local	4.22E-01	3.01E-03	8.93E-05	6.49E-04	9.02E-03	3.02E-03	5.36E-02	3.14E-02	2.76E-02	-1.05E-16	4.31E-03	-4.91E-01	-1.01E-01	-1.27E-02	4.22E-02	7.95E-03	7.72E-18	3.72E-20	1.24E-07	3.16E-07	-2.12E-04
Min	-7.44E-03	-5.33E-03	6.01E-06	3.89E-05	-3.03E-04	4.81E-05	3.38E-04	1.60E-04	1.31E-03	-1.68E-13	5.29E-04	-6.80E-01	-1.46E-01	-3.26E-02	3.49E-04	1.31E-04	-3.38E-16	-4.32E-18	1.26E-09	2.05E-08	-6.74E-04
Max	7.47E-01	1.15E-02	1.55E-03	1.24E-02	1.07E-01	1.70E-02	4.41E-01	2.70E-01	1.18E-01	1.80E-13	2.49E-02	-3.79E-01	-7.53E-02	-5.95E-04	6.77E-01	2.45E-02	3.53E-17	1.03E-16	5.56E-07	1.16E-06	-1.49E-06
Normalized peak height	2.31E-03	8.22E-03	1.70E-02	1.81E-02	1.57E-02	5.19E-03	9.24E-03	9.22E-03	3.43E-03	5.32E-01	5.36E-03	2.13E-03	3.08E-03	2.51E-03	1.60E-02	2.57E-03	3.62E-01	3.36E-01	4.94E-03	2.96E-03	3.67E-03
Peak sensitivity value	4.99E-01	2.84E-03	2.53E-05	1.93E-04	2.86E-04	3.11E-04	3.64E-03	2.72E-03	6.74E-03	8.64E-17	2.93E-03	-4.28E-01	-1.05E-01	-1.38E-02	5.43E-03	1.60E-03	4.46E-21	1.33E-20	6.81E-08	1.09E-07	-1.32E-04
Shapiro-Wilk score	9.681E-01	9.202E-01	7.966E-01	7.806E-01	8.128E-01	9.147E-01	8.457E-01	8.510E-01	9.653E-01	2.981E-01	9.022E-01	9.672E-01	9.956E-01	9.794E-01	6.538E-01	9.720E-01	8.874E-01	1.883E-01	9.273E-01	9.682E-01	9.744E-01
bisphosphoglycerate																					
Local	-5.89E+00	-4.19E-02	5.08E-03	4.06E-02	8.47E-01	1.55E-01	3.68E+00	2.16E+00	4.96E-03	-1.01E-15	-8.02E-02	-9.29E-02	-1.91E-02	1.64E-01	-7.86E-01	-1.48E-01	1.46E-18	3.25E-18	-2.30E-06	5.67E-08	2.74E-03
Min	-1.76E+01	-3.38E-01	3.54E-04	5.19E-03	2.58E-01	3.17E-02	1.18E+00	5.49E-01	-1.04E+00	-5.10E-14	-9.78E-01	-5.03E-01	-1.03E-01	-1.06E-01	-1.15E+01	-7.70E-01	-2.12E-17	-2.05E-16	-4.19E-05	-2.34E-05	-1.58E-03
Max	5.82E-01	2.18E-02	2.62E-02	1.98E-01	2.88E+00	4.80E-01	1.13E+01	7.46E+00	2.84E+00	6.15E-14	-5.12E-03	-6.82E-04	-1.68E-04	8.18E-01	-2.72E-03	-9.16E-04	1.97E-17	8.00E-15	-6.11E-09	9.37E-06	1.43E-02
Normalized peak height	4.84E-03	8.68E-03	5.60E-03	5.63E-03	4.11E-03	5.21E-03	3.56E-03	4.32E-03	1.51E-02	3.51E-01	1.18E-02	6.12E-03	5.87E-03	6.02E-03	2.29E-02	6.76E-03	3.63E-01	1.84E-01	2.01E-02	1.15E-02	6.21E-03
Peak sensitivity value	-4.31E+00	-2.16E-02	3.05E-03	2.88E-02	5.48E-01	1.15E-01	2.31E+00	1.47E+00	5.06E-02	3.52E-17	-1.83E-02	-9.47E-03	-2.47E-03	2.89E-02	-3.16E-02	-1.28E-02	-5.88E-21	3.99E-18	-4.46E-07	1.13E-06	5.53E-04
Shapiro-Wilk score	9.795E-01	7.768E-01	9.230E-01	9.303E-01	9.495E-01	9.419E-01	9.557E-01	9.531E-01	9.407E-01	7.027E-01	7.493E-01	8.849E-01	8.857E-01	9.057E-01	8.292E-01	8.858E-01	8.045E-01	2.737E-01	7.126E-01	8.628E-01	9.020E-01
atpg																					
Local	-2.48E+00	-1.77E-02	1.11E-03	8.98E-03	1.98E-01	3.30E-02	8.27E-01	4.85E-01	-6.16E-02	-2.63E-16	6.66E-02	7.71E-02	1.58E-02	7.12E-02	6.52E-01	1.23E-01	-1.21E-18	-7.32E-18	1.91E-06	-7.06E-07	1.19E-03
Min	-3.49E+01	-2.07E+00	-2.64E-02	-1.40E-01	1.17E-03	-1.36E-01	4.85E-03	3.21E-03	-5.37E+00	-1.90E-13	1.11E-02	1.38E-03	3.54E-04	6.01E-05	5.09E-03	1.83E-03	-1.16E-17	-1.96E-13	4.66E-08	-1.19E-04	8.02E-07
Max	-4.08E-02	-1.57E-04	3.44E-02	3.61E-01	6.31E+00	5.38E-01	1.99E+01	1.10E+01	5.27E-01	1.66E-13	9.96E-01	5.45E-01	1.20E-01	3.99E+00	3.37E+01	1.05E+00	2.34E-17	7.92E-16	1.02E-05	1.77E-06	2.88E-02
Normalized peak height	1.51E-02	1.34E-01	7.17E-02	6.84E-02	4.10E-02	2.24E-02	2.96E-02	2.69E-02	1.73E-01	6.28E-01	1.56E-02	5.63E-03	5.83E-03	1.40E-01	5.23E-02	6.96E-03	3.63E-01	5.39E-01	5.17E-03	2.49E-01	5.94E-02
Peak sensitivity value	-2.67E-01	-1.19E-03	6.80E-05	6.22E-04	1.69E-02	3.42E-03	7.46E-02	4.17E-02	-5.47E-04	-2.54E-17	3.33E-02	1.58E-02	4.49E-03	2.06E-03	5.56E-02	2.33E-02	-6.85E-21	-9.60E-17	8.11E-07	2.34E-08	1.52E-05
Shapiro-Wilk score	8.231E-01	4.909E-01	8.025E-01	7.846E-01	7.316E-01	7.896E-01	7.366E-01	7.394E-01	7.047E-01	3.142E-01	7.544E-01	8.920E-01	8.964E-01	7.222E-01	5.327E-01	8.805E-01	8.498E-01	2.356E-02	9.168E-01	6.500E-01	7.941E-01
ampc																					
Local	-1.22E+00	-8.69E-03	-2.58E-04	-1.87E-03	-2.61E-02	-8.72E-03	-1.55E-01	-9.08E-02	-7.98E-02	-6.07E-20	-1.24E-02	-1.44E-02	1.73E+00	3.66E-02	-1.22E-01	-2.30E-02	-3.42E-16	-1.07E-19	-3.57E-07	-9.14E-07	6.12E-04
Min	-1.73E+00	-3.19E-02	-3.86E-03	-3.37E-02	-2.87E-01	-4.25E-02	-1.08E+00	-6.77E-01	-3.87E-01	-3.62E-12	-7.25E-02	-4.03E-02	1.59E+00	1.68E-03	-1.67E+00	-6.94E-02	-9.70E-16	-8.31E-16	-1.51E-06	-3.30E-06	3.55E-06
Max	5.80E-02	1.70E-02	-1.68E-05	-9.83E-05	1.07E-03	-1.61E-04	-8.99E-04	-4.98E-04	-3.61E-03	1.83E-12	-1.38E-03	-2.37E-04	1.81E+00	8.80E-02	-9.68E-04	-2.93E-04	1.95E-14	9.98E-18	-3.07E-09	-6.84E-08	1.69E-03
Normalized peak height	3.50E-03	9.03E-03	1.46E-02	1.70E-02	1.46E-02	4.90E-03	8.00E-03	8.37E-03	3.85E-03	6.19E-01	5.18E-03	2.43E-03	2.60E-03	2.46E-03	1.34E-02	2.69E-03	3.66E-01	4.72E-01	4.89E-03	3.00E-03	3.13E-03
Peak sensitivity value	-1.59E+00	-7.88E-03	-6.87E-05	-5.19E-04	-5.12E-04	-1.16E-03	-1.12E-02	-8.28E-03	-9.00E-02	2.00E-15	-1.07E-02	-1.60E-02	1.72E+00	3.67E-02	-1.85E-02	-2.11E-02	3.42E-19	3.14E-19	-1.80E-07	-3.67E-07	4.58E-04
Shapiro-Wilk score	9.245E-01	9.185E-01	8.029E-01	7.849E-01	8.181E-01	9.197E-01	8.503E-01	8.560E-01	9.705E-01	3.002E-01	9.085E-01	9.790E-01	9.914E-01	9.764E-01	6.637E-01	9.741E-01	8.334E-01	1.185E-01	9.379E-01	9.727E-01	9.793E-01
nad																					
Local	-2.14E-02	-1.52E-04	-3.47E-06	-2.46E-05	-2.95E-04	-2.18E-04	-3.01E-03	2.72E-02	5.57E-04	-3.62E-18	-2.42E-04	-2.80E-04	-5.76E-05	6.99E-04	-2.37E-03	-4.46E-04	4.40E-21	-1.27E-21	-6.93E-09	6.38E-09	1.17E-05
Min	-6.34E-02	-8.31E-04	-7.22E-05	-5.66E-04	-6.94E-03	-1.55E-03	-3.24E-02	9.31E-03	-2.74E-03	-4.65E-17	-1.98E-03	-1.48E-03	-3.11E-04	1.67E-05	-5.01E-02	-3.07E-03	-3.71E-20	-1.61E-17	-4.88E-08	-5.81E-08	1.39E-07
Max	9.19E-04	1.64E-04	2.42E-06	1.68E-05	6.17E-04	-1.25E-05	-1.21E-05	7.19E-02	2.48E-02	4.10E-17	-1.21E-05	-2.55E-06	-5.76E-07	3.66E-03	-1.09E-05	-3.49E-06	3.09E-20	2.04E-19	-2.77E-11	8.27E-08	5.67E-05
Normalized peak height	3.61E-03	7.70E-03	2.51E-02	2.57E-02	1.75E-02	7.17E-03	1.55E-02	3.96E-03	1.67E-02	2.59E-01	6.39E-03	4.59E-03	4.38E-03	4.34E-03	2.50E-02	6.32E-03	3.60E-01	6.02E-01	7.19E-03	6.77E-03	4.65E-03
Peak sensitivity value	-1.66E-02	-1.08E-04	-8.02E-08	-3.61E-07	6.92E-05	-5.03E-05	-1.25E-04	2.15E-02	3.34E-04	9.77E-21	-8.78E-05	-4.31E-05	-7.57E-06	1.93E-04	-1.86E-04	-5.41E-05	2.13E-23	7.61E-22	-2.39E-09	7.30E-09	2.77E-06
Shapiro-Wilk score	9.882E-01	8.837E-01	7.716E-01	7.645E-01	7.943E-01	8.997E-01	8.252E-01	9.571E-01	8.190E-01	8.629E-01	8.787E-01	9.326E-01	9.403E-01	9.453E-01	6.673E-01	9.194E-01	1.000E+00	1.048E-01	8.549E-01	9.927E-01	9.277E-01
fructose16bisphosphate																					
Local	4.06E-01	2.89E-03	4.32E-03	3.39E-02	-1.00E-01	5.73E-03	-1.77E-01	-1.04E-01	1.29E-01	4.42E-17	-1.39E-02	-1.61E-02	-3.31E-03	-6.40E-03	-1.36E-01	-2.56E-02	2.53E-19	2.53E-18	-3.99E-07	1.48E-06	-1.07E-04
Min	-6.72E-01	-8.01E-02	1.33E-03	1.04E-02	-3.80E-01	-2.31E-02	-9.71E-01	-7.51E-01	7.85E-03	-2.54E-15	-6.31E-02	-5.10E-02	-9.81E-03	-1.28E-01	-1.94E+00	-8.80E-02	-6.34E-18	-8.23E-17	-1.57E-06	2.19E-07	-2.12E-03
Max	1.97E+00	5.82E-02	1.54E-02	1.38E-01	-2.31E-02	2.43E-02	7.15E-02	3.80E-02	1.47E+00	3.09E-15	2.00E-03	9.22E-04	1.82E-04	7.82E-02	4.81E-02	1.45E-03	1.74E-18	8.74E-15	1.81E-08	6.32E-06	8.25E-04
Normalized peak height	5.08E-03	5.00E-02	4.71E-03	5.51E-03	4.84E-03	5.02E-03	7.88E-03	9.66E-03	9.04E-03	3.39E-01	4.94E-03	2.99E-03	2.66E-03	3.79E-02	1.60E-02	3.34E-03	3.63E-01	2.08E-01	4.61E-03	6.97E-03	2.89E-02
Peak sensitivity value	1.35E-02	3.50E-05	3.37E-03	3.09E-02	-6.03E-02	8.36E-03	-1.76E-02	-1.21E-02	8.62E-02	-1.48E-18	-7.54E-03	-3.42E-03	-1.10E-03	2.89E-04	-1.45E-02	-4.41E-03	-8.40E-22	1.51E-18	-1.85E-07	1.33E-06	6.43E-06
Shapiro-Wilk score	9.283E-01	7.820E-01	9.341E-01	9.407E-01	9.173E-01	9.559E-01	8.783E-01	8.797E-01	8.924E-01	6.548E-01	9.597E-01	9.708E-01	9.734E-01	8.376E-01	7.040E-01	9.639E-01	8.526E-01	2.444E-01	9.407E-01	9.032E-01	8.604E-01

ampg																				
Local	1.67E+01	1.19E-01	-7.45E-03	-6.05E-02	-1.33E+00	-2.22E-01	-5.57E+00	-3.27E+00	4.15E-01	1.77E-15	-4.48E-01	-5.19E-01	-1.02E-01	-4.79E-01	-4.39E+00	-8.26E-01	8.15E-18	3.08E-16	-1.29E-05	4.75E-06	-8.01E-03
Min	1.12E-01	1.25E-02	-3.26E-02	-2.61E-01	-4.40E+00	-7.42E-01	-1.96E+01	-1.24E+01	-3.19E+00	-1.23E-13	-1.78E+00	-8.73E-01	-1.87E-01	-1.38E+00	-3.37E+01	-1.48E+00	-1.35E-16	-9.96E-13	-8.20E-05	-8.93E-06	-3.24E-02
Max	3.72E+01	4.88E-01	7.78E-03	4.31E-02	-2.48E-02	5.60E-02	-2.66E-02	-1.27E-02	2.76E+00	1.01E-13	-8.33E-04	-1.97E-04	-6.05E-05	-5.40E-03	-7.88E-04	-3.05E-04	4.98E-17	7.05E-13	-3.86E-09	5.14E-05	-1.60E-05
Normalized peak height	4.31E-03	3.24E-03	6.49E-03	6.25E-03	4.47E-03	4.87E-03	4.55E-03	5.12E-03	1.10E-02	3.25E-01	3.15E-03	2.49E-03	2.48E-03	3.04E-03	8.91E-03	2.73E-03	3.71E-01	4.49E-01	9.94E-03	8.90E-03	3.91E-03
Peak sensitivity value	1.33E+01	7.92E-02	-4.21E-03	-3.53E-02	-8.19E-01	-1.51E-01	-3.52E+00	-1.98E+00	-2.22E-02	6.71E-17	-2.49E-01	-5.50E-01	-1.12E-01	-5.56E-02	-2.44E+00	-7.73E-01	-8.61E-20	-5.47E-17	-1.27E-07	-8.10E-07	-9.71E-04
Shapiro-Wilk score	9.888E-01	9.257E-01	9.584E-01	9.577E-01	9.632E-01	9.722E-01	9.570E-01	9.562E-01	9.560E-01	6.674E-01	9.497E-01	9.523E-01	9.459E-01	9.410E-01	8.939E-01	9.554E-01	8.837E-01	5.223E-01	9.227E-01	9.225E-01	9.531E-01
atpc																				
Local	1.92E-01	1.36E-03	4.05E-05	2.94E-04	4.09E-03	1.37E-03	2.43E-02	1.43E-02	1.26E-02	2.20E-21	1.95E-03	2.20E-03	-2.71E-01	-5.75E-03	1.91E-02	3.61E-03	9.62E-18	1.69E-20	5.01E-08	1.44E-07	-9.01E-05
Min	-5.41E-03	-1.74E-03	2.60E-06	1.56E-05	-2.06E-04	3.10E-05	1.69E-04	9.49E-05	4.55E-04	-3.35E-13	2.33E-04	4.09E-05	-4.07E-01	-1.64E-02	1.83E-04	6.17E-05	-2.51E-16	-2.15E-18	3.68E-10	1.00E-08	-3.53E-04
Max	3.94E-01	5.95E-03	6.31E-04	5.36E-03	5.00E-02	8.18E-03	2.11E-01	1.29E-01	5.00E-02	5.03E-13	1.41E-02	6.78E-03	-1.83E-01	-1.73E-04	2.78E-01	1.22E-02	4.26E-17	9.75E-17	2.73E-07	6.01E-07	-5.64E-07
Normalized peak height	2.10E-03	8.32E-03	1.41E-02	1.62E-02	1.44E-02	5.29E-03	8.90E-03	8.93E-03	3.42E-03	5.23E-01	6.67E-03	2.79E-03	2.58E-03	2.75E-03	1.30E-02	3.01E-03	3.62E-01	4.49E-01	5.35E-03	3.67E-03	4.25E-03
Peak sensitivity value	2.51E-01	1.30E-03	1.55E-05	9.85E-05	1.20E-04	2.22E-04	2.39E-03	1.84E-03	1.14E-02	3.78E-16	1.64E-03	2.10E-03	-2.83E-01	-6.38E-03	2.82E-03	3.00E-03	1.04E-19	-7.73E-21	2.61E-08	1.30E-07	-7.06E-05
Shapiro-Wilk score	9.724E-01	9.292E-01	7.833E-01	7.612E-01	8.053E-01	9.130E-01	8.371E-01	8.437E-01	9.738E-01	2.821E-01	8.982E-01	9.816E-01	9.918E-01	9.835E-01	6.710E-01	9.771E-01	9.049E-01	9.406E-02	9.222E-01	9.695E-01	9.701E-01
glycerol3phosphate cytosol																				
Local	7.69E-01	5.45E-03	4.16E-04	-3.17E-03	5.53E-02	1.89E-02	3.33E-01	1.99E-01	-1.07E+00	1.60E-16	2.68E-02	3.10E-02	6.37E-03	-8.17E-02	2.02E-01	4.94E-02	-4.87E-19	2.34E-19	7.08E-07	2.03E-06	-1.37E-03
Min	-1.79E+00	-6.74E-02	-1.13E-03	-6.23E-03	-6.46E-02	2.18E-04	1.03E-03	6.32E-04	-2.46E+00	-3.52E-15	2.46E-03	2.61E-04	7.16E-05	-4.52E-01	1.04E-03	3.79E-04	-2.38E-18	-4.19E-17	3.06E-09	1.56E-07	-4.26E-03
Max	2.27E+00	7.70E-02	4.21E-03	3.37E-02	4.67E-01	8.12E-02	1.84E+00	1.24E+00	-8.96E-01	4.31E-15	9.59E-02	8.77E-02	1.71E-02	-3.15E-03	3.42E+00	1.60E-01	1.62E-17	2.55E-15	3.62E-06	1.08E-05	-5.24E-05
Normalized peak height	3.92E-03	1.59E-02	1.51E-02	1.45E-02	1.40E-02	4.32E-03	6.99E-03	7.55E-03	4.43E-03	2.11E-01	3.29E-03	2.56E-03	2.44E-03	3.98E-03	1.43E-02	3.09E-03	3.63E-01	5.57E-01	5.29E-03	4.20E-03	3.34E-03
Peak sensitivity value	1.47E+00	6.61E-03	7.16E-05	4.88E-04	9.89E-04	2.20E-03	2.22E-02	1.36E-02	-1.59E+00	-3.67E-18	1.61E-02	1.19E-02	1.46E-03	-2.49E-02	1.98E-02	9.85E-03	-4.50E-21	7.65E-19	3.05E-07	6.39E-07	-1.14E-03
Shapiro-Wilk score	9.307E-01	8.660E-01	8.591E-01	8.621E-01	8.643E-01	9.339E-01	8.899E-01	8.935E-01	9.965E-01	8.363E-01	9.618E-01	9.704E-01	9.738E-01	9.427E-01	7.020E-01	9.629E-01	8.212E-01	8.002E-02	9.132E-01	9.238E-01	9.776E-01

Table 7: Concentration control coefficients for *Trypanosoma brucei* model with parameter variation of ±30%

	(glucosetransport)	(hexokinase)	(phosphoglycerateisomerase)	(phosphofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)	(phosphoglyceratekinase)	(pyruvatekinase)	(atputilisation)	(glycerokinase)	(phosphoglycerate mutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglycerate transport)	(gly3pdhapatiporter)	(glycerotransport)
adpg																					
Local	7.71E+00	5.06E-02	-3.17E-03	-2.37E-02	-5.67E-01	-9.47E-02	-2.37E+00	-1.39E+00	1.77E-01	7.55E-16	-1.91E-01	-2.21E-01	-4.54E-02	-2.03E-01	-1.87E+00	-3.52E-01	3.47E-18	-1.01E-17	-5.47E-06	2.02E-06	-3.31E-03
Min	-2.20E+01	-1.23E+00	-2.53E-02	-1.86E-01	-3.51E+00	-6.23E-01	-1.54E+01	-7.69E+00	-6.48E+00	-2.13E-13	-1.01E+00	-5.15E-01	-1.12E-01	-8.26E-01	-2.00E+01	-8.51E-01	-1.45E-16	-8.90E-14	-6.74E-05	-8.66E-05	-2.18E-02
Max	2.68E+01	3.07E-01	3.02E-02	2.38E-01	4.50E+00	3.92E-01	1.34E+01	7.41E+00	1.32E+00	1.74E-13	7.34E-01	3.81E-01	8.08E-02	2.84E+00	2.10E+01	6.89E-01	2.52E-17	7.88E-16	1.00E-05	2.32E-05	1.68E-02
Normalized peak height	6.17E-03	2.33E-02	1.75E-02	1.61E-02	1.33E-02	9.13E-03	1.08E-02	9.39E-03	4.64E-02	6.29E-01	8.49E-03	7.70E-03	7.84E-03	2.86E-02	4.29E-02	8.93E-03	3.91E-01	3.45E-01	4.03E-02	3.98E-02	1.68E-02
Peak sensitivity value	5.19E+00	1.82E-02	-1.11E-03	-8.38E-03	-2.53E-01	-3.72E-02	-1.03E+00	-6.31E-01	-8.66E-03	-1.07E-18	1.07E-02	7.45E-03	1.19E-03	-6.51E-03	3.81E-02	7.22E-03	3.16E-20	1.54E-17	5.70E-08	8.46E-07	-1.42E-04
Shapiro-Wilk score	9.662E-01	6.494E-01	8.995E-01	9.082E-01	9.483E-01	9.760E-01	9.668E-01	9.668E-01	8.584E-01	2.253E-01	9.368E-01	9.522E-01	9.460E-01	8.970E-01	8.677E-01	9.612E-01	7.543E-01	7.872E-02	8.463E-01	8.246E-01	9.752E-01
adpc																					
Local	-5.74E-01	-3.66E-03	-1.09E-04	-7.90E-04	-1.10E-02	-3.67E-03	-6.52E-02	-3.83E-02	-3.37E-02	0.00E+00	-5.25E-03	-6.07E-03	7.27E-01	1.54E-02	-5.14E-02	-9.68E-03	9.75E-18	-4.52E-20	-1.50E-07	-3.85E-07	2.58E-04
Min	-8.01E-01	-2.23E-02	-3.66E-03	-3.55E-02	-1.65E-01	-2.52E-02	-5.41E-01	-3.92E-01	-3.45E-01	-1.40E-12	-4.45E-02	-2.66E-02	4.89E-01	-6.75E-03	-7.88E-01	-4.31E-02	-8.64E-16	-1.46E-16	-2.11E-06	-2.11E-06	-1.66E-05
Max	8.14E-02	3.38E-02	-1.64E-06	-8.92E-06	9.25E-04	1.40E-05	-3.22E-05	2.91E-02	-4.76E-05	1.69E-12	-1.70E-04	4.99E-05	8.46E-01	4.99E-02	-5.41E-05	-1.27E-05	5.75E-17	3.46E-17	-2.67E-11	-1.67E-09	1.07E-03
Normalized peak height	9.29E-03	1.67E-02	3.98E-02	5.23E-02	5.87E-02	1.35E-02	2.46E-02	2.91E-02	1.33E-02	7.77E-01	6.87E-03	6.17E-03	2.63E-03	4.57E-03	3.72E-02	6.84E-03	3.36E-01	4.99E-01	8.51E-03	5.82E-03	9.64E-03
Peak sensitivity value	-2.19E-04	-2.72E-03	-1.81E-05	-1.33E-04	1.24E-05	-1.27E-04	-8.44E-04	-6.07E-04	-2.98E-03	-6.06E-17	-2.90E-03	-3.70E-04	7.23E-01	2.06E-03	-1.22E-03	-4.22E-04	-9.99E-20	3.06E-21	-2.37E-08	-8.06E-08	1.28E-06
Shapiro-Wilk score	9.026E-01	8.994E-01	7.295E-01	7.006E-01	7.860E-01	8.695E-01	8.121E-01	8.135E-01	8.187E-01	1.637E-01	8.294E-01	9.289E-01	9.889E-01	9.432E-01	5.977E-01	9.085E-01	8.094E-01	2.506E-01	8.586E-01	9.225E-01	8.873E-01
dihydroxyacetonephosphate																					
Local	-1.12E-01	-8.00E-04	1.87E-03	1.47E-02	2.89E-01	-7.31E-02	-6.54E-02	-3.84E-02	6.36E-02	-2.29E-17	-5.13E-03	-5.91E-03	-1.22E-03	-6.30E-03	-5.03E-02	-9.47E-03	9.33E-20	1.12E-18	-1.47E-07	7.28E-07	-1.06E-04
Min	-2.95E+00	-1.23E-01	3.17E-04	2.38E-03	9.42E-02	-1.48E-01	-7.38E-01	-5.43E-01	3.95E-03	-3.01E-15	-1.02E-01	-7.98E-02	-1.68E-02	-9.30E-02	-1.36E+00	-1.53E-01	-2.58E-17	-3.95E-17	-2.95E-06	2.68E-07	-1.59E-03
Max	1.10E+00	2.03E-02	1.32E-02	1.26E-01	7.43E-01	-3.05E-02	3.65E-02	2.61E-02	3.37E+00	4.81E-15	1.37E-03	5.72E-04	1.35E-04	1.88E-01	2.61E-03	8.76E-04	9.19E-19	2.72E-15	1.07E-08	5.33E-06	1.37E-03
Normalized peak height	1.74E-02	6.17E-02	7.40E-03	8.62E-03	4.02E-03	3.89E-03	3.25E-02	3.43E-02	3.28E-02	4.09E-01	2.10E-02	1.82E-02	1.71E-02	8.51E-02	6.10E-02	2.45E-02	4.93E-01	1.73E-01	2.56E-02	7.54E-03	5.47E-02
Peak sensitivity value	9.63E-03	-7.54E-04	1.43E-03	1.17E-02	2.42E-01	-6.29E-02	-4.94E-03	-3.24E-03	2.25E-02	3.75E-18	-2.10E-03	-6.73E-04	-1.28E-04	-1.21E-04	-2.15E-03	-5.88E-04	-4.73E-21	5.47E-19	-3.81E-08	6.14E-07	-4.30E-06
Shapiro-Wilk score	9.704E-01	7.579E-01	8.802E-01	8.784E-01	9.639E-01	9.679E-01	8.501E-01	8.404E-01	5.900E-01	4.723E-01	8.363E-01	8.631E-01	8.808E-01	8.773E-01	6.442E-01	8.418E-01	2.342E-01	2.103E-01	7.149E-01	8.676E-01	8.510E-01
glyceraldehyde3phosphate																					
Local	-1.73E-01	-1.23E-03	1.89E-03	1.49E-02	2.93E-01	6.11E-02	-9.23E-02	-5.41E-02	5.22E-02	-3.55E-17	-7.29E-03	-8.34E-03	-1.73E-03	-4.30E-04	-7.14E-02	-1.34E-02	1.32E-19	1.13E-18	-2.09E-07	3.97E-07	-7.19E-06
Min	-3.23E+00	-1.20E-01	3.26E-04	2.96E-03	8.58E-02	2.29E-02	-7.49E-01	-6.72E-01	2.56E-03	-1.11E-15	-1.13E-01	-6.64E-02	-1.34E-02	-7.88E-02	-1.70E+00	-1.39E-01	-1.37E-17	-4.00E-17	-3.03E-06	5.63E-08	-1.53E-03
Max	9.52E-01	2.48E-02	1.18E-02	1.26E-01	8.14E-01	1.23E-01	-2.09E-03	-9.39E-04	4.18E+00	1.13E-15	-3.44E-04	-2.68E-05	-7.45E-06	2.05E-01	-9.96E-05	-3.69E-05	8.73E-19	1.64E-15	-3.51E-11	4.57E-06	1.47E-03
Normalized peak height	1.63E-02	4.71E-02	6.63E-03	8.41E-03	4.47E-03	4.01E-03	2.45E-02	3.28E-02	4.92E-02	3.53E-01	1.63E-02	1.18E-02	1.04E-02	7.46E-02	6.00E-02	1.68E-02	5.33E-21	5.55E-01	2.16E-02	9.02E-03	4.22E-02
Peak sensitivity value	3.77E-03	-1.20E-03	1.23E-03	1.17E-02	2.48E-01	4.84E-02	-5.45E-03	-3.29E-03	2.13E-02	-2.07E-19	-2.64E-03	-5.91E-04	-1.61E-04	2.87E-04	-2.64E-03	-9.38E-04	5.33E-21	-5.14E-19	-1.55E-09	5.19E-07	6.87E-06
Shapiro-Wilk score	9.711E-01	7.949E-01	8.829E-01	8.816E-01	9.632E-01	9.753E-01	8.549E-01	8.468E-01	5.192E-01	6.584E-01	8.655E-01	8.873E-01	9.039E-01	8.914E-01	6.513E-01	8.625E-01	5.323E-01	4.553E-01	7.674E-01	8.471E-01	8.687E-01
2phosphoglycerate																					
Local	9.31E-01	6.64E-03	1.97E-04	1.43E-03	1.99E-02	6.66E-03	1.18E-01	6.94E-02	6.11E-02	-8.41E-17	9.92E-03	-4.61E-01	-9.48E-02	-2.80E-02	9.32E-02	-7.39E-01	7.25E-18	8.21E-20	2.61E-07	8.09E-07	-4.68E-04
Min	-1.07E-01	-6.62E-02	2.75E-06	1.47E-05	-1.71E-03	2.63E-05	6.49E-05	3.76E-05	1.30E-04	-4.50E-13	3.30E-04	-7.85E-01	-1.71E-01	-9.52E-02	1.00E-04	-1.52E+00	-7.89E-16	-1.21E-17	4.38E-11	2.36E-09	-2.04E-03
Max	1.90E+00	3.96E-02	5.09E-03	6.43E-02	3.49E-01	5.42E-02	1.08E+00	7.92E-01	7.69E-01	3.44E-13	8.61E-02	-3.19E-01	-6.08E-02	1.43E-02	1.74E+00	-3.81E-01	4.60E-17	2.12E-16	1.87E-06	3.88E-06	3.32E-05
Normalized peak height	1.19E-02	1.66E-02	3.06E-02	5.03E-02	6.12E-02	1.62E-02	2.66E-02	3.09E-02	1.57E-02	6.20E-01	7.61E-03	2.63E-03	3.30E-03	4.85E-03	4.27E-02	4.21E-03	3.36E-01	3.39E-01	7.43E-03	6.29E-03	9.95E-03
Peak sensitivity value	6.73E-04	4.82E-03	3.07E-05	2.40E-04	-1.30E-04	3.24E-04	1.69E-03	1.23E-03	5.90E-03	3.57E-16	4.15E-03	-3.92E-01	-9.85E-02	-4.69E-03	2.70E-03	-6.39E-01	-3.66E-19	1.11E-19	2.90E-08	1.21E-07	-3.00E-06
Shapiro-Wilk score	9.195E-01	8.965E-01	7.320E-01	7.083E-01	7.862E-01	8.607E-01	8.159E-01	8.148E-01	8.025E-01	1.324E-01	8.206E-01	9.599E-01	9.888E-01	9.363E-01	5.992E-01	9.646E-01	7.664E-01	2.666E-01	8.579E-01	9.138E-01	8.789E-01
glucose																					
Local	3.20E+00	-1.04E+00	-1.17E-02	-7.39E-02	-1.69E-01	-2.68E-02	-6.92E-01	-4.06E-01	5.93E-02	2.20E-16	-5.57E-02	-6.44E-02	-1.33E-02	-5.89E-02	-5.45E-01	-1.03E-01	1.01E-18	-2.56E-19	-1.60E-06	6.79E-07	-9.83E-04
Min	1.07E+00	-1.06E+00	-8.36E-02	-8.73E-01	-7.35E+00	-7.19E-01	-2.48E+01	-1.57E+01	-2.13E+00	-5.78E-13	-1.51E+00	-8.31E-01	-1.57E-04	-4.44E+00	-3.93E+01	-1.57E+00	-7.24E-17	-1.09E-15	-1.43E-05	-2.31E-06	-8.48E-02
Max	4.03E+01	1.03E+00	1.33E-03	3.81E-03	-1.08E-03	1.82E-01	-1.42E-03	-7.12E-04	6.38E+00	5.06E-13	-3.25E-03	-2.73E-04	-5.79E-05	5.02E-03	-9.05E-04	-3.24E-04	1.57E-17	3.00E-14	-4.04E-10	1.77E-04	7.77E-05
Normalized peak height	3.20E-02	5.82E-02	7.07E-03	1.05E-02	7.80E-02	6.64E-02	7.82E-02	8.31E-02	2.52E-01	7.89E-01	2.56E-02	1.62E-02	1.35E-02	2.38E-01	1.40E-01	2.28E-02	3.65E-01	8.42E-01	9.79E-03	2.65E-01	1.61E-01
Peak sensitivity value	1.20E+00	-1.03E+00	-6.78E-03	-4.75E-02	-1.24E-02	-7.37E-04	-1.38E-02	-8.58E-03	2.73E-03	4.41E-16	-2.21E-02	-4.84E-03	-1.23E-03	-1.64E-03	-2.06E-02	-5.81E-03	6.37E-23	8.81E-18	-3.35E-07	1.16E-07	-9.60E-06
Shapiro-Wilk score	8.469E-01	6.213E-01	8.747E-01	8.749E-01	7.446E-01	8.093E-01	7.451E-01	7.270E-01	7.698E-01	1.293E-01	7.185E-01	8.388E-01	8.474E-01	7.762E-01	5.280E-01	8.119E-01	9.940E-01	1.797E-02	8.556E-01	9.975E-01	7.614E-01
fructose6phosphate																					
Local	1.54E+00	1.10E-02	4.77E-03	-1.07E+00	-1.09E-01	6.21E-03	-1.92E-01	-1.13E-01	1.30E-01	4.79E-17	-1.51E-02	-1.75E-02	-3.59E-03	-6.96E-03	-1.48E-01	-2.78E-02	2.74E-19	2.79E-18	-4.33E-07	1.00E-06	-1.16E-04
Min	-4.82E+00	-2.29E-02	-4.31E-04	-1.40E+00	-2.49E+00	-1.36E-01	-8.07E+00	-3.69E+00	-7.22E-02	-3.26E-13	-2.71E-01	-1.98E-01	-3.83E-02	-1.66E+00	-1.15E+01	-2.40E-01	-9.86E-18	-2.28E-16	-7.74E-06	-1.57E-06	-5.33E-03
Max	1.46E+01	1.61E+00	5.29E-02	-8.93E-01	5.10E-02	4.43E-02	4.04E-01	2.38E-01	7.35E+00	1.07E-13	1.94E-02	9.82E-03	2.26E-03	2.51E-01	6.03E-01	1.93E-02	5.00E-18	2.28E-14	2.35E-07	3.72E-05	2.28E-03
Normalized peak height	4.09E-02	1.35E-01	9.85E-03	8.70E-03	2.69E-02	1.51E-02	1.14E-01	8.72E-02	3.88E-02	8.75E-01	1.94E-02	1.82E-02	1.63E-02	2.20E-01	1.62E-01	1.66E-02	3.71E-01	3.61E-01	2.62E-02	2.64E-02	8.96E-02
Peak sensitivity value	1.08E+00	4.21E-03	2.69E-03	-1.06E+00	-5.46E-02	8.13E-03	-1.52E-02	-7.39E-03	5.03E-02	1.26E-16	-5.73E-03	-1.31E-03	-3.18E-04	2.88E-05	-9.50E-03	-1.07E-03	2.17E-21	-9.15E-18	-1.16E-10	1.39E-06	6.30E-06
Shapiro-Wilk score	8.775E-01	5.791E-01	8.148E-01	9.539E-01	7.870E-01	8.613E-01	7.386E-01	7.283E-01	6.664E-01	5.072E-02	7.587E-01	8.715E-01	8.860E-01	7.239E-01	5.333E-01	8.457E-01	7.452E-01	6.115E-02	8.027E-01	6.883E-01	7.980E-01

3phosphoglycerate	Local	3.53E+00	2.51E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.48E-01	2.63E-01	2.31E-01	2.58E-22	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	-9.98E-06	2.65E-06	-1.77E-03
	Min	-4.85E-01	-1.76E-01	8.77E-06	4.57E-05	-4.92E-03	3.60E-05	1.15E-04	1.14E-04	9.72E-04	-2.23E-13	6.40E-04	-7.56E-01	-1.65E-01	-1.51E+00	-3.35E+01	-1.26E+00	-4.77E-16	-2.68E-15	-1.58E-04	3.94E-08	-2.90E-02
	Max	3.19E+01	5.99E-01	4.85E-02	3.33E-01	3.55E+00	4.74E-01	1.22E+01	7.51E+00	4.70E+00	6.55E-13	1.01E+00	-8.70E-04	-1.25E-04	4.33E-02	-9.10E-01	-1.49E-03	4.79E-17	3.88E-15	-6.49E-11	6.22E-05	1.28E-04
	Normalized peak height	2.87E-02	3.01E-02	8.79E-02	8.18E-02	1.61E-01	4.83E-02	9.56E-02	9.91E-02	2.87E-02	7.22E-01	2.67E-02	4.20E-03	4.10E-03	1.89E-02	1.30E-02	4.39E-03	3.46E-01	6.98E-01	4.24E-02	2.76E-02	3.02E-02
	Peak sensitivity value	1.76E-02	1.19E-02	8.15E-05	5.44E-04	4.07E-04	7.47E-04	6.19E-03	3.87E-03	1.27E-02	3.47E-16	9.26E-03	-3.55E-01	-8.68E-02	-1.32E-02	-1.67E+00	-5.78E-01	-1.07E-19	-2.20E-18	-7.90E-08	3.19E-07	-9.04E-05
	Shapiro-Wilk score	8.647E-01	6.294E-01	7.033E-01	6.993E-01	7.730E-01	8.492E-01	8.260E-01	8.055E-01	7.266E-01	1.229E-01	5.382E-01	9.406E-01	9.218E-01	6.820E-01	7.875E-01	9.486E-01	7.911E-01	4.985E-02	8.506E-01	6.601E-01	6.491E-01
glycerol	Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	-9.89E-01
	Min	-3.46E+00	-5.07E-01	-2.52E-02	-2.04E-01	-3.97E+00	-7.48E-01	-1.82E+01	-1.16E+01	-1.39E+01	-1.00E-13	-1.00E+00	-5.60E-01	-1.19E-01	6.82E-02	-2.73E+01	-9.17E-01	-3.37E-16	-1.46E-14	-6.54E-05	-1.72E-04	-1.00E+00
	Max	3.33E+01	3.72E-01	1.40E-02	1.38E-01	1.15E+00	5.40E-02	2.46E+00	1.60E+00	-1.42E-01	6.95E-14	1.63E-01	9.38E-02	1.81E-02	1.15E+00	4.58E+00	1.17E-01	2.47E-17	2.59E-16	1.12E-06	-7.27E-07	-9.38E-01
	Normalized peak height	9.95E-03	1.08E-02	1.36E-02	1.42E-02	9.90E-03	6.56E-03	1.24E-02	1.12E-02	1.46E-02	5.07E-01	9.05E-03	1.09E-02	1.05E-02	4.58E-03	4.86E-02	1.17E-02	4.72E-01	5.69E-01	6.09E-02	7.02E-03	7.83E-03
	Peak sensitivity value	-1.37E-01	2.25E-02	-2.63E-04	-1.13E-03	-1.23E-01	-8.35E-02	1.32E-02	2.95E-03	-1.41E+00	1.80E-17	6.71E-03	2.55E-03	4.36E-04	9.52E-01	2.80E-03	2.69E-03	-8.08E-20	-4.69E-19	2.61E-08	-9.05E-06	-9.98E-01
	Shapiro-Wilk score	9.682E-01	8.576E-01	9.431E-01	9.498E-01	9.603E-01	9.198E-01	9.247E-01	9.205E-01	8.964E-01	3.973E-01	9.055E-01	9.433E-01	9.376E-01	9.162E-01	8.143E-01	9.491E-01	6.535E-01	7.523E-02	8.359E-01	8.911E-01	8.881E-01
pyruvate	Local	5.54E+00	3.94E-02	1.17E-03	8.51E-03	1.18E-01	3.96E-02	7.02E-01	4.12E-01	3.62E-01	-7.85E+00	5.65E-02	6.54E-02	1.35E-02	-1.66E-01	5.54E-01	1.04E-01	-1.03E-18	4.87E-19	1.62E-06	4.15E-06	-2.78E-03
	Min	-4.81E+01	-2.32E+01	6.91E-06	4.38E-05	-8.81E-01	5.66E-05	2.00E-04	9.95E-05	2.02E-04	-9.22E+03	8.82E-04	5.37E-05	1.13E-05	-2.86E+02	1.89E-04	5.90E-05	-1.08E-15	-3.94E-15	2.22E-10	6.85E-09	-4.74E+00
	Max	3.68E+03	1.11E+02	9.01E+00	5.76E+01	1.06E+03	8.20E+01	2.82E+03	2.33E+03	2.03E+03	-1.75E+00	1.20E+02	1.15E+02	1.89E+01	6.17E+00	3.82E+03	1.47E+02	5.65E-16	1.09E-14	2.78E-03	5.69E-03	7.16E-03
	Normalized peak height	5.90E-01	6.22E-01	9.39E-01	9.24E-01	6.65E-01	8.53E-01	8.95E-01	9.32E-01	9.67E-01	8.45E-01	8.72E-01	9.02E-01	8.71E-01	8.91E-01	9.29E-01	8.73E-01	7.82E-01	8.95E-01	9.09E-01	8.47E-01	8.31E-01
	Peak sensitivity value	2.25E+00	-3.98E-02	4.51E-03	2.88E-02	-3.50E-01	4.10E-02	1.41E+00	1.16E+00	1.02E+00	-6.36E+00	6.09E-02	5.77E-02	9.46E-03	-1.01E-01	1.91E+00	7.36E-02	6.55E-19	-8.43E-19	1.39E-06	2.85E-06	3.70E-05
	Shapiro-Wilk score	5.380E-02	4.718E-02	3.065E-02	3.621E-02	3.117E-02	4.936E-02	4.540E-02	3.683E-02	1.812E-02	5.443E-02	4.642E-02	3.662E-02	3.974E-02	3.818E-02	3.216E-02	4.005E-02	3.621E-02	4.260E-02	4.284E-02	4.249E-02	3.167E-02
dihydroxyacetonephosphate cytosol	Local	-3.10E-01	-2.20E-03	-1.68E-04	-1.28E-03	-2.24E-02	-7.65E-03	-1.35E-01	-7.90E-02	6.75E-01	-6.46E-17	-1.08E-02	-1.25E-02	-2.58E-03	3.30E-02	-1.06E-01	-2.00E-02	1.97E-19	-9.46E-20	-3.10E-07	-8.20E-07	5.52E-04
	Min	-7.70E+00	-7.43E-02	-1.05E-02	-6.63E-02	-1.08E+00	-2.13E-01	-3.31E+00	-2.25E+00	7.00E-02	-5.05E-15	-2.75E-01	-2.77E-01	-5.24E-02	1.14E-04	-8.04E+00	-5.49E-01	-3.75E-18	-1.16E-14	-1.01E-05	-2.28E-05	1.93E-06
	Max	3.56E+00	9.86E-02	1.65E-03	1.06E-02	7.51E-02	-8.55E-06	-2.32E-05	-1.58E-05	9.91E+00	7.49E-15	-7.22E-06	-2.15E-06	-5.87E-07	5.29E-01	-1.24E-05	-3.78E-06	3.32E-18	3.77E-17	-1.93E-11	-9.02E-09	7.33E-03
	Normalized peak height	6.48E-02	4.08E-02	1.39E-01	1.11E-01	1.44E-01	7.31E-02	1.07E-01	1.17E-01	2.19E-02	5.15E-01	3.36E-02	5.88E-02	4.97E-02	2.17E-02	2.49E-01	7.65E-02	3.73E-01	9.39E-01	7.39E-02	3.33E-02	1.98E-02
	Peak sensitivity value	-7.20E-03	-1.06E-03	-1.26E-05	-4.01E-05	2.72E-04	-1.15E-04	-1.68E-03	-1.14E-03	2.72E-01	-4.47E-18	-1.79E-03	-4.18E-04	-7.92E-05	1.96E-03	-4.03E-03	-8.27E-04	2.98E-21	-3.21E-18	-2.54E-08	-6.61E-08	4.96E-05
	Shapiro-Wilk score	8.846E-01	8.252E-01	5.586E-01	6.057E-01	5.991E-01	6.514E-01	6.634E-01	6.119E-01	6.668E-01	4.756E-01	6.098E-01	5.742E-01	6.024E-01	7.730E-01	5.225E-01	5.499E-01	6.026E-01	5.718E-03	4.930E-01	8.114E-01	7.097E-01
nadh	Local	1.19E+00	8.44E-03	1.92E-04	1.37E-03	1.64E-02	1.21E-02	1.67E-01	-1.51E+00	-3.09E-02	2.01E-16	1.34E-02	1.55E-02	3.19E-03	-3.88E-02	1.31E-01	2.47E-02	-2.44E-19	7.06E-20	3.85E-07	-3.54E-07	-6.48E-04
	Min	-1.58E+00	-6.77E-02	-4.51E-04	-3.39E-03	-6.54E-02	7.29E-04	2.28E-04	-2.63E+00	-6.21E+00	-2.81E-15	4.45E-04	1.81E-05	4.81E-06	-3.09E-01	6.42E-05	2.75E-05	-2.12E-18	-1.55E-16	5.57E-11	-6.41E-06	-4.13E-03
	Max	6.72E+00	5.45E-02	6.26E-03	6.54E-02	4.04E-01	9.93E-02	1.59E+00	-7.61E-01	1.39E-01	4.41E-15	1.51E-01	1.56E-01	2.88E-02	8.65E-05	4.82E+00	2.96E-01	3.29E-18	5.71E-16	7.85E-06	3.07E-06	1.56E-07
	Normalized peak height	3.71E-02	1.58E-02	4.12E-02	5.24E-02	1.85E-02	1.09E-02	2.91E-02	5.59E-03	6.13E-02	3.64E-01	9.11E-03	1.29E-02	1.03E-02	8.57E-03	8.03E-02	1.79E-02	3.43E-01	4.67E-01	2.20E-02	6.41E-03	1.07E-02
	Peak sensitivity value	4.84E-03	5.43E-03	2.18E-06	-5.89E-05	-5.05E-03	2.95E-03	2.61E-03	-1.34E+00	-1.62E-02	2.26E-18	4.88E-03	1.03E-03	1.63E-04	-6.56E-03	2.47E-03	7.68E-04	1.58E-21	-2.74E-19	5.89E-08	-4.99E-07	-1.84E-05
	Shapiro-Wilk score	9.092E-01	9.021E-01	7.464E-01	7.287E-01	8.170E-01	8.927E-01	8.216E-01	9.839E-01	4.900E-01	7.765E-01	8.461E-01	8.837E-01	9.020E-01	8.977E-01	6.218E-01	8.555E-01	8.115E-01	1.308E-01	7.493E-01	9.856E-01	8.744E-01
glycerol3phosphate	Local	9.63E-01	6.85E-03	2.45E-03	1.91E-02	3.66E-01	-4.66E-02	4.02E-01	2.36E-01	-2.28E+00	2.02E-16	3.25E-02	3.76E-02	7.73E-03	-1.21E-01	3.18E-01	5.99E-02	-5.90E-19	1.45E-18	9.31E-07	-2.61E-05	-2.02E-03
	Min	-5.47E+00	-1.67E-01	1.70E-05	1.71E-03	1.12E-01	-1.33E-01	-1.90E-01	-9.18E-02	-9.86E+00	-1.83E-14	-3.85E-03	-2.34E-03	-5.11E-04	-8.81E-01	-1.48E-02	-2.93E-03	-6.12E-18	-1.25E-16	-9.50E-08	-1.44E-04	-1.20E-02
	Max	7.85E+00	1.97E-01	2.68E-02	1.60E-01	1.96E+00	1.21E-01	4.68E+00	3.48E+00	-8.59E-01	2.03E-14	3.04E-01	2.91E-01	5.03E-02	-1.40E-03	9.45E+00	4.68E-01	8.37E-18	2.80E-14	1.41E-05	-9.35E-07	-2.55E-05
	Normalized peak height	1.58E-02	2.60E-02	1.09E-02	8.14E-03	6.73E-03	6.21E-03	4.05E-02	4.61E-02	1.04E-02	5.28E-01	9.80E-03	1.56E-02	1.23E-02	7.52E-03	9.51E-02	1.75E-02	3.49E-01	7.29E-01	2.77E-02	5.08E-03	6.48E-03
	Peak sensitivity value	5.24E-02	6.12E-03	1.53E-03	1.33E-02	2.64E-01	-4.77E-02	2.52E-03	2.81E-03	-1.72E+00	6.53E-18	7.40E-03	1.91E-03	4.80E-04	-1.06E-02	8.88E-03	2.02E-03	7.43E-22	1.56E-18	1.15E-08	-2.24E-05	-3.30E-04
	Shapiro-Wilk score	9.827E-01	8.696E-01	8.359E-01	8.517E-01	8.835E-01	9.636E-01	8.241E-01	7.940E-01	8.423E-01	4.985E-01	8.298E-01	7.920E-01	8.130E-01	9.161E-01	6.263E-01	7.628E-01	7.427E-01	2.705E-02	6.727E-01	9.251E-01	8.960E-01
glucose6phosphate	Local	1.66E+00	1.18E-02	-1.68E-01	-1.04E+00	-1.04E-01	6.02E-03	-1.84E-01	-1.08E-01	1.35E-01	4.60E-17	-1.45E-02	-1.68E-02	-3.45E-03	-6.64E-03	-1.42E-01	-2.67E-02	2.64E-19	2.69E-18	-4.16E-07	1.54E-06	-1.11E-04
	Min	-7.63E+00	-3.70E-02	-3.27E-01	-1.42E+00	-1.34E+00	-1.47E-01	-6.41E+00	-4.35E+00	-1.03E-01	-1.60E-13	-3.55E-01	-1.56E-01	-4.75E-02	-1.21E+00	-1.10E+01	-3.16E-01	-1.02E-17	-3.42E-16	-7.86E-06	-2.32E-06	-6.87E-03
	Max	1.29E+01	1.68E+00	-6.94E-02	-8.94E-01	9.31E-02	4.60E-02	4.46E-01	2.62E-01	9.99E+00	1.84E-13	4.07E-02	2.75E-02	4.92E-03	3.58E-01	7.94E-01	3.99E-02	1.21E-17	5.43E-14	1.73E-07	3.56E-05	1.99E-03
	Normalized peak height	4.15E-02	1.32E-01	4.02E-03	7.31E-03	1.58E-02	1.74E-02	8.81E-02	1.06E-01	5.39E-02	8.66E-01	2.79E-02	1.71E-02	2.13E-02	1.96E-01	1.55E-01	2.39E-02	3.96E-01	6.55E-01	2.82E-02	2.61E-02	1.12E-01
	Peak sensitivity value	1.17E+00	5.04E-03	-1.46E-01	-1.02E+00	-5.19E-02	7.17E-03	-1.62E-02	-7.78E-03	5.39E-02	-7.77E-17	-5.38E-03	-1.22E-03	-2.47E-04	-9.58E-05	-3.04E-03	-1.23E-03	3.31E-21	1.36E-17	1.44E-10	1.22E-06	2.38E-06
	Shapiro-Wilk score	8.947E-01	5.857E-01	9.863E-01	9.645E-01	7.976E-01	8.599E-01	7.488E-01	7.366E-01	6.484E-01	5.451E-02	7.757E-01	8.807E-01	8.914E-01	7.388E-01	5.398E-01	8.526E-01	6.944E-01	2.739E-02	8.124E-01	7.059E-01	7.996E-01
3phosphoglycerate cytosol	Local	3.53E+00	2.51E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.48E-01	2.63E-01	2.31E-01	0.00E+00	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	1.03E-06	2.65E-06	-1.77E-03
	Min	-7.38E-01	-2.67E-01	9.34E-06	4.96E-05	-6.84E-03	4.74E-05	1.14E-04	8.05E-05	1.23E-03	-3.31E-13	5.50E-04	-7.17E-01	-1.61E-01	-1.47E+00	-4.26E+01	-1.30E+00	-4.03E-16	-1.75E-15	4.27E-09	4.02E-08	-2.56E-02
	Max	3.96E+01	5.37E-01	4.37E-02	3.49E-01	3.20E+00	4.31E-01	1.30E+01	9.32E+00	3.76E+00	2.00E-12	1.05E+00	-1.19E-03	-2.43E-04	5.91E-02	-8.04E-01	-1.53E-03	4.01E-17	8.52E-15	4.27E-06	6.00E-05	1.50E-04
	Normalized peak height	3.66E-02	3.08E-02	8.22E-02	8.72E-02	1.45E-01	4.41E-02	1.02E-01	1.17E-01	2.37E-02	7.21E-01	2.83E-02	3.74E-03	4.13E-03	1.86E-02	1.66E-02	4.66E-03	3.45E-01	8.17E-01	4.46E-03	2.75E-02	2.73E-02
	Peak sensitivity value	8.37E-03	1.24E-02	7.48E-05	5.73E-04	1.17E-03	6.93E-04	6.60E-03	4.74E-03	1.06E-02	-1.11E-15	7.39E-03	-3.66E-01	-8.75E-02	-7.40E-03	-1.58E+00	-5.47E-01	1.27E-20	-2.07E-18	3.09E-07	2.50E-07	-6.87E-05
	Shapiro-Wilk score	8.650E-01	6.262E-01	7.012E-01	6.951E-01	7.734E-01	8.486E-01	8.247E-01	8.018E-01	7.324E-01	4.648E-02	5.349E-01	9.399E-01	9.206E-01	6.850E-01	7.861E-01	9.479E-01	8.428E-01	2.515E-02	9.299E-01	6.677E-01	6.484E-01
phosphoenolpyruvate	Local	4.22E-01	3.01E-03	8.93E-05	6.49E-04	9.02E-03	3.02E-03	5.36E-02	3.14E-02	2.76E-02	-1.05E-16	4.31E-03	-4.91E-01	-1.01E-01	-1.27E-02	4.22E-02	7.95E-03	7.72E-18	3.72E-20	1.24E-07	3.16E-07	-2.12E-04
	Min	-5.64E-02	-2.78E-02	1.01E-06	8.08E-06	-8.83E-04	1.45E-05	3.48E-05	1.91E-05	4.69E-05	-5.58E-13	1.74E-04	-8.37E-01	-1.81E-01	-4.11E-02	2.96E-05	1.08E-05	-8.13E-16	-2.53E-17	3.89E-11	9.76E-10	-1.21E-03
	Max	8.82E-01	1.91E-02	2.86E-03	2.87E-02	1.69E-01	2.58E-02	5.72E-01	3.66E-01	3.29E-01	3.37E-13	4.79E-02	-3.44E-01	-6.39E-02	5.95E-03	8.47E-01	4.94E-02	5.47E-17	1.54E-16	1.39E-06	1.85E-06	1.20E-05
	Normalized peak height	1.26E-02	1.56E-02	3.55E-02	4.72E-02	5.51E-02	1.51E-02	2.80E-02	2.90E-02	1.39E-02	8.28E-01	8.69E-03	2.63E-03	3.18E-03	4.31E-03	4.30E-02	8.35E-03	3.35E-01	4.87E-01	1.15E-02	5.84E-03	1.35E-02
	Peak sensitivity value	3.83E-04	2.27E-03	1.67E-05	1.09E-04	5.33E-05	1.05E-04	8.93E-04	5.69E-04	2.84E-03	3.18E-17	1.73E-03	-4.00E-01	-1.01E-01	-2.44E-03	1.30E-03	3.32E-04	-3.60E-19	6.36E-20	7.33E-10	5.93E-08	-7.68E-07
	Shapiro-Wilk score	9.405E-01	8.953E-01	7.210E-01	6.917E-01	7.800E-01	8.613E-01	8.091E-01	8.066E-01	8.227E-01	1.148E-01	8.241E-01	9.555E-01	9.895E-01	9.393E-01	5.908E-01	9.014E-01	7.753E-01	1.786E-01	8.333E-01	9.155E-01	8.808E-01
bisphosphoglycerate	Local	-5.89E+00	-4.19E-02	5.08E-03	4.06E-02	8.47E-01	1.55E-01	3.68E+00	2.16E+00	4.96E-03	-1.01E-15	-8.02E-02	-9.29E-02	-1.91E-02	1.64E-01	-7.86E-01	-1.48E-01	1.46E-18	3.25E-18	-2.30E-06	5.67E-08	2.74E-03
	Min	-4.00E+01	-4.43E-01	-1.17E-03	-3.09E-03	7.86E-02	1.23E-02	4.04E-01	2.50E-01	-1.28E+00	-7.35E-14	-1.06E+00	-5.98E-01	-1.29E-01	-2.30E-01	-2.11E+01	-1.07E+00	-3.87E-17	-2.82E-16	-1.02E-04	-3.52E-05	-2.33E-03
	Max	1.98E+00	1.36E-01	5.42E-02	4.43E-01	4.70E+00	8.67E-01	2.68E+01	1.05E+01	1.42E+01	8.28E-14	-1.53E-03	-7.58E-05	-1.88E-05	1.18E+00	-2.12E-04	-8.99E-05	3.57E-17	7.05E-15	-6.96E-11	1.59E-05	2.46E-02
	Normalized peak height	2.34E-02	1.43E-02	1.20E-02	1.20E-02	6.75E-03	8.96E-03	1.00E-02	6.63E-03	6.71E-02	4.87E-01	1.62E-02	1.63E-02	1.50E-02	1.60E-02	1.06E-01	2.12E-02	3.83E-01	1.87E-01	8.41E-02	1.78E-02	2.43E-02
	Peak sensitivity value	-1.89E-02	-1.26E-02	2.23E-03	2.08E-02	4.32E-01	8.36E-02	1.63E+00	1.18E+00	3.13E-02	3.71E-17	-1.06E-02	-1.57E-03	-3.41E-04	8.29E-03	-1.07E-02	-1.69E-03	-1.74E-20	1.50E-19	-5.12E-08	1.08E-06	-2.28E-05
	Shapiro-Wilk score	9.362E-01	7.964E-01	8.257E-01	8.392E-01	8.909E-01	8.793E-01	8.984E-01	8.886E-01	5.823E-01	4.234E-01	7.496E-01	8.549E-01	8.544E-01	8.474E-01	7.992E-01	8.566E-01	7.112E-01	3.145E-01	6.530E-01	8.219E-01	7.784E-01
atpg	Local	-2.48E+00	-1.77E-02	1.11E-03	8.98E-03	1.98E-01	3.30E-02	8.27E-01	4.85E-01	-6.16E-02	-2.63E-16	6.66E-02	7.71E-02	1.58E-02	7.12E-02	6.52E-01	1.23E-01	-1.21E-18	-7.32E-18	1.91E-06	-7.06E-07	1.19E-03
	Min	-5.43E+01	-2.76E+00	-4.49E-02	-2.99E-01	2.60E-04	-2.13E-01	9.64E-04	4.30E-04	-8.21E+00	-3.59E-13	1.69E-03	2.30E-04	6.03E-05	8.35E-06	7.92E-04	3.18E-04	-2.83E-17	-2.75E-13	2.91E-10	-2.55E-04	8.99E-08
	Max	-1.31E-02	-3.37E-05	6.52E-02	4.90E-01	8.76E+00	9.11E-01	2.99E+01	1.67E+01	2.61E+00	6.03E-13	1.78E+00	8.79E-01	1.92E-01	6.96E+00	5.35E+01	1.59E+00	2.24E-16	1.24E-15	1.70E-05	3.07E-06	5.60E-02
	Normalized peak height	4.69E-02	2.60E-01	2.10E-01	1.52E-01	1.10E-01	7.08E-02	9.00E-02	8.26E-02	2.34E-01	7.80E-01	2.92E-02	1.55E-02	1.48E-02	2.75E-01	1.72E-01	2.17E-02	4.50E-01	8.65E-01	1.12E-02	3.06E-01	2.09E-01
	Peak sensitivity value	-9.45E-02	-1.41E-03	5.42E-05	6.19E-04	4.64E-03	1.48E-03	1.59E-02	8.77E-03	-3.74E-03	3.45E-16	2.21E-02	5.06E-03	1.50E-03	3.49E-03	2.75E-02	5.89E-03	3.90E-20	-1.11E-18	3.67E-07	1.05E-07	2.81E-05
	Shapiro-Wilk score	8.073E-01	6.426E-01	8.166E-01	8.140E-01	7.159E-01	7.689E-01	7.167E-01	7.006E-01	7.532E-01	1.569E-01	7.028E-01	8.055E-01	8.151E-01	7.572E-01	5.088E-01	7.818E-01	4.744E-01	2.180E-02	8.271E-01	6.753E-01	7.298E-01
ampc	Local	-1.22E+00	-8.69E-03	-2.58E-04	-1.87E-03	-2.61E-02	-8.72E-03	-1.55E-01	-9.08E-02	-7.98E-02	-6.07E-20	-1.24E-02	-1.44E-02	1.73E+00	3.66E-02	-1.22E-01	-2.30E-02	-3.42E-16	-1.07E-19	-3.57E-07	-9.14E-07	6.12E-04
	Min	-1.78E+00	-5.10E-02	-7.23E-03	-8.14E-02	-3.54E-01	-5.54E-02	-1.23E+00	-8.46E-01	-7.23E-01	-6.09E-12	-1.08E-01	-6.21E-02	1.48E+00	-2.28E-02	-1.77E+00	-1.04E-01	-9.67E-16	-4.98E-16	-3.46E-06	-5.13E-06	-8.45E-05
	Max	1.50E-01	8.52E-02	-3.49E-06	-2.18E-05	2.34E-03	-3.31E-05	-9.67E-05	-4.96E-05	-1.78E-04	4.12E-12	-4.55E-04	-3.35E-05	1.85E+00	1.09E-01	-9.43E-05	-3.03E-05	5.35E-15	6.88E-17	-6.16E-11	-2.10E-09	2.67E-03
	Normalized peak height	8.59E-03	1.72E-02	3.17E-02	4.76E-02	5.05E-02	1.22E-02	2.12E-02	2.40E-02	1.07E-02	8.02E-01	7.02E-03	5.32E-03	2.64E-03	4.38E-03	3.31E-02	6.48E-03	3.36E-01	5.30E-01	9.94E-03	5.57E-03	1.01E-02
	Peak sensitivity value	-1.88E-03	-6.26E-03	-5.05E-05	-3.07E-04	2.32E-05	-4.48E-04	-3.16E-03	-1.32E-03	-9.94E-03	2.21E-15	-4.82E-03	-1.18E-03	1.69E+00	5.58E-03	-2.76E-03	-1.43E-03	-2.97E-18	-6.65E-20	-4.68E-08	-1.84E-07	2.33E-06
	Shapiro-Wilk score	8.814E-01	8.957E-01	7.365E-01	7.055E-01	7.892E-01	8.736E-01	8.126E-01	8.176E-01	8.322E-01	1.430E-01	8.278E-01	9.320E-01	9.888E-01	9.461E-01	5.979E-01	9.119E-01	9.570E-01	1.694E-01	8.540E-01	9.287E-01	8.901E-01
nad	Local	-2.14E-02	-1.52E-04	-3.47E-06	-2.46E-05	-2.95E-04	-2.18E-04	-3.01E-03	2.72E-02	5.57E-04	-3.62E-18	-2.42E-04	-2.80E-04	-5.76E-05	6.99E-04	-2.37E-03	-4.46E-04	4.40E-21	-1.27E-21	-6.93E-09	6.38E-09	1.17E-05
	Min	-1.94E-01	-2.18E-03	-1.87E-04	-1.86E-03	-1.52E-02	-3.52E-03	-5.94E-02	5.83E-03	-5.25E-03	-1.14E-16	-6.17E-03	-5.38E-03	-1.03E-03	-1.15E-04	-9.84E-02	-1.29E-02	-3.28E-19	-1.33E-17	-1.75E-07	-9.42E-08	-3.05E-07
	Max	1.71E-02	1.55E-03	8.34E-06	8.43E-05	1.88E-03	-4.43E-06	-1.83E-06	1.30E-01	1.68E-01	8.09E-17	-3.50E-06	-2.74E-07	-7.78E-08	1.31E-02	-7.35E-07	-2.93E-07	6.39E-20	1.49E-18	-7.84E-13	2.54E-07	1.26E-04
	Normalized peak height	4.96E-02	2.38E-02	9.27E-02	1.08E-01	4.70E-02	2.24E-02	7.96E-02	6.08E-03	1.23E-01	3.16E-01	2.33E-02	3.51E-02	3.01E-02	2.57E-02	1.25E-01	5.67E-02	3.98E-01	5.90E-01	3.85E-02	1.69E-02	2.23E-02
	Peak sensitivity value	-1.00E-04	-7.01E-05	4.77E-08	-1.81E-07	6.43E-05	-2.38E-05	-3.15E-05	1.65E-02	2.00E-04	-9.60E-20	-4.97E-05	-8.34E-06	-1.62E-06	5.05E-05	-4.99E-05	-6.75E-06	1.29E-22	2.58E-21	-4.38E-10	5.89E-09	6.44E-07
	Shapiro-Wilk score	9.151E-01	8.206E-01	6.767E-01	6.752E-01	7.515E-01	8.226E-01	7.756E-01	9.019E-01	3.734E-01	6.936E-01	7.403E-01	7.691E-01	7.900E-01	7.819E-01	5.874E-01	7.360E-01	6.514E-01	1.485E-01	6.277E-01	9.186E-01	7.608E-01

fructose16bisphosphate																				
Local	4.06E-01	2.89E-03	4.32E-03	3.30E-02	-1.00E-01	5.73E-03	-1.77E-01	-1.04E-01	1.29E-01	4.42E-17	-1.39E-02	-1.61E-02	-3.31E-03	-6.30E-03	-1.36E-01	-2.56E-02	2.53E-19	2.53E-18	-3.99E-07	1.48E-06	-1.07E-04
Min	-9.24E+00	-2.66E-01	7.79E-04	5.87E-03	-6.98E-01	-5.71E-02	-2.00E+00	-1.40E+00	-2.60E-02	-9.50E-15	-2.63E-01	-1.55E-01	-2.76E-02	-1.71E-01	-3.30E+00	-2.39E-01	-1.94E-18	-9.37E-16	-1.10E-05	-6.71E-07	-2.78E-03
Max	2.27E+00	7.57E-02	3.33E-02	2.96E-01	2.82E-02	3.51E-02	2.96E-01	1.61E-01	1.13E+01	3.80E-15	1.09E-02	5.51E-03	1.11E-03	3.80E-01	3.34E-01	1.04E-02	2.04E-18	6.75E-15	1.06E-07	8.92E-06	2.34E-03
Normalized peak height	3.83E-02	1.51E-01	7.38E-03	8.14E-03	1.04E-02	1.01E-02	4.22E-02	4.38E-02	7.96E-02	6.06E-01	2.03E-02	2.54E-02	2.08E-02	1.36E-01	8.62E-02	2.69E-02	3.67E-01	2.60E-01	7.75E-02	7.90E-03	9.22E-02
Peak sensitivity value	-1.05E-02	-2.99E-05	3.13E-03	2.84E-02	-5.21E-02	6.47E-03	-1.14E-02	-7.07E-03	3.63E-02	1.86E-18	-5.13E-03	-3.70E-05	-2.60E-05	3.05E-04	-2.87E-03	-2.22E-04	-1.39E-21	-2.71E-18	1.84E-10	1.18E-06	3.92E-06
Shapiro-Wilk score	8.959E-01	8.094E-01	8.704E-01	8.711E-01	8.436E-01	9.335E-01	7.891E-01	7.680E-01	5.203E-01	4.709E-01	8.693E-01	8.517E-01	8.721E-01	8.455E-01	5.918E-01	8.249E-01	7.629E-01	2.045E-01	7.290E-01	8.953E-01	7.877E-01
ampg																					
Local	1.67E+01	1.19E-01	-7.45E-03	-6.05E-02	-1.33E+00	-2.22E-01	-5.57E+00	-3.27E+00	4.15E-01	1.77E-15	-4.48E-01	-5.19E-01	-1.07E-01	-4.79E-01	-4.39E+00	-8.26E-01	8.15E-18	3.08E-16	-1.29E-05	4.76E-06	-8.01E-03
Min	2.01E-02	5.35E-03	-7.95E-02	-6.38E-01	-8.03E+00	-1.48E+00	-3.10E+01	-1.99E+01	-1.71E+01	-2.56E-13	-2.04E+00	-1.14E+00	-2.53E-01	-1.77E+00	-6.03E+01	-1.86E+00	-4.92E-16	-2.35E-12	-1.42E-04	-2.56E-05	-6.02E-02
Max	6.33E+01	7.38E-01	1.48E-02	7.42E-02	-2.40E-03	1.00E-01	-1.29E-04	-6.12E-05	3.99E+00	3.90E-13	-1.95E-04	-3.70E-05	-6.57E-06	-1.15E-03	-1.23E-04	-4.12E-05	6.87E-17	2.70E-12	-8.53E-12	1.07E-04	-2.03E-06
Normalized peak height	1.18E-02	4.55E-03	1.37E-02	1.50E-02	1.11E-02	1.92E-02	1.85E-02	1.91E-02	5.39E-02	5.90E-01	2.04E-02	2.44E-02	2.46E-02	9.46E-03	8.32E-02	2.86E-02	4.60E-01	5.75E-01	1.35E-01	2.22E-02	3.20E-02
Peak sensitivity value	1.78E-01	4.16E-02	3.90E-04	1.92E-03	-2.25E-02	-3.29E-03	-1.56E-02	-1.00E-02	-2.36E-02	1.60E-16	-3.25E-03	-6.06E-04	-3.86E-04	-2.15E-02	-3.03E-02	-9.73E-04	-4.44E-21	-1.54E-15	-7.08E-08	-3.64E-07	-3.21E-05
Shapiro-Wilk score	9.689E-01	9.235E-01	8.739E-01	8.746E-01	8.883E-01	8.832E-01	8.715E-01	8.682E-01	8.182E-01	3.091E-01	8.926E-01	9.368E-01	9.321E-01	8.798E-01	7.369E-01	9.416E-01	7.276E-01	4.378E-01	8.324E-01	8.361E-01	8.344E-01
atpc																					
Local	1.92E-01	1.36E-03	4.05E-05	2.94E-04	4.09E-03	1.37E-03	2.43E-02	1.43E-02	1.29E-02	2.20E-21	1.95E-03	2.26E-03	-2.71E-01	-5.73E-03	1.91E-02	3.01E-03	9.62E-18	1.60E-20	3.61E-08	1.44E-07	-9.61E-05
Min	-2.42E-02	-1.29E-02	5.55E-07	4.94E-06	-4.99E-04	5.33E-06	7.17E-06	4.54E-06	2.03E-05	-1.02E-12	9.72E-05	1.82E-06	-5.07E-01	-2.33E-02	4.55E-06	2.03E-06	-6.96E-16	-2.19E-17	1.06E-11	5.15E-10	-6.02E-04
Max	4.96E-01	9.51E-03	1.26E-03	1.40E-02	7.28E-02	1.21E-02	3.09E-01	1.70E-01	1.15E-01	6.07E-13	2.16E-02	1.11E-02	-1.53E-01	2.00E-03	3.85E-01	1.72E-02	6.00E-17	9.65E-17	6.42E-07	9.98E-07	5.24E-06
Normalized peak height	1.37E-02	1.59E-02	3.17E-02	4.68E-02	5.07E-02	1.35E-02	2.77E-02	2.50E-02	9.20E-03	8.00E-01	8.64E-03	5.13E-03	2.61E-03	4.76E-03	3.63E-02	5.80E-03	3.33E-01	5.35E-01	1.16E-02	5.90E-03	1.31E-02
Peak sensitivity value	4.82E-04	1.09E-03	8.76E-06	5.40E-05	-2.30E-05	7.20E-05	4.70E-04	2.60E-04	2.14E-03	-1.74E-16	1.14E-03	2.96E-04	-3.05E-01	-1.76E-03	5.83E-04	3.90E-04	-1.37E-19	-4.22E-20	3.31E-10	3.49E-08	-5.32E-07
Shapiro-Wilk score	9.392E-01	8.868E-01	7.111E-01	6.660E-01	7.733E-01	8.551E-01	7.977E-01	7.987E-01	8.579E-01	1.222E-01	8.068E-01	9.238E-01	9.886E-01	9.351E-01	5.910E-01	9.112E-01	8.172E-01	1.804E-01	8.268E-01	9.153E-01	8.662E-01
glycerol3phosphate cytosol																					
Local	7.66E-01	5.34E-03	4.16E-04	3.17E-03	5.53E-02	1.89E-02	3.34E-01	1.95E-01	-1.67E+00	1.60E-16	2.88E-02	3.80E-02	6.94E-03	-8.17E-02	2.62E-01	4.04E-02	-4.87E-19	2.34E-19	7.78E-07	2.02E-06	-1.37E-03
Min	-2.89E+00	-1.15E-01	-2.97E-03	-2.02E-02	-1.74E-01	5.59E-05	-1.96E-01	-1.59E-01	-3.13E+00	-9.95E-15	-1.69E-02	-7.54E-03	-1.47E-03	-6.51E-01	-1.31E-01	-9.93E-03	-4.52E-18	-7.84E-17	-6.72E-08	5.86E-08	-6.88E-03
Max	2.96E+00	1.65E-01	1.11E-02	6.56E-02	7.17E-01	1.20E-01	2.38E+00	1.78E+00	-3.41E-01	1.78E-14	1.37E-01	1.23E-01	2.57E-02	9.54E-04	5.36E+00	2.40E-01	4.65E-18	3.43E-15	6.09E-06	1.50E-05	-1.34E-05
Normalized peak height	9.24E-03	2.35E-02	5.32E-02	4.18E-02	5.81E-02	1.23E-02	2.38E-02	2.96E-02	6.01E-03	5.12E-01	5.82E-03	7.11E-03	6.81E-03	7.33E-03	5.78E-02	9.54E-03	3.43E-01	6.33E-01	1.65E-02	6.92E-03	5.45E-03
Peak sensitivity value	2.76E-02	5.59E-03	3.66E-05	3.24E-04	1.89E-04	7.14E-04	3.81E-03	2.38E-03	-3.98E-18	7.65E-03	1.91E-03	5.74E-04	5.74E-04	-1.04E-02	8.72E-03	3.45E-03	3.73E-21	5.46E-19	3.56E-09	3.21E-07	-2.23E-04
Shapiro-Wilk score	9.454E-01	8.823E-01	8.121E-01	8.275E-01	8.431E-01	9.065E-01	8.599E-01	8.494E-01	9.807E-01	5.227E-01	9.138E-01	8.942E-01	9.041E-01	9.098E-01	6.550E-01	8.723E-01	7.861E-01	6.091E-02	7.890E-01	9.017E-01	9.093E-01

Table 8: Concentration control coefficients for *Trypanosoma brucei* model with parameter variation of ±40%

	(glucosetransport)	(hexokinase)	(phosphoglycerateisomerase)	(phophofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)	(phosphoglyceratekinase)	(pyruvatekinase)	(atputilisation)	(glycerolkinase)	(phosphoglycerate mutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglycerate transport)	(gly3phdhapatiporter)	(glycerol trans port)
adpg																					
Local	7.11E+00	5.00E-02	-3.17E-03	-2.57E-02	-5.67E-01	-9.47E-02	-2.37E+00	-1.39E+00	1.77E-01	7.55E-16	-1.91E-01	-2.21E-01	-4.54E-02	-2.04E-01	-1.87E+00	-3.52E-01	3.47E-18	-1.01E-17	-5.47E-06	2.02E-06	-3.31E-03
Min	-3.75E+01	-1.43E+00	-4.30E-02	-4.15E-01	-5.95E+00	-7.25E-01	-2.50E+01	-1.97E+01	-2.33E+01	-4.51E-13	-1.03E+00	-6.19E-01	-1.55E-01	-9.26E-01	-4.48E+01	-1.16E+00	-3.72E-17	-3.61E-13	-1.16E-04	-1.44E-04	-3.07E-02
Max	4.59E+01	5.28E-01	4.35E-02	5.12E-01	7.62E+00	7.65E-01	2.35E+01	1.34E+01	1.83E+00	4.36E-13	1.36E+00	5.20E-01	1.95E-01	4.22E+00	4.62E+01	3.66E-01	3.67E-17	3.77E-15	1.33E-05	4.92E-05	2.31E-02
Normalized peak height	1.09E-02	3.39E-02	3.14E-02	3.88E-02	1.98E-02	2.45E-02	5.36E-02	3.79E-02	1.34E-01	8.02E-01	2.97E-02	3.15E-02	4.22E-02	7.19E-02	1.10E-01	4.01E-02	3.81E-01	8.35E-01	1.00E-01	8.29E-02	3.99E-02
Peak sensitivity value	-5.85E-01	7.05E-03	-4.60E-04	-3.85E-03	-1.45E-01	-4.41E-03	2.16E-02	-3.08E-03	3.31E-03	1.39E-17	5.62E-03	1.28E-03	3.57E-04	-3.20E-03	-1.45E-02	2.81E-03	2.28E-20	-6.27E-17	9.05E-08	-1.17E-07	-4.09E-05
Shapiro-Wilk score	9.818E-01	7.279E-01	8.028E-01	8.032E-01	9.028E-01	8.940E-01	9.165E-01	9.035E-01	5.840E-01	1.379E-01	8.721E-01	9.298E-01	9.223E-01	8.931E-01	7.749E-01	9.393E-01	6.877E-01	1.857E-02	7.415E-01	7.426E-01	8.699E-01
adpc																					
Local	-5.74E-01	-3.66E-03	-1.09E-04	-7.90E-04	-1.10E-02	-3.67E-03	-6.52E-02	-3.83E-02	-3.37E-02	0.00E+00	-5.25E-03	-6.07E-03	7.27E-01	1.54E-02	-5.14E-02	-9.68E-03	9.75E-18	-4.52E-20	-1.50E-07	-3.85E-07	2.58E-04
Min	-8.32E-01	-3.56E-02	-8.25E-03	-1.26E-01	-2.18E-01	-3.64E-02	-6.25E-01	-5.13E-01	-3.75E-01	-7.26E-12	-6.10E-02	-4.22E-02	3.19E-01	-6.45E-02	-8.33E-01	-7.93E-02	-3.21E-16	-1.07E-16	-1.41E-06	-3.56E-06	-1.18E-04
Max	2.50E-01	1.60E-01	3.50E-07	1.32E-05	1.68E-03	-2.47E-06	-8.03E-06	-3.66E-06	7.79E-03	3.23E-12	-5.42E-05	-1.90E-06	8.74E-01	5.51E-02	-3.88E-06	-1.49E-06	2.62E-16	5.43E-17	-4.87E-12	2.03E-07	1.43E-03
Normalized peak height	9.87E-02	1.53E-01	1.16E-02	1.74E-02	4.62E-03	4.74E-03	6.62E-02	8.66E-02	2.56E-02	9.22E-01	1.08E-02	1.92E-02	2.82E-03	1.66E-02	9.43E-02	2.77E-02	3.21E-01	5.42E-01	4.61E-02	1.39E-02	6.84E-02
Peak sensitivity value	-6.95E-04	-1.98E-03	1.02E-03	1.03E-02	2.41E-01	-4.75E-02	-3.21E-04	-2.60E-04	-1.21E-03	2.81E-15	-1.30E-03	-6.52E-05	7.10E-01	3.81E-05	-4.20E-04	-1.20E-04	6.03E-21	2.38E-20	-7.08E-10	-3.59E-08	7.12E-07
Shapiro-Wilk score	8.759E-01	7.398E-01	6.508E-01	5.883E-01	7.716E-01	8.281E-01	7.995E-01	7.903E-01	6.223E-01	5.073E-02	7.587E-01	8.369E-01	9.857E-01	8.896E-01	6.035E-01	7.904E-01	8.872E-01	2.928E-01	7.579E-01	8.522E-01	7.529E-01
dihydroxyacetonephosphate																					
Local	-1.12E-01	-8.00E-04	1.87E-03	1.47E-02	2.89E-01	-7.31E-02	-6.54E-02	-3.84E-02	6.36E-02	-2.29E-17	-5.13E-03	-5.94E-03	-1.22E-03	-6.36E-03	-5.03E-02	-9.47E-03	9.33E-20	1.12E-18	-1.47E-07	7.28E-07	-1.06E-04
Min	-1.03E+01	-4.04E-01	2.05E-04	8.91E-04	1.91E-02	-1.99E-01	-1.04E+00	-9.09E-01	-9.94E-03	-4.60E-15	-1.89E-01	-2.15E-01	-4.01E-02	-1.30E-01	-2.71E+00	-3.24E-01	-9.33E-18	-1.43E-16	-8.70E-06	-2.60E-07	-2.36E-03
Max	2.25E+00	3.66E-02	2.39E-02	3.30E-01	9.32E-01	-2.18E-02	2.68E-01	2.09E-01	1.07E+01	4.50E-15	7.61E-03	2.38E-03	9.96E-04	3.55E-01	2.10E-01	7.24E-03	1.76E-18	4.51E-15	1.26E-07	8.22E-06	3.31E-03
Normalized peak height	9.87E-02	1.53E-01	1.16E-02	1.74E-02	4.62E-03	4.74E-03	7.25E-02	8.72E-02	1.07E-01	6.38E-01	4.35E-02	9.10E-02	7.90E-02	1.32E-01	2.15E-01	1.18E-01	4.46E-01	3.34E-01	1.08E-01	9.87E-03	1.24E-01
Peak sensitivity value	3.26E-04	-6.69E-04	1.02E-03	1.03E-02	2.41E-01	-4.75E-02	-4.59E-03	-3.15E-03	1.68E-02	1.63E-18	-1.51E-03	-1.21E-04	-5.29E-05	1.92E-05	-1.81E-03	-2.22E-04	2.21E-21	-1.63E-18	-2.01E-09	5.33E-07	-2.19E-06
Shapiro-Wilk score	8.330E-01	4.980E-01	7.990E-01	7.503E-01	9.470E-01	9.455E-01	8.127E-01	7.525E-01	3.190E-01	3.453E-01	6.131E-01	5.968E-01	6.406E-01	8.915E-01	6.203E-01	5.700E-01	5.161E-01	1.143E-01	3.998E-01	8.338E-01	7.726E-01
glyceraldehyde3phosphate																					
Local	-1.73E-01	-1.23E-03	1.89E-03	1.49E-02	2.93E-01	6.17E-02	-9.23E-02	-5.41E-02	5.22E-02	-3.55E-17	-7.29E-03	-8.44E-03	-1.73E-03	-4.30E-04	-7.14E-02	-1.34E-02	1.32E-19	1.13E-18	-2.09E-07	5.97E-07	-7.19E-06
Min	-7.95E+00	-6.94E-01	1.25E-04	9.66E-04	1.79E-02	1.46E-02	-1.21E+00	-9.35E-01	-8.06E-02	-4.21E-15	-2.45E-01	-1.77E-01	-3.92E-02	-1.15E-01	-4.92E+00	-2.57E-01	-3.62E-18	-4.13E-16	-9.99E-06	-6.96E-07	-2.34E-03
Max	2.66E+00	5.50E-02	2.06E-02	5.30E-01	9.50E-01	1.59E-01	2.94E-01	1.16E-01	7.84E+00	2.19E-15	1.15E-02	5.46E-03	1.02E-03	2.94E-01	1.46E-01	1.18E-02	2.30E-18	3.97E-15	1.63E-07	8.42E-06	2.30E-03
Normalized peak height	8.68E-02	1.83E-01	9.79E-03	2.73E-02	4.52E-03	4.88E-03	6.57E-02	7.25E-02	9.54E-02	4.75E-01	4.14E-02	6.05E-02	5.75E-02	9.82E-02	2.36E-01	6.68E-02	3.70E-01	3.34E-01	1.15E-01	1.36E-02	8.51E-02
Peak sensitivity value	1.50E-03	-7.46E-04	1.04E-03	1.02E-02	2.33E-01	4.10E-02	-4.34E-03	-2.88E-03	1.84E-02	2.77E-18	-2.23E-03	-2.91E-04	-4.24E-05	7.30E-05	-3.13E-03	-4.19E-04	1.54E-21	1.09E-18	-4.29E-09	4.67E-07	2.72E-06
Shapiro-Wilk score	9.080E-01	5.282E-01	8.053E-01	7.559E-01	9.438E-01	9.515E-01	8.309E-01	7.852E-01	2.980E-01	4.800E-01	6.697E-01	6.736E-01	7.084E-01	8.686E-01	6.332E-01	6.358E-01	6.539E-01	1.931E-01	4.566E-01	8.054E-01	7.854E-01
2phosphoglycerate																					
Local	9.31E-01	6.64E-03	1.97E-04	1.43E-03	1.99E-02	6.66E-03	1.18E-01	6.94E-02	6.11E-02	-8.41E-17	9.52E-03	-4.01E-01	-9.48E-02	-2.80E-02	9.32E-02	-7.35E-01	7.25E-18	8.21E-20	2.73E-07	6.99E-07	-4.68E-04
Min	-4.69E-01	-2.77E-01	-4.44E-07	-7.34E-05	-4.38E-03	2.25E-06	1.44E-05	8.53E-06	-2.14E-02	-3.15E-13	1.33E-04	-1.08E+00	-2.53E-01	-1.28E-01	7.40E-06	-2.02E+00	-6.67E-15	-1.09E-16	3.76E-12	-3.34E-07	-3.43E-03
Max	2.36E+00	7.14E-02	1.32E-02	2.21E-01	5.02E-01	7.41E-02	1.43E+00	1.12E+00	8.87E-01	1.27E-12	1.41E-01	-2.86E-01	-5.43E-02	8.13E-02	2.06E+00	-3.07E-01	4.12E-16	2.17E-16	3.40E-06	6.39E-06	2.40E-04
Normalized peak height	6.64E-02	4.56E-02	1.02E-01	1.62E-01	1.30E-01	4.27E-02	7.86E-02	9.80E-02	3.35E-02	9.20E-01	1.41E-02	3.75E-03	3.94E-03	1.63E-02	1.19E-01	5.08E-03	5.09E-01	4.47E-01	5.35E-02	1.29E-02	6.61E-02
Peak sensitivity value	9.97E-04	3.60E-03	1.93E-03	2.58E-04	-7.15E-05	1.13E-04	7.27E-04	5.70E-04	1.77E-03	-3.84E-16	2.61E-03	-3.62E-01	-1.05E-01	-1.74E-04	1.04E-03	-5.96E-01	-2.32E-18	-1.54E-19	1.71E-09	7.30E-08	-5.20E-07
Shapiro-Wilk score	8.899E-01	7.583E-01	6.410E-01	5.968E-01	7.651E-01	8.217E-01	8.012E-01	7.862E-01	6.001E-01	5.373E-02	7.399E-01	9.431E-01	9.772E-01	8.728E-01	6.057E-01	9.314E-01	8.857E-02	2.270E-01	7.514E-01	8.328E-01	7.389E-01
glucose																					
Local	3.20E+00	-1.04E+00	-1.17E-02	-7.39E-02	-1.60E-01	-2.68E-02	-6.92E-01	-4.06E-01	5.93E-02	2.20E-16	-5.57E-02	-6.44E-02	-1.33E-02	-5.89E-02	-5.45E-01	-1.03E-01	1.01E-18	-2.56E-19	-1.60E-06	6.79E-07	-9.85E-04
Min	7.29E-01	-1.19E+00	-2.00E-01	-1.83E+00	-3.30E+01	-1.65E+00	-4.92E+01	-2.09E+01	-5.70E+00	-1.61E-12	-1.74E+00	-9.29E-01	-2.11E-01	-9.26E+00	-4.79E+01	-1.88E+00	-7.64E-17	-6.89E-16	-2.08E-05	-7.68E-06	-5.47E-02
Max	7.21E+01	2.45E+00	7.20E-03	3.19E-02	-3.83E-04	1.94E-01	8.21E-03	3.68E-03	1.00E+01	5.18E-13	-5.37E-04	-3.66E-05	-6.01E-06	1.79E-02	-7.38E-05	-4.82E-05	3.33E-17	2.17E-14	-3.41E-11	2.58E-04	3.05E-04
Normalized peak height	7.34E-02	7.56E-02	1.68E-02	2.11E-02	1.91E-01	1.60E-01	2.09E-01	1.71E-01	2.27E-01	9.07E-01	3.37E-02	3.68E-02	3.49E-02	1.68E-01	2.81E-01	5.56E-02	4.24E-01	7.66E-01	5.54E-02	2.10E-01	2.08E-01
Peak sensitivity value	1.12E+00	-1.03E+00	-4.51E-03	-2.85E-02	-6.89E-03	2.04E-05	-1.64E-02	-6.75E-03	9.10E-03	1.47E-16	-1.88E-02	-1.43E-03	-3.23E-04	4.01E-03	-2.40E-02	-2.86E-03	-2.47E-20	-5.28E-18	-1.04E-08	1.72E-07	2.90E-06
Shapiro-Wilk score	7.898E-01	7.153E-01	7.808E-01	7.966E-01	6.693E-01	7.239E-01	6.832E-01	6.572E-01	7.722E-01	8.253E-02	6.350E-01	7.204E-01	7.345E-01	7.474E-01	5.139E-01	6.731E-01	5.258E-01	3.414E-02	7.369E-01	6.445E-01	6.524E-01

fructose6phosphate	Local	1.54E+00	1.10E-02	4.77E-03	-1.07E+00	-1.09E-01	6.21E-03	-1.92E-01	-1.13E-01	1.40E-01	4.79E-17	-1.51E-02	-1.75E-02	-3.59E-03	-6.96E-03	-1.48E-01	-2.78E-02	2.74E-19	2.79E-18	-4.33E-07	1.60E-06	-1.16E-04
	Min	-1.22E+01	-6.11E-02	-1.81E-02	-1.78E+00	-6.84E+00	-7.31E-01	-2.03E+01	-9.48E+00	-1.28E-01	-1.43E-13	-8.07E-01	-3.89E-01	-7.35E-02	-2.93E+00	-1.98E+01	-9.67E-01	-9.15E-18	-5.06E-16	-2.17E-05	-4.38E-06	-1.42E-02
	Max	3.28E+01	2.21E+00	9.42E-02	-7.23E-01	1.12E-01	7.17E-02	5.07E-01	3.24E-01	1.39E+01	1.56E-13	3.80E-02	2.69E-02	4.93E-03	4.64E-01	8.52E-01	5.11E-02	5.61E-18	5.45E-14	5.53E-07	9.32E-05	5.56E-03
	Normalized peak height	9.63E-02	1.62E-01	1.68E-02	1.36E-02	7.21E-02	6.40E-02	1.89E-01	1.96E-01	8.44E-02	8.46E-01	5.82E-02	7.63E-02	5.98E-02	2.89E-01	3.51E-01	1.26E-01	4.06E-01	5.94E-01	9.82E-02	5.40E-02	2.21E-01
	Peak sensitivity value	1.06E+00	3.59E-03	2.62E-03	-1.05E+00	-5.16E-02	7.08E-03	-2.35E-02	-4.55E-03	3.32E-02	1.27E-16	-4.69E-03	-2.66E-04	-5.09E-05	7.33E-04	-6.66E-03	-3.39E-04	7.16E-21	1.62E-17	7.55E-09	1.03E-06	4.21E-06
	Shapiro-Wilk score	7.734E-01	6.826E-01	7.551E-01	9.020E-01	6.409E-01	7.081E-01	5.952E-01	5.765E-01	4.891E-01	5.872E-02	6.006E-01	7.071E-01	7.305E-01	6.267E-01	4.450E-01	6.533E-01	5.806E-01	3.767E-02	5.543E-01	5.555E-01	6.896E-01
3phosphoglycerate	Local	3.53E+00	2.51E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.48E-01	2.63E-01	2.31E-01	2.58E-22	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	-9.98E-06	2.65E-06	-1.77E-03
	Min	-1.70E+00	-1.02E+00	-4.84E-07	-3.99E-05	-8.01E-02	-5.49E-03	3.38E-05	1.02E-05	-5.59E-02	-7.08E-13	2.15E-04	-9.52E-01	-2.05E-01	-2.07E+00	-6.39E+01	-1.79E+00	-4.33E-16	-1.40E-14	-4.05E-04	-6.11E-07	-4.66E-02
	Max	6.28E+01	7.16E-01	7.18E-02	9.44E-01	4.86E+00	5.75E-01	1.46E+01	1.43E+01	1.10E+01	1.03E-12	1.08E+00	-1.92E-04	-4.29E-05	4.83E-01	-6.03E-01	-2.60E-04	5.74E-17	9.18E-15	-9.10E-12	1.20E-04	2.00E-03
	Normalized peak height	1.20E-01	6.48E-02	1.51E-01	2.22E-01	2.29E-01	8.36E-02	1.77E-01	2.12E-01	8.93E-02	8.40E-01	3.71E-02	3.91E-03	3.54E-03	4.98E-02	2.79E-02	4.90E-03	3.45E-01	9.08E-01	1.21E-01	7.17E-02	1.20E-01
	Peak sensitivity value	7.31E-03	8.85E-03	3.54E-05	4.32E-04	1.49E-03	6.13E-04	7.34E-03	7.16E-03	4.87E-03	-6.96E-16	5.06E-03	-3.42E-01	-8.89E-02	-6.07E-03	-1.27E+00	-4.80E-01	-2.40E-19	6.31E-18	-2.02E-07	1.71E-07	-2.13E-05
	Shapiro-Wilk score	7.357E-01	6.753E-01	6.394E-01	6.164E-01	7.556E-01	8.160E-01	8.083E-01	7.753E-01	5.972E-01	4.441E-02	5.708E-01	9.608E-01	9.487E-01	5.869E-01	7.305E-01	9.653E-01	8.318E-01	1.885E-02	7.502E-01	5.420E-01	4.957E-01
glycerol	Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.33E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	-9.89E-01
	Min	-7.18E+00	-9.23E-01	-7.66E-02	-5.92E-01	-6.54E+00	-9.75E-01	-2.69E+01	-1.81E+01	-2.25E+01	-1.32E-13	-1.04E+00	-6.48E-01	-1.59E-01	1.29E-02	-5.33E+01	-1.38E+00	-4.47E-17	-1.47E-14	-1.10E-04	-2.35E-04	-1.00E+00
	Max	5.71E+01	6.64E-01	2.60E-02	4.27E-01	1.51E+00	1.70E-01	4.88E+00	2.97E+00	-7.13E-02	1.90E-13	2.72E-01	1.37E-01	2.56E-02	1.62E+00	7.40E+00	3.20E-01	3.77E-17	1.71E-15	3.50E-06	-2.62E-07	-9.03E-01
	Normalized peak height	4.51E-02	2.06E-02	3.73E-02	3.78E-02	1.31E-02	1.14E-02	3.35E-02	5.24E-02	2.65E-02	6.77E-01	2.38E-02	3.06E-02	3.21E-02	8.07E-03	1.43E-01	4.55E-02	4.16E-01	4.65E-01	1.56E-01	8.23E-03	1.61E-02
	Peak sensitivity value	-8.08E-02	1.41E-02	9.45E-05	-3.89E-04	-5.75E-02	-2.62E-02	-5.47E-03	7.39E-03	-1.31E+00	4.51E-17	4.31E-03	1.40E-03	2.60E-04	9.54E-01	2.32E-02	2.44E-03	-2.33E-20	-7.54E-18	2.91E-08	-6.49E-06	-9.99E-01
	Shapiro-Wilk score	9.145E-01	8.715E-01	8.460E-01	8.419E-01	8.995E-01	8.113E-01	8.327E-01	8.142E-01	7.101E-01	1.968E-01	8.396E-01	8.927E-01	8.893E-01	8.887E-01	6.649E-01	8.927E-01	6.851E-01	1.079E-01	7.202E-01	8.343E-01	8.120E-01
pyruvate	Local	5.54E+00	3.94E-02	1.17E-03	8.51E-03	1.18E-01	3.96E-02	7.02E-01	4.12E-01	3.62E-01	-7.85E+00	5.65E-02	6.54E-02	1.35E-02	-1.66E-01	5.54E-01	1.04E-01	-1.03E-18	4.87E-19	1.62E-06	4.15E-06	-2.78E-03
	Min	-4.42E+01	-2.24E+01	-3.31E-06	-4.01E-05	-1.14E+00	-6.83E-03	4.44E-05	1.44E-05	-6.51E-02	-1.17E+04	2.11E-04	6.86E-06	1.55E-06	-3.46E+02	1.45E-05	6.50E-06	-6.58E-16	-8.35E-15	4.71E-12	-1.33E-06	-3.69E+00
	Max	6.46E+03	7.29E+01	4.65E+00	5.10E+01	1.67E+03	1.10E+02	2.89E+03	3.28E+03	1.37E+03	-1.47E+00	1.89E+02	1.58E+02	3.45E+01	3.31E+01	6.94E+03	2.78E+02	7.25E-16	5.11E-15	3.47E-03	9.01E-03	2.64E-02
	Normalized peak height	5.00E-01	8.52E-01	8.77E-01	9.07E-01	8.95E-01	9.12E-01	9.13E-01	9.60E-01	9.59E-01	9.04E-01	9.39E-01	9.52E-01	9.52E-01	9.12E-01	9.66E-01	9.56E-01	8.99E-01	9.13E-01	9.46E-01	9.24E-01	9.32E-01
	Peak sensitivity value	4.54E+00	5.33E-03	2.32E-03	2.55E-02	-3.01E-01	4.82E-02	1.44E+00	1.64E+00	6.19E-01	-7.34E+00	9.49E-02	7.91E-02	1.72E-02	-4.73E-03	3.47E+00	1.39E-01	-1.20E-19	-1.22E-18	1.74E-06	3.18E-06	-1.53E-03
	Shapiro-Wilk score	3.865E-02	4.563E-02	4.836E-02	4.222E-02	1.775E-02	3.461E-02	3.599E-02	1.907E-02	1.935E-02	4.180E-02	2.719E-02	2.528E-02	2.514E-02	2.643E-02	1.700E-02	2.431E-02	3.808E-02	3.308E-02	2.357E-02	3.099E-02	2.818E-02
dihydroxyacetonephosphate cytosol	Local	-3.10E-01	-2.20E-03	-1.68E-04	-1.28E-03	-2.24E-02	-7.65E-03	-1.35E-01	-7.90E-02	6.75E-01	-6.46E-17	-1.08E-02	-1.25E-02	-2.58E-03	3.30E-02	-1.06E-01	-2.00E-02	1.97E-19	-9.46E-20	-3.10E-07	-8.20E-07	5.52E-04
	Min	-1.54E+01	-2.48E-01	-2.84E-02	-1.91E-01	-2.23E+00	-2.86E-01	-4.67E+00	-4.23E+00	4.96E-02	-2.08E-14	-6.47E-01	-6.32E-01	-8.71E-02	3.25E-05	-1.38E+01	-1.00E+00	-1.58E-17	-2.84E-15	-3.12E-05	-4.36E-05	4.61E-07
	Max	7.64E+00	2.71E-01	6.30E-03	3.87E-02	1.68E-01	-1.39E-06	1.35E-01	7.84E-02	1.83E+01	1.04E-14	2.30E-03	1.06E-03	2.81E-04	8.42E-01	3.34E-02	1.26E-03	8.82E-18	7.51E-17	4.86E-08	-3.22E-09	1.51E-02
	Normalized peak height	2.03E-01	1.26E-01	2.70E-01	2.82E-01	2.92E-01	1.64E-01	2.35E-01	2.61E-01	4.50E-02	7.17E-01	1.36E-01	1.94E-01	1.51E-01	5.85E-02	3.69E-01	2.45E-01	5.58E-01	7.33E-01	2.41E-01	7.96E-02	7.76E-02
	Peak sensitivity value	-7.46E-03	-7.06E-04	-2.15E-05	-5.57E-05	-7.72E-04	-1.44E-04	-2.26E-03	-1.40E-03	2.05E-01	-6.43E-18	-6.16E-04	-5.25E-04	-2.47E-05	4.54E-04	-1.05E-03	-2.46E-04	-4.04E-21	8.21E-19	1.77E-09	-2.50E-08	2.32E-05
	Shapiro-Wilk score	6.570E-01	6.828E-01	3.896E-01	4.589E-01	4.632E-01	5.015E-01	5.348E-01	4.748E-01	5.264E-01	1.904E-01	4.358E-01	4.029E-01	4.268E-01	6.510E-01	3.809E-01	3.717E-01	3.524E-01	4.932E-02	3.163E-01	5.761E-01	5.493E-01
nadh	Local	1.19E+00	8.44E-03	1.92E-04	1.37E-03	1.64E-02	1.21E-02	1.67E-01	-1.51E+00	-3.09E-02	2.01E-16	1.34E-02	1.55E-02	3.19E-03	-3.88E-02	1.31E-01	2.47E-02	-2.44E-19	7.06E-20	3.85E-07	-3.54E-07	-6.48E-04
	Min	-5.22E+00	-2.42E-01	-1.78E-03	-1.17E-02	-1.14E-01	-4.29E-04	1.14E-04	-3.20E+00	-1.31E+01	-1.09E-14	1.71E-04	5.32E-06	1.29E-06	-5.77E-01	1.48E-05	7.41E-06	-2.82E-18	-8.05E-17	4.23E-12	-9.95E-06	-5.32E-03
	Max	1.37E+01	1.06E-01	1.32E-02	1.98E-01	9.30E-01	1.76E-01	2.80E+00	-4.69E-01	1.62E-01	1.28E-14	4.83E-01	2.74E-01	4.93E-02	2.11E-02	1.21E+01	4.55E-01	3.63E-17	5.04E-16	1.50E-05	6.01E-06	2.19E-05
	Normalized peak height	1.23E-01	3.63E-02	1.02E-01	1.49E-01	4.15E-02	2.20E-02	1.05E-01	7.51E-03	1.48E-01	5.91E-01	3.24E-02	4.53E-02	3.37E-02	2.51E-02	2.86E-01	6.34E-02	4.50E-01	4.70E-01	1.12E-01	1.04E-02	3.50E-02
	Peak sensitivity value	1.10E-02	4.85E-03	-1.30E-06	-1.01E-04	-4.51E-03	2.27E-03	1.51E-03	-1.29E+00	-1.68E-02	4.83E-18	2.83E-03	1.42E-04	7.52E-05	-2.54E-03	6.08E-03	2.35E-04	1.71E-20	-1.39E-19	7.50E-09	-4.12E-07	-7.46E-06
	Shapiro-Wilk score	8.687E-01	7.691E-01	6.825E-01	6.461E-01	8.148E-01	8.405E-01	8.075E-01	9.539E-01	3.000E-01	5.874E-01	7.453E-01	7.296E-01	7.647E-01	7.253E-01	6.272E-01	6.853E-01	4.854E-01	1.961E-01	5.185E-01	9.401E-01	7.301E-01
glycerol3phosphate	Local	9.63E-01	6.85E-03	2.45E-03	1.91E-02	3.66E-01	-4.66E-02	4.02E-01	2.30E-01	-2.28E+00	2.02E-16	3.25E-02	3.76E-02	7.73E-03	-1.21E-01	3.18E-01	5.99E-02	-5.90E-19	1.45E-18	9.31E-07	-2.61E-05	-2.02E-03
	Min	-9.98E+00	-4.40E-01	-3.78E-03	-1.35E-02	-3.98E-01	-1.74E-01	-2.08E+00	-1.12E+00	-1.59E+01	-7.01E-14	-1.74E-01	-1.10E-01	-2.10E-02	-1.69E+00	-4.25E+00	-1.16E-01	-1.22E-17	-1.48E-16	-4.80E-07	-3.08E-04	-1.99E-02
	Max	1.45E+01	5.32E-01	4.22E-02	4.78E-01	3.44E+00	2.34E-01	5.81E+00	5.99E+00	1.56E-01	7.27E-14	5.05E-01	4.36E-01	7.56E-02	-2.74E-04	1.70E+01	8.44E-01	1.19E-17	6.53E-15	2.55E-05	1.14E-06	-5.15E-06
	Normalized peak height	6.28E-02	5.91E-02	1.68E-02	2.03E-02	1.23E-02	9.22E-03	1.10E-01	1.59E-01	1.90E-02	6.74E-01	3.05E-02	6.00E-02	4.63E-02	2.07E-02	2.18E-01	7.74E-02	4.02E-01	2.66E-01	1.02E-01	8.55E-03	1.71E-02
	Peak sensitivity value	3.01E-02	4.76E-03	1.30E-03	1.08E-02	2.17E-01	-4.13E-02	-1.79E-03	1.48E-03	-1.47E+00	-5.72E-17	3.21E-03	7.47E-04	8.99E-05	-6.17E-03	-6.52E-04	2.74E-04	6.93E-21	2.71E-18	8.61E-10	-1.70E-05	-1.14E-04
	Shapiro-Wilk score	9.522E-01	8.390E-01	7.511E-01	7.479E-01	8.282E-01	9.492E-01	7.725E-01	7.073E-01	7.348E-01	2.177E-01	7.197E-01	6.535E-01	6.834E-01	8.911E-01	5.760E-01	6.126E-01	5.842E-01	1.203E-01	5.144E-01	8.659E-01	7.869E-01
glucose6phosphate	Local	1.66E+00	1.18E-02	-1.68E-01	-1.04E+00	-1.04E-01	6.02E-03	-1.84E-01	-1.08E-01	1.35E-01	4.60E-17	-1.45E-02	-1.68E-02	-3.45E-03	-6.64E-03	-1.42E-01	-2.67E-02	2.64E-19	2.69E-18	-4.16E-07	1.54E-06	-1.11E-04
	Min	-7.19E+00	-6.32E-02	-4.09E-01	-1.74E+00	-1.50E+01	-7.45E-01	-3.04E+01	-2.34E+01	-1.54E-01	-2.15E-13	-8.48E-01	-3.27E-01	-8.84E-02	-5.21E+00	-1.95E+01	-6.53E-01	-9.14E-18	-1.41E-15	-2.11E-05	-5.27E-06	-1.55E-02
	Max	7.13E+01	2.25E+00	-5.11E-02	-7.39E-01	1.80E-01	7.71E-02	6.25E-01	5.08E-01	9.39E+00	3.22E-13	3.90E-02	3.05E-02	5.69E-03	3.94E-01	1.03E+00	4.55E-02	6.26E-18	4.11E-14	4.42E-07	1.05E-04	5.24E-03
	Normalized peak height	1.47E-01	1.36E-01	4.36E-03	1.04E-02	1.57E-01	6.80E-02	3.13E-01	3.34E-01	5.96E-02	9.13E-01	6.19E-02	6.40E-02	7.15E-02	3.17E-01	2.69E-01	9.55E-02	4.29E-01	5.06E-01	1.23E-01	6.38E-02	1.97E-01
	Peak sensitivity value	1.17E+00	5.10E-03	-1.40E-01	-1.03E+00	-3.98E-02	6.81E-03	-1.11E-02	-5.44E-03	3.18E-02	1.70E-16	-3.99E-03	-4.44E-04	-9.76E-05	-1.02E-03	-1.23E-02	-2.74E-04	-3.75E-22	1.60E-17	4.72E-10	9.50E-07	1.12E-05
	Shapiro-Wilk score	7.861E-01	6.822E-01	9.716E-01	9.190E-01	5.866E-01	7.092E-01	6.045E-01	5.710E-01	5.014E-01	4.233E-02	6.336E-01	7.206E-01	7.394E-01	6.495E-01	4.675E-01	6.720E-01	5.782E-01	5.458E-02	5.682E-01	5.789E-01	7.038E-01
3phosphoglycerate cytosol	Local	3.53E+00	2.51E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.48E-01	2.63E-01	2.31E-01	0.00E+00	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	1.03E-06	2.65E-06	-1.77E-03
	Min	-2.21E+00	-1.89E+00	-1.32E-03	-2.38E-02	-1.01E+00	-3.31E-02	-2.71E+00	-8.01E-01	-1.61E-01	-5.55E-13	-1.32E-02	-1.00E+00	-2.24E-01	-2.55E+00	-4.89E+01	-1.80E+00	-5.52E-17	-5.04E-15	-7.46E-07	-1.98E-06	-5.19E-02
	Max	4.71E+01	6.85E-01	7.27E-02	1.49E+00	4.57E+00	6.03E-01	1.51E+01	1.08E+01	8.70E+00	2.18E-12	1.07E+00	-2.66E-04	-3.79E-05	6.49E-01	-5.71E-01	-2.28E-04	5.06E-17	5.52E-15	8.03E-06	8.85E-05	8.17E-04
	Normalized peak height	8.77E-02	9.43E-02	1.65E-01	2.02E-01	2.37E-01	1.13E-01	1.13E-01	1.23E-01	7.66E-02	9.05E-01	3.77E-02	4.14E-03	4.01E-03	6.15E-02	2.08E-02	4.63E-03	3.33E-01	8.10E-01	1.44E-02	5.45E-02	1.19E-01
	Peak sensitivity value	-1.55E-02	8.70E-03	4.63E-05	1.16E-03	1.75E-03	3.31E-04	1.31E-02	8.12E-03	1.16E-02	8.94E-16	4.72E-03	-3.30E-01	-8.54E-02	-5.97E-03	-1.22E+00	-5.15E-01	-4.73E-20	2.57E-18	3.95E-08	1.50E-07	-5.36E-05
	Shapiro-Wilk score	7.521E-01	6.785E-01	6.402E-01	6.095E-01	7.590E-01	8.106E-01	8.067E-01	7.721E-01	6.098E-01	3.074E-02	5.727E-01	9.607E-01	9.495E-01	5.840E-01	7.408E-01	9.657E-01	8.787E-01	4.123E-02	8.410E-01	5.585E-01	4.858E-01
phosphoenolpyruvate	Local	4.22E-01	3.01E-03	8.93E-05	6.49E-04	9.02E-03	3.02E-03	5.36E-02	3.14E-02	2.76E-02	-1.05E-16	4.31E-03	-4.91E-01	-1.01E-01	-1.27E-02	4.22E-02	7.95E-03	7.72E-18	3.72E-20	1.23E-07	3.16E-07	-2.12E-04
	Min	-1.80E-01	-1.49E-01	-2.85E-07	-8.22E-06	-2.38E-03	-1.47E-04	1.04E-05	2.74E-06	-5.48E-03	-8.48E-13	4.40E-05	-1.12E+00	-2.49E-01	-6.80E-02	5.70E-06	2.70E-06	-3.49E-14	-4.43E-17	7.54E-13	-1.54E-07	-1.74E-03
	Max	1.07E+00	3.72E-02	7.67E-03	1.29E-01	2.72E-01	4.03E-02	7.01E-01	5.75E-01	5.03E-01	8.18E-13	5.64E-02	-3.10E-01	-5.53E-02	7.44E-02	1.70E+00	7.48E-02	7.20E-17	1.56E-16	1.84E-06	3.51E-06	1.62E-04
	Normalized peak height	4.79E-02	4.87E-02	1.14E-01	1.97E-01	1.31E-01	4.40E-02	7.44E-02	9.64E-02	3.55E-02	9.14E-01	1.11E-02	3.60E-03	3.67E-03	2.15E-02	1.21E-01	2.76E-02	7.06E-01	5.41E-01	5.65E-02	1.40E-02	6.19E-02
	Peak sensitivity value	-4.30E-04	1.78E-03	1.12E-05	5.63E-05	-4.94E-05	7.54E-05	3.61E-04	2.90E-04	8.73E-04	5.04E-16	1.20E-03	-3.83E-01	-1.06E-01	-1.20E-04	5.55E-04	1.15E-04	-1.55E-17	8.02E-20	9.20E-10	3.08E-08	-1.22E-06
	Shapiro-Wilk score	9.038E-01	7.180E-01	6.301E-01	5.641E-01	7.536E-01	8.088E-01	7.921E-01	7.734E-01	6.098E-01	5.842E-02	7.494E-01	9.399E-01	9.782E-01	8.758E-01	5.964E-01	7.795E-01	5.931E-03	1.915E-01	7.206E-01	8.369E-01	7.356E-01
bisphosphoglycerate	Local	-5.89E+00	-4.19E-02	5.08E-03	4.06E-02	8.47E-01	1.55E-01	3.68E+00	2.16E+00	4.96E-03	-1.01E-15	-8.02E-02	-9.29E-02	-1.91E-02	1.64E-01	-7.86E-01	-1.48E-01	1.46E-18	3.25E-18	-2.30E-06	5.67E-08	2.74E-03
	Min	-5.38E+01	-7.83E-01	-3.97E-03	-1.78E-02	8.20E-03	-2.76E-02	8.66E-02	3.89E-02	-1.80E+00	-1.77E-13	-1.23E+00	-7.95E-01	-1.70E-01	-4.50E-01	-2.98E+01	-1.64E+00	-3.97E-17	-6.67E-16	-2.51E-04	-8.60E-05	-3.54E-03
	Max	5.84E+00	1.97E-01	9.21E-02	8.15E-01	7.40E+00	1.12E+00	3.66E+01	1.60E+01	4.53E+01	1.16E-13	-4.20E-04	-1.69E-05	-3.68E-06	1.44E+00	-4.41E-05	-1.88E-05	4.29E-17	6.75E-15	-1.09E-11	3.29E-05	3.13E-02
	Normalized peak height	7.53E-02	2.37E-02	2.24E-02	2.17E-02	1.29E-02	1.29E-02	1.66E-02	1.08E-02	1.94E-01	6.37E-01	2.63E-02	4.77E-02	4.02E-02	3.36E-02	1.94E-01	7.73E-02	4.21E-01	2.52E-01	3.08E-01	4.39E-02	6.81E-02
	Peak sensitivity value	1.91E-02	-9.37E-03	1.65E-03	1.51E-02	3.52E-01	5.37E-02	1.46E+00	9.58E-01	5.93E-02	-2.66E-17	-5.97E-03	-4.14E-04	-8.86E-05	3.85E-03	-1.50E-02	-8.40E-04	-6.16E-21	-3.27E-18	-1.25E-07	8.72E-07	-2.29E-06
	Shapiro-Wilk score	8.426E-01	7.955E-01	7.213E-01	7.201E-01	8.113E-01	8.035E-01	8.147E-01	8.056E-01	3.402E-01	2.396E-01	7.614E-01	8.411E-01	8.416E-01	7.552E-01	7.811E-01	8.405E-01	6.654E-01	2.918E-01	6.266E-01	7.376E-01	6.385E-01
atpg	Local	-2.48E+00	-1.77E-02	1.11E-03	8.98E-03	1.98E-01	3.30E-02	8.27E-01	4.85E-01	-6.16E-02	-2.63E-16	6.66E-02	7.71E-02	1.58E-02	7.12E-02	6.52E-01	1.23E-01	-1.21E-18	-7.32E-18	1.91E-06	-7.06E-07	1.19E-03
	Min	-9.37E+01	-3.37E+00	-7.86E-02	-4.02E-01	4.61E-05	-4.35E-01	-4.58E-03	-1.90E-03	-1.51E+01	-1.11E-12	8.96E-04	5.90E-05	1.34E-05	1.73E-06	1.83E-04	4.92E-05	-4.17E-17	-1.85E-13	2.89E-11	-3.34E-04	2.56E-08
	Max	-7.56E-03	-1.35E-05	2.67E-01	2.72E+00	2.13E+01	2.70E+00	5.91E+01	2.76E+01	3.83E+00	9.37E-13	2.92E+00	2.05E+00	3.88E-01	1.41E+01	8.60E+01	3.95E+00	1.39E-16	1.24E-15	2.95E-05	5.41E-06	8.73E-02
	Normalized peak height	1.22E-01	3.06E-01	3.13E-01	2.77E-01	2.54E-01	1.66E-01	2.37E-01	2.11E-01	3.10E-01	8.98E-01	5.38E-02	7.35E-02	6.27E-02	3.33E-01	3.59E-01	1.08E-01	4.53E-01	6.64E-01	6.10E-02	3.07E-01	2.85E-01
	Peak sensitivity value	-5.44E-02	-1.70E-03	1.43E-05	-4.96E-04	1.07E-02	2.18E-03	2.50E-02	1.19E-02	-4.58E-03	-4.79E-17	1.99E-02	3.13E-03	5.95E-04	7.06E-03	4.32E-02	2.02E-03	8.02E-20	2.79E-17	1.48E-08	1.52E-07	4.37E-05
	Shapiro-Wilk score	7.186E-01	7.082E-01	7.645E-01	7.379E-01	6.250E-01	6.672E-01	6.380E-01	6.082E-01	7.276E-01	1.006E-01	5.869E-01	6.713E-01	6.815E-01	7.069E-01	4.641E-01	6.209E-01	4.773E-01	3.095E-02	6.970E-01	5.965E-01	6.122E-01
ampc	Local	-1.22E+00	-8.09E-03	-2.58E-04	-1.87E-03	-2.61E-02	-8.72E-03	-1.55E-01	-9.08E-02	-7.98E-02	-6.07E-20	-1.24E-02	-1.44E-02	1.73E+00	3.66E-02	-1.22E-01	-2.30E-02	-3.42E-16	-1.07E-19	-3.57E-07	-9.14E-07	6.12E-04
	Min	-1.82E+00	-7.19E-02	-1.50E-02	-1.85E-01	-4.96E-01	-7.15E-02	-1.49E+00	-1.09E+00	-8.43E-01	-1.24E-11	-1.59E-01	-1.03E-01	1.36E+00	-1.05E-01	-1.81E+00	-1.74E-01	-1.74E-15	-1.95E-16	-4.18E-06	-8.90E-06	-2.78E-04
	Max	3.61E-01	2.20E-01	5.94E-06	6.57E-05	6.16E-03	1.13E-03	-2.02E-05	-1.41E-05	2.54E-03	1.73E-11	-1.61E-04	-4.83E-06	1.87E+00	1.42E-01	-1.22E-05	-4.65E-06	4.90E-15	1.05E-16	6.00E-16	3.93E-08	3.74E-03
	Normalized peak height	4.24E-02	2.88E-02	8.23E-02	1.30E-01	8.03E-02	3.03E-02	6.06E-02	7.38E-02	2.14E-02	8.94E-01	1.14E-02	1.75E-02	2.75E-03	1.42E-02	8.09E-02	2.34E-02	3.20E-01	5.12E-01	5.00E-02	1.24E-02	6.97E-02
	Peak sensitivity value	3.10E-04	-5.25E-03	-1.66E-05	-2.12E-04	-1.17E-04	-1.46E-04	-7.64E-04	-5.58E-04	-2.96E-03	1.39E-14	-3.89E-03	-2.62E-04	1.68E+00	2.56E-04	-9.17E-04	-2.65E-04	2.72E-18	-1.29E-20	-2.09E-09	-9.03E-08	1.87E-06
	Shapiro-Wilk score	8.431E-01	7.437E-01	6.532E-01	5.930E-01	7.733E-01	8.308E-01	7.955E-01	7.919E-01	6.301E-01	5.510E-02	7.602E-01	8.426E-01	9.850E-01	8.955E-01	6.012E-01	7.982E-01	9.718E-01	2.833E-01	7.549E-01	8.590E-01	7.544E-01

nad																				
Local	-2.14E-02	-1.52E-04	-3.47E-06	-2.46E-05	-2.95E-04	-2.18E-04	-3.01E-03	2.72E-02	5.57E-04	-3.62E-18	-2.42E-04	-2.80E-04	-5.76E-05	6.99E-04	-2.37E-03	-4.46E-04	4.40E-21	-1.27E-21	-6.93E-09	6.38E-09	1.17E-05
Min	-4.06E-01	-3.55E-03	-4.46E-04	-4.48E-03	-3.79E-02	-7.45E-03	-1.39E-01	3.39E-03	-8.61E-03	-3.72E-16	-1.22E-02	-1.34E-02	-2.34E-03	-8.15E-04	-2.69E-01	-1.86E-02	-8.30E-19	-6.81E-18	-8.98E-07	-2.08E-07	-6.22E-07
Max	1.51E-01	5.64E-03	4.11E-05	3.80E-04	3.76E-03	-1.52E-06	-8.51E-07	2.27E-01	3.97E-01	2.30E-16	-8.05E-07	-1.66E-08	-3.49E-09	2.38E-02	-4.84E-08	-2.11E-08	1.24E-19	2.51E-18	-6.06E-14	5.88E-07	3.63E-04
Normalized peak height	1.43E-01	5.90E-02	2.21E-01	2.18E-01	1.20E-01	6.26E-02	2.33E-01	9.83E-03	3.27E-01	6.44E-01	6.45E-02	1.66E-01	1.33E-01	8.19E-02	3.46E-01	1.76E-01	5.19E-01	5.23E-01	3.10E-01	4.19E-02	1.42E-01
Peak sensitivity value	-3.03E-04	-3.27E-05	-2.51E-08	-9.25E-07	2.85E-05	-2.01E-05	-7.05E-05	1.34E-02	1.06E-04	7.12E-20	-1.91E-05	-6.73E-06	-1.17E-06	3.28E-05	-1.35E-04	-9.34E-06	-3.59E-22	-1.31E-21	-4.49E-10	3.29E-09	2.87E-07
Shapiro-Wilk score	7.349E-01	6.920E-01	5.658E-01	5.682E-01	6.955E-01	7.001E-01	7.217E-01	8.193E-01	1.817E-01	4.160E-01	5.728E-01	5.415E-01	5.725E-01	5.346E-01	5.365E-01	5.166E-01	3.914E-01	2.797E-01	3.470E-01	7.285E-01	5.416E-01
fructose16bisphosphate																				
Local	4.06E-01	2.89E-03	4.32E-03	3.39E-02	-1.00E-01	5.73E-03	-1.77E-01	-1.04E-01	1.29E-01	4.42E-17	-1.39E-02	-1.61E-02	-3.31E-03	-6.40E-03	-1.36E-01	-2.56E-02	2.53E-19	2.53E-18	-3.99E-07	1.48E-06	-1.07E-04
Min	-1.85E+01	-8.20E-01	3.88E-04	2.29E-03	-1.51E+00	-1.28E-01	-2.56E+00	-2.12E+00	-2.91E-01	-7.16E-15	-4.87E-01	-2.74E-01	-4.37E-02	-2.50E-01	-1.22E+01	-5.92E-01	-4.66E-18	-6.90E-16	-3.52E-05	-5.82E-06	-4.76E-03
Max	5.89E+00	3.28E-01	5.91E-02	6.45E-01	1.81E-01	6.51E-02	6.60E-01	4.76E-01	2.01E+01	9.90E-15	6.83E-02	4.01E-02	7.07E-03	5.95E-01	1.61E+00	5.61E-02	2.81E-18	1.96E-14	2.95E-07	1.62E-05	7.05E-03
Normalized peak height	1.17E-01	2.68E-01	1.16E-02	1.46E-02	2.62E-02	2.19E-02	7.90E-02	1.01E-01	2.02E-01	6.86E-01	9.12E-02	1.17E-01	1.07E-01	1.84E-01	3.10E-01	1.39E-01	4.25E-01	4.65E-01	2.95E-01	1.62E-02	2.42E-01
Peak sensitivity value	-9.67E-03	3.32E-04	2.12E-03	2.06E-02	-4.40E-02	5.05E-03	-1.08E-02	-4.97E-03	2.60E-02	-4.79E-18	-2.83E-04	1.22E-05	-1.37E-05	4.37E-04	-7.45E-03	8.93E-05	-3.41E-21	-9.61E-18	-6.84E-09	7.80E-07	6.41E-06
Shapiro-Wilk score	8.046E-01	6.478E-01	8.027E-01	7.789E-01	7.297E-01	8.631E-01	6.872E-01	6.329E-01	3.302E-01	3.370E-01	6.326E-01	6.222E-01	6.652E-01	7.844E-01	4.775E-01	5.767E-01	5.856E-01	6.388E-02	4.359E-01	8.388E-01	6.810E-01
ampg																				
Local	1.67E+01	1.19E-01	-7.45E-03	-6.05E-02	-1.33E+00	-2.22E-01	-5.57E+00	-3.27E+00	4.15E-01	1.77E-15	-4.48E-01	-5.19E-01	-1.07E-01	-4.79E-01	-4.39E+00	-8.26E-01	8.15E-18	3.08E-16	-1.29E-05	4.75E-06	-8.01E-03
Min	5.18E-03	2.67E-03	-1.18E-01	-8.90E-01	-1.21E+01	-1.97E+00	-5.29E+01	-3.72E+01	-5.83E+01	-2.26E-13	-2.11E+00	-1.31E+00	-3.08E-01	-2.10E+00	-1.01E+02	-3.12E+00	-8.59E-17	-5.80E-12	-2.04E-04	-7.40E-05	-7.45E-02
Max	1.05E+02	1.47E+00	2.75E-02	1.61E-01	-1.63E-04	1.12E-01	5.23E-03	1.80E-03	5.73E+00	4.27E-13	-1.26E-05	-2.88E-06	-7.46E-07	-4.32E-04	-1.11E-05	-3.68E-06	7.97E-17	5.77E-12	-3.67E-13	1.62E-04	-2.18E-07
Normalized peak height	7.21E-02	1.16E-02	4.53E-02	4.24E-02	5.22E-02	6.27E-02	8.38E-02	1.04E-01	2.48E-01	6.46E-01	9.02E-02	1.17E-01	1.19E-01	2.41E-02	1.89E-01	1.51E-01	4.79E-01	6.59E-01	2.83E-01	6.30E-02	1.45E-01
Peak sensitivity value	5.76E-02	1.37E-02	2.12E-04	5.79E-04	-6.21E-03	-1.51E-03	-2.12E-02	-1.68E-02	-1.19E-03	2.40E-16	-1.07E-03	-6.58E-04	-1.55E-04	-7.79E-03	-5.07E-02	-1.56E-03	-3.32E-20	1.75E-15	-1.02E-07	2.89E-07	-3.74E-05
Shapiro-Wilk score	8.871E-01	8.970E-01	7.191E-01	7.262E-01	7.464E-01	7.407E-01	7.389E-01	7.266E-01	4.491E-01	1.863E-01	8.279E-01	8.792E-01	8.776E-01	7.841E-01	5.651E-01	8.755E-01	6.940E-01	3.653E-01	7.273E-01	7.051E-01	6.854E-01
atpc																				
Local	1.92E-01	1.36E-03	4.05E-05	2.91E-04	4.09E-03	1.47E-03	2.43E-02	1.43E-02	1.22E-02	2.20E-21	1.95E-03	2.26E-03	-2.41E-01	-5.79E-03	1.91E-02	9.61E-03	9.62E-18	1.69E-20	5.91E-08	1.44E-07	-9.61E-05
Min	-6.33E-02	-5.82E-02	-5.14E-07	-8.60E-06	-1.36E-03	1.54E-06	4.91E-06	1.67E-06	-6.67E-05	-2.45E-12	2.21E-05	1.06E-06	-6.45E-01	-3.32E-02	2.68E-06	1.00E-06	-5.86E-16	-6.11E-17	-1.69E-17	-2.06E-09	-1.26E-03
Max	6.26E-01	1.84E-02	2.66E-03	4.63E-02	1.01E-01	1.92E-02	4.26E-01	2.45E-01	1.71E-01	2.80E-12	3.78E-02	2.05E-02	-1.27E-01	1.13E-02	4.77E-01	2.98E-02	8.93E-17	1.10E-16	8.03E-07	1.91E-06	5.34E-05
Normalized peak height	5.30E-02	4.05E-02	7.36E-02	1.48E-01	7.66E-02	3.90E-02	7.79E-02	7.62E-02	2.15E-02	9.38E-01	1.46E-02	1.63E-02	2.66E-03	1.48E-02	9.67E-02	1.93E-02	3.23E-01	6.68E-01	5.16E-02	1.31E-02	6.37E-02
Peak sensitivity value	4.27E-04	9.03E-04	6.15E-06	6.09E-05	-7.64E-05	3.03E-05	2.18E-04	1.24E-04	5.32E-04	1.12E-15	7.59E-04	5.23E-05	-3.20E-01	-4.05E-05	2.41E-04	4.57E-05	-1.39E-19	-1.78E-20	4.01E-10	1.80E-08	-1.06E-06
Shapiro-Wilk score	8.934E-01	6.742E-01	6.201E-01	5.351E-01	7.526E-01	7.978E-01	7.747E-01	7.669E-01	6.646E-01	4.819E-02	7.381E-01	8.266E-01	9.856E-01	8.616E-01	5.885E-01	8.015E-01	8.774E-01	1.634E-01	7.133E-01	8.324E-01	7.123E-01
glycerol3phosphate cytosol																				
Local	7.66E-01	5.45E-03	4.16E-04	3.17E-03	5.53E-02	1.89E-02	3.33E-01	1.99E-01	-1.67E+00	1.60E-16	2.68E-02	3.10E-02	6.37E-03	-8.17E-02	2.62E-01	4.94E-02	-4.87E-19	2.34E-19	7.88E-07	2.03E-06	-1.37E-03
Min	-3.25E+00	-2.07E-01	-5.93E-03	-3.88E-02	-3.12E-01	-8.56E-03	-1.22E+00	-6.56E-01	-3.80E+00	-2.75E-14	-3.84E-02	-1.62E-02	-5.60E-03	-8.10E-01	-7.51E-01	-2.90E-02	-5.12E-18	-1.20E-16	-3.98E-07	2.51E-08	-1.15E-02
Max	3.62E+00	2.21E-01	1.45E-02	2.21E-01	1.09E+00	1.52E-01	2.79E+00	2.33E+00	-8.44E-02	7.56E-14	1.83E-01	1.57E-01	3.23E-02	-3.29E-04	6.20E+00	3.19E-01	1.88E-17	9.75E-15	1.14E-05	2.41E-05	-3.99E-06
Normalized peak height	2.60E-02	3.03E-02	1.01E-01	1.20E-01	1.08E-01	3.09E-02	8.11E-02	7.75E-02	7.60E-03	7.07E-01	1.02E-02	1.96E-02	1.81E-02	1.23E-02	1.67E-01	3.09E-02	3.93E-01	7.23E-01	5.50E-02	1.36E-02	1.33E-02
Peak sensitivity value	1.72E-02	4.63E-03	2.04E-05	3.11E-04	-8.31E-04	2.20E-04	3.11E-03	5.35E-04	-1.33E+00	-2.80E-17	4.44E-03	3.99E-04	1.38E-04	-3.97E-03	3.58E-03	4.32E-04	9.20E-22	3.66E-18	7.02E-09	1.82E-07	-1.25E-04
Shapiro-Wilk score	9.500E-01	8.698E-01	7.389E-01	7.168E-01	8.178E-01	8.752E-01	8.362E-01	8.031E-01	9.540E-01	2.031E-01	8.451E-01	7.958E-01	8.105E-01	8.860E-01	6.392E-01	7.586E-01	6.366E-01	3.132E-02	6.479E-01	8.930E-01	8.038E-01

Table 9: Concentration control coefficients for *Trypanosoma brucei* model with parameter variation of ±50%

		(glucosetransport)	(hexokinase)	(phosphoglycerateisomerase)	(phophofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)
adpg	Local	7.11E+00	5.06E-02	-3.17E-03	-2.57E-02	-5.67E-01	-9.47E-02	-2.37E+00	-1.39E+00	1.77E-01	7.55E-16
	Min	-1.27E+02	-3.62E+00	-8.53E-02	-6.79E-01	-1.02E+01	-1.37E+00	-3.51E+01	-2.14E+01	-3.11E+01	-3.95E-13
	Max	8.39E+01	8.79E-01	9.71E-02	1.41E+00	1.72E+01	3.90E+00	9.62E+01	3.92E+01	4.44E+00	6.49E-13
	Normalized peak height	8.77E-02	8.69E-02	9.07E-02	1.13E-01	6.19E-02	1.23E-01	1.30E-01	1.21E-01	1.61E-01	6.55E-01
	Peak sensitivity value	-2.93E-01	3.99E-03	-2.24E-04	-2.13E-03	2.34E-02	-4.94E-03	2.19E-04	1.54E-02	1.18E-02	-5.13E-16
	Shapiro-Wilk score	8.977E-01	7.688E-01	6.590E-01	6.321E-01	7.661E-01	7.007E-01	7.762E-01	7.561E-01	3.794E-01	9.950E-02
adpc	Local	-5.14E-01	-3.66E-03	-1.09E-04	-7.90E-04	-1.10E-02	-3.67E-03	-6.52E-02	-3.83E-02	-3.37E-02	0.00E+00
	Min	-8.74E-01	-4.68E-02	-2.06E-02	-5.78E-01	-2.78E-01	-5.25E-02	-7.68E-01	-6.73E-01	-6.08E-01	-1.05E-11
	Max	4.13E-01	7.15E-01	1.26E-04	5.83E-04	5.37E-03	3.85E-03	-1.52E-06	-4.80E-07	4.37E-02	1.51E-11
	Normalized peak height	1.14E-01	1.55E-01	2.97E-01	4.92E-01	1.45E-01	8.37E-02	1.40E-01	1.73E-01	1.01E-01	9.78E-01
	Peak sensitivity value	2.05E-04	-1.53E-03	-9.21E-06	-2.84E-04	1.36E-04	-6.58E-05	-3.85E-04	-3.37E-04	-3.39E-04	-2.47E-15
	Shapiro-Wilk score	8.528E-01	3.836E-01	5.385E-01	3.378E-01	7.461E-01	7.745E-01	7.939E-01	7.625E-01	5.204E-01	1.931E-02
dihydroxyacetonephosphate	Local	-1.12E-01	-8.00E-04	1.87E-03	1.47E-02	2.89E-01	-7.31E-02	-6.54E-02	-3.84E-02	6.36E-02	-2.29E-17
	Min	-1.45E+01	-9.26E+00	-2.24E-03	5.35E-04	6.39E-03	-2.86E-01	-1.46E+00	-1.62E+00	-2.19E-01	-6.30E-15
	Max	7.42E+00	2.25E-01	3.87E-02	7.22E+00	1.30E+00	5.59E-02	2.65E+00	3.27E-01	1.47E+01	9.44E-15
	Normalized peak height	1.86E-01	6.13E-01	1.89E-02	2.79E-01	5.53E-03	7.87E-03	1.96E-01	1.45E-01	1.71E-01	6.89E-01
	Peak sensitivity value	9.55E-03	2.12E-03	6.92E-04	1.14E-02	1.97E-01	-4.45E-02	-3.54E-03	-3.30E-03	1.25E-02	5.88E-18
	Shapiro-Wilk score	6.191E-01	1.564E-01	7.127E-01	2.919E-01	9.256E-01	9.142E-01	7.626E-01	6.658E-01	2.494E-01	2.006E-01
glyceraldehyde3phosphate	Local	-1.73E-01	-1.23E-03	1.89E-03	1.49E-02	2.93E-01	6.17E-02	-9.23E-02	-5.41E-02	5.22E-02	-3.55E-17
	Min	-1.87E+01	-8.48E+00	-2.34E-04	4.32E-04	5.90E-03	1.10E-02	-1.36E+00	-1.50E+00	-2.36E-01	-7.27E-15
	Max	8.63E+00	5.68E-01	8.58E-02	6.74E+00	1.35E+00	2.01E-01	2.25E+00	8.60E-01	1.87E+01	8.54E-15
	Normalized peak height	2.23E-01	5.32E-01	4.01E-02	2.73E-01	5.49E-03	5.71E-03	1.64E-01	1.48E-01	2.48E-01	6.74E-01
	Peak sensitivity value	-5.83E-03	2.71E-03	6.69E-04	1.05E-02	1.90E-01	3.44E-02	-5.55E-03	-1.83E-03	1.97E-02	-5.35E-18
	Shapiro-Wilk score	6.665E-01	1.419E-01	7.092E-01	2.497E-01	9.225E-01	9.185E-01	7.975E-01	7.101E-01	1.992E-01	2.701E-01
2phosphoglycerate	Local	9.33E-01	6.64E-03	1.97E-04	1.43E-03	1.99E-02	6.66E-03	1.18E-01	6.94E-02	6.11E-02	-8.41E-17
	Min	-6.36E+00	-1.07E+00	-2.93E-04	-4.16E-04	-8.80E-03	-4.74E-03	3.95E-06	1.80E-06	-1.90E-01	-3.08E-12
	Max	3.41E+00	1.52E-01	2.16E-02	7.67E-01	7.42E-01	1.39E-01	3.01E+00	1.70E+00	1.95E+00	2.09E-12
	Normalized peak height	2.02E-01	1.29E-01	1.47E-01	3.20E-01	1.85E-01	1.25E-01	1.96E-01	1.94E-01	1.27E-01	9.53E-01
	Peak sensitivity value	3.39E-03	2.12E-03	2.39E-05	-3.24E-05	-1.72E-04	5.75E-05	1.51E-03	8.52E-04	1.38E-03	-2.14E-15
	Shapiro-Wilk score	8.638E-01	4.336E-01	5.302E-01	3.656E-01	7.287E-01	7.593E-01	7.948E-01	7.525E-01	4.950E-01	1.766E-02
glucose	Local	3.20E+00	-1.04E+00	-1.17E-02	-7.39E-02	-1.69E-01	-2.68E-02	-6.92E-01	-4.06E-01	5.93E-02	2.20E-16
	Min	-5.19E-01	-1.39E+00	-2.72E-01	-2.13E+00	-1.90E+01	-2.13E+00	-8.05E+01	-9.22E+01	-2.87E+01	-9.75E-13
	Max	1.90E+02	8.78E+00	1.21E-02	8.09E-02	-9.07E-05	2.91E-01	1.89E-02	2.22E-02	3.23E+01	8.95E-13
	Normalized peak height	1.58E-01	1.50E-01	4.03E-02	2.98E-02	2.55E-01	1.58E-01	3.22E-01	3.88E-01	3.57E-01	9.23E-01
	Peak sensitivity value	1.10E+00	-1.03E+00	-2.74E-04	-2.00E-03	-9.58E-03	9.79E-04	-2.14E-02	-2.40E-02	2.22E-02	-5.96E-17
	Shapiro-Wilk score	6.748E-01	7.565E-01	6.830E-01	7.006E-01	5.709E-01	6.061E-01	5.891E-01	5.191E-01	6.831E-01	8.074E-02
fructose6phosphate	Local	1.54E+00	1.10E-02	4.77E-03	-1.07E+00	-1.09E-01	6.21E-03	-1.92E-01	-1.13E-01	1.40E-01	4.79E-17
	Min	-2.54E+01	-1.42E-01	-3.81E-02	-2.30E+00	-9.84E+00	-5.93E-01	-2.66E+01	-2.30E+01	-5.99E-01	-1.76E-13
	Max	7.22E+01	3.14E+00	1.22E-01	-5.92E-01	1.91E-01	9.91E-02	6.24E-01	4.75E-01	2.69E+01	1.60E-13
	Normalized peak height	1.52E-01	1.97E-01	2.32E-02	1.82E-02	1.03E-01	5.82E-02	3.53E-01	3.86E-01	1.94E-01	9.18E-01
	Peak sensitivity value	1.10E+00	3.51E-03	1.67E-03	-1.04E+00	-4.49E-02	5.30E-03	-1.51E-02	-7.21E-03	2.01E-02	2.42E-17
	Shapiro-Wilk score	6.746E-01	7.409E-01	7.025E-01	8.408E-01	5.502E-01	6.442E-01	5.194E-01	4.944E-01	3.525E-01	5.613E-02
3phosphoglycerate	Local	3.53E+00	2.51E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.48E-01	2.63E-01	2.31E-01	2.58E-22
	Min	-1.09E+01	-3.97E+00	-1.21E-03	-4.83E-03	-1.16E-01	-2.50E-02	3.38E-06	1.82E-06	-6.87E-01	-2.01E-12
	Max	8.79E+01	1.09E+00	1.70E-01	3.09E+00	7.87E+00	8.52E-01	1.91E+01	1.73E+01	1.85E+01	4.97E-13
	Normalized peak height	1.68E-01	1.83E-01	2.71E-01	2.82E-01	2.67E-01	1.23E-01	2.26E-01	2.49E-01	1.72E-01	8.80E-01
	Peak sensitivity value	-4.29E-02	6.69E-03	7.35E-05	-1.79E-04	-6.46E-05	-3.86E-05	9.53E-03	8.65E-03	1.36E-02	-9.93E-16
	Shapiro-Wilk score	5.867E-01	6.420E-01	5.424E-01	4.357E-01	7.110E-01	7.550E-01	7.702E-01	7.153E-01	4.770E-01	2.367E-02
glycerol	Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15
	Min	-2.84E+01	-6.51E+00	-1.09E-01	-6.76E-01	-8.14E+00	-2.07E+00	-3.35E+01	-2.27E+01	-4.22E+01	-2.31E-13
	Max	1.19E+02	1.07E+00	7.17E-02	4.90E+00	6.38E+00	4.03E-01	1.77E+01	6.99E+00	-2.27E-02	3.32E-13
	Normalized peak height	1.52E-01	1.07E-01	7.82E-02	2.09E-01	2.45E-02	3.02E-02	7.32E-02	9.53E-02	5.39E-02	7.86E-01
	Peak sensitivity value	-1.08E-01	1.04E-02	2.79E-04	2.09E-03	-1.99E-03	-3.05E-02	2.77E-02	4.45E-03	-1.27E+00	8.92E-17
	Shapiro-Wilk score	8.248E-01	8.351E-01	7.131E-01	4.140E-01	8.094E-01	6.950E-01	7.180E-01	6.881E-01	5.202E-01	1.012E-01
pyruvate	Local	5.54E+00	3.94E-02	1.17E-03	8.51E-03	1.18E-01	3.96E-02	7.02E-01	4.12E-01	3.62E-01	-7.85E+00
	Min	-4.20E+01	-3.41E+01	-1.63E-03	-5.86E-03	-2.41E+00	-7.69E-02	7.28E-06	9.11E-07	-5.34E-01	-1.16E+04
	Max	4.51E+03	8.20E+01	4.13E+00	5.41E+01	1.05E+03	1.79E+02	2.68E+03	2.13E+03	1.01E+03	-1.24E+00
	Normalized peak height	8.64E-01	8.70E-01	7.96E-01	8.95E-01	9.37E-01	9.30E-01	9.21E-01	9.46E-01	9.06E-01	9.23E-01
	Peak sensitivity value	1.18E+00	-5.89E-03	4.30E-04	2.12E-02	2.08E-01	1.28E-02	1.34E+00	1.06E+00	-2.72E-02	-7.01E+00
	Shapiro-Wilk score	3.430E-02	4.427E-02	4.071E-02	3.417E-02	1.850E-02	1.991E-02	2.896E-02	2.087E-02	2.143E-02	3.759E-02

		(phosphoglyceratekinase)	(pyruvatekinase)	(atputilisation)	(glycerolkinase)	(phosphoglyceratemutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglyceratetransport)	(gly3pdhapantiporter)	(glyceroltransport)
adpg	Local	-1.91E-01	-2.21E-01	-4.54E-02	-2.04E-01	-1.87E+00	-3.52E-01	3.47E-18	-1.01E-17	-5.47E-06	2.02E-06	-3.41E-03
	Min	-1.08E+00	-9.11E-01	-2.00E-01	-9.64E-01	-8.23E+01	-1.78E+00	-2.04E-16	-6.11E-13	-2.12E-04	-5.46E-04	-5.17E-02
	Max	3.03E+00	1.09E+00	3.44E-01	1.16E+01	7.45E+01	2.27E+00	5.81E-17	3.49E-15	1.66E-05	6.62E-05	5.49E-02
	Normalized peak height	1.08E-01	1.05E-01	1.33E-01	1.32E-01	2.53E-01	1.11E-01	5.18E-01	9.42E-01	2.83E-01	2.10E-01	1.10E-01
	Peak sensitivity value	2.77E-03	6.04E-04	3.17E-04	-7.77E-04	5.99E-02	3.48E-03	9.22E-20	1.06E-16	3.30E-08	-1.98E-07	3.79E-05
	Shapiro-Wilk score	8.128E-01	8.646E-01	8.548E-01	7.827E-01	6.106E-01	8.578E-01	5.574E-01	8.911E-03	6.095E-01	5.709E-01	7.170E-01
adpc	Local	-5.25E-03	-6.07E-03	7.27E-01	1.54E-02	-5.14E-02	-9.68E-03	9.75E-18	-4.52E-20	-1.50E-07	-3.85E-07	2.58E-04
	Min	-8.60E-02	-6.37E-02	1.64E-01	-2.62E-01	-8.57E-01	-1.33E-01	-3.25E-15	-6.45E-17	-2.49E-06	-4.79E-06	-3.48E-04
	Max	-7.25E-06	-2.24E-07	8.93E-01	7.72E-02	-6.38E-07	-1.66E-07	5.00E-16	6.29E-17	6.92E-12	9.66E-07	2.75E-03
	Normalized peak height	2.06E-02	6.76E-02	2.77E-03	7.59E-02	1.78E-01	1.09E-01	3.36E-01	5.59E-01	1.26E-01	4.09E-02	1.78E-01
	Peak sensitivity value	-7.38E-04	-3.21E-05	7.22E-01	8.85E-06	-4.29E-04	-6.66E-05	-3.36E-19	3.82E-21	-1.24E-09	-3.93E-09	1.08E-06
	Shapiro-Wilk score	6.789E-01	7.183E-01	9.805E-01	7.753E-01	6.078E-01	6.320E-01	3.513E-01	3.768E-01	6.466E-01	7.674E-01	6.092E-01
dihydroxyacetonephosphate	Local	-5.13E-03	-5.94E-03	-1.22E-03	-6.36E-03	-5.03E-02	-9.47E-03	9.33E-20	1.12E-18	-1.47E-07	7.28E-07	-1.06E-04
	Min	-4.23E-01	-2.22E-01	-3.94E-02	-1.76E-01	-1.23E+01	-3.95E-01	-1.34E-17	-8.10E-16	-1.97E-05	-5.09E-06	-3.92E-03
	Max	6.30E-02	2.48E-02	8.02E-03	6.89E-01	1.36E+00	3.26E-02	6.02E-18	3.01E-15	4.71E-07	1.65E-05	7.89E-03
	Normalized peak height	1.16E-01	1.39E-01	1.27E-01	1.45E-01	4.35E-01	2.15E-01	5.79E-01	3.42E-01	2.63E-01	2.24E-02	1.88E-01
	Peak sensitivity value	-8.08E-04	-2.73E-05	-1.10E-05	2.61E-04	1.58E-04	-1.06E-04	-2.78E-21	-1.82E-18	-1.48E-09	4.33E-07	-7.67E-06
	Shapiro-Wilk score	4.376E-01	4.518E-01	4.911E-01	8.177E-01	5.079E-01	4.354E-01	3.565E-01	1.685E-01	2.393E-01	7.642E-01	6.719E-01
glyceraldehyde3phosphate	Local	-7.29E-03	-8.44E-03	-1.73E-03	-4.30E-04	-7.14E-02	-1.34E-02	1.32E-19	1.13E-18	-2.09E-07	5.97E-07	-7.19E-06
	Min	-5.77E-01	-2.45E-01	-4.49E-02	-1.62E-01	-1.54E+01	-3.73E-01	-5.56E-18	-5.85E-16	-2.61E-05	-9.13E-06	-3.86E-03
	Max	6.25E-02	1.95E-02	6.80E-03	8.89E-01	5.46E-01	2.94E-02	4.65E-18	3.76E-15	4.65E-07	1.12E-05	9.58E-03
	Normalized peak height	1.21E-01	1.53E-01	1.32E-01	2.31E-01	4.57E-01	1.77E-01	4.62E-01	3.73E-01	2.42E-01	2.83E-02	2.19E-01
	Peak sensitivity value	-1.20E-03	-2.06E-04	-4.02E-05	2.85E-04	-2.41E-03	-1.19E-04	-1.99E-21	-3.36E-19	-3.44E-10	3.33E-07	2.90E-06
	Shapiro-Wilk score	4.741E-01	5.112E-01	5.390E-01	7.316E-01	5.480E-01	4.857E-01	4.385E-01	1.292E-01	2.574E-01	7.445E-01	6.416E-01
2phosphoglycerate	Local	9.52E-03	-4.61E-01	-9.48E-02	-2.80E-02	9.32E-02	-7.35E-01	7.25E-18	8.21E-20	2.73E-07	6.99E-07	-4.68E-04
	Min	1.06E-05	-1.38E+00	-3.27E-01	-2.01E-01	1.43E-06	-3.41E+00	-6.80E-16	-1.77E-16	-1.13E-12	-3.99E-06	-6.75E-03
	Max	2.20E-01	-2.60E-01	-4.61E-02	1.84E+00	2.61E+00	-2.21E-01	5.20E-16	2.90E-16	6.34E-06	1.07E-05	1.88E-03
	Normalized peak height	2.79E-02	4.26E-03	4.08E-03	1.69E-01	2.25E-01	7.85E-03	3.21E-01	6.17E-01	1.44E-01	4.41E-02	1.98E-01
	Peak sensitivity value	1.44E-03	-3.38E-01	-1.14E-01	-1.65E-03	1.31E-03	-5.60E-01	-2.74E-19	-1.16E-19	3.17E-09	1.29E-08	-1.65E-06
	Shapiro-Wilk score	6.450E-01	9.218E-01	9.609E-01	6.780E-01	6.182E-01	8.682E-01	7.480E-01	2.218E-01	6.401E-01	7.258E-01	5.916E-01
glucose	Local	-5.57E-02	-6.44E-02	-1.33E-02	-5.89E-02	-5.45E-01	-1.03E-01	1.01E-18	-2.56E-19	-1.60E-06	6.79E-07	-9.85E-04
	Min	-3.40E+00	-2.23E+00	-4.56E-01	-2.75E+01	-8.13E+01	-5.08E+00	-2.02E-15	-2.25E-15	-3.21E-05	-1.68E-05	-1.08E-01
	Max	-5.95E-05	-5.91E-06	-1.47E-06	5.40E-02	-1.41E-05	-6.96E-06	3.56E-17	7.40E-14	-2.62E-14	4.86E-04	5.57E-04
	Normalized peak height	7.76E-02	1.74E-01	1.47E-01	2.29E-01	4.59E-01	2.67E-01	8.93E-01	9.36E-01	1.23E-01	3.39E-01	3.26E-01
	Peak sensitivity value	-8.57E-03	-1.12E-03	-2.29E-04	1.26E-02	-4.07E-02	-2.55E-03	-3.28E-19	3.69E-18	-1.61E-08	3.52E-08	-3.91E-05
	Shapiro-Wilk score	5.214E-01	5.914E-01	6.027E-01	6.206E-01	4.533E-01	5.046E-01	1.419E-02	1.194E-02	5.943E-01	5.321E-01	5.285E-01
fructose6phosphate	Local	-1.51E-02	-1.75E-02	-3.59E-03	-6.96E-03	-1.48E-01	-2.78E-02	2.74E-19	2.79E-18	-4.33E-07	1.60E-06	-1.16E-04
	Min	-2.22E+00	-1.14E+00	-2.39E-01	-9.38E+00	-2.46E+01	-1.84E+00	-1.54E-17	-1.98E-15	-2.92E-05	-9.05E-06	-2.52E-02
	Max	5.83E-02	3.90E-02	1.16E-02	1.38E+00	8.91E-01	8.66E-02	1.29E-17	5.24E-14	1.30E-06	1.44E-04	9.84E-03
	Normalized peak height	1.52E-01	2.74E-01	2.49E-01	3.67E-01	3.02E-01	2.83E-01	5.43E-01	6.29E-01	1.98E-01	8.02E-02	2.96E-01
	Peak sensitivity value	-1.97E-03	-4.00E-04	-1.13E-04	8.51E-04	-1.41E-02	-1.03E-03	-3.39E-21	5.26E-18	5.91E-09	7.91E-07	1.55E-05
	Shapiro-Wilk score	4.090E-01	5.149E-01	5.156E-01	5.102E-01	3.798E-01	4.716E-01	3.901E-01	6.278E-02	4.135E-01	4.745E-01	5.852E-01
3phosphoglycerate	Local	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	-9.98E-06	2.65E-06	-1.77E-03
	Min	1.22E-05	-1.50E+00	-3.47E-01	-2.36E+00	-9.02E+01	-3.40E+00	-3.07E-15	-5.32E-15	-8.86E-04	-1.35E-05	-6.35E-02
	Max	1.13E+00	-4.99E-05	-1.10E-05	2.94E+00	-3.81E-01	-6.07E-05	9.53E-16	1.83E-14	-1.03E-12	1.48E-04	9.91E-03
	Normalized peak height	5.28E-02	1.30E-02	1.24E-02	1.41E-01	4.26E-02	2.29E-02	4.89E-01	8.22E-01	1.80E-01	9.40E-02	2.88E-01
	Peak sensitivity value	2.84E-03	-7.98E-04	-1.84E-04	-4.38E-03	-1.05E+00	-1.76E-03	5.05E-19	-9.82E-18	-4.43E-07	2.02E-07	-3.08E-05
	Shapiro-Wilk score	5.928E-01	9.717E-01	9.699E-01	5.223E-01	6.373E-01	9.497E-01	2.767E-01	1.650E-02	6.434E-01	4.455E-01	3.677E-01
glycerol	Local	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	-9.89E-01
	Min	-1.07E+00	-9.52E-01	-2.08E-01	4.69E-03	-1.16E+02	-2.47E+00	-2.29E-16	-3.05E-14	-1.96E-04	-5.83E-04	-1.00E+00
	Max	4.43E-01	3.19E-01	7.32E-02	3.21E+00	1.40E+01	5.16E-01	8.10E-17	1.51E-15	5.26E-06	-7.71E-08	-8.54E-01
	Normalized peak height	4.59E-02	7.60E-02	7.26E-02	1.79E-02	2.57E-01	1.28E-01	5.02E-01	6.74E-01	1.97E-01	1.80E-02	2.95E-02
	Peak sensitivity value	1.60E-03	3.30E-04	7.98E-05	9.67E-01	-3.37E-02	7.84E-04	1.44E-19	-5.95E-18	1.24E-07	-5.03E-06	-9.99E-01
	Shapiro-Wilk score	7.893E-01	8.186E-01	8.165E-01	8.598E-01	5.393E-01	7.995E-01	5.242E-01	5.307E-02	5.955E-01	7.597E-01	7.255E-01
pyruvate	Local	5.65E-02	6.54E-02	1.35E-02	-1.66E-01	5.54E-01	1.04E-01	-1.03E-18	4.87E-19	1.62E-06	4.15E-06	-2.78E-03
	Min	2.51E-05	6.97E-07	1.54E-07	-1.48E+02	1.43E-06	7.73E-07	-1.40E-15	-4.46E-15	1.75E-13	-2.33E-05	-4.03E+00
	Max	1.80E+02	2.21E+02	3.49E+01	2.26E+01	7.84E+03	1.77E+02	3.27E-15	6.17E-15	1.16E-03	5.22E-03	5.51E-02
	Normalized peak height	9.48E-01	9.74E-01	9.64E-01	8.91E-01	9.75E-01	9.44E-01	8.35E-01	9.04E-01	8.64E-01	8.26E-01	9.19E-01
	Peak sensitivity value	9.00E-02	1.11E-01	1.75E-02	-3.01E-02	3.92E+00	8.86E-02	-2.22E-18	1.01E-18	5.79E-07	2.51E-07	3.14E-05
	Shapiro-Wilk score	1.930E-02	1.532E-02	1.794E-02	3.400E-02	1.435E-02	2.218E-02	9.315E-03	3.738E-02	3.851E-02	3.107E-02	1.873E-02

dihydroxyacetonephosphate cytosol	Local	-3.10E-01	-2.20E-03	-1.68E-04	-1.28E-03	-2.24E-02	-7.65E-03	-1.35E-01	-7.90E-02	6.75E-01	-6.46E-17	-1.08E-02	-1.25E-02	-2.58E-03	3.30E-02	-1.06E-01	-2.00E-02	1.97E-19	-9.46E-20	-3.10E-07	-8.20E-07	5.52E-04
	Min	-4.75E+01	-8.92E-01	-2.85E-02	-4.20E-01	-3.26E+00	-4.02E-01	-6.33E+00	-5.71E+00	2.49E-02	-1.15E-14	-1.52E+00	-6.44E-01	-9.94E-02	-1.36E-03	-2.30E+01	-1.24E+00	-1.30E-17	-1.29E-15	-4.54E-05	-6.73E-05	-9.35E-08
	Max	1.38E+01	8.21E-01	2.59E-02	1.15E-01	3.47E-01	1.00E-02	2.06E-01	1.68E-01	4.89E+01	2.92E-14	1.37E-02	5.21E-03	1.80E-03	2.38E+00	4.82E-01	1.46E-02	1.87E-17	4.34E-16	7.44E-08	2.12E-08	2.51E-02
	Normalized peak height	3.53E-01	3.07E-01	2.91E-01	3.93E-01	3.46E-01	2.17E-01	2.82E-01	2.89E-01	1.39E-01	6.37E-01	3.83E-01	3.91E-01	2.12E-01	1.13E-01	4.82E-01	3.21E-01	6.67E-01	6.86E-01	3.94E-01	1.23E-01	2.31E-01
	Peak sensitivity value	7.73E-03	-3.76E-04	-3.15E-05	3.21E-05	-8.51E-04	-1.02E-04	-6.74E-05	7.80E-04	1.47E-01	1.99E-17	-8.61E-04	-3.02E-04	-7.71E-05	-1.65E-04	1.36E-03	1.21E-04	-6.49E-22	-5.26E-20	6.27E-09	-1.25E-08	1.25E-05
	Shapiro-Wilk score	4.822E-01	5.099E-01	3.326E-01	3.619E-01	3.678E-01	4.333E-01	4.811E-01	4.204E-01	4.483E-01	1.387E-01	3.444E-01	3.425E-01	3.614E-01	5.397E-01	2.490E-01	3.047E-01	2.558E-01	1.488E-01	2.390E-01	4.463E-01	4.368E-01
nadh	Local	1.19E+00	8.44E-03	1.92E-04	1.37E-03	1.64E-02	1.21E-02	1.67E-01	-1.51E+00	-3.09E-02	2.01E-16	1.34E-02	1.55E-02	3.19E-03	-3.88E-02	1.31E-01	2.47E-02	-2.44E-19	7.06E-20	3.85E-07	-3.54E-07	-6.48E-04
	Min	-6.91E+00	-2.07E+01	-1.44E-02	-5.98E-02	-4.63E-01	2.25E-04	5.64E-05	-5.11E+00	-3.94E+01	-4.42E-14	5.16E-05	2.86E-07	3.69E-08	-1.93E+00	6.99E-07	1.78E-07	-1.13E-17	-1.04E-15	3.39E-13	-2.45E-05	-1.35E-02
	Max	3.98E+01	4.59E-01	1.09E-01	1.66E+01	1.30E+00	2.49E-01	8.06E+00	-2.11E-01	2.34E-01	2.12E-14	6.07E-01	3.60E-01	7.82E-02	1.77E-01	1.22E+01	9.30E-01	9.84E-18	2.02E-15	2.56E-05	8.53E-06	1.15E-04
	Normalized peak height	2.84E-01	8.19E-01	3.10E-01	7.34E-01	6.96E-02	3.56E-02	2.57E-01	1.22E-02	3.91E-01	7.30E-01	5.50E-02	1.21E-01	1.07E-01	1.27E-01	3.66E-01	2.05E-01	4.50E-01	8.17E-01	2.42E-01	2.33E-02	1.32E-01
	Peak sensitivity value	-1.31E-02	3.73E-03	-4.91E-05	-1.53E-03	-4.43E-03	1.34E-03	4.09E-03	-1.26E+00	-2.34E-02	-1.37E-17	1.57E-03	1.80E-04	3.91E-05	-1.71E-03	6.08E-03	4.65E-04	5.68E-21	4.46E-19	1.28E-08	-2.02E-07	-1.56E-06
	Shapiro-Wilk score	7.668E-01	3.324E-02	5.460E-01	3.301E-02	8.062E-01	7.833E-01	8.046E-01	9.037E-01	2.104E-01	2.811E-01	6.249E-01	6.004E-01	6.375E-01	5.486E-01	6.120E-01	5.395E-01	5.186E-01	5.342E-02	3.797E-01	8.468E-01	5.659E-01
glycerol3phosphate	Local	9.63E-01	6.85E-03	2.45E-03	1.91E-02	3.66E-01	-4.66E-02	4.02E-01	2.36E-01	-2.28E+00	2.02E-16	3.25E-02	3.76E-02	7.73E-03	-1.21E-01	3.18E-01	5.99E-02	-5.90E-19	1.45E-18	9.31E-07	-2.61E-05	-2.02E-03
	Min	-1.23E+01	-4.85E+00	-2.21E-02	-9.74E-02	-8.35E-01	-2.12E-01	-5.14E+00	-2.18E+00	-2.59E+01	-3.64E-14	-7.68E-01	-4.48E-01	-7.92E-02	-3.00E+00	-1.24E+01	-3.40E-01	-1.69E-17	-7.02E-16	-1.70E-06	-4.74E-04	-2.99E-02
	Max	2.25E+01	6.15E-01	1.07E-01	3.77E+00	4.70E+00	3.60E-01	7.79E+00	6.35E+00	1.39E+00	3.14E-14	7.63E-01	6.07E-01	1.14E-01	1.42E-01	2.29E+01	1.16E+00	2.19E-17	2.08E-14	6.53E-05	8.82E-06	2.39E-05
	Normalized peak height	1.48E-01	2.20E-01	4.79E-02	1.41E-01	1.68E-02	1.15E-02	2.14E-01	2.14E-01	3.40E-02	6.99E-01	9.50E-02	1.39E-01	1.64E-01	4.84E-02	4.06E-01	2.11E-01	4.83E-01	6.11E-01	2.75E-01	1.08E-02	4.11E-02
	Peak sensitivity value	8.06E-03	6.20E-03	7.53E-04	8.86E-03	1.97E-01	-3.35E-02	-2.45E-04	-1.45E-03	-1.41E+00	1.16E-17	1.29E-03	1.01E-03	8.53E-05	-4.28E-03	4.25E-03	4.39E-04	-1.26E-20	-2.39E-18	8.08E-09	-1.51E-05	-5.09E-05
	Shapiro-Wilk score	8.764E-01	5.798E-01	6.470E-01	4.371E-01	7.856E-01	9.354E-01	7.453E-01	6.549E-01	6.413E-01	2.426E-01	6.050E-01	5.410E-01	5.785E-01	8.458E-01	5.202E-01	4.835E-01	4.529E-01	4.617E-02	3.991E-01	7.879E-01	6.740E-01
glucose6phosphate	Local	1.66E+00	1.18E-02	-1.68E-01	-1.04E+00	-1.04E-01	6.02E-03	-1.84E-01	-1.08E-01	1.35E-01	4.60E-17	-1.45E-02	-1.68E-02	-3.45E-03	-6.64E-03	-1.42E-01	-2.67E-02	2.64E-19	2.69E-18	-4.16E-07	1.54E-06	-1.11E-04
	Min	-1.71E+01	-1.51E-01	-5.71E-01	-2.35E+00	-7.86E+00	-7.65E-01	-2.56E+01	-1.99E+01	-5.31E-01	-2.31E-13	-1.71E+00	-7.21E-01	-2.04E-01	-5.65E+00	-3.27E+01	-1.08E+00	-1.16E-17	-8.56E-16	-2.64E-05	-1.03E-05	-1.96E-02
	Max	4.39E+01	3.23E+00	-2.55E-02	-5.77E-01	2.48E-01	1.67E-01	7.80E-01	6.04E-01	1.91E+01	3.70E-13	9.27E-02	5.31E-02	1.55E-02	1.20E+00	1.12E+00	1.17E-01	1.90E-17	1.77E-13	1.13E-06	1.95E-04	1.35E-02
	Normalized peak height	1.02E-01	1.81E-01	5.21E-03	1.48E-02	8.96E-02	7.72E-02	2.15E-01	2.78E-01	1.36E-01	9.47E-01	1.26E-01	1.87E-01	1.81E-01	3.30E-01	4.87E-01	2.42E-01	5.48E-01	8.44E-01	2.39E-01	1.11E-01	3.16E-01
	Peak sensitivity value	1.18E+00	2.68E-03	-1.24E-01	-1.00E+00	-3.94E-02	4.98E-03	2.03E-04	5.85E-04	2.90E-02	-9.80E-18	-2.12E-03	4.53E-06	3.31E-05	1.97E-03	-1.47E-02	-3.04E-04	-6.14E-21	-5.74E-17	-1.18E-08	8.74E-07	-7.67E-07
	Shapiro-Wilk score	6.935E-01	7.367E-01	9.534E-01	8.578E-01	5.582E-01	6.235E-01	5.177E-01	4.851E-01	3.955E-01	4.406E-02	4.530E-01	5.464E-01	5.637E-01	5.372E-01	3.667E-01	4.953E-01	4.083E-01	7.167E-03	4.288E-01	4.752E-01	5.855E-01
3phosphoglycerate cytosol	Local	3.53E+00	2.51E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.48E-01	2.63E-01	2.31E-01	0.00E+00	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	1.03E-06	2.65E-06	-1.77E-03
	Min	-2.74E+00	-3.06E+00	-4.25E-03	-4.41E-03	-3.21E-01	-1.93E-02	7.20E-06	2.00E-06	-2.49E-01	-2.09E-12	2.65E-05	-1.33E+00	-3.12E-01	-3.28E+00	-1.11E+02	-2.67E+00	-4.04E-16	-3.51E-15	2.59E-10	-5.08E-06	-6.20E-02
	Max	1.10E+02	1.95E+00	1.09E-01	2.42E+00	7.75E+00	9.90E-01	2.06E+01	2.61E+01	2.56E+01	8.62E-12	1.11E+00	-6.73E-05	-9.09E-06	2.54E+00	-3.84E-01	-7.52E-05	3.37E-16	3.47E-15	1.31E-05	1.48E-04	5.69E-03
	Normalized peak height	2.33E-01	1.87E-01	1.38E-01	1.91E-01	2.46E-01	1.81E-01	2.30E-01	2.75E-01	1.73E-01	9.42E-01	5.11E-02	1.13E-02	1.08E-02	1.35E-01	5.28E-02	1.87E-02	3.75E-01	7.47E-01	3.64E-02	8.51E-02	2.80E-01
	Peak sensitivity value	2.14E-02	5.84E-03	9.76E-05	1.65E-03	-1.95E-03	3.66E-04	1.03E-02	1.30E-02	2.26E-02	4.82E-15	2.81E-03	-7.32E-04	-1.65E-04	-6.32E-03	-1.10E+00	-1.41E-03	1.44E-20	-1.69E-18	1.98E-08	2.12E-07	-3.24E-05
	Shapiro-Wilk score	5.876E-01	6.580E-01	5.533E-01	4.688E-01	7.064E-01	7.465E-01	7.650E-01	7.165E-01	4.291E-01	5.346E-03	5.939E-01	9.720E-01	9.695E-01	5.143E-01	6.342E-01	9.527E-01	7.248E-01	1.016E-01	7.335E-01	4.570E-01	3.642E-01
phosphoenolpyruvate	Local	4.22E-01	3.01E-03	8.93E-05	6.49E-04	9.02E-03	3.02E-03	5.36E-02	3.14E-02	2.76E-02	-1.05E-16	4.31E-03	-4.91E-01	-1.01E-01	-1.27E-02	4.22E-02	7.95E-03	7.72E-18	3.72E-20	1.24E-07	3.16E-07	-2.12E-04
	Min	-6.72E-01	-6.15E-01	-1.87E-04	-2.00E-04	-1.56E-02	-3.87E-03	3.21E-06	6.84E-07	-3.86E-02	-4.36E-12	7.60E-06	-1.47E+00	-3.08E-01	-8.56E-02	2.59E-07	1.24E-07	-9.50E-16	-1.56E-16	-1.67E-12	-6.35E-07	-3.01E-03
	Max	1.55E+00	7.92E-02	2.73E-02	4.67E-01	3.77E-01	7.69E-02	1.30E+00	9.59E-01	7.46E-01	8.83E-13	9.56E-02	-2.85E-01	-4.55E-02	3.87E-01	1.55E+00	1.61E-01	5.63E-16	2.13E-16	4.45E-06	5.61E-06	5.66E-04
	Normalized peak height	1.48E-01	1.47E-01	2.81E-01	3.83E-01	1.82E-01	1.41E-01	1.77E-01	2.00E-01	1.01E-01	9.81E-01	2.27E-02	4.24E-03	3.50E-03	1.19E-01	2.36E-01	1.17E-01	3.21E-01	6.64E-01	1.65E-01	3.89E-02	1.81E-01
	Peak sensitivity value	8.14E-04	1.17E-03	1.88E-05	3.36E-05	-8.84E-05	4.63E-05	6.51E-04	4.80E-04	2.46E-04	5.70E-16	6.29E-04	-3.60E-01	-1.08E-01	-2.50E-04	7.74E-04	8.08E-05	7.45E-19	1.26E-19	2.23E-09	4.90E-09	-7.03E-07
	Shapiro-Wilk score	8.672E-01	3.866E-01	5.041E-01	3.379E-01	7.187E-01	7.412E-01	7.762E-01	7.365E-01	4.952E-01	1.595E-02	6.698E-01	9.178E-01	9.612E-01	7.584E-01	6.020E-01	6.147E-01	6.785E-01	1.896E-01	5.767E-01	7.358E-01	5.891E-01
bisphosphoglycerate	Local	-5.89E+00	-4.19E-02	5.08E-03	4.06E-02	8.47E-01	1.55E-01	3.68E+00	2.16E+00	4.96E-03	-1.01E-15	-8.02E-02	-9.29E-02	-1.91E-02	1.64E-01	-7.86E-01	-1.48E-01	1.46E-18	3.25E-18	-2.30E-06	5.67E-08	2.74E-03
	Min	-9.64E+01	-4.08E+00	-1.06E-02	-6.01E-02	-2.00E-02	-6.93E-02	2.08E-02	1.50E-02	-2.43E+00	-2.26E-13	-2.61E+00	-1.06E+00	-2.46E-01	-7.30E-01	-4.41E+01	-3.01E+00	-2.11E-16	-4.63E-15	-3.08E-04	-1.06E-04	-6.59E-03
	Max	1.72E+01	5.69E-01	1.22E-01	3.64E+00	1.22E+01	1.72E+00	3.86E+01	3.39E+01	9.39E+01	1.95E-13	1.17E-03	4.00E-04	1.07E-04	5.88E+00	5.60E-01	6.07E-04	1.13E-16	4.06E-15	1.78E-10	8.32E-05	5.63E-02
	Normalized peak height	2.19E-01	1.13E-01	3.68E-02	9.39E-02	2.18E-02	2.27E-02	2.13E-02	2.41E-02	4.25E-01	7.00E-01	6.89E-02	8.54E-02	7.27E-02	1.03E-01	2.01E-01	1.66E-01	5.18E-01	3.08E-01	3.86E-01	7.31E-02	2.04E-01
	Peak sensitivity value	-3.95E-03	-5.06E-03	8.52E-04	8.42E-03	2.68E-01	4.64E-02	1.20E+00	7.44E-01	2.51E-02	8.16E-17	-2.75E-03	-1.31E-04	-1.56E-05	6.81E-03	1.87E-03	-8.98E-04	-1.19E-19	-2.66E-18	-1.54E-07	7.60E-07	-1.36E-05
	Shapiro-Wilk score	7.158E-01	7.218E-01	6.064E-01	5.215E-01	7.221E-01	7.042E-01	7.215E-01	7.078E-01	2.313E-01	1.548E-01	7.731E-01	8.322E-01	8.378E-01	6.527E-01	7.248E-01	8.147E-01	6.023E-01	3.009E-01	6.060E-01	6.703E-01	5.081E-01
atpg	Local	-2.48E+00	-1.77E-02	1.11E-03	8.98E-03	1.98E-01	3.30E-02	8.27E-01	4.85E-01	-6.16E-02	-2.63E-16	6.66E-02	7.71E-02	1.58E-02	7.12E-02	6.52E-01	1.23E-01	-1.21E-18	-7.32E-18	1.91E-06	-7.06E-07	1.19E-03
	Min	-1.70E+02	-6.72E+00	-8.67E-02	-4.79E-01	9.36E-06	-7.79E-01	-2.94E-02	-8.57E-03	-2.92E+01	-1.48E-12	8.56E-05	1.33E-05	2.26E-06	2.77E-07	3.03E-05	1.10E-05	-1.44E-16	-2.02E-13	1.01E-12	-5.20E-04	5.73E-09
	Max	-3.58E-03	-4.67E-06	1.52E-01	2.09E+00	3.86E+01	2.17E+00	9.05E+01	5.57E+01	3.53E+01	1.52E-12	8.91E+00	4.28E+00	1.52E+00	2.63E+01	1.71E+02	4.31E+00	6.21E-17	2.47E-15	5.79E-05	1.95E-05	1.45E-01
	Normalized peak height	2.07E-01	3.38E-01	3.25E-01	3.27E-01	3.29E-01	2.58E-01	3.16E-01	3.42E-01	3.03E-01	9.34E-01	1.86E-01	2.60E-01	3.24E-01	3.39E-01	5.40E-01	2.33E-01	5.25E-01	5.60E-01	1.53E-01	3.35E-01	3.62E-01
	Peak sensitivity value	-8.88E-02	-3.36E-03	9.79E-05	5.82E-04	1.93E-02	1.46E-03	1.59E-02	1.93E-02	2.98E-02	-4.47E-16	1.35E-02	2.15E-03	7.63E-04	1.31E-02	8.57E-02	2.16E-03	8.11E-20	-9.05E-17	2.90E-08	-1.47E-07	7.25E-05
	Shapiro-Wilk score	6.052E-01	7.390E-01	7.049E-01	6.806E-01	5.133E-01	5.782E-01	5.537E-01	5.142E-01	6.521E-01	6.763E-02	4.713E-01	5.397E-01	5.258E-01	6.044E-01	3.892E-01	4.936E-01	3.785E-01	3.118E-02	5.475E-01	4.923E-01	4.929E-01
ampc	Local	-1.22E+00	-8.69E-03	-2.58E-04	-1.87E-03	-2.61E-02	-8.72E-03	-1.55E-01	-9.08E-02	-7.98E-02	-6.07E-20	-1.24E-02	-1.44E-02	1.73E+00	3.66E-02	-1.22E-01	-2.30E-02	-3.42E-16	-1.07E-19	-3.57E-07	-9.14E-07	6.12E-04
	Min	-1.84E+00	-1.28E-01	-2.19E-01	-1.09E+01	-7.88E-01	-2.33E-01	-5.57E+00	-1.32E+00	-1.40E+00	-2.19E-11	-2.27E-01	-1.30E-01	1.17E+00	-5.83E-01	-1.86E+00	-3.87E-01	-6.43E-15	-4.86E-16	-7.13E-06	-1.08E-05	-1.65E-03
	Max	2.93E+00	1.43E+01	9.02E-04	5.13E-03	1.57E-02	9.34E-03	-4.20E-06	-1.62E-06	1.36E-01	3.07E-11	-1.78E-05	-8.29E-07	1.90E+00	1.70E-01	-2.05E-06	-5.56E-07	1.77E-14	9.87E-17	3.41E-11	6.14E-06	7.04E-03
	Normalized peak height	1.33E-01	7.33E-01	5.05E-01	7.04E-01	1.67E-01	1.11E-01	2.21E-01	1.45E-01	7.44E-02	9.56E-01	2.04E-02	5.13E-02	2.75E-03	6.25E-02	1.55E-01	1.13E-01	3.12E-01	5.99E-01	1.28E-01	4.50E-02	1.66E-01
	Peak sensitivity value	8.09E-04	-5.85E-03	-8.56E-05	-3.12E-04	4.38E-05	-2.47E-04	-2.79E-03	-6.61E-04	-3.48E-04	-1.99E-14	-1.49E-03	-6.60E-05	1.72E+00	6.29E-04	-9.34E-04	-1.94E-04	6.75E-18	1.91E-19	-3.53E-09	-5.92E-09	9.11E-07
	Shapiro-Wilk score	8.157E-01	7.087E-02	4.123E-01	7.039E-02	7.569E-01	7.843E-01	7.907E-01	7.716E-01	5.311E-01	2.199E-02	6.918E-01	7.394E-01	9.809E-01	8.035E-01	6.032E-01	6.550E-01	7.993E-01	2.049E-01	6.410E-01	7.812E-01	6.161E-01
nad	Local	-2.14E-02	-1.52E-04	-3.47E-06	-2.46E-05	-2.95E-04	-2.18E-04	-3.01E-03	2.72E-02	5.57E-04	-3.62E-18	-2.42E-04	-2.80E-04	-5.76E-05	6.99E-04	-2.37E-03	-4.46E-04	4.40E-21	-1.27E-21	-6.93E-09	6.38E-09	1.17E-05
	Min	-2.37E+00	-1.00E-02	-1.83E-03	-2.09E-02	-6.63E-02	-1.57E-02	-2.94E-01	1.85E-03	-1.33E-02	-6.19E-16	-3.41E-02	-2.64E-02	-4.58E-03	-2.41E-03	-6.01E-01	-5.50E-02	-8.20E-19	-3.26E-17	-1.81E-06	-7.21E-07	-4.47E-06
	Max	3.19E-01	2.59E-02	1.23E-04	6.82E-04	1.56E-02	-9.24E-07	-2.16E-07	4.38E-01	2.50E+00	1.12E-15	-1.82E-07	-1.40E-09	-8.70E-10	6.52E-02	-5.44E-09	-1.83E-09	6.22E-19	7.44E-17	-3.13E-15	1.10E-06	6.99E-04
	Normalized peak height	3.79E-01	2.59E-01	3.76E-01	4.28E-01	1.81E-01	1.60E-01	3.62E-01	1.90E-02	8.06E-01	7.84E-01	2.41E-01	3.55E-01	3.04E-01	1.99E-01	5.11E-01	4.35E-01	6.47E-01	7.10E-01	5.26E-01	1.17E-01	3.26E-01
	Peak sensitivity value	3.45E-04	-2.10E-05	5.63E-07	2.69E-06	7.35E-05	-8.79E-06	-1.47E-04	9.49E-03	5.20E-04	-2.66E-19	-1.72E-05	-1.32E-05	-2.29E-06	5.64E-05	-3.00E-04	-2.75E-05	-2.00E-22	5.07E-20	-9.03E-10	2.01E-09	1.04E-07
	Shapiro-Wilk score	4.843E-01	4.580E-01	4.231E-01	3.889E-01	5.897E-01	5.452E-01	6.267E-01	7.168E-01	1.147E-01	1.267E-01	4.124E-01	3.809E-01	4.169E-01	3.536E-01	4.353E-01	3.557E-01	2.983E-01	2.883E-02	2.033E-01	5.912E-01	3.527E-01
fructose16bisphosphate	Local	4.06E-01	2.89E-03	4.32E-03	3.39E-02	-1.00E-01	5.73E-03	-1.77E-01	-1.04E-01	1.29E-01	4.42E-17	-1.39E-02	-1.61E-02	-3.31E-03	-6.40E-03	-1.36E-01	-2.56E-02	2.53E-19	2.53E-18	-3.99E-07	1.48E-06	-1.07E-04
	Min	-2.43E+01	-4.61E+00	-5.21E-03	1.41E-03	-1.97E+00	-1.65E-01	-3.01E+00	-4.11E+00	-6.50E-01	-2.31E-14	-1.61E+00	-5.95E-01	-1.21E-01	-3.30E-01	-1.48E+01	-1.17E+00	-1.29E-17	-1.66E-15	-4.81E-05	-1.37E-05	-6.46E-03
	Max	8.93E+00	3.57E-01	9.79E-02	3.51E+00	5.75E-01	1.14E-01	1.99E+00	2.76E+00	2.61E+01	1.09E-14	1.32E-01	6.59E-02	1.86E-02	1.74E+00	2.60E+00	1.84E-01	8.65E-18	5.06E-15	1.29E-06	1.88E-05	1.50E-02
	Normalized peak height	2.10E-01	3.76E-01	1.92E-02	6.59E-02	3.81E-02	3.22E-02	1.27E-01	2.44E-01	2.52E-01	7.62E-01	1.99E-01	2.56E-01	2.54E-01	2.71E-01	4.61E-01	3.86E-01	6.11E-01	3.22E-01	4.70E-01	2.65E-02	4.05E-01
	Peak sensitivity value	-3.99E-04	1.90E-03	1.54E-03	1.72E-02	-3.39E-02	4.73E-03	-5.89E-03	-3.10E-03	3.27E-02	-1.28E-17	-9.23E-04	1.51E-04	2.41E-05	-2.77E-04	-1.44E-03	-8.62E-05	2.11E-21	-1.28E-18	-2.02E-08	6.08E-07	2.98E-06
	Shapiro-Wilk score	6.024E-01	3.968E-01	7.146E-01	5.338E-01	6.087E-01	7.422E-01	6.073E-01	5.200E-01	2.241E-01	1.990E-01	3.792E-01	4.190E-01	4.569E-01	5.923E-01	3.433E-01	3.841E-01	3.485E-01	2.440E-01	2.754E-01	7.562E-01	5.482E-01
ampg	Local	1.67E+01	1.19E-01	-7.45E-03	-6.05E-02	-1.33E+00	-2.22E-01	-5.57E+00	-3.27E+00	4.15E-01	1.77E-15	-4.48E-01	-5.19E-01	-1.07E-01	-4.79E-01	-4.39E+00	-8.26E-01	8.15E-18	3.08E-16	-1.29E-05	4.75E-06	-8.01E-03
	Min	1.21E-03	1.24E-03	-6.43E-01	-5.28E+00	-2.61E+01	-2.65E+00	-8.50E+01	-5.02E+01	-1.04E+02	-6.44E-13	-2.21E+00	-1.92E+00	-4.08E-01	-3.19E+00	-1.39E+02	-5.58E+00	-1.58E-15	-5.08E-10	-3.67E-04	-8.95E-05	-1.07E-01
	Max	1.41E+02	1.50E+00	4.63E-02	2.38E-01	-4.17E-05	1.86E-01	5.27E-03	2.52E-03	9.27E+00	7.27E-13	-1.93E-06	-9.07E-07	-1.43E-07	-1.19E-04	-3.04E-06	-7.45E-07	1.25E-16	1.00E-10	-1.34E-14	3.17E-04	-4.20E-08
	Normalized peak height	1.96E-01	1.50E-02	2.16E-01	2.13E-01	2.11E-01	1.52E-01	1.99E-01	2.24E-01	4.90E-01	8.35E-01	1.90E-01	2.47E-01	2.40E-01	6.82E-02	3.24E-01	3.02E-01	6.54E-01	9.25E-01	4.09E-01	1.79E-01	3.13E-01
	Peak sensitivity value	7.17E-02	9.50E-03	4.26E-04	-1.76E-03	-1.31E-02	4.60E-04	-3.73E-02	-2.26E-02	3.35E-02	9.03E-17	-1.11E-03	-9.59E-04	-2.04E-04	-4.91E-03	-6.96E-02	-2.79E-03	-5.97E-19	7.72E-15	-1.84E-07	1.37E-07	-5.35E-05
	Shapiro-Wilk score	7.624E-01	8.480E-01	4.956E-01	5.018E-01	5.741E-01	5.890E-01	5.900E-01	5.550E-01	3.110E-01	9.114E-02	7.705E-01	7.925E-01	7.928E-01	6.847E-01	4.090E-01	7.631E-01	3.358E-01	1.994E-02	6.069E-01	5.513E-01	5.415E-01
atpc	Local	1.92E-01	1.36E-03	4.05E-05	2.94E-04	4.09E-03	1.37E-03	2.43E-02	1.43E-02	1.25E-02	2.20E-21	1.95E-03	2.26E-03	-2.71E-01	-5.75E-03	1.91E-02	3.61E-03	9.62E-18	1.69E-20	5.61E-08	1.44E-07	-9.61E-05
	Min	-5.07E-01	-3.96E+00	-2.02E-04	-7.44E-04	-2.34E-03	-6.72E-04	1.62E-06	7.29E-07	-8.45E-02	-7.63E-12	3.44E-06	2.31E-07	-9.14E-01	-5.73E-02	5.14E-07	2.45E-07	-4.26E-15	-2.52E-16	-1.00E-11	-6.40E-06	-1.84E-03
	Max	7.64E-01	2.76E-02	2.42E-02	3.04E+00	1.76E-01	3.79E-02	1.69E+00	4.07E-01	2.80E-01	2.03E-12	6.44E-02	4.01E-02	-9.90E-02	1.32E-01	6.10E-01	6.74E-02	3.04E-16	1.45E-16	2.12E-06	2.12E-06	2.51E-04
	Normalized peak height	1.52E-01	8.18E-01	3.80E-01	8.40E-01	1.27E-01	9.92E-02	2.57E-01	1.75E-01	1.01E-01	9.78E-01	2.80E-02	6.68E-02	3.08E-03	8.81E-02	2.00E-01	9.34E-02	3.76E-01	8.01E-01	1.54E-01	8.33E-02	1.98E-01
	Peak sensitivity value	5.08E-04	1.72E-03	4.59E-06	7.75E-04	6.19E-05	4.16E-05	8.47E-04	2.04E-04	1.74E-04	-9.84E-16	2.93E-04	2.03E-05	-2.96E-01	-1.12E-04	3.05E-04	3.39E-05	7.82E-19	7.05E-20	1.05E-09	5.41E-09	-1.05E-06
	Shapiro-Wilk score	8.489E-01	4.300E-02	4.172E-01	4.356E-02	7.196E-01	7.317E-01	7.457E-01	7.305E-01	5.467E-01	1.874E-02	6.495E-01	7.064E-01	9.808E-01	7.637E-01	5.910E-01	6.637E-01	3.214E-01	6.322E-02	5.767E-01	7.395E-01	5.641E-01

glycerol3phosphate cytosol																				
Local	7.65E-01	5.45E-03	4.16E-04	3.17E-03	5.53E-02	1.89E-02	3.33E-01	1.95E-01	-1.67E+00	1.60E-16	2.63E-02	3.10E-02	6.37E-03	-8.17E-02	2.62E-01	4.94E-02	-4.87E-19	2.34E-19	7.08E-07	2.03E-06	-1.37E-03
Min	-4.00E+00	-1.27E+00	-1.85E-02	-1.27E-01	-8.05E-01	-2.78E-02	-2.93E+00	-1.06E+00	-4.52E+00	-2.71E-14	-5.31E-02	-2.96E-02	-5.43E-03	-1.38E+00	-3.21E+00	-5.07E-02	-7.10E-18	-1.54E-16	-6.15E-07	1.20E-08	-1.41E-02
Max	5.69E+00	3.90E-01	2.87E-02	1.03E+00	1.44E+00	1.78E-01	3.60E+00	2.75E+00	9.76E-02	3.22E-14	2.38E-01	2.48E-01	5.13E-02	-4.63E-05	6.55E+00	8.71E-01	8.02E-18	5.36E-15	1.71E-05	3.58E-05	-7.13E-07
Normalized peak height	7.79E-02	1.04E-01	1.92E-01	2.30E-01	1.54E-01	5.61E-02	1.92E-01	1.51E-01	9.58E-03	7.10E-01	1.98E-02	6.39E-02	5.80E-02	2.94E-02	1.92E-01	1.64E-01	4.02E-01	6.37E-01	1.10E-01	2.38E-02	2.70E-02
Peak sensitivity value	7.21E-03	2.94E-03	1.16E-05	-2.83E-04	-1.19E-03	7.94E-05	2.75E-03	2.64E-04	-1.26E+00	-3.57E-19	1.74E-03	2.90E-04	4.75E-05	-2.11E-03	6.99E-03	4.19E-04	-4.04E-21	-1.95E-18	-2.73E-09	1.37E-07	-5.01E-05
Shapiro-Wilk score	9.381E-01	8.037E-01	6.225E-01	4.144E-01	7.877E-01	8.327E-01	8.209E-01	7.695E-01	9.252E-01	2.510E-01	7.664E-01	6.917E-01	7.102E-01	8.550E-01	6.307E-01	6.188E-01	5.412E-01	8.630E-02	5.283E-01	8.711E-01	6.899E-01

Table 10: Concentration control coefficients for *Trypanosoma brucei* model with parameter variation of ±90900%

		(glucosetransport)	(hexokinase)	(phosphoglycerateisomerase)	(phophofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)
adpg	Local	7.11E+00	5.06E-02	-3.17E-03	-2.57E-02	-5.67E-01	-9.47E-02	-2.37E+00	-1.39E+00	1.77E-01	7.55E-16
	Min	-3.37E+02	-5.62E+03	-1.47E+02	-1.66E+02	-2.62E+02	-2.72E+01	-2.37E+02	-3.73E+02	-2.29E+02	-2.54E-12
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	7.89E-01	6.44E-01	9.75E-01	9.92E-01	9.26E-01	8.66E-01	5.26E-01	7.13E-01	7.36E-01	9.95E-01
	Peak sensitivity value	-8.74E-01	-3.12E+00	7.57E-02	-9.60E-01	8.05E-02	-3.01E-03	1.07E-01	-8.79E-02	-9.19E-02	2.53E-16
	Shapiro-Wilk score	1.270E-01	8.756E-03	9.479E-03	2.590E-03	6.883E-02	1.019E-01	2.363E-01	1.707E-01	1.383E-01	4.726E-03
adpc	Local	-5.14E-01	-3.66E-03	-1.09E-04	-7.90E-04	-1.10E-02	-3.67E-03	-6.52E-02	-3.83E-02	-3.37E-02	0.00E+00
	Min	-1.85E+01	-7.87E+02	-4.25E+00	-7.40E+01	-3.34E+00	-9.25E-01	-1.76E+01	-3.54E+00	-1.39E+01	-2.72E-10
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	5.40E-01	9.40E-01	9.62E-01	9.69E-01	6.21E-01	5.37E-01	4.39E-01	5.13E-01	4.22E-01	1.00E+00
	Peak sensitivity value	-1.90E-03	1.77E-01	-4.09E-04	9.36E-03	1.14E-03	-5.46E-04	-6.27E-03	5.59E-03	-9.57E-03	6.70E-14
	Shapiro-Wilk score	7.475E-01	2.468E-02	4.477E-02	1.982E-02	3.441E-01	3.015E-01	7.543E-01	5.956E-01	5.916E-01	3.824E-04
dihydroxyacetonephosphate	Local	-1.12E-01	-8.00E-04	1.87E-03	1.47E-02	2.89E-01	-7.31E-02	-6.54E-02	-3.84E-02	6.36E-02	-2.29E-17
	Min	-1.75E+02	-9.37E+03	-1.36E+00	-8.20E+01	-9.55E-01	-4.12E+00	-5.15E+00	-6.15E+00	-1.51E+01	-5.23E-13
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	7.53E-01	9.77E-01	9.52E-01	9.87E-01	4.48E-01	3.82E-01	6.91E-01	6.09E-01	7.45E-01	9.98E-01
	Peak sensitivity value	1.01E-02	-4.66E+00	9.88E-04	-1.66E+00	3.00E-02	-2.48E-03	-3.44E-02	-1.90E-02	8.42E-02	1.72E-16
	Shapiro-Wilk score	1.963E-01	3.826E-03	4.514E-02	3.541E-03	4.026E-01	4.308E-01	3.573E-01	3.624E-01	1.981E-01	1.928E-03
glyceraldehyde3phosphate	Local	-1.73E-01	-1.23E-03	1.89E-03	1.49E-02	2.93E-01	6.17E-02	-9.23E-02	-5.41E-02	5.22E-02	-3.55E-17
	Min	-2.48E+02	-1.16E+04	-4.79E-01	-1.73E+02	-1.66E+01	-7.99E-01	-2.85E+01	-8.17E+00	-8.03E+00	-5.31E-12
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	7.87E-01	9.44E-01	9.19E-01	9.90E-01	5.07E-01	2.79E-01	4.99E-01	7.32E-01	5.30E-01	9.33E-01
	Peak sensitivity value	-8.55E-02	5.12E+00	-6.53E-04	-2.15E+00	-1.72E-03	9.86E-03	-1.04E-02	-4.44E-02	-1.02E-01	-2.75E-15
	Shapiro-Wilk score	1.810E-01	2.612E-03	4.877E-02	2.439E-03	3.823E-01	3.450E-01	5.587E-01	3.084E-01	1.439E-01	2.753E-04
2phosphoglycerate	Local	9.33E-01	6.64E-03	1.97E-04	1.43E-03	1.99E-02	6.66E-03	1.18E-01	6.94E-02	6.11E-02	-8.41E-17
	Min	-1.98E+02	-1.87E+03	-1.24E+00	-3.04E+01	-4.37E+00	-2.71E+02	-8.61E+00	-1.84E+00	-7.67E+00	-3.89E-11
	Max	5.42E+03	1.30E+02	6.80E+01	1.79E+03	1.41E+03	1.27E+02	8.33E+02	4.83E+03	3.97E+02	4.56E-11
	Normalized peak height	9.94E-01	7.59E-01	8.56E-01	9.69E-01	9.98E-01	9.91E-01	8.78E-01	9.98E-01	5.01E-01	9.99E-01
	Peak sensitivity value	1.33E+00	9.49E-01	-3.26E-02	-3.15E-01	5.72E-01	-9.84E-03	2.35E-01	5.76E-01	-1.85E-01	-1.45E-15
	Shapiro-Wilk score	7.469E-03	2.099E-02	9.810E-03	1.268E-02	3.151E-03	6.068E-03	5.544E-02	1.754E-03	4.729E-02	1.174E-03
glucose	Local	3.20E+00	-1.04E+00	-1.17E-02	-7.39E-02	-1.69E-01	-2.68E-02	-6.92E-01	-4.06E-01	5.93E-02	2.20E-16
	Min	-6.55E+02	-9.82E+01	-7.70E+01	-1.24E+02	-2.61E+02	-3.48E+01	-3.68E+02	-7.65E+02	-1.55E+02	-7.47E-12
	Max	1.36E+03	1.32E+02	5.03E+00	9.57E+01	3.13E+01	2.11E+01	5.85E+01	3.11E+02	5.29E+01	9.05E-13
	Normalized peak height	7.14E-01	4.30E-01	9.76E-01	7.72E-01	9.37E-01	7.65E-01	6.78E-01	6.52E-01	7.34E-01	9.82E-01
	Peak sensitivity value	1.39E+00	-1.91E-02	-1.33E-02	5.97E-02	-1.08E-01	1.80E-02	-9.33E-02	4.61E-01	1.64E-02	-3.39E-15
	Shapiro-Wilk score	1.986E-01	5.303E-01	2.113E-02	1.083E-01	6.755E-02	8.550E-02	1.806E-01	7.351E-02	2.262E-01	5.072E-03
fructose6phosphate	Local	1.54E+00	1.10E-02	4.77E-03	-1.07E+00	-1.09E-01	6.21E-03	-1.92E-01	-1.13E-01	1.40E-01	4.79E-17
	Min	-1.07E+02	-3.06E+01	-1.60E+01	-1.75E+02	-1.15E+02	-6.81E+01	-3.73E+02	-1.66E+02	-9.61E+01	-5.01E-13
	Max	7.12E+02	2.03E+02	1.85E+01	2.48E+01	8.72E+00	3.79E+00	4.53E+01	5.50E+01	5.90E+01	1.22E-12
	Normalized peak height	5.82E-01	3.28E-01	9.56E-01	6.86E-01	8.97E-01	9.42E-01	8.14E-01	8.60E-01	7.66E-01	9.71E-01
	Peak sensitivity value	2.88E-01	4.80E-02	1.25E-02	-1.03E+00	-2.95E-02	1.97E-02	-7.52E-02	-3.94E-02	1.82E-02	-6.81E-16
	Shapiro-Wilk score	1.583E-01	6.231E-01	6.763E-02	2.640E-01	6.367E-02	2.459E-02	1.000E-01	1.129E-01	1.857E-01	1.255E-02
3phosphoglycerate	Local	3.53E+00	2.51E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.48E-01	2.63E-01	2.31E-01	2.58E-22
	Min	-7.82E+02	-2.78E+03	-1.15E+00	-2.65E+01	-9.29E+00	-2.89E+01	-4.98E+01	-7.78E+00	-1.17E+02	-6.51E-11
	Max	2.70E+03	7.53E+01	7.76E+01	2.71E+03	6.75E+02	1.05E+02	1.86E+03	4.66E+03	3.12E+03	5.57E-11
	Normalized peak height	8.82E-01	9.74E-01	9.69E-01	9.65E-01	9.41E-01	9.43E-01	9.69E-01	9.86E-01	9.88E-01	9.99E-01
	Peak sensitivity value	-5.53E-01	-4.87E-01	-5.58E-03	-4.63E-01	-5.07E-02	9.97E-03	8.55E-01	-7.77E-01	6.18E-01	4.06E-14
	Shapiro-Wilk score	4.281E-02	2.296E-02	1.864E-02	1.315E-02	2.520E-02	4.347E-02	4.101E-02	5.133E-03	1.086E-02	5.714E-04
glycerol	Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15
	Min	-5.57E+02	-1.69E+03	-5.40E+01	-2.01E+02	-1.67E+02	-8.24E+01	-4.46E+02	-2.33E+02	-3.55E+02	-7.30E-12
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	4.74E-01	5.51E-01	9.78E-01	8.74E-01	7.76E-01	6.35E-01	5.50E-01	6.25E-01	4.56E-01	9.75E-01
	Peak sensitivity value	4.88E-01	-1.07E+00	2.88E-02	-5.43E-01	-9.81E-03	3.91E-02	-9.37E-02	1.95E-02	-9.55E-01	-4.03E-15
	Shapiro-Wilk score	3.346E-01	6.147E-02	3.234E-02	3.638E-02	1.924E-01	1.225E-01	3.121E-01	2.541E-01	2.890E-01	4.510E-03
pyruvate	Local	5.54E+00	3.94E-02	1.17E-03	8.51E-03	1.18E-01	3.96E-02	7.02E-01	4.12E-01	3.62E-01	-7.85E+00
	Min	-4.15E+02	-2.81E+03	-1.74E+00	-3.48E+02	-1.59E+02	-1.02E+01	-5.94E+00	-2.71E+00	-2.37E+01	-4.04E+03
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	6.49E-01	9.81E-01	9.93E-01	9.64E-01	9.90E-01	9.02E-01	7.39E-01	6.24E-01	9.51E-01	9.73E-01
	Peak sensitivity value	-1.13E+00	-5.86E-01	7.52E-02	-5.19E-01	4.30E-01	-2.07E-01	-1.75E-01	4.58E-01	4.16E-01	-3.02E+00
	Shapiro-Wilk score	2.510E-02	1.857E-02	4.530E-03	1.400E-02	8.078E-03	5.096E-03	2.693E-02	2.271E-02	2.072E-02	2.393E-02

		(phosphoglyceratekinase)	(pyruvatekinase)	(atputilisation)	(glycerolkinase)	(phosphoglyceratemutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglyceratetransport)	(gly3pdhapantiporter)	(glyceroltransport)
adpg	Local	-1.91E-01	-2.21E-01	-4.54E-02	-2.04E-01	-1.87E+00	-3.52E-01	3.47E-18	-1.01E-17	-5.47E-06	2.02E-06	-3.41E-03
	Min	-7.42E+00	-1.04E+04	-5.07E+02	-3.43E+01	-2.65E+02	-2.64E+02	-8.02E-07	-9.08E-12	-1.65E-02	-2.83E-03	-7.35E-01
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	6.37E-01	9.99E-01	9.99E-01	6.95E-01	8.03E-01	9.27E-01	1.00E+00	1.00E+00	8.40E-01	7.97E-01	8.75E-01
	Peak sensitivity value	1.25E-02	8.70E-01	5.95E-01	2.15E-02	2.05E-01	-4.15E-02	2.35E-10	-1.49E-16	6.92E-06	-1.65E-06	1.09E-03
	Shapiro-Wilk score	6.133E-01	5.691E-04	6.275E-04	3.459E-01	1.201E-01	6.715E-02	5.323E-05	5.865E-04	8.023E-02	5.962E-02	1.345E-01
adpc	Local	-5.25E-03	-6.07E-03	7.27E-01	1.54E-02	-5.14E-02	-9.68E-03	9.75E-18	-4.52E-20	-1.50E-07	-3.85E-07	2.58E-04
	Min	-6.58E+00	-8.80E-01	-9.50E+02	-2.65E+00	-2.51E+00	-1.09E+00	-3.94E-07	-3.07E-12	-1.79E-04	-8.26E-05	-3.84E-01
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	6.77E-01	9.85E-01	4.91E-01	6.62E-01	6.41E-01	6.87E-01	1.00E+00	1.00E+00	8.56E-01	6.89E-01	9.09E-01
	Peak sensitivity value	-3.99E-03	-4.04E-01	-2.67E-01	1.17E-03	1.16E-03	-2.18E-04	-3.43E-11	-4.48E-15	-1.06E-07	1.13E-07	-1.35E-04
	Shapiro-Wilk score	1.887E-01	3.860E-03	9.671E-02	3.113E-01	3.902E-01	2.030E-01	8.792E-05	2.182E-04	1.024E-01	1.641E-01	1.101E-01
dihydroxyacetonephosphate	Local	-5.13E-03	-5.94E-03	-1.22E-03	-6.36E-03	-5.03E-02	-9.47E-03	9.33E-20	1.12E-18	-1.47E-07	7.28E-07	-1.06E-04
	Min	-1.56E+01	-1.99E+02	-3.60E+02	-1.86E+00	-7.06E+01	-5.03E+01	-7.55E-08	-3.32E-12	-1.10E-03	-5.16E-04	-1.33E-01
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	8.19E-01	9.91E-01	9.81E-01	7.32E-01	6.93E-01	9.54E-01	1.00E+00	1.00E+00	9.35E-01	8.50E-01	9.09E-01
	Peak sensitivity value	1.92E-03	4.69E-02	1.31E-01	1.60E-02	6.34E-02	-1.55E-02	1.47E-11	5.49E-15	-6.57E-07	2.25E-07	3.17E-04
	Shapiro-Wilk score	1.387E-01	6.903E-03	3.794E-03	2.088E-01	9.649E-02	5.334E-02	4.929E-05	1.400E-04	6.911E-02	1.351E-01	7.997E-02
glyceraldehyde3phosphate	Local	-7.29E-03	-8.44E-03	-1.73E-03	-4.30E-04	-7.14E-02	-1.34E-02	1.32E-19	1.13E-18	-2.09E-07	5.97E-07	-7.19E-06
	Min	-2.71E+01	-1.65E+02	-2.81E+03	-3.33E+00	-7.39E+01	-5.35E+01	-1.57E-05	-6.61E-12	-1.72E-03	-3.17E-04	-1.85E-01
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	7.96E-01	9.97E-01	9.99E-01	8.14E-01	8.89E-01	9.28E-01	1.00E+00	1.00E+00	9.38E-01	7.19E-01	8.75E-01
	Peak sensitivity value	2.31E-02	5.21E-01	4.96E-01	3.31E-02	-9.40E-03	9.36E-03	-2.35E-09	2.74E-15	-2.99E-07	-8.22E-08	-5.01E-04
	Shapiro-Wilk score	1.034E-01	5.099E-04	3.125E-04	1.858E-01	9.670E-02	4.656E-02	6.324E-05	1.809E-04	6.445E-02	1.329E-01	7.554E-02
2phosphoglycerate	Local	9.52E-03	-4.61E-01	-9.48E-02	-2.80E-02	9.32E-02	-7.35E-01	7.25E-18	8.21E-20	2.73E-07	6.99E-07	-4.68E-04
	Min	-7.99E-01	-1.95E+04	-8.83E+02	-7.43E+01	-4.62E+00	-4.91E+02	-9.58E-04	-3.79E-07	-1.97E-05	-8.11E-05	-8.59E-01
	Max	1.72E+02	4.92E+01	1.41E+04	2.77E+02	5.23E+02	9.34E+00	4.13E-02	2.52E-11	1.37E-03	2.46E-03	2.68E+00
	Normalized peak height	8.63E-01	9.95E-01	9.93E-01	9.36E-01	8.58E-01	5.30E-01	1.00E+00	1.00E+00	9.34E-01	6.55E-01	9.61E-01
	Peak sensitivity value	-2.29E-02	2.53E-01	-6.04E+00	-5.45E-02	-1.29E-01	-4.08E-01	-7.13E-06	-1.64E-10	4.53E-07	-1.14E-06	-1.79E-04
	Shapiro-Wilk score	8.270E-02	1.686E-03	1.301E-03	2.924E-02	3.777E-02	1.691E-01	9.662E-05	3.397E-05	6.471E-02	3.968E-02	3.880E-02
glucose	Local	-5.57E-02	-6.44E-02	-1.33E-02	-5.89E-02	-5.45E-01	-1.03E-01	1.01E-18	-2.56E-19	-1.60E-06	6.79E-07	-9.85E-04
	Min	-4.32E+01	-3.07E+02	-8.98E+01	-7.16E+02	-2.77E+02	-7.45E+02	-1.51E-09	-6.34E-12	-4.01E-03	-2.10E-03	-2.38E+00
	Max	2.05E+02	1.94E+01	1.75E+02	4.28E+01	3.28E+01	1.29E+01	5.48E-10	5.11E-12	1.59E-03	1.23E-03	6.01E-01
	Normalized peak height	7.68E-01	9.73E-01	9.68E-01	9.26E-01	7.38E-01	9.82E-01	1.00E+00	1.00E+00	9.22E-01	9.27E-01	9.08E-01
	Peak sensitivity value	9.37E-02	-7.11E-02	-1.11E-01	-7.55E-02	1.23E-01	-3.11E-01	3.83E-13	-1.82E-15	3.73E-07	5.88E-07	-5.97E-04
	Shapiro-Wilk score	8.534E-02	2.699E-02	3.254E-02	6.121E-02	9.289E-02	2.016E-02	1.358E-04	3.076E-04	5.361E-02	6.119E-02	8.567E-02
fructose6phosphate	Local	-1.51E-02	-1.75E-02	-3.59E-03	-6.96E-03	-1.48E-01	-2.78E-02	2.74E-19	2.79E-18	-4.33E-07	1.60E-06	-1.16E-04
	Min	-9.25E+01	-8.20E+02	-7.73E+01	-1.14E+02	-2.49E+02	-5.01E+02	-1.93E-07	-1.26E-11	-1.59E-03	-1.41E-03	-1.45E+01
	Max	4.00E+00	7.74E+01	1.04E+02	1.33E+01	7.84E+00	3.50E+00	3.82E-08	2.04E-11	4.08E-04	6.58E-04	4.92E-01
	Normalized peak height	9.26E-01	9.89E-01	9.71E-01	8.25E-01	9.15E-01	9.26E-01	1.00E+00	1.00E+00	9.34E-01	9.41E-01	9.80E-01
	Peak sensitivity value	-8.32E-03	-2.44E-01	-6.33E-02	1.95E-02	2.26E-03	2.26E-01	4.24E-11	-2.33E-15	-8.29E-07	-2.37E-08	4.87E-03
	Shapiro-Wilk score	6.470E-02	6.437E-03	2.366E-02	1.508E-01	6.461E-02	9.975E-03	4.989E-05	1.764E-04	4.390E-02	4.551E-02	7.797E-03
3phosphoglycerate	Local	3.60E-02	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	-9.98E-06	2.65E-06	-1.77E-03
	Min	-5.58E+00	-6.29E+03	-6.21E+02	-5.01E+01	-6.00E+02	-6.82E+02	-1.21E-02	-3.29E-11	-1.58E-01	-1.52E-04	-1.21E+00
	Max	1.29E+02	7.56E+02	3.51E+03	4.28E+02	1.82E+02	1.89E+02	4.54E-03	5.37E-09	2.96E-05	3.22E-03	4.19E+00
	Normalized peak height	7.60E-01	9.89E-01	9.93E-01	8.99E-01	5.00E-01	8.76E-01	1.00E+00	1.00E+00	8.30E-01	9.46E-01	9.57E-01
	Peak sensitivity value	-4.21E-03	-8.21E-01	-9.24E-02	-1.28E-01	-6.45E-01	-6.87E-02	7.74E-06	2.19E-12	-4.93E-05	1.15E-06	-4.41E-04
	Shapiro-Wilk score	2.352E-01	4.144E-03	5.203E-03	5.062E-02	1.709E-01	8.962E-02	1.556E-04	3.564E-05	8.416E-02	5.295E-02	3.761E-02
glycerol	Local	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	-9.89E-01
	Min	-1.96E+01	-2.80E+02	-1.75E+03	-5.67E+00	-7.26E+02	-2.95E+02	-4.12E-09	-2.20E-11	-7.58E-03	-1.10E-01	-1.05E+00
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	6.39E-01	9.43E-01	8.96E-01	3.63E-01	7.51E-01	9.22E-01	1.00E+00	1.00E+00	8.67E-01	9.26E-01	4.71E-01
	Peak sensitivity value	1.67E-03	-9.79E-01	8.64E-01	1.00E+00	4.00E-01	-6.84E-02	2.26E-10	-3.39E-15	-2.31E-06	-2.47E-05	-1.00E+00
	Shapiro-Wilk score	4.851E-01	1.350E-02	7.875E-03	7.367E-01	1.383E-01	9.232E-02	3.892E-05	3.493E-04	9.553E-02	5.668E-02	2.817E-01
pyruvate	Local	5.65E-02	6.54E-02	1.35E-02	-1.66E-01	5.54E-01	1.04E-01	-1.03E-18	4.87E-19	1.62E-06	4.15E-06	-2.78E-03
	Min	-1.01E+00	-3.43E-01	-3.42E+03	-1.11E+02	-6.74E+00	-2.28E+00	-8.45E-07	-7.65E-11	-3.18E-04	-9.66E-04	-3.12E+00
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	9.56E-01	9.97E-01	9.93E-01	9.27E-01	9.76E-01	9.81E-01	1.00E+00	1.00E+00	9.92E-01	9.04E-01	9.67E-01
	Peak sensitivity value	6.47E-02	1.61E+00	1.34E+00	-1.07E-01	-7.51E-01	3.49E-01	-2.82E-10	-3.64E-14	6.24E-06	-6.56E-07	3.38E-03
	Shapiro-Wilk score	2.441E-02	1.965E-03	1.387E-03	2.516E-02	4.976E-03	7.772E-03	8.756E-05	5.323E-05	8.470E-03	2.570E-02	1.707E-02

dihydroxyacetonephosphate cytosol											
Local	-3.10E-01	-2.20E-03	-1.68E-04	-1.28E-03	-2.24E-02	-7.65E-03	-1.35E-01	-7.90E-02	6.75E-01	-6.46E-17	-1.08E-02
Min	-2.81E+02	-3.95E+15	-4.93E+07	-2.21E+15	-1.97E+04	-5.14E+01	-2.47E+01	-2.31E+04	-8.18E+01	-7.64E-13	-2.59E+07
Max	1.04E+02	2.21E+15	7.06E+10	3.95E+15	1.53E+11	1.10E+00	2.71E+02	1.42E+01	2.82E+02	4.92E-13	3.53E+08
Normalized peak height	8.43E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	7.96E-01	7.61E-01	1.00E+00	4.16E-01	9.90E-01	1.00E+00
Peak sensitivity value	-5.69E-03	1.83E+12	-1.40E+07	-1.89E+12	7.66E+07	1.91E-02	-8.28E-03	2.64E+00	2.49E-01	3.88E-16	1.97E+04
Shapiro-Wilk score	1.494E-01	6.294E-05	3.397E-05	6.294E-05	3.630E-05	8.560E-02	2.693E-01	1.234E-04	2.717E-01	3.657E-03	3.922E-05
nadh											
Local	1.19E+00	8.44E-03	1.92E-04	1.37E-03	1.64E-02	1.21E-02	1.67E-01	-1.51E+00	-3.09E-02	2.01E-16	1.34E-02
Min	-1.04E+02	-1.33E+09	-4.91E+01	-1.47E+05	-2.07E+02	-5.29E-01	-1.17E+01	-8.50E+01	-5.45E+02	-1.23E-13	-1.35E+05
Max	2.00E+02	1.89E+05	8.38E+00	1.33E+09	1.83E+02	1.29E+01	1.13E+02	6.36E+01	4.11E+01	1.72E-13	6.26E+01
Normalized peak height	6.18E-01	1.00E+00	9.78E-01	1.00E+00	9.25E-01	4.93E-01	3.45E-01	2.92E-01	8.17E-01	8.66E-01	1.00E+00
Peak sensitivity value	3.82E-02	-4.78E+05	1.46E-02	5.19E+05	-8.50E-02	-4.27E-05	-1.83E-03	-9.94E-01	-2.22E-01	-1.11E-16	-4.78E+00
Shapiro-Wilk score	3.948E-01	5.066E-05	2.929E-02	5.066E-05	5.864E-02	3.101E-01	7.654E-01	6.086E-01	1.510E-01	7.404E-02	7.033E-05
glycerol3phosphate											
Local	9.63E-01	6.85E-03	2.45E-03	1.91E-02	3.66E-01	-4.66E-02	4.02E-01	2.36E-01	-2.28E+00	2.02E-16	3.25E-02
Min	-1.41E+02	-3.91E+03	-3.62E+00	-8.95E+01	-8.00E+00	-5.75E+00	-2.82E+01	-1.63E+01	-1.18E+02	-3.97E-13	-6.46E+00
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	5.38E-01	9.37E-01	6.56E-01	9.69E-01	7.11E-01	5.93E-01	3.21E-01	4.24E-01	3.57E-01	9.27E-01	5.59E-01
Peak sensitivity value	-3.55E-02	-1.74E+00	2.22E-02	2.22E-01	2.74E-02	-6.72E-03	-2.27E-02	3.09E-03	-1.11E+00	-3.70E-16	-1.27E-02
Shapiro-Wilk score	5.033E-01	2.478E-02	5.141E-02	2.127E-02	3.289E-01	4.025E-01	6.642E-01	5.377E-01	5.118E-01	1.898E-02	1.851E-01
glucose6phosphate											
Local	1.66E+00	1.18E-02	-1.68E-01	-1.04E+00	-1.04E-01	6.02E-03	-1.84E-01	-1.08E-01	1.35E-01	4.60E-17	-1.45E-02
Min	-1.09E+02	-1.61E+02	-3.51E+01	-6.32E+01	-1.02E+02	-1.94E+01	-4.34E+02	-1.48E+02	-1.63E+02	-4.19E-13	-4.21E+01
Max	5.01E+02	7.23E+01	4.78E-01	1.52E+02	9.55E+00	4.95E+00	2.07E+01	1.05E+02	3.14E+01	8.87E-13	6.67E+00
Normalized peak height	4.63E-01	3.36E-01	2.26E-01	4.59E-01	8.66E-01	8.67E-01	7.97E-01	7.63E-01	8.20E-01	9.24E-01	7.63E-01
Peak sensitivity value	-2.24E-03	4.13E-02	-3.84E-02	-1.01E+00	8.06E-04	-3.81E-03	3.91E-02	8.00E-02	3.23E-02	-6.06E-16	1.87E-02
Shapiro-Wilk score	2.031E-01	6.335E-01	6.007E-01	4.221E-01	6.866E-02	6.571E-02	1.142E-01	9.522E-02	1.323E-01	1.145E-02	1.110E-01
3phosphoglycerate cytosol											
Local	3.53E+00	2.51E-02	7.47E-04	5.43E-03	7.54E-02	2.52E-02	4.48E-01	2.63E-01	2.31E-01	0.00E+00	3.60E-02
Min	-1.25E+02	-6.19E+02	-1.23E+00	-3.70E+01	-5.20E+00	-5.34E+00	-1.79E+01	-1.67E+01	-2.28E+01	-2.63E-11	-6.23E+00
Max	6.78E+02	5.33E+01	4.59E+01	6.07E+02	2.92E+02	7.19E+01	4.69E+02	4.54E+02	3.02E+03	4.63E-11	2.98E+02
Normalized peak height	6.33E-01	8.40E-01	5.56E-01	9.24E-01	8.98E-01	9.28E-01	3.68E-01	7.43E-01	9.79E-01	9.99E-01	8.37E-01
Peak sensitivity value	-1.27E-01	-1.01E-01	-2.32E-02	5.29E-02	-1.57E-03	3.02E-02	-1.63E-01	3.66E-02	7.52E-02	1.39E-14	5.73E-03
Shapiro-Wilk score	1.035E-01	7.580E-02	2.810E-02	4.393E-02	4.641E-02	5.961E-02	1.285E-01	1.470E-01	1.492E-02	7.483E-04	1.565E-01
phosphoenolpyruvate											
Local	4.22E-01	3.01E-03	8.93E-05	6.49E-04	9.02E-03	3.02E-03	5.36E-02	3.14E-02	2.76E-02	-1.05E-16	4.31E-03
Min	-6.19E+02	-8.18E+02	-1.31E+00	-2.66E+01	-3.12E+00	-6.17E+00	-1.14E+01	-1.95E+01	-6.70E+00	-1.22E-10	-5.24E+00
Max	2.36E+03	5.71E+01	1.12E+02	7.76E+02	1.46E+02	2.22E+01	6.18E+02	3.44E+02	2.84E+02	1.20E-10	5.42E+01
Normalized peak height	9.93E-01	9.62E-01	9.90E-01	9.81E-01	5.91E-01	8.49E-01	9.13E-01	8.67E-01	9.12E-01	9.99E-01	8.94E-01
Peak sensitivity value	-4.37E-02	-2.48E-01	-6.65E-03	3.05E-01	-7.11E-02	-4.78E-03	2.19E-01	-2.10E-02	1.24E-01	3.45E-14	1.94E-02
Shapiro-Wilk score	1.284E-02	2.708E-02	5.224E-03	1.831E-02	3.598E-02	6.017E-02	4.839E-02	3.738E-02	2.918E-02	5.171E-04	1.446E-01
bisphosphoglycerate											
Local	-5.89E+00	-4.19E-02	5.08E-03	4.06E-02	8.47E-01	1.55E-01	3.68E+00	2.16E+00	4.96E-03	-1.01E-15	-8.02E-02
Min	-9.50E+02	-1.54E+03	-1.01E+01	-5.79E+01	-1.59E+01	-4.83E+01	-6.92E+01	-2.95E+01	-1.43E+01	-3.96E-12	-1.11E+02
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	7.45E-01	8.92E-01	9.88E-01	9.66E-01	8.27E-01	6.42E-01	3.57E-01	5.26E-01	7.25E-01	9.91E-01	4.69E-01
Peak sensitivity value	-6.12E-01	2.07E-01	7.78E-02	4.04E-01	-5.90E-02	6.56E-02	4.84E-01	1.52E-01	-5.10E-02	6.40E-15	-1.00E-01
Shapiro-Wilk score	2.150E-01	4.716E-02	1.029E-02	2.703E-02	6.860E-02	1.191E-01	2.805E-01	2.070E-01	1.007E-01	2.342E-03	6.231E-01
atpg											
Local	-2.48E+00	-1.77E-02	1.11E-03	8.98E-03	1.98E-01	3.30E-02	8.27E-01	4.85E-01	-6.16E-02	-2.63E-16	6.66E-02
Min	-2.49E+03	-9.08E+03	-1.74E+01	-7.67E+02	-2.25E+01	-2.68E+01	-3.82E+02	-6.91E+01	-1.70E+02	-1.20E-11	-1.15E+01
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	8.52E-01	9.96E-01	9.71E-01	8.97E-01	8.37E-01	7.95E-01	7.50E-01	8.93E-01	6.83E-01	9.96E-01	7.67E-01
Peak sensitivity value	-3.01E-01	-3.67E+00	-1.52E-02	-4.71E+00	-3.57E-02	-1.26E-02	1.82E-01	-5.30E-01	1.40E-01	3.05E-15	6.11E-03
Shapiro-Wilk score	1.245E-01	9.906E-03	2.012E-02	2.917E-03	6.621E-02	9.626E-02	1.530E-01	3.068E-02	2.308E-01	3.067E-03	1.749E-01
ampc											
Local	-1.22E+00	-8.69E-03	-2.58E-04	-1.87E-03	-2.61E-02	-8.72E-03	-1.55E-01	-9.08E-02	-7.98E-02	-6.07E-20	-1.24E-02
Min	-4.01E+00	-1.50E+01	-2.55E+01	-1.76E+02	-7.62E+00	-2.26E+00	-3.09E+01	-1.28E+01	-1.72E+01	-1.97E-10	-3.66E+01
Max	4.23E+01	1.79E+02	2.55E-01	1.48E+01	1.13E+00	6.34E-01	1.20E+00	1.48E+00	9.91E-01	1.16E-09	1.19E+00
Normalized peak height	5.30E-01	8.62E-01	8.93E-01	9.22E-01	6.06E-01	6.58E-01	4.54E-01	5.05E-01	5.54E-01	1.00E+00	8.31E-01
Peak sensitivity value	-2.56E-03	1.35E-02	1.09E-02	1.91E-03	1.53E-03	-1.42E-03	-5.77E-03	-9.61E-04	-3.33E-03	3.04E-13	6.88E-05
Shapiro-Wilk score	6.015E-01	6.089E-02	3.223E-02	3.824E-02	2.674E-01	2.067E-01	5.870E-01	4.601E-01	4.474E-01	1.649E-04	1.443E-01
nad											
Local	-2.14E-02	-1.52E-04	-3.47E-06	-2.46E-05	-2.95E-04	-2.18E-04	-3.01E-03	2.72E-02	5.57E-04	-3.62E-18	-2.42E-04
Min	-1.17E+02	-1.33E+01	-1.26E+00	-7.19E+07	-4.06E+00	-1.83E+00	-2.11E+00	-9.54E+00	-2.98E+00	-5.20E-14	-5.79E+00
Max	9.61E+00	7.19E+07	1.09E+01	8.00E+00	3.54E+01	4.51E-02	2.58E+00	4.80E+01	1.17E+02	2.60E-14	1.68E+01
Normalized peak height	9.43E-01	1.00E+00	9.96E-01	1.00E+00	9.86E-01	4.72E-01	6.15E-01	7.67E-01	8.87E-01	9.88E-01	9.06E-01
Peak sensitivity value	3.66E-02	3.59E+04	-3.05E-03	-3.59E+04	-1.15E-02	9.04E-04	-5.87E-04	-1.21E-02	-4.42E-02	-2.22E-17	6.29E-03
Shapiro-Wilk score	2.557E-02	5.537E-05	2.929E-03	5.537E-05	1.137E-02	8.032E-02	2.997E-01	1.451E-01	2.735E-02	6.690E-03	6.372E-02
fructose16bisphosphate											
Local	4.06E-01	2.89E-03	4.32E-03	3.39E-02	-1.00E-01	5.73E-03	-1.77E-01	-1.04E-01	1.29E-01	4.42E-17	-1.39E-02
Min	-5.01E+02	-7.48E+03	-2.69E+01	-2.64E+02	-5.28E+01	-2.39E+00	-1.67E+01	-2.52E+01	-1.19E+01	-5.11E-13	-5.76E+01
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	7.86E-01	9.47E-01	6.28E-01	9.84E-01	5.63E-01	8.08E-01	3.67E-01	7.09E-01	4.94E-01	9.95E-01	9.46E-01
Peak sensitivity value	-1.77E-01	2.11E+00	-5.27E-02	1.42E+00	2.59E-02	1.18E-03	7.69E-02	3.47E-02	-2.11E-01	-5.00E-16	-4.94E-02
Shapiro-Wilk score	1.908E-01	1.120E-02	3.964E-02	1.033E-02	2.303E-01	1.883E-01	4.403E-01	2.278E-01	2.008E-01	2.545E-03	7.100E-02
ampg											
Local	1.67E+01	1.19E-01	-7.45E-03	-6.05E-02	-1.33E+00	-2.22E-01	-5.57E+00	-3.27E+00	4.15E-01	1.77E-15	-4.48E-01
Min	-5.80E+01	-5.41E-01	-2.64E+02	-3.41E+02	-3.89E+02	-6.68E+01	-4.08E+02	-6.08E+02	-4.70E+02	-1.02E-11	-2.01E+01
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	6.51E-01	6.59E-01	9.94E-01	9.37E-01	9.52E-01	9.21E-01	5.69E-01	7.82E-01	8.62E-01	9.96E-01	6.94E-01
Peak sensitivity value	-1.37E+00	5.96E-02	-7.09E-02	1.15E-01	-1.11E-01	-3.48E-02	1.78E-01	1.21E-01	2.64E-02	1.32E-15	-1.19E-02
Shapiro-Wilk score	1.411E-01	1.956E-01	5.763E-03	2.003E-02	3.770E-02	5.595E-02	1.442E-01	1.122E-01	9.411E-02	3.136E-03	5.275E-01
atpc											
Local	1.92E-01	1.36E-03	4.05E-05	2.94E-04	4.09E-03	1.37E-03	2.43E-02	1.43E-02	1.25E-02	2.20E-21	1.95E-03
Min	-1.34E+02	-4.68E+03	-8.15E-01	-4.68E+01	-1.80E+00	-2.09E+00	-4.35E+00	-2.51E+00	-4.22E+00	-6.44E-10	-2.79E+00
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	4.87E-01	9.88E-01	9.63E-01	9.25E-01	5.54E-01	6.19E-01	4.26E-01	3.38E-01	5.60E-01	1.00E+00	7.61E-01
Peak sensitivity value	5.74E-02	-1.85E+00	7.56E-03	-2.06E+00	1.93E-04	1.60E-04	-3.50E-02	2.60E-02	8.48E-03	1.69E-13	5.39E-03
Shapiro-Wilk score	6.428E-01	1.035E-02	4.369E-02	8.142E-03	2.936E-01	2.518E-01	6.341E-01	5.038E-01	5.081E-01	3.333E-04	1.753E-01

dihydroxyacetonephosphate cytosol										
Local	-1.25E-02	-2.58E-03	3.30E-02	-1.06E-01	-2.00E-02	1.97E-19	-9.46E-20	-3.10E-07	-8.20E-07	5.52E-04
Min	-1.59E+06	-1.59E+06	-6.47E+00	-7.15E+01	-1.86E+02	-8.92E-11	-1.30E+09	-1.68E-03	-2.37E+00	-1.05E-01
Max	1.10E+01	1.41E+02	2.79E+01	2.73E+01	8.90E+00	1.59E+06	5.03E-13	2.79E-04	7.94E+00	8.80E-01
Normalized peak height	1.00E+00	1.00E+00	7.03E-01	8.90E-01	9.55E-01	1.00E+00	1.00E+00	9.48E-01	1.00E+00	8.83E-01
Peak sensitivity value	-7.82E+02	-6.51E+02	1.10E-02	-1.24E-02	3.44E-02	7.93E+02	-6.48E+05	-8.62E-07	-2.78E-03	1.84E-04
Shapiro-Wilk score	6.413E-05	6.384E-05	2.978E-01	8.371E-02	2.514E-02	6.360E-05	3.493E-05	6.280E-02	1.048E-04	9.611E-02
nadh										
Local	1.55E-02	3.19E-03	-3.88E-02	1.31E-01	2.47E-02	-2.44E-19	7.06E-20	3.85E-07	-3.54E-07	-6.48E-04
Min	-3.14E+02	-4.71E+02	-9.84E+01	-4.53E+00	-7.92E+00	-2.71E+02	-2.71E+00	-1.35E-04	-5.99E-02	-1.06E+00
Max	1.04E+03	2.71E+02	1.65E+01	2.25E+02	5.57E+01	3.14E+02	3.12E+02	2.59E-03	5.08E-04	2.82E-01
Normalized peak height	9.81E-01	9.77E-01	7.82E-01	7.82E-01	8.53E-01	1.00E+00	1.00E+00	8.39E-01	9.96E-01	8.88E-01
Peak sensitivity value	2.99E-01	-1.94E-01	-6.19E-03	-5.77E-02	1.36E-03	1.10E-01	-3.45E-02	-4.87E-07	-5.03E-06	-3.79E-04
Shapiro-Wilk score	9.635E-03	8.351E-03	2.114E-01	1.901E-01	1.370E-01	6.968E-05	5.931E-05	8.542E-02	2.248E-03	1.237E-01
glycerol3phosphate										
Local	3.76E-02	7.73E-03	-1.21E-01	3.18E-01	5.99E-02	-5.90E-19	1.45E-18	9.31E-07	-2.61E-05	-2.02E-03
Min	-3.41E+01	-2.66E+03	-2.54E+01	-4.62E+01	-2.98E+01	-1.60E-06	-7.14E-12	-4.14E-04	-3.14E-01	-6.31E-01
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	9.82E-01	9.90E-01	3.08E-01	7.80E-01	8.06E-01	1.00E+00	1.00E+00	8.85E-01	9.51E-01	5.70E-01
Peak sensitivity value	-3.79E-01	-1.08E+00	1.58E-02	-3.85E-02	-4.91E-02	-5.65E-10	-1.14E-15	1.11E-07	-1.47E-06	4.65E-04
Shapiro-Wilk score	2.752E-03	1.462E-03	5.531E-01	2.644E-01	1.207E-01	9.573E-05	2.500E-04	8.738E-02	2.387E-02	1.799E-01
glucose6phosphate										
Local	-1.68E-02	-3.45E-03	-6.64E-03	-1.42E-01	-2.67E-02	2.64E-19	2.69E-18	-4.16E-07	1.54E-06	-1.11E-04
Min	-1.06E+02	-1.94E+02	-8.72E+01	-1.52E+02	-8.65E+01	-3.36E-07	-2.44E-12	-3.83E-03	-7.41E-04	-1.51E+00
Max	2.18E+02	5.68E+01	1.94E+01	5.25E+00	5.23E+00	4.47E-08	4.78E-12	5.11E-04	7.08E-04	9.16E-01
Normalized peak height	9.81E-01	9.69E-01	8.11E-01	8.97E-01	9.28E-01	1.00E+00	1.00E+00	9.52E-01	9.29E-01	8.98E-01
Peak sensitivity value	-1.00E-01	6.99E-02	-1.54E-02	-2.87E-03	-3.87E-02	-2.75E-11	3.44E-16	1.04E-06	1.64E-07	-9.95E-04
Shapiro-Wilk score	1.913E-02	1.262E-02	1.708E-01	6.546E-02	4.014E-02	4.405E-05	3.988E-04	2.338E-02	7.616E-02	5.389E-02
3phosphoglycerate cytosol										
Local	-4.03E-01	-8.28E-02	-1.06E-01	-3.41E+00	-6.42E-01	6.33E-18	3.11E-19	1.03E-06	2.65E-06	-1.77E-03
Min	-1.95E+03	-1.48E+03	-2.86E+01	-6.67E+02	-6.78E+02	-1.69E-02	-1.17E-09	-6.37E-05	-5.88E-04	-1.41E+00
Max	2.81E+01	1.62E+03	2.08E+02	2.67E+01	6.35E+00	1.80E-01	1.17E-08	1.27E-03	3.36E-03	2.74E+00
Normalized peak height	9.75E-01	9.89E-01	8.77E-01	4.41E-01	8.70E-01	1.00E+00	1.00E+00	7.46E-01	8.13E-01	9.34E-01
Peak sensitivity value	-5.24E-01	6.92E-01	-1.73E-02	-6.37E-01	-1.46E-01	-5.03E-05	4.88E-12	-4.25E-07	-1.27E-06	7.71E-04
Shapiro-Wilk score	1.705E-02	1.549E-02	7.831E-02	1.840E-01	1.089E-01	8.339E-05	4.101E-05	8.610E-02	4.134E-02	5.979E-02
phosphoenolpyruvate										
Local	-4.91E-01	-1.01E-01	-1.27E-02	4.22E-02	7.95E-03	7.72E-18	3.72E-20	1.24E-07	3.16E-07	-2.12E-04
Min	-1.92E+03	-1.06E+03	-4.59E+01	-1.44E+00	-1.29E+00	-1.64E-02	-3.78E-08	-4.74E-05	-1.96E-04	-7.53E-01
Max	1.53E+02	6.67E+02	6.38E+02	8.99E+02	1.49E+02	3.01E-02	3.02E-08	8.56E-04	3.45E-03	6.03E+00
Normalized peak height	7.92E-01	5.57E-01	9.91E-01	9.34E-01	9.41E-01	1.00E+00	1.00E+00	8.98E-01	9.26E-01	8.31E-01
Peak sensitivity value	8.10E-01	3.97E-01	2.18E-01	-9.01E-02	-1.01E-02	-8.75E-06	-1.50E-11	-2.12E-08	-1.25E-06	3.36E-03
Shapiro-Wilk score	2.726E-02	3.384E-02	7.507E-03	1.470E-02	3.747E-02	1.526E-04	6.700E-05	6.065E-02	1.435E-02	1.015E-02
bisphosphoglycerate										
Local	-9.29E-02	-1.91E-02	1.64E-01	-7.86E-01	-1.48E-01	1.46E-18	3.25E-18	-2.30E-06	5.67E-08	2.74E-03
Min	-2.65E+03	-1.01E+02	-2.10E+01	-1.55E+02	-2.93E+02	-6.33E-08	-2.37E-12	-1.98E-02	-4.07E-04	-2.91E-01
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	9.87E-01	9.89E-01	8.48E-01	6.05E-01	8.99E-01	1.00E+00	9.96E-01	8.55E-01	9.17E-01	8.50E-01
Peak sensitivity value	-9.06E-01	-4.80E-02	-3.14E-01	-5.70E-02	-1.35E-01	2.99E-11	-1.34E-15	-7.40E-06	1.49E-06	5.72E-04
Shapiro-Wilk score	7.702E-03	9.278E-03	4.225E-02	2.276E-01	1.064E-01	1.283E-04	1.669E-03	1.125E-01	6.681E-02	1.241E-01
atpg										
Local	7.71E-02	1.58E-02	7.12E-02	6.52E-01	1.23E-01	-1.21E-18	-7.32E-18	1.91E-06	-7.06E-07	1.19E-03
Min	-6.61E-01	-7.81E+02	-3.06E+01	-3.32E+00	-1.51E+00	-1.17E-07	-1.81E-12	-2.38E-03	-2.02E-03	-6.40E-01
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	9.60E-01	9.82E-01	8.66E-01	7.97E-01	9.11E-01	1.00E+00	1.00E+00	9.44E-01	9.58E-01	8.34E-01
Peak sensitivity value	-2.70E-01	2.65E-01	-2.11E-02	-2.38E-01	1.98E-02	-1.51E-10	-2.09E-15	8.87E-07	-2.99E-06	-2.43E-03
Shapiro-Wilk score	1.926E-02	1.561E-02	8.912E-02	7.300E-02	6.027E-02	5.966E-05	4.061E-04	4.287E-02	3.063E-02	8.309E-02
ampc										
Local	-1.44E-02	1.73E+00	3.66E-02	-1.22E-01	-2.30E-02	-3.42E-16	-1.07E-19	-3.57E-07	-9.14E-07	6.12E-04
Min	-1.83E+00	-2.58E-01	-1.29E+01	-4.13E+00	-2.79E+00	-9.38E-11	-3.35E-12	-4.92E-04	-5.62E-04	-6.71E-01
Max	1.42E-01	1.99E+00	1.08E+00	1.17E+00	9.55E-01	1.46E-10	2.49E-12	1.15E-05	2.50E-05	9.60E-02
Normalized peak height	7.74E-01	3.41E-03	6.76E-01	6.84E-01	5.30E-01	1.00E+00	1.00E+00	7.58E-01	8.13E-01	8.55E-01
Peak sensitivity value	-4.11E-04	4.25E-02	-3.38E-03	-2.40E-03	1.64E-03	6.39E-14	-3.17E-16	1.51E-07	6.60E-08	-3.09E-04
Shapiro-Wilk score	1.475E-01	9.094E-01	2.699E-01	3.049E-01	1.634E-01	2.502E-04	2.508E-04	8.202E-02	8.491E-02	9.708E-02
nad										
Local	-2.80E-04	-5.76E-05	6.99E-04	-2.37E-03	-4.46E-04	4.40E-21	-1.27E-21	-6.93E-09	6.38E-09	1.17E-05
Min	-3.28E+01	-1.39E+01	-8.17E-01	-2.80E+01	-6.92E+00	-1.04E-01	-3.76E+02	-1.44E-03	-3.25E-05	-1.55E-02
Max	3.75E-01	7.72E+00	2.76E+01	1.39E+00	2.36E-01	1.33E-12	9.41E-01	1.03E-05	1.25E-04	2.28E-01
Normalized peak height	9.93E-01	9.77E-01	9.27E-01	9.73E-01	9.66E-01	1.00E+00	1.00E+00	9.89E-01	9.31E-01	9.61E-01
Peak sensitivity value	-6.15E-03	2.12E-03	-7.10E-03	-9.10E-03	-3.51E-03	-5.21E-05	-1.29E-03	-6.03E-07	5.25E-09	-1.18E-05
Shapiro-Wilk score	5.284E-03	1.884E-02	3.334E-02	1.814E-02	2.152E-02	3.904E-05	4.637E-05	1.199E-02	4.566E-02	2.160E-02
fructose16bisphosphate										
Local	-1.61E-02	-3.31E-03	-6.40E-03	-1.36E-01	-2.56E-02	2.53E-19	2.53E-18	-3.99E-07	1.48E-06	-1.07E-04
Min	-2.64E+02	-3.03E+03	-4.33E+00	-2.63E+02	-6.75E+01	-2.07E-06	-1.64E-11	-4.60E-03	-1.38E-03	-2.54E-01
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	9.53E-01	9.49E-01	7.01E-01	8.99E-01	9.10E-01	1.00E+00	1.00E+00	9.05E-01	9.49E-01	8.01E-01
Peak sensitivity value	1.63E+00	1.49E+00	-2.52E-02	7.90E-02	2.47E-02	-1.07E-10	-5.67E-15	1.55E-06	1.46E-06	-1.06E-03
Shapiro-Wilk score	9.837E-04	5.807E-04	2.012E-01	7.966E-02	4.989E-02	9.769E-05	1.791E-04	4.828E-02	6.923E-02	7.342E-02
ampg										
Local	-5.19E-01	-1.07E-01	-4.79E-01	-4.39E+00	-8.26E-01	8.15E-18	3.08E-16	-1.29E-05	4.75E-06	-8.01E-03
Min	-2.67E+03	-1.83E+03	-2.99E+01	-8.13E+02	-1.95E+02	-1.51E-10	-1.46E-06	-1.74E-02	-1.99E-03	-1.70E+00
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	9.98E-01	9.98E-01	6.84E-01	9.01E-01	8.42E-01	1.00E+00	9.98E-01	8.01E-01	8.96E-01	8.59E-01
Peak sensitivity value	-1.24E+00	-9.03E-01	8.40E-03	-2.99E-02	1.37E-02	3.15E-14	-3.06E-09	5.63E-06	6.07E-07	-7.58E-04
Shapiro-Wilk score	2.212E-03	4.183E-03	3.677E-01	4.728E-02	4.351E-02	1.507E-04	7.690E-04	9.206E-02	6.624E-02	1.348E-01
atpc										
Local	2.26E-03	-2.71E-01	-5.75E-03	1.91E-02	3.61E-03	9.62E-18	1.69E-20	5.61E-08	1.44E-07	-9.61E-05
Min	-5.70E-01	-3.35E+03	-2.55E+00	-3.98E+00	-5.53E-01	-1.66E-06	-2.53E-12	-3.77E-05	-1.28E-04	-1.96E-01
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	9.95E-01	9.96E-01	5.69E-01	6.34E-01	6.58E-01	1.00E+00	1.00E+00	9.29E-01	5.11E-01	8.54E-01
Peak sensitivity value	1.11E+00	-1.68E+00	-1.16E-02	1.07E-03	-4.35E-04	3.23E-10	-7.89E-16	6.08E-07	4.40E-07	4.59E-05
Shapiro-Wilk score	2.659E-03	2.346E-02	2.957E-01	3.448E-01	1.774E-01	5.817E-05	2.099E-04	8.422E-02	9.421E-02	1.274E-01

glycerol3phosphate cytosol																				
Local	7.65E-01	5.45E-03	4.16E-04	3.17E-03	5.53E-02	1.89E-02	3.33E-01	1.99E-01	-1.67E+00	1.60E-16	2.68E-02	3.10E-02	6.37E-03	-8.17E-02	2.62E-01	4.91E-02	-4.87E-19	2.34E-19	7.68E-07	2.03E-06	-1.37E-03
Min	-1.06E+02	-1.14E+03	-8.90E+00	-4.14E+02	-4.50E+00	-1.45E+00	-3.62E+02	-1.15E+01	-1.65E+01	-2.15E-13	-1.31E+00	-8.53E+00	-8.11E+02	-1.45E+01	-3.08E+01	-7.86E+00	-1.96E-08	-3.72E-12	-2.77E-04	-9.80E-05	-5.69E-01
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	6.76E-01	9.70E-01	9.60E-01	9.20E-01	5.72E-01	5.57E-01	6.03E-01	3.15E-01	1.24E-01	8.83E-01	5.10E-01	9.77E-01	9.89E-01	4.47E-01	7.44E-01	8.38E-01	1.00E+00	1.00E+00	8.50E-01	6.29E-01	8.09E-01
Peak sensitivity value	-9.32E-02	-2.92E-01	-2.48E-03	-5.95E-01	-7.44E-03	6.47E-04	5.05E-02	1.59E-02	-1.02E+00	-3.25E-18	-4.02E-03	8.69E-02	2.64E-01	-5.24E-03	-1.38E-02	7.07E-03	7.48E-11	3.18E-14	-1.84E-07	1.16E-07	-2.22E-04
Shapiro-Wilk score	3.918E-01	2.876E-02	4.289E-02	2.058E-02	3.107E-01	2.868E-01	3.512E-01	5.644E-01	8.380E-01	5.799E-02	2.229E-01	9.848E-03	5.515E-03	4.880E-01	3.448E-01	2.038E-01	9.423E-05	8.637E-05	8.513E-02	2.165E-01	1.421E-01

Table 11: Flux control coefficients for *Trypanosoma brucei* model with parameter variation of ±5%

	(glucosetransport)	(hexokinase)	(phosphoglycerateisomerase)	(phophofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)
(glucose transport) Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18
Min	9.22E-01	5.01E-03	4.22E-05	2.64E-04	2.00E-04	3.56E-05	8.08E-04	4.93E-04	-4.95E-03	-3.38E-17
Max	9.92E-01	1.18E-02	1.88E-04	1.19E-03	7.08E-03	7.59E-04	2.67E-02	1.59E-02	-1.82E-05	3.29E-17
Normalized peak height	4.71E-03	3.49E-03	3.84E-03	3.91E-03	5.94E-03	4.30E-03	5.24E-03	5.36E-03	9.16E-03	1.43E-01
Peak sensitivity value	9.83E-01	6.52E-03	7.13E-05	4.56E-04	7.54E-04	1.43E-04	3.64E-03	1.95E-03	-1.34E-04	2.31E-20
Shapiro-Wilk score	9.394E-01	9.749E-01	9.616E-01	9.587E-01	9.089E-01	9.359E-01	9.127E-01	9.161E-01	8.405E-01	9.477E-01
(hexokinase) Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18
Min	9.16E-01	5.06E-03	4.17E-05	2.56E-04	2.38E-04	3.69E-05	9.24E-04	5.49E-04	-5.91E-03	-3.41E-17
Max	9.91E-01	1.24E-02	2.03E-04	1.35E-03	7.60E-03	8.86E-04	2.96E-02	1.65E-02	-2.25E-05	4.20E-17
Normalized peak height	4.65E-03	3.85E-03	4.29E-03	4.60E-03	6.11E-03	4.82E-03	5.82E-03	5.69E-03	1.09E-02	1.48E-01
Peak sensitivity value	9.83E-01	6.81E-03	6.87E-05	4.39E-04	7.28E-04	1.33E-04	2.95E-03	1.88E-03	-1.37E-04	3.25E-20
Shapiro-Wilk score	9.407E-01	9.753E-01	9.616E-01	9.584E-01	9.104E-01	9.368E-01	9.137E-01	9.167E-01	8.420E-01	9.503E-01
(phosphoglycerate isomerase) Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18
Min	9.26E-01	5.08E-03	4.13E-05	2.59E-04	2.56E-04	4.05E-05	9.50E-04	5.74E-04	-4.55E-03	-3.11E-17
Max	9.91E-01	1.18E-02	1.95E-04	1.28E-03	6.51E-03	8.11E-04	2.65E-02	1.50E-02	-2.23E-05	3.43E-17
Normalized peak height	4.16E-03	3.56E-03	3.95E-03	4.26E-03	5.21E-03	4.25E-03	5.13E-03	4.99E-03	8.46E-03	1.44E-01
Peak sensitivity value	9.83E-01	6.55E-03	6.69E-05	4.23E-04	6.85E-04	1.25E-04	3.08E-03	2.00E-03	-1.65E-04	-3.08E-20
Shapiro-Wilk score	9.398E-01	9.747E-01	9.610E-01	9.580E-01	9.094E-01	9.355E-01	9.125E-01	9.156E-01	8.405E-01	9.508E-01
(phophofructokinase) Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18
Min	9.12E-01	4.91E-03	4.32E-05	2.62E-04	2.36E-04	3.86E-05	9.44E-04	5.61E-04	-6.04E-03	-3.09E-17
Max	9.91E-01	1.23E-02	2.11E-04	1.40E-03	7.83E-03	9.63E-04	3.19E-02	1.79E-02	-2.02E-05	3.18E-17
Normalized peak height	5.12E-03	3.86E-03	4.42E-03	4.76E-03	6.35E-03	5.25E-03	6.64E-03	6.03E-03	1.12E-02	1.45E-01
Peak sensitivity value	9.84E-01	6.82E-03	6.63E-05	4.34E-04	7.86E-04	1.32E-04	3.00E-03	1.91E-03	-1.38E-04	1.08E-20
Shapiro-Wilk score	9.408E-01	9.752E-01	9.618E-01	9.588E-01	9.099E-01	9.356E-01	9.127E-01	9.162E-01	8.411E-01	9.509E-01
(aldolase) Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	1.48E-16
Min	9.26E-01	5.06E-03	4.18E-05	2.66E-04	2.47E-04	3.94E-05	9.83E-04	5.63E-04	-4.82E-03	-8.78E-16
Max	9.91E-01	1.20E-02	1.92E-04	1.28E-03	6.30E-03	8.22E-04	2.52E-02	1.36E-02	-1.64E-05	9.02E-16
Normalized peak height	4.34E-03	3.64E-03	3.90E-03	4.33E-03	5.23E-03	4.58E-03	4.92E-03	4.83E-03	8.92E-03	8.54E-02
Peak sensitivity value	9.83E-01	6.56E-03	7.05E-05	4.49E-04	7.70E-04	1.38E-04	2.91E-03	1.77E-03	-1.49E-04	3.67E-20
Shapiro-Wilk score	9.412E-01	9.750E-01	9.624E-01	9.593E-01	9.109E-01	9.364E-01	9.138E-01	9.174E-01	8.433E-01	9.782E-01
(triosephosphate isomerase) Local	4.14E-01	2.95E-03	2.25E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.60E-02	8.65E-17
Min	-2.19E-01	-2.46E-03	7.22E-05	5.00E-04	4.78E-03	2.76E-03	3.83E-02	2.27E-02	3.53E-02	-7.07E-16
Max	8.44E-01	5.02E-03	6.09E-04	4.72E-03	9.21E-02	2.27E-02	4.95E-01	2.89E-01	1.56E-01	6.22E-16
Normalized peak height	2.59E-03	3.59E-03	3.09E-03	3.16E-03	3.23E-03	2.76E-03	3.16E-03	3.03E-03	2.56E-03	6.49E-02
Peak sensitivity value	3.83E-01	3.44E-03	1.82E-04	1.45E-03	2.42E-02	9.93E-03	1.58E-01	1.04E-01	9.24E-02	-6.44E-19
Shapiro-Wilk score	9.864E-01	9.684E-01	9.692E-01	9.694E-01	9.685E-01	9.857E-01	9.733E-01	9.759E-01	9.909E-01	9.909E-01
(glyceraldehyde3phosphate dehydrogenase) Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	1.18E-16
Min	4.14E-01	3.88E-03	5.84E-05	4.02E-04	2.87E-03	1.55E-03	2.24E-02	1.25E-02	1.97E-02	-7.60E-16
Max	9.10E-01	6.31E-03	3.87E-04	3.00E-03	4.69E-02	1.10E-02	2.42E-01	1.40E-01	7.13E-02	6.77E-16
Normalized peak height	2.45E-03	3.67E-03	3.27E-03	3.36E-03	3.18E-03	2.74E-03	3.05E-03	2.93E-03	2.45E-03	1.17E-01
Peak sensitivity value	7.37E-01	4.98E-03	1.16E-04	8.24E-04	1.09E-02	5.10E-03	7.10E-02	4.18E-02	4.71E-02	-4.38E-19
Shapiro-Wilk score	9.868E-01	9.985E-01	9.705E-01	9.706E-01	9.698E-01	9.870E-01	9.751E-01	9.773E-01	9.902E-01	9.705E-01
(glycerol3phosphate dehydro-genase) Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	1.18E-16
Min	4.12E-01	3.90E-03	6.21E-05	4.33E-04	3.51E-03	1.63E-03	2.36E-02	1.44E-02	1.86E-02	-7.72E-16
Max	9.05E-01	6.29E-03	3.89E-04	3.00E-03	4.54E-02	1.10E-02	2.42E-01	1.36E-01	7.04E-02	7.85E-16
Normalized peak height	2.43E-03	3.49E-03	3.10E-03	3.39E-03	2.92E-03	2.72E-03	2.91E-03	2.84E-03	2.46E-03	1.18E-01
Peak sensitivity value	7.55E-01	5.00E-03	1.25E-04	9.24E-04	1.12E-02	4.20E-03	7.80E-02	4.34E-02	4.89E-02	-4.50E-19
Shapiro-Wilk score	9.869E-01	9.988E-01	9.708E-01	9.710E-01	9.703E-01	9.874E-01	9.755E-01	9.776E-01	9.900E-01	9.707E-01
(glycerol3phosphate oxidase) Local	4.14E-01	2.95E-03	2.25E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.60E-02	8.65E-17
Min	-2.02E-01	-2.57E-03	7.06E-05	5.21E-04	6.12E-03	3.32E-03	4.60E-02	2.71E-02	4.09E-02	-6.25E-16
Max	8.10E-01	5.07E-03	6.61E-04	5.17E-03	1.00E-01	2.35E-02	5.31E-01	2.80E-01	1.55E-01	6.00E-16
Normalized peak height	2.38E-03	3.62E-03	3.57E-03	3.72E-03	3.32E-03	2.82E-03	3.25E-03	2.96E-03	2.34E-03	6.34E-02
Peak sensitivity value	4.54E-01	3.24E-03	1.71E-04	1.34E-03	2.40E-02	8.97E-03	1.49E-01	1.04E-01	9.68E-02	4.55E-19
Shapiro-Wilk score	9.862E-01	9.690E-01	9.695E-01	9.698E-01	9.691E-01	9.860E-01	9.740E-01	9.764E-01	9.909E-01	9.902E-01
(pyruvate transport) Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	-2.22E-16
Min	3.76E-01	3.90E-03	5.71E-05	4.00E-04	3.30E-03	1.74E-03	2.39E-02	1.35E-02	2.00E-02	-8.88E-16
Max	9.05E-01	6.30E-03	3.91E-04	2.93E-03	4.63E-02	1.10E-02	2.46E-01	1.41E-01	7.05E-02	7.77E-16
Normalized peak height	2.62E-03	3.47E-03	3.23E-03	3.28E-03	3.08E-03	2.82E-03	3.21E-03	3.05E-03	2.30E-03	3.42E-01
Peak sensitivity value	7.61E-01	5.04E-03	1.29E-04	8.64E-04	1.13E-02	4.72E-03	8.00E-02	4.49E-02	4.77E-02	2.78E-19
Shapiro-Wilk score	9.872E-01	9.987E-01	9.711E-01	9.710E-01	9.697E-01	9.873E-01	9.751E-01	9.776E-01	9.905E-01	9.306E-01

	(phosphoglyceratekinase)	(pyruvatekinase)	(atputilisation)	(glycerolkinase)	(phosphoglyceratemutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglyceratetransport)	(gly3pdhapantiporter)	(glyceroltransport)
(glucose transport) Local	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	1.64E-04	1.17E-04	2.58E-05	2.86E-05	7.87E-04	1.85E-04	-2.80E-20	-1.86E-19	4.24E-09	-6.97E-08	5.07E-07
Max	1.22E-03	1.19E-03	2.52E-04	3.75E-03	1.33E-02	1.97E-03	5.03E-20	5.55E-18	2.90E-08	-2.16E-10	5.10E-05
Normalized peak height	4.46E-03	3.45E-03	3.56E-03	7.38E-03	3.72E-03	3.33E-03	4.05E-01	2.38E-01	4.01E-03	1.09E-02	6.11E-03
Peak sensitivity value	3.07E-04	3.49E-04	7.80E-05	1.76E-04	3.10E-03	5.66E-04	3.33E-24	6.01E-22	9.71E-09	-1.85E-09	3.26E-06
Shapiro-Wilk score	9.438E-01	9.704E-01	9.710E-01	8.714E-01	9.449E-01	9.691E-01	1.000E+00	2.425E-01	9.743E-01	8.222E-01	8.899E-01
(hexokinase) Local	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	1.68E-04	1.42E-04	2.98E-05	3.27E-05	9.08E-04	2.22E-04	-2.40E-20	-1.86E-19	4.07E-09	-8.60E-08	6.52E-07
Max	1.41E-03	1.34E-03	2.87E-04	4.24E-03	1.35E-02	2.31E-03	3.60E-20	4.27E-18	2.67E-08	-2.51E-10	5.91E-05
Normalized peak height	5.13E-03	3.57E-03	3.83E-03	8.44E-03	3.59E-03	3.78E-03	4.02E-01	1.87E-01	3.72E-03	1.34E-02	7.21E-03
Peak sensitivity value	3.04E-04	3.45E-04	7.16E-05	1.74E-04	3.12E-03	5.75E-04	-1.02E-23	-1.48E-21	1.01E-08	-1.92E-09	3.25E-06
Shapiro-Wilk score	9.442E-01	9.709E-01	9.715E-01	8.721E-01	9.459E-01	9.695E-01	1.000E+00	2.956E-01	9.747E-01	8.252E-01	8.903E-01
(phosphoglycerate isomerase) Local	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	1.65E-04	1.44E-04	3.05E-05	4.20E-05	9.66E-04	2.30E-04	-2.30E-20	-2.17E-19	4.09E-09	-5.95E-08	7.18E-07
Max	1.19E-03	1.27E-03	2.60E-04	3.35E-03	1.41E-02	2.04E-03	4.68E-20	6.46E-18	2.68E-08	-2.21E-10	4.85E-05
Normalized peak height	4.11E-03	3.51E-03	3.51E-03	6.47E-03	3.97E-03	3.44E-03	4.05E-01	2.61E-01	3.91E-03	9.11E-03	5.79E-03
Peak sensitivity value	3.20E-04	3.84E-04	7.44E-05	1.83E-04	3.17E-03	5.61E-04	2.19E-23	5.06E-22	1.01E-08	-1.61E-09	3.08E-06
Shapiro-Wilk score	9.437E-01	9.705E-01	9.711E-01	8.712E-01	9.454E-01	9.694E-01	1.000E+00	2.344E-01	9.737E-01	8.234E-01	8.894E-01
(phophofructokinase) Local	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	1.62E-04	1.41E-04	2.96E-05	3.65E-05	9.17E-04	2.16E-04	-2.79E-20	-2.46E-19	4.14E-09	-8.04E-08	6.58E-07
Max	1.41E-03	1.24E-03	2.57E-04	4.62E-03	1.36E-02	2.04E-03	5.77E-20	5.24E-18	2.73E-08	-2.08E-10	5.91E-05
Normalized peak height	5.33E-03	3.38E-03	3.55E-03	9.26E-03	3.91E-03	3.37E-03	4.02E-01	2.09E-01	3.74E-03	1.27E-02	6.98E-03
Peak sensitivity value	3.03E-04	3.79E-04	7.55E-05	2.04E-04	2.61E-03	6.19E-04	7.36E-24	-2.30E-21	9.59E-09	-1.69E-09	3.61E-06
Shapiro-Wilk score	9.443E-01	9.706E-01	9.711E-01	8.718E-01	9.457E-01	9.691E-01	1.000E+00	2.506E-01	9.745E-01	8.239E-01	8.907E-01
(aldolase) Local	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	1.65E-04	1.37E-04	2.85E-05	3.28E-05	9.42E-04	2.16E-04	-3.14E-20	-1.90E-19	4.28E-09	-6.34E-08	6.25E-07
Max	1.24E-03	1.29E-03	2.60E-04	3.48E-03	1.37E-02	2.09E-03	3.44E-20	4.91E-18	2.61E-08	-1.52E-10	4.96E-05
Normalized peak height	4.52E-03	3.51E-03	3.53E-03	6.80E-03	3.76E-03	3.44E-03	4.02E-01	2.16E-01	3.54E-03	1.02E-02	6.15E-03
Peak sensitivity value	3.13E-04	3.58E-04	7.28E-05	1.93E-04	2.70E-03	5.51E-04	-2.27E-23	1.04E-21	1.02E-08	-1.77E-09	3.44E-06
Shapiro-Wilk score	9.441E-01	9.704E-01	9.710E-01	8.733E-01	9.452E-01	9.690E-01	1.000E+00	2.694E-01	9.739E-01	8.252E-01	8.909E-01
(triosephosphate isomerase) Local	1.45E-02	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06	-7.39E-04
Min	8.11E-03	6.07E-03	1.29E-03	-7.02E-02	4.12E-02	9.37E-03	-6.98E-19	-6.59E-18	2.04E-07	5.09E-07	-1.14E-03
Max	2.31E-02	2.52E-02	5.12E-03	-1.82E-02	2.80E-01	4.01E-02	9.94E-19	1.73E-16	6.70E-07	1.93E-06	-3.17E-04
Normalized peak height	2.71E-03	2.86E-03	2.95E-03	2.66E-03	2.68E-03	2.61E-03	4.05E-01	6.67E-02	3.45E-03	2.84E-03	3.22E-03
Peak sensitivity value	1.39E-02	1.81E-02	3.81E-03	-4.54E-02	1.41E-01	2.80E-02	6.02E-23	-1.91E-20	4.02E-07	1.08E-06	-7.80E-04
Shapiro-Wilk score	9.934E-01	9.880E-01	9.883E-01	9.945E-01	9.865E-01	9.876E-01	9.519E-01	4.203E-01	9.964E-01	9.941E-01	9.970E-01
(glyceraldehyde3phosphate dehydrogenase) Local	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	4.18E-03	3.34E-03	7.07E-04	-3.13E-02	2.19E-02	5.17E-03	-3.42E-19	-3.47E-18	1.05E-07	2.60E-07	-4.99E-04
Max	1.11E-02	1.24E-02	2.49E-03	-1.00E-02	1.37E-01	1.96E-02	1.08E-18	9.09E-17	3.28E-07	8.71E-07	-1.74E-04
Normalized peak height	2.76E-03	2.81E-03	2.90E-03	2.57E-03	2.72E-03	2.66E-03	4.01E-01	6.82E-02	3.38E-03	2.72E-03	3.19E-03
Peak sensitivity value	7.30E-03	8.95E-03	1.85E-03	-2.21E-02	6.59E-02	1.47E-02	-3.75E-22	-2.75E-20	2.00E-07	5.22E-07	-3.54E-04
Shapiro-Wilk score	9.940E-01	9.864E-01	9.862E-01	9.916E-01	9.872E-01	9.865E-01	9.504E-01	3.769E-01	9.964E-01	9.956E-01	9.958E-01
(glycerol3phosphate dehydro-genase) Local	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	4.01E-03	3.43E-03	7.31E-04	-3.12E-02	2.29E-02	5.08E-03	-3.90E-19	-2.71E-18	1.05E-07	2.45E-07	-5.03E-04
Max	1.13E-02	1.18E-02	2.42E-03	-9.59E-03	1.36E-01	1.94E-02	9.58E-19	1.82E-16	3.30E-07	8.89E-07	-1.65E-04
Normalized peak height	2.79E-03	2.63E-03	2.85E-03	2.70E-03	2.64E-03	2.72E-03	4.10E-01	1.31E-01	3.61E-03	3.06E-03	3.38E-03
Peak sensitivity value	6.78E-03	8.98E-03	1.83E-03	-2.26E-02	6.92E-02	1.35E-02	3.77E-22	-3.21E-20	1.96E-07	5.64E-07	-3.53E-04
Shapiro-Wilk score	9.940E-01	9.862E-01	9.860E-01	9.914E-01	9.867E-01	9.864E-01	9.474E-01	3.243E-01	9.963E-01	9.953E-01	9.959E-01
(glycerol3phosphate oxidase) Local	1.45E-02	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06	-7.39E-04
Min	8.26E-03	7.22E-03	1.49E-03	-7.02E-02	4.70E-02	1.11E-02	-7.01E-19	-5.80E-18	2.15E-07	4.74E-07	-1.14E-03
Max	2.27E-02	2.54E-02	5.14E-03	-2.11E-02	2.82E-01	4.00E-02	7.08E-19	1.74E-16	6.55E-07	1.89E-06	-3.56E-04
Normalized peak height	2.67E-03	2.71E-03	2.86E-03	2.66E-03	2.67E-03	2.38E-03	4.08E-01	6.38E-02	3.31E-03	2.76E-03	3.13E-03
Peak sensitivity value	1.31E-02	1.82E-02	3.83E-03	-4.56E-02	1.32E-01	2.64E-02	-1.35E-22	2.25E-19	4.08E-07	1.04E-06	-7.32E-04
Shapiro-Wilk score	9.934E-01	9.884E-01	9.885E-01	9.942E-01	9.862E-01	9.875E-01	9.504E-01	3.405E-01	9.963E-01	9.939E-01	9.972E-01
(pyruvate transport) Local	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	4.11E-03	3.33E-03	7.12E-04	-3.11E-02	2.31E-02	5.28E-03	-3.27E-19	-2.94E-18	1.13E-07	2.60E-07	-5.15E-04
Max	1.11E-02	1.21E-02	2.46E-03	-1.02E-02	1.35E-01	1.97E-02	9.63E-19	1.02E-16	3.27E-07	8.95E-07	-1.85E-04
Normalized peak height	2.73E-03	2.73E-03	2.79E-03	2.63E-03	2.55E-03	2.66E-03	4.08E-01	8.10E-02	3.32E-03	2.75E-03	3.24E-03
Peak sensitivity value	6.98E-03	9.12E-03	1.88E-03	-2.11E-02	6.17E-02	1.45E-02	-1.70E-22	4.16E-20	1.95E-07	5.28E-07	-3.51E-04
Shapiro-Wilk score	9.941E-01	9.868E-01	9.866E-01	9.919E-01	9.873E-01	9.865E-01	9.483E-01	3.620E-01	9.967E-01	9.956E-01	9.959E-01

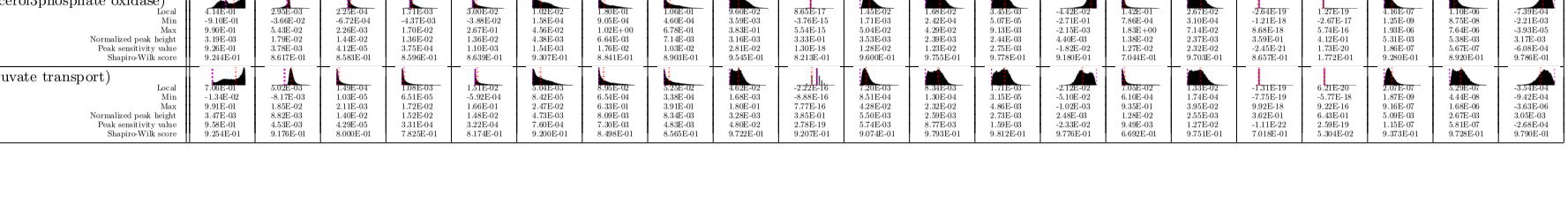
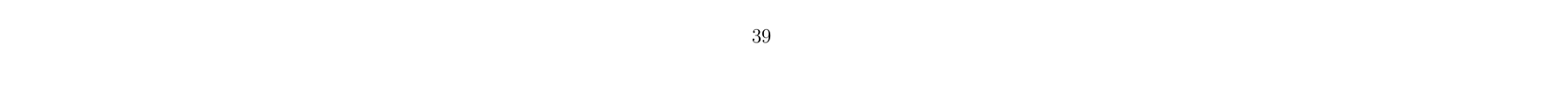
(phosphoglycerate kinase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.21E-02	5.01E-03	8.99E-02	5.29E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.09E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	-3.24E-04
Min	3.97E-01	3.95E-03	5.90E-05	4.00E-04	3.24E-03	1.67E-03	2.45E-02	1.38E-02	1.95E-02	-5.75E-16	4.16E-03	3.39E-03	6.83E-04	-3.14E-02	2.20E-02	4.90E-03	-3.25E-19	-2.77E-18	1.09E-07	2.31E-07
Max	9.02E-01	6.42E-03	3.77E-04	2.84E-03	4.73E-02	1.07E-02	2.45E-01	1.41E-01	7.04E-02	5.63E-16	1.11E-02	1.23E-02	2.44E-03	-9.48E-03	1.87E-01	1.95E-02	7.01E-19	1.82E-16	3.37E-07	9.17E-07
Normalized peak height	2.43E-03	3.59E-03	3.17E-03	3.21E-03	3.13E-03	2.53E-03	3.08E-03	2.94E-03	2.32E-03	4.78E-02	2.67E-03	2.86E-03	2.93E-03	2.69E-03	2.74E-03	2.63E-03	4.12E-01	1.38E-01	3.57E-03	3.01E-03
Peak sensitivity value	7.37E-01	4.99E-03	1.33E-04	1.03E-03	1.21E-02	4.42E-03	7.57E-02	4.43E-02	5.07E-02	4.47E-19	7.20E-03	8.75E-03	1.88E-03	-2.25E-02	7.41E-02	1.46E-02	-1.59E-22	-9.18E-20	1.96E-07	5.45E-07
Shapiro-Wilk score	9.869E-01	9.986E-01	9.709E-01	9.709E-01	9.699E-01	9.873E-01	9.751E-01	9.774E-01	9.900E-01	9.715E-01	9.938E-01	9.864E-01	9.862E-01	9.916E-01	9.872E-01	9.861E-01	9.483E-01	3.532E-01	9.967E-01	9.955E-01
(pyruvate kinase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.21E-02	5.01E-03	8.99E-02	5.29E-02	4.62E-02	-2.12E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.09E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	-3.24E-04
Min	4.11E-01	3.91E-03	5.93E-05	4.19E-04	3.14E-03	1.64E-03	2.33E-02	1.46E-02	2.09E-02	-9.61E-16	4.28E-03	3.55E-03	7.30E-04	-3.12E-02	2.45E-02	5.41E-03	-3.30E-19	-2.85E-18	1.09E-07	2.59E-07
Max	9.02E-01	6.40E-03	3.70E-04	2.75E-03	4.49E-02	1.10E-02	2.39E-01	1.40E-01	7.00E-02	7.50E-16	1.11E-02	1.23E-02	2.50E-03	-1.05E-02	1.37E-01	1.96E-02	1.54E-18	1.37E-16	3.25E-07	8.84E-07
Normalized peak height	2.46E-03	3.67E-03	3.18E-03	3.24E-03	3.12E-03	2.83E-03	2.95E-03	3.04E-03	2.25E-03	1.34E-01	2.75E-03	2.73E-03	3.02E-03	2.51E-03	2.56E-03	2.58E-03	4.12E-01	1.01E-01	3.45E-03	2.75E-03
Peak sensitivity value	7.58E-01	4.99E-03	1.29E-04	9.07E-04	1.26E-02	4.38E-03	7.85E-02	4.51E-02	5.03E-02	-6.43E-19	7.62E-03	9.01E-03	1.85E-03	-2.33E-02	6.50E-02	1.41E-02	2.33E-22	2.39E-20	1.97E-07	5.30E-07
Shapiro-Wilk score	9.867E-01	9.988E-01	9.701E-01	9.702E-01	9.693E-01	9.869E-01	9.746E-01	9.769E-01	9.902E-01	9.941E-01	9.939E-01	9.867E-01	9.865E-01	9.919E-01	9.870E-01	9.866E-01	9.442E-01	3.692E-01	9.965E-01	9.954E-01
(atp utilisation)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.21E-02	5.01E-03	8.99E-02	5.29E-02	4.62E-02	2.20E-21	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.09E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	-3.24E-04
Min	3.69E-01	3.94E-03	6.16E-05	4.17E-04	3.15E-03	1.65E-03	2.26E-02	1.33E-02	1.96E-02	-1.28E-13	3.89E-03	3.51E-03	6.99E-04	-3.14E-02	2.36E-02	5.22E-03	-3.56E-19	-3.00E-18	1.08E-07	2.38E-07
Max	9.02E-01	6.33E-03	3.88E-04	2.94E-03	5.38E-02	1.12E-02	2.73E-01	1.55E-01	6.92E-02	1.41E-13	1.09E-02	1.25E-02	2.57E-03	-9.87E-03	1.35E-01	2.02E-02	5.45E-19	8.79E-17	3.29E-07	8.77E-07
Normalized peak height	2.62E-03	3.46E-03	3.25E-03	3.35E-03	3.64E-03	2.71E-03	3.40E-03	3.28E-03	2.22E-03	2.18E-01	2.74E-03	2.80E-03	2.98E-03	2.61E-03	2.65E-03	2.71E-03	4.10E-01	7.47E-02	3.49E-03	2.89E-03
Peak sensitivity value	7.61E-01	5.05E-03	1.25E-04	9.30E-04	1.26E-02	4.54E-03	6.95E-02	4.17E-02	4.82E-02	2.66E-17	6.76E-03	9.07E-03	1.88E-03	-2.18E-02	7.34E-02	1.43E-02	1.60E-22	4.39E-20	1.97E-07	5.37E-07
Shapiro-Wilk score	9.867E-01	9.986E-01	9.704E-01	9.705E-01	9.696E-01	9.871E-01	9.749E-01	9.770E-01	9.900E-01	9.055E-01	9.940E-01	9.871E-01	9.868E-01	9.919E-01	9.866E-01	9.869E-01	9.496E-01	3.504E-01	9.965E-01	9.956E-01
(glycerol kinase)																				
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.96E+00	-1.90E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	1.09E-02
Min	6.69E+00	4.00E-02	-3.88E-03	-3.23E-02	-6.93E-01	-1.96E-01	-3.75E+00	-2.22E+00	-1.85E+00	-9.28E-15	-3.57E-01	-3.16E-01	-6.54E-02	3.92E-01	-3.12E+00	-4.92E-01	-6.08E-17	-2.34E-15	-1.20E-05	-2.58E-05	4.86E-03
Max	1.08E+01	1.01E-01	-9.16E-04	-8.05E-03	-2.20E-01	-9.71E-02	-1.73E+00	-9.95E-01	-8.12E-01	8.47E-15	-1.03E-01	-1.04E-01	-2.14E-02	8.67E-01	-8.18E-01	-1.61E-01	9.57E-18	6.21E-17	-1.84E-06	-8.70E-06	1.82E-02
Normalized peak height	4.45E-03	3.33E-03	3.67E-03	3.90E-03	3.77E-03	3.64E-03	3.20E-03	3.51E-03	2.91E-03	1.19E-01	3.10E-03	2.72E-03	2.54E-03	2.19E-03	3.80E-03	3.04E-03	4.10E-01	6.00E-02	2.76E-03	2.96E-03
Peak sensitivity value	9.05E+00	6.64E-02	-1.97E-03	-1.64E-02	-3.94E-01	-1.43E-01	-2.54E+00	-1.46E+00	-1.42E+00	-4.44E-18	-1.96E-01	-2.57E-01	-5.32E-02	6.70E-01	-1.92E+00	-3.99E-01	-2.62E-20	9.07E-19	-5.57E-06	-1.62E-05	1.03E-02
Shapiro-Wilk score	9.947E-01	9.956E-01	9.901E-01	9.907E-01	9.944E-01	9.999E-01	9.910E-01	9.918E-01	9.910E-01	9.968E-01	9.917E-01	9.790E-01	9.786E-01	9.886E-01	9.993E-01	9.736E-01	9.397E-01	4.411E-01	9.887E-01	9.949E-01	9.944E-01
(phosphoglycerate mutase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.21E-02	5.01E-03	8.99E-02	5.29E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.09E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	-3.24E-04
Min	4.08E-01	3.95E-03	6.02E-05	4.08E-04	2.69E-03	1.46E-03	2.03E-02	1.24E-02	1.82E-02	-5.05E-16	4.02E-03	3.16E-03	6.39E-04	-3.05E-02	2.16E-02	4.80E-03	-3.67E-19	-3.08E-18	1.07E-07	2.51E-07
Max	9.14E-01	6.20E-03	3.62E-04	2.68E-03	4.44E-02	1.05E-02	2.42E-01	1.40E-01	7.02E-02	5.20E-16	1.10E-02	1.20E-02	2.41E-03	-9.29E-03	1.33E-01	1.91E-02	3.92E-19	1.07E-16	3.38E-07	8.95E-07
Normalized peak height	2.41E-03	3.32E-03	2.99E-03	3.13E-03	3.02E-03	2.61E-03	3.02E-03	3.23E-03	2.46E-03	1.40E-01	2.72E-03	2.83E-03	2.91E-03	2.62E-03	2.55E-03	2.55E-03	4.11E-01	8.53E-02	3.55E-03	2.90E-03
Peak sensitivity value	7.36E-01	5.02E-03	1.24E-04	1.03E-03	1.51E-02	4.98E-03	8.07E-02	4.45E-02	4.98E-02	1.19E-19	7.77E-03	9.14E-03	1.88E-03	-2.09E-02	6.43E-02	1.50E-02	-2.39E-22	-4.75E-20	1.99E-07	5.32E-07
Shapiro-Wilk score	9.875E-01	9.988E-01	9.714E-01	9.716E-01	9.709E-01	9.878E-01	9.760E-01	9.781E-01	9.907E-01	9.657E-01	9.944E-01	9.865E-01	9.862E-01	9.919E-01	9.877E-01	9.866E-01	9.490E-01	3.644E-01	9.964E-01	9.958E-01	9.956E-01
(enolase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.21E-02	5.01E-03	8.99E-02	5.29E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.09E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	-3.24E-04
Min	4.09E-01	3.93E-03	5.98E-05	4.24E-04	3.25E-03	1.73E-03	2.43E-02	1.40E-02	2.07E-02	-5.71E-16	4.24E-03	3.53E-03	7.25E-04	-3.04E-02	2.35E-02	5.58E-03	-3.61E-19	-3.08E-18	1.01E-07	2.50E-07
Max	8.99E-01	6.24E-03	3.80E-04	2.85E-03	4.51E-02	1.10E-02	2.44E-01	1.42E-01	7.01E-02	5.26E-16	1.08E-02	1.23E-02	2.47E-03	-1.00E-02	1.40E-01	1.98E-02	1.80E-18	1.09E-16	3.24E-07	8.69E-07
Normalized peak height	2.38E-03	3.44E-03	3.08E-03	3.16E-03	2.95E-03	2.70E-03	3.04E-03	2.95E-03	2.24E-03	1.40E-01	2.70E-03	2.81E-03	2.89E-03	2.65E-03	2.69E-03	2.58E-03	4.14E-01	1.27E-01	3.53E-03	2.74E-03
Peak sensitivity value	7.17E-01	4.91E-03	1.26E-04	8.98E-04	1.25E-02	4.70E-03	7.59E-02	4.39E-02	4.65E-02	-4.81E-20	6.82E-03	8.94E-03	1.89E-03	-2.19E-02	7.29E-02	1.40E-02	-1.08E-21	-7.73E-20	1.98E-07	5.18E-07
Shapiro-Wilk score	9.872E-01	9.983E-01	9.707E-01	9.707E-01	9.701E-01	9.874E-01	9.753E-01	9.775E-01	9.903E-01	9.655E-01	9.938E-01	9.865E-01	9.862E-01	9.916E-01	9.871E-01	9.862E-01	9.430E-01	3.439E-01	9.964E-01	9.955E-01	9.961E-01
(adenylate kinase cytosol)																				
Local	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Peak sensitivity value	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
Shapiro-Wilk score	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(adenylate kinase glycosome)																				
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	5.98E-02	8.14E-03	8.09E-03	8.08E-03	6.08E-02	3.75E-02	5.18E-02	5.77E-02	6.74E-02	4.55E-02	6.85E-03	5.65E-02	6.02E-02	5.24E-02	5.60E-02	5.00E-02	4.17E-01	4.17E-03	8.90E-03	1.27E-02	5.87E-02
Peak sensitivity value	-4.19E-02	-1.68E-02	-5.10E-02	5.20E-03	1.15E-03	1.13E-04	7.99E-04	5.63E-03	7.84E-04	-3.70E-08	7.55E-01	7.08E-04	-1.82E-04	8.40E-04	-4.04E-03	2.33E-03	1.47E-16	-2.76E-12	1.71E-02	-8.56E-03	2.71E-05
Shapiro-Wilk score	9.779E-01	9.754E-01	9.799E-01	9.800E-01	9.734E-01	9.712E-01	9.713E-01	9.719E-01	9.048E-01	9.764E-01	9.800E-01	9.792E-01	9.811E-01	9.500E-01	9.754E-01	9.788E-01	8.038E-01	1.000E+00	9.667E-01	9.567E-01	9.571E-01
(3phosphoglycerate transport)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.21E-02	5.01E-03	8.99E-02	5.29E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.09E-02	1.33E-02	-1.31E-19	6.20E-20	2.07E-07	-3.24E-04
Min	4.13E-01	3.93E-03	6.29E-05	4.35E-04	3.16E-03	1.69E-03	2.33E-02	1.35E-02	2.11E-02	-5.20E-16	4.22E-03	3.72E-03	7.83E-04	-3.10E-02	2.54E-02	5.75E-03	-3.30E-19	-2.90E-18	1.09E-07	2.43E-07
Max	9.00E-01	6.26E-03	4.15E-04	3.17E-03	4.61E-02	1.11E-02	2.47E-01	1.38E-01	7.17E-02	5.54E-16	1.09E-02	1.23E-02	2.48E-03	-1.06E-02	1.33E-01	1.91E-02	5.45E-19	1.13E-16	3.19E-07	8.62E-07
Normalized peak height	2.30E-03	3.44E-03	3.37E-03	3.71E-03	3.16E-03	2.93E-03	3.10E-03	2.87E-03	2.28E-03	4.81E-02	2.67E-03	2.77E-03	2.73E-03	2.47E-03	2.57E-03	2.57E-03	4.08E-01	9.28E-02	3.30E-03	2.75E-03
Peak sensitivity value	7.41E-01	5.00E-03	1.19E-04	8.29E-04	1.00E-02	6.40E-03	7.06E-02	4.50E-02	4.89E-02	-4.00E-21	7.54E-03	9.19E-03	1.81E-03	-2.19E-02	6.60E-02	1.42E-02	2.41E-22	5.26E-20	1.96E-07	5.16E-07
Shapiro-Wilk score	9.869E-01	9.985E-01	9.704E-01	9.705E-01	9.696E-01	9.871E-01	9.748E-01	9.771E-01	9.904E-01	9.715E-01	9.940E-01	9.870E-01	9.868E-01	9.920E-01	9.868E-01	9.867E-01	9.498E-01	3.758E-01	9.965E-01	9.955E-01	9.960E-01
(gly3p dhap antiporter)																				
Local	4.14E-01	2.95E-03	2.98E-04	1.71E-03	1.00E-02	1.01E-02	1.80E-01	1.09E-01	9.66E-02	8.65E-17	1.49E-02	1.68E-02	3.49E-03	4.43E-02	1.32E-01	2.67E-02	-2.64E-19	1.27E-19	4.16E-07	1.16E-03	-1.20E-04
Min	-2.08E-01	-2.21E-03	7.94E-05	5.60E-04	5.95E-03	3.23E-03	4.42E-02	2.67E-02	3.96E-02	-7.27E-16	8.48E-03	6.88E-03	1.39E-03	-6.98E-02	4.42E-02	1.04E-02	-8.09E-19	-6.02E-18	1.92E-07	5.17E-07	-1.10E-03
Max	8.24E-01	5.17E-03	6.21E-04	4.83E-03	9.50E-02	2.27E-02	4.93E-01	2.79E-01	1.58E-01	9.69E-16	2.25E-02	2.52E-02	5.11E-03	-2.03E-02	2.79E-01	3.98E-02	4.47E-18	1.97E-16	6.49E-07	1.93E-06	-3.52E-04
Normalized peak height	2.47E-03	3.50E-03	3.10E-03	3.13E-03	3.19E-03	2.78E-03	2.96E-03	2.94E-03	2.47E-03	8.03E-02	2.63E-03	3.00E-03	2.78E-03	2.59E-03	2.75E-03	2.55E-03	4.11E-01	7.07E-02	3.62E-03	2.81E-03	3.04E-03
Peak sensitivity value	4.46E-01	3.55E-03	1.75E-04	1.42E-03	2.22E-02	9.42E-03	1.49E-01	9.70E-02	9.81E-02	7.60E-20	1.38E-02	1.84E-02	3.57E-03	-4.22E-02	1.39E-01	3.04E-02	1.44E-21	-2.30E-19	4.02E-07	1.09E-06	-7.48E-04
Shapiro-Wilk score	9.868E-01	9.697E-01	9.699E-01	9.701E-01	9.694E-01	9.863E-01	9.742E-01	9.767E-01	9.911E-01	9.907E-01	9.938E-01	9.883E-01	9.884E-01	9.945E-01	9.867E-01	9.878E-01	9.418E-01	3.574E-01	9.964E-01	9.941E-01	9.972E-01
(glycerol transport)																				
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.96E+00	-1.90E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	1.09E-02
Min	6.85E+00	4.29E-02	-3.70E-03	-3.12E-02	-6.84E-01	-1.96E-01	-3.96E+00	-2.23E+00	-1.86E+00	-8.88E-15	-3.60E-01	-3.16E-01	-6.58E-02	3.79E-01	-3.14E+00	-5.01E-01	-1.80E-17	-2.21E-15	-1.15E-05	-2.62E-05	4.75E-03
Max	1.10E+01	1.01E-01	-9.05E-04	-8.19E-03	-2.29E-01	-1.00E-01	-1.73E+00	-9.84E-01	-8.36E-01	9.01E-15	-9.47E-02	-9.70E-02	-1.89E-02	8.78E-01	-8.33E-01	-1.49E-01	8.96E-18	6.52E-17	-2.01E-06	-8.73E-06	1.86E-02
Normalized peak height	4.54E-03	3.20E-03	3.50E-03	3.77E-03	3.55E-03	3.73E-03	3.62E-03	3.79E-03	2.80E-03	1.19E-01	3.08E-03	2.71E-03	2.69E-03	2.31E-03	3.85E-03	3.22E-03	4.11E-01	5.45E-02	2.76E-03	3.03E-03	2.79E-03
Peak sensitivity value	9.17E+00	6.65E-02	-1.94E-03	-1.63E-02	-3.93E-01	-1.45E-01	-2.52E+00	-1.41E+00	-1.48E+00	6.82E-18	-1.88E-01	-2.56E-01	-5.35E-02	5.87E-01	-1.94E+00	-4.13E-01	-9.94E-21	2.55E-18	-5.60E-06	-1.58E-05	1.16E-02
Shapiro-Wilk score	9.952E-01	9.959E-01	9.908E-01	9.914E-01	9.950E-01	9.999E-01	9.917E-01	9.929E-01	9.913E-01	9.965E-01	9.913E-01	9.790E-01	9.784E-01	9.886E-01	9.993E-01	9.738E-01	9.489E-01	4.645E-01	9.884E-01	9.949E-01	9.939E-01

Table 12: Flux control coefficients for *Trypanosoma brucei* model with parameter variation of ±10%

	(glucose transport)	(hexokinase)	(phosphoglycerate isomerase)	(phophofructokinase)	(aldolase)	(triosephosphate isomerase)	(glyceraldehyde3phosphate dehydrogenase)	(glycerol3phosphate dehydrogenase)	(glycerol3phosphate oxidase)	(pyruvate transport)	(phosphoglycerate kinase)	(pyruvate kinase)	(atputilisation)	(glycerolkinase)	(phosphoglycerate mutase)	(enolase)	(adenylatekinase cytosol)	(adenylatekinase glycosome)	(3phosphoglycerate transport)	(gly3p dhap antiporter)	(glycerol transport)
(glucose transport) Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	4.40E-01	3.81E-03	2.39E-05	1.54E-04	5.75E-05	3.96E-06	1.62E-04	9.67E-05	-6.78E-02	-4.62E-16	8.67E-05	3.48E-05	7.16E-06	3.49E-06	1.77E-04	4.78E-05	-7.97E-20	-7.83E-19	1.56E-09	-1.05E-06	5.95E-08
Max	9.95E-01	2.64E-02	8.22E-04	6.28E-03	7.51E-02	5.66E-03	2.65E-01	1.57E-01	9.30E-05	3.47E-16	8.53E-03	5.17E-03	1.06E-03	4.90E-02	6.83E-02	8.32E-03	3.01E-18	1.37E-17	1.19E-07	5.66E-10	3.33E-04
Normalized peak height	2.37E-02	6.47E-03	1.16E-02	1.42E-02	4.98E-02	2.25E-02	4.09E-02	4.21E-02	1.41E-01	2.68E-01	2.17E-02	9.18E-03	9.23E-03	1.01E-01	1.31E-02	9.05E-03	4.91E-01	3.98E-01	1.05E-02	1.75E-01	4.15E-02
Peak sensitivity value	9.89E-01	6.24E-03	5.46E-05	3.71E-04	3.95E-04	6.34E-05	1.62E-03	8.03E-04	-7.68E-05	3.95E-19	2.18E-04	2.27E-04	4.75E-05	7.70E-05	1.57E-03	3.50E-04	-9.90E-22	5.74E-21	7.35E-09	-1.00E-09	8.91E-07
Shapiro-Wilk score	7.371E-01	8.933E-01	8.290E-01	8.067E-01	6.308E-01	7.272E-01	6.460E-01	6.501E-01	5.603E-01	6.104E-01	7.358E-01	8.617E-01	8.598E-01	5.861E-01	7.705E-01	8.606E-01	2.203E-01	1.367E-01	8.715E-01	4.934E-01	6.874E-01
(hexokinase) Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	3.28E-01	3.79E-03	2.56E-05	1.57E-04	5.99E-05	8.06E-06	2.22E-04	1.43E-04	-7.20E-02	-3.37E-16	8.90E-05	4.17E-05	9.49E-06	3.39E-06	2.40E-04	6.34E-05	-7.13E-20	-3.62E-18	1.94E-09	-1.42E-06	6.82E-08
Max	9.95E-01	2.63E-02	9.83E-04	7.39E-03	9.02E-02	7.81E-03	3.20E-01	1.61E-01	6.61E-05	3.60E-16	9.14E-03	5.44E-03	1.13E-03	4.90E-02	7.62E-02	8.69E-03	3.09E-19	2.38E-17	1.05E-07	4.32E-10	3.01E-04
Normalized peak height	2.89E-02	6.26E-03	1.40E-02	1.66E-02	6.08E-02	3.14E-02	5.08E-02	4.33E-02	1.83E-01	2.57E-01	2.34E-02	9.68E-03	9.55E-03	1.02E-01	1.53E-02	9.64E-03	4.06E-01	5.43E-01	8.98E-03	1.95E-01	3.83E-02
Peak sensitivity value	9.88E-01	6.31E-03	6.05E-05	3.78E-04	3.75E-04	5.87E-05	1.66E-03	8.68E-04	-4.20E-05	3.36E-19	2.20E-04	2.01E-04	4.81E-05	7.69E-05	1.49E-03	3.61E-04	-4.95E-23	-9.38E-21	7.84E-09	-2.76E-10	1.12E-06
Shapiro-Wilk score	7.243E-01	8.892E-01	8.193E-01	7.945E-01	6.170E-01	7.119E-01	6.291E-01	6.360E-01	5.463E-01	5.993E-01	7.291E-01	8.584E-01	8.566E-01	5.712E-01	7.687E-01	8.581E-01	8.367E-01	8.679E-02	8.675E-01	4.780E-01	6.768E-01
(phosphoglycerate isomerase) Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	2.00E-01	3.78E-03	2.58E-05	1.56E-04	4.46E-05	5.01E-06	1.42E-04	8.24E-05	-8.97E-02	-4.91E-16	7.45E-05	3.38E-05	6.83E-06	2.93E-06	1.64E-04	4.63E-05	-8.60E-20	-6.66E-19	1.54E-09	-1.57E-06	5.59E-08
Max	9.95E-01	2.47E-02	9.88E-04	7.90E-03	1.06E-01	9.01E-03	3.85E-01	2.26E-01	8.53E-05	7.38E-16	1.29E-02	6.38E-03	1.50E-03	6.51E-02	7.83E-02	1.09E-02	5.57E-19	1.86E-17	1.43E-07	5.78E-10	4.08E-04
Normalized peak height	3.40E-02	5.73E-03	1.43E-02	1.79E-02	6.97E-02	3.58E-02	6.10E-02	6.12E-02	2.13E-01	3.37E-01	3.24E-02	1.14E-02	1.28E-02	1.21E-01	1.55E-02	1.18E-02	4.02E-01	5.23E-01	1.25E-02	1.96E-01	5.10E-02
Peak sensitivity value	9.89E-01	6.09E-03	6.09E-05	4.08E-04	3.09E-04	5.45E-05	1.49E-03	8.72E-04	-4.94E-05	-8.38E-21	2.48E-04	2.47E-04	4.93E-05	1.01E-04	1.45E-03	3.78E-04	-1.04E-22	-1.91E-21	7.55E-09	-2.08E-10	1.08E-06
Shapiro-Wilk score	7.283E-01	8.923E-01	8.243E-01	7.985E-01	6.187E-01	7.152E-01	6.328E-01	6.410E-01	5.488E-01	5.829E-01	7.294E-01	8.604E-01	8.585E-01	5.737E-01	7.714E-01	8.600E-01	7.523E-01	9.865E-02	8.694E-01	4.823E-01	6.811E-01
(phophofructokinase) Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	5.28E-01	3.88E-03	2.45E-05	1.58E-04	5.61E-05	6.31E-06	1.89E-04	1.47E-04	-5.11E-02	-4.12E-16	8.68E-05	4.20E-05	8.92E-06	3.65E-06	2.13E-04	6.05E-05	-8.39E-20	-4.14E-19	1.85E-09	-8.41E-07	7.52E-08
Max	9.95E-01	2.52E-02	7.60E-04	5.73E-03	6.46E-02	6.12E-03	2.29E-01	1.31E-01	9.14E-05	4.96E-16	8.05E-03	5.67E-03	1.09E-03	3.83E-02	7.07E-02	7.88E-03	2.15E-19	1.84E-17	1.01E-07	5.74E-10	3.12E-04
Normalized peak height	2.02E-02	5.95E-03	1.09E-02	1.29E-02	4.38E-02	2.48E-02	3.67E-02	3.58E-02	1.46E-01	2.97E-01	2.04E-02	9.78E-03	9.34E-03	8.58E-02	1.41E-02	8.43E-03	4.04E-01	4.06E-01	8.70E-03	1.78E-01	4.06E-02
Peak sensitivity value	9.89E-01	6.43E-03	5.65E-05	3.89E-04	3.46E-04	6.43E-05	1.45E-03	8.66E-04	-3.66E-05	-1.83E-19	2.26E-04	2.42E-04	5.48E-05	6.11E-05	1.52E-03	2.99E-04	3.60E-23	8.56E-21	8.27E-09	-6.89E-10	8.56E-07
Shapiro-Wilk score	7.322E-01	8.915E-01	8.239E-01	8.005E-01	6.258E-01	7.215E-01	6.384E-01	6.452E-01	5.540E-01	5.994E-01	7.361E-01	8.613E-01	8.603E-01	5.786E-01	7.712E-01	8.617E-01	8.390E-01	1.294E-01	8.715E-01	4.866E-01	6.810E-01
(aldolase) Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	1.48E-16	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	4.19E-01	3.80E-03	2.25E-05	1.39E-04	6.09E-05	7.45E-06	1.86E-04	1.10E-04	-6.37E-02	-1.38E-15	8.09E-05	4.12E-05	8.44E-06	3.94E-06	2.00E-04	5.75E-05	-7.30E-20	-2.34E-18	1.88E-09	-1.10E-06	6.50E-08
Max	9.95E-01	2.56E-02	8.94E-04	6.37E-03	7.38E-02	6.15E-03	2.75E-01	1.56E-01	6.48E-05	1.26E-15	8.61E-03	5.21E-03	1.03E-03	4.59E-02	6.36E-02	7.90E-03	5.90E-19	5.10E-17	1.11E-07	4.60E-10	3.39E-04
Normalized peak height	2.42E-02	6.02E-03	1.25E-02	1.45E-02	4.84E-02	2.41E-02	4.30E-02	4.19E-02	1.50E-01	1.30E-01	2.13E-02	9.19E-03	8.58E-03	9.51E-02	1.23E-02	8.70E-03	4.05E-01	6.85E-01	9.74E-03	1.61E-01	4.25E-02
Peak sensitivity value	9.90E-01	6.17E-03	6.04E-05	3.86E-04	3.19E-04	5.96E-05	1.42E-03	8.12E-04	-3.08E-05	-4.27E-19	2.56E-04	2.30E-04	5.92E-05	7.27E-05	1.69E-03	3.99E-04	3.10E-22	-1.82E-20	7.85E-09	-1.19E-09	9.12E-07
Shapiro-Wilk score	7.279E-01	8.900E-01	8.203E-01	7.956E-01	6.195E-01	7.183E-01	6.344E-01	6.402E-01	5.489E-01	9.748E-01	7.322E-01	8.589E-01	8.570E-01	5.754E-01	7.702E-01	8.592E-01	7.800E-01	5.979E-02	8.692E-01	4.829E-01	6.785E-01
(triosephosphate isomerase) Local	4.14E-01	2.95E-03	2.25E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.60E-02	8.65E-17	1.45E-02	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06	-7.39E-04
Min	-6.23E-01	-1.44E-02	3.36E-05	2.22E-04	6.18E-04	1.04E-03	1.07E-02	6.45E-03	1.55E-02	-1.03E-15	4.37E-03	2.22E-03	4.50E-04	-1.12E-01	1.26E-02	3.09E-03	-8.37E-19	-7.82E-18	1.03E-07	2.37E-07	-1.45E-03
Max	9.43E-01	6.44E-03	1.14E-03	8.93E-03	1.77E-01	3.48E-02	8.37E-01	4.64E-01	2.01E-01	1.04E-15	3.57E-02	3.24E-02	6.36E-03	-7.88E-03	6.12E-01	5.25E-02	1.45E-17	3.23E-16	9.26E-07	3.39E-06	-1.41E-04
Normalized peak height	2.05E-03	6.05E-03	4.35E-03	4.18E-03	4.14E-03	2.69E-03	3.38E-03	3.25E-03	1.98E-03	1.08E-01	3.01E-03	2.80E-03	2.81E-03	2.76E-03	3.83E-03	2.55E-03	4.03E-01	1.65E-01	3.23E-03	3.09E-03	2.96E-03
Peak sensitivity value	6.53E-01	3.76E-03	1.17E-04	7.58E-04	1.23E-02	7.23E-03	7.55E-02	4.79E-02	1.13E-01	3.07E-19	1.44E-02	1.83E-02	3.62E-03	-5.23E-02	1.21E-01	2.98E-02	1.03E-21	-5.42E-20	3.49E-07	9.58E-07	-7.50E-04
Shapiro-Wilk score	9.677E-01	8.989E-01	9.232E-01	9.218E-01	9.206E-01	9.663E-01	9.328E-01	9.385E-01	9.822E-01	9.508E-01	9.885E-01	9.857E-01	9.849E-01	9.902E-01	9.358E-01	9.866E-01	8.048E-01	2.554E-01	9.852E-01	9.828E-01	9.965E-01
(glyceraldehyde3phosphate dehydrogenase) Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	1.18E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	1.32E-01	2.84E-03	3.09E-05	1.92E-04	2.65E-04	4.89E-04	5.59E-03	3.20E-03	7.88E-03	-7.97E-16	2.25E-03	1.06E-03	2.38E-04	-3.87E-02	6.71E-03	1.63E-03	-4.87E-19	-4.13E-18	4.92E-08	1.16E-07	-6.37E-04
Max	9.70E-01	1.00E-02	8.68E-04	6.38E-03	8.73E-02	1.62E-02	4.16E-01	2.39E-01	8.84E-02	8.60E-16	1.69E-02	1.48E-02	3.00E-03	-4.35E-03	2.74E-01	2.47E-02	3.73E-18	1.61E-16	4.46E-07	1.20E-06	-7.92E-05
Normalized peak height	2.32E-03	4.92E-03	5.19E-03	5.06E-03	4.09E-03	2.56E-03	3.52E-03	3.37E-03	2.09E-03	1.40E-01	2.87E-03	2.58E-03	2.79E-03	2.64E-03	3.50E-03	2.52E-03	4.01E-01	1.72E-01	3.24E-03	2.43E-03	3.16E-03
Peak sensitivity value	8.29E-01	4.92E-03	8.15E-05	5.79E-04	6.75E-03	3.27E-03	4.48E-02	2.46E-02	5.25E-02	6.68E-19	7.50E-03	9.23E-03	1.88E-03	-2.53E-02	5.76E-02	1.40E-02	1.63E-22	-8.09E-20	1.82E-07	5.55E-07	-3.40E-04
Shapiro-Wilk score	9.688E-01	9.874E-01	9.166E-01	9.145E-01	9.165E-01	9.681E-01	9.317E-01	9.373E-01	9.815E-01	9.650E-01	9.894E-01	9.837E-01	9.819E-01	9.810E-01	9.371E-01	9.853E-01	8.879E-01	2.168E-01	9.858E-01	9.895E-01	9.973E-01
(glycerol3phosphate dehydrogenase) Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	1.18E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	1.33E-01	2.65E-03	2.94E-05	1.94E-04	3.65E-04	5.56E-04	6.04E-03	4.00E-03	8.04E-03	-7.95E-16	2.18E-03	1.26E-03	2.82E-04	-3.86E-02	7.21E-03	1.92E-03	-4.01E-19	-4.46E-18	4.31E-08	1.20E-07	-6.88E-04
Max	9.64E-01	1.09E-02	7.56E-04	6.11E-03	9.14E-02	1.61E-02	4.52E-01	2.47E-01	8.83E-02	7.38E-16	1.74E-02	1.49E-02	3.01E-03	-4.28E-03	2.96E-01	2.44E-02	8.70E-18	3.16E-16	4.63E-07	1.22E-06	-8.24E-05
Normalized peak height	2.25E-03	5.61E-03	4.50E-03	4.74E-03	4.26E-03	2.43E-03	3.65E-03	3.46E-03	2.12E-03	1.40E-01	3.05E-03	2.67E-03	2.74E-03	2.49E-03	3.79E-03	2.42E-03	4.04E-01	2.71E-01	3.33E-03	2.46E-03	3.35E-03
Peak sensitivity value	8.32E-01	5.08E-03	8.93E-05	5.81E-04	6.15E-03	2.84E-03	3.97E-02	2.40E-02	5.60E-02	-5.64E-19	7.65E-03	9.33E-03	1.85E-03	-2.58E-02	6.08E-02	1.43E-02	3.81E-21	-1.38E-19	1.80E-07	4.60E-07	-3.32E-04
Shapiro-Wilk score	9.697E-01	9.866E-01	9.186E-01	9.166E-01	9.178E-01	9.688E-01	9.330E-01	9.388E-01	9.817E-01	9.648E-01	9.895E-01	9.832E-01	9.819E-01	9.812E-01	9.380E-01	9.851E-01	7.676E-01	1.607E-01	9.862E-01	9.896E-01	9.974E-01
(glycerol3phosphate oxidase) Local	4.14E-01	2.95E-03	2.25E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.60E-02	8.65E-17	1.45E-02	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06	-7.39E-04
Min	-6.08E-01	-1.76E-02	3.23E-05	2.20E-04	5.44E-04	9.54E-04	1.01E-02	6.35E-03	1.70E-02	-9.75E-16	4.60E-03	2.04E-03	4.59E-04	-1.10E-01	1.18E-02	3.18E-03	-8.53E-19	-8.24E-18	9.56E-08	2.35E-07	-1.58E-03
Max	9.44E-01	6.60E-03	1.29E-03	9.71E-03	1.62E-01	3.31E-02	8.13E-01	4.58E-01	2.05E-01	1.05E-15	3.32E-02	3.20E-02	6.42E-03	-8.91E-03	5.90E-01	5.18E-02	8.72E-18	6.89E-16	9.62E-07	3.32E-06	-1.42E-04
Normalized peak height	2.11E-03	6.98E-03	4.86E-03	4.52E-03	3.85E-03	2.50E-03	3.23E-03	3.21E-03	1.99E-03	9.15E-02	2.79E-03	2.63E-03	2.79E-03	2.68E-03	3.65E-03	2.53E-03	4.04E-01	2.91E-01	3.42E-03	3.00E-03	3.46E-03
Peak sensitivity value	6.79E-01	3.88E-03	1.03E-04	7.94E-04	1.24E-02	7.81E-03	9.65E-02	5.27E-02	9.25E-02	8.16E-19	1.38E-02	1.88E-02	3.77E-03	-4.93E-02	1.06E-01	3.05E-02	4.14E-21	-2.24E-19	3.52E-07	8.55E-07	-7.52E-04
Shapiro-Wilk score	9.670E-01	8.961E-01	9.206E-01	9.197E-01	9.191E-01	9.655E-01	9.310E-01	9.369E-01	9.820E-01	9.518E-01	9.883E-01	9.861E-01	9.851E-01	9.901E-01	9.363E-01	9.866E-01	8.781E-01	1.595E-01	9.854E-01	9.824E-01	9.963E-01
(pyruvate transport) Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	-2.22E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	1.62E-01	2.87E-03	2.97E-05	2.02E-04	1.01E-04	3.73E-04	3.70E-03	2.38E-03	6.63E-03	-8.88E-16	2.25E-03	7.63E-04	1.70E-04	-3.83E-02	4.50E-03	1.16E-03	-4.28E-19	-3.94E-18	3.58E-08	1.25E-07	-6.49E-04
Max	9.76E-01	1.02E-02	7.71E-04	5.93E-03	9.41E-02	1.58E-02	4.17E-01	2.48E-01	8.77E-02	8.88E-16	1.76E-02	1.54E-02	3.18E-03	-3.49E-03	2.83E-01	2.46E-02	1.04E-17	2.31E-16	5.20E-07	1.22E-06	-7.42E-05
Normalized peak height	2.13E-03	5.10E-03	4.63E-03	4.63E-03	4.27E-03	2.41E-03	3.41E-03	3.48E-03	2.15E-03	3.45E-01	3.18E-03	2.79E-03	3.03E-03	2.45E-03	3.60E-03	2.53E-03	4.05E-01	2.20E-01	3.85E-03	2.47E-03	3.15E-03
Peak sensitivity value	8.28E-01	4.92E-03	7.61E-05	6.46E-04	6.44E-03	2.85E-03	4.57E-02	3.05E-02	5.72E-02	8.88E-19	7.60E-03	9.48E-03	1.86E-03	-2.56E-02	5.82E-02	1.46E-02	-1.98E-21	-6.24E-20	1.82E-07	5.47E-07	-3.40E-04
Shapiro-Wilk score	9.700E-01	9.872E-01	9.176E-01	9.158E-01	9.169E-01	9.692E-01	9.325E-01	9.382E-01	9.817E-01	9.320E-01	9.895E-01	9.833E-01	9.815E-01	9.814E-01	9.371E-01	9.850E-01	7.738E-01	2.051E-01	9.859E-01	9.897E-01	9.971E-01

(phosphoglycerate kinase)	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.29E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Local	1.26E-01	2.59E-03	2.75E-05	1.85E-04	4.18E-04	4.98E-04	5.82E-03	3.53E-03	8.24E-03	-6.42E-16	2.28E-03	1.16E-03	2.35E-04	-3.84E-02	5.97E-03	1.75E-03	-3.85E-19	-4.04E-18	4.61E-08	1.17E-07	-6.41E-04
Min	9.67E-01	1.06E-02	8.47E-04	6.45E-03	9.34E-02	1.56E-02	4.25E-01	2.62E-01	5.71E-02	6.66E-16	1.72E-02	1.49E-02	3.10E-03	-4.40E-03	2.94E-01	2.43E-02	1.45E-17	4.56E-16	4.63E-07	1.18E-06	-7.68E-05
Max	2.31E-03	5.56E-03	4.89E-03	5.13E-03	4.35E-03	2.38E-03	3.54E-03	3.61E-03	2.10E-03	6.26E-02	3.00E-03	2.62E-03	2.77E-03	2.42E-03	3.69E-03	2.44E-03	4.05E-01	3.66E-01	3.33E-03	2.49E-03	3.11E-03
Normalized peak height	8.20E-01	5.04E-03	8.45E-05	6.01E-04	5.67E-03	3.39E-03	4.54E-02	2.41E-02	5.57E-02	-3.50E-19	7.19E-03	9.13E-03	1.95E-03	-2.54E-02	6.28E-02	1.41E-02	-6.40E-21	-1.37E-19	1.64E-07	5.88E-07	-3.40E-04
Peak sensitivity value	9.700E-01	9.862E-01	9.190E-01	9.168E-01	9.181E-01	9.694E-01	9.334E-01	9.393E-01	9.816E-01	9.691E-01	9.895E-01	9.834E-01	9.816E-01	9.812E-01	9.378E-01	9.850E-01	7.182E-01	1.400E-01	9.861E-01	9.897E-01	9.971E-01
Shapiro-Wilk score																					
(pyruvate kinase)	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.29E-02	4.62E-02	-2.12E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Local	9.15E-02	2.74E-03	2.90E-05	2.00E-04	2.90E-04	4.90E-04	5.31E-03	3.63E-03	8.61E-03	-9.69E-16	2.29E-03	1.25E-03	2.68E-04	-3.87E-02	7.06E-03	1.77E-03	-4.49E-19	-3.74E-18	5.20E-08	1.19E-07	-6.54E-04
Min	9.68E-01	1.04E-02	7.74E-04	5.66E-03	9.34E-02	1.57E-02	4.26E-01	2.52E-01	8.93E-02	8.43E-16	1.65E-02	1.50E-02	2.99E-03	-4.56E-03	2.75E-01	2.50E-02	3.86E-18	1.74E-16	4.91E-07	1.27E-06	-8.21E-05
Max	2.20E-03	5.11E-03	4.52E-03	4.50E-03	4.36E-03	2.44E-03	3.45E-03	3.53E-03	2.13E-03	1.71E-01	2.90E-03	2.60E-03	2.69E-03	2.40E-03	3.59E-03	2.50E-03	4.07E-01	1.82E-01	3.59E-03	2.60E-03	3.08E-03
Normalized peak height	8.16E-01	4.96E-03	8.83E-05	6.13E-04	6.11E-03	2.81E-03	4.63E-02	2.31E-02	5.78E-02	-3.91E-19	6.94E-03	9.00E-03	1.91E-03	-2.54E-02	5.62E-02	1.48E-02	1.74E-21	8.79E-20	1.67E-07	5.36E-07	-3.47E-04
Peak sensitivity value	9.692E-01	9.874E-01	9.176E-01	9.158E-01	9.171E-01	9.686E-01	9.324E-01	9.383E-01	9.815E-01	9.910E-01	9.893E-01	9.835E-01	9.820E-01	9.811E-01	9.370E-01	9.851E-01	8.967E-01	2.304E-01	9.858E-01	9.893E-01	9.971E-01
Shapiro-Wilk score																					
(atp utilisation)	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.29E-02	4.62E-02	2.20E-21	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Local	1.35E-01	2.80E-03	2.98E-05	1.91E-04	4.25E-04	5.18E-04	5.76E-03	3.72E-03	7.52E-03	-2.99E-13	2.25E-03	1.12E-03	2.42E-04	-3.80E-02	5.79E-03	1.65E-03	-4.80E-19	-3.83E-18	4.99E-08	1.30E-07	-6.69E-04
Min	9.70E-01	1.05E-02	8.14E-04	6.51E-03	9.29E-02	1.61E-02	4.26E-01	2.38E-01	8.76E-02	4.50E-13	1.73E-02	1.47E-02	3.01E-03	-4.05E-03	2.79E-01	2.45E-02	8.38E-18	2.46E-16	4.98E-07	1.24E-06	-8.09E-05
Max	2.14E-03	5.31E-03	4.83E-03	5.34E-03	4.22E-03	2.49E-03	3.55E-03	3.27E-03	2.06E-03	3.04E-01	3.06E-03	2.65E-03	2.77E-03	2.38E-03	3.80E-03	2.42E-03	4.06E-01	2.33E-01	3.62E-03	2.47E-03	3.22E-03
Normalized peak height	8.57E-01	4.85E-03	8.04E-05	6.24E-04	7.32E-03	2.78E-03	4.42E-02	2.42E-02	5.51E-02	-3.32E-16	7.45E-03	8.77E-03	1.93E-03	-2.51E-02	5.79E-02	1.50E-02	3.06E-21	5.04E-20	1.70E-07	5.79E-07	-3.44E-04
Peak sensitivity value	9.692E-01	9.870E-01	9.173E-01	9.151E-01	9.168E-01	9.686E-01	9.319E-01	9.379E-01	9.817E-01	9.945E-01	9.892E-01	9.837E-01	9.822E-01	9.815E-01	9.370E-01	9.852E-01	8.304E-01	1.805E-01	9.855E-01	9.895E-01	9.975E-01
Shapiro-Wilk score																					
(glycerol kinase)	9.22E+00	6.97E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.59E+00	-1.59E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-05	-1.61E-05	1.09E-02
Local	2.17E+00	2.61E-02	-5.67E-03	-4.76E-02	-9.73E-01	-2.79E-01	-5.68E+00	-3.48E+00	-2.19E+00	-1.98E-14	-5.49E-01	-3.52E-01	-7.56E-02	2.63E-01	-5.53E+00	-5.48E-01	-9.84E-18	-7.21E-17	-1.90E-05	-4.07E-05	2.27E-03
Min	1.36E+01	1.62E-01	1.77E-03	1.16E-02	5.35E-02	-4.47E-02	-5.30E-01	-3.26E-01	-5.50E-01	3.48E-14	-1.21E-02	-6.19E-03	-1.33E-03	9.43E-01	-4.86E-02	-1.06E-02	1.21E-17	7.56E-17	-2.27E-07	-4.85E-06	2.54E-02
Max	5.66E-03	3.59E-03	4.92E-03	4.82E-03	4.10E-03	4.48E-03	4.36E-03	4.69E-03	2.69E-03	1.63E-01	3.45E-03	2.96E-03	3.08E-03	1.76E-03	4.79E-03	3.36E-03	4.18E-01	4.95E-02	2.76E-03	3.27E-03	2.44E-03
Normalized peak height	8.85E+00	6.01E-02	-1.69E-03	-1.29E-02	-3.54E-01	-1.29E-01	-2.19E+00	-1.22E+00	-1.54E+00	8.98E-18	-1.52E-01	-2.58E-01	-5.64E-02	7.42E-01	-1.67E+00	-4.06E-01	-5.62E-21	5.66E-20	-4.12E-06	-1.45E-05	1.00E-02
Peak sensitivity value	9.908E-01	9.786E-01	9.767E-01	9.760E-01	9.834E-01	9.977E-01	9.761E-01	9.785E-01	9.808E-01	9.713E-01	9.764E-01	9.576E-01	9.563E-01	9.684E-01	9.930E-01	9.507E-01	9.437E-01	9.967E-01	9.680E-01	9.798E-01	9.841E-01
Shapiro-Wilk score																					
(phosphoglycerate mutase)	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.29E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	1.34E-01	2.76E-03	3.16E-05	2.07E-04	3.16E-04	5.58E-04	5.80E-03	3.27E-03	8.00E-03	-6.67E-16	2.42E-03	1.16E-03	2.58E-04	-3.86E-02	6.75E-03	1.74E-03	-4.57E-19	-4.30E-18	4.94E-08	1.17E-07	-6.46E-04
Max	9.68E-01	1.00E-02	8.21E-04	6.32E-03	9.43E-02	1.60E-02	4.31E-01	2.49E-01	8.84E-02	7.57E-16	1.77E-02	1.50E-02	2.99E-03	-4.47E-03	2.87E-01	2.46E-02	3.43E-18	2.54E-16	4.78E-07	1.20E-06	-7.88E-05
Normalized peak height	2.31E-03	5.02E-03	4.78E-03	4.98E-03	4.35E-03	2.46E-03	3.44E-03	3.53E-03	2.16E-03	1.42E-01	3.05E-03	2.75E-03	2.69E-03	2.45E-03	3.67E-03	2.49E-03	4.06E-01	2.33E-01	3.42E-03	2.44E-03	3.12E-03
Peak sensitivity value	8.63E-01	5.05E-03	8.81E-05	6.08E-04	5.91E-03	3.17E-03	3.83E-02	2.53E-02	5.33E-02	-1.28E-19	7.47E-03	9.06E-03	1.81E-03	-2.46E-02	6.18E-02	1.46E-02	3.07E-22	-1.00E-19	1.83E-07	5.15E-07	-3.42E-04
Shapiro-Wilk score	9.696E-01	9.866E-01	9.175E-01	9.152E-01	9.169E-01	9.688E-01	9.322E-01	9.379E-01	9.817E-01	9.643E-01	9.893E-01	9.837E-01	9.819E-01	9.811E-01	9.380E-01	9.852E-01	8.951E-01	1.062E-01	9.860E-01	9.896E-01	9.973E-01
(enolase)	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.29E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	1.36E-01	2.75E-03	2.77E-05	1.85E-04	2.37E-04	5.17E-04	5.40E-03	3.18E-03	7.72E-03	-7.02E-16	2.24E-03	1.14E-03	2.44E-04	-3.79E-02	6.04E-03	1.72E-03	-4.47E-19	-5.50E-18	4.82E-08	1.01E-07	-6.40E-04
Max	9.70E-01	1.06E-02	8.18E-04	5.86E-03	9.30E-02	1.17E-01	4.39E-01	2.62E-01	8.80E-02	7.33E-16	1.63E-02	1.48E-02	3.05E-03	-4.26E-03	3.05E-01	2.41E-02	3.99E-18	5.18E-16	5.20E-07	1.19E-06	-7.48E-05
Normalized peak height	2.25E-03	5.45E-03	4.84E-03	4.64E-03	4.26E-03	1.70E-02	3.73E-03	3.76E-03	2.20E-03	1.42E-01	2.87E-03	2.59E-03	2.77E-03	2.42E-03	3.96E-03	2.42E-03	4.06E-01	4.26E-01	3.77E-03	2.54E-03	3.07E-03
Peak sensitivity value	8.23E-01	4.81E-03	7.87E-05	5.51E-04	5.85E-03	3.13E-03	4.33E-02	2.53E-02	5.66E-02	5.27E-19	7.74E-03	8.97E-03	1.86E-03	-2.40E-02	6.33E-02	1.45E-02	-7.26E-22	-4.06E-21	1.67E-07	5.75E-07	-3.52E-04
Shapiro-Wilk score	9.691E-01	9.871E-01	9.177E-01	9.156E-01	9.167E-01	9.610E-01	9.321E-01	9.378E-01	9.815E-01	9.645E-01	9.893E-01	9.832E-01	9.818E-01	9.810E-01	9.376E-01	9.851E-01	8.894E-01	1.406E-01	9.861E-01	9.894E-01	9.973E-01
(adenylate kinase cytosol)	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Max	7.14E-02	7.14E-02	7.14E-02	7.14E-02	7.14E-02	7.14E-02	7.14E-02	7.14E-02	7.14E-02	1.43E-01	7.14E-02	7.14E-02	7.14E-02	7.14E-02	1.43E-01	7.14E-02	1.43E-01	7.14E-02	7.14E-02	7.14E-02	7.14E-02
Normalized peak height	-3.91E-02	-7.21E-02	-2.21E-02	-6.21E-02	-2.45E-03	-5.43E-04	-9.23E-03	-6.92E-03	-3.26E-03	5.45E-08	-1.06E-01	-1.12E-01	-1.05E-01	-2.03E-03	-3.01E-02	-4.31E-02	-1.53E-13	-5.58E-12	-5.51E-02	-4.26E-03	-3.38E-05
Peak sensitivity value	9.109E-01	9.417E-01	9.150E-01	8.846E-01	9.446E-01	9.250E-01	9.696E-01	9.695E-01	9.703E-01	9.384E-01	8.796E-01	9.571E-01	9.297E-01	9.331E-01	9.794E-01	8.932E-01	9.627E-01	7.498E-01	9.599E-01	9.711E-01	9.734E-01
Shapiro-Wilk score																					
(adenylate kinase glycosome)	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Max	6.35E-02	1.14E-02	1.12E-02	1.34E-02	6.52E-02	3.84E-02	5.64E-02	6.44E-02	1.32E-01	7.68E-02	1.23E-02	5.88E-02	6.52E-02	6.18E-02	6.08E-02	5.29E-02	4.42E-01	6.22E-03	1.35E-02	1.76E-02	6.86E-02
Normalized peak height	1.40E-03	-7.97E-02	-4.71E-03	-1.18E-03	4.48E-03	-1.85E-04	-5.54E-03	1.03E-02	7.23E-04	-1.42E-08	-2.42E-02	-9.55E-04	-2.94E-04	1.93E-03	3.34E-03	5.12E-05	-3.28E-17	-8.47E-12	1.98E-03	3.57E-03	2.32E-05
Peak sensitivity value	9.647E-01	9.565E-01	9.589E-01	9.585E-01	9.448E-01	9.504E-01	9.446E-01	9.482E-01	8.183E-01	9.482E-01	9.614E-01	9.732E-01	9.730E-01	8.936E-01	9.449E-01	9.685E-01	7.306E-01	9.942E-01	9.463E-01	9.072E-01	9.061E-01
Shapiro-Wilk score																					
(3phosphoglycerate transport)	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.29E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.20E-20	2.07E-07	5.29E-07	-3.54E-04
Local	1.34E-01	2.71E-03	2.91E-05	1.89E-04	2.68E-04	3.90E-04	4.31E-03	2.45E-03	6.64E-03	-6.84E-16	2.18E-03	9.73E-04	2.21E-04	-3.82E-02	5.59E-03	1.46E-03	-4.75E-19	-4.21E-18	4.48E-08	1.11E-07	-6.38E-04
Min	9.74E-01	1.00E-02	8.13E-04	6.33E-03	9.45E-02	1.61E-02	4.34E-01	2.41E-01	8.68E-02	6.29E-16	1.75E-02	1.48E-02	3.10E-03	-3.64E-03	2.81E-01	2.47E-02	4.85E-18	1.79E-16	5.18E-07	1.26E-06	-6.63E-05
Max	2.23E-03	5.07E-03	4.89E-03	5.06E-03	4.42E-03	2.45E-03	3.51E-03	3.37E-03	2.12E-03	6.31E-02	3.14E-03	2.43E-03	2.84E-03	2.54E-03	3.56E-03	2.58E-03	4.04E-01	1.84E-01	3.85E-03	2.55E-03	3.13E-03
Normalized peak height	8.28E-01	4.95E-03	9.46E-05	5.54E-04	5.87E-03	2.95E-03	4.02E-02	2.88E-02	5.43E-02	-6.10E-19	6.81E-03	9.02E-03	1.96E-03	-2.46E-02	6.18E-02	1.45E-02	2.16E-21	8.72E-20	1.73E-07	4.94E-07	-3.45E-04
Peak sensitivity value	9.696E-01	9.870E-01	9.183E-01	9.162E-01	9.173E-01	9.690E-01	9.327E-01	9.385E-01	9.819E-01	9.687E-01	9.897E-01	9.836E-01	9.819E-01	9.816E-01	9.370E-01	9.854E-01	8.777E-01	2.096E-01	9.864E-01	9.897E-01	9.972E-01
Shapiro-Wilk score																					
(gly3p dhap antiporter)	4.44E-01	2.95E-03	2.22E-04	1.71E-03	3.00E-02	1.02E-02	8.80E-01	1.09E-01	9.99E-02	8.65E-17	1.44E-02	1.98E-02	3.43E-03	-3.42E-02	1.32E-01	2.07E-02	-2.64E-19	1.27E-19	4.01E-07	1.10E-06	-7.39E-04
Local	-5.99E-01	-1.53E-02	3.16E-05	2.13E-04	5.03E-04	1.06E-03	1.15E-02	6.22E-03	1.56E-02	-9.48E-16	4.18E-03	2.15E-03	4.56E-04	-1.11E-01	1.15E-02	3.39E-03	-8.24E-19	-8.30E-18	9.20E-08	2.39E-07	-1.46E-03
Min	9.43E-01	6.49E-03	1.16E-03	8.95E-03	1.64E-01	3.30E-02	8.08E-01	4.72E-01	2.08E-01	9.62E-16	3.40E-02	3.23E-02	6.67E-03	-8.71E-03	5.44E-01	5.06E-02	2.03E-17	8.66E-16	9.82E-07	3.36E-06	-1.56E-04
Max	2.02E-03	6.28E-03	4.29E-03	4.17E-03	3.83E-03	2.50E-03	3.20E-03	3.22E-03	1.93E-03	1.04E-01	2.93E-03	2.68E-03	2.81E-03	2.64E-03	3.34E-03	2.37E-03	4.08E-01	3.61E-01	3.44E-03	2.97E-03	2.98E-03
Normalized peak height	3.13E-01	3.73E-03	1.06E-04	9.08E-04	1.01E-02	6.57E-03	8.52E-02	4.42E-02	1.14E-01	2.08E-19	1.58E-02	1.81E-02	3.74E-03	-4.63E-02	1.14E-01	3.11E-02	9.56E-21	7.78E-21	3.31E-07	9.99E-07	-7.61E-04
Peak sensitivity value	9.673E-01	8.958E-01	9.219E-01	9.208E-01	9.197E-01	9.659E-01	9.316E-01	9.376E-01	9.825E-01	9.511E-01	9.887E-01	9.862E-01	9.852E-01	9.904E-01	9.368E-01	9.869E-01	8.141E-01	1.501E-01	9.854E-01	9.829E-01	9.966E-01
Shapiro-Wilk score																					
(glycerol transport)	9.22E+00	6.97E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.59E+00	-1.59E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	1.09E-02
Local	1.08E+00	2.38E-02	-6.39E-03	-5.10E-02	-1.05E+00	-2.57E-01	-5.44E+00	-3.29E+00	-2.32E+00	-2.10E-14	-5.67E-01	-3.58E-01	-7.46E-02	2.53E-01	-5.20E+00	-5.48E-01	-1.63E-16	-5.65E-15	-2.06E-05	-3.99E-05	2.38E-03
Min	1.36E+01	1.78E-01	2.38E-03	1.68E-02	1.60E-01	-3.15E-02	2.71E-02	1.55E-02	-5.24E-01	2.06E-14	6.97E-04	3.54E-04	7.15E-05	9.45E-01	3.36E-03	4.97E-04	1.20E-17	8.08E-17	7.86E-09	-5.22E-06	2.51E-02
Max	5.94E-03	3.95E-03	5.63E-03	5.51E-03	4.71E-03	4.32E-03	4.46E-03	4.77E-03	2.82E-03	1.62E-01	3.28E-03	3.07E-03	3.03E-03	1.74E-03	4.44E-03	3.65E-03	4.06E-01	1.79E-01	2.88E-03	3.19E-03	2.25E-03
Normalized peak height	8.66E+00	5.97E-02	-1.52E-03	-1.28E-02	-3.51E-01	-1.34E-01	-2.09E+00	-1.27E+00	-1.53E+00	-2.83E-18	-1.85E-01	-2.64E-01	-5.74E-02	7.51E-01	-1.73E+00	-4.09E-01	-3.51E-20	-2.27E-18	-2.99E-06	-1.52E-05	1.07E-02
Peak sensitivity value	9.898E-01	9.774E-01	9.774E-01	9.767E-01	9.839E-01	9.979E-01	9.771E-01	9.780E-01	9.790E-01	9.727E-01	9.772E-01	9.569E-01	9.554E-01	9.687E-01	9.927E-01	9.490E-01	8.741E-01	3.327E-01	9.688E-01	9.805E-01	9.840E-01
Shapiro-Wilk score																					

Table 13: Flux control coefficients for *Trypanosoma brucei* model with parameter variation of ±20%

	(glucose transport)	(hexokinase)	(phosphoglycerateisomerase)	(phophofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)	(phosphoglyceratekinase)	(pyruvatekinase)	(atputilisation)	(glycerokinase)	(phosphoglyceratemutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglycerate transport)	(gly3phdhapatiporter)	(glycerotransport)
(glucose transport)																					
Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	-1.60E-01	-4.37E-02	9.08E-06	5.44E-05	1.05E-05	-3.81E-03	1.39E-05	1.05E-05	-1.75E-01	-3.44E-14	2.97E-05	4.25E-06	8.11E-07	1.72E-07	1.45E-05	4.88E-06	-4.76E-19	-8.50E-16	4.02E-10	-4.10E-06	3.52E-09
Max	9.97E-01	4.14E-02	2.61E-03	2.03E-02	2.03E-01	2.08E-02	6.80E-01	4.09E-01	3.93E-03	3.44E-14	4.60E-02	2.69E-02	5.25E-03	1.38E-01	9.52E-01	3.98E-02	5.66E-19	1.69E-17	3.17E-07	1.07E-08	8.43E-04
Normalized peak height	5.95E-02	1.39E-02	2.75E-02	3.36E-02	2.09E-01	1.64E-01	1.78E-01	1.80E-01	2.75E-01	8.61E-01	1.09E-01	5.50E-02	4.96E-02	3.62E-01	2.46E-01	5.34E-02	4.08E-01	9.52E-01	2.46E-02	3.85E-01	2.40E-01
Peak sensitivity value	9.93E-01	5.16E-03	3.90E-05	2.47E-04	1.12E-04	1.69E-05	3.54E-04	2.15E-04	-1.07E-04	2.94E-17	1.45E-04	7.16E-05	1.39E-05	6.92E-05	4.91E-04	1.04E-04	-4.85E-22	3.94E-20	3.10E-09	4.59E-10	4.25E-07
Shapiro-Wilk score	5.222E-01	8.522E-01	6.366E-01	5.862E-01	4.572E-01	4.656E-01	4.446E-01	4.484E-01	4.754E-01	6.037E-02	4.623E-01	5.554E-01	5.539E-01	4.730E-01	3.293E-01	5.539E-01	4.968E-01	1.344E-02	6.022E-01	4.340E-01	6.111E-01
(hexokinase)																					
Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	-1.56E-01	-4.40E-02	8.80E-06	5.36E-05	1.06E-05	-4.21E-03	2.01E-05	9.72E-06	-1.80E-01	-1.69E-14	3.00E-05	4.80E-06	1.00E-06	1.29E-07	1.73E-05	5.84E-06	-5.31E-19	-1.42E-15	3.74E-10	-4.04E-06	2.93E-09
Max	9.97E-01	4.06E-02	2.53E-03	2.19E-02	2.14E-01	2.11E-02	7.07E-01	4.24E-01	2.91E-03	2.06E-14	5.32E-02	2.32E-02	5.05E-03	1.49E-01	9.88E-01	4.17E-02	1.88E-18	1.74E-17	3.00E-07	5.69E-09	8.93E-04
Normalized peak height	6.03E-02	1.40E-02	2.74E-02	3.58E-02	2.18E-01	1.68E-01	1.87E-01	1.86E-01	2.98E-01	8.80E-01	1.20E-01	4.75E-02	4.85E-02	3.70E-01	2.54E-01	5.65E-02	4.81E-01	9.30E-01	2.34E-02	4.23E-01	2.47E-01
Peak sensitivity value	9.93E-01	5.11E-03	3.78E-05	2.83E-04	1.18E-04	1.44E-05	3.74E-04	2.22E-04	-1.05E-04	-6.97E-18	1.63E-04	6.28E-05	1.36E-05	7.46E-05	5.11E-04	1.10E-04	-5.64E-22	-6.19E-19	2.92E-09	-3.73E-10	4.49E-07
Shapiro-Wilk score	5.236E-01	8.482E-01	6.380E-01	5.865E-01	4.578E-01	4.657E-01	4.452E-01	4.477E-01	4.759E-01	7.001E-02	4.650E-01	5.594E-01	5.557E-01	4.731E-01	3.292E-01	5.568E-01	4.423E-01	9.175E-03	6.032E-01	4.356E-01	6.118E-01
(phosphoglycerate isomerase)																					
Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	-1.52E-01	-4.45E-02	9.97E-06	6.16E-05	1.03E-05	-4.23E-03	2.02E-05	1.26E-05	-1.75E-01	-1.32E-14	3.43E-05	4.86E-06	1.19E-06	9.90E-08	2.29E-05	7.14E-06	-5.13E-19	-1.45E-15	4.13E-10	-4.68E-06	1.72E-09
Max	9.97E-01	3.84E-02	2.76E-03	2.21E-02	2.05E-01	2.00E-02	6.86E-01	4.32E-01	2.56E-03	4.46E-14	4.68E-02	2.29E-02	4.70E-03	1.30E-01	1.02E+00	3.67E-02	5.49E-19	4.93E-17	3.57E-07	7.89E-09	8.26E-04
Normalized peak height	6.01E-02	1.38E-02	2.97E-02	3.50E-02	2.13E-01	1.30E-01	1.83E-01	1.91E-01	3.61E-01	8.90E-01	1.12E-01	4.70E-02	4.53E-02	3.57E-01	2.62E-01	5.11E-02	4.12E-01	6.57E-01	2.73E-02	3.79E-01	2.39E-01
Peak sensitivity value	9.93E-01	5.58E-03	3.88E-05	2.71E-04	1.13E-04	3.05E-05	3.63E-04	2.29E-04	-1.79E-05	1.84E-17	1.51E-04	6.22E-05	1.29E-05	6.50E-05	5.34E-04	9.88E-05	4.67E-22	7.44E-19	3.09E-09	8.64E-10	4.15E-07
Shapiro-Wilk score	5.212E-01	8.507E-01	6.355E-01	5.842E-01	4.556E-01	4.652E-01	4.445E-01	4.472E-01	4.739E-01	6.247E-02	4.635E-01	5.585E-01	5.553E-01	4.716E-01	3.276E-01	5.548E-01	4.904E-01	8.131E-03	6.043E-01	4.320E-01	6.105E-01
(phophofructokinase)																					
Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	-1.72E-01	-4.06E-02	1.05E-05	6.51E-05	1.09E-05	-4.11E-03	1.78E-05	1.08E-05	-1.78E-01	-1.62E-14	2.84E-05	4.70E-06	1.08E-06	1.14E-07	1.94E-05	5.88E-06	-4.73E-19	-1.98E-15	3.61E-10	-4.21E-06	2.09E-09
Max	9.97E-01	4.01E-02	2.57E-03	2.26E-02	2.02E-01	2.23E-02	6.78E-01	4.78E-01	3.65E-03	1.76E-14	4.26E-02	2.64E-02	4.66E-03	1.36E-01	9.76E-01	3.75E-02	4.71E-19	2.08E-17	3.16E-07	1.16E-08	8.33E-04
Normalized peak height	6.16E-02	1.33E-02	2.72E-02	3.64E-02	2.09E-01	1.58E-01	1.79E-01	2.04E-01	3.89E-01	7.78E-01	1.03E-01	5.40E-02	4.46E-02	3.61E-01	2.54E-01	5.18E-02	3.97E-01	9.67E-01	2.46E-02	3.48E-01	2.46E-01
Peak sensitivity value	9.93E-01	5.19E-03	4.24E-05	2.79E-04	1.12E-04	2.35E-05	3.57E-04	2.50E-04	-8.20E-05	1.57E-17	1.35E-04	7.06E-05	1.74E-05	6.83E-05	5.08E-04	9.96E-05	2.71E-22	-2.14E-19	3.68E-09	1.04E-09	4.19E-07
Shapiro-Wilk score	5.199E-01	8.506E-01	6.370E-01	5.859E-01	4.538E-01	4.649E-01	4.426E-01	4.450E-01	4.719E-01	7.608E-02	4.588E-01	5.559E-01	5.518E-01	4.688E-01	3.312E-01	5.544E-01	4.854E-01	4.071E-03	6.022E-01	4.301E-01	6.098E-01
(aldolase)																					
Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	1.48E-16	3.73E-04	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
Min	-1.40E-01	-4.01E-02	9.42E-06	5.47E-05	1.03E-05	-3.95E-03	1.71E-05	1.06E-05	-1.80E-01	-1.79E-15	3.32E-05	4.17E-06	1.01E-06	9.31E-08	1.53E-05	6.43E-06	-4.45E-19	-1.10E-15	4.50E-10	-4.23E-06	2.25E-09
Max	9.97E-01	4.16E-02	2.49E-03	2.12E-02	2.17E-01	2.29E-02	6.80E-01	4.11E-01	3.14E-03	1.54E-15	4.78E-02	2.24E-02	4.64E-03	1.39E-01	9.65E-01	3.93E-02	1.02E-18	3.00E-17	3.41E-07	9.34E-09	7.88E-04
Normalized peak height	5.82E-02	1.32E-02	2.67E-02	3.49E-02	2.20E-01	1.39E-01	1.79E-01	1.80E-01	3.81E-01	2.53E-01	1.10E-01	4.61E-02	4.39E-02	3.60E-01	2.47E-01	5.36E-02	4.27E-01	9.56E-01	2.64E-02	4.49E-01	2.31E-01
Peak sensitivity value	9.93E-01	4.90E-03	3.54E-05	2.77E-04	1.19E-04	7.78E-06	3.57E-04	2.16E-04	-5.65E-105	-1.02E-18	1.53E-04	6.02E-05	1.26E-05	6.95E-05	4.98E-04	1.05E-04	2.23E-22	1.55E-19	3.69E-09	-1.27E-09	3.96E-07
Shapiro-Wilk score	5.220E-01	8.509E-01	6.370E-01	5.861E-01	4.572E-01	4.661E-01	4.450E-01	4.474E-01	4.753E-01	8.861E-01	4.658E-01	5.601E-01	5.572E-01	4.730E-01	3.269E-01	5.591E-01	4.822E-01	9.255E-03	5.996E-01	4.346E-01	6.127E-01
(triosephosphate isomerase)																					
Local	4.44E-01	2.94E-03	2.24E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.66E-02	8.65E-17	1.45E-02	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.86E-07	1.10E-06	-7.39E-04
Min	-8.75E-01	-3.62E-02	-7.56E-04	-4.88E-03	-4.15E-02	1.57E-04	9.22E-04	6.00E-04	4.18E-03	-7.34E-15	1.38E-03	2.64E-04	5.67E-05	-2.55E-01	9.55E-04	3.05E-04	-2.13E-18	-2.56E-17	2.54E-09	7.60E-08	-2.31E-03
Max	9.89E-01	5.59E-02	2.41E-03	1.80E-02	2.57E-01	4.56E-02	1.01E+00	6.51E-01	4.45E-01	2.48E-15	5.97E-02	4.39E-02	8.93E-03	-2.50E-03	1.77E+00	7.19E-02	2.33E-17	1.30E-15	1.79E-06	6.90E-06	-3.66E-05
Normalized peak height	3.09E-03	1.83E-02	1.58E-02	1.48E-02	1.37E-02	4.42E-03	6.48E-03	6.80E-03	3.70E-03	2.97E-01	3.85E-03	2.36E-03	2.32E-03	4.11E-03	1.30E-02	2.50E-03	3.72E-01	5.68E-01	4.78E-03	5.29E-03	3.36E-03
Peak sensitivity value	9.21E-01	3.82E-03	5.04E-05	3.51E-04	1.06E-03	1.27E-03	1.65E-02	7.43E-03	2.42E-02	3.96E-18	8.06E-03	1.71E-02	3.82E-03	-1.65E-02	1.25E-02	8.14E-03	-5.89E-21	2.06E-19	1.34E-07	4.00E-07	-6.09E-04
Shapiro-Wilk score	9.243E-01	8.595E-01	8.584E-01	8.593E-01	8.638E-01	9.308E-01	8.845E-01	8.897E-01	9.537E-01	8.079E-01	9.593E-01	9.757E-01	9.780E-01	9.174E-01	7.027E-01	9.706E-01	6.293E-01	9.521E-02	9.282E-01	8.919E-01	9.779E-01
(glyceraldehyde3phosphate dehydrogenase)																					
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	1.18E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-2.22E-02	-1.40E-02	8.00E-06	4.78E-05	-7.85E-04	1.07E-04	5.42E-04	2.46E-04	1.88E-03	-8.23E-16	8.32E-04	1.41E-04	2.99E-05	-4.81E-02	5.38E-04	1.79E-04	-8.47E-19	-5.99E-18	8.38E-10	4.21E-08	-1.03E-03
Max	9.91E-01	1.79E-02	1.87E-03	2.03E-02	1.63E-01	2.35E-02	6.22E-01	3.95E-01	1.79E-01	8.54E-16	3.93E-02	2.48E-02	4.97E-03	-9.50E-04	9.60E-01	3.66E-02	7.39E-18	3.12E-16	8.17E-07	1.88E-06	-3.64E-06
Normalized peak height	3.27E-03	1.03E-02	1.17E-02	1.72E-02	1.45E-02	4.55E-03	7.91E-03	8.60E-03	3.07E-03	2.04E-01	4.93E-03	2.70E-03	2.82E-03	2.38E-03	1.32E-02	2.35E-03	3.67E-01	3.99E-01	4.44E-03	3.03E-03	3.35E-03
Peak sensitivity value	9.50E-01	4.33E-03	4.61E-05	2.81E-04	6.08E-04	9.37E-04	8.31E-03	4.78E-03	1.26E-02	-5.72E-19	5.58E-03	8.98E-03	1.64E-03	-2.02E-02	1.16E-02	1.22E-02	-3.06E-21	-1.13E-19	1.11E-07	5.64E-07	-2.22E-04
Shapiro-Wilk score	9.245E-01	9.176E-01	8.030E-01	7.851E-01	8.186E-01	9.202E-01	8.499E-01	8.568E-01	9.723E-01	8.869E-01	9.066E-01	9.798E-01	9.815E-01	9.776E-01	6.666E-01	9.753E-01	7.199E-01	1.733E-01	9.363E-01	9.732E-01	9.801E-01
(glycerol3phosphate dehydrogenase)																					
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	1.18E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-2.27E-02	-1.08E-02	9.98E-06	6.93E-05	-8.91E-04	7.41E-05	5.60E-04	2.32E-04	1.29E-03	-8.35E-16	7.22E-04	1.34E-04	3.16E-05	-5.04E-02	4.62E-04	1.77E-04	-7.57E-19	-5.14E-18	1.01E-09	3.82E-08	-1.01E-03
Max	9.93E-01	1.89E-02	2.59E-03	2.36E-02	1.57E-01	2.49E-02	6.38E-01	3.81E-01	1.78E-01	9.17E-16	4.53E-02	2.53E-02	5.02E-03	-6.61E-04	9.67E-01	3.94E-02	1.33E-17	2.12E-16	8.45E-07	2.09E-06	-1.68E-06
Normalized peak height	3.34E-03	9.47E-03	1.66E-02	2.03E-02	1.35E-02	4.51E-03	7.63E-03	7.99E-03	3.13E-03	2.24E-01	5.72E-03	2.73E-03	2.77E-03	2.45E-03	1.36E-02	2.57E-03	3.78E-01	3.62E-01	4.49E-03	3.15E-03	3.12E-03
Peak sensitivity value	9.52E-01	4.48E-03	4.49E-05	3.17E-04	4.48E-04	6.82E-04	7.89E-03	4.62E-03	1.66E-02	-3.06E-19	5.73E-03	7.28E-03	1.75E-03	-2.38E-02	9.64E-03	3.21E-03	-6.45E-21	-3.86E-20	1.02E-07	5.61E-07	-2.71E-04
Shapiro-Wilk score	9.239E-01	9.169E-01	8.016E-01	7.841E-01	8.167E-01	9.193E-01	8.492E-01	8.551E-01	9.721E-01	8.838E-01	9.063E-01	9.797E-01	9.814E-01	9.776E-01	6.633E-01	9.752E-01	6.201E-01	1.758E-01	9.384E-01	9.728E-01	9.798E-01
(glycerol3phosphate oxidase)																					
Local	4.44E-01	2.94E-03	2.24E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.66E-02	8.65E-17	1.45E-02	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.86E-07	1.10E-06	-7.39E-04
Min	-9.10E-01	-3.66E-02	-6.72E-04	-4.37E-03	-3.88E-02	1.58E-04	9.05E-04	4.60E-04	3.59E-03	-3.76E-15	1.71E-03	2.42E-04	5.07E-05	-2.71E-01	7.86E-04	3.10E-04	-1.21E-18	-2.67E-17	1.25E-09	8.75E-08	-2.21E-03
Max	9.90E-01	5.43E-02	2.26E-03	1.70E-02	2.67E-01	4.56E-02	1.02E+00	6.78E-01	3.83E-01	5.54E-15	5.04E-02	4.29E-02	9.13E-03	-2.15E-03	1.83E+00	7.14E-02	8.68E-18	5.74E-16	1.93E-06	7.64E-06	-3.93E-05
Normalized peak height	3.19E-03	1.79E-02	1.44E-02	1.36E-02	1.36E-02	4.38E-03	6.64E-03	7.14E-03	3.16E-03	3.33E-01	3.53E-03	2.39E-03	2.44E-03	4.40E-03	1.38E-02	2.37E-03	3.59E-01	4.12E-01	5.31E-03	5.38E-03	3.17E-03
Peak sensitivity value	9.26E-01	3.78E-03	4.12E-05	3.75E-04	1.10E-03	1.54E-03	1.76E-02	1.03E-02	2.81E-02	1.30E-18	1.28E-02	1.23E-02	2.75E-03	-1.82E-02	1.27E-02	2.32E-02	-2.45E-21	1.73E-20	1.86E-07	5.67E-07	-6.08E-04
Shapiro-Wilk score	9.244E-01	8.617E-01	8.583E-01	8.596E-01	8.639E-01	9.307E-01	8.841E-01	8.903E-01	9.545E-01	8.213E-01	9.600E-01	9.755E-01	9.778E-01	9.180E-01	7.044E-01	9.703E-01	8.657E-01	1.772E-01	9.280E-01	8.920E-01	9.786E-01
(pyruvate transport)																					
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	-2.22E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-1.34E-02	-8.17E-03	1.03E-05	6.51E-05	-5.92E-04	8.42E-05	6.54E-04	3.38E-04	1.68E-03	-8.88E-16	8.51E-04	1.30E-04	3.15E-05	-5.10E-02	6.10E-04	1.74E-04	-7.75E-19	-5.77E-18	1.87E-09	4.44E-08	-9.42E-04
Max	9.91E-01	1.85E-02	2.11E-03	1.72E-02	1.66E-01	2.47E-02	6.33E-01	3.91E-01	1.80E-01	7.77E-16	4.28E-02	2.32E-02	4.86E-03	-1.02E-03	9.35E-01	3.95E-02	9.92E-18	9.22E-16	9.16E-07	1.68E-06	-3.63E-06
Normalized peak height	3.47E-03	8.82E-03	1.40E-02	1.52E-02	1.48E-02	4.73E-03	8.09E-03	8.34E-03	3.28E-03	3.85E-01	5.50E-03	2.59E-03	2.73E-03	2.48E-03	1.28E-02	2.55E-03	3.62E-01	6.43E-01	5.09E-03	2.67E-03	3.05E-03
Peak sensitivity value	9.58E-01	4.53E-03	4.29E-05	3.31E-04	3.22E-04	7.60E-04	7.30E-03	4.83E-03	4.80E-02	2.78E-19	5.74E-03	8.77E-03	1.59E-03	-2.33E-02	9.49E-03	1.27E-02	-1.11E-22	2.59E-19	1.15E-07	5.81E-07	-2.68E-04
Shapiro-Wilk score	9.254E-01	9.176E-01	8.000E-01	7.825E-01	8.174E-01	9.200E-01	8.498E-01	8.565E-01	9.722E-01	9.207E-01	9.074E-01	9.793E-01	9.812E-01	9.776E-01	6.692E-01	9.751E-01	7.018E-01	5.304E-02	9.373E-01	9.728E-01	9.790E-01

(phosphoglycerate kinase)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	-1.53E-02	-8.52E-03	1.11E-05	5.45E-05	-5.72E-04	8.06E-05	5.98E-04	3.48E-04	1.46E-03	-6.36E-16	6.91E-04	1.43E-04	3.60E-05	-4.86E-02	6.42E-04	2.16E-04	-6.21E-19	-9.14E-18	9.80E-10	4.34E-08	-1.05E-03
	Max	9.93E-01	2.06E-02	1.97E-03	1.62E-02	1.54E-01	2.51E-02	6.22E-01	3.91E-01	2.12E-01	6.74E-16	4.23E-02	2.21E-02	4.53E-03	-8.55E-04	9.60E-01	3.92E-02	1.44E-18	1.98E-16	9.32E-07	1.78E-06	-3.03E-06
	Normalized peak height	3.22E-03	9.39E-03	1.27E-02	1.39E-02	1.33E-02	4.69E-03	7.71E-03	8.38E-03	3.71E-03	1.17E-01	5.32E-03	2.50E-03	2.54E-03	2.29E-03	1.29E-02	2.43E-03	3.57E-01	3.29E-01	5.08E-03	2.69E-03	3.30E-03
	Peak sensitivity value	9.49E-01	4.60E-03	4.54E-05	3.05E-04	7.42E-04	7.19E-04	9.61E-03	4.84E-03	4.85E-02	3.55E-20	5.13E-03	6.88E-03	1.70E-03	-2.33E-02	8.79E-03	1.08E-02	-1.01E-21	8.19E-20	1.13E-07	4.43E-07	-2.18E-04
	Shapiro-Wilk score	9.251E-01	9.166E-01	8.006E-01	7.846E-01	8.188E-01	9.205E-01	8.503E-01	8.565E-01	9.724E-01	9.058E-01	9.047E-01	9.804E-01	9.820E-01	9.781E-01	6.668E-01	9.759E-01	9.223E-01	2.123E-01	9.371E-01	9.734E-01	9.795E-01
(pyruvate kinase)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	-2.12E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	-1.42E-02	-1.17E-02	9.60E-06	5.29E-05	-7.19E-04	7.59E-05	3.70E-04	2.25E-04	1.94E-03	-8.47E-16	8.74E-04	1.17E-04	2.14E-05	-4.89E-02	3.79E-04	1.24E-04	-8.49E-19	-6.67E-18	1.80E-09	4.04E-08	-1.03E-03
	Max	9.92E-01	2.02E-02	2.18E-03	1.95E-02	1.64E-01	2.46E-02	6.00E-01	3.83E-01	1.84E-01	8.80E-16	4.11E-02	2.17E-02	4.59E-03	-1.14E-03	9.37E-01	3.49E-02	2.59E-18	3.28E-16	8.11E-07	1.76E-06	-2.94E-06
	Normalized peak height	3.42E-03	1.03E-02	1.45E-02	1.72E-02	1.48E-02	4.60E-03	7.47E-03	7.83E-03	3.20E-03	2.81E-01	5.03E-03	2.49E-03	2.51E-03	2.47E-03	1.23E-02	2.30E-03	3.58E-01	3.79E-01	4.49E-03	2.70E-03	3.24E-03
	Peak sensitivity value	9.56E-01	4.53E-03	4.54E-05	3.16E-04	3.49E-04	6.27E-04	5.47E-03	4.25E-03	4.93E-02	4.88E-20	6.28E-03	8.27E-03	1.71E-03	-2.46E-02	9.28E-03	9.35E-03	1.69E-21	-1.50E-19	9.04E-08	2.17E-07	-2.23E-04
	Shapiro-Wilk score	9.250E-01	9.145E-01	8.046E-01	7.869E-01	8.192E-01	9.209E-01	8.515E-01	8.563E-01	9.720E-01	9.780E-01	9.057E-01	9.796E-01	9.814E-01	9.770E-01	6.675E-01	9.752E-01	8.994E-01	1.615E-01	9.360E-01	9.735E-01	9.797E-01
(atp utilisation)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.20E-21	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	-1.97E-02	-6.52E-03	9.85E-06	6.45E-05	-8.27E-04	9.54E-05	5.27E-04	3.52E-04	1.06E-03	-1.66E-12	9.28E-04	1.36E-04	4.03E-05	-5.21E-02	5.18E-04	2.05E-04	-6.79E-19	-5.13E-18	8.59E-10	2.16E-08	-9.87E-04
	Max	9.92E-01	2.03E-02	1.84E-03	1.68E-02	1.58E-01	2.45E-02	5.95E-01	3.73E-01	1.72E-01	1.01E-12	4.21E-02	2.33E-02	5.42E-03	-3.33E-04	9.63E-01	4.19E-02	1.24E-17	1.98E-16	8.92E-07	1.90E-06	-6.47E-07
	Normalized peak height	3.28E-03	8.73E-03	1.20E-02	1.44E-02	1.32E-02	4.72E-03	7.40E-03	7.49E-03	2.97E-03	6.27E-01	5.37E-03	2.57E-03	2.90E-03	2.73E-03	1.27E-02	2.71E-03	3.73E-01	3.45E-01	4.89E-03	2.94E-03	3.24E-03
	Peak sensitivity value	9.62E-01	4.77E-03	3.83E-05	3.07E-04	5.24E-04	6.21E-04	5.58E-03	4.64E-03	5.13E-02	-2.15E-16	4.36E-03	8.08E-03	1.74E-03	-2.39E-02	8.70E-03	1.28E-02	5.94E-21	5.08E-20	1.01E-07	5.41E-07	-2.38E-04
	Shapiro-Wilk score	9.248E-01	9.134E-01	8.044E-01	7.865E-01	8.180E-01	9.202E-01	8.500E-01	8.557E-01	9.725E-01	2.875E-01	9.041E-01	9.801E-01	9.819E-01	9.780E-01	6.659E-01	9.755E-01	6.759E-01	1.821E-01	9.363E-01	9.734E-01	9.797E-01
(glycerol kinase)	Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	1.09E-02
	Min	-1.42E+00	-3.06E-01	-1.20E-02	-1.05E-01	-2.02E+00	-5.28E-01	-1.06E+01	-5.97E+00	-4.37E+00	-6.12E-14	-9.04E-01	-4.30E-01	-9.13E-02	1.71E-01	-1.58E+01	-7.07E-01	-6.56E-17	-3.76E-15	-4.02E-05	-7.25E-05	5.95E-04
	Max	2.25E+01	2.99E-01	7.30E-03	5.45E-02	6.45E-01	1.30E-02	1.53E+00	9.07E-01	-2.92E-01	5.26E-14	1.01E-01	4.27E-02	9.27E-03	9.76E-01	1.53E+00	7.27E-02	2.40E-17	1.74E-16	5.78E-07	-2.03E-06	4.08E-02
	Normalized peak height	5.19E-03	8.35E-03	7.92E-03	7.81E-03	6.45E-03	5.80E-03	6.51E-03	6.15E-03	4.62E-03	3.27E-01	3.55E-03	2.64E-03	2.58E-03	2.31E-03	9.89E-03	2.85E-03	3.78E-01	2.00E-01	7.42E-03	4.07E-03	4.23E-03
	Peak sensitivity value	7.86E+00	4.80E-02	-7.64E-04	-7.51E-03	-1.77E-01	-1.10E-01	-1.58E+00	-9.18E-01	-1.53E+00	-7.35E-18	-1.16E-01	-2.52E-01	-5.32E-02	9.18E-01	-1.20E+00	-3.69E-01	-3.59E-20	-1.01E-18	-1.33E-08	-1.26E-05	3.03E-03
	Shapiro-Wilk score	9.654E-01	9.244E-01	9.695E-01	9.689E-01	9.755E-01	9.842E-01	9.714E-01	9.729E-01	9.802E-01	6.763E-01	9.523E-01	9.544E-01	9.488E-01	9.336E-01	9.116E-01	9.572E-01	8.614E-01	3.137E-01	9.177E-01	9.387E-01	9.450E-01
(phosphoglycerate mutase)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	-1.66E-02	-9.49E-03	8.12E-06	5.27E-05	-4.78E-04	9.31E-05	5.93E-04	3.10E-04	1.98E-03	-7.85E-16	8.35E-04	1.53E-04	3.94E-05	-4.84E-02	5.83E-04	1.96E-04	-6.42E-19	-5.78E-18	2.12E-09	3.81E-08	-1.03E-03
	Max	9.92E-01	2.00E-02	1.95E-03	1.66E-02	1.61E-01	2.42E-02	6.18E-01	3.95E-01	1.89E-01	8.35E-16	4.05E-02	2.34E-02	4.50E-03	-1.22E-03	9.26E-01	3.65E-02	8.59E-18	3.36E-16	9.48E-07	1.92E-06	-2.79E-06
	Normalized peak height	3.34E-03	9.32E-03	1.26E-02	1.47E-02	1.39E-02	4.38E-03	7.81E-03	8.17E-03	3.29E-03	1.62E-01	5.10E-03	2.52E-03	2.49E-03	2.35E-03	1.26E-02	2.42E-03	3.61E-01	3.96E-01	5.15E-03	3.00E-03	3.23E-03
	Peak sensitivity value	9.55E-01	4.34E-03	3.82E-05	2.92E-04	5.73E-04	6.83E-04	7.07E-03	4.85E-03	5.06E-02	-6.78E-20	6.45E-03	5.35E-03	1.49E-03	-2.24E-02	9.38E-03	1.28E-02	-1.51E-22	-1.41E-19	1.20E-07	5.78E-07	-2.55E-04
	Shapiro-Wilk score	9.246E-01	9.166E-01	8.018E-01	7.837E-01	8.178E-01	9.196E-01	8.494E-01	8.564E-01	9.719E-01	9.085E-01	9.062E-01	9.799E-01	9.816E-01	9.776E-01	6.660E-01	9.753E-01	7.888E-01	1.690E-01	9.371E-01	9.730E-01	9.787E-01
(enolase)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	-1.93E-02	-6.77E-03	9.84E-06	6.13E-05	-6.41E-04	9.03E-05	4.48E-04	2.22E-04	1.81E-03	-7.65E-16	7.92E-04	9.37E-05	2.23E-05	-4.82E-02	3.79E-04	1.33E-04	-8.16E-19	-6.29E-18	5.94E-10	3.83E-08	-9.32E-04
	Max	9.93E-01	2.05E-02	2.25E-03	1.90E-02	1.56E-01	2.53E-02	6.30E-01	3.93E-01	1.71E-01	6.75E-16	4.25E-02	2.69E-02	4.90E-03	-1.11E-03	9.57E-01	3.80E-02	6.43E-18	1.96E-16	8.33E-07	1.77E-06	-4.87E-06
	Normalized peak height	3.42E-03	8.86E-03	1.42E-02	1.61E-02	1.36E-02	4.66E-03	8.13E-03	8.22E-03	2.98E-03	1.54E-01	5.25E-03	3.02E-03	2.69E-03	2.33E-03	1.33E-02	2.54E-03	3.63E-01	3.23E-01	4.42E-03	2.73E-03	2.98E-03
	Peak sensitivity value	9.62E-01	4.90E-03	4.45E-05	3.35E-04	5.34E-04	7.57E-04	7.69E-03	3.95E-03	4.94E-02	2.67E-19	5.74E-03	6.81E-03	1.71E-03	-2.38E-02	8.51E-03	1.18E-02	-3.96E-22	8.13E-20	1.08E-07	5.08E-07	-2.45E-04
	Shapiro-Wilk score	9.251E-01	9.174E-01	8.022E-01	7.845E-01	8.186E-01	9.209E-01	8.499E-01	8.550E-01	9.726E-01	9.090E-01	9.054E-01	9.802E-01	9.820E-01	9.785E-01	6.630E-01	9.757E-01	8.343E-01	2.043E-01	9.392E-01	9.733E-01	9.801E-01
(adenylate kinase cytosol)	Local	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	5.00E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01
	Peak sensitivity value	-5.42E-02	-4.42E-02	-9.49E-03	-1.68E-02	-1.21E-03	-6.46E-04	-7.33E-03	-1.14E-02	-5.49E-03	-2.94E-07	-6.01E-02	-9.01E-02	-3.37E-02	-2.21E-04	-4.20E-02	-3.02E-02	-7.73E-13	-1.86E-13	-2.99E-02	-1.14E-03	-9.40E-06
	Shapiro-Wilk score	8.904E-01	9.322E-01	9.273E-01	7.909E-01	9.219E-01	8.509E-01	8.624E-01	7.679E-01	9.515E-01	7.536E-01	9.060E-01	8.685E-01	9.628E-01	8.819E-01	8.240E-01	9.298E-01	9.547E-01	9.515E-01	9.401E-01	8.786E-01	8.170E-01
(adenylate kinase glycosome)	Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
	Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	7.65E-02	2.39E-02	2.29E-02	2.14E-02	9.11E-02	5.21E-02	8.46E-02	8.77E-02	2.73E-01	2.07E-01	1.93E-02	6.38E-02	6.66E-02	1.69E-01	9.17E-02	5.70E-02	3.86E-01	1.12E-02	3.86E-02	5.43E-02	1.40E-01
	Peak sensitivity value	-5.25E-02	5.18E-02	-3.55E-02	2.78E-02	-5.36E-03	2.79E-04	4.66E-04	-8.68E-03	3.90E-04	3.31E-09	5.99E-02	4.06E-04	3.64E-05	-1.28E-03	-8.99E-03	-8.23E-04	-7.55E-17	-5.20E-13	6.88E-03	3.92E-03	3.12E-05
	Shapiro-Wilk score	8.945E-01	8.822E-01	8.902E-01	8.900E-01	8.371E-01	8.570E-01	8.354E-01	8.338E-01	6.755E-01	7.717E-01	8.956E-01	9.263E-01	9.306E-01	7.570E-01	7.758E-01	9.236E-01	6.584E-01	9.577E-01	8.289E-01	7.943E-01	7.776E-01
(3phosphoglycerate transport)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.20E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	-1.27E-02	-8.11E-03	9.51E-06	5.07E-05	-9.30E-04	7.78E-05	5.89E-04	3.09E-04	1.56E-03	-7.41E-16	6.69E-04	1.45E-04	3.48E-05	-5.17E-02	5.88E-04	2.02E-04	-6.26E-19	-6.40E-18	-1.29E-09	4.33E-08	-9.99E-04
	Max	9.93E-01	1.81E-02	2.09E-03	1.73E-02	1.62E-01	2.46E-02	6.09E-01	3.88E-01	1.75E-01	6.62E-16	4.14E-02	2.19E-02	4.48E-03	-6.75E-04	9.55E-01	3.64E-02	4.97E-18	1.92E-16	7.82E-07	1.79E-06	-2.32E-06
	Normalized peak height	3.33E-03	8.52E-03	1.33E-02	1.53E-02	1.41E-02	4.82E-03	7.63E-03	8.07E-03	3.13E-03	1.12E-01	5.21E-03	2.46E-03	2.50E-03	2.52E-03	1.31E-02	2.46E-03	3.63E-01	3.47E-01	4.45E-03	2.75E-03	3.17E-03
	Peak sensitivity value	9.52E-01	4.51E-03	4.39E-05	3.17E-04	4.53E-04	6.05E-04	7.58E-03	3.99E-03	5.35E-02	6.06E-19	5.58E-03	8.28E-03	1.66E-03	-2.35E-02	1.06E-02	1.21E-02	-1.31E-21	3.98E-20	1.25E-07	5.67E-07	-2.13E-04
	Shapiro-Wilk score	9.235E-01	9.155E-01	7.990E-01	7.815E-01	8.169E-01	9.194E-01	8.484E-01	8.546E-01	9.715E-01	9.062E-01	9.046E-01	9.795E-01	9.813E-01	9.775E-01	6.632E-01	9.751E-01	8.549E-01	1.804E-01	9.374E-01	9.731E-01	9.794E-01
(gly3p dhap antiporter)	Local	4.14E-01	2.95E-03	2.25E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.60E-02	8.65E-17	1.45E-02	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06	-7.39E-04
	Min	-9.01E-01	-3.93E-02	-5.65E-04	-3.99E-03	-3.14E-02	1.76E-04	9.44E-04	4.56E-04	4.12E-03	-1.61E-15	1.69E-03	2.21E-04	5.94E-05	-3.13E-01	9.85E-04	3.13E-04	-1.40E-18	-2.96E-17	1.91E-09	8.05E-08	-2.35E-03
	Max	9.88E-01	4.68E-02	2.23E-03	1.71E-02	2.49E-01	4.54E-02	1.02E+00	6.71E-01	3.98E-01	4.12E-15	4.89E-02	4.51E-02	8.92E-03	-2.44E-03	1.73E+00	6.97E-02	6.30E-18	1.31E-15	1.74E-06	6.96E-06	-3.86E-05
	Normalized peak height	3.27E-03	1.69E-02	1.40E-02	1.31E-02	1.21E-02	4.29E-03	6.42E-03	6.93E-03	3.37E-03	2.56E-01	3.04E-03	2.43E-03	2.43E-03	5.07E-03	1.28E-02	2.29E-03	3.61E-01	4.85E-01	4.69E-03	5.00E-03	3.37E-03
	Peak sensitivity value	9.27E-01	3.71E-03	4.93E-05	3.71E-04	5.03E-04	1.60E-03	1.78E-02	8.84E-03	2.79E-02	-2.11E-18	8.33E-03	4.69E-03	3.64E-03	-1.47E-02	1.91E-02	4.51E-03	-3.26E-21	5.95E-19	1.86E-07	4.07E-07	-5.99E-04
	Shapiro-Wilk score	9.258E-01	8.600E-01	8.621E-01	8.619E-01	8.643E-01	9.322E-01	8.859E-01	8.918E-01	9.557E-01	8.338E-01	9.624E-01	9.761E-01	9.783E-01	9.195E-01	7.048E-01	9.710E-01	8.729E-01	9.124E-02	9.285E-01	8.951E-01	9.784E-01
(glycerol transport)	Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	1.09E-02
	Min	-1.30E+00	-2.95E-01	-1.35E-02	-1.24E-01	-2.11E+00	-4.31E-01	-9.41E+00	-6.41E+00	-4.41E+00	-7.04E-14	-9.06E-01	-4.27E-01	-9.43E-02	1.58E-01	-1.21E+01	-6.86E-01	-4.55E-17	-9.40E-15	-3.66E-05	-7.86E-05	7.16E-04
	Max	2.00E+01	2.69E-01	7.44E-03	5.55E-02	6.82E-01	1.23E-02	1.45E+00	9.04E-01	-3.08E-01	6.47E-14	7.93E-02	4.82E-02	9.85E-03	9.80E-01	2.16E+00	6.39E-02	2.15E-17	1.90E-16	6.08E-07	-1.91E-06	3.90E-02
	Normalized peak height	4.63E-03	7.49E-03	8.65E-03	8.94E-03	6.60E-03	5.07E-03	5.60E-03	6.40E-03	4.75E-03	3.13E-01	3.36E-03	2.70E-03	2.63E-03	2.38E-03	7.80E-03	2.94E-03	3.73E-01	3.68E-01	6.63E-03	4.30E-03	4.09E-03
	Peak sensitivity value	8.10E+00	5.00E-02	-7.08E-04	-7.66E-03	-1.98E-01	-1.14E-01	-1.59E+00	-9.86E-01	-1.57E+00	5.51E-17	-1.21E-01	-2.58E-01	-5.63E-02	9.26E-01	-1.22E+00	-3.76E-01	2.40E-20	3.13E-18	-4.23E-08	-1.18E-05	3.26E-03
	Shapiro-Wilk score	9.666E-01	9.251E-01	9.678E-01	9.666E-01	9.746E-01	9.835E-01	9.703E-01	9.708E-01	9.798E-01	6.902E-01	9.522E-01	9.546E-01	9.496E-01	9.341E-01	9.090E-01	9.579E-01	8.817E-01	1.286E-01	9.170E-01	9.377E-01	9.449E-01

Table 14: Flux control coefficients for *Trypanosoma brucei* model with parameter variation of ±30%

		(glucosetransport)	(hexokinase)	(phosphoglycerateisomerase)	(phophofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)	(phosphoglyceratekinase)
(glucose transport)	Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04
	Min	-5.54E-01	-1.26E-01	-1.83E-04	-2.69E-04	2.21E-06	-7.15E-03	4.13E-06	1.78E-06	-2.63E-01	-5.26E-14	1.25E-05
	Max	9.98E-01	5.85E-02	5.41E-03	7.45E-02	3.18E-01	3.37E-02	8.32E-01	6.21E-01	3.94E-02	7.44E-13	7.22E-02
	Normalized peak height	8.53E-02	2.30E-02	5.47E-02	1.00E-01	3.38E-01	1.91E-01	2.91E-01	3.19E-01	4.12E-01	9.07E-01	1.61E-01
	Peak sensitivity value	9.94E-01	4.42E-03	2.63E-05	1.43E-04	1.61E-04	2.84E-05	4.20E-04	3.12E-04	-6.95E-05	-3.89E-16	1.21E-04
	Shapiro-Wilk score	6.588E-01	8.610E-01	6.682E-01	6.251E-01	6.187E-01	6.258E-01	5.805E-01	5.823E-01	6.514E-01	2.089E-02	5.741E-01
(hexokinase)	Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04
	Min	-4.37E-01	-8.64E-02	-3.01E-04	-5.85E-04	1.35E-06	-6.74E-03	2.47E-06	8.07E-07	-2.64E-01	-1.17E-13	1.01E-05
	Max	9.98E-01	6.35E-02	5.39E-03	4.91E-02	2.89E-01	2.99E-02	8.52E-01	5.67E-01	2.21E-02	1.46E-13	7.27E-02
	Normalized peak height	7.94E-02	1.84E-02	5.45E-02	6.94E-02	3.24E-01	2.38E-01	2.91E-01	3.04E-01	4.07E-01	9.39E-01	1.60E-01
	Peak sensitivity value	9.95E-01	4.37E-03	2.61E-05	1.85E-04	1.46E-04	2.09E-05	4.29E-04	2.84E-04	-6.81E-05	7.81E-17	1.19E-04
	Shapiro-Wilk score	6.587E-01	8.603E-01	6.664E-01	6.261E-01	6.170E-01	6.246E-01	5.787E-01	5.811E-01	6.522E-01	5.781E-02	5.768E-01
(phosphoglycerate isomerase)	Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04
	Min	-5.15E-01	-1.10E-01	-1.01E-04	-7.23E-05	2.36E-06	-7.56E-03	2.98E-06	1.53E-06	-2.59E-01	-1.85E-13	1.38E-05
	Max	9.98E-01	5.14E-02	5.59E-03	7.46E-02	2.96E-01	3.27E-02	9.76E-01	5.23E-01	3.91E-02	1.28E-13	7.29E-02
	Normalized peak height	8.62E-02	1.97E-02	5.54E-02	1.04E-01	3.29E-01	2.18E-01	3.09E-01	2.97E-01	2.50E-01	9.54E-01	1.59E-01
	Peak sensitivity value	9.95E-01	4.59E-03	2.75E-05	1.89E-04	1.51E-04	-4.01E-06	4.91E-04	2.63E-04	1.25E-04	4.56E-17	1.23E-04
	Shapiro-Wilk score	6.568E-01	8.611E-01	6.649E-01	6.252E-01	6.158E-01	6.235E-01	5.773E-01	5.785E-01	6.491E-01	5.461E-02	5.699E-01
(phophofructokinase)	Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04
	Min	-5.22E-01	-9.57E-02	-1.01E-04	-4.03E-04	1.85E-06	-8.70E-03	2.27E-06	1.51E-06	-2.50E-01	-1.89E-13	1.12E-05
	Max	9.98E-01	5.36E-02	6.28E-03	5.86E-02	2.90E-01	3.45E-02	8.65E-01	5.30E-01	2.38E-02	1.11E-13	8.40E-02
	Normalized peak height	8.46E-02	1.90E-02	6.16E-02	8.18E-02	3.24E-01	2.79E-01	2.93E-01	2.97E-01	2.91E-01	9.08E-01	1.70E-01
	Peak sensitivity value	9.95E-01	4.57E-03	2.36E-05	1.57E-04	1.47E-04	7.09E-06	4.35E-04	2.66E-04	-1.46E-04	1.39E-16	1.37E-04
	Shapiro-Wilk score	6.597E-01	8.605E-01	6.658E-01	6.258E-01	6.191E-01	6.246E-01	5.814E-01	5.843E-01	6.535E-01	5.665E-02	5.755E-01
(aldolase)	Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	1.48E-16	3.73E-04
	Min	-5.11E-01	-8.41E-02	-9.32E-05	-7.26E-05	2.72E-06	-7.41E-03	3.47E-06	1.75E-06	-2.71E-01	-9.34E-15	1.25E-05
	Max	9.98E-01	5.20E-02	5.10E-03	4.83E-02	2.82E-01	3.29E-02	9.38E-01	6.02E-01	2.25E-02	1.56E-14	8.53E-02
	Normalized peak height	8.64E-02	1.71E-02	5.05E-02	6.78E-02	3.26E-01	1.85E-01	3.06E-01	3.14E-01	3.75E-01	4.10E-01	1.68E-01
	Peak sensitivity value	9.95E-01	4.17E-03	2.36E-05	1.93E-04	1.44E-04	2.88E-05	4.72E-04	3.03E-04	4.54E-05	1.22E-17	1.40E-04
	Shapiro-Wilk score	6.564E-01	8.629E-01	6.663E-01	6.257E-01	6.147E-01	6.226E-01	5.758E-01	5.785E-01	6.491E-01	6.035E-01	5.710E-01
(triosephosphate isomerase)	Local	4.14E-01	2.95E-03	2.25E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.60E-02	8.65E-17	1.45E-02
	Min	-1.33E+00	-5.65E-02	-1.66E-03	-1.10E-02	-7.71E-02	3.79E-05	8.85E-05	4.30E-05	1.06E-03	-1.14E-14	4.13E-04
	Max	9.96E-01	9.63E-02	5.03E-03	3.22E-02	3.79E-01	5.76E-02	1.28E+00	8.63E-01	9.15E-01	2.15E-14	7.16E-02
	Normalized peak height	7.73E-03	2.26E-02	4.42E-02	3.64E-02	5.62E-02	9.90E-03	1.91E-02	2.15E-02	1.02E-02	5.85E-01	4.72E-03
	Peak sensitivity value	9.76E-01	3.32E-03	2.45E-05	1.62E-04	-1.61E-04	6.43E-04	3.29E-03	1.34E-03	9.75E-03	-5.93E-18	5.85E-03
	Shapiro-Wilk score	9.170E-01	8.676E-01	8.291E-01	8.274E-01	8.580E-01	9.064E-01	8.546E-01	8.512E-01	9.157E-01	4.161E-01	9.224E-01
(glyceraldehyde3phosphate dehydrogenase)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	1.18E-16	7.20E-03
	Min	-1.15E-01	-9.40E-02	2.34E-06	1.57E-05	-1.42E-03	2.18E-05	4.75E-05	2.45E-05	7.33E-05	-7.58E-16	3.06E-04
	Max	9.96E-01	2.90E-02	4.82E-03	7.74E-02	2.20E-01	3.55E-02	7.27E-01	4.75E-01	4.10E-01	8.27E-16	6.41E-02
	Normalized peak height	8.92E-03	2.57E-02	3.73E-02	7.65E-02	4.88E-02	1.32E-02	2.08E-02	2.25E-02	1.03E-02	2.75E-01	7.32E-03
	Peak sensitivity value	1.42E-03	3.85E-03	2.40E-05	2.09E-04	2.19E-05	2.88E-04	1.87E-03	7.37E-04	5.19E-03	1.46E-19	3.21E-03
	Shapiro-Wilk score	8.735E-01	8.795E-01	7.300E-01	6.933E-01	7.883E-01	8.717E-01	8.112E-01	8.154E-01	8.397E-01	7.902E-01	8.297E-01
(glycerol3phosphate dehydrogenase)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	1.18E-16	7.20E-03
	Min	-8.84E-02	-5.43E-02	1.63E-06	7.69E-06	-2.10E-03	2.25E-05	7.26E-05	3.91E-05	3.65E-05	-7.75E-16	3.80E-04
	Max	9.97E-01	2.89E-02	4.66E-03	5.34E-02	2.29E-01	3.19E-02	7.18E-01	4.76E-01	3.70E-01	7.69E-16	6.46E-02
	Normalized peak height	8.83E-03	1.76E-02	3.55E-02	5.38E-02	4.76E-02	1.16E-02	2.11E-02	2.28E-02	9.18E-03	2.37E-01	6.97E-03
	Peak sensitivity value	1.11E-03	3.74E-03	2.73E-05	1.95E-04	-1.44E-04	2.61E-04	1.87E-03	7.54E-04	5.03E-03	-6.35E-19	4.39E-03
	Shapiro-Wilk score	8.742E-01	8.852E-01	7.314E-01	6.976E-01	7.880E-01	8.723E-01	8.113E-01	8.158E-01	8.481E-01	7.905E-01	8.294E-01
(glycerol3phosphate oxidase)	Local	4.14E-01	2.95E-03	2.25E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.60E-02	8.65E-17	1.45E-02
	Min	-1.29E+00	-5.40E-02	-1.86E-03	-9.86E-03	-1.78E-01	3.28E-05	-4.45E-01	-2.21E-01	9.94E-04	-1.50E-14	-3.88E-03
	Max	1.70E+00	9.37E-02	4.20E-03	4.66E-02	3.40E-01	6.03E-02	1.32E+00	8.10E-01	9.22E-01	2.09E-14	7.13E-02
	Normalized peak height	9.28E-03	2.21E-02	3.80E-02	4.50E-02	5.25E-02	1.04E-02	2.61E-02	2.53E-02	1.02E-02	6.03E-01	5.07E-03
	Peak sensitivity value	9.76E-01	3.38E-03	2.21E-05	2.22E-04	1.60E-04	5.45E-04	3.06E-03	1.36E-03	8.82E-03	2.49E-18	5.40E-03
	Shapiro-Wilk score	9.176E-01	8.698E-01	8.248E-01	8.216E-01	8.579E-01	9.072E-01	8.558E-01	8.523E-01	9.161E-01	3.636E-01	9.222E-01
(pyruvate transport)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	-2.22E-16	7.20E-03
	Min	-1.34E-01	-5.02E-02	2.70E-06	2.42E-05	-1.56E-03	1.28E-05	3.76E-05	1.60E-05	4.54E-05	-8.88E-16	3.26E-04
	Max	9.97E-01	2.92E-02	5.48E-03	5.34E-02	2.29E-01	3.20E-02	7.28E-01	5.01E-01	4.34E-01	7.77E-16	7.24E-02
	Normalized peak height	9.07E-03	1.76E-02	4.02E-02	5.28E-02	5.43E-02	1.14E-02	2.06E-02	2.37E-02	1.13E-02	4.04E-01	8.07E-03
	Peak sensitivity value	1.88E-03	3.88E-03	3.28E-05	2.11E-04	-5.95E-05	2.84E-04	1.86E-03	7.68E-04	5.46E-03	2.78E-19	3.32E-03
	Shapiro-Wilk score	8.745E-01	8.936E-01	7.363E-01	7.021E-01	7.914E-01	8.735E-01	8.130E-01	8.170E-01	8.402E-01	9.119E-01	8.286E-01

		(pyruvatekinase)	(atputilisation)	(glycerolkinase)	(phosphoglyceratemutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglyceratetransport)	(gly3pdhapantiporter)	(glyceroltransport)
(glucose transport)	Local	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
	Min	6.86E-07	1.57E-07	-2.49E-05	2.57E-06	8.40E-07	-1.23E-18	-1.67E-15	4.09E-11	-6.18E-06	-2.54E-07
	Max	3.51E-02	7.86E-03	2.03E-01	1.30E+00	6.70E-02	8.95E-19	2.97E-17	6.36E-07	6.69E-08	1.57E-03
	Normalized peak height	1.18E-01	1.14E-01	3.99E-01	3.68E-01	1.56E-01	4.95E-01	8.62E-01	6.62E-02	4.07E-01	3.40E-01
	Peak sensitivity value	1.83E-05	4.09E-06	7.68E-05	6.54E-04	3.43E-05	2.32E-22	-5.50E-20	9.96E-10	1.29E-09	5.32E-07
	Shapiro-Wilk score	6.084E-01	6.066E-01	6.504E-01	4.055E-01	5.956E-01	4.629E-01	4.316E-02	6.475E-01	6.187E-01	6.912E-01
(hexokinase)	Local	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
	Min	4.38E-07	1.24E-07	-6.53E-05	1.07E-06	4.21E-07	-1.16E-18	-1.83E-15	2.30E-11	-7.51E-06	-2.72E-07
	Max	3.97E-02	7.13E-03	2.08E-01	1.27E+00	5.95E-02	1.06E-18	4.19E-17	7.56E-07	2.73E-08	1.54E-03
	Normalized peak height	1.29E-01	1.01E-01	3.83E-01	3.62E-01	1.40E-01	5.01E-01	8.63E-01	8.01E-02	4.31E-01	3.35E-01
	Peak sensitivity value	2.03E-05	3.69E-06	3.90E-05	6.37E-04	3.02E-05	-1.86E-22	-2.77E-19	1.16E-09	8.99E-10	4.98E-07
	Shapiro-Wilk score	6.118E-01	6.111E-01	6.510E-01	4.098E-01	6.021E-01	4.701E-01	3.865E-02	6.403E-01	6.197E-01	6.905E-01
(phosphoglycerate isomerase)	Local	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
	Min	5.63E-07	1.37E-07	-2.15E-05	1.96E-06	8.26E-07	-9.23E-19	-7.73E-16	2.59E-11	-5.79E-06	-5.12E-07
	Max	3.58E-02	7.56E-03	1.89E-01	1.33E+00	6.70E-02	1.42E-18	2.56E-17	5.36E-07	4.50E-08	1.65E-03
	Normalized peak height	1.18E-01	1.08E-01	3.94E-01	3.69E-01	1.54E-01	4.71E-01	8.16E-01	5.75E-02	4.02E-01	3.28E-01
	Peak sensitivity value	1.84E-05	3.92E-06	7.32E-05	6.67E-04	3.43E-05	1.04E-21	-3.12E-19	1.37E-09	1.25E-09	3.11E-07
	Shapiro-Wilk score	6.047E-01	6.036E-01	6.479E-01	4.061E-01	5.914E-01	4.686E-01	6.632E-02	6.438E-01	6.171E-01	6.866E-01
(phophofructokinase)	Local	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
	Min	3.11E-07	7.88E-08	-8.91E-06	7.46E-07	4.17E-07	-1.37E-18	-2.10E-15	3.12E-11	-6.57E-06	-7.45E-08
	Max	3.75E-02	8.51E-03	1.89E-01	1.27E+00	6.72E-02	1.03E-18	1.12E-16	5.71E-07	3.54E-08	1.31E-03
	Normalized peak height	1.21E-01	1.19E-01	3.97E-01	3.62E-01	1.53E-01	4.94E-01	8.67E-01	5.92E-02	4.49E-01	3.33E-01
	Peak sensitivity value	1.91E-05	4.33E-06	8.56E-05	6.34E-04	3.40E-05	-6.96E-22	5.15E-19	1.46E-09	-9.16E-10	5.78E-07
	Shapiro-Wilk score	6.110E-01	6.078E-01	6.517E-01	4.111E-01	5.980E-01	4.575E-01	3.340E-02	6.463E-01	6.215E-01	6.927E-01
(aldolase)	Local	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
	Min	8.54E-07	1.77E-07	-3.24E-05	1.79E-06	9.07E-07	-8.71E-19	-2.71E-15	1.87E-11	-6.56E-06	-3.57E-07
	Max	4.61E-02	9.30E-03	1.92E-01	1.35E+00	7.15E-02	3.19E-18	2.84E-17	6.36E-07	2.95E-08	1.58E-03
	Normalized peak height	1.49E-01	1.32E-01	3.93E-01	3.73E-01	1.64E-01	5.67E-01	8.76E-01	6.61E-02	4.42E-01	3.35E-01
	Peak sensitivity value	2.39E-05	4.83E-06	6.38E-05	6.76E-04	3.66E-05	9.19E-22	-3.25E-19	9.72E-10	-1.10E-10	4.32E-07
	Shapiro-Wilk score	6.072E-01	6.059E-01	6.478E-01	4.095E-01	5.931E-01	4.383E-01	2.308E-02	6.440E-01	6.175E-01	6.875E-01
(triosephosphate isomerase)	Local	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06	-7.39E-04
	Min	1.99E-05	4.82E-06	-4.02E-01	5.96E-05	2.03E-05	-2.21E-18	-6.21E-17	2.53E-11	2.88E-08	-3.56E-03
	Max	5.88E-02	1.22E-02	-6.88E-04	2.27E+00	9.59E-02	5.77E-18	3.41E-15	2.77E-06	1.01E-05	-1.28E-05
	Normalized peak height	5.53E-03	5.34E-03	8.03E-03	4.28E-02	6.44E-03	3.45E-01	6.76E-01	1.25E-02	8.65E-03	5.18E-03
	Peak sensitivity value	1.22E-03	3.17E-04	-7.71E-03	3.47E-03	1.22E-03	-2.00E-21	-1.31E-18	1.41E-09	1.95E-07	-2.06E-04
	Shapiro-Wilk score	9.146E-01	9.204E-01	8.870E-01	6.510E-01	8.986E-01	7.896E-01	4.117E-02	8.154E-01	8.727E-01	9.090E-01
(glyceraldehyde3phosphate dehydrogenase)	Local	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	1.47E-05	4.00E-06	-6.73E-02	6.08E-05	1.84E-05	-9.79E-19	-3.61E-17	4.31E-11	1.29E-09	-1.57E-03
	Max	3.38E-02	8.24E-03	1.15E-02	9.96E-01	5.67E-02	5.81E-18	2.84E-16	1.49E-06	2.79E-06	2.47E-05
	Normalized peak height	4.92E-03	5.30E-03	4.61E-03	3.03E-02	5.79E-03	3.50E-01	5.13E-01	7.39E-03	5.33E-03	1.00E-02
	Peak sensitivity value	7.75E-04	1.56E-04	-4.56E-03	1.55E-03	8.98E-04	1.94E-21	-8.64E-20	7.86E-10	1.14E-07	-1.58E-06
	Shapiro-Wilk score	9.352E-01	9.396E-01	9.471E-01	5.935E-01	9.167E-01	7.747E-01	1.360E-01	8.551E-01	9.282E-01	8.910E-01
(glycerol3phosphate dehydrogenase)	Local	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	2.12E-05	6.65E-06	-5.99E-02	7.17E-05	2.68E-05	-1.01E-18	-9.63E-17	3.90E-11	1.30E-09	-1.52E-03
	Max	3.62E-02	7.74E-03	9.93E-03	9.98E-01	6.02E-02	3.31E-18	2.06E-16	1.25E-06	2.64E-06	2.96E-05
	Normalized peak height	5.27E-03	4.96E-03	4.02E-03	3.21E-02	6.38E-03	3.45E-01	4.77E-01	6.36E-03	5.14E-03	1.01E-02
	Peak sensitivity value	4.74E-04	1.65E-04	-3.64E-03	1.57E-03	8.99E-04	-6.69E-23	-1.19E-19	3.08E-08	1.21E-07	-2.07E-06
	Shapiro-Wilk score	9.348E-01	9.395E-01	9.475E-01	5.976E-01	9.164E-01	8.066E-01	1.827E-01	8.568E-01	9.303E-01	8.897E-01
(glycerol3phosphate oxidase)	Local	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06	-7.39E-04
	Min	-1.46E-03	-3.47E-04	-4.48E-01	-3.22E-03	-1.85E-03	-3.05E-18	-5.86E-17	-9.84E-08	2.61E-08	-3.78E-03
	Max	6.02E-02	1.31E-02	-6.37E-04	2.23E+00	9.90E-02	1.24E-17	4.35E-15	3.26E-06	9.77E-06	-1.17E-05
	Normalized peak height	5.59E-03	5.54E-03	8.62E-03	3.96E-02	6.68E-03	3.59E-01	7.63E-01	1.16E-02	7.93E-03	5.12E-03
	Peak sensitivity value	1.28E-03	2.76E-04	-6.23E-03	4.59E-03	1.93E-03	-3.13E-21	9.86E-19	4.09E-09	2.55E-07	-1.76E-04
	Shapiro-Wilk score	9.149E-01	9.203E-01	8.867E-01	6.510E-01	8.992E-01	7.115E-01	3.994E-02	8.179E-01	8.733E-01	9.095E-01
(pyruvate transport)	Local	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	1.00E-05	2.35E-06	-6.17E-02	3.30E-05	1.29E-05	-1.58E-18	-2.59E-17	2.40E-11	2.06E-09	-1.58E-03
	Max	4.16E-02	7.66E-03	1.02E-02	9.96E-01	5.96E-02	3.25E-18	1.64E-16	1.35E-06	3.52E-06	1.82E-05
	Normalized peak height	6.07E-03	4.95E-03	4.11E-03	3.06E-02	6.13E-03	3.46E-01	4.38E-01	6.89E-03	6.76E-03	9.86E-03
	Peak sensitivity value	5.71E-04	2.28E-04	-4.22E-03	1.53E-03	6.39E-04	-1.57E-21	-5.90E-20	2.05E-09	9.52E-08	-1.76E-06
	Shapiro-Wilk score	9.342E-01	9.391E-01	9.472E-01	5.964E-01	9.161E-01	7.888E-01	2.523E-01	8.591E-01	9.293E-01	8.909E-01

(phosphoglycerate kinase)																				
Local	7.00E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	2.34E-17	7.20E-03	8.31E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-8.62E-02	-4.27E-02	3.14E-06	2.05E-05	-1.41E-03	1.91E-05	6.99E-05	4.06E-05	7.23E-05	-7.08E-16	3.59E-04	1.86E-05	4.08E-06	-6.04E-02	5.98E-05	2.23E-05	-1.31E-18	-2.04E-17	5.19E-11	1.91E-09	-1.58E-03
Max	9.97E-01	3.60E-02	3.34E-03	3.99E-02	2.12E-01	3.47E-02	7.21E-01	4.89E-01	4.23E-01	6.94E-16	6.06E-02	4.00E-02	7.50E-03	9.52E-03	9.93E-01	5.55E-02	1.42E-18	1.51E-16	1.50E-06	2.74E-06	1.50E-05
Normalized peak height	9.06E-03	1.69E-02	2.52E-02	3.98E-02	4.90E-02	1.26E-02	2.07E-02	2.40E-02	1.06E-02	1.55E-01	6.96E-03	5.80E-03	4.80E-03	3.89E-03	3.11E-02	5.76E-03	3.40E-01	3.55E-01	7.58E-03	5.38E-03	1.03E-02
Peak sensitivity value	1.00E-03	3.61E-03	3.15E-05	2.00E-04	-1.66E-05	2.44E-04	1.15E-03	7.75E-04	4.11E-03	6.41E-19	4.49E-03	4.85E-04	1.13E-04	-4.28E-03	1.55E-03	6.05E-04	-1.11E-21	8.21E-20	2.30E-09	9.65E-08	-1.69E-06
Shapiro-Wilk score	8.731E-01	9.003E-01	7.349E-01	7.045E-01	7.895E-01	8.721E-01	8.116E-01	8.158E-01	8.481E-01	8.483E-01	8.303E-01	9.342E-01	9.395E-01	9.468E-01	5.938E-01	9.157E-01	8.138E-01	2.755E-01	8.590E-01	9.297E-01	8.883E-01
(pyruvate kinase)																				
Local	7.00E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	-2.12E-16	7.20E-03	8.31E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-7.33E-02	-3.38E-02	1.97E-06	8.67E-06	-1.50E-03	2.08E-05	1.01E-04	4.34E-05	1.03E-04	-8.44E-16	3.28E-04	2.81E-05	6.63E-06	-6.14E-02	9.97E-05	3.51E-05	-9.80E-19	-2.29E-17	3.70E-11	2.11E-09	-1.41E-03
Max	9.96E-01	2.73E-02	4.39E-03	3.65E-02	2.22E-01	3.67E-02	7.14E-01	4.85E-01	4.18E-01	9.20E-16	6.68E-02	3.54E-02	7.33E-03	1.41E-02	9.96E-01	6.58E-02	6.86E-18	3.03E-16	1.72E-06	2.37E-06	2.94E-05
Normalized peak height	8.54E-03	1.33E-02	3.32E-02	3.69E-02	5.21E-02	1.32E-02	2.07E-02	2.33E-02	1.05E-02	3.44E-01	7.47E-03	5.04E-03	4.79E-03	4.30E-03	3.12E-02	6.84E-03	3.59E-01	5.08E-01	8.93E-03	4.53E-03	9.51E-03
Peak sensitivity value	1.09E-03	4.17E-03	3.05E-05	2.09E-04	-4.68E-05	2.23E-04	1.89E-03	7.70E-04	7.00E-03	-5.13E-20	3.82E-03	5.76E-04	1.35E-04	-3.53E-03	1.59E-03	7.25E-04	-3.53E-21	1.04E-19	8.96E-10	1.22E-07	-1.55E-06
Shapiro-Wilk score	8.736E-01	9.006E-01	7.298E-01	7.023E-01	7.876E-01	8.714E-01	8.108E-01	8.140E-01	8.358E-01	9.674E-01	8.278E-01	9.338E-01	9.386E-01	9.465E-01	5.963E-01	9.154E-01	7.530E-01	1.789E-01	8.592E-01	9.304E-01	8.914E-01
(atp utilisation)																				
Local	7.00E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	2.20E-21	7.20E-03	8.31E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-1.10E-01	-7.93E-02	2.06E-06	1.60E-05	-2.20E-03	2.27E-05	7.55E-05	4.19E-05	5.70E-05	-5.17E-12	2.82E-04	1.88E-05	5.58E-06	-6.24E-02	7.43E-05	2.51E-05	-1.10E-18	-3.18E-17	4.66E-11	2.29E-09	-1.48E-03
Max	9.97E-01	2.66E-02	4.34E-03	7.05E-02	2.18E-01	3.31E-02	7.18E-01	5.27E-01	4.02E-01	4.45E-12	6.42E-02	3.83E-02	7.83E-03	9.56E-03	9.96E-01	6.13E-02	4.47E-18	1.69E-16	1.32E-06	2.35E-06	1.90E-05
Normalized peak height	9.22E-03	2.28E-02	3.23E-02	6.87E-02	4.90E-02	1.18E-02	2.13E-02	2.63E-02	1.03E-02	8.38E-01	7.10E-03	5.47E-03	5.12E-03	4.24E-03	3.03E-02	6.40E-03	3.46E-01	4.20E-01	6.74E-03	4.69E-03	9.93E-03
Peak sensitivity value	1.29E-03	3.78E-03	2.59E-05	1.92E-04	-1.10E-04	2.38E-04	1.15E-03	8.32E-04	5.09E-03	3.42E-15	4.15E-03	4.21E-04	1.50E-04	-5.52E-03	1.57E-03	6.08E-04	1.37E-21	-8.16E-20	3.51E-08	1.07E-07	-1.19E-06
Shapiro-Wilk score	8.740E-01	8.925E-01	7.318E-01	6.988E-01	7.891E-01	8.719E-01	8.106E-01	8.154E-01	8.406E-01	1.089E-01	8.313E-01	9.333E-01	9.396E-01	9.470E-01	5.983E-01	9.159E-01	7.757E-01	1.972E-01	8.615E-01	9.299E-01	8.926E-01
(glycerol kinase)																				
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	1.09E-02
Min	-3.39E+00	-5.75E-01	-2.27E-02	-1.81E-01	-3.40E+00	-8.92E-01	-1.74E+01	-1.04E+01	-1.17E+01	-1.07E-13	-1.01E+00	-5.45E-01	-1.32E-01	5.08E-02	-2.96E+01	-9.36E-01	-8.86E-17	-1.05E-14	-6.70E-05	-1.34E-04	1.38E-04
Max	3.34E+01	4.07E-01	1.27E-02	1.19E-01	1.07E+00	3.65E-02	2.44E+00	2.07E+00	-9.27E-02	1.04E-13	1.30E-01	7.70E-02	1.33E-02	1.14E+00	3.70E+00	1.20E-01	2.72E-17	2.68E-16	1.01E-06	-5.72E-07	6.17E-02
Normalized peak height	1.02E-02	1.19E-02	1.29E-02	1.24E-02	8.20E-03	7.53E-03	1.18E-02	1.07E-02	1.25E-02	4.67E-01	9.03E-03	1.07E-02	1.16E-02	4.60E-03	5.86E-02	1.19E-02	3.93E-01	4.11E-01	6.49E-02	5.72E-03	7.79E-03
Peak sensitivity value	-2.04E-01	2.39E-02	-1.45E-04	-2.54E-03	-1.52E-01	-8.00E-02	1.63E-02	1.45E-02	-1.39E+00	-9.03E-17	6.62E-03	2.02E-03	5.84E-04	9.61E-01	1.22E-02	3.55E-03	5.09E-20	4.76E-18	2.33E-08	-8.93E-06	2.02E-03
Shapiro-Wilk score	9.687E-01	8.571E-01	9.451E-01	9.515E-01	9.605E-01	9.205E-01	9.287E-01	9.249E-01	9.147E-01	3.428E-01	9.023E-01	9.422E-01	9.376E-01	9.168E-01	8.098E-01	9.475E-01	7.798E-01	1.003E-01	8.326E-01	8.940E-01	8.892E-01
(phosphoglycerate mutase)																				
Local	7.00E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	2.10E-17	7.20E-03	8.31E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-5.85E-02	-3.22E-02	1.75E-06	1.65E-05	-1.40E-03	1.74E-05	7.58E-05	4.24E-05	7.65E-05	-7.45E-16	2.26E-04	2.08E-05	3.88E-06	-6.37E-02	5.12E-05	2.13E-05	-1.26E-18	-4.80E-17	4.00E-11	1.94E-09	-1.52E-03
Max	9.96E-01	2.34E-02	3.98E-03	3.61E-02	2.05E-01	3.59E-02	7.16E-01	4.86E-01	4.16E-01	7.35E-16	5.80E-02	3.46E-02	7.27E-03	1.10E-02	9.97E-01	5.80E-02	9.91E-18	2.31E-16	1.34E-06	2.79E-06	3.20E-05
Normalized peak height	8.34E-03	1.22E-02	3.01E-02	3.65E-02	4.82E-02	1.28E-02	2.02E-02	2.30E-02	1.05E-02	1.96E-01	6.51E-03	4.99E-03	4.52E-03	4.16E-03	3.00E-02	6.05E-03	3.62E-01	4.64E-01	6.87E-03	5.27E-03	1.02E-02
Peak sensitivity value	1.11E-03	3.71E-03	2.76E-05	2.15E-04	-5.99E-05	2.51E-04	1.15E-03	7.71E-04	5.27E-03	2.34E-19	3.79E-03	4.53E-04	1.24E-04	-4.46E-03	1.55E-03	8.04E-04	-4.31E-22	1.14E-19	2.05E-09	9.55E-08	-1.41E-06
Shapiro-Wilk score	8.731E-01	9.030E-01	7.310E-01	7.018E-01	7.872E-01	8.712E-01	8.108E-01	8.132E-01	8.424E-01	8.579E-01	8.282E-01	9.344E-01	9.389E-01	9.468E-01	5.976E-01	9.165E-01	6.243E-01	2.253E-01	8.613E-01	9.293E-01	8.906E-01
(enolase)																				
Local	7.00E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	2.10E-17	7.20E-03	8.31E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-8.56E-02	-6.46E-02	2.78E-06	1.38E-05	-2.45E-03	2.67E-05	7.73E-05	4.62E-05	9.07E-05	-7.27E-16	2.98E-04	2.27E-05	5.30E-06	-6.37E-02	7.77E-05	2.45E-05	-1.03E-18	-1.61E-17	5.36E-11	2.21E-09	-1.49E-03
Max	9.97E-01	2.61E-02	4.48E-03	5.83E-02	2.26E-01	3.48E-02	7.32E-01	4.80E-01	4.47E-01	6.88E-16	7.07E-02	4.45E-02	7.65E-03	1.12E-02	9.95E-01	6.75E-02	1.72E-17	1.34E-16	1.82E-06	2.74E-06	2.07E-05
Normalized peak height	8.47E-03	1.96E-02	3.40E-02	5.68E-02	5.20E-02	1.20E-02	2.05E-02	2.25E-02	1.09E-02	1.95E-01	7.83E-03	4.85E-03	4.75E-03	4.08E-03	3.04E-02	6.78E-03	3.96E-01	4.19E-01	9.16E-03	5.16E-03	9.72E-03
Peak sensitivity value	4.46E-04	3.82E-03	2.74E-05	2.18E-04	-4.89E-05	2.53E-04	1.18E-03	7.66E-04	4.78E-03	-2.34E-19	3.01E-03	1.00E-03	2.15E-04	-4.46E-03	1.57E-03	1.07E-03	-3.21E-21	-3.33E-20	6.46E-08	9.67E-08	-1.22E-06
Shapiro-Wilk score	8.742E-01	8.858E-01	7.356E-01	6.993E-01	7.907E-01	8.734E-01	8.127E-01	8.172E-01	8.364E-01	8.582E-01	8.283E-01	9.341E-01	9.391E-01	9.475E-01	5.972E-01	9.156E-01	4.729E-01	2.782E-01	8.573E-01	9.286E-01	8.896E-01
(adenylate kinase cytosol)																				
Local	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	1.67E-01	1.67E-01	1.67E-01	1.67E-01	8.33E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01
Peak sensitivity value	3.27E-05	-1.29E-02	-2.91E-02	-1.24E-02	-9.46E-07	-7.97E-05	-5.14E-03	-6.98E-03	-6.38E-04	-1.43E-05	-6.96E-02	-4.95E-02	-3.29E-02	-2.70E-03	-1.93E-02	-2.54E-02	-2.70E-12	-2.99E-13	-1.02E-02	-1.20E-03	-6.03E-06
Shapiro-Wilk score	8.207E-01	8.800E-01	8.434E-01	9.154E-01	4.961E-01	8.310E-01	7.631E-01	8.694E-01	8.275E-01	9.164E-01	7.066E-01	8.550E-01	8.928E-01	9.087E-01	9.069E-01	9.566E-01	8.750E-01	6.011E-01	9.371E-01	8.455E-01	9.560E-01
(adenylate kinase glycosome)																				
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	1.01E-01	4.59E-02	4.07E-02	4.80E-02	1.46E-01	9.40E-02	1.35E-01	1.39E-01	4.27E-01	3.49E-01	5.02E-02	7.12E-02	7.82E-02	3.03E-01	1.68E-01	6.87E-02	3.92E-01	2.40E-02	9.72E-02	1.82E-01	2.94E-01
Peak sensitivity value	-8.57E-03	-1.81E-02	-2.99E-03	1.77E-02	-2.05E-03	1.77E-03	2.17E-02	-5.16E-03	2.56E-03	1.25E-07	1.85E-02	-5.90E-04	2.50E-04	-4.73E-04	4.31E-02	-1.73E-03	4.89E-16	-1.80E-13	1.21E-02	-2.09E-04	-7.30E-06
Shapiro-Wilk score	8.030E-01	8.102E-01	8.266E-01	8.179E-01	7.105E-01	7.340E-01	7.202E-01	7.142E-01	5.613E-01	5.942E-01	8.107E-01	8.652E-01	8.609E-01	6.532E-01	5.865E-01	8.439E-01	5.223E-01	8.952E-01	6.612E-01	6.901E-01	6.517E-01
(3phosphoglycerate transport)																				
Local	7.00E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	2.34E-17	7.20E-03	8.31E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.20E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-7.37E-02	-5.28E-02	1.90E-06	1.65E-05	-1.99E-03	2.06E-05	5.64E-05	2.49E-05	4.77E-05	-6.62E-16	3.40E-04	1.87E-05	3.66E-06	-6.85E-02	4.62E-05	1.93E-05	-1.37E-18	-2.84E-17	-2.15E-08	2.27E-09	-1.99E-03
Max	9.97E-01	2.81E-02	3.81E-03	5.41E-02	2.18E-01	3.57E-02	7.00E-01	4.82E-01	4.34E-01	7.66E-16	6.36E-02	4.32E-02	7.89E-03	1.06E-02	9.96E-01	5.62E-02	2.03E-16	2.07E-16	1.97E-06	2.55E-06	3.57E-05
Normalized peak height	8.80E-03	1.73E-02	2.95E-02	5.27E-02	5.02E-02	1.32E-02	2.09E-02	2.36E-02	1.15E-02	1.70E-01	6.94E-03	6.35E-03	5.04E-03	4.27E-03	3.21E-02	5.91E-03	8.43E-01	4.85E-01	9.77E-03	5.05E-03	1.24E-02
Peak sensitivity value	6.86E-04	3.77E-03	2.28E-05	2.06E-04	-1.19E-04	2.88E-04	1.11E-03	7.49E-04	5.03E-03	-1.69E-19	3.54E-03	5.15E-04	1.26E-04	-4.86E-03	1.54E-03	8.33E-04	-3.69E-20	1.34E-20	5.52E-08	1.00E-07	-3.76E-06
Shapiro-Wilk score	8.738E-01	8.977E-01	7.320E-01	6.992E-01	7.904E-01	8.731E-01	8.128E-01	8.165E-01	8.376E-01	8.479E-01	8.317E-01	9.335E-01	9.385E-01	9.465E-01	5.954E-01	9.151E-01	1.377E-02	2.244E-01	8.554E-01	9.300E-01	8.893E-01
(gly3p dhap antiporter)																				
Local	4.74E-01	2.95E-03	2.23E-04	1.71E-03	3.00E-02	1.01E-02	1.80E-01	1.09E-01	9.00E-02	8.65E-17	1.44E-02	1.08E-02	3.43E-03	-4.42E-02	1.32E-01	2.07E-02	-2.64E-19	1.27E-19	4.16E-07	4.10E-06	-7.39E-04
Min	-1.19E+00	-7.05E-02	-1.43E-03	-9.68E-03	-9.50E-02	4.53E-05	1.04E-04	5.95E-05	1.06E-03	-1.19E-14	5.16E-04	3.36E-05	8.18E-06	-3.73E-01	8.95E-05	3.96E-05	-2.11E-18	-4.91E-17	7.81E-11	2.62E-08	-3.45E-03
Max	9.95E-01	9.23E-02	5.26E-03	4.39E-02	3.62E-01	5.79E-02	1.33E+00	8.49E-01	8.99E-01	6.07E-15	6.90E-02	5.67E-02	1.33E-02	-6.83E-04	2.15E+00	8.93E-02	1.53E-17	3.32E-15	2.79E-06	1.04E-05	-1.04E-05
Normalized peak height	7.17E-03	2.49E-02	4.27E-02	4.41E-02	5.69E-02	1.03E-02	2.05E-02	2.11E-02	9.80E-03	5.28E-01	4.54E-03	5.26E-03	5.33E-03	7.12E-03	3.96E-02	6.04E-03	3.68E-01	7.33E-01	1.26E-02	8.39E-03	4.69E-03
Peak sensitivity value	9.78E-01	3.16E-03	2.13E-05	1.50E-04	-1.19E-04	4.21E-04	2.10E-03	2.18E-03	1.32E-02	8.25E-19	6.10E-03	1.25E-03	2.95E-04	-7.94E-03	3.31E-03	1.33E-03	5.48E-21	-2.99E-19	1.47E-09	1.98E-07	-1.64E-04
Shapiro-Wilk score	9.176E-01	8.664E-01	8.303E-01	8.280E-01	8.575E-01	9.064E-01	8.551E-01	8.516E-01	9.183E-01	4.676E-01	9.200E-01	9.162E-01	9.210E-01	8.869E-01	6.513E-01	9.003E-01	6.881E-01	3.307E-02	8.148E-01	8.736E-01	9.103E-01
(glycerol transport)																				
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	1.09E-02
Min	-4.18E+00	-5.31E-01	-3.09E-02	-2.21E-01	-3.33E+00	-8.08E-01	-1.74E+01	-9.49E+00	-1.16E+01	-1.41E-13	-1.02E+00	-5.95E-01	-1.16E-01	5.46E-02	-2.97E+01	-9.36E-01	-1.26E-16	-1.82E-14	-7.82E-05	-1.25E-04	2.30E-04
Max	3.35E+01	4.06E-01	1.44E-02	1.83E-01	1.15E+00	3.94E-02	2.93E+00	1.82E+00	-1.37E-01	9.40E-14	1.42E-01	6.62E-02	1.54E-02	1.16E+00	4.79E+00	1.27E-01	3.13E-17	3.12E-16	1.10E-06	-7.51E-07	6.25E-02
Normalized peak height	1.04E-02	1.11E-02	1.52E-02	1.60E-02	8.15E-03	6.91E-03	1.25E-02	9.67E-03	1.22E-02	5.56E-01	9.22E-03	1.17E-02	1.09E-02	4.88E-03	5.90E-02	1.23E-02	4.24E-01	5.42E-01	6.73E-02	5.31E-03	7.94E-03
Peak sensitivity value	-1.59E-01	2.39E-02	-1.78E-04	-3.33E-03	-9.12E-02	-8.73E-02	1.18E-02	1.42E-02	-1.40E+00	-2.13E-17	4.79E-03	2.41E-03	5.41E-04	9.58E-01	1.10E-02	3.40E-03	2.61E-20	6.79E-18	3.24E-08	-8.16E-06	2.25E-03
Shapiro-Wilk score	9.085E-01	8.601E-01	9.379E-01	9.456E-01	9.623E-01	9.187E-01	9.278E-01	9.297E-01	9.170E-01	3.568E-01	9.017E-01	9.421E-01	9.371E-01	9.167E-01	8.021E-01	9.482E-01	7.683E-01	5.527E-02	8.310E-01	8.942E-01	8.860E-01

Table 15: Flux control coefficients for *Trypanosoma brucei* model with parameter variation of $\pm 40\%$

	(glucosetransport)	(hexokinase)	(phosphoglyceratesisomerase)	(phophofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)	(phosphoglyceratekinase)	(pyruvatekinase)	(atputilisation)	(glycerolkinase)	(phosphoglyceratemutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglyceratetransport)	(gly3pdhapantiporter)	(glyceroltransport)
(glucose transport) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	9.79E-01 -1.13E+00 9.99E-01 1.18E-01 9.96E-01 7.138E-01	6.97E-03 -2.63E-01 7.23E-02 3.40E-02 3.79E-03 8.486E-01	7.82E-05 -3.04E-04 1.17E-02 1.15E-01 1.29E-05 6.240E-01	4.95E-04 -1.67E-03 1.70E-01 2.13E-01 1.34E-04 5.592E-01	1.13E-03 6.59E-07 4.55E-01 3.74E-01 2.28E-04 6.927E-01	1.79E-04 -9.20E-03 4.03E-02 2.23E-01 -1.64E-05 6.982E-01	4.63E-03 -3.47E-04 1.03E+00 3.04E-01 1.71E-04 6.458E-01	2.72E-03 -2.48E-04 7.11E-01 3.16E-01 1.08E-04 6.422E-01	-3.97E-04 -4.01E-01 2.64E-01 4.07E-01 -2.99E-06 7.506E-01	-1.47E-18 -3.12E-13 1.22E-13 9.55E-01 6.67E-17 5.974E-02	3.73E-04 3.12E-06 1.01E-01 2.24E-01 5.35E-05 5.970E-01	4.31E-04 1.13E-07 5.51E-02 2.28E-01 2.76E-05 5.996E-01	8.87E-05 1.94E-08 1.19E-02 2.20E-01 5.99E-06 6.010E-01	3.95E-04 -6.14E-05 2.57E-01 3.87E-01 6.71E-05 7.449E-01	3.65E-03 2.65E-07 2.20E+00 4.49E-01 1.10E-03 4.878E-01	6.87E-04 9.08E-08 1.13E-01 2.75E-01 5.68E-05 5.656E-01	-6.78E-21 -1.64E-18 2.34E-18 5.73E-01 2.55E-22 4.330E-01	1.71E-21 -3.96E-15 5.49E-17 8.20E-01 7.08E-19 3.161E-02	1.07E-08 1.44E-12 1.17E-06 1.82E-01 5.87E-10 6.352E-01	-4.55E-09 -1.24E-05 2.93E-07 2.82E-01 6.00E-09 7.096E-01	6.60E-06 -8.87E-07 2.66E-03 3.59E-01 4.45E-07 6.700E-01
(hexokinase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	9.79E-01 -9.97E-01 9.99E-01 1.11E-01 9.96E-01 7.147E-01	6.97E-03 -3.72E-01 7.47E-02 4.51E-02 3.52E-03 8.485E-01	7.82E-05 -4.70E-04 1.20E-02 1.19E-01 1.24E-05 6.244E-01	4.95E-04 -2.53E-03 2.67E-01 2.05E-01 3.07E-04 5.592E-01	1.13E-03 8.96E-07 3.56E-01 3.54E-01 1.79E-04 6.959E-01	1.79E-04 -1.01E-02 4.26E-02 3.19E-01 4.59E-06 7.023E-01	4.63E-03 -2.75E-04 1.13E+00 3.19E-01 2.92E-04 6.487E-01	2.72E-03 -1.22E-04 7.48E-01 3.38E-01 2.52E-04 6.452E-01	-3.97E-04 -3.80E-01 2.16E-01 4.00E-01 -6.42E-06 7.519E-01	-1.47E-18 -3.60E-13 2.14E-13 9.68E-01 -3.44E-17 5.293E-02	3.73E-04 3.66E-06 1.17E-01 2.53E-01 6.23E-05 5.992E-01	4.31E-04 9.54E-08 5.22E-02 2.22E-01 2.62E-05 6.015E-01	8.87E-05 2.13E-08 1.49E-02 2.42E-01 7.48E-06 6.014E-01	3.95E-04 -8.58E-05 3.02E-01 3.89E-01 6.51E-05 7.470E-01	3.65E-03 1.82E-07 1.79E+00 4.23E-01 8.94E-04 4.894E-01	6.87E-04 8.53E-08 1.12E-01 2.71E-01 5.59E-05 5.726E-01	-6.78E-21 -2.41E-18 1.21E-17 6.52E-01 -5.60E-21 3.256E-01	1.71E-21 -2.28E-15 4.54E-17 7.90E-01 -2.20E-20 5.129E-02	1.07E-08 4.12E-12 1.12E-06 1.73E-01 5.62E-10 6.352E-01	-4.55E-09 -1.02E-05 1.53E-07 3.93E-01 3.22E-09 7.126E-01	6.60E-06 -1.92E-06 2.79E-03 3.21E-01 -5.26E-07 6.755E-01
(phosphoglycerate isomerase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	9.79E-01 -1.12E+00 9.99E-01 1.16E-01 9.96E-01 7.161E-01	6.97E-03 -1.85E-01 8.94E-02 2.78E-02 3.63E-03 8.557E-01	7.82E-05 -3.28E-04 8.52E-03 8.86E-02 1.29E-05 6.279E-01	4.95E-04 -1.43E-03 1.30E-01 1.53E-01 8.33E-05 5.815E-01	1.13E-03 6.86E-07 4.03E-01 3.63E-01 2.02E-04 6.955E-01	1.79E-04 -1.01E-02 4.27E-02 2.40E-01 2.78E-05 7.013E-01	4.63E-03 -6.04E-04 1.41E+00 3.14E-01 1.02E-04 6.498E-01	2.72E-03 -2.49E-04 9.99E-01 3.54E-01 2.51E-04 6.464E-01	-3.97E-04 -3.22E-01 1.79E-01 3.96E-01 -3.15E-05 7.532E-01	-1.47E-18 -2.89E-13 3.25E-13 9.63E-01 -1.19E-16 4.819E-02	3.73E-04 4.27E-06 9.36E-02 2.10E-01 5.11E-05 6.008E-01	4.31E-04 9.32E-08 5.38E-02 2.26E-01 2.70E-05 6.013E-01	8.87E-05 3.20E-08 1.17E-02 2.16E-01 5.87E-06 6.026E-01	3.95E-04 -1.23E-04 2.96E-01 3.78E-01 2.53E-05 7.476E-01	3.65E-03 3.19E-07 1.72E+00 4.18E-01 8.60E-04 4.889E-01	6.87E-04 1.29E-07 9.04E-02 2.50E-01 4.53E-05 5.699E-01	-6.78E-21 -2.47E-18 5.71E-18 6.03E-01 -3.00E-21 4.137E-01	1.71E-21 -2.67E-15 4.39E-17 7.97E-01 -7.94E-19 4.044E-02	1.07E-08 2.13E-12 1.00E-06 1.58E-01 5.03E-10 6.371E-01	-4.55E-09 -9.55E-06 2.09E-07 4.30E-01 -5.18E-10 7.124E-01	6.60E-06 -1.47E-06 2.48E-03 3.29E-01 -2.29E-07 6.755E-01
(phophofructokinase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	9.79E-01 -1.66E+00 9.99E-01 1.34E-01 9.95E-01 7.153E-01	6.97E-03 -2.99E-01 7.90E-02 3.84E-02 3.52E-03 8.529E-01	7.82E-05 -4.80E-04 1.20E-02 1.21E-01 1.29E-05 6.238E-01	4.95E-04 -3.13E-03 2.00E-01 2.05E-01 2.20E-04 5.688E-01	1.13E-03 6.03E-07 3.71E-01 3.59E-01 1.86E-04 6.936E-01	1.79E-04 -9.63E-03 4.35E-02 3.36E-01 1.15E-05 6.999E-01	4.63E-03 -1.72E-04 1.55E+00 3.61E-01 6.02E-04 6.484E-01	2.72E-03 -9.51E-05 9.06E-01 3.62E-01 3.58E-04 6.445E-01	-3.97E-04 -3.68E-01 9.42E-02 3.54E-01 1.33E-04 7.517E-01	-1.47E-18 -2.27E-13 2.45E-13 9.58E-01 6.20E-17 5.668E-02	3.73E-04 5.08E-06 9.87E-02 2.23E-01 5.45E-05 5.981E-01	4.31E-04 6.37E-08 5.86E-02 2.34E-01 2.93E-05 6.018E-01	8.87E-05 1.67E-08 1.62E-02 2.52E-01 8.11E-06 6.019E-01	3.95E-04 -8.03E-05 4.03E-01 4.09E-01 1.21E-04 7.462E-01	3.65E-03 1.48E-07 1.59E+00 4.11E-01 7.93E-04 4.880E-01	6.87E-04 4.99E-08 1.04E-01 2.65E-01 5.21E-05 5.694E-01	-6.78E-21 -1.68E-18 2.49E-18 5.77E-01 1.09E-22 4.270E-01	1.71E-21 -1.68E-14 5.22E-17 9.02E-01 -6.62E-18 5.609E-03	1.07E-08 3.70E-12 8.57E-07 1.37E-01 4.32E-10 6.393E-01	-4.55E-09 -9.94E-06 1.54E-07 4.39E-01 -2.03E-09 7.104E-01	6.60E-06 -9.51E-07 2.20E-03 3.40E-01 1.49E-07 6.735E-01
(aldolase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	9.79E-01 -8.92E-01 9.99E-01 1.08E-01 9.96E-01 7.125E-01	6.97E-03 -1.92E-01 7.77E-02 2.77E-02 3.26E-03 8.536E-01	7.82E-05 -6.24E-04 1.06E-02 1.03E-01 2.16E-05 6.290E-01	4.95E-04 -3.59E-03 1.19E-01 1.58E-01 1.39E-04 5.744E-01	1.13E-03 3.60E-07 3.71E-01 3.61E-01 1.86E-04 6.926E-01	1.79E-04 -9.04E-03 4.99E-02 3.40E-01 7.89E-06 6.965E-01	4.63E-03 -4.80E-04 1.28E+00 3.19E-01 1.61E-04 6.466E-01	2.72E-03 -2.55E-04 8.14E-01 3.34E-01 1.52E-04 6.429E-01	-3.97E-04 -3.62E-01 1.06E-01 4.04E-01 -1.38E-04 7.491E-01	1.48E-16 -1.18E-14 1.03E-14 5.94E-01 3.77E-19 4.919E-01	3.73E-04 4.26E-06 1.08E-01 2.42E-01 5.81E-05 5.957E-01	4.31E-04 7.18E-08 5.74E-02 2.36E-01 2.88E-05 5.994E-01	8.87E-05 4.24E-08 1.87E-02 2.73E-01 9.38E-06 5.993E-01	3.95E-04 -6.79E-05 2.55E-01 3.87E-01 5.98E-05 7.440E-01	3.65E-03 2.82E-07 1.95E+00 4.37E-01 9.77E-04 4.838E-01	6.87E-04 9.05E-08 9.34E-02 2.58E-01 4.68E-05 5.655E-01	-6.78E-21 -2.08E-18 1.80E-18 5.46E-01 -1.32E-21 4.450E-01	1.71E-21 -1.31E-15 4.49E-17 7.65E-01 -4.42E-19 8.570E-02	1.07E-08 2.52E-12 8.91E-07 1.45E-01 4.48E-10 6.378E-01	-4.55E-09 -9.87E-06 1.24E-07 4.39E-01 -1.46E-09 7.093E-01	6.60E-06 -6.44E-07 2.67E-03 3.68E-01 6.90E-07 6.742E-01
(triosephosphate isomerase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	4.14E-01 -1.74E+00 4.41E+00 3.57E-02 1.01E-02 9.045E-01	2.95E-03 -1.14E-01 1.88E-01 3.63E-02 2.66E-03 8.591E-01	2.25E-04 -3.28E-03 7.68E-03 8.61E-02 1.27E-05 7.491E-01	1.71E-03 -2.87E-02 1.23E-01 1.41E-01 1.32E-04 7.090E-01	3.00E-02 -2.36E-01 5.23E-01 1.09E-01 -4.19E-04 8.520E-01	1.02E-02 1.21E-05 7.82E-02 2.35E-02 2.08E-04 8.806E-01	1.80E-01 -3.11E-01 1.49E+00 5.76E-02 7.42E-04 8.348E-01	1.06E-01 -1.86E-01 1.03E+00 6.45E-02 4.54E-04 8.204E-01	9.60E-02 3.76E-04 1.26E+00 1.86E-02 6.03E-03 8.620E-01	8.65E-17 -1.43E-14 9.81E-15 6.28E-01 -2.54E-18 3.246E-01	1.45E-02 -4.32E-02 1.03E-01 1.11E-02 3.21E-03 8.610E-01	1.68E-02 -1.58E-02 9.34E-02 1.95E-02 4.65E-04 8.279E-01	3.45E-03 -2.88E-03 1.78E-02 1.56E-02 9.47E-05 8.342E-01	-4.42E-02 -6.33E-01 -2.52E-04 1.53E-02 -5.00E-03 8.697E-01	1.42E-01 -3.69E+00 2.73E+00 2.10E-01 3.44E-03 6.422E-01	2.67E-02 -3.29E-02 1.85E-01 3.03E-02 3.66E-04 7.947E-01	-2.64E-19 -3.58E-18 1.48E-17 4.02E-01 -6.72E-21 6.166E-01	1.27E-19 -9.27E-17 9.25E-15 7.62E-01 -3.87E-18 2.650E-02	4.16E-07 -1.97E-07 5.49E-06 4.67E-02 -4.55E-10 6.900E-01	1.10E-06 1.28E-08 1.85E-05 1.69E-02 1.51E-07 8.685E-01	-7.39E-04 -6.15E-03 -1.80E-06 1.17E-02 -8.48E-05 8.063E-01
(glyceraldehyde3phosphate dehydrogenase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	7.06E-01 -3.28E-01 9.98E-01 4.76E-02 2.50E-04 8.282E-01	5.02E-03 -1.77E-01 4.08E-02 3.64E-02 3.05E-03 7.029E-01	1.49E-04 -1.10E-06 7.98E-03 7.48E-02 1.09E-05 6.518E-01	1.08E-03 -3.71E-05 1.37E-01 1.43E-01 1.69E-04 5.761E-01	1.51E-02 -4.36E-03 2.79E-01 8.29E-02 2.86E-05 7.767E-01	5.04E-03 3.11E-06 4.84E-02 3.23E-02 1.24E-04 8.334E-01	8.95E-02 9.95E-06 9.51E-01 6.27E-02 4.85E-04 7.962E-01	5.25E-02 8.01E-06 5.87E-01 6.54E-02 3.01E-04 7.946E-01	4.62E-02 -2.49E-02 4.75E-01 2.08E-02 3.16E-04 6.422E-01	1.18E-16 -7.60E-16 6.89E-16 3.25E-01 1.07E-19 7.173E-01	7.20E-03 8.58E-05 8.50E-02 1.01E-02 2.25E-03 7.619E-01	8.34E-03 3.02E-06 5.39E-02 1.48E-02 1.38E-04 8.468E-01	1.71E-03 6.17E-07 1.34E-02 1.54E-02 4.76E-05 8.532E-01	-2.12E-02 -7.71E-02 6.00E-02 1.46E-02 -1.37E-04 8.968E-01	7.05E-02 5.54E-06 9.99E-01 7.33E-02 5.05E-04 5.974E-01	1.33E-02 2.41E-06 1.09E-01 2.39E-02 1.66E-04 8.029E-01	-1.31E-19 -1.60E-18 1.64E-18 3.45E-01 1.33E-21 6.949E-01	6.21E-20 -7.37E-17 1.72E-16 5.48E-01 -2.42E-20 2.625E-01	2.07E-07 2.18E-12 2.95E-06 5.65E-02 1.48E-09 7.550E-01	5.29E-07 -5.18E-07 4.71E-06 1.18E-02 6.00E-08 8.642E-01	-3.54E-04 -3.29E-03 2.22E-04 8.24E-02 -1.30E-06 7.545E-01
(glycerol3phosphate dehydro- genase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	7.06E-01 -3.54E-01 9.98E-01 4.71E-02 5.96E-04 8.262E-01	5.02E-03 -2.20E-01 4.42E-02 4.36E-02 3.11E-03 6.769E-01	1.49E-04 -3.01E-06 1.28E-02 1.20E-01 1.62E-05 6.480E-01	1.08E-03 -4.69E-05 1.82E-01 1.61E-01 2.26E-04 5.610E-01	1.51E-02 -3.51E-03 2.83E-01 7.96E-02 -2.07E-04 7.777E-01	5.04E-03 -4.16E-04 4.42E-02 3.02E-02 9.76E-05 8.316E-01	8.95E-02 1.10E-05 9.15E-01 6.19E-02 4.69E-04 7.963E-01	5.25E-02 7.09E-06 6.14E-01 7.02E-02 3.14E-04 7.927E-01	4.62E-02 -2.79E-03 4.82E-01 2.03E-02 1.33E-03 6.450E-01	1.18E-16 -7.81E-16 7.62E-16 3.31E-01 2.41E-19 7.154E-01	7.20E-03 6.81E-05 1.00E-01 1.21E-02 2.02E-03 7.650E-01	8.34E-03 2.22E-06 6.12E-02 1.70E-02 9.41E-05 8.437E-01	1.71E-03 4.05E-07 1.06E-02 1.25E-02 2.68E-05 8.538E-01	-2.12E-02 -8.53E-02 7.89E-02 1.43E-02 -1.96E-04 8.945E-01	7.05E-02 6.62E-06 9.99E-01 7.47E-02 5.06E-04 5.969E-01	1.33E-02 2.86E-06 1.09E-01 2.48E-02 1.66E-04 8.063E-01	-1.31E-19 -2.42E-18 1.55E-17 4.43E-01 -3.79E-21 5.371E-01	6.21E-20 -3.72E-17 5.62E-16 6.43E-01 2.05E-19 9.869E-02	2.07E-07 2.28E-12 3.26E-06 5.89E-02 1.63E-09 7.466E-01	5.29E-07 -6.04E-08 4.36E-06 1.03E-02 5.24E-08 8.618E-01	-3.54E-04 -2.46E-03 2.55E-04 7.53E-02 -1.33E-06 7.509E-01
(glycerol3phosphate oxidase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	4.14E-01 -1.64E+00 2.04E+00 2.30E-02 7.63E-03 9.043E-01	2.95E-03 -1.38E-01 1.60E-01 3.50E-02 2.73E-03 8.568E-01	2.25E-04 -3.33E-03 1.38E-02 1.25E-01 1.91E-05 7.498E-01	1.71E-03 -2.45E-02 1.27E-01 1.17E-01 1.98E-04 7.029E-01	3.00E-02 -2.81E-01 4.87E-01 1.18E-01 -9.75E-06 8.484E-01	1.02E-02 1.23E-05 6.90E-02 2.12E-02 1.85E-04 8.808E-01	1.80E-01 -5.71E-01 1.57E+00 7.33E-02 9.73E-04 8.324E-01	1.06E-01 -1.70E-01 1.00E+00 6.29E-02 1.17E-03 8.154E-01	9.60E-02 4.30E-04 9.81E-01 1.45E-02 4.84E-03 8.640E-01	8.65E-17 -9.44E-15 1.60E-14 5.77E-01 9.77E-18 3.164E-01	1.45E-02 -5.19E-03 1.03E-01 8.68E-03 2.46E-03 8.587E-01	1.68E-02 -3.81E-03 7.55E-02 1.41E-02 3.50E-04 8.259E-01	3.45E-03 -8.47E-04 2.05E-02 1.64E-02 1.04E-04 8.294E-01	-4.42E-02 -6.04E-01 -3.01E-04 1.44E-02 -3.62E-03 8.703E-01	1.42E-01 -1.09E+00 2.58E+00 1.14E-01 8.60E-04 6.431E-01	2.67E-02 -2.87E-03 1.48E-01 2.14E-02 5.15E-04 7.938E-01	-2.64E-19 -3.93E-18 1.31E-17 3.95E-01 -6.74E-21 6.194E-01	1.27E-19 -6.34E-17 1.59E-15 5.95E-01 3.16E-19 1.393E-01	4.16E-07 -6.76E-08 4.76E-06 6.49E-02 2.36E-09 6.879E-01	1.10E-06 1.57E-08 1.45E-05 1.37E-02 1.24E-07 8.688E-01	-7.39E-04 -5.66E-03 -9.32E-07 1.13E-02 -7.73E-05 8.056E-01
(pyruvate transport) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	7.06E-01 -4.18E-01 9.98E-01 4.89E-02 2.43E-04 8.265E-01	5.02E-03 -2.57E-01 4.18E-02 4.89E-02 3.09E-03 6.954E-01	1.49E-04 -6.28E-07 8.56E-03 8.24E-02 1.22E-05 6.514E-01	1.08E-03 -2.45E-05 2.03E-01 1.76E-01 7.71E-05 5.727E-01	1.51E-02 -3.96E-03 2.92E-01 8.58E-02 3.83E-05 7.729E-01	5.04E-03 -3.92E-04 4.66E-02 3.24E-02 1.01E-04 8.288E-01	8.95E-02 1.08E-05 8.33E-01 5.66E-02 4.27E-04 7.929E-01	5.25E-02 7.00E-06 5.89E-01 6.79E-02 3.01E-04 7.909E-01	4.62E-02 -4.44E-02 4.76E-01 2.18E-02 1.14E-03 6.372E-01	-2.22E-16 -8.88E-16 8.88E-16 4.15E-01 8.88E-19 9.081E-01	7.20E-03 5.58E-05 9.01E-02 1.06E-02 1.72E-03 7.646E-01	8.34E-03 3.48E-06 5.40E-02 1.47E-02 1.38E-04 8.483E-01	1.71E-03 8.39E-07 1.20E-02 1.43E-02 4.29E-05 8.550E-01	-2.12E-02 -8.07E-02 1.16E-01 2.10E-02 -9.53E-05 8.957E-01	7.05E-02 5.43E-06 9.99E-01 7.55E-02 5.05E-04 5.974E-01	1.33E-02 2.64E-06 9.14E-02 2.05E-02 1.40E-04 8.067E-01	-1.31E-19 -1.35E-18 7.60E-17 6.68E-01 5.71E-21 9.236E-02	6.21E-20 -4.85E-17 9.12E-17 3.75E-01 -6.76E-20 4.499E-01	2.07E-07 2.87E-12 3.24E-06 5.94E-02 1.62E-09 7.527E-01	5.29E-07 -7.31E-07 4.54E-06 1.24E-02 6.80E-08 8.659E-01	-3.54E-04 -2.41E-03 2.81E-04 6.65E-02 -6.13E-07 7.557E-01

(phosphoglycerate kinase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-3.92E-01	-2.90E-01	-2.71E-06	-3.92E-05	-3.25E-03	5.79E-06	1.39E-05	6.50E-06	-2.14E-02	-6.59E-16	1.15E-04	2.68E-06	5.44E-07	-7.42E-02	8.41E-06	2.46E-06	-1.84E-18	-2.35E-16	4.50E-12	-3.62E-07	-2.39E-03
Max	9.98E-01	4.18E-02	1.03E-02	2.19E-01	2.80E-01	4.61E-02	1.00E+00	6.12E-01	4.77E-01	7.70E-16	9.45E-02	4.76E-02	1.17E-02	4.87E-02	9.99E-01	9.48E-02	1.88E-18	1.85E-16	2.42E-06	3.96E-06	1.68E-04
Normalized peak height	4.85E-02	5.36E-02	9.77E-02	1.78E-01	8.75E-02	3.12E-02	6.68E-02	6.92E-02	2.10E-02	1.97E-01	1.16E-02	1.36E-02	1.35E-02	1.23E-02	7.41E-02	2.13E-02	3.47E-01	5.83E-01	5.15E-02	1.06E-02	4.71E-02
Peak sensitivity value	5.39E-04	3.16E-03	1.27E-05	7.04E-05	7.92E-06	7.50E-05	5.15E-04	3.12E-04	1.28E-03	6.07E-19	2.14E-03	7.41E-05	4.15E-05	-1.35E-04	5.08E-04	1.45E-04	-1.06E-21	-1.61E-19	1.21E-09	5.03E-08	3.34E-07
Shapiro-Wilk score	8.266E-01	6.699E-01	6.496E-01	5.591E-01	7.731E-01	8.284E-01	7.929E-01	7.910E-01	6.327E-01	8.103E-01	7.583E-01	8.462E-01	8.520E-01	8.941E-01	5.971E-01	8.043E-01	6.953E-01	1.784E-01	7.527E-01	8.637E-01	7.531E-01
(pyruvate kinase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	-2.12E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-2.84E-01	-2.53E-01	1.38E-07	-3.22E-05	-3.27E-03	4.89E-06	1.18E-05	4.80E-06	-1.97E-02	-8.68E-16	1.06E-04	2.87E-06	6.31E-07	-8.24E-02	7.73E-06	2.91E-06	-1.55E-18	-8.36E-17	4.41E-12	-3.75E-07	-2.56E-03
Max	9.98E-01	4.43E-02	8.30E-03	2.05E-01	2.81E-01	5.26E-02	8.82E-01	5.83E-01	4.77E-01	8.54E-16	8.14E-02	5.15E-02	1.18E-02	1.00E-01	9.99E-01	1.11E-01	2.63E-18	1.44E-16	2.51E-06	4.13E-06	1.94E-04
Normalized peak height	4.44E-02	5.15E-02	7.88E-02	1.70E-01	8.93E-02	3.54E-02	5.84E-02	6.49E-02	2.10E-02	3.72E-01	1.00E-02	1.42E-02	1.39E-02	1.69E-02	7.42E-02	2.52E-02	3.47E-01	5.33E-01	4.88E-02	1.07E-02	6.44E-02
Peak sensitivity value	2.00E-04	3.09E-03	1.26E-05	7.04E-05	-4.16E-06	8.38E-05	4.53E-04	2.96E-04	1.42E-03	-7.43E-19	2.26E-03	1.83E-04	3.02E-05	-1.78E-04	5.07E-04	1.70E-04	-9.92E-22	-4.48E-20	1.26E-09	6.40E-08	-5.72E-07
Shapiro-Wilk score	8.279E-01	6.968E-01	6.502E-01	5.721E-01	7.751E-01	8.305E-01	7.956E-01	7.929E-01	6.376E-01	9.630E-01	7.627E-01	8.489E-01	8.562E-01	8.950E-01	5.963E-01	8.078E-01	6.994E-01	2.700E-01	7.615E-01	8.631E-01	7.531E-01
(atp utilisation)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.20E-21	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-2.61E-01	-1.76E-01	-1.07E-06	-1.78E-05	-2.34E-03	-7.29E-04	1.21E-05	6.13E-06	-7.58E-03	-6.02E-12	4.11E-05	1.26E-06	4.28E-07	-7.57E-02	3.25E-06	1.13E-06	-1.97E-18	-3.73E-16	-7.59E-17	-1.58E-07	-2.42E-03
Max	9.98E-01	4.03E-02	6.83E-03	1.39E-01	2.99E-01	4.25E-02	8.25E-01	5.93E-01	4.71E-01	5.35E-12	9.70E-02	6.17E-02	1.12E-02	5.51E-02	9.99E-01	9.22E-02	5.92E-17	1.04E-16	2.74E-06	4.03E-06	1.69E-04
Normalized peak height	4.38E-02	3.49E-02	6.43E-02	1.39E-01	1.03E-01	3.02E-02	5.72E-02	6.81E-02	2.13E-02	9.19E-01	1.16E-02	1.77E-02	1.29E-02	1.24E-02	7.53E-02	2.16E-02	6.09E-01	6.00E-01	5.19E-02	1.00E-02	6.33E-02
Peak sensitivity value	2.45E-05	2.83E-03	1.60E-05	1.91E-04	-8.52E-05	7.13E-05	4.24E-04	3.03E-04	1.73E-03	1.28E-15	1.83E-03	9.38E-05	2.83E-05	-1.60E-04	5.03E-04	1.40E-04	1.62E-20	1.71E-19	1.37E-09	5.32E-08	-5.50E-07
Shapiro-Wilk score	8.275E-01	7.389E-01	6.564E-01	5.933E-01	7.749E-01	8.309E-01	7.952E-01	7.925E-01	6.421E-01	6.132E-02	7.638E-01	8.489E-01	8.543E-01	8.944E-01	5.955E-01	8.043E-01	1.355E-01	1.649E-01	7.664E-01	8.653E-01	7.522E-01
(glycerol kinase)																				
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	1.09E-02
Min	-7.74E+00	-1.07E+00	-4.95E-02	-3.80E-01	-6.16E+00	-1.27E+00	-2.96E+01	-1.60E+01	-2.83E+01	-2.36E-13	-1.05E+00	-6.09E-01	-1.77E-01	1.87E-02	-7.30E+01	-1.22E+00	-5.13E-16	-3.12E-14	-1.13E-04	-3.14E-04	3.12E-05
Max	7.50E+01	6.36E-01	3.17E-02	5.23E-01	1.51E+00	2.19E-01	5.47E+00	2.52E+00	-5.24E-02	2.41E-13	2.35E-01	1.17E-01	2.67E-02	1.43E+00	5.37E+00	2.35E-01	3.37E-17	3.67E-16	2.57E-06	-1.45E-07	1.02E-01
Normalized peak height	5.67E-02	2.24E-02	2.89E-02	3.26E-02	1.27E-02	1.45E-02	3.90E-02	3.26E-02	3.37E-02	7.17E-01	2.23E-02	3.04E-02	3.38E-02	7.22E-03	1.50E-01	3.98E-02	5.61E-01	7.17E-01	1.25E-01	1.06E-02	1.55E-02
Peak sensitivity value	-8.16E-02	1.11E-02	2.27E-04	-9.42E-04	-8.46E-02	-2.73E-02	2.45E-02	1.51E-02	-1.34E+00	7.85E-17	3.78E-03	9.92E-04	3.73E-04	9.68E-01	4.67E-03	1.78E-03	1.35E-19	3.16E-18	-2.76E-08	-7.21E-06	1.30E-03
Shapiro-Wilk score	9.140E-01	8.723E-01	8.538E-01	8.490E-01	8.966E-01	8.167E-01	8.316E-01	8.127E-01	6.831E-01	1.739E-01	8.428E-01	8.839E-01	8.909E-01	8.890E-01	6.646E-01	8.939E-01	4.420E-01	3.689E-02	7.236E-01	8.327E-01	8.145E-01
(phosphoglycerate mutase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-2.65E-01	-2.59E-01	-6.00E-06	-9.18E-05	-2.32E-03	-1.35E-03	1.77E-05	6.87E-06	-1.04E-02	-6.20E-16	9.65E-05	3.47E-06	8.53E-07	-7.17E-02	8.64E-06	4.33E-06	-2.52E-18	-4.89E-17	3.06E-12	-1.00E-07	-2.60E-03
Max	9.98E-01	3.29E-02	1.14E-02	2.07E-01	2.84E-01	4.79E-02	8.61E-01	6.27E-01	4.73E-01	7.69E-16	8.75E-02	6.04E-02	1.13E-02	6.61E-02	9.99E-01	9.94E-02	3.07E-18	8.07E-17	3.12E-06	4.38E-06	1.61E-04
Normalized peak height	3.83E-02	4.79E-02	1.04E-01	1.92E-01	8.83E-02	3.33E-02	5.88E-02	6.94E-02	2.11E-02	2.39E-01	1.06E-02	1.68E-02	1.32E-02	1.47E-02	7.41E-02	2.23E-02	3.61E-01	3.85E-01	5.70E-02	1.06E-02	6.18E-02
Peak sensitivity value	7.60E-04	3.03E-03	1.11E-05	2.19E-04	-1.74E-04	1.08E-04	4.48E-04	3.20E-04	1.88E-03	-2.72E-20	1.98E-03	9.40E-05	2.92E-05	-1.17E-04	5.08E-04	1.53E-04	-5.45E-22	5.97E-20	1.56E-09	6.75E-08	-3.09E-07
Shapiro-Wilk score	8.269E-01	6.786E-01	6.500E-01	5.624E-01	7.742E-01	8.286E-01	7.938E-01	7.914E-01	6.413E-01	8.280E-01	7.614E-01	8.469E-01	8.549E-01	8.957E-01	5.977E-01	8.053E-01	6.799E-01	4.457E-01	7.474E-01	8.600E-01	7.518E-01
(enolase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-3.49E-01	-2.36E-01	-3.42E-07	-1.49E-05	-3.27E-03	4.73E-06	7.98E-06	5.21E-06	-1.90E-02	-7.60E-16	1.10E-04	2.37E-06	7.21E-07	-7.88E-02	6.99E-06	2.35E-06	-1.97E-18	-7.29E-17	3.58E-12	-2.96E-07	-2.62E-03
Max	9.98E-01	4.16E-02	8.87E-03	1.88E-01	2.86E-01	4.51E-02	9.68E-01	6.07E-01	4.64E-01	6.42E-16	8.32E-02	5.21E-02	1.55E-02	5.15E-02	9.99E-01	1.08E-01	7.99E-18	1.48E-16	2.51E-06	4.71E-06	1.98E-04
Normalized peak height	4.49E-02	4.61E-02	8.58E-02	1.74E-01	7.57E-02	3.05E-02	6.37E-02	6.82E-02	2.01E-02	2.16E-01	9.91E-03	1.46E-02	1.79E-02	1.40E-02	7.50E-02	2.43E-02	3.89E-01	5.26E-01	4.96E-02	1.17E-02	7.48E-02
Peak sensitivity value	6.50E-04	3.17E-03	1.30E-05	7.93E-05	6.47E-05	7.24E-05	4.92E-04	3.09E-04	1.56E-03	6.11E-19	2.64E-03	1.33E-04	2.39E-05	-6.12E-05	5.07E-04	1.65E-04	-3.06E-21	4.93E-20	1.26E-09	5.71E-08	-1.13E-06
Shapiro-Wilk score	8.273E-01	7.265E-01	6.526E-01	5.871E-01	7.743E-01	8.311E-01	7.940E-01	7.914E-01	6.419E-01	8.313E-01	7.659E-01	8.469E-01	8.548E-01	8.951E-01	5.970E-01	8.063E-01	6.533E-01	3.107E-01	7.500E-01	8.651E-01	7.527E-01
(adenylate kinase cytosol)																				
Local	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	1.11E-01	1.11E-01	1.11E-01	1.11E-01	3.33E-01	2.22E-01	2.22E-01	1.11E-01	2.22E-01	2.22E-01	1.11E-01	1.11E-01	1.11E-01	1.11E-01	2.22E-01	1.11E-01	1.11E-01	2.22E-01	2.22E-01	1.11E-01	3.33E-01
Peak sensitivity value	-2.87E-02	-3.51E-01	-2.52E-02	-1.40E-01	-1.86E-07	4.86E-05	2.95E-06	-9.04E-04	4.01E-04	1.41E-08	-7.03E-02	-2.63E-01	-1.43E-01	-1.01E-03	-1.53E-01	-5.46E-02	-8.02E-13	1.16E-14	-1.50E-02	-7.35E-03	2.52E-08
Shapiro-Wilk score	7.164E-01	8.022E-01	9.277E-01	9.165E-01	8.542E-01	5.211E-01	6.249E-01	8.847E-01	8.824E-01	7.446E-01	8.137E-01	7.776E-01	8.707E-01	9.669E-01	8.746E-01	8.819E-01	9.267E-01	4.864E-01	8.538E-01	6.039E-01	7.511E-01
(adenylate kinase glycosome)																				
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	2.32E-01	1.21E-01	9.78E-02	9.44E-02	2.38E-01	2.33E-01	2.58E-01	2.19E-01	6.18E-01	3.42E-01	9.27E-02	1.09E-01	8.61E-02	4.48E-01	1.12E-01	1.09E-01	5.52E-01	5.70E-02	2.50E-01	3.67E-01	4.47E-01
Peak sensitivity value	5.01E-02	2.80E-02	1.24E-02	9.70E-03	-6.42E-03	6.94E-04	-2.82E-02	-1.65E-02	-3.40E-03	1.21E-07	3.50E-02	-1.35E-03	8.01E-05	1.45E-03	5.42E-02	-1.90E-04	8.94E-16	-1.65E-13	2.06E-02	1.22E-03	2.31E-05
Shapiro-Wilk score	6.806E-01	7.195E-01	7.512E-01	7.365E-01	5.872E-01	6.148E-01	5.790E-01	5.860E-01	3.706E-01	5.418E-01	7.346E-01	7.701E-01	7.963E-01	5.629E-01	3.891E-01	7.602E-01	3.076E-01	8.127E-01	5.034E-01	5.550E-01	5.305E-01
(3phosphoglycerate transport)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
Min	-4.26E-01	-2.09E-01	3.95E-07	-1.50E-05	-1.53E-02	4.01E-06	1.36E-05	4.28E-06	-8.92E-03	-6.23E-16	5.47E-05	1.39E-06	6.96E-07	-9.17E-02	6.69E-06	2.12E-06	-1.91E-18	-9.25E-17	-4.62E-08	-3.51E-07	-2.82E-03
Max	9.99E-01	4.44E-02	9.28E-03	1.72E-01	2.72E-01	4.13E-02	8.61E-01	5.97E-01	5.11E-01	7.32E-16	9.73E-02	6.14E-02	1.10E-02	6.42E-02	9.99E-01	9.56E-02	1.21E-17	2.42E-16	3.76E-06	4.15E-06	1.73E-04
Normalized peak height	5.30E-02	4.23E-02	8.97E-02	1.56E-01	9.07E-02	2.82E-02	5.86E-02	6.71E-02	2.18E-02	2.11E-01	1.19E-02	1.74E-02	1.29E-02	1.74E-02	7.50E-02	2.18E-02	4.18E-01	5.75E-01	4.03E-02	1.05E-02	6.47E-02
Peak sensitivity value	4.61E-04	3.03E-03	1.43E-05	7.10E-05	-1.75E-04	1.07E-04	4.44E-04	3.03E-04	1.22E-03	-3.03E-19	2.24E-03	9.34E-05	2.82E-05	-8.05E-05	5.06E-04	1.45E-04	5.12E-22	-8.88E-20	5.17E-09	5.15E-08	-1.74E-06
Shapiro-Wilk score	8.266E-01	7.059E-01	6.514E-01	5.751E-01	7.734E-01	8.304E-01	7.938E-01	7.916E-01	6.377E-01	8.139E-01	7.642E-01	8.490E-01	8.525E-01	8.934E-01	5.981E-01	8.075E-01	5.471E-01	2.476E-01	7.525E-01	8.638E-01	7.490E-01
(gly3p dhap antiporter)																				
Local	4.74E-01	2.95E-03	2.22E-04	1.71E-03	3.00E-02	1.02E-02	1.30E-01	1.05E-01	3.90E-02	8.65E-17	1.34E-02	1.88E-02	3.43E-03	-4.42E-02	1.32E-01	2.04E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06	-7.39E-04
Min	-1.67E+00	-2.41E-01	-3.41E-03	-2.78E-02	-1.94E-01	8.28E-06	-3.81E-01	-3.39E-01	2.65E-04	-2.09E-14	-2.75E-02	-1.05E-02	-1.91E-03	-5.55E-01	-1.10E+00	-3.65E-02	-3.61E-18	-7.53E-17	-1.28E-07	1.67E-08	-5.84E-03
Max	1.90E+00	2.15E-01	8.28E-03	2.31E-01	5.36E-01	6.95E-02	1.60E+00	1.02E+00	9.84E-01	2.20E-14	1.24E-01	8.71E-02	2.38E-02	-1.79E-04	2.60E+00	1.49E-01	5.29E-18	3.47E-15	4.49E-06	1.49E-05	-2.26E-06
Normalized peak height	2.15E-02	5.46E-02	8.43E-02	1.53E-01	9.92E-02	2.08E-02	6.43E-02	7.96E-02	1.45E-02	6.76E-01	1.16E-02	1.67E-02	1.85E-02	1.31E-02	1.14E-01	2.52E-02	3.59E-01	6.74E-01	4.24E-02	1.31E-02	1.13E-02
Peak sensitivity value	7.93E-03	2.73E-03	1.96E-05	2.90E-04	1.23E-04	1.82E-04	8.53E-04	7.93E-04	2.71E-03	-1.22E-17	3.18E-03	2.87E-04	1.10E-04	-2.68E-03	3.66E-03	2.42E-04	-1.63E-22	1.01E-18	3.21E-09	1.73E-07	-6.94E-05
Shapiro-Wilk score	9.052E-01	8.567E-01	7.506E-01	6.673E-01	8.497E-01	8.825E-01	8.345E-01	8.183E-01	8.632E-01	2.324E-01	8.630E-01	8.285E-01	8.329E-01	8.705E-01	6.438E-01	7.950E-01	6.508E-01	6.020E-02	6.822E-01	8.699E-01	8.092E-01
(glycerol transport)																				
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	1.09E-02
Min	-7.81E+00	-9.13E-01	-4.64E-02	-5.31E-01	-5.14E+00	-9.57E-01	-2.82E+01	-1.49E+01	-2.25E+01	-3.26E-13	-1.05E+00	-6.99E-01	-1.56E-01	1.25E-02	-4.66E+01	-1.17E+00	-3.56E-17	-2.27E-14	-1.01E-04	-2.36E-04	1.87E-05
Max	4.88E+01	6.28E-01	3.81E-02	4.43E-01	1.72E+00	7.93E-02	4.82E+00	2.54E+00	-5.93E-02	1.40E-13	2.27E-01	1.18E-01	2.51E-02	1.58E+00	8.74E+00	2.22E-01	3.36E-17	4.90E-16	2.03E-06	-2.96E-07	9.07E-02
Normalized peak height	4.02E-02	1.96E-02	3.07E-02	3.52E-02	1.16E-02	1.03E-02	5.01E-02	4.63E-02	2.63E-02	7.11E-01	2.22E-02	3.20E-02	3.20E-02	7.94E-03	1.37E-01	4.02E-02	4.00E-01	5.50E-01	1.49E-01	8.10E-03	1.42E-02
Peak sensitivity value	-8.34E-02	1.09E-02	1.80E-04	2.82E-04	-6.07E-02	-2.48E-02	1.03E-02	5.61E-03	-1.33E+00	-9.22E-17	3.93E-03	8.58E-04	2.63E-04	9.62E-01	2.07E-02	1.75E-03	-2.41E-20	-9.39E-18	2.75E-08	-7.01E-06	1.15E-03
Shapiro-Wilk score	9.175E-01	8.690E-01	8.532E-01	8.578E-01	8.994E-01	8.156E-01	8.323E-01	8.154E-01	7.025E-01	1.677E-01	8.466E-01	8.918E-01	8.889E-01	8.876E-01	6.805E-01	8.924E-01	6.913E-01	5.181E-02	7.252E-01	8.348E-01	8.128E-01

Table 16: Flux control coefficients for *Trypanosoma brucei* model with parameter variation of ±50%

		(glucosetransport)	(hexokinase)	(phosphoglycerateisomerase)	(phophofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)	(phosphoglyceratekinase)
(glucose transport)	Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04
	Min	-4.25E+00	-1.46E+00	-8.74E-04	-5.04E-03	1.50E-07	-1.21E-02	-1.11E-03	-9.93E-04	-6.51E-01	-8.75E-13	6.78E-07
	Max	9.99E-01	1.09E-01	2.46E-02	1.14E+00	6.04E-01	1.01E-01	3.60E+00	1.56E+00	7.69E-01	1.81E-13	1.62E-01
	Normalized peak height	2.20E-01	1.33E-01	1.73E-01	4.32E-01	3.77E-01	3.75E-01	4.15E-01	3.47E-01	3.83E-01	9.75E-01	3.21E-01
	Peak sensitivity value	9.97E-01	3.08E-03	5.10E-06	9.37E-05	3.02E-04	5.40E-05	6.90E-04	-2.13E-04	3.05E-04	2.22E-16	8.18E-05
	Shapiro-Wilk score	7.328E-01	7.222E-01	5.479E-01	3.499E-01	7.206E-01	7.081E-01	6.858E-01	6.703E-01	8.090E-01	3.246E-02	5.688E-01
(hexokinase)	Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04
	Min	-2.21E+00	-2.93E+00	-1.11E-03	-5.91E-03	2.26E-07	-1.56E-02	-9.92E-04	-4.80E-04	-4.92E-01	-1.28E-13	3.27E-07
	Max	1.01E+00	1.21E-01	1.08E-01	2.21E+00	4.65E-01	1.43E-01	2.29E+00	1.01E+00	7.50E-01	1.51E-13	1.69E-01
	Normalized peak height	1.29E-01	2.41E-01	4.36E-01	4.44E-01	3.62E-01	3.74E-01	3.65E-01	3.39E-01	3.48E-01	9.24E-01	3.25E-01
	Peak sensitivity value	9.95E-01	3.26E-03	3.10E-05	-3.79E-04	2.33E-04	-1.59E-05	1.52E-04	2.47E-05	4.88E-04	-9.86E-17	8.50E-05
	Shapiro-Wilk score	7.335E-01	5.914E-01	4.735E-01	2.315E-01	7.206E-01	7.125E-01	6.875E-01	6.707E-01	8.093E-01	6.775E-02	5.676E-01
(phosphoglycerate isomerase)	Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04
	Min	-2.60E+00	-2.39E+00	-1.03E-03	-7.68E-03	1.82E-07	-1.18E-02	-1.31E-03	-5.63E-04	-4.77E-01	-2.59E-13	3.95E-07
	Max	1.00E+00	1.15E-01	5.00E-02	1.79E+00	4.90E-01	8.69E-02	2.31E+00	1.47E+00	9.49E-01	2.98E-13	1.43E-01
	Normalized peak height	1.45E-01	2.09E-01	3.05E-01	5.30E-01	3.64E-01	3.41E-01	3.46E-01	3.78E-01	4.01E-01	9.26E-01	3.00E-01
	Peak sensitivity value	9.98E-01	3.10E-03	1.40E-05	3.91E-04	2.45E-04	-1.25E-05	-1.54E-04	1.69E-04	-1.10E-04	-2.46E-16	7.21E-05
	Shapiro-Wilk score	7.336E-01	5.646E-01	5.187E-01	2.229E-01	7.226E-01	7.091E-01	6.897E-01	6.715E-01	8.094E-01	5.104E-02	5.706E-01
(phophofructokinase)	Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	-1.47E-18	3.73E-04
	Min	-3.74E+00	-2.92E+00	-2.07E-03	-9.72E-03	1.71E-07	-9.71E-03	-1.26E-03	-8.07E-04	-5.31E-01	-2.39E-13	2.81E-07
	Max	1.00E+00	1.14E-01	3.69E-02	2.34E+00	7.37E-01	9.03E-02	2.34E+00	1.19E+00	9.80E-01	1.94E-13	1.60E-01
	Normalized peak height	1.87E-01	2.41E-01	2.82E-01	5.97E-01	3.84E-01	3.80E-01	3.50E-01	3.17E-01	3.97E-01	9.57E-01	3.16E-01
	Peak sensitivity value	9.97E-01	3.47E-03	1.59E-05	8.72E-04	3.68E-04	3.89E-05	-8.60E-05	-2.09E-04	5.31E-05	-5.22E-17	8.02E-05
	Shapiro-Wilk score	7.331E-01	5.908E-01	5.200E-01	2.333E-01	7.215E-01	7.112E-01	6.889E-01	6.722E-01	8.082E-01	5.858E-02	5.694E-01
(aldolase)	Local	9.79E-01	6.97E-03	7.82E-05	4.95E-04	1.13E-03	1.79E-04	4.63E-03	2.72E-03	-3.97E-04	1.48E-16	3.73E-04
	Min	-2.02E+00	-2.81E+00	-5.80E-04	-3.67E-03	1.98E-07	-1.37E-02	-1.22E-03	-6.08E-04	-4.96E-01	-1.50E-14	6.48E-07
	Max	9.99E-01	1.04E-01	2.68E-02	2.19E+00	5.53E-01	7.84E-02	1.76E+00	9.30E-01	6.63E-01	2.36E-14	1.29E-01
	Normalized peak height	1.22E-01	2.20E-01	2.11E-01	4.44E-01	3.70E-01	3.28E-01	3.04E-01	3.04E-01	3.13E-01	7.01E-01	2.86E-01
	Peak sensitivity value	9.98E-01	3.90E-03	9.24E-06	-3.72E-04	2.77E-04	-1.65E-05	-3.34E-04	-1.43E-04	5.22E-04	-8.96E-18	6.49E-05
	Shapiro-Wilk score	7.335E-01	6.079E-01	5.402E-01	2.455E-01	7.230E-01	7.133E-01	6.903E-01	6.722E-01	8.111E-01	3.176E-01	5.704E-01
(triosephosphate isomerase)	Local	4.14E-01	2.95E-03	2.25E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.60E-02	8.65E-17	1.45E-02
	Min	-2.11E+00	-1.80E+00	-7.04E-03	-1.16E-01	-1.19E+00	-1.74E-01	-4.31E+00	-1.61E+00	5.02E-05	-4.28E-14	-2.03E+00
	Max	1.62E+01	9.22E-01	5.82E-02	1.42E+00	7.47E-01	9.29E-02	2.27E+00	1.33E+00	2.12E+00	1.96E-14	1.31E-01
	Normalized peak height	1.70E-01	2.26E-01	2.66E-01	4.50E-01	2.15E-01	8.41E-02	2.29E-01	1.90E-01	4.25E-02	7.75E-01	2.04E-01
	Peak sensitivity value	8.53E-03	1.91E-03	4.17E-05	2.77E-04	2.95E-04	2.79E-04	2.44E-03	1.64E-03	3.22E-03	-3.45E-18	2.23E-03
	Shapiro-Wilk score	8.735E-01	7.379E-01	6.021E-01	3.311E-01	8.214E-01	8.438E-01	8.153E-01	7.846E-01	8.102E-01	1.429E-01	5.683E-01
(glyceraldehyde3phosphate dehydrogenase)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	1.18E-16	7.20E-03
	Min	-6.47E-01	-1.12E+00	-6.85E-04	-4.12E-03	-6.73E-03	-3.95E-03	3.06E-06	8.90E-07	-7.98E-02	-7.74E-16	5.75E-06
	Max	9.99E-01	6.83E-02	1.88E-02	9.08E-01	3.63E-01	6.49E-02	1.15E+00	7.28E-01	6.56E-01	8.02E-16	1.31E-01
	Normalized peak height	7.46E-02	1.61E-01	1.78E-01	3.87E-01	1.11E-01	7.38E-02	1.31E-01	1.38E-01	5.55E-02	3.40E-01	1.95E-02
	Peak sensitivity value	8.83E-04	2.14E-03	5.12E-06	-1.95E-05	1.06E-04	7.96E-05	5.80E-04	3.65E-04	8.20E-05	-6.31E-19	8.56E-04
	Shapiro-Wilk score	7.897E-01	3.751E-01	5.481E-01	3.350E-01	7.582E-01	7.865E-01	7.883E-01	7.703E-01	5.388E-01	6.614E-01	6.904E-01
(glycerol3phosphate dehydrogenase)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	1.18E-16	7.20E-03
	Min	-1.47E+00	-1.13E+00	-7.87E-04	-5.08E-03	-5.92E-03	-4.68E-03	4.23E-06	1.68E-06	-2.25E-01	-8.16E-16	1.31E-05
	Max	9.99E-01	6.24E-02	2.12E-02	9.10E-01	3.77E-01	9.47E-02	2.02E+00	7.19E-01	7.13E-01	8.36E-16	1.29E-01
	Normalized peak height	1.32E-01	1.59E-01	2.30E-01	3.77E-01	1.41E-01	1.07E-01	1.77E-01	1.39E-01	6.97E-02	3.10E-01	1.90E-02
	Peak sensitivity value	3.08E-04	1.95E-03	1.42E-05	-4.65E-05	1.24E-05	4.41E-05	1.02E-03	3.61E-04	8.66E-04	7.94E-19	1.24E-03
	Shapiro-Wilk score	7.910E-01	3.300E-01	5.554E-01	2.997E-01	7.570E-01	7.876E-01	7.894E-01	7.721E-01	5.413E-01	6.584E-01	6.939E-01
(glycerol3phosphate oxidase)	Local	4.14E-01	2.95E-03	2.25E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.60E-02	8.65E-17	1.45E-02
	Min	-2.06E+00	-2.14E+00	-5.44E-03	-5.46E-02	-9.03E-01	-7.90E-02	-1.96E+00	-1.07E+00	1.13E-04	-3.44E-14	-8.29E-02
	Max	4.82E+00	2.55E-01	1.82E-02	1.67E+00	5.95E-01	1.17E-01	2.01E+00	1.32E+00	1.06E+00	1.99E-14	1.22E-01
	Normalized peak height	7.97E-02	2.20E-01	1.63E-01	4.19E-01	1.34E-01	8.81E-02	1.78E-01	1.23E-01	2.17E-02	7.10E-01	2.18E-02
	Peak sensitivity value	5.61E-03	2.19E-03	1.89E-05	-2.07E-04	-8.65E-04	1.34E-04	1.43E-03	-1.77E-04	2.76E-03	-1.98E-17	1.35E-03
	Shapiro-Wilk score	8.809E-01	7.060E-01	6.315E-01	2.715E-01	8.244E-01	8.474E-01	8.181E-01	7.855E-01	8.106E-01	1.382E-01	7.840E-01
(pyruvate transport)	Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	-2.22E-16	7.20E-03
	Min	-1.17E+00	-1.88E+00	-1.30E-03	-4.94E-03	-6.65E-03	-5.20E-03	3.13E-06	7.62E-07	-1.39E-01	-8.88E-16	8.28E-06
	Max	9.99E-01	6.81E-02	2.52E-02	1.49E+00	3.45E-01	7.09E-02	1.67E+00	8.25E-01	1.02E+00	8.88E-16	1.33E-01
	Normalized peak height	1.04E-01	2.60E-01	2.60E-01	5.20E-01	1.35E-01	8.03E-02	1.60E-01	1.49E-01	8.10E-02	4.15E-01	1.95E-02
	Peak sensitivity value	1.05E-03	2.83E-03	1.63E-05	3.06E-04	-1.36E-04	8.57E-05	8.36E-04	4.13E-04	9.67E-04	8.88E-19	1.40E-03
	Shapiro-Wilk score	7.907E-01	3.164E-01	5.428E-01	2.898E-01	7.599E-01	7.880E-01	7.902E-01	7.730E-01	5.335E-01	9.079E-01	6.904E-01

		(pyruvatekinase)	(atputilisation)	(glycerolkinase)	(phosphoglyceratemutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglyceratetransport)	(gly3pdhapantiporter)	(glycerol transport)
(glucose transport)	Local	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
	Min	9.76E-09	1.78E-09	-5.43E-04	1.42E-08	9.31E-09	-2.68E-18	-5.25E-15	1.20E-13	-2.02E-05	-5.73E-06
	Max	9.79E-02	2.07E-02	9.50E-01	2.03E+00	1.78E-01	2.61E-18	1.02E-16	1.78E-06	5.19E-07	4.68E-03
	Normalized peak height	3.15E-01	3.02E-01	3.86E-01	4.54E-01	3.48E-01	5.82E-01	7.65E-01	3.18E-01	4.26E-01	3.69E-01
	Peak sensitivity value	4.90E-05	1.04E-05	-6.72E-05	1.01E-03	8.91E-05	-1.48E-21	-2.60E-18	8.89E-10	-8.45E-09	1.30E-06
	Shapiro-Wilk score	5.522E-01	5.519E-01	7.892E-01	5.290E-01	4.894E-01	3.845E-01	4.126E-02	5.877E-01	7.405E-01	6.013E-01
(hexokinase)	Local	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
	Min	1.48E-08	5.37E-09	-6.50E-04	4.30E-08	9.19E-09	-5.43E-18	-6.01E-15	1.71E-13	-1.36E-05	-8.52E-06
	Max	9.58E-02	2.23E-02	7.11E-01	3.41E+00	1.79E-01	5.68E-18	1.79E-16	2.22E-06	4.74E-07	3.67E-03
	Normalized peak height	3.13E-01	3.08E-01	3.23E-01	5.06E-01	3.48E-01	6.55E-01	8.01E-01	3.46E-01	3.96E-01	3.55E-01
	Peak sensitivity value	4.79E-05	1.11E-05	-2.94E-04	1.70E-03	8.96E-05	-8.37E-22	2.71E-18	1.11E-09	2.76E-09	6.74E-07
	Shapiro-Wilk score	5.465E-01	5.503E-01	7.921E-01	5.304E-01	4.877E-01	3.523E-01	3.088E-02	5.857E-01	7.426E-01	6.051E-01
(phosphoglycerate isomerase)	Local	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
	Min	2.30E-08	6.00E-09	-3.32E-04	3.55E-08	2.22E-08	-2.74E-18	-2.73E-15	1.67E-13	-1.46E-05	-6.44E-06
	Max	8.21E-02	2.37E-02	5.11E-01	3.50E+00	2.25E-01	5.92E-18	2.53E-16	2.02E-06	4.41E-07	4.19E-03
	Normalized peak height	2.96E-01	3.14E-01	3.57E-01	5.12E-01	3.71E-01	6.17E-01	7.51E-01	3.30E-01	4.16E-01	3.45E-01
	Peak sensitivity value	4.11E-05	1.19E-05	-7.63E-05	1.75E-03	1.13E-04	2.75E-21	9.45E-19	1.01E-09	-2.46E-09	-1.51E-07
	Shapiro-Wilk score	5.503E-01	5.500E-01	7.949E-01	5.314E-01	4.901E-01	3.735E-01	6.259E-02	5.854E-01	7.430E-01	6.035E-01
(phophofructokinase)	Local	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
	Min	1.02E-08	2.46E-09	-6.67E-04	2.42E-08	1.48E-08	-3.40E-18	-2.13E-14	6.01E-14	-1.71E-05	-5.33E-06
	Max	1.04E-01	1.86E-02	8.50E-01	1.73E+00	1.94E-01	3.23E-18	1.35E-16	1.93E-06	4.79E-07	3.78E-03
	Normalized peak height	3.20E-01	2.91E-01	3.56E-01	4.38E-01	3.55E-01	6.07E-01	9.46E-01	3.25E-01	4.21E-01	3.48E-01
	Peak sensitivity value	5.21E-05	9.31E-06	-2.42E-04	8.66E-04	9.72E-05	9.95E-22	-4.39E-18	9.64E-10	-3.56E-09	3.46E-07
	Shapiro-Wilk score	5.481E-01	5.475E-01	7.918E-01	5.276E-01	4.920E-01	3.729E-01	5.252E-03	5.860E-01	7.405E-01	6.004E-01
(aldolase)	Local	4.31E-04	8.87E-05	3.95E-04	3.65E-03	6.87E-04	-6.78E-21	1.71E-21	1.07E-08	-4.55E-09	6.60E-06
	Min	1.78E-08	3.66E-09	-3.08E-04	2.66E-08	1.46E-08	-2.84E-18	-4.79E-15	1.36E-13	-1.86E-05	-2.17E-06
	Max	9.32E-02	1.74E-02	4.88E-01	2.97E+00	1.83E-01	4.89E-18	7.12E-17	1.59E-06	1.07E-06	4.46E-03
	Normalized peak height	3.09E-01	2.85E-01	3.57E-01	4.92E-01	3.49E-01	5.68E-01	7.89E-01	3.03E-01	4.12E-01	3.50E-01
	Peak sensitivity value	4.66E-05	8.69E-06	-6.37E-05	1.48E-03	9.13E-05	3.49E-21	6.48E-19	7.97E-10	2.90E-09	6.37E-08
	Shapiro-Wilk score	5.532E-01	5.591E-01	7.951E-01	5.294E-01	4.936E-01	3.740E-01	3.896E-02	5.850E-01	7.428E-01	5.988E-01
(triosephosphate isomerase)	Local	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06	-7.39E-04
	Min	-6.18E-01	-1.66E-01	-2.57E+00	-4.71E+00	-1.06E+00	-9.14E-18	-1.06E-16	-3.66E-06	5.22E-09	-9.33E-03
	Max	1.43E-01	3.93E-02	-4.08E-05	3.07E+00	2.38E-01	9.31E-18	3.20E-15	7.45E-06	3.05E-05	-4.07E-07
	Normalized peak height	1.59E-01	2.22E-01	6.74E-02	2.52E-01	2.55E-01	4.55E-01	6.37E-01	1.43E-01	3.07E-02	2.71E-02
	Peak sensitivity value	7.41E-04	1.21E-04	-1.32E-03	1.15E-04	4.78E-04	5.40E-21	1.19E-18	2.46E-09	8.16E-08	-3.31E-05
	Shapiro-Wilk score	6.945E-01	6.801E-01	8.303E-01	6.324E-01	6.392E-01	5.100E-01	1.179E-01	5.606E-01	8.443E-01	6.845E-01
(glyceraldehyde3phosphate dehydrogenase)	Local	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	2.58E-07	5.12E-08	-9.09E-02	3.87E-07	2.44E-07	-3.98E-18	-1.06E-15	2.63E-13	-1.38E-06	-3.67E-03
	Max	9.87E-02	1.67E-02	2.20E-01	1.00E+00	2.09E-01	5.43E-18	2.31E-16	4.20E-06	7.21E-06	5.75E-04
	Normalized peak height	6.06E-02	4.15E-02	6.31E-02	1.43E-01	1.02E-01	4.18E-01	7.99E-01	1.27E-01	3.67E-02	1.48E-01
	Peak sensitivity value	4.96E-05	8.38E-06	-6.07E-05	5.00E-04	1.05E-04	3.37E-21	-2.65E-19	2.10E-09	2.18E-09	-3.36E-07
	Shapiro-Wilk score	7.375E-01	7.437E-01	8.127E-01	5.967E-01	6.586E-01	5.520E-01	4.630E-02	6.417E-01	7.807E-01	6.174E-01
(glycerol3phosphate dehydrogenase)	Local	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	4.36E-07	1.26E-07	-9.91E-02	7.12E-07	3.12E-07	-2.82E-18	-9.99E-17	1.25E-13	-5.32E-06	-6.23E-03
	Max	7.14E-02	1.60E-02	2.75E-01	1.00E+00	2.22E-01	3.44E-18	9.74E-17	6.53E-06	8.84E-06	5.57E-04
	Normalized peak height	4.66E-02	4.07E-02	7.61E-02	1.45E-01	1.07E-01	3.96E-01	5.61E-01	1.58E-01	4.47E-02	2.06E-01
	Peak sensitivity value	3.61E-05	8.12E-06	-1.38E-04	5.01E-04	1.11E-04	1.53E-21	2.49E-21	3.26E-09	1.39E-08	-2.40E-06
	Shapiro-Wilk score	7.395E-01	7.449E-01	8.054E-01	5.991E-01	6.615E-01	5.658E-01	3.305E-01	6.314E-01	7.793E-01	6.093E-01
(glycerol3phosphate oxidase)	Local	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06	-7.39E-04
	Min	-6.38E-02	-1.57E-02	-9.89E-01	-1.03E+00	-5.58E-02	-5.11E-18	-9.47E-17	-5.27E-07	7.44E-09	-1.28E-02
	Max	1.12E-01	3.18E-02	-8.25E-05	2.97E+00	2.53E-01	2.81E-17	1.05E-14	9.51E-06	3.20E-05	-2.68E-07
	Normalized peak height	6.21E-02	7.28E-02	3.06E-02	1.70E-01	8.86E-02	5.21E-01	7.64E-01	1.16E-01	3.24E-02	3.68E-02
	Peak sensitivity value	7.36E-05	2.87E-05	-1.57E-03	-8.33E-05	2.63E-04	-8.10E-21	-4.28E-18	-1.21E-10	8.73E-08	-4.49E-05
	Shapiro-Wilk score	7.256E-01	7.249E-01	8.427E-01	6.342E-01	6.664E-01	4.216E-01	2.597E-02	5.561E-01	8.427E-01	6.807E-01
(pyruvate transport)	Local	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.54E-04
	Min	3.66E-07	1.33E-07	-1.02E-01	1.11E-06	3.60E-07	-3.05E-18	-1.44E-16	1.92E-13	-3.17E-06	-4.04E-03
	Max	7.52E-02	1.95E-02	4.43E-01	1.00E+00	1.68E-01	4.43E-18	1.72E-16	3.70E-06	6.02E-06	8.26E-04
	Normalized peak height	4.88E-02	4.82E-02	8.18E-02	1.46E-01	8.71E-02	3.99E-01	5.61E-01	1.18E-01	4.51E-02	1.38E-01
	Peak sensitivity value	3.80E-05	9.88E-06	-6.81E-05	5.01E-04	8.42E-05	-2.74E-21	1.26E-19	1.85E-09	5.12E-09	5.04E-07
	Shapiro-Wilk score	7.374E-01	7.476E-01	7.974E-01	5.946E-01	6.553E-01	5.570E-01	2.834E-01	6.554E-01	7.887E-01	6.166E-01

(phosphoglycerate kinase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	-3.54E-04
Min	-8.37E-01	-3.75E+00	-9.16E-05	-1.53E-04	-4.86E-03	-4.70E-03	1.53E-06	9.60E-07	-4.96E-02	-7.61E-16	1.81E-05	3.64E-07	6.47E-08	-9.91E-02	9.90E-07	3.81E-07	-3.09E-18	-4.17E-16	3.83E-13	-1.47E-06
Max	9.99E-01	6.79E-02	2.51E-02	2.91E+00	3.61E-01	6.40E-02	1.57E+00	7.22E-01	7.29E-01	8.93E-16	1.30E-01	9.63E-02	1.88E-02	2.15E-01	1.00E+00	1.76E-01	3.60E-18	2.03E-16	4.15E-06	5.60E-06
Normalized peak height	7.88E-02	3.66E-01	2.01E-01	6.67E-01	1.17E-01	7.92E-02	1.55E-01	1.39E-01	6.58E-02	2.56E-01	2.01E-02	5.89E-02	4.47E-02	5.43E-02	1.46E-01	8.99E-02	4.02E-01	6.98E-01	1.26E-01	2.67E-02
Peak sensitivity value	9.95E-04	1.10E-03	2.19E-05	1.30E-03	8.32E-05	7.14E-05	7.88E-04	3.62E-04	5.73E-04	3.73E-19	9.93E-04	4.85E-05	9.44E-06	-2.12E-04	5.01E-04	8.86E-05	-1.31E-22	-2.69E-20	2.08E-09	7.65E-09
Shapiro-Wilk score	7.901E-01	1.860E-01	5.428E-01	1.772E-01	7.580E-01	7.856E-01	7.884E-01	7.708E-01	5.350E-01	7.971E-01	6.966E-01	7.431E-01	7.458E-01	8.157E-01	5.963E-01	6.633E-01	5.676E-01	1.382E-01	6.420E-01	7.888E-01
(pyruvate kinase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	-2.12E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	-3.54E-04
Min	-6.38E-01	-1.25E+00	-3.49E-04	-2.79E-04	-1.02E-02	-4.41E-03	3.66E-06	1.35E-06	-4.25E-02	-8.69E-16	2.05E-05	2.08E-07	3.99E-08	-1.04E-01	5.08E-07	1.24E-07	-3.06E-18	-7.48E-17	2.38E-13	-1.35E-06
Max	9.99E-01	5.66E-02	3.37E-02	9.99E-01	3.53E-01	6.27E-02	1.31E+00	7.41E-01	6.92E-01	8.16E-16	1.40E-01	8.73E-02	1.84E-02	3.20E-01	1.00E+00	1.71E-01	1.05E-17	1.01E-16	3.74E-06	6.82E-06
Normalized peak height	9.54E-02	1.80E-01	2.61E-01	4.63E-01	1.03E-01	8.33E-02	1.40E-01	1.39E-01	7.04E-02	3.88E-01	2.13E-02	5.49E-02	4.43E-02	7.81E-02	1.43E-01	8.63E-02	4.59E-01	5.45E-01	1.19E-01	3.35E-02
Peak sensitivity value	-3.99E-04	2.52E-03	8.66E-06	2.20E-04	1.13E-04	4.54E-05	6.60E-04	3.72E-04	4.43E-04	-2.26E-19	1.21E-03	4.39E-05	9.24E-06	-1.17E-04	5.00E-04	8.57E-05	2.15E-21	9.98E-21	1.87E-09	6.70E-09
Shapiro-Wilk score	7.908E-01	2.848E-01	5.495E-01	2.670E-01	7.593E-01	7.895E-01	7.910E-01	7.736E-01	5.412E-01	9.596E-01	6.882E-01	7.392E-01	7.435E-01	8.014E-01	5.972E-01	6.655E-01	5.182E-01	3.605E-01	6.474E-01	7.826E-01
(atp utilisation)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	2.20E-21	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	-3.54E-04
Min	-1.02E+00	-9.59E-01	-2.37E-03	-4.95E-02	-3.37E-01	-5.66E-02	-1.23E+00	-2.63E-01	-1.54E-01	-1.02E-11	-5.62E-03	-1.29E-03	-4.45E-04	-3.04E-01	-8.57E-03	-1.58E-03	-4.59E-18	-1.29E-16	-3.26E-07	-1.08E-06
Max	2.75E+00	1.67E-01	3.80E-02	7.45E-01	3.38E-01	6.98E-02	1.37E+00	7.48E-01	9.81E-01	8.53E-12	1.32E-01	9.45E-02	2.29E-02	2.89E-01	1.00E+00	1.83E-01	1.76E-17	1.30E-16	4.77E-06	7.15E-06
Normalized peak height	1.35E-01	1.52E-01	2.21E-01	4.28E-01	1.98E-01	1.34E-01	1.13E-01	1.17E-01	8.01E-02	9.60E-01	2.10E-02	5.18E-02	5.45E-02	9.59E-02	9.44E-02	7.48E-02	5.13E-01	5.75E-01	1.02E-01	3.11E-02
Peak sensitivity value	-1.21E-03	2.01E-03	3.43E-05	1.55E-04	-3.81E-05	9.05E-05	2.13E-03	1.83E-05	1.09E-03	-4.11E-15	1.08E-03	1.00E-04	1.07E-05	-1.72E-04	9.91E-07	1.75E-04	5.52E-21	-6.76E-20	2.88E-09	1.07E-09
Shapiro-Wilk score	7.902E-01	3.697E-01	5.240E-01	3.399E-01	7.568E-01	7.845E-01	7.876E-01	7.712E-01	5.376E-01	3.593E-02	6.855E-01	7.343E-01	7.359E-01	7.887E-01	5.944E-01	6.513E-01	3.739E-01	3.079E-01	6.486E-01	7.789E-01
(glycerol kinase)																				
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05
Min	-2.83E+01	-7.68E+00	-1.20E-01	-9.53E-01	-8.65E+00	-1.43E+00	-3.33E+01	-3.04E+01	-2.89E+01	-2.58E-13	-1.08E+00	-1.19E+00	-2.39E-01	4.74E-03	-7.72E+01	-2.11E+00	-1.82E-16	-3.84E-14	-2.35E-04	-5.49E-04
Max	7.87E+01	8.64E-01	6.98E-02	5.51E+00	2.85E+00	1.72E-01	1.92E+01	8.89E+00	1.30E-03	2.23E-13	3.77E-01	2.54E-01	6.10E-02	3.39E+00	1.53E+01	5.21E-01	8.33E-17	2.84E-15	3.05E-06	4.19E-10
Normalized peak height	1.25E-01	1.06E-01	8.09E-02	2.36E-01	1.99E-02	1.97E-02	7.72E-02	1.06E-01	3.72E-02	7.28E-01	4.53E-02	7.77E-02	8.93E-02	1.86E-02	1.95E-01	1.10E-01	5.62E-01	6.06E-01	3.25E-01	1.64E-02
Peak sensitivity value	-7.55E-02	1.40E-02	2.41E-04	1.16E-03	-6.36E-03	-3.13E-02	2.78E-02	3.93E-04	-1.26E+00	-1.68E-16	1.47E-03	1.66E-03	2.35E-04	9.65E-01	-3.48E-02	4.76E-04	-1.53E-20	1.44E-17	7.25E-08	-5.21E-06
Shapiro-Wilk score	8.278E-01	8.308E-01	7.215E-01	4.025E-01	8.030E-01	7.122E-01	7.290E-01	6.845E-01	5.429E-01	1.175E-01	7.911E-01	8.188E-01	8.165E-01	8.581E-01	5.414E-01	8.018E-01	5.412E-01	5.001E-02	6.011E-01	7.632E-01
(phosphoglycerate mutase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	-3.54E-04
Min	-2.42E+00	-1.09E+01	-4.73E-04	-2.76E-03	-6.05E-03	-2.49E-03	3.99E-06	1.61E-06	-4.68E-01	-6.33E-16	1.84E-05	3.18E-07	9.47E-08	-9.25E-02	9.06E-07	2.69E-07	-4.42E-18	-4.00E-16	8.77E-14	-1.06E-05
Max	9.99E-01	7.40E-02	6.43E-02	8.34E+00	5.20E-01	9.93E-02	4.32E+00	7.98E-01	1.57E+00	6.18E-16	1.54E-01	9.30E-02	3.40E-02	8.76E-01	1.00E+00	1.93E-01	6.18E-18	1.25E-16	4.82E-06	6.32E-06
Normalized peak height	1.44E-01	7.70E-01	3.61E-01	7.92E-01	1.76E-01	9.93E-02	2.48E-01	1.48E-01	1.16E-01	2.41E-01	2.32E-02	5.90E-02	7.78E-02	1.07E-01	1.46E-01	9.55E-02	4.26E-01	6.74E-01	1.36E-01	5.08E-02
Peak sensitivity value	-5.22E-04	2.42E-03	1.32E-05	1.41E-03	-3.02E-06	1.06E-04	2.17E-03	4.01E-04	1.78E-03	5.37E-19	1.33E-03	4.68E-05	1.71E-05	-5.58E-06	5.01E-04	9.65E-05	3.93E-21	-2.11E-21	2.41E-09	1.74E-08
Shapiro-Wilk score	7.908E-01	4.902E-02	4.962E-01	4.872E-02	7.572E-01	7.841E-01	7.869E-01	7.709E-01	5.309E-01	8.189E-01	6.870E-01	7.320E-01	7.372E-01	7.440E-01	5.947E-01	6.544E-01	5.556E-01	1.693E-01	6.411E-01	7.815E-01
(enolase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	-3.54E-04
Min	-1.52E+00	-1.51E+00	-8.27E-05	-1.24E-04	-3.87E-02	-4.15E-03	1.82E-06	1.61E-06	-7.83E-02	-7.97E-16	1.10E-05	2.78E-07	4.99E-08	-1.13E-01	5.30E-07	1.71E-07	-2.71E-18	-1.13E-16	1.59E-13	-2.63E-06
Max	9.99E-01	6.48E-02	1.85E-02	1.21E+00	4.17E-01	7.71E-02	1.71E+00	7.54E-01	8.74E-01	7.24E-16	1.21E-01	8.59E-02	2.22E-02	3.64E-01	1.00E+00	1.61E-01	3.48E-18	8.55E-17	3.15E-06	8.73E-06
Normalized peak height	1.30E-01	2.13E-01	1.58E-01	5.31E-01	1.31E-01	9.12E-02	1.62E-01	1.41E-01	8.02E-02	2.51E-01	1.80E-02	5.35E-02	5.39E-02	6.68E-02	1.45E-01	8.32E-02	3.90E-01	4.56E-01	1.12E-01	4.49E-02
Peak sensitivity value	-7.65E-05	2.47E-03	1.95E-05	4.80E-04	-2.47E-04	3.91E-05	8.59E-04	3.79E-04	2.85E-04	6.39E-19	1.16E-03	4.32E-05	1.12E-05	2.12E-05	5.00E-04	8.04E-05	2.01E-21	9.21E-20	1.58E-09	7.88E-09
Shapiro-Wilk score	7.908E-01	2.571E-01	5.591E-01	2.370E-01	7.560E-01	7.859E-01	7.864E-01	7.689E-01	5.345E-01	8.202E-01	6.906E-01	7.335E-01	7.423E-01	7.989E-01	5.972E-01	6.608E-01	5.783E-01	3.310E-01	6.477E-01	7.786E-01
(adenylate kinase cytosol)																				
Local	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	1.30E-01	4.35E-02	4.35E-02	4.35E-02	5.22E-01	3.91E-01	3.04E-01	4.78E-01	1.30E-01	2.17E-01	8.70E-02	8.70E-02	2.61E-01	1.74E-01	8.70E-02	8.70E-02	4.35E-02	1.74E-01	8.70E-02	1.74E-01
Peak sensitivity value	-4.63E-05	-1.34E-01	-4.64E-02	-1.23E-01	3.73E-06	-3.90E-07	-6.95E-06	-2.20E-05	-8.24E-05	2.71E-10	8.99E-02	-2.29E-02	-1.70E-04	-1.17E-06	-1.76E-02	-2.64E-03	-2.88E-12	-4.73E-14	4.63E-03	-2.45E-05
Shapiro-Wilk score	9.804E-01	8.512E-01	7.569E-01	8.742E-01	3.078E-01	2.248E-01	3.502E-01	3.189E-01	4.526E-01	8.717E-01	5.638E-01	7.834E-01	8.333E-01	4.309E-01	7.085E-01	7.484E-01	9.113E-01	5.462E-01	9.394E-01	3.995E-01
(adenylate kinase glycosome)																				
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	2.42E-01	1.95E-01	1.91E-01	1.93E-01	3.55E-01	3.24E-01	2.78E-01	3.47E-01	6.80E-01	3.21E-01	1.33E-01	1.45E-01	1.29E-01	4.92E-01	5.17E-01	1.47E-01	5.22E-01	9.69E-02	3.54E-01	3.44E-01
Peak sensitivity value	-1.73E-02	-9.78E-03	-5.89E-05	1.07E-03	9.15E-03	1.53E-03	-5.20E-02	2.84E-02	-7.16E-03	-1.78E-07	-5.35E-02	6.85E-04	-2.26E-04	6.11E-03	-3.45E-02	2.61E-03	-2.42E-16	1.67E-13	-1.65E-02	-8.63E-03
Shapiro-Wilk score	6.188E-01	6.285E-01	6.535E-01	6.323E-01	4.664E-01	5.110E-01	5.017E-01	4.739E-01	3.080E-01	5.266E-01	6.417E-01	6.947E-01	7.147E-01	5.030E-01	3.017E-01	6.768E-01	3.208E-01	7.256E-01	3.665E-01	4.842E-01
(3phosphoglycerate transport)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.01E-03	8.95E-02	5.25E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.03E-02	1.33E-02	-1.31E-19	6.20E-20	2.07E-07	-3.54E-04
Min	-1.15E+00	-1.83E+00	-2.57E-04	-1.19E-03	-6.03E-03	-3.22E-03	2.45E-06	1.13E-06	-7.95E-02	-7.63E-16	1.63E-05	5.45E-07	1.40E-07	-1.05E-01	1.56E-06	4.42E-07	-4.30E-18	-1.20E-16	-1.32E-07	-2.20E-06
Max	9.99E-01	6.89E-02	2.64E-02	1.43E+00	4.47E-01	5.94E-02	1.52E+00	1.05E+00	7.42E-01	8.31E-16	1.29E-01	8.83E-02	2.36E-02	4.05E-01	1.00E+00	1.96E-01	6.79E-18	1.12E-16	4.70E-06	6.06E-06
Normalized peak height	1.15E-01	2.23E-01	2.03E-01	3.03E-01	1.40E-01	7.61E-02	1.52E-01	1.66E-01	6.70E-02	2.59E-01	1.90E-02	5.52E-02	5.60E-02	9.54E-02	1.43E-01	9.60E-02	4.32E-01	5.20E-01	7.47E-02	4.13E-02
Peak sensitivity value	9.11E-04	3.51E-03	2.30E-05	9.53E-04	9.33E-05	6.20E-05	7.62E-04	5.24E-04	6.13E-04	-2.39E-19	1.24E-03	4.47E-05	1.19E-05	-2.24E-04	5.01E-04	9.83E-05	-3.85E-21	-9.45E-20	5.43E-09	4.96E-09
Shapiro-Wilk score	7.916E-01	2.877E-01	5.574E-01	2.694E-01	7.580E-01	7.877E-01	7.879E-01	7.716E-01	5.348E-01	9.976E-01	6.911E-01	7.354E-01	7.420E-01	7.872E-01	5.960E-01	6.551E-01	5.475E-01	2.963E-01	6.451E-01	7.883E-01
(gly3p dhap antiporter)																				
Local	4.74E-01	2.95E-03	2.25E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.00E-02	8.85E-17	1.34E-02	1.08E-02	3.45E-03	-4.42E-02	1.42E-01	2.07E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06
Min	-2.07E+00	-1.63E+00	-7.24E-03	-4.76E-02	-2.96E-01	-1.04E-02	-9.24E-01	-3.83E-01	1.32E-04	-1.28E-14	-3.91E-02	-2.10E-02	-4.43E-03	-1.01E+00	-2.66E+00	-3.02E-02	-6.29E-18	-1.15E-16	-1.09E-07	8.49E-09
Max	3.90E+00	2.56E-01	1.36E-02	1.35E+00	8.59E-01	9.69E-02	1.95E+00	1.32E+00	9.97E-01	8.30E-14	1.39E-01	1.20E-01	3.70E-02	-1.00E-04	3.02E+00	2.10E-01	1.05E-16	1.07E-14	1.12E-05	2.73E-05
Normalized peak height	7.19E-02	1.82E-01	1.75E-01	4.39E-01	1.49E-01	4.76E-02	1.17E-01	1.20E-01	2.04E-02	7.95E-01	1.88E-02	5.33E-02	6.42E-02	3.24E-02	2.50E-01	7.64E-02	7.11E-01	8.25E-01	1.13E-01	2.77E-02
Peak sensitivity value	5.35E-03	2.38E-03	1.13E-05	7.14E-04	2.77E-04	5.78E-05	1.88E-04	1.26E-03	1.63E-03	-1.88E-19	1.42E-03	1.35E-04	2.93E-05	-1.62E-03	1.12E-03	1.85E-04	-4.72E-21	-1.42E-18	-1.25E-09	7.66E-08
Shapiro-Wilk score	8.810E-01	7.319E-01	6.497E-01	3.039E-01	8.240E-01	8.449E-01	8.169E-01	7.830E-01	8.071E-01	9.878E-02	7.840E-01	7.266E-01	7.269E-01	8.405E-01	6.348E-01	6.746E-01	1.308E-01	2.653E-02	5.490E-01	8.450E-01
(glycerol transport)																				
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05
Min	-2.54E+01	-3.98E+00	-7.24E-02	-7.56E-01	-9.26E+00	-1.53E+00	-4.91E+01	-2.45E+01	-5.10E+01	-2.38E-13	-1.07E+00	-9.47E-01	-2.07E-01	3.81E-03	-6.25E+01	-2.33E+00	-1.54E-16	-1.81E-14	-2.31E-04	-8.79E-04
Max	7.95E+01	8.30E-01	6.27E-02	2.85E+00	3.53E+00	2.07E-01	1.18E+01	1.19E+01	2.33E-01	3.18E-13	3.53E-01	2.60E-01	4.32E-02	4.50E+00	1.28E+01	3.81E-01	1.37E-16	2.41E-15	4.56E-06	1.46E-07
Normalized peak height	1.11E-01	6.99E-02	5.85E-02	1.33E-01	2.26E-02	2.13E-02	8.77E-02	1.05E-01	6.42E-02	7.34E-01	4.31E-02	7.89E-02	7.45E-02	2.50E-02	2.09E-01	1.07E-01	5.73E-01	6.14E-01	2.63E-01	2.60E-02
Peak sensitivity value	-1.08E-01	9.72E-03	2.40E-04	3.30E-03	-1.79E-02	-3.19E-02	-1.68E-02	4.52E-03	-1.23E+00	-2.09E-16	1.57E-03	1.13E-03	1.18E-04	9.64E-01	-1.40E-02	2.20E-03	1.93E-20	6.31E-19	-2.22E-08	-3.81E-06
Shapiro-Wilk score	8.241E-01	8.610E-01	7.178E-01	5.117E-01	8.105E-01	7.074E-01	7.223E-01	6.898E-01	4.926E-01	1.153E-01	7.891E-01	8.194E-01	8.163E-01	8.574E-01	5.407E-01	7.398E-01	5.552E-01	1.190E-01	5.996E-01	7.560E-01

Table 17: Flux control coefficients for *Trypanosoma brucei* model with parameter variation of ±90900%

	(glucosetransport)	(hexokinase)	(phosphoglycerateisomerase)	(phophofructokinase)	(aldolase)	(triosephosphateisomerase)	(glyceraldehyde3phosphatedehydrogenase)
(glucose transport) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 9.79E-01 -2.17E+01 INF 3.65E-01 -2.69E-03 6.882E-01	 6.97E-03 -5.38E+02 INF 8.74E-01 -1.86E-01 3.324E-02	 7.82E-05 -9.05E-02 INF 6.70E-01 -1.41E-03 6.334E-02	 4.95E-04 -1.02E+01 INF 8.56E-01 -1.85E-01 2.416E-02	 1.13E-03 -1.28E-01 INF 4.78E-01 7.54E-04 3.417E-01	 1.79E-04 -5.58E-01 INF 4.87E-01 -6.78E-04 2.612E-01	 4.63E-03 -1.14E+00 INF 4.15E-01 1.47E-03 6.563E-01
(hexokinase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 9.79E-01 -3.69E+01 INF 4.71E-01 -2.19E-02 6.347E-01	 6.97E-03 -3.48E+02 INF 4.86E-01 2.47E-01 5.080E-02	 7.82E-05 -2.03E+00 INF 9.74E-01 6.89E-03 1.709E-02	 4.95E-04 -1.44E+02 INF 9.36E-01 4.82E-02 3.568E-02	 1.13E-03 -1.48E-01 INF 4.65E-01 -1.09E-03 3.186E-01	 1.79E-04 -2.62E-01 INF 5.03E-01 1.46E-05 2.604E-01	 4.63E-03 -7.76E+00 INF 4.22E-01 6.47E-03 6.995E-01
(phosphoglycerate isomerase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 9.79E-01 -3.80E+01 INF 4.38E-01 -1.24E-02 6.673E-01	 6.97E-03 -2.10E+02 INF 7.36E-01 -6.17E-02 5.269E-02	 7.82E-05 -8.98E-02 INF 6.65E-01 2.50E-03 5.950E-02	 4.95E-04 -3.17E+00 INF 7.40E-01 -8.15E-02 3.881E-02	 1.13E-03 -1.90E-01 INF 3.04E-01 -1.00E-03 3.472E-01	 1.79E-04 -2.20E-01 INF 4.74E-01 -1.85E-04 2.660E-01	 4.63E-03 -5.30E-01 INF 4.36E-01 3.82E-03 6.459E-01
(phophofructokinase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 9.79E-01 -2.71E+01 6.02E+00 2.53E-01 -1.90E-02 6.879E-01	 6.97E-03 -2.15E+02 1.73E+01 7.55E-01 -2.53E-02 6.237E-02	 7.82E-05 -3.14E-01 2.21E+01 9.67E-01 1.10E-02 2.270E-02	 4.95E-04 -1.61E+01 2.16E+02 8.97E-01 3.95E-02 4.326E-02	 1.13E-03 -5.84E-01 1.89E+00 4.64E-01 1.19E-03 3.535E-01	 1.79E-04 -5.38E-01 2.23E+00 4.75E-01 -6.76E-04 2.656E-01	 4.63E-03 -2.18E+00 1.93E+01 4.07E-01 3.17E-03 7.188E-01
(aldolase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 9.79E-01 -9.01E+00 2.21E+00 2.95E-01 -4.19E-03 7.236E-01	 6.97E-03 -1.09E+03 4.42E+00 8.82E-01 -4.95E-01 1.561E-02	 7.82E-05 -1.01E-01 6.18E+00 9.21E-01 2.21E-03 5.003E-02	 4.95E-04 -3.29E+00 1.08E+03 9.76E-01 4.89E-01 1.139E-02	 1.13E-03 -3.97E-02 2.89E+00 4.08E-01 -1.61E-04 3.494E-01	 1.79E-04 -2.93E-01 2.16E+00 5.24E-01 6.08E-04 2.534E-01	 4.63E-03 -5.48E-01 1.14E+01 3.30E-01 -3.87E-03 7.394E-01
(triosephosphate isomerase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 4.14E-01 -2.35E+01 INF 5.23E-01 3.21E-02 5.203E-01	 2.95E-03 -1.89E+03 INF 9.61E-01 -6.79E-01 5.832E-03	 2.25E-04 -5.61E+00 INF 9.52E-01 6.15E-03 3.480E-02	 1.71E-03 -5.30E+00 INF 9.55E-01 -5.75E-01 4.500E-03	 3.00E-02 -3.34E+00 INF 5.21E-01 -4.69E-04 3.391E-01	 1.02E-02 -2.49E-01 INF 4.36E-01 8.40E-04 2.993E-01	 1.80E-01 -1.31E+01 INF 2.46E-01 -1.12E-02 6.954E-01
(glyceraldehyde3phosphate dehydrogenase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 7.06E-01 -INF 3.67E+00 2.24E-01 -6.09E-03 7.380E-01	 5.02E-03 -INF 1.14E+01 8.93E-01 3.76E-02 3.102E-02	 1.49E-04 -INF 5.16E+00 9.10E-01 9.63E-04 5.335E-02	 1.08E-03 -INF 5.38E+02 9.11E-01 -1.03E-01 2.327E-02	 1.51E-02 -INF 2.08E+00 3.61E-01 -5.45E-04 3.427E-01	 5.04E-03 -INF 2.17E+00 3.64E-01 -7.74E-04 2.824E-01	 8.95E-02 -INF 7.18E+00 3.11E-01 2.42E-03 7.669E-01
(glycerol3phosphate dehydrogenase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 7.06E-01 -1.62E+01 2.39E+00 2.57E-01 -9.51E-03 7.205E-01	 5.02E-03 -2.12E+02 1.59E+01 7.89E-01 1.33E-02 4.704E-02	 1.49E-04 -2.83E-01 2.76E+00 5.55E-01 -1.35E-03 5.954E-02	 1.08E-03 -1.44E+01 2.12E+02 8.82E-01 -4.48E-03 3.520E-02	 1.51E-02 -4.32E-01 1.30E+00 2.57E-01 -8.17E-04 3.397E-01	 5.04E-03 -4.64E-01 1.66E+00 4.50E-01 2.00E-04 2.824E-01	 8.95E-02 -9.99E-01 1.10E+01 3.40E-01 5.77E-03 7.589E-01
(glycerol3phosphate oxidase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 4.14E-01 -3.08E+01 INF 5.23E-01 4.88E-03 6.099E-01	 2.95E-03 -2.03E+02 INF 7.56E-01 -4.55E-02 5.795E-02	 2.25E-04 -1.44E+00 INF 8.51E-01 -2.23E-03 5.267E-02	 1.71E-03 -6.59E+00 INF 9.07E-01 8.89E-02 4.164E-02	 3.00E-02 -4.67E+00 INF 7.78E-01 -6.21E-04 1.508E-01	 1.02E-02 -3.46E-01 INF 3.82E-01 3.37E-04 2.952E-01	 1.80E-01 -2.25E+01 INF 2.86E-01 -1.29E-02 6.848E-01
(pyruvate transport) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 7.06E-01 -1.83E+01 9.41E+00 3.55E-01 8.69E-03 6.901E-01	 5.02E-03 -3.89E+02 1.57E+01 7.16E-01 1.66E-01 4.587E-02	 1.49E-04 -1.00E+00 5.53E+00 9.25E-01 1.70E-03 4.610E-02	 1.08E-03 -1.56E+01 3.87E+02 8.08E-01 -1.58E-01 3.471E-02	 1.51E-02 -2.84E+00 3.24E+00 4.12E-01 -1.84E-03 3.319E-01	 5.04E-03 -4.52E-01 1.25E+00 4.50E-01 4.89E-04 2.918E-01	 8.95E-02 -7.60E+00 1.51E+01 3.46E-01 1.72E-03 7.181E-01

	(glycerol3phosphatedehydrogenase)	(glycerol3phosphateoxidase)	(pyruvatetransport)	(phosphoglyceratekinase)	(pyruvatekinase)	(atputilisation)	(glycerolkinase)
(glucose transport) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 2.72E-03 -4.94E-01 INF 3.83E-01 -4.15E-04 5.722E-01	 -3.97E-04 -1.76E+00 INF 3.95E-01 4.90E-03 5.748E-01	 -1.47E-18 -3.84E-13 INF 9.33E-01 1.25E-16 1.786E-02	 3.73E-04 -2.80E-01 INF 3.66E-01 -2.67E-03 2.067E-01	 4.31E-04 -2.44E-02 INF 9.81E-01 3.48E-01 2.618E-03	 8.87E-05 -7.43E+02 INF 9.90E-01 -8.29E-02 1.675E-03	 3.95E-04 -4.19E-01 INF 3.84E-01 -2.65E-03 4.302E-01
(hexokinase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 2.72E-03 -4.64E-01 INF 4.06E-01 2.39E-03 5.813E-01	 -3.97E-04 -4.09E+00 INF 4.14E-01 2.55E-03 5.825E-01	 -1.47E-18 -1.40E-13 INF 8.55E-01 -1.89E-16 2.841E-02	 3.73E-04 -1.24E-01 INF 6.26E-01 1.84E-03 2.071E-01	 4.31E-04 -9.29E-03 INF 9.83E-01 3.59E-01 3.296E-03	 8.87E-05 -7.37E+02 INF 9.90E-01 -1.12E-02 2.270E-03	 3.95E-04 -1.44E+01 INF 5.11E-01 2.44E-03 4.369E-01
(phosphoglycerate isomerase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 2.72E-03 -2.02E-01 INF 4.49E-01 1.88E-03 5.587E-01	 -3.97E-04 -1.68E+00 INF 3.95E-01 1.87E-03 5.804E-01	 -1.47E-18 -2.18E-13 INF 8.49E-01 1.40E-16 3.782E-02	 3.73E-04 -1.53E-01 INF 6.34E-01 1.03E-03 2.078E-01	 4.31E-04 -9.16E-04 INF 9.73E-01 4.08E-02 3.553E-02	 8.87E-05 -8.24E+01 INF 9.44E-01 2.72E-02 2.053E-02	 3.95E-04 -2.42E-01 INF 4.16E-01 -9.39E-03 3.508E-01
(phophofructokinase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 2.72E-03 -6.06E-01 5.25E+00 3.86E-01 -2.36E-04 5.850E-01	 -3.97E-04 -2.49E+00 4.46E+00 3.93E-01 -6.59E-05 5.891E-01	 -1.47E-18 -1.27E-13 2.69E-13 8.61E-01 1.24E-16 3.210E-02	 3.73E-04 -1.88E+00 6.45E+00 6.33E-01 2.80E-04 2.054E-01	 4.31E-04 -1.08E-02 6.96E+02 9.81E-01 3.37E-01 4.057E-03	 8.87E-05 -6.95E+02 1.97E+00 9.90E-01 2.30E-01 2.857E-03	 3.95E-04 -1.49E-01 1.18E+01 4.39E-01 -2.89E-04 4.455E-01
(aldolase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 2.72E-03 -1.16E-01 2.98E+00 3.47E-01 -1.13E-04 5.877E-01	 -3.97E-04 -1.20E+00 5.46E+00 3.91E-01 -1.09E-03 5.835E-01	 1.48E-16 -1.28E-14 6.54E-14 7.18E-01 3.42E-17 9.272E-02	 3.73E-04 -3.05E-02 5.29E+00 5.12E-01 -1.20E-03 2.065E-01	 4.31E-04 -1.90E-03 4.13E+02 9.78E-01 2.05E-01 6.694E-03	 8.87E-05 -4.12E+02 7.87E-01 9.86E-01 1.67E-01 3.717E-03	 3.95E-04 -4.64E-01 7.92E+00 4.39E-01 1.37E-03 4.678E-01
(triosephosphate isomerase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 1.06E-01 -3.18E+01 INF 4.31E-01 -8.53E-03 4.332E-01	 9.60E-02 -1.20E+00 INF 2.79E-01 5.32E-03 7.369E-01	 8.65E-17 -1.09E-13 INF 8.45E-01 -2.33E-18 3.412E-02	 1.45E-02 -4.75E-01 INF 6.10E-01 2.52E-03 2.186E-01	 1.68E-02 -4.47E+00 INF 8.53E-01 -9.05E-02 1.912E-02	 3.45E-03 -1.89E+02 INF 8.35E-01 -7.88E-02 1.089E-02	 -4.42E-02 -1.65E+01 INF 4.41E-01 -2.19E-03 4.339E-01
(glyceraldehyde3phosphate dehydrogenase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 5.25E-02 -INF 2.81E+00 1.89E-01 -1.15E-03 5.938E-01	 4.62E-02 -INF 3.12E+00 2.09E-01 1.91E-03 5.911E-01	 1.18E-16 -INF 2.19E-14 7.91E-01 -3.95E-18 1.464E-01	 7.20E-03 -INF 6.15E+00 4.63E-01 -2.58E-03 2.060E-01	 8.34E-03 -INF 3.28E+02 9.76E-01 6.43E-02 8.524E-03	 1.71E-03 -INF 1.27E+00 9.84E-01 1.17E-01 5.503E-03	 -2.12E-02 -INF 3.82E+00 4.54E-01 1.13E-03 3.776E-01
(glycerol3phosphate dehydrogenase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 5.25E-02 -6.52E-01 9.13E+00 3.16E-01 -1.95E-03 5.728E-01	 4.62E-02 -8.08E-01 1.09E+01 4.31E-01 4.81E-03 5.747E-01	 1.18E-16 -1.51E-13 6.18E-15 8.37E-01 -2.60E-17 2.143E-02	 7.20E-03 -1.38E-01 5.23E+00 4.41E-01 -9.46E-04 2.110E-01	 8.34E-03 -4.48E-01 6.24E+01 9.68E-01 2.38E-02 5.635E-02	 1.71E-03 -6.14E+01 4.84E-01 9.27E-01 1.98E-02 3.489E-02	 -2.12E-02 -4.56E-01 3.21E+00 4.41E-01 9.56E-04 3.801E-01
(glycerol3phosphate oxidase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 1.06E-01 -6.35E+00 INF 3.25E-01 -1.99E-03 5.727E-01	 9.60E-02 -4.44E-01 INF 1.53E-01 5.91E-04 7.454E-01	 8.65E-17 -1.04E-14 INF 7.58E-01 -1.00E-17 1.651E-01	 1.45E-02 -5.27E-01 INF 3.44E-01 -1.58E-03 2.193E-01	 1.68E-02 -9.52E-01 INF 9.59E-01 3.53E-03 4.942E-02	 3.45E-03 -6.88E+01 INF 9.19E-01 1.63E-02 3.043E-02	 -4.42E-02 -6.45E+00 INF 3.63E-01 -3.10E-03 4.728E-01
(pyruvate transport) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 5.25E-02 -3.73E-01 3.63E+00 3.18E-01 1.20E-03 5.943E-01	 4.62E-02 -4.01E-01 7.84E+00 3.11E-01 -1.02E-03 5.827E-01	 -2.22E-16 -1.40E-13 5.60E-14 4.11E-01 -8.48E-17 8.340E-02	 7.20E-03 -2.97E-01 6.79E+00 3.95E-01 3.94E-03 2.081E-01	 8.34E-03 -5.51E-02 2.26E+02 9.75E-01 5.78E-02 1.574E-02	 1.71E-03 -2.25E+02 6.18E-01 9.80E-01 5.43E-02 8.748E-03	 -2.12E-02 -3.28E-01 3.34E+00 4.61E-01 -2.61E-04 3.678E-01

	(phosphoglyceratemutase)	(enolase)	(adenylatekinasecytosol)	(adenylatekinaseglycosome)	(3phosphoglyceratetransport)	(gly3pdhapantiporter)	(glyceroltransport)
(glucose transport) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 3.65E-03 -2.63E-01 INF 6.39E-01 1.19E-03 3.765E-01	 6.87E-04 -5.78E-02 INF 5.51E-01 -6.43E-04 1.971E-01	 -6.78E-21 -2.38E-07 INF 1.00E+00 -8.47E-11 2.863E-04	 1.71E-21 -7.13E-14 INF 9.28E-01 -1.10E-16 3.246E-03	 1.07E-08 -1.07E-06 INF 7.00E-01 -1.33E-07 8.548E-02	 -4.55E-09 -4.95E-05 INF 5.48E-01 -5.18E-08 2.514E-01	 6.60E-06 -1.61E-04 INF 7.50E-01 -5.46E-05 9.708E-02
(hexokinase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 3.65E-03 -1.55E-02 INF 4.33E-01 -1.13E-03 3.754E-01	 6.87E-04 -1.44E-02 INF 5.62E-01 -1.19E-03 1.955E-01	 -6.78E-21 -5.35E-08 INF 1.00E+00 -2.49E-12 4.041E-04	 1.71E-21 -3.27E-13 INF 9.92E-01 -3.02E-17 1.998E-03	 1.07E-08 -8.33E-07 INF 7.24E-01 -1.97E-08 9.447E-02	 -4.55E-09 -6.36E-05 INF 4.90E-01 -7.89E-08 2.145E-01	 6.60E-06 -2.99E-04 INF 8.34E-01 3.91E-05 9.236E-02
(phosphoglycerate isomerase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 3.65E-03 -2.36E-03 INF 6.15E-01 8.21E-04 3.748E-01	 6.87E-04 -1.43E-03 INF 6.65E-01 -2.10E-04 1.986E-01	 -6.78E-21 -1.55E-10 INF 1.00E+00 9.19E-14 7.682E-04	 1.71E-21 -5.75E-14 INF 9.98E-01 -5.38E-16 8.211E-04	 1.07E-08 -1.13E-06 INF 8.39E-01 4.55E-09 5.966E-02	 -4.55E-09 -4.97E-05 INF 7.09E-01 -4.88E-08 1.134E-01	 6.60E-06 -3.66E-04 INF 6.48E-01 -7.92E-05 9.834E-02
(phophofructokinase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 3.65E-03 -2.13E+00 3.18E+00 6.70E-01 1.26E-03 3.752E-01	 6.87E-04 -3.59E-02 1.63E+00 6.36E-01 -1.43E-04 1.966E-01	 -6.78E-21 -1.88E-08 5.84E-08 1.00E+00 3.04E-11 5.035E-04	 1.71E-21 -1.25E-14 1.02E-14 7.98E-01 3.53E-19 8.723E-02	 1.07E-08 -5.95E-06 1.90E-04 7.81E-01 2.73E-08 1.203E-01	 -4.55E-09 -6.66E-05 1.27E-04 6.09E-01 3.37E-08 1.886E-01	 6.60E-06 -4.75E-04 2.92E-01 8.09E-01 -3.70E-05 9.320E-02
(aldolase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 3.65E-03 -1.08E-02 2.52E+00 6.13E-01 5.54E-04 3.722E-01	 6.87E-04 -1.21E-03 2.45E+00 6.82E-01 1.38E-05 1.956E-01	 -6.78E-21 -2.54E-11 1.34E-09 1.00E+00 -6.25E-14 4.295E-04	 1.71E-21 -1.50E-14 5.67E-15 7.90E-01 4.52E-19 9.064E-02	 1.07E-08 -6.62E-07 1.48E-04 7.38E-01 7.63E-09 1.252E-01	 -4.55E-09 -1.11E-04 1.48E-04 5.10E-01 1.29E-07 1.837E-01	 6.60E-06 -1.37E-03 2.47E-01 8.15E-01 -7.49E-06 1.016E-01
(triosephosphate isomerase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 1.42E-01 -1.04E+01 INF 6.02E-01 -1.30E-02 3.406E-01	 2.67E-02 -2.16E+00 INF 6.09E-01 -2.30E-03 2.053E-01	 -2.64E-19 -2.69E-09 INF 1.00E+00 9.74E-12 3.205E-04	 1.27E-19 -3.05E-12 INF 9.84E-01 -1.51E-15 3.626E-04	 4.16E-07 -4.62E-05 INF 8.42E-01 4.98E-08 6.612E-02	 1.10E-06 -7.15E-06 INF 4.19E-01 5.63E-08 2.287E-01	 -7.39E-04 -4.40E-01 INF 6.95E-01 1.09E-04 1.386E-01
(glyceraldehyde3phosphate dehydrogenase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 7.05E-02 -INF 1.04E+00 4.89E-01 3.31E-04 3.852E-01	 1.33E-02 -INF 1.20E+00 4.97E-01 -3.72E-04 2.033E-01	 -1.31E-19 -INF 1.59E-09 1.00E+00 -1.92E-12 8.702E-04	 6.21E-20 -INF 9.24E-14 9.90E-01 -3.30E-17 2.363E-03	 2.07E-07 -INF 2.60E-04 5.46E-01 -1.03E-07 1.300E-01	 5.29E-07 -INF 2.59E-04 8.08E-01 9.77E-08 1.090E-01	 -3.54E-04 -INF 2.39E-01 8.16E-01 -1.16E-04 1.410E-01
(glycerol3phosphate dehydrogenase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 7.05E-02 -7.64E-01 1.52E+00 5.58E-01 1.07E-03 3.859E-01	 1.33E-02 -2.37E-01 1.04E+00 3.17E-01 6.70E-04 2.051E-01	 -1.31E-19 -5.70E-11 1.33E-11 9.98E-01 -2.84E-14 1.132E-03	 6.21E-20 -1.64E-14 3.02E-15 8.33E-01 -5.53E-18 6.487E-02	 2.07E-07 -8.92E-06 2.26E-04 5.40E-01 -8.99E-08 1.269E-01	 5.29E-07 -3.44E-05 1.09E-04 6.36E-01 5.34E-08 1.784E-01	 -3.54E-04 -5.27E-02 1.59E-01 7.74E-01 5.91E-05 1.523E-01
(glycerol3phosphate oxidase) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 1.42E-01 -4.07E+00 INF 5.65E-01 -6.14E-03 3.757E-01	 2.67E-02 -3.23E+00 INF 7.25E-01 3.44E-04 2.060E-01	 -2.64E-19 -9.25E-11 INF 9.99E-01 -6.11E-14 9.112E-04	 1.27E-19 -2.71E-14 INF 8.50E-01 8.84E-18 2.411E-02	 4.16E-07 -5.55E-05 INF 6.83E-01 -9.40E-08 1.078E-01	 1.10E-06 -2.50E-06 INF 4.56E-01 7.78E-08 2.171E-01	 -7.39E-04 -4.16E-01 INF 7.57E-01 -3.04E-05 1.524E-01
(pyruvate transport) Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 7.05E-02 -2.14E+00 1.51E+00 5.69E-01 7.31E-04 3.868E-01	 1.33E-02 -1.78E-01 1.33E+00 3.80E-01 -6.68E-04 2.072E-01	 -1.31E-19 -3.00E-09 2.58E-10 1.00E+00 -8.65E-13 3.973E-04	 6.21E-20 -2.52E-14 2.79E-13 9.59E-01 -1.31E-16 1.323E-03	 2.07E-07 -4.61E-06 3.13E-04 7.43E-01 -7.79E-09 1.077E-01	 5.29E-07 -1.94E-05 1.80E-04 6.41E-01 2.52E-08 1.384E-01	 -3.54E-04 -8.38E-02 1.24E-01 7.61E-01 6.50E-05 1.664E-01

(phosphoglycerate kinase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.74E-04
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	2.52E+00	3.93E+00	2.89E+00	1.75E+02	2.76E+00	1.48E+00	5.91E+00	1.98E+00	3.02E+00	3.00E-13	1.39E+01	2.66E+02	5.02E-01	4.96E+00	1.64E+00	1.57E+00	5.30E-09	3.35E-15	1.75E-04	1.29E-04	2.27E-01
Normalized peak height	3.06E-01	6.01E-01	8.50E-01	8.51E-01	4.58E-01	4.29E-01	2.96E-01	2.73E-01	3.32E-01	8.10E-01	7.27E-01	9.73E-01	9.82E-01	4.91E-01	5.24E-01	6.62E-01	1.00E+00	9.15E-01	5.59E-01	4.01E-01	7.08E-01
Peak sensitivity value	2.28E-03	8.12E-02	2.57E-04	-1.79E-02	5.08E-04	2.86E-05	2.26E-03	3.84E-04	8.09E-04	-2.49E-16	5.78E-03	-3.70E-02	1.04E-01	-1.58E-03	5.28E-04	9.48E-04	1.98E-12	1.85E-17	-5.94E-08	-4.23E-08	1.39E-04
Shapiro-Wilk score	7.405E-01	6.060E-02	6.399E-02	4.381E-02	3.387E-01	2.905E-01	7.791E-01	6.006E-01	5.911E-01	5.835E-02	2.007E-01	1.145E-02	6.626E-03	3.571E-01	3.842E-01	2.062E-01	3.442E-04	1.034E-02	1.425E-01	1.493E-01	1.428E-01
(pyruvate kinase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	-2.12E-16	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.74E-04
Min	-1.99E+01	-8.35E+02	-2.17E-01	-1.86E+01	-7.19E-01	-2.16E-01	-1.17E+01	-1.02E+00	-9.62E-01	-8.57E-14	-2.37E-01	-8.07E-02	-3.03E+02	-4.86E-01	-1.03E+00	-7.61E-01	-1.09E-08	-2.55E-13	-1.15E-05	-1.29E-05	-7.14E-02
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	2.55E-01	8.89E-01	9.55E-01	9.65E-01	4.95E-01	3.94E-01	3.83E-01	1.96E-01	5.88E-01	4.10E-01	9.76E-01	9.81E-01	1.40E-01	5.05E-01	4.25E-01	6.44E-01	1.00E+00	9.08E-01	7.95E-01	7.30E-01	7.79E-01
Peak sensitivity value	-1.52E-02	2.17E-01	-6.85E-03	1.78E-01	7.23E-04	1.90E-04	6.79E-03	2.81E-03	4.14E-04	6.72E-17	5.06E-03	7.14E-02	1.40E-01	-1.37E-03	-6.48E-04	7.28E-04	-3.43E-12	3.86E-16	5.17E-08	5.35E-08	3.43E-05
Shapiro-Wilk score	7.163E-01	1.472E-02	1.197E-02	1.145E-02	3.357E-01	2.995E-01	7.479E-01	5.954E-01	5.918E-01	5.835E-02	2.064E-01	8.884E-03	5.126E-03	3.566E-01	3.831E-01	2.002E-01	4.976E-04	1.039E-03	1.057E-01	1.106E-01	1.644E-01
(atp utilisation)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.20E-21	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.74E-04
Min	-2.36E+01	-3.08E+02	-1.30E-01	-4.89E-01	-2.80E-01	-3.09E-01	-5.62E-01	-4.33E-01	-1.03E+00	-8.92E-12	-1.44E-01	-3.44E-02	-4.05E+02	-5.32E-01	-1.77E-01	-9.23E-01	-4.81E-10	-7.56E-13	-7.51E-06	-3.30E-05	-7.30E-02
Max	2.54E+00	9.37E-01	4.29E+00	3.00E+02	8.19E+00	9.90E-01	1.59E+01	4.04E+00	6.92E+00	3.83E-11	5.24E+00	4.06E+02	1.22E+00	6.47E+00	2.54E+00	1.00E+00	5.45E-07	6.68E-15	1.16E-03	6.98E-05	1.72E-01
Normalized peak height	4.30E-01	7.10E-01	8.93E-01	8.84E-01	6.23E-01	2.65E-01	3.49E-01	2.54E-01	3.61E-01	9.95E-01	3.45E-01	9.78E-01	9.82E-01	4.68E-01	5.58E-01	6.36E-01	1.00E+00	9.97E-01	8.93E-01	5.49E-01	6.58E-01
Peak sensitivity value	-7.43E-03	-1.44E-01	7.24E-04	-3.79E-02	3.83E-03	-5.43E-04	5.28E-03	2.26E-03	1.33E-03	-2.01E-14	-1.83E-03	1.69E-01	2.00E-01	-3.22E-03	8.95E-04	5.55E-04	-2.08E-10	2.00E-16	8.62E-08	3.03E-08	-1.22E-04
Shapiro-Wilk score	7.025E-01	3.948E-02	6.052E-02	2.932E-02	3.203E-01	2.972E-01	7.490E-01	5.974E-01	5.855E-01	1.545E-03	2.096E-01	7.227E-03	4.409E-03	3.423E-01	3.823E-01	2.037E-01	2.776E-04	5.512E-04	3.630E-02	1.949E-01	1.434E-01
(glycerol kinase)																				
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	1.09E-02
Min	-6.80E+01	-1.19E+03	-4.14E+01	-6.23E+01	-1.10E+02	-1.55E+01	-1.03E+02	-3.30E+02	-1.40E+02	-7.12E-13	-6.05E+00	-5.41E+02	-6.12E+02	-1.62E+00	-7.91E+01	-4.43E+01	-4.44E-08	-3.14E-13	-1.83E-03	-1.21E-01	-2.32E-02
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	4.51E-01	4.69E-01	8.31E-01	8.70E-01	5.85E-01	4.46E-01	2.84E-01	6.15E-01	3.18E-01	9.30E-01	2.85E-01	9.57E-01	9.78E-01	4.14E-01	6.78E-01	7.23E-01	1.00E+00	9.86E-01	6.96E-01	5.36E-01	4.25E-01
Peak sensitivity value	6.30E-02	2.83E-01	-2.34E-02	-2.72E-01	-2.66E-02	8.05E-03	-2.90E-02	-1.02E-02	-1.02E+00	-2.23E-15	-9.67E-03	4.82E-01	-6.29E-03	9.99E-01	-4.35E-02	-1.13E-02	-2.00E-11	1.11E-16	-6.15E-07	5.59E-05	-5.97E-05
Shapiro-Wilk score	3.291E-01	5.911E-02	4.346E-02	3.609E-02	1.950E-01	2.315E-01	4.757E-01	1.309E-01	3.767E-01	2.756E-03	5.637E-01	1.097E-02	8.869E-03	5.405E-01	2.307E-01	1.847E-01	3.141E-04	6.070E-03	1.579E-01	3.486E-02	2.936E-01
(phosphoglycerate mutase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.74E-04
Min	-1.05E+01	-5.40E+02	-3.89E-01	-1.89E+01	-3.70E-01	-2.93E-01	-1.17E+00	-5.96E-01	-7.50E-01	-1.15E-13	-4.27E-01	-1.34E-01	-1.38E+02	-1.30E+00	-9.57E-02	-9.19E-02	-1.28E-09	-5.77E-12	-3.83E-05	-2.03E-05	-5.09E-02
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	3.60E-01	8.16E-01	7.68E-01	7.76E-01	4.36E-01	4.53E-01	2.37E-01	2.45E-01	1.69E-01	6.40E-01	5.15E-01	8.43E-01	8.88E-01	5.90E-01	4.08E-01	4.90E-01	1.00E+00	1.00E+00	7.97E-01	5.77E-01	7.75E-01
Peak sensitivity value	-2.13E-03	1.84E-01	-4.46E-04	-2.48E-01	9.89E-04	5.42E-04	-4.32E-03	-8.81E-04	-1.45E-03	1.08E-16	-7.37E-04	-6.44E-02	-4.31E-02	6.70E-03	-2.72E-04	-3.09E-04	-4.96E-13	6.25E-16	2.56E-08	3.90E-08	4.59E-05
Shapiro-Wilk score	7.288E-01	3.082E-02	7.007E-02	2.345E-02	3.382E-01	2.942E-01	7.429E-01	5.932E-01	5.929E-01	4.057E-02	2.072E-01	2.572E-02	1.446E-02	2.999E-01	3.830E-01	2.046E-01	5.463E-04	5.553E-04	6.832E-02	1.942E-01	1.664E-01
(enolase)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.10E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.21E-20	2.07E-07	5.29E-07	-3.74E-04
Min	-9.52E+00	-2.40E+02	-1.83E-01	-1.07E+00	-5.31E-01	-2.37E-01	-1.61E+00	-3.51E-01	-3.82E+00	-2.58E-14	-1.34E-01	-9.35E-02	-3.64E+02	-7.41E-01	-3.22E-01	-2.56E-01	-6.99E-10	-3.84E-14	-2.28E-05	-3.42E-05	-6.65E-02
Max	3.46E+00	1.21E+00	1.41E-01	2.38E+02	2.11E+00	5.09E+00	1.29E+01	2.61E+00	4.82E+00	1.04E-12	3.67E+00	3.65E+02	4.84E-01	5.76E+00	2.19E+00	1.00E+00	4.56E-09	2.03E-15	1.56E-04	1.67E-04	1.43E-01
Normalized peak height	2.84E-01	6.15E-01	8.89E-01	8.89E-01	4.36E-01	5.87E-01	3.51E-01	2.28E-01	3.47E-01	9.85E-01	5.09E-01	9.77E-01	9.73E-01	4.92E-01	5.58E-01	5.81E-01	1.00E+00	9.11E-01	7.62E-01	4.65E-01	7.89E-01
Peak sensitivity value	4.10E-03	-1.17E-01	-4.37E-03	2.18E-03	4.00E-04	4.56E-04	6.68E-03	-7.03E-04	2.61E-04	2.11E-16	8.28E-04	8.91E-02	-6.26E-02	-2.52E-03	9.78E-04	1.87E-04	-1.40E-12	-6.83E-18	8.37E-08	-4.95E-08	-6.87E-05
Shapiro-Wilk score	7.300E-01	6.039E-02	3.348E-02	4.459E-02	3.410E-01	2.349E-01	7.550E-01	5.941E-01	5.881E-01	2.550E-03	2.149E-01	8.271E-03	4.847E-03	3.647E-01	3.835E-01	2.062E-01	6.713E-04	1.824E-02	1.558E-01	1.607E-01	1.491E-01
(adenylate kinase cytosol)																				
Local	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	6.49E-01	5.51E-01	6.06E-01	5.44E-01	7.62E-01	7.01E-01	4.25E-01	4.43E-01	5.41E-01	9.93E-01	1.77E-01	4.40E-02	2.75E-01	6.87E-01	2.60E-01	2.37E-01	4.62E-01	8.95E-01	2.86E-01	4.96E-01	9.09E-01
Peak sensitivity value	6.29E-03	-4.88E-02	-5.39E-03	-6.57E-02	-5.92E-04	1.06E-03	-2.04E-02	6.35E-03	-4.95E-03	-2.73E-04	2.09E-02	-6.03E-04	-1.81E-03	1.08E-03	4.88E-02	3.58E-02	-2.10E-11	-4.26E-13	-4.59E-03	1.13E-03	-7.45E-05
Shapiro-Wilk score	5.001E-01	2.429E-01	1.698E-01	1.748E-01	2.020E-01	1.994E-01	5.747E-01	5.568E-01	3.833E-01	4.659E-03	6.656E-01	8.738E-01	8.774E-01	2.828E-01	3.887E-01	4.898E-01	3.022E-02	4.463E-02	4.113E-01	4.509E-01	6.328E-02
(adenylate kinase glycosome)																				
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	5.98E-01	5.09E-01	4.74E-01	4.87E-01	8.20E-01	8.86E-01	6.46E-01	5.50E-01	7.31E-01	9.69E-01	4.85E-01	9.21E-01	8.59E-01	6.58E-01	8.30E-01	8.61E-01	9.07E-01	4.72E-01	7.70E-01	7.79E-01	7.78E-01
Peak sensitivity value	1.53E-01	-5.46E-02	2.73E-02	-4.64E-03	-5.16E-02	5.53E-02	2.99E-02	1.83E-01	-7.25E-02	-1.11E-06	9.62E-02	-3.85E-02	1.03E-01	-6.27E-03	-1.22E-01	-1.29E-01	5.26E-13	8.22E-13	-3.58E-02	-5.52E-02	-2.64E-03
Shapiro-Wilk score	2.497E-01	3.346E-01	3.300E-01	3.172E-01	6.762E-02	2.393E-02	2.480E-01	1.892E-01	1.442E-01	9.806E-03	3.130E-01	2.128E-02	2.090E-02	3.075E-01	6.990E-02	3.658E-02	2.593E-02	2.887E-01	1.061E-01	7.959E-02	1.066E-01
(3phosphoglycerate transport)																				
Local	7.06E-01	5.02E-03	1.49E-04	1.08E-03	1.51E-02	5.04E-03	8.95E-02	5.25E-02	4.62E-02	2.34E-17	7.20E-03	8.34E-03	1.71E-03	-2.12E-02	7.05E-02	1.33E-02	-1.31E-19	6.20E-20	2.07E-07	5.29E-07	-3.74E-04
Min	-1.18E+01	-9.94E+02	-2.55E-01	-8.11E+00	-1.63E+00	-2.99E-01	-1.36E+00	-4.81E-01	-5.99E-01	-5.57E-14	-2.05E-01	-2.22E-02	-2.08E+02	-5.10E-01	-1.70E-01	-1.53E-01	-9.26E-09	-7.45E-14	-2.05E-03	-3.00E-05	-5.24E-02
Max	3.14E+00	9.30E+00	4.11E+00	9.92E+02	1.73E+00	2.35E+00	1.04E+01	3.45E+00	2.14E+00	5.28E-13	4.70E+00	2.09E+02	5.01E-01	3.08E+00	1.21E+00	1.11E+00	5.94E-09	1.48E-12	2.27E-04	7.37E-05	1.39E-01
Normalized peak height	3.75E-01	9.54E-01	8.76E-01	9.75E-01	4.43E-01	5.27E-01	2.94E-01	3.05E-01	1.57E-01	9.62E-01	3.75E-01	9.76E-01	9.59E-01	4.25E-01	5.08E-01	5.05E-01	1.00E+00	9.98E-01	9.48E-01	5.53E-01	7.68E-01
Peak sensitivity value	-4.33E-03	-2.31E-01	1.18E-04	3.92E-01	4.43E-05	1.07E-03	-6.99E-04	5.90E-04	-1.09E-03	5.53E-17	-1.40E-03	8.25E-02	-2.10E-02	1.16E-03	5.82E-04	-2.79E-04	1.44E-12	-5.32E-16	7.84E-07	3.58E-08	-7.38E-05
Shapiro-Wilk score	7.294E-01	1.364E-02	6.013E-02	1.006E-02	3.398E-01	2.758E-01	7.525E-01	5.924E-01	5.963E-01	6.450E-03	2.088E-01	1.242E-02	7.289E-03	3.629E-01	3.853E-01	2.031E-01	7.223E-04	4.367E-04	1.984E-02	1.881E-01	1.492E-01
(gly3p dhap antiporter)																				
Local	4.14E-01	2.95E-03	2.25E-04	1.71E-03	3.00E-02	1.02E-02	1.80E-01	1.06E-01	9.60E-02	8.65E-17	1.45E-02	1.68E-02	3.45E-03	-4.42E-02	1.42E-01	2.67E-02	-2.64E-19	1.27E-19	4.16E-07	1.10E-06	-7.39E-04
Min	-1.61E+01	-2.79E+02	-1.76E+00	-4.22E+00	-4.22E+00	-5.90E-01	-1.96E+01	-1.71E+00	-2.75E-01	-3.89E-14	-1.61E+00	-8.58E-01	-1.38E+02	-8.25E+00	-4.80E+00	-3.58E+00	-8.69E-11	-1.68E-13	-9.11E-05	-8.59E-06	-3.42E-01
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	4.62E-01	6.71E-01	8.82E-01	9.19E-01	5.69E-01	3.75E-01	3.92E-01	3.33E-01	1.41E-01	8.22E-01	4.27E-01	9.74E-01	8.89E-01	3.66E-01	7.25E-01	5.71E-01	1.00E+00	9.83E-01	6.71E-01	3.10E-01	7.40E-01
Peak sensitivity value	-2.11E-03	-1.21E-01	6.52E-04	3.63E-02	1.52E-03	1.84E-04	1.41E-02	3.99E-04	1.90E-03	1.81E-17	-1.68E-03	5.15E-02	-3.74E-02	-1.61E-03	8.38E-03	-4.28E-03	-1.92E-15	-7.24E-18	-1.72E-07	1.24E-07	-3.05E-05
Shapiro-Wilk score	6.064E-01	3.796E-02	5.823E-02	2.788E-02	3.306E-01	3.060E-01	7.021E-01	5.888E-01	7.471E-01	6.747E-02	2.248E-01	2.385E-02	1.379E-02	4.707E-01	3.751E-01	2.044E-01	5.255E-04	2.723E-03	9.643E-02	2.300E-01	1.426E-01
(glycerol transport)																				
Local	9.22E+00	6.57E-02	-2.07E-03	-1.73E-02	-4.20E-01	-1.47E-01	-2.56E+00	-1.50E+00	-1.41E+00	1.05E-15	-2.06E-01	-2.39E-01	-4.91E-02	6.53E-01	-2.02E+00	-3.80E-01	3.75E-18	-1.82E-18	-5.91E-06	-1.61E-05	1.09E-02
Min	-1.32E+02	-6.75E+02	-3.61E+01	-1.68E+01	-2.84E+01	-2.07E+01	-5.88E+01	-5.90E+01	-1.78E+02	-1.13E-12	-7.34E+00	-6.97E+01	-1.37E+03	-1.25E+00	-7.39E+01	-7.23E+01	-1.65E-07	-3.38E-13	-5.22E-03	-8.39E-02	-3.42E-03
Max	2.34E+02	2.11E+01	2.95E+01	6.70E+02	1.95E+01	5.33E+00	1.28E+02	2.67E+01	9.01E+00	1.29E-12	2.22E+01	1.37E+03	4.44E+01	1.08E+01	3.35E+01	8.91E+00	2.17E-10	3.46E-13	2.42E-03	2.69E-05	9.83E-01
Normalized peak height	4.96E-01	5.40E-01	9.43E-01	8.66E-01	4.32E-01	4.25E-01	2.99E-01	3.64E-01	2.88E-01	9.63E-01	4.74E-01	9.77E-01	9.91E-01	2.07E-01	6.09E-01	7.63E-01	1.00E+00	9.29E-01	8.26E-01	8.85E-01	4.46E-01
Peak sensitivity value	-1.59E-01	-1.70E-01	-5.38E-03	5.56E-03	-6.59E-03	9.34E-03	-4.86E-02	8.70E-03	-1.01E+00	5.48E-16	1.45E-02	3.65E-02	-3.17E-02	1.00E+00	4.66E-02	1.32E-02	-3.13E-11	-2.08E-16	1.46E-06	-1.51E-05	2.92E-05
Shapiro-Wilk score	4.807E-01	7.720E-02	3.781E-02	4.795E-02	3.173E-01	1.958E-01	4.668E-01	3.928E-01	3.407E-01	8.762E-03	5.550E-01	3.956E-03	2.443E-03	7.464E-01	2.582E-01	1.163E-01	2.801E-04	8.419E-03	9.346E-02	5.052E-02	2.865E-01

Table 18: Concentration control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±5%

	(GluceMixedflowtoextracellularmedium)	(Gluceseptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)	(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
Acetaldehyde																								
Local	2.55E-02	1.10E-02	1.99E+00	8.76E-03	1.06E-01	-5.75E-15	-8.30E-02	-1.32E-01	-1.56E-02	-4.70E-02	-7.51E-15	-1.64E+00	0.00E+00	0.00E+00	2.83E-01	-5.12E-15	7.96E-15	-6.23E-02	-3.24E-01	-9.20E-02	-7.34E-03	-7.38E-02	1.26E-01	1.05E-17
Min	1.06E-02	5.16E-03	1.83E+00	7.11E-03	8.16E-02	-2.00E-14	-1.05E-01	-2.24E-01	-1.88E-02	-6.12E-02	-2.84E-14	-1.84E+00	0.00E+00	0.00E+00	2.30E-01	-7.01E-14	-4.92E-14	-7.47E-02	-3.72E-01	-1.07E-01	-1.14E-02	-8.38E-02	1.11E-01	-5.52E-17
Max	7.17E-02	2.57E-02	2.16E+00	1.08E-02	1.42E-01	1.96E-14	-6.31E-02	-1.47E-01	-1.28E-02	-3.47E-02	3.31E-14	-1.50E+00	0.00E+00	0.00E+00	3.39E-01	7.43E-14	4.85E-14	-5.08E-02	-2.75E-01	-7.69E-02	-4.68E-03	-6.49E-02	1.46E-01	6.62E-16
Normalized peak height	4.06E-03	4.35E-03	2.95E-03	3.38E-03	3.23E-03	5.47E-03	3.17E-03	3.65E-03	3.45E-03	3.63E-03	6.71E-02	2.90E-03	1.00E+00	1.00E+00	3.32E-03	5.97E-03	7.81E-03	3.32E-03	4.00E-03	3.30E-03	3.72E-03	3.80E-03	3.32E-03	3.50E-01
Peak sensitivity value	1.88E-02	9.54E-03	1.97E+00	8.55E-03	1.01E-01	7.91E-17	-8.45E-02	-1.83E-01	-1.56E-02	-4.70E-02	-2.91E-17	-1.64E+00	5.00E-04	5.00E-04	2.83E-01	1.80E-17	6.82E-17	-6.31E-02	-3.25E-01	-9.00E-02	-7.07E-03	-7.31E-02	1.27E-01	-3.49E-19
Shapiro-Wilk score	9.143E-01	9.559E-01	9.940E-01	9.939E-01	9.781E-01	9.970E-01	9.985E-01	9.997E-01	9.992E-01	9.983E-01	9.986E-01	9.945E-01	1.000E+00	1.000E+00	9.966E-01	9.988E-01	9.980E-01	9.983E-01	9.999E-01	9.989E-01	9.902E-01	9.993E-01	9.988E-01	7.952E-01
Cytosolic glucose																								
Local	2.04E+00	8.77E-01	-3.34E+00	7.30E-03	8.83E-02	4.39E-16	-2.81E-03	-6.15E-03	-5.28E-04	-1.99E-03	1.00E-15	-5.63E-02	0.00E+00	0.00E+00	9.58E-03	7.63E-16	4.37E-17	2.30E-03	1.20E-02	3.40E-03	2.71E-04	3.43E-01	2.74E-02	7.34E-18
Min	1.13E+00	6.83E-01	-5.51E+00	4.26E-03	4.70E-02	-2.14E-15	-4.62E-03	-1.04E-02	-8.80E-04	-2.82E-03	-3.30E-15	-9.62E-02	0.00E+00	0.00E+00	5.94E-03	-8.89E-15	-6.25E-15	1.42E-03	7.85E-03	2.30E-03	1.26E-04	2.47E-01	1.93E-02	-4.04E-17
Max	3.90E+00	1.15E+00	-2.23E+00	1.25E-02	1.71E-01	2.21E-15	-1.71E-03	-3.79E-03	-3.21E-04	-8.93E-04	2.62E-15	-3.36E-02	0.00E+00	0.00E+00	1.63E-02	8.78E-15	6.74E-15	3.72E-03	1.90E-02	5.18E-03	5.01E-04	5.08E-01	4.05E-02	1.65E-15
Normalized peak height	3.47E-03	3.32E-03	3.65E-03	3.87E-03	4.23E-03	6.53E-02	3.70E-03	4.10E-03	3.73E-03	3.88E-03	2.32E-02	3.50E-03	1.00E+00	1.00E+00	4.05E-03	4.70E-03	4.78E-03	3.75E-03	3.88E-03	3.77E-03	3.83E-03	3.65E-03	4.07E-03	3.50E-01
Peak sensitivity value	1.86E+00	8.74E-01	-3.16E+00	6.56E-03	8.04E-02	-5.61E-19	-2.62E-03	-5.70E-03	-4.99E-04	-1.45E-03	-4.55E-19	-5.22E-02	5.00E-04	5.00E-04	8.96E-03	2.55E-18	-2.03E-16	2.19E-03	1.10E-02	3.21E-03	2.46E-04	3.23E-01	2.69E-02	-6.04E-19
Shapiro-Wilk score	9.700E-01	9.943E-01	9.746E-01	9.832E-01	9.725E-01	9.998E-01	9.779E-01	9.794E-01	9.784E-01	9.784E-01	9.997E-01	9.701E-01	1.000E+00	1.000E+00	9.788E-01	9.994E-01	9.994E-01	9.823E-01	9.802E-01	9.822E-01	9.705E-01	9.787E-01	9.884E-01	5.752E-01
Glycerol																								
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.13E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.53E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	-5.98E-01	-4.02E-01	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	1.11E-02	5.11E-03	1.81E+00	6.97E-03	8.02E-02	-2.87E-14	-1.05E-01	-2.16E-01	-1.89E-02	-6.10E-02	-5.04E-14	-1.80E+00	0.00E+00	0.00E+00	2.24E-01	-6.33E-01	-4.37E-01	5.42E-02	3.04E-01	7.96E-02	5.84E-03	-8.26E-02	1.09E-01	-5.25E-17
Max	6.53E-02	2.29E-02	2.10E+00	1.07E-02	1.43E-01	3.57E-14	-6.23E-02	-1.44E-01	-1.26E-02	-3.39E-02	4.52E-14	-1.47E+00	0.00E+00	0.00E+00	3.37E-01	-5.63E-01	-3.67E-01	8.21E-02	3.91E-01	1.18E-01	1.03E-02	-6.43E-02	1.43E-01	9.36E-16
Normalized peak height	3.92E-03	4.02E-03	2.77E-03	3.47E-03	3.34E-03	5.41E-03	3.37E-03	3.44E-03	3.79E-03	3.69E-03	3.06E-02	3.00E-03	1.00E+00	1.00E+00	3.50E-03	2.72E-03	2.72E-03	3.60E-03	3.42E-03	3.52E-03	3.32E-03	3.85E-03	3.12E-03	3.49E-01
Peak sensitivity value	1.96E-02	9.63E-03	1.94E+00	8.53E-03	9.78E-02	-6.90E-17	-8.20E-02	-1.81E-01	-1.52E-02	-4.66E-02	-4.57E-17	-1.61E+00	5.00E-04	5.00E-04	2.77E-01	-5.99E-01	-4.01E-01	6.63E-02	3.52E-01	1.01E-01	7.63E-03	-7.17E-02	1.23E-01	3.54E-19
Shapiro-Wilk score	9.132E-01	9.552E-01	9.941E-01	9.941E-01	9.780E-01	9.992E-01	9.984E-01	9.997E-01	9.991E-01	9.983E-01	9.989E-01	9.948E-01	1.000E+00	1.000E+00	9.997E-01	9.975E-01	9.975E-01	9.992E-01	9.995E-01	9.999E-01	9.966E-01	9.996E-01	9.986E-01	7.056E-01
EtOH																								
Local	1.01E-02	3.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.26E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-7.43E-17	1.84E-01	-1.45E-01	-8.55E-01	-3.13E-02	-1.03E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.83E-04	-1.89E-02	5.21E-02	2.13E-18
Min	4.62E-03	2.24E-03	7.33E-01	1.93E-03	2.22E-02	-1.41E-15	6.99E-03	1.53E-02	1.27E-03	3.37E-03	-2.40E-15	1.39E-01	-1.64E-01	-8.72E-01	-4.04E-02	-5.49E-15	-4.38E-15	-9.49E-03	-4.62E-02	-1.31E-02	-1.34E-03	-2.33E-02	4.35E-02	-1.26E-17
Max	2.72E-02	9.63E-03	8.32E-01	2.89E-03	3.73E-02	1.53E-15	1.18E-02	2.58E-02	2.28E-03	7.84E-03	2.47E-15	2.41E-01	-1.28E-01	-8.36E-01	-2.37E-02	5.57E-15	4.10E-15	-5.93E-03	-3.27E-02	-9.38E-03	-5.66E-04	-1.52E-02	6.11E-02	2.03E-16
Normalized peak height	4.15E-03	4.32E-03	3.12E-03	3.49E-03	2.82E-03	1.71E-02	3.15E-03	3.49E-03	3.39E-03	4.10E-03	5.37E-02	2.94E-03	2.54E-03	2.54E-03	3.62E-03	4.74E-03	9.46E-03	3.25E-03	2.67E-03	3.24E-03	3.24E-03	3.49E-03	2.99E-03	3.47E-01
Peak sensitivity value	8.79E-03	3.97E-03	7.97E-01	2.34E-03	2.69E-02	-2.02E-17	9.17E-03	2.02E-02	1.70E-03	4.91E-03	3.52E-19	1.73E-01	-1.43E-01	-8.57E-01	-3.08E-02	2.93E-16	7.31E-18	-7.54E-03	-3.89E-02	-1.10E-02	-8.28E-04	-1.91E-02	5.33E-02	-1.62E-22
Shapiro-Wilk score	9.219E-01	9.629E-01	9.840E-01	9.979E-01	9.879E-01	9.951E-01	9.971E-01	9.981E-01	9.966E-01	9.960E-01	9.993E-01	9.876E-01	9.970E-01	9.970E-01	9.978E-01	9.985E-01	9.981E-01	9.973E-01	9.956E-01	9.972E-01	9.900E-01	9.995E-01	9.964E-01	7.986E-01
ADP																								
Local	1.29E-03	9.93E-04	1.01E-01	-2.09E-02	-2.23E-01	6.63E-16	-3.00E-03	-5.93E-03	-7.83E-04	-2.21E-03	1.57E-15	-7.31E-02	0.00E+00	0.00E+00	1.33E-02	1.09E-15	5.21E-17	3.20E-03	1.66E-02	4.72E-03	3.76E-04	1.88E-01	3.81E-02	-4.97E-17
Min	3.30E-04	1.72E-04	4.89E-02	-2.51E-02	-3.08E-01	-2.43E-15	-5.30E-03	-1.15E-02	-9.95E-04	-3.29E-03	-4.49E-15	-1.06E-01	0.00E+00	0.00E+00	9.49E-03	-1.17E-14	-7.76E-15	2.30E-03	1.32E-02	3.85E-03	2.27E-04	1.70E-01	3.21E-02	-4.13E-15
Max	5.07E-03	1.91E-03	1.72E-01	-1.77E-02	-2.12E-01	3.04E-15	-2.83E-03	-6.14E-03	-5.04E-04	-1.44E-03	4.90E-15	-5.54E-02	0.00E+00	0.00E+00	1.79E-02	1.17E-14	8.57E-15	4.24E-03	2.05E-02	5.78E-03	6.08E-04	2.06E-01	4.55E-02	1.46E-15
Normalized peak height	5.52E-03	5.25E-03	2.89E-03	3.93E-03	3.26E-03	4.04E-02	3.48E-03	3.93E-03	3.68E-03	3.69E-03	1.58E-02	3.19E-03	1.00E+00	1.00E+00	3.79E-03	4.20E-03	4.41E-03	3.93E-03	3.39E-03	3.46E-03	3.59E-03	3.48E-03	3.28E-03	3.48E-01
Peak sensitivity value	8.26E-04	3.94E-04	8.53E-02	-2.06E-02	-2.40E-01	-6.28E-19	-3.74E-03	-8.16E-03	-7.16E-04	-2.06E-03	4.47E-19	-7.31E-02	5.00E-04	5.00E-04	1.29E-02	-1.17E-16	6.05E-18	3.13E-03	1.59E-02	4.61E-03	3.72E-04	1.87E-01	3.73E-02	1.81E-18
Shapiro-Wilk score	8.814E-01	9.232E-01	9.806E-01	9.983E-01	9.842E-01	9.997E-01	9.952E-01	9.962E-01	9.950E-01	9.938E-01	9.998E-01	9.873E-01	1.000E+00	1.000E+00	9.959E-01	9.999E-01	9.999E-01	9.973E-01	9.966E-01	9.984E-01	9.887E-01	9.997E-01	9.986E-01	7.617E-01
Glyceraldehyde 3-phosphate																								
Local	2.69E-02	9.49E-03	1.76E+00	1.27E-02	1.54E-01	6.19E-15	1.56E-01	-9.55E-01	-4.26E-02	-1.14E-01	1.37E-14	-1.23E+00	0.00E+00	0.00E+00	-3.32E-01	7.09E-15	-4.91E-15	5.03E-02	2.61E-01	7.42E-02	5.92E-03	-1.10E-01	1.05E-01	1.89E-17
Min	9.95E-03	4.86E-03	1.58E+00	9.82E-03	1.15E-01	-2.49E-14	1.25E-01	-6.51E-01	-5.63E-02	-1.85E-01	-3.32E-14	-1.53E+00	0.00E+00	0.00E+00	-6.53E-01	-9.17E-14	-7.94E-14	3.80E-02	2.09E-01	5.89E-02	4.01E-03	-1.27E-01	8.83E-02	-1.18E-16
Max	6.44E-02	2.23E-02	1.99E+00	1.60E-02	2.11E-01	2.50E-14	1.92E-01	-4.60E-01	-4.06E-02	-1.09E-01	3.61E-14	-9.60E-01	0.00E+00	0.00E+00	-4.28E-01	9.89E-14	5.83E-14	6.42E-02	3.13E-01	9.29E-02	8.49E-03	-9.49E-02	1.22E-01	8.51E-16
Normalized peak height	4.29E-03	3.99E-03	2.75E-03	3.70E-03	3.80E-03	4.60E-03	3.62E-03	3.69E-03	3.47E-03	3.72E-03	5.42E-02	3.17E-03	1.00E+00	1.00E+00	3.45E-03	6.56E-03	1.74E-02	3.52E-03	3.47E-03	3.52E-03	3.47E-03	3.62E-03	3.39E-03	3.47E-01
Peak sensitivity value	1.78E-02	8.97E-03	1.72E+00	1.26E-02	1.49E-01	-1.28E-15	1.55E-01	-5.57E-01	-4.75E-02	-1.43E-01	-1.44E-17	-1.22E+00	5.00E-04	5.00E-04	-5.27E-01	5.88E-17	-1.23E-17	4.90E-02	2.59E-01	7.51E-02	5.80E-03	-1.10E-01	1.04E-01	1.91E-19
Shapiro-Wilk score	9.139E-01	9.550E-01	9.920E-01	9.956E-01	9.808E-01	9.992E-01	9.988E-01	9.995E-01	9.991E-01	9.983E-01	9.993E-01	9.955E-01	1.000E+00	1.000E+00	9.985E-01	9.998E-01	9.991E-01	9.986E-01	9.995E-01	9.991E-01	9.942E-01	9.995E-01	9.979E-01	8.135E-01
Dihydroxyacetone phosphate																								
Local	2.40E-02	1.05E-02	1.88E+00	1.23E-02	1.49E-01	5.18E-15	-2.24E-01	-4.91E-01	-4.21E-02	-1.27E-01	1.04E-14	-1.03E+00	0.00E+00	0.00E+00	-4.89E-01	6.32E-15	-3.93E-15	3.23E-02	2.20E-01	6.25E-02	4.99E-03	-1.06E-01	1.13E-01	1.39E-17
Min	1.02E-02	4.97E-03	1.79E+00	9.55E-03	1.14E-01	-2.01E-14	-2.72E-01	-5.75E-01	-4.93E-02	-1.66E-01	-2.88E-14	-1.29E+00	0.00E+00	0.00E+00	-5.90E-01	-7.55E-14	-5.60E-14	3.13E-02	1.76E-01	4.99E-02	3.30E-03	-1.24E-01	9.78E-02	-9.58E-17
Max	6.56E-02	2.29E-02	2.08E+00	1.55E-02	2.06E-01	2.04E-14	-1.79E-01	-3.98E-01	-3.54E-02	-9.41E-02	3.03E-14	-7.93E-01	0.00E+00	0.00E+00	-3.89E-01	7.60E-14	6.00E-14	5.49E-02	2.73E-01	7.89E-02	7.38E-03	-9.19E-02	1.31E-01	9.86E-16
Normalized peak height	4.28E-03	4.03E-03	2.98E-03	3.71E-03	3.43E-03	6.26E-03	2.90E-03	3.61E-03	3.46E-03	3.70E-03	3.49E-02	2.96E-03	1.00E+00	1.00E+00	3.43E-03	8.71E-03	1.82E-02	3.46E-03	3.58E-03	3.45E-03	3.60E-03	4.31E-03	3.33E-03	3.48E-01
Peak sensitivity value	1.97E-02	9.26E-03	1.86E+00	1.22E-02	1.44E-01	5.36E-17	-2.27E-01	-4.88E-01	-4.22E-02	-1.27E-01	9.94E-01	-1.02E+00	5.00E-04	5.00E-04	-4.94E-01	2.49E-17	5.70E-17	4.17E-02	2.19E-01	6.32E-02	4.75E-03	-1.05E-01	1.12E-01	-4.57E-20
Shapiro-Wilk score	9.139E-01	9.550E-01	9.919E-01	9.950E-01	9.807E-01	9.996E-01	9.976E-01	9.997E-01	9.988E-01	9.981E-01	9.994E-01	9.955E-01	1.000E+00	1.000E+00	9.979E-01	9.996E-01	9.994E-01	9.987E-01	9.995E-01	9.990E-01	9.938E-01	9.994E-01	9.986E-01	7.646E-01
Glucose-6-Phosphate																								
Local	1.37E-02	5.88E-03	1.07E+00	-2.72E-02	-3.22E-01	-8.33E-16	5.10E-03	1.11E-02	9.57E-04	2.89E-03	-1.82E-15	1.02E-01	0.00E+00	0.00E+00	-1.74E-02	-1.37E-15	-6.86E-17	-4.11E-03	-2.71E-02	-6.39E-03	-4.92E-04	-7.52E-01	-4.97E-02	-2.72E-17
Min	5.97E-03	2.96E-03	1.02E+00	-3.24E-02	-4.37E-01	-3.58E-15	3.73E-03	8.00E-03	6.62E-04	1.73E-03	-5.09E-15	7.39E-02	0.00E+00	0.00E+00	-2.31E-02	-1.41E-14	-1.05E-14	-5.61E-03	-2.71E-02	-7.68E-03	-7.28E-04	-7.75E-01	-6.56E-02	-1.33E-15
Max	3.70E-02	1.28E-02	1.14E+00	-2.29E-02	-2.63E-01	3.68E-15	6.73E-03	1.46E-02	1.35E-03	4.56E-03	5.01E-15	1.37E-01	0.00E+00	0.00E+00	-1.22E-02	1.50E-14	1.06E-14	-2.96E-03	-1.64E-02	-4.65E-03	-3.16E-04	-7.24E-01	-3.44E-02	2.69E-16
Normalized peak height	4.03E-03	4.08E-03	2.73E-03	3.43E-03	3.12E-03	4.64E-02	3.32E-03	3.82E-03	3.77E-03	4.00E-03	1.64E-02	3.08E-03	1.00E+00	1.00E+00	3.88E-03	4.05E-03	4.48E-03	3.75E-03	3.23E-03	3.35E-03	3.15E-03	3.52E-03	3.58E-03	3.51E-01
Peak sensitivity value	1.22E-02	5.54E-03	1.06E+00	-2.66E-02	-3.12E-01	-3.26E-18	4.99E-03	1.11E-02	9.59E-04	2.76E-03	-3.91E-18	9.65E-02	5.00E-04	5.00E-04	-1.72E-02	-1.31E-16	4.75E-17	-4.21E-03	-2.13E-02	-6.14E-03	-4.75E-04	-7.51E-01	-5.18E-02	3.79E-19
Shapiro-Wilk score	9.168E-01	9.860E-01	9.810E-01	9.955E-01	9.811E-01	9.997E-01	9.977E-01	9.984E-01	9.975E-01	9.957E-01	9.998E-01	9.930E-01	1.000E+00	1.000E+00	9.983E-01	9.998E-01	9.999E-01	9.985E-01	9.988E-01	9.994E-01	9.926E-01	9.979E-01	9.987E-01	8.278E-01
NAD																								
Local	-4.87E-03	-2.70E-03	-3.80E-01	9.66E-04	1.11E-02	-3.24E-15	-8.00E-02	-1.78E-01	-1.90E-02	-4.93E-02	-6.78E-15	6.68E-01	0.00E+00	0.00E+00	2.72E-01	-3.23E-15	2.80E-15	-2.73E-02	-1.42E-01	-4.03E-02	-3.22E-03	-9.68E-03	-2.81E-02	2.02E-18
Min	-1.50E-02	-5.14E-03	-5.24E-01	2.38E-04	2.87E-03	-1.19E-14	-1.04E-01	-2.35E-01	-2.33E-02	-7.25E-02	-1.72E-14	4.92E-01	0.00E+00	0.00E+00	2.03E-01	-5.15E-14	-3.28E-14	-3.68E-02	-1.83E-01	-5.27E-02	-4.87E-03	-1.96E-02	-3.78E-02	-1.64E-17
Max	-1.84E-03	-8.97E-04	-2.74E-01	2.12E-03	2.48E-02	1.20E-14	-5.92E-02	-1.27E-01	-9.10E-03	-2.57E-02	1.62E-14	9.02E-01	0.00E+00	0.00E+00	3.59E-01	4.39E-14	3.74E-14	-1.94E-02	-1.08E-01	-3.05E-02	-2.00E-03	-2.89E-03	-1.98E-02	9.40E-17
Normalized peak height	4.66E-03	4.02E-03	2.89E-03	4.12E-03	4.02E-03	4.50E-03	3.67E-03	3.50E-03	3.54E-03	3.84E-03	7.38E-02	3.42E-03	1.00E+00	1.00E+00	3.77E-03	4.82E-03	1.36E-02	3.59E-03	3.59E-03	3.65E-03	3.37E-03	4.17E-03	3.04E-03	3.46E-01
Peak sensitivity value	-3.55E-03	-1.68E-03	-3.59E-01	9.20E-04	1.11E-02	2.46E-16	-7.77E-02	-1.76E-01	-1.45E-02	-4.37E-02	1.41E-17	6.47E-01	5.00E-04	5.00E-04	2.72E-01	6.66E-17	2.87E-17	-2.74E-02	-1.37E-01	-4.04E-02	-2.95E-03	-9.31E-03	-2.71E-02	2.68E-20
Shapiro-Wilk score	9.031E-01	9.444E-01	9.892E-01	9.951E-01	9.941E-01	9.993E-01	9.977E-01	9.968E-01	9.945E-01	9.947E-01	9.988E-01	9.942E-01	1.000E+00	1.000E+00	9.974E-01	9.994E-01	9.983E-01	9.978E-01	9.985E-01	9.984E-01	9.926E-01	9.957E-01	9.930E-01	8.710E-01
Extracellular acetaldehyde																								
Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	-4.25E-01	-1.21E-01	-9.92E-03	-7.39E-02	1.27E-01	1.05E-17
Min	1.12E-02	5.36E-03	1.83E+00	7.09E-03	8.15E-02	-2.04E-14	-1.07E-01	-2.22E-01	-1.89E-02	-6.29E-02	-3.30E-14	-1.85E+00	0.00E+00	0.00E+00	2.28E-01	-6.43E-14	-4.47E-14	5.47E-02	-4.79E-01	-1.38E-01	-1.48E-02	-8.34E-02	1.10E-01	-2.81E-16
Max	7.33E-02	2.57E-02	2.17E+00	1.08E-02	1.43E-01	2.06E-14	-6.42E-02	-1.43E-01	-1.29E-02	-3.45E-02	2.86E-14	-1.50E+00	0.00E+00	0.00E+00	3.41E-01	8.27E-14	4.92E-14	8.37E-02	-3.74E-01	-1.00E-01	-6.38E-03	-6.57E-02	1.45E-01	4.51E-16
Normalized peak height	4.43E-03	4.36E-03	3.04E-03	3.43E-03	3.14E-03	6.08E-03	3.17E-03	3.61E-03	3.69E-03	3.89E-03	6.82E-02	3.06E-03	1.00E+00	1.00E+00	3.41E-03	5.76E-03	1.02E-02	3.56E-03	3.64E-03	3.44E-03	3.78E-03	3.56E-03	3.26E-03	3.49E-01
Peak sensitivity value	1.94E-02	8.87E-03	1.98E+00	8.57E-03	1.01E-01	5.54E-17	-8.16E-02	-1.85E-01	-1.56E-02	-4.67E-02	-1.09E-17	-1.65E+00	5.00E-04	5.00E-04	2.86E-01	-1.54E-17	4.27E-17	6.87E-02	-4.21E-01	-1.21E-01	-9.41E-03	-7.40E-02	1.27E-01	-5.17E-20
Shapiro-Wilk score	9.138E-01	9.563E-01	9.932E-01	9.935E-01	9.791E-01	9.962E-01	9.984E-01	9.997E-01	9.990E-01	9.985E-01	9.986E-01	9.942E-01	1.000E+00	1.000E+00	9.996E-01	9.988E-01	9.991E-01	9.992E-01	9.988E-01	9.987E-01	9.906E-01	9.995E-01	9.986E-01	8.147E-01
Phosphoenolpyruvate																								
Local	1.88E-02	5.99E-03	1.08E+00	6.08E-03	7.36E-02	2.62E-15	1.11E-03	2.42E-03	2.08E-04	-1.20E+00	7.14E-14	2.22E-02	0.00E+00	0.00E+00	-4.37E-03	4.71E-15	-1.00E-15	-9.01E-04	-4.72E-03	-1.36E-03	-1.01E-04	-8.20E-02	6.64E-02	9.58E-18
Min	6.10E-03	2.92E-03	1.03E+00	5.19E-03	6.02E-02	-1.87E-14	7.93E-04	1.67E-03	1.46E-04	-1.23E+00	-2.26E-13	1.62E-02	0.00E+00	0.00E+00	-5.23E-03	-1.86E-14	-8.81E-15	-1.21E-03	-6.08E-03	-1.69E-03	-1.77E-04	-5.60E-02	5.75E-02	-1.91E-16
Max	3.58E-02	1.24E-02	1.10E+00	7.13E-03	9.37E-02	1.70E-14	1.52E-03	3.29E-03	2.86E-04	-1.18E+00	1.90E-13	3.18E-02	0.00E+00	0.00E+00	-2.72E-03	1.50E-14	9.18E-15	-6.75E-04	-3.73E-03	-1.05E-03	-6.66E-05	-4.80E-02	7.57E-02	9.07E-16
Normalized peak height	3.95E-03	4.00E-03	3.78E-03	3.47E-03	3.10E-03	9.92E-03	3.70E-03	4.12E-03	3.55E-03	2.67E-03	1.79E-01	3.07E-03	1.00E+00	1.00E+00	3.83E-03	4.69E-03	5.04E-03	3.47E-03	3.48E-03	3.52E-03	3.50E-03	3.38E-03	2.93E-03	3.48E-01
Peak sensitivity value	1.04E-02	5.51E-03	1.07E+00	6.03E-03	7.11E-02	5.04E-17	1.07E-03	2.40E-03	1.99E-04	-1.20E+00	2.27E-18	2.18E-02	5.00E-04	5.00E-04	-3.69E-03	6.22E-17	-3.28E-18	-9.00E-04	-4.62E-03	-1.31E-03	-1.01E-04	-5.21E-02	6.76E-02	-3.92E-19
Shapiro-Wilk score	9.198E-01	9.619E-01	9.978E-01	9.971E-01	9.809E-01	9.989E-01	9.941E-01	9.949E-01	9.941E-01	9.901E-01	9.589E-01	9.854E-01	1.000E+00	1.000E+00	9.946E-01	9.995E-01	9.996E-01	9.962E-01	9.948E-01	9.969E-01	9.870E-01	9.994E-01	9.980E-01	7.566E-01

Fructose-6-Phosphate																								
Local	1.24E-02	5.33E-03	9.67E-01	8.44E-02	-3.38E-01	-8.95E-16	5.90E-03	1.29E-02	1.11E-03	3.34E-03	-2.13E-15	1.18E-01	0.00E+00	0.00E+00	-2.01E-02	-1.59E-15	-7.98E-17	-4.83E-03	-2.51E-02	-7.13E-03	-5.69E-04	-7.58E-01	-5.75E-02	-2.80E-17
Min	5.43E-03	2.60E-03	9.15E-01	7.28E-02	-4.53E-01	-4.21E-15	4.38E-03	9.53E-03	7.90E-04	2.11E-03	-6.15E-15	8.67E-02	0.00E+00	0.00E+00	-2.69E-02	-1.67E-14	-1.17E-14	-6.47E-03	-3.10E-02	-8.82E-03	-8.47E-04	-7.83E-01	-7.38E-02	-1.27E-15
Max	3.27E-02	1.18E-02	1.04E+00	9.67E-02	-2.62E-01	4.15E-15	7.77E-03	1.67E-02	1.55E-03	4.85E-03	5.83E-15	1.58E-01	0.00E+00	0.00E+00	-1.47E-02	1.60E-14	1.37E-14	-3.58E-03	-1.97E-02	-5.46E-03	-3.63E-04	-7.29E-01	-4.23E-02	5.32E-16
Normalized peak height	4.11E-03	4.37E-03	2.69E-03	3.34E-03	3.03E-03	4.64E-02	3.53E-03	3.61E-03	3.54E-03	3.58E-03	1.83E-02	3.08E-03	1.00E+00	1.00E+00	3.63E-03	3.84E-03	4.69E-03	3.53E-03	3.46E-03	3.48E-03	3.39E-03	3.49E-03	3.48E-03	3.53E-01
Peak sensitivity value	9.75E-03	4.60E-03	9.59E-01	8.34E-02	-3.29E-01	-1.02E-18	5.80E-03	1.30E-02	1.08E-03	3.23E-03	-2.60E-18	1.16E-01	5.00E-04	5.00E-04	-1.97E-02	7.00E-16	-9.13E-18	-4.82E-03	-2.50E-02	-7.05E-03	-5.26E-04	-7.58E-01	-5.80E-02	4.06E-19
Shapiro-Wilk score	9.178E-01	9.587E-01	9.849E-01	9.969E-01	9.817E-01	9.998E-01	9.974E-01	9.980E-01	9.971E-01	9.957E-01	9.999E-01	9.925E-01	1.000E+00	1.000E+00	9.978E-01	9.999E-01	9.999E-01	9.979E-01	9.983E-01	9.990E-01	9.929E-01	9.979E-01	9.991E-01	7.892E-01
Extracellular cyanide																								
Local	-1.89E-03	-8.11E-04	-1.47E-01	-6.48E-04	-7.85E-03	4.27E-16	6.15E-03	1.34E-02	1.15E-03	3.48E-03	6.32E-16	1.23E-01	0.00E+00	0.00E+00	-2.09E-02	3.66E-16	-5.96E-16	-5.03E-03	3.14E-02	-6.50E-02	7.46E-02	5.46E-03	-9.35E-03	-7.74E-19
Min	-6.20E-03	-2.06E-03	-2.01E-01	-9.88E-04	-1.30E-02	-1.55E-15	4.24E-03	9.53E-03	7.63E-04	2.23E-03	-1.94E-15	8.75E-02	0.00E+00	0.00E+00	-2.82E-02	-5.11E-15	-3.84E-15	-6.63E-03	2.21E-02	-8.44E-02	5.65E-02	3.89E-03	-1.27E-02	-3.94E-17
Max	-6.58E-04	-3.34E-04	-1.05E-01	-4.16E-04	-4.82E-03	1.40E-15	8.60E-03	1.80E-02	1.61E-03	5.35E-03	2.22E-15	1.68E-01	0.00E+00	0.00E+00	-1.47E-02	5.68E-15	3.50E-15	-3.80E-03	4.54E-02	-4.99E-02	9.84E-02	7.46E-03	-6.40E-03	8.58E-18
Normalized peak height	5.05E-03	4.22E-03	3.30E-03	3.32E-03	3.53E-03	6.80E-03	3.68E-03	3.40E-03	3.60E-03	3.98E-03	6.67E-02	2.88E-03	1.00E+00	1.00E+00	3.68E-03	5.42E-03	1.02E-02	3.48E-03	3.38E-03	3.10E-03	3.15E-03	3.23E-03	3.43E-03	3.52E-01
Peak sensitivity value	-1.43E-03	-6.82E-04	-1.38E-01	-5.87E-04	-7.21E-03	3.57E-18	5.89E-03	1.29E-02	1.10E-03	3.27E-03	4.37E-19	1.16E-01	5.00E-04	5.00E-04	-2.07E-02	6.15E-18	2.44E-18	-4.94E-03	2.90E-02	-6.26E-02	7.22E-02	5.20E-03	-8.75E-03	1.81E-20
Shapiro-Wilk score	9.037E-01	9.444E-01	9.902E-01	9.848E-01	9.739E-01	9.967E-01	9.942E-01	9.957E-01	9.949E-01	9.931E-01	9.986E-01	9.887E-01	1.000E+00	1.000E+00	9.951E-01	9.987E-01	9.985E-01	9.972E-01	9.896E-01	9.935E-01	9.932E-01	9.932E-01	9.945E-01	8.101E-01
Pyruvate																								
Local	9.01E-01	3.88E-01	7.04E+01	2.28E-01	2.76E+00	-6.96E-14	4.07E-02	8.91E-02	7.64E-03	2.31E-02	-7.79E+01	8.15E-01	0.00E+00	0.00E+00	-1.39E-01	-5.18E-14	1.49E-13	-3.34E-02	-1.73E-01	-4.93E-02	-3.93E-03	-1.87E+00	4.59E+00	2.26E-16
Min	5.57E-02	2.88E-02	8.58E+00	2.52E-02	2.95E-01	-3.55E-11	3.82E-03	8.29E-03	7.38E-04	2.11E-03	-4.19E+04	7.76E-02	0.00E+00	0.00E+00	-7.27E+01	-3.72E-11	-3.58E-11	-1.71E+01	-9.10E+01	-2.66E+01	-2.08E+00	-9.90E+02	5.55E-01	-5.94E-14
Max	7.40E+02	2.51E+02	3.80E+04	1.20E+02	1.53E+03	8.99E-12	2.15E+01	4.68E+01	4.04E+00	1.25E+01	-9.47E+00	4.33E+02	0.00E+00	0.00E+00	-1.35E-02	3.57E-11	6.60E-11	-3.35E-03	-1.77E-02	-5.18E-03	-3.34E-04	-2.31E-01	2.38E+03	2.79E-13
Normalized peak height	7.95E-01	7.48E-01	7.30E-01	7.16E-01	7.25E-01	6.89E-01	7.08E-01	7.06E-01	7.09E-01	7.15E-01	7.28E-01	7.09E-01	1.00E+00	1.00E+00	7.07E-01	4.47E-01	7.26E-01	7.02E-01	7.09E-01	7.19E-01	7.02E-01	7.24E-01	7.17E-01	7.53E-01
Peak sensitivity value	4.26E-01	1.54E-01	2.76E+01	8.55E-02	1.06E+00	-1.07E-14	1.46E-02	3.17E-02	2.76E-03	8.37E-03	-3.04E+01	2.94E-01	5.00E-04	5.00E-04	-4.98E-02	2.05E-14	-5.86E-15	-1.19E-02	-6.32E-02	-1.85E-02	-1.38E-03	-7.26E-01	1.74E+00	-6.67E-17
Shapiro-Wilk score	5.297E-02	5.479E-02	5.875E-02	5.881E-02	5.624E-02	6.071E-02	5.920E-02	5.980E-02	5.949E-02	5.962E-02	5.871E-02	6.024E-02	1.000E+00	1.000E+00	5.972E-02	1.447E-01	8.033E-02	5.930E-02	5.984E-02	5.791E-02	5.996E-02	5.875E-02	6.083E-02	5.052E-02
Extracellular ethanol																								
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01	-3.41E-16	-1.00E+00	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	4.64E-03	2.17E-03	7.36E-01	1.91E-03	2.18E-02	-1.31E-15	6.90E-03	1.50E-02	1.23E-03	3.53E-03	-2.62E-15	1.39E-01	-5.35E-16	-1.00E+00	-4.13E-02	-5.61E-15	-4.51E-15	-9.40E-03	-4.69E-02	-1.30E-02	-1.30E-03	-2.31E-02	4.26E-02	-5.89E-17
Max	2.74E-02	9.35E-03	8.33E-01	2.81E-03	3.76E-02	1.56E-15	1.19E-02	2.62E-02	2.30E-03	7.42E-03	2.55E-15	2.42E-01	5.36E-16	-1.00E+00	-2.36E-02	5.42E-15	3.48E-15	-5.85E-03	-3.24E-02	-9.38E-03	-5.57E-04	-1.48E-02	6.12E-02	1.65E-16
Normalized peak height	4.01E-03	4.05E-03	3.05E-03	3.31E-03	3.00E-03	1.83E-02	3.28E-03	3.91E-03	3.56E-03	3.93E-03	6.03E-02	2.73E-03	6.49E-01	1.00E+00	3.80E-03	4.75E-03	8.81E-03	3.21E-03	3.20E-03	2.88E-03	3.13E-03	3.45E-03	3.18E-03	3.49E-01
Peak sensitivity value	7.67E-03	4.14E-03	7.99E-01	2.31E-03	2.77E-02	-7.25E-19	9.16E-03	1.96E-02	1.69E-03	5.06E-03	6.32E-19	1.81E-01	9.87E-20	-1.00E+00	-3.14E-02	-8.38E-18	7.89E-18	-7.43E-03	-3.88E-02	-1.09E-02	-8.63E-04	-1.93E-02	5.36E-02	-4.31E-21
Shapiro-Wilk score	9.212E-01	9.635E-01	9.841E-01	9.981E-01	9.884E-01	9.954E-01	9.966E-01	9.977E-01	9.964E-01	9.955E-01	9.992E-01	9.873E-01	8.089E-01	1.000E+00	9.974E-01	9.989E-01	9.985E-01	9.973E-01	9.955E-01	9.969E-01	9.905E-01	9.991E-01	9.962E-01	7.843E-01
Extracellular glycerol																								
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-1.00E+00	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	1.12E-02	5.54E-03	1.81E+00	6.97E-03	8.08E-02	-3.26E-14	-1.04E-01	-2.19E-01	-1.87E-02	-6.00E-02	-4.89E-14	-1.81E+00	0.00E+00	0.00E+00	2.23E-01	-1.20E-13	-1.00E+00	5.30E-02	2.99E-01	8.11E-02	5.83E-03	-8.27E-02	1.08E-01	-5.41E-17
Max	6.92E-02	2.37E-02	2.12E+00	1.08E-02	1.42E-01	3.09E-14	-6.16E-02	-1.41E-01	-1.25E-02	-3.34E-02	5.30E-14	-1.48E+00	0.00E+00	0.00E+00	3.32E-01	1.27E-13	-1.00E+00	8.18E-02	3.93E-01	1.18E-01	1.03E-02	-6.41E-02	1.42E-01	7.93E-16
Normalized peak height	4.06E-03	3.91E-03	2.93E-03	3.61E-03	3.35E-03	4.69E-03	3.28E-03	3.73E-03	3.65E-03	3.71E-03	3.69E-02	2.96E-03	1.00E+00	1.00E+00	3.55E-03	7.39E-03	1.00E+00	3.70E-03	3.68E-03	3.55E-03	3.28E-03	3.76E-03	3.53E-03	3.48E-01
Peak sensitivity value	2.01E-02	9.15E-03	1.94E+00	8.51E-03	9.95E-02	-2.31E-19	-8.09E-02	-1.78E-01	-1.54E-02	-4.57E-02	2.64E-17	-1.61E+00	5.00E-04	5.00E-04	2.81E-01	1.24E-16	-1.00E+00	6.67E-02	3.48E-01	9.97E-02	7.74E-03	-7.25E-02	1.24E-01	-2.81E-19
Shapiro-Wilk score	9.161E-01	9.576E-01	9.940E-01	9.939E-01	9.790E-01	9.993E-01	9.983E-01	9.996E-01	9.992E-01	9.984E-01	9.988E-01	9.946E-01	1.000E+00	1.000E+00	9.996E-01	9.997E-01	1.000E+00	9.993E-01	9.997E-01	9.998E-01	9.970E-01	9.995E-01	9.987E-01	7.630E-01
Extracellular glucose																								
Local	2.57E+00	-1.40E-02	-2.53E+00	-3.55E-03	-4.30E-02	8.97E-17	-5.98E-04	-1.31E-03	-1.12E-04	-3.38E-04	2.12E-16	-1.20E-02	0.00E+00	0.00E+00	2.04E-03	1.65E-16	1.51E-17	4.89E-04	2.54E-03	7.23E-04	5.76E-05	2.55E-02	5.83E-03	-3.53E-18
Min	1.87E+00	-4.19E-02	-3.78E+00	-6.60E-03	-8.80E-02	-4.48E-16	-1.23E-03	-2.77E-03	-2.24E-04	-7.06E-04	-6.28E-16	-2.58E-02	0.00E+00	0.00E+00	1.10E-03	-2.35E-15	-1.75E-15	2.56E-04	1.42E-03	4.08E-04	2.49E-05	1.69E-02	3.61E-03	-1.74E-16
Max	3.85E+00	-5.64E-03	-1.84E+00	-2.09E-03	-2.38E-02	5.27E-16	-3.07E-04	-6.47E-04	-5.89E-05	-1.64E-04	6.93E-16	-6.04E-03	0.00E+00	0.00E+00	4.22E-03	2.71E-15	1.94E-15	1.01E-03	5.10E-03	1.38E-03	1.40E-04	4.09E-02	1.02E-02	2.01E-17
Normalized peak height	2.85E-03	4.57E-03	2.80E-03	3.65E-03	3.68E-03	6.01E-02	3.87E-03	4.03E-03	3.60E-03	3.92E-03	2.17E-02	3.85E-03	1.00E+00	1.00E+00	4.07E-03	6.23E-03	6.25E-03	3.92E-03	4.00E-03	3.83E-03	4.62E-03	3.35E-03	3.45E-03	3.47E-01
Peak sensitivity value	2.37E+00	-1.04E-02	-2.43E+00	-3.19E-03	-3.73E-02	-1.23E-19	-5.21E-04	-1.15E-03	-9.83E-05	-3.11E-04	3.00E-19	-1.03E-02	5.00E-04	5.00E-04	1.78E-03	-5.78E-18	5.02E-18	4.49E-04	2.32E-03	6.06E-04	4.89E-05	2.32E-02	5.35E-03	1.23E-20
Shapiro-Wilk score	9.682E-01	9.203E-01	9.692E-01	9.550E-01	9.460E-01	9.990E-01	9.573E-01	9.582E-01	9.569E-01	9.561E-01	9.984E-01	9.483E-01	1.000E+00	1.000E+00	9.578E-01	9.970E-01	9.976E-01	9.606E-01	9.585E-01	9.608E-01	9.473E-01	9.789E-01	9.675E-01	8.363E-01
1-3-Bisphosphoglycerate																								
Local	1.07E-02	4.61E-03	8.37E-01	4.44E-02	5.38E-01	5.30E-16	8.28E-03	1.81E-02	-2.84E-01	-8.56E-01	3.50E-14	1.66E-01	0.00E+00	0.00E+00	-2.82E-02	6.06E-16	-4.86E-16	-6.78E-03	-3.52E-02	-1.00E-02	-7.98E-04	-3.98E-01	-7.28E-03	7.56E-17
Min	5.03E-03	2.45E-03	6.69E-01	3.80E-02	4.55E-01	-9.24E-15	5.79E-03	1.24E-02	-3.26E-01	-9.16E-01	-8.88E-14	1.20E-01	0.00E+00	0.00E+00	-3.83E-02	-2.92E-14	-1.84E-14	-9.06E-03	-4.43E-02	-1.24E-02	-1.29E-03	-4.13E-01	-1.87E-02	-1.55E-15
Max	2.70E-02	9.34E-03	9.51E-01	5.06E-02	6.66E-01	1.02E-14	1.11E-02	2.44E-02	-2.45E-01	-7.93E-01	8.99E-14	2.30E-01	0.00E+00	0.00E+00	-1.93E-02	2.40E-14	1.87E-14	-5.04E-03	-2.75E-02	-8.05E-03	-4.87E-04	-3.84E-01	8.74E-04	1.61E-14
Normalized peak height	3.96E-03	3.88E-03	3.13E-03	3.36E-03	2.96E-03	3.54E-02	3.61E-03	3.88E-03	3.19E-03	2.91E-03	8.51E-03	3.11E-03	1.00E+00	1.00E+00	3.93E-03	3.98E-03	4.16E-03	3.76E-03	3.41E-03	3.55E-03	3.58E-03	3.46E-03	3.39E-03	3.48E-01
Peak sensitivity value	8.69E-03	4.37E-03	8.53E-01	4.36E-02	5.30E-01	9.59E-18	8.05E-03	1.76E-02	-2.84E-01	-8.51E-01	8.54E-17	1.66E-01	5.00E-04	5.00E-04	-2.77E-02	1.44E-15	1.25E-15	-6.73E-03	-3.37E-02	-9.76E-03	-7.89E-04	-3.98E-01	-5.81E-03	8.35E-18
Shapiro-Wilk score	9.318E-01	9.726E-01	9.789E-01	9.972E-01	9.790E-01	9.998E-01	9.937E-01	9.948E-01	9.980E-01	9.971E-01	9.973E-01	9.853E-01	1.000E+00	1.000E+00	9.946E-01	9.998E-01	9.999E-01	9.959E-01	9.950E-01	9.965E-01	9.866E-01	9.994E-01	9.899E-01	5.969E-01
Fructose 1-6-bisphosphate																								
Local	4.60E-02	1.98E-02	3.59E+00	2.43E-02	2.94E-01	-9.76E-02	-8.09E-02	-1.00E+00	-8.59E-02	-2.59E-01	2.20E-14	-2.18E+00	0.00E+00	0.00E+00	-9.76E-01	1.28E-14	-8.40E-15	8.90E-02	4.63E-01	1.31E-01	1.05E-02	-2.10E-01	2.16E-01	3.37E-17
Min	1.95E-02	9.16E-03	3.23E+00	1.94E-02	2.22E-01	-1.23E-01	-1.50E-01	-1.17E+00	-1.03E-01	-3.33E-01	-6.72E-14	-2.71E+00	0.00E+00	0.00E+00	-1.20E+00	-1.85E-13	-1.11E-13	6.39E-02	3.65E-01	1.02E-01	7.11E-03	-2.41E-01	1.87E-01	-1.70E-16
Max	1.23E-01	4.57E-02	3.99E+00	3.04E-02	3.93E-01	-7.89E-02	-1.25E-02	-8.32E-01	-7.25E-02	-1.97E-01	6.37E-14	-1.69E+00	0.00E+00	0.00E+00	-7.68E-01	1.64E-13	1.22E-13	1.14E-01	5.59E-01	1.64E-01	1.50E-02	-1.84E-01	2.50E-01	1.78E-15
Normalized peak height	4.45E-03	4.42E-03	2.97E-03	3.58E-03	3.20E-03	3.58E-03	3.33E-03	3.45E-03	4.00E-03	3.57E-03	3.64E-02	3.02E-03	1.00E+00	1.00E+00	3.33E-03	8.82E-03	2.17E-02	3.72E-03	3.55E-03	3.65E-03	3.27E-03	3.50E-03	3.03E-03	3.49E-01
Peak sensitivity value	3.70E-02	1.71E-02	3.52E+00	2.36E-02	2.84E-01	-9.81E-02	-7.92E-02	-9.99E-01	-8.64E-02	-2.55E-01	3.74E-17	-2.13E+00	5.00E-04	5.00E-04	-9.66E-01	-9.46E-17	4.58E-17	8.95E-02	4.58E-01	1.32E-01	1.01E-02	-2.09E-01	2.11E-01	5.90E-19
Shapiro-Wilk score	9.134E-01	9.551E-01	9.918E-01	9.955E-01	9.811E-01	9.984E-01	9.992E-01	9.997E-01	9.992E-01	9.984E-01	9.994E-01	9.948E-01	1.000E+00	1.000E+00	9.979E-01	9.996E-01	9.995E-01	9.987E-01	9.994E-01	9.990E-01	9.937E-01	9.994E-01	9.980E-01	7.967E-01
AMP																								
Local	4.17E-03	1.79E-03	3.25E-01	-6.74E-02	-8.16E-01	2.40E-15	-1.26E-02	-2.76E-02	-2.37E-03	-7.14E-03	6.43E-15	-2.52E-01	0.00E+00	0.00E+00	4.30E-02	3.70E-15	2.03E-16	1.03E-02	5.37E-02	1.52E-02	1.22E-03	6.08E-01	1.23E-01	6.38E-17
Min	1.07E-03	5.53E-04	1.60E-01	-7.81E-02	-1.00E+00	-9.40E-15	-1.73E-02	-3.82E-02	-3.33E-03	-1.02E-02	-1.41E-14	-3.49E-01	0.00E+00	0.00E+00	3.14E-02	-3.80E-14	-2.61E-14	7.76E-03	4.32E-02	1.24E-02	7.59E-04	5.94E-01	1.08E-01	-3.15E-16
Max	1.76E-02	5.93E-03	5.86E-01	-5.90E-02	-6.97E-01	8.97E-15	-9.07E-03	-2.00E-02	-1.71E-03	-4.55E-03	1.47E-14	-1.87E-01	0.00E+00	0.00E+00	5.89E-02	3.72E-14	2.38E-14	1.34E-02	6.63E-02	1.85E-02	1.90E-03	6.22E-01	1.41E-01	2.75E-15
Normalized peak height	5.59E-03	4.65E-03	3.07E-03	3.82E-03	2.74E-03	5.57E-02	3.50E-03	4.15E-03	3.65E-03	3.75E-03	1.78E-02	2.95E-03	1.00E+00	1.00E+00	3.84E-03	4.42E-03	3.95E-03	3.29E-03	3.37E-03	3.29E-03	3.42E-03	3.34E-03	3.12E-03	3.52E-01
Peak sensitivity value	2.35E-03	1.37E-03	2.77E-01	-6.59E-02	-7.86E-01	-2.82E-18	-1.24E-02	-2.67E-02	-2.23E-03	-6.79E-03	1.19E-17	-2.36E-01	5.00E-04	5.00E-04	4.13E-02	-3.53E-16	-3.72E-16	1.01E-02	5.38E-02	1.51E-02	1.11E-03	6.09E-01	1.22E-01	-4.04E-19
Shapiro-Wilk score	8.817E-01	9.219E-01	9.791E-01	9.969E-01	9.781E-01	9.996E-01	9.939E-01	9.949E-01	9.940E-01	9.938E-01	9.999E-01	9.854E-01	1.000E+00	1.000E+00	9.945E-01	9.997E-01	1.000E+00	9.964E-01	9.947E-01	9.965E-01	9.874E-01	9.989E-01	9.971E-01	8.264E-01
ATP																								
Local	-1.59E-03	-6.83E-04	-1.24E-01	2.57E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	-4.68E-02	2.55E-17
Min	-6.79E-03	-2.34E-03	-2.33E-01	2.17E-02	2.44E-01	-3.28E-15	3.32E-03	7.29E-03	6.19E-04	1.77E-03	-5.48E-15	6.77E-02	0.00E+00	0.00E+00	-2.31E-02	-1.70E-14	-1.25E-14	-5.49E-03	-2.75E-02	-7.73E-03	-7.94E-04	-2.60E-01	-5.54E-02	-1.37E-16
Max	-3.84E-04	-1.91E-04	-5.98E-02	3.04E-02	4.15E-01	3.89E-15	6.94E-03	1.53E-02	1.30E-03	4.10E-03	6.15E-15	1.40E-01	0.00E+00	0.00E+00	-1.14E-02	1.58E-14	9.24E-15	-2.85E-03	-1.57E-02	-4.45E-03	-2.75E-04	-2.10E-01	-4.08E-02	1.37E-15
Normalized peak height	5.69E-03	4.66E-03	3.30E-03	3.00E-03	3.00E-03	5.64E-02	3.56E-03	3.89E-03	3.70E-03	3.63E-03	1.77E-02	3.05E-03	1.00E+00	1.00E+00	3.58E-03	4.78E-03	4.73E-03	3.43E-03	3.33E-03	3.60E-03	3.65E-03	3.36E-03	3.05E-03	3.48E-01
Peak sensitivity value	-9.63E-04	-4.35E-04	-1.12E-01	2.54E-02	3.05E-01	-1.81E-18	4.56E-03	1.04E-02	8.75E-04	2.55E-03	5.41E-18	8.90E-02	5.00E-04	5.00E-04	-1.59E-02	6.03E-16	-4.87E-17	-3.77E-03	-2.00E-02	-5.62E-03	-4.32E-04	-2.29E-01	-4.71E-02	-7.50E-19
Shapiro-Wilk score	8.777E-01	9.174E-01	9.754E-01	9.949E-01	9.814E-01	9.996E-01	9.905E-01	9.915E-01	9.907E-01	9.907E-01	9.997E-01	9.831E-01	1.000E+00	1.000E+00	9.910E-01	9.996E-01	9.998E-01	9.935E-01	9.918E-01	9.939E-01	9.839E-01	9.977E-01	9.956E-01	8.000E-01
NADH																								
Local	9.35E-03	4.03E-03	7.30E-01	-1.86E-03	-2.25E-02	6.21E-15	1.54E-01	3.36E-01	2.88E-02	8.69E-02	1.30E-14	-1.28E+00	0.00E+00	0.00E+00	-5.23E-01	6.20E-15	-5.37E-15	5.25E-02	2.73E-01	7.75E-02	6.18E-03	1.86E-02	5.39E-02	-5.02E-18
Min	3.87E-03	1.88E-03	5.98E-01	-3.30E-03	-3.93E-02	-2.48E-14	1.29E-01	2.96E-01	2.33E-02	6.56E-02	-3.63E-14	-1.39E+00	0.00E+00	0.00E+00	-5.61E-01	-8.39E-14	-7.59E-14	4.14E-02	2.32E-01	6.18E-02	4.64E-03	7.73E-03	4.41E-02	-4.06E-16
Max	2.71E-02	8.91E-03	8.65E-01	-6.22E-04	-7.68E-03	2.45E-14	1.84E-01	3.75E-01	3.52E-02	1.14E-01	4.02E-14	-1.18E+00	0.00E+00	0.00E+00	-4.82E-01	9.34E-14	5.94E-14	6.50E-02	3.12E-01	9.47E-02	7.82E-03	3.23E-02	6.33E-02	7.69E-17
Normalized peak height	4.31E-03	4.01E-03	3.59E-03	3.86E-03	3.74E-03	4.44E-03	3.34E-03	3.89E-03	3.62E-03	3.67E-03	7.56E-02	3.44E-03	1.00E+00	1.00E+00	3.72E-03	4.59E-03	1.35E-02	3.57E-03	3.22E-03	3.52E-03	3.36E-03	3.74E-03	3.54E-03	3.49E-01
Peak sensitivity value	7.67E-03	3.58E-03	7.13E-01	-1.77E-03	-2.16E-02	-6.90E-16	1.54E-01	3.35E-01	2.88E-02	8.58E-02	9.61E-19	-1.27E+00	5.00E-04	5.00E-04	-5.25E-01	7.59E-16	1.82E-16	5.21E-02	2.75E-01	7.79E-02	6.02E-03	1.91E-02	5.36E-02	-1.27E-19
Shapiro-Wilk score	9.113E-01	9.530E-01	9.982E-01	9.996E-01	9.996E-01	9.986E-01	9.987E-01	9.999E-01	9.994E-01	9.987E-01	9.972E-01	9.991E-01	1.000E+00	1.000E+00	9.992E-01	9.997E-01	9.979E-01	9.994E-01	9.972E-01	9.992E-01	9.972E-01	9.996E-01	9.991E-01	7.649E-01

Table 19: Concentration control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±10%

	(GluceMixedflowtoextracellularmedium)	(Gluceuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)	(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
Acetaldehyde																								
Local	2.55E-02	1.10E-02	1.99E+00	8.76E-03	1.06E-01	-5.75E-15	-8.30E-02	-1.82E-01	-1.96E-02	-4.70E-02	-7.51E-15	-1.00E+00	0.00E+00	0.00E+00	2.83E-01	-5.12E-15	7.96E-15	-6.23E-02	-3.21E-01	-9.20E-02	-7.34E-03	-7.33E-02	1.26E-01	1.55E-17
Min	5.46E-03	2.89E-03	1.65E+00	5.79E-03	6.51E-02	-2.56E-14	-1.29E-01	-2.56E-01	-2.22E-02	-7.99E-02	-4.12E-14	-2.01E+00	-1.86E-15	-1.60E-15	1.79E-01	-8.77E-14	-6.11E-14	-9.16E-02	-4.27E-01	-1.23E-01	-1.73E-02	-9.58E-02	9.45E-02	-6.16E-17
Max	2.73E-01	6.72E-02	2.32E+00	1.33E-02	2.12E-01	2.75E-14	-4.62E-02	-1.11E-01	-1.05E-02	-2.51E-02	4.80E-14	-1.34E+00	1.93E-15	1.50E-15	3.96E-01	7.50E-14	6.48E-14	-4.01E-02	-2.31E-01	-6.22E-02	-2.97E-03	-4.30E-02	1.66E-01	9.14E-16
Normalized peak height	1.26E-02	8.30E-03	3.01E-03	3.95E-03	4.07E-03	8.02E-03	3.17E-03	3.39E-03	3.53E-03	3.86E-03	6.35E-02	3.01E-03	1.63E-18	9.30E-01	3.35E-03	6.28E-03	1.68E-02	3.59E-03	3.59E-03	3.32E-03	4.20E-03	5.18E-03	3.26E-03	3.44E-01
Peak sensitivity value	1.36E-02	7.62E-03	1.90E+00	8.08E-03	9.47E-02	4.18E-16	-8.14E-02	-1.81E-01	-1.50E-02	-4.47E-02	-1.35E-17	-1.62E+00	1.63E-18	1.02E-18	2.85E-01	8.56E-17	2.20E-17	-6.11E-02	-3.21E-01	-9.20E-02	-6.20E-03	-7.24E-02	1.24E-01	3.07E-19
Shapiro-Wilk score	7.01E-01	8.398E-01	9.895E-01	9.841E-01	9.384E-01	9.823E-01	9.963E-01	9.990E-01	9.970E-01	9.935E-01	9.908E-01	9.913E-01	2.954E-01	2.808E-01	9.995E-01	9.973E-01	9.963E-01	9.953E-01	9.97E-01	9.976E-01	9.605E-01	9.981E-01	9.975E-01	7.659E-01
Cytosolic glucose																								
Local	2.04E+00	8.77E-01	-3.34E+00	7.30E-03	8.83E-02	4.39E-16	-2.81E-03	-6.15E-03	-5.28E-04	-1.59E-03	1.00E-15	-5.63E-02	0.00E+00	0.00E+00	9.58E-03	7.63E-16	4.37E-17	2.30E-03	1.20E-02	3.30E-03	2.71E-04	3.43E-01	2.74E-02	7.34E-18
Min	6.41E-01	5.43E-01	-1.04E+01	4.90E-04	5.95E-03	-2.76E-15	-9.15E-03	-1.93E-02	-1.70E-03	-5.24E-03	-7.05E-15	-2.05E-01	-3.45E-16	-3.59E-16	3.59E-03	-1.52E-14	-1.30E-14	9.76E-04	5.33E-03	1.54E-03	7.98E-05	1.73E-01	1.41E-02	-5.55E-17
Max	8.70E+00	1.50E+00	-1.50E+00	2.18E-02	3.38E-01	3.14E-15	-9.86E-04	-2.30E-03	-1.84E-03	-4.96E-04	5.91E-15	-2.11E-02	4.04E-16	2.93E-16	3.00E-02	1.24E-14	8.53E-15	6.76E-03	3.38E-02	8.90E-03	1.15E-03	8.43E-01	6.51E-02	2.76E-16
Normalized peak height	5.41E-03	4.62E-03	5.10E-03	5.66E-03	6.36E-03	7.19E-02	5.91E-03	5.57E-03	5.57E-03	5.08E-03	2.42E-02	5.55E-03	9.22E-01	9.27E-01	5.30E-03	7.08E-03	8.01E-03	5.21E-03	4.89E-03	4.83E-03	5.35E-03	4.60E-03	4.83E-03	3.42E-01
Peak sensitivity value	1.47E+00	8.16E-01	-2.78E+00	6.31E-03	6.39E-02	6.91E-19	-2.35E-03	-5.46E-03	-4.58E-04	-1.17E-03	1.96E-20	9.146E-01	1.96E-20	-4.61E-20	7.56E-03	2.00E-17	2.54E-17	2.03E-03	1.13E-02	3.00E-03	1.97E-04	3.14E-01	2.51E-02	1.22E-19
Shapiro-Wilk score	8.955E-01	9.703E-01	9.169E-01	9.535E-01	9.151E-01	9.967E-01	9.335E-01	9.353E-01	9.343E-01	9.315E-01	9.821E-01	9.147E-01	2.859E-01	2.779E-01	9.345E-01	9.904E-01	9.889E-01	9.399E-01	9.379E-01	9.445E-01	9.110E-01	9.444E-01	9.551E-01	8.757E-01
Glycerol																								
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.13E-15	-8.18E-02	-1.79E-01	-1.93E-02	-4.63E-02	1.53E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	-5.98E-01	-4.02E-01	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	4.94E-03	2.82E-03	1.60E+00	5.65E-03	6.46E-02	-4.61E-14	-1.27E-01	-2.57E-01	-2.16E-02	-7.83E-02	-7.50E-14	-2.00E+00	-2.37E-15	-1.91E-15	1.72E-01	-6.65E-01	-4.74E-01	4.12E-02	2.53E-01	6.59E-02	4.20E-03	-9.50E-02	9.01E-02	-6.31E-17
Max	2.99E-01	7.71E-02	2.38E+00	1.13E-02	2.05E-01	4.19E-14	-4.61E-02	-1.08E-01	-9.68E-03	-2.42E-02	5.62E-14	-1.33E+00	1.94E-15	1.87E-15	3.92E-01	-5.26E-01	-3.35E-01	1.00E-01	4.34E-01	1.42E-01	1.26E-02	-4.05E-02	1.60E-01	9.92E-16
Normalized peak height	1.38E-02	9.23E-03	3.29E-03	3.74E-03	3.90E-03	7.08E-03	3.07E-03	3.50E-03	3.72E-03	3.70E-03	3.61E-02	3.00E-03	9.24E-01	9.29E-01	3.34E-03	2.73E-03	2.73E-03	3.67E-03	3.67E-03	3.83E-03	3.25E-03	5.38E-03	3.38E-03	3.43E-01
Peak sensitivity value	1.30E-02	7.31E-03	1.89E+00	8.19E-03	9.98E-02	-1.10E-17	-8.04E-02	-1.84E-01	-1.46E-02	-4.37E-02	-2.25E-18	-1.60E+00	-5.13E-19	1.52E-18	2.78E-01	-5.93E-01	-4.07E-01	6.86E-02	3.50E-01	1.03E-01	7.27E-03	-7.35E-02	1.23E-01	-3.02E-19
Shapiro-Wilk score	6.947E-01	8.376E-01	9.902E-01	9.862E-01	9.385E-01	9.903E-01	9.966E-01	9.995E-01	9.968E-01	9.934E-01	9.921E-01	9.916E-01	2.871E-01	2.802E-01	9.995E-01	9.970E-01	9.970E-01	9.979E-01	9.994E-01	9.993E-01	9.909E-01	9.983E-01	9.979E-01	8.007E-01
EtOH																								
Local	1.01E-02	4.47E-03	7.92E-01	2.32E-03	2.81E-02	-3.86E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-7.43E-17	1.84E-01	-1.40E-01	-8.55E-01	-3.13E-02	-1.03E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	2.40E-03	1.23E-03	6.27E-01	1.56E-03	1.74E-02	-1.76E-15	4.65E-03	1.01E-02	9.09E-04	2.20E-03	-3.52E-15	1.05E-01	-1.84E-01	-8.88E-01	-5.38E-02	-7.04E-15	-4.70E-15	-1.23E-02	-5.58E-02	-1.51E-02	-2.01E-03	-2.84E-02	3.47E-02	-1.20E-17
Max	1.06E-01	2.56E-02	8.64E-01	3.59E-03	5.34E-02	2.14E-15	1.51E-02	3.33E-02	3.09E-03	1.03E-02	3.40E-15	3.07E-01	-1.12E-01	-8.16E-01	-1.60E-02	7.87E-15	4.55E-15	-4.50E-03	-2.68E-02	-7.84E-03	-3.45E-04	-6.36E-03	7.08E-02	1.89E-16
Normalized peak height	1.25E-02	8.10E-03	3.60E-03	3.62E-03	3.91E-03	2.01E-02	3.71E-03	4.21E-03	3.73E-03	3.92E-03	6.42E-02	2.69E-03	2.58E-03	2.56E-03	4.00E-03	5.86E-03	9.18E-03	3.57E-03	2.92E-03	2.90E-03	3.51E-03	4.61E-03	3.12E-03	3.44E-01
Peak sensitivity value	4.84E-03	3.49E-03	8.09E-01	2.27E-03	2.61E-02	2.40E-19	8.59E-03	1.90E-02	1.60E-03	4.69E-03	-6.48E-19	1.70E-01	-1.44E-01	-8.56E-01	-3.12E-02	5.00E-18	-5.59E-18	-7.61E-03	-3.80E-02	-1.08E-02	-8.49E-04	-1.96E-02	5.49E-02	-6.43E-20
Shapiro-Wilk score	7.160E-01	8.611E-01	9.561E-01	9.928E-01	9.605E-01	9.823E-01	9.910E-01	9.923E-01	9.888E-01	9.847E-01	9.978E-01	9.745E-01	9.955E-01	9.955E-01	9.915E-01	9.973E-01	9.946E-01	9.932E-01	9.926E-01	9.951E-01	9.709E-01	9.981E-01	9.972E-01	7.562E-01
ADP																								
Local	1.29E-03	5.55E-04	1.01E-01	-2.09E-02	-2.23E-01	6.63E-16	-3.00E-03	-8.93E-03	-7.33E-04	-2.21E-03	1.57E-15	-7.81E-02	0.00E+00	0.00E+00	1.33E-02	1.09E-15	5.21E-17	3.20E-03	1.66E-02	4.72E-03	3.30E-04	1.88E-01	3.81E-02	-4.97E-17
Min	5.87E-05	3.33E-05	1.14E-02	-2.79E-02	-4.00E-01	-3.60E-15	-6.91E-03	-1.54E-02	-1.36E-03	-4.59E-03	-6.68E-15	-1.49E-01	-5.29E-16	-5.71E-16	6.37E-03	-1.42E-14	-9.14E-15	1.82E-03	1.06E-02	3.00E-03	1.32E-04	1.45E-01	2.62E-02	-4.76E-15
Max	2.66E-02	6.57E-03	3.10E-01	-1.47E-02	-1.81E-01	3.60E-15	-1.89E-03	-4.46E-03	-3.52E-04	-9.16E-04	6.40E-15	-4.22E-02	4.77E-16	4.42E-16	2.35E-02	1.37E-14	1.06E-14	5.37E-03	2.48E-02	6.81E-03	8.87E-04	2.22E-01	5.38E-02	2.69E-16
Normalized peak height	2.33E-02	1.25E-02	3.85E-03	3.57E-03	3.89E-03	5.00E-02	3.82E-03	4.00E-03	3.85E-03	3.95E-03	2.48E-02	3.48E-03	9.24E-01	9.33E-01	4.04E-03	5.12E-03	5.87E-03	3.66E-03	3.30E-03	3.39E-03	3.96E-03	3.57E-03	3.60E-03	3.44E-01
Peak sensitivity value	4.69E-04	2.20E-04	6.54E-02	-2.03E-02	-2.38E-01	-2.12E-18	-3.44E-03	-8.23E-03	-6.46E-04	-1.88E-03	-4.01E-18	-6.79E-02	3.02E-19	-4.59E-19	1.22E-02	-3.99E-16	-6.58E-18	3.09E-03	1.60E-02	4.59E-03	3.15E-04	1.86E-01	3.76E-02	-4.30E-19
Shapiro-Wilk score	6.220E-01	7.569E-01	9.599E-01	9.954E-01	9.612E-01	9.963E-01	9.868E-01	9.894E-01	9.857E-01	9.812E-01	9.941E-01	9.700E-01	2.877E-01	2.794E-01	9.884E-01	9.978E-01	9.973E-01	9.905E-01	9.916E-01	9.953E-01	9.662E-01	9.997E-01	9.972E-01	7.703E-01
Glyceraldehyde 3-phosphate																								
Local	2.26E-02	9.73E-03	1.76E+00	1.27E-02	1.54E-01	6.19E-15	1.56E-01	-3.55E-01	-4.62E-02	-1.14E-01	1.37E-14	-1.23E+00	0.00E+00	0.00E+00	-3.33E-01	7.09E-15	-4.91E-15	3.03E-02	2.61E-01	7.42E-02	5.62E-03	-1.10E-01	1.05E-01	1.30E-17
Min	4.67E-03	2.50E-03	1.44E+00	8.07E-03	9.33E-02	-2.65E-14	9.31E-02	-7.45E-01	-6.58E-02	-2.23E-01	-4.54E-14	-1.89E+00	-1.46E-15	-1.68E-15	-7.90E-01	-1.26E-13	-7.81E-14	2.85E-02	1.63E-01	4.55E-02	2.63E-03	-1.46E-01	7.47E-02	-9.90E-17
Max	2.80E-01	6.31E-02	2.22E+00	1.95E-02	3.04E-01	2.99E-14	2.36E-01	-3.63E-01	-3.36E-02	-7.90E-02	4.38E-14	-7.26E-01	1.63E-15	1.64E-15	-3.24E-01	1.08E-13	8.36E-14	8.32E-02	3.67E-01	1.12E-01	1.25E-02	-8.16E-02	1.45E-01	1.53E-15
Normalized peak height	1.50E-02	8.45E-03	2.97E-03	3.79E-03	4.10E-03	6.10E-03	3.83E-03	3.43E-03	3.40E-03	3.38E-03	5.25E-02	3.31E-03	9.23E-01	9.30E-01	3.87E-03	8.58E-03	2.23E-02	3.92E-03	3.61E-03	3.60E-03	3.94E-03	3.79E-03	3.61E-03	3.43E-01
Peak sensitivity value	1.14E-02	6.95E-03	1.70E+00	1.22E-02	1.35E-01	6.35E-16	1.49E-01	-5.57E-01	-4.61E-02	-1.42E-01	7.51E-19	-1.19E+00	-8.15E-19	7.51E-19	-5.22E-01	-9.38E-17	-4.82E-17	4.87E-02	2.64E-01	7.35E-02	5.32E-03	-1.09E-01	1.03E-01	-4.26E-19
Shapiro-Wilk score	6.927E-01	8.409E-01	9.828E-01	9.892E-01	9.489E-01	9.924E-01	9.971E-01	9.995E-01	9.977E-01	9.944E-01	9.954E-01	9.901E-01	2.887E-01	2.798E-01	9.968E-01	9.962E-01	9.950E-01	9.954E-01	9.988E-01	9.973E-01	9.826E-01	9.982E-01	9.958E-01	8.040E-01
Dihydroxyacetone phosphate																								
Local	2.40E-02	1.03E-02	1.88E+00	1.23E-02	1.49E-01	5.18E-15	-2.23E-01	-4.91E-01	-4.21E-02	-1.27E-01	1.04E-14	-1.03E+00	0.00E+00	0.00E+00	-4.89E-01	6.32E-15	-3.90E-15	4.23E-02	2.20E-01	6.25E-02	4.99E-03	-1.03E-01	1.13E-01	1.69E-17
Min	5.21E-03	2.75E-03	1.66E+00	7.77E-03	8.81E-02	-2.92E-14	-3.25E-01	-6.50E-01	-5.79E-02	-2.13E-01	-4.66E-14	-1.59E+00	-1.82E-15	-1.49E-15	-7.10E-01	-1.03E-13	-6.75E-14	2.10E-02	1.28E-01	3.75E-02	2.11E-03	-1.37E-01	8.53E-02	-1.13E-16
Max	3.90E-01	1.03E-01	2.31E+00	2.00E-02	2.92E-01	2.71E-14	-1.35E-01	-3.22E-01	-2.95E-02	-6.91E-02	3.87E-14	-5.64E-01	2.24E-15	1.57E-15	-2.96E-01	1.03E-13	9.39E-14	7.09E-02	3.33E-01	9.48E-02	9.89E-03	-6.90E-02	1.50E-01	1.59E-15
Normalized peak height	1.90E-02	1.29E-02	3.14E-03	3.98E-03	4.42E-03	7.13E-03	3.20E-03	3.50E-03	3.46E-03	3.88E-03	3.77E-02	3.20E-03	9.24E-01	9.32E-01	3.20E-03	9.28E-03	3.05E-02	3.82E-03	3.77E-03	3.63E-03	3.55E-03	4.18E-03	3.21E-03	3.47E-01
Peak sensitivity value	1.08E-02	7.73E-03	1.77E+00	1.13E-02	1.37E-01	3.95E-16	-2.29E-01	-4.90E-01	-4.07E-02	-1.28E-01	-1.35E-17	-1.05E+00	-7.21E-19	1.09E-18	-4.79E-01	-9.74E-17	3.84E-17	4.04E-02	2.15E-01	6.22E-02	4.40E-03	-1.07E-01	1.13E-01	-1.36E-19
Shapiro-Wilk score	6.983E-01	8.372E-01	9.829E-01	9.884E-01	9.446E-01	9.935E-01	9.969E-01	9.996E-01	9.978E-01	9.940E-01	9.952E-01	9.893E-01	2.841E-01	2.743E-01	9.947E-01	9.969E-01	9.957E-01	9.944E-01	9.979E-01	9.970E-01	9.818E-01	9.985E-01	9.968E-01	7.606E-01
Glucose-6-Phosphate																								
Local	1.37E-02	5.88E-03	1.07E+00	-2.72E-02	-3.29E-01	-8.33E-16	5.10E-03	1.11E-02	9.57E-04	2.89E-03	-1.82E-15	1.02E-01	0.00E+00	0.00E+00	-1.74E-02	-1.37E-15	-6.86E-17	-4.17E-03	-2.71E-02	-6.16E-03	-4.92E-04	-7.52E-01	-4.97E-02	-2.72E-17
Min	3.06E-03	1.62E-03	8.90E-01	-4.05E-02	-6.70E-01	-4.22E-15	2.24E-03	5.36E-03	3.91E-04	9.97E-04	-7.68E-15	4.81E-02	-7.26E-16	-7.26E-16	-3.13E-02	-1.91E-14	-1.74E-14	-7.39E-03	-3.29E-02	-9.50E-03	-1.13E-03	-7.89E-01	-8.18E-02	-9.74E-16
Max	1.50E-01	3.38E-02	1.34E+00	-1.93E-02	-2.18E-01	6.31E-15	8.59E-03	1.86E-02	1.80E-03	6.31E-03	7.04E-15	1.76E-01	7.12E-16	7.12E-16	-7.78E-03	1.70E-14	1.41E-14	-1.80E-03	-1.04E-02	-2.74E-03	-1.87E-04	-6.79E-01	-1.82E-02	8.23E-16
Normalized peak height	1.39E-02	8.49E-03	6.01E-03	3.81E-03	4.21E-03	5.59E-02	3.47E-03	3.80E-03	4.05E-03	3.90E-03	2.36E-02	3.35E-03	9.28E-01	9.41E-01	3.76E-03	5.18E-03	6.30E-03	4.10E-03	3.60E-03	3.83E-03	3.72E-03	3.72E-03	3.63E-03	3.43E-01
Peak sensitivity value	7.25E-03	3.96E-03	1.04E+00	-2.61E-02	-2.90E-01	-4.13E-18	4.92E-03	1.09E-02	8.53E-04	2.69E-03	-4.64E-18	9.44E-02	-5.78E-19	-3.49E-19	-1.63E-02	-2.65E-16	3.19E-17	-3.82E-03	-2.16E-02	-5.93E-03	-4.47E-04	-7.54E-01	-5.21E-02	-5.69E-19
Shapiro-Wilk score	6.903E-01	8.346E-01	9.581E-01	9.892E-01	9.424E-01	9.960E-01	9.943E-01	9.954E-01	9.905E-01	9.840E-01	9.966E-01	9.829E-01	2.793E-01	2.732E-01	9.945E-01	9.981E-01	9.968E-01	9.960E-01	9.989E-01	9.998E-01	9.742E-01	9.918E-01	9.987E-01	8.820E-01
NAD																								
Local	-4.87E-03	-2.10E-03	-3.80E+00	9.66E-04	1.17E-02	-3.24E-15	-8.00E-02	-1.79E-01	-1.95E-02	-4.53E-02	-6.78E-15	6.68E-01	0.00E+00	0.00E+00	2.72E-01	-3.23E-15	2.80E-15	-2.73E-02	-1.42E-01	-4.03E-02	-3.22E-03	-9.68E-03	-2.81E-02	2.62E-18
Min	-7.01E-02	-1.79E-02	-7.04E-01	-3.67E-04	-5.70E-03	-1.55E-14	-1.33E-01	-3.21E-01	-3.30E-02	-1.04E-01	-2.58E-14	3.65E-01	-7.15E-16	-6.07E-16	1.49E-01	-6.36E-14	-4.22E-14	-5.03E-02	-2.54E-01	-6.83E-02	-7.59E-03	-3.00E-02	-5.19E-02	-1.98E-17
Max	-7.35E-04	-4.08E-04	-2.00E-01	3.67E-03	4.67E-02	1.60E-14	-4.36E-02	-9.00E-02	-5.32E-03	-1.35E-02	2.64E-14	1.14E+00	6.32E-16	5.65E-16	4.46E-01	5.78E-14	4.44E-14	-1.34E-02	-8.09E-02	-2.15E-02	-1.27E-03	1.16E-03	-1.47E-02	1.26E-16
Normalized peak height	1.70E-02	1.09E-02	3.10E-03	4.58E-03	5.07E-03	7.03E-03	3.48E-03	3.75E-03	3.97E-03	3.91E-03	7.02E-02	3.25E-03	9.22E-01	9.29E-01	3.28E-03	6.65E-03	1.62E-02	3.97E-03	4.02E-03	3.91E-03	4.08E-03	4.02E-03	3.19E-03	3.44E-01
Peak sensitivity value	-2.30E-03	-1.35E-03	-3.36E-01	7.87E-04	8.69E-03	-9.19E-17	-7.55E-02	-1.64E-01	-1.37E-02	-4.08E-02	-1.02E-17	6.23E-01	5.51E-19	-3.89E-19	2.54E-01	4.43E-17	3.00E-17	-2.60E-02	-1.36E-01	-3.96E-02	-3.05E-03	-9.54E-03	-2.57E-02	-6.70E-20
Shapiro-Wilk score	6.755E-01	8.165E-01	9.760E-01	9.812E-01	9.770E-01	9.917E-01	9.936E-01	9.887E-01	9.796E-01	9.802E-01	9.957E-01	9.853E-01	2.926E-01	2.857E-01	9.922E-01	9.949E-01	9.917E-01	9.917E-01	9.947E-01	9.932E-01	9.763E-01	9.829E-01	9.830E-01	8.582E-01
Extracellular acetaldehyde																								
Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.95E-02	-4.71E-02	-8.63E-15	-1.67E+00	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	-4.25E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
Min	5.48E-03	2.77E-03	1.68E+00	5.67E-03	6.18E-02	-2.98E-14	-1.32E-01	-2.58E-01	-2.26E-02	-8.05E-02	-4.46E-14	-2.04E+00	-2.06E-15	-1.52E-15	1.69E-01	-9.00E-14	-5.84E-14	4.38E-02	-5.27E-01	-1.55E-01	-2.08E-02	-9.65E-02	9.28E-02	-6.45E-17
Max	2.77E-01	8.80E-02	2.36E+00	1.32E-02	2.20E-01	2.56E-14	-4.59E-02	-1.09E-01	-1.03E-02	-2.60E-02	4.15E-14	-1.34E+00	1.87E-15	1.81E-15	3.93E-01	9.64E-14	5.35E-14	9.98E-02	-3.28E-01	-9.15E-02	-4.17E-03	-3.81E-02	1.66E-01	7.06E-16
Normalized peak height	1.27E-02	1.01E-02	3.14E-03	3.65E-03	3.82E-03	8.46E-03	3.39E-03	3.82E-03	3.76E-03	3.82E-03	6.28E-02	3.05E-03	9.23E-01	9.30E-01	3.44E-03	5.21E-03	1.01E-02	3.37E-03	3.60E-03	3.31E-03	3.87E-03	5.55E-03	3.37E-03	3.42E-01
Peak sensitivity value	1.24E-02	7.68E-03	1.95E+00	8.37E-03	9.39E-02	1.38E-17	-7.82E-02	-1.86E-01	-1.53E-02	-4.57E-02	2.37E-17	-1.65E+00	1.19E-18	-6.53E-19	2.75E-01	1.15E-16	3.34E-17	7.03E-02	-4.11E-01	-1.18E-01	-8.50E-03	-7.38E-02	1.27E-01	-1.73E-19
Shapiro-Wilk score	6.966E-01	8.404E-01	9.894E-01	9.843E-01	9.370E-01	9.843E-01	9.967E-01	9.993E-01	9.967E-01	9.937E-01	9.908E-01	9.912E-01	2.889E-01	2.863E-01	9.996E-01	9.957E-01	9.945E-01	9.980E-01	9.977E-01	9.980E-01	9.733E-01	9.983E-01	9.976E-01	8.073E-01
Phosphoenolpyruvate																								
Local	4.38E-02	9.96E-03	1.08E+00	6.08E-03	7.36E-02	2.62E-15	1.11E-03	2.42E-03	2.06E-04	-1.20E+00	7.14E-14	2.22E-02	0.00E+00	0.00E+00	-3.77E-03	4.71E-15	-1.00E-15	-9.07E-04	-4.22E-03	-1.30E-03	-1.07E-04	-8.20E-02	6.64E-02	9.58E-18
Min	3.08E-03	1.64E-03	8.47E-01	4.46E-03	5.11E-02	-2.28E-14	5.84E-04	1.28E-03	1.07E-04	-1.26E+00	-2.46E-13	1.16E-02	-8.96E-16	-7.40E-16	-6.97E-03	-1.81E-14	-1.09E-14	-1.60E-03	-7.86E-03	-2.17E-03	-2.68E-04	-6.10E-02	4.86E-02	-9.95E-17
Max	1.59E-01	3.95E-02	1.13E+00	8.44E-03	1.31E-01	2.27E-14	2.14E-03	4.41E-03	4.26E-04	-1.16E+00	2.59E-13	4.68E-02	7.90E-16	7.79E-16	-1.99E-03	1.88E-14	1.24E-14	-5.20E-04	-2.95E-03	-8.27E-04	-3.96E-05	-3.65E-02	8.72E-02	5.64E-16
Normalized peak height	1.39E-02	8.58E-03	6.70E-03	3.65E-03	3.80E-03	2.09E-02	3.01E-03	4.01E-03	4.01E-03	2.46E-03	3.67E-02	3.67E-03	9.25E-01	9.34E-01	3.90E-03	4.93E-03	5.73E-03	3.72E-03	3.85E-03	3.97E-03	4.05E-03	4.79E-03	3.27E-03	3.44E-01
Peak sensitivity value	7.22E-03	4.68E-03	1.07E+00	5.78E-03	6.81E-02	5.65E-18	1.03E-03	2.24E-03	1.86E-04	-1.20E+00	4.47E-17	2.03E-02	-2.30E-19	4.08E-19	-3.54E-03	3.26E-16	8.73E-18	-8.66E-04	-4.61E-03	-1.30E-03	-8.96E-05	-5.24E-02	6.78E-02	-3.10E-19
Shapiro-Wilk score	7.127E-01	8.584E-01	9.594E-01	9.925E-01	9.450E-01	9.970E-01	9.826E-01	9.836E-01	9.810E-01	9.863E-01	9.663E-01	9.626E-01	2.790E-01	2.588E-01	9.829E-01	9.971E-01	9.970E-01	9.864E-01	9.848E-01	9.897E-01	9.596E-01	9.962E-01	9.983E-01	8.717E-01

Metabolite	Row												
Fructose-6-Phosphate	Local	1.24E-02	5.33E-03	9.67E-01	8.44E-02	-3.38E-01	-8.95E-16	5.90E-03	1.29E-02	1.11E-03	3.34E-03	-2.13E-15	1.18E-01
	Min	2.58E-03	1.31E-03	7.99E-01	6.40E-02	-6.95E-01	-5.28E-15	2.87E-03	6.67E-03	5.29E-04	1.31E-03	-1.19E-14	6.03E-02
	Max	1.27E-01	3.19E-02	1.19E+00	1.11E-01	-2.23E-01	4.86E-15	1.02E-02	2.13E-02	2.13E-03	8.15E-03	9.41E-15	2.03E-01
	Normalized peak height	1.28E-02	7.84E-03	4.83E-03	3.56E-03	4.37E-03	6.04E-02	3.90E-03	3.55E-03	3.78E-03	4.57E-03	2.26E-02	3.22E-03
	Peak sensitivity value	6.74E-03	3.86E-03	9.45E-01	8.14E-02	-3.13E-01	-3.44E-18	5.42E-03	1.19E-02	1.01E-03	3.17E-03	8.98E-18	1.10E-01
	Shapiro-Wilk score	6.958E-01	8.385E-01	9.737E-01	9.940E-01	9.433E-01	9.958E-01	9.935E-01	9.950E-01	9.900E-01	9.831E-01	9.952E-01	9.815E-01
Extracellular cyanide	Local	-1.89E-03	-8.11E-04	-1.47E-01	-6.48E-04	-7.85E-03	4.27E-16	6.15E-03	1.34E-02	1.15E-03	3.48E-03	6.32E-16	1.23E-01
	Min	-2.58E-02	-6.80E-03	-2.80E-01	-1.55E-03	-2.31E-02	-1.86E-15	3.10E-03	6.41E-03	5.28E-04	1.39E-03	-2.96E-15	6.10E-02
	Max	-2.91E-04	-1.49E-04	-7.29E-02	-2.65E-04	-3.07E-03	1.67E-15	1.15E-02	2.49E-02	2.12E-03	7.99E-03	3.33E-15	2.42E-01
	Normalized peak height	1.62E-02	1.06E-02	3.59E-03	4.02E-03	4.94E-03	8.58E-03	3.75E-03	3.93E-03	3.82E-03	4.29E-03	6.59E-02	3.55E-03
	Peak sensitivity value	-8.14E-04	-4.98E-04	-1.32E-01	-5.52E-04	-6.28E-03	-1.18E-18	5.66E-03	1.23E-02	1.05E-03	3.17E-03	1.83E-18	1.04E-01
	Shapiro-Wilk score	6.699E-01	8.116E-01	9.739E-01	9.572E-01	9.218E-01	9.835E-01	9.847E-01	9.888E-01	9.841E-01	9.777E-01	9.943E-01	9.703E-01
Pyruvate	Local	9.01E-01	3.88E-01	7.04E+01	2.28E-01	2.76E+00	-6.96E-14	4.07E-02	8.91E-02	7.64E-03	2.31E-02	-7.79E+01	8.15E-01
	Min	1.54E-02	9.37E-03	4.70E+00	1.26E-02	1.38E-01	-3.42E-11	1.49E-03	3.28E-03	3.05E-04	7.91E-04	-3.40E+04	3.27E-02
	Max	5.63E+02	2.80E+02	3.02E+04	1.12E+02	1.56E+03	8.83E-12	2.25E+01	4.80E+01	4.04E+00	1.18E+01	-5.18E+00	4.20E+02
	Normalized peak height	8.03E-01	8.43E-01	7.89E-01	8.05E-01	8.25E-01	7.48E-01	8.19E-01	8.14E-01	8.12E-01	8.04E-01	7.91E-01	8.03E-01
	Peak sensitivity value	2.97E-01	1.50E-01	1.98E+01	6.85E-02	9.18E-01	-1.53E-14	1.27E-02	2.73E-02	2.33E-03	6.71E-03	-2.22E+01	2.43E-01
	Shapiro-Wilk score	6.093E-02	5.535E-02	5.336E-02	5.183E-02	5.060E-02	4.709E-02	5.118E-02	5.084E-02	5.002E-02	5.104E-02	5.370E-02	5.308E-02
Extracellular ethanol	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01
	Min	2.23E-03	1.13E-03	6.15E-01	1.58E-03	1.78E-02	-1.63E-15	5.30E-03	1.13E-02	9.30E-04	2.20E-03	-3.45E-15	1.02E-01
	Max	1.19E-01	3.46E-02	8.61E-01	3.73E-03	5.56E-02	1.88E-15	1.50E-02	3.32E-02	2.95E-03	1.13E-02	2.93E-15	3.08E-01
	Normalized peak height	1.40E-02	1.06E-02	3.75E-03	3.95E-03	3.86E-03	2.04E-02	3.46E-03	3.71E-03	3.57E-03	4.36E-03	6.08E-02	2.79E-03
	Peak sensitivity value	5.22E-03	3.12E-03	8.12E-01	2.27E-03	2.60E-02	1.31E-18	8.60E-03	1.94E-02	1.62E-03	4.86E-03	-3.14E-18	1.55E-01
	Shapiro-Wilk score	7.100E-01	8.554E-01	9.572E-01	9.934E-01	9.618E-01	9.835E-01	9.909E-01	9.929E-01	9.887E-01	9.845E-01	9.984E-01	9.743E-01
Extracellular glycerol	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00
	Min	5.15E-03	2.80E-03	1.65E+00	5.71E-03	6.42E-02	-4.33E-14	-1.33E-01	-2.58E-01	-2.23E-02	-8.21E-02	-6.46E-14	-2.01E+00
	Max	2.75E-01	6.16E-02	2.27E+00	1.34E-02	2.07E-01	3.57E-14	-4.60E-02	-1.15E-01	-1.02E-02	-2.38E-02	6.24E-14	-1.34E+00
	Normalized peak height	1.30E-02	7.33E-03	3.11E-03	3.68E-03	4.20E-03	6.28E-03	3.21E-03	3.48E-03	3.81E-03	4.08E-03	4.00E-02	3.12E-03
	Peak sensitivity value	1.10E-02	7.83E-03	1.94E+00	8.19E-03	9.32E-02	9.44E-16	-7.89E-02	-1.79E-01	-1.49E-02	-4.37E-02	-3.46E-17	-1.58E+00
	Shapiro-Wilk score	6.963E-01	8.422E-01	9.904E-01	9.848E-01	9.372E-01	9.910E-01	9.962E-01	9.993E-01	9.969E-01	9.933E-01	9.919E-01	9.920E-01
Extracellular glucose	Local	2.57E+00	-1.40E-02	-2.53E+00	-3.55E-03	-4.30E-02	8.97E-17	-5.98E-04	-1.31E-03	-1.12E-04	-3.38E-04	2.12E-16	-1.20E-02
	Min	1.41E+00	-1.93E-01	-6.29E+00	-1.42E-02	-2.50E-01	-1.04E-15	-3.44E-03	-7.57E-03	-6.42E-04	-1.96E-03	-2.81E-15	-6.43E-02
	Max	6.49E+00	-2.36E-03	-1.39E+00	-1.32E-03	-1.40E-02	9.43E-16	-1.53E-04	-3.41E-04	-3.10E-05	-8.48E-05	2.34E-15	-3.10E-03
	Normalized peak height	4.02E-03	1.62E-02	4.05E-03	5.86E-03	8.28E-03	6.95E-02	7.74E-03	7.91E-03	8.01E-03	8.07E-03	2.42E-02	7.31E-03
	Peak sensitivity value	1.96E+00	-7.42E-03	-1.97E+00	-2.70E-03	-3.20E-02	8.69E-19	-4.18E-04	-1.01E-03	-7.77E-05	-2.19E-04	1.04E-18	-8.21E-03
	Shapiro-Wilk score	9.073E-01	6.993E-01	9.114E-01	8.547E-01	8.239E-01	9.663E-01	8.646E-01	8.650E-01	8.632E-01	8.632E-01	9.223E-01	8.443E-01
1-3-Bisphosphoglycerate	Local	1.07E-02	4.61E-03	8.37E-01	4.44E-02	5.38E-01	5.30E-16	8.28E-03	1.81E-02	-2.84E-01	-8.56E-01	3.50E-14	1.66E-01
	Min	2.56E-03	1.28E-03	3.85E-01	3.37E-02	3.96E-01	-1.20E-14	4.18E-03	1.00E-02	-3.80E-01	-9.73E-01	-1.06E-13	8.79E-02
	Max	9.23E-02	2.29E-02	1.03E+00	5.82E-02	8.95E-01	1.19E-14	1.62E-02	3.54E-02	-2.12E-01	-7.19E-01	1.18E-13	3.31E-01
	Normalized peak height	1.08E-02	6.68E-03	3.89E-03	3.28E-03	3.60E-03	4.04E-02	4.07E-03	4.17E-03	3.24E-03	3.13E-03	8.89E-03	3.60E-03
	Peak sensitivity value	6.29E-03	3.30E-03	8.68E-01	4.36E-02	4.93E-01	-9.18E-18	7.59E-03	1.74E-02	-2.93E-01	-8.47E-01	6.66E-18	1.31E-01
	Shapiro-Wilk score	7.392E-01	8.821E-01	9.426E-01	9.946E-01	9.422E-01	9.978E-01	9.819E-01	9.832E-01	9.977E-01	9.977E-01	9.938E-01	9.615E-01
Fructose 1-6-bisphosphate	Local	4.60E-02	1.98E-02	3.59E+00	2.43E-02	2.94E-01	-9.76E-02	-8.09E-02	-1.00E+00	-8.59E-02	-2.59E-01	2.20E-14	-2.18E+00
	Min	9.69E-03	4.98E-03	2.96E+00	1.54E-02	1.74E-01	-1.65E-01	-2.13E-01	-1.34E+00	-1.17E-01	-4.32E-01	-1.04E-13	-3.36E+00
	Max	5.11E-01	1.25E-01	4.50E+00	3.70E-02	5.67E-01	-6.30E-02	5.53E-02	-6.83E-01	-5.94E-02	-1.44E-01	9.37E-14	-1.31E+00
	Normalized peak height	1.33E-02	8.41E-03	3.17E-03	3.67E-03	4.10E-03	3.83E-03	3.33E-03	3.49E-03	3.47E-03	3.90E-03	3.95E-02	3.11E-03
	Peak sensitivity value	2.40E-02	1.36E-02	3.40E+00	2.28E-02	2.66E-01	-9.61E-02	-8.94E-02	-9.74E-01	-8.40E-02	-2.50E-01	-4.96E-17	-1.91E+00
	Shapiro-Wilk score	6.909E-01	8.363E-01	9.821E-01	9.885E-01	9.455E-01	9.944E-01	9.992E-01	9.997E-01	9.973E-01	9.948E-01	9.945E-01	9.891E-01
AMP	Local	4.17E-03	1.79E-03	3.25E-01	-6.74E-02	-8.16E-01	2.40E-15	-1.26E-02	-2.76E-02	-2.37E-03	-7.14E-03	6.43E-15	-2.52E-01
	Min	1.99E-04	1.24E-04	4.08E-02	-8.65E-02	-1.34E+00	-1.19E-14	-2.31E-02	-5.13E-02	-4.61E-03	-1.55E-02	-2.29E-14	-5.17E-01
	Max	9.58E-02	2.34E-02	1.04E+00	-5.11E-02	-6.12E-01	1.28E-14	-6.90E-03	-1.54E-02	-1.21E-03	-2.85E-03	3.06E-14	-1.39E-01
	Normalized peak height	2.54E-02	1.38E-02	3.67E-03	3.29E-03	3.53E-03	6.68E-02	4.06E-03	3.83E-03	4.14E-03	4.50E-03	2.63E-02	3.56E-03
	Peak sensitivity value	1.30E-03	7.88E-04	2.84E-01	-6.39E-02	-7.46E-01	6.17E-18	-1.13E-02	-2.56E-02	-2.10E-03	-6.12E-03	9.33E-18	-2.31E-01
	Shapiro-Wilk score	6.174E-01	7.510E-01	9.501E-01	9.946E-01	9.434E-01	9.963E-01	9.817E-01	9.839E-01	9.811E-01	9.776E-01	9.924E-01	9.622E-01
ATP	Local	-1.59E-03	-6.83E-04	-1.24E-01	2.57E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02
	Min	-4.34E-02	-1.06E-02	-4.77E-01	1.83E-02	1.99E-01	-4.40E-15	2.27E-03	5.03E-03	3.80E-04	1.06E-03	-1.07E-14	4.44E-02
	Max	-6.82E-05	-3.80E-05	-1.53E-02	3.74E-02	6.30E-01	5.86E-15	1.04E-02	2.25E-02	1.97E-03	6.04E-03	1.17E-14	2.36E-01
	Normalized peak height	3.01E-02	1.62E-02	4.33E-03	3.54E-03	4.22E-03	6.52E-02	4.22E-03	4.31E-03	4.37E-03	4.26E-03	2.03E-02	4.37E-03
	Peak sensitivity value	-4.80E-04	-2.96E-04	-9.87E-02	2.51E-02	2.76E-01	3.04E-18	4.46E-03	9.23E-03	8.68E-04	2.44E-03	-1.11E-17	8.49E-02
	Shapiro-Wilk score	5.974E-01	7.298E-01	9.330E-01	9.879E-01	9.428E-01	9.941E-01	9.697E-01	9.707E-01	9.676E-01	9.699E-01	9.904E-01	9.489E-01
NADH	Local	9.35E-03	4.03E-03	7.30E-01	-1.86E-03	-2.25E-02	6.21E-15	1.54E-01	3.36E-01	2.88E-02	8.69E-02	1.30E-14	-1.28E+00
	Min	1.85E-03	9.23E-04	4.66E-01	-5.01E-03	-5.71E-02	-3.88E-14	1.07E-01	2.56E-01	1.77E-02	4.65E-02	-4.94E-14	-1.48E+00
	Max	1.09E-01	2.51E-02	9.86E-01	7.03E-04	1.07E-02	2.93E-14	2.15E-01	4.17E-01	4.22E-02	1.45E-01	4.82E-14	-1.03E+00
	Normalized peak height	1.40E-02	8.16E-03	3.59E-03	4.18E-03	4.05E-03	7.35E-03	3.34E-03	3.91E-03	3.57E-03	3.61E-03	7.21E-02	3.91E-03
	Peak sensitivity value	4.69E-03	2.60E-03	7.11E-01	-1.71E-03	-2.00E-02	4.97E-16	1.47E-01	3.36E-01	2.79E-02	8.35E-02	2.59E-17	-1.26E+00
	Shapiro-Wilk score	6.933E-01	8.402E-01	9.971E-01	9.993E-01	9.992E-01	9.886E-01	9.974E-01	9.998E-01	9.981E-01	9.962E-01	9.894E-01	9.987E-01

Metabolite	Row												
Fructose-6-Phosphate	Local	0.00E+00	0.00E+00	-2.01E-02	-1.59E-15	-7.98E-17	-4.83E-03	-2.51E-02	-7.13E-03	-5.69E-04	-7.58E-01	-5.75E-02	-2.80E-17
	Min	-8.88E-16	-7.63E-16	-3.39E-02	-2.12E-14	-1.97E-14	-7.98E-03	-3.69E-02	-1.06E-02	-1.26E-03	-7.97E-01	-8.99E-02	-1.03E-14
	Max	8.48E-16	7.54E-16	-1.02E-02	2.30E-14	1.92E-14	-2.09E-03	-1.32E-02	-3.75E-03	-2.16E-04	-6.93E-01	-2.49E-02	1.33E-15
	Normalized peak height	9.28E-01	9.40E-01	3.58E-03	5.16E-03	7.04E-03	3.71E-03	3.47E-03	3.40E-03	3.60E-03	3.69E-03	3.47E-03	3.45E-01
	Peak sensitivity value	-4.23E-20	3.36E-19	-1.96E-02	-5.62E-16	4.13E-17	-4.69E-03	-2.52E-02	-7.06E-03	-4.50E-04	-7.57E-01	-5.69E-02	3.19E-18
	Shapiro-Wilk score	2.823E-01	2.690E-01	9.937E-01	9.976E-01	9.978E-01	9.943E-01	9.975E-01	9.992E-01	9.739E-01	9.913E-01	9.993E-01	3.718E-01
Extracellular cyanide	Local	0.00E+00	0.00E+00	-2.09E-02	3.66E-16	-5.96E-16	-5.03E-03	3.14E-02	-6.50E-02	7.46E-02	5.46E-03	-9.35E-03	-7.74E-19
	Min	-1.15E-16	-1.02E-16	-3.75E-02	-7.25E-15	-4.97E-15	-8.04E-03	1.51E-02	-1.10E-01	4.08E-02	2.65E-03	-1.71E-02	-4.97E-17
	Max	1.39E-16	9.45E-17	-1.04E-02	5.66E-15	4.14E-15	-2.77E-03	6.18E-02	-3.66E-02	1.29E-01	1.02E-02	-4.76E-03	4.80E-18
	Normalized peak height	9.24E-01	9.31E-01	3.73E-03	7.39E-03	1.47E-02	3.39E-03	3.84E-03	3.50E-03	3.73E-03	3.64E-03	3.62E-03	3.41E-01
	Peak sensitivity value	1.23E-19	-8.50E-20	-1.92E-02	1.16E-18	-1.72E-18	-4.96E-03	2.84E-02	-6.41E-02	6.74E-02	4.88E-03	-8.64E-03	-1.87E-20
	Shapiro-Wilk score	2.874E-01	2.797E-01	9.874E-01	9.956E-01	9.951E-01	9.909E-01	9.705E-01	9.827E-01	9.815E-01	9.797E-01	9.828E-01	8.392E-01
Pyruvate	Local	0.00E+00	0.00E+00	-1.39E-01	-5.18E-14	1.49E-13	-3.34E-02	-1.73E-01	-4.93E-02	-3.93E-03	-1.87E+00	4.59E+00	2.26E-16
	Min	-4.46E-15	-4.92E-15	-7.30E+01	-5.23E-11	-4.54E-11	-1.76E+01	-8.54E+01	-2.33E+01	-1.76E+00	-8.06E+02	3.01E-01	-1.03E-13
	Max	4.81E-15	4.59E-15	-5.53E-03	4.91E-11	2.45E-11	-1.53E-03	-8.03E-03	-2.25E-03	-1.19E-04	-1.21E-01	1.85E+03	5.25E-14
	Normalized peak height	9.31E-01	9.47E-01	8.10E-01	7.36E-01	7.59E-01	8.14E-01	8.01E-01	7.93E-01	7.68E-01	7.88E-01	7.75E-01	7.19E-01
	Peak sensitivity value	-3.17E-18	1.01E-18	-4.20E-02	-1.41E-14	6.22E-16	-1.03E-02	-5.07E-02	-1.39E-02	-9.98E-04	-5.24E-01	1.23E+00	7.17E-18
	Shapiro-Wilk score	2.725E-01	2.508E-01	5.113E-02	7.579E-02	6.684E-02	5.352E-02	5.291E-02	5.332E-02	5.559E-02	5.189E-02	5.502E-02	7.511E-02
Extracellular ethanol	Local	-3.41E-16	-1.00E+00	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-8.73E-16	-1.00E+00	-5.33E-02	-6.91E-15	-4.42E-15	-1.17E-02	-5.49E-02	-1.51E-02	-2.00E-03	-2.79E-02	3.45E-02	-1.29E-17
	Max	7.89E-16	-1.00E+00	-1.84E-02	6.56E-15	5.09E-15	-4.57E-03	-2.67E-02	-7.84E-03	-3.60E-04	-2.82E-03	7.19E-02	8.93E-17
	Normalized peak height	6.24E-01	1.00E+00	3.75E-03	5.95E-03	9.35E-03	3.28E-03	3.04E-03	2.94E-03	3.64E-03	5.26E-03	3.24E-03	3.45E-01
	Peak sensitivity value	5.54E-19	-1.00E+00	-2.86E-02	-4.37E-17	2.55E-19	-7.16E-03	-3.65E-02	-1.11E-02	-7.60E-04	-1.97E-02	5.29E-02	2.44E-20
	Shapiro-Wilk score	8.347E-01	1.000E+00	9.912E-01	9.969E-01	9.963E-01	9.925E-01	9.922E-01	9.951E-01	9.705E-01	9.981E-01	9.974E-01	9.111E-01
Extracellular glycerol	Local	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-1.00E+00	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-2.30E-15	-2.05E-15	1.76E-01	-1.36E-13	-1.00E+00	4.13E-02	2.54E-01	6.53E-02	4.37E-03	-9.40E-02	9.24E-02	-5.87E-17
	Max	2.37E-15	2.58E-15	3.86E-01	1.41E-13	-1.00E+00	9.95E-02	4.38E-01	1.41E-01	1.37E-02	-4.85E-02	1.60E-01	5.27E-16
	Normalized peak height	9.24E-01	9.29E-01	3.25E-03	8.78E-03	1.00E+00	3.75E-03	3.72E-03	3.75E-03	3.52E-03	4.58E-03	3.11E-03	3.45E-01
	Peak sensitivity value	1.97E-18	7.43E-19	2.82E-01	-8.87E-17	-1.00E+00	6.80E-02	3.55E-01	1.01E-01	7.56E-03	-7.13E-02	1.22E-01	2.33E-19
	Shapiro-Wilk score	2.848E-01	2.817E-01	9.994E-01	9.977E-01	1.000E+00	9.981E-01	9.993E-01	9.996E-01	9.913E-01	9.984E-01	9.977E-01	8.755E-01
Extracellular glucose	Local	0.00E+00	0.00E+00	2.04E-03	1.65E-16	1.51E-17	4.89E-04	2.54E-03	7.23E-04	5.76E-05	2.55E-02	5.83E-03	-3.53E-18
	Min	-9.42E-17	-6.75E-17	5.32E-04	-4.79E-15	-3.51E-15	1.42E-04	7.57E-04	2.29E-04	1.12E-05	-1.43E-02	2.29E-03	-3.18E-16
	Max	7.35E-17	6.71E-17	1.14E-02	4.24E-15	2.73E-15	2.35E-03	1.19E-02	2.92E-03	3.71E-04	7.25E-02	2.35E-02	9.89E-17
	Normalized peak height	9.25E-01	9.30E-01	8.08E-03	1.15E-02	1.20E-02	6.92E-03	6.63E-03	5.90E-03	8.19E-03	6.45E-03	6.20E-03	3.43E-01
	Peak sensitivity value	-1.20E-20	4.29E-20	1.43E-03	1.20E-17	9.84E-18	3.68E-04	1.80E-03	5.38E-04	3.58E-05	2.05E-02	4.48E-03	1.96E-19
	Shapiro-Wilk score	2.704E-01	2.662E-01	8.660E-01	9.597E-01	9.553E-01	8.730E-01	8.701E-01	8.756E-01	8.361E-01	9.380E-01	8.915E-01	7.447E-01
1-3-Bisphosphoglycerate	Local	0.00E+00	0.00E+00	-2.82E-02	6.06E-16	-4.86E-16	-6.78E-03	-3.52E-02	-1.00E-02	-7.98E-04	-3.98E-01	-7.28E-03	7.56E-17
	Min	-6.51E-16	-7.01E-16	-5.47E-02	-3.36E-14	-2.53E-14	-1.17E-02	-6.14E-02	-1.57E-02	-1.99E-03	-4.29E-01	-3.50E-02	-1.17E-15
	Max	7.84E-16	5.78E-16	-1.51E-02	3.27E-14	2.87E-14	-3.87E-03	-2.20E-02	-6.65E-03	-3.08E-04	-3.65E-01	7.07E-03	3.53E-15
	Normalized peak height	9.25E-01	9.34E-01	4.27E-03	4.85E-03	5.78E-03	3.84E-03	3.86E-03	3.46E-03	3.97E-03	3.75E-03	3.77E-03	3.41E-01
	Peak sensitivity value	-1.42E-19	5.82E-19	-2.80E-02	6.80E-16	4.37E-16	-6.80E-03	-3.48E-02	-9.75E-03	-7.05E-04	-3.99E-01	-4.47E-03	1.21E-19
	Shapiro-Wilk score	2.810E-01	2.774E-01	9.819E-01	9.981E-01	9.980E-01	9.855E-01	9.843E-01	9.895E-01	9.587E-01	9.993E-01	9.702E-01	8.609E-01
Fructose 1-6-bisphosphate	Local	0.00E+00	0.00E+00	-9.76E-01	1.28E-14	-8.40E-15	8.90E-02	4.63E-01	1.31E-01	1.05E-02	-2.10E-01	2.16E-01	3.37E-17
	Min	-3.33E-15	-3.01E-15	-1.41E+00	-2.04E-13	-1.63E-13	5.06E-02	2.90E-01	8.10E-02	4.68E-03	-2.71E-01	1.59E-01	-1.85E-16
	Max	2.98E-15	3.48E-15	-6.13E-01	2.07E-13	1.82E-13	1.45E-01	6.60E-01	1.97E-01	2.14E-02	-1.56E-01	2.89E-01	2.31E-15
	Normalized peak height	9.28E-01	9.41E-01	3.24E-03	1.16E-02	2.22E-02	3.56E-03	3.72E-03	3.40E-03	3.78E-03	3.70E-03	3.24E-03	3.43E-01
	Peak sensitivity value	2.35E-18	-1.18E-18	-9.73E-01	5.99E-17	-1.58E-16	8.21E-02	4.55E-01	1.26E-01	9.27E-03	-2.09E-01	2.09E-01	6.92E-19
	Shapiro-Wilk score	2.825E-01	2.683E-01	9.953E-01	9.970E-01	9.953E-01	9.951E-01	9.982E-01	9.966E-01	9.819E-01	9.983E-01	9.964E-01	8.672E-01
AMP	Local	0.00E+00	0.00E+00	4.30E-02	3.70E-15	2.03E-16	1.03E-02	5.37E-02	1.52E-02	1.22E-03	6.08E-01	1.23E-01	6.38E-17
	Min	-1.89E-15	-1.76E-15	2.37E-02	-5.96E-14	-4.67E-14	5.82E-03	3.53E-02	9.99E-03	4.60E-04	5.78E-01	9.59E-02	-3.38E-16
	Max	1.76E-15	1.88E-15	7.76E-02	4.31E-14	3.96E-14	1.92E-02	8.86E-02	2.36E-02	3.20E-03	6.41E-01	1.65E-01	2.67E-15
	Normalized peak height	9.27E-01	9.41E-01	3.79E-03	5.49E-03	6.85E-03	3.94E-03	3.67E-03	3.58E-03	4.19E-03	3.81E-03	3.15E-03	3.45E-01
	Peak sensitivity value	1.05E-18	-6.96E-19	3.84E-02	-9.78E-16	-3.28E-17	9.51E-03	4.96E-02	1.41E-02	1.10E-03	6.08E-01	1.22E-01	-2.50E-19
	Shapiro-Wilk score	2.875E-01	2.739E-01	9.827E-01	9.973E-01	9.968E-01	9.868E-01	9.850E-01	9.900E-01	9.595E-01	9.997E-01	9.955E-01	8.550E-01
ATP	Local	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	-4.68E-02	2.55E-17
	Min	-7.22E-16	-5.37E-16	-3.50E-02	-2.41E-14	-1.64E-14	-7.59E-03	-3.94E-02	-1.07E-02	-1.47E-03	-3.09E-01	-7.33E-02	-1.33E-16
	Max	7.63E-16	6.57E-16	-8.38E-03	1.88E-14	1.60E-14	-2.09E-03	-1.18E-02	-3.43E-03	-1.52E-04	-1.91E-01	-3.59E-02	2.05E-15
	Normalized peak height	9.23E-01	9.32E-01	4.40E-03	6.24E-03	7.42E-03	3.81E-03	4.42E-03	3.99E-03	4.82E-03	4.13E-03	3.86E-03	3.41E-01
	Peak sensitivity value	2.75E-19	-2.62E-19	-1.52E-02	1.86E-16	-5.31E-17	-3.68E-03	-1.90E-02	-5.51E-03	-3.53E-04	-2.34E-01	-4.76E-02	1.03E-18
	Shapiro-Wilk score	2.862E-01	2.798E-01	9.703E-01	9.947E-01	9.941E-01	9.748E-01	9.710E-01	9.783E-01	9.486E-01	9.913E-01	9.891E-01	7.728E-01
NADH	Local	0.00E+00	0.00E+00	-5.23E-01	6.20E-15	-5.37E-15	5.25E-02	2.73E-01	7.75E-02	6.18E-03	1.86E-02	5.39E-02	-5.02E-18
	Min	-1.43E-15	-1.33E-15	-6.01E-01	-9.60E-14	-6.74E-14	3.27E-02	1.94E-01	4.74E-02	3.56E-03	-2.02E-03	3.65E-02	-1.43E-15
	Max	1.59E-15	1.50E-15	-4.34E-01	9.58E-14	7.04E-14	7.95E-02	3.46E-01	1.12E-01	9.62E-03	4.24E-02	7.45E-02	3.24E-17
	Normalized peak height	9.23E-01	9.29E-01	3.86E-03	5.20E-03	1.43E-02	3.82E-03	3.14E-03	3.23E-03	3.52E-03	3.62E-03	3.50E-03	3.44E-01
	Peak sensitivity value	-1.05E-18	-7.87E-19	-5.29E-01	-2.56E-17	2.05E-17	5.42E-02	2.80E-01	8.04E-02	5.95E-03	1.76E-02	5.22E-02	-4.59E-19
	Shapiro-Wilk score	2.901E-01	2.836E-01	9.975E-01	9.983E-01	9.961E-01	9.985E-01	9.954E-01	9.992E-01	9.928E-01	9.993E-01	9.968E-01	4.649E-01

Table 20: Concentration control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±20%

		(GlucoseMixedflowtoextracellularmedium)	(Glucoseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)
Acetaldehyde	Local	2.55E-02	1.10E-02	1.99E+00	8.76E-03	1.06E-01	-5.75E-15	-8.30E-02	-1.82E-01
	Min	1.89E-03	1.03E-03	7.65E-02	3.79E-03	4.37E-02	-3.88E-14	-2.03E-01	-3.26E-01
	Max	2.38E+00	4.45E-01	2.75E+00	2.58E-02	9.35E-01	3.89E-14	-1.88E-02	-5.59E-02
	Normalized peak height	1.09E-01	3.96E-02	6.07E-03	5.19E-03	1.43E-02	1.59E-02	3.71E-03	3.20E-03
	Peak sensitivity value	5.46E-03	4.36E-03	1.84E+00	8.00E-03	8.07E-02	-6.65E-17	-8.24E-02	-1.73E-01
	Shapiro-Wilk score	3.543E-01	5.324E-01	8.219E-01	9.474E-01	7.008E-01	9.263E-01	9.881E-01	9.973E-01
Cytosolic glucose	Local	2.04E+00	8.77E-01	-3.34E+00	7.30E-03	8.83E-02	4.39E-16	-2.81E-03	-6.15E-03
	Min	2.36E-01	2.91E-01	-3.40E+03	-1.94E-01	-2.06E+00	-9.22E-14	-2.68E+00	-4.76E+00
	Max	2.62E+03	6.68E+02	-8.21E-01	3.15E-01	4.43E+00	1.73E-13	1.02E-02	2.56E-02
	Normalized peak height	6.65E-01	5.96E-01	6.36E-01	6.24E-02	6.48E-02	3.30E-01	6.42E-01	5.75E-01
	Peak sensitivity value	1.54E+00	6.25E-01	-2.52E+00	4.05E-03	4.93E-02	-7.13E-17	-1.88E-03	-5.54E-03
	Shapiro-Wilk score	6.712E-02	4.622E-02	5.881E-02	7.328E-01	6.492E-01	3.037E-01	4.856E-02	6.541E-02
Glycerol	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.13E-15	-8.18E-02	-1.79E-01
	Min	1.80E-03	1.04E-03	1.08E-01	3.82E-03	4.56E-02	-7.44E-14	-1.88E-01	-3.37E-01
	Max	2.10E+00	4.56E-01	2.63E+00	2.38E-02	1.04E+00	5.84E-14	-1.84E-02	-5.62E-02
	Normalized peak height	9.86E-02	3.98E-02	5.71E-03	4.80E-03	1.58E-02	1.42E-02	3.40E-03	3.41E-03
	Peak sensitivity value	7.05E-03	4.00E-03	1.80E+00	8.27E-03	8.47E-02	4.25E-16	-7.78E-02	-1.83E-01
	Shapiro-Wilk score	3.538E-01	5.370E-01	8.166E-01	9.478E-01	7.109E-01	9.422E-01	9.890E-01	9.977E-01
EtOH	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.86E-16	9.18E-03	2.01E-02
	Min	9.03E-04	5.01E-04	4.38E-02	9.81E-04	1.07E-02	-2.59E-15	2.59E-03	5.65E-03
	Max	7.29E-01	1.35E-01	9.03E-01	7.50E-03	2.74E-01	2.49E-15	2.39E-02	4.97E-02
	Normalized peak height	8.29E-02	2.92E-02	7.31E-03	5.87E-03	1.50E-02	2.57E-02	3.92E-03	3.90E-03
	Peak sensitivity value	2.72E-03	1.91E-03	8.36E-01	2.37E-03	2.43E-02	-1.29E-18	7.62E-03	1.60E-02
	Shapiro-Wilk score	3.609E-01	5.463E-01	6.956E-01	9.587E-01	7.575E-01	9.339E-01	9.712E-01	9.772E-01
ADP	Local	1.29E-03	5.55E-04	1.01E-01	-2.09E-02	-2.53E-01	6.63E-16	-3.90E-03	-8.54E-03
	Min	-4.53E-04	-3.64E-04	-4.48E-02	-3.59E-02	-8.54E-01	-6.94E-15	-1.38E-02	-2.96E-02
	Max	5.00E-01	9.18E-02	8.19E-01	-7.87E-03	-1.36E-01	6.14E-15	-8.05E-04	-1.89E-03
	Normalized peak height	3.54E-01	1.64E-01	6.58E-03	3.84E-03	7.37E-03	7.85E-02	5.09E-03	5.42E-03
	Peak sensitivity value	2.97E-04	5.03E-05	6.18E-02	-1.80E-02	-2.15E-01	-1.94E-18	-3.21E-03	-6.78E-03
	Shapiro-Wilk score	3.017E-01	4.172E-01	8.599E-01	9.860E-01	8.463E-01	9.480E-01	9.483E-01	9.581E-01
Glyceraldehyde 3-phosphate	Local	2.26E-02	9.73E-03	1.76E+00	1.27E-02	1.54E-01	6.19E-15	1.56E-01	-5.55E-01
	Min	1.63E-03	9.83E-04	9.11E-02	5.21E-03	5.90E-02	-3.56E-14	5.10E-02	-8.73E-01
	Max	2.15E+00	3.91E-01	2.95E+00	3.03E-02	1.21E+00	4.33E-14	3.41E-01	-2.30E-01
	Normalized peak height	1.12E-01	3.87E-02	5.90E-03	3.95E-03	1.25E-02	1.52E-02	3.89E-03	3.03E-03
	Peak sensitivity value	4.85E-03	3.91E-03	1.49E+00	1.05E-02	1.20E-01	-3.61E-17	1.40E-01	-5.67E-01
	Shapiro-Wilk score	3.554E-01	5.339E-01	9.133E-01	9.654E-01	7.451E-01	9.453E-01	9.906E-01	9.983E-01
Dihydroxyacetone phosphate	Local	2.40E-02	1.03E-02	1.88E+00	1.23E-02	1.49E-01	5.18E-15	-2.24E-01	-4.91E-01
	Min	1.83E-03	1.08E-03	8.57E-02	5.16E-03	5.61E-02	-3.48E-14	-4.64E-01	-7.90E-01
	Max	2.24E+00	3.62E-01	2.97E+00	3.02E-02	1.63E+00	3.67E-14	-5.64E-02	-1.80E-01
	Normalized peak height	1.11E-01	3.40E-02	6.65E-03	4.07E-03	1.72E-02	1.44E-02	3.34E-03	3.46E-03
	Peak sensitivity value	5.18E-03	3.78E-03	1.73E+00	1.21E-02	1.20E-01	-2.65E-17	-2.18E-01	-5.03E-01
	Shapiro-Wilk score	3.524E-01	5.374E-01	8.780E-01	9.623E-01	7.405E-01	9.499E-01	9.925E-01	9.991E-01
Glucose-6-Phosphate	Local	1.37E-02	5.88E-03	1.07E+00	-2.72E-02	-3.29E-01	-8.33E-16	5.10E-03	1.11E-02
	Min	1.04E-03	6.07E-04	5.30E-02	-6.45E-02	-3.30E+00	-8.65E-15	-2.24E-02	-5.01E-02
	Max	1.63E+00	2.80E-01	4.07E+00	-1.44E-02	-1.65E-01	8.70E-15	1.29E-02	2.78E-02
	Normalized peak height	1.34E-01	4.52E-02	2.86E-02	4.74E-03	1.70E-02	8.82E-02	9.85E-03	1.01E-02
	Peak sensitivity value	3.49E-03	2.42E-03	1.02E+00	-2.48E-02	-2.48E-01	-2.66E-18	4.27E-03	1.01E-02
	Shapiro-Wilk score	3.528E-01	5.074E-01	7.278E-01	9.647E-01	7.317E-01	9.364E-01	9.576E-01	9.482E-01
NAD	Local	-4.87E-03	-2.10E-03	-3.80E-01	9.66E-04	1.17E-02	-3.24E-15	-8.00E-02	-1.75E-01
	Min	-7.19E-01	-1.37E-01	-1.10E+00	-3.91E-03	-2.09E-01	-2.27E-14	-1.98E-01	-5.56E-01
	Max	-1.89E-04	-8.61E-05	-1.53E-02	9.21E-03	1.49E-01	1.91E-14	-2.05E-02	-5.10E-02
	Normalized peak height	1.72E-01	6.73E-02	4.32E-03	8.43E-03	1.78E-02	1.29E-02	3.75E-03	4.68E-03
	Peak sensitivity value	-1.27E-03	-5.67E-04	-2.40E-01	5.54E-04	6.06E-03	-3.47E-17	-6.46E-02	-1.56E-01
	Shapiro-Wilk score	3.348E-01	5.024E-01	9.452E-01	9.462E-01	8.955E-01	9.384E-01	9.776E-01	9.626E-01
Extracellular acetaldehyde	Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01
	Min	1.90E-03	1.08E-03	9.64E-02	3.87E-03	4.35E-02	-3.21E-14	-1.94E-01	-3.31E-01
	Max	2.24E+00	3.57E-01	2.75E+00	2.56E-02	8.95E-01	4.36E-14	-2.02E-02	-5.93E-02
	Normalized peak height	1.02E-01	3.26E-02	5.88E-03	5.00E-03	1.34E-02	1.64E-02	3.51E-03	3.26E-03
	Peak sensitivity value	7.50E-03	4.82E-03	1.81E+00	8.03E-03	8.48E-02	-3.35E-17	-7.27E-02	-1.71E-01
	Shapiro-Wilk score	3.548E-01	5.373E-01	8.263E-01	9.482E-01	7.145E-01	9.310E-01	9.882E-01	9.975E-01
Phosphoenolpyruvate	Local	1.38E-02	5.93E-03	1.08E+00	6.08E-03	7.36E-02	2.62E-15	1.11E-03	2.42E-03
	Min	1.17E-03	5.28E-04	5.56E-02	3.13E-03	3.97E-02	-3.25E-14	2.68E-04	5.95E-04
	Max	1.04E+00	2.25E-01	1.19E+00	1.30E-02	5.63E-01	3.85E-14	5.77E-03	1.50E-02
	Normalized peak height	8.63E-02	3.59E-02	1.25E-02	4.36E-03	1.44E-02	5.62E-02	7.21E-03	9.11E-03
	Peak sensitivity value	3.77E-03	2.66E-03	1.05E+00	5.49E-03	6.19E-02	-2.70E-17	9.31E-04	2.08E-03
	Shapiro-Wilk score	3.590E-01	5.423E-01	5.182E-01	9.749E-01	7.423E-01	9.610E-01	9.012E-01	8.908E-01

		(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)	(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)
Acetaldehyde	Local	-1.56E-02	-4.70E-02	-7.51E-15	-1.66E+00	0.00E+00	0.00E+00	2.83E-01	-5.12E-15
	Min	-3.17E-02	-1.21E-01	-1.28E-13	-2.46E+00	-3.75E-14	-1.65E-13	8.07E-02	-1.17E-13
	Max	-5.99E-03	-1.09E-02	1.20E-13	-1.14E+00	2.13E-14	5.88E-14	4.82E-01	1.02E-13
	Normalized peak height	4.17E-03	4.10E-03	6.91E-02	3.12E-03	6.51E-01	7.16E-01	3.27E-03	9.23E-03
	Peak sensitivity value	-1.49E-02	-3.99E-02	-9.83E-17	-1.49E+00	2.18E-17	2.65E-17	2.80E-01	7.94E-17
	Shapiro-Wilk score	9.877E-01	9.744E-01	9.174E-01	9.832E-01	3.432E-01	5.713E-02	9.988E-01	9.879E-01
Cytosolic glucose	Local	-5.28E-04	-1.59E-03	1.00E-15	-5.63E-02	0.00E+00	0.00E+00	9.58E-03	7.63E-16
	Min	-3.79E-01	-1.12E+00	-3.38E-13	-5.28E+01	-1.04E-14	-1.14E-14	-4.05E-02	-9.05E-13
	Max	1.66E-03	3.79E-03	5.85E-14	3.21E-01	7.52E-15	1.28E-14	7.67E+00	1.99E-13
	Normalized peak height	5.50E-01	5.14E-01	2.44E-01	5.06E-01	6.74E-01	7.13E-01	5.29E-01	2.61E-01
	Peak sensitivity value	-4.36E-04	-1.25E-03	2.84E-18	-2.49E-02	-6.37E-18	4.00E-18	9.64E-03	-1.61E-16
	Shapiro-Wilk score	7.703E-02	8.729E-02	3.704E-01	6.209E-02	2.978E-01	1.655E-01	6.353E-02	3.270E-01
Glycerol	Local	-1.53E-02	-4.63E-02	1.53E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	-5.98E-01
	Min	-3.02E-02	-1.15E-01	-1.79E-13	-2.46E+00	-3.68E-14	-2.06E-13	8.17E-02	-7.25E-01
	Max	-5.45E-03	-9.11E-03	1.34E-13	-1.12E+00	8.52E-14	3.74E-13	4.92E-01	-4.48E-01
	Normalized peak height	3.97E-03	3.89E-03	4.87E-02	3.24E-03	6.63E-01	7.76E-01	3.34E-03	2.58E-03
	Peak sensitivity value	-1.43E-02	-3.89E-02	-2.99E-17	-1.57E+00	-3.37E-17	1.32E-16	2.84E-01	-6.23E-01
	Shapiro-Wilk score	9.891E-01	9.750E-01	9.361E-01	9.848E-01	1.657E-01	3.508E-02	9.989E-01	9.962E-01
EtOH	Local	1.72E-03	5.20E-03	-7.43E-17	1.84E-01	-1.45E-01	-8.55E-01	-3.13E-02	-1.63E-16
	Min	4.24E-04	9.41E-04	-6.08E-15	6.19E-02	-2.30E-01	-9.15E-01	-8.25E-02	-1.12E-14
	Max	4.71E-03	1.80E-02	8.44E-15	4.93E-01	-8.49E-02	-7.70E-01	-9.14E-03	1.08E-14
	Normalized peak height	4.02E-03	4.63E-03	8.15E-02	3.77E-03	2.76E-03	2.76E-03	4.10E-03	8.67E-03
	Peak sensitivity value	1.30E-03	4.23E-03	-9.25E-19	1.33E-01	-1.53E-01	-8.47E-01	-2.61E-02	-7.11E-18
	Shapiro-Wilk score	9.618E-01	9.458E-01	9.794E-01	9.315E-01	9.905E-01	9.905E-01	9.740E-01	9.820E-01
ADP	Local	-7.33E-04	-2.21E-03	1.57E-15	-7.81E-02	0.00E+00	0.00E+00	1.33E-02	1.09E-15
	Min	-2.40E-03	-1.06E-02	-1.38E-14	-3.07E-01	-4.07E-15	-8.24E-15	2.77E-03	-2.60E-14
	Max	-1.60E-04	-2.97E-04	1.19E-14	-1.98E-02	2.24E-15	1.84E-14	4.21E-02	2.66E-14
	Normalized peak height	4.71E-03	5.89E-03	5.65E-02	5.19E-03	6.32E-01	6.99E-01	4.64E-03	9.54E-03
	Peak sensitivity value	-5.60E-04	-1.56E-03	-3.97E-18	-5.55E-02	3.16E-18	-3.67E-18	1.12E-02	1.78E-16
	Shapiro-Wilk score	9.455E-01	9.302E-01	9.695E-01	9.076E-01	6.218E-01	1.836E-01	9.558E-01	9.702E-01
Glyceraldehyde 3-phosphate	Local	-4.76E-02	-1.44E-01	1.37E-14	-1.23E+00	0.00E+00	0.00E+00	-5.32E-01	7.05E-15
	Min	-8.80E-02	-3.40E-01	-8.29E-14	-2.54E+00	-4.71E-14	-9.10E-14	-1.03E+00	-2.75E-13
	Max	-2.08E-02	-3.95E-02	7.80E-14	-4.05E-01	2.19E-14	1.45E-13	-1.90E-01	2.03E-13
	Normalized peak height	3.74E-03	3.66E-03	5.92E-02	3.24E-03	6.65E-01	7.16E-01	3.43E-03	1.47E-02
	Peak sensitivity value	-4.34E-02	-1.24E-01	2.39E-17	-9.71E-01	-2.70E-17	1.01E-16	-4.74E-01	-2.16E-16
	Shapiro-Wilk score	9.904E-01	9.782E-01	9.585E-01	9.759E-01	2.671E-01	4.691E-02	9.902E-01	9.673E-01
Dihydroxyacetone phosphate	Local	-4.21E-02	-1.27E-01	1.04E-14	-1.03E+00	0.00E+00	0.00E+00	-4.89E-01	6.32E-15
	Min	-7.80E-02	-3.04E-01	-7.80E-14	-2.38E+00	-4.67E-14	-9.36E-14	-9.60E-01	-1.36E-13
	Max	-1.89E-02	-3.08E-02	7.89E-14	-2.97E-01	2.61E-14	2.18E-13	-1.76E-01	2.27E-13
	Normalized peak height	3.72E-03	3.92E-03	5.13E-02	3.46E-03	6.86E-01	7.55E-01	3.23E-03	1.69E-02
	Peak sensitivity value	-4.24E-02	-1.11E-01	6.06E-17	-8.49E-01	-6.11E-18	8.24E-17	-4.37E-01	-3.59E-17
	Shapiro-Wilk score	9.898E-01	9.761E-01	9.583E-01	9.720E-01	2.609E-01	4.651E-02	9.847E-01	9.664E-01
Glucose-6-Phosphate	Local	9.57E-04	2.89E-03	-1.82E-15	1.02E-01	0.00E+00	0.00E+00	-1.74E-02	-1.37E-15
	Min	-4.45E-03	-8.71E-03	-1.66E-14	-7.10E-01	-7.90E-15	-1.63E-14	-5.04E-02	-4.82E-14
	Max	3.05E-03	1.10E-02	2.63E-14	2.94E-01	3.07E-15	2.05E-14	7.51E-02	2.91E-14
	Normalized peak height	1.00E-02	7.84E-03	4.60E-02	1.35E-02	6.47E-01	7.09E-01	9.85E-03	1.23E-02
	Peak sensitivity value	7.39E-04	2.10E-03	-7.63E-18	7.44E-02	-4.57E-18	-6.57E-18	-1.46E-02	-3.11E-16
	Shapiro-Wilk score	9.603E-01	9.621E-01	9.624E-01	9.315E-01	6.118E-01	1.696E-01	9.557E-01	9.729E-01
NAD	Local	-1.50E-02	-4.53E-02	-6.78E-15	6.68E-01	0.00E+00	0.00E+00	2.72E-01	-3.23E-15
	Min	-6.85E-02	-2.08E-01	-5.39E-14	1.83E-01	-2.50E-14	-5.44E-14	8.05E-02	-1.08E-13
	Max	-1.85E-03	-3.47E-03	3.92E-14	1.67E+00	2.22E-14	8.32E-14	6.31E-01	1.18E-13
	Normalized peak height	4.97E-03	5.16E-03	8.73E-02	3.50E-03	6.63E-01	7.48E-01	3.86E-03	1.32E-02
	Peak sensitivity value	-1.25E-02	-3.63E-02	2.66E-17	5.09E-01	1.99E-17	8.93E-18	2.37E-01	1.94E-17
	Shapiro-Wilk score	9.290E-01	9.293E-01	9.635E-01	9.586E-01	1.675E-01	4.099E-02	9.755E-01	9.541E-01
Extracellular acetaldehyde	Local	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00	0.00E+00	0.00E+00	2.84E-01	-5.10E-15
	Min	-3.12E-02	-1.19E-01	-1.05E-13	-2.43E+00	-2.69E-14	-8.64E-14	8.60E-02	-1.19E-13
	Max	-5.40E-03	-1.16E-02	8.47E-14	-1.12E+00	4.70E-14	1.56E-13	5.04E-01	1.07E-13
	Normalized peak height	3.97E-03	3.82E-03	7.08E-02	3.26E-03	6.59E-01	7.27E-01	3.45E-03	8.66E-03
	Peak sensitivity value	-1.45E-02	-4.10E-02	-7.65E-17	-1.62E+00	1.87E-18	-9.28E-17	2.86E-01	1.82E-17
	Shapiro-Wilk score	9.881E-01	9.754E-01	9.274E-01	9.843E-01	3.311E-01	6.364E-02	9.989E-01	9.890E-01
Phosphoenolpyruvate	Local	2.08E-04	-1.20E+00	7.14E-14	2.22E-02	0.00E+00	0.00E+00	-3.77E-03	4.71E-15
	Min	5.41E-05	-1.33E+00	-2.94E-13	6.83E-03	-2.65E-14	-1.37E-14	-2.06E-02	-2.52E-14
	Max	1.28E-03	-1.12E+00	3.33E-13	1.91E-01	1.93E-14	1.67E-14	-1.06E-03	3.21E-14
	Normalized peak height	8.13E-03	2.74E-03	2.14E-01	1.09E-02	6.86E-01	7.10E-01	7.52E-03	8.11E-03
	Peak sensitivity value	1.69E-04	-1.18E+00	-2.78E-16	1.54E-02	1.79E-17	-8.83E-18	-3.05E-03	6.22E-18
	Shapiro-Wilk score	8.956E-01	9.723E-01	9.328E-01	8.359E-01	1.750E-01	2.312E-01	8.970E-01	9.796E-01

		(Glyceroflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
Acetaldehyde	Local	7.96E-15	-6.23E-02	-3.24E-01	-9.20E-02	-7.34E-03	-7.38E-02	1.26E-01	1.05E-17
	Min	-1.03E-13	-1.31E-01	-5.27E-01	-1.63E-01	-3.38E-02	-1.33E-01	5.04E-02	-2.17E-16
	Max	7.67E-14	-2.38E-02	-1.59E-01	-4.27E-02	-1.24E-03	1.49E-01	2.09E-01	3.51E-16
	Normalized peak height	2.14E-02	3.73E-03	3.47E-03	3.58E-03	5.32E-03	1.23E-02	3.62E-03	3.14E-01
	Peak sensitivity value	5.98E-17	-5.95E-02	-3.17E-01	-9.09E-02	-5.23E-03	-7.12E-02	1.27E-01	-1.65E-19
	Shapiro-Wilk score	9.797E-01	9.846E-01	9.925E-01	9.927E-01	9.004E-01	8.174E-01	9.974E-01	9.139E-01
Cytosolic glucose	Local	4.37E-17	2.30E-03	1.20E-02	3.40E-03	2.71E-04	3.43E-01	2.74E-02	7.34E-18
	Min	-6.58E-13	-9.84E-03	-4.53E-02	-1.24E-02	-2.14E-03	1.00E-01	-5.40E-02	-6.79E-16
	Max	9.19E-14	1.18E+00	7.60E+00	1.66E+00	1.71E-01	1.44E+02	1.83E+01	8.23E-16
	Normalized peak height	2.62E-01	4.21E-01	4.58E-01	3.63E-01	4.43E-01	3.85E-01	5.53E-01	3.26E-01
	Peak sensitivity value	-2.09E-17	1.45E-03	1.20E-02	3.46E-03	1.93E-04	3.17E-01	2.86E-02	7.37E-19
	Shapiro-Wilk score	3.132E-01	1.170E-01	8.304E-02	1.133E-01	1.375E-01	1.030E-01	6.345E-02	6.793E-01
Glycerol	Local	-4.02E-01	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-5.52E-01	2.15E-02	1.67E-01	3.90E-02	2.30E-03	-1.46E-01	4.81E-02	-6.15E-17
	Max	-2.75E-01	1.39E-01	5.03E-01	1.87E-01	1.97E-02	1.86E-01	2.04E-01	5.94E-16
	Normalized peak height	2.58E-03	3.74E-03	3.43E-03	3.76E-03	3.66E-03	1.43E-02	3.72E-03	3.17E-01
	Peak sensitivity value	-3.77E-01	6.42E-02	3.62E-01	9.69E-02	6.45E-03	-6.95E-02	1.16E-01	-2.01E-19
	Shapiro-Wilk score	9.962E-01	9.914E-01	9.988E-01	9.977E-01	9.689E-01	8.218E-01	9.970E-01	9.069E-01
EtOH	Local	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-8.78E-15	-1.79E-02	-7.36E-02	-1.98E-02	-4.45E-03	-4.23E-02	1.53E-02	-5.37E-17
	Max	6.98E-15	-2.79E-03	-1.86E-02	-5.42E-03	-1.24E-04	4.96E-02	9.10E-02	8.36E-17
	Normalized peak height	1.41E-02	3.45E-03	2.99E-03	3.01E-03	5.58E-03	8.97E-03	3.20E-03	3.15E-01
	Peak sensitivity value	2.49E-18	-6.89E-03	-3.29E-02	-1.01E-02	-5.63E-04	-2.02E-02	5.27E-02	2.50E-20
	Shapiro-Wilk score	9.758E-01	9.741E-01	9.816E-01	9.881E-01	9.078E-01	8.662E-01	9.990E-01	9.182E-01
ADP	Local	5.21E-17	3.20E-03	1.66E-02	4.72E-03	3.76E-04	1.88E-01	3.81E-02	-4.97E-17
	Min	-1.97E-14	9.88E-04	6.22E-03	1.85E-03	5.08E-05	5.99E-02	1.78E-02	-2.91E-15
	Max	1.77E-14	9.47E-03	4.31E-02	1.14E-02	1.97E-03	2.61E-01	8.10E-02	6.09E-16
	Normalized peak height	1.17E-02	4.50E-03	4.47E-03	4.41E-03	5.63E-03	4.73E-03	3.78E-03	3.17E-01
	Peak sensitivity value	-1.75E-17	2.73E-03	1.49E-02	4.48E-03	2.19E-04	1.90E-01	3.90E-02	1.27E-18
	Shapiro-Wilk score	9.609E-01	9.628E-01	9.673E-01	9.757E-01	8.836E-01	9.962E-01	9.884E-01	9.007E-01
Glyceraldehyde 3-phosphate	Local	-4.91E-15	5.03E-02	2.61E-01	7.42E-02	5.92E-03	-1.10E-01	1.05E-01	1.80E-17
	Min	-1.63E-13	1.42E-02	9.65E-02	2.73E-02	1.14E-03	-1.94E-01	3.54E-02	-3.29E-16
	Max	1.38E-13	1.18E-01	4.68E-01	1.64E-01	1.92E-02	9.44E-02	1.98E-01	5.13E-16
	Normalized peak height	3.08E-02	3.68E-03	3.43E-03	3.91E-03	4.02E-03	7.66E-03	4.10E-03	3.15E-01
	Peak sensitivity value	-6.18E-17	4.44E-02	2.33E-01	6.64E-02	3.95E-03	-1.09E-01	1.03E-01	-1.57E-19
	Shapiro-Wilk score	9.569E-01	9.824E-01	9.953E-01	9.869E-01	9.457E-01	9.595E-01	9.895E-01	9.302E-01
Dihydroxyacetone phosphate	Local	-3.90E-15	4.23E-02	2.20E-01	6.25E-02	4.99E-03	-1.06E-01	1.13E-01	1.69E-17
	Min	-1.82E-13	1.21E-02	7.05E-02	2.01E-02	8.25E-04	-1.85E-01	2.85E-02	-2.97E-16
	Max	1.33E-13	1.01E-01	4.23E-01	1.49E-01	2.11E-02	9.81E-02	2.00E-01	6.78E-16
	Normalized peak height	3.95E-02	3.78E-03	3.50E-03	3.99E-03	5.12E-03	7.93E-03	4.22E-03	3.19E-01
	Peak sensitivity value	-3.94E-17	4.05E-02	2.16E-01	5.68E-02	3.98E-03	-1.03E-01	1.06E-01	2.60E-19
	Shapiro-Wilk score	9.489E-01	9.811E-01	9.944E-01	9.867E-01	9.372E-01	9.394E-01	9.942E-01	9.052E-01
Glucose-6-Phosphate	Local	-6.86E-17	-4.17E-03	-2.17E-02	-6.16E-03	-4.92E-04	-7.52E-01	-4.97E-02	-2.72E-17
	Min	-2.93E-14	-1.09E-02	-4.64E-02	-1.44E-02	-2.19E-03	-8.20E-01	-1.28E-01	-1.80E-15
	Max	2.83E-14	2.11E-02	9.64E-02	2.15E-02	4.14E-03	-4.70E-01	1.12E-01	3.70E-16
	Normalized peak height	1.49E-02	1.02E-02	1.03E-02	9.13E-03	1.42E-02	5.48E-03	6.22E-03	3.14E-01
	Peak sensitivity value	4.62E-19	-3.69E-03	-1.83E-02	-5.46E-03	-2.83E-04	-7.56E-01	-4.57E-02	-1.52E-19
	Shapiro-Wilk score	9.612E-01	9.621E-01	9.423E-01	9.498E-01	9.184E-01	9.484E-01	9.804E-01	8.484E-01
NAD	Local	2.80E-15	-2.73E-02	-1.42E-01	-4.03E-02	-3.22E-03	-9.68E-03	-2.81E-02	2.62E-18
	Min	-8.71E-14	-8.16E-02	-3.23E-01	-1.11E-01	-1.42E-02	-8.79E-02	-8.56E-02	-6.94E-17
	Max	8.90E-14	-6.24E-03	-4.27E-02	-1.09E-02	-5.19E-04	2.21E-02	-6.82E-03	1.76E-16
	Normalized peak height	2.80E-02	4.17E-03	3.65E-03	4.40E-03	5.10E-03	6.95E-03	3.96E-03	3.17E-01
	Peak sensitivity value	-9.55E-18	-2.44E-02	-1.21E-01	-3.67E-02	-1.81E-03	-5.46E-03	-2.17E-02	4.35E-20
	Shapiro-Wilk score	9.375E-01	9.688E-01	9.830E-01	9.756E-01	9.245E-01	9.317E-01	9.490E-01	7.986E-01
Extracellular acetaldehyde	Local	7.94E-15	6.82E-02	-4.25E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
	Min	-8.55E-14	2.23E-02	-6.43E-01	-1.92E-01	-4.98E-02	-1.37E-01	4.38E-02	-2.94E-16
	Max	9.73E-14	1.41E-01	-2.44E-01	-6.67E-02	-1.99E-03	1.15E-01	2.13E-01	4.05E-16
	Normalized peak height	2.05E-02	3.91E-03	3.76E-03	3.22E-03	5.93E-03	1.07E-02	3.93E-03	3.15E-01
	Peak sensitivity value	-6.57E-17	6.54E-02	-4.26E-01	-1.24E-01	-6.56E-03	-7.14E-02	1.21E-01	8.29E-20
	Shapiro-Wilk score	9.790E-01	9.924E-01	9.947E-01	9.946E-01	9.112E-01	8.258E-01	9.966E-01	9.141E-01
Phosphoenolpyruvate	Local	-1.00E-15	-9.07E-04	-4.72E-03	-1.34E-03	-1.07E-04	-5.20E-02	6.64E-02	9.58E-18
	Min	-2.00E-14	-5.22E-03	-2.66E-02	-5.76E-03	-1.06E-03	-7.69E-02	2.15E-02	-2.01E-16
	Max	2.67E-14	-2.61E-04	-1.44E-03	-4.14E-04	-1.60E-05	6.90E-02	1.09E-01	2.30E-15
	Normalized peak height	1.57E-02	8.19E-03	9.22E-03	7.48E-03	1.03E-02	1.20E-02	3.50E-03	3.16E-01
	Peak sensitivity value	6.94E-18	-7.64E-04	-4.19E-03	-1.29E-03	-6.46E-05	-5.16E-02	6.75E-02	3.22E-19
	Shapiro-Wilk score	9.682E-01	9.072E-01	8.926E-01	9.150E-01	8.325E-01	7.700E-01	9.990E-01	5.671E-01

Fructose-6-Phosphate												
Local	1.24E-02	5.33E-03	9.67E-01	8.44E-02	-3.38E-01	-8.95E-16	5.90E-03	1.29E-02	1.11E-03	3.34E-03	-2.13E-15	1.18E-01
Min	1.05E-03	6.39E-04	3.92E-02	4.55E-02	-3.48E+00	-7.68E-15	-2.45E-02	-6.01E-02	-3.99E-03	-1.02E-02	-1.62E-14	-6.50E-01
Max	1.58E+00	2.75E-01	4.40E+00	1.43E-01	-1.61E-01	7.75E-15	1.46E-02	3.13E-02	3.34E-03	1.53E-02	1.59E-14	3.21E-01
Normalized peak height	1.45E-01	4.80E-02	2.86E-02	3.62E-03	1.72E-02	8.81E-02	9.47E-03	1.07E-02	9.07E-03	8.72E-03	3.57E-02	1.17E-02
Peak sensitivity value	3.41E-03	2.42E-03	9.39E-01	7.54E-02	-2.72E-01	-3.38E-18	4.88E-03	1.08E-02	8.13E-04	2.34E-03	1.05E-17	8.49E-02
Shapiro-Wilk score	3.486E-01	5.128E-01	7.394E-01	9.848E-01	7.167E-01	9.439E-01	9.662E-01	9.553E-01	9.610E-01	9.568E-01	9.690E-01	9.332E-01
Extracellular cyanide												
Local	-1.89E-03	-8.11E-04	-1.47E-01	-6.48E-04	-7.85E-03	4.27E-16	6.15E-03	1.34E-02	1.15E-03	3.48E-03	6.32E-16	1.23E-01
Min	-3.19E-01	-4.55E-02	-5.01E-01	-3.75E-03	-1.43E-01	-3.51E-15	1.27E-03	3.16E-03	2.29E-04	5.24E-04	-1.00E-14	2.98E-02
Max	-6.40E-05	-3.76E-05	-5.27E-03	-1.19E-04	-1.39E-03	3.47E-15	2.03E-02	4.03E-02	3.78E-03	1.40E-02	8.90E-15	4.52E-01
Normalized peak height	1.85E-01	5.64E-02	5.13E-03	6.87E-03	1.99E-02	2.08E-02	4.77E-03	4.10E-03	4.69E-03	5.25E-03	7.26E-02	4.94E-03
Peak sensitivity value	-5.42E-04	-2.42E-04	-9.87E-02	-4.76E-04	-4.30E-03	1.20E-17	4.93E-03	1.06E-02	7.95E-04	2.17E-03	-5.60E-18	8.53E-02
Shapiro-Wilk score	3.317E-01	4.999E-01	9.371E-01	8.738E-01	6.697E-01	9.083E-01	9.489E-01	9.616E-01	9.469E-01	9.279E-01	9.460E-01	9.220E-01
Pyruvate												
Local	9.01E-01	3.88E-01	7.04E+01	2.28E-01	2.76E+00	-6.96E-14	4.07E-02	8.91E-02	7.64E-03	2.31E-02	-7.79E+01	8.15E-01
Min	3.63E-03	2.07E-03	3.13E-01	5.23E-03	5.91E-02	-2.59E-11	-4.22E-03	-9.14E-03	-8.88E-04	-2.37E-03	-1.21E+05	-9.05E-02
Max	4.60E+04	6.80E+03	5.41E+04	4.68E+02	6.33E+03	7.31E-11	3.49E+01	7.40E+01	6.77E+00	1.98E+01	-2.90E+00	1.04E+03
Normalized peak height	9.96E-01	9.95E-01	9.40E-01	9.77E-01	9.76E-01	7.56E-01	9.21E-01	9.17E-01	9.24E-01	9.23E-01	9.73E-01	9.48E-01
Peak sensitivity value	2.30E+01	3.40E+00	2.74E+01	2.39E-01	3.23E+00	-4.73E-14	1.32E-02	2.78E-02	2.50E-03	7.53E-03	-6.36E+01	4.31E-01
Shapiro-Wilk score	2.183E-03	2.340E-03	1.622E-02	8.631E-03	1.081E-02	8.522E-03	2.106E-02	2.117E-02	1.819E-02	1.877E-02	1.004E-02	1.628E-02
Extracellular ethanol												
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01
Min	9.26E-04	5.27E-04	3.24E-02	8.97E-04	9.11E-03	-3.38E-15	2.24E-03	5.86E-03	4.56E-04	9.97E-04	-7.31E-15	6.64E-02
Max	7.32E-01	1.67E-01	9.01E-01	6.43E-03	2.47E-01	2.71E-15	2.30E-02	4.95E-02	5.12E-03	1.66E-02	6.80E-15	4.90E-01
Normalized peak height	8.40E-02	3.55E-02	7.17E-03	4.90E-03	1.38E-02	2.53E-02	3.99E-03	4.12E-03	4.22E-03	4.30E-03	7.99E-02	3.42E-03
Peak sensitivity value	2.75E-03	2.27E-03	8.41E-01	2.28E-03	2.30E-02	-1.01E-19	7.50E-03	1.74E-02	1.34E-03	3.84E-03	6.87E-18	1.48E-01
Shapiro-Wilk score	3.645E-01	5.465E-01	6.967E-01	9.587E-01	7.655E-01	9.302E-01	9.709E-01	9.753E-01	9.608E-01	9.453E-01	9.812E-01	9.321E-01
Extracellular glycerol												
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00
Min	1.81E-03	1.07E-03	1.01E-01	3.99E-03	4.49E-02	-6.45E-14	-1.94E-01	-3.27E-01	-3.26E-02	-1.27E-01	-1.31E-13	-2.38E+00
Max	2.13E+00	3.88E-01	2.77E+00	2.23E-02	9.26E-01	6.23E-14	-1.96E-02	-5.43E-02	-5.37E-03	-1.06E-02	1.31E-13	-1.12E+00
Normalized peak height	9.71E-02	3.42E-02	6.21E-03	4.32E-03	1.42E-02	1.35E-02	3.69E-03	3.31E-03	4.13E-03	4.11E-03	5.03E-02	3.19E-03
Peak sensitivity value	7.12E-03	4.35E-03	1.80E+00	7.77E-03	8.59E-02	2.28E-16	-7.60E-02	-1.80E-01	-1.39E-02	-4.01E-02	8.00E-18	-1.55E+00
Shapiro-Wilk score	3.600E-01	5.433E-01	8.122E-01	9.504E-01	7.179E-01	9.427E-01	9.880E-01	9.976E-01	9.886E-01	9.744E-01	9.421E-01	9.843E-01
Extracellular glucose												
Local	2.57E+00	-1.40E-02	-2.53E+00	-3.55E-03	-4.30E-02	8.97E-17	-5.98E-04	-1.31E-03	-1.12E-04	-3.38E-04	2.12E-16	-1.20E-02
Min	9.07E-01	-1.43E+00	-1.19E+01	-6.16E-02	-1.80E+00	-6.78E-15	-2.28E-02	-5.44E-02	-4.72E-03	-9.00E-03	-8.51E-15	-5.20E-01
Max	1.29E+01	-7.09E-04	-7.47E-01	-6.02E-04	-6.62E-03	4.74E-15	4.66E-03	9.31E-03	9.34E-04	3.05E-03	1.02E-14	1.15E-01
Normalized peak height	6.24E-03	1.08E-01	6.37E-03	1.92E-02	4.32E-02	1.15E-01	4.77E-02	4.86E-02	5.11E-02	3.64E-02	8.41E-02	5.46E-02
Peak sensitivity value	1.46E+00	-2.85E-03	-1.46E+00	-1.55E-03	-1.83E-02	-2.99E-18	-2.30E-04	-5.90E-04	-4.73E-05	-1.35E-04	-6.36E-18	-4.68E-03
Shapiro-Wilk score	8.183E-01	3.491E-01	8.269E-01	6.036E-01	5.138E-01	5.726E-01	6.212E-01	6.052E-01	6.054E-01	6.398E-01	6.143E-01	5.614E-01
1-3-Bisphosphoglycerate												
Local	1.07E-02	4.61E-03	8.37E-01	4.44E-02	5.38E-01	5.30E-16	8.28E-03	1.81E-02	-2.84E-01	-8.56E-01	3.50E-14	1.66E-01
Min	-5.91E-01	-8.56E-02	-1.88E+00	2.49E-02	3.08E-01	-1.72E-14	2.02E-03	4.93E-03	-4.81E-01	-1.09E+00	-1.50E-13	5.20E-02
Max	8.72E-01	1.88E-01	1.13E+00	7.71E-02	2.76E+00	3.14E-14	3.48E-02	7.63E-02	-1.57E-01	-5.87E-01	1.23E-13	9.44E-01
Normalized peak height	1.52E-01	5.63E-02	1.00E-02	3.71E-03	1.02E-02	5.32E-02	6.04E-03	6.10E-03	2.96E-03	2.98E-03	1.83E-02	7.16E-03
Peak sensitivity value	3.89E-03	2.06E-03	9.48E-01	4.06E-02	4.32E-01	5.60E-18	6.56E-03	1.44E-02	-3.01E-01	-8.73E-01	4.16E-18	1.21E-01
Shapiro-Wilk score	3.602E-01	5.768E-01	8.135E-01	9.863E-01	7.751E-01	9.718E-01	9.162E-01	9.184E-01	9.940E-01	9.983E-01	9.777E-01	8.657E-01
Fructose 1-6-bisphosphate												
Local	4.60E-02	1.98E-02	3.59E+00	2.43E-02	2.94E-01	-9.76E-02	-8.09E-02	-1.00E+00	-8.59E-02	-2.59E-01	2.20E-14	-2.18E+00
Min	3.38E-03	1.97E-03	1.88E-01	9.00E-03	1.14E-01	-2.31E-01	-3.51E-01	-1.56E+00	-1.64E-01	-6.19E-01	-1.50E-13	-4.78E+00
Max	4.54E+00	7.72E-01	5.90E+00	6.50E-02	2.37E+00	-4.00E-02	1.50E-01	-4.21E-01	-3.93E-02	-6.95E-02	1.46E-13	-7.48E-01
Normalized peak height	1.16E-01	3.78E-02	6.52E-03	4.68E-03	1.25E-02	3.82E-03	3.23E-03	3.23E-03	3.80E-03	3.80E-03	4.63E-02	3.33E-03
Peak sensitivity value	1.02E-02	8.52E-03	3.23E+00	2.22E-02	2.30E-01	-9.25E-02	-8.63E-02	-9.52E-01	-8.13E-02	-2.35E-01	4.82E-17	-1.81E+00
Shapiro-Wilk score	3.599E-01	5.413E-01	8.993E-01	9.604E-01	7.349E-01	9.795E-01	9.991E-01	9.988E-01	9.900E-01	9.774E-01	9.621E-01	9.717E-01
AMP												
Local	4.17E-03	1.79E-03	3.25E-01	-6.74E-02	-8.16E-01	2.40E-15	-1.26E-02	-2.76E-02	-2.37E-03	-7.14E-03	6.43E-15	-2.52E-01
Min	-1.38E-03	-9.82E-04	-1.16E-01	-1.17E-01	-4.09E+00	-2.37E-14	-5.48E-02	-1.14E-01	-1.44E-02	-4.29E-02	-3.61E-14	-1.44E+00
Max	2.23E+00	2.26E-01	4.49E+00	-3.96E-02	-5.06E-01	3.40E-14	-3.14E-03	-7.71E-03	-5.89E-04	-1.29E-03	8.30E-14	-7.73E-02
Normalized peak height	3.09E-01	1.18E-01	1.02E-02	3.66E-03	9.99E-03	8.20E-02	6.28E-03	6.62E-03	8.06E-03	7.64E-03	6.92E-02	7.34E-03
Peak sensitivity value	-2.65E-04	2.69E-04	1.22E-01	-6.38E-02	-6.40E-01	-5.11E-18	-1.08E-02	-2.31E-02	-1.84E-03	-5.55E-03	5.87E-17	-1.83E-01
Shapiro-Wilk score	2.862E-01	3.961E-01	8.033E-01	9.867E-01	7.766E-01	9.414E-01	9.230E-01	9.223E-01	9.166E-01	9.189E-01	9.593E-01	8.674E-01
ATP												
Local	-1.59E-03	-6.83E-04	-1.24E-01	2.57E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02
Min	-1.16E+00	-2.42E-01	-2.83E+00	1.35E-02	1.40E-01	-1.38E-14	1.14E-03	2.32E-03	2.13E-04	5.51E-04	-2.64E-14	2.65E-02
Max	5.80E-04	2.77E-04	4.08E-02	5.81E-02	2.63E+00	1.67E-14	3.39E-02	8.18E-02	6.81E-03	1.56E-02	2.21E-14	9.26E-01
Normalized peak height	4.27E-01	3.16E-01	1.65E-02	4.03E-03	1.39E-02	8.72E-02	9.31E-03	1.02E-02	9.79E-03	6.93E-03	3.68E-02	1.14E-02
Peak sensitivity value	-2.51E-07	-8.61E-05	-4.68E-02	2.37E-02	2.41E-01	-5.93E-18	3.45E-03	8.56E-03	6.91E-04	2.19E-03	2.34E-17	6.38E-02
Shapiro-Wilk score	2.607E-01	3.189E-01	6.985E-01	9.608E-01	7.194E-01	8.930E-01	8.431E-01	8.341E-01	8.354E-01	8.756E-01	9.305E-01	7.770E-01
NADH												
Local	9.35E-03	4.03E-03	7.30E-01	-1.86E-03	-2.25E-02	6.21E-15	1.54E-01	3.36E-01	2.88E-02	8.69E-02	1.30E-14	-1.28E+00
Min	4.73E-04	2.86E-04	2.95E-02	-8.73E-03	-1.32E-01	-5.70E-14	6.26E-02	1.83E-01	1.07E-02	2.27E-02	-1.31E-13	-1.67E+00
Max	8.83E-01	1.52E-01	1.24E+00	5.52E-03	2.03E-01	3.99E-14	2.92E-01	4.89E-01	6.04E-02	2.07E-01	1.17E-13	-7.04E-01
Normalized peak height	1.12E-01	3.75E-02	4.35E-03	4.98E-03	9.74E-03	1.42E-02	3.63E-03	3.65E-03	4.11E-03	3.61E-03	8.49E-02	4.11E-03
Peak sensitivity value	1.80E-03	1.57E-03	6.55E-01	-1.41E-03	-2.11E-02	2.02E-17	1.43E-01	3.37E-01	2.82E-02	7.62E-02	1.03E-16	-1.25E+00
Shapiro-Wilk score	3.562E-01	5.340E-01	9.829E-01	9.970E-01	9.551E-01	9.304E-01	9.911E-01	9.999E-01	9.901E-01	9.838E-01	9.258E-01	9.989E-01

Fructose-6-Phosphate												
Local	0.00E+00	0.00E+00	-2.01E-02	-1.59E-15	-7.98E-17	-4.83E-03	-2.51E-02	-7.13E-03	-5.69E-04	-7.58E-01	-5.75E-02	-2.80E-17
Min	-2.37E-15	-1.29E-14	-5.73E-02	-3.25E-14	-3.29E-14	-1.24E-02	-5.28E-02	-1.52E-02	-2.56E-03	-8.31E-01	-1.33E-01	-3.16E-15
Max	3.52E-15	1.67E-14	8.51E-02	4.22E-14	2.52E-14	1.64E-02	8.20E-02	2.51E-02	3.34E-03	-4.77E-01	1.10E-01	6.36E-16
Normalized peak height	6.45E-01	7.08E-01	1.04E-02	1.02E-02	1.34E-02	8.55E-03	9.07E-03	9.43E-03	1.16E-02	5.59E-03	6.20E-03	3.14E-01
Peak sensitivity value	1.52E-18	1.03E-17	-1.68E-02	-1.33E-17	4.72E-18	-3.58E-03	-2.34E-02	-6.88E-03	-3.56E-04	-7.62E-01	-6.10E-02	9.19E-19
Shapiro-Wilk score	6.795E-01	2.216E-01	9.625E-01	9.750E-01	9.648E-01	9.664E-01	9.456E-01	9.493E-01	9.212E-01	9.460E-01	9.794E-01	8.246E-01
Extracellular cyanide												
Local	0.00E+00	0.00E+00	-2.09E-02	3.66E-16	-5.96E-16	-5.03E-03	3.14E-02	-6.50E-02	7.46E-02	5.46E-03	-9.35E-03	-7.74E-19
Min	-2.71E-15	-1.66E-14	-6.45E-02	-1.28E-14	-8.00E-15	-1.30E-02	7.78E-03	-1.85E-01	2.47E-02	-1.32E-02	-3.27E-02	-6.41E-17
Max	8.95E-16	6.83E-15	-5.00E-03	1.10E-14	1.04E-14	-1.47E-03	1.31E-01	-2.20E-02	2.27E-01	1.93E-02	-2.35E-03	2.40E-17
Normalized peak height	6.56E-01	7.67E-01	4.43E-03	1.44E-02	2.69E-02	4.03E-03	5.65E-03	4.56E-03	4.41E-03	8.41E-03	4.92E-03	3.15E-01
Peak sensitivity value	1.25E-19	6.46E-18	-1.75E-02	-5.94E-20	5.13E-18	-4.42E-03	2.20E-02	-5.41E-02	5.97E-02	3.89E-03	-8.16E-03	-3.07E-20
Shapiro-Wilk score	4.668E-01	4.980E-02	9.571E-01	9.663E-01	9.576E-01	9.685E-01	9.092E-01	9.493E-01	9.442E-01	9.471E-01	9.396E-01	7.710E-01
Pyruvate												
Local	0.00E+00	0.00E+00	-1.39E-01	-5.18E-14	1.49E-13	-3.34E-02	-1.73E-01	-4.93E-02	-3.93E-03	-1.87E+00	4.59E+00	2.26E-16
Min	-4.71E-14	-1.77E-13	-1.19E+02	-3.63E-10	-2.28E-10	-4.21E+01	-2.12E+02	-4.58E+01	-6.32E+00	-1.32E+03	1.51E-01	-1.32E-11
Max	1.69E-14	1.24E-13	1.41E-02	7.67E-11	1.19E-10	2.93E-03	1.57E-02	4.30E-03	3.02E-04	1.70E+02	7.65E+03	3.05E-12
Normalized peak height	6.71E-01	7.52E-01	9.20E-01	9.64E-01	8.98E-01	9.53E-01	9.52E-01	9.33E-01	9.60E-01	9.27E-01	9.75E-01	9.99E-01
Peak sensitivity value	-2.12E-17	1.43E-16	-4.53E-02	-9.32E-14	1.48E-13	-1.81E-02	-9.04E-02	-1.86E-02	-2.86E-03	-6.86E-01	3.97E+00	-1.09E-15
Shapiro-Wilk score	5.844E-01	1.396E-01	2.042E-02	7.435E-03	8.191E-03	1.389E-02	1.467E-02	1.555E-02	1.295E-02	2.249E-02	8.734E-03	8.517E-04
Extracellular ethanol												
Local	-3.41E-16	-1.00E+00	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-3.14E-15	-1.00E+00	-7.80E-02	-8.50E-15	-7.83E-15	-1.74E-02	-7.32E-02	-1.95E-02	-4.13E-03	-4.55E-02	1.65E-02	-2.35E-17
Max	3.49E-15	-1.00E+00	-8.11E-03	9.09E-15	1.00E-14	-2.79E-03	-1.83E-02	-5.43E-03	-1.38E-04	7.64E-02	9.43E-02	1.17E-16
Normalized peak height	5.32E-01	1.00E+00	4.03E-03	6.88E-03	1.49E-02	3.54E-03	3.10E-03	2.89E-03	5.13E-03	1.10E-02	3.25E-03	3.14E-01
Peak sensitivity value	-9.74E-19	-1.00E+00	-2.82E-02	-4.77E-17	1.17E-17	-7.05E-03	-3.54E-02	-1.10E-02	-6.03E-04	-2.05E-02	5.70E-02	2.69E-20
Shapiro-Wilk score	8.831E-01	1.000E+00	9.717E-01	9.845E-01	9.726E-01	9.752E-01	9.827E-01	9.882E-01	9.088E-01	8.674E-01	9.986E-01	9.044E-01
Extracellular glycerol												
Local	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-1.00E+00	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-5.59E-14	-3.29E-13	8.12E-02	-2.18E-13	-1.00E+00	2.14E-02	1.64E-01	3.31E-02	2.34E-03	-1.37E-01	5.20E-02	-6.67E-16
Max	5.42E-14	1.42E-13	4.92E-01	2.14E-13	-1.00E+00	1.43E-01	5.27E-01	1.83E-01	2.03E-02	1.15E-01	2.01E-01	4.62E-16
Normalized peak height	6.55E-01	7.45E-01	3.17E-03	1.25E-02	1.00E+00	3.80E-03	3.61E-03	3.63E-03	3.78E-03	1.10E-02	3.86E-03	3.15E-01
Peak sensitivity value	-2.05E-17	-1.09E-16	2.56E-01	1.76E-16	-1.00E+00	6.50E-02	3.62E-01	9.79E-02	5.92E-03	-6.92E-02	1.18E-01	-5.21E-19
Shapiro-Wilk score	2.021E-01	3.588E-02	9.988E-01	9.822E-01	1.000E+00	9.917E-01	9.988E-01	9.975E-01	9.704E-01	8.189E-01	9.974E-01	8.519E-01
Extracellular glucose												
Local	0.00E+00	0.00E+00	2.04E-03	1.65E-16	1.51E-17	4.89E-04	2.54E-03	7.23E-04	5.76E-05	2.55E-02	5.83E-03	-3.53E-18
Min	-2.21E-15	-1.17E-15	-1.52E-02	-3.09E-14	-1.89E-14	-4.33E-03	-1.75E-02	-4.90E-03	-6.98E-04	-7.08E-01	-3.78E-02	-6.52E-16
Max	1.04E-15	1.63E-15	7.91E-02	2.06E-14	2.07E-14	1.40E-02	7.40E-02	1.98E-02	3.36E-03	1.96E-01	9.78E-02	3.56E-16
Normalized peak height	6.81E-01	7.01E-01	4.62E-02	7.50E-02	8.90E-02	3.89E-02	3.81E-02	3.58E-02	6.90E-02	4.11E-02	2.55E-02	3.16E-01
Peak sensitivity value	-3.99E-19	1.40E-19	8.68E-04	2.39E-17	1.61E-17	2.20E-04	1.21E-03	3.74E-04	1.86E-05	1.46E-02	3.24E-03	2.19E-20
Shapiro-Wilk score	2.668E-01	1.753E-01	6.156E-01	5.952E-01	5.830E-01	6.134E-01	6.152E-01	6.381E-01	5.372E-01	3.913E-01	6.959E-01	5.594E-01
1-3-Bisphosphoglycerate												
Local	0.00E+00	0.00E+00	-2.82E-02	6.06E-16	-4.86E-16	-6.78E-03	-3.52E-02	-1.00E-02	-7.98E-04	-3.98E-01	-7.28E-03	7.56E-17
Min	-1.19E-14	-1.63E-14	-1.16E-01	-8.24E-14	-6.30E-14	-3.00E-02	-1.31E-01	-3.49E-02	-6.23E-03	-4.96E-01	-1.48E-01	-5.43E-16
Max	1.92E-14	3.75E-14	-8.72E-03	8.85E-14	6.08E-14	-2.15E-03	-1.42E-02	-4.41E-03	-1.22E-04	-2.88E-01	1.62E-02	4.76E-15
Normalized peak height	6.61E-01	6.98E-01	6.02E-03	1.24E-02	1.41E-02	6.37E-03	6.06E-03	6.21E-03	8.17E-03	5.55E-03	7.41E-03	3.17E-01
Peak sensitivity value	-1.73E-18	-1.70E-17	-2.66E-02	-6.27E-16	-2.49E-17	-5.34E-03	-2.91E-02	-8.73E-03	-4.79E-04	-4.00E-01	-2.17E-03	3.12E-19
Shapiro-Wilk score	2.741E-01	1.035E-01	9.214E-01	9.650E-01	9.509E-01	9.256E-01	9.189E-01	9.336E-01	8.513E-01	9.978E-01	8.796E-01	8.720E-01
Fructose 1-6-bisphosphate												
Local	0.00E+00	0.00E+00	-9.76E-01	1.28E-14	-8.40E-15	8.90E-02	4.63E-01	1.31E-01	1.05E-02	-2.10E-01	2.16E-01	3.37E-17
Min	-8.03E-14	-2.97E-13	-1.98E+00	-3.04E-13	-2.67E-13	2.69E-02	1.67E-01	4.63E-02	2.00E-03	-3.56E-01	7.76E-02	-2.04E-16
Max	5.81E-14	3.38E-13	-3.59E-01	4.30E-13	2.71E-13	2.24E-01	8.23E-01	2.75E-01	3.88E-02	1.35E-01	4.04E-01	3.14E-15
Normalized peak height	6.81E-01	7.56E-01	3.31E-03	1.34E-02	3.62E-02	3.92E-03	3.21E-03	3.52E-03	4.45E-03	7.02E-03	4.15E-03	3.15E-01
Peak sensitivity value	4.24E-17	-3.12E-16	-9.55E-01	3.25E-16	7.10E-17	8.22E-02	4.25E-01	1.14E-01	7.62E-03	-2.01E-01	2.08E-01	-1.60E-18
Shapiro-Wilk score	3.048E-01	3.693E-02	9.851E-01	9.649E-01	9.540E-01	9.804E-01	9.947E-01	9.871E-01	9.381E-01	9.508E-01	9.925E-01	8.231E-01
AMP												
Local	0.00E+00	0.00E+00	4.30E-02	3.70E-15	2.03E-16	1.03E-02	5.37E-02	1.52E-02	1.22E-03	6.08E-01	1.23E-01	6.38E-17
Min	-1.38E-14	-4.15E-14	1.19E-02	-1.34E-13	-1.03E-13	3.58E-03	2.26E-02	6.37E-03	1.75E-04	4.44E-01	7.48E-02	-1.46E-15
Max	2.40E-14	3.22E-14	1.94E-01	8.91E-14	8.04E-14	5.17E-02	2.10E-01	5.25E-02	9.11E-03	7.16E-01	2.92E-01	7.34E-15
Normalized peak height	6.66E-01	7.14E-01	6.45E-03	1.25E-02	1.53E-02	7.89E-03	6.37E-03	6.05E-03	7.79E-03	7.19E-03	4.76E-03	3.16E-01
Peak sensitivity value	-1.69E-17	-9.73E-18	3.75E-02	7.30E-16	-5.57E-17	8.70E-03	4.33E-02	1.42E-02	7.42E-04	6.08E-01	1.24E-01	-3.83E-18
Shapiro-Wilk score	5.088E-01	2.075E-01	9.242E-01	9.575E-01	9.480E-01	9.285E-01	9.224E-01	9.385E-01	8.554E-01	9.949E-01	9.786E-01	7.781E-01
ATP												
Local	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	-4.68E-02	2.55E-17
Min	-5.53E-15	-1.96E-14	-1.19E-01	-4.94E-14	-4.71E-14	-2.61E-02	-1.29E-01	-3.31E-02	-5.91E-03	-4.86E-01	-1.72E-01	-5.04E-16
Max	3.86E-15	2.47E-14	-3.62E-03	5.30E-14	5.58E-14	-1.14E-03	-7.70E-03	-2.23E-03	-6.44E-05	-1.56E-01	-2.82E-02	4.26E-15
Normalized peak height	6.46E-01	6.94E-01	9.77E-03	1.48E-02	2.33E-02	8.48E-03	9.42E-03	8.50E-03	1.25E-02	5.33E-03	6.70E-03	3.15E-01
Peak sensitivity value	-3.02E-18	2.06E-17	-1.23E-02	-9.44E-17	6.60E-17	-3.00E-03	-1.69E-02	-5.15E-03	-3.01E-04	-2.29E-01	-4.65E-02	-6.73E-19
Shapiro-Wilk score	5.301E-01	1.572E-01	8.413E-01	9.223E-01	9.015E-01	8.479E-01	8.313E-01	8.549E-01	7.689E-01	9.509E-01	9.070E-01	7.169E-01
NADH												
Local	0.00E+00	0.00E+00	-5.23E-01	6.20E-15	-5.37E-15	5.25E-02	2.73E-01	7.75E-02	6.18E-03	1.86E-02	5.39E-02	-5.02E-18
Min	-3.46E-14	-1.98E-13	-6.84E-01	-1.72E-13	-1.02E-13	1.55E-02	1.10E-01	2.52E-02	1.91E-03	-2.63E-02	2.12E-02	-1.69E-16
Max	4.58E-14	1.51E-13	-2.93E-01	1.76E-13	1.20E-13	1.15E-01	4.12E-01	1.51E-01	1.44E-02	9.90E-02	9.67E-02	1.12E-16
Normalized peak height	6.70E-01	7.71E-01	4.53E-03	9.85E-03	2.12E-02	3.74E-03	3.38E-03	3.17E-03	3.65E-03	4.64E-03	3.53E-03	3.17E-01
Peak sensitivity value	2.65E-19	-1.88E-17	-5.23E-01	5.40E-16	1.02E-16	5.28E-02	2.90E-01	7.68E-02	4.92E-03	1.67E-02	4.93E-02	1.24E-19
Shapiro-Wilk score	1.750E-01	3.418E-02	9.926E-01	9.823E-01	9.737E-01	9.939E-01	9.929E-01	9.985E-01	9.754E-01	9.925E-01	9.902E-01	9.067E-01

Table 21: Concentration control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±30%

		(GlucoseMixedflowtoextracellularmedium)	(Glucoseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)	(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
Acetaldehyde	Local	2.55E-02	1.10E-02	1.99E+00	8.76E-03	1.06E-01	-5.75E-15	-8.30E-02	-1.82E-01	-1.56E-02	-4.70E-02	-7.51E-15	-1.66E+00	0.00E+00	0.00E+00	2.83E-01	-5.12E-15	7.96E-15	-6.23E-02	-3.24E-01	-9.20E-02	-7.34E-03	-7.38E-02	1.26E-01	1.05E-17
	Min	-1.73E-03	-3.06E-03	-8.26E-03	6.30E-04	3.49E-02	-6.47E-14	-2.84E-01	-4.02E-01	-4.16E-02	-1.72E-01	-4.10E-13	-2.85E+00	-2.44E-13	-1.70E-12	2.76E-02	-1.49E-13	-1.63E-13	-1.89E-01	-6.63E-01	-2.03E-01	-7.87E-02	-2.05E-01	-1.56E-03	-3.98E-16
	Max	2.78E+00	9.27E-01	3.13E+00	5.35E-02	2.38E+00	5.73E-14	-5.12E-03	-2.87E-02	-2.03E-03	-2.90E-03	2.72E-13	-9.64E-01	3.42E-13	2.76E-12	5.94E-01	1.53E-13	2.02E-13	-1.50E-02	-1.21E-01	-2.85E-02	-4.97E-04	4.89E-01	2.56E-01	5.08E-16
	Normalized peak height	1.33E-01	7.54E-02	5.20E-03	8.57E-03	2.85E-02	3.05E-02	4.00E-03	3.14E-03	4.04E-03	4.59E-03	1.24E-01	3.69E-03	6.66E-01	9.04E-01	3.14E-03	1.49E-02	4.25E-02	4.40E-03	3.71E-03	3.29E-03	1.02E-02	1.74E-02	3.94E-03	2.89E-01
	Peak sensitivity value	5.22E-03	2.99E-03	1.67E+00	7.05E-03	7.36E-02	6.79E-18	-6.81E-02	-1.63E-01	-1.38E-02	-3.20E-02	2.57E-16	-1.48E+00	1.92E-16	1.66E-15	2.80E-01	1.49E-16	3.59E-17	-5.30E-02	-3.06E-01	-8.29E-02	-3.90E-03	-6.84E-02	1.15E-01	1.31E-19
	Shapiro-Wilk score	4.817E-01	4.917E-01	8.374E-01	8.717E-01	4.190E-01	8.629E-01	9.739E-01	9.944E-01	9.752E-01	9.456E-01	7.019E-01	9.753E-01	1.606E-01	9.244E-02	9.972E-01	9.594E-01	9.306E-01	9.671E-01	9.848E-01	9.839E-01	8.118E-01	7.233E-01	9.882E-01	8.881E-01
Cytosolic glucose	Local	2.04E+00	8.77E-01	-3.34E+00	7.30E-03	8.83E-02	4.39E-16	-2.81E-03	-6.15E-03	-5.28E-04	-1.59E-03	1.00E-15	-5.63E-02	0.00E+00	0.00E+00	9.58E-03	7.63E-16	4.37E-17	2.30E-03	1.20E-02	3.40E-03	2.71E-04	3.43E-01	2.74E-02	7.34E-18
	Min	1.10E-01	5.77E-02	-1.56E+04	-1.94E+01	-2.53E+02	-3.87E-13	-7.11E+00	-1.41E+01	-1.30E+00	-5.54E+00	-2.29E-13	-9.51E+01	-7.22E-13	-4.34E-13	-1.41E+00	-2.72E-12	-3.03E-12	-7.50E-01	-3.40E+00	-8.86E-01	-1.21E-01	5.20E-02	-1.75E+00	-1.81E-13
	Max	1.39E+04	1.89E+03	-5.12E-01	3.22E+00	1.51E+02	4.93E-13	5.66E-01	1.06E+00	7.13E-02	1.46E-01	4.47E-12	2.52E+01	2.92E-14	2.09E-13	2.47E+01	1.57E-12	1.34E-12	6.68E+00	2.19E+01	6.29E+00	5.86E-01	4.09E+02	7.75E+01	1.73E-15
	Normalized peak height	9.67E-01	9.06E-01	9.64E-01	6.80E-01	7.80E-01	6.68E-01	4.86E-01	7.92E-01	7.93E-01	6.13E-01	8.71E-01	6.51E-01	8.99E-01	8.62E-01	8.10E-01	4.33E-01	7.50E-01	8.66E-01	4.99E-01	6.54E-01	7.48E-01	6.49E-01	8.41E-01	9.96E-01
	Peak sensitivity value	7.06E+00	1.00E+00	-8.30E+00	-8.69E-04	8.74E-02	-1.95E-16	1.50E-03	-6.45E-03	-4.92E-04	1.03E-03	-8.65E-16	-2.15E-02	2.53E-16	-2.36E-16	1.11E-02	2.12E-15	-7.41E-16	3.57E-03	2.08E-02	1.14E-03	2.20E-04	2.57E-01	3.39E-02	-6.97E-18
	Shapiro-Wilk score	9.640E-03	1.587E-02	1.072E-02	3.762E-02	8.865E-02	8.091E-02	2.774E-02	3.452E-02	3.049E-02	1.815E-02	1.529E-02	5.469E-02	9.335E-03	5.045E-02	3.040E-02	8.925E-02	6.095E-02	2.498E-02	3.875E-02	3.440E-02	4.897E-02	3.299E-02	1.648E-02	1.472E-03
Glycerol	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.13E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.53E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	-5.98E-01	-4.02E-01	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-1.36E-02	-2.97E-03	-3.67E-02	8.02E-04	2.83E-02	-6.62E-14	-2.76E-01	-3.81E-01	-4.04E-02	-1.61E-01	-3.10E-13	-2.89E+00	-2.97E-13	-2.86E-12	3.43E-02	-7.79E-01	-6.31E-01	1.22E-02	9.24E-02	1.67E-02	1.06E-03	-2.00E-01	-1.70E-03	-5.88E-16
	Max	2.58E+00	1.01E+00	3.02E+00	5.13E-02	2.39E+00	7.72E-14	-6.04E-03	-2.77E-02	-2.40E-03	-1.86E-03	3.28E-13	-9.44E-01	4.91E-13	2.48E-12	5.94E-01	-3.69E-01	-2.21E-01	1.89E-01	5.80E-01	2.33E-01	2.76E-02	4.86E-01	2.59E-01	4.02E-15
	Normalized peak height	1.38E-01	8.39E-02	5.29E-03	8.10E-03	2.80E-02	2.40E-02	3.80E-03	2.96E-03	4.07E-03	4.13E-03	1.10E-01	3.50E-03	7.00E-01	9.42E-01	3.00E-03	2.64E-03	2.64E-03	3.71E-03	3.38E-03	3.46E-03	4.34E-03	1.71E-02	4.32E-03	2.92E-01
	Peak sensitivity value	3.24E-03	2.61E-03	1.66E+00	7.40E-03	7.19E-02	-3.03E-18	-5.91E-02	-1.63E-01	-1.26E-02	-3.43E-02	-1.14E-16	-1.45E+00	1.38E-16	-1.57E-15	2.86E-01	-6.11E-01	-3.89E-01	6.27E-02	3.41E-01	9.22E-02	5.22E-03	-7.05E-02	1.19E-01	1.99E-20
	Shapiro-Wilk score	4.872E-01	5.002E-01	8.298E-01	8.741E-01	4.286E-01	8.943E-01	9.733E-01	9.943E-01	9.744E-01	9.486E-01	7.872E-01	9.771E-01	1.753E-01	1.240E-01	9.971E-01	9.943E-01	9.943E-01	9.812E-01	9.978E-01	9.934E-01	9.393E-01	7.352E-01	9.894E-01	3.366E-01
EtOH	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.86E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-7.43E-17	1.84E-01	-1.45E-01	-8.55E-01	-3.13E-02	-1.63E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	4.04E-04	2.23E-04	-3.64E-02	1.77E-04	2.34E-03	-6.90E-15	1.40E-03	2.69E-03	1.94E-04	2.44E-04	-2.79E-14	3.81E-02	-2.87E-01	-9.39E-01	-1.20E-01	-2.29E-14	-2.18E-14	-2.70E-02	-1.06E-01	-3.08E-02	-7.69E-03	-6.77E-02	7.95E-05	-7.29E-17
	Max	8.64E-01	3.51E-01	9.20E-01	1.44E-02	8.48E-01	3.45E-15	4.11E-02	7.87E-02	8.76E-03	3.11E-02	1.84E-14	7.10E-01	-6.12E-02	-7.13E-01	-5.14E-03	2.34E-14	2.31E-14	-1.70E-03	-1.16E-02	-3.59E-03	-5.64E-05	1.89E-01	1.23E-01	1.24E-16
	Normalized peak height	1.06E-01	6.43E-02	6.25E-03	8.24E-03	3.28E-02	3.81E-02	5.64E-03	4.71E-03	5.76E-03	6.48E-03	1.35E-01	4.48E-03	2.84E-03	2.84E-03	4.50E-03	2.15E-02	3.90E-02	4.42E-03	3.91E-03	3.97E-03	8.16E-03	1.31E-02	3.15E-03	2.89E-01
	Peak sensitivity value	1.70E-03	1.45E-03	8.61E-01	2.05E-03	2.22E-02	-2.81E-18	7.15E-03	1.60E-02	1.28E-03	3.81E-03	-1.58E-17	9.02E-02	-1.21E-01	-8.79E-01	-2.22E-02	-1.99E-17	1.65E-17	-6.09E-03	-3.21E-02	-8.84E-03	-4.34E-04	-1.99E-02	5.15E-02	1.92E-20
	Shapiro-Wilk score	4.856E-01	5.066E-01	7.422E-01	8.704E-01	4.304E-01	8.695E-01	9.332E-01	9.429E-01	9.162E-01	8.857E-01	8.435E-01	8.795E-01	9.814E-01	9.814E-01	9.373E-01	9.201E-01	8.874E-01	9.453E-01	9.639E-01	9.742E-01	8.335E-01	8.012E-01	9.982E-01	8.988E-01
ADP	Local	1.29E-03	5.55E-04	1.01E-01	-2.09E-02	-2.53E-01	6.63E-16	-3.90E-03	-8.54E-03	-7.33E-04	-2.21E-03	1.57E-15	-7.81E-02	0.00E+00	0.00E+00	1.33E-02	1.09E-15	5.21E-17	3.20E-03	1.66E-02	4.72E-03	3.76E-04	1.88E-01	3.81E-02	-4.97E-17
	Min	-1.15E+00	-2.53E-01	-1.30E+00	-5.02E-02	-1.99E+00	-1.01E-14	-2.76E-02	-5.27E-02	-4.32E-03	-1.82E-02	-4.81E-14	-5.28E-01	-1.86E-14	-6.90E-14	-6.59E-02	-5.72E-14	-4.15E-14	-1.80E-02	-6.07E-02	-1.37E-02	-3.35E-03	-1.86E-01	-3.16E-02	-5.08E-15
	Max	1.26E+00	2.99E-01	1.90E+00	7.44E-03	1.30E+00	1.09E-14	1.89E-02	4.40E-02	3.09E-03	4.55E-03	2.73E-14	4.63E-01	2.57E-14	1.70E-13	8.93E-02	5.78E-14	4.88E-14	1.84E-02	7.83E-02	2.01E-02	4.11E-03	3.02E-01	1.34E-01	1.37E-15
	Normalized peak height	5.69E-01	4.70E-01	2.79E-02	5.34E-03	2.41E-02	9.93E-02	1.32E-02	1.33E-02	1.09E-02	1.06E-02	1.29E-01	1.33E-02	5.22E-01	7.85E-01	1.26E-02	2.68E-02	3.43E-02	1.32E-02	1.14E-02	1.00E-02	1.79E-02	7.19E-03	6.46E-03	2.86E-01
	Peak sensitivity value	-9.36E-05	2.80E-05	2.75E-03	-1.67E-02	-2.01E-01	9.81E-18	-2.25E-03	-6.10E-03	-5.43E-04	-1.12E-03	1.44E-17	-4.00E-02	-2.07E-17	-2.84E-17	8.55E-03	4.32E-18	-5.38E-18	2.17E-03	1.30E-02	3.70E-03	1.58E-04	1.81E-01	3.75E-02	-2.66E-18
	Shapiro-Wilk score	3.896E-01	3.453E-01	7.503E-01	9.819E-01	7.435E-01	8.755E-01	8.950E-01	9.134E-01	8.964E-01	8.701E-01	8.175E-01	8.650E-01	2.831E-01	1.439E-01	9.141E-01	8.949E-01	8.664E-01	9.172E-01	9.189E-01	9.300E-01	8.212E-01	8.903E-01	9.781E-01	7.869E-01
Glyceraldehyde 3-phosphate	Local	2.26E-02	9.73E-03	1.76E+00	1.27E-02	1.54E-01	6.19E-15	1.56E-01	-5.55E-01	-4.76E-02	-1.44E-01	1.37E-14	-1.23E+00	0.00E+00	0.00E+00	-5.32E-01	7.05E-15	-4.91E-15	5.03E-02	2.61E-01	7.42E-02	5.92E-03	-1.10E-01	1.05E-01	1.80E-17
	Min	-1.30E-01	-6.21E-02	-5.24E-01	6.53E-04	4.10E-02	-4.40E-14	2.66E-02	-1.00E+00	-1.14E-01	-4.84E-01	-3.21E-13	-3.25E+00	-1.84E-13	-1.00E-12	-1.45E+00	-2.85E-13	-2.39E-13	7.52E-03	5.45E-02	1.28E-02	3.95E-04	-2.40E-01	-3.08E-02	-7.35E-16
	Max	2.91E+00	1.12E+00	4.34E+00	5.87E-02	2.86E+00	6.57E-14	4.33E-01	-1.01E-01	-7.88E-03	-1.07E-02	3.05E-13	-2.49E-01	2.61E-13	1.43E-12	-1.22E-01	3.38E-13	3.86E-13	1.75E-01	5.69E-01	2.17E-01	3.11E-02	4.25E-01	2.75E-01	9.55E-16
	Normalized peak height	1.49E-01	1.01E-01	7.56E-03	6.22E-03	2.18E-02	2.22E-02	3.95E-03	2.72E-03	4.14E-03	4.05E-03	1.28E-01	3.51E-03	6.60E-01	9.48E-01	3.47E-03	2.59E-02	5.33E-02	4.30E-03	3.26E-03	3.93E-03	5.60E-03	1.05E-02	4.89E-03	2.87E-01
	Peak sensitivity value	5.22E-03	2.14E-03	1.38E+00	9.56E-03	1.04E-01	-2.17E-17	1.23E-01	-5.76E-01	-4.43E-02	-1.07E-01	-2.09E-16	-8.66E-01	1.38E-16	2.36E-16	-4.95E-01	-1.32E-16	-6.89E-17	3.91E-02	2.28E-01	6.14E-02	3.02E-03	-1.09E-01	9.21E-02	-7.77E-19
	Shapiro-Wilk score	4.847E-01	4.884E-01	9.164E-01	9.206E-01	4.788E-01	8.976E-01	9.790E-01	9.959E-01	9.810E-01	9.546E-01	7.803E-01	9.632E-01	1.869E-01	1.305E-01	9.804E-01	8.992E-01	8.721E-01	9.589E-01	9.894E-01	9.731E-01	8.966E-01	8.674E-01	9.869E-01	8.926E-01
Dihydroxyacetone phosphate	Local	2.40E-02	1.03E-02	1.88E+00	1.23E-02	1.49E-01	5.18E-15	-2.24E-01	-4.91E-01	-4.21E-02	-1.27E-01	1.04E-14	-1.03E+00	0.00E+00	0.00E+00	-4.89E-01	6.32E-15	-3.90E-15	4.23E-02	2.20E-01	6.25E-02	4.99E-03	-1.06E-01	1.13E-01	1.69E-17
	Min	-1.80E-01	-7.79E-02	-3.58E-01	9.54E-04	4.01E-02	-3.69E-14	-6.60E-01	-9.24E-01	-1.06E-01	-4.81E-01	-1.74E-13	-2.95E+00	-2.94E-13	-5.58E-13	-1.31E+00	-2.75E-13	-2.50E-13	4.45E-03	3.06E-02	6.68E-03	2.64E-04	-2.55E-01	-2.35E-02	-7.57E-16
	Max	3.19E+00	1.12E+00	3.71E+00	5.48E-02	2.78E+00	3.41E-14	-2.42E-02	-9.65E-02	-1.01E-02	-9.76E-03	2.54E-13	-1.31E-01	2.13E-13	6.74E-13	-9.55E-02	2.29E-13	2.97E-13	1.68E-01	4.81E-01	1.81E-01	3.22E-02	4.67E-01	2.64E-01	2.56E-15
	Normalized peak height	1.79E-01	1.00E-01	6.56E-03	6.29E-03	2.27E-02	1.67E-02	3.68E-03	3.13E-03	4.14E-03	4.66E-03	1.12E-01	3.78E-03	6.89E-01	7.61E-01	3.61E-03	2.76E-02	5.37E-02	4.89E-03	3.24E-03	4.03E-03	6.62E-03	1.22E-02	4.55E-03	2.85E-01
	Peak sensitivity value	3.36E-03	3.21E-03	1.52E+00	1.05E-02	9.62E-02	-5.49E-18	-2.10E-01	-4.72E-01	-3.47E-02	-8.26E-02	1.48E-16	-7.68E-01	1.95E-16	5.84E-16	-4.58E-01	-5.77E-17	-5.83E-17	3.14E-02	2.00E-01	5.93E-02	2.74E-03	-1.04E-01	1.08E-01	-1.25E-19
	Shapiro-Wilk score	4.859E-01	5.029E-01	8.838E-01	9.156E-01	4.730E-01	9.067E-01	9.809E-01	9.977E-01	9.787E-01	9.516E-01	7.993E-01	9.559E-01	1.816E-01	1.585E-01	9.690E-01	8.955E-01	8.557E-01	9.558E-01	9.875E-01	9.718E-01	8.829E-01	8.469E-01	9.870E-01	7.258E-01
Glucose-6-Phosphate	Local	1.37E-02	5.88E-03	1.07E+00	-2.72E-02	-3.29E-01	-8.33E-16	5.10E-03	1.11E-02	9.57E-04	2.89E-03	-1.82E-15	1.02E-01	0.00E+00	0.00E+00	-1.74E-02	-1.37E-15	-6.86E-17	-4.17E-03	-2.17E-02	-6.16E-03	-4.92E-04	-7.52E-01	-4.97E-02	-2.72E-17
	Min	5.09E-04	3.03E-04	-3.68E-01	-8.95E-02	-7.57E+00	-2.18E-14	-9.18E-02	-1.59E-01	-1.53E-02	-3.15E-02	-1.55E-13	-1.75E+00	-2.58E-14	-1.12E-13	-7.60E-02	-1.97E-13	-2.43E-13	-1.78E-02	-7.02E-02	-1.88E-02	-4.41E-03	-8.95E-01	-1.83E-01	-2.38E-15
	Max	5.90E+00	1.34E+00	8.74E+00	-1.88E-03	-1.24E-01	2.86E-14	2.18E-02	4.84E-02	5.29E-03	2.28E-02	8.88E-14	4.37E-01	1.76E-14	1.69E-13	2.58E-01	1.45E-13	8.87E-14	4.64E-02	2.93E-01	6.58E-02	1.33E-02	1.67E-02	2.38E-01	7.85E-16
	Normalized peak height	3.77E-01	1.73E-01	4.79E-02	5.21E-03	3.11E-02	1.16E-01	2.03E-02	1.75E-02	1.90E-02	1.55E-02	1.85E-01	2.17E-02	5.35E-01	7.26E-01	1.75E-02	7.35E-02	1.06E-01	1.35E-02	1.71E-02	1.38E-02	2.99E-02	9.06E-03	7.03E-03	2.91E-01
	Peak sensitivity value	3.46E-03	2.31E-03	1.01E+00	-2.23E-02	-2.25E-01	3.62E-18	3.03E-03	8.49E-03	5.26E-04	1.45E-03	1.22E-16	6.24E-02	1.18E-17	-1.14E-16	-1.44E-02	-1.03E-16	6.08E-17	-3.29E-03	-1.78E-02	-5.14E-03	-2.43E-04	-7.47E-01	-5.10E-02	-1.01E-18
	Shapiro-Wilk score	4.623E-01	3.590E-01	6.271E-01	9.419E-01	4.951E-01	6.504E-01	6.854E-01	6.629E-01	7.159E-01	8.716E-01	5.965E-01	6.402E-01	3.064E-01	1.530E-01	7.020E-01	6.954E-01	6.826E-01	7.281E-01	6.759E-01	7.056E-01	6.526E-01	8.253E-01	9.080E-01	8.664E-01
NAD	Local	-4.87E-03	-2.10E-03	-3.80E-01	9.66E-04	1.17E-02	-3.24E-15	-8.00E-02	-1.75E-01	-1.50E-02	-4.53E-02	-6.78E-15	6.68E-01	0.00E+00	0.00E+00	2.72E-01	-3.23E-15	2.80E-15	-2.73E-02	-1.42E-01	-4.03E-02	-3.22E-03	-9.68E-03	-2.81E-02	2.62E-18
	Min	-1.23E+00	-3.52E-01	-1.81E+00	-1.20E-02	-9.67E-01	-2.69E-14	-2.64E-01	-7.39E-01	-1.27E-01	-3.03E-01	-1.18E-13	1.21E-01	-8.41E-14	-4.90E-13	5.33E-02	-2.92E-13	-1.70E-13	-1.16E-01	-4.57E-01	-1.43E-01	-1.88E-02	-2.26E-01	-1.40E-01	-1.03E-16
	Max	-4.88E-05	-3.80E-05	1.10E-02	1.18E-02	5.33E-01	3.06E-14	-9.95E-03	-2.59E-02	-8.01E-04	-1.33E-03	2.55E-13	2.33E+00	1.30E-13	5.23E-13	7.94E-01	3.13E-13	1.76E-13	-3.10E-03	-2.33E-02	-6.02E-03	-2.36E-04	4.34E-02	-3.22E-04	3.64E-16
	Normalized peak height	3.19E-01	1.49E-01	5.76E-03	1.25E-02	5.99E-02	2.56E-02	3.85E-03	4.71E-03	7.12E-03	5.99E-03	1.62E-01	4.06E-03	6.81E-01	9.39E-01	3.16E-03	4.15E-02	5.49E-02	4.88E-03	4.08E-03	4.29E-03	5.78E-03	1.26E-02	5.76E-03	3.21E-01
	Peak sensitivity value	-6.65E-04	-5.66E-04	-1.74E-01	1.94E-04	4.24E-03	1.82E-17	-6.59E-02	-1.20E-01	-6.81E-03	-2.71E-02	-1.49E-16	3.81E-01	-7.06E-17	-1.72E-16	2.10E-01	-2.93E-16	1.35E-16	-2.06E-02	-1.12E-01	-3.01E-02	-1.68E-03	-4.06E-03	-1.55E-02	-2.12E-19
	Shapiro-Wilk score	4.447E-01	4.544E-01	9.148E-01	9.115E-01	4.336E-01	8.903E-01	9.564E-01	9.243E-01	8.663E-01	8.730E-01	8.006E-01	9.363E-01	1.807E-01	1.443E-01	9.557E-01	8.531E-01	8.239E-01	9.340E-01	9.649E-01	9.467E-01	8.653E-01	8.605E-01	9.070E-01	6.847E-01
Extracellular acetaldehyde	Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	-4.25E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
	Min	-4.67E-04	-7.71E-04	-3.50E-02	5.57E-04	3.34E-02	-6.79E-14	-2.86E-01	-4.03E-01	-4.45E-02	-2.29E-01	-2.36E-13	-2.82E+00	-1.47E-13	-1.49E-12	3.19E-02	-1.58E-13	-1.45E-13	9.23E-03	-7.65E-01	-2.37E-01	-7.46E-02	-1.96E-01	-1.69E-03	-3.29E-16
	Max	2.73E+00	9.39E-01	3.03E+00	5.83E-02	2.49E+00	5.22E-14	-5.33E-03	-3.24E-02	-1.74E-03	-2.28E-03	3.01E-13	-9.65E-01	4.66E-13	8.47E-13	5.76E-01	1.76E-13	1.55E-13	1.89E-01	-1.89E-01	-4.98E-02	-8.72E-04	4.64E-01	2.73E-01	5.87E-16
	Normalized peak height	1.44E-01	7.52E-02	4.76E-03	8.97E-03	2.91E-02	2.91E-02	3.88E-03	3.15E-03	4.61E-03	6.11E-03	1.24E-01	3.42E-03	6.82E-01	7.63E-01	2.90E-03	1.83E-02	3.56E-02	4.17E-03	3.44E-03	3.25E-03	7.55E-03	1.60E-02	4.09E-03	2.88E-01
	Peak sensitivity value	3.64E-03	3.46E-03	1.67E+00	6.77E-03	7.15E-02	2.79E-19	-5.80E-02	-1.79E-01	-1.37E-02	-3.01E-02	3.56E-17	-1.46E+00	-1.02E-17	1.09E-15	2.86E-01	-1.11E-17	-4.83E-17	5.76E-02	-3.86E-01	-1.15E-01	-4.74E-03	-6.79E-02	1.14E-01	7.89E-20
	Shapiro-Wilk score	4.879E-01	5.058E-01	8.416E-01	8.746E-01	4.323E-01	8.683E-01	9.724E-01	9.940E-01	9.740E-01	9.438E-01	7.005E-01	9.757E-01	1.558E-01	1.176E-01	9.969E-01	9.635E-01	9.355E-01	9.793E-01	9.899E-01	9.898E-01	8.349E-01	7.393E-01	9.893E-01	8.737E-01
Phosphoenolpyruvate	Local	1.38E-02	5.93E-03	1.08E+00	6.08E-03	7.36E-02	2.62E-15	1.11E-03	2.42E-03	2.08E-04	-1.20E+00	7.14E-14	2.22E-02	0.00E+00	0.00E+00	-3.77E-03	4.71E-15	-1.00E-15	-9.07E-04	-4.72E-03	-1.34E-03	-1.07E-04	-5.20E-02	6.64E-02	9.58E-18
	Min	5.30E-04	3.31E-04	-2.70E-01	1.94E-04	3.17E-02	-7.00E-14	-1.11E-03	-1.95E-03	-2.20E-04	-1.45E+00	-3.69E-13	-2.33E-02	-1.10E-13	-1.84E-13	-5.96E-02	-5.71E-14	-5.28E-14	-1.23E-02	-5.20E-02	-1.40E-02	-3.31E-03	-1.02E-01	2.21E-04	-2.51E-16
	Max	1.18E+00	5.04E-01	1.28E+00	2.34E-02	1.16E+00	6.18E-14	1.77E-02	3.59E-02	3.76E-03	-1.10E+00	3.71E-13	3.32E-01	1.16E-13	1.13E-13	3.57E-03	8.89E-14	4.54E-14	1.15E-03	5.84E-03	1.24E-03	2.13E-04	2.50E-01	1.29E-01	9.13E-16
	Normalized peak height	1.10E-01	7.07E-02	1.14E-02	6.99E-03	2.36E-02	7.21E-02	1.74E-02	1.60E-02	1.99E-02	3.79E-03	2.60E-01	1.71E-02	6.21E-01	7.15E-01	1.71E-02	2.77E-02	4.24E-02	1.58E-02	1.43E-02	1.37E-02	2.73E-02	1.73E-02	3.48E-03	2.86E-01
	Peak sensitivity value	2.31E-03	2.10E-03	1.04E+00	5.92E-03	5.27E-02	4.78E-17	7.59E-04	1.74E-03	1.40E-04	-1.17E+00	-3.28E-16	1.28E-02	1.13E-16	-4.54E-17	-3.03E-03	6.28E-17	2.90E-17	-6.52E-04	-3.73E-03	-1.16E-03	-5.32E-05	-5.53E-02	6.88E-02	-5.15E-19
	Shapiro-Wilk score	4.899E-01	5.103E-01	6.493E-01	9.333E-01	4.734E-01	8.650E-01	6.151E-01	6.059E-01	6.225E-01	9.524E-01	8.576E-01	5.761E-01	1.596E-01	1.478E-01	6.315E-01	9.091E-01	8.851E-01	6.378E-01	6.147E-01	6.348E-01	5.588E-01	7.192E-01	9.900E-01	8.282E-01

Fructose-6-Phosphate Local	1.24E-02	5.33E-03	9.67E-01	8.44E-02	-3.38E-01	-8.95E-16	5.90E-03	1.29E-02	1.11E-03	3.34E-03	-2.13E-15	1.18E-01
Min	4.68E-04	3.13E-04	-1.32E+00	3.54E-02	-7.57E+00	-3.27E-14	-8.27E-02	-1.95E-01	-2.22E-02	-3.42E-02	-6.84E-14	-1.79E+00
Max	7.89E+00	1.38E+00	8.57E+00	1.90E-01	-1.31E-01	2.78E-14	2.33E-02	4.67E-02	5.59E-03	2.37E-02	1.14E-13	4.86E-01
Normalized peak height	4.62E-01	1.81E-01	4.41E-02	3.89E-03	3.10E-02	1.08E-01	1.75E-02	1.81E-02	2.40E-02	1.50E-02	1.35E-01	2.01E-02
Peak sensitivity value	4.41E-03	2.38E-03	9.37E-01	7.27E-02	-2.32E-01	-7.15E-18	3.86E-03	8.61E-03	6.26E-04	1.52E-03	-5.53E-17	5.87E-02
Shapiro-Wilk score	4.465E-01	3.471E-01	6.149E-01	9.696E-01	4.945E-01	7.028E-01	7.158E-01	6.840E-01	7.216E-01	8.849E-01	7.160E-01	6.652E-01
Extracellular cyanide Local	-1.89E-03	-8.11E-04	-1.47E-01	-6.48E-04	-7.85E-03	4.27E-16	6.15E-03	1.34E-02	1.15E-03	3.48E-03	6.32E-16	1.23E-01
Min	-5.26E-01	-1.37E-01	-7.27E-01	-9.40E-03	-5.02E-01	-7.60E-15	4.51E-04	1.08E-03	1.08E-04	1.42E-04	-2.14E-14	1.53E-02
Max	9.75E-05	6.69E-05	1.08E-03	-5.73E-05	-6.09E-04	4.17E-15	3.15E-02	5.42E-02	6.36E-03	2.55E-02	2.26E-14	6.69E-01
Normalized peak height	2.86E-01	1.75E-01	6.56E-03	1.33E-02	5.74E-02	4.75E-02	5.87E-03	4.95E-03	6.84E-03	8.62E-03	1.24E-01	6.08E-03
Peak sensitivity value	-1.66E-04	-1.39E-04	-7.14E-02	-3.24E-04	-3.37E-03	-1.76E-18	3.29E-03	9.07E-03	6.43E-04	1.80E-03	-2.89E-18	7.25E-02
Shapiro-Wilk score	4.372E-01	4.390E-01	8.902E-01	7.599E-01	3.889E-01	8.005E-01	8.925E-01	9.223E-01	8.968E-01	8.457E-01	6.597E-01	8.737E-01
Pyruvate Local	9.01E-01	3.88E-01	7.04E+01	2.28E-01	2.76E+00	-6.96E-14	4.07E-02	8.91E-02	7.64E-03	2.31E-02	-7.79E+01	8.15E-01
Min	1.31E-03	9.71E-04	-7.50E-03	2.10E-03	3.57E-02	-6.95E-12	-3.71E-01	-1.13E+00	-6.90E-02	-1.48E-01	-4.06E+04	-5.53E+00
Max	2.99E+04	1.04E+03	1.79E+04	9.63E+01	6.37E+03	8.56E-12	6.20E+01	1.59E+02	1.15E+01	1.38E+01	-2.09E+00	1.66E+03
Normalized peak height	9.90E-01	9.49E-01	8.81E-01	8.95E-01	9.68E-01	4.87E-01	5.68E-01	9.67E-01	6.59E-01	7.89E-01	9.36E-01	9.52E-01
Peak sensitivity value	1.50E+01	5.19E-01	8.96E+00	5.02E-02	3.22E+00	7.69E-15	-2.74E-02	6.94E-02	6.13E-03	-1.96E-03	-2.24E+01	2.99E-01
Shapiro-Wilk score	3.696E-03	1.913E-02	2.646E-02	2.952E-02	1.451E-02	5.595E-02	1.460E-02	1.339E-02	1.510E-02	2.546E-02	2.306E-02	1.444E-02
Extracellular ethanol Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01
Min	4.11E-04	2.03E-04	1.35E-03	4.08E-05	4.55E-04	-5.41E-15	1.06E-03	2.75E-03	2.25E-04	3.43E-04	-1.62E-14	3.90E-02
Max	8.54E-01	3.49E-01	9.27E-01	1.69E-02	8.17E-01	3.61E-15	3.92E-02	7.83E-02	7.84E-03	3.08E-02	1.81E-14	7.26E-01
Normalized peak height	1.06E-01	6.54E-02	5.95E-03	8.90E-03	3.20E-02	3.89E-02	5.08E-03	4.64E-03	5.20E-03	6.60E-03	1.34E-01	4.74E-03
Peak sensitivity value	1.69E-03	1.43E-03	8.48E-01	2.18E-03	2.29E-02	4.09E-18	6.77E-03	1.50E-02	1.22E-03	2.40E-03	2.66E-18	1.15E-01
Shapiro-Wilk score	4.848E-01	5.047E-01	7.408E-01	8.669E-01	4.260E-01	8.666E-01	9.310E-01	9.414E-01	9.158E-01	8.900E-01	8.484E-01	8.805E-01
Extracellular glycerol Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00
Min	-3.74E-03	-5.72E-03	-4.57E-02	9.01E-04	3.32E-02	-7.76E-14	-2.57E-01	-3.87E-01	-4.25E-02	-1.97E-01	-3.70E-13	-2.72E+00
Max	2.60E+00	9.12E-01	2.94E+00	5.14E-02	2.43E+00	6.22E-14	-5.52E-03	-2.31E-02	-1.83E-03	-2.37E-03	3.37E-13	-9.57E-01
Normalized peak height	1.27E-01	7.42E-02	4.96E-03	8.42E-03	2.90E-02	2.45E-02	3.63E-03	2.94E-03	4.30E-03	5.15E-03	1.25E-01	3.40E-03
Peak sensitivity value	2.76E-03	3.00E-03	1.70E+00	7.44E-03	7.28E-02	-6.78E-17	-6.39E-02	-1.73E-01	-1.35E-02	-3.74E-02	-3.46E-16	-1.41E+00
Shapiro-Wilk score	4.886E-01	5.039E-01	8.284E-01	8.731E-01	4.258E-01	8.943E-01	9.732E-01	9.940E-01	9.742E-01	9.460E-01	7.589E-01	9.771E-01
Extracellular glucose Local	2.57E+00	-1.40E-02	-2.53E+00	-3.55E-03	-4.30E-02	8.97E-17	-5.98E-04	-1.31E-03	-1.12E-04	-3.38E-04	2.12E-16	-1.20E-02
Min	6.16E-01	-1.79E+00	-1.46E+01	-9.51E-02	-7.30E+00	-2.47E-14	-8.99E-02	-2.33E-01	-1.78E-02	-4.59E-02	-2.87E-14	-2.06E+00
Max	1.49E+01	-2.01E-04	-2.04E-02	-2.53E-04	-2.77E-03	2.99E-14	1.35E-02	2.73E-02	2.35E-03	1.07E-02	4.54E-14	2.83E-01
Normalized peak height	6.98E-03	1.40E-01	8.07E-03	2.53E-02	1.59E-01	3.48E-01	1.63E-01	1.85E-01	1.60E-01	1.58E-01	3.59E-01	1.69E-01
Peak sensitivity value	1.17E+00	-2.89E-03	-1.15E+00	-1.06E-03	-1.37E-02	-2.72E-17	-1.92E-04	-3.93E-04	-3.90E-05	-1.10E-04	2.75E-18	-4.17E-03
Shapiro-Wilk score	8.265E-01	4.886E-01	8.016E-01	6.601E-01	4.165E-01	2.740E-01	4.047E-01	4.007E-01	3.884E-01	4.707E-01	3.829E-01	3.678E-01
1-3-Bisphosphoglycerate Local	1.07E-02	4.61E-03	8.37E-01	4.44E-02	5.38E-01	5.30E-16	8.28E-03	1.81E-02	-2.84E-01	-8.56E-01	3.50E-14	1.66E-01
Min	-3.66E+00	-8.44E-01	-6.01E+00	4.04E-04	2.62E-01	-1.06E-13	7.87E-04	2.17E-03	-7.65E-01	-1.23E+00	-1.45E-13	2.98E-02
Max	1.06E+00	3.63E-01	1.20E+00	1.08E-01	5.81E+00	8.00E-14	1.19E-01	2.06E-01	-1.14E-01	-2.72E-01	1.60E-13	2.30E+00
Normalized peak height	3.02E-01	1.78E-01	1.66E-02	4.92E-03	1.87E-02	5.96E-02	1.56E-02	1.26E-02	4.11E-03	4.03E-03	6.16E-02	1.42E-02
Peak sensitivity value	1.41E-03	1.26E-03	1.00E+00	3.81E-02	3.93E-01	1.19E-17	5.47E-03	1.37E-02	-3.15E-01	-8.48E-01	9.25E-17	9.23E-02
Shapiro-Wilk score	5.073E-01	4.096E-01	7.219E-01	9.828E-01	5.961E-01	7.197E-01	7.552E-01	7.690E-01	9.860E-01	9.994E-01	9.464E-01	7.318E-01
Fructose 1-6-bisphosphate Local	4.60E-02	1.98E-02	3.59E+00	2.43E-02	2.94E-01	-9.76E-02	-8.09E-02	-1.00E+00	-8.59E-02	-2.59E-01	2.20E-14	-2.18E+00
Min	-3.23E-01	-1.62E-01	-1.34E+00	1.94E-03	8.32E-02	-3.48E-01	-5.30E-01	-1.81E+00	-2.23E-01	-9.15E-01	-5.94E-13	-5.99E+00
Max	5.76E+00	1.88E+00	7.43E+00	1.15E-01	6.42E+00	-2.51E-02	2.74E-01	-2.58E-01	-2.21E-02	-1.76E-02	6.39E-13	-4.25E-01
Normalized peak height	1.73E-01	9.08E-02	7.08E-03	6.50E-03	2.59E-02	4.34E-03	3.54E-03	2.93E-03	4.25E-03	4.09E-03	1.18E-01	3.81E-03
Peak sensitivity value	8.17E-03	6.45E-03	3.00E+00	1.97E-02	2.13E-01	-8.59E-02	-8.93E-02	-9.91E-01	-6.96E-02	-1.87E-01	-4.18E-16	-1.39E+00
Shapiro-Wilk score	4.824E-01	4.934E-01	9.011E-01	9.117E-01	4.794E-01	9.539E-01	9.982E-01	9.974E-01	9.783E-01	9.498E-01	7.650E-01	9.561E-01
AMP Local	4.17E-03	1.79E-03	3.25E-01	-6.74E-02	-8.16E-01	2.40E-15	-1.26E-02	-2.76E-02	-2.37E-03	-7.14E-03	6.43E-15	-2.52E-01
Min	-3.08E-02	-9.24E-03	-2.52E-01	-1.47E-01	-1.06E+01	-4.06E-14	-1.44E-01	-3.10E-01	-2.26E-02	-8.07E-02	-1.60E-13	-2.51E+00
Max	1.04E+01	1.32E+00	9.42E+00	-6.62E-04	-4.30E-01	5.21E-14	-1.58E-03	-3.68E-03	-2.54E-04	-5.58E-04	3.32E-13	-4.89E-02
Normalized peak height	3.81E-01	2.98E-01	2.45E-02	4.83E-03	2.27E-02	9.30E-02	1.22E-02	1.20E-02	1.00E-02	1.08E-02	1.61E-01	1.05E-02
Peak sensitivity value	5.56E-03	7.46E-04	1.37E-02	-6.01E-02	-6.08E-01	4.27E-17	-9.07E-03	-1.79E-02	-1.54E-03	-3.48E-03	-7.29E-17	-1.44E-01
Shapiro-Wilk score	3.268E-01	2.779E-01	5.962E-01	9.846E-01	6.040E-01	7.932E-01	7.844E-01	7.885E-01	7.988E-01	8.307E-01	7.717E-01	7.463E-01
ATP Local	-1.59E-03	-6.83E-04	-1.24E-01	2.57E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02
Min	-6.16E+00	-1.08E+00	-8.78E+00	1.08E-03	1.05E-01	-4.02E-14	6.33E-04	1.48E-03	9.83E-05	1.71E-04	-8.87E-14	1.57E-02
Max	1.28E-02	2.41E-03	9.83E-02	9.11E-02	7.51E+00	7.36E-14	1.07E-01	1.97E-01	2.60E-02	4.58E-02	1.26E-13	2.43E+00
Normalized peak height	6.86E-01	5.67E-01	5.74E-02	5.63E-03	3.15E-02	1.25E-01	2.14E-02	1.74E-02	2.78E-02	1.58E-02	1.23E-01	2.47E-02
Peak sensitivity value	-2.61E-03	-2.86E-04	-3.80E-03	2.21E-02	2.27E-01	2.69E-17	2.81E-03	7.63E-03	5.77E-04	1.43E-03	3.34E-17	5.08E-02
Shapiro-Wilk score	2.788E-01	2.185E-01	4.244E-01	9.341E-01	4.826E-01	5.583E-01	5.859E-01	5.862E-01	5.806E-01	7.099E-01	6.584E-01	5.506E-01
NADH Local	9.35E-03	4.03E-03	7.30E-01	-1.86E-03	-2.25E-02	6.21E-15	1.54E-01	3.36E-01	2.88E-02	8.69E-02	1.30E-14	-1.28E+00
Min	1.46E-04	9.50E-05	-1.84E-01	-1.16E-02	-4.64E-01	-6.39E-14	2.39E-02	1.18E-01	5.72E-03	7.61E-03	-2.73E-13	-1.93E+00
Max	1.20E+00	4.02E-01	1.35E+00	1.38E-02	1.00E+00	7.57E-14	4.26E-01	5.90E-01	8.02E-02	2.66E-01	3.58E-13	-3.55E-01
Normalized peak height	1.48E-01	9.39E-02	3.60E-03	6.12E-03	2.77E-02	2.59E-02	4.29E-03	3.89E-03	3.98E-03	3.58E-03	1.62E-01	4.73E-03
Peak sensitivity value	1.95E-03	1.10E-03	5.86E-01	-1.09E-03	-1.48E-02	-3.61E-17	1.29E-01	3.30E-01	2.44E-02	6.29E-02	2.72E-16	-1.19E+00
Shapiro-Wilk score	4.857E-01	4.991E-01	9.821E-01	9.847E-01	4.938E-01	8.612E-01	9.788E-01	9.998E-01	9.752E-01	9.637E-01	7.592E-01	9.966E-01

Fructose-6-Phosphate Local	0.00E+00	0.00E+00	-2.01E-02	-1.59E-15	-7.98E-17	-4.83E-03	-2.51E-02	-7.13E-03	-5.69E-04	-7.58E-01	-5.75E-02	-2.80E-17
Min	-1.21E-13	-1.96E-13	-8.83E-02	-1.86E-13	-1.00E-13	-1.75E-02	-7.40E-02	-1.93E-02	-5.15E-03	-8.96E-01	-2.05E-01	-2.02E-15
Max	4.43E-14	9.84E-14	3.49E-01	1.58E-13	8.31E-14	5.43E-02	2.51E-01	7.19E-02	1.54E-02	1.89E-01	3.36E-01	8.45E-16
Normalized peak height	6.15E-01	7.21E-01	2.05E-02	6.37E-02	5.38E-02	1.43E-02	1.43E-02	1.38E-02	3.09E-02	1.02E-02	8.62E-03	2.90E-01
Peak sensitivity value	-1.21E-17	6.10E-17	-1.45E-02	-1.13E-16	-6.47E-17	-3.51E-03	-2.00E-02	-5.73E-03	-2.19E-04	-7.66E-01	-5.54E-02	-1.32E-18
Shapiro-Wilk score	1.900E-01	1.513E-01	7.183E-01	7.593E-01	7.468E-01	7.356E-01	6.919E-01	7.171E-01	6.830E-01	8.279E-01	9.101E-01	8.514E-01
Extracellular cyanide Local	0.00E+00	0.00E+00	-2.09E-02	3.66E-16	-5.96E-16	-5.03E-03	3.14E-02	-6.50E-02	7.46E-02	5.46E-03	-9.35E-03	-7.74E-19
Min	-1.50E-14	-6.82E-14	-9.22E-02	-2.20E-14	-2.03E-14	-1.75E-02	2.88E-03	-2.82E-01	1.33E-02	-5.85E-02	-4.92E-02	-3.90E-17
Max	9.97E-15	5.29E-14	-1.52E-03	4.26E-14	2.86E-14	-8.21E-04	2.07E-01	-1.23E-02	3.48E-01	4.06E-02	1.20E-04	2.12E-17
Normalized peak height	6.34E-01	8.92E-01	5.16E-03	4.19E-02	6.47E-02	4.49E-03	7.17E-03	5.47E-03	5.45E-03	1.88E-02	6.02E-03	2.86E-01
Peak sensitivity value	2.42E-19	2.39E-17	-1.41E-02	1.96E-17	3.56E-18	-4.15E-03	1.99E-02	-5.24E-02	5.90E-02	3.21E-03	-5.92E-03	4.48E-21
Shapiro-Wilk score	1.487E-01	1.088E-01	9.136E-01	8.611E-01	8.220E-01	9.425E-01	8.372E-01	9.089E-01	8.986E-01	8.530E-01	8.871E-01	8.470E-01
Pyruvate Local	0.00E+00	0.00E+00	-1.39E-01	-5.18E-14	1.49E-13	-3.34E-02	-1.73E-01	-4.93E-02	-3.93E-03	-1.87E+00	4.59E+00	2.26E-16
Min	-6.70E-11	-2.32E-12	-2.14E+02	-3.79E-11	-2.26E-11	-5.31E+01	-2.20E+02	-6.89E+01	-9.49E+00	-7.10E+02	9.85E-04	-4.65E-14
Max	2.13E-12	9.63E-11	1.76E+00	5.53E-11	3.45E-11	2.29E-01	1.09E+00	3.20E-01	3.25E-02	3.66E+02	2.52E+03	1.86E-12
Normalized peak height	9.96E-01	9.94E-01	9.59E-01	5.58E-01	8.44E-01	9.52E-01	5.77E-01	9.04E-01	9.49E-01	8.60E-01	9.40E-01	9.95E-01
Peak sensitivity value	2.38E-14	-7.11E-15	-7.59E-02	4.43E-14	-1.03E-14	-1.12E-02	9.29E-02	7.89E-03	-8.08E-04	-5.74E-01	1.26E+00	1.75E-16
Shapiro-Wilk score	7.160E-04	1.046E-03	1.528E-02	4.877E-02	5.022E-02	1.428E-02	1.815E-02	1.558E-02	1.295E-02	2.678E-02	1.847E-02	1.168E-03
Extracellular ethanol Local	-3.41E-16	-1.00E+00	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-8.35E-15	-1.00E+00	-1.21E-01	-3.62E-14	-1.67E-14	-2.69E-02	-1.07E-01	-2.67E-02	-7.30E-03	-8.55E-02	9.54E-05	-5.69E-17
Max	1.06E-14	-1.00E+00	-4.93E-03	2.49E-14	2.35E-14	-1.58E-03	-1.24E-02	-3.67E-03	-5.50E-05	1.74E-01	1.19E-01	3.08E-16
Normalized peak height	4.66E-01	1.00E+00	4.83E-03	2.71E-02	3.53E-02	4.24E-03	3.70E-03	3.70E-03	7.77E-03	1.34E-02	3.26E-03	2.92E-01
Peak sensitivity value	-2.89E-18	-1.00E+00	-2.14E-02	-2.67E-17	7.28E-18	-6.58E-03	-2.82E-02	-1.03E-02	-4.35E-04	-2.18E-02	5.27E-02	-7.94E-20
Shapiro-Wilk score	5.971E-01	1.000E+00	9.382E-01	9.162E-01	8.914E-01	9.459E-01	9.638E-01	9.728E-01	8.326E-01	7.974E-01	9.980E-01	7.252E-01
Extracellular glycerol Local	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-1.00E+00	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-2.98E-13	-1.99E-12	3.01E-02	-3.20E-13	-1.00E+00	9.60E-03	8.19E-02	1.74E-02	1.19E-03	-2.00E-01	-3.52E-03	-2.65E-16
Max	2.10E-13	1.97E-12	5.77E-01	3.26E-13	-1.00E+00	1.79E-01	5.93E-01	2.34E-01	2.99E-02	4.83E-01	2.51E-01	9.23E-16
Normalized peak height	6.17E-01	9.37E-01	2.96E-03	2.16E-02	1.00E+00	4.09E-03	3.38E-03	3.48E-03	4.67E-03	1.77E-02	3.77E-03	2.90E-01
Peak sensitivity value	2.02E-16	9.30E-16	2.75E-01	-3.15E-16	-1.00E+00	6.37E-02	3.56E-01	8.99E-02	5.11E-03	-7.06E-02	1.14E-01	-4.59E-19
Shapiro-Wilk score	1.911E-01	1.315E-01	9.972E-01	9.417E-01	1.000E+00	9.802E-01	9.976E-01	9.942E-01	9.361E-01	7.382E-01	9.883E-01	7.809E-01
Extracellular glucose Local	0.00E+00	0.00E+00	2.04E-03	1.65E-16	1.51E-17	4.89E-04	2.54E-03	7.23E-04	5.76E-05	2.55E-02	5.83E-03	-3.53E-18
Min	-1.07E-14	-5.10E-14	-5.04E-02	-1.46E-13	-1.04E-13	-9.85E-03	-4.72E-02	-9.95E-03	-2.66E-03	-9.60E-01	-8.71E-02	-6.16E-16
Max	9.70E-15	2.83E-14	3.35E-01	2.16E-13	9.92E-14	7.99E-02	2.62E-01	7.92E-02	1.61E-02	3.16E-01	2.76E-01	7.10E-16
Normalized peak height	7.07E-01	8.07E-01	1.72E-01	3.48E-01	3.99E-01	1.63E-01	1.10E-01	1.15E-01	2.71E-01	4.70E-02	5.67E-02	3.19E-01
Peak sensitivity value	1.83E-18	3.09E-17	6.71E-04	1.67E-16	-4.26E-17	1.53E-04	8.74E-04	2.53E-04	1.84E-05	1.05E-02	2.48E-03	-4.74E-19
Shapiro-Wilk score	1.850E-01	9.235E-02	4.147E-01	2.617E-01	2.815E-01	3.989E-01	4.168E-01	4.397E-01	3.368E-01	5.217E-01	5.856E-01	5.789E-01
1-3-Bisphosphoglycerate Local	0.00E+00	0.00E+00	-2.82E-02	6.06E-16	-4.86E-16	-6.78E-03	-3.52E-02	-1.00E-02	-7.98E-04	-3.98E-01	-7.28E-03	7.56E-17
Min	-7.77E-14	-2.07E-13	-3.16E-01	-2.89E-13	-1.24E-13	-6.26E-02	-2.76E-01	-7.10E-02	-1.45E-02	-7.12E-01	-2.85E-01	-1.74E-15
Max	6.74E-14	2.69E-13	-3.36E-03	1.49E-13	1.51E-13	-1.29E-03	-9.40E-03	-2.78E-03	-4.11E-05	7.65E-03	2.59E-02	3.55E-15
Normalized peak height	5.81E-01	7.84E-01	1.16E-02	3.98E-02	3.55E-02	1.02E-02	9.19E-03	9.25E-03	1.59E-02	1.13E-02	9.96E-03	2.87E-01
Peak sensitivity value	2.67E-17	-1.29E-16	-2.16E-02	-5.31E-17	1.44E-16	-4.99E-03	-2.85E-02	-8.54E-03	-3.37E-04	-4.01E-01	-6.64E-04	8.92E-19
Shapiro-Wilk score	2.271E-01	1.515E-01	7.809E-01	8.197E-01	7.910E-01	7.922E-01	7.786E-01	7.907E-01	6.970E-01	8.860E-01	7.766E-01	8.926E-01
Fructose 1-6-bisphosphate Local	0.00E+00	0.00E+00	-9.76E-01	1.28E-14	-8.40E-15	8.90E-02	4.63E-01	1.31E-01	1.05E-02	-2.10E-01	2.16E-01	3.37E-17
Min	-5.60E-13	-1.93E-12	-2.62E+00	-6.25E-13	-5.15E-13	1.06E-02	7.45E-02	1.71E-02	7.22E-04	-5.19E-01	-8.10E-02	-9.44E-16
Max	2.63E-13	1.11E-12	-2.38E-01	5.95E-13	4.36E-13	3.23E-01	1.05E+00	3.95E-01	5.95E-02	8.85E-01	5.29E-01	5.48E-15
Normalized peak height	6.45E-01	7.96E-01	3.44E-03	3.04E-02	4.95E-02	4.30E-03	3.29E-03	4.15E-03	5.91E-03	1.26E-02	4.84E-03	2.90E-01
Peak sensitivity value	2.17E-16	1.12E-15	-9.12E-01	2.17E-16	-1.44E-16	7.44E-02	3.78E-01	1.15E-01	5.51E-03	-2.04E-01	1.97E-01	-2.60E-18
Shapiro-Wilk score	1.881E-01	1.490E-01	9.723E-01	8.984E-01	8.668E-01	9.572E-01	9.867E-01	9.705E-01	8.925E-01	8.522E-01	9.887E-01	7.066E-01
AMP Local	0.00E+00	0.00E+00	4.30E-02	3.70E-15	2.03E-16	1.03E-02	5.37E-02	1.52E-02	1.22E-03	6.08E-01	1.23E-01	6.38E-17
Min	-5.05E-14	-3.27E-13	6.60E-03	-2.64E-13	-2.08E-13	2.00E-03	1.44E-02	4.29E-03	6.65E-05	7.24E-02	2.68E-02	-2.53E-15
Max	1.11E-13	5.28E-13	5.13E-01	1.96E-13	1.94E-13	1.08E-01	3.92E-01	1.01E-01	2.25E-02	1.14E+00	5.02E-01	7.41E-15
Normalized peak height	5.47E-01	7.94E-01	1.29E-02	3.25E-02	4.08E-02	1.12E-02	9.00E-03	8.73E-03	1.65E-02	1.64E-02	6.12E-03	2.89E-01
Peak sensitivity value	3.27E-17	1.91E-17	3.07E-02	3.64E-17	1.30E-16	7.88E-03	4.37E-02	1.27E-02	6.17E-04	6.16E-01	1.18E-01	-2.88E-18
Shapiro-Wilk score	2.847E-01	1.547E-01	8.011E-01	7.935E-01	7.695E-01	8.045E-01	7.977E-01	8.062E-01	7.102E-01	7.363E-01	9.287E-01	7.706E-01
ATP Local	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	-4.68E-02	2.55E-17
Min	-2.68E-14	-7.99E-14	-3.16E-01	-3.76E-13	-2.12E-13	-8.40E-02	-3.45E-01	-8.59E-02	-2.07E-02	-8.80E-01	-3.52E-01	-7.70E-16
Max	5.22E-14	1.13E-13	-2.38E-03	2.07E-13	2.51E-13	-6.19E-04	-4.94E-03	-1.35E-03	-2.31E-05	-1.17E-01	-2.21E-02	8.93E-16
Normalized peak height	5.40E-01	6.85E-01	1.81E-02	9.10E-02	1.11E-01	2.01E-02	1.82E-02	1.64E-02	3.63E-02	7.88E-03	9.43E-03	2.89E-01
Peak sensitivity value	-3.68E-17	7.32E-17	-1.32E-02	2.73E-16	1.17E-16	-2.91E-03	-1.39E-02	-4.60E-03	-1.78E-04	-2.28E-01	-4.57E-02	5.58E-19
Shapiro-Wilk score	2.878E-01	1.599E-01	6.024E-01	5.592E-01	5.427E-01	6.028E-01	5.951E-01	6.083E-01	5.179E-01	8.403E-01	7.683E-01	9.276E-01
NADH Local	0.00E+00	0.00E+00	-5.23E-01	6.20E-15	-5.37E-15	5.25E-02	2.73E-01	7.75E-02	6.18E-03	1.86E-02	5.39E-02	-5.02E-18
Min	-4.68E-13	-1.15E-12	-7.72E-01	-1.79E-13	-1.94E-13	4.58E-03	3.51E-02	7.32E-03	8.65E-04	-6.48E-02	3.30E-04	-6.12E-16
Max	3.01E-13	1.77E-12	-1.57E-01	1.80E-13	1.72E-13	1.43E-01	5.22E-01	1.95E-01	2.11E-02	2.48E-01	1.40E-01	1.08E-16
Normalized peak height	6.90E-01	9.07E-01	5.00E-03	1.40E-02	3.19E-02	3.62E-03	3.75E-03	3.21E-03	4.31E-03	7.46E-03	4.62E-03	3.06E-01
Peak sensitivity value	3.83E-16	1.01E-15	-5.19E-01	1.45E-17	1.19E-17	4.50E-02	2.80E-01	7.45E-02	4.77E-03	1.68E-02	4.55E-02	-2.82E-19
Shapiro-Wilk score	1.484E-01	1.318E-01	9.806E-01	9.550E-01	9.299E-01	9.846E-01	9.909E-01	9.947E-01	9.446E-01	9.578E-01	9.892E-01	7.534E-01

Table 22: Concentration control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±40%

		(GlucoseMixedflowtoextracellularmedium)	(Glucoseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)
Acetaldehyde	Local	2.55E-02	1.10E-02	1.99E+00	8.76E-03	1.06E-01	-5.75E-15	-8.30E-02	-1.82E-01	-1.56E-02	-4.70E-02	-7.51E-15	-1.66E+00
	Min	-1.44E-01	-4.80E-02	-9.91E-01	8.95E-05	2.56E-02	-8.88E-14	-4.16E-01	-4.69E-01	-5.36E-02	-2.45E-01	-5.15E-13	-3.24E+00
	Max	2.83E+00	1.38E+00	3.26E+00	7.61E-02	2.69E+00	8.02E-14	-1.23E-03	-1.52E-02	-4.24E-04	-5.08E-04	4.48E-13	-7.73E-01
	Normalized peak height	1.66E-01	1.07E-01	1.05E-02	9.72E-03	2.60E-02	5.92E-02	4.61E-03	2.93E-03	4.55E-03	5.81E-03	2.48E-01	3.93E-03
	Peak sensitivity value	3.53E-03	2.58E-03	9.61E-03	6.51E-03	6.41E-02	4.68E-17	-6.19E-02	-1.55E-01	-1.12E-02	-2.33E-02	-4.03E-16	-1.29E+00
	Shapiro-Wilk score	5.602E-01	4.789E-01	8.844E-01	8.047E-01	5.108E-01	7.784E-01	9.463E-01	9.884E-01	9.509E-01	9.008E-01	5.308E-01	9.617E-01
Cytosolic glucose	Local	2.04E+00	8.77E-01	-3.34E+00	7.30E-03	8.83E-02	4.39E-16	-2.81E-03	-6.15E-03	-5.28E-04	-1.59E-03	1.00E-15	-5.63E-02
	Min	-2.95E+01	-2.39E+01	-1.35E+04	-6.13E+00	-6.24E+01	-6.98E-13	-2.55E+00	-5.66E+00	-5.65E-01	-2.81E+00	-7.72E-13	-5.39E+01
	Max	1.13E+04	1.76E+03	6.52E+01	8.29E+00	1.40E+02	4.69E-13	7.42E-01	2.06E+00	1.48E-01	1.48E-01	5.25E-13	9.67E+00
	Normalized peak height	7.67E-01	7.04E-01	5.87E-01	5.93E-01	5.48E-01	4.95E-01	5.62E-01	5.64E-01	5.76E-01	6.90E-01	5.79E-01	5.06E-01
	Peak sensitivity value	-1.11E+00	2.65E-01	-9.19E+00	4.51E-03	3.17E-02	5.58E-16	-1.58E-03	-3.75E-03	-2.82E-04	-1.27E-03	4.83E-16	-2.53E-02
	Shapiro-Wilk score	1.193E-02	1.906E-02	1.274E-02	1.655E-01	3.107E-01	1.090E-01	1.494E-01	1.457E-01	1.239E-01	6.766E-02	1.634E-01	1.821E-01
Glycerol	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.13E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.53E-14	-1.64E+00
	Min	-1.11E-01	-1.14E-01	-8.79E-02	1.15E-04	2.69E-02	-8.50E-14	-3.54E-01	-4.64E-01	-5.07E-02	-2.32E-01	-7.08E-13	-3.08E+00
	Max	2.85E+00	1.41E+00	3.26E+00	6.71E-02	2.77E+00	1.13E-13	-1.01E-03	-1.40E-02	-3.65E-04	-3.72E-04	5.92E-13	-7.59E-01
	Normalized peak height	1.88E-01	1.17E-01	8.75E-03	8.77E-03	2.77E-02	5.48E-02	4.13E-03	2.84E-03	4.44E-03	5.26E-03	2.53E-01	4.04E-03
	Peak sensitivity value	2.55E-03	2.58E-03	1.09E-02	6.38E-03	6.94E-02	6.92E-17	-6.66E-02	-1.80E-01	-1.13E-02	-2.30E-02	-1.08E-16	-1.33E+00
	Shapiro-Wilk score	5.593E-01	4.679E-01	8.778E-01	8.112E-01	5.139E-01	8.286E-01	9.438E-01	9.875E-01	9.514E-01	9.081E-01	6.082E-01	9.626E-01
EtOH	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.86E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-7.43E-17	1.84E-01
	Min	-1.47E-02	-9.81E-03	-7.72E-02	-8.27E-04	-8.91E-03	-6.55E-15	4.88E-04	1.39E-03	1.25E-04	1.14E-04	-2.47E-14	2.54E-02
	Max	9.14E-01	4.63E-01	9.44E-01	2.53E-02	9.22E-01	6.28E-15	5.51E-02	9.64E-02	1.42E-02	4.48E-02	3.41E-14	8.67E-01
	Normalized peak height	1.28E-01	7.92E-02	5.81E-03	1.02E-02	2.76E-02	5.90E-02	6.20E-03	4.87E-03	8.51E-03	8.97E-03	2.26E-01	5.16E-03
	Peak sensitivity value	1.51E-03	8.25E-04	5.97E-03	2.11E-03	2.13E-02	-2.37E-18	4.23E-03	1.31E-02	9.46E-04	2.06E-03	8.34E-18	7.29E-02
	Shapiro-Wilk score	5.547E-01	4.676E-01	7.959E-01	7.900E-01	4.946E-01	7.829E-01	8.831E-01	9.049E-01	8.487E-01	8.189E-01	6.487E-01	8.463E-01
ADP	Local	1.29E-03	5.55E-04	1.01E-01	-2.09E-02	-2.53E-01	6.63E-16	-3.90E-03	-8.54E-03	-7.33E-04	-2.21E-03	1.57E-15	-7.81E-02
	Min	-1.47E+00	-3.94E-01	-2.17E+00	-7.11E-02	-2.80E+00	-1.42E-14	-3.83E-02	-6.09E-02	-6.94E-03	-2.82E-02	-1.29E-13	-9.83E-01
	Max	3.11E+00	5.05E-01	2.30E+00	1.71E-02	1.83E+00	2.17E-14	3.47E-02	5.80E-02	8.53E-03	8.65E-03	5.37E-14	5.35E-01
	Normalized peak height	5.87E-01	4.87E-01	6.56E-02	5.83E-03	2.74E-02	1.15E-01	1.80E-02	1.36E-02	2.05E-02	1.66E-02	2.59E-01	2.06E-02
	Peak sensitivity value	2.03E-03	-9.47E-06	6.76E-05	-1.61E-02	-1.64E-01	1.06E-17	-2.29E-03	-4.95E-03	-3.60E-04	-6.14E-04	-5.06E-18	-3.47E-02
	Shapiro-Wilk score	4.373E-01	4.338E-01	7.225E-01	9.826E-01	7.382E-01	7.781E-01	8.636E-01	8.657E-01	8.305E-01	8.241E-01	5.968E-01	8.513E-01
Glyceraldehyde 3-phosphate	Local	2.26E-02	9.73E-03	1.76E+00	1.27E-02	1.54E-01	6.19E-15	1.56E-01	-5.55E-01	-4.76E-02	-1.44E-01	1.37E-14	-1.23E+00
	Min	-6.41E-01	-1.70E-01	-9.85E-01	8.79E-05	3.25E-02	-6.69E-14	1.24E-02	-1.55E+00	-1.74E-01	-7.35E-01	-2.92E-13	-5.07E+00
	Max	7.62E+00	1.66E+00	6.08E+00	9.79E-02	3.49E+00	6.00E-14	5.58E-01	-6.10E-02	-5.69E-03	-2.64E-03	3.35E-13	-1.22E-01
	Normalized peak height	2.70E-01	1.55E-01	1.66E-02	8.34E-03	2.21E-02	4.29E-02	4.17E-03	3.59E-03	4.77E-03	5.15E-03	2.41E-01	5.19E-03
	Peak sensitivity value	7.07E-03	1.77E-03	7.83E-03	8.75E-03	9.64E-02	-4.76E-17	1.32E-01	-5.51E-01	-3.79E-02	-6.89E-02	-2.63E-16	-6.94E-01
	Shapiro-Wilk score	5.573E-01	4.759E-01	9.369E-01	8.571E-01	5.545E-01	8.460E-01	9.578E-01	9.914E-01	9.602E-01	9.161E-01	6.397E-01	9.484E-01
Dihydroxyacetone phosphate	Local	2.40E-02	1.03E-02	1.88E+00	1.23E-02	1.49E-01	5.18E-15	-2.24E-01	-4.91E-01	-4.21E-02	-1.27E-01	1.04E-14	-1.03E+00
	Min	-7.12E-01	-9.95E-02	-1.25E+00	1.06E-04	3.21E-02	-5.59E-14	-8.37E-01	-1.22E+00	-1.54E-01	-6.99E-01	-6.06E-13	-3.51E+00
	Max	4.46E+00	1.66E+00	4.93E+00	1.11E-01	3.53E+00	6.32E-14	-1.02E-02	-6.95E-02	-5.65E-03	-3.25E-03	3.84E-13	3.72E-02
	Normalized peak height	2.60E-01	1.30E-01	1.28E-02	9.21E-03	2.37E-02	5.08E-02	3.70E-03	3.19E-03	4.79E-03	5.68E-03	2.69E-01	4.08E-03
	Peak sensitivity value	4.28E-03	1.50E-03	1.27E-02	9.55E-03	1.00E-01	3.96E-17	-1.93E-01	-5.37E-01	-3.44E-02	-6.13E-02	-2.21E-16	-6.06E-01
	Shapiro-Wilk score	5.558E-01	4.688E-01	9.207E-01	8.541E-01	5.489E-01	8.433E-01	9.614E-01	9.954E-01	9.553E-01	9.082E-01	5.839E-01	9.392E-01
Glucose-6-Phosphate	Local	1.37E-02	5.88E-03	1.07E+00	-2.72E-02	-3.29E-01	-8.33E-16	5.10E-03	1.11E-02	9.57E-04	2.89E-03	-1.82E-15	1.02E-01
	Min	-1.73E-01	-6.54E-01	-4.68E+00	-1.32E-01	-1.14E+01	-3.43E-14	-1.47E-01	-3.41E-01	-2.92E-02	-7.59E-02	-1.86E-13	-2.98E+00
	Max	1.17E+01	2.25E+00	1.02E+01	2.19E-07	4.09E-04	8.98E-14	2.93E-02	6.74E-02	7.96E-03	3.11E-02	1.57E-13	5.77E-01
	Normalized peak height	3.02E-01	2.48E-01	5.49E-02	5.81E-03	4.00E-02	1.72E-01	2.67E-02	2.68E-02	3.05E-02	2.88E-02	3.31E-01	3.08E-02
	Peak sensitivity value	-1.55E-03	2.90E-03	1.01E+00	-2.08E-02	-2.11E-01	-9.48E-18	2.49E-03	5.98E-03	3.96E-04	7.40E-04	-3.12E-17	4.10E-02
	Shapiro-Wilk score	4.719E-01	4.448E-01	6.746E-01	9.342E-01	5.504E-01	4.961E-01	6.849E-01	7.005E-01	7.046E-01	8.416E-01	3.756E-01	6.885E-01
NAD	Local	-4.87E-03	-2.10E-03	-3.80E-01	9.66E-04	1.17E-02	-3.24E-15	-8.00E-02	-1.75E-01	-1.50E-02	-4.53E-02	-6.78E-15	6.68E-01
	Min	-1.65E+00	-5.71E-01	-1.79E+00	-3.11E-02	-1.24E+00	-4.12E-14	-3.52E-01	-7.96E-01	-1.99E-01	-4.29E-01	-1.98E-13	5.51E-02
	Max	4.01E-02	2.07E-02	6.54E-02	2.34E-02	6.75E-01	4.52E-14	-4.73E-03	-1.34E-02	-2.15E-04	-3.51E-04	2.52E-13	2.44E+00
	Normalized peak height	2.41E-01	2.76E-01	1.90E-02	2.64E-02	7.03E-02	6.09E-02	4.74E-03	4.58E-03	1.13E-02	8.78E-03	2.80E-01	4.11E-03
	Peak sensitivity value	-1.32E-03	-3.67E-04	-2.16E-03	-4.37E-05	1.28E-03	2.00E-19	-5.24E-02	-1.23E-01	-4.69E-03	-1.43E-02	-2.00E-16	3.64E-01
	Shapiro-Wilk score	4.768E-01	4.139E-01	8.489E-01	8.493E-01	4.931E-01	8.214E-01	9.253E-01	8.930E-01	8.020E-01	8.102E-01	6.054E-01	9.196E-01
Extracellular acetaldehyde	Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00
	Min	-2.94E-01	-1.33E-01	-2.53E-01	8.79E-05	2.56E-02	-6.01E-14	-3.80E-01	-4.58E-01	-5.75E-02	-2.69E-01	-5.36E-13	-3.14E+00
	Max	2.98E+00	1.31E+00	3.45E+00	8.29E-02	2.83E+00	7.84E-14	-7.03E-04	-1.06E-02	-4.56E-04	-3.77E-04	2.83E-13	-7.82E-01
	Normalized peak height	1.80E-01	1.13E-01	8.22E-03	1.05E-02	2.79E-02	5.17E-02	4.39E-03	2.84E-03	4.67E-03	6.15E-03	2.27E-01	3.81E-03
	Peak sensitivity value	1.96E-03	2.21E-03	7.90E-03	6.92E-03	6.34E-02	-5.39E-17	-5.17E-02	-1.50E-01	-1.18E-02	-2.44E-02	-9.72E-17	-1.31E+00
	Shapiro-Wilk score	5.629E-01	4.731E-01	8.858E-01	8.130E-01	5.120E-01	7.874E-01	9.471E-01	9.880E-01	9.486E-01	9.019E-01	5.465E-01	9.607E-01
Phosphoenolpyruvate	Local	1.38E-02	5.93E-03	1.08E+00	6.08E-03	7.36E-02	2.62E-15	1.11E-03	2.42E-03	2.08E-04	-1.20E+00	7.14E-14	2.22E-02
	Min	-3.48E-02	-3.98E-02	-2.59E-01	4.35E-05	2.79E-02	-1.82E-13	-2.98E-03	-7.70E-03	-1.05E-03	-1.61E+00	-5.05E-13	-9.61E-02
	Max	1.26E+00	6.21E-01	1.43E+00	4.51E-02	1.33E+00	1.32E-13	2.45E-02	4.52E-02	6.71E-03	-1.07E+00	4.50E-13	4.10E-01
	Normalized peak height	1.25E-01	8.35E-02	8.82E-03	9.26E-03	2.19E-02	1.13E-01	2.12E-02	1.82E-02	3.13E-02	4.67E-03	3.49E-01	2.12E-02
	Peak sensitivity value	2.12E-03	1.44E-03	1.02E+00	5.02E-03	5.47E-02	4.89E-17	5.18E-04	1.20E-03	1.04E-04	-1.13E+00	-1.52E-16	8.96E-03
	Shapiro-Wilk score	5.589E-01	4.922E-01	7.493E-01	8.860E-01	5.404E-01	6.883E-01	5.752E-01	6.108E-01	5.759E-01	9.177E-01	7.583E-01	6.113E-01

		(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
Acetaldehyde	Local	0.00E+00	0.00E+00	2.83E-01	-5.12E-15	7.96E-15	-6.23E-02	-3.24E-01	-9.20E-02	-7.34E-03	-7.38E-02	1.26E-01	1.05E-17
	Min	-2.53E-13	-1.83E-12	1.68E-02	-1.70E-13	-2.75E-13	-2.42E-01	-7.15E-01	-2.50E-01	-1.11E-01	-3.07E-01	-1.15E-02	-3.65E-16
	Max	3.98E-13	2.03E-12	6.71E-01	2.28E-13	2.72E-13	-1.12E-02	-7.71E-02	-1.31E-02	-1.55E-04	6.78E-01	3.32E-01	4.50E-16
	Normalized peak height	5.78E-01	7.20E-01	2.66E-03	4.12E-02	7.67E-02	4.53E-03	3.17E-03	3.39E-03	1.31E-02	1.63E-02	5.30E-03	2.66E-01
	Peak sensitivity value	-2.81E-16	1.72E-15	2.26E-01	-1.84E-16	1.55E-16	-4.59E-02	-2.96E-01	-7.87E-02	-2.75E-03	-6.40E-02	3.15E-04	-3.34E-19
	Shapiro-Wilk score	2.682E-01	2.312E-01	9.934E-01	9.125E-01	8.611E-01	9.425E-01	9.794E-01	9.739E-01	7.323E-01	6.908E-01	9.866E-01	8.711E-01
Cytosolic glucose	Local	0.00E+00	0.00E+00	9.58E-03	7.63E-16	4.37E-17	2.30E-03	1.20E-02	3.40E-03	2.71E-04	3.43E-01	2.74E-02	7.34E-18
	Min	-2.86E-13	-6.43E-13	-2.67E+00	-9.53E-13	-1.57E-12	-3.06E-01	-1.65E+00	-3.13E-01	-5.61E-02	-1.70E+01	-1.51E+00	-7.81E-14
	Max	1.01E-13	3.44E-13	8.50E+00	2.65E-12	8.70E-13	5.00E+00	1.90E+01	4.82E+00	3.00E-01	3.92E+02	4.07E+01	6.66E-15
	Normalized peak height	6.51E-01	8.02E-01	5.02E-01	5.11E-01	5.77E-01	4.81E-01	5.60E-01	6.01E-01	3.47E-01	5.39E-01	5.64E-01	9.53E-01
	Peak sensitivity value	-1.83E-16	3.59E-16	4.17E-03	-1.46E-15	6.67E-16	3.85E-03	4.46E-03	2.39E-03	-5.86E-05	3.45E-01	3.00E-02	5.47E-18
	Shapiro-Wilk score	1.163E-01	1.216E-01	1.519E-01	1.595E-01	1.899E-01	6.959E-02	8.340E-02	7.868E-02	1.948E-01	4.823E-02	4.973E-02	5.121E-03
Glycerol	Local	0.00E+00	0.00E+00	2.79E-01	-5.98E-01	-4.02E-01	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-3.98E-13	-2.23E-12	1.30E-02	-8.23E-01	-7.21E-01	4.37E-03	4.65E-02	6.33E-03	5.67E-04	-2.76E-01	-6.37E-03	-5.18E-16
	Max	5.12E-13	2.19E-12	6.34E-01	-2.79E-01	-1.77E-01	2.31E-01	6.40E-01	3.06E-01	3.83E-02	7.78E-01	3.38E-01	2.47E-15
	Normalized peak height	6.47E-01	8.58E-01	2.64E-03	2.67E-03	2.67E-03	3.80E-03	3.13E-03	3.64E-03	5.09E-03	1.79E-02	5.11E-03	2.83E-01
	Peak sensitivity value	-1.39E-16	-9.75E-17	2.96E-01	-6.16E-01	-3.84E-01	5.02E-02	3.46E-01	7.76E-02	4.51E-03	-6.70E-02	3.39E-04	9.22E-21
	Shapiro-Wilk score	3.198E-01	2.752E-01	9.930E-01	9.921E-01	9.921E-01	9.624E-01	9.973E-01	9.836E-01	8.986E-01	6.802E-01	9.867E-01	5.294E-01
EtOH	Local	-1.45E-01	-8.55E-01	-3.13E-02	-1.63E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-3.49E-01	-9.57E-01	-2.04E-01	-5.06E-14	-2.78E-14	-3.95E-02	-1.34E-01	-4.03E-02	-1.13E-02	-1.28E-01	-7.95E-05	-4.21E-17
	Max	-4.32E-02	-6.51E-01	-2.49E-03	4.02E-14	3.82E-14	-8.44E-04	-8.76E-03	-2.37E-03	-2.07E-05	2.65E-01	1.44E-01	8.76E-17
	Normalized peak height	2.99E-03	2.99E-03	6.36E-03	7.33E-02	8.86E-02	5.25E-03	3.99E-03	4.39E-03	1.21E-02	1.36E-02	4.74E-03	2.75E-01
	Peak sensitivity value	-1.12E-01	-8.88E-01	-1.91E-02	1.65E-17	-7.73E-18	-5.23E-03	-2.76E-02	-8.01E-03	-2.19E-04	-2.24E-02	1.37E-04	3.26E-21
	Shapiro-Wilk score	9.697E-01	9.697E-01	9.007E-01	7.760E-01	7.348E-01	9.097E-01	9.459E-01	9.513E-01	7.690E-01	7.258E-01	9.935E-01	9.099E-01
ADP	Local	0.00E+00	0.00E+00	1.33E-02	1.09E-15	5.21E-17	3.20E-03	1.66E-02	4.72E-03	3.76E-04	1.88E-01	3.81E-02	-4.97E-17
	Min	-7.46E-14	-1.61E-13	-8.31E-02	-7.60E-14	-9.13E-14	-1.99E-02	-8.64E-02	-2.85E-02	-6.68E-03	-3.43E-01	-5.55E-02	-2.02E-15
	Max	3.24E-14	1.79E-13	1.02E-01	6.00E-14	5.10E-14	2.58E-02	1.31E-01	3.85E-02	1.28E-02	4.30E-01	1.93E-01	1.40E-15
	Normalized peak height	5.34E-01	7.64E-01	1.27E-02	6.78E-02	9.67E-02	1.37E-02	1.44E-02	1.62E-02	4.76E-02	8.09E-03	6.43E-03	2.67E-01
	Peak sensitivity value	3.75E-17	-1.06E-17	6.26E-03	-3.58E-17	-3.32E-17	1.80E-03	1.01E-02	3.48E-03	8.95E-05	1.77E-01	3.94E-02	-4.64E-19
	Shapiro-Wilk score	2.873E-01	2.442E-01	8.838E-01	7.740E-01	7.187E-01	8.794E-01	8.569E-01	8.618E-01	7.866E-01	8.177E-01	9.787E-01	9.010E-01
Glyceraldehyde 3-phosphate	Local	0.00E+00	0.00E+00	-5.32E-01	7.05E-15	-4.91E-15	5.03E-02	2.61E-01	7.42E-02	5.92E-03	-1.10E-01	1.05E-01	1.80E-17
	Min	-4.11E-13	-1.77E-12	-3.28E+00	-3.46E-13	-3.23E-13	3.49E-03	1.90E-02	3.61E-03	8.71E-05	-3.66E-01	-7.47E-02	-9.53E-16
	Max	3.77E-13	2.31E-12	-7.47E-02	4.14E-13	4.93E-13	2.18E-01	6.60E-01	2.81E-01	4.38E-02	9.32E-01	4.90E-01	2.00E-15
	Normalized peak height	6.82E-01	7.97E-01	6.54E-03	6.63E-02	9.81E-02	4.37E-03	3.15E-03	4.44E-03	7.41E-03	1.45E-02	6.43E-03	2.72E-01
	Peak sensitivity value	-9.06E-17	1.62E-15	-4.00E-01	9.23E-17	2.19E-16	3.77E-02	1.83E-01	5.64E-02	2.38E-03	-9.53E-02	8.10E-02	1.19E-18
	Shapiro-Wilk score	3.075E-01	2.642E-01	9.631E-01	8.189E-01	7.738E-01	9.274E-01	9.791E-01	9.497E-01	8.355E-01	8.220E-01	9.860E-01	7.753E-01
Dihydroxyacetone phosphate	Local	0.00E+00	0.00E+00	-4.89E-01	6.32E-15	-3.90E-15	4.23E-02	2.20E-01	6.25E-02	4.99E-03	-1.06E-01	1.13E-01	1.69E-17
	Min	-2.38E-13	-1.76E-12	-2.12E+00	-7.29E-13	-3.96E-13	-1.81E-03	-7.98E-03	-2.30E-03	-1.70E-04	-3.33E-01	-8.36E-02	-6.74E-16
	Max	3.78E-13	1.85E-12	-8.18E-02	3.12E-13	3.47E-13	1.92E-01	5.87E-01	2.42E-01	4.15E-02	8.94E-01	4.26E-01	1.13E-15
	Normalized peak height	6.06E-01	7.37E-01	4.57E-03	8.45E-02	1.02E-01	4.73E-03	3.23E-03	4.28E-03	8.40E-03	1.41E-02	6.09E-03	2.67E-01
	Peak sensitivity value	2.72E-16	1.53E-15	-3.43E-01	-6.24E-17	-8.07E-17	3.20E-02	1.58E-01	3.92E-02	1.68E-03	-9.54E-02	2.15E-04	-8.45E-19
	Shapiro-Wilk score	3.068E-01	2.565E-01	9.483E-01	8.021E-01	7.664E-01	9.226E-01	9.755E-01	9.477E-01	8.187E-01	7.815E-01	9.865E-01	8.397E-01
Glucose-6-Phosphate	Local	0.00E+00	0.00E+00	-1.74E-02	-1.37E-15	-6.86E-17	-4.17E-03	-2.17E-02	-6.16E-03	-4.92E-04	-7.52E-01	-4.97E-02	-2.72E-17
	Min	-1.05E-13	-6.21E-13	-1.05E-01	-1.73E-13	-2.81E-13	-2.50E-02	-8.48E-02	-2.30E-02	-5.27E-03	-1.53E+00	-2.62E-01	-2.31E-15
	Max	2.36E-13	7.01E-13	4.66E-01	6.51E-13	2.31E-13	1.09E-01	4.15E-01	1.37E-01	2.86E-02	6.95E-01	4.68E-01	8.00E-16
	Normalized peak height	6.44E-01	8.56E-01	2.33E-02	2.12E-01	2.11E-01	2.30E-02	1.81E-02	1.96E-02	5.80E-02	1.51E-02	8.53E-03	3.02E-01
	Peak sensitivity value	1.25E-16	5.66E-17	-1.12E-02	1.21E-17	-2.18E-17	-2.55E-03	-1.45E-02	-4.01E-03	-1.07E-04	-7.54E-01	-5.11E-02	9.09E-20
	Shapiro-Wilk score	1.505E-01	1.842E-01	7.317E-01	4.919E-01	4.925E-01	7.259E-01	7.181E-01	7.272E-01	6.386E-01	7.918E-01	9.418E-01	8.083E-01
NAD	Local	0.00E+00	0.00E+00	2.72E-01	-3.23E-15	2.80E-15	-2.73E-02	-1.42E-01	-4.03E-02	-3.22E-03	-9.68E-03	-2.81E-02	2.62E-18
	Min	-1.96E-13	-1.26E-12	2.40E-02	-2.97E-13	-2.69E-13	-1.61E-01	-5.28E-01	-1.99E-01	-2.85E-02	-3.96E-01	-1.64E-01	-1.16E-16
	Max	2.15E-13	8.58E-13	1.08E+00	4.85E-13	3.28E-13	-1.53E-03	-1.27E-02	-3.09E-03	-7.91E-05	8.64E-02	1.02E-03	9.21E-16
	Normalized peak height	7.38E-01	8.61E-01	3.95E-03	9.14E-02	1.17E-01	5.63E-03	4.29E-03	5.12E-03	9.09E-03	2.13E-02	6.35E-03	3.78E-01
	Peak sensitivity value	3.99E-17	-5.49E-16	1.84E-01	3.19E-16	2.52E-16	-1.55E-02	-9.69E-02	-2.63E-02	-1.00E-03	2.36E-04	-1.27E-02	-4.71E-19
	Shapiro-Wilk score	2.765E-01	2.404E-01	9.389E-01	7.638E-01	7.467E-01	8.894E-01	9.416E-01	9.082E-01	8.056E-01	7.724E-01	8.625E-01	4.559E-01
Extracellular acetaldehyde	Local	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	-4.25E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
	Min	-7.33E-13	-2.86E-12	7.82E-03	-3.39E-13	-2.08E-13	4.36E-03	-8.32E-01	-2.78E-01	-1.22E-01	-3.00E-01	-2.75E-02	-3.23E-16
	Max	4.03E-13	2.78E-12	6.62E-01	2.57E-13	2.32E-13	2.28E-01	-1.25E-01	-3.44E-02	-3.95E-04	6.44E-01	3.61E-01	5.55E-16
	Normalized peak height	7.10E-01	8.56E-01	2.78E-03	4.99E-02	7.21E-02	3.62E-03	3.24E-03	3.35E-03	1.12E-02	1.59E-02	5.53E-03	2.72E-01
	Peak sensitivity value	-5.41E-17	-1.65E-15	2.90E-01	2.64E-16	-7.74E-18	6.29E-02	-4.09E-01	-1.19E-01	-3.62E-03	-7.12E-02	3.29E-04	-4.19E-19
	Shapiro-Wilk score	2.573E-01	1.958E-01	9.930E-01	8.960E-01	8.538E-01	9.624E-01	9.857E-01	9.819E-01	7.524E-01	6.883E-01	9.869E-01	8.650E-01
Phosphoenolpyruvate	Local	0.00E+00	0.00E+00	-3.77E-03	4.71E-15	-1.00E-15	-9.07E-04	-4.72E-03	-1.34E-03	-1.07E-04	-5.20E-02	6.64E-02	9.58E-18
	Min	-5.16E-13	-4.04E-13	-7.46E-02	-9.09E-14	-8.30E-14	-1.75E-02	-5.66E-02	-1.77E-02	-4.93E-03	-1.51E-01	-3.03E-03	-3.23E-16
	Max	2.76E-13	2.23E-13	1.62E-02	1.34E-13	9.69E-14	2.38E-03	1.30E-02	4.74E-03	7.18E-04	3.23E-01	1.66E-01	4.90E-16
	Normalized peak height	6.63E-01	7.96E-01	1.92E-02	8.69E-02	1.13E-01	1.74E-02	1.37E-02	1.54E-02	4.39E-02	1.40E-02	2.99E-03	2.73E-01
	Peak sensitivity value	-3.70E-16	8.30E-17	-2.06E-03	4.63E-17	6.56E-17	-5.87E-04	-3.15E-03	-9.43E-04	-3.04E-05	-5.39E-02	6.31E-02	-8.41E-20
	Shapiro-Wilk score	2.209E-01	2.539E-01	6.235E-01	7.989E-01	7.084E-01	6.311E-01	6.479E-01	6.539E-01	5.397E-01	7.264E-01	9.876E-01	8.917E-01

Fructose-6-Phosphate	Local	1.24E-02	5.33E-03	9.67E-01	8.44E-02	-3.38E-01	-8.95E-16	5.90E-03	1.29E-02	1.11E-03	3.34E-03	-2.13E-15	1.18E-01	0.00E+00	0.00E+00	-2.01E-02	-1.59E-15	-7.98E-17	-4.83E-03	-2.51E-02	-7.13E-03	-5.69E-04	-7.58E-01	-5.75E-02	-2.80E-17
	Min	-7.44E-01	-4.74E-01	-2.30E+00	1.87E-02	-1.07E+01	-5.15E-14	-1.57E-01	-2.61E-01	-3.14E-02	-1.03E-01	-2.37E-13	-2.81E+00	-1.28E-13	-6.90E-13	-1.37E-01	-3.44E-13	-2.99E-13	-2.79E-02	-8.91E-02	-2.71E-02	-7.51E-03	-1.22E+00	-2.61E-01	-1.86E-15
	Max	1.14E+01	2.09E+00	1.21E+01	2.60E-01	4.00E-02	5.75E-14	3.11E-02	6.47E-02	8.94E-03	3.94E-02	2.38E-13	6.69E-01	1.10E-13	3.99E-13	4.44E-01	3.44E-13	1.78E-13	1.03E-01	4.24E-01	1.09E-01	2.80E-02	5.46E-01	4.70E-01	1.03E-15
	Normalized peak height	4.37E-01	2.74E-01	4.79E-02	4.81E-03	3.63E-02	1.44E-01	2.62E-02	1.98E-02	2.92E-02	3.38E-02	3.42E-01	2.75E-02	5.88E-01	8.24E-01	2.10E-02	1.73E-01	1.79E-01	2.03E-02	1.66E-02	1.60E-02	5.37E-02	1.17E-02	8.09E-03	3.02E-01
	Peak sensitivity value	2.49E-03	2.15E-03	9.37E-01	6.30E-02	-2.22E-01	-6.17E-19	2.65E-03	7.90E-03	5.34E-04	7.49E-04	-2.25E-16	5.09E-02	-2.71E-17	2.20E-16	-1.15E-02	1.10E-16	2.35E-17	-2.73E-03	-1.59E-02	-5.37E-03	-1.17E-04	-7.63E-01	-5.63E-02	-1.05E-19
	Shapiro-Wilk score	4.664E-01	4.388E-01	6.615E-01	9.521E-01	5.608E-01	5.722E-01	7.176E-01	7.209E-01	7.365E-01	8.497E-01	3.781E-01	7.263E-01	2.712E-01	2.177E-01	7.522E-01	5.739E-01	5.570E-01	7.684E-01	7.456E-01	7.573E-01	6.890E-01	7.907E-01	9.478E-01	8.239E-01
Extracellular cyanide	Local	-1.89E-03	-8.11E-04	-1.47E-01	-6.48E-04	-7.85E-03	4.27E-16	6.15E-03	1.34E-02	1.15E-03	3.48E-03	6.32E-16	1.23E-01	0.00E+00	0.00E+00	-2.09E-02	3.66E-16	-5.96E-16	-5.03E-03	3.14E-02	-6.50E-02	7.46E-02	5.46E-03	-9.35E-03	-7.74E-19
	Min	-8.84E-01	-2.72E-01	-1.09E+00	-1.91E-02	-8.39E-01	-5.89E-15	1.95E-04	5.77E-04	4.04E-05	5.29E-05	-4.71E-14	8.71E-03	-2.39E-14	-1.28E-13	-1.60E-01	-6.23E-14	-2.86E-14	-2.49E-02	1.83E-03	-4.10E-01	7.33E-03	-1.22E-01	-7.46E-02	-2.97E-17
	Max	4.43E-03	2.66E-03	5.00E-02	-3.46E-06	-2.96E-04	7.72E-15	6.22E-02	8.70E-02	8.76E-03	4.32E-02	2.28E-14	9.14E-01	3.04E-14	1.27E-13	-9.66E-04	4.58E-14	3.70E-14	-4.26E-04	3.52E-01	-6.94E-03	5.23E-01	5.79E-02	7.56E-04	2.20E-17
	Normalized peak height	4.55E-01	2.50E-01	3.32E-02	2.73E-02	9.11E-02	8.84E-02	1.11E-02	7.27E-03	8.54E-03	1.53E-02	2.52E-01	8.56E-03	6.40E-01	8.59E-01	7.92E-03	1.12E-01	1.22E-01	5.63E-03	1.08E-02	6.89E-03	7.32E-03	3.04E-02	1.07E-02	2.69E-01
	Peak sensitivity value	-4.55E-04	-2.25E-04	-9.38E-04	-2.23E-04	-2.39E-03	-4.06E-18	2.52E-03	7.02E-03	3.76E-04	6.79E-04	5.19E-18	5.71E-02	1.92E-17	-2.42E-17	-1.15E-02	-1.09E-17	6.87E-18	-2.96E-03	1.18E-02	-3.70E-02	4.06E-02	1.90E-03	-3.57E-05	-1.15E-20
	Shapiro-Wilk score	4.605E-01	3.821E-01	7.990E-01	6.310E-01	4.420E-01	7.045E-01	8.174E-01	8.703E-01	8.272E-01	7.496E-01	4.648E-01	8.184E-01	2.044E-01	1.755E-01	8.576E-01	6.955E-01	6.597E-01	9.038E-01	7.537E-01	8.515E-01	8.375E-01	7.159E-01	8.250E-01	7.828E-01
Pyruvate	Local	9.01E-01	3.88E-01	7.04E+01	2.28E-01	2.76E+00	-6.96E-14	4.07E-02	8.91E-02	7.64E-03	2.31E-02	-7.79E+01	8.15E-01	0.00E+00	0.00E+00	-1.39E-01	-5.18E-14	1.49E-13	-3.34E-02	-1.73E-01	-4.93E-02	-3.93E-03	-1.87E+00	4.59E+00	2.26E-16
	Min	-8.38E-01	-1.65E-01	-1.61E+01	1.58E-04	2.20E-02	-6.70E-11	-3.46E-01	-8.12E-01	-6.48E-02	-2.24E-01	-5.02E+04	-4.59E+00	-2.67E-12	-1.45E-09	-1.03E+03	-5.19E-11	-4.82E-11	-1.84E+02	-9.74E+02	-2.08E+02	-3.02E+01	-1.67E+03	-4.13E-05	-1.59E-11
	Max	2.08E+04	8.47E+03	4.28E+04	4.04E+02	2.72E+04	3.38E-11	2.94E+02	5.40E+02	9.28E+01	1.61E+02	-1.69E+00	7.78E+03	1.64E-12	2.67E-10	1.61E+00	1.38E-10	9.64E-11	2.32E-01	1.38E+00	4.06E-01	3.61E-02	3.11E+03	4.45E+03	1.18E-12
	Normalized peak height	9.86E-01	9.94E-01	9.55E-01	9.82E-01	9.90E-01	9.79E-01	9.91E-01	9.81E-01	9.85E-01	9.92E-01	9.64E-01	9.81E-01	7.15E-01	9.99E-01	9.83E-01	9.40E-01	9.51E-01	9.86E-01	9.83E-01	7.80E-01	9.86E-01	9.28E-01	9.79E-01	9.93E-01
	Peak sensitivity value	9.58E+00	4.07E+00	5.31E+00	2.02E-01	1.36E+01	2.07E-14	9.59E-02	-1.06E-03	-1.83E-02	1.82E-02	-2.68E+01	-7.01E-01	-1.99E-15	1.87E-13	5.31E-02	-3.75E-14	-1.53E-14	-4.42E-02	-8.34E-02	9.36E-02	-9.22E-03	-2.28E+00	2.22E+00	8.21E-15
	Shapiro-Wilk score	5.438E-03	2.497E-03	1.061E-02	7.280E-03	4.172E-03	6.094E-03	3.362E-03	4.022E-03	1.837E-03	2.136E-03	1.043E-02	3.160E-03	4.692E-02	6.996E-04	3.178E-03	1.589E-02	1.282E-02	4.425E-03	4.345E-03	5.508E-03	4.528E-03	6.852E-03	7.962E-03	6.595E-04
Extracellular ethanol	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01	-3.41E-16	-1.00E+00	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-3.14E-03	-2.22E-03	-2.57E+00	-1.03E-03	-6.50E-03	-9.90E-15	4.26E-04	1.48E-03	1.09E-04	1.26E-04	-2.93E-14	2.36E-02	-2.74E-14	-1.00E+00	-1.84E-01	-5.92E-14	-2.39E-14	-4.33E-02	-1.29E-01	-3.66E-02	-1.18E-02	-1.37E-01	-4.74E-05	-1.58E-16
	Max	9.04E-01	1.11E+00	9.40E-01	4.74E-02	9.24E-01	1.07E-14	5.87E-02	1.20E-01	1.50E-02	4.40E-02	3.31E-14	8.80E-01	1.86E-14	-1.00E+00	-2.76E-03	8.15E-14	4.29E-14	-9.28E-04	-8.85E-03	-2.38E-03	-1.98E-05	4.98E-01	1.45E-01	1.44E-16
	Normalized peak height	1.21E-01	1.65E-01	1.87E-02	1.90E-02	2.87E-02	8.86E-02	6.79E-03	5.76E-03	9.04E-03	9.18E-03	2.29E-01	5.34E-03	3.86E-01	1.00E+00	5.63E-03	9.84E-02	8.90E-02	5.96E-03	3.82E-03	4.06E-03	1.22E-02	2.02E-02	3.89E-03	2.84E-01
	Peak sensitivity value	9.46E-04	1.68E-03	5.69E-03	2.00E-03	2.19E-02	9.47E-18	5.00E-03	1.10E-02	9.53E-04	1.77E-03	-2.32E-17	8.91E-02	1.33E-17	-1.00E+00	-2.33E-02	-6.19E-18	2.12E-18	-5.32E-03	-2.58E-02	-9.76E-03	-2.38E-04	-2.25E-02	3.14E-04	1.31E-20
	Shapiro-Wilk score	5.522E-01	4.718E-01	7.949E-01	7.921E-01	4.924E-01	7.543E-01	8.792E-01	9.031E-01	8.438E-01	8.182E-01	6.492E-01	8.471E-01	4.486E-01	1.000E+00	8.993E-01	7.642E-01	7.395E-01	9.075E-01	9.446E-01	9.536E-01	7.686E-01	7.424E-01	9.935E-01	8.184E-01
Extracellular glycerol	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-1.00E+00	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-5.83E-02	-3.00E-02	-2.45E-01	1.05E-04	2.38E-02	-9.68E-14	-3.54E-01	-4.47E-01	-5.91E-02	-2.40E-01	-5.13E-13	-3.08E+00	-6.63E-13	-3.13E-12	1.31E-02	-4.13E-13	-1.00E+00	4.74E-03	3.93E-02	6.49E-03	5.52E-04	-2.97E-01	-1.30E-02	-1.70E-15
	Max	3.04E+00	1.37E+00	3.35E+00	8.40E-02	2.95E+00	8.91E-14	-1.69E-03	-1.33E-02	-6.63E-04	-4.65E-04	3.82E-13	-7.22E-01	5.33E-13	3.20E-12	6.16E-01	3.52E-13	-1.00E+00	2.35E-01	6.54E-01	2.91E-01	3.98E-02	7.52E-01	3.12E-01	2.03E-15
	Normalized peak height	1.84E-01	1.05E-01	8.51E-03	1.04E-02	3.02E-02	5.02E-02	4.01E-03	2.78E-03	4.81E-03	5.59E-03	2.32E-01	4.08E-03	7.00E-01	8.64E-01	2.58E-03	4.29E-02	1.00E+00	3.85E-03	3.34E-03	3.54E-03	5.28E-03	1.74E-02	5.48E-03	2.88E-01
	Peak sensitivity value	2.07E-03	2.85E-03	8.86E-03	6.10E-03	6.62E-02	-7.77E-17	-6.71E-02	-1.60E-01	-1.01E-02	-2.64E-02	6.46E-17	-1.35E+00	1.48E-16	5.02E-16	2.84E-01	-2.83E-16	-1.00E+00	4.88E-02	3.67E-01	7.91E-02	3.79E-03	-6.81E-02	1.50E-04	-1.48E-18
	Shapiro-Wilk score	5.631E-01	4.789E-01	8.787E-01	8.151E-01	5.160E-01	8.297E-01	9.446E-01	9.877E-01	9.483E-01	8.995E-01	6.227E-01	9.648E-01	3.101E-01	2.562E-01	9.930E-01	8.919E-01	1.000E+00	9.629E-01	9.974E-01	9.836E-01	8.960E-01	6.942E-01	9.869E-01	4.880E-01
Extracellular glucose	Local	2.57E+00	-1.40E-02	-2.53E+00	-3.55E-03	-4.30E-02	8.97E-17	-5.98E-04	-1.31E-03	-1.12E-04	-3.38E-04	2.12E-16	-1.20E-02	0.00E+00	0.00E+00	2.04E-03	1.65E-16	1.51E-17	4.89E-04	2.54E-03	7.23E-04	5.76E-05	2.55E-02	5.83E-03	-3.53E-18
	Min	4.23E-01	-1.98E+00	-2.04E+01	-1.53E-01	-1.36E+01	-5.45E-14	-1.33E-01	-2.96E-01	-3.83E-02	-5.88E-02	-2.54E-13	-4.10E+00	-5.26E-14	-9.23E-13	-6.90E-02	-3.60E-13	-8.23E-13	-1.68E-02	-5.68E-02	-1.45E-02	-3.30E-03	-1.08E+00	-1.39E-01	-4.68E-15
	Max	2.06E+01	1.80E-02	8.72E-01	-6.27E-05	-1.36E-03	9.31E-14	1.83E-02	3.75E-02	5.33E-03	2.14E-02	2.10E-13	4.46E-01	1.08E-13	3.31E-13	4.93E-01	4.69E-13	2.12E-13	1.46E-01	6.37E-01	1.71E-01	2.72E-02	8.32E-01	5.12E-01	1.49E-15
	Normalized peak height	9.75E-03	1.53E-01	1.26E-02	4.07E-02	2.34E-01	6.15E-01	2.26E-01	2.16E-01	2.90E-01	2.04E-01	7.08E-01	2.52E-01	6.71E-01	9.12E-01	2.44E-01	6.38E-01	6.27E-01	2.66E-01	2.24E-01	2.04E-01	3.49E-01	6.11E-02	8.88E-02	6.14E-01
	Peak sensitivity value	9.78E-01	-9.31E-04	-7.97E-01	-7.51E-04	-8.14E-03	1.55E-17	-1.54E-04	-3.53E-04	-1.65E-05	-3.07E-05	9.43E-17	-1.18E-03	7.77E-17	4.35E-16	4.54E-04	-2.48E-17	-4.16E-16	1.33E-04	4.72E-04	2.29E-04	6.41E-06	6.92E-03	2.01E-03	9.23E-19
	Shapiro-Wilk score	7.982E-01	5.928E-01	7.503E-01	6.856E-01	4.381E-01	2.611E-01	3.891E-01	4.018E-01	3.701E-01	4.447E-01	1.760E-01	3.987E-01	6.645E-02	2.654E-02	4.110E-01	2.470E-01	1.902E-01	4.142E-01	4.329E-01	4.348E-01	3.297E-01	6.468E-01	6.085E-01	1.978E-01
1-3-Bisphosphoglycerate	Local	1.07E-02	4.61E-03	8.37E-01	4.44E-02	5.38E-01	5.30E-16	8.28E-03	1.81E-02	-2.84E-01	-8.56E-01	3.50E-14	1.66E-01	0.00E+00	0.00E+00	-2.82E-02	6.06E-16	-4.86E-16	-6.78E-03	-3.52E-02	-1.00E-02	-7.98E-04	-3.98E-01	-7.28E-03	7.56E-17
	Min	-8.06E+00	-9.67E-01	-7.60E+00	-6.64E-05	-1.03E-01	-2.91E-13	-8.49E-04	-6.50E-03	-8.71E-01	-1.42E+00	-8.74E-13	-5.67E-02	-3.53E-13	-1.33E-12	-4.44E-01	-5.30E-13	-3.11E-13	-9.83E-02	-2.99E-01	-9.57E-02	-2.22E-02	-8.38E-01	-4.80E-01	-2.82E-15
	Max	1.18E+00	6.39E-01	1.63E+00	1.66E-01	8.32E+00	1.66E-13	1.38E-01	2.42E-01	-8.04E-02	-1.44E-01	3.16E-13	2.94E+00	2.71E-13	5.88E-13	7.98E-03	2.43E-13	2.62E-13	1.16E-03	8.02E-03	1.68E-03	5.65E-04	1.61E-01	5.18E-02	2.80E-15
	Normalized peak height	3.35E-01	1.85E-01	2.73E-02	5.79E-03	2.40E-02	1.05E-01	1.56E-02	1.25E-02	3.45E-03	3.69E-03	1.88E-01	1.79E-02	6.89E-01	8.42E-01	1.40E-02	1.05E-01	1.20E-01	1.32E-02	9.30E-03	1.05E-02	2.42E-02	1.02E-02	1.29E-02	2.70E-01
	Peak sensitivity value	-8.87E-04	2.20E-03	1.01E-02	3.39E-02	3.65E-01	1.55E-16	4.65E-03	1.05E-02	-2.79E-01	-8.01E-01	1.60E-16	7.97E-02	1.67E-16	-3.17E-16	-1.85E-02	-9.30E-17	6.32E-18	-4.36E-03	-2.75E-02	-7.43E-03	-2.66E-04	-3.97E-01	2.63E-03	1.78E-18
	Shapiro-Wilk score	5.486E-01	5.165E-01	7.777E-01	9.800E-01	6.441E-01	5.260E-01	7.186E-01	7.657E-01	9.680E-01	9.986E-01	8.455E-01	7.415E-01	2.800E-01	2.034E-01	7.638E-01	6.984E-01	6.432E-01	7.810E-01	7.992E-01	7.890E-01	6.623E-01	8.212E-01	7.812E-01	8.573E-01
Fructose 1-6-bisphosphate	Local	4.60E-02	1.98E-02	3.59E+00	2.43E-02	2.94E-01	-9.76E-02	-8.09E-02	-1.00E+00	-8.59E-02	-2.59E-01	2.20E-14	-2.18E+00	0.00E+00	0.00E+00	-9.76E-01	1.28E-14	-8.40E-15	8.90E-02	4.63E-01	1.31E-01	1.05E-02	-2.10E-01	2.16E-01	3.37E-17
	Min	-7.34E-01	-2.24E-01	-1.33E+00	9.39E-05	6.32E-02	-4.97E-01	-8.35E-01	-2.03E+00	-3.04E-01	-1.42E+00	-6.57E-13	-7.59E+00	-1.30E-12	-1.90E-12	-5.03E+00	-7.76E-13	-7.37E-13	3.57E-03	1.85E-02	5.56E-03	2.78E-04	-8.38E-01	-9.37E-02	-1.20E-15
	Max	7.62E+00	3.48E+00	1.09E+01	2.30E-01	6.75E+00	-1.96E-02	3.65E-01	-1.08E-01	-8.67E-03	-6.48E-03	6.13E-13	-9.95E-02	7.13E-13	2.52E-12	-1.32E-01	1.10E-12	8.06E-13	4.01E-01	1.23E+00	4.81E-01	7.93E-02	1.65E+00	8.66E-01	1.21E-15
	Normalized peak height	2.50E-01	1.53E-01	1.46E-02	1.01E-02	2.27E-02	5.21E-03	4.11E-03	2.67E-03	4.66E-03	5.85E-03	2.27E-01	4.46E-03	7.31E-01	8.51E-01	5.54E-03	7.83E-02	1.05E-01	4.68E-03	3.34E-03	4.06E-03	7.84E-03	1.49E-02	5.65E-03	2.70E-01
	Peak sensitivity value	5.00E-03	3.56E-03	1.61E-02	1.86E-02	1.80E-01	-7.52E-02	-7.61E-02	-8.95E-01	-6.79E-02	-1.11E-01	2.46E-16	-1.32E+00	-3.14E-16	8.52E-17	-7.60E-01	-3.54E-16	-1.57E-16	6.57E-02	3.13E-01	1.06E-01	3.48E-03	-1.85E-01	1.95E-01	1.18E-18
	Shapiro-Wilk score	5.582E-01	4.690E-01	9.267E-01	8.443E-01	5.507E-01	9.191E-01	9.942E-01	9.953E-01	9.580E-01	9.091E-01	6.050E-01	9.374E-01	2.876E-01	2.837E-01	9.474E-01	7.974E-01	7.594E-01	9.222E-01	9.751E-01	9.464E-01	8.297E-01	7.993E-01	9.862E-01	8.763E-01
AMP	Local	4.17E-03	1.79E-03	3.25E-01	-6.74E-02	-8.16E-01	2.40E-15	-1.26E-02	-2.76E-02	-2.37E-03	-7.14E-03	6.43E-15	-2.52E-01	0.00E+00	0.00E+00	4.30E-02	3.70E-15	2.03E-16	1.03E-02	5.37E-02	1.52E-02	1.22E-03	6.08E-01	1.23E-01	6.38E-17
	Min	-5.39E-01	-1.64E+00	-9.70E-01	-1.88E-01	-1.03E+01	-5.62E-14	-2.84E-01	-3.33E-01	-3.26E-02	-1.03E-01	-1.91E-13	-3.40E+00	-4.46E-13	-8.77E-13	-1.55E-02	-4.78E-13	-5.93E-13	-6.06E-03	-1.45E-02	-3.30E-03	-5.17E-04	-1.46E+00	-3.48E-03	-4.83E-15
	Max	1.01E+01	1.51E+00	1.06E+01	-4.50E-05	-3.84E-01	2.07E-13	3.49E-03	1.21E-02	1.47E-03	5.87E-04	2.46E-13	1.30E-01	4.16E-13	1.20E-12	5.71E-01	5.40E-13	3.13E-13	1.61E-01	6.05E-01	1.26E-01	2.67E-02	1.39E+00	8.14E-01	2.88E-15
	Normalized peak height	4.28E-01	5.01E-01	5.01E-02	4.63E-03	1.96E-02	1.09E-01	2.05E-02	1.12E-02	1.30E-02	1.38E-02	2.42E-01	1.38E-02	6.51E-01	7.58E-01	1.18E-02	1.03E-01	1.33E-01	1.43E-02	1.16E-02	9.45E-03	1.91E-02	2.97E-02	7.73E-03	2.70E-01
	Peak sensitivity value	-4.12E-03	4.38E-04	8.54E-03	-4.98E-02	-5.28E-01	3.65E-17	-6.42E-03	-1.92E-02	-1.10E-03	-2.48E-03	1.13E-16	-1.12E-01	1.80E-16	6.53E-16	2.35E-02	-1.78E-16	-3.56E-18	5.86E-03	3.35E-02	1.16E-02	3.96E-04	6.26E-01	1.24E-01	-3.48E-18
	Shapiro-Wilk score	3.632E-01	3.929E-01	5.944E-01	9.814E-01	6.386E-01	6.720E-01	7.323E-01	7.877E-01	7.630E-01	7.617E-01	6.308E-01	7.561E-01	2.105E-01	2.271E-01	7.892E-01	6.857E-01	6.377E-01	7.878E-01	8.069E-01	8.063E-01	6.844E-01	7.410E-01	9.348E-01	8.359E-01
ATP	Local	-1.59E-03	-6.83E-04	-1.24E-01	2.57E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	-4.68E-02	2.55E-17
	Min	-1.23E+01	-2.08E+00	-9.21E+00	-1.42E-05	-1.37E-02	-7.97E-14	2.66E-04	5.97E-04	6.19E-05	6.74E-05	-1.88E-13	9.14E-03	-1.34E-13	-8.06E-13	-5.29E-01	-4.26E-13	-2.28E-13	-1.30E-01	-5.19E-01	-1.40E-01	-3.11E-02	-1.66E+00	-5.02E-01	-7.03E-16
	Max	2.14E+00	6.83E-01	3.82E+00	1.39E-01	1.26E+01	1.10E-13	1.80E-01	4.09E-01	3.82E-02	7.39E-02	2.25E-13	3.89E+00	7.75E-14	3.17E-13	-1.20E-03	3.12E-13	2.89E-13	-2.88E-04	-3.17E-03	-7.72E-04	-8.62E-06	2.07E-01	-1.15E-02	2.36E-15
	Normalized peak height	6.56E-01	5.67E-01	1.14E-01	6.46E-03	4.54E-02	2.18E-01	2.94E-02	2.94E-02	3.49E-02	2.35E-02	2.79E-01	3.53E-02	5.65E-01	6.35E-01	2.37E-02	1.58E-01	1.63E-01	2.50E-02	2.16E-02	2.11E-02	5.51E-02	1.37E-02	9.46E-03	2.92E-01
	Peak sensitivity value	-3.20E-03	9.60E-05	-6.04E-03	1.94E-02	1.82E-01	9.26E-17	2.52E-03	6.11E-03	3.48E-04	9.91E-04	-7.48E-18	3.44E-02	-4.82E-17	-5.60E-16	-1.15E-02	-5.04E-17	-1.70E-16	-2.43E-03	-1.37E-02	-4.60E-03	-1.18E-04	-2.20E-01	-4.46E-02	-9.85E-19
	Shapiro-Wilk score	2.878E-01	3.382E-01	4.530E-01	9.220E-01	5.548E-01	4.807E-01	5.601E-01	5.996E-01	5.683E-01	6.638E-01	4.162E-01	6.020E-01	2.367E-01	1.723E-01	6.041E-01	5.108E-01	4.952E-01	6.227E-01	6.474E-01	6.511E-01	5.276E-01	7.842E-01	8.020E-01	8.022E-01
NADH	Local	9.35E-03	4.03E-03	7.30E-01	-1.86E-03	-2.25E-02	6.21E-15	1.54E-01	3.36E-01	2.88E-02	8.69E-02	1.30E-14	-1.28E+00	0.00E+00	0.00E+00	-5.23E-01	6.20E-15	-5.37E-15	5.25E-02	2.73E-01	7.75E-02	6.18E-03	1.86E-02	5.39E-02	-5.02E-18
	Min	-3.30E-02	-2.67E-02	-9.54E-02	-2.29E-02	-6.91E-01	-7.15E-14	7.86E-03	5.45E-02	3.14E-03	2.15E-03	-4.00E-13	-2.18E+00	-4.41E-13	-2.99E-12	-8.78E-01	-2.14E-13	-1.69E-13	1.67E-03	1.33E-02	2.45E-03	3.75E-04	-9.68E-02	-7.17E-04	-5.90E-16
	Max	1.50E+00	6.33E-01	1.61E+00	2.95E-02	1.33E+00	8.41E-14	5.36E-01	6.29E-01	1.20E-01	3.59E-01	3.59E-13	-1.45E-01	3.16E-13	2.05E-12	-7.04E-02	2.71E-13	2.62E-13	2.14E-01	6.08E-01	2.67E-01	3.20E-02	3.37E-01	1.61E-01	1.25E-16
	Normalized peak height	1.86E-01	1.57E-01	9.72E-03	9.52E-03	2.88E-02	4.61E-02	4.57E-03	3.44E-03	4.90E-03	4.15E-03	2.69E-01	4.86E-03	7.21E-01	8.39E-01	4.90E-03	4.00E-02	6.01E-02	4.28E-03	3.53E-03	3.53E-03	5.99E-03	8.21E-03	4.10E-03	2.94E-01
	Peak sensitivity value	1.59E-03	6.18E-04	4.64E-03	-1.05E-03	-9.48E-03	-3.09E-17	1.16E-01	3.13E-01	2.12E-02	4.30E-02	2.98E-16	-1.12E+00	-4.62E-17	1.95E-15	-5.32E-01	1.56E-16	1.84E-16	3.72E-02	2.89E-01	6.64E-02	3.05E-03	6.12E-03	4.27E-02	3.53E-19
	Shapiro-Wilk score	5.607E-01	4.750E-01	9.750E-01	9.525E-01	5.376E-01	8.053E-01	9.590E-01	9.993E-01	9.498E-01	9.343E-01	6.178E-01	9.923E-01	2.863E-01	2.425E-01	9.748E-01	9.085E-01	8.707E-01	9.640E-01	9.918E-01	9.849E-01	9.024E-01	8.906E-01	9.846E-01	7.087E-01

Table 23: Concentration control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±50%

		(GlucoseMixedflowtoextracellularmedium)	(Glucoseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)
Acetaldehyde	Local	2.55E-02	1.10E-02	1.99E+00	8.76E-03	1.06E-01	-5.75E-15	-8.30E-02	-1.82E-01	-1.56E-02	-4.70E-02	-7.51E-15	-1.66E+00
	Min	-4.51E-01	-1.90E-01	-2.88E-01	1.43E-05	1.74E-02	-1.36E-13	-4.84E-01	-5.04E-01	-7.72E-02	-3.01E-01	-5.40E-13	-3.56E+00
	Max	3.84E+00	1.52E+00	3.72E+00	1.56E-01	3.35E+00	1.87E-13	-9.47E-05	-4.27E-03	-6.11E-05	-5.56E-05	3.78E-13	-5.55E-01
	Normalized peak height	2.33E-01	1.32E-01	3.29E-02	1.51E-02	3.02E-02	1.35E-01	4.76E-03	2.86E-03	5.56E-03	7.00E-03	3.14E-01	4.74E-03
	Peak sensitivity value	1.20E-03	1.71E-03	2.67E-03	6.17E-03	5.91E-02	-9.33E-17	-4.49E-02	-1.79E-01	-9.43E-03	-1.13E-02	-8.10E-17	-1.26E+00
	Shapiro-Wilk score	5.995E-01	4.881E-01	8.969E-01	7.474E-01	6.047E-01	6.655E-01	9.074E-01	9.785E-01	9.157E-01	8.364E-01	4.361E-01	9.423E-01
Cytosolic glucose	Local	2.04E+00	8.77E-01	-3.34E+00	7.30E-03	8.83E-02	4.39E-16	-2.81E-03	-6.15E-03	-5.28E-04	-1.59E-03	1.00E-15	-5.63E-02
	Min	-1.60E+02	-8.08E+01	-2.48E+04	-8.22E+00	-2.23E+02	-8.34E-13	-1.94E+00	-6.70E+00	-1.24E+00	-1.05E+00	-9.46E-13	-1.20E+02
	Max	1.22E+04	7.54E+03	3.37E+02	5.90E+01	4.98E+03	3.90E-13	1.55E+01	2.35E+01	1.37E+00	4.81E+00	1.13E-12	2.64E+02
	Normalized peak height	7.61E-01	9.55E-01	9.52E-01	7.91E-01	9.09E-01	6.97E-01	8.75E-01	8.38E-01	5.80E-01	8.32E-01	6.78E-01	5.22E-01
	Peak sensitivity value	6.48E+00	-7.44E-01	-1.54E+00	1.98E-02	-1.55E+00	-1.57E-16	-5.14E-03	-1.28E-02	-1.48E-03	-2.39E-03	8.29E-16	1.38E-01
	Shapiro-Wilk score	9.388E-03	4.694E-03	6.417E-03	1.496E-02	5.613E-03	1.297E-01	2.544E-02	4.621E-02	5.852E-02	4.342E-02	1.104E-01	4.503E-02
Glycerol	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.13E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.53E-14	-1.64E+00
	Min	-6.29E-02	-8.89E-02	-8.87E-01	1.19E-05	1.77E-02	-1.44E-13	-4.92E-01	-5.08E-01	-8.14E-02	-3.48E-01	-6.98E-13	-3.70E+00
	Max	3.15E+00	1.58E+00	3.76E+00	1.15E-01	2.96E+00	1.41E-13	-1.03E-04	-3.34E-03	-6.22E-05	-5.66E-05	6.32E-13	-5.05E-01
	Normalized peak height	1.93E-01	1.17E-01	4.16E-02	1.20E-02	2.61E-02	1.02E-01	4.89E-03	2.80E-03	6.27E-03	8.23E-03	3.72E-01	5.50E-03
	Peak sensitivity value	3.05E-03	2.28E-03	3.26E-03	5.14E-03	6.33E-02	1.19E-16	-5.59E-02	-1.28E-01	-8.65E-03	-1.24E-02	-5.32E-16	-1.20E+00
	Shapiro-Wilk score	6.022E-01	4.865E-01	8.905E-01	7.665E-01	6.056E-01	7.509E-01	9.075E-01	9.786E-01	9.068E-01	8.429E-01	4.920E-01	9.455E-01
EtOH	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.86E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-7.43E-17	1.84E-01
	Min	-1.09E+00	-2.88E-01	-4.81E-01	-3.57E-03	-3.38E-02	-1.16E-14	1.19E-04	5.50E-04	4.79E-05	5.21E-05	-5.55E-14	1.52E-02
	Max	9.33E-01	6.60E-01	2.17E+00	4.11E-02	9.72E-01	1.30E-14	7.70E-02	1.40E-01	2.47E-02	6.96E-02	3.44E-14	9.45E-01
	Normalized peak height	2.22E-01	1.56E-01	4.30E-02	1.35E-02	2.40E-02	1.17E-01	8.44E-03	7.03E-03	1.42E-02	1.66E-02	3.29E-01	6.09E-03
	Peak sensitivity value	5.50E-04	8.88E-04	3.22E-03	1.85E-03	2.10E-02	1.11E-19	4.39E-03	1.23E-02	7.02E-04	8.52E-04	-5.13E-18	7.23E-02
	Shapiro-Wilk score	5.874E-01	4.820E-01	8.142E-01	7.467E-01	5.813E-01	6.837E-01	8.270E-01	8.663E-01	7.550E-01	7.284E-01	5.142E-01	8.237E-01
ADP	Local	1.29E-03	5.55E-04	1.01E-01	-2.09E-02	-2.53E-01	6.63E-16	-3.90E-03	-8.54E-03	-7.33E-04	-2.21E-03	1.57E-15	-7.81E-02
	Min	-4.16E+00	-9.47E-01	-2.61E+00	-8.91E-02	-3.58E+00	-6.50E-14	-7.27E-02	-9.48E-02	-1.18E-02	-4.67E-02	-1.14E-13	-1.26E+00
	Max	3.27E+00	5.83E-01	3.16E+00	3.35E-02	4.45E+00	2.05E-14	6.29E-02	1.30E-01	2.13E-02	1.52E-02	8.19E-14	1.07E+00
	Normalized peak height	5.71E-01	4.03E-01	1.40E-01	1.26E-02	4.18E-02	1.45E-01	3.20E-02	2.31E-02	4.39E-02	3.16E-02	3.64E-01	3.07E-02
	Peak sensitivity value	2.96E-03	6.95E-04	1.74E-04	5.61E-05	-1.56E-01	8.70E-18	-1.05E-03	-3.08E-03	-2.01E-04	-3.64E-04	-1.54E-17	-2.64E-02
	Shapiro-Wilk score	4.125E-01	5.142E-01	6.871E-01	9.782E-01	7.560E-01	5.974E-01	8.305E-01	8.493E-01	7.681E-01	7.459E-01	4.841E-01	8.522E-01
Glyceraldehyde 3-phosphate	Local	2.26E-02	9.73E-03	1.76E+00	1.27E-02	1.54E-01	6.19E-15	1.56E-01	-5.55E-01	-4.76E-02	-1.44E-01	1.37E-14	-1.23E+00
	Min	-2.03E+00	-2.07E-01	-1.31E+00	1.44E-05	2.39E-02	-1.08E-13	3.71E-03	-3.86E+00	-2.73E-01	-1.07E+00	-4.16E-13	-7.61E+00
	Max	6.33E+00	3.22E+00	1.42E+01	2.92E-01	7.61E+00	7.17E-14	8.25E-01	-3.48E-02	-2.28E-03	-1.06E-03	4.26E-13	2.88E-02
	Normalized peak height	3.79E-01	1.82E-01	9.37E-02	1.93E-02	3.92E-02	8.04E-02	5.58E-03	6.60E-03	6.22E-03	7.12E-03	3.69E-01	7.06E-03
	Peak sensitivity value	3.10E-03	3.62E-03	3.96E-03	8.04E-03	8.83E-02	2.46E-17	7.56E-02	-6.83E-01	-3.30E-02	-3.91E-02	1.69E-16	-7.77E-01
	Shapiro-Wilk score	5.904E-01	4.785E-01	9.147E-01	7.568E-01	6.361E-01	7.588E-01	9.260E-01	9.818E-01	9.274E-01	8.595E-01	5.072E-01	9.219E-01
Dihydroxyacetone phosphate	Local	2.40E-02	1.03E-02	1.88E+00	1.23E-02	1.49E-01	5.18E-15	-2.24E-01	-4.91E-01	-4.21E-02	-1.27E-01	1.04E-14	-1.03E+00
	Min	-1.22E+00	-2.09E-01	-8.30E+00	1.99E-05	2.44E-02	-1.43E-10	-1.35E+00	-1.95E+01	-2.97E-01	-1.24E+00	-8.79E-12	-6.00E+01
	Max	1.59E+01	5.77E+00	9.44E+01	1.42E+00	1.90E+01	3.52E-13	-3.10E-03	-2.47E-02	-2.08E-03	-5.92E-04	4.83E-13	1.48E-01
	Normalized peak height	4.44E-01	3.21E-01	1.34E-01	9.32E-02	1.04E-01	1.00E+00	4.99E-03	3.73E-02	8.22E-03	9.77E-03	6.04E-01	5.83E-02
	Peak sensitivity value	2.61E-03	2.66E-03	-3.15E-02	7.81E-03	9.09E-02	-7.02E-15	-1.60E-01	-5.20E-01	-2.79E-02	-3.83E-02	-4.27E-15	-4.83E-01
	Shapiro-Wilk score	5.890E-01	4.664E-01	6.930E-01	5.750E-01	6.265E-01	7.336E-04	9.272E-01	8.138E-01	9.188E-01	8.419E-01	5.309E-02	7.053E-01
Glucose-6-Phosphate	Local	1.37E-02	5.88E-03	1.07E+00	-2.72E-02	-3.29E-01	-8.33E-16	5.10E-03	1.11E-02	9.57E-04	2.89E-03	-1.82E-15	1.02E-01
	Min	-4.18E-01	-8.04E-01	-2.72E+00	-2.23E-01	-1.44E+01	-7.99E-14	-2.62E-01	-3.82E-01	-4.01E-02	-7.78E-02	-3.20E-13	-4.37E+00
	Max	1.50E+01	1.84E+00	1.34E+01	8.20E-03	1.99E-01	1.73E-13	4.22E-02	8.32E-02	1.29E-02	5.44E-02	4.07E-13	8.62E-01
	Normalized peak height	4.48E-01	2.14E-01	5.79E-02	7.89E-03	4.37E-02	3.07E-01	4.12E-02	2.75E-02	4.08E-02	3.88E-02	5.42E-01	4.05E-02
	Peak sensitivity value	6.29E-03	1.07E-03	2.58E-03	-1.67E-02	-2.02E-01	1.53E-17	1.53E-03	3.44E-03	2.89E-04	4.00E-04	-2.06E-16	3.34E-02
	Shapiro-Wilk score	4.680E-01	5.628E-01	7.127E-01	9.027E-01	5.945E-01	4.006E-01	6.840E-01	7.177E-01	6.989E-01	7.816E-01	2.523E-01	7.268E-01
NAD	Local	-4.87E-03	-2.10E-03	-3.80E-01	9.66E-04	1.17E-02	-3.24E-15	-8.00E-02	-1.75E-01	-1.50E-02	-4.53E-02	-6.78E-15	6.68E-01
	Min	-2.45E+00	-8.72E-01	-2.38E+00	-6.00E-02	-1.71E+00	-4.63E-14	-6.55E-01	-9.07E-01	-3.66E-01	-6.28E-01	-2.96E-13	3.29E-02
	Max	1.47E-01	2.06E-01	2.50E-01	3.82E-02	1.40E+00	5.08E-14	-1.79E-03	-5.29E-03	-5.63E-05	-6.48E-05	3.54E-13	2.87E+00
	Normalized peak height	3.94E-01	2.97E-01	6.90E-02	6.80E-02	1.23E-01	1.01E-01	7.85E-03	5.04E-03	2.36E-02	1.80E-02	4.09E-01	4.72E-03
	Peak sensitivity value	-1.93E-05	-6.75E-04	-1.93E-03	-5.43E-05	-1.61E-04	-2.61E-18	-2.89E-02	-4.81E-02	-2.43E-03	-2.26E-03	-3.13E-16	3.01E-01
	Shapiro-Wilk score	4.686E-01	4.014E-01	7.539E-01	7.645E-01	5.620E-01	7.434E-01	8.733E-01	8.628E-01	7.318E-01	7.473E-01	4.598E-01	8.987E-01
Extracellular acetaldehyde	Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00
	Min	-1.31E+00	-6.02E-01	-5.90E-01	1.34E-05	1.33E-02	-1.59E-13	-5.69E-01	-5.16E-01	-8.76E-02	-3.11E-01	-8.38E-13	-3.85E+00
	Max	3.41E+00	1.60E+00	4.65E+00	1.22E-01	3.21E+00	1.27E-13	-9.77E-05	-5.70E-03	-7.63E-05	-1.25E-04	4.72E-13	-5.47E-01
	Normalized peak height	2.26E-01	1.70E-01	3.97E-02	1.19E-02	2.73E-02	1.27E-01	5.35E-03	2.79E-03	6.18E-03	7.36E-03	3.68E-01	5.03E-03
	Peak sensitivity value	4.06E-03	1.64E-03	5.45E-03	5.20E-03	5.65E-02	3.53E-17	-2.99E-02	-9.67E-02	-8.26E-03	-1.05E-02	-8.24E-17	-1.21E+00
	Shapiro-Wilk score	6.041E-01	4.951E-01	8.971E-01	7.438E-01	6.050E-01	6.826E-01	9.090E-01	9.789E-01	9.156E-01	8.413E-01	4.372E-01	9.422E-01
Phosphoenolpyruvate	Local	1.38E-02	5.93E-03	1.08E+00	6.08E-03	7.36E-02	2.62E-15	1.11E-03	2.42E-03	2.08E-04	-1.20E+00	7.14E-14	2.22E-02
	Min	-1.03E-01	-2.87E-02	-1.96E-01	5.58E-06	1.57E-02	-2.97E-13	-7.01E-03	-9.50E-03	-1.27E-03	-2.00E+00	-6.94E-13	-1.97E-01
	Max	1.43E+00	7.30E-01	1.67E+00	6.10E-02	1.46E+00	3.77E-13	4.01E-02	5.90E-02	9.17E-03	-1.05E+00	9.16E-13	4.55E-01
	Normalized peak height	1.46E-01	8.65E-02	2.15E-02	9.44E-03	2.06E-02	1.92E-01	3.25E-02	2.06E-02	3.94E-02	6.84E-03	4.44E-01	2.41E-02
	Peak sensitivity value	1.87E-03	1.27E-03	2.89E-03	4.37E-03	5.25E-02	-8.42E-17	3.58E-04	1.15E-03	6.31E-05	-1.11E+00	-5.47E-16	7.58E-03
	Shapiro-Wilk score	5.967E-01	5.033E-01	8.000E-01	8.294E-01	6.241E-01	4.722E-01	5.935E-01	6.552E-01	5.608E-01	8.639E-01	6.183E-01	6.772E-01

		(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
Acetaldehyde	Local	0.00E+00	0.00E+00	2.83E-01	-5.12E-15	7.96E-15	-6.23E-02	-3.24E-01	-9.20E-02	-7.34E-03	-7.38E-02	1.26E-01	1.05E-17
	Min	-7.54E-13	-4.76E-12	3.67E-03	-3.47E-13	-2.57E-13	-3.04E-01	-8.01E-01	-3.25E-01	-1.56E-01	-4.28E-01	-1.87E-02	-1.40E-15
	Max	4.41E-13	3.18E-12	6.93E-01	3.78E-13	2.64E-13	-5.84E-03	-4.85E-02	-7.15E-03	-2.54E-05	8.07E-01	4.40E-01	4.94E-16
	Normalized peak height	5.90E-01	7.85E-01	2.36E-03	1.10E-01	1.23E-01	4.74E-03	3.18E-03	3.87E-03	2.02E-02	1.47E-02	1.87E-02	2.69E-01
	Peak sensitivity value	-4.59E-16	-1.20E-15	3.37E-01	3.17E-17	1.42E-16	-4.53E-02	-2.78E-01	-7.79E-02	-1.35E-03	-6.70E-02	3.69E-04	-6.68E-19
	Shapiro-Wilk score	3.256E-01	2.681E-01	9.872E-01	8.150E-01	7.587E-01	9.139E-01	9.765E-01	9.596E-01	6.566E-01	7.030E-01	9.830E-01	7.320E-01
Cytosolic glucose	Local	0.00E+00	0.00E+00	9.58E-03	7.63E-16	4.37E-17	2.30E-03	1.20E-02	3.40E-03	2.71E-04	3.43E-01	2.74E-02	7.34E-18
	Min	-3.23E-12	-4.93E-12	-4.29E+01	-8.47E-12	-2.89E-12	-7.47E+00	-8.03E+01	-1.17E+01	-5.78E-01	-6.14E+01	-1.10E+02	-7.76E-14
	Max	4.18E-13	2.17E-12	9.48E+00	1.89E-12	7.44E-12	9.66E+00	2.34E+01	3.18E+00	2.18E-01	1.80E+03	5.37E+01	1.46E-13
	Normalized peak height	9.26E-01	8.67E-01	6.02E-01	7.33E-01	8.45E-01	4.98E-01	9.18E-01	7.96E-01	6.56E-01	9.55E-01	7.60E-01	9.95E-01
	Peak sensitivity value	5.05E-16	2.73E-15	2.97E-02	-3.84E-15	-2.10E-15	-6.48E-03	3.15E-02	3.38E-03	7.95E-05	8.33E-01	-8.75E-03	-6.25E-18
	Shapiro-Wilk score	1.735E-02	5.904E-02	3.989E-02	6.667E-02	4.696E-02	3.248E-02	1.807E-02	4.561E-02	1.237E-01	1.104E-02	2.101E-02	3.025E-03
Glycerol	Local	0.00E+00	0.00E+00	2.79E-01	-5.98E-01	-4.02E-01	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-6.10E-13	-4.56E-12	3.55E-03	-8.66E-01	-7.93E-01	1.93E-03	1.79E-02	1.81E-03	2.45E-04	-4.03E-01	-1.53E-02	-4.56E-16
	Max	6.16E-13	5.22E-12	6.85E-01	-2.07E-01	-1.34E-01	2.82E-01	6.96E-01	3.54E-01	5.21E-02	7.74E-01	4.65E-01	5.71E-16
	Normalized peak height	6.62E-01	7.79E-01	2.59E-03	2.45E-03	2.45E-03	4.07E-03	2.80E-03	3.50E-03	6.91E-03	1.57E-02	2.35E-02	2.60E-01
	Peak sensitivity value	-3.24E-18	2.81E-15	2.27E-01	-6.32E-01	-3.68E-01	5.80E-02	3.52E-01	8.55E-02	3.38E-03	-6.45E-02	3.36E-04	-4.65E-19
	Shapiro-Wilk score	3.695E-01	3.098E-01	9.868E-01	9.902E-01	9.902E-01	9.370E-01	9.974E-01	9.663E-01	8.493E-01	7.051E-01	9.828E-01	8.232E-01
EtOH	Local	-1.45E-01	-8.55E-01	-3.13E-02	-1.63E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-4.23E-01	-9.71E-01	-2.47E-01	-8.67E-14	-6.91E-14	-4.80E-02	-1.52E-01	-5.06E-02	-1.64E-02	-2.04E-01	-2.00E-04	-2.18E-16
	Max	-2.94E-02	-5.77E-01	-8.10E-04	6.75E-14	5.78E-14	-4.77E-04	-5.00E-03	-1.47E-03	-7.48E-06	3.87E-01	1.78E-01	1.64E-15
	Normalized peak height	3.29E-03	3.29E-03	7.33E-03	1.51E-01	1.99E-01	5.68E-03	4.18E-03	4.90E-03	1.92E-02	1.48E-02	2.32E-02	4.15E-01
	Peak sensitivity value	-1.09E-01	-8.91E-01	-1.60E-02	7.17E-17	-1.57E-17	-3.78E-03	-2.37E-02	-7.73E-03	-9.75E-05	-4.94E-04	6.76E-05	3.09E-19
	Shapiro-Wilk score	9.563E-01	9.563E-01	8.627E-01	6.604E-01	6.205E-01	8.738E-01	9.271E-01	9.249E-01	7.147E-01	7.331E-01	9.786E-01	1.816E-01
ADP	Local	0.00E+00	0.00E+00	1.33E-02	1.09E-15	5.21E-17	3.20E-03	1.66E-02	4.72E-03	3.76E-04	1.88E-01	3.81E-02	-4.97E-17
	Min	-4.56E-14	-1.88E-13	-1.76E-01	-2.02E-13	-1.21E-13	-5.19E-02	-1.98E-01	-4.64E-02	-1.28E-02	-8.57E-01	-8.44E-02	-3.43E-15
	Max	5.94E-14	4.08E-13	1.46E-01	1.49E-13	1.29E-13	3.66E-02	1.39E-01	3.84E-02	1.15E-02	5.39E-01	2.98E-01	2.46E-15
	Normalized peak height	4.72E-01	6.37E-01	1.97E-02	2.05E-01	1.98E-01	2.33E-02	1.91E-02	1.72E-02	7.21E-02	1.11E-02	7.06E-03	2.50E-01
	Peak sensitivity value	3.86E-17	2.36E-16	4.36E-03	8.12E-17	1.12E-16	1.23E-03	9.44E-03	2.57E-03	4.90E-05	1.82E-01	2.93E-02	-1.61E-18
	Shapiro-Wilk score	3.539E-01	3.011E-01	8.684E-01	5.838E-01	5.274E-01	8.619E-01	8.546E-01	8.591E-01	7.540E-01	8.342E-01	9.808E-01	7.819E-01
Glyceraldehyde 3-phosphate	Local	0.00E+00	0.00E+00	-5.32E-01	7.05E-15	-4.91E-15	5.03E-02	2.61E-01	7.42E-02	5.92E-03	-1.10E-01	1.05E-01	1.80E-17
	Min	-5.66E-13	-2.90E-12	-7.42E+00	-8.50E-13	-4.20E-13	-2.53E-04	-2.38E-03	-5.71E-04	-2.15E-04	-1.10E+00	-1.03E-01	-8.67E-16
	Max	2.87E-13	2.44E-12	-3.07E-02	1.05E-12	4.44E-13	3.14E-01	7.62E-01	3.47E-01	6.96E-02	9.18E-01	5.80E-01	9.61E-16
	Normalized peak height	6.32E-01	7.74E-01	1.20E-02	1.87E-01	1.70E-01	5.90E-03	3.38E-03	4.81E-03	1.37E-02	1.66E-02	2.31E-02	2.55E-01
	Peak sensitivity value	1.11E-16	-1.05E-15	-3.45E-01	-9.37E-17	1.07E-16	2.22E-02	1.79E-01	4.06E-02	1.15E-03	-9.03E-02	1.75E-04	6.26E-19
	Shapiro-Wilk score	3.646E-01	3.181E-01	8.726E-01	6.734E-01	6.736E-01	8.853E-01	9.644E-01	9.148E-01	7.664E-01	8.239E-01	9.744E-01	8.234E-01
Dihydroxyacetone phosphate	Local	0.00E+00	0.00E+00	-4.89E-01	6.32E-15	-3.90E-15	4.23E-02	2.20E-01	6.25E-02	4.99E-03	-1.06E-01	1.13E-01	1.69E-17
	Min	-5.59E-13	-1.78E-12	-5.61E+01	-6.31E-13	-4.33E-13	-8.99E-03	-2.11E-02	-8.40E-03	-2.14E-03	-2.96E+00	-9.30E-02	-1.26E-15
	Max	4.46E-13	2.40E-12	-3.83E-02	1.23E-12	6.67E-13	3.88E-01	4.62E+00	4.70E-01	3.16E-01	3.08E+00	2.84E+00	3.38E-15
	Normalized peak height	6.34E-01	7.60E-01	9.53E-02	1.99E-01	2.01E-01	8.51E-03	1.90E-02	7.56E-03	7.11E-02	5.10E-02	4.94E-02	2.65E-01
	Peak sensitivity value	2.50E-16	-1.33E-15	-3.47E-01	1.63E-16	-1.45E-16	2.06E-02	1.30E-01	3.68E-02	8.88E-04	-9.00E-02	-6.42E-04	1.98E-18
	Shapiro-Wilk score	3.628E-01	3.077E-01	4.802E-01	6.490E-01	6.295E-01	8.813E-01	9.312E-01	9.170E-01	6.900E-01	7.692E-01	9.226E-01	5.978E-01
Glucose-6-Phosphate	Local	0.00E+00	0.00E+00	-1.74E-02	-1.37E-15	-6.86E-17	-4.17E-03	-2.17E-02	-6.16E-03	-4.92E-04	-7.52E-01	-4.97E-02	-2.72E-17
	Min	-2.19E-13	-7.81E-13	-1.63E-01	-5.76E-13	-2.62E-13	-3.83E-02	-1.01E-01	-3.58E-02	-9.05E-03	-1.49E+00	-4.35E-01	-7.26E-16
	Max	2.77E-13	7.85E-13	5.95E-01	4.80E-13	5.95E-13	1.74E-01	6.18E-01	2.17E-01	4.67E-02	4.69E-01	5.17E-01	8.19E-16
	Normalized peak height	6.69E-01	6.11E-01	2.69E-02	3.15E-01	3.58E-01	3.01E-02	2.27E-02	2.65E-02	1.07E-01	9.28E-03	8.05E-03	3.12E-01
	Peak sensitivity value	8.63E-17	7.75E-16	-6.96E-03	-2.30E-16	-1.66E-16	-1.49E-03	-1.18E-02	-3.27E-03	-4.69E-05	-7.42E-01	-3.42E-02	-4.43E-19
	Shapiro-Wilk score	2.353E-01	2.386E-01	7.469E-01	4.103E-01	3.809E-01	7.394E-01	7.614E-01	7.664E-01	6.236E-01	8.460E-01	9.693E-01	8.842E-01
NAD	Local	0.00E+00	0.00E+00	2.72E-01	-3.23E-15	2.80E-15	-2.73E-02	-1.42E-01	-4.03E-02	-3.22E-03	-9.68E-03	-2.81E-02	2.62E-18
	Min	-3.41E-13	-1.29E-12	1.37E-02	-7.81E-13	-3.49E-13	-2.29E-01	-6.75E-01	-2.57E-01	-4.32E-02	-5.67E-01	-2.44E-01	-2.66E-16
	Max	2.24E-13	1.17E-12	1.55E+00	3.71E-13	1.90E-13	-6.34E-04	-6.43E-03	-1.51E-03	-3.55E-05	1.73E-01	2.81E-03	2.90E-16
	Normalized peak height	7.13E-01	7.75E-01	5.38E-03	2.08E-01	1.81E-01	8.13E-03	4.93E-03	6.74E-03	1.64E-02	3.88E-02	1.75E-02	3.44E-01
	Peak sensitivity value	3.02E-17	3.14E-16	9.90E-02	-2.45E-16	2.07E-16	-1.01E-02	-5.49E-02	-1.95E-02	-3.59E-04	3.47E-04	-3.44E-05	1.96E-19
	Shapiro-Wilk score	3.290E-01	3.136E-01	9.176E-01	6.101E-01	6.112E-01	8.346E-01	9.078E-01	8.612E-01	7.292E-01	7.227E-01	7.940E-01	5.528E-01
Extracellular acetaldehyde	Local	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	-4.25E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
	Min	-6.12E-13	-3.99E-12	4.11E-03	-5.72E-13	-2.92E-13	1.73E-03	-9.02E-01	-3.33E-01	-1.74E-01	-3.80E-01	-1.53E-02	-5.05E-16
	Max	4.07E-13	2.45E-12	7.05E-01	3.76E-13	3.67E-13	2.90E-01	-9.61E-02	-2.51E-02	-1.54E-04	8.28E-01	4.59E-01	6.88E-16
	Normalized peak height	6.11E-01	7.78E-01	2.42E-03	1.26E-01	1.25E-01	4.14E-03	3.15E-03	3.44E-03	1.59E-02	1.51E-02	2.62E-02	2.61E-01
	Peak sensitivity value	5.88E-17	4.69E-16	2.55E-01	-1.76E-17	-3.00E-16	4.35E-02	-4.09E-01	-1.03E-01	-3.02E-03	-6.40E-02	1.32E-04	1.62E-19
	Shapiro-Wilk score	3.213E-01	2.720E-01	9.877E-01	7.875E-01	7.456E-01	9.379E-01	9.853E-01	9.715E-01	6.836E-01	7.128E-01	9.829E-01	8.346E-01
Phosphoenolpyruvate	Local	0.00E+00	0.00E+00	-3.77E-03	4.71E-15	-1.00E-15	-9.07E-04	-4.72E-03	-1.34E-03	-1.07E-04	-5.20E-02	6.64E-02	9.58E-18
	Min	-2.84E-13	-2.93E-13	-9.76E-02	-3.61E-13	-1.42E-13	-2.20E-02	-6.24E-02	-2.18E-02	-5.69E-03	-2.07E-01	-1.17E-02	-3.23E-16
	Max	3.20E-13	2.72E-13	2.44E-02	1.68E-13	1.17E-13	7.66E-03	3.64E-02	5.72E-03	1.16E-03	3.95E-01	2.05E-01	7.73E-16
	Normalized peak height	6.59E-01	7.06E-01	2.19E-02	2.04E-01	2.06E-01	2.19E-02	1.62E-02	1.48E-02	6.06E-02	1.17E-02	6.33E-03	2.51E-01
	Peak sensitivity value	-1.25E-16	8.41E-17	-1.51E-03	-2.18E-16	1.10E-16	-3.93E-04	-2.56E-03	-9.07E-04	-1.09E-05	-5.62E-02	1.78E-03	4.45E-19
	Shapiro-Wilk score	3.215E-01	3.173E-01	6.587E-01	6.350E-01	5.866E-01	6.667E-01	7.220E-01	7.136E-01	5.554E-01	7.577E-01	9.836E-01	7.793E-01

Fructose-6-Phosphate																							
Local	1.24E-02	5.33E-03	9.67E-01	8.44E-02	-3.38E-01	-8.95E-16	5.90E-03	1.29E-02	1.11E-03	3.34E-03	-2.13E-15	1.18E-01	0.00E+00	0.00E+00	-2.01E-02	-1.59E-15	-7.98E-17	-4.83E-03	-2.51E-02	-7.43E-03	-5.59E-04	-7.58E-01	-5.79E-02	-2.80E-17
Min	-3.02E-01	-1.04E+00	-9.14E+00	1.05E-02	-1.80E+01	-1.49E-13	-2.15E-01	-5.40E-01	-4.53E-02	-8.07E-02	-2.05E-13	-4.25E+00	-1.92E-13	-6.18E-13	-1.49E-01	-3.78E-13	-4.06E-13	-3.12E-02	-1.17E-01	-3.76E-02	-1.08E-02	-1.93E+00	-4.22E-01	-1.70E-15
Max	1.82E+01	9.75E+00	1.06E+01	3.23E-02	2.70E+00	9.38E-14	3.66E-02	9.86E-01	1.35E-02	7.10E-02	3.99E-13	7.76E+01	3.17E-13	1.88E-12	8.08E-01	4.10E-13	3.01E-13	2.32E-01	7.75E-01	1.79E-01	4.37E-02	3.76E+00	5.44E-01	1.22E-15
Normalized peak height	4.47E-01	2.30E-01	9.03E-02	4.91E-03	5.93E-02	2.77E-01	3.31E-02	3.53E-02	4.14E-02	3.87E-02	4.88E-01	3.61E-02	6.64E-01	8.03E-01	3.13E-02	2.58E-01	2.75E-01	3.52E-02	2.43E-02	2.12E-02	9.45E-02	2.53E-02	8.07E-03	3.20E-01
Peak sensitivity value	3.57E-03	-7.56E-04	1.01E-02	6.44E-02	-2.14E-01	8.98E-17	1.99E-03	5.04E-03	2.95E-04	2.43E-04	-1.85E-16	4.46E-02	6.00E-17	3.04E-16	-6.58E-03	2.29E-16	3.14E-16	-2.15E-03	-1.26E-02	-4.46E-03	-7.50E-05	-7.62E-01	-5.07E-02	8.84E-19
Shapiro-Wilk score	4.495E-01	5.490E-01	6.934E-01	9.284E-01	5.992E-01	4.336E-01	7.155E-01	7.427E-01	7.250E-01	7.912E-01	3.026E-01	7.494E-01	2.241E-01	2.101E-01	7.716E-01	4.758E-01	4.528E-01	7.746E-01	7.829E-01	7.879E-01	6.507E-01	8.398E-01	9.751E-01	7.979E-01
Extracellular cyanide																							
Local	-1.89E-03	-8.11E-04	-1.47E-01	-6.48E-04	-7.85E-03	4.27E-16	6.15E-03	1.34E-02	1.15E-03	3.48E-03	6.32E-16	1.23E-01	0.00E+00	0.00E+00	-2.09E-02	3.66E-16	-5.96E-16	-5.03E-03	3.14E-02	-6.50E-02	7.90E-02	5.46E-03	-9.35E-03	-7.74E-19
Min	-1.62E+00	-5.66E-01	-1.37E+00	-3.81E-02	-1.01E+00	-1.24E-14	2.84E-05	2.02E-04	1.06E-05	7.16E-06	-6.22E-14	3.46E-03	-3.89E-14	-1.88E-13	-2.02E-01	-7.77E-14	-5.66E-14	-2.98E-02	9.99E-04	-5.57E-01	3.32E-03	-2.82E-01	-1.14E-01	-7.31E-17
Max	2.16E-02	5.42E-02	1.82E-01	4.80E-04	5.39E-03	1.54E-14	6.95E-02	1.40E-01	1.68E-02	5.67E-02	4.70E-14	1.18E+00	5.69E-14	2.23E-13	-1.97E-04	9.82E-14	7.69E-14	-1.63E-04	5.34E-01	-3.12E-03	7.18E-01	1.20E-01	1.67E-03	3.50E-17
Normalized peak height	5.24E-03	3.91E-01	1.22E-01	6.03E-02	1.15E-01	2.09E-01	1.37E-02	1.17E-02	1.85E-02	2.77E-02	4.26E-01	1.15E-02	5.66E-01	7.88E-01	1.06E-02	2.39E-01	2.37E-01	6.74E-03	1.72E-02	8.94E-03	9.60E-03	6.71E-02	4.72E-02	2.80E-01
Peak sensitivity value	-6.57E-04	-1.10E-04	-4.74E-04	-1.56E-04	-1.24E-03	4.14E-18	1.17E-03	5.57E-03	3.21E-04	3.76E-04	3.60E-17	3.11E-02	-4.73E-17	-9.83E-17	-6.36E-03	-3.69E-17	-6.19E-17	-2.19E-03	1.03E-02	-2.61E-02	3.30E-02	1.44E-03	-9.02E-06	4.72E-20
Shapiro-Wilk score	4.330E-01	3.535E-01	6.827E-01	5.058E-01	4.858E-01	5.585E-01	7.282E-01	8.074E-01	7.325E-01	6.376E-01	3.024E-01	7.623E-01	2.402E-01	2.143E-01	7.944E-01	5.257E-01	4.826E-01	8.541E-01	6.841E-01	7.936E-01	7.769E-01	6.389E-01	7.439E-01	5.964E-01
Pyruvate																							
Local	9.01E-01	3.88E-01	7.04E+01	2.28E-01	2.76E+00	-6.96E-14	4.07E-02	8.91E-02	7.64E-03	2.31E-02	-7.79E+01	8.15E-01	0.00E+00	0.00E+00	-1.39E-01	-5.18E-14	1.49E-13	-3.34E-02	-1.73E-01	-4.93E-02	-3.93E-03	-1.87E+00	4.59E+00	2.26E-16
Min	-1.20E+00	-1.68E+00	-5.20E+01	4.07E-05	1.61E-02	-2.49E-10	-5.91E-01	-1.16E+00	-7.85E-02	-4.92E-01	-2.79E+04	-1.23E+01	-1.53E-11	-4.76E-11	-5.09E+02	-2.35E-10	-1.35E-10	-8.48E+01	-5.43E+02	-1.80E+02	-1.51E+01	-1.14E+03	-4.33E-03	-3.54E-13
Max	4.15E+03	7.32E+02	1.63E+04	9.50E+01	2.62E+04	5.59E-12	2.26E+02	3.23E+02	1.22E+01	2.21E+01	-1.46E+00	2.25E+03	8.70E-11	1.34E-10	1.71E+00	8.69E-11	1.01E-10	5.61E-01	1.98E+00	6.27E-01	9.59E-02	3.44E+02	8.95E+02	4.33E-14
Normalized peak height	8.95E-01	8.81E-01	9.40E-01	9.25E-01	9.89E-01	9.59E-01	9.76E-01	9.62E-01	9.38E-01	8.19E-01	9.51E-01	9.54E-01	9.86E-01	9.77E-01	9.76E-01	9.75E-01	9.77E-01	9.45E-01	9.51E-01	9.74E-01	9.67E-01	8.62E-01	9.12E-01	9.46E-01
Peak sensitivity value	8.81E-01	1.57E-01	5.33E+00	4.75E-02	1.31E+01	1.17E-13	-2.40E-02	-2.90E-02	1.30E-03	-7.31E-03	-1.54E+01	1.74E-01	-3.15E-14	-2.91E-14	-7.43E-02	3.19E-14	-9.00E-17	6.02E-03	7.63E-02	-4.75E-03	-2.91E-03	4.76E-01	4.43E-01	-1.52E-16
Shapiro-Wilk score	2.271E-02	3.227E-02	2.101E-02	3.200E-02	4.920E-03	1.365E-03	4.218E-03	6.998E-03	1.593E-02	1.698E-02	1.998E-02	1.271E-02	3.143E-03	6.450E-03	7.166E-03	1.064E-02	1.117E-02	1.005E-02	8.212E-03	6.700E-03	1.016E-02	2.400E-02	3.001E-02	5.455E-03
Extracellular ethanol																							
Local	1.01E-02	4.32E-03	7.92E-01	2.92E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.83E-01	-3.41E-16	-1.00E+00	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-7.10E-01	-1.51E-01	-2.55E-01	-1.59E-03	-1.28E-02	-1.33E-14	1.17E-04	8.20E-04	6.06E-05	6.04E-05	-3.75E-14	1.54E-02	-2.72E-14	-1.00E+00	-2.34E-01	-7.80E-14	-3.86E-14	-5.51E-02	-1.52E-01	-4.88E-02	-1.58E-02	-2.22E-01	-1.43E-04	-4.84E-17
Max	9.27E-01	5.06E-01	1.84E+00	4.41E-02	9.71E-01	1.17E-14	7.89E-02	1.40E-01	2.47E-02	6.44E-02	4.17E-14	9.37E-01	4.79E-14	-1.00E+00	-1.42E-03	7.09E-14	4.98E-14	-4.90E-04	-5.43E-03	-1.34E-03	-7.20E-06	3.14E-01	1.81E-01	1.50E-16
Normalized peak height	2.26E-01	1.09E-01	3.87E-02	1.35E-02	2.32E-02	1.20E-01	8.54E-03	6.41E-03	1.43E-02	1.55E-02	3.30E-01	6.09E-03	3.55E-01	1.00E+00	6.54E-03	1.64E-01	1.42E-01	6.22E-03	4.16E-03	4.54E-03	1.87E-02	1.45E-02	1.92E-02	2.74E-01
Peak sensitivity value	1.45E-03	9.58E-04	1.79E-03	1.72E-03	2.21E-02	-5.09E-18	3.78E-03	8.84E-03	7.13E-04	8.64E-04	-9.29E-18	7.11E-02	2.90E-17	-1.00E+00	-1.55E-02	-3.03E-17	-4.40E-17	-5.27E-03	-2.40E-02	-8.43E-03	-1.58E-04	-2.79E-04	1.29E-04	-7.32E-20
Shapiro-Wilk score	5.853E-01	4.836E-01	8.158E-01	7.514E-01	5.785E-01	6.699E-01	8.211E-01	8.677E-01	7.626E-01	7.381E-01	5.140E-01	8.264E-01	4.412E-01	1.000E+00	8.615E-01	6.439E-01	6.182E-01	8.671E-01	9.280E-01	9.272E-01	7.221E-01	7.416E-01	9.787E-01	8.206E-01
Extracellular glycerol																							
Local	2.51E-02	1.08E-02	1.90E+00	8.03E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-1.00E+00	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-5.29E-01	-5.19E-02	-5.01E-01	8.43E-06	1.92E-02	-1.30E-13	-4.51E-01	-4.91E-01	-8.79E-02	-3.36E-01	-6.20E-13	-3.54E+00	-1.32E-12	-5.57E-12	3.21E-03	-6.20E-13	-1.00E+00	1.33E-03	1.52E-02	2.18E-03	2.82E-04	-4.39E-01	-3.15E-02	-6.00E-16
Max	3.34E+00	1.53E+00	3.65E+00	1.37E-01	3.02E+00	1.39E-13	-1.58E-04	-3.91E-03	-9.69E-05	-1.04E-04	5.60E-13	-4.48E-01	7.77E-13	6.31E-12	6.77E-01	4.28E-13	-1.00E+00	2.78E-01	6.95E-01	3.58E-01	5.10E-02	8.69E-01	4.93E-01	5.61E-16
Normalized peak height	2.35E-01	1.25E-01	3.46E-02	1.40E-02	2.61E-02	9.05E-02	4.67E-03	2.81E-03	6.72E-03	8.00E-03	3.67E-01	5.17E-03	5.92E-01	7.68E-01	2.33E-03	9.42E-02	1.00E+00	3.93E-03	2.84E-03	3.59E-03	7.32E-03	1.67E-02	2.90E-02	2.60E-01
Peak sensitivity value	3.08E-03	1.08E-03	3.66E-03	6.08E-03	6.87E-02	1.26E-16	-4.19E-02	-1.29E-01	-7.34E-03	-8.32E-03	-1.05E-16	-1.19E+00	-8.89E-16	-4.52E-15	2.19E-01	-4.33E-16	-1.00E+00	4.33E-02	3.53E-01	7.57E-02	3.45E-03	-6.02E-02	2.64E-04	-1.87E-19
Shapiro-Wilk score	5.998E-01	4.882E-01	8.909E-01	7.479E-01	6.033E-01	7.524E-01	9.065E-01	9.790E-01	9.125E-01	8.387E-01	5.020E-01	9.473E-01	3.763E-01	3.140E-01	9.873E-01	8.040E-01	1.000E+00	9.376E-01	9.97E-01	9.675E-01	8.455E-01	7.137E-01	9.835E-01	8.442E-01
Extracellular glucose																							
Local	2.57E+00	-1.30E-02	-2.53E+00	-3.55E-03	-4.30E-02	8.97E-17	-5.98E-04	-1.31E-03	-1.12E-04	-3.38E-04	2.12E-16	-1.20E-02	0.00E+00	0.00E+00	2.04E-03	1.65E-16	1.51E-17	4.89E-04	2.54E-03	7.23E-04	5.76E-05	2.53E-02	5.83E-03	-3.53E-18
Min	2.73E-01	-2.14E+00	-2.48E+01	-2.15E-01	-2.16E+01	-1.15E-12	-3.50E-01	-5.66E-01	-9.14E-02	-7.60E-02	-4.81E-13	-5.86E+00	-4.25E-13	-1.07E-12	-8.05E-02	-5.40E-13	-5.01E-13	-2.01E-02	-8.09E-02	-2.60E-02	-9.13E-03	-1.33E+00	-2.24E-01	-4.97E-15
Max	2.61E+01	9.75E+01	1.08E+00	1.48E-02	2.97E-01	1.97E-13	3.10E-02	4.67E-02	7.38E-03	2.92E-02	3.22E-13	5.17E-01	1.54E-13	1.21E-12	9.10E-01	3.83E-13	6.19E-13	2.57E-01	1.18E+00	3.07E-01	4.78E-02	1.14E+00	5.65E-01	1.46E-15
Normalized peak height	1.33E-02	1.87E-01	3.53E-02	6.87E-02	2.11E-01	8.41E-01	3.42E-01	3.10E-01	2.77E-01	2.67E-01	7.84E-01	3.47E-01	7.94E-01	9.12E-01	2.81E-01	4.67E-01	7.06E-01	2.47E-01	3.11E-01	2.78E-01	4.23E-01	7.68E-02	9.34E-02	6.28E-01
Peak sensitivity value	8.03E-01	-2.58E-03	-1.59E-02	-4.59E-04	-2.08E-02	-3.40E-16	-3.86E-05	-1.90E-04	-7.27E-05	-7.50E-05	6.35E-17	-2.25E-03	2.52E-16	1.97E-17	1.98E-04	4.41E-16	1.97E-16	2.33E-04	4.82E-04	1.04E-04	3.33E-06	6.33E-03	1.54E-03	1.35E-18
Shapiro-Wilk score	7.544E-01	6.579E-01	6.788E-01	6.655E-01	4.563E-01	5.563E-02	3.772E-01	4.043E-01	3.418E-01	4.268E-01	1.319E-01	4.228E-01	6.645E-02	5.880E-02	4.120E-01	2.560E-01	1.978E-01	3.887E-01	4.401E-01	4.375E-01	3.369E-01	7.274E-01	6.380E-01	2.024E-01
1-3-Bisphosphoglycerate																							
Local	1.07E-02	4.61E-03	8.37E-01	4.44E-02	5.38E-01	5.30E-16	8.28E-03	1.81E-02	-2.84E-01	-8.96E-01	3.50E-14	1.60E-01	0.00E+00	0.00E+00	-2.82E-02	6.06E-16	-4.86E-16	-6.78E-03	-3.52E-02	-1.00E-02	-7.98E-04	-3.98E-01	-7.28E-03	7.56E-17
Min	-1.05E+01	-1.20E+00	-1.15E+01	-2.68E-03	-3.71E-01	-4.18E-13	-7.86E-03	-1.55E-02	-9.44E-01	-1.70E+00	-3.74E-13	-1.54E-01	-4.06E-13	-1.06E-12	-6.46E-01	-4.43E-13	-3.21E-13	-1.05E-01	-7.38E-01	-1.30E-01	-2.52E-02	-1.05E+00	-6.00E-01	-2.45E-15
Max	1.35E+00	6.41E-01	1.46E+00	2.05E-01	1.08E+01	3.50E-13	2.04E-01	3.34E-01	-4.86E-02	-6.33E-02	4.78E-13	4.23E+00	3.41E-13	7.48E-13	2.42E-02	5.40E-13	4.44E-13	3.21E-03	1.61E-02	5.67E-03	1.77E-03	4.93E-01	8.03E-02	4.22E-15
Normalized peak height	4.35E-01	1.71E-01	8.84E-02	1.08E-02	2.97E-02	1.48E-01	2.50E-02	1.65E-02	3.08E-03	3.69E-03	2.88E-01	2.69E-02	6.45E-01	7.49E-01	1.92E-02	1.95E-01	2.26E-01	1.27E-02	1.92E-02	1.25E-02	3.57E-02	1.13E-02	1.56E-02	2.52E-01
Peak sensitivity value	1.88E-03	5.88E-04	3.18E-03	1.15E-04	3.26E-01	1.66E-17	3.27E-03	8.81E-03	-2.57E-01	-8.10E-01	-3.54E-16	5.90E-02	-1.32E-16	-1.45E-16	-1.71E-02	4.38E-17	-2.02E-17	-3.79E-03	-1.90E-02	-6.74E-03	-7.99E-05	-4.09E-01	5.07E-03	-2.22E-18
Shapiro-Wilk score	5.633E-01	6.197E-01	8.074E-01	9.645E-01	6.603E-01	4.860E-01	6.614E-01	7.525E-01	9.635E-01	9.991E-01	7.498E-01	7.255E-01	3.647E-01	2.924E-01	7.366E-01	5.507E-01	5.225E-01	7.577E-01	7.871E-01	7.830E-01	6.300E-01	8.478E-01	7.672E-01	8.597E-01
Fructose 1-6-bisphosphate																							
Local	4.60E-02	1.98E-02	3.59E+00	2.43E-02	2.94E-01	-9.76E-02	-8.09E-02	-1.00E+00	-8.59E-02	-2.59E-01	2.20E-14	-2.18E+00	0.00E+00	0.00E+00	-9.76E-01	1.28E-14	-8.40E-15	8.90E-02	4.63E-01	1.31E-01	1.05E-02	-2.10E-01	2.16E-01	3.37E-17
Min	-3.57E+00	-5.87E-01	-4.08E+00	4.27E-05	4.88E-02	-6.05E-01	-1.17E+00	-2.27E+01	-4.78E-01	-1.89E+00	-1.01E-12	-5.76E+01	-1.35E-12	-4.40E-12	-5.54E+01	-1.10E-12	-7.44E-13	-2.58E-03	-1.72E-02	-2.71E-03	-2.52E-04	-4.05E+00	-2.15E-01	-6.85E-16
Max	5.68E+01	1.48E+01	1.03E+02	1.05E+00	2.78E+01	-1.23E-02	4.57E-01	-7.01E-02	-3.93E-03	-1.19E-03	1.04E-12	2.13E-01	5.36E-13	2.61E-12	-7.39E-02	1.23E-12	2.00E-12	7.14E-01	2.88E+00	6.44E-01	3.03E-01	5.06E+00	5.49E+00	2.03E-15
Normalized peak height	5.55E-01	3.43E-01	1.71E-01	3.53E-02	7.59E-02	5.25E-03	4.95E-03	2.15E-02	6.32E-03	7.32E-03	3.93E-01	2.75E-02	5.94E-01	7.56E-01	4.74E-02	1.62E-01	2.29E-01	7.60E-03	6.39E-03	5.04E-03	3.20E-02	3.84E-02	4.76E-02	2.53E-01
Peak sensitivity value	2.20E-02	4.23E-03	2.69E-02	1.53E-02	1.74E-01	-7.06E-02	-6.37E-02	-1.10E+00	-6.11E-02	-7.96E-02	-3.05E-17	-1.15E+00	-7.38E-16	1.95E-15	-7.66E-01	2.69E-16	-5.00E-16	3.65E-02	3.52E-01	6.87E-02	1.72E-03	-1.69E-01	-1.61E-03	4.28E-20
Shapiro-Wilk score	5.623E-01	4.627E-01	7.877E-01	6.642E-01	6.244E-01	8.895E-01	9.817E-01	8.431E-01	9.260E-01	8.473E-01	4.504E-01	7.816E-01	3.519E-01	3.364E-01	5.796E-01	6.884E-01	6.324E-01	8.782E-01	9.574E-01	9.129E-01	7.348E-01	7.900E-01	9.005E-01	8.249E-01
AMP																							
Local	4.17E-03	1.79E-03	3.25E-01	-6.74E-02	-8.16E-01	2.40E-15	-1.26E-02	-2.76E-02	-2.37E-03	-7.14E-03	6.43E-15	-2.52E-01	0.00E+00	0.00E+00	1.30E-02	3.70E-15	2.03E-16	1.03E-02	9.37E-02	1.52E-02	1.22E-03	6.08E-01	1.23E-01	638E-17
Min	-3.67E-01	-4.33E-01	-4.63E+00	-3.10E-01	-1.98E+01	-1.01E-13	-4.36E-01	-7.70E-01	-7.81E-02	-1.65E-01	-5.64E-13	-6.24E+00	-1.95E-13	-1.63E-12	1.07E-03	-7.20E-13	-1.67E-12	4.56E-04	6.50E-03	1.42E-03	7.84E-06	-3.62E-01	8.88E-04	-1.27E-14
Max	1.98E+01	2.54E+00	1.86E+01	-4.93E-06	-2.17E-01	4.08E-12	-2.14E-04	-5.67E-04	-6.72E-05	-2.85E-05	7.96E-13	-1.86E-02	5.40E-13	3.80E-12	1.14E+00	6.15E-13	4.90E-13	1.96E-01	6.96E-01	2.01E-01	3.81E-02	2.14E+00	1.10E+00	5.40E-15
Normalized peak height	5.45E-01	3.27E-01	1.28E-01	1.36E-02	3.73E-02	4.98E-01	3.14E-02	2.34E-02	3.17E-02	2.70E-02	4.26E-01	2.50E-02	5.59E-01	6.22E-01	2.11E-02	9.92E-01	3.23E-01	1.54E-02	1.18E-02	1.26E-02	3.19E-02	7.75E-03	7.75E-03	2.51E-01
Peak sensitivity value	5.48E-03	-1.30E-03	-4.99E-04	-1.60E-04	-4.81E-01	1.92E-15	-4.35E-03	-1.10E-02	-8.09E-04	-1.27E-03	-6.08E-16	-9.02E-02	-8.03E-17	2.61E-15	1.98E-02	4.12E-16	3.23E-17	4.85E-03	3.31E-02	1.05E-02	1.41E-04	6.03E-01	1.37E-01	5.47E-18
Shapiro-Wilk score	3.436E-01	4.975E-01	5.669E-01	9.718E-01	6.246E-01	3.928E-02	6.759E-01	7.402E-01	6.930E-01	6.799E-01	3.996E-01	7.336E-01	3.007E-01	2.303E-01	7.388E-01	5.858E-01	4.449E-01	7.600E-01	7.995E-01	7.799E-01	6.376E-01	8.098E-01	9.354E-01	6.783E-01
ATP																							
Local	-1.59E-03	-6.83E-04	-1.24E-01	2.91E-02	1.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	1.61E-02	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	-4.68E-02	2.55E-17
Min	-1.70E+01	-1.52E+00	-9.88E+00	1.57E-05	6.69E-02	-1.25E-13	2.35E-05	2.35E-04	2.53E-05	2.27E-05	-4.42E-13	5.52E-03	-2.09E-13	-1.20E-12	-7.27E-01	-5.94E-13	-5.30E-13	-3.96E-01	-6.54E-01	-2.10E-01	-5.28E-02	-1.40E+00	-7.47E-01	-9.90E-16
Max	9.85E-01	1.06E+00	1.59E+00	1.94E-01	1.81E+01	1.10E-13	4.18E-01	4.35E-01	7.35E-02	1.21E-01	3.94E-13	5.43E+00	4.82E-13	3.45E-12	-4.96E-04	7.47E-13	7.21E-13	-1.82E-04	-1.96E-03	-4.95E-04	-2.26E-06	7.57E-01	-5.67E-03	7.81E-16
Normalized peak height	5.58E-01	5.13E-01	1.02E-01	7.17E-03	5.57E-02	2.45E-01	6.40E-02	2.85E-02	6.40E-02	4.00E-02	4.37E-01	4.67E-02	6.38E-01	8.21E-01	2.87E-02	2.96E-01	3.67E-01	6.40E-02	2.40E-02	2.62E-02	9.99E-02	1.17E-02	1.07E-02	2.92E-01
Peak sensitivity value	2.51E-03	3.02E-04	4.22E-03	1.76E-02	1.66E-01	1.02E-16	1.90E-03	4.37E-03	2.83E-04	1.68E-04	1.98E-16	3.00E-02	2.23E-16	-9.83E-16	-6.67E-03	-3.57E-16	-2.95E-16	-1.97E-03	-1.08E-02	-3.33E-03	-8.14E-05	-2.20E-01	-4.76E-02	-7.49E-19
Shapiro-Wilk score	2.734E-01	4.562E-01	4.731E-01	8.936E-01	6.070E-01	4.744E-01	5.530E-01	6.249E-01	5.415E-01	5.808E-01	3.273E-01	6.391E-01	2.082E-01	1.387E-01	6.165E-01	4.502E-01	4.208E-01	6.216E-01	6.863E-01	6.743E-01	5.272E-01	8.236E-01	8.114E-01	8.794E-01
NADH																							
Local	9.35E-03	4.03E-03	7.30E-01	-1.86E-03	-2.25E-02	6.21E-15	1.24E-01	3.36E-01	2.88E-02	8.69E-02	1.30E-14	-1.28E+00	0.00E+00	0.00E+00	-5.23E-01	6.20E-15	-5.37E-15	5.25E-02	2.74E-01	7.75E-02	6.18E-03	1.86E-02	5.39E-02	-5.02E-18
Min	-8.59E-02	-2.91E-02	-2.42E-01	-2.60E-02	-1.17E+00	-1.46E-13	1.18E-03	2.09E-02	5.31E-04	5.51E-04	-8.32E-13	-2.36E+00	-4.95E-13	-4.05E-12	-1.01E+00	-5.60E-13	-2.02E-13	3.56E-04	4.70E-03	5.96E-04	1.77E-04	-1.63E-01	-3.05E-03	-3.08E-16
Max	1.98E+00	7.25E-01	1.93E+00	5.04E-02	1.40E+00	1.30E-13	8.36E-01	7.17E-01	1.66E-01	4.14E-01	6.18E-13	-5.99E-02	8.00E-13	3.85E-12	-3.38E-02	3.08E-13	2.60E-13	2.82E-01	6.89E-01	3.40E-01	3.68E-02	4.06E-01	2.39E-01	2.07E-16
Normalized peak height	2.03E-01	1.63E-01	4.20E-02	2.05E-02	3.10E-02	1.09E-01	5.76E-03	3.55E-03	6.31E-03	4.96E-03	4.05E-01	4.98E-03	5.62E-01	7.79E-01	4.78E-03	1.08E-01	1.14E-01	4.67E-03	3.35E-03	3.96E-03	6.69E-03	1.07E-02	1.13E-02	2.75E-01
Peak sensitivity value	1.77E-03	7.04E-04	2.05E-03	6.75E-05	-9.61E-03	2.62E-17	1.17E-01	9.298E-01	1.98E-02	2.10E-02	-2.68E-17	-1.06E+00	-6.23E-16	2.22E-15	-5.29E-01	1.11E-16	-5.96E-17	3.38E-02	2.67E-01	7.04E-02	2.17E-03	-3.49E-04	-2.64E-05	1.17E-19
Shapiro-Wilk score	5.844E-01	4.832E-01	9.308E-01	9.045E-01	6.236E-01	7.050E-01	9.298E-01	9.980E-01	9.132E-01	8.941E-01	4.732E-01	9.873E-01	3.655E-01	3.052E-01	9.744E-01	8.237E-01	7.894E-01	9.404E-01	9.932E-01	9.670E-01	8.460E-01	8.664E-01	9.599E-01	7.770E-01

Table 24: Concentration control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±90900%

	(GlucoseMixedflowtoextracellularmedium)	(Glucoseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)	(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
Acetaldehyde																								
Local	2.55E-02	1.10E-02	1.99E+00	8.76E-03	1.06E-01	-5.75E-15	-8.30E-02	-1.82E-01	-1.56E-02	-4.70E-02	-7.51E-15	-1.66E+00	0.00E+00	0.00E+00	2.83E-01	-5.12E-15	7.96E-15	-6.23E-02	-3.24E-01	-9.20E-02	-7.34E-03	-7.38E-02	1.26E-01	1.05E-17
Min	-3.79E+00	-4.13E+00	-1.68E+03	-1.16E+00	-4.38E+01	-6.99E-11	-9.29E+00	-9.11E+01	-9.17E+01	-8.05E+01	-7.05E-11	-1.66E+03	-5.10E-11	-1.73E-10	-1.97E+02	-8.20E-10	-1.13E-10	-3.38E+02	-1.46E+03	-1.55E+02	-5.52E+00	-1.38E+01	-9.38E+03	-5.50E-09
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	5.31E-01	2.92E-01	5.84E-01	3.15E-01	3.00E-01	9.60E-01	4.62E-01	6.55E-01	9.94E-01	8.54E-01	9.85E-01	9.68E-01	9.59E-01	9.82E-01	5.91E-01	9.65E-01	9.82E-01	7.84E-01	9.97E-01	8.05E-01	6.37E-01	4.41E-01	9.89E-01	1.00E+00
Peak sensitivity value	6.80E-03	2.13E-02	-4.86E+00	3.99E-03	3.40E-02	-2.81E-14	-5.63E-02	1.97E-02	2.34E-02	1.63E-02	3.92E-14	-1.31E+00	-7.72E-16	5.13E-13	-6.19E-02	-1.43E-12	-5.89E-16	-3.08E-01	-1.08E+00	-4.35E-03	-1.08E-03	-5.04E-02	2.25E+00	2.17E-10
Shapiro-Wilk score	5.629E-01	6.775E-01	8.977E-03	4.836E-01	6.851E-01	3.581E-02	2.239E-01	7.958E-02	1.542E-03	4.869E-02	1.098E-02	2.736E-02	3.841E-02	4.380E-03	1.016E-01	4.830E-03	1.563E-02	5.901E-02	1.008E-02	5.018E-02	2.628E-01	5.832E-01	4.475E-03	4.923E-05
Cytosolic glucose																								
Local	2.04E+00	8.77E-01	-3.34E+00	7.30E-03	8.83E-02	4.39E-16	-2.81E-03	-6.15E-03	-5.28E-04	-1.59E-03	1.00E-15	-5.63E-02	0.00E+00	0.00E+00	9.58E-03	7.63E-16	4.37E-17	2.30E-03	1.20E-02	3.40E-03	2.71E-04	3.43E-01	2.74E-02	7.34E-18
Min	-1.53E+02	-2.93E+02	-8.45E+04	-8.56E+02	-4.39E+03	-1.74E-10	-1.15E+02	-1.45E+02	-6.02E+00	-3.37E+02	-7.63E-11	-2.36E+03	-2.73E-11	-1.28E-10	-1.35E+01	-6.21E-10	-4.34E-10	-1.19E+01	-5.65E+01	-1.50E+01	-4.08E+00	-1.84E+02	-1.66E+01	-4.37E-12
Max	5.53E+04	2.71E+04	4.35E+02	6.27E+01	3.10E+02	1.78E-10	1.49E+01	6.49E+00	1.47E-01	1.90E+00	1.46E-10	1.10E+02	8.16E-11	9.00E-11	2.99E+02	4.44E-10	3.01E-10	3.66E+02	7.24E+02	1.89E+02	3.29E+01	2.69E+03	1.40E+03	2.26E-08
Normalized peak height	9.96E-01	9.95E-01	9.99E-01	9.87E-01	9.84E-01	9.79E-01	9.76E-01	4.87E-01	8.96E-01	9.91E-01	9.94E-01	9.69E-01	9.79E-01	9.75E-01	9.66E-01	9.69E-01	9.94E-01	9.44E-01	9.86E-01	9.74E-01	9.67E-01	7.29E-01	8.25E-01	1.00E+00
Peak sensitivity value	-1.48E+01	-5.26E+00	-3.20E+01	-2.21E-01	-2.20E+00	1.33E-13	-3.28E-02	-8.09E-02	2.54E-03	3.07E-02	-5.63E-14	1.61E-01	-1.88E-14	-9.17E-14	8.48E-02	2.88E-13	2.53E-14	-1.39E-02	6.81E-02	8.52E-03	3.16E-04	1.54E+00	-3.70E-01	6.92E-12
Shapiro-Wilk score	7.384E-04	1.821E-03	7.139E-04	7.792E-03	1.073E-02	8.235E-03	1.018E-02	2.374E-02	7.635E-03	4.003E-03	3.168E-03	1.095E-02	1.519E-02	7.679E-03	1.329E-02	2.034E-02	4.857E-03	1.299E-02	8.972E-03	8.917E-03	1.126E-02	1.385E-02	1.418E-02	4.739E-05
Glycerol																								
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.13E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.53E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	-5.98E-01	-4.02E-01	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-2.59E+00	-2.58E+00	-4.32E+02	-1.92E+00	-6.03E+00	-3.93E-11	-5.61E+00	-1.01E+01	-3.72E+00	-7.77E+01	-7.28E-11	-9.53E+01	-8.15E-11	-2.48E-10	-1.94E+02	-9.99E-01	-9.97E-01	-2.70E+02	-4.09E+02	-1.24E+02	-1.39E+00	-1.56E+01	-2.11E+03	-5.88E-09
Max	6.73E+01	3.33E+01	2.12E+03	1.33E+01	2.04E+01	4.10E-11	5.17E+01	1.92E+02	5.46E+00	3.86E+00	5.77E-11	5.78E+02	1.74E-10	9.58E-10	8.40E+00	-2.65E-03	-7.29E-04	4.10E+01	4.84E+01	5.86E+00	6.92E-01	1.06E+01	4.32E+02	8.09E-09
Normalized peak height	5.99E-01	2.36E-01	8.76E-01	3.50E-01	1.52E-01	9.48E-01	6.63E-01	5.96E-01	8.02E-01	9.11E-01	9.68E-01	6.68E-01	9.43E-01	9.76E-01	5.69E-01	4.55E-03	4.55E-03	6.39E-01	8.68E-01	4.40E-01	3.48E-01	1.28E-01	9.63E-01	1.00E+00
Peak sensitivity value	2.84E-02	-1.26E-02	1.17E-01	3.25E-03	4.52E-02	2.40E-14	-2.87E-02	-1.12E-01	3.33E-03	-1.63E-02	5.54E-14	-6.78E-01	1.10E-13	-5.14E-13	1.62E-02	-9.36E-01	-6.40E-02	1.73E-01	1.87E-01	9.36E-02	-5.91E-04	1.09E-03	4.10E-01	-6.17E-12
Shapiro-Wilk score	5.706E-01	6.778E-01	4.173E-02	4.629E-01	6.973E-01	3.227E-02	2.584E-01	8.363E-02	3.736E-02	4.822E-02	1.166E-02	7.914E-02	2.690E-02	6.692E-03	1.188E-01	8.194E-01	8.191E-01	9.881E-02	4.586E-02	7.172E-02	3.701E-01	6.444E-01	1.964E-02	1.655E-04
EtOH																								
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.86E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-7.43E-17	1.84E-01	-1.45E-01	-8.55E-01	-3.13E-02	-1.63E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-1.16E+01	-9.51E+00	-2.29E+01	-2.19E+00	-1.49E+01	-2.48E-11	-2.20E-01	-8.29E+00	-3.23E-01	-1.50E-01	-1.69E-11	-1.55E+01	-9.93E-01	-1.00E+00	-1.02E+03	-2.84E-10	-1.18E-10	-4.96E+02	-3.97E+02	-2.25E+02	-1.98E+00	-1.58E+01	-1.86E+03	-1.42E-09
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	2.66E-01	1.98E-01	9.38E-01	2.40E-01	1.83E-01	9.74E-01	9.32E-01	8.91E-01	9.79E-01	8.74E-01	9.98E-01	9.62E-01	1.44E-03	1.44E-03	9.88E-01	9.10E-01	9.88E-01	9.74E-01	9.12E-01	9.61E-01	5.17E-01	1.84E-01	9.77E-01	1.00E+00
Peak sensitivity value	-3.23E-03	8.11E-03	6.16E-01	1.22E-03	2.38E-02	-6.15E-16	1.11E-02	-3.57E-01	1.23E-03	-7.05E-03	8.24E-14	5.42E-01	-2.66E-02	-9.73E-01	-1.26E-01	-5.15E-13	-9.18E-14	-1.62E-01	-6.62E-02	-3.45E-02	-1.22E-03	-7.43E-03	-4.35E-01	4.10E-14
Shapiro-Wilk score	6.180E-01	7.262E-01	2.898E-02	4.991E-01	7.067E-01	2.223E-02	3.185E-02	6.470E-03	1.235E-02	4.898E-02	3.293E-04	3.127E-02	9.675E-01	9.675E-01	8.679E-03	1.038E-02	5.181E-03	1.639E-02	2.695E-02	1.742E-02	2.917E-01	5.595E-01	1.515E-02	1.090E-04
ADP																								
Local	1.29E-03	5.55E-04	1.01E-01	-2.09E-02	-2.53E-01	6.63E-16	-3.90E-03	-8.54E-03	-7.33E-04	-2.21E-03	1.57E-15	-7.81E-02	0.00E+00	0.00E+00	1.33E-02	1.09E-15	5.21E-17	3.20E-03	1.66E-02	4.72E-03	3.76E-04	1.88E-01	3.81E-02	-4.97E-17
Min	-2.47E+01	-3.81E+00	-1.31E+02	-2.18E+00	-1.02E+01	-2.98E-10	-1.10E+00	-9.90E+01	-1.05E+00	-5.38E+00	-1.84E-11	-1.05E+02	-7.28E-11	-4.40E-10	-8.81E+01	-2.15E-10	-4.36E-11	-3.35E+02	-3.04E+02	-5.57E+01	-3.76E-01	-8.44E+00	-8.28E+02	-1.16E-09
Max	7.21E+00	4.58E+00	8.29E+02	2.27E+00	2.50E+01	3.60E-11	4.94E+01	8.09E+01	7.45E+00	7.90E+00	2.57E-11	6.73E+02	1.92E-11	8.63E-11	1.02E+02	1.11E-09	1.01E-10	5.06E+01	4.09E+01	1.35E+01	2.15E-01	3.14E+00	1.27E+02	1.31E-09
Normalized peak height	7.21E-01	3.33E-01	8.84E-01	2.13E-01	1.47E-01	9.80E-01	9.20E-01	9.79E-01	9.90E-01	8.66E-01	9.90E-01	8.76E-01	9.88E-01	9.90E-01	9.49E-01	9.88E-01	9.78E-01	9.87E-01	9.74E-01	9.05E-01	5.56E-01	6.71E-02	6.34E-01	9.99E-01
Peak sensitivity value	-9.84E-03	3.85E-03	1.72E-01	-1.25E-03	-1.22E-02	-1.53E-13	-1.90E-02	2.37E-02	7.87E-05	5.61E-03	3.50E-15	3.00E-01	-8.00E-15	-2.34E-13	-5.21E-02	3.87E-13	5.50E-14	-9.11E-02	5.31E-03	-2.54E-02	-2.63E-04	-2.57E-03	-4.55E-01	-6.25E-13
Shapiro-Wilk score	2.114E-01	5.620E-01	2.598E-02	7.235E-01	7.274E-01	1.885E-03	2.210E-02	1.918E-02	4.535E-03	5.977E-02	6.269E-03	3.148E-02	7.730E-03	1.135E-03	2.477E-02	4.830E-03	9.480E-03	1.555E-02	1.812E-02	2.299E-02	3.125E-01	8.814E-01	2.112E-02	6.058E-04
Glyceraldehyde 3-phosphate																								
Local	2.26E-02	9.73E-03	1.76E+00	1.27E-02	1.54E-01	6.19E-15	1.56E-01	-5.55E-01	-4.76E-02	-1.44E-01	1.37E-14	-1.23E+00	0.00E+00	0.00E+00	-5.32E-01	7.05E-15	-4.91E-15	5.03E-02	2.61E-01	7.42E-02	5.92E-03	-1.10E-01	1.05E-01	1.80E-17
Min	-9.61E+00	-5.72E+00	-1.06E+02	-1.64E+00	-1.43E+01	-9.12E-10	-9.38E-01	-3.92E+02	-7.19E-01	-2.49E+03	-9.11E-11	-3.24E+02	-6.72E-11	-3.08E-10	-5.54E+02	-6.25E-10	-3.21E-10	-1.05E+03	-4.44E+02	-1.14E+02	-2.30E+00	-8.11E+01	-2.69E+03	-8.38E-11
Max	7.58E+02	6.70E+02	2.69E+03	1.56E+02	5.77E+02	5.90E-10	2.96E+01	5.48E+02	6.77E+00	1.23E+01	9.16E-11	1.61E+03	8.22E-10	2.24E-10	2.19E+01	1.70E-08	2.19E-09	1.17E+02	1.25E+02	4.68E+01	1.10E+01	1.34E+02	1.28E+02	2.19E-07
Normalized peak height	7.61E-01	6.98E-01	9.43E-01	8.06E-01	7.06E-01	9.97E-01	1.93E-01	8.36E-01	7.37E-01	8.82E-01	9.87E-01	4.80E-01	9.92E-01	9.76E-01	4.80E-01	9.98E-01	9.92E-01	9.40E-01	5.75E-01	4.54E-01	6.76E-01	5.48E-01	9.69E-01	1.00E+00
Peak sensitivity value	-1.88E-02	2.04E-02	1.30E+00	2.15E-02	1.52E-01	2.18E-13	2.37E-02	-4.22E-01	-3.80E-03	1.07E+00	-3.58E-14	-1.65E+00	-1.18E-13	1.67E-13	-8.34E-01	-5.20E-13	-1.05E-12	1.13E-01	3.76E-01	1.04E-01	-3.22E-03	-5.23E-02	-6.81E-03	2.57E-11
Shapiro-Wilk score	7.906E-02	1.071E-01	4.297E-02	9.828E-02	1.443E-01	2.278E-03	4.605E-01	1.152E-01	1.448E-01	1.217E-02	1.056E-02	9.585E-02	2.978E-03	1.414E-02	1.578E-01	5.112E-04	7.222E-04	3.480E-02	8.559E-02	1.044E-01	1.342E-01	3.407E-01	1.481E-02	5.007E-05
Dihydroxyacetone phosphate																								
Local	2.40E-02	1.03E-02	1.88E+00	1.23E-02	1.49E-01	5.18E-15	-2.24E-01	-4.91E-01	-4.21E-02	-1.27E-01	1.04E-14	-1.03E+00	0.00E+00	0.00E+00	-4.89E-01	6.32E-15	-3.90E-15	4.23E-02	2.20E-01	6.25E-02	4.99E-03	-1.06E-01	1.13E-01	1.69E-17
Min	-1.50E+01	-2.81E+01	-6.05E+01	-1.84E+00	-2.48E+00	-3.09E-10	-1.72E+03	-5.11E+02	-6.41E-01	-1.21E+03	-6.47E-11	-2.54E+02	-4.09E-11	-1.55E-10	-5.69E+02	-1.10E-09	-5.64E-10	-5.87E+02	-6.84E+02	-1.91E+02	-2.20E+01	-6.85E+02	-1.97E+03	-7.03E-08
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	9.31E-01	6.64E-01	5.36E-01	9.11E-01	6.93E-01	9.92E-01	8.67E-01	4.95E-01	9.46E-01	9.18E-01	9.87E-01	6.05E-01	9.13E-01	8.79E-01	5.25E-01	9.54E-01	9.90E-01	8.27E-01	9.05E-01	8.55E-01	9.01E-01	7.35E-01	8.48E-01	1.00E+00
Peak sensitivity value	5.11E-01	-2.95E-01	-4.28E-01	1.34E-02	-5.15E-02	-1.55E-13	5.05E-01	1.35E-01	-7.30E-03	4.25E-01	7.60E-14	-1.09E-01	5.22E-14	1.41E-13	-9.12E-01	-8.56E-13	2.01E-13	1.47E-02	8.98E-02	4.63E-02	2.97E-03	6.96E-02	9.76E-01	-1.20E-11
Shapiro-Wilk score	4.162E-02	6.141E-02	4.972E-02	2.767E-02	6.366E-02	4.191E-03	1.109E-02	1.219E-01	4.665E-02	1.989E-02	4.678E-03	7.654E-02	3.100E-02	1.962E-02	1.369E-01	1.265E-02	4.889E-03	5.701E-02	4.453E-02	5.554E-02	8.281E-02	1.094E-01	1.735E-02	6.026E-05
Glucose-6-Phosphate																								
Local	1.37E-02	5.88E-03	1.07E+00	-2.72E-02	-3.29E-01	-8.33E-16	5.10E-03	1.11E-02	9.57E-04	2.89E-03	-1.82E-15	1.02E-01	0.00E+00	0.00E+00	-1.74E-02	-1.37E-15	-6.86E-17	-4.17E-03	-2.17E-02	-6.16E-03	-4.92E-04	-7.52E-01	-4.97E-02	-2.72E-17
Min	-6.38E+00	-9.28E+00	-7.64E+00	-7.12E+00	-6.31E+01	-6.54E-11	-4.12E+00	-3.13E+00	-1.26E-01	-7.36E+00	-4.10E-10	-9.95E+00	-2.85E-10	-2.26E-10	-1.56E+02	-3.24E-10	-6.90E-11	-8.39E+01	-1.04E+02	-3.80E+01	-8.55E-01	-5.73E+00	-8.92E+02	-1.46E-08
Max	6.41E+01	6.93E+00	8.93E+02	5.35E-01	2.48E+00	1.51E-10	7.89E+01	1.14E+02	3.37E+00	1.74E+01	9.48E-12	2.04E+02	4.08E-11	8.93E-11	5.40E+00	4.87E-10	7.61E-11	2.74E+00	2.89E+00	1.59E+00	6.09E-01	3.85E+00	7.30E+00	2.98E-07
Normalized peak height	4.57E-01	2.21E-01	4.45E-01	1.03E-01	1.80E-01	9.85E-01	9.37E-01	8.54E-01	9.68E-01	6.65E-01	9.98E-01	4.80E-01	9.87E-01	9.90E-01	9.06E-01	9.74E-01	9.65E-01	6.06E-01	7.80E-01	8.29E-01	4.28E-01	2.18E-02	9.09E-01	1.00E+00
Peak sensitivity value	-1.06E-03	2.41E-03	9.15E-01	-4.20E-03	-1.72E-01	-5.54E-14	-1.06E-02	-1.82E-02	1.48E-03	-1.20E-02	4.41E-14	-1.66E-02	-1.23E-13	-8.69E-14	-2.00E-02	-9.97E-14	-5.17E-14	1.47E-02	-4.29E-02	-1.31E-02	6.63E-04	-9.96E-01	-3.47E-01	-1.92E-11
Shapiro-Wilk score	4.019E-01	7.386E-01	8.168E-02	6.938E-01	4.114E-01	7.989E-03	2.320E-02	3.315E-02	1.402E-02	4.980E-02	4.246E-04	1.013E-01	2.436E-03	4.246E-03	3.418E-02	2.884E-02	1.927E-02	5.523E-02	5.360E-02	4.988E-02	2.753E-01	9.670E-01	3.942E-02	5.239E-05
NAD																								
Local	-4.87E-03	-2.10E-03	-3.80E-01	9.66E-04	1.17E-02	-3.24E-15	-8.00E-02	-1.75E-01	-1.50E-02	-4.53E-02	-6.78E-15	6.68E-01	0.00E+00	0.00E+00	2.72E-01	-3.23E-15	2.80E-15	-2.73E-02	-1.42E-01	-4.03E-02	-3.22E-03	-9.68E-03	-2.81E-02	2.62E-18
Min	-1.80E+01	-1.33E+01	-2.76E+10	-3.64E+00	-1.83E+01	-2.93E-10	-2.96E+01	-5.18E+00	-1.25E+00	-1.33E+02	-2.50E-11	-1.01E+02	-3.69E-11	-4.37E-10	-1.41E-01	-2.50E-10	-4.59E-11	-2.69E+01	-1.35E+02	-5.56E+01	-2.33E+00	-1.99E+01	-2.05E+12	-1.99E+08
Max	6.07E+01	4.33E+01	2.05E+12	9.15E+00	7.25E+01	5.70E-11	2.43E-03	8.55E-02	1.00E-03	2.29E-05	4.04E-11	1.78E+02	1.37E-11	1.50E-10	2.96E+01	1.68E-10	1.95E-11	5.77E+01	3.75E+01	2.57E+01	1.08E-01	6.83E+00	2.78E+10	5.15E+09
Normalized peak height	7.66E-01	6.86E-01	1.00E+00	5.79E-01	6.73E-01	9.73E-01	3.81E-01	1.80E-02	2.59E-01	8.39E-01	9.62E-01	2.89E-01	9.41E-01	9.88E-01	4.86E-02	9.44E-01	8.81E-01	3.03E-01	4.66E-01	7.40E-01	5.98E-01	4.48E-01	1.00E+00	1.00E+00
Peak sensitivity value	-2.08E-02	-1.29E-02	4.47E+08	-3.38E-03	2.29E-02	1.24E-13	-1.24E-02	-6.64E-03	-8.75E-04	-6.63E-02	1.40E-14	3.73E-01	-1.53E-15	1.39E-14	5.24E-02	-1.13E-13	3.06E-14	-7.88E-02	-3.74E-03	-2.79E-02	-2.14E-04	3.82E-03	-2.49E+08	1.23E+06
Shapiro-Wilk score	2.266E-01	2.707E-01	4.947E-05	2.667E-01	2.834E-01	7.763E-03	3.947E-01	9.084E-01	2.835E-01	8.740E-02	3.401E-02	5.054E-01	5.181E-02	8.280E-03	8.058E-01	3.690E-02	3.839E-02	4.955E-01	3.086E-01	3.123E-01	2.764E-01	4.345E-01	4.917E-05	5.329E-05
Extracellular acetaldehyde																								
Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	-4.25E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
Min	-2.60E+00	-1.28E+00	-5.58E+01	-7.49E-01	-9.05E-01	-1.98E-11	-7.80E+00	-7.43E+00	-2.89E+00	-2.26E+02	-1.11E-10	-2.94E+01	-9.08E-11	-2.49E-10	-4.15E+02	-5.16E-10	-2.57E-10	-3.75E+02	-2.97E+02	-3.43E+02	-2.45E+00	-1.80E+01	-1.19E+03	-6.13E-09
Max	1.89E+02	3.50E+01	1.19E+03	1.17E+01	5.81E+01	1.98E-10	4.81E+01	4.11E+02	7.89E+00	8.79E+00	6.15E-11	5.82E+02	6.28E-11	4.99E-10	7.93E+00	9.91E-10	1.99E-10	1.18E+01	1.53E+01	1.24E+00	4.18E-01	8.95E+00	5.64E+01	2.92E-09
Normalized peak height	6.34E-01	3.99E-01	4.45E-01	3.47E-01	2.79E-01	9.60E-01	6.60E-01	9.21E-01	8.30E-01	9.62E-01	9.90E-01	5.14E-01	9.43E-01	9.81E-01	7.93E-01	9.81E-01	9.89E-01	6.09E-01	4.06E-01	4.92E-01	2.28E-01	1.06E-01	9.54E-01	1.00E+00
Peak sensitivity value	-1.12E-02	8.19E-03	-4.27E-01	4.86E-03	6.91E-02	8.69E-14	5.68E-04	-1.03E-01	3.82E-03	-3.22E-02	7.88E-15	-9.86E-01	6.16E-14	-2.79E-13	9.49E-02	1.23E-13	-8.75E-14	3.58E-02	-4.46E-01	-3.13E-01	-2.15E-03	-7.04E-02	-1.77E-01	-9.16E-13
Shapiro-Wilk score	4.278E-01	6.430E-01	4.786E-02	4.733E-01	6.663E-01	1.241E-02	3.136E-01	3.633E-02	2.867E-02	3.121E-02	8.505E-03	6.084E-02	3.245E-02	1.003E-02	6.209E-02	1.340E-02	7.324E-03	5.932E-02	6.582E-02	5.168E-02	3.687E-01	6.538E-01	2.294E-02	3.188E-04
Phosphoenolpyruvate																								
Local	1.38E-02	5.93E-03	1.08E+00	6.08E-03	7.36E-02	2.62E-15	1.11E-03	2.42E-03	2.08E-04	-1.20E+00	7.14E-14	2.22E-02	0.00E+00	0.00E+00	-3.77E-03	4.71E-15	-1.00E-15	-9.07E-04	-4.72E-03	-1.34E-03	-1.07E-04	-5.20E-02	6.64E-02	9.58E-18
Min	-2.84E+01	-2.24E+01	-3.80E+03	-2.83E+00	-8.07E+00	-9.83E-10	-3.85E+02	-2.14E+03	-1.05E+01	-1.62E+03	-1.87E-10	-2.52E+03	-3.11E-11	-2.01E-10	-6.77E+02	-2.28E-09	-9.49E-10	-2.83E+02	-1.11E+03	-6.16E+02	-4.81E+00	-1.50E+02	-2.75E+03	-2.06E-08
Max	4.54E+02	1.03E+03	2.75E+03	1.71E+02	3.66E+02	2.04E-09	2.29E+01	6.71E+02	5.04E+00	1.54E+01	6.04E-10	1.62E+03	1.27E-10	2.73E-10	2.54E+03	1.82E-10	2.27E-10	2.69E+02	1.74E+03	5.09E+02	1.65E-01	4.54E+01	3.80E+03	4.22E-07
Normalized peak height	4.59E-01	9.58E-01	9.84E-01	8.91E-01	5.75E-01	9.95E-01	9.65E-01	9.99E-01	9.94E-01	9.71E-01	9.95E-01	9.39E-01	9.79E-01	9.69E-01	9.97E-01	9.53E-01	9.77E-01	9.35E-01	9.94E-01	9.93E-01	9.13E-01	5.57E-01	9.91E-01	1.00E+00
Peak sensitivity value	-2.17E-01	3.50E-01	8.38E-01	3.19E-02	-2.46E-02	7.85E-13	-1.62E-01	1.58E-01	1.10E-03	-1.79E+00	-1.28E-13	-1.57E+00	-4.01E-14	2.25E-13	-1.06E-01	1.16E-12	5.60E-13	1.56E-01	3.39E-01	1.81E-01	-1.41E-03	-4.87E-02	-1.18E-01	-5.77E-13
Shapiro-Wilk score	5.096E-02	4.194E-02	2.422E-02	6.281E-02	8.499E-02	2.747E-03	1.488E-03	6.827E-04	6.021E-03	3.281E-02	2.491E-03	6.895E-03	1.007E-02	4.374E-03	1.180E-03	5.069E-03	1.437E-03	1.857E-02	2.803E-03	2.713E-03	5.367E-02	2.416E-01	7.841E-03	9.125E-05

Fructose-6-Phosphate	Local	1.24E-02	5.33E-03	9.67E-01	8.44E-02	-3.38E-01	-8.95E-16	5.90E-03	1.29E-02	1.11E-03	3.34E-03	-2.13E-15	1.18E-01
	Min	-8.08E+00	-1.14E+01	-3.34E+01	-2.27E+00	-5.96E+01	-6.00E-11	-6.26E+00	-1.73E+01	-3.00E-01	-7.98E+00	-3.18E-11	-2.09E+01
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	4.52E-01	2.51E-01	4.02E-01	7.77E-02	1.25E-01	9.84E-01	8.88E-01	6.55E-01	9.86E-01	9.44E-01	9.94E-01	6.01E-01
	Peak sensitivity value	-1.50E-02	1.75E-03	-1.03E-01	1.12E-02	-1.95E-01	5.90E-14	8.24E-03	-2.30E-02	1.52E-03	4.09E-03	-1.64E-14	2.32E-01
	Shapiro-Wilk score	3.761E-01	6.959E-01	7.537E-02	7.455E-01	4.718E-01	9.987E-03	1.116E-01	5.735E-02	9.115E-03	4.585E-02	2.338E-03	9.462E-02
Extracellular cyanide	Local	-1.89E-03	-8.11E-04	-1.47E-01	-6.48E-04	-7.85E-03	4.27E-16	6.15E-03	1.34E-02	1.15E-03	3.48E-03	6.32E-16	1.23E-01
	Min	-1.48E+01	-6.19E+00	-1.32E+01	-3.02E+00	-6.29E+00	-4.09E-11	-5.50E-01	-2.57E+00	-9.65E-02	-1.64E+00	-5.57E-12	-3.56E+00
	Max	3.57E-01	1.70E-01	4.39E+00	1.03E-01	1.72E-01	3.89E-11	2.84E+00	3.30E+00	1.14E-01	1.78E+01	8.17E-11	8.77E+00
	Normalized peak height	6.99E-01	5.19E-01	3.82E-01	3.95E-01	4.11E-01	9.91E-01	8.03E-01	5.25E-01	9.04E-01	9.71E-01	9.97E-01	2.78E-01
	Peak sensitivity value	1.19E-03	1.27E-03	6.93E-03	-1.74E-03	7.70E-04	2.09E-14	5.99E-04	3.07E-03	5.68E-05	7.59E-03	-2.76E-14	-2.89E-04
	Shapiro-Wilk score	2.319E-01	3.012E-01	3.663E-01	2.091E-01	2.768E-01	5.347E-03	1.323E-01	2.437E-01	1.042E-01	2.357E-02	5.054E-04	4.727E-01
Pyruvate	Local	9.01E-01	3.88E-01	7.04E+01	2.28E-01	2.76E+00	-6.96E-14	4.07E-02	8.91E-02	7.64E-03	2.31E-02	-7.79E+01	8.15E-01
	Min	-7.24E+00	-7.31E+00	-2.31E+03	-4.20E-01	-3.57E+01	-9.92E-11	-1.34E+01	-6.64E+02	-8.53E-01	-9.49E+00	-1.64E+04	-1.14E+03
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	9.95E-01	9.89E-01	9.87E-01	9.99E-01	9.85E-01	9.53E-01	9.97E-01	9.97E-01	9.83E-01	9.95E-01	9.89E-01	9.89E-01
	Peak sensitivity value	9.71E-02	8.42E-01	2.49E+00	2.80E+00	-1.56E+00	-1.28E-13	-2.33E-02	3.83E-01	-4.53E-03	1.44E-02	-9.20E+00	-9.47E-01
	Shapiro-Wilk score	2.897E-03	7.860E-03	9.159E-03	8.863E-04	5.999E-03	1.190E-02	1.199E-03	3.351E-03	4.959E-03	1.831E-03	8.128E-03	5.648E-03
Extracellular ethanol	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01
	Min	-3.51E+01	-1.66E+01	-3.51E+01	-3.30E+00	-9.86E+00	-3.48E-11	-3.28E+00	-9.83E+00	-1.45E-02	-6.27E-02	-1.83E-11	-1.23E+01
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	5.10E-01	3.26E-01	9.75E-01	2.91E-01	1.57E-01	9.74E-01	8.95E-01	9.47E-01	9.59E-01	9.65E-01	9.92E-01	7.21E-01
	Peak sensitivity value	2.69E-03	-5.15E-04	1.05E+00	1.80E-03	2.28E-02	-7.42E-15	1.72E-02	8.08E-02	-1.31E-03	2.04E-02	4.99E-15	1.15E+00
	Shapiro-Wilk score	5.920E-01	7.185E-01	1.897E-02	4.958E-01	7.121E-01	1.391E-02	6.992E-02	3.048E-02	1.210E-02	4.476E-02	5.948E-03	1.612E-02
Extracellular glycerol	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00
	Min	-2.88E+00	-2.94E+00	-2.41E+01	-1.97E+00	-1.75E+00	-3.87E-11	-8.29E+00	-9.57E+00	-3.24E-01	-9.81E+01	-1.45E-09	-1.07E+01
	Max	7.97E+01	4.38E+01	4.84E+03	1.08E+01	2.67E+01	5.79E-10	4.55E+01	1.26E+02	9.62E+00	4.17E+00	1.00E-10	2.23E+03
	Normalized peak height	3.39E-01	2.91E-01	5.51E-01	3.14E-01	1.53E-01	9.94E-01	4.58E-01	5.32E-01	9.42E-01	8.51E-01	9.97E-01	9.62E-01
	Peak sensitivity value	-3.21E-02	-1.38E-02	2.61E+00	2.79E-03	6.00E-02	-9.62E-14	-2.81E-02	8.11E-03	-2.87E-04	2.58E-02	4.78E-13	-5.81E-01
	Shapiro-Wilk score	5.431E-01	6.865E-01	1.873E-02	4.638E-01	7.066E-01	1.857E-03	3.087E-01	1.006E-01	2.359E-02	4.601E-02	3.819E-04	3.085E-02
Extracellular glucose	Local	2.57E+00	-1.40E-02	-2.53E+00	-3.55E-03	-4.30E-02	8.97E-17	-5.98E-04	-1.31E-03	-1.12E-04	-3.38E-04	2.12E-16	-1.20E-02
	Min	-6.63E-01	-4.71E+00	-3.44E+01	-6.71E+00	-4.32E+01	-3.70E-11	-2.05E+00	-3.86E+00	-3.99E-01	-7.83E+00	-1.04E-11	-9.78E+00
	Max	4.77E+01	2.21E+00	4.21E+00	3.99E-01	6.25E-01	4.28E-11	2.35E-01	8.30E-01	4.52E-03	5.70E+00	1.27E-10	1.14E+00
	Normalized peak height	1.25E-01	2.48E-01	3.50E-01	5.80E-01	5.24E-01	9.89E-01	8.23E-01	5.05E-01	9.60E-01	9.76E-01	9.97E-01	4.29E-01
	Peak sensitivity value	3.82E-02	1.77E-03	-1.72E-02	-2.14E-03	-1.04E-02	-1.82E-14	-1.04E-03	1.83E-03	-1.22E-04	-4.80E-03	4.76E-14	-3.84E-03
	Shapiro-Wilk score	6.193E-01	6.902E-01	4.870E-01	2.769E-01	2.275E-01	6.601E-03	1.077E-01	1.742E-01	2.923E-02	2.094E-02	4.103E-04	3.741E-01
1-3-Bisphosphoglycerate	Local	1.07E-02	4.61E-03	8.37E-01	4.44E-02	5.38E-01	5.30E-16	8.28E-03	1.81E-02	-2.84E-01	-8.56E-01	3.50E-14	1.66E-01
	Min	-3.00E+01	-1.80E+01	-4.04E+02	-8.49E-01	-1.56E+01	-1.08E-07	-7.41E+01	-2.42E+01	-2.89E+00	-2.48E+03	-2.96E-08	-5.98E+01
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	7.89E-01	6.44E-01	7.30E-01	4.03E-01	7.23E-01	9.99E-01	9.38E-01	8.75E-01	2.48E-02	9.04E-01	1.00E+00	6.87E-01
	Peak sensitivity value	1.25E-01	-2.54E-01	-3.79E-02	3.29E-02	-1.84E-02	-1.01E-11	5.87E-03	1.97E-02	-2.16E-03	-1.41E+00	4.42E-12	6.24E-02
	Shapiro-Wilk score	1.012E-01	7.438E-02	7.470E-02	2.561E-01	9.143E-02	1.498E-03	5.673E-02	6.683E-02	8.548E-01	4.267E-02	2.076E-04	6.545E-02
Fructose 1-6-bisphosphate	Local	4.60E-02	1.98E-02	3.59E+00	2.43E-02	2.94E-01	-9.76E-02	-8.09E-02	-1.00E+00	-8.59E-02	-2.59E-01	2.20E-14	-2.18E+00
	Min	-2.50E+01	-2.68E+01	-2.44E+01	-1.23E+00	-2.88E+00	-2.32E+02	-4.26E+03	-8.07E+02	-2.14E+00	-1.80E+03	-5.34E-10	-1.30E+03
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	7.82E-01	6.19E-01	7.74E-01	6.69E-01	6.86E-01	9.26E-01	9.76E-01	5.78E-01	7.33E-01	6.45E-01	9.50E-01	4.65E-01
	Peak sensitivity value	1.26E-01	-6.49E-01	7.36E-01	3.06E-02	3.56E-01	-1.16E-01	-1.40E+00	-6.34E-01	-5.87E-04	8.82E-01	-4.55E-13	1.40E-01
	Shapiro-Wilk score	6.005E-02	5.461E-02	6.455E-02	1.469E-01	1.295E-01	4.344E-02	6.022E-03	1.091E-01	1.602E-01	2.131E-02	2.780E-03	1.354E-01
AMP	Local	4.17E-03	1.79E-03	3.25E-01	-6.74E-02	-8.16E-01	2.40E-15	-1.26E-02	-2.76E-02	-2.37E-03	-7.14E-03	6.43E-15	-2.52E-01
	Min	-5.46E+00	-4.01E+00	-6.79E+01	-3.03E+00	-2.93E+01	-5.73E-10	-6.06E+00	-8.20E+00	-3.78E-01	-5.99E+01	-3.93E-11	-9.45E+00
	Max	5.34E+01	1.21E+01	2.00E+01	7.37E-01	3.16E+00	8.13E-11	2.35E-02	6.01E-01	1.28E-03	4.03E-03	3.12E-10	3.37E+00
	Normalized peak height	6.35E-01	3.90E-01	3.84E-01	1.19E-01	8.26E-02	9.94E-01	4.16E-01	4.25E-01	7.92E-01	9.70E-01	9.94E-01	6.46E-02
	Peak sensitivity value	-1.59E-02	-2.78E-03	1.16E-02	9.22E-04	-2.71E-01	-9.38E-14	2.23E-03	-1.98E-03	-4.65E-05	-2.59E-02	-1.14E-13	-1.08E-02
	Shapiro-Wilk score	3.424E-01	5.857E-01	6.497E-01	7.170E-01	4.599E-01	2.904E-03	2.404E-01	3.707E-01	1.487E-01	4.431E-02	1.096E-03	7.592E-01
ATP	Local	-1.59E-03	-6.83E-04	-1.24E-01	2.57E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02
	Min	-9.58E+01	-1.17E+02	-4.62E+01	-1.50E+01	-1.31E+02	-1.38E-11	-1.87E-02	-9.89E-01	-1.68E-02	-1.03E-02	-4.79E-11	-1.98E+01
	Max	3.64E+00	4.71E+00	8.76E+09	1.25E+00	3.51E+00	2.86E-11	2.69E+01	1.15E+01	1.30E+00	4.18E+02	5.40E-11	1.00E+01
	Normalized peak height	8.73E-01	8.70E-01	1.00E+00	7.94E-01	7.61E-01	8.87E-01	3.34E-01	6.23E-02	3.64E-01	9.80E-01	9.77E-01	1.42E-01
	Peak sensitivity value	9.28E-03	2.00E-02	4.38E+06	-4.42E-03	-5.65E-02	-1.95E-14	-5.28E-03	8.18E-03	-3.08E-04	1.99E-01	4.13E-14	-9.42E-03
	Shapiro-Wilk score	7.011E-02	8.236E-02	4.709E-05	1.281E-01	9.707E-02	3.710E-02	5.086E-01	7.979E-01	2.413E-01	3.344E-02	8.139E-03	8.839E-01
NADH	Local	9.35E-03	4.03E-03	7.30E-01	-1.86E-03	-2.25E-02	6.21E-15	1.54E-01	3.36E-01	2.88E-02	8.69E-02	1.30E-14	-1.28E+00
	Min	-5.14E+01	-2.13E+01	-1.72E+01	-3.21E+00	-1.70E+01	-7.23E-10	-2.41E-01	-7.26E+00	-7.20E-01	-6.55E-02	-1.93E-11	-1.30E+01
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	5.90E-01	3.49E-01	8.81E-01	1.51E-01	2.10E-01	9.94E-01	8.89E-01	9.83E-01	9.87E-01	8.34E-01	9.84E-01	9.91E-01
	Peak sensitivity value	-1.80E-02	-8.80E-03	-1.65E+00	-2.73E-04	1.32E-01	-4.93E-13	-1.13E-03	1.19E-01	3.49E-03	-1.36E-02	-8.60E-15	2.05E-01
	Shapiro-Wilk score	2.646E-01	6.249E-01	2.034E-02	5.838E-01	6.028E-01	2.258E-03	4.491E-02	1.319E-02	9.424E-03	3.605E-02	1.207E-02	7.650E-03

Fructose-6-Phosphate	Local	0.00E+00	0.00E+00	-2.01E-02	-1.59E-15	-7.98E-17	-4.83E-03	-2.51E-02	-7.13E-03	-5.69E-04	-7.58E-01	-5.75E-02	-2.80E-17
	Min	-2.72E-11	-4.53E-10	-5.90E+01	-1.44E-10	-2.25E-10	-1.64E+02	-1.94E+02	-6.26E+01	-7.87E-01	-8.13E+00	-6.82E+02	-1.81E-08
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	9.64E-01	9.84E-01	6.10E-01	9.53E-01	9.86E-01	8.00E-01	7.12E-01	9.01E-01	6.56E-01	2.03E-02	8.08E-01	1.00E+00
	Peak sensitivity value	-2.45E-16	2.28E-13	2.38E-02	-2.12E-14	-8.11E-14	1.13E-02	4.42E-02	-2.78E-02	-1.52E-04	-9.94E-01	-1.03E-01	4.15E-11
	Shapiro-Wilk score	3.141E-02	1.899E-03	7.701E-02	4.753E-02	7.781E-03	5.221E-02	4.189E-02	3.535E-02	3.010E-01	9.609E-01	4.239E-02	6.211E-05
Extracellular cyanide	Local	0.00E+00	0.00E+00	-2.09E-02	3.66E-16	-5.96E-16	-5.03E-03	3.14E-02	-6.50E-02	7.46E-02	5.46E-03	-9.35E-03	-7.74E-19
	Min	-1.10E-11	-1.32E-11	-2.43E+00	-3.07E-11	-9.31E-12	-5.35E-01	-7.01E-01	-9.98E-01	0.00E+00	-6.74E-01	-3.15E+00	-1.37E-10
	Max	2.49E-11	6.97E-12	3.56E+00	8.53E-11	8.51E-12	1.52E+00	2.04E+00	4.66E-01	2.80E+00	2.38E+00	3.65E+00	3.29E-12
	Normalized peak height	9.91E-01	9.87E-01	4.82E-01	9.75E-01	9.77E-01	3.21E-01	1.52E-01	6.64E-02	1.23E-01	3.95E-01	4.98E-01	1.00E+00
	Peak sensitivity value	5.90E-15	4.81E-16	1.77E-03	-1.82E-14	4.84E-16	-1.06E-03	2.56E-03	-1.56E-03	1.40E-03	-2.28E-04	2.41E-03	1.77E-15
	Shapiro-Wilk score	6.696E-03	9.657E-03	3.122E-01	1.816E-02	1.906E-02	5.049E-01	4.947E-01	5.535E-01	5.632E-01	3.578E-01	3.391E-01	1.041E-04
Pyruvate	Local	0.00E+00	0.00E+00	-1.39E-01	-5.18E-14	1.49E-13	-3.34E-02	-1.73E-01	-4.93E-02	-3.93E-03	-1.87E+00	4.59E+00	2.26E-16
	Min	-2.95E-10	-5.73E-10	-1.26E+03	-1.44E-09	-2.60E-10	-9.50E+02	-4.81E+03	-2.84E+02	-2.02E+01	-6.06E+03	-4.28E+03	-1.16E-09
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	9.99E-01	9.94E-01	9.96E-01	9.87E-01	9.92E-01	9.50E-01	9.94E-01	9.96E-01	9.44E-01	6.52E-01	9.85E-01	1.00E+00
	Peak sensitivity value	-5.11E-13	-1.00E-13	-3.01E-01	-3.37E-13	-4.51E-13	2.60E-01	5.50E-01	-3.00E-01	4.94E-03	3.09E+00	4.48E-01	-5.04E-13
	Shapiro-Wilk score	2.596E-04	2.592E-03	4.312E-03	9.134E-03	2.006E-03	9.522E-03	1.763E-03	4.695E-03	1.972E-02	3.630E-03	1.256E-02	3.480E-04
Extracellular ethanol	Local	-3.41E-16	-1.00E+00	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-3.66E-11	-1.00E+00	-2.27E+02	-6.01E-10	-7.55E-10	-1.71E+03	-8.21E+02	-2.57E+02	-1.10E+00	-1.23E+01	-3.11E+03	-4.96E-09
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	9.80E-01	1.00E+00	7.53E-01	9.87E-01	9.97E-01	9.95E-01	9.84E-01	9.77E-01	6.62E-01	1.29E-01	9.50E-01	1.00E+00
	Peak sensitivity value	-6.48E-15	-1.00E+00	5.25E-02	7.31E-14	-1.03E-13	-4.02E-01	-3.34E-01	-8.30E-02	5.96E-04	5.78E-03	-1.37E+00	-1.72E-12
	Shapiro-Wilk score	1.533E-02	1.000E+00	4.068E-02	1.022E-02	1.126E-03	5.042E-03	1.339E-02	1.376E-02	2.764E-01	5.576E-01	1.007E-02	1.017E-04
Extracellular glycerol	Local	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-1.00E+00	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-1.31E-10	-5.94E-10	-1.36E+02	-4.32E-10	-1.00E+00	-9.82E+02	-1.04E+03	-2.11E+02	-1.34E+00	-1.06E+01	-4.84E+03	-4.79E-09
	Max	7.90E-11	1.25E-10	1.02E+01	1.13E-09	-1.00E+00	4.52E+00	3.03E+00	6.24E+00	6.17E-01	1.81E+01	2.12E+01	3.55E-09
	Normalized peak height	9.58E-01	9.77E-01	5.47E-01	9.64E-01	1.00E+00	9.45E-01	9.68E-01	8.45E-01	5.26E-01	1.14E-01	9.88E-01	1.00E+00
	Peak sensitivity value	-6.16E-14	-2.46E-13	3.37E-02	5.53E-13	-1.00E+00	8.68E-02	4.22E-01	5.96E-02	6.96E-04	-7.56E-02	-6.32E-01	3.31E-12
	Shapiro-Wilk score	3.017E-02	1.139E-02	1.461E-01	1.523E-02	1.000E+00	2.852E-02	2.219E-02	6.605E-02	3.744E-01	6.463E-01	8.923E-03	2.335E-04
Extracellular glucose	Local	0.00E+00	0.00E+00	2.04E-03	1.65E-16	1.51E-17	4.89E-04	2.54E-03	7.23E-04	5.76E-05	2.55E-02	5.83E-03	-3.53E-18
	Min	-6.04E-12	-9.14E-12	-4.21E-01	-1.38E-10	-2.54E-11	-1.98E-01	-1.73E-01	-1.08E-01	-3.27E-02	-1.43E+00	-1.58E+00	-4.40E-10
	Max	3.93E-12	1.10E-11	5.34E+00	6.46E-11	1.51E-11	3.91E+00	4.96E+00	2.03E+00	6.55E-01	7.48E+00	9.77E+00	1.06E-10
	Normalized peak height	9.26E-01	9.68E-01	4.45E-01	9.70E-01	9.69E-01	5.57E-01	4.44E-01	5.49E-01	7.96E-01	2.41E-01	4.75E-01	1.00E+00
	Peak sensitivity value	4.69E-15	-8.44E-15	3.04E-03	-6.35E-14	1.57E-14	1.69E-03	-1.06E-03	-3.32E-04	-6.88E-05	4.50E-03	4.60E-03	2.13E-13
	Shapiro-Wilk score	2.346E-02	1.352E-02	1.777E-01	2.143E-02	1.757E-02	2.884E-01	2.857E-01	2.062E-01	1.293E-01	5.085E-01	3.527E-01	1.321E-04
1-3-Bisphosphoglycerate	Local	0.00E+00	0.00E+00	-2.82E-02	6.06E-16	-4.86E-16	-6.78E-03	-3.52E-02	-1.00E-02	-7.98E-04	-3.98E-01	-7.28E-03	7.56E-17
	Min	-3.91E-11	-6.60E-11	-1.06E+02	-1.81E-09	-1.03E-10	-1.90E+02	-3.78E+02	-1.20E+02	-3.13E+00	-9.48E+01	-1.78E+03	-1.01E-08
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	9.80E-01	9.95E-01	8.41E-01	9.81E-01	9.89E-01	7.62E-01	7.73E-01	5.56E-01	7.39E-01	3.08E-01	9.54E-01	9.99E-01
	Peak sensitivity value	-2.59E-14	-5.99E-13	-1.03E-01	-2.98E-13	9.32E-13	1.33E-02	-2.15E-01	-7.16E-02	-3.64E-04	-3.44E-01	-1.02E+00	-4.98E-12
	Shapiro-Wilk score	1.129E-02	7.102E-04	8.263E-02	1.271E-02	7.834E-04	4.436E-02	2.933E-02	3.556E-02	1.741E-01	3.756E-01	2.845E-02	1.804E-04
Fructose 1-6-bisphosphate	Local	0.00E+00	0.00E+00	-9.76E-01	1.28E-14	-8.40E-15	8.90E-02	4.63E-01	1.31E-01	1.05E-02	-2.10E-01	2.16E-01	3.37E-17
	Min	-1.27E-10	-3.45E-10	-6.39E+02	-6.98E-10	-3.67E-10	-7.07E+02	-5.95E+02	-2.37E+02	-1.19E+01	-8.28E+02	-3.84E+03	-1.88E-09
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	9.51E-01	9.81E-01	3.29E-01	9.74E-01	9.82E-01	7.80E-01	5.97E-01	6.54E-01	9.03E-01	7.56E-01	9.34E-01	9.99E-01
	Peak sensitivity value	9.45E-15	2.11E-13	-1.80E+00	2.61E-13	1.06E-13	1.99E-01	-3.61E-02	-1.32E-01	-9.61E-04	-1.46E-01	-1.53E+00	-2.15E-12
	Shapiro-Wilk score	4.572E-02	1.733E-02	1.482E-01	1.834E-02	1.481E-02	1.152E-01	1.061E-01	8.392E-02	5.240E-02	1.966E-01	2.531E-02	3.244E-04
AMP	Local	0.00E+00	0.00E+00	4.30E-02	3.70E-15	2.03E-16	1.03E-02	5.37E-02	1.52E-02	1.22E-03	6.08E-01	1.23E-01	6.38E-17
	Min	-1.15E-11	-1.43E-11	-2.20E+00	-2.83E-10	-3.44E-11	-7.90E-01	-2.01E+00	-5.84E-01	-8.47E-02	-8.68E-01	-3.20E+00	-5.39E-04
	Max	7.34E-12	2.20E-11	6.32E+00	3.40E-10	8.98E-11	5.34E+00	4.37E+00	2.69E+00	4.29E-01	4.70E+00	6.80E+01	2.66E-10
	Normalized peak height	9.13E-01	9.38E-01	4.37E-01	9.61E-01	8.87E-01	1.54E-01	1.36E-01	2.22E-01	3.00E-01	2.70E-02	2.65E-01	1.00E+00
	Peak sensitivity value	-4.59E-15	1.00E-14	3.90E-03	5.72E-14	5.94E-14	3.90E-03	5.50E-03	4.90E-04	-2.05E-04	3.90E-03	3.86E-02	-2.69E-07
	Shapiro-Wilk score	8.303E-02	4.785E-02	5.019E-01	3.819E-02	2.478E-02	6.742E-01	6.577E-01	5.232E-01	3.326E-01	9.628E-01	6.185E-01	4.709E-05
ATP	Local	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	-4.68E-02	2.55E-17
	Min	-3.62E-11	-3.89E-10	-1.01E+01	-1.55E-11	-2.28E-11	-3.52E+00	-7.89E+00	-3.36E+00	-1.29E-01	-3.25E+01	-8.87E+09	-2.79E-08
	Max	4.70E-11	9.20E-11	2.32E+00	2.04E-11	2.22E-11	6.02E+00	4.94E+00	2.86E+00	9.59E-01	2.74E+01	9.50E+00	1.17E+08
	Normalized peak height	9.06E-01	9.86E-01	7.34E-02	8.50E-01	9.60E-01	1.69E-01	2.09E-01	2.46E-01	5.14E-01	7.78E-01	1.00E+00	1.00E+00
	Peak sensitivity value	3.87E-14	-6.35E-14	-1.11E-02	-1.01E-14	-1.45E-14	6.86E-03	7.89E-03	4.19E-03	-1.80E-04	-2.38E-03	-4.44E+06	5.83E+04
	Shapiro-Wilk score	4.644E-02	8.364E-03	8.992E-01	1.250E-01	3.091E-02	7.453E-01	7.579E-01	5.749E-01	2.617E-01	2.014E-01	4.709E-05	4.709E-05
NADH	Local	0.00E+00	0.00E+00	-5.23E-01	6.20E-15	-5.37E-15	5.25E-02	2.73E-01	7.75E-02	6.18E-03	1.86E-02	5.39E-02	-5.02E-18
	Min	-3.17E-10	-8.96E-11	-4.21E+02	-8.85E-10	-2.11E-10	-1.59E+03	-1.23E+03	-9.45E+02	-1.66E+00	-1.28E+01	-4.42E+03	-7.25E-08
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	9.87E-01	9.96E-01	9.62E-01	9.77E-01	9.58E-01	9.92E-01	9.94E-01	9.97E-01	6.73E-01	4.61E-02	9.87E-01	1.00E+00
	Peak sensitivity value	-8.06E-14	3.37E-13	-5.50E-02	9.80E-14	-1.18E-13	-1.98E-02	-6.18E-01	-3.38E-01	-3.38E-04	-2.28E-01	-1.03E+00	-5.08E-11
	Shapiro-Wilk score	4.736E-03	9.538E-04	1.910E-02	2.052E-02	1.297E-02	4.522E-03	9.377E-03	3.283E-03	2.731E-01	8.229E-01	1.269E-02	9.692E-05

Table 25: Flux control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±5%

	(GluceMixedflowtoextracellularmedium)	(Glucoseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)	(Etha nolout)	(Etha nolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
(Glucose Mixed flow to extracellular medium)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-3.45E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.14E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.35E-17	-5.80E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	5.77E-03	2.09E-03	9.41E-01	1.04E-03	1.19E-02	-1.55E-16	1.52E-04	3.32E-04	2.72E-05	7.89E-05	-2.44E-16	2.96E-03	0.00E+00	0.00E+00	-1.20E-03	-8.35E-16	-5.07E-16	-2.81E-04	-1.45E-03	-4.02E-04	-3.93E-05	-1.23E-02	-2.93E-03	-8.15E-18
Max	3.17E-02	1.14E-02	9.87E-01	1.85E-03	2.49E-02	1.63E-16	3.48E-04	7.91E-04	6.91E-05	2.10E-04	2.10E-16	7.38E-03	0.00E+00	0.00E+00	-5.22E-04	7.75E-16	5.25E-16	-1.25E-04	-6.95E-04	-1.99E-04	-1.25E-05	-7.31E-03	-1.78E-03	1.56E-16
Normalized peak height	3.97E-03	4.03E-03	4.11E-03	3.50E-03	3.27E-03	6.10E-02	3.65E-03	3.88E-03	4.06E-03	4.11E-03	2.31E-02	3.57E-03	1.00E+00	1.00E+00	3.83E-03	4.96E-03	4.36E-03	3.77E-03	3.52E-03	4.05E-03	3.60E-03	3.63E-03	3.60E-03	3.49E-01
Peak sensitivity value	9.34E-03	4.77E-03	9.77E-01	1.32E-03	1.62E-02	-1.28E-19	2.18E-04	4.79E-04	4.20E-05	1.24E-04	4.43E-02	5.00E-04	5.00E-04	5.00E-04	-7.67E-04	-1.72E-18	2.81E-17	-1.80E-04	-9.68E-04	-2.75E-04	-2.04E-05	-1.00E-02	-2.23E-03	-1.67E-20
Shapiro-Wilk score	9.211E-01	9.613E-01	9.406E-01	9.907E-01	9.800E-01	9.992E-01	9.894E-01	9.901E-01	9.890E-01	9.883E-01	9.994E-01	9.826E-01	1.000E+00	1.000E+00	9.897E-01	9.992E-01	9.995E-01	9.914E-01	9.908E-01	9.924E-01	9.821E-01	9.998E-01	9.964E-01	7.202E-01
(Glucose uptake)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-2.20E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.30E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.52E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	5.61E-03	2.63E-03	9.36E-01	1.02E-03	1.19E-02	-2.48E-16	1.48E-04	3.29E-04	2.79E-05	8.24E-05	-2.66E-16	3.03E-03	0.00E+00	0.00E+00	-1.18E-03	-8.85E-16	-5.22E-16	-2.84E-04	-1.44E-03	-4.10E-04	-4.00E-05	-1.24E-02	-2.90E-03	-7.22E-18
Max	3.34E-02	1.23E-02	9.87E-01	1.92E-03	2.50E-02	2.41E-16	3.56E-04	7.96E-04	6.93E-05	2.10E-04	2.72E-16	7.43E-03	0.00E+00	0.00E+00	-5.15E-04	8.33E-16	4.86E-16	-1.28E-04	-6.84E-04	-2.01E-04	-1.26E-05	-7.24E-03	-1.77E-03	7.44E-17
Normalized peak height	4.12E-03	4.67E-03	4.54E-03	3.80E-03	3.43E-03	1.91E-02	3.70E-03	3.89E-03	3.99E-03	3.85E-03	7.75E-03	3.52E-03	1.00E+00	1.00E+00	3.84E-03	5.30E-03	4.55E-03	3.77E-03	3.77E-03	3.65E-03	3.95E-03	3.82E-03	3.40E-03	3.48E-01
Peak sensitivity value	9.73E-03	4.63E-03	9.77E-01	1.31E-03	1.55E-02	-1.21E-19	2.25E-04	4.76E-04	4.18E-05	1.23E-04	-2.66E-19	4.32E-03	5.00E-04	5.00E-04	-7.34E-04	-1.11E-17	1.76E-17	-1.85E-04	-9.43E-04	-2.74E-04	-2.09E-05	-9.75E-03	-2.23E-03	-2.74E-21
Shapiro-Wilk score	9.194E-01	9.604E-01	9.392E-01	9.904E-01	9.791E-01	9.999E-01	9.885E-01	9.895E-01	9.881E-01	9.882E-01	9.998E-01	9.813E-01	1.000E+00	1.000E+00	9.891E-01	9.991E-01	9.997E-01	9.904E-01	9.897E-01	9.914E-01	9.810E-01	9.997E-01	9.957E-01	8.026E-01
(Hexokinase)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-4.14E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-1.00E-16	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.52E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	5.75E-03	2.74E-03	9.38E-01	1.03E-03	1.18E-02	-1.69E-16	1.50E-04	3.10E-04	2.78E-05	8.23E-05	-2.32E-16	2.99E-03	0.00E+00	0.00E+00	-1.17E-03	-7.13E-16	-5.08E-16	-2.89E-04	-1.42E-03	-4.08E-04	-3.89E-05	-1.23E-02	-2.93E-03	-1.90E-17
Max	3.27E-02	1.15E-02	9.87E-01	1.84E-03	2.53E-02	1.51E-16	3.40E-04	7.80E-04	6.57E-05	2.00E-04	2.45E-16	7.31E-03	0.00E+00	0.00E+00	-5.00E-04	7.71E-16	4.89E-16	-1.26E-04	-6.94E-04	-1.98E-04	-1.24E-05	-7.48E-03	-1.79E-03	2.95E-16
Normalized peak height	4.18E-03	4.00E-03	4.22E-03	3.65E-03	3.59E-03	2.42E-02	3.72E-03	4.02E-03	3.54E-03	3.55E-03	4.02E-03	3.34E-03	1.00E+00	1.00E+00	4.07E-03	4.48E-03	4.72E-03	3.79E-03	3.49E-03	3.79E-03	3.65E-03	3.67E-03	3.49E-03	3.50E-01
Peak sensitivity value	1.05E-02	4.68E-03	9.76E-01	1.30E-03	1.58E-02	5.34E-20	2.21E-04	4.88E-04	4.26E-05	1.20E-04	4.73E-19	4.42E-03	5.00E-04	5.00E-04	-7.69E-04	-5.12E-17	2.95E-18	-1.84E-04	-9.56E-04	-2.78E-04	-1.99E-05	-9.84E-03	-2.23E-03	-3.55E-20
Shapiro-Wilk score	9.195E-01	9.606E-01	9.392E-01	9.903E-01	9.793E-01	9.997E-01	9.888E-01	9.893E-01	9.878E-01	9.887E-01	9.997E-01	9.809E-01	1.000E+00	1.000E+00	9.892E-01	9.994E-01	9.997E-01	9.906E-01	9.895E-01	9.917E-01	9.811E-01	9.998E-01	9.958E-01	5.438E-01
(Phosphoglucoisomerase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	4.62E-16	-6.63E-03	-1.45E-02	-1.24E-03	-3.79E-03	2.63E-15	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	1.83E-15	9.24E-17	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	5.72E-03	2.75E-03	9.58E-01	2.81E-03	3.23E-02	-5.74E-15	-8.32E-03	-1.82E-02	-1.59E-03	-5.27E-03	-8.89E-15	-1.65E-01	0.00E+00	0.00E+00	1.73E-02	-1.92E-14	-1.31E-14	4.36E-03	2.44E-02	6.80E-03	4.16E-04	-3.28E-02	5.58E-02	-1.82E-17
Max	3.39E-02	1.21E-02	1.02E+00	4.28E-03	5.09E-02	5.71E-15	-5.09E-03	-1.12E-02	-9.57E-04	-2.61E-03	7.49E-15	-1.05E-01	0.00E+00	0.00E+00	2.85E-02	1.92E-14	1.37E-14	6.61E-03	3.26E-02	9.17E-03	9.70E-04	-2.43E-02	7.33E-02	8.69E-16
Normalized peak height	3.98E-03	4.15E-03	3.45E-03	3.68E-03	3.35E-03	3.08E-02	3.16E-03	3.53E-03	3.30E-03	4.00E-03	1.56E-02	2.74E-03	1.00E+00	1.00E+00	3.91E-03	4.17E-03	4.43E-03	3.25E-03	2.91E-03	3.11E-03	3.33E-03	3.83E-03	2.94E-03	3.48E-01
Peak sensitivity value	9.71E-03	4.99E-03	9.90E-01	3.36E-03	4.01E-02	5.03E-18	-6.59E-03	-1.45E-02	-1.23E-03	-3.62E-03	-2.68E-18	-1.30E-01	5.00E-04	5.00E-04	2.24E-02	-2.60E-16	-9.66E-17	5.40E-03	2.79E-02	7.90E-03	5.94E-04	-2.84E-02	6.51E-02	-4.29E-20
Shapiro-Wilk score	9.185E-01	9.391E-01	9.973E-01	9.950E-01	9.810E-01	9.984E-01	9.973E-01	9.989E-01	9.977E-01	9.966E-01	9.996E-01	9.897E-01	1.000E+00	1.000E+00	9.987E-01	9.999E-01	9.999E-01	9.983E-01	9.972E-01	9.985E-01	9.926E-01	9.998E-01	9.982E-01	5.060E-01
(Phosphofructokinase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.39E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.79E-03	3.85E-15	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	2.02E-15	1.13E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	5.83E-03	2.78E-03	9.56E-01	2.82E-03	3.24E-02	-5.08E-15	-8.40E-03	-1.81E-02	-1.63E-03	-5.27E-03	-1.00E-14	-1.66E-01	0.00E+00	0.00E+00	1.74E-02	-2.09E-14	-1.44E-14	4.31E-03	2.43E-02	6.91E-03	4.16E-04	-3.25E-02	5.62E-02	-1.92E-17
Max	3.51E-02	1.25E-02	1.02E+00	4.32E-03	5.77E-02	4.69E-15	-5.10E-03	-1.11E-02	-9.15E-04	-2.53E-03	9.70E-15	-1.05E-01	0.00E+00	0.00E+00	2.89E-02	1.96E-14	1.46E-14	6.66E-03	3.25E-02	9.18E-03	9.26E-04	-2.44E-02	7.37E-02	1.12E-16
Normalized peak height	4.11E-03	4.36E-03	3.75E-03	3.70E-03	3.55E-03	1.01E-02	3.35E-03	3.63E-03	3.76E-03	3.73E-03	4.66E-03	2.65E-03	1.00E+00	1.00E+00	3.81E-03	4.25E-03	4.28E-03	3.31E-03	2.85E-03	3.36E-03	3.26E-03	3.55E-03	3.10E-03	3.46E-01
Peak sensitivity value	9.70E-03	4.84E-03	9.93E-01	3.41E-03	4.07E-02	-2.63E-18	-6.68E-03	-1.45E-02	-1.22E-03	-3.68E-03	-8.75E-17	-1.29E-01	5.00E-04	5.00E-04	2.23E-02	4.31E-17	1.29E-16	5.38E-03	2.74E-02	7.97E-03	6.05E-04	-2.83E-02	6.52E-02	-4.19E-20
Shapiro-Wilk score	9.188E-01	9.603E-01	9.981E-01	9.947E-01	9.815E-01	1.000E+00	9.976E-01	9.991E-01	9.982E-01	9.966E-01	9.998E-01	9.894E-01	1.000E+00	1.000E+00	9.987E-01	9.999E-01	9.999E-01	9.982E-01	9.972E-01	9.986E-01	9.926E-01	9.999E-01	9.981E-01	8.653E-01
(Aldolase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.11E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.79E-03	-1.02E-14	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	3.98E-16	1.24E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	5.50E-03	2.81E-03	9.61E-01	2.81E-03	3.17E-02	-5.77E-15	-8.25E-03	-1.78E-02	-1.61E-03	-5.18E-03	-4.12E-14	-1.66E-01	0.00E+00	0.00E+00	1.75E-02	-2.06E-14	-1.69E-14	4.36E-03	2.43E-02	6.91E-03	4.12E-04	-3.25E-02	5.63E-02	-1.87E-17
Max	3.25E-02	1.15E-02	1.02E+00	4.22E-03	5.58E-02	5.55E-15	-5.01E-03	-1.12E-02	-9.23E-04	-2.56E-03	3.91E-14	-1.04E-01	0.00E+00	0.00E+00	2.88E-02	1.99E-14	1.37E-14	6.69E-03	3.24E-02	9.27E-03	9.20E-04	-2.45E-02	7.33E-02	5.16E-16
Normalized peak height	4.15E-03	3.98E-03	3.39E-03	3.51E-03	3.33E-03	5.11E-02	3.26E-03	3.61E-03	3.56E-03	3.71E-03	1.73E-02	2.69E-03	1.00E+00	1.00E+00	3.76E-03	4.50E-03	4.55E-03	3.28E-03	3.09E-03	3.28E-03	3.19E-03	3.58E-03	2.99E-03	3.51E-01
Peak sensitivity value	1.12E-02	4.73E-03	9.90E-01	3.41E-03	4.06E-02	-4.45E-16	-6.40E-03	-1.41E-02	-1.22E-03	-3.55E-03	2.29E-17	-1.26E-01	5.00E-04	5.00E-04	2.27E-02	-8.60E-17	-3.41E-16	5.35E-03	2.76E-02	7.96E-03	6.02E-04	-2.86E-02	6.45E-02	-2.66E-19
Shapiro-Wilk score	9.195E-01	9.600E-01	9.976E-01	9.955E-01	9.824E-01	9.989E-01	9.976E-01	9.990E-01	9.979E-01	9.964E-01	9.998E-01	9.893E-01	1.000E+00	1.000E+00	9.987E-01	9.999E-01	9.999E-01	9.983E-01	9.970E-01	9.986E-01	9.925E-01	9.997E-01	9.984E-01	6.923E-01
(Triosephosphate isomerase)																								
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-1.03E-15	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-5.10E-15	1.84E-01	0.00E+00	0.00E+00	-3.13E-02	-1.10E-17	1.39E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	4.64E-03	2.18E-03	7.30E-01	1.90E-03	2.16E-02	-2.01E-15	6.86E-03	1.50E-02	1.25E-03	3.41E-03	-1.29E-14	1.40E-01	0.00E+00	0.00E+00	-4.03E-02	-5.58E-15	-4.09E-15	-9.57E-03	-4.66E-02	-1.30E-02	-1.37E-03	-2.36E-02	4.39E-02	-1.18E-17
Max	2.68E-02	9.81E-03	8.33E-01	2.82E-03	3.76E-02	2.44E-15	1.19E-02	2.56E-02	2.34E-03	7.37E-03	1.27E-14	2.41E-01	0.00E+00	0.00E+00	-2.36E-02	5.39E-15	4.65E-15	-5.89E-03	-3.25E-02	-9.28E-03	-5.47E-04	-1.50E-02	6.11E-02	1.54E-16
Normalized peak height	4.11E-03	4.53E-03	3.22E-03	3.31E-03	3.13E-03	4.58E-03	3.36E-03	3.58E-03	3.71E-03	3.73E-03	1.64E-02	2.62E-03	1.00E+00	1.00E+00	3.50E-03	4.38E-03	5.13E-03	3.23E-03	2.85E-03	2.98E-03	3.35E-03	3.51E-03	2.97E-03	3.45E-01
Peak sensitivity value	7.54E-03	4.11E-03	7.98E-01	2.32E-03	2.70E-02	1.03E-17	8.95E-03	1.96E-02	1.71E-03	4.94E-03	-4.83E-18	1.79E-01	5.00E-04	5.00E-04	-3.06E-02	4.51E-17	8.16E-17	-7.54E-03	-3.85E-02	-1.11E-02	-8.59E-04	-1.96E-02	5.29E-02	7.33E-21
Shapiro-Wilk score	9.230E-01	9.643E-01	9.844E-01	9.979E-01	9.887E-01	9.997E-01	9.968E-01	9.979E-01	9.964E-01	9.953E-01	9.999E-01	9.880E-01	1.000E+00	1.000E+00	9.976E-01	9.990E-01	9.987E-01	9.973E-01	9.957E-01	9.969E-01	9.904E-01	9.992E-01	9.962E-01	7.993E-01
(Glyceraldehyde 3-phosphate dehydrogenase)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-1.85E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-9.79E-15	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	7.65E-16	6.61E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	5.09E-03	2.51E-03	8.70E-01	2.44E-03	2.76E-02	-3.48E-15	3.73E-04	7.88E-04	6.68E-05	1.94E-04	-2.47E-14	7.38E-03	0.00E+00	0.00E+00	-2.62E-03	-1.14E-14	-8.00E-15	-5.97E-04	-2.97E-03	-8.44E-04	-8.33E-05	-2.80E-02	5.05E-02	-5.21E-17
Max	3.09E-02	1.07E-02	9.18E-01	3.55E-03	4.79E-02	3.02E-15	7.47E-04	1.67E-03	1.40E-04	4.52E-04	3.00E-14	1.53E-02	0.00E+00	0.00E+00	-1.26E-03	1.17E-14	8.70E-15	-3.10E-04	-1.60E-03	-4.97E-04	-3.10E-05	-2.05E-02	6.84E-02	2.16E-16
Normalized peak height	4.53E-03	4.08E-03	4.18E-03	3.38E-03	3.21E-03	4.01E-03	3.51E-03	4.05E-03	3.58E-03	3.81E-03	4.75E-03	3.16E-03	1.00E+00	1.00E+00	4.06E-03	4.21E-03	4.98E-03	3.71E-03	3.31E-03	3.38E-03	3.48E-03	3.66E-03	3.21E-03	3.46E-01
Peak sensitivity value	9.16E-03	4.46E-03	9.06E-01	2.90E-03	3.51E-02	-6.07E-17	5.04E-04	1.16E-03	9.59E-05	2.83E-04	-1.02E-15	1.00E-02	5.00E-04	5.00E-04	-1.72E-03	5.54E-16	-8.17E-18	-4.21E-04	-2.17E-03	-6.41E-04	-4.70E-05	-2.43E-02	5.97E-02	-7.15E-21
Shapiro-Wilk score	9.179E-01	9.603E-01	9.585E-01	9.967E-01	9.839E-01	1.000E+00	9.936E-01	9.943E-01	9.935E-01	9.933E-01	9.997E-01	9.870E-01	1.000E+00	1.000E+00	9.941E-01	9.999E-01	1.000E+00	9.951E-01	9.946E-01	9.958E-01	9.867E-01	9.999E-01	9.979E-01	7.465E-01
(Phosphoenolpyruvate synthesis)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-2.35E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-4.52E-14	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	-2.42E-15	1.16E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	5.33E-03	2.56E-03	8.68E-01	2.43E-03	2.79E-02	-2.28E-14	3.66E-04	7.70E-04	6.91E-05	1.93E-04	-1.59E-13	7.31E-03	0.00E+00	0.00E+00	-2.61E-03	-1.43E-14	-7.35E-15	-6.11E-04	-3.03E-03	-8.35E-04	-8.19E-05	-2.80E-02	5.13E-02	-3.57E-17
Max	3.09E-02	4.11E-03	9.17E-01	3.56E-03	4.78E-02	2.46E-14	7.50E-04	1.65E-03	1.41E-04	4.39E-04	1.69E-13	1.55E-02	0.00E+00	0.00E+00	-1.21E-03	1.52E-14	8.13E-15	-3.03E-04	-1.60E-03	-4.86E-04	-3.06E-05	-2.02E-02	6.75E-02	3.42E-16
Normalized peak height	4.18E-03	3.86E-03	4.53E-03	3.38E-03	3.06E-03	3.89E-03	3.63E-03	4.08E-03	3.69E-03	3.73E-03	4.46E-03	3.12E-03	1.00E+00	1.00E+00	4.01E-03	4.24E-03	4.53E-03	3.78E-03	3.63E-03	3.59E-03	3.36E-03	3.76E-03	3.02E-03	3.45E-01
Peak sensitivity value	9.10E-03	4.77E-03	9.07E-01	2.91E-03	3.49E-02	2.22E-15	5.03E-04	1.12E-03	9.38E-05	2.87E-04	-4.72E-15	9.96E-03	5.00E-04	5.00E-04	-1.74E-03	-2.09E-16	1.19E-16	-4.19E-04	-2.18E-03	-6.24E-04	-4.65E-05	-2.43E-02	5.93E-02	-8.32E-20
Shapiro-Wilk score	9.210E-01	9.624E-01	9.600E-01	9.967E-01	9.838E-01	1.000E+00	9.931E-01	9.938E-01	9.933E-01	9.933E-01	9.995E-01	9.864E-01	1.000E+00	1.000E+00	9.937E-01	9.998E-01	9.999E-01	9.946E-01	9.940E-01	9.958E-01	9.874E-01	9.999E-01	9.979E-01	7.212E-01
(Pyruvate kinase)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	2.24E-15	5.23E-04	1.14E-03	9.81E-05	2.96E-04	5.94E-14	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	4.02E-15	-8.26E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	5.23E-03	2.55E-03	8.71E-01	2.43E-03	2.80E-02	-1.32E-14	3.74E-04	8.13E-04	6.88E-05	1.97E-04	-2.01E-13	7.16E-03	0.00E+00	0.00E+00	-2.62E-03	-1.33E-14	-7.34E-15	-6.06E-04	-3.01E-03	-8.45E-04	-8.45E-05	-2.79E-02	5.09E-02	-1.17E-16
Max	2.98E-02	1.08E-02	9.18E-01	3.54E-03	4.78E-02	1.61E-14	7.49E-04	1.71E-03	1.44E-04	4.37E-04	1.57E-13	1.55E-02	0.00E+00	0.00E+00	-1.24E-03	1.29E-14	7.27E-15	-3.10E-04	-1.70E-03	-4.90E-04	-3.14E-05	-2.05E-02	6.83E-02	1.83E-16
Normalized peak height	3.82E-03	3.92E-03	4.31E-03	3.54E-03	3.01E-03	7.05E-03	3.76E-03	4.14E-03	3.76E-03	3.72E-03	1.38E-01	3.61E-03	1.00E+00	1.00E+00	4.04E-03	4.44E-03	5.19E-03	3.66E-03	3.42E-03	3.56E-03	3.67E-03	3.84E-03	3.08E-03	3.48E-01
Peak sensitivity value	9.91E-03	4.05E-03	9.04E-01	2.92E-03	3.39E-02	-3.40E-17	5.03E-04	1.15E-03	9.49E-05	2.88E-04	-5.78E-17	1.02E-02	5.00E-04	5.00E-04	-1.73E-03	4.46E-16	4.89E-18	-4.26E-04	-2.13E-03	-6.40E-04	-4.84E-05	-2.43E-02	5.99E-02	-1.03E-19
Shapiro-Wilk score	9.188E-01	9.601E-01	9.602E-01	9.962E-01	9.841E-01	9.999E-01	9.937E-01	9.944E-01	9.930E-01	9.933E-01	9.606E-01	9.867E-01	1.000E+00	1.000E+00	9.944E-01	9.999E-01	9.996E-01	9.947E-01	9.940E-01	9.955E-01	9.868E-01	9.999E-01	9.975E-01	7.846E-01

	1	2	3	4	5	6	7	8	9	10	11	12
(Pyruvate decarboxylase)												
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-8.93E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-6.66E-16	1.05E-02
Min	5.26E-03	2.44E-03	8.72E-01	2.41E-03	2.79E-02	-2.91E-15	3.70E-04	7.97E-04	6.75E-05	1.99E-04	-3.77E-15	7.18E-03
Max	2.91E-02	1.09E-02	9.18E-01	3.58E-03	4.76E-02	2.85E-15	7.50E-04	1.62E-03	1.38E-04	4.33E-04	4.00E-15	1.55E-02
Normalized peak height	4.12E-03	4.15E-03	4.13E-03	3.52E-03	2.97E-03	1.54E-02	3.63E-03	3.78E-03	3.47E-03	3.53E-03	9.48E-02	3.42E-03
Peak sensitivity value	8.68E-03	4.24E-03	9.05E-01	2.88E-03	3.39E-02	-1.43E-18	5.04E-04	1.13E-03	9.70E-05	2.78E-04	-2.19E-16	9.98E-03
Shapiro-Wilk score	9.213E-01	9.612E-01	9.600E-01	9.963E-01	9.833E-01	9.828E-01	9.935E-01	9.939E-01	9.924E-01	9.926E-01	9.966E-01	9.859E-01
(Alcohol dehydrogenase)												
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.80E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	6.30E-16	1.84E-01
Min	4.66E-03	2.18E-03	7.31E-01	1.94E-03	2.21E-02	-1.42E-15	6.82E-03	1.50E-02	1.24E-03	3.31E-03	-3.68E-15	1.37E-01
Max	2.69E-02	9.24E-03	8.34E-01	2.84E-03	3.80E-02	1.43E-15	1.18E-02	2.61E-02	2.25E-03	7.33E-03	4.05E-15	2.39E-01
Normalized peak height	4.07E-03	4.17E-03	3.03E-03	3.47E-03	3.08E-03	4.85E-03	3.50E-03	3.68E-03	3.40E-03	3.75E-03	1.85E-02	2.80E-03
Peak sensitivity value	8.16E-03	3.91E-03	8.02E-01	2.33E-03	2.73E-02	-1.32E-17	8.91E-03	1.98E-02	1.73E-03	5.17E-03	1.69E-18	1.75E-01
Shapiro-Wilk score	9.215E-01	9.633E-01	9.832E-01	9.976E-01	9.879E-01	9.952E-01	9.967E-01	9.979E-01	9.963E-01	9.957E-01	9.968E-01	9.874E-01
(Ethanol out)												
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-4.21E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	5.13E-16	1.84E-01
Min	4.78E-03	2.17E-03	7.24E-01	1.93E-03	2.17E-02	-1.45E-15	6.89E-03	1.50E-02	1.28E-03	3.42E-03	-3.74E-15	1.42E-01
Max	2.61E-02	9.66E-03	8.32E-01	2.86E-03	3.75E-02	1.40E-15	1.19E-02	2.61E-02	2.33E-03	7.46E-03	3.60E-15	2.39E-01
Normalized peak height	3.92E-03	4.19E-03	3.19E-03	3.40E-03	3.20E-03	9.87E-02	3.22E-03	3.50E-03	3.59E-03	3.92E-03	2.56E-01	2.55E-03
Peak sensitivity value	8.85E-03	3.87E-03	7.94E-01	2.28E-03	2.67E-02	-1.20E-18	8.93E-03	1.93E-02	1.72E-03	5.11E-03	2.88E-18	1.74E-01
Shapiro-Wilk score	9.233E-01	9.643E-01	9.844E-01	9.979E-01	9.886E-01	9.949E-01	9.967E-01	9.978E-01	9.967E-01	9.955E-01	9.760E-01	9.882E-01
(Ethanol flow)												
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01
Min	4.68E-03	2.23E-03	7.35E-01	1.94E-03	2.20E-02	-1.43E-15	6.87E-03	1.51E-02	1.26E-03	3.36E-03	-2.47E-15	1.38E-01
Max	2.68E-02	8.81E-03	8.37E-01	2.81E-03	3.71E-02	1.46E-15	1.19E-02	2.59E-02	2.28E-03	7.74E-03	2.87E-15	2.38E-01
Normalized peak height	4.07E-03	3.86E-03	3.13E-03	3.17E-03	3.17E-03	1.83E-02	3.37E-03	3.67E-03	3.29E-03	3.87E-03	6.04E-02	2.63E-03
Peak sensitivity value	8.19E-03	3.73E-03	7.99E-01	2.28E-03	2.75E-02	3.02E-20	9.07E-03	1.99E-02	1.64E-03	5.10E-03	1.58E-18	1.73E-01
Shapiro-Wilk score	9.216E-01	9.634E-01	9.846E-01	9.978E-01	9.878E-01	9.952E-01	9.969E-01	9.981E-01	9.960E-01	9.951E-01	9.991E-01	9.880E-01
(Glycerol synthesis)												
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.06E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.65E-14	-1.64E+00
Min	1.10E-02	5.35E-03	1.81E+00	6.98E-03	8.11E-02	-3.13E-14	-1.05E-01	-2.19E-01	-1.85E-02	-6.03E-02	-4.82E-14	-1.82E+00
Max	6.85E-02	2.42E-02	2.12E+00	1.06E-02	1.41E-01	3.09E-14	-6.08E-02	-1.38E-01	-1.26E-02	-3.38E-02	4.26E-14	-1.48E+00
Normalized peak height	4.15E-03	4.30E-03	2.96E-03	3.45E-03	3.23E-03	4.37E-03	3.28E-03	3.85E-03	3.52E-03	3.82E-03	1.41E-02	3.10E-03
Peak sensitivity value	1.92E-02	1.00E-02	1.94E+00	8.46E-03	1.00E-01	5.79E-16	-8.09E-02	-1.80E-01	-1.50E-02	-4.52E-02	-2.79E-17	-1.62E+00
Shapiro-Wilk score	9.152E-01	9.563E-01	9.941E-01	9.943E-01	9.795E-01	9.991E-01	9.983E-01	9.997E-01	9.993E-01	9.985E-01	9.988E-01	9.953E-01
(Glycerol out)												
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.12E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.55E-14	-1.64E+00
Min	1.11E-02	5.34E-03	1.81E+00	6.91E-03	7.95E-02	-3.42E-14	-1.03E-01	-2.17E-01	-1.83E-02	-6.14E-02	-5.16E-14	-1.81E+00
Max	7.06E-02	2.42E-02	2.12E+00	1.07E-02	1.40E-01	3.23E-14	-6.23E-02	-1.44E-01	-1.26E-02	-3.42E-02	4.72E-14	-1.48E+00
Normalized peak height	4.31E-03	4.06E-03	3.07E-03	3.62E-03	3.17E-03	4.39E-03	3.02E-03	3.50E-03	3.57E-03	3.66E-03	2.51E-02	3.09E-03
Peak sensitivity value	2.08E-02	1.01E-02	1.94E+00	8.43E-03	9.90E-02	-1.43E-15	-8.01E-02	-1.81E-01	-1.54E-02	-4.66E-02	2.54E-17	-1.62E+00
Shapiro-Wilk score	9.132E-01	9.552E-01	9.938E-01	9.945E-01	9.795E-01	9.992E-01	9.985E-01	9.994E-01	9.993E-01	9.986E-01	9.987E-01	9.948E-01
(Glycerol flow)												
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00
Min	1.13E-02	5.22E-03	1.81E+00	6.82E-03	7.97E-02	-3.24E-14	-1.05E-01	-2.18E-01	-1.88E-02	-5.93E-02	-4.56E-14	-1.81E+00
Max	6.78E-02	2.31E-02	2.12E+00	1.07E-02	1.42E-01	3.01E-14	-6.13E-02	-1.39E-01	-1.25E-02	-3.52E-02	4.97E-14	-1.47E+00
Normalized peak height	4.13E-03	4.02E-03	2.88E-03	3.53E-03	3.40E-03	4.32E-03	3.28E-03	3.83E-03	3.87E-03	3.60E-03	3.77E-02	3.17E-03
Peak sensitivity value	2.04E-02	9.46E-03	1.94E+00	8.53E-03	1.03E-01	9.95E-16	-8.12E-02	-1.77E-01	-1.51E-02	-4.66E-02	1.63E-17	-1.62E+00
Shapiro-Wilk score	9.135E-01	9.551E-01	9.938E-01	9.942E-01	9.799E-01	9.990E-01	9.981E-01	9.996E-01	9.992E-01	9.981E-01	9.989E-01	9.949E-01
(Acetaldehyde out)												
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	-5.92E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	4.56E-21	-1.64E+00
Min	1.12E-02	5.47E-03	1.81E+00	7.01E-03	8.00E-02	-2.01E-14	-1.03E-01	-2.18E-01	-1.84E-02	-6.02E-02	-3.71E-14	-1.81E+00
Max	6.91E-02	2.41E-02	2.11E+00	1.05E-02	1.41E-01	1.84E-14	-6.09E-02	-1.45E-01	-1.26E-02	-3.41E-02	4.67E-14	-1.47E+00
Normalized peak height	4.25E-03	4.09E-03	2.76E-03	3.28E-03	3.30E-03	2.75E-02	3.15E-03	3.47E-03	3.57E-03	3.82E-03	3.35E-01	2.88E-03
Peak sensitivity value	1.83E-02	9.72E-03	1.93E+00	8.41E-03	9.93E-02	-1.48E-17	-8.22E-02	-1.79E-01	-1.53E-02	-4.59E-02	6.86E-18	-1.61E+00
Shapiro-Wilk score	9.135E-01	9.559E-01	9.938E-01	9.931E-01	9.784E-01	9.965E-01	9.985E-01	9.997E-01	9.991E-01	9.982E-01	9.648E-01	9.944E-01
(Acetaldehyde flow)												
Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00
Min	1.14E-02	5.54E-03	1.83E+00	7.02E-03	7.94E-02	-1.95E-14	-1.06E-01	-2.23E-01	-1.91E-02	-6.10E-02	-3.16E-14	-1.84E+00
Max	7.35E-02	2.55E-02	2.16E+00	1.10E-02	1.42E-01	1.96E-14	-6.17E-02	-1.46E-01	-1.29E-02	-3.47E-02	2.63E-14	-1.50E+00
Normalized peak height	4.23E-03	4.21E-03	2.97E-03	3.65E-03	3.09E-03	4.59E-03	3.38E-03	3.65E-03	3.60E-03	3.58E-03	6.65E-02	2.95E-03
Peak sensitivity value	1.83E-02	9.12E-03	1.98E+00	8.59E-03	1.03E-01	-5.43E-16	-8.32E-02	-1.82E-01	-1.55E-02	-4.67E-02	-6.90E-18	-1.66E+00
Shapiro-Wilk score	9.136E-01	9.552E-01	9.936E-01	9.941E-01	9.798E-01	9.959E-01	9.983E-01	9.997E-01	9.992E-01	9.983E-01	9.987E-01	9.943E-01
(Cyanide-Acetaldehyde flow)												
Local	2.36E-02	1.02E-02	1.85E+00	8.13E-03	9.84E-02	-5.30E-15	-7.71E-02	-1.69E-01	-1.45E-02	-4.36E-02	-8.00E-15	-1.54E+00
Min	1.02E-02	4.99E-03	1.71E+00	6.69E-03	7.61E-02	-1.78E-14	-9.85E-02	-2.10E-01	-1.76E-02	-5.71E-02	-2.77E-14	-1.69E+00
Max	6.45E-02	2.29E-02	1.98E+00	1.00E-02	1.31E-01	1.76E-14	-5.78E-02	-1.36E-01	-1.19E-02	-3.13E-02	2.76E-14	-1.39E+00
Normalized peak height	4.18E-03	4.10E-03	3.06E-03	3.46E-03	3.20E-03	4.78E-03	3.33E-03	3.58E-03	3.81E-03	4.00E-03	1.92E-02	3.30E-03
Peak sensitivity value	1.97E-02	8.57E-03	1.82E+00	7.98E-03	9.47E-02	6.43E-17	-7.82E-02	-1.70E-01	-1.45E-02	-4.26E-02	5.78E-18	-1.53E+00
Shapiro-Wilk score	9.143E-01	9.579E-01	9.957E-01	9.956E-01	9.812E-01	9.967E-01	9.983E-01	9.997E-01	9.994E-01	9.983E-01	9.984E-01	9.964E-01
(Cyanide flow)												
Local	2.36E-02	1.02E-02	1.85E+00	8.13E-03	9.84E-02	-5.36E-15	-7.71E-02	-1.69E-01	-1.45E-02	-4.36E-02	-7.92E-15	-1.54E+00
Min	9.91E-03	5.04E-03	1.71E+00	6.71E-03	7.75E-02	-1.99E-14	-9.68E-02	-2.08E-01	-1.79E-02	-5.70E-02	-2.55E-14	-1.70E+00
Max	6.52E-02	2.23E-02	1.98E+00	1.01E-02	1.30E-01	1.94E-14	-5.74E-02	-1.34E-01	-1.17E-02	-3.26E-02	3.16E-14	-1.39E+00
Normalized peak height	4.32E-03	4.17E-03	3.10E-03	3.44E-03	3.13E-03	6.85E-03	3.12E-03	3.57E-03	3.92E-03	3.69E-03	6.67E-02	3.27E-03
Peak sensitivity value	1.85E-02	8.99E-03	1.84E+00	7.98E-03	9.39E-02	1.87E-17	-7.54E-02	-1.67E-01	-1.46E-02	-4.25E-02	3.56E-19	-1.53E+00
Shapiro-Wilk score	9.144E-01	9.563E-01	9.962E-01	9.952E-01	9.802E-01	9.958E-01	9.982E-01	9.996E-01	9.993E-01	9.979E-01	9.985E-01	9.970E-01
(Storage)												
Local	1.21E-02	5.20E-03	9.43E-01	-1.53E-03	-1.85E-02	-1.69E-15	9.90E-03	2.16E-02	1.86E-03	5.60E-03	-3.99E-15	1.98E-01
Min	5.46E-03	2.53E-03	8.79E-01	-2.17E-03	-2.60E-02	-7.20E-15	7.43E-03	1.61E-02	1.36E-03	3.64E-03	-1.06E-14	1.51E-01
Max	3.24E-02	1.07E-02	9.89E-01	-1.01E-03	-1.21E-02	7.08E-15	1.27E-02	2.81E-02	2.51E-03	8.07E-03	9.52E-15	2.56E-01
Normalized peak height	4.50E-03	3.95E-03	2.97E-03	3.77E-03	3.72E-03	2.46E-02	3.32E-03	3.79E-03	3.59E-03	3.82E-03	5.97E-03	2.77E-03
Peak sensitivity value	1.00E-02	4.60E-03	9.52E-01	-1.54E-03	-1.82E-02	4.86E-18	9.68E-03	2.15E-02	1.84E-03	5.35E-03	2.55E-16	1.89E-01
Shapiro-Wilk score	9.214E-01	9.637E-01	9.828E-01	9.991E-01	9.967E-01	9.999E-01	9.971E-01	9.983E-01	9.967E-01	9.960E-01	9.998E-01	9.884E-01
(ATP consumption)												
Local	-1.59E-03	-6.83E-04	-1.24E-01	2.57E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02
Min	-6.96E-03	-2.22E-03	-2.32E-01	2.14E-02	2.45E-01	-3.72E-15	3.30E-03	7.28E-03	6.22E-04	1.76E-03	-5.12E-15	6.66E-02
Max	-3.53E-04	-1.92E-04	-5.73E-02	3.05E-02	4.16E-01	3.66E-15	6.70E-03	1.53E-02	1.32E-03	4.17E-03	5.25E-15	1.40E-01
Normalized peak height	5.85E-03	4.48E-03	3.08E-03	3.30E-03	2.97E-03	5.63E-02	3.48E-03	3.87E-03	3.63E-03	3.90E-03	1.84E-02	3.40E-03
Peak sensitivity value	-9.38E-04	-4.75E-04	-1.05E-01	2.54E-02	3.03E-01	-3.14E-18	4.60E-03	1.03E-02	8.69E-04	2.58E-03	-4.72E-18	9.41E-02
Shapiro-Wilk score	8.755E-01	9.174E-01	9.758E-01	9.948E-01	9.811E-01	9.996E-01	9.910E-01	9.918E-01	9.905E-01	9.916E-01	9.997E-01	9.828E-01

	13	14	15	16	17	18	19	20	21	22	23	24
(Pyruvate decarboxylase)												
Local	0.00E+00	0.00E+00	-1.78E-03	-6.65E-16	1.91E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	0.00E+00	0.00E+00	-2.49E-03	-1.00E-14	-7.41E-15	-6.03E-04	-3.01E-03	-8.26E-04	-8.40E-05	-2.79E-02	5.05E-02	-1.08E-16
Max	0.00E+00	0.00E+00	-1.27E-03	1.15E-14	6.51E-15	-3.08E-04	-1.67E-03	-4.74E-04	-2.87E-05	-2.03E-02	6.78E-02	1.38E-16
Normalized peak height	1.00E+00	1.00E+00	3.57E-03	5.70E-03	1.28E-02	3.58E-03	3.65E-03	3.50E-03	3.68E-03	3.72E-03	3.07E-03	3.45E-01
Peak sensitivity value	5.00E-04	5.00E-04	-1.77E-03	8.00E-17	5.35E-18	-4.16E-04	-2.24E-03	-6.31E-04	-4.77E-05	-2.45E-02	5.92E-02	7.01E-20
Shapiro-Wilk score	1.000E+00	1.000E+00	9.936E-01	9.964E-01	9.961E-01	9.949E-01	9.941E-01	9.956E-01	9.862E-01	9.999E-01	9.975E-01	7.984E-01
(Alcohol dehydrogenase)												
Local	0.00E+00	0.00E+00	-3.13E-02	-1.84E-16	1.26E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	0.00E+00	0.00E+00	-4.04E-02	-5.51E-15	-3.79E-15	-9.53E-03	-4.68E-02	-1.30E-02	-1.34E-03	-2.38E-02	4.36E-02	-1.15E-17
Max	0.00E+00	0.00E+00	-2.33E-02	5.75E-15	4.06E-15	-5.90E-03	-3.25E-02	-9.32E-03	-5.63E-04	-1.49E-02	6.12E-02	1.12E-16
Normalized peak height	1.00E+00	1.00E+00	3.57E-03	4.64E-03	9.22E-03	3.35E-03	2.77E-03	3.05E-03	3.12E-03	3.75E-03	2.95E-03	3.48E-01
Peak sensitivity value	5.00E-04	5.00E-04	-3.05E-02	2.69E-16	4.99E-19	-7.40E-03	-3.82E-02	-1.09E-02	-8.75E-04	-1.90E-02	5.29E-02	5.40E-20
Shapiro-Wilk score	1.000E+00	1.000E+00	9.975E-01	9.988E-01	9.983E-01	9.971E-01	9.958E-01	9.974E-01	9.907E-01	9.994E-01	9.965E-01	8.222E-01
(Ethanol out)												
Local	2.37E-16	-8.88E-16	-3.13E-02	-1.07E-16	1.31E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-2.44E-15	-2.66E-15	-4.02E-02	-5.51E-15	-4.13E-15	-9.49E-03	-4.65E-02	-1.30E-02	-1.39E-03	-2.33E-02	4.35E-02	-1.25E-17
Max	2.11E-15	2.66E-15	-2.37E-02	6.71E-15	3.84E-15	-5.83E-03	-3.23E-02	-9.40E-03	-5.54E-04	-1.51E-02	6.13E-02	1.19E-16
Normalized peak height	8.72E-02	4.73E-01	3.34E-03	5.14E-03	8.68E-03	3.24E-03	2.92E-03	2.82E-03	3.42E-03	3.40E-03	3.02E-03	3.54E-01
Peak sensitivity value	-2.23E-16	2.66E-18	-3.11E-02	8.30E-18	-4.97E-18	-7.33E-03	-3.79E-02	-1.12E-02	-8.45E-04	-1.92E-02	5.34E-02	-3.03E-20
Shapiro-Wilk score	9.969E-01	8.770E-01	9.974E-01	9.988E-01	9.985E-01	9.974E-01	9.956E-01	9.971E-01	9.902E-01	9.994E-01	9.964E-01	7.917E-01
(Ethanol flow)												
Local	-3.41E-16	-1.11E-15	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-5.25E-16	-2.66E-15	-4.05E-02	-5.31E-15	-3.55E-15	-9.46E-03	-4.66E-02	-1.29E-02	-1.35E-03	-2.35E-02	4.29E-02	-1.17E-17
Max	5.36E-16	2.55E-15	-2.40E-02	5.78E-15	3.95E-15	-5.90E-03	-3.25E-02	-9.29E-03	-5.45E-04	-1.46E-02	6.20E-02	4.03E-16
Normalized peak height	6.48E-01	1.18E-01	3.52E-03	4.72E-03	9.48E-03	3.09E-03	2.79E-03	2.86E-03	3.39E-03	3.77E-03	3.36E-03	3.48E-01
Peak sensitivity value	-6.04E-20	-2.20E-16	-3.08E-02	6.44E-18	-6.16E-18	-7.46E-03	-3.84E-02	-1.11E-02	-8.34E-04	-1.95E-02	5.33E-02	1.37E-19
Shapiro-Wilk score	8.095E-01	9.923E-01	9.978E-01	9.989E-01	9.985E-01	9.974E-01	9.958E-01	9.972E-01	9.907E-01	9.993E-01	9.967E-01	6.223E-01
(Glycerol synthesis)												
Local	0.00E+00	0.00E+00	2.79E-01	8.97E-15	-6.51E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	0.00E+00	0.00E+00	2.17E-01	-1.25E-13	-8.41E-14	5.43E-02	3.03E-01	8.08E-02	6.00E-03	-8.25E-02	1.08E-01	-5.30E-17
Max	0.00E+00	0.00E+00	3.34E-01	1.18E-13	8.34E-14	8.23E-02	3.94E-01	1.19E-01	1.02E-02	-6.42E-02	1.41E-01	5.00E-16
Normalized peak height	1.00E+00	1.00E+00	3.52E-03	5.27E-03	1.33E-02	3.50E-03	3.80E-03	3.43E-03	3.13E-03	3.60E-03	3.06E-03	3.47E-01
Peak sensitivity value	5.00E-04	5.00E-04	2.84E-01	-1.30E-16	5.40E-17	6.72E-02	3.52E-01	1.00E-01	7.56E-03	-7.26E-02	1.27E-01	-1.89E-19
Shapiro-Wilk score	1.000E+00	1.000E+00	9.997E-01	9.997E-01	9.991E-01	9.991E-01	9.997E-01	9.999E-01	9.968E-01	9.993E-01	9.984E-01	8.088E-01
(Glycerol out)												
Local	0.00E+00	0.00E+00	2.79E-01	9.24E-15	-6.55E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	0.00E+00	0.00E+00	2.25E-01	-1.15E-13	-7.85E-14	5.31E-02	3.01E-01	8.17E-02	5.90E-03	-8.26E-02	1.08E-01	-5.46E-17
Max	0.00E+00	0.00E+00	3.33E-01	1.16E-13	7.77E-14	8.13E-02	3.99E-01	1.18E-01	1.03E-02	-6.42E-02	1.43E-01	7.47E-16
Normalized peak height	1.00E+00	1.00E+00	3.37E-03	5.36E-03	1.40E-02	3.55E-03	3.77E-03	3.40E-03	3.39E-03	3.74E-03	3.22E-03	3.49E-01
Peak sensitivity value	5.00E-04	5.00E-04	2.78E-01	-5.16E-15	-9.35E-16	6.67E-02	3.52E-01	9.92E-02	7.78E-03	-7.23E-02	1.23E-01	2.65E-19
Shapiro-Wilk score	1.000E+00	1.000E+00	9.996E-01	9.996E-01	9.991E-01	9.992E-01	9.995E-01	9.998E-01	9.971E-01	9.992E-01	9.988E-01	7.375E-01
(Glycerol flow)												
Local	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-6.66E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	0.00E+00	0.00E+00	2.24E-01	-1.19E-13	-8.84E-14	5.42E-02	3.04E-01	8.16E-02	5.93E-03	-8.30E-02	1.08E-01	-6.82E-17
Max	0.00E+00	0.00E+00	3.34E-01	1.18E-13	9.94E-14	8.16E-02	3.94E-01	1.20E-01	1.03E-02	-6.47E-02	1.42E-01	4.36E-16
Normalized peak height	1.00E+00	1.00E+00	3.40E-03	5.92E-03	1.16E-02	3.38E-03	3.60E-03	3.53E-03	3.23E-03	3.62E-03	3.18E-03	3.46E-01
Peak sensitivity value	5.00E-04	5.00E-04	2.74E-01	-2.47E-16	1.45E-16	6.68E-02	3.49E-01	9.82E-02	7.89E-03	-7.24E-02	1.24E-01	5.56E-20
Shapiro-Wilk score	1.000E+00	1.000E+00	9.996E-01	9.995E-01	9.991E-01	9.992E-01	9.997E-01	9.998E-01	9.968E-01	9.995E-01	9.988E-01	8.355E-01
(Acetaldehyde out)												
Local	0.00E+00	0.00E+00	2.79E-01	-5.24E-15	8.08E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	0.00E+00	0.00E+00	2.20E-01	-7.26E-14	-4.64E-14	5.44E-02	3.02E-01	8.13E-02	5.87E-03	-8.30E-02	1.06E-01	-3.74E-16
Max	0.00E+00	0.00E+00	3.37E-01	7.89E-14	6.43E-14	8.27E-02	3.94E-01	1.18E-01	1.04E-02	-6.47E-02	1.43E-01	6.56E-16
Normalized peak height	1.00E+00	1.00E+00	3.63E-03	5.01E-03	7.97E-03	3.52E-03	3.80E-03	3.87E-03	3.37E-03	3.73E-03	3.53E-03	3.50E-01
Peak sensitivity value	5.00E-04	5.00E-04	2.76E-01	-3.41E-15	-4.19E-17	6.68E-02	3.48E-01	9.86E-02	7.84E-03	-7.24E-02	1.24E-01	-4.24E-19
Shapiro-Wilk score	1.000E+00	1.000E+00	9.996E-01	9.986E-01	9.993E-01	9.993E-01	9.997E-01	9.998E-01	9.970E-01	9.992E-01	9.988E-01	7.531E-01
(Acetaldehyde flow)												
Local	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	5.75E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
Min	0.00E+00	0.00E+00	2.27E-01	-6.96E-14	-5.23E-14	5.52E-02	5.26E-01	-1.37E-01	-1.42E-02	-8.40E-02	1.09E-01	-2.48E-16
Max	0.00E+00	0.00E+00	3.39E-01	6.94E-14	5.05E-14	8.23E-02	6.24E-01	-1.04E-01	-6.37E-03	-6.36E-02	1.46E-01	6.95E-16
Normalized peak height	1.00E+00	1.00E+00	3.52E-03	5.37E-03	1.10E-02	3.47E-03	3.45E-03	3.32E-03	3.63E-03	3.82E-03	3.45E-03	3.47E-01
Peak sensitivity value	5.00E-04	5.00E-04	2.84E-01	-1.50E-17	-4.37E-17	6.88E-02	5.79E-01	-1.21E-01	-9.40E-03	-7.36E-02	1.26E-01	-4.94E-20
Shapiro-Wilk score	1.000E+00	1.000E+00	9.996E-01	9.991E-01	9.990E-01	9.993E-01	9.989E-01	9.988E-01	9.915E-01	9.993E-01	9.985E-01	7.895E-01
(Cyanide-Acetaldehyde flow)												
Local	0.00E+00	0.00E+00	2.63E-01	-4.73E-15	7.34E-15	6.31E-02	-3.93E-01	8.14E-01	6.50E-02	-6.85E-02	1.17E-01	9.70E-18
Min	0.00E+00	0.00E+00	2.12E-01	-6.62E-14	-5.01E-14	4.90E-02	-4.38E-01	7.82E-01	4.96E-02	-7.81E-02	1.01E-01	-5.03E-17
Max	0.00E+00	0.00E+00	3.19E-01	6.37E-14	4.56E-14	7.74E-02	-3.47E-01	8.42E-01	8.46E-02	-6.05E-02	1.34E-01	1.29E-15
Normalized peak height	1.00E+00	1.00E+00	3.36E-03	4.88E-03	1.05E-02	3.63E-03	3.91E-03	3.43E-03	3.18E-03	4.06E-03	3.43E-03	3.50E-01
Peak sensitivity value	5.00E-04	5.00E-04	2.58E-01	-2.22E-15	-3.93E-17	6.33E-02	-3.91E-01	8.13E-01	6.30E-02	-6.85E-02	1.17E-01	1.24E-19
Shapiro-Wilk score	1.000E+00	1.000E+00	9.996E-01	9.986E-01	9.990E-01	9.992E-01	9.996E-01	9.978E-01	9.925E-01	9.996E-01	9.987E-01	6.729E-01
(Cyanide flow)												
Local	0.00E+00	0.00E+00	2.63E-01	-4.59E-15	7.47E-15	6.31E-02	-3.93E-01	8.14E-01	6.50E-02	-6.85E-02	1.17E-01	9.70E-18
Min	0.00E+00	0.00E+00	2.09E-01	-7.11E-14	-4.38E-14	5.03E-02	-4.35E-01	7.83E-01	4.79E-02	-7.70E-02	1.03E-01	-5.82E-17
Max	0.00E+00	0.00E+00	3.20E-01	6.75E-14	5.08E-14	7.77E-02	-3.50E-01	8.41E-01	8.52E-02	-6.13E-02	1.35E-01	4.29E-16
Normalized peak height	1.00E+00	1.00E+00	3.87E-03	5.43E-03	9.70E-03	3.47E-03	3.59E-03	3.49E-03	3.44E-03	3.80E-03	3.34E-03	3.48E-01
Peak sensitivity value	5.00E-04	5.00E-04	2.63E-01	7.33E-17	-4.04E-17	6.31E-02	-3.94E-01	8.19E-01	6.21E-02	-6.80E-02	1.18E-01	-1.40E-20
Shapiro-Wilk score	1.000E+00	1.000E+00	9.997E-01	9.991E-01	9.991E-01	9.993E-01	9.996E-01	9.980E-01	9.929E-01	9.994E-01	9.987E-01	8.595E-01
(Storage)												
Local	0.00E+00	0.00E+00	-3.37E-02	-2.74E-15	-1.38E-16	-8.11E-03	-4.21E-02	-1.20E-02	-9.55E-04	1.62E-02	-9.65E-02	-1.73E-18
Min	0.00E+00	0.00E+00	-4.39E-02	-3.55E-14	-2.19E-14	-1.01E-02	-4.98E-02	-1.41E-02	-1.47E-03	1.26E-02	-1.13E-01	-2.00E-16
Max	0.00E+00	0.00E+00	-2.55E-02	2.96E-14	1.94E-14	-6.31E-03	-3.51E-02	-9.96E-03	-6.02E-04	2.05E-02	-8.33E-02	8.81E-18
Normalized peak height	1.00E+00	1.00E+00	3.65E-03	4.95E-03	4.29E-03	3.12E-03	2.77E-03	3.15E-03	3.34E-03	3.44E-03	3.09E-03	3.50E-01
Peak sensitivity value	5.00E-04	5.00E-04	-3.29E-02	7.94E-16	7.63E-16	-8.00E-03	-4.13E-02	-1.19E-02	-9.06E-04	1.64E-02	-9.90E-02	-6.21E-20
Shapiro-Wilk score	1.000E+00	1.000E+00	9.978E-01	9.997E-01	9.999E-01	9.974E-01	9.952E-01	9.969E-01	9.909E-01	9.984E-01	9.982E-01	7.648E-01
(ATP consumption)												
Local	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	9.53E-01	2.55E-17
Min	0.00E+00	0.00E+00	-2.33E-02	-1.71E-14	-1.09E-14	-5.67E-03	-2.73E-02	-7.67E-03	-7.69E-04	-2.61E-01	9.44E-01	-3.63E-16
Max	0.00E+00	0.00E+00	-1.15E-02	1.50E-14	1.05E-14	-2.83E-03	-1.55E-02	-4.47E-03	-2.75E-04	-2.09E-01	9.60E-01	1.14E-15
Normalized peak height	1.00E+00	1.00E+00	3.68E-03	4.73E-03	4.52E-03	3.70E-03	3.23E-03	3.55E-03	3.43E-03	3.45E-03	3.42E-03	3.49E-01
Peak sensitivity value	5.00E-04	5.00E-04	-1.61E-02	3.84E-16	-8.08E-17	-3.96E-03	-2.02E-02	-5.67E-03	-4.33E-04	-2.31E-01	9.54E-01	3.97E-19
Shapiro-Wilk score	1.000E+00	1.000E+00	9.915E-01	9.998E-01	9.999E-01	9.927E-01	9.918E-01	9.938E-01	9.842E-01	9.979E-01	9.953E-01	8.155E-01

(Adenylate kinase)																									
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Peak sensitivity value	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
Shapiro-Wilk score	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 26: Flux control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±10%

	(GluconseMixedflowtoextracellularmedium)	(Gluconseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)	(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
(Glucose Mixed flow to extracellular medium)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-3.45E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.14E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.35E-17	-5.80E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	2.86E-03	1.45E-03	7.92E-01	7.97E-04	8.69E-03	-2.72E-16	1.02E-04	2.10E-04	1.91E-05	5.40E-05	-4.05E-16	1.93E-03	-2.99E-17	-3.03E-17	-2.03E-03	-1.24E-15	-9.30E-16	-4.47E-04	-2.32E-03	-6.55E-04	-7.70E-05	-1.60E-02	-4.17E-03	-2.32E-17
Max	1.32E-01	3.72E-02	9.94E-01	2.89E-03	4.40E-02	2.77E-16	5.88E-04	1.31E-03	1.17E-04	3.42E-04	6.10E-16	1.26E-02	3.17E-17	3.09E-17	-3.43E-04	1.08E-15	7.32E-16	-8.98E-05	-4.87E-04	-1.38E-04	-7.00E-06	5.14E-03	-1.41E-03	9.54E-17
Normalized peak height	1.30E-02	8.88E-03	1.01E-02	4.54E-03	5.22E-03	6.91E-02	4.45E-03	4.90E-03	5.24E-03	4.72E-03	2.35E-02	3.93E-03	9.22E-01	9.28E-01	4.81E-03	7.10E-03	7.60E-03	4.29E-03	4.59E-03	5.10E-03	5.19E-03	7.31E-03	4.47E-03	3.45E-01
Peak sensitivity value	6.94E-03	4.48E-03	9.82E-01	1.30E-03	1.50E-02	4.56E-20	2.07E-04	4.68E-04	3.89E-05	1.09E-04	3.17E-19	3.99E-03	4.50E-21	-2.77E-20	-7.20E-04	-8.03E-18	1.58E-18	-1.72E-04	-8.94E-04	-2.58E-04	-1.77E-05	-9.68E-03	-2.17E-03	8.99E-21
Shapiro-Wilk score	7.072E-01	8.521E-01	7.873E-01	9.699E-01	9.289E-01	9.916E-01	9.585E-01	9.604E-01	9.566E-01	9.604E-01	9.807E-01	9.387E-01	2.838E-01	2.809E-01	9.598E-01	9.921E-01	9.907E-01	9.638E-01	9.617E-01	9.671E-01	9.338E-01	9.884E-01	9.844E-01	8.064E-01
(Glucose uptake)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-2.20E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.30E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	2.79E-03	1.40E-03	8.08E-01	8.17E-04	8.59E-03	-3.84E-16	1.00E-04	2.26E-04	1.93E-05	5.23E-05	-4.83E-16	2.02E-03	-2.62E-17	-3.38E-17	-1.87E-03	-8.95E-16	-8.26E-16	-4.41E-04	-2.21E-03	-5.96E-04	-8.37E-05	-1.61E-02	-4.11E-03	-3.02E-17
Max	1.36E-01	2.88E-02	9.94E-01	2.69E-03	4.15E-02	2.83E-16	5.40E-04	1.20E-03	1.17E-04	3.64E-04	5.60E-16	1.28E-02	2.96E-17	2.70E-17	-3.55E-04	9.99E-16	7.73E-16	-8.66E-05	-4.77E-04	-1.45E-04	-7.44E-06	2.60E-03	-1.41E-03	9.01E-17
Normalized peak height	1.34E-02	7.15E-03	9.25E-03	4.21E-03	4.43E-03	2.30E-02	4.43E-03	4.34E-03	4.79E-03	4.97E-03	1.26E-02	4.84E-03	9.23E-01	9.32E-01	4.32E-03	5.65E-03	7.44E-03	4.46E-03	4.59E-03	4.20E-03	5.32E-03	6.42E-03	3.98E-03	3.45E-01
Peak sensitivity value	6.58E-03	3.77E-03	9.81E-01	1.26E-03	1.47E-02	2.82E-19	2.10E-04	4.51E-04	3.66E-05	1.16E-04	1.36E-19	3.70E-03	-1.47E-20	5.28E-21	-6.85E-04	1.89E-17	-4.96E-19	-1.72E-04	-9.64E-04	-2.48E-04	-1.72E-05	-9.65E-03	-2.21E-03	3.09E-20
Shapiro-Wilk score	7.070E-01	8.568E-01	7.894E-01	9.712E-01	9.297E-01	9.993E-01	9.602E-01	9.602E-01	9.573E-01	9.623E-01	9.875E-01	9.398E-01	2.853E-01	2.756E-01	9.603E-01	9.930E-01	9.911E-01	9.640E-01	9.625E-01	9.680E-01	9.367E-01	9.893E-01	9.847E-01	8.027E-01
(Hexokinase)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-4.14E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-1.06E-16	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	2.91E-03	1.53E-03	8.06E-01	8.05E-04	8.85E-03	-2.38E-16	1.03E-04	2.22E-04	1.88E-05	4.79E-05	-6.27E-16	1.98E-03	-3.67E-17	-2.75E-17	-2.04E-03	-1.16E-15	-9.60E-16	-5.49E-04	-2.50E-03	-6.43E-04	-7.64E-05	-1.72E-02	-3.98E-03	-8.26E-18
Max	1.29E-01	3.00E-02	9.93E-01	2.74E-03	4.16E-02	2.62E-16	5.81E-04	1.34E-03	1.16E-04	3.37E-04	5.12E-16	1.39E-02	3.17E-17	2.90E-17	-3.65E-04	1.02E-15	6.71E-16	-8.01E-05	-4.67E-04	-1.38E-04	-6.63E-06	2.39E-03	-1.31E-03	5.12E-17
Normalized peak height	1.23E-02	7.76E-03	9.39E-03	4.25E-03	4.55E-03	3.84E-02	4.68E-03	5.18E-03	5.02E-03	4.94E-03	9.75E-03	5.07E-03	9.25E-01	9.33E-01	4.85E-03	6.52E-03	7.43E-03	5.77E-03	4.98E-03	4.80E-03	5.11E-03	6.84E-03	4.23E-03	3.44E-01
Peak sensitivity value	6.51E-03	3.79E-03	9.80E-01	1.28E-03	1.44E-02	1.27E-19	2.01E-04	4.49E-04	3.96E-05	1.19E-04	9.624E-01	3.20E-20	3.20E-20	1.36E-20	-6.78E-04	2.74E-17	-3.96E-19	-1.68E-04	-8.87E-04	-2.61E-04	-1.66E-05	-9.59E-03	-2.20E-03	-2.86E-20
Shapiro-Wilk score	7.091E-01	8.509E-01	7.887E-01	9.707E-01	9.310E-01	9.919E-01	9.589E-01	9.608E-01	9.587E-01	9.624E-01	9.853E-01	9.412E-01	2.806E-01	2.743E-01	9.923E-01	9.907E-01	9.907E-01	9.650E-01	9.623E-01	9.686E-01	9.368E-01	9.888E-01	9.850E-01	8.601E-01
(Phosphoglucoisomerase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	4.62E-16	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	2.63E-15	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	1.83E-15	9.24E-17	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	2.92E-03	1.44E-03	8.14E-01	2.24E-03	2.58E-02	-6.52E-15	-1.04E-02	-2.18E-02	-2.01E-03	-6.97E-03	-1.19E-14	-2.04E-01	-9.57E-16	-7.24E-16	1.29E-02	-2.24E-14	-1.96E-14	3.48E-03	2.07E-02	5.85E-03	2.73E-04	-3.77E-02	4.85E-02	-1.93E-17
Max	1.37E-01	3.90E-02	1.05E+00	5.28E-03	8.70E-02	5.90E-15	-3.66E-03	-8.15E-03	-7.01E-04	-1.70E-03	1.29E-14	-8.24E-02	8.48E-16	8.40E-16	3.54E-02	2.21E-14	1.84E-14	8.01E-03	3.67E-02	1.08E-02	1.31E-03	-1.28E-02	8.40E-02	2.45E-16
Normalized peak height	1.29E-02	9.73E-03	6.38E-03	3.88E-03	4.63E-03	3.77E-02	3.43E-03	3.72E-03	3.59E-03	3.81E-03	2.19E-02	2.87E-03	9.24E-01	9.32E-01	3.68E-03	4.70E-03	5.60E-03	3.20E-03	3.18E-03	3.27E-03	3.50E-03	5.32E-03	3.21E-03	3.44E-01
Peak sensitivity value	6.74E-03	3.97E-03	9.85E-01	3.29E-03	3.76E-02	5.23E-18	-6.54E-03	-1.39E-02	-1.18E-03	-3.48E-03	7.84E-18	-1.21E-01	-8.77E-19	-6.56E-19	2.17E-02	4.45E-16	-4.94E-16	5.16E-03	2.75E-02	7.90E-03	5.59E-04	-2.83E-02	6.52E-02	-1.04E-19
Shapiro-Wilk score	7.045E-01	8.454E-01	9.768E-01	9.853E-01	9.391E-01	9.979E-01	9.936E-01	9.969E-01	9.925E-01	9.875E-01	9.941E-01	9.806E-01	2.805E-01	2.742E-01	9.959E-01	9.987E-01	9.978E-01	9.955E-01	9.960E-01	9.973E-01	9.778E-01	9.979E-01	9.985E-01	8.373E-01
(Phosphofructokinase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.39E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	3.85E-15	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	2.02E-15	1.13E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	2.88E-03	1.49E-03	8.24E-01	2.35E-03	2.68E-02	-5.65E-15	-1.03E-02	-2.21E-02	-1.99E-03	-7.30E-03	-1.54E-14	-2.01E-01	-8.44E-16	-8.73E-16	1.20E-02	-2.27E-14	-1.81E-14	3.44E-03	2.02E-02	5.87E-03	2.66E-04	-3.77E-02	4.84E-02	-5.15E-17
Max	1.30E-01	3.35E-02	1.06E+00	5.19E-03	8.39E-02	6.12E-15	-3.84E-03	-7.82E-03	-6.88E-04	-1.75E-03	1.72E-14	-8.04E-02	1.01E-15	8.23E-16	3.42E-02	2.05E-14	2.59E-14	8.00E-03	3.66E-02	1.08E-02	1.38E-03	-1.59E-02	8.46E-02	6.56E-16
Normalized peak height	1.23E-02	8.10E-03	6.27E-03	3.91E-03	3.91E-03	1.43E-02	3.17E-03	3.78E-03	3.53E-03	4.00E-03	7.17E-03	2.67E-03	9.24E-01	9.33E-01	3.57E-03	4.61E-03	7.08E-03	3.48E-03	2.98E-03	3.37E-03	3.87E-03	4.57E-03	3.17E-03	3.45E-01
Peak sensitivity value	6.99E-03	3.62E-03	9.81E-01	3.34E-03	3.59E-02	-5.03E-18	-6.32E-03	-1.41E-02	-1.20E-03	-3.38E-03	9.63E-18	-1.31E-01	3.56E-19	-3.28E-19	2.18E-02	-5.53E-16	3.61E-17	5.40E-03	2.73E-02	7.84E-03	6.11E-04	-2.82E-02	6.61E-02	-1.74E-19
Shapiro-Wilk score	7.004E-01	8.481E-01	9.762E-01	9.850E-01	9.399E-01	9.976E-01	9.937E-01	9.973E-01	9.924E-01	9.879E-01	9.957E-01	9.806E-01	2.844E-01	2.730E-01	9.961E-01	9.988E-01	9.977E-01	9.948E-01	9.959E-01	9.975E-01	9.777E-01	9.980E-01	9.986E-01	6.394E-01
(Aldolase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.41E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	-1.02E-14	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	3.98E-16	1.24E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	2.76E-03	1.42E-03	8.43E-01	2.34E-03	2.65E-02	-6.00E-15	-1.01E-02	-2.22E-02	-2.03E-03	-6.99E-03	-5.56E-14	-2.07E-01	-8.22E-16	-8.04E-16	1.33E-02	-2.13E-14	-2.10E-14	3.46E-03	2.06E-02	5.98E-03	2.69E-04	-3.79E-02	4.76E-02	-1.96E-17
Max	1.39E-01	2.92E-02	1.06E+00	5.83E-03	8.94E-02	7.33E-15	-3.75E-03	-8.80E-03	-6.79E-04	-1.67E-03	5.17E-14	-8.12E-02	7.11E-16	7.05E-16	3.50E-02	2.23E-14	1.91E-14	8.12E-03	3.69E-02	1.05E-02	1.36E-03	-1.55E-02	8.35E-02	2.93E-16
Normalized peak height	1.35E-02	6.95E-03	5.85E-03	4.21E-03	4.54E-03	5.47E-02	3.40E-03	3.47E-03	3.80E-03	3.98E-03	1.79E-02	2.86E-03	9.24E-01	9.29E-01	3.78E-03	4.46E-03	6.00E-03	3.42E-03	2.92E-03	3.15E-03	3.73E-03	4.99E-03	3.28E-03	3.43E-01
Peak sensitivity value	7.06E-03	4.35E-03	9.86E-01	3.41E-03	3.59E-02	-2.20E-16	-6.34E-03	-1.38E-02	-1.19E-03	-3.67E-03	4.73E-19	-1.85E-01	2.90E-01	2.78E-01	2.18E-02	4.95E-16	-1.47E-16	5.17E-03	2.78E-02	7.85E-03	5.63E-04	-2.78E-02	6.58E-02	-7.17E-20
Shapiro-Wilk score	7.123E-01	8.532E-01	9.798E-01	9.848E-01	9.390E-01	9.983E-01	9.938E-01	9.966E-01	9.924E-01	9.866E-01	9.979E-01	9.800E-01	2.900E-01	2.782E-01	9.958E-01	9.989E-01	9.974E-01	9.954E-01	9.962E-01	9.973E-01	9.783E-01	9.985E-01	9.984E-01	8.235E-01
(Triosephosphate isomerase)																								
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-1.03E-15	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-5.10E-15	1.84E-01	0.00E+00	0.00E+00	-3.13E-02	-1.10E-17	1.39E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	2.46E-03	1.26E-03	6.18E-01	1.58E-03	1.75E-02	-2.31E-15	4.90E-03	1.05E-02	8.98E-04	2.35E-03	-2.06E-14	1.07E-01	-7.56E-16	-5.38E-16	-5.03E-02	-8.27E-15	-4.70E-15	-1.17E-02	-5.49E-02	-1.52E-02	-2.08E-03	-2.82E-02	3.27E-02	-1.35E-17
Max	9.44E-02	2.57E-02	8.62E-01	3.49E-03	5.78E-02	2.12E-15	1.48E-02	3.30E-02	3.12E-03	1.05E-02	2.12E-14	3.08E-01	6.79E-16	6.01E-16	-1.73E-02	7.41E-15	4.35E-15	-4.39E-03	-2.72E-02	-7.86E-03	-3.36E-04	-7.61E-03	7.09E-02	6.26E-17
Normalized peak height	1.13E-02	7.81E-03	3.88E-03	3.48E-03	4.25E-03	4.85E-03	3.41E-03	3.82E-03	3.91E-03	4.11E-03	2.02E-02	2.93E-03	9.32E-01	9.42E-01	3.61E-03	6.16E-03	5.71E-03	3.54E-03	2.80E-03	3.00E-03	3.75E-03	4.24E-03	3.27E-03	3.43E-01
Peak sensitivity value	5.72E-03	3.13E-03	8.14E-01	2.29E-03	2.65E-02	-2.11E-18	8.85E-03	1.90E-02	1.58E-03	4.78E-03	1.86E-17	1.55E-01	-5.19E-19	2.18E-19	-3.13E-02	4.86E-17	1.18E-16	-6.93E-03	-3.83E-02	-1.13E-02	-7.93E-04	-2.00E-02	5.47E-02	3.69E-20
Shapiro-Wilk score	7.156E-01	8.628E-01	9.570E-01	9.932E-01	9.606E-01	9.991E-01	9.911E-01	9.930E-01	9.887E-01	9.845E-01	9.975E-01	9.744E-01	2.679E-01	2.481E-01	9.919E-01	9.961E-01	9.950E-01	9.927E-01	9.924E-01	9.950E-01	9.707E-01	9.985E-01	9.976E-01	9.262E-01
(Glyceraldehyde 3-phosphate dehydrogenase)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-1.85E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-9.79E-15	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	7.65E-16	6.61E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	2.79E-03	1.31E-03	7.48E-01	2.07E-03	2.27E-02	-3.42E-15	2.65E-04	5.75E-04	5.07E-05	1.25E-04	-2.67E-14	5.37E-03	-6.95E-16	-7.05E-16	-3.76E-03	-1.71E-14	-8.26E-15	-8.78E-04	-4.20E-03	-1.08E-03	-1.46E-04	-3.36E-02	4.31E-02	-1.56E-17
Max	1.21E-01	2.79E-02	9.29E-01	4.43E-03	7.29E-02	3.80E-15	1.06E-03	2.39E-03	2.14E-04	6.35E-04	2.75E-14	2.37E-02	7.92E-16	6.55E-16	-9.38E-04	1.39E-14	1.12E-14	-2.29E-04	-1.33E-03	-3.77E-04	-1.85E-05	-1.16E-02	7.65E-02	1.25E-16
Normalized peak height	1.24E-02	7.51E-03	8.62E-03	3.73E-03	4.11E-03	4.75E-03	3.87E-03	4.39E-03	4.27E-03	4.00E-03	4.74E-03	3.82E-03	9.23E-01	9.28E-01	4.21E-03	5.53E-03	5.98E-03	4.23E-03	3.80E-03	3.64E-03	4.95E-03	5.19E-03	2.99E-03	3.46E-01
Peak sensitivity value	5.68E-03	4.14E-03	9.06E-01	2.88E-03	3.28E-02	-1.01E-16	5.08E-04	1.05E-03	9.43E-05	2.70E-04	-7.70E-18	9.05E-03	5.06E-19	4.64E-19	-1.68E-03	1.27E-16	1.29E-17	-3.89E-04	-2.02E-03	-5.98E-04	-4.34E-05	-2.44E-02	5.95E-02	-7.09E-23
Shapiro-Wilk score	7.089E-01	8.571E-01	8.243E-01	9.881E-01	9.466E-01	9.983E-01	9.756E-01	9.765E-01	9.724E-01	9.746E-01	9.984E-01	9.568E-01	2.846E-01	2.772E-01	9.763E-01	9.985E-01	9.981E-01	9.787E-01	9.776E-01	9.818E-01	9.534E-01	9.981E-01	9.983E-01	8.834E-01
(Phosphoenolpyruvate synthesis)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-2.35E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-4.52E-14	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	-2.42E-15	1.16E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	2.52E-03	1.17E-03	7.71E-01	2.02E-03	2.31E-02	-2.55E-14	2.56E-04	5.80E-04	4.87E-05	1.35E-04	-2.56E-13	5.30E-03	-7.50E-16	-7.26E-16	-3.70E-03	-1.96E-14	-9.86E-15	-8.70E-04	-4.12E-03	-1.18E-03	-1.37E-04	-3.35E-02	4.33E-02	-1.66E-17
Max	1.06E-01	2.42E-02	9.27E-01	4.47E-03	7.03E-02	2.52E-14	1.19E-03	2.46E-03	2.36E-04	6.79E-04	1.99E-13	2.27E-02	7.96E-16	6.11E-16	-9.18E-04	1.94E-14	8.53E-15	-2.16E-04	-1.28E-03	-3.75E-04	-1.90E-05	-1.41E-02	7.68E-02	1.26E-16
Normalized peak height	1.11E-02	6.45E-03	7.37E-03	3.82E-03	3.84E-03	3.89E-03	4.84E-03	4.20E-03	4.77E-03	4.20E-03	6.47E-03	3.80E-03	9.31E-01	9.46E-01	4.29E-03	5.33E-03	5.50E-03	4.30E-03	3.84E-03	3.96E-03	4.12E-03	4.30E-03	3.03E-03	3.44E-01
Peak sensitivity value	5.79E-03	3.58E-03	9.07E-01	2.82E-03	3.21E-02	-4.52E-16	4.68E-04	1.04E-03	8.88E-05	2.81E-04	-1.79E-16	9.09E-03	6.14E-19	6.53E-19	-1.72E-03	1.98E-16	1.56E-16	-4.07E-04	-2.13E-03	-5.85E-04	-4.27E-05	-2.52E-02	5.95E-02	2.66E-21
Shapiro-Wilk score	7.138E-01	8.579E-01	8.273E-01	9.888E-01	9.469E-01	9.999E-01	9.754E-01	9.763E-01	9.743E-01	9.759E-01	9.942E-01	9.573E-01	2.722E-01	2.529E-01	9.758E-01	9.972E-01	9.963E-01	9.795E-01	9.780E-01	9.832E-01	9.546E-01	9.988E-01	9.983E-01	8.917E-01
(Pyruvate kinase)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	2.24E-15	5.23E-04	1.14E-03	9.81E-05	2.96E-04	5.94E-14	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	4.02E-15	-8.26E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	2.70E-03	1.36E-03	7.21E-01	2.04E-03	2.32E-02	-1.59E-14	2.50E-04	5.42E-04	4.60E-05	1.31E-04	-2.15E-13	5.28E-03	-8.34E-16	-5.95E-16	-3.91E-03	-1.62E-14	-7.49E-15	-8.44E-04	-4.23E-03	-1.18E-03	-1.37E-04	-3.38E-02	4.22E-02	-5.84E-17
Max	1.32E-01	3.11E-02	9.29E-01	4.35E-03	7.13E-02	1.77E-14	1.16E-03	2.53E-03	2.44E-04	6.70E-04	2.26E-13	2.36E-02	8.26E-16	6.52E-16	-9.04E-04	1.37E-14	8.70E-15	-2.16E-04	-1.33E-03	-3.75E-04	-1.76E-05	-1.07E-02	7.73E-02	1.25E-16
Normalized peak height	1.36E-02	8.40E-03	9.63E-03	3.68E-03	4.13E-03	1.04E-02	4.38E-03	4.52E-03	5.14E-03	4.34E-03	1.72E-01	3.95E-03	9.30E-01	9.47E-01	4.49E-03	5.08E-03	5.28E-03	3.89E-03	3.89E-03	4.15E-03	4.31E-03	5.17E-03	3.14E-03	3.40E-01
Peak sensitivity value	6.52E-03	3.66E-03	9.07E-01	2.82E-03	3.13E-02	-1.59E-17	4.75E-04	1.07E-03	8.84E-05	2.64E-04	9.745E-01	9.686E-01	9.585E-01	3.04E-19	-1.70E-03	-1.26E-17	4.17E-19	-3.86E-04	-2.12E-03	-6.07E-04	-4.19E-05	-2.49E-02	6.07E-02	-3.04E-20
Shapiro-Wilk score	7.132E-01	8.558E-01	8.286E-01	9.881E-01	9.460E-01	9.975E-01	9.751E-01	9.760E-01	9.731E-01	9.745E-01	9.686E-01	9.585E-01	2.754E-01	2.536E-01	9.752E-01	9.970E-01	9.966E-01	9.796E-01	9.780E-01	9.833E-01	9.552E-01	9.978E-01	9.982E-01	8.562E-01

(Pyruvate decarboxylase)	Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-8.93E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-6.66E-16	1.05E-02
	Min	2.65E-03	1.38E-03	7.50E-01	2.06E-03	2.27E-02	-3.41E-15	2.60E-04	5.39E-04	4.86E-05	1.26E-04	-5.55E-15	5.19E-03
	Max	1.24E-01	2.77E-02	9.27E-01	4.65E-03	7.93E-02	5.35E-15	1.16E-03	2.36E-03	2.18E-04	6.41E-04	5.44E-15	2.81E-02
	Normalized peak height	1.26E-02	7.33E-03	8.34E-03	4.16E-03	4.78E-03	2.03E-02	4.74E-03	4.20E-03	4.40E-03	4.20E-03	9.38E-02	4.60E-03
	Peak sensitivity value	6.34E-03	3.47E-03	9.07E-01	2.87E-03	3.29E-02	4.10E-18	4.62E-04	1.13E-03	9.66E-05	2.73E-04	-2.26E-16	9.46E-03
	Shapiro-Wilk score	7.115E-01	8.545E-01	8.265E-01	9.883E-01	9.444E-01	9.616E-01	9.754E-01	9.763E-01	9.742E-01	9.760E-01	9.947E-01	9.563E-01
(Alcohol dehydrogenase)	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.80E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	6.30E-16	1.84E-01
	Min	2.38E-03	1.25E-03	6.05E-01	1.55E-03	1.70E-02	-1.79E-15	5.31E-03	1.11E-02	9.38E-04	2.26E-03	-4.45E-15	1.07E-01
	Max	1.12E-01	2.41E-02	8.61E-01	3.55E-03	5.53E-02	1.82E-15	1.49E-02	3.42E-02	3.12E-03	9.98E-03	4.60E-15	3.15E-01
	Normalized peak height	1.39E-02	7.26E-03	4.01E-03	3.68E-03	3.94E-03	7.19E-03	3.63E-03	4.03E-03	3.94E-03	3.72E-03	1.86E-02	3.07E-03
	Peak sensitivity value	5.62E-03	3.66E-03	8.05E-01	2.30E-03	2.65E-02	2.49E-18	8.92E-03	1.94E-02	1.61E-03	4.78E-03	-1.28E-18	1.63E-01
	Shapiro-Wilk score	7.202E-01	8.651E-01	9.564E-01	9.935E-01	9.616E-01	9.823E-01	9.911E-01	9.930E-01	9.885E-01	9.840E-01	9.953E-01	9.738E-01
(Ethanol out)	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-4.21E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	5.13E-16	1.84E-01
	Min	2.50E-03	1.24E-03	6.24E-01	1.52E-03	1.75E-02	-1.68E-15	5.05E-03	1.06E-02	9.00E-04	2.27E-03	-3.72E-15	1.06E-01
	Max	1.05E-01	2.95E-02	8.62E-01	3.60E-03	5.72E-02	1.64E-15	1.50E-02	3.30E-02	3.04E-03	1.05E-02	4.31E-15	3.06E-01
	Normalized peak height	1.27E-02	8.98E-03	3.66E-03	3.87E-03	4.20E-03	1.06E-01	3.53E-03	3.89E-03	3.66E-03	4.09E-03	2.55E-01	2.78E-03
	Peak sensitivity value	5.64E-03	3.12E-03	7.95E-01	2.29E-03	2.65E-02	-1.16E-18	8.86E-03	1.94E-02	1.65E-03	4.76E-03	2.01E-19	1.74E-01
	Shapiro-Wilk score	7.101E-01	8.522E-01	9.564E-01	9.933E-01	9.619E-01	9.853E-01	9.914E-01	9.934E-01	9.886E-01	9.846E-01	9.831E-01	9.744E-01
(Ethanol flow)	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01
	Min	2.25E-03	1.31E-03	6.05E-01	1.58E-03	1.82E-02	-1.89E-15	4.92E-03	1.14E-02	9.18E-04	2.26E-03	-3.68E-15	1.06E-01
	Max	1.21E-01	2.78E-02	8.60E-01	3.52E-03	5.66E-02	2.17E-15	1.54E-02	3.46E-02	3.07E-03	1.02E-02	3.02E-15	3.09E-01
	Normalized peak height	1.45E-02	8.75E-03	4.00E-03	3.78E-03	3.89E-03	1.98E-02	3.73E-03	4.00E-03	3.80E-03	4.05E-03	6.32E-02	2.83E-03
	Peak sensitivity value	5.74E-03	3.18E-03	8.10E-01	2.35E-03	2.61E-02	-1.42E-18	8.24E-03	1.93E-02	1.58E-03	4.69E-03	2.88E-19	1.64E-01
	Shapiro-Wilk score	7.207E-01	8.633E-01	9.570E-01	9.933E-01	9.613E-01	9.822E-01	9.909E-01	9.929E-01	9.891E-01	9.851E-01	9.981E-01	9.739E-01
(Glycerol synthesis)	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.06E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.65E-14	-1.64E+00
	Min	5.75E-03	2.84E-03	1.68E+00	5.83E-03	6.55E-02	-4.78E-14	-1.28E-01	-2.60E-01	-2.23E-02	-7.86E-02	-8.71E-14	-1.98E+00
	Max	2.72E-01	6.36E-02	2.29E+00	1.31E-02	2.08E-01	5.30E-14	-4.29E-02	-1.13E-01	-9.87E-03	-2.49E-02	6.30E-14	-1.34E+00
	Normalized peak height	1.27E-02	7.99E-03	3.05E-03	3.61E-03	4.35E-03	7.88E-03	3.48E-03	3.61E-03	3.66E-03	3.64E-03	1.59E-02	2.99E-03
	Peak sensitivity value	1.31E-02	7.19E-03	1.93E+00	8.26E-03	9.07E-02	-2.89E-16	-8.08E-02	-1.80E-01	-1.49E-02	-4.52E-02	2.84E-17	-1.61E+00
	Shapiro-Wilk score	6.918E-01	8.391E-01	9.897E-01	9.851E-01	9.383E-01	9.913E-01	9.963E-01	9.994E-01	9.974E-01	9.939E-01	9.916E-01	9.913E-01
(Glycerol out)	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.12E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.55E-14	-1.64E+00
	Min	5.01E-03	2.75E-03	1.68E+00	5.67E-03	6.54E-02	-4.51E-14	-1.28E-01	-2.63E-01	-2.23E-02	-7.85E-02	-6.60E-14	-1.99E+00
	Max	2.74E-01	7.20E-02	2.30E+00	1.34E-02	2.13E-01	4.88E-14	-4.46E-02	-1.10E-01	-1.03E-02	-2.33E-02	5.95E-14	-1.34E+00
	Normalized peak height	1.31E-02	8.75E-03	2.97E-03	3.80E-03	4.25E-03	7.31E-03	3.19E-03	3.65E-03	3.69E-03	3.83E-03	2.59E-02	3.26E-03
	Peak sensitivity value	1.27E-02	7.77E-03	1.91E+00	8.10E-03	9.26E-02	-3.64E-16	-7.86E-02	-1.81E-01	-1.53E-02	-4.46E-02	-5.22E-17	-1.59E+00
	Shapiro-Wilk score	6.993E-01	8.436E-01	9.901E-01	9.859E-01	9.388E-01	9.910E-01	9.966E-01	9.993E-01	9.970E-01	9.940E-01	9.909E-01	9.918E-01
(Glycerol flow)	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00
	Min	5.41E-03	2.77E-03	1.62E+00	5.64E-03	6.45E-02	-5.60E-14	-1.29E-01	-2.55E-01	-2.23E-02	-7.60E-02	-8.13E-14	-1.99E+00
	Max	2.74E-01	6.93E-02	2.31E+00	1.29E-02	2.08E-01	4.26E-14	-4.46E-02	-1.13E-01	-1.00E-02	-2.47E-02	6.41E-14	-1.33E+00
	Normalized peak height	1.31E-02	8.42E-03	3.32E-03	3.59E-03	4.09E-03	8.04E-03	3.24E-03	3.51E-03	3.84E-03	3.68E-03	3.79E-02	2.99E-03
	Peak sensitivity value	1.25E-02	7.27E-03	1.90E+00	8.10E-03	9.26E-02	2.49E-16	-7.79E-02	-1.79E-01	-1.49E-02	-4.36E-02	-6.74E-17	-1.63E+00
	Shapiro-Wilk score	7.015E-01	8.448E-01	9.904E-01	9.861E-01	9.395E-01	9.916E-01	9.966E-01	9.994E-01	9.965E-01	9.940E-01	9.910E-01	9.913E-01
(Acetaldehyde out)	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	-5.92E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	4.56E-21	-1.64E+00
	Min	5.53E-03	2.60E-03	1.63E+00	5.55E-03	6.58E-02	-2.40E-14	-1.31E-01	-2.52E-01	-2.28E-02	-7.62E-02	-5.10E-14	-2.05E+00
	Max	3.16E-01	6.68E-02	2.34E+00	1.32E-02	2.06E-01	2.31E-14	-4.38E-02	-1.07E-01	-1.04E-02	-2.52E-02	4.62E-14	-1.35E+00
	Normalized peak height	1.48E-02	8.24E-03	3.49E-03	3.76E-03	4.12E-03	3.05E-02	3.31E-03	3.47E-03	3.76E-03	3.56E-03	2.97E-01	3.31E-03
	Peak sensitivity value	1.44E-02	8.35E-03	1.93E+00	8.16E-03	9.02E-02	-1.49E-18	-8.00E-02	-1.84E-01	-1.50E-02	-4.34E-02	-2.64E-17	-1.54E+00
	Shapiro-Wilk score	7.019E-01	8.450E-01	9.904E-01	9.855E-01	9.390E-01	9.837E-01	9.969E-01	9.994E-01	9.970E-01	9.933E-01	9.801E-01	9.918E-01
(Acetaldehyde flow)	Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00
	Min	5.24E-03	2.87E-03	1.63E+00	5.67E-03	6.66E-02	-3.13E-14	-1.31E-01	-2.63E-01	-2.22E-02	-7.84E-02	-5.08E-14	-2.06E+00
	Max	2.70E-01	7.02E-02	2.32E+00	1.36E-02	2.19E-01	2.46E-14	-4.34E-02	-1.08E-01	-9.76E-03	-2.30E-02	4.84E-14	-1.34E+00
	Normalized peak height	1.23E-02	8.44E-03	3.10E-03	3.71E-03	4.70E-03	8.37E-03	3.22E-03	3.65E-03	3.85E-03	3.78E-03	6.21E-02	3.08E-03
	Peak sensitivity value	1.12E-02	7.34E-03	1.92E+00	8.60E-03	9.79E-02	-6.45E-17	-8.46E-02	-1.76E-01	-1.58E-02	-4.50E-02	-4.17E-17	-1.60E+00
	Shapiro-Wilk score	6.960E-01	8.360E-01	9.896E-01	9.838E-01	9.358E-01	9.825E-01	9.966E-01	9.991E-01	9.968E-01	9.939E-01	9.908E-01	9.909E-01
(Cyanide-Acetaldehyde flow)	Local	2.36E-02	1.02E-02	1.85E+00	8.13E-03	9.84E-02	-5.30E-15	-7.71E-02	-1.69E-01	-1.45E-02	-4.36E-02	-8.00E-15	-1.54E+00
	Min	5.14E-03	2.49E-03	1.57E+00	5.51E-03	6.28E-02	-2.29E-14	-1.22E-01	-2.48E-01	-2.05E-02	-7.55E-02	-4.74E-14	-1.86E+00
	Max	2.52E-01	5.90E-02	2.12E+00	1.22E-02	1.90E-01	2.43E-14	-3.81E-02	-1.01E-01	-9.62E-03	-2.37E-02	4.91E-14	-1.26E+00
	Normalized peak height	1.28E-02	7.51E-03	3.43E-03	3.75E-03	3.91E-03	7.52E-03	3.32E-03	3.75E-03	3.36E-03	3.81E-03	1.97E-02	3.32E-03
	Peak sensitivity value	1.19E-02	6.93E-03	1.80E+00	7.64E-03	8.61E-02	-2.31E-16	-7.56E-02	-1.66E-01	-1.40E-02	-4.07E-02	1.72E-17	-1.49E+00
	Shapiro-Wilk score	7.007E-01	8.434E-01	9.927E-01	9.875E-01	9.414E-01	9.824E-01	9.963E-01	9.992E-01	9.968E-01	9.943E-01	9.901E-01	9.940E-01
(Cyanide flow)	Local	2.36E-02	1.02E-02	1.85E+00	8.13E-03	9.84E-02	-5.36E-15	-7.71E-02	-1.69E-01	-1.45E-02	-4.36E-02	-7.92E-15	-1.54E+00
	Min	5.14E-03	2.68E-03	1.51E+00	5.45E-03	6.13E-02	-2.16E-14	-1.25E-01	-2.43E-01	-2.12E-02	-7.46E-02	-3.60E-14	-1.88E+00
	Max	2.49E-01	6.67E-02	2.17E+00	1.20E-02	1.89E-01	2.57E-14	-4.26E-02	-1.04E-01	-9.38E-03	-2.24E-02	5.22E-14	-1.26E+00
	Normalized peak height	1.28E-02	8.67E-03	3.80E-03	3.51E-03	4.18E-03	7.82E-03	3.28E-03	3.55E-03	3.77E-03	3.95E-03	6.64E-02	3.46E-03
	Peak sensitivity value	1.31E-02	7.19E-03	1.81E+00	7.78E-03	8.78E-02	4.53E-17	-7.53E-02	-1.67E-01	-1.40E-02	-4.36E-02	-3.08E-17	-1.51E+00
	Shapiro-Wilk score	7.014E-01	8.453E-01	9.923E-01	9.872E-01	9.398E-01	9.841E-01	9.969E-01	9.993E-01	9.973E-01	9.939E-01	9.888E-01	9.941E-01
(Storage)	Local	1.21E-02	5.20E-03	9.43E-01	-1.53E-03	-1.85E-02	-1.69E-15	9.90E-03	2.16E-02	1.86E-03	5.60E-03	-3.99E-15	1.98E-01
	Min	2.98E-03	1.41E-03	7.40E-01	-2.77E-03	-4.06E-02	-8.43E-15	5.56E-03	1.16E-02	9.72E-04	2.55E-03	-1.46E-14	1.16E-01
	Max	1.17E-01	3.10E-02	1.02E+00	-4.41E-04	-6.49E-03	9.23E-15	1.64E-02	3.52E-02	3.17E-03	1.12E-02	1.85E-14	3.30E-01
	Normalized peak height	1.14E-02	8.41E-03	3.93E-03	3.93E-03	4.76E-03	2.84E-02	3.52E-03	3.81E-03	3.57E-03	3.84E-03	7.69E-03	2.98E-03
	Peak sensitivity value	6.13E-03	4.12E-03	9.67E-01	-1.53E-03	-1.76E-02	6.33E-19	9.78E-03	2.03E-02	1.70E-03	5.23E-03	6.44E-18	1.78E-01
	Shapiro-Wilk score	7.224E-01	8.609E-01	9.559E-01	9.978E-01	9.862E-01	9.970E-01	9.916E-01	9.934E-01	9.880E-01	9.837E-01	9.950E-01	9.740E-01
(ATP consumption)	Local	-1.59E-03	-6.83E-04	-1.24E-01	2.57E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02
	Min	-4.10E-02	-8.67E-03	-4.57E-01	1.83E-02	2.02E-01	-4.38E-15	2.34E-03	5.28E-03	4.50E-04	1.21E-03	-1.04E-14	4.87E-02
	Max	-7.37E-05	-4.03E-05	-1.41E-02	3.74E-02	6.33E-01	3.77E-15	1.01E-02	2.21E-02	2.19E-03	6.28E-03	1.15E-14	2.37E-01
	Normalized peak height	2.93E-02	1.32E-02	4.32E-03	3.58E-03	4.21E-03	6.54E-02	4.02E-03	4.18E-03	4.72E-03	4.23E-03	1.90E-02	4.45E-03
	Peak sensitivity value	-4.22E-04	-2.78E-04	-9.41E-02	2.53E-02	2.84E-01	-8.72E-19	4.20E-03	9.55E-03	8.25E-04	2.46E-03	-7.46E-18	8.68E-02
	Shapiro-Wilk score	6.058E-01	7.374E-01	9.332E-01	9.875E-01	9.434E-01	9.959E-01	9.701E-01	9.714E-01	9.690E-01	9.719E-01	9.873E-01	9.494E-01

(Pyruvate decarboxylase)	Local	0.00E+00	0.00E+00	-1.78E-03	-6.65E-16	1.91E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
	Min	-7.78E-16	-6.74E-16	-3.89E-03	-1.13E-14	-7.86E-15	-8.95E-04	-5.05E-03	-1.24E-03	-1.47E-04	-3.28E-02	4.25E-02	-4.20E-17
	Max	7.39E-16	6.80E-16	-8.77E-04	1.29E-14	9.43E-15	-2.27E-04	-1.28E-03	-3.70E-04	-1.87E-05	-1.33E-02	7.70E-02	2.21E-16
	Normalized peak height	9.32E-01	9.48E-01	4.81E-03	7.47E-03	9.95E-03	4.56E-03	5.07E-03	4.43E-03	4.85E-03	4.58E-03	3.15E-03	3.41E-01
	Peak sensitivity value	-5.55E-19	-3.77E-19	-1.66E-03	-8.68E-18	-7.32E-19	-4.09E-04	-2.19E-03	-6.12E-04	-4.24E-05	-2.48E-02	6.19E-02	-1.14E-19
	Shapiro-Wilk score	2.745E-01	2.495E-01	9.758E-01	9.929E-01	9.919E-01	9.790E-01	9.761E-01	9.816E-01	9.526E-01	9.984E-01	9.984E-01	8.551E-01
(Alcohol dehydrogenase)	Local	0.00E+00	0.00E+00	-3.13E-02	-1.84E-16	1.26E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-6.33E-16	-7.02E-16	-5.24E-02	-6.61E-15	-4.39E-15	-1.18E-02	-5.56E-02	-1.51E-02	-2.01E-03	-2.86E-02	3.46E-02	-1.22E-17
	Max	6.45E-16	5.89E-16	-1.76E-02	7.73E-15	4.75E-15	-4.45E-03	-2.70E-02	-7.78E-03	-3.56E-04	-7.83E-03	7.11E-02	1.51E-16
	Normalized peak height	9.31E-01	9.40E-01	3.79E-03	5.70E-03	9.49E-03	3.33E-03	3.02E-03	3.09E-03	3.95E-03	4.42E-03	3.15E-03	3.45E-01
	Peak sensitivity value	4.81E-19	6.11E-19	-2.97E-02	2.69E-16	2.52E-18	-7.32E-03	-3.81E-02	-1.08E-02	-7.78E-04	-1.95E-02	5.39E-02	3.99E-20
	Shapiro-Wilk score	2.707E-01	2.579E-01	9.922E-01	9.965E-01	9.954E-01	9.931E-01	9.926E-01	9.946E-01	9.689E-01	9.989E-01	9.974E-01	8.069E-01
(Ethanol out)	Local	2.37E-16	-8.88E-16	-3.13E-02	-1.07E-16	1.31E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-2.44E-15	-2.66E-15	-5.24E-02	-6.64E-15	-4.43E-15	-1.17E-02	-5.51E-02	-1.50E-02	-1.89E-03	-2.82E-02	3.58E-02	-1.27E-17
	Max	2.60E-15	2.66E-15	-1.67E-02	5.90E-15	5.02E-15	-4.69E-03	-2.68E-02	-7.84E-03	-3.58E-04	-8.25E-03	7.20E-02	3.22E-16
	Normalized peak height	8.44E-02	4.81E-01	3.93E-03	4.99E-03	1.09E-02	3.19E-03	3.03E-03	3.21E-03	3.51E-03	4.27E-03	3.17E-03	3.41E-01
	Peak sensitivity value	-2.23E-16	2.66E-18	-2.94E-02	-2.10E-16	-1.02E-18	-7.04E-03	-3.68E-02	-1.10E-02	-7.99E-04	-1.95E-02	5.54E-02	-1.12E-19
	Shapiro-Wilk score	9.970E-01	8.746E-01	9.921E-01	9.971E-01	9.956E-01	9.920E-01	9.924E-01	9.952E-01	9.709E-01	9.979E-01	9.977E-01	7.558E-01
(Ethanol flow)	Local	-3.41E-16	-1.11E-15	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-7.26E-16	-2.89E-15	-5.41E-02	-6.72E-15	-4.53E-15	-1.14E-02	-5.42E-02	-1.51E-02	-1.95E-03	-2.80E-02	3.52E-02	-1.19E-17
	Max	7.82E-16	2.78E-15	-1.72E-02	6.11E-15	4.92E-15	-4.60E-03	-2.67E-02	-7.89E-03	-3.59E-04	-6.63E-03	7.11E-02	1.29E-16
	Normalized peak height	6.28E-01	1.20E-01	3.96E-03	5.15E-03	9.36E-03	3.21E-03	2.83E-03	3.03E-03	3.39E-03	4.56E-03	3.10E-03	3.43E-01
	Peak sensitivity value	4.10E-19	-2.23E-16	-3.09E-02	-2.94E-17	1.95E-18	-7.09E-03	-3.80E-02	-1.10E-02	-7.12E-04	-1.94E-02	5.42E-02	1.75E-22
	Shapiro-Wilk score	8.326E-01	9.930E-01	9.914E-01	9.970E-01	9.951E-01	9.930E-01	9.922E-01	9.949E-01	9.707E-01	9.987E-01	9.975E-01	8.349E-01
(Glycerol synthesis)	Local	0.00E+00	0.00E+00	2.79E-01	8.97E-15	-6.51E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-2.44E-15	-2.00E-15	1.71E-01	-1.49E-13	-1.09E-13	4.27E-02	2.47E-01	6.23E-02	4.37E-03	-9.36E-02	9.33E-02	-5.75E-17
	Max	2.11E-15	2.03E-15	3.91E-01	1.50E-13	8.56E-14	9.93E-02	4.37E-01	1.39E-01	1.32E-02	-4.47E-02	1.60E-01	6.68E-16
	Normalized peak height	9.22E-01	9.28E-01	3.45E-03	7.14E-03	1.70E-02	3.41E-03	3.88E-03	3.70E-03	3.55E-03	4.73E-03	3.14E-03	3.41E-01
	Peak sensitivity value	-9.55E-19	5.29E-19	2.77E-01	-2.69E-17	-2.51E-17	6.51E-02	3.55E-01	9.84E-02	7.25E-03	-7.16E-02	1.26E-01	2.00E-19
	Shapiro-Wilk score	2.914E-01	2.859E-01	9.996E-01	9.978E-01	9.971E-01	9.981E-01	9.993E-01	9.996E-01	9.903E-01	9.988E-01	9.977E-01	7.924E-01
(Glycerol out)	Local	0.00E+00	0.00E+00	2.79E-01	9.24E-15	-6.55E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-1.98E-15	-2.13E-15	1.67E-01	-1.35E-13	-8.50E-14	4.33E-02	2.60E-01	6.45E-02	4.35E-03	-9.38E-02	9.11E-02	-6.13E-17
	Max	2.46E-15	2.27E-15	4.01E-01	1.29E-13	1.09E-13	9.84E-02	4.33E-01	1.38E-01	1.33E-02	-4.24E-02	1.62E-01	6.94E-16
	Normalized peak height	9.24E-01	9.29E-01	3.51E-03	6.73E-03	9.79E-03	3.73E-03	3.40E-03	3.46E-03	3.40E-03	5.09E-03	3.31E-03	3.45E-01
	Peak sensitivity value	1.52E-18	-5.58E-19	2.89E-01	5.37E-17	-1.87E-16	6.85E-02	3.56E-01	9.85E-02	7.44E-03	-7.15E-02	1.27E-01	2.73E-19
	Shapiro-Wilk score	2.869E-01	2.811E-01	9.996E-01	9.969E-01	9.963E-01	9.981E-01	9.993E-01	9.996E-01	9.899E-01	9.989E-01	9.978E-01	7.868E-01
(Glycerol flow)	Local	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-6.66E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-2.20E-15	-2.19E-15	1.72E-01	-1.87E-13	-9.99E-14	4.00E-02	2.54E-01	6.44E-02	4.35E-03	-9.43E-02	8.96E-02	-5.60E-17
	Max	2.47E-15	1.91E-15	3.93E-01	1.62E-13	1.14E-13	9.65E-02	4.35E-01	1.37E-01	1.30E-02	-4.73E-02	1.64E-01	1.48E-15
	Normalized peak height	9.22E-01	9.27E-01	3.44E-03	8.18E-03	1.27E-02	3.71E-03	3.73E-03	3.84E-03	3.33E-03	4.60E-03	3.53E-03	3.44E-01
	Peak sensitivity value	-9.66E-19	4.47E-19	2.84E-01	1.17E-16	-6.89E-18	6.76E-02	3.61E-01	1.01E-01	7.28E-03	-7.19E-02	1.23E-01	-1.60E-20
	Shapiro-Wilk score	2.911E-01	2.905E-01	9.996E-01	9.972E-01	9.965E-01	9.977E-01	9.994E-01	9.995E-01	9.902E-01	9.987E-01	9.977E-01	6.934E-01
(Acetaldehyde out)	Local	0.00E+00	0.00E+00	2.79E-01	-5.24E-15	8.08E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-1.73E-15	-1.48E-15	1.73E-01	-8.74E-14	-5.44E-14	4.26E-02	2.56E-01	6.15E-02	4.37E-03	-9.53E-02	9.35E-02	-5.58E-17
	Max	1.72E-15	1.47E-15	3.90E-01	7.21E-14	5.63E-14	9.83E-02	4.41E-01	1.41E-01	1.33E-02	-4.53E-02	1.61E-01	6.95E-16
	Normalized peak height	9.25E-01	9.31E-01	3.36E-03	5.22E-03	8.81E-03	3.53E-03	3.76E-03	3.78E-03	3.47E-03	5.14E-03	3.15E-03	3.43E-01
	Peak sensitivity value	-8.67E-19	3.28E-19	2.78E-01	-7.38E-17	4.85E-17	6.55E-02	3.46E-01	9.80E-02	7.26E-03	-7.19E-02	1.24E-01	1.58E-19
	Shapiro-Wilk score	2.870E-01	2.815E-01	9.995E-01	9.976E-01	9.965E-01	9.977E-01	9.994E-01	9.997E-01	9.909E-01	9.987E-01	9.975E-01	7.826E-01
(Acetaldehyde flow)	Local	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	5.75E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
	Min	-1.88E-15	-1.75E-15	1.67E-01	-8.74E-14	-5.14E-14	4.30E-02	4.72E-01	-1.56E-01	-2.07E-02	-9.69E-02	9.59E-02	-3.03E-16
	Max	1.79E-15	1.65E-15	4.06E-01	7.99E-14	6.60E-14	9.77E-02	6.85E-01	-9.09E-02	-4.01E-03	-4.83E-02	1.62E-01	4.00E-16
	Normalized peak height	9.24E-01	9.31E-01	3.67E-03	6.37E-03	1.48E-02	3.74E-03	4.00E-03	3.35E-03	4.00E-03	4.63E-03	3.11E-03	3.45E-01
	Peak sensitivity value	-7.31E-19	-1.04E-18	2.89E-01	3.22E-17	-4.06E-18	6.82E-02	5.82E-01	-1.22E-01	-8.43E-03	-7.48E-02	1.29E-01	-5.32E-20
	Shapiro-Wilk score	2.857E-01	2.812E-01	9.995E-01	9.975E-01	9.968E-01	9.978E-01	9.982E-01	9.984E-01	9.731E-01	9.987E-01	9.979E-01	8.848E-01
(Cyanide-Acetaldehyde flow)	Local	0.00E+00	0.00E+00	2.63E-01	-4.73E-15	7.34E-15	6.31E-02	-3.93E-01	8.14E-01	6.50E-02	-6.85E-02	1.17E-01	9.70E-18
	Min	-2.30E-15	-1.36E-15	1.63E-01	-6.73E-14	-4.92E-14	3.92E-02	-4.77E-01	7.54E-01	3.68E-02	-8.68E-02	8.75E-02	-9.88E-17
	Max	1.77E-15	1.56E-15	3.67E-01	8.87E-14	5.81E-14	9.52E-02	-3.05E-01	8.65E-01	1.09E-01	-4.44E-02	1.54E-01	1.91E-15
	Normalized peak height	9.23E-01	9.30E-01	3.36E-03	6.64E-03	1.32E-02	3.48E-03	3.63E-03	3.30E-03	3.70E-03	4.49E-03	3.48E-03	3.42E-01
	Peak sensitivity value	-1.25E-19	8.98E-19	2.61E-01	-1.21E-17	2.87E-17	6.46E-02	-3.82E-01	8.21E-01	5.86E-02	-6.69E-02	1.14E-01	7.11E-19
	Shapiro-Wilk score	2.938E-01	2.832E-01	9.994E-01	9.974E-01	9.969E-01	9.978E-01	9.995E-01	9.947E-01	9.825E-01	9.990E-01	9.982E-01	6.513E-01
(Cyanide flow)	Local	0.00E+00	0.00E+00	2.63E-01	-4.59E-15	7.47E-15	6.31E-02	-3.93E-01	8.14E-01	6.50E-02	-6.85E-02	1.17E-01	9.70E-18
	Min	-1.67E-15	-1.70E-15	1.62E-01	-6.45E-14	-5.41E-14	3.95E-02	-4.78E-01	7.48E-01	3.63E-02	-8.79E-02	8.80E-02	-5.03E-17
	Max	1.54E-15	1.31E-15	3.69E-01	8.19E-14	4.83E-14	9.62E-02	-3.09E-01	8.69E-01	1.14E-01	-4.33E-02	1.52E-01	3.71E-16
	Normalized peak height	9.22E-01	9.29E-01	3.37E-03	6.83E-03	9.19E-03	3.71E-03	3.64E-03	3.62E-03	3.62E-03	4.68E-03	3.22E-03	3.46E-01
	Peak sensitivity value	-1.59E-18	-4.77E-19	2.59E-01	-2.02E-17	-4.90E-17	6.23E-02	-3.87E-01	8.17E-01	5.71E-02	-6.85E-02	1.18E-01	1.11E-19
	Shapiro-Wilk score	2.926E-01	2.878E-01	9.996E-01	9.967E-01	9.940E-01	9.979E-01	9.996E-01	9.948E-01	9.815E-01	9.990E-01	9.980E-01	8.813E-01
(Storage)	Local	0.00E+00	0.00E+00	-3.37E-02	-2.74E-15	-1.38E-16	-8.11E-03	-4.21E-02	-1.20E-02	-9.55E-04	1.62E-02	-9.65E-02	-1.73E-18
	Min	-1.34E-15	-1.26E-15	-5.66E-02	-4.05E-14	-2.43E-14	-1.26E-02	-5.82E-02	-1.60E-02	-2.16E-03	8.71E-03	-1.34E-01	-1.07E-16
	Max	1.23E-15	1.20E-15	-1.89E-02	3.74E-14	2.93E-14	-5.07E-03	-2.95E-02	-8.60E-03	-4.00E-04	2.93E-02	-7.12E-02	1.36E-17
	Normalized peak height	9.25E-01	9.33E-01	3.77E-03	5.54E-03	5.49E-03	3.21E-03	2.74E-03	2.83E-03	3.61E-03	4.21E-03	3.43E-03	3.43E-01
	Peak sensitivity value	-1.30E-19	-4.48E-19	-3.18E-02	3.57E-16	2.13E-16	-7.63E-03	-4.20E-02	-1.14E-02	-8.92E-04	1.67E-02	-9.79E-02	-2.04E-20
	Shapiro-Wilk score	2.846E-01	2.733E-01	9.920E-01	9.983E-01	9.975E-01	9.921E-01	9.916E-01	9.950E-01	9.710E-01	9.975E-01	9.974E-01	8.308E-01
(ATP consumption)	Local	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	9.53E-01	2.55E-17
	Min	-6.47E-16	-5.69E-16	-3.32E-02	-2.11E-14	-1.89E-14	-9.04E-03	-4.22E-02	-1.15E-02	-1.31E-03	-3.09E-01	9.31E-01	-1.28E-16
	Max	6.64E-16	6.41E-16	-8.36E-03	2.08E-14	1.39E-14	-2.01E-03	-1.19E-02	-3.45E-03	-1.58E-04	-1.92E-01	9.64E-01	1.32E-15
	Normalized peak height	9.22E-01	9.32E-01	3.96E-03	5.89E-03	7.37E-03	4.90E-03	4.30E-03	4.27E-03	4.59E-03	4.07E-03	3.51E-03	3.48E-01
	Peak sensitivity value	2.73E-20	4.91E-19	-1.54E-02	-8.69E-16	3.18E-17	-3.64E-03	-1.98E-02	-5.56E-03	-3.89E-04	-2.27E-01	9.54E-01	-5.82E-20
	Shapiro-Wilk score	2.870E-01	2.803E-01	9.713E-01	9.954E-01	9.932E-01	9.744E-01	9.716E-01	9.775E-01	9.469E-01	9.922E-01	9.891E-01	8.697E-01

(Adenylate kinase)	Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
	Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
	Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
	Normalized peak height	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Peak sensitivity value	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
	Shapiro-Wilk score	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 27: Flux control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±20%

		(GlucoseMixedflowtoextracellularmedium)	(Glucoseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)
(Glucose Mixed flow to extracellular medium)	Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-3.45E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.14E-17	4.60E-03
	Min	1.03E-03	6.38E-04	5.19E-02	4.99E-04	5.11E-03	-1.19E-15	-4.50E-04	-1.08E-03	-1.32E-04	-4.84E-04	-1.22E-15	-1.26E-02
	Max	8.82E-01	1.98E-01	9.99E-01	7.82E-03	2.53E-01	1.48E-15	3.07E-03	7.35E-03	5.69E-04	1.53E-03	1.21E-15	7.45E-02
	Normalized peak height	8.01E-02	3.48E-02	3.27E-02	8.25E-03	1.87E-02	9.45E-02	1.83E-02	1.87E-02	1.91E-02	1.74E-02	4.47E-02	2.14E-02
	Peak sensitivity value	3.23E-03	2.32E-03	9.89E-01	1.12E-03	1.19E-02	-6.00E-19	1.79E-04	4.02E-04	3.25E-05	8.96E-05	-9.12E-19	2.97E-03
	Shapiro-Wilk score	3.603E-01	5.420E-01	4.312E-01	8.688E-01	6.516E-01	7.950E-01	7.928E-01	7.709E-01	7.754E-01	8.184E-01	8.838E-01	6.996E-01
(Glucose uptake)	Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-2.20E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.36E-17	4.60E-03
	Min	1.09E-03	5.54E-04	4.33E-02	4.74E-04	5.24E-03	-9.11E-16	-5.12E-04	-1.29E-03	-9.74E-05	-2.98E-04	-1.25E-15	-1.17E-02
	Max	9.08E-01	2.12E-01	9.98E-01	7.50E-03	2.59E-01	7.31E-16	3.36E-03	6.80E-03	4.52E-04	1.04E-03	1.14E-15	6.87E-02
	Normalized peak height	8.61E-02	3.79E-02	3.36E-02	8.09E-03	1.96E-02	3.58E-02	1.98E-02	1.91E-02	1.45E-02	1.22E-02	2.87E-02	2.00E-02
	Peak sensitivity value	3.36E-03	2.56E-03	9.89E-01	1.15E-03	1.27E-02	-1.50E-19	1.71E-04	3.58E-04	2.91E-05	8.77E-05	-8.88E-19	2.84E-03
	Shapiro-Wilk score	3.615E-01	5.435E-01	4.333E-01	8.771E-01	6.678E-01	9.545E-01	7.930E-01	7.876E-01	7.978E-01	8.349E-01	9.059E-01	7.225E-01
(Hexokinase)	Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-4.14E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-1.06E-16	4.60E-03
	Min	1.15E-03	6.21E-04	5.07E-02	4.48E-04	4.63E-03	-8.79E-16	-4.67E-04	-9.75E-04	-9.25E-05	-2.92E-04	-2.84E-15	-1.32E-02
	Max	9.02E-01	2.09E-01	9.99E-01	7.48E-03	2.11E-01	1.58E-15	2.04E-03	5.24E-03	5.53E-04	1.34E-03	1.12E-15	6.39E-02
	Normalized peak height	8.61E-02	3.74E-02	3.40E-02	7.81E-03	1.61E-02	8.31E-02	1.31E-02	1.57E-02	1.69E-02	1.45E-02	3.50E-02	1.94E-02
	Peak sensitivity value	3.41E-03	2.39E-03	9.88E-01	1.24E-03	1.26E-02	-3.94E-19	1.70E-04	3.59E-04	3.18E-05	9.17E-05	8.19E-19	2.92E-03
	Shapiro-Wilk score	3.646E-01	5.548E-01	4.360E-01	8.778E-01	6.701E-01	8.037E-01	8.019E-01	7.911E-01	7.882E-01	8.275E-01	8.858E-01	7.168E-01
(Phosphoglucoisomerase)	Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	4.62E-16	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	2.63E-15	-1.33E-01
	Min	1.10E-03	5.73E-04	5.82E-02	1.71E-03	1.84E-02	-1.02E-14	-1.51E-02	-3.55E-02	-3.01E-03	-1.21E-02	-1.91E-14	-2.98E-01
	Max	9.80E-01	1.70E-01	1.14E+00	1.08E-02	3.66E-01	9.26E-15	-1.82E-03	-4.92E-03	-3.75E-04	-7.54E-04	3.61E-14	-5.12E-02
	Normalized peak height	8.89E-02	2.87E-02	1.43E-02	5.81E-03	1.40E-02	5.49E-02	3.59E-03	4.26E-03	3.86E-03	4.66E-03	4.20E-02	3.41E-03
	Peak sensitivity value	3.55E-03	2.70E-03	9.74E-01	3.19E-03	3.35E-02	-8.86E-18	-5.54E-03	-1.37E-02	-1.02E-03	-2.67E-03	6.48E-18	-1.06E-01
	Shapiro-Wilk score	3.594E-01	5.462E-01	5.088E-01	9.358E-01	7.001E-01	9.879E-01	9.781E-01	9.872E-01	9.739E-01	9.547E-01	9.711E-01	9.563E-01
(Phosphofructokinase)	Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.39E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	3.85E-15	-1.33E-01
	Min	1.06E-03	5.82E-04	4.86E-02	1.67E-03	1.81E-02	-8.69E-15	-1.53E-02	-3.04E-02	-3.12E-03	-1.29E-02	-3.05E-14	-3.00E-01
	Max	9.67E-01	1.88E-01	1.14E+00	1.10E-02	4.23E-01	6.96E-15	-1.67E-03	-4.71E-03	-3.84E-04	-7.56E-04	3.02E-14	-4.89E-02
	Normalized peak height	8.75E-02	3.25E-02	1.44E-02	5.81E-03	1.60E-02	1.96E-02	3.81E-03	3.73E-03	4.08E-03	4.88E-03	1.77E-02	3.12E-03
	Peak sensitivity value	3.47E-03	2.36E-03	9.73E-01	3.15E-03	3.24E-02	3.52E-18	-6.02E-03	-1.28E-02	-1.10E-03	-3.24E-03	2.78E-18	-1.02E-01
	Shapiro-Wilk score	3.578E-01	5.460E-01	5.072E-01	9.356E-01	6.985E-01	9.667E-01	9.785E-01	9.888E-01	9.745E-01	9.549E-01	9.515E-01	9.567E-01
(Aldolase)	Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.11E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	-1.02E-14	-1.33E-01
	Min	1.09E-03	5.67E-04	4.48E-02	1.66E-03	1.93E-02	-9.33E-15	-1.56E-02	-3.04E-02	-3.41E-03	-1.29E-02	-6.95E-14	-2.93E-01
	Max	9.51E-01	2.15E-01	1.13E+00	1.14E-02	4.10E-01	9.77E-15	-1.85E-03	-4.30E-03	-4.14E-04	-7.11E-04	8.22E-14	-5.03E-02
	Normalized peak height	8.58E-02	3.74E-02	1.45E-02	5.80E-03	1.55E-02	5.94E-02	3.79E-03	3.64E-03	4.80E-03	5.01E-03	2.99E-02	3.29E-03
	Peak sensitivity value	3.46E-03	2.61E-03	9.69E-01	2.98E-03	3.35E-02	-2.27E-16	-5.54E-03	-1.38E-02	-1.05E-03	-2.84E-03	5.04E-17	-9.56E-02
	Shapiro-Wilk score	3.636E-01	5.425E-01	5.068E-01	9.351E-01	7.019E-01	9.835E-01	9.790E-01	9.885E-01	9.733E-01	9.531E-01	9.810E-01	9.557E-01
(Triosephosphate isomerase)	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-1.03E-15	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-5.10E-15	1.84E-01
	Min	8.70E-04	4.97E-04	3.33E-02	9.79E-04	1.02E-02	-2.69E-15	2.63E-03	6.46E-03	4.24E-04	9.31E-04	-2.78E-14	6.19E-02
	Max	7.41E-01	1.66E-01	9.05E-01	6.72E-03	2.44E-01	2.87E-15	2.48E-02	5.41E-02	5.15E-03	1.77E-02	3.07E-14	5.09E-01
	Normalized peak height	8.23E-02	3.60E-02	7.27E-03	5.17E-03	1.30E-02	7.17E-03	4.48E-03	4.32E-03	4.44E-03	4.61E-03	3.13E-02	3.79E-03
	Peak sensitivity value	2.72E-03	2.07E-03	8.23E-01	2.18E-03	2.46E-02	-5.39E-19	7.33E-03	1.78E-02	1.44E-03	4.18E-03	1.28E-17	1.45E-01
	Shapiro-Wilk score	3.665E-01	5.532E-01	6.943E-01	9.597E-01	7.578E-01	9.924E-01	9.715E-01	9.769E-01	9.617E-01	9.449E-01	9.803E-01	9.319E-01
(Glyceraldehyde 3-phosphate dehydrogenase)	Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-1.85E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-9.79E-15	1.05E-02
	Min	1.05E-03	5.59E-04	3.46E-02	1.55E-03	1.67E-02	-6.06E-15	-1.87E-04	-3.92E-04	-3.55E-05	-9.12E-05	-3.59E-14	-3.38E-03
	Max	8.33E-01	1.86E-01	9.39E-01	8.19E-03	3.29E-01	5.45E-15	4.51E-03	9.26E-03	7.26E-04	1.87E-03	3.83E-14	1.08E-01
	Normalized peak height	8.26E-02	3.45E-02	2.21E-02	5.06E-03	1.49E-02	8.70E-03	1.27E-02	1.11E-02	1.03E-02	8.57E-03	1.18E-02	1.31E-02
	Peak sensitivity value	3.13E-03	2.14E-03	9.04E-01	2.80E-03	2.94E-02	-2.57E-17	3.98E-04	8.96E-04	8.14E-05	2.17E-04	-2.50E-17	7.26E-03
	Shapiro-Wilk score	3.645E-01	5.446E-01	4.531E-01	9.414E-01	7.175E-01	9.760E-01	8.455E-01	8.384E-01	8.409E-01	8.792E-01	9.822E-01	7.806E-01

		(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
(Glucose Mixed flow to extracellular medium)	Local	0.00E+00	0.00E+00	-7.83E-04	-6.35E-17	-5.80E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
	Min	-2.59E-16	-7.96E-16	-1.04E-02	-4.28E-15	-4.50E-15	-2.68E-03	-1.04E-02	-2.75E-03	-4.63E-04	-3.22E-02	-1.53E-02	-2.65E-17
	Max	2.22E-16	8.89E-16	1.97E-03	9.52E-15	2.38E-15	3.64E-04	2.05E-03	7.64E-04	6.49E-05	9.47E-02	4.31E-03	5.04E-17
	Normalized peak height	6.42E-01	7.09E-01	1.89E-02	4.75E-02	3.63E-02	1.86E-02	1.62E-02	1.63E-02	2.33E-02	1.94E-02	1.28E-02	3.15E-01
	Peak sensitivity value	-8.48E-20	1.02E-19	-6.21E-04	3.57E-18	1.64E-18	-1.48E-04	-7.15E-04	-2.10E-04	-1.25E-05	-9.93E-03	-2.24E-03	1.05E-20
	Shapiro-Wilk score	5.042E-01	1.600E-01	7.779E-01	8.335E-01	8.271E-01	7.909E-01	7.863E-01	8.197E-01	7.009E-01	6.533E-01	8.922E-01	9.042E-01
(Glucose uptake)	Local	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
	Min	-3.59E-16	-1.40E-15	-1.02E-02	-4.91E-15	-4.08E-15	-1.98E-03	-9.89E-03	-2.71E-03	-6.12E-04	-3.31E-02	-1.17E-02	-2.94E-17
	Max	4.70E-16	6.09E-16	1.96E-03	4.04E-15	2.80E-15	5.29E-04	1.99E-03	6.37E-04	7.98E-05	1.01E-01	4.29E-03	6.45E-17
	Normalized peak height	6.55E-01	7.13E-01	1.85E-02	3.10E-02	3.65E-02	1.51E-02	1.55E-02	1.57E-02	2.95E-02	2.06E-02	1.12E-02	3.14E-01
	Peak sensitivity value	-3.93E-19	-1.35E-19	-5.68E-04	-2.98E-19	-3.94E-18	-1.47E-04	-8.28E-04	-2.24E-04	-1.25E-05	-9.36E-03	-2.07E-03	2.37E-20
	Shapiro-Wilk score	4.503E-01	1.328E-01	7.938E-01	8.659E-01	8.459E-01	8.141E-01	8.015E-01	8.267E-01	7.001E-01	6.599E-01	9.022E-01	9.171E-01
(Hexokinase)	Local	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
	Min	-2.83E-16	-1.07E-15	-7.85E-03	-3.50E-15	-2.64E-15	-2.43E-03	-8.74E-03	-2.43E-03	-3.97E-04	-3.30E-02	-1.29E-02	-5.28E-17
	Max	2.42E-16	7.94E-16	1.53E-03	3.91E-15	3.14E-15	3.35E-04	1.92E-03	5.45E-04	7.83E-05	1.06E-01	4.59E-03	6.17E-17
	Normalized peak height	6.49E-01	7.10E-01	1.43E-02	2.41E-02	3.07E-02	1.67E-02	1.43E-02	1.38E-02	2.11E-02	2.15E-02	1.17E-02	3.14E-01
	Peak sensitivity value	-1.14E-19	4.92E-19	-6.12E-04	-2.80E-18	-2.88E-18	-1.58E-04	-7.71E-04	-2.31E-04	-1.18E-05	-9.40E-03	-2.00E-03	5.16E-20
	Shapiro-Wilk score	4.679E-01	1.658E-01	7.987E-01	8.691E-01	8.506E-01	8.064E-01	7.992E-01	8.222E-01	6.978E-01	6.656E-01	9.021E-01	8.835E-01
(Phosphoglucoisomerase)	Local	0.00E+00	0.00E+00	2.26E-02	1.83E-15	9.24E-17	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
	Min	-5.64E-15	-2.44E-14	7.09E-03	-3.78E-14	-2.61E-14	2.14E-03	1.50E-02	4.16E-03	1.20E-04	-6.00E-02	2.32E-02	-1.28E-16
	Max	1.12E-14	3.37E-14	5.15E-02	4.83E-14	3.35E-14	1.12E-02	4.73E-02	1.34E-02	2.41E-03	6.70E-02	1.05E-01	1.60E-16
	Normalized peak height	6.53E-01	7.17E-01	4.12E-03	8.73E-03	1.01E-02	3.38E-03	3.13E-03	3.49E-03	4.47E-03	1.16E-02	3.53E-03	3.13E-01
	Peak sensitivity value	-1.76E-18	2.00E-17	1.97E-02	5.50E-16	5.90E-19	5.26E-03	2.69E-02	7.48E-03	5.04E-04	-2.88E-02	6.67E-02	1.32E-20
	Shapiro-Wilk score	5.545E-01	1.512E-01	9.838E-01	9.809E-01	9.707E-01	9.835E-01	9.917E-01	9.916E-01	9.310E-01	8.023E-01	9.991E-01	8.619E-01
(Phosphofructokinase)	Local	0.00E+00	0.00E+00	2.26E-02	2.02E-15	1.13E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
	Min	-4.99E-15	-2.75E-14	7.35E-03	-4.00E-14	-2.80E-14	1.94E-03	1.49E-02	4.00E-03	9.95E-05	-6.50E-02	2.52E-02	-7.33E-17
	Max	8.71E-15	3.69E-14	4.74E-02	3.53E-14	2.67E-14	1.14E-02	4.57E-02	1.36E-02	2.45E-03	7.81E-02	1.05E-01	1.46E-16
	Normalized peak height	6.44E-01	7.13E-01	3.64E-03	7.81E-03	9.83E-03	3.45E-03	3.03E-03	3.71E-03	4.61E-03	1.30E-02	3.58E-03	3.15E-01
	Peak sensitivity value	-6.68E-18	-2.60E-17	1.95E-02	4.87E-16	-3.65E-17	5.06E-03	2.77E-02	7.47E-03	4.42E-04	-2.96E-02	6.73E-02	-8.76E-20
	Shapiro-Wilk score	5.625E-01	1.398E-01	9.856E-01	9.795E-01	9.706E-01	9.825E-01	9.924E-01	9.924E-01	9.296E-01	7.998E-01	9.993E-01	9.001E-01
(Aldolase)	Local	0.00E+00	0.00E+00	2.26E-02	3.98E-16	1.24E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
	Min	-5.66E-15	-2.99E-14	7.57E-03	-5.04E-14	-2.68E-14	2.15E-03	1.45E-02	3.96E-03	9.19E-05	-6.08E-02	2.07E-02	-8.22E-17
	Max	8.79E-15	1.67E-14	4.66E-02	4.96E-14	3.34E-14	1.14E-02	4.40E-02	1.38E-02	2.44E-03	8.84E-02	1.04E-01	2.74E-16
	Normalized peak height	6.45E-01	6.89E-01	3.62E-03	1.06E-02	1.01E-02	3.58E-03	2.77E-03	3.54E-03	4.61E-03	1.38E-02	3.58E-03	3.16E-01
	Peak sensitivity value	6.25E-20	-1.75E-17	2.11E-02	-7.30E-16	6.63E-17	5.24E-03	2.73E-02	7.43E-03	4.48E-04	-2.91E-02	6.70E-02	-1.20E-19
	Shapiro-Wilk score	5.916E-01	1.597E-01	9.850E-01	9.813E-01	9.706E-01	9.833E-01	9.921E-01	9.924E-01	9.313E-01	7.922E-01	9.991E-01	8.633E-01
(Triosephosphate isomerase)	Local	0.00E+00	0.00E+00	-3.13E-02	-1.10E-17	1.39E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-4.03E-15	-6.28E-15	-8.00E-02	-1.12E-14	-1.35E-14	-1.75E-02	-7.10E-02	-1.97E-02	-3.94E-03	-4.30E-02	1.29E-02	-3.39E-17
	Max	3.60E-15	7.88E-15	-1.03E-02	9.97E-15	7.78E-15	-2.79E-03	-1.76E-02	-5.56E-03	-1.49E-04	7.58E-02	9.18E-02	9.47E-17
	Normalized peak height	6.66E-01	7.23E-01	4.06E-03	7.58E-03	1.17E-02	3.48E-03	3.06E-03	3.06E-03	4.99E-03	1.05E-02	3.31E-03	3.17E-01
	Peak sensitivity value	2.59E-18	1.05E-18	-2.73E-02	-3.28E-17	-1.45E-16	-7.26E-03	-3.63E-02	-9.79E-03	-6.89E-04	-1.96E-02	5.36E-02	-1.79E-20
	Shapiro-Wilk score	6.485E-01	4.122E-01	9.731E-01	9.859E-01	9.741E-01	9.757E-01	9.816E-01	9.878E-01	9.085E-01	8.710E-01	9.990E-01	9.392E-01
(Glyceraldehyde 3-phosphate dehydrogenase)	Local	0.00E+00	0.00E+00	-1.78E-03	7.65E-16	6.61E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
	Min	-3.50E-15	-1.83E-14	-1.36E-02	-1.94E-14	-1.44E-14	-2.81E-03	-1.49E-02	-3.23E-03	-6.70E-04	-5.30E-02	2.05E-02	-3.87E-17
	Max	3.60E-15	1.71E-14	5.98E-04	2.09E-14	1.44E-14	1.17E-04	7.96E-04	2.18E-04	2.00E-05	7.52E-02	9.57E-02	9.57E-17
	Normalized peak height	6.36E-01	6.89E-01	1.09E-02	7.58E-03	8.51E-03	9.23E-03	1.07E-02	8.59E-03	1.39E-02	1.24E-02	3.20E-03	3.16E-01
	Peak sensitivity value	-5.04E-19	6.34E-18	-1.53E-03	-8.22E-17	4.80E-17	-3.56E-04	-1.84E-03	-5.07E-04	-3.21E-05	-2.52E-02	6.01E-02	6.31E-20
	Shapiro-Wilk score	6.830E-01	2.420E-01	8.416E-01	9.839E-01	9.711E-01	8.735E-01	8.554E-01	8.809E-01	7.738E-01	8.021E-01	9.989E-01	9.272E-01

(Phosphoenolpyruvate synthesis)	Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-2.35E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-4.52E-14	1.05E-02
	Min	1.04E-03	5.76E-04	3.77E-02	1.52E-03	1.72E-02	-3.27E-14	-2.16E-04	-4.83E-04	-3.72E-05	-1.79E-04	-3.14E-13	-5.01E-03
	Max	8.48E-01	1.68E-01	9.39E-01	8.29E-03	2.98E-01	3.55E-14	4.41E-03	8.80E-03	7.46E-04	1.90E-03	3.18E-13	9.55E-02
	Normalized peak height	8.50E-02	3.16E-02	2.19E-02	5.03E-03	1.34E-02	5.56E-03	1.16E-02	1.10E-02	1.04E-02	9.15E-03	1.49E-02	1.16E-02
	Peak sensitivity value	3.16E-03	2.33E-03	9.08E-01	2.75E-03	2.86E-02	3.33E-16	4.39E-04	9.69E-04	8.15E-05	2.41E-04	-3.15E-16	7.61E-03
	Shapiro-Wilk score	3.631E-01	5.463E-01	4.496E-01	9.443E-01	7.190E-01	9.961E-01	8.551E-01	8.492E-01	8.543E-01	8.852E-01	9.679E-01	7.840E-01
(Pyruvate kinase)	Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	2.24E-15	5.23E-04	1.14E-03	9.81E-05	2.96E-04	5.94E-14	1.05E-02
	Min	9.99E-04	5.30E-04	4.39E-02	1.47E-03	1.68E-02	-2.56E-14	-2.60E-04	-4.92E-04	-3.67E-05	-1.14E-04	-3.52E-13	-3.78E-03
	Max	8.34E-01	1.76E-01	9.40E-01	1.03E-02	3.55E-01	2.10E-14	4.16E-03	8.82E-03	9.83E-04	2.04E-03	2.51E-13	1.18E-01
	Normalized peak height	8.24E-02	3.34E-02	2.20E-02	6.12E-03	1.57E-02	2.54E-02	1.15E-02	1.08E-02	1.37E-02	9.07E-03	1.73E-01	1.42E-02
	Peak sensitivity value	3.08E-03	2.37E-03	9.06E-01	2.83E-03	2.92E-02	-5.22E-18	4.23E-04	9.47E-04	8.00E-05	2.25E-04	2.35E-16	7.76E-03
	Shapiro-Wilk score	3.601E-01	5.423E-01	4.492E-01	9.410E-01	7.007E-01	9.618E-01	8.444E-01	8.372E-01	8.290E-01	8.747E-01	9.339E-01	7.640E-01
(Pyruvate decarboxylase)	Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-8.93E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-6.66E-16	1.05E-02
	Min	1.02E-03	6.21E-04	4.47E-02	1.55E-03	1.56E-02	-4.79E-15	-8.88E-05	-2.46E-04	-1.99E-05	-6.56E-05	-8.44E-15	-2.75E-03
	Max	8.46E-01	1.93E-01	9.40E-01	9.71E-03	3.87E-01	3.83E-15	3.74E-03	9.89E-03	9.10E-04	1.95E-03	1.31E-14	1.25E-01
	Normalized peak height	8.49E-02	3.65E-02	2.18E-02	6.02E-03	1.72E-02	2.28E-02	9.63E-03	1.14E-02	1.23E-02	8.33E-03	9.65E-02	1.53E-02
	Peak sensitivity value	3.13E-03	2.06E-03	9.07E-01	2.87E-03	2.88E-02	-3.54E-19	4.30E-04	8.33E-04	7.81E-05	2.22E-04	-2.21E-16	7.55E-03
	Shapiro-Wilk score	3.604E-01	5.511E-01	4.484E-01	9.433E-01	7.079E-01	9.172E-01	8.496E-01	8.339E-01	8.335E-01	8.786E-01	9.688E-01	7.685E-01
(Alcohol dehydrogenase)	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.80E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	6.30E-16	1.84E-01
	Min	8.64E-04	5.70E-04	3.26E-02	9.09E-04	1.04E-02	-2.75E-15	2.63E-03	5.74E-03	4.64E-04	8.29E-04	-6.72E-15	6.31E-02
	Max	7.52E-01	1.44E-01	9.01E-01	6.99E-03	2.10E-01	3.51E-15	2.51E-02	4.93E-02	4.79E-03	1.86E-02	6.10E-15	4.86E-01
	Normalized peak height	8.36E-02	3.05E-02	7.36E-03	5.47E-03	1.14E-02	1.57E-02	4.19E-03	3.90E-03	4.17E-03	4.74E-03	2.53E-02	3.80E-03
	Peak sensitivity value	2.74E-03	2.22E-03	8.44E-01	2.19E-03	2.38E-02	-5.27E-18	7.78E-03	1.68E-02	1.35E-03	3.77E-03	-5.80E-18	1.28E-01
	Shapiro-Wilk score	3.626E-01	5.474E-01	6.977E-01	9.583E-01	7.583E-01	9.325E-01	9.693E-01	9.737E-01	9.605E-01	9.452E-01	9.870E-01	9.296E-01
(Ethanol out)	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-4.21E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	5.13E-16	1.84E-01
	Min	8.99E-04	4.98E-04	4.25E-02	7.01E-04	1.03E-02	-2.89E-15	2.66E-03	5.88E-03	4.99E-04	9.73E-04	-6.48E-15	6.41E-02
	Max	7.29E-01	1.57E-01	9.02E-01	7.54E-03	2.18E-01	3.32E-15	2.31E-02	5.13E-02	5.77E-03	1.83E-02	8.54E-15	5.01E-01
	Normalized peak height	8.06E-02	3.33E-02	7.28E-03	5.82E-03	1.17E-02	1.31E-01	3.78E-03	3.99E-03	4.85E-03	4.58E-03	2.77E-01	3.61E-03
	Peak sensitivity value	2.72E-03	1.83E-03	8.41E-01	2.14E-03	2.44E-02	1.61E-18	7.64E-03	1.90E-02	1.49E-03	3.74E-03	3.98E-18	1.30E-01
	Shapiro-Wilk score	3.654E-01	5.490E-01	6.983E-01	9.559E-01	7.543E-01	9.385E-01	9.703E-01	9.746E-01	9.617E-01	9.463E-01	9.821E-01	9.310E-01
(Ethanol flow)	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01
	Min	9.67E-04	5.62E-04	3.95E-02	1.06E-03	1.07E-02	-2.63E-15	2.39E-03	5.17E-03	4.94E-04	9.47E-04	-7.07E-15	6.54E-02
	Max	7.34E-01	1.48E-01	9.06E-01	6.63E-03	2.07E-01	2.51E-15	2.42E-02	4.77E-02	5.05E-03	1.97E-02	5.85E-15	4.94E-01
	Normalized peak height	8.43E-02	3.18E-02	7.15E-03	4.95E-03	1.13E-02	2.64E-02	3.91E-03	3.85E-03	4.51E-03	5.16E-03	7.96E-02	3.68E-03
	Peak sensitivity value	2.80E-03	1.96E-03	8.39E-01	2.27E-03	2.33E-02	-1.07E-18	6.92E-03	1.72E-02	1.42E-03	3.84E-03	1.13E-18	1.38E-01
	Shapiro-Wilk score	3.628E-01	5.459E-01	6.909E-01	9.616E-01	7.629E-01	9.297E-01	9.712E-01	9.756E-01	9.608E-01	9.454E-01	9.826E-01	9.323E-01
(Glycerol synthesis)	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.06E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.65E-14	-1.64E+00
	Min	1.79E-03	1.05E-03	1.06E-01	3.94E-03	4.25E-02	-6.10E-14	-2.05E-01	-3.18E-01	-3.18E-02	-1.16E-01	-1.16E-13	-2.36E+00
	Max	2.14E+00	4.50E-01	2.64E+00	2.54E-02	9.27E-01	5.34E-14	-1.86E-02	-5.87E-02	-5.67E-03	-1.24E-02	1.23E-13	-1.13E+00
	Normalized peak height	9.91E-02	3.94E-02	6.03E-03	5.32E-03	1.39E-02	1.26E-02	3.85E-03	3.32E-03	4.12E-03	3.74E-03	2.88E-02	3.24E-03
	Peak sensitivity value	7.14E-03	4.42E-03	1.72E+00	7.68E-03	7.47E-02	-7.48E-17	-7.37E-02	-1.84E-01	-1.39E-02	-4.42E-02	-1.16E-16	-1.53E+00
	Shapiro-Wilk score	3.593E-01	5.429E-01	8.126E-01	9.507E-01	7.154E-01	9.433E-01	9.886E-01	9.978E-01	9.883E-01	9.748E-01	9.418E-01	9.848E-01
(Glycerol out)	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.12E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.55E-14	-1.64E+00
	Min	1.94E-03	1.09E-03	1.03E-01	3.97E-03	4.21E-02	-6.15E-14	-1.92E-01	-3.29E-01	-3.12E-02	-1.20E-01	-1.36E-13	-2.45E+00
	Max	2.08E+00	5.50E-01	2.72E+00	2.72E-02	1.05E+00	7.25E-14	-1.86E-02	-5.83E-02	-5.31E-03	-1.01E-02	1.77E-13	-1.11E+00
	Normalized peak height	9.83E-02	4.84E-02	6.29E-03	5.51E-03	1.65E-02	1.42E-02	3.66E-03	3.30E-03	3.96E-03	4.14E-03	3.86E-02	3.34E-03
	Peak sensitivity value	7.14E-03	4.65E-03	1.81E+00	7.54E-03	7.79E-02	2.39E-16	-7.23E-02	-1.75E-01	-1.39E-02	-3.46E-02	5.63E-17	-1.53E+00
	Shapiro-Wilk score	3.581E-01	5.365E-01	8.121E-01	9.469E-01	7.081E-01	9.424E-01	9.881E-01	9.971E-01	9.888E-01	9.748E-01	9.323E-01	9.847E-01
(Glycerol flow)	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00
	Min	1.75E-03	1.02E-03	1.20E-01	3.88E-03	4.55E-02	-5.51E-14	-1.84E-01	-3.29E-01	-3.03E-02	-1.20E-01	-1.45E-13	-2.41E+00
	Max	2.09E+00	3.86E-01	2.71E+00	2.36E-02	1.09E+00	5.33E-14	-1.75E-02	-5.80E-02	-5.13E-03	-9.28E-03	1.34E-13	-1.12E+00
	Normalized peak height	9.83E-02	3.54E-02	6.09E-03	5.05E-03	1.69E-02	1.14E-02	3.29E-03	3.41E-03	3.86E-03	4.24E-03	5.17E-02	3.23E-03
	Peak sensitivity value	6.96E-03	4.67E-03	1.74E+00	8.10E-03	7.63E-02	3.30E-16	-8.06E-02	-1.82E-01	-1.44E-02	-4.30E-02	-7.33E-17	-1.56E+00
	Shapiro-Wilk score	3.624E-01	5.424E-01	8.160E-01	9.503E-01	7.015E-01	9.414E-01	9.887E-01	9.975E-01	9.892E-01	9.753E-01	9.411E-01	9.849E-01
(Acetaldehyde out)	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	-5.92E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	4.56E-21	-1.64E+00
	Min	1.57E-03	9.36E-04	9.96E-02	3.87E-03	4.34E-02	-3.49E-14	-2.03E-01	-3.35E-01	-3.02E-02	-1.18E-01	-1.61E-13	-2.41E+00
	Max	2.20E+00	3.50E-01	2.75E+00	2.34E-02	8.87E-01	4.19E-14	-1.89E-02	-5.21E-02	-5.93E-03	-9.35E-03	1.59E-13	-1.12E+00
	Normalized peak height	1.02E-01	3.14E-02	6.09E-03	4.98E-03	1.31E-02	4.50E-02	3.74E-03	3.28E-03	3.93E-03	4.20E-03	2.85E-01	3.14E-03
	Peak sensitivity value	7.07E-03	4.25E-03	1.78E+00	7.44E-03	8.18E-02	-1.21E-17	-7.34E-02	-1.77E-01	-1.39E-02	-4.30E-02	6.39E-17	-1.53E+00
	Shapiro-Wilk score	3.566E-01	5.483E-01	8.143E-01	9.519E-01	7.177E-01	9.295E-01	9.885E-01	9.974E-01	9.890E-01	9.752E-01	9.503E-01	9.844E-01
(Acetaldehyde flow)	Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00
	Min	1.79E-03	1.14E-03	8.60E-02	3.90E-03	4.69E-02	-3.59E-14	-1.82E-01	-3.42E-01	-3.03E-02	-1.17E-01	-1.42E-13	-2.50E+00
	Max	2.23E+00	4.50E-01	2.75E+00	2.79E-02	9.67E-01	3.36E-14	-2.09E-02	-6.15E-02	-5.53E-03	-1.16E-02	9.18E-14	-1.13E+00
	Normalized peak height	1.02E-01	3.91E-02	5.97E-03	5.67E-03	1.42E-02	1.37E-02	3.13E-03	3.40E-03	3.91E-03	3.93E-03	7.02E-02	3.57E-03
	Peak sensitivity value	7.37E-03	4.50E-03	1.84E+00	8.05E-03	8.51E-02	-1.94E-16	-7.69E-02	-1.82E-01	-1.47E-02	-4.06E-02	1.02E-16	-1.53E+00
	Shapiro-Wilk score	3.596E-01	5.323E-01	8.266E-01	9.451E-01	7.081E-01	9.249E-01	9.884E-01	9.975E-01	9.882E-01	9.731E-01	9.248E-01	9.836E-01
(Cyanide-Acetaldehyde flow)	Local	2.36E-02	1.02E-02	1.85E+00	8.13E-03	9.84E-02	-5.30E-15	-7.71E-02	-1.69E-01	-1.45E-02	-4.36E-02	-8.00E-15	-1.54E+00
	Min	1.75E-03	1.08E-03	1.04E-01	3.52E-03	4.30E-02	-3.02E-14	-1.86E-01	-3.09E-01	-2.93E-02	-1.15E-01	-1.00E-13	-2.17E+00
	Max	1.91E+00	3.40E-01	2.43E+00	2.40E-02	9.23E-01	3.47E-14	-1.49E-02	-5.23E-02	-4.64E-03	-9.11E-03	1.31E-13	-1.05E+00
	Normalized peak height	9.43E-02	3.34E-02	6.48E-03	5.43E-03	1.56E-02	1.53E-02	3.65E-03	3.27E-03	4.37E-03	4.16E-03	4.53E-02	3.21E-03
	Peak sensitivity value	6.52E-03	4.30E-03	1.71E+00	7.55E-03	7.60E-02	-2.84E-17	-7.06E-02	-1.62E-01	-1.34E-02	-3.95E-02	-8.66E-17	-1.50E+00
	Shapiro-Wilk score	3.580E-01	5.391E-01	7.678E-01	9.531E-01	7.246E-01	9.253E-01	9.895E-01	9.973E-01	9.905E-01	9.748E-01	9.225E-01	9.883E-01
(Cyanide flow)	Local	2.36E-02	1.02E-02	1.85E+00	8.13E-03	9.84E-02	-5.36E-15	-7.71E-02	-1.69E-01	-1.45E-02	-4.36E-02	-7.92E-15	-1.54E+00
	Min	1.88E-03	1.15E-03	7.44E-02	3.68E-03	4.38E-02	-3.96E-14	-1.94E-01	-3.05E-01	-2.92E-02	-1.09E-01	-7.90E-14	-2.19E+00
	Max	1.96E+00	3.87E-01	2.43E+00	2.11E-02	7.99E-01	4.12E-14	-1.54E-02	-5.67E-02	-4.65E-03	-7.60E-03	8.56E-14	-1.05E+00
	Normalized peak height	9.65E-02	3.65E-02	6.95E-03	4.55E-03	1.33E-02	1.76E-02	3.72E-03	3.11E-03	3.97E-03	4.03E-03	7.15E-02	3.50E-03
	Peak sensitivity value	6.78E-03	4.05E-03	1.77E+00	6.97E-03	7.51E-02	6.76E-17	-6.98E-02	-1.62E-01	-1.32E-02	-3.83E-02	-7.39E-17	-1.48E+00
	Shapiro-Wilk score	3.620E-01	5.443E-01	7.659E-01	9.548E-01	7.207E-01	9.242E-01	9.889E-01	9.974E-01	9.889E-01	9.772E-01	9.291E-01	9.887E-01

(Phosphoenolpyruvate synthesis)	Local	0.00E+00	0.00E+00	-1.78E-03	-2.42E-15	1.16E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
	Min	-3.04E-14	-2.25E-14	-1.45E-02	-2.86E-14	-1.66E-14	-3.53E-03	-1.37E-02	-3.53E-03	-6.30E-04	-5.07E-02	2.18E-02	-4.14E-17
	Max	4.46E-14	2.44E-14	7.99E-04	2.96E-14	1.48E-14	1.88E-04	8.62E-04	2.24E-04	3.20E-05	6.84E-02	9.85E-02	3.20E-16
	Normalized peak height	7.39E-01	7.49E-01	1.15E-02	8.06E-03	8.90E-03	1.11E-02	9.45E-03	9.36E-03	1.28E-02	1.15E-02	3.35E-03	3.17E-01
	Peak sensitivity value	-5.02E-18	1.45E-17	-1.47E-03	-1.90E-18	4.64E-17	-3.74E-04	-1.92E-03	-6.12E-04	-3.06E-05	-2.43E-02	5.84E-02	2.60E-20
	Shapiro-Wilk score	9.791E-02	1.310E-01	8.511E-01	9.788E-01	9.749E-01	8.659E-01	8.548E-01	8.880E-01	7.891E-01	8.076E-01	9.990E-01	8.083E-01
(Pyruvate kinase)	Local	0.00E+00	0.00E+00	-1.78E-03	4.02E-15	-8.26E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
	Min	-4.31E-14	-1.67E-14	-1.30E-02	-2.36E-14	-1.61E-14	-3.42E-03	-1.92E-02	-4.15E-03	-6.34E-04	-5.24E-02	1.67E-02	-8.06E-17
	Max	2.22E-14	1.32E-14	7.37E-04	2.79E-14	1.74E-14	2.17E-04	8.74E-04	2.61E-04	2.27E-05	6.70E-02	9.69E-02	2.09E-16
	Normalized peak height	7.31E-01	7.47E-01	1.03E-02	8.84E-03	1.04E-02	1.10E-02	1.33E-02	1.05E-02	1.30E-02	1.15E-02	3.56E-03	3.15E-01
	Peak sensitivity value	8.81E-18	1.02E-17	-1.51E-03	-1.49E-16	-5.85E-18	-3.85E-04	-1.90E-03	-5.00E-04	-2.95E-05	-2.48E-02	5.92E-02	5.89E-20
	Shapiro-Wilk score	1.325E-01	1.838E-01	8.414E-01	9.764E-01	9.699E-01	8.484E-01	8.373E-01	8.709E-01	7.684E-01	8.033E-01	9.992E-01	8.692E-01
(Pyruvate decarboxylase)	Local	0.00E+00	0.00E+00	-1.78E-03	-6.65E-16	1.91E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
	Min	-4.21E-15	-1.93E-14	-1.50E-02	-1.80E-14	-1.68E-14	-3.72E-03	-1.72E-02	-3.91E-03	-7.13E-04	-5.19E-02	1.66E-02	-7.03E-17
	Max	6.12E-15	1.90E-14	3.96E-04	1.74E-14	2.19E-14	1.21E-04	5.72E-04	1.37E-04	1.53E-05	6.96E-02	1.00E-01	8.78E-17
	Normalized peak height	6.65E-01	7.45E-01	1.14E-02	1.06E-02	3.00E-02	1.17E-02	1.15E-02	9.50E-03	1.43E-02	1.18E-02	3.78E-03	3.13E-01
	Peak sensitivity value	-2.72E-20	-9.51E-18	-1.59E-03	1.24E-17	-8.45E-18	-3.85E-04	-2.02E-03	-5.54E-04	-2.88E-05	-2.50E-02	5.94E-02	-2.76E-20
	Shapiro-Wilk score	6.578E-01	2.142E-01	8.404E-01	9.799E-01	9.642E-01	8.612E-01	8.435E-01	8.745E-01	7.757E-01	8.089E-01	9.990E-01	9.179E-01
(Alcohol dehydrogenase)	Local	0.00E+00	0.00E+00	-3.13E-02	-1.84E-16	1.26E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-2.34E-15	-7.59E-15	-8.50E-02	-7.94E-15	-8.38E-15	-1.78E-02	-7.19E-02	-1.96E-02	-3.77E-03	-4.31E-02	1.37E-02	-2.15E-17
	Max	3.01E-15	1.47E-14	-9.13E-03	9.16E-15	1.05E-14	-2.61E-03	-1.85E-02	-5.57E-03	-1.38E-04	6.01E-02	9.20E-02	8.13E-17
	Normalized peak height	6.63E-01	7.29E-01	4.36E-03	6.86E-03	1.58E-02	3.59E-03	2.91E-03	3.12E-03	4.53E-03	9.84E-03	3.29E-03	3.16E-01
	Peak sensitivity value	1.54E-18	1.02E-17	-3.12E-02	4.27E-19	1.38E-17	-6.43E-03	-3.32E-02	-1.05E-02	-5.72E-04	-2.10E-02	5.15E-02	1.03E-21
	Shapiro-Wilk score	6.719E-01	2.871E-01	9.695E-01	9.835E-01	9.736E-01	9.752E-01	9.807E-01	9.875E-01	9.067E-01	8.668E-01	9.989E-01	9.108E-01
(Ethanol out)	Local	2.37E-16	-8.88E-16	-3.13E-02	-1.07E-16	1.31E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-3.33E-15	-1.15E-14	-8.12E-02	-1.10E-14	-8.63E-15	-1.77E-02	-7.33E-02	-2.00E-02	-4.39E-03	-4.42E-02	1.48E-02	-7.35E-17
	Max	2.78E-15	7.55E-15	-9.18E-03	1.21E-14	6.91E-15	-2.66E-03	-1.82E-02	-4.86E-03	-1.14E-04	7.07E-02	9.13E-02	1.52E-16
	Normalized peak height	7.12E-02	5.02E-01	3.97E-03	9.38E-03	1.69E-02	3.73E-03	3.10E-03	3.25E-03	5.46E-03	1.03E-02	3.10E-03	3.17E-01
	Peak sensitivity value	-2.21E-16	-2.88E-18	-2.79E-02	-1.67E-18	-1.49E-18	-6.23E-03	-3.40E-02	-1.00E-02	-6.59E-04	-2.00E-02	5.29E-02	4.76E-20
	Shapiro-Wilk score	9.984E-01	8.769E-01	9.708E-01	9.800E-01	9.723E-01	9.743E-01	9.812E-01	9.884E-01	9.076E-01	8.677E-01	9.989E-01	8.755E-01
(Ethanol flow)	Local	-3.41E-16	-1.11E-15	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-1.43E-15	-5.77E-15	-8.79E-02	-8.83E-15	-7.48E-15	-1.82E-02	-7.42E-02	-1.96E-02	-3.69E-03	-4.49E-02	1.42E-02	-4.11E-17
	Max	2.38E-15	5.44E-15	-9.00E-03	9.64E-15	9.08E-15	-2.60E-03	-1.85E-02	-5.25E-03	-1.49E-04	6.18E-02	9.01E-02	1.78E-16
	Normalized peak height	5.38E-01	1.24E-01	4.28E-03	7.09E-03	1.36E-02	3.73E-03	3.18E-03	3.32E-03	4.63E-03	9.37E-03	3.18E-03	3.17E-01
	Peak sensitivity value	-1.09E-18	-2.17E-16	-2.66E-02	-7.61E-18	-3.19E-18	-7.21E-03	-3.35E-02	-1.09E-02	-6.07E-04	-1.99E-02	5.18E-02	-5.40E-20
	Shapiro-Wilk score	8.960E-01	9.922E-01	9.721E-01	9.816E-01	9.745E-01	9.767E-01	9.818E-01	9.877E-01	9.078E-01	8.623E-01	9.990E-01	8.797E-01
(Glycerol synthesis)	Local	0.00E+00	0.00E+00	2.79E-01	8.97E-15	-6.51E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-3.51E-14	-1.90E-13	8.35E-02	-2.06E-13	-2.03E-13	2.33E-02	1.63E-01	3.62E-02	2.16E-03	-1.30E-01	4.08E-02	-2.53E-16
	Max	8.86E-14	5.35E-13	4.99E-01	2.08E-13	1.55E-13	1.32E-01	5.12E-01	1.88E-01	1.93E-02	1.52E-01	2.04E-01	8.76E-16
	Normalized peak height	6.71E-01	8.14E-01	3.51E-03	1.02E-02	2.41E-02	3.49E-03	3.70E-03	3.53E-03	3.51E-03	1.21E-02	3.84E-03	3.11E-01
	Peak sensitivity value	-7.16E-19	-1.81E-16	2.73E-01	-2.02E-16	1.42E-16	6.72E-02	3.59E-01	9.62E-02	6.28E-03	-7.13E-02	1.22E-01	-2.39E-19
	Shapiro-Wilk score	1.793E-01	3.199E-02	9.990E-01	9.825E-01	9.747E-01	9.913E-01	9.990E-01	9.974E-01	9.671E-01	8.165E-01	9.972E-01	7.984E-01
(Glycerol out)	Local	0.00E+00	0.00E+00	2.79E-01	9.24E-15	-6.55E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-4.91E-14	-3.35E-13	8.01E-02	-2.32E-13	-2.35E-13	2.43E-02	1.38E-01	2.93E-02	2.13E-03	-1.30E-01	4.31E-02	-2.23E-16
	Max	4.90E-14	1.43E-13	5.03E-01	2.32E-13	1.62E-13	1.38E-01	5.06E-01	1.88E-01	2.22E-02	2.13E-01	2.05E-01	3.80E-15
	Normalized peak height	6.58E-01	7.56E-01	3.24E-03	1.32E-02	2.63E-02	3.58E-03	3.81E-03	3.85E-03	4.21E-03	1.48E-02	3.83E-03	3.15E-01
	Peak sensitivity value	-2.65E-17	-2.42E-17	2.87E-01	1.14E-16	1.98E-16	6.17E-02	3.54E-01	9.76E-02	6.85E-03	-7.11E-02	1.15E-01	9.29E-19
	Shapiro-Wilk score	1.849E-01	3.280E-02	9.988E-01	9.802E-01	9.714E-01	9.913E-01	9.985E-01	9.975E-01	9.702E-01	8.124E-01	9.975E-01	3.702E-01
(Glycerol flow)	Local	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-6.66E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-1.15E-13	-1.21E-12	8.71E-02	-1.90E-13	-2.24E-13	2.24E-02	1.64E-01	3.66E-02	2.49E-03	-1.31E-01	3.71E-02	-1.47E-16
	Max	6.22E-14	1.91E-13	4.86E-01	3.26E-13	1.93E-13	1.30E-01	5.20E-01	1.81E-01	2.01E-02	1.27E-01	2.03E-01	5.65E-16
	Normalized peak height	6.69E-01	8.97E-01	3.23E-03	1.25E-02	2.90E-02	3.56E-03	3.56E-03	3.39E-03	3.59E-03	1.12E-02	3.95E-03	3.13E-01
	Peak sensitivity value	2.63E-18	-2.68E-16	2.79E-01	-1.53E-16	1.87E-16	6.71E-02	3.42E-01	9.70E-02	6.85E-03	-7.22E-02	1.20E-01	-2.76E-19
	Shapiro-Wilk score	1.745E-01	1.463E-02	9.989E-01	9.820E-01	9.714E-01	9.910E-01	9.986E-01	9.974E-01	9.682E-01	8.220E-01	9.975E-01	8.986E-01
(Acetaldehyde out)	Local	0.00E+00	0.00E+00	2.79E-01	-5.24E-15	8.08E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-4.10E-14	-1.71E-13	8.46E-02	-1.11E-13	-8.71E-14	2.42E-02	1.66E-01	3.68E-02	2.33E-03	-1.32E-01	4.55E-02	-2.52E-16
	Max	4.01E-14	1.21E-13	4.83E-01	1.08E-13	9.21E-14	1.35E-01	5.33E-01	1.82E-01	2.03E-02	1.05E-01	2.00E-01	7.98E-16
	Normalized peak height	6.67E-01	7.37E-01	3.08E-03	7.70E-03	1.52E-02	3.62E-03	3.74E-03	3.43E-03	3.79E-03	1.04E-02	3.47E-03	3.15E-01
	Peak sensitivity value	1.30E-17	5.23E-17	2.75E-01	2.27E-17	8.56E-17	6.24E-02	3.56E-01	1.00E-01	6.05E-03	-6.89E-02	1.22E-01	-4.75E-19
	Shapiro-Wilk score	2.123E-01	5.302E-02	9.989E-01	9.884E-01	9.825E-01	9.910E-01	9.989E-01	9.978E-01	9.681E-01	8.281E-01	9.966E-01	8.400E-01
(Acetaldehyde flow)	Local	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	5.75E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
	Min	-4.59E-14	-2.07E-13	8.63E-02	-1.02E-13	-7.95E-14	2.72E-02	3.49E-01	-1.93E-01	-3.94E-02	-1.30E-01	5.10E-02	-1.89E-16
	Max	4.26E-14	1.72E-13	5.09E-01	1.25E-13	9.76E-14	1.35E-01	7.43E-01	-6.64E-02	-1.54E-03	1.39E-01	2.12E-01	2.18E-15
	Normalized peak height	6.66E-01	7.57E-01	3.51E-03	8.76E-03	1.87E-02	3.32E-03	3.74E-03	3.36E-03	5.15E-03	1.19E-02	3.74E-03	3.18E-01
	Peak sensitivity value	-8.05E-18	-6.59E-17	2.76E-01	-1.22E-16	-8.11E-17	6.37E-02	5.70E-01	-1.20E-01	-6.71E-03	-7.19E-02	1.19E-01	-4.39E-19
	Shapiro-Wilk score	2.877E-01	4.467E-02	9.990E-01	9.882E-01	9.803E-01	9.910E-01	9.948E-01	9.950E-01	9.147E-01	8.104E-01	9.970E-01	6.059E-01
(Cyanide-Acetaldehyde flow)	Local	0.00E+00	0.00E+00	2.63E-01	-4.73E-15	7.34E-15	6.31E-02	-3.93E-01	8.14E-01	6.50E-02	-6.85E-02	1.17E-01	9.70E-18
	Min	-3.00E-14	-1.73E-13	6.71E-02	-1.14E-13	-8.43E-14	2.14E-02	-5.59E-01	6.56E-01	2.13E-02	-1.22E-01	3.49E-02	-2.74E-16
	Max	5.00E-14	1.46E-13	4.68E-01	1.06E-13	8.11E-14	1.31E-01	-2.44E-01	9.06E-01	1.89E-01	1.32E-01	1.90E-01	5.99E-16
	Normalized peak height	6.65E-01	7.57E-01	3.31E-03	1.02E-02	2.14E-02	3.63E-03	3.38E-03	3.76E-03	4.37E-03	1.18E-02	3.99E-03	3.15E-01
	Peak sensitivity value	1.89E-17	-1.23E-16	2.67E-01	2.69E-17	-3.84E-17	6.08E-02	-3.95E-01	8.18E-01	5.83E-02	-6.71E-02	1.12E-01	3.06E-19
	Shapiro-Wilk score	2.396E-01	3.994E-02	9.987E-01	9.893E-01	9.804E-01	9.918E-01	9.989E-01	9.861E-01	9.502E-01	8.112E-01	9.982E-01	8.731E-01
(Cyanide flow)	Local	0.00E+00	0.00E+00	2.63E-01	-4.59E-15	7.47E-15	6.31E-02	-3.93E-01	8.14E-01	6.50E-02	-6.85E-02	1.17E-01	9.70E-18
	Min	-1.78E-14	-1.01E-13	7.00E-02	-1.15E-13	-7.98E-14	2.04E-02	-5.72E-01	6.56E-01	2.12E-02	-1.33E-01	3.70E-02	-2.09E-16
	Max	2.67E-14	1.99E-13	4.54E-01	1.05E-13	9.59E-14	1.33E-01	-2.40E-01	9.00E-01	1.81E-01	1.30E-01	1.85E-01	5.80E-16
	Normalized peak height	6.50E-01	7.36E-01	3.15E-03	9.99E-03	1.50E-02	3.46E-03	3.65E-03	3.71E-03	4.16E-03	1.23E-02	3.51E-03	3.16E-01
	Peak sensitivity value	-6.29E-18	1.02E-17	2.52E-01	-1.56E-16	7.82E-17	6.38E-02	-3.97E-01	8.26E-01	5.38E-02	-6.91E-02	1.19E-01	-6.95E-21
	Shapiro-Wilk score	3.840E-01	4.908E-02	9.985E-01	9.862E-01	9.760E-01	9.910E-01	9.986E-01	9.866E-01	9.501E-01	8.124E-01	9.983E-01	8.386E-01

(Storage)																							
Local	1.21E-02	5.20E-03	9.43E-01	-1.53E-03	-1.85E-02	-1.69E-15	9.90E-03	2.16E-02	1.80E-03	3.06E-03	-3.99E-15	1.98E-01	0.00E+00	0.00E+00	-3.37E-02	-2.74E-15	-1.38E-16	-8.11E-03	-4.21E-02	-1.20E-02	-9.55E-04	1.62E-02	-9.61E-02	-1.73E-18
Min	1.15E-03	6.67E-04	4.55E-02	-5.16E-03	-1.63E-01	-1.22E-14	2.73E-03	6.13E-03	5.07E-04	9.17E-04	-2.75E-14	6.82E-02	-1.09E-14	-4.24E-14	-8.86E-02	-6.22E-14	-5.36E-14	-1.82E-02	-7.56E-02	-2.13E-02	-4.13E-03	-2.94E-03	-1.85E-01	-8.96E-16
Max	8.64E-01	1.81E-01	1.09E+00	2.46E-03	6.43E-02	1.28E-14	2.34E-02	5.89E-02	5.23E-03	2.24E-02	4.03E-14	5.13E-01	8.63E-15	2.80E-14	-1.04E-02	8.56E-14	4.16E-14	-2.88E-03	-2.07E-02	-5.69E-03	-1.44E-04	1.09E-01	-5.15E-02	2.41E-17
Normalized peak height	8.29E-02	3.22E-02	7.46E-03	5.82E-03	1.36E-02	3.94E-02	3.63E-03	4.33E-03	4.05E-03	5.61E-03	1.77E-02	3.53E-03	6.45E-01	7.10E-01	4.16E-03	1.13E-02	1.15E-02	3.40E-03	3.01E-03	3.17E-03	4.68E-03	9.67E-03	3.40E-03	3.37E-01
Peak sensitivity value	3.31E-03	2.38E-03	9.87E-01	-1.59E-03	-1.53E-02	-1.72E-19	8.40E-03	1.95E-02	1.76E-03	4.37E-03	-1.65E-17	1.42E-01	-1.23E-18	1.68E-17	-3.05E-02	-9.41E-16	2.53E-16	-6.92E-03	-3.73E-02	-1.13E-02	-5.92E-04	1.65E-02	-9.89E-02	-2.90E-19
Shapiro-Wilk score	3.647E-01	5.527E-01	6.766E-01	9.896E-01	9.148E-01	9.486E-01	9.741E-01	9.780E-01	9.613E-01	9.434E-01	9.708E-01	9.355E-01	6.177E-01	1.926E-01	9.734E-01	7.937E-01	9.639E-01	9.759E-01	9.821E-01	9.880E-01	9.142E-01	8.426E-01	9.915E-01	2.689E-01
(ATP consumption)																							
Local	-1.59E-03	-6.83E-04	-1.24E-01	2.57E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	9.53E-01	2.55E-17
Min	-1.02E+00	-1.53E-01	-3.09E+00	1.34E-02	1.47E-01	-1.09E-14	1.18E-03	2.20E-03	2.29E-04	4.12E-04	-2.29E-14	2.47E-02	-4.14E-15	-2.35E-14	-1.22E-01	-7.39E-14	-4.45E-14	-3.33E-02	-1.56E-01	-3.36E-02	-7.02E-03	-5.07E-01	8.26E-01	-2.70E-16
Max	5.89E-04	3.81E-04	4.33E-02	6.24E-02	2.92E+00	1.03E-14	3.02E-02	8.30E-02	7.63E-03	2.32E-02	2.76E-14	9.84E-01	7.37E-15	1.97E-14	-4.19E-03	4.87E-14	3.73E-14	-1.15E-03	-7.14E-03	-2.21E-03	-6.18E-05	-1.57E-01	9.73E-01	2.51E-15
Normalized peak height	3.68E-01	1.83E-01	1.76E-02	4.31E-03	1.49E-02	8.79E-02	8.13E-03	1.03E-02	1.07E-02	1.01E-02	3.17E-02	1.23E-02	6.48E-01	7.15E-01	9.68E-03	1.81E-02	2.01E-02	1.15E-02	1.11E-02	8.70E-03	1.53E-02	5.59E-03	6.79E-03	3.16E-01
Peak sensitivity value	7.59E-05	-1.56E-04	-3.99E-02	2.34E-02	2.40E-01	9.62E-18	3.63E-03	8.06E-03	6.85E-04	2.04E-03	-4.78E-18	6.64E-02	-1.80E-18	9.41E-18	-1.31E-02	2.15E-16	-3.13E-17	-3.42E-03	-1.79E-02	-4.90E-03	-2.81E-04	-2.29E-01	9.54E-01	-1.13E-18
Shapiro-Wilk score	2.700E-01	3.513E-01	7.035E-01	9.607E-01	7.257E-01	8.969E-01	8.460E-01	8.359E-01	8.339E-01	8.686E-01	9.316E-01	7.833E-01	5.199E-01	1.671E-01	8.404E-01	9.204E-01	9.089E-01	8.519E-01	8.340E-01	8.585E-01	7.779E-01	9.523E-01	9.132E-01	7.947E-01
(Adenylate kinase)																							
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Peak sensitivity value	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
Shapiro-Wilk score	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 28: Flux control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±30%

	(GluceMixedflowtoextracellularmedium)	(Glucoseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)	(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
(Glucose Mixed flow to extracellular medium)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-3.45E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.14E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.35E-17	-5.80E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	5.22E-04	3.42E-04	-1.24E-02	2.01E-04	2.20E-03	-4.99E-15	-1.66E-03	-3.58E-03	-4.65E-04	-2.54E-03	-1.13E-14	-6.69E-02	-3.62E-15	-7.82E-15	-4.80E-02	-2.44E-14	-3.34E-14	-9.38E-03	-3.89E-02	-9.92E-03	-2.31E-03	-6.16E-02	-3.60E-02	-3.42E-17
Max	9.73E-01	4.56E-01	1.00E+00	1.75E-02	7.88E-01	6.43E-15	1.42E-02	3.08E-02	2.65E-03	5.39E-03	1.08E-14	2.40E-01	1.02E-15	1.51E-14	5.97E-03	6.52E-14	2.83E-14	1.67E-03	6.86E-03	1.96E-03	5.15E-04	2.51E-01	2.18E-02	1.01E-16
Normalized peak height	9.70E-02	6.84E-02	2.95E-02	1.29E-02	4.39E-02	2.24E-01	5.72E-02	5.42E-02	6.02E-02	5.04E-02	2.67E-01	5.60E-02	5.80E-01	8.59E-01	5.62E-02	3.25E-01	3.24E-01	4.52E-02	3.87E-02	3.70E-02	1.00E-01	2.76E-02	2.31E-02	2.87E-01
Peak sensitivity value	1.98E-03	1.48E-03	9.93E-01	1.06E-03	1.05E-02	-3.67E-18	1.40E-04	3.20E-04	2.25E-05	6.12E-05	-1.89E-18	1.94E-03	-2.00E-18	-5.14E-19	-4.81E-04	-2.38E-18	1.40E-17	-1.18E-04	-6.48E-04	-2.07E-04	-6.57E-06	-8.64E-03	-1.96E-03	4.97E-20
Shapiro-Wilk score	4.890E-01	5.105E-01	5.781E-01	7.361E-01	3.547E-01	3.158E-01	3.999E-01	4.011E-01	3.929E-01	5.347E-01	4.076E-01	3.732E-01	2.527E-01	1.348E-01	4.149E-01	2.975E-01	2.700E-01	4.320E-01	4.278E-01	4.480E-01	3.423E-01	6.339E-01	6.755E-01	8.665E-01
(Glucose uptake)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-2.20E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.36E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	4.87E-04	3.22E-04	-1.04E-02	2.21E-04	2.38E-03	-5.49E-15	-2.63E-03	-4.27E-03	-4.03E-04	-1.86E-03	-8.10E-15	-5.26E-02	-3.92E-15	-7.54E-15	-4.24E-02	-2.58E-14	-2.09E-14	-1.01E-02	-3.63E-02	-9.38E-03	-2.37E-03	-5.36E-02	-3.24E-02	-1.88E-17
Max	9.76E-01	4.53E-01	1.00E+00	1.96E-02	8.18E-01	7.97E-15	1.38E-02	2.70E-02	3.61E-03	6.64E-03	1.04E-14	2.38E-01	4.43E-15	1.31E-14	7.87E-03	2.67E-14	2.44E-14	1.56E-03	7.89E-03	2.07E-03	4.11E-04	2.39E-01	1.59E-02	1.27E-16
Normalized peak height	9.98E-02	6.81E-02	3.03E-02	1.43E-02	4.79E-02	1.24E-01	6.03E-02	5.11E-02	7.78E-02	5.47E-02	1.67E-01	5.60E-02	6.64E-01	8.40E-01	5.30E-02	2.02E-01	2.42E-01	4.88E-02	3.83E-02	3.54E-02	1.04E-01	2.74E-02	1.82E-02	2.88E-01
Peak sensitivity value	1.95E-03	1.91E-03	9.95E-01	1.18E-03	1.01E-02	-2.09E-18	1.22E-04	2.85E-04	2.06E-05	6.40E-05	-2.14E-19	2.14E-03	-3.63E-19	-2.28E-18	-4.56E-04	-5.01E-18	1.28E-17	-1.05E-04	-7.18E-04	-1.81E-04	-7.83E-06	-8.7-03	-1.98E-03	4.53E-20
Shapiro-Wilk score	4.864E-01	5.195E-01	5.765E-01	7.342E-01	3.564E-01	4.309E-01	4.020E-01	3.979E-01	3.972E-01	5.366E-01	5.224E-01	3.760E-01	1.870E-01	1.199E-01	3.462E-01	3.462E-01	3.292E-01	4.251E-01	4.289E-01	4.542E-01	3.461E-01	6.425E-01	6.685E-01	8.577E-01
(Hexokinase)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-4.14E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-1.06E-16	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	4.83E-04	3.19E-04	4.87E-03	1.75E-04	2.71E-03	-5.66E-15	-2.70E-03	-5.83E-03	-6.07E-04	-2.87E-03	-2.46E-14	-6.54E-02	-1.04E-15	-4.10E-15	-4.17E-02	-3.93E-14	-2.45E-14	-1.03E-02	-3.93E-02	-1.02E-02	-2.33E-03	-5.34E-02	-3.46E-02	-3.55E-17
Max	9.79E-01	4.33E-01	1.00E+00	1.63E-02	8.18E-01	4.79E-15	1.33E-02	2.72E-02	3.74E-03	5.22E-03	2.04E-14	2.47E-01	1.67E-15	1.25E-14	9.79E-03	2.66E-14	2.08E-14	2.28E-03	8.49E-03	2.38E-03	5.08E-04	2.56E-01	2.07E-02	4.85E-17
Normalized peak height	9.75E-02	6.48E-02	2.88E-02	1.21E-02	4.72E-02	2.00E-01	5.76E-02	5.24E-02	8.29E-02	5.36E-02	3.33E-01	6.11E-02	5.51E-01	7.39E-01	5.19E-02	2.14E-01	2.51E-01	5.14E-02	4.18E-02	3.77E-02	1.04E-01	2.74E-02	2.12E-02	2.89E-01
Peak sensitivity value	1.95E-03	1.83E-03	9.92E-01	1.02E-03	1.05E-02	-3.51E-18	1.15E-04	2.39E-04	2.03E-05	6.88E-05	3.12E-18	2.01E-03	-6.98E-19	-6.57E-18	-4.30E-04	-2.90E-17	1.40E-18	-1.26E-04	-6.19E-04	-2.03E-04	-6.78E-06	-9.36E-03	-2.05E-03	-7.72E-21
Shapiro-Wilk score	4.851E-01	5.088E-01	5.766E-01	7.321E-01	3.574E-01	3.262E-01	3.995E-01	3.974E-01	3.745E-01	5.391E-01	3.418E-01	3.758E-01	2.719E-01	1.381E-01	4.113E-01	3.485E-01	3.519E-01	4.254E-01	4.288E-01	4.514E-01	3.479E-01	6.268E-01	6.716E-01	9.163E-01
(Phosphoglucoisomerase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	4.62E-16	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	2.63E-15	-1.33E-01	0.00E+00	0.00E+00	2.20E-02	1.83E-15	9.24E-17	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	4.83E-04	2.88E-04	-1.36E-02	4.65E-04	1.49E-02	-1.35E-14	-2.52E-02	-3.68E-02	-4.56E-03	-1.83E-02	-5.42E-14	-3.89E-01	-4.28E-14	-1.61E-13	2.08E-04	-4.45E-14	-5.49E-14	5.50E-05	2.54E-04	7.11E-05	1.05E-05	-8.76E-02	2.14E-04	-5.60E-17
Max	1.11E+00	4.04E-01	1.22E+00	2.68E-02	9.86E-01	1.25E-14	-3.57E-05	-2.06E-04	-1.15E-05	-1.26E-05	6.30E-14	-2.51E-03	3.86E-14	2.08E-13	6.06E-02	5.50E-14	7.32E-14	1.60E-02	5.81E-02	1.74E-02	4.22E-03	2.13E-01	1.27E-01	1.04E-16
Normalized peak height	1.11E-01	6.17E-02	1.13E-02	8.22E-03	2.83E-02	6.19E-02	4.94E-03	3.72E-03	4.81E-03	5.82E-03	1.06E-01	4.12E-03	5.42E-01	7.34E-01	3.60E-03	1.43E-02	2.90E-02	4.33E-03	3.85E-03	4.25E-03	6.47E-03	1.54E-02	3.41E-03	2.87E-01
Peak sensitivity value	2.15E-03	1.70E-03	9.64E-01	3.06E-03	2.99E-02	-5.10E-18	-4.34E-03	-1.17E-02	-8.79E-04	-2.12E-03	3.41E-17	-8.85E-02	1.99E-17	-6.16E-17	1.92E-02	8.53E-18	1.68E-18	4.09E-03	2.42E-02	6.61E-03	3.45E-04	-2.91E-02	6.23E-02	6.28E-20
Shapiro-Wilk score	4.877E-01	5.070E-01	6.398E-01	8.523E-01	4.114E-01	9.696E-01	9.618E-01	9.824E-01	9.500E-01	9.115E-01	8.187E-01	9.353E-01	2.559E-01	1.593E-01	9.779E-01	9.432E-01	9.086E-01	9.751E-01	9.936E-01	9.927E-01	8.778E-01	7.306E-01	9.897E-01	9.426E-01
(Phosphofructokinase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.39E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	3.85E-15	-1.33E-01	0.00E+00	0.00E+00	2.20E-02	2.02E-15	1.13E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	4.86E-04	3.23E-04	-1.07E-02	3.49E-04	1.38E-02	-1.66E-14	-2.54E-02	-4.17E-02	-4.79E-03	-2.33E-02	-7.92E-14	-3.73E-01	-2.73E-14	-1.29E-13	1.74E-04	-5.80E-14	-6.18E-14	5.96E-05	3.51E-04	6.09E-05	5.32E-06	-9.71E-02	1.87E-04	-8.36E-17
Max	1.10E+00	4.45E-01	1.21E+00	2.26E-02	9.89E-01	1.26E-14	-3.54E-05	-1.14E-04	-9.20E-06	-5.59E-06	3.84E-14	-2.59E-03	3.13E-14	1.33E-13	7.08E-02	5.98E-14	4.79E-14	1.59E-02	5.27E-02	1.60E-02	3.94E-03	2.37E-01	1.35E-01	2.34E-16
Normalized peak height	1.12E-01	6.74E-02	1.12E-02	9.01E-03	2.79E-02	2.89E-02	4.96E-03	4.15E-03	5.30E-03	7.40E-03	7.97E-02	4.00E-03	5.08E-01	6.69E-01	4.42E-03	1.79E-02	2.55E-02	4.11E-03	3.54E-03	3.90E-03	6.30E-03	1.73E-02	3.82E-03	2.87E-01
Peak sensitivity value	2.14E-03	1.88E-03	9.55E-01	3.05E-03	3.28E-02	-6.48E-18	-4.84E-03	-1.14E-02	-8.97E-04	-1.74E-03	3.24E-17	-8.68E-02	-2.92E-17	-5.76E-17	1.68E-02	-5.40E-18	5.20E-17	4.47E-03	2.35E-02	7.14E-03	3.18E-04	-2.95E-02	6.51E-02	1.29E-19
Shapiro-Wilk score	4.868E-01	5.106E-01	6.401E-01	8.437E-01	4.102E-01	9.233E-01	9.599E-01	9.815E-01	9.533E-01	9.096E-01	8.623E-01	9.368E-01	2.737E-01	1.098E-01	9.773E-01	9.355E-01	9.011E-01	9.743E-01	9.938E-01	9.922E-01	8.769E-01	7.402E-01	9.893E-01	8.772E-01
(Aldolase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.11E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	-1.02E-14	-1.33E-01	0.00E+00	0.00E+00	2.20E-02	3.98E-16	1.24E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	-1.32E-01	-1.79E-01	1.52E-03	-5.28E-05	-2.26E-03	-2.89E-14	-2.31E-02	-4.21E-02	-4.06E-03	-2.00E-02	-1.14E-13	-4.11E-01	-3.56E-14	-1.34E-13	2.02E-04	-7.13E-14	-5.08E-14	1.01E-04	4.43E-04	9.92E-05	1.43E-05	-1.27E-01	2.45E-04	-4.14E-17
Max	1.10E+00	4.68E-01	1.48E+00	2.42E-02	9.84E-01	3.62E-14	-4.74E-05	-2.01E-04	-1.26E-05	-1.23E-05	9.80E-14	-3.34E-03	5.17E-14	1.25E-13	6.59E-02	5.96E-14	6.55E-14	1.57E-02	5.32E-02	1.68E-02	3.87E-03	2.34E-01	1.28E-01	1.16E-16
Normalized peak height	1.22E-01	9.48E-02	1.39E-02	9.62E-03	2.85E-02	6.00E-02	4.65E-03	4.11E-03	4.28E-03	6.01E-03	8.27E-02	4.45E-03	5.33E-01	6.75E-01	3.99E-03	1.79E-02	2.52E-02	3.99E-03	3.51E-03	4.07E-03	6.05E-03	1.86E-02	3.51E-03	2.88E-01
Peak sensitivity value	2.41E-03	1.93E-03	9.61E-01	2.97E-03	3.18E-02	-2.07E-16	-4.24E-03	-1.30E-02	-8.76E-04	-1.86E-03	8.09E-17	-8.88E-02	-1.32E-17	6.97E-17	1.82E-02	-1.05E-17	-1.22E-17	4.04E-03	2.45E-02	6.90E-03	2.98E-04	-3.01E-02	6.13E-02	-4.16E-20
Shapiro-Wilk score	4.881E-01	5.200E-01	6.389E-01	8.564E-01	4.100E-01	8.740E-01	9.616E-01	9.808E-01	9.515E-01	9.141E-01	9.273E-01	9.346E-01	2.466E-01	1.706E-01	9.764E-01	9.393E-01	8.925E-01	9.753E-01	9.940E-01	9.918E-01	8.725E-01	7.513E-01	9.891E-01	9.300E-01
(Triosephosphate isomerase)																								
Local	1.01E-02	4.37E-03	7.92E-01	2.82E-03	2.81E-02	-1.03E-15	9.18E-03	2.01E-02	1.72E-03	3.20E-03	-5.10E-15	1.84E-01	0.00E+00	0.00E+00	-3.13E-02	-1.10E-17	1.39E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	3.21E-02	2.13E-18
Min	4.68E-04	2.58E-04	-1.31E-02	1.00E-04	1.12E-03	-7.91E-15	7.75E-04	2.32E-03	2.45E-04	3.67E-04	-4.24E-14	3.98E-02	-1.56E-14	-4.58E-14	-1.42E-01	-1.95E-14	-1.78E-14	-2.57E-02	-1.08E-01	-2.70E-02	-6.86E-03	-6.97E-02	2.30E-04	-5.56E-17
Max	8.54E-01	3.54E-01	9.21E-01	1.55E-02	7.96E-01	1.10E-14	3.55E-02	9.24E-02	7.82E-03	2.55E-02	4.11E-14	7.27E-01	1.93E-14	6.07E-14	-3.55E-03	3.25E-14	2.00E-14	-1.56E-03	-1.27E-02	-3.69E-03	-5.28E-05	1.91E-01	1.20E-01	1.03E-16
Normalized peak height	1.05E-01	6.41E-02	5.81E-03	8.67E-03	3.16E-02	1.99E-02	4.52E-03	5.46E-03	5.36E-03	5.52E-03	8.32E-02	4.44E-03	5.50E-01	6.35E-01	5.48E-03	1.99E-02	2.27E-02	4.44E-03	3.77E-03	3.48E-03	7.46E-03	1.35E-02	3.33E-03	2.94E-01
Peak sensitivity value	1.75E-03	1.50E-03	8.51E-01	2.12E-03	2.14E-02	8.44E-18	6.80E-03	1.84E-02	1.18E-03	2.91E-03	-3.32E-17	1.07E-01	-1.35E-17	-3.28E-17	-2.71E-02	-1.19E-19	1.66E-17	-6.37E-03	-3.09E-02	-8.88E-03	-3.76E-04	-2.13E-02	5.13E-02	-3.42E-20
Shapiro-Wilk score	4.871E-01	4.973E-01	7.438E-01	8.669E-01	4.235E-01	9.184E-01	9.325E-01	9.409E-01	9.142E-01	8.881E-01	9.341E-01	8.795E-01	3.796E-01	1.939E-01	9.364E-01	9.243E-01	8.934E-01	9.458E-01	9.638E-01	9.735E-01	8.333E-01	7.923E-01	9.981E-01	9.180E-01

(Glyceraldehyde 3-phosphate dehydrogenase)												
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-1.85E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-9.79E-15	1.05E-02
Min	-3.11E-03	-2.40E-03	-1.91E-02	2.12E-04	1.21E-02	-1.68E-14	-1.62E-03	-3.51E-03	-3.51E-04	-1.38E-03	-5.10E-14	-4.51E-02
Max	9.11E-01	4.06E-01	9.49E-01	1.74E-02	8.70E-01	1.57E-14	1.60E-02	3.26E-02	3.26E-03	6.25E-03	5.28E-14	2.74E-01
Normalized peak height	1.02E-01	6.50E-02	1.40E-02	8.21E-03	2.92E-02	2.33E-02	3.07E-02	2.77E-02	3.30E-02	2.32E-02	5.47E-02	2.91E-02
Peak sensitivity value	1.92E-03	1.48E-03	9.02E-01	2.56E-03	2.54E-02	3.79E-17	3.07E-04	7.71E-04	5.91E-05	1.67E-04	9.28E-18	5.43E-03
Shapiro-Wilk score	4.893E-01	5.086E-01	5.991E-01	8.467E-01	4.169E-01	9.122E-01	4.991E-01	4.972E-01	4.912E-01	6.514E-01	9.458E-01	4.641E-01
(Phosphoenolpyruvate synthesis)												
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-2.35E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-4.52E-14	1.05E-02
Min	4.12E-04	3.14E-04	3.76E-04	3.83E-04	1.25E-02	-2.11E-13	-2.46E-03	-4.23E-03	-4.23E-04	-2.20E-03	-6.57E-13	-5.69E-02
Max	9.08E-01	4.10E-01	9.53E-01	1.76E-02	8.73E-01	2.37E-13	1.34E-02	2.91E-02	3.74E-03	6.21E-03	4.35E-13	2.68E-01
Normalized peak height	9.81E-02	6.63E-02	1.47E-02	7.98E-03	2.92E-02	3.28E-02	2.78E-02	2.65E-02	3.91E-02	2.61E-02	6.81E-02	2.88E-02
Peak sensitivity value	1.77E-03	1.75E-03	9.02E-01	3.01E-03	2.75E-02	1.56E-16	3.57E-04	7.95E-04	5.80E-05	1.64E-04	-2.51E-16	5.87E-03
Shapiro-Wilk score	4.862E-01	5.036E-01	5.968E-01	8.502E-01	4.141E-01	8.127E-01	4.931E-01	4.922E-01	4.891E-01	6.436E-01	9.215E-01	4.540E-01
(Pyruvate kinase)												
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	2.24E-15	5.23E-04	1.14E-03	9.81E-05	2.96E-04	5.94E-14	1.05E-02
Min	4.60E-04	2.54E-04	-1.31E-02	2.18E-04	1.26E-02	-4.94E-14	-1.71E-03	-3.58E-03	-2.80E-04	-1.23E-03	-3.66E-13	-3.25E-02
Max	9.26E-01	3.64E-01	9.50E-01	1.99E-02	8.78E-01	4.54E-14	1.63E-02	3.22E-02	3.48E-03	5.93E-03	3.17E-13	2.69E-01
Normalized peak height	1.02E-01	5.88E-02	1.38E-02	9.30E-03	3.00E-02	4.93E-02	3.30E-02	2.78E-02	3.64E-02	2.21E-02	2.35E-01	2.76E-02
Peak sensitivity value	1.85E-03	1.53E-03	9.03E-01	2.69E-03	2.60E-02	-2.04E-17	3.58E-04	7.36E-04	5.66E-05	1.86E-04	-2.38E-16	5.72E-03
Shapiro-Wilk score	4.874E-01	5.190E-01	5.971E-01	8.493E-01	4.144E-01	8.789E-01	4.876E-01	4.899E-01	4.735E-01	6.397E-01	8.514E-01	4.549E-01
(Pyruvate decarboxylase)												
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-8.93E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-6.66E-16	1.05E-02
Min	4.92E-04	2.43E-04	-3.40E-05	3.78E-04	1.25E-02	-8.80E-15	-2.17E-03	-3.62E-03	-4.92E-04	-2.11E-03	-3.84E-14	-6.90E-02
Max	9.13E-01	3.88E-01	9.52E-01	2.19E-02	8.93E-01	8.69E-15	1.85E-02	3.07E-02	3.34E-03	5.85E-03	3.50E-14	2.60E-01
Normalized peak height	1.00E-01	6.31E-02	1.37E-02	1.01E-02	2.97E-02	4.27E-02	3.73E-02	2.69E-02	3.61E-02	2.46E-02	1.07E-01	3.04E-02
Peak sensitivity value	1.86E-03	1.60E-03	8.98E-01	2.80E-03	2.61E-02	7.01E-18	3.39E-04	7.90E-04	5.79E-05	1.47E-04	-2.16E-16	5.89E-03
Shapiro-Wilk score	4.866E-01	5.106E-01	5.968E-01	8.469E-01	4.168E-01	8.618E-01	4.928E-01	4.862E-01	4.915E-01	6.605E-01	7.888E-01	4.615E-01
(Alcohol dehydrogenase)												
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.80E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	6.30E-16	1.84E-01
Min	3.65E-04	2.63E-04	1.94E-03	2.18E-05	2.59E-04	-4.88E-15	1.36E-03	2.87E-03	2.51E-04	3.67E-04	-1.58E-14	3.66E-02
Max	8.59E-01	3.16E-01	9.23E-01	1.33E-02	8.26E-01	3.54E-15	4.28E-02	7.91E-02	7.24E-03	2.63E-02	1.46E-14	7.00E-01
Normalized peak height	1.06E-01	5.86E-02	5.98E-03	7.41E-03	3.19E-02	2.16E-02	5.52E-03	4.63E-03	5.15E-03	5.62E-03	6.66E-02	4.75E-03
Peak sensitivity value	1.65E-03	1.37E-03	8.48E-01	2.16E-03	2.30E-02	-5.50E-18	6.69E-03	1.46E-02	1.25E-03	2.74E-03	-1.44E-17	1.12E-01
Shapiro-Wilk score	4.842E-01	4.960E-01	7.401E-01	8.719E-01	4.285E-01	8.729E-01	9.325E-01	9.437E-01	9.146E-01	8.911E-01	9.277E-01	8.777E-01
(Ethanol out)												
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-4.21E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	5.13E-16	1.84E-01
Min	4.24E-04	2.58E-04	1.40E-03	1.19E-04	1.41E-03	-4.90E-15	1.33E-03	2.96E-03	2.19E-04	4.22E-04	-1.55E-14	3.92E-02
Max	8.56E-01	3.31E-01	9.22E-01	1.61E-02	8.02E-01	3.95E-15	3.81E-02	7.79E-02	9.99E-03	2.92E-02	1.13E-14	7.02E-01
Normalized peak height	1.08E-01	6.23E-02	5.73E-03	8.80E-03	3.16E-02	1.45E-01	5.08E-03	4.68E-03	6.46E-03	6.31E-03	3.39E-01	4.41E-03
Peak sensitivity value	1.71E-03	1.42E-03	8.54E-01	2.11E-03	2.26E-02	-1.08E-18	5.83E-03	1.39E-02	1.33E-03	3.03E-03	-4.95E-18	1.20E-01
Shapiro-Wilk score	4.791E-01	5.032E-01	7.422E-01	8.695E-01	4.277E-01	8.863E-01	9.329E-01	9.428E-01	9.176E-01	8.867E-01	9.197E-01	8.812E-01
(Ethanol flow)												
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01
Min	-3.23E-03	-4.81E-03	-1.54E-03	2.44E-04	2.74E-03	-4.40E-15	1.27E-03	2.98E-03	2.59E-04	4.00E-04	-1.74E-14	3.82E-02
Max	8.63E-01	3.92E-01	9.21E-01	1.40E-02	8.15E-01	4.62E-15	3.85E-02	7.60E-02	8.16E-03	3.37E-02	1.97E-14	7.03E-01
Normalized peak height	1.03E-01	7.36E-02	6.25E-03	7.61E-03	3.13E-02	3.92E-02	5.14E-03	4.84E-03	5.70E-03	7.11E-03	1.35E-01	4.42E-03
Peak sensitivity value	1.53E-03	1.35E-03	8.52E-01	2.11E-03	2.02E-02	-3.77E-18	6.69E-03	1.44E-02	1.19E-03	2.85E-03	-1.15E-17	1.00E-01
Shapiro-Wilk score	4.829E-01	5.010E-01	7.419E-01	8.722E-01	4.278E-01	8.656E-01	9.350E-01	9.442E-01	9.172E-01	8.882E-01	8.473E-01	8.819E-01
(Glycerol synthesis)												
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.06E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.65E-14	-1.64E+00
Min	-2.63E-03	-1.68E-03	-3.26E-02	9.11E-04	3.49E-02	-6.95E-14	-2.42E-01	-3.86E-01	-3.92E-02	-1.73E-01	-2.66E-13	-2.79E+00
Max	2.59E+00	8.61E-01	3.01E+00	4.40E-02	2.42E+00	7.18E-14	-5.11E-03	-2.82E-02	-1.85E-03	-1.54E-03	3.07E-13	-9.56E-01
Normalized peak height	1.40E-01	7.08E-02	4.94E-03	7.13E-03	2.87E-02	2.14E-02	3.42E-03	3.02E-03	3.86E-03	4.69E-03	9.44E-02	3.67E-03
Peak sensitivity value	3.85E-03	3.07E-03	1.58E+00	7.26E-03	6.96E-02	-6.21E-17	-6.87E-02	-1.64E-01	-1.18E-02	-2.65E-02	-6.40E-17	-1.51E+00
Shapiro-Wilk score	4.884E-01	5.026E-01	8.304E-01	8.783E-01	4.291E-01	8.934E-01	9.721E-01	9.941E-01	9.769E-01	9.496E-01	7.821E-01	9.773E-01
(Glycerol out)												
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.12E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.55E-14	-1.64E+00
Min	7.37E-04	4.67E-04	-6.92E-03	9.09E-04	2.99E-02	-7.04E-14	-3.03E-01	-4.19E-01	-4.19E-02	-1.69E-01	-4.20E-13	-2.68E+00
Max	2.59E+00	1.08E+00	3.02E+00	4.81E-02	2.31E+00	6.61E-14	-5.36E-03	-2.71E-02	-1.78E-03	-1.29E-03	3.62E-13	-8.46E-01
Normalized peak height	1.36E-01	8.64E-02	4.94E-03	7.79E-03	2.87E-02	2.28E-02	4.08E-03	3.35E-03	4.17E-03	4.29E-03	1.08E-01	3.73E-03
Peak sensitivity value	4.63E-03	3.17E-03	1.66E+00	7.12E-03	7.21E-02	-2.99E-17	-6.74E-02	-1.75E-01	-1.31E-02	-3.28E-02	-5.74E-17	-1.48E+00
Shapiro-Wilk score	4.886E-01	5.051E-01	8.281E-01	8.810E-01	4.263E-01	8.930E-01	9.730E-01	9.945E-01	9.756E-01	9.485E-01	7.677E-01	9.784E-01
(Glycerol flow)												
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00
Min	-9.87E-04	-5.26E-04	-7.69E-02	8.22E-04	3.45E-02	-7.52E-14	-2.83E-01	-4.05E-01	-4.34E-02	-1.59E-01	-3.41E-13	-2.84E+00
Max	2.68E+00	8.97E-01	3.18E+00	4.52E-02	2.33E+00	6.78E-14	-4.91E-03	-2.72E-02	-1.89E-03	-1.66E-03	2.78E-13	-9.48E-01
Normalized peak height	1.38E-01	7.28E-02	5.41E-03	7.59E-03	2.78E-02	2.32E-02	3.85E-03	3.18E-03	4.22E-03	4.41E-03	1.17E-01	3.58E-03
Peak sensitivity value	3.03E-03	2.61E-03	1.67E+00	7.23E-03	7.47E-02	-5.98E-17	-7.06E-02	-1.62E-01	-1.38E-02	-3.01E-02	2.38E-16	-1.51E+00
Shapiro-Wilk score	4.880E-01	4.980E-01	8.303E-01	8.747E-01	4.252E-01	8.950E-01	9.726E-01	9.941E-01	9.758E-01	9.505E-01	7.771E-01	9.776E-01
(Acetaldehyde out)												
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	-5.92E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	4.56E-21	-1.64E+00
Min	7.43E-04	5.48E-04	-4.35E-02	6.62E-04	3.25E-02	-4.52E-14	-2.87E-01	-3.84E-01	-3.94E-02	-1.83E-01	-2.64E-13	-2.73E+00
Max	2.71E+00	9.35E-01	2.98E+00	4.41E-02	2.44E+00	8.08E-14	-5.88E-03	-3.18E-02	-1.85E-03	-2.04E-03	3.02E-13	-9.46E-01
Normalized peak height	1.36E-01	7.49E-02	4.88E-03	6.96E-03	2.93E-02	5.81E-02	3.84E-03	2.95E-03	4.13E-03	4.74E-03	3.11E-01	3.28E-03
Peak sensitivity value	4.81E-03	2.89E-03	1.59E+00	6.98E-03	6.98E-02	-3.54E-17	-6.96E-02	-1.57E-01	-1.31E-02	-3.24E-02	1.71E-16	-1.48E+00
Shapiro-Wilk score	4.916E-01	5.067E-01	8.322E-01	8.826E-01	4.350E-01	8.582E-01	9.742E-01	9.944E-01	9.759E-01	9.487E-01	8.018E-01	9.770E-01
(Acetaldehyde flow)												
Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00
Min	-1.63E-03	-4.38E-03	-4.81E-02	6.88E-04	3.20E-02	-5.82E-14	-2.69E-01	-3.86E-01	-4.61E-02	-1.94E-01	-2.09E-13	-2.97E+00
Max	3.05E+00	9.80E-01	3.04E+00	4.91E-02	2.44E+00	4.59E-14	-4.97E-03	-2.88E-02	-1.81E-03	-1.82E-03	3.03E-13	-9.57E-01
Normalized peak height	1.46E-01	7.89E-02	5.15E-03	7.95E-03	2.81E-02	2.79E-02	3.82E-03	2.98E-03	4.72E-03	4.84E-03	1.30E-01	3.59E-03
Peak sensitivity value	2.94E-03	3.00E-03	1.64E+00	6.71E-03	7.18E-02	-4.64E-17	-7.35E-02	-1.71E-01	-1.36E-02	-3.49E-02	-2.42E-16	-1.43E+00
Shapiro-Wilk score	4.891E-01	4.988E-01	8.412E-01	8.722E-01	4.313E-01	8.653E-01	9.726E-01	9.941E-01	9.744E-01	9.476E-01	7.209E-01	9.758E-01

(Glyceraldehyde 3-phosphate dehydrogenase)												
Local	0.00E+00	0.00E+00	-1.78E-03	7.65E-16	6.61E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-2.57E-14	-1.15E-13	-4.63E-02	-3.19E-14	-2.74E-14	-1.01E-02	-4.22E-02	-1.14E-02	-2.76E-03	-8.04E-02	1.83E-04	-6.18E-17
Max	3.01E-14	8.97E-14	6.11E-03	3.72E-14	6.00E-14	1.25E-03	5.74E-03	1.39E-03	2.38E-04	2.17E-01	1.21E-01	2.57E-16
Normalized peak height	5.19E-01	6.66E-01	2.64E-02	1.46E-02	3.07E-02	2.30E-02	2.11E-02	2.02E-02	4.70E-02	1.63E-02	3.48E-03	2.92E-01
Peak sensitivity value	1.24E-17	-3.06E-17	-1.20E-03	-1.25E-16	-1.82E-17	-3.33E-04	-1.86E-03	-5.27E-04	-2.14E-05	-2.46E-02	6.13E-02	1.52E-19
Shapiro-Wilk score	2.803E-01	1.565E-01	5.171E-01	9.389E-01	9.012E-01	5.272E-01	5.175E-01	5.383E-01	4.371E-01	7.428E-01	9.928E-01	8.513E-01
(Phosphoenolpyruvate synthesis)												
Local	0.00E+00	0.00E+00	-1.78E-03	-2.42E-15	1.16E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-1.36E-13	-2.80E-13	-4.33E-02	-5.46E-14	-2.66E-14	-1.13E-02	-4.11E-02	-1.12E-02	-2.37E-03	-8.65E-02	2.93E-04	-1.19E-16
Max	4.17E-13	1.01E-13	7.66E-03	5.15E-14	3.22E-14	8.66E-04	5.64E-03	1.65E-03	3.85E-04	2.23E-01	1.24E-01	1.01E-16
Normalized peak height	8.49E-01	7.71E-01	2.54E-02	2.15E-02	2.35E-02	2.50E-02	2.04E-02	2.02E-02	4.36E-02	1.74E-02	3.39E-03	2.92E-01
Peak sensitivity value	6.66E-17	-1.56E-16	-1.23E-03	2.77E-19	1.25E-18	-2.96E-04	-1.87E-03	-5.51E-04	-2.10E-05	-2.50E-02	6.57E-02	3.03E-20
Shapiro-Wilk score	1.454E-01	1.466E-01	5.117E-01	9.350E-01	8.995E-01	5.167E-01	5.070E-01	5.288E-01	4.285E-01	7.406E-01	9.923E-01	8.970E-01
(Pyruvate kinase)												
Local	0.00E+00	0.00E+00	-1.78E-03	4.02E-15	-8.26E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-1.57E-13	-1.01E-13	-4.94E-02	-8.07E-14	-3.25E-14	-1.24E-02	-4.22E-02	-1.15E-02	-2.38E-03	-8.67E-02	1.28E-04	-5.86E-17
Max	1.19E-13	7.09E-14	4.46E-03	3.24E-14	4.81E-14	1.93E-03	5.63E-03	1.65E-03	2.26E-04	2.03E-01	1.25E-01	2.79E-16
Normalized peak height	6.87E-01	6.64E-01	2.76E-02	2.89E-02	3.77E-02	2.93E-02	2.13E-02	2.07E-02	4.29E-02	1.58E-02	3.63E-03	2.88E-01
Peak sensitivity value	2.82E-17	6.44E-17	-1.38E-03	-2.68E-17	6.11E-18	-3.03E-04	-1.67E-03	-4.98E-04	-2.54E-05	-2.49E-02	6.52E-02	-4.90E-20
Shapiro-Wilk score	1.496E-01	1.738E-01	5.069E-01	9.158E-01	8.664E-01	5.156E-01	5.113E-01	5.396E-01	4.360E-01	7.636E-01	9.922E-01	8.585E-01
(Pyruvate decarboxylase)												
Local	0.00E+00	0.00E+00	-1.78E-03	-6.65E-16	1.91E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-1.50E-14	-1.17E-13	-5.39E-02	-4.58E-14	-4.58E-14	-1.03E-02	-3.91E-02	-1.05E-02	-2.67E-03	-8.20E-02	1.40E-04	-1.07E-16
Max	1.18E-14	5.43E-14	7.63E-03	4.37E-14	3.64E-14	2.02E-03	8.33E-03	1.76E-03	3.29E-04	2.13E-01	1.22E-01	1.08E-16
Normalized peak height	5.33E-01	6.71E-01	3.08E-02	3.04E-02	5.68E-02	2.57E-02	2.06E-02	1.97E-02	4.82E-02	1.58E-02	3.56E-03	2.88E-01
Peak sensitivity value	-1.19E-17	8.01E-17	-1.14E-03	-4.19E-17	-1.71E-17	-3.07E-04	-1.65E-03	-5.23E-04	-2.34E-05	-2.37E-02	6.03E-02	-9.95E-20
Shapiro-Wilk score	3.634E-01	1.602E-01	5.025E-01	8.976E-01	8.704E-01	5.280E-01	5.203E-01	5.408E-01	4.363E-01	7.466E-01	9.932E-01	8.850E-01
(Alcohol dehydrogenase)												
Local	0.00E+00	0.00E+00	-3.13E-02	-1.84E-16	1.26E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-1.12E-14	-4.09E-14	-1.23E-01	-1.85E-14	-2.09E-14	-2.79E-02	-1.02E-01	-2.91E-02	-6.99E-03	-6.96E-02	1.13E-04	-6.30E-17
Max	7.28E-15	4.87E-14	-4.91E-03	2.54E-14	2.11E-14	-1.60E-03	-1.25E-02	-3.78E-03	-4.82E-05	1.72E-01	1.15E-01	1.20E-16
Normalized peak height	5.26E-01	6.36E-01	4.77E-03	2.06E-02	3.72E-02	4.61E-03	3.63E-03	3.59E-03	7.53E-03	1.27E-02	3.26E-03	2.91E-01
Peak sensitivity value	-7.08E-18	-1.33E-17	-2.60E-02	-8.65E-18	1.17E-17	-6.12E-03	-3.47E-02	-9.62E-03	-3.64E-04	-2.02E-02	5.33E-02	-5.26E-20
Shapiro-Wilk score	4.527E-01	1.895E-01	9.410E-01	9.181E-01	8.892E-01	9.459E-01	9.636E-01	9.738E-01	8.254E-01	7.911E-01	9.978E-01	8.999E-01
(Ethanol out)												
Local	2.37E-16	-8.88E-16	-3.13E-02	-1.07E-16	1.31E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-1.03E-14	-6.93E-14	-1.32E-01	-2.90E-14	-3.53E-14	-3.17E-02	-1.11E-01	-2.95E-02	-7.52E-03	-7.47E-02	2.23E-04	-3.72E-17
Max	7.64E-15	5.42E-14	-5.04E-03	2.37E-14	3.39E-14	-1.61E-03	-1.22E-02	-3.84E-03	-5.18E-05	1.83E-01	1.19E-01	1.18E-16
Normalized peak height	6.31E-02	4.92E-01	4.87E-03	2.38E-02	5.63E-02	4.87E-03	3.76E-03	3.87E-03	7.79E-03	1.31E-02	3.26E-03	2.93E-01
Peak sensitivity value	-2.16E-16	4.31E-17	-2.27E-02	-5.93E-18	1.70E-18	-6.23E-03	-3.38E-02	-9.04E-03	-4.51E-04	-2.08E-02	5.51E-02	4.61E-20
Shapiro-Wilk score	9.789E-01	5.119E-01	9.388E-01	9.149E-01	8.726E-01	9.455E-01	9.649E-01	9.735E-01	8.337E-01	8.047E-01	9.983E-01	9.226E-01
(Ethanol flow)												
Local	-3.41E-16	-1.11E-15	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-1.02E-14	-4.53E-14	-1.37E-01	-3.06E-14	-1.84E-14	-2.94E-02	-1.12E-01	-2.66E-02	-6.92E-03	-7.70E-02	1.14E-04	-7.29E-17
Max	1.55E-14	3.65E-14	-5.45E-03	2.46E-14	2.08E-14	-1.54E-03	-1.33E-02	-3.52E-03	-5.55E-05	2.18E-01	1.20E-01	3.41E-16
Normalized peak height	4.67E-01	1.18E-01	5.01E-03	2.58E-02	3.48E-02	4.80E-03	3.98E-03	3.46E-03	7.11E-03	1.58E-02	3.19E-03	2.92E-01
Peak sensitivity value	-2.79E-18	-2.53E-16	-2.21E-02	2.05E-17	-1.61E-17	-5.85E-03	-3.41E-02	-1.01E-02	-4.78E-04	-2.17E-02	5.42E-02	1.37E-19
Shapiro-Wilk score	5.555E-01	6.080E-01	9.397E-01	9.137E-01	8.786E-01	9.460E-01	9.636E-01	9.732E-01	8.344E-01	7.930E-01	9.981E-01	7.418E-01
(Glycerol synthesis)												
Local	0.00E+00	0.00E+00	2.79E-01	8.97E-15	-6.51E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-4.25E-13	-2.15E-12	2.88E-02	-3.15E-13	-2.44E-13	1.01E-02	8.54E-02	1.59E-02	1.24E-03	-2.04E-01	-2.18E-03	-2.06E-16
Max	2.79E-13	1.30E-12	5.57E-01	2.71E-13	2.45E-13	1.79E-01	6.07E-01	2.39E-01	2.80E-02	4.23E-01	2.58E-01	1.39E-15
Normalized peak height	6.81E-01	9.53E-01	2.75E-03	1.88E-02	3.59E-02	3.55E-03	3.71E-03	3.59E-03	4.21E-03	1.65E-02	3.94E-03	2.86E-01
Peak sensitivity value	-2.83E-16	7.62E-18	2.52E-01	9.04E-17	-1.21E-16	5.77E-02	3.62E-01	9.38E-02	5.03E-03	-7.09E-02	1.23E-01	-5.18E-19
Shapiro-Wilk score	1.780E-01	1.443E-01	9.970E-01	9.478E-01	9.163E-01	9.803E-01	9.975E-01	9.934E-01	9.376E-01	7.328E-01	9.877E-01	6.839E-01
(Glycerol out)												
Local	0.00E+00	0.00E+00	2.79E-01	9.24E-15	-6.55E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-3.07E-13	-1.26E-12	3.17E-02	-3.49E-13	-2.79E-13	1.14E-02	7.22E-02	1.65E-02	1.24E-03	-1.96E-01	-6.82E-04	-1.88E-16
Max	3.34E-13	9.11E-13	5.74E-01	3.90E-13	2.54E-13	1.97E-01	5.95E-01	2.33E-01	2.83E-02	5.47E-01	2.51E-01	6.40E-16
Normalized peak height	6.70E-01	9.11E-01	2.98E-03	2.08E-02	3.06E-02	4.00E-03	3.56E-03	3.69E-03	4.25E-03	1.92E-02	3.88E-03	2.85E-01
Peak sensitivity value	2.36E-16	3.71E-16	2.74E-01	-2.47E-16	-1.69E-16	5.68E-02	3.46E-01	1.02E-01	4.90E-03	-6.82E-02	1.11E-01	3.87E-19
Shapiro-Wilk score	1.757E-01	1.472E-01	9.973E-01	9.442E-01	9.153E-01	9.800E-01	9.975E-01	9.933E-01	9.374E-01	7.370E-01	9.886E-01	8.814E-01
(Glycerol flow)												
Local	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-6.66E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-2.00E-13	-1.82E-12	3.07E-02	-3.62E-13	-2.76E-13	1.22E-02	9.09E-02	1.85E-02	1.16E-03	-2.22E-01	-3.89E-03	-1.46E-16
Max	3.55E-13	1.89E-12	5.88E-01	3.13E-13	3.29E-13	1.85E-01	5.91E-01	2.46E-01	2.82E-02	4.64E-01	2.52E-01	2.85E-16
Normalized peak height	6.18E-01	8.71E-01	3.01E-03	2.02E-02	4.06E-02	3.80E-03	3.37E-03	3.47E-03	4.05E-03	1.73E-02	3.85E-03	2.88E-01
Peak sensitivity value	-2.55E-16	1.32E-15	3.19E-01	-1.76E-16	1.12E-17	6.00E-02	3.29E-01	9.68E-02	4.93E-03	-6.96E-02	1.18E-01	-7.16E-20
Shapiro-Wilk score	1.883E-01	1.396E-01	9.971E-01	9.418E-01	9.178E-01	9.801E-01	9.976E-01	9.936E-01	9.377E-01	7.259E-01	9.875E-01	9.395E-01
(Acetaldehyde out)												
Local	0.00E+00	0.00E+00	2.79E-01	-5.24E-15	8.08E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-1.72E-13	-8.31E-13	3.35E-02	-1.77E-13	-1.32E-13	1.17E-02	9.41E-02	1.57E-02	1.28E-03	-2.10E-01	-3.75E-04	-1.99E-16
Max	2.12E-13	1.09E-12	5.74E-01	2.34E-13	1.75E-13	1.80E-01	6.06E-01	2.40E-01	3.01E-02	4.66E-01	2.59E-01	2.50E-15
Normalized peak height	6.08E-01	8.23E-01	3.01E-03	1.75E-02	3.00E-02	3.64E-03	3.49E-03	3.66E-03	4.61E-03	1.71E-02	4.07E-03	2.92E-01
Peak sensitivity value	-1.55E-16	6.77E-16	2.65E-01	1.48E-16	4.38E-17	6.65E-02	3.68E-01	8.70E-02	4.93E-03	-6.82E-02	1.16E-01	-1.14E-18
Shapiro-Wilk score	2.280E-01	1.314E-01	9.973E-01	9.610E-01	9.397E-01	9.805E-01	9.975E-01	9.933E-01	9.402E-01	7.342E-01	9.888E-01	5.399E-01
(Acetaldehyde flow)												
Local	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	5.75E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
Min	-1.84E-13	-1.09E-12	3.29E-02	-1.43E-13	-1.67E-13	1.12E-02	2.28E-01	-2.31E-01	-9.29E-02	-2.06E-01	-8.68E-04	-2.66E-16
Max	2.33E-13	9.14E-13	5.87E-01	2.06E-13	1.42E-13	1.93E-01	8.05E-01	-4.93E-02	-7.59E-04	4.68E-01	2.78E-01	5.21E-16
Normalized peak height	6.16E-01	8.33E-01	2.96E-03	1.88E-02	3.65E-02	3.98E-03	3.69E-03	3.21E-03	9.33E-03	1.71E-02	4.09E-03	2.91E-01
Peak sensitivity value	1.78E-16	-6.95E-16	2.68E-01	-1.10E-16	2.38E-17	5.70E-02	5.87E-01	-1.13E-01	-6.15E-03	-6.97E-02	1.28E-01	-2.07E-19
Shapiro-Wilk score	1.799E-01	1.193E-01	9.970E-01	9.619E-01	9.309E-01	9.807E-01	9.898E-01	9.895E-01	8.271E-01	7.323E-01	9.892E-01	8.687E-01

(Cyanide-Acetaldehyde flow)																							
Local	2.36E-02	1.02E-02	1.83E+00	8.13E-03	9.84E-02	-5.30E-15	-7.71E-02	-1.09E-01	-1.43E-02	-4.36E-02	-8.00E-15	-1.54E+00	0.00E+00	0.00E+00	2.63E-01	-4.73E-15	7.34E-15	6.31E-02	-3.93E-01	8.14E-01	6.90E-02	-6.85E-02	1.17E-01	9.70E-18
Min	-3.94E-03	-1.65E-03	-2.43E-02	3.58E-04	2.92E-02	-5.11E-14	-2.50E-01	-3.81E-01	-4.01E-02	-1.58E-01	-2.32E-13	-2.44E+00	-1.62E-13	-1.51E-12	2.64E-02	-1.78E-13	-1.19E-13	8.68E-03	-6.37E-01	5.60E-01	1.17E-02	-1.80E-01	-1.96E-03	-3.56E-16
Max	2.47E+00	8.22E-01	2.71E+00	4.26E-02	2.21E+00	4.98E-14	-5.58E-03	-2.41E-02	-1.67E-03	-1.01E-03	2.41E-13	-8.30E-01	2.64E-13	1.00E-12	5.33E-01	1.91E-13	1.47E-13	1.69E-01	-1.72E-01	9.31E-01	2.75E-01	4.03E-01	2.59E-01	1.03E-15
Normalized peak height	1.28E-01	7.19E-02	5.22E-03	7.52E-03	2.98E-02	2.61E-02	3.47E-03	3.24E-03	4.45E-03	4.34E-03	1.16E-01	3.68E-03	6.32E-01	8.27E-01	2.84E-03	2.16E-02	3.61E-02	3.57E-03	3.38E-03	3.99E-03	5.43E-03	1.62E-02	4.13E-03	2.88E-01
Peak sensitivity value	4.74E-03	2.88E-03	1.60E+00	6.50E-03	6.96E-02	-6.83E-18	-5.67E-02	-1.67E-01	-1.25E-02	-3.12E-02	1.52E-16	-1.34E+00	-5.80E-17	-1.04E-15	2.74E-01	3.88E-17	3.73E-17	5.56E-02	-4.06E-01	8.28E-01	4.32E-02	-6.75E-02	1.10E-01	3.87E-19
Shapiro-Wilk score	4.899E-01	5.055E-01	7.996E-01	8.841E-01	4.255E-01	8.582E-01	9.739E-01	9.941E-01	9.763E-01	9.510E-01	7.313E-01	9.809E-01	1.703E-01	1.170E-01	9.968E-01	9.600E-01	9.369E-01	9.812E-01	9.973E-01	9.741E-01	9.051E-01	7.420E-01	9.880E-01	7.327E-01
(Cyanide flow)																							
Local	2.36E-02	1.02E-02	1.83E+00	8.13E-03	9.84E-02	-5.30E-15	-7.71E-02	-1.09E-01	-1.43E-02	-4.36E-02	-7.92E-15	-1.54E+00	0.00E+00	0.00E+00	2.63E-01	-4.59E-15	7.47E-15	6.31E-02	-3.93E-01	8.14E-01	6.90E-02	-6.85E-02	1.17E-01	9.70E-18
Min	-9.00E-03	-3.23E-03	-5.24E-02	3.30E-04	2.92E-02	-7.57E-14	-2.68E-01	-3.96E-01	-3.80E-02	-1.54E-01	-3.41E-13	-2.56E+00	-1.81E-13	-8.07E-13	2.79E-02	-1.84E-13	-1.08E-13	9.11E-03	-6.53E-01	5.57E-01	1.05E-02	-1.80E-01	-3.43E-03	-2.94E-16
Max	2.59E+00	9.02E-01	2.68E+00	4.11E-02	2.29E+00	6.46E-14	-5.24E-03	-2.31E-02	-2.01E-03	-1.14E-03	2.44E-13	-8.63E-01	2.67E-13	8.35E-13	5.37E-01	2.03E-13	1.24E-13	1.69E-01	-1.94E-01	9.41E-01	2.88E-01	4.30E-01	2.52E-01	3.88E-16
Normalized peak height	1.32E-01	7.82E-02	5.12E-03	7.56E-03	2.92E-02	3.69E-02	3.70E-03	3.28E-03	3.99E-03	4.33E-03	1.28E-01	3.74E-03	6.37E-01	9.21E-01	2.95E-03	2.17E-02	2.63E-02	3.38E-03	3.28E-03	3.89E-03	5.29E-03	1.65E-02	4.20E-03	2.88E-01
Peak sensitivity value	2.70E-03	2.66E-03	1.63E+00	6.71E-03	6.65E-02	-1.27E-17	-6.33E-02	-1.73E-01	-1.26E-02	-3.11E-02	1.60E-16	-1.38E+00	4.38E-17	-5.47E-17	2.65E-01	-4.25E-17	1.05E-16	5.73E-02	-3.71E-01	8.32E-01	3.84E-02	-6.18E-02	1.11E-01	-2.38E-19
Shapiro-Wilk score	4.878E-01	5.022E-01	7.993E-01	8.825E-01	4.298E-01	8.589E-01	9.724E-01	9.938E-01	9.764E-01	9.484E-01	6.928E-01	9.810E-01	1.567E-01	1.280E-01	9.967E-01	9.563E-01	9.379E-01	9.804E-01	9.974E-01	9.741E-01	9.085E-01	7.314E-01	9.878E-01	8.739E-01
(Storage)																							
Local	1.21E-02	5.20E-03	9.43E-01	-1.53E-03	-1.83E-02	-1.69E-15	9.90E-03	2.16E-02	1.80E-03	3.00E-03	-3.99E-15	1.98E-01	0.00E+00	0.00E+00	-2.33E-02	-2.74E-15	-1.38E-16	-8.11E-03	-4.21E-02	-1.20E-02	-9.55E-04	1.62E-02	-9.64E-02	-1.73E-18
Min	5.43E-04	3.41E-04	-1.86E-02	-8.28E-03	-3.71E-01	-2.03E-14	1.16E-03	2.43E-03	2.59E-04	3.63E-04	-8.15E-14	4.13E-02	-5.24E-14	-3.00E-13	-1.23E-01	-8.34E-14	-8.76E-14	-2.79E-02	-9.70E-02	-2.68E-02	-7.36E-03	-2.94E-02	-2.54E-01	-9.83E-17
Max	1.04E+00	4.18E-01	1.15E+00	1.52E-02	6.63E-01	1.91E-14	3.68E-02	7.44E-02	8.29E-03	3.24E-02	7.55E-14	7.50E-01	4.82E-14	4.00E-13	-5.43E-03	1.25E-13	8.89E-14	-1.60E-03	-1.47E-02	-4.16E-03	-6.67E-05	2.44E-01	-2.56E-02	7.82E-17
Normalized peak height	1.06E-01	6.39E-02	6.16E-03	1.06E-02	3.93E-02	4.84E-02	4.64E-03	4.37E-03	5.29E-03	6.41E-03	7.72E-02	4.83E-03	5.26E-01	7.89E-01	4.47E-03	1.96E-02	2.53E-02	4.47E-03	3.18E-03	3.20E-03	7.60E-03	1.30E-02	3.68E-03	2.97E-01
Peak sensitivity value	2.11E-03	1.80E-03	1.01E+00	-1.24E-03	-1.38E-02	1.42E-17	7.21E-03	1.69E-02	1.19E-03	2.43E-03	4.67E-17	1.10E-01	-3.64E-17	8.43E-17	-2.60E-02	-2.50E-17	3.62E-17	-5.90E-03	-3.44E-02	-1.02E-02	-4.00E-04	1.86E-02	-8.92E-02	8.61E-20
Shapiro-Wilk score	4.901E-01	5.154E-01	7.340E-01	9.214E-01	4.658E-01	9.002E-01	9.435E-01	9.549E-01	9.214E-01	8.850E-01	8.370E-01	8.921E-01	2.837E-01	1.484E-01	9.471E-01	9.200E-01	8.910E-01	9.508E-01	9.689E-01	9.754E-01	8.449E-01	7.505E-01	9.828E-01	8.665E-01
(ATP consumption)																							
Local	-1.59E-03	-6.83E-04	-1.24E-01	2.91E-02	3.11E-01	-8.56E-16	1.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	1.61E-02	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.00E-02	-5.81E-03	-4.63E-04	-2.32E-01	9.53E-01	2.55E-17
Min	-5.90E+00	-1.36E+00	-8.11E+00	1.39E-03	1.15E-01	-5.17E-14	5.59E-04	1.28E-03	1.03E-04	1.72E-04	-1.61E-13	1.58E-02	-2.87E-14	-1.26E-13	-3.98E-01	-2.25E-13	-1.52E-13	-8.67E-02	-3.05E-01	-9.10E-02	-1.94E-02	-1.08E+00	6.51E-01	-1.43E-15
Max	1.33E-01	1.72E-01	1.42E+00	9.30E-02	7.30E+00	5.57E-14	1.15E-01	2.14E-01	2.16E-02	3.64E-02	1.64E-13	2.11E+00	3.68E-14	1.33E-13	-2.10E-03	3.67E-13	2.19E-13	-6.56E-04	-4.70E-03	-1.37E-03	-2.13E-05	-1.94E-02	9.78E-01	1.02E-15
Normalized peak height	4.30E-01	6.14E-01	5.70E-02	5.91E-03	3.11E-02	1.41E-01	2.33E-02	1.86E-02	2.35E-02	1.24E-02	1.56E-01	2.03E-02	5.38E-01	7.15E-01	2.28E-02	9.33E-02	8.71E-02	2.06E-02	1.57E-02	1.09E-02	3.37E-02	1.14E-02	9.11E-03	2.92E-01
Peak sensitivity value	-3.11E-03	-3.95E-04	-1.04E-02	2.16E-02	2.12E-01	4.31E-17	2.91E-03	6.27E-03	5.66E-04	1.53E-03	-4.09E-17	4.40E-02	2.56E-17	9.51E-17	-1.14E-02	-6.68E-17	1.60E-16	-3.19E-03	-1.30E-02	-4.11E-03	-1.86E-04	-2.21E-01	9.48E-01	-3.07E-19
Shapiro-Wilk score	2.645E-01	2.135E-01	4.311E-01	9.357E-01	4.832E-01	5.427E-01	5.870E-01	5.830E-01	5.807E-01	7.278E-01	6.698E-01	5.560E-01	2.882E-01	1.601E-01	5.922E-01	6.019E-01	5.752E-01	6.084E-01	5.963E-01	6.115E-01	5.391E-01	8.336E-01	7.764E-01	8.735E-01
(Adenylate kinase)																							
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Peak sensitivity value	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
Shapiro-Wilk score	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 29: Flux control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±40%

	(GluceMixedflowtoextracellularmedium)	(Glucoseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)	(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
(Glucose Mixed flow to extracellular medium)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-3.45E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.14E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.35E-17	-5.80E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	-6.41E-03	-5.67E-03	-1.38E-01	2.40E-05	8.74E-04	-1.08E-14	-7.08E-03	-8.76E-03	-1.12E-03	-4.37E-03	-2.99E-14	-9.77E-02	-2.25E-14	1.82E-13	-6.12E-02	-6.20E-14	-4.76E-14	-1.54E-02	-4.66E-02	-1.41E-02	-3.49E-03	-1.34E-01	-4.35E-02	-5.56E-17
Max	9.90E-01	5.10E-01	1.01E+00	3.26E-02	9.43E-01	1.26E-14	2.22E-02	4.05E-02	6.41E-03	7.09E-03	2.31E-14	2.85E-01	2.18E-14	1.07E-13	1.52E-02	1.00E-13	4.10E-14	3.84E-03	1.42E-02	4.66E-03	9.02E-04	3.09E-01	3.82E-02	9.68E-17
Normalized peak height	1.03E-01	6.90E-02	2.76E-02	1.82E-02	4.35E-02	4.17E-01	8.87E-02	6.27E-02	1.21E-01	6.51E-02	5.25E-01	6.40E-02	6.98E-01	8.95E-01	6.21E-02	4.95E-01	4.52E-01	6.34E-02	3.97E-02	4.34E-02	1.52E-01	2.62E-02	1.99E-02	2.80E-01
Peak sensitivity value	1.06E-03	1.30E-03	9.97E-01	9.19E-04	8.88E-03	1.72E-18	8.61E-05	1.75E-04	1.95E-05	3.35E-05	-7.36E-18	1.60E-03	1.91E-17	7.45E-17	-3.87E-04	-1.30E-17	1.47E-17	-9.31E-05	-5.20E-04	-1.35E-04	-5.16E-06	-7.90E-03	-1.89E-03	-3.09E-20
Shapiro-Wilk score	5.587E-01	5.052E-01	6.837E-01	6.589E-01	4.550E-01	3.179E-01	4.361E-01	4.644E-01	4.268E-01	5.408E-01	2.407E-01	4.657E-01	8.039E-02	4.840E-02	4.712E-01	3.215E-01	3.040E-01	4.795E-01	5.038E-01	5.112E-01	3.922E-01	6.240E-01	7.416E-01	8.010E-01
(Glucose uptake)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-2.20E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.36E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	-4.22E-02	-1.71E-02	-9.11E-02	2.38E-05	7.78E-04	-1.40E-14	-6.69E-03	-1.15E-02	-1.04E-03	-4.71E-03	-4.78E-14	-1.11E-01	-4.20E-14	-8.50E-14	-5.83E-02	-5.64E-14	-6.46E-14	-1.53E-02	-5.09E-02	-1.61E-02	-3.38E-03	-1.09E-01	-4.33E-02	-3.49E-17
Max	9.87E-01	5.23E-01	1.01E+00	2.89E-02	9.45E-01	1.35E-14	1.81E-02	4.08E-02	4.34E-03	8.07E-03	3.59E-14	2.73E-01	2.05E-14	1.81E-13	1.83E-02	6.53E-14	5.20E-14	3.43E-03	1.59E-02	4.07E-03	6.12E-04	3.05E-01	3.45E-02	8.13E-17
Normalized peak height	1.14E-01	7.23E-02	2.79E-02	1.61E-02	4.36E-02	2.03E-01	7.39E-02	6.09E-02	8.67E-02	7.18E-02	4.65E-01	6.14E-02	8.34E-01	7.55E-01	6.02E-02	3.80E-01	4.36E-01	6.00E-02	4.38E-02	4.54E-02	1.38E-01	2.44E-02	1.94E-02	2.74E-01
Peak sensitivity value	1.55E-03	9.88E-04	9.97E-01	1.02E-03	9.75E-03	1.96E-19	1.03E-04	1.79E-04	1.50E-05	4.20E-05	-2.68E-17	1.53E-03	1.19E-17	1.29E-16	-3.24E-04	3.76E-17	4.33E-17	-9.73E-05	-5.49E-04	-1.33E-04	-4.36E-06	-8.48E-03	-1.87E-03	-7.74E-21
Shapiro-Wilk score	5.601E-01	4.990E-01	6.821E-01	6.587E-01	4.538E-01	3.717E-01	4.450E-01	4.673E-01	4.228E-01	5.383E-01	2.226E-01	4.614E-01	8.221E-02	5.158E-02	4.754E-01	3.190E-01	3.014E-01	4.745E-01	5.035E-01	5.090E-01	3.916E-01	6.242E-01	7.440E-01	7.924E-01
(Hexokinase)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-4.14E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-1.06E-16	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	-2.29E-02	-2.22E-02	-6.46E-02	6.14E-05	9.44E-04	-1.59E-14	-5.65E-03	-9.00E-03	-9.26E-04	-6.03E-03	-3.97E-14	-1.05E-01	-2.81E-14	-9.86E-14	-5.59E-02	-5.57E-14	-4.91E-14	-1.46E-02	-4.82E-02	-1.45E-02	-3.39E-03	-9.71E-02	-4.76E-02	-3.77E-17
Max	9.88E-01	5.10E-01	1.01E+00	2.76E-02	9.33E-01	1.03E-14	2.14E-02	3.49E-02	5.32E-03	9.54E-03	5.35E-14	2.84E-01	4.55E-14	1.13E-13	1.65E-02	8.53E-14	3.86E-14	4.68E-03	1.74E-02	5.01E-03	7.19E-04	3.10E-01	3.93E-02	5.90E-17
Normalized peak height	1.05E-01	6.99E-02	2.68E-02	1.54E-02	4.15E-02	3.86E-01	8.07E-02	5.54E-02	1.02E-01	8.75E-02	5.05E-01	6.15E-02	8.32E-01	8.86E-01	5.80E-02	4.07E-01	3.73E-01	6.26E-02	4.29E-02	4.55E-02	1.36E-01	2.42E-02	2.16E-02	2.73E-01
Peak sensitivity value	1.85E-03	1.51E-03	9.97E-01	7.64E-04	7.94E-03	-3.42E-18	1.01E-04	1.89E-04	1.43E-05	4.88E-05	2.91E-17	1.57E-03	-2.10E-17	8.06E-17	-3.59E-04	-4.44E-17	3.45E-17	-8.19E-05	-5.32E-04	-1.35E-04	-6.04E-06	-8.64E-03	-1.90E-03	-4.74E-20
Shapiro-Wilk score	5.544E-01	5.040E-01	6.817E-01	6.661E-01	4.546E-01	3.341E-01	4.457E-01	4.696E-01	4.204E-01	5.380E-01	2.196E-01	4.663E-01	6.268E-02	5.532E-02	4.775E-01	3.381E-01	3.171E-01	4.812E-01	5.048E-01	5.130E-01	3.971E-01	6.266E-01	7.424E-01	8.271E-01
(Phosphoglucoisomerase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	4.62E-16	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	2.63E-15	-1.33E-01	0.00E+00	0.00E+00	2.20E-02	1.83E-15	9.24E-17	5.44E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	-6.74E-04	-7.96E-04	-8.99E-02	3.28E-05	1.13E-02	-1.77E-14	-3.82E-02	-6.44E-02	-6.69E-03	-2.51E-02	-6.26E-14	-4.71E-01	-5.70E-14	-1.60E-13	-3.02E-04	-9.30E-14	-6.22E-14	-1.36E-04	-4.16E-04	-1.23E-04	-1.22E-05	-1.45E-01	-4.15E-04	-4.98E-17
Max	1.20E+00	5.79E-01	1.29E+00	3.84E-02	1.02E+00	1.72E-14	8.42E-05	1.86E-04	2.09E-05	6.15E-05	9.49E-14	2.45E-03	4.51E-14	3.43E-13	9.51E-02	7.16E-14	6.34E-14	2.24E-02	6.18E-02	2.17E-02	5.03E-03	3.13E-01	1.64E-01	1.28E-16
Normalized peak height	1.32E-01	8.19E-02	8.80E-03	1.13E-02	2.42E-02	7.01E-02	6.35E-03	5.14E-03	6.20E-03	7.92E-03	2.12E-01	4.92E-03	4.49E-01	6.70E-01	4.74E-03	6.17E-02	6.94E-02	4.72E-03	3.29E-03	3.95E-03	8.40E-03	1.64E-02	4.34E-03	2.76E-01
Peak sensitivity value	1.12E-03	1.23E-03	9.48E-01	2.89E-03	2.70E-02	-9.07E-18	-3.11E-03	-9.34E-03	-5.33E-04	-2.64E-05	-1.04E-17	-6.46E-02	-4.81E-17	1.66E-16	1.59E-02	5.47E-17	3.05E-17	4.07E-03	1.87E-02	6.01E-03	1.47E-04	-2.99E-02	1.62E-04	-8.87E-20
Shapiro-Wilk score	5.586E-01	4.901E-01	7.386E-01	7.874E-01	4.991E-01	9.414E-01	9.284E-01	9.698E-01	9.171E-01	8.548E-01	6.872E-01	9.245E-01	3.564E-01	2.806E-01	9.645E-01	8.459E-01	8.023E-01	9.622E-01	9.939E-01	9.909E-01	8.147E-01	7.079E-01	9.872E-01	9.066E-01
(Phosphofructokinase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.39E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	3.85E-15	-1.33E-01	0.00E+00	0.00E+00	2.20E-02	2.02E-15	1.13E-16	5.44E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	-2.75E-01	-9.19E-01	-8.62E-02	-1.32E-02	-5.48E-01	-1.52E-14	-3.18E-02	-6.32E-02	-6.27E-03	-2.56E-02	-6.20E-14	-4.79E-01	-7.55E-14	-2.01E-13	8.44E-06	-7.20E-14	-9.42E-14	2.07E-06	1.71E-05	4.21E-06	1.51E-07	-5.29E-01	6.02E-06	-1.25E-16
Max	1.19E+00	5.66E-01	3.34E+00	4.02E-02	9.99E-01	1.61E-14	-1.38E-06	-8.23E-06	-3.11E-07	-1.79E-07	1.14E-13	-7.13E-05	4.82E-14	2.43E-13	8.88E-02	8.17E-14	9.79E-14	2.17E-02	6.91E-02	2.00E-02	5.55E-03	3.07E-01	1.57E-01	1.36E-16
Normalized peak height	1.53E-01	1.65E-01	2.18E-02	1.54E-02	3.60E-02	4.83E-02	5.50E-03	4.87E-03	5.92E-03	1.29E-02	2.15E-01	4.72E-03	4.86E-01	7.00E-01	4.67E-03	6.45E-02	9.85E-02	4.54E-03	3.45E-03	3.81E-03	9.10E-03	2.77E-02	4.67E-03	2.88E-01
Peak sensitivity value	1.12E-03	2.20E-03	9.53E-01	2.78E-03	2.83E-02	5.76E-18	-3.33E-03	-9.20E-03	-7.31E-04	-1.30E-05	-1.44E-17	-6.20E-02	2.51E-17	4.48E-17	1.61E-02	2.34E-17	6.05E-18	3.50E-03	2.06E-02	6.09E-03	1.31E-04	-2.88E-02	8.44E-05	1.77E-20
Shapiro-Wilk score	5.551E-01	4.821E-01	7.365E-01	7.880E-01	4.975E-01	8.712E-01	9.304E-01	9.704E-01	9.212E-01	8.523E-01	7.311E-01	9.253E-01	3.428E-01	2.760E-01	9.661E-01	8.497E-01	7.907E-01	9.630E-01	9.934E-01	9.911E-01	8.126E-01	7.007E-01	9.862E-01	8.738E-01

(Aldolase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.11E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	-1.02E-14	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	3.98E-16	1.24E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	-3.15E-03	-2.20E-03	-1.75E+00	2.07E-05	1.22E-02	-4.04E-14	-3.14E-02	-4.71E-02	-6.63E-03	-2.65E-02	-1.24E-13	-4.99E-01	-9.61E-14	-2.67E-13	-8.25E-03	-1.11E-13	-8.78E-14	-2.37E-03	-1.64E-02	-3.08E-03	-4.63E-04	-1.46E-01	-1.99E-02	-4.86E-17
Max	1.24E+00	6.35E-01	1.26E+00	4.01E-02	1.79E+00	5.12E-14	1.02E-03	6.27E-03	1.57E-03	7.48E-04	1.69E-13	1.40E-01	1.09E-13	2.33E-13	8.43E-02	8.68E-14	6.05E-14	1.98E-02	6.78E-02	2.31E-02	6.13E-03	3.18E-01	1.59E-01	1.77E-16
Normalized peak height	1.40E-01	9.08E-02	1.91E-02	1.13E-02	4.03E-02	5.66E-02	5.31E-03	4.20E-03	7.95E-03	9.20E-03	1.82E-01	6.32E-03	5.38E-01	6.93E-01	5.11E-03	6.33E-02	7.27E-02	4.62E-03	4.26E-03	4.64E-03	1.04E-02	1.55E-02	4.67E-03	2.83E-01
Peak sensitivity value	1.20E-03	1.30E-03	9.40E-01	2.72E-03	2.73E-02	-2.48E-16	-3.54E-03	-9.55E-03	-6.89E-04	-2.70E-05	1.44E-16	-6.49E-02	6.18E-17	-1.46E-16	1.24E-02	-2.03E-17	3.86E-17	3.96E-03	2.02E-02	6.28E-03	1.86E-04	-2.86E-02	1.02E-04	-8.49E-20
Shapiro-Wilk score	5.590E-01	4.842E-01	7.409E-01	7.874E-01	5.024E-01	7.351E-01	9.298E-01	9.688E-01	9.190E-01	8.479E-01	8.369E-01	9.227E-01	3.007E-01	2.875E-01	9.642E-01	8.503E-01	7.994E-01	9.626E-01	9.935E-01	9.909E-01	8.117E-01	6.967E-01	9.875E-01	8.820E-01
(Triosephosphate isomerase)																								
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-1.03E-15	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-5.10E-15	1.84E-01	0.00E+00	0.00E+00	-3.13E-02	-1.10E-17	1.39E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-3.15E-03	-3.19E-03	-1.81E-01	-1.20E-03	-4.11E-02	-2.30E-14	4.89E-04	1.61E-03	1.35E-04	1.16E-04	-9.36E-14	2.26E-02	-3.77E-14	-9.05E-14	-1.67E-01	-4.41E-14	-4.08E-14	-4.09E-02	-1.27E-01	-3.67E-02	-1.14E-02	-1.35E-01	-1.14E-04	-6.25E-17
Max	9.12E-01	4.54E-01	9.40E-01	2.86E-02	9.31E-01	1.74E-14	6.12E-02	1.10E-01	1.49E-02	4.47E-02	8.93E-14	8.70E-01	3.02E-14	7.92E-14	-2.40E-03	4.71E-14	2.97E-14	-8.62E-04	-8.67E-03	-2.31E-03	-2.05E-05	2.59E-01	1.47E-01	1.31E-16
Normalized peak height	1.26E-01	7.89E-02	6.00E-03	1.17E-02	2.85E-02	3.99E-02	7.02E-03	5.60E-03	8.30E-03	9.05E-03	1.87E-01	5.55E-03	4.95E-01	5.65E-01	5.22E-03	5.49E-02	6.42E-02	5.53E-03	3.70E-03	4.08E-03	1.20E-02	1.31E-02	4.35E-03	2.75E-01
Peak sensitivity value	9.69E-04	1.15E-03	7.81E-03	2.07E-03	2.06E-02	-1.05E-17	5.19E-03	1.29E-02	9.97E-04	1.83E-03	-4.14E-17	7.72E-02	-2.01E-18	1.60E-17	-1.96E-02	1.33E-18	-2.08E-17	-4.92E-03	-2.83E-02	-9.41E-03	-2.43E-04	-1.98E-02	1.06E-04	2.27E-20
Shapiro-Wilk score	5.505E-01	4.717E-01	7.962E-01	8.023E-01	4.927E-01	7.806E-01	8.801E-01	9.020E-01	8.530E-01	8.173E-01	8.551E-01	8.449E-01	3.938E-01	3.155E-01	9.000E-01	7.777E-01	7.489E-01	9.047E-01	9.444E-01	9.499E-01	7.683E-01	7.385E-01	9.931E-01	8.773E-01
(Glyceraldehyde 3-phosphate dehydrogenase)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-1.85E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-9.79E-15	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	7.65E-16	6.61E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-2.15E-03	-2.72E-03	-1.31E-01	1.27E-05	1.06E-02	-5.14E-14	-6.65E-03	-8.13E-03	-1.92E-03	-5.07E-03	-1.07E-13	-9.29E-02	-3.40E-14	-2.03E-13	-6.97E-02	-4.35E-14	-5.25E-14	-1.53E-02	-5.06E-02	-1.53E-02	-5.11E-03	-1.32E-01	-9.32E-06	-7.10E-17
Max	9.38E-01	4.92E-01	9.63E-01	2.74E-02	9.63E-01	9.54E-14	2.54E-02	4.62E-02	7.58E-03	8.75E-03	6.16E-14	3.05E-01	4.59E-14	1.41E-13	1.84E-02	4.66E-14	5.51E-14	3.65E-03	1.52E-02	4.38E-03	6.46E-04	2.75E-01	1.57E-01	1.57E-16
Normalized peak height	1.17E-01	7.37E-02	1.08E-02	1.01E-02	2.51E-02	1.00E-01	4.56E-02	3.47E-02	7.28E-02	3.70E-02	1.51E-01	3.11E-02	4.50E-01	6.82E-01	3.41E-02	3.92E-02	6.53E-02	3.00E-02	2.17E-02	2.28E-02	9.12E-02	1.43E-02	4.12E-03	2.85E-01
Peak sensitivity value	1.14E-03	9.87E-04	9.03E-01	2.55E-03	2.63E-02	6.22E-17	2.87E-04	5.40E-04	5.33E-05	1.32E-04	6.38E-17	4.76E-03	-2.37E-17	5.76E-17	-8.94E-04	-7.84E-18	-4.91E-17	-2.91E-04	-1.42E-03	-3.83E-04	-1.34E-05	-2.32E-02	2.26E-04	5.31E-20
Shapiro-Wilk score	5.572E-01	4.861E-01	7.012E-01	7.934E-01	5.006E-01	7.063E-01	5.019E-01	5.356E-01	4.894E-01	6.314E-01	8.670E-01	5.336E-01	3.476E-01	2.688E-01	5.398E-01	8.593E-01	7.896E-01	5.575E-01	5.758E-01	5.849E-01	4.630E-01	7.102E-01	9.903E-01	8.534E-01
(Phosphoenolpyruvate synthesis)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-2.35E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-4.52E-14	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	-2.42E-15	1.16E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-2.64E-03	-4.74E-03	-3.89E-01	4.73E-05	1.02E-02	-2.56E-13	-6.21E-03	-8.26E-03	-1.13E-03	-4.23E-03	-5.93E-13	-8.42E-02	-3.28E-13	-2.89E-13	-7.32E-02	-1.21E-13	-5.85E-14	-1.62E-02	-5.04E-02	-1.72E-02	-4.04E-03	-1.42E-01	-9.99E-06	-9.53E-17
Max	9.36E-01	4.96E-01	9.63E-01	3.01E-02	9.73E-01	2.87E-13	2.51E-02	4.46E-02	5.14E-03	1.05E-02	3.86E-13	2.98E-01	4.14E-13	1.97E-13	1.71E-02	8.06E-14	5.71E-14	2.26E-03	1.01E-02	4.15E-03	6.81E-04	2.88E-01	1.52E-01	1.68E-16
Normalized peak height	1.11E-01	7.48E-02	1.33E-02	1.01E-02	2.64E-02	4.00E-02	4.53E-02	3.32E-02	4.90E-02	3.91E-02	1.58E-01	3.01E-02	6.79E-01	7.63E-01	3.58E-02	6.31E-02	7.70E-02	2.85E-02	2.00E-02	2.53E-02	7.30E-02	1.52E-02	4.37E-03	2.82E-01
Peak sensitivity value	1.58E-03	1.02E-03	9.02E-01	2.56E-03	2.51E-02	2.24E-16	2.62E-04	6.00E-04	5.20E-05	1.25E-04	-2.81E-16	4.61E-03	3.23E-16	3.62E-17	-9.92E-04	9.88E-17	5.25E-17	-2.83E-04	-1.33E-03	-4.43E-04	-1.45E-05	-2.41E-02	6.58E-05	3.19E-20
Shapiro-Wilk score	5.550E-01	4.852E-01	7.009E-01	7.899E-01	5.047E-01	6.439E-01	5.102E-01	5.399E-01	4.948E-01	6.209E-01	8.558E-01	5.341E-01	2.751E-01	2.698E-01	5.428E-01	8.446E-01	7.771E-01	5.589E-01	5.790E-01	5.855E-01	4.662E-01	7.067E-01	9.894E-01	8.609E-01
(Pyruvate kinase)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	2.24E-15	5.23E-04	1.14E-03	9.81E-05	2.96E-04	5.94E-14	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	4.02E-15	-8.26E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-1.53E-02	-2.58E-02	-6.41E-02	3.10E-05	8.64E-03	-1.45E-13	-5.82E-03	-9.10E-03	-9.18E-04	-3.91E-03	-4.53E-13	-8.64E-02	-2.06E-13	-1.68E-13	-6.83E-02	-1.27E-13	-8.03E-14	-1.61E-02	-5.16E-02	-1.55E-02	-4.63E-03	-1.40E-01	-1.39E-05	-5.96E-17
Max	9.42E-01	5.10E-01	9.74E-01	3.14E-02	9.64E-01	1.30E-13	2.61E-02	4.90E-02	7.15E-03	1.08E-02	4.41E-13	3.04E-01	2.55E-13	1.39E-13	1.88E-02	6.51E-14	8.81E-14	3.66E-03	1.16E-02	3.21E-03	8.24E-04	2.86E-01	1.54E-01	2.56E-16
Normalized peak height	1.17E-01	7.98E-02	1.05E-02	1.12E-02	2.62E-02	1.08E-01	4.72E-02	3.59E-02	6.40E-02	4.11E-02	3.20E-01	3.10E-02	6.82E-01	6.64E-01	3.43E-02	7.89E-02	1.12E-01	3.03E-02	2.15E-02	2.18E-02	8.70E-02	1.45E-02	4.20E-03	2.87E-01
Peak sensitivity value	1.47E-03	1.23E-03	9.03E-01	2.46E-03	2.54E-02	-8.92E-17	2.33E-04	6.26E-04	5.39E-05	1.15E-04	-3.47E-16	5.07E-03	1.40E-16	-9.17E-17	-1.09E-03	-8.76E-17	-6.82E-17	-3.02E-04	-1.45E-03	-4.05E-04	-1.34E-05	-2.42E-02	6.31E-05	-2.18E-20
Shapiro-Wilk score	5.562E-01	4.870E-01	7.002E-01	7.864E-01	4.992E-01	6.786E-01	5.089E-01	5.358E-01	4.919E-01	6.245E-01	7.410E-01	5.314E-01	2.469E-01	2.712E-01	5.442E-01	7.991E-01	7.115E-01	5.509E-01	5.747E-01	5.821E-01	4.565E-01	7.130E-01	9.896E-01	8.611E-01
(Pyruvate decarboxylase)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-8.93E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-6.66E-16	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	-6.65E-16	1.91E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-1.53E-02	-9.46E-03	-3.23E-01	6.61E-05	9.90E-03	-1.23E-14	-3.42E-03	-8.01E-03	-7.43E-04	-2.89E-03	-5.71E-14	-1.03E-01	-2.90E-14	-1.48E-13	-6.74E-02	-1.33E-13	-5.68E-14	-1.43E-02	-4.92E-02	-1.66E-02	-4.08E-03	-1.31E-01	-1.22E-05	-7.94E-17
Max	9.42E-01	5.05E-01	9.60E-01	2.81E-02	9.60E-01	1.37E-14	2.52E-02	4.02E-02	4.90E-03	8.49E-03	6.66E-14	3.00E-01	4.13E-14	2.94E-13	1.22E-02	7.58E-14	8.24E-14	2.62E-03	1.34E-02	3.27E-03	4.90E-04	2.95E-01	1.51E-01	1.98E-15
Normalized peak height	1.23E-01	7.91E-02	1.25E-02	9.79E-03	2.57E-02	6.52E-02	4.21E-02	3.11E-02	4.43E-02	3.01E-02	1.19E-01	3.27E-02	4.82E-01	6.86E-01	3.20E-02	1.12E-01	1.03E-01	2.62E-02	2.09E-02	2.43E-02	7.12E-02	1.49E-02	3.99E-03	3.26E-01
Peak sensitivity value	1.42E-03	1.09E-03	9.01E-01	2.47E-03	2.46E-02	-5.49E-18	2.81E-04	6.06E-04	4.43E-05	1.20E-04	-2.35E-16	4.45E-03	1.55E-17	-2.00E-16	-9.73E-04	3.28E-18	6.78E-17	-2.35E-04	-1.31E-03	-4.23E-04	-1.45E-05	-2.51E-02	2.14E-04	-9.49E-20
Shapiro-Wilk score	5.543E-01	4.849E-01	7.006E-01	7.886E-01	5.013E-01	7.517E-01	4.950E-01	5.363E-01	4.916E-01	6.311E-01	6.380E-01	5.329E-01	3.963E-01	2.655E-01	5.404E-01	7.498E-01	6.961E-01	5.550E-01	5.753E-01	5.825E-01	4.599E-01	7.060E-01	9.897E-01	1.765E-01
(Alcohol dehydrogenase)																								
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.80E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	6.30E-16	1.84E-01	0.00E+00	0.00E+00	-3.13E-02	-1.84E-16	1.26E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-6.70E-04	-7.55E-04	-1.25E-01	-1.04E-03	-1.09E-02	-6.06E-15	5.27E-04	1.45E-03	1.29E-04	1.50E-04	-2.99E-14	2.50E-02	-4.34E-14	-1.24E-13	-1.76E-01	-5.42E-14	-5.01E-14	-3.99E-02	-1.36E-01	-3.50E-02	-1.14E-02	-1.22E-01	-4.24E-05	-3.88E-17
Max	9.19E-01	4.51E-01	9.38E-01	2.80E-02	9.17E-01	8.15E-15	5.42E-02	1.01E-01	1.72E-02	5.26E-02	3.79E-14	8.59E-01	2.34E-14	8.87E-14	-2.38E-03	3.69E-14	3.53E-14	-7.74E-04	-7.92E-03	-2.29E-03	-1.83E-05	2.72E-01	1.45E-01	1.18E-16
Normalized peak height	1.20E-01	7.70E-02	5.95E-03	1.14E-02	2.75E-02	3.96E-02	6.38E-03	5.15E-03	1.03E-02	1.05E-02	1.60E-01	5.66E-03	4.76E-01	6.07E-01	5.42E-03	6.57E-02	9.98E-02	5.60E-03	3.94E-03	3.67E-03	1.19E-02	1.32E-02	3.81E-03	2.77E-01
Peak sensitivity value	1.63E-03	1.28E-03	4.58E-03	2.11E-03	2.20E-02	3.76E-18	4.52E-03	1.15E-02	8.39E-04	1.65E-03	2.36E-17	8.79E-02	-2.26E-17	-3.31E-17	-1.79E-02	-4.16E-17	-1.59E-17	-5.68E-03	-2.39E-02	-9.37E-03	-2.98E-04	-2.20E-02	1.76E-04	6.93E-21
Shapiro-Wilk score	5.523E-01	4.671E-01	7.957E-01	7.999E-01	4.927E-01	7.739E-01	8.780E-01	9.085E-01	8.473E-01	8.134E-01	7.864E-01	8.457E-01	4.377E-01	3.030E-01	9.028E-01	7.659E-01	7.392E-01	9.085E-01	9.432E-01	9.522E-01	7.674E-01	7.310E-01	9.937E-01	9.096E-01
(Ethanol out)																								
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-4.21E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	5.13E-16	1.84E-01	2.37E-16	-8.88E-16	-3.13E-02	-1.07E-16	1.31E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-6.11E-03	-5.45E-03	-1.23E-01	-1.22E-03	-9.26E-03	-7.38E-15	5.59E-04	1.58E-03	1.19E-04	1.71E-04	-2.42E-14	2.75E-02	-2.50E-14	-9.33E-14	-1.72E-01	-5.87E-14	-5.63E-14	-3.94E-02	-1.30E-01	-3.55E-02	-1.13E-02	-1.42E-01	-6.85E-05	-8.07E-17
Max	8.99E-01	4.42E-01	9.49E-01	2.49E-02	9.30E-01	7.63E-15	5.74E-02	1.14E-01	1.42E-02	4.64E-02	3.78E-14	8.82E-01	2.24E-14	7.28E-14	-2.56E-03	5.21E-14	4.50E-14	-8.05E-04	-8.15E-03	-2.47E-03	-1.96E-05	2.75E-01	1.51E-01	1.42E-16
Normalized peak height	1.18E-01	7.76E-02	5.90E-03	1.06E-02	2.72E-02	1.73E-01	6.35E-03	5.81E-03	8.51E-03	9.27E-03	4.25E-01	5.32E-03	6.00E-02	4.53E-01	5.37E-03	8.13E-02	1.08E-01	5.26E-03	3.74E-03	3.99E-03	1.27E-02	1.38E-02	4.34E-03	2.78E-01
Peak sensitivity value	1.58E-03	1.05E-03	4.96E-03	2.02E-03	2.31E-02	-3.29E-18	4.68E-03	1.38E-02	9.16E-04	2.04E-03	1.01E-17	7.92E-02	-2.28E-16	4.42E-19	-2.01E-02	-2.45E-17	-3.37E-17	-5.61E-03	-2.64E-02	-8.61E-03	-2.74E-04	-2.40E-02	1.59E-04	-8.10E-20
Shapiro-Wilk score	5.508E-01	4.711E-01	7.954E-01	7.995E-01	4.941E-01	7.675E-01	8.810E-01	9.030E-01	8.529E-01	8.147E-01	7.277E-01	8.444E-01	8.752E-01	4.616E-01	8.997E-01	7.747E-01	7.417E-01	9.100E-01	9.449E-01	9.510E-01	7.747E-01	7.374E-01	9.935E-01	8.161E-01
(Ethanol flow)																								
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01	-3.41E-16	-1.11E-15	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-2.20E-02	-1.57E-02	-7.67E-02	-9.61E-04	-1.09E-02	-1.06E-14	5.64E-04	1.41E-03	1.35E-04	1.17E-04	-5.20E-14	2.23E-02	-2.35E-14	-1.01E-13	-1.87E-01	-3.01E-14	-5.09E-14	-3.96E-02	-1.30E-01	-3.63E-02	-1.06E-02	-1.17E-01	-3.73E-05	-1.24E-16
Max	9.04E-01	4.50E-01	9.39E-01	2.79E-02	9.18E-01	9.25E-15	5.45E-02	1.14E-01	1.71E-02	5.01E-02	6.49E-14	8.59E-01	2.69E-14	6.62E-14	-2.37E-03	6.89E-14	4.66E-14	-9.70E-04	-8.90E-03	-2.01E-03	-2.14E-05	2.52E-01	1.46E-01	1.22E-16
Normalized peak height	1.21E-01	7.79E-02	5.76E-03	1.15E-02	2.82E-02	7.36E-02	6.11E-03	6.18E-03	1.04E-02	1.03E-02	2.53E-01	5.34E-03	3.87E-01	1.06E-01	6.22E-03	7.38E-02	1.01E-01	5.25E-03	3.99E-03	3.96E-03	1.14E-02	1.25E-02	3.79E-03	2.83E-01
Peak sensitivity value	1.62E-03	1.25E-03	5.06E-03	2.12E-03	2.12E-02	3.41E-18	5.23E-03	1.27E-02	8.75E-04	2.19E-03	3.82E-17	9.13E-02	-1.93E-17	-2.13E-16	-2.06E-02	4.08E-17	3.54E-17	-5.24E-03	-2.84E-02	-9.96E-03	-2.06E-04	-2.03E-02	3.55E-05	9.50E-21
Shapiro-Wilk score	5.529E-01	4.760E-01	7.959E-01	8.057E-01	4.976E-01	7.363E-01	8.811E-01	9.065E-01	8.479E-01	8.161E-01	6.026E-01	8.474E-01	4.481E-01	4.538E-01	9.035E-01	7.739E-01	7.207E-01	9.094E-01	9.423E-01	9.505E-01	7.680E-01	7.477E-01	9.932E-01	8.644E-01
(Glycerol synthesis)																								
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.06E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.65E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	8.97E-15	-6.51E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-3.23E-01	-2.84E-02	-2.06E+00	8.90E-05	2.57E-02	-1.22E-13	-3.82E-01	-4.52E-01	-5.28E-02	-2.53E-01	-5.81E-13	-3.08E+00	-5.24E-13	-3.46E-12	1.10E-02	-3.90E-13	-2.58E-13	3.68E-03	4.36E-02	5.47E-03	5.78E-04	-2.67E-01	-1.19E-02	-2.58E-16
Max	3.07E+00	1.74E+00	3.25E+00	8.42E-02	2.69E+00	1.24E-13	-1.56E-03	-1.11E-02	-8.57E-04	-3.86E-04	4.71E-13	-6.37E-01	4.47E-13	2.09E-12	6.41E-01	6.98E-13	4.45E-13	2.40E-01	6.50E-01	2.98E-01	4.16E-02	6.75E-01	3.33E-01	6.00E-16
Normalized peak height	1.67E-01	1.36E-01	1.14E-02	1.10E-02	2.69E-02	5.91E-02	4.32E-03	2.72E-03	4.43E-03	6.03E-03	2.30E-01	4.12E-03	6.32E-01	8.56E-01	2.58E-03	5.68E-02	6.98E-02	3.90E-03	3.27E-03	3.70E-03	5.63E-03	1.59E-02	5.26E-03	2.69E-01
Peak sensitivity value	4.33E-03	2.51E-03	1.06E-02	7.03E-03	6.16E-02	1.85E-17	-6.91E-02	-1.44E-01	-1.03E-02	-2.30E-02	5.15E-16	-1.37E+00	-3.46E-16	-1.62E-15	2.85E-01	-3.33E-16	2.18E-16	5.17E-02	3.64E-01	9.50E-02	3.84E-03	-6.48E-02	3.23E-04	-1.80E-19
Shapiro-Wilk score	5.575E-01	4.765E-01	8.793E-01	8.092E-01	5.145E-01	8.219E-01	9.459E-01	9.879E-01	9.516E-01	9.027E-01	6.069E-01	9.647E-01	2.983E-01	2.563E-01	9.923E-01	8.849E-01	8.591E-01	9.624E-01	9.976E-01	9.831E-01	8.983E-01	6.963E-01	9.869E-01	8.342E-01
(Glycerol out)																								
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.12E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.55E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	9.24E-15	-6.55E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-1.37E-01	-3.54E-02	-2.68E-01	1.42E-04	2.37E-02	-1.12E-13	-3.60E-01	-4.66E-01	-5.39E-02	-2.71E-01	-4.80E-13	-3.12E+00	-4.47E-13	-2.36E-12	1.27E-02	-4.68E-13	-4.29E-13	3.62E-03	3.88E-02	5.17E-03	6.23E-04	-2.58E-01	-8.27E-03	-2.14E-16
Max	3.02E+00	1.17E+00	3.34E+00	7.80E-02	2.84E+00	1.23E-13	-1.47E-03	-1.42E-02	-6.51E-04	-5.48E-04	4.22E-13	-7.00E-01	5.89E-13	2.67E-12	6.26E-01	4.64E-13	3.37E-13	2.32E-01	6.37E-01	2.85E-01	3.72E-02	6.32E-01	3.45E-01	4.29E-16
Normalized peak height	1.83E-01	9.06E-02	8.61E-03	9.90E-03	2.88E-02	6.06E-02	4.16E-03	2.97E-03	4.47E-03	5.85E-03	2.27E-01	4.23E-03	6.78E-01	8.61E-01	2.48E-03	5.66E-02	6.80E-02	3.74E-03	3.19E-03	3.59E-03	5.20E-03	1.50E-02	4.87E-03	2.68E-01
Peak sensitivity value	3.31E-03	2.73E-03	1.23E-02	6.33E-03	6.17E-02	6.46E-17	-5.55E-02	-1.77E-01	-1.04E-02	-2.61E-02	1.48E-18	-1.37E+00	-1.53E-16	5.76E-16	2.23E-01	1.58E-17	-3.83E-16	5.72E-02	3.33E-01	9.64E-02	4.37E-03	-7.12E-02	3.34E-05	-1.27E-19
Shapiro-Wilk score	5.648E-01	4.734E-01	8.799E-01	8.102E-01	5.174E-01	8.199E-01	9.460E-01	9.879E-01	9.517E-01	9.041E-01	6.038E-01	9.636E-01	2.960E-01	2.652E-01	9.930E-01	8.878E-01	8.450E-01	9.617E-01	9.974E-01	9.829E-01	8.969E-01	6.821E-01	9.870E-01	8.628E-01
(Glycerol flow)																								
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-6.66E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-7.83E-02	-3.97E-02	-7.29E-01	4.75E-05	2.29E-02	-1.20E-13	-3.97E-01	-4.69E-01	-5.25E-02	-2.32E-01	-7.23E-13	-3.14E+00	-4.96E-13	-5.39E-12	1.20E-02	-4.19E-13	-3.34E-13	3.65E-03	3.61E-02	6.19E-03	5.79E-04	-2.99E-01	-9.06E-03	-4.21E-16
Max	3.04E+00	1.34E+00	3.40E+00	7.89E-02	2.82E+00	8.61E-14	-1.39E-03	-1.40E-02	-4.24E-04	-6.31E-04	1.01E-12	-7.42E-01	4.46E-13	2.74E-12	6.34E-01	5.75E-13	3.34E-13	2.33E-01	6.50E-01	2.78E-01	4.01E-02	6.72E-01	3.26E-01	9.57E-16
Normalized peak height	1.54E-01	1.10E-01	9.89E-03	9.80E-03	2.86E-02	5.74E-02	4.39E-03	2.90E-03	4.92E-03	5.19E-03	2.86E-01	4.06E-03	6.29E-01	8.62E-01	2.48E-03	5.70E-02	6.47E-02	3.81E-03	3.13E-03	3.35E-03	5.83E-03	1.69E-02	5.94E-03	2.70E-01
Peak sensitivity value	4.28E-03	2.32E-03	8.44E-03	6.24E-03	6.34E-02	1.10E-17	-6.84E-02	-1.93E-01	-1.08E-02	-3.03E-02	4.41E-16	-1.34E+00	-2.33E-16	1.21E-15	2.01E-01	1.24E-16	-5.65E-17	5.71E-02	3.74E-01	9.51E-02	3.68E-03	-6.44E-02	1.67E-04	1.05E-19
Shapiro-Wilk score	5.621E-01	4.762E-01	8.786E-01	8.191E-01	5.120E-01	8.382E-01	9.453E-01	9.883E-01	9.523E-01	9.039E-01	5.725E-01	9.648E-01	3.100E-01	2.437E-01	9.929E-01	8.874E-01	8.477E-01	9.604E-01	9.976E-01	9.840E-01	8.946E-01	6.929E-01	9.873E-01	7.763E-01

(Acetaldehyde out)																							
Local	2.51E-02	1.08E-02	1.90E+00	8.63E-03	1.04E-01	-5.92E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	4.56E-21	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	-5.24E-15	8.08E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-7.03E-02	-8.15E-02	-2.27E-01	1.20E-04	2.47E-02	-8.03E-14	-4.17E-01	-4.51E-01	-5.77E-02	-2.46E-01	-6.95E-13	-2.98E+00	-4.31E-13	-1.88E-12	1.10E-02	-2.68E-13	-2.21E-13	4.28E-03	3.97E-02	7.47E-03	5.70E-04	-2.77E-01	-9.46E-03	-2.93E-16
Max	2.91E+00	1.47E+00	3.20E+00	7.66E-02	2.63E+00	1.15E-13	-1.15E-03	-1.40E-02	-4.28E-04	3.49E-04	4.73E-13	-7.86E-01	8.05E-13	3.21E-12	6.23E-01	2.24E-13	5.04E-13	2.25E-01	6.32E-01	2.95E-01	4.05E-02	7.21E-01	3.74E-01	2.20E-15
Normalized peak height	1.90E-01	1.11E-01	8.56E-03	9.90E-03	2.64E-02	8.52E-02	4.73E-03	2.76E-03	1.75E-03	5.66E-03	3.73E-01	3.68E-03	7.27E-01	8.59E-01	2.52E-03	3.75E-02	8.50E-02	3.59E-03	2.94E-03	3.50E-03	5.51E-03	1.72E-02	6.07E-03	2.80E-01
Peak sensitivity value	2.65E-03	3.06E-03	7.79E-03	6.43E-03	6.26E-02	-5.84E-17	-5.17E-02	-1.56E-01	-1.01E-02	-2.19E-02	1.80E-16	-1.37E+00	8.79E-17	7.38E-16	2.35E-01	-2.41E-16	1.16E-16	5.60E-02	3.39E-01	8.44E-02	4.66E-03	-6.56E-02	3.18E-04	-3.12E-19
Shapiro-Wilk score	5.620E-01	4.768E-01	8.778E-01	8.156E-01	5.128E-01	7.893E-01	9.480E-01	9.881E-01	9.504E-01	9.016E-01	6.619E-01	9.660E-01	3.261E-01	2.245E-01	9.932E-01	9.075E-01	8.468E-01	9.616E-01	9.972E-01	9.833E-01	8.979E-01	6.978E-01	9.866E-01	5.531E-01
(Acetaldehyde flow)																							
Local	2.55E-02	1.10E-02	1.90E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	5.75E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
Min	-2.44E-01	-4.62E-02	-7.23E-01	1.01E-04	2.61E-02	-9.90E-14	-4.28E-01	-4.71E-01	-5.38E-02	-2.55E-01	-4.59E-13	-3.21E+00	-4.17E-13	-2.56E-12	1.45E-02	-2.28E-13	-2.60E-13	4.14E-03	1.64E-01	-2.86E-01	-1.26E-01	-2.68E-01	-2.92E-02	-1.73E-16
Max	3.18E+00	1.42E+00	3.50E+00	8.16E-02	2.68E+00	9.01E-14	-1.74E-03	-1.04E-02	-7.11E-04	-6.28E-04	3.80E-13	-6.43E-01	3.85E-13	2.49E-12	6.37E-01	2.14E-13	4.57E-13	2.38E-01	8.51E-01	-3.52E-02	-3.25E-04	6.97E-01	3.19E-01	1.68E-15
Normalized peak height	1.70E-01	1.07E-01	9.40E-03	9.64E-03	2.72E-02	6.70E-02	4.73E-03	2.95E-03	4.20E-03	5.63E-03	2.46E-01	4.28E-03	6.03E-01	8.60E-01	2.54E-03	4.56E-02	7.47E-02	3.99E-03	3.28E-03	3.26E-03	1.13E-02	1.68E-02	5.89E-03	2.73E-01
Peak sensitivity value	4.18E-03	1.51E-03	1.02E-02	5.68E-03	6.19E-02	2.97E-17	-6.55E-02	-1.60E-01	-1.32E-02	-2.39E-02	2.61E-16	-1.30E+00	3.56E-16	6.36E-16	2.85E-01	1.77E-17	3.50E-16	5.54E-02	5.54E-01	-1.20E-01	-3.52E-03	-6.65E-02	2.37E-04	-4.01E-20
Shapiro-Wilk score	5.641E-01	4.752E-01	8.858E-01	8.053E-01	5.121E-01	7.721E-01	9.482E-01	9.885E-01	9.495E-01	9.052E-01	5.409E-01	9.619E-01	2.640E-01	2.136E-01	9.934E-01	9.076E-01	8.332E-01	9.608E-01	9.873E-01	9.818E-01	7.554E-01	6.867E-01	9.862E-01	6.422E-01
(Cyanide-Acetaldehyde flow)																							
Local	2.36E-02	1.02E-02	1.85E+00	8.13E-03	9.84E-02	-5.30E-15	-7.71E-02	-1.69E-01	-1.43E-02	-4.36E-02	-8.00E-15	-1.54E+00	0.00E+00	0.00E+00	2.63E-01	-4.73E-15	7.34E-15	6.31E-02	-3.30E-01	8.14E-01	6.50E-02	-6.83E-02	1.17E-01	9.70E-18
Min	-4.00E-02	-3.88E-02	-3.14E-01	8.05E-05	2.51E-02	-9.51E-14	-3.45E-01	-4.29E-01	-5.03E-02	-2.37E-01	-3.52E-13	-2.90E+00	-4.08E-13	-2.95E-12	9.56E-03	-2.54E-13	-1.51E-13	2.98E-03	-7.03E-01	4.48E-01	6.84E-03	-2.66E-01	-1.42E-02	-3.01E-16
Max	2.68E+00	1.27E+00	2.99E+00	7.33E-02	2.62E+00	9.59E-14	-1.30E-03	-8.17E-03	-5.79E-04	-3.75E-04	3.65E-13	-4.92E-01	5.35E-13	1.70E-12	5.91E-01	2.68E-13	1.96E-13	2.18E-01	-1.39E-01	9.52E-01	4.34E-01	6.81E-01	3.02E-01	6.87E-16
Normalized peak height	1.80E-01	1.04E-01	8.42E-03	1.03E-02	2.83E-02	6.72E-02	3.89E-03	2.73E-03	4.35E-03	5.69E-03	2.29E-01	4.69E-03	6.82E-01	7.85E-01	2.42E-03	5.16E-02	5.89E-02	3.73E-03	3.11E-03	4.04E-03	6.91E-03	1.70E-02	6.02E-03	2.70E-01
Peak sensitivity value	2.18E-03	2.47E-03	1.18E-02	5.83E-03	6.02E-02	8.28E-17	-5.38E-02	-1.65E-01	-1.21E-02	-1.66E-02	5.573E-01	-1.34E+00	2.60E-01	1.90E-15	3.20E-01	-9.40E-17	1.43E-16	4.85E-02	-3.79E-01	8.35E-01	3.44E-02	-6.20E-02	1.90E-04	-2.27E-19
Shapiro-Wilk score	5.606E-01	4.798E-01	8.581E-01	8.193E-01	5.147E-01	7.680E-01	9.465E-01	9.872E-01	9.511E-01	9.052E-01	5.573E-01	9.707E-01	2.608E-01	2.077E-01	9.919E-01	9.033E-01	8.652E-01	9.638E-01	9.965E-01	9.619E-01	7.554E-01	6.994E-01	9.861E-01	8.407E-01
(Cyanide flow)																							
Local	2.36E-02	1.02E-02	1.85E+00	8.13E-03	9.84E-02	-5.36E-15	-7.71E-02	-1.69E-01	-1.43E-02	-4.36E-02	-7.92E-15	-1.54E+00	0.00E+00	0.00E+00	2.63E-01	-4.59E-15	7.47E-15	6.31E-02	-3.30E-01	8.14E-01	6.70E-02	-6.83E-02	1.17E-01	9.70E-18
Min	-5.59E-02	-6.80E-02	-1.22E-01	7.83E-05	2.35E-02	-7.20E-14	-3.49E-01	-4.31E-01	-5.81E-02	-2.17E-01	-4.09E-13	-3.07E+00	-3.39E-13	-1.65E-12	7.46E-03	-2.21E-13	-1.25E-13	3.46E-03	-7.11E-01	4.56E-01	7.00E-03	-3.06E-01	-6.09E-03	-4.81E-16
Max	2.61E+00	1.16E+00	3.10E+00	7.00E-02	2.51E+00	6.87E-14	-7.75E-04	-1.22E-02	-3.38E-04	-3.72E-04	3.80E-13	-6.20E-01	3.85E-13	1.69E-12	6.04E-01	2.21E-13	1.53E-13	2.31E-01	-1.35E-01	9.51E-01	4.38E-01	6.29E-01	3.25E-01	5.09E-16
Normalized peak height	1.40E-01	9.74E-02	7.75E-03	9.38E-03	2.80E-02	5.77E-02	4.20E-03	2.96E-03	5.47E-03	5.20E-03	2.64E-01	4.91E-03	6.24E-01	6.70E-01	2.56E-03	4.49E-02	5.84E-02	4.29E-03	3.22E-03	3.87E-03	7.24E-03	1.69E-02	5.44E-03	2.71E-01
Peak sensitivity value	3.99E-03	2.50E-03	8.49E-03	5.92E-03	6.20E-02	-1.15E-17	-5.50E-02	-1.59E-01	-1.04E-02	-2.19E-02	-3.84E-16	-1.20E+00	1.11E-16	1.61E-15	2.67E-01	2.05E-16	6.42E-17	5.60E-02	-3.53E-01	8.33E-01	3.61E-02	-6.52E-02	2.33E-05	-1.85E-19
Shapiro-Wilk score	5.600E-01	4.767E-01	8.595E-01	8.173E-01	5.154E-01	7.864E-01	9.472E-01	9.876E-01	9.501E-01	9.072E-01	5.505E-01	9.694E-01	2.559E-01	2.332E-01	9.928E-01	9.045E-01	8.689E-01	9.618E-01	9.966E-01	9.615E-01	8.551E-01	6.970E-01	9.874E-01	8.739E-01
(Storage)																							
Local	1.21E-02	5.20E-03	9.43E-01	-1.53E-03	-1.83E-02	-1.69E-15	9.90E-03	2.16E-02	1.86E-03	3.60E-03	-3.99E-15	1.98E-01	0.00E+00	0.00E+00	-3.37E-02	-2.74E-15	-1.38E-16	-8.11E-03	-4.21E-02	-1.29E-02	-9.55E-04	1.62E-02	-9.65E-02	-1.73E-18
Min	-2.26E-02	-2.50E-02	-3.37E-01	-1.56E-02	-6.22E-01	-3.26E-14	4.39E-04	1.52E-03	1.25E-04	1.56E-04	-3.24E-13	2.57E-02	-3.07E-13	-3.95E-13	-2.12E-01	-2.77E-13	-2.09E-13	-3.62E-02	-1.22E-01	-3.72E-02	-1.23E-02	-6.60E-02	-3.47E-01	-1.12E-16
Max	1.19E+00	5.32E-01	1.31E+00	2.33E-02	8.94E-01	7.20E-14	6.82E-02	9.84E-02	1.26E-02	5.73E-02	1.98E-13	9.05E-01	1.43E-13	3.05E-13	-2.79E-03	1.67E-13	1.64E-13	-1.01E-03	-8.77E-03	-2.48E-03	-1.70E-05	3.38E-01	-1.09E-02	4.66E-17
Normalized peak height	1.19E-01	7.48E-02	6.36E-03	1.20E-02	3.81E-02	6.74E-02	7.44E-03	4.54E-03	7.29E-03	1.05E-02	2.44E-01	5.54E-03	5.82E-01	6.39E-01	6.18E-03	7.55E-02	9.05E-02	4.34E-03	3.43E-03	3.88E-03	1.22E-02	1.15E-02	3.94E-03	2.86E-01
Peak sensitivity value	1.11E-03	1.44E-03	1.04E+00	-1.24E-03	-1.48E-02	7.14E-18	5.35E-03	1.32E-02	8.31E-04	2.13E-03	5.879E-01	9.55E-02	-1.56E-16	2.52E-16	-2.05E-02	-5.76E-17	-2.32E-17	-6.23E-03	-2.95E-02	-9.02E-03	-2.31E-04	1.87E-02	-9.40E-02	-6.43E-20
Shapiro-Wilk score	5.650E-01	5.191E-01	7.983E-01	8.942E-01	4.912E-01	7.928E-01	8.924E-01	9.159E-01	8.558E-01	8.092E-01	5.879E-01	8.559E-01	2.732E-01	2.675E-01	9.074E-01	7.790E-01	7.583E-01	9.201E-01	9.516E-01	9.539E-01	7.767E-01	7.077E-01	9.065E-01	8.227E-01
(ATP consumption)																							
Local	-1.59E-03	-6.83E-04	-1.24E-01	2.57E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	9.53E-01	2.55E-17
Min	-1.02E+01	-1.38E+00	-9.61E+00	8.73E-05	9.31E-02	-6.55E-14	2.89E-04	6.84E-04	4.97E-05	1.09E-04	-1.79E-13	9.98E-03	-2.00E-13	-7.84E-13	-4.78E-01	-1.21E-13	-5.56E-13	-1.34E-01	-4.33E-01	-1.38E-01	-2.63E-02	-1.14E+00	5.39E-01	-2.70E-15
Max	3.52E+01	4.28E+01	1.83E+00	1.60E-01	1.12E+01	1.07E-13	1.93E-01	3.36E-01	4.61E-02	7.21E-02	4.02E-13	3.02E+00	1.75E-13	5.43E-13	-1.20E-03	3.40E-13	3.00E-13	-3.69E-04	-3.48E-03	-9.51E-04	-8.67E-06	2.76E-01	9.82E-01	1.68E-15
Normalized peak height	6.26E-01	4.13E-01	1.01E-01	7.18E-03	4.16E-02	1.93E-01	3.17E-02	2.43E-02	4.10E-02	2.22E-02	3.20E-01	2.81E-02	6.80E-01	8.30E-01	2.19E-02	2.48E-01	2.45E-01	2.51E-02	1.78E-02	2.04E-02	4.70E-02	1.02E-02	8.42E-03	3.03E-01
Peak sensitivity value	-1.55E-03	6.58E-04	-2.58E-03	1.90E-02	1.99E-01	-7.48E-17	2.31E-03	5.22E-03	3.49E-04	1.01E-03	-1.25E-16	4.16E-02	-3.52E-17	-3.39E-17	-1.10E-02	5.94E-16	-7.01E-17	-2.58E-03	-1.19E-02	-3.02E-03	-1.01E-04	-2.30E-01	9.58E-01	1.58E-18
Shapiro-Wilk score	2.922E-01	3.395E-01	4.515E-01	9.242E-01	5.561E-01	5.028E-01	5.728E-01	6.133E-01	5.662E-01	6.599E-01	3.686E-01	6.062E-01	1.880E-01	1.576E-01	6.149E-01	4.516E-01	4.674E-01	6.192E-01	6.470E-01	6.460E-01	5.390E-01	7.848E-01	7.953E-01	6.933E-01
(Adenylate kinase)																							
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Peak sensitivity value	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
Shapiro-Wilk score	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 30: Flux control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±50%

	(GlucoseMixedflowtoextracellularmedium)	(Glucoseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)	(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
(Glucose Mixed flow to extracellular medium)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-3.45E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.14E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.35E-17	-5.80E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	-9.45E-02	-3.87E-02	-5.92E-01	1.02E-05	2.27E-04	-3.13E-14	-8.37E-03	-2.05E-02	-1.91E-03	-9.27E-03	-4.08E-14	-2.07E-01	-7.10E-14	-2.26E-13	-7.46E-02	-9.93E-14	-7.09E-14	-2.11E-02	-5.99E-02	-1.80E-02	-6.61E-03	-1.82E-01	-5.94E-02	-4.96E-17
Max	9.95E-01	5.75E-01	1.15E+00	4.44E-02	1.00E+00	2.22E-13	3.63E-02	4.89E-02	9.68E-03	1.23E-02	6.92E-14	3.04E-01	3.82E-14	1.97E-13	3.10E-02	1.08E-13	1.63E-13	7.81E-03	2.76E-02	6.97E-03	1.60E-03	3.67E-01	8.63E-02	9.18E-17
Normalized peak height	1.37E-01	8.12E-02	4.01E-02	2.06E-02	3.77E-02	7.97E-01	1.23E-01	7.94E-02	1.63E-01	1.25E-01	6.17E-01	7.81E-02	6.96E-01	8.60E-01	7.16E-02	3.84E-01	4.77E-01	7.93E-02	4.81E-02	4.65E-02	2.49E-01	2.34E-02	2.37E-02	2.74E-01
Peak sensitivity value	8.87E-04	9.12E-04	1.00E+00	7.42E-04	7.74E-03	-5.31E-17	5.69E-05	1.48E-04	8.34E-06	1.90E-05	-4.39E-17	1.09E-03	4.95E-17	1.77E-18	-1.84E-04	-1.03E-16	-1.11E-16	-5.31E-05	-3.57E-04	-1.35E-04	-5.42E-06	-6.98E-03	-1.75E-03	-5.62E-20
Shapiro-Wilk score	5.956E-01	5.213E-01	7.356E-01	6.315E-01	5.599E-01	1.084E-01	1.23E-01	5.012E-01	5.518E-01	5.408E-01	1.901E-01	5.698E-01	1.041E-01	1.018E-01	5.522E-01	3.453E-01	2.855E-01	5.602E-01	6.128E-01	6.061E-01	4.472E-01	6.490E-01	8.214E-01	7.228E-01
(Glucose uptake)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-2.20E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.36E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	-2.87E-02	-4.55E-02	-1.86E-01	8.55E-06	2.41E-04	-4.48E-14	-1.17E-02	-1.37E-02	-1.74E-03	-1.10E-02	-5.26E-14	-2.23E-01	-3.42E-14	-1.75E-13	-7.33E-02	-8.55E-14	-9.99E-14	-1.87E-02	-5.87E-02	-1.85E-02	-5.77E-03	-1.84E-01	-5.30E-02	-5.97E-17
Max	9.96E-01	5.78E-01	1.02E+00	4.62E-02	9.68E-01	3.19E-14	3.01E-02	4.80E-02	1.05E-02	1.40E-02	5.96E-13	3.14E-01	8.06E-14	1.55E-13	2.34E-02	1.02E-13	7.96E-14	5.37E-03	2.96E-02	7.33E-03	1.36E-03	3.71E-01	8.00E-02	1.09E-15
Normalized peak height	1.14E-01	8.16E-02	2.93E-02	2.18E-02	3.73E-02	3.87E-01	1.16E-01	7.10E-02	1.81E-01	1.40E-01	6.32E-01	7.91E-02	6.55E-01	8.17E-01	6.89E-02	4.82E-01	6.00E-01	6.60E-02	4.85E-02	4.76E-02	2.30E-01	2.35E-02	2.17E-02	4.18E-01
Peak sensitivity value	1.52E-03	9.41E-04	9.99E-01	5.86E-04	8.47E-03	2.20E-17	7.01E-05	1.60E-04	1.26E-05	2.79E-05	3.15E-16	1.15E-03	-5.46E-17	9.69E-17	-2.18E-04	-6.39E-17	1.22E-17	-6.15E-05	-4.03E-04	-1.24E-04	-1.74E-06	-8.61E-03	-1.49E-03	5.46E-19
Shapiro-Wilk score	5.912E-01	5.170E-01	7.336E-01	6.265E-01	5.572E-01	3.376E-01	4.987E-01	5.512E-01	4.518E-01	5.349E-01	4.561E-02	5.649E-01	1.060E-01	1.096E-01	5.528E-01	3.386E-01	3.002E-01	5.574E-01	6.061E-01	5.981E-01	4.441E-01	6.483E-01	8.195E-01	1.992E-01
(Hexokinase)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-4.14E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-1.06E-16	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	-8.55E-03	-2.45E-02	-3.94E-01	6.53E-06	3.47E-04	-3.38E-14	-1.10E-02	-1.92E-02	-1.60E-03	-9.18E-03	-6.27E-14	-1.89E-01	-5.83E-14	-1.57E-13	-9.45E-02	-1.29E-13	-5.37E-14	-2.16E-02	-5.96E-02	-1.99E-02	-5.44E-03	-2.13E-01	-6.05E-02	-4.57E-17
Max	9.95E-01	5.61E-01	1.02E+00	4.77E-02	9.75E-01	3.73E-13	2.80E-02	4.97E-02	8.06E-03	1.45E-02	3.29E-13	3.04E-01	3.62E-14	3.11E-13	2.86E-02	8.37E-14	2.02E-13	6.33E-03	2.01E-02	6.43E-03	2.17E-03	3.55E-01	6.89E-02	9.44E-17
Normalized peak height	1.34E-01	7.78E-02	3.22E-02	2.26E-02	3.79E-02	7.23E-01	1.08E-01	7.81E-02	1.32E-01	1.26E-01	6.67E-01	7.10E-02	7.87E-01	8.52E-01	8.32E-02	5.47E-01	4.97E-01	7.54E-02	4.25E-02	4.93E-02	1.90E-01	2.33E-02	2.14E-02	2.72E-01
Peak sensitivity value	9.87E-04	9.59E-04	1.00E+00	7.45E-04	7.66E-03	1.70E-16	5.45E-05	1.43E-04	1.63E-05	3.52E-05	-1.75E-16	9.53E-04	-1.98E-18	-1.08E-16	-2.28E-04	-2.76E-17	1.18E-16	-5.98E-05	-4.57E-04	-8.82E-05	2.30E-07	-8.5xE-03	-1.56E-03	2.87E-20
Shapiro-Wilk score	5.884E-01	5.173E-01	7.331E-01	6.210E-01	5.610E-01	6.077E-02	5.068E-01	5.545E-01	4.633E-01	5.353E-01	1.032E-01	5.697E-01	1.155E-01	9.901E-02	5.580E-01	3.424E-01	2.605E-01	5.593E-01	6.149E-01	6.074E-01	4.470E-01	6.484E-01	8.221E-01	7.239E-01

(Phosphoglucoisomerase)	Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	4.62E-16	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	2.63E-15	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	1.83E-15	9.24E-17	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
	Min	-2.87E-02	-3.31E-02	-3.10E-01	6.92E-06	8.59E-03	-5.19E-14	-4.59E-02	-5.74E-02	-8.62E-03	-3.60E-02	-9.12E-14	-5.34E-01	-1.90E-13	-4.06E-13	-5.58E-04	-1.15E-13	-9.50E-14	-1.22E-04	-7.90E-04	-1.05E-04	-1.57E-05	-2.19E-01	-4.86E-04	-8.53E-17
	Max	1.29E+00	6.46E-01	1.31E+00	6.94E-02	1.06E+00	2.70E-14	1.13E-04	4.53E-04	3.14E-05	1.69E-05	7.01E-14	5.83E-03	6.25E-14	3.59E-13	8.78E-02	1.39E-13	9.64E-14	3.06E-02	8.53E-02	2.59E-02	6.42E-03	3.89E-01	2.08E-01	1.63E-16
	Normalized peak height	1.84E-01	9.19E-02	2.55E-02	1.58E-02	2.05E-02	9.11E-02	1.78E-02	1.41E-02	1.77E-02	4.19E-02	3.24E-01	1.16E-02	5.22E-01	6.23E-01	1.16E-02	1.77E-01	1.91E-01	1.85E-02	8.80E-03	1.09E-02	1.89E-02	1.52E-02	2.25E-02	2.95E-01
	Peak sensitivity value	9.41E-04	1.16E-03	1.67E-03	2.75E-03	2.81E-02	3.85E-17	-4.75E-05	-3.87E-05	-7.50E-06	-1.13E-06	2.41E-17	-3.84E-04	1.79E-17	-2.93E-16	1.05E-04	1.72E-17	2.49E-17	1.64E-05	2.79E-05	1.17E-05	3.88E-07	-4.41E-04	3.39E-05	1.12E-19
	Shapiro-Wilk score	5.927E-01	4.972E-01	7.828E-01	7.289E-01	5.879E-01	8.716E-01	8.688E-01	9.396E-01	8.534E-01	7.685E-01	5.700E-01	9.000E-01	3.656E-01	3.408E-01	9.329E-01	7.144E-01	6.593E-01	9.220E-01	9.861E-01	9.781E-01	7.424E-01	7.175E-01	9.831E-01	8.654E-01
(Phosphofructokinase)	Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.39E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	3.85E-15	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	2.02E-15	1.13E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
	Min	-9.22E-02	-1.85E-01	-9.61E-02	7.92E-06	8.94E-03	-1.95E-14	-4.80E-02	-6.48E-02	-8.63E-03	-3.61E-02	-1.00E-13	-5.63E-01	-6.14E-14	-3.00E-13	-9.35E-06	-1.32E-13	-9.26E-14	-1.33E-06	-9.95E-06	-3.49E-06	-5.07E-07	-2.49E-01	-1.91E-06	-6.91E-17
	Max	1.26E+00	6.16E-01	1.33E+00	5.71E-02	1.00E+00	2.52E-14	9.71E-07	7.50E-06	5.48E-07	2.20E-07	9.92E-14	6.69E-05	6.84E-14	3.27E-13	9.82E-02	1.08E-13	1.07E-13	2.58E-02	7.34E-02	2.50E-02	8.05E-03	3.55E-01	2.04E-01	1.22E-16
	Normalized peak height	1.56E-01	1.07E-01	2.27E-02	1.26E-02	1.87E-02	8.47E-02	2.78E-02	1.43E-02	2.24E-02	5.45E-02	3.62E-01	1.24E-02	4.60E-01	6.31E-01	1.61E-02	1.81E-01	1.73E-01	1.58E-02	7.70E-03	9.93E-03	3.14E-02	1.67E-02	2.76E-02	3.03E-01
	Peak sensitivity value	1.52E-03	1.19E-03	1.78E-03	2.66E-03	2.63E-02	-2.14E-17	-2.30E-05	-2.49E-05	-3.77E-06	-1.78E-05	3.41E-17	-2.15E-04	-2.94E-17	-2.07E-16	3.98E-05	-2.02E-17	-8.86E-17	1.16E-05	1.00E-04	8.99E-06	3.52E-06	-1.21E-04	1.00E-04	-6.33E-21
	Shapiro-Wilk score	5.958E-01	5.010E-01	7.828E-01	7.311E-01	5.912E-01	7.793E-01	8.678E-01	9.366E-01	8.578E-01	7.582E-01	5.773E-01	9.018E-01	3.924E-01	3.440E-01	9.316E-01	7.199E-01	6.702E-01	9.271E-01	9.859E-01	9.784E-01	7.378E-01	7.163E-01	9.834E-01	8.820E-01
(Aldolase)	Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.11E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	-1.02E-14	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	3.98E-16	1.24E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
	Min	-1.15E-01	-3.13E-02	-1.35E-01	6.03E-06	8.64E-03	-1.53E-13	-5.34E-02	-7.32E-02	-8.52E-03	-3.44E-02	-1.69E-13	-6.05E-01	-9.07E-14	-3.98E-13	-8.74E-05	-2.88E-13	-1.08E-13	-3.48E-05	-3.46E-04	-6.40E-05	-7.37E-06	-2.22E-01	-4.27E-05	-1.36E-16
	Max	1.25E+00	6.35E-01	1.29E+00	6.26E-02	1.02E+00	9.08E-14	1.17E-05	6.77E-05	1.33E-05	1.97E-06	2.01E-13	1.85E-03	1.05E-13	4.33E-13	1.06E-01	1.46E-13	8.97E-14	2.51E-02	8.06E-02	2.89E-02	7.84E-03	3.74E-01	1.94E-01	3.38E-16
	Normalized peak height	1.82E-01	9.14E-02	2.42E-02	1.38E-02	2.01E-02	1.13E-01	2.49E-02	1.64E-02	1.66E-02	5.15E-02	2.88E-01	1.33E-02	4.61E-01	7.06E-01	1.58E-02	1.54E-01	1.69E-01	1.19E-02	8.41E-03	1.01E-02	2.91E-02	1.58E-02	2.32E-02	3.21E-01
	Peak sensitivity value	9.12E-04	9.86E-04	1.49E-03	2.67E-03	2.74E-02	-3.23E-16	-1.50E-05	-4.22E-05	-8.04E-06	-1.52E-05	5.94E-17	-2.71E-04	9.17E-17	2.04E-16	7.22E-05	2.13E-16	-1.55E-18	2.81E-05	9.97E-05	8.38E-06	4.40E-06	-1.13E-04	5.43E-05	-6.61E-20
	Shapiro-Wilk score	5.956E-01	5.005E-01	7.833E-01	7.348E-01	5.949E-01	6.480E-01	8.655E-01	9.322E-01	8.542E-01	7.602E-01	7.232E-01	8.987E-01	3.639E-01	3.472E-01	9.291E-01	6.761E-01	6.719E-01	9.257E-01	9.855E-01	9.770E-01	7.364E-01	7.174E-01	9.830E-01	7.895E-01
(Triosephosphate isomerase)	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-1.03E-15	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-5.10E-15	1.84E-01	0.00E+00	0.00E+00	-3.13E-02	-1.10E-17	1.39E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-3.82E-02	-7.38E-02	-4.84E-01	-1.78E-03	-3.29E-02	-3.14E-14	1.19E-04	7.27E-04	3.83E-05	3.34E-05	-6.55E-14	1.47E-02	-5.74E-14	-1.83E-13	-2.43E-01	-8.35E-14	-6.99E-14	-5.02E-02	-1.52E-01	-4.70E-02	-1.79E-02	-1.84E-01	-1.92E-04	-6.58E-17
	Max	9.36E-01	5.10E-01	9.86E-01	3.45E-02	9.64E-01	2.36E-14	8.13E-02	1.60E-01	2.12E-02	7.08E-02	7.11E-14	9.41E-01	8.56E-14	1.60E-13	-1.21E-03	6.28E-14	5.13E-14	-4.03E-04	-5.53E-03	-1.49E-03	-7.19E-06	3.02E-01	1.76E-01	3.88E-16
	Normalized peak height	1.47E-01	9.67E-02	2.71E-02	1.13E-02	2.36E-02	4.90E-02	8.92E-03	7.15E-03	1.21E-02	1.65E-02	2.90E-01	5.53E-03	4.68E-01	6.01E-01	7.15E-03	1.26E-01	1.44E-01	5.96E-03	4.10E-03	4.30E-03	2.12E-02	1.21E-02	2.50E-02	2.98E-01
	Peak sensitivity value	1.22E-03	5.64E-04	6.63E-04	1.87E-03	2.14E-02	-1.52E-17	3.57E-03	1.10E-02	6.41E-04	9.88E-04	-1.06E-17	6.79E-02	4.04E-17	1.46E-16	-1.66E-02	-1.11E-17	-5.52E-17	-4.86E-03	-3.04E-02	-8.52E-03	-1.05E-04	-1.81E-02	7.23E-05	1.49E-19
	Shapiro-Wilk score	5.833E-01	4.832E-01	8.138E-01	7.550E-01	5.811E-01	7.114E-01	8.197E-01	8.653E-01	7.637E-01	7.264E-01	7.604E-01	8.259E-01	4.225E-01	3.629E-01	8.613E-01	6.777E-01	6.375E-01	8.697E-01	9.267E-01	9.290E-01	7.235E-01	7.327E-01	9.785E-01	6.773E-01
(Glyceraldehyde 3-phosphate dehydrogenase)	Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-1.85E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-9.79E-15	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	7.65E-16	6.61E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
	Min	-3.73E-02	-5.60E-02	-1.89E-01	4.21E-06	7.28E-03	-9.65E-14	-7.36E-03	-1.31E-02	-1.32E-03	-7.79E-03	-1.17E-13	-1.48E-01	-7.45E-14	-2.42E-13	-8.54E-02	-7.96E-14	-8.22E-14	-2.38E-02	-6.03E-02	-1.85E-02	-5.48E-03	-1.96E-01	-7.08E-05	-1.17E-16
	Max	9.52E-01	5.25E-01	9.96E-01	4.51E-02	9.82E-01	9.51E-14	3.62E-02	5.43E-02	1.03E-02	1.55E-02	1.37E-13	3.15E-01	4.31E-14	2.96E-13	1.87E-02	9.51E-14	6.07E-14	4.95E-03	1.87E-02	5.29E-03	1.48E-03	3.26E-01	1.98E-01	6.64E-17
	Normalized peak height	1.50E-01	8.77E-02	2.05E-02	1.19E-02	2.14E-02	1.35E-01	5.80E-02	3.68E-02	8.11E-02	6.19E-02	2.55E-01	3.30E-02	4.31E-01	5.80E-01	3.45E-02	1.16E-01	1.41E-01	3.88E-02	2.23E-02	2.28E-02	1.11E-01	1.27E-02	2.00E-02	2.80E-01
	Peak sensitivity value	7.79E-04	6.08E-04	2.00E-03	2.33E-03	2.53E-02	7.82E-18	2.04E-04	4.38E-04	3.12E-05	7.57E-05	2.61E-17	3.38E-03	-1.94E-17	-2.56E-16	-6.88E-04	-3.78E-17	-6.06E-17	-1.57E-04	-1.06E-03	-3.52E-04	-9.47E-06	-2.57E-02	2.81E-05	-7.18E-20
	Shapiro-Wilk score	5.870E-01	4.960E-01	7.493E-01	7.400E-01	5.922E-01	6.389E-01	5.449E-01	6.007E-01	5.001E-01	6.047E-01	7.528E-01	6.167E-01	4.070E-01	3.254E-01	6.013E-01	7.405E-01	6.509E-01	6.167E-01	6.671E-01	6.648E-01	4.881E-01	7.157E-01	9.836E-01	8.844E-01
(Phosphoenolpyruvate synthesis)	Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-2.35E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-4.52E-14	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	-2.42E-15	1.16E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
	Min	-4.26E-02	-2.04E-02	-1.39E-01	4.71E-06	6.08E-03	-9.53E-13	-9.12E-03	-1.10E-02	-1.77E-03	-6.67E-03	-7.59E-13	-1.39E-01	-3.74E-13	-2.56E-13	-9.73E-02	-8.21E-14	-1.16E-13	-2.01E-02	-6.51E-02	-1.95E-02	-5.12E-03	-2.11E-01	-9.13E-05	-7.52E-17
	Max	9.57E-01	5.28E-01	9.75E-01	5.16E-02	9.82E-01	9.00E-13	3.65E-02	5.49E-02	1.11E-02	2.08E-02	1.09E-12	3.17E-01	4.32E-13	3.44E-13	2.58E-02	1.42E-13	1.02E-13	5.06E-03	1.83E-02	5.07E-03	1.09E-03	3.11E-01	1.97E-01	1.57E-16
	Normalized peak height	1.52E-01	8.20E-02	1.96E-02	1.32E-02	2.14E-02	1.31E-01	5.97E-02	3.63E-02	9.27E-02	7.37E-02	2.88E-01	3.28E-02	6.06E-01	7.22E-01	4.07E-02	1.58E-01	1.71E-01	3.22E-02	2.33E-02	2.44E-02	1.02E-01	1.33E-02	1.86E-02	2.86E-01
	Peak sensitivity value	9.22E-04	7.47E-04	2.11E-03	2.41E-03	2.51E-02	3.97E-16	2.11E-04	4.11E-04	3.29E-05	7.94E-05	6.32E-16	4.11E-03	-3.38E-16	4.12E-18	-8.82E-04	-2.48E-17	1.07E-16	-1.59E-04	-1.28E-03	-3.27E-04	-9.77E-06	-2.67E-04	7.43E-06	4.64E-20
	Shapiro-Wilk score	5.905E-01	4.996E-01	7.487E-01	7.452E-01	5.900E-01	5.115E-01	5.435E-01	5.981E-01	4.948E-01	5.989E-01	7.507E-01	6.147E-01	3.502E-01	3.407E-01	5.973E-01	7.505E-01	6.417E-01	6.122E-01	6.625E-01	6.608E-01	4.933E-01	7.244E-01	9.834E-01	8.074E-01
(Pyruvate kinase)	Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	2.24E-15	5.23E-04	1.14E-03	9.81E-05	2.96E-04	5.94E-14	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	4.02E-15	-8.26E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
	Min	-3.05E-02	-4.50E-02	-8.89E-01	9.14E-06	7.73E-03	-2.95E-13	-7.05E-03	-1.33E-02	-1.86E-03	-6.44E-03	-4.59E-13	-1.44E-01	-3.21E-13	-4.82E-13	-8.76E-02	-1.62E-13	-1.11E-13	-1.87E-02	-5.97E-02	-2.05E-02	-6.03E-03	-2.16E-01	-5.37E-05	-8.98E-17
	Max	9.61E-01	7.73E-01	9.82E-01	4.76E-02	9.81E-01	9.59E-12	3.72E-02	5.29E-02	8.18E-03	1.24E-02	4.65E-13	3.29E-01	2.49E-13	3.11E-13	1.99E-02	2.15E-13	2.22E-13	5.04E-03	2.49E-02	6.43E-03	2.00E-03	3.54E-01	1.87E-01	9.97E-16
	Normalized peak height	1.53E-01	1.14E-01	3.02E-02	1.24E-02	2.07E-02	7.62E-01	5.86E-02	3.52E-02	7.12E-02	5.20E-02	3.89E-01	3.27E-02	6.97E-01	6.97E-01	3.62E-02	1.98E-01	2.60E-01	3.15E-02	2.34E-02	2.56E-02	1.27E-01	1.46E-02	2.23E-02	3.36E-01
	Peak sensitivity value	7.66E-04	1.17E-03	2.15E-03	2.41E-03	2.67E-02	-3.42E-15	1.88E-04	5.20E-04	2.99E-05	7.13E-05	-4.11E-16	3.46E-03	6.31E-17	-2.36E-16	-9.31E-04	1.04E-16	-4.58E-17	-1.88E-04	-1.36E-03	-3.57E-04	-9.73E-06	-4.52E-04	3.96E-05	-1.36E-19
	Shapiro-Wilk score	5.855E-01	4.952E-01	7.486E-01	7.396E-01	5.934E-01	1.701E-02	5.457E-01	6.064E-01	5.099E-01	6.152E-01	6.283E-01	6.177E-01	3.094E-01	3.037E-01	6.049E-01	6.525E-01	5.455E-01	6.188E-01	6.665E-01	6.603E-01	4.924E-01	7.236E-01	9.832E-01	4.584E-01
(Pyruvate decarboxylase)	Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-8.93E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-6.66E-16	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	-6.65E-16	1.91E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
	Min	-8.38E-02	-3.73E-02	-3.13E-01	6.61E-06	6.53E-03	-2.10E-14	-5.99E-03	-1.18E-02	-1.43E-03	-6.15E-03	-6.84E-14	-1.30E-01	-4.67E-14	-2.57E-13	-8.43E-02	-1.50E-13	-1.06E-13	-2.31E-02	-6.14E-02	-1.99E-02	-5.79E-03	-1.82E-01	-1.71E-04	-7.26E-17
	Max	9.53E-01	5.43E-01	1.05E+00	4.90E-02	9.84E-01	4.71E-14	2.84E-02	4.85E-02	1.05E-02	1.54E-02	1.48E-13	3.35E-01	6.41E-14	3.33E-13	1.85E-02	1.40E-13	1.19E-13	5.53E-03	1.77E-02	4.94E-03	1.39E-03	3.40E-01	1.91E-01	2.08E-16
	Normalized peak height	1.53E-01	8.87E-02	2.26E-02	1.25E-02	2.14E-02	1.49E-01	4.47E-02	3.28E-02	8.32E-02	5.78E-02	2.01E-01	3.18E-02	4.51E-01	6.44E-01	3.35E-02	1.87E-01	2.25E-01	3.66E-02	2.11E-02	2.51E-02	1.13E-01	1.28E-02	2.20E-02	2.87E-01
	Peak sensitivity value	7.31E-04	7.33E-04	1.12E-03	2.29E-03	2.56E-02	-2.46E-17	1.78E-04	4.31E-04	3.90E-05	8.11E-05	2.52E-17	3.84E-03	1.30E-18	2.15E-16	-9.59E-04	-1.04E-16	4.04E-17	-1.80E-04	-1.19E-03	-4.11E-04	-1.10E-05	-2.54E-02	1.16E-04	-3.71E-20
	Shapiro-Wilk score	5.882E-01	5.001E-01	7.495E-01	7.339E-01	5.929E-01	6.409E-01	5.503E-01	6.051E-01	5.021E-01	5.968E-01	5.160E-01	6.160E-01	4.174E-01	3.149E-01	6.066E-01	6.061E-01	5.473E-01	6.161E-01	6.701E-01	6.629E-01	4.979E-01	7.164E-01	9.832E-01	8.246E-01
(Alcohol dehydrogenase)	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.80E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	6.30E-16	1.84E-01	0.00E+00	0.00E+00	-3.13E-02	-1.84E-16	1.26E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-1.49E-01	-9.71E-02	-1.31E-01	-2.26E-03	-2.70E-02	-2.60E-14	5.51E-05	6.43E-04	1.85E-05	3.76E-05	-5.12E-14	1.53E-02	-4.27E-14	-2.10E-13	-2.81E-01	-1.23E-13	-5.20E-14	-5.35E-02	-1.54E-01	-4.63E-02	-1.55E-02	-2.58E-01	-1.97E-04	-1.24E-16
	Max	9.29E-01	5.03E-01	1.08E+00	4.16E-02	9.65E-01	1.20E-14	8.21E-02	1.50E-01	2.94E-02	6.77E-02	7.17E-14	9.32E-01	4.47E-14	1.49E-13	-1.13E-03	1.21E-13	6.93E-14	-4.81E-04	-5.48E-03	-1.45E-03	-6.85E-06	2.95E-01	1.83E-01	1.65E-16
	Normalized peak height	1.82E-01	9.56E-02	2.35E-02	1.40E-02	2.46E-02	1.00E-01	8.50E-03	7.25E-03	1.69E-02	1.67E-02	2.74E-01	5.52E-03	4.35E-01	6.15E-01	7.84E-03	1.72E-01	1.89E-01	6.43E-03	4.00E-03	4.39E-03	1.85E-02	1.40E-02	2.42E-02	2.84E-01
	Peak sensitivity value	9.25E-04	1.01E-03	1.60E-03	2.02E-03	1.91E-02	1.90E-17	4.03E-03	9.39E-03	6.51E-04	9.51E-04	5.33E-18	6.44E-02	-2.56E-17	1.25E-16	-1.50E-02	-1.22E-16	7.81E-18	-4.91E-03	-2.04E-02	-7.84E-03	-1.23E-04	-4.86E-04	7.90E-05	1.48E-20
	Shapiro-Wilk score	5.823E-01	4.803E-01	8.136E-01	7.451E-01	5.792E-01	6.858E-01	8.245E-01	8.653E-01	7.677E-01	7.289E-01	6.636E-01	8.247E-01	4.793E-01	3.542E-01	8.584E-01	6.165E-01	6.007E-01	8.747E-01	9.274E-01	9.261E-01	7.120E-01	7.345E-01	9.784E-01	8.023E-01
(Ethanol out)	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-4.21E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	5.13E-16	1.84E-01	2.37E-16	-8.88E-16	-3.13E-02	-1.07E-16	1.31E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-1.88E-02	-8.37E-03	-2.43E+00	-2.29E-03	-2.38E-02	-1.96E-14	7.14E-05	6.58E-04	2.96E-05	3.04E-05	-2.98E-14	1.54E-02	-2.76E-14	-2.29E-13	-2.51E-01	-5.79E-14	-5.10E-14	-5.15E-02	-1.61E-01	-4.77E-02	-1.46E-02	-1.96E-01	-1.54E-04	-8.98E-17
	Max	9.35E-01	1.02E+00	9.68E-01	5.49E-02	1.31E+00	1.46E-14	7.27E-02	1.36E-01	2.21E-02	5.78E-02	4.20E-14	9.52E-01	3.15E-14	2.13E-13	-9.47E-04	6.64E-14	7.27E-14	-4.45E-04	-5.41E-03	-1.11E-03	-6.23E-06	5.66E-01	1.85E-01	1.28E-16
	Normalized peak height	1.61E-01	1.41E-01	5.16E-02	1.68E-02	3.08E-02	2.18E-01	7.90E-03	6.20E-03	1.30E-02	1.38E-02	5.03E-01	5.69E-03	5.81E-02	4.11E-01	7.37E-03	1.40E-01	1.93E-01	6.27E-03	4.22E-03	4.52E-03	1.76E-02	1.93E-02	1.94E-02	2.76E-01
	Peak sensitivity value	7.56E-04	1.38E-03	3.90E-03	1.80E-03	1.95E-02	-1.44E-17	3.08E-03	1.08E-02	6.15E-04	8.68E-04	9.50E-19	6.55E-02	-2.16E-16	1.89E-16	-1.46E-02	-3.95E-17	1.26E-17	-4.56E-03	-2.56E-02	-7.66E-03	-1.59E-04	-6.27E-04	1.24E-04	-3.91E-20
	Shapiro-Wilk score	5.870E-01	4.801E-01	8.123E-01	7.408E-01	5.799E-01	7.009E-01	8.253E-01	8.650E-01	7.702E-01	7.351E-01	6.307E-01	8.257E-01	8.137E-01	4.225E-01	8.570E-01	6.626E-01	6.047E-01	8.720E-01	9.253E-01	9.255E-01	7.083E-01	7.388E-01	9.788E-01	8.170E-01
(Ethanol flow)	Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01	-3.41E-16	-1.11E-15	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
	Min	-1.05E+00	-7.04E-01	-1.95E-01	-4.25E-02	-5.51E-01	-1.32E-14	1.26E-04	7.68E-04	4.07E-05	3.70E-05	-7.66E-14	1.53E-02	-6.17E-14	-2.12E-13	-2.25E-01	-8.45E-14	-8.82E-14	-5.34E-02	-1.54E-01	-4.67E-02	-1.36E-02	-3.25E-01	-3.29E-04	-1.32E-16
	Max	9.30E-01	4.92E-01	2.59E+00	3.96E-02	9.66E-01	1.21E-14	8.09E-02	1.36E-01	2.21E-02	6.52E-02	3.42E-14	9.47E-01	3.75E-14	1.38E-13	-1.29E-03	7.15E-14	6.33E-14	-4.56E-04	-5.63E-03	-1.22E-03	-7.18E-06	2.94E-01	1.82E-01	1.18E-16
	Normalized peak height	2.51E-01	1.72E-01	4.99E-02	2.42E-02	3.50E-02	1.22E-01	8.81E-03	6.45E-03	1.28E-02	1.49E-02	3.37E-01	5.79E-03	3.49E-01	1.69E-01	6.18E-03	1.72E-01	2.18E-01	6.38E-03	4.12E-03	4.62E-03	1.69E-02	1.55E-02	1.83E-02	2.81E-01
	Peak sensitivity value	7.61E-04	1.33E-03	1.55E-03	1.77E-03	2.17E-02	7.49E-18	3.64E-03	9.50E-03	6.90E-04	9.82E-04	1.05E-17	7.08E-02	-1.43E-17	-3.32E-16	-1.53E-02	-3.10E-17	1.30E-17	-4.14E-03	-2.57E-02	-9.20E-03	-1.64E-04	-1.65E-04	1.28E-04	-8.67E-21
	Shapiro-Wilk score	5.822E-01	4.784E-01	8.149E-01	7.429E-01	5.832E-01	6.647E-01	8.222E-01	8.648E-01	7.766E-01	7.302E-01	4.919E-01	8.255E-01	4.158E-01	4.389E-01	8.596E-01	6.500E-01	5.846E-01	8.712E-01	9.257E-01	9.233E-01	7.184E-01	7.355E-01	9.783E-01	8.071E-01
(Glycerol synthesis)	Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.06E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.65E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	8.97E-15	-6.51E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
	Min	-2.51E-01	-6.43E-02	-1.01E+00	1.30E-05	2.03E-02	-1.93E-13	-5.07E-01	-5.37E-01	-7.80E-02	-3.53E-01	-5.52E-13	-3.50E+00	-9.19E-13	-5.59E-12	4.09E-03	-6.62E-13	-4.81E-13	1.35E-03	1.49E-02	2.60E-03	2.17E-04	-4.21E-01	-2.80E-02	-3.09E-16
	Max	3.20E+00	1.71E+00	3.57E+00	1.14E-01	3.03E+00	1.87E-13	-7.56E-05	-4.35E-03	-5.26E-05	-8.25E-05	7.24E-13	-5.56E-01	8.67E-13	7.09E-12	7.05E-01	6.25E-13	3.62E-13	2.86E-01	6.86E-01	3.49E-01	6.07E-02	8.94E-01	4.29E-01	5.32E-16
	Normalized peak height	2.43E-01	1.31E-01	3.76E-02	1.19E-02	2.67E-02	1.05E-01	4.99E-03	2.91E-03	5.54E-03	8.47E-03	3.50E-01	4.83E-03	6.81E-01	7.80E-01	2.38E-03	1.20E-01	1.35E-01	4.20E-03	2.72E-03	3.56E-03	8.15E-03	1.61E-02	2.74E-02	2.54E-01
	Peak sensitivity value	2.44E-03	2.24E-03	1.66E-03	6.00E-03	6.09E-02	-1.53E-16	-4.74E-02	-1.83E-01	-8.74E-03	-1.09E-02	-3.53E-16	-1.15E+00	-4.15E-16	-2.77E-15	3.00E-01	2.33E-16	1.97E-16	4.45E-02	3.52E-01	8.42E-02	2.85E-03	-6.66E-02	1.41E-04	4.80E-20
	Shapiro-Wilk score	5.998E-01	4.940E-01	8.916E-01	7.491E-01	6.066E-01	7.228E-01	9.097E-01	9.783E-01	9.141E-01	8.417E-01	5.094E-01	9.459E-01	3.597E-01	3.092E-01	9.870E-01	7.980E-01	7.704E-01	9.371E-01	9.972E-01	9.670E-01	8.485E-01	7.224E-01	9.829E-01	8.774E-01

(Glycerol out)																							
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.12E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.55E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-6.55E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-7.46E-01	-5.28E-01	-3.00E+00	1.94E-05	1.03E-02	-1.60E-13	-4.76E-01	-4.94E-01	-8.04E-02	-3.34E-01	-1.28E-12	-3.74E+00	-1.07E-12	-5.70E-12	2.77E-03	-4.97E-13	-3.42E-13	1.18E-03	1.92E-02	2.25E-03	2.19E-04	-4.20E-01	-1.40E-02	-2.48E-16
Max	3.11E+00	2.96E+00	3.76E+00	1.48E-01	3.02E+00	1.29E-13	-1.42E-04	-5.54E-03	-1.22E-04	-9.56E-05	9.13E-13	-5.61E-01	8.62E-13	4.10E-12	6.82E-01	4.20E-13	4.68E-13	2.96E-01	6.96E-01	3.49E-01	5.47E-02	1.36E+00	4.24E-01	1.98E-14
Normalized peak height	1.78E-01	2.06E-01	5.48E-02	1.49E-02	2.76E-02	1.03E-01	4.64E-03	2.72E-03	5.72E-03	8.06E-03	4.06E-01	4.98E-03	5.95E-01	7.75E-01	2.44E-03	7.81E-02	1.32E-01	3.98E-03	2.87E-03	3.48E-03	7.35E-03	2.23E-02	2.66E-02	6.43E-01
Peak sensitivity value	4.10E-03	1.28E-03	4.23E-03	5.11E-03	5.70E-02	7.82E-17	-4.61E-02	-1.17E-01	-7.79E-03	-1.33E-02	-9.87E-16	-1.19E+00	8.25E-16	-4.76E-16	2.96E-01	-4.38E-16	1.21E-16	4.70E-02	3.40E-01	8.15E-02	3.24E-03	-6.42E-02	2.31E-04	2.69E-18
Shapiro-Wilk score	6.020E-01	4.862E-01	8.916E-01	7.449E-01	6.055E-01	7.413E-01	9.069E-01	9.791E-01	9.155E-01	8.386E-01	4.843E-01	9.457E-01	3.654E-01	3.240E-01	9.870E-01	8.228E-01	7.727E-01	9.354E-01	9.975E-01	9.667E-01	8.404E-01	7.112E-01	9.833E-01	2.444E-02
(Glycerol flow)																							
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-6.66E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-3.02E-01	-8.63E-02	-7.71E-01	1.82E-05	1.91E-02	-1.60E-13	-6.14E-01	-5.00E-01	-7.98E-02	-3.49E-01	-4.98E-13	-3.48E+00	-8.46E-13	-3.55E-12	2.69E-03	-7.78E-13	-3.91E-13	8.73E-04	1.83E-02	1.77E-03	2.17E-04	-3.70E-01	-2.66E-02	-2.72E-16
Max	3.70E+00	1.42E+00	3.66E+00	1.46E-01	3.01E+00	2.25E-13	-1.60E-04	-4.25E-03	-6.61E-05	-9.98E-05	6.66E-13	-4.81E-01	6.54E-13	6.64E-12	6.94E-01	8.03E-13	3.35E-13	2.82E-01	6.95E-01	3.56E-01	5.47E-02	9.22E-01	5.04E-01	3.58E-16
Normalized peak height	1.84E-01	1.20E-01	3.91E-02	1.47E-02	2.75E-02	1.27E-01	5.93E-03	2.74E-03	5.84E-03	8.54E-03	3.76E-01	4.76E-03	6.03E-01	7.79E-01	2.42E-03	1.26E-01	1.29E-01	3.94E-03	2.83E-03	3.58E-03	7.16E-03	1.64E-02	3.01E-02	2.53E-01
Peak sensitivity value	4.90E-04	1.63E-03	3.10E-03	5.49E-03	5.95E-02	1.39E-16	-4.65E-02	-1.43E-01	-9.03E-03	-7.60E-03	5.19E-16	-1.18E+00	5.25E-16	4.28E-16	2.65E-01	5.65E-16	1.39E-16	4.18E-02	3.40E-01	7.24E-02	2.86E-03	-6.02E-02	1.54E-04	-1.32E-19
Shapiro-Wilk score	6.030E-01	4.873E-01	8.915E-01	7.380E-01	6.068E-01	7.356E-01	9.055E-01	9.785E-01	9.131E-01	8.404E-01	5.029E-01	9.489E-01	3.712E-01	3.074E-01	9.861E-01	7.823E-01	7.601E-01	9.379E-01	9.969E-01	9.675E-01	8.445E-01	7.110E-01	9.825E-01	8.738E-01
(Acetaldehyde out)																							
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	-5.92E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	4.56E-21	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	-5.24E-15	8.08E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-1.90E-01	-1.19E-01	-3.97E-01	1.19E-05	1.91E-02	-2.28E-13	-5.12E-01	-5.11E-01	-7.70E-02	-2.99E-01	-7.47E-13	-3.64E+00	-9.45E-13	-4.17E-12	4.45E-03	-5.04E-13	-4.61E-13	1.08E-03	1.25E-02	1.70E-03	2.24E-04	-4.24E-01	-2.91E-02	-3.44E-16
Max	3.14E+00	1.72E+00	3.94E+00	1.23E-01	3.22E+00	1.46E-13	-8.90E-05	-5.04E-03	-7.47E-05	-1.03E-04	1.21E-12	-5.83E-01	7.27E-13	2.99E-12	6.87E-01	6.60E-13	2.79E-13	3.05E-01	7.08E-01	3.60E-01	5.26E-02	8.75E-01	4.43E-01	5.26E-16
Normalized peak height	2.26E-01	1.51E-01	3.70E-02	1.32E-02	2.87E-02	1.36E-01	5.27E-03	2.80E-03	5.54E-03	7.34E-03	4.53E-01	5.22E-03	6.36E-01	7.70E-01	2.30E-03	1.26E-01	1.37E-01	4.38E-03	3.03E-03	3.94E-03	7.00E-03	1.65E-02	2.07E-02	2.58E-01
Peak sensitivity value	1.50E-03	1.62E-03	3.44E-03	5.49E-03	5.91E-02	7.35E-17	-5.16E-02	-1.38E-01	-8.73E-03	-9.52E-03	4.36E-16	-1.22E+00	4.85E-16	1.36E-15	2.89E-01	-5.11E-16	-2.58E-16	4.71E-02	3.28E-01	6.78E-02	2.92E-03	-6.47E-02	-7.06E-05	-4.12E-19
Shapiro-Wilk score	6.015E-01	4.872E-01	8.910E-01	7.352E-01	6.076E-01	6.761E-01	9.099E-01	9.793E-01	9.093E-01	8.420E-01	5.592E-01	9.466E-01	4.062E-01	2.915E-01	9.869E-01	7.929E-01	7.567E-01	9.381E-01	9.973E-01	9.670E-01	8.449E-01	7.065E-01	9.829E-01	8.334E-01
(Acetaldehyde flow)																							
Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.09E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00	0.00E+00	0.00E+00	2.84E-01	-5.19E-15	7.94E-15	6.82E-02	3.70E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.24E-01	1.05E-17
Min	-2.59E-01	-1.49E-01	-5.44E+00	1.86E-05	1.82E-02	-1.13E-13	-6.16E-01	-5.19E-01	-7.92E-02	-3.84E-01	-4.85E-13	-3.94E+00	-4.82E-13	-4.46E-12	3.45E-03	-7.21E-13	-3.60E-13	1.26E-03	1.09E-01	-3.52E-01	-1.75E-01	-3.95E-01	-1.43E-02	-5.27E-16
Max	3.56E+00	2.57E+00	4.13E+00	1.50E-01	3.13E+00	1.20E-13	-1.86E-04	-3.99E-03	-7.79E-05	-1.05E-04	5.62E-13	-5.50E-01	6.26E-13	4.55E-12	6.89E-01	4.06E-13	2.35E-13	2.91E-01	9.09E-01	-2.18E-02	-1.46E-04	1.71E+00	4.52E-01	3.72E-16
Normalized peak height	2.46E-01	1.93E-01	6.97E-02	1.44E-02	2.58E-02	1.01E-01	6.03E-03	2.91E-03	5.89E-03	9.44E-03	3.45E-01	5.16E-03	5.59E-01	7.83E-01	2.37E-03	1.27E-01	1.32E-01	4.14E-03	3.00E-03	3.57E-03	1.77E-02	2.60E-02	2.24E-02	2.55E-01
Peak sensitivity value	2.78E-03	2.14E-03	3.51E-03	5.18E-03	6.01E-02	-9.92E-17	-4.66E-02	-1.39E-01	-9.38E-03	-1.14E-02	-5.96E-17	-1.20E+00	5.05E-16	7.03E-16	2.61E-01	4.93E-16	1.32E-16	3.70E-02	6.16E-01	-1.14E-01	-2.51E-03	-6.54E-02	3.42E-04	-1.15E-19
Shapiro-Wilk score	6.050E-01	4.863E-01	8.956E-01	7.485E-01	6.032E-01	6.808E-01	9.089E-01	9.792E-01	9.111E-01	8.391E-01	4.323E-01	9.440E-01	3.211E-01	2.783E-01	9.873E-01	7.921E-01	7.656E-01	9.367E-01	9.850E-01	9.710E-01	6.750E-01	7.055E-01	9.829E-01	8.485E-01
(Cyanide-Acetaldehyde flow)																							
Local	2.36E-02	1.02E-02	1.85E+00	8.13E-03	9.84E-02	-5.30E-15	-7.71E-02	-1.69E-01	-1.45E-02	-4.36E-02	-8.00E-15	-1.54E+00	0.00E+00	0.00E+00	2.63E-01	-4.73E-15	7.34E-15	6.31E-02	-3.30E-01	8.14E-01	6.50E-02	-6.85E-02	1.17E-01	9.70E-18
Min	-2.03E-01	-9.12E-02	-5.52E+00	1.59E-05	1.74E-02	-1.10E-13	-5.01E-01	-4.89E-01	-7.85E-02	-3.35E-01	-7.97E-13	-3.34E+00	-6.61E-13	-3.99E-12	1.89E-03	-3.27E-13	-2.29E-13	9.08E-04	-7.55E-01	3.34E-01	3.29E-03	-3.51E-01	-1.61E-02	-1.05E-15
Max	3.07E+00	3.03E+00	3.68E+00	1.15E-01	3.10E+00	1.41E-12	-9.93E-05	-3.55E-03	-3.28E-05	-5.36E-05	4.28E-13	-3.82E-01	4.71E-13	5.48E-12	6.56E-01	4.33E-13	2.79E-13	2.79E-01	-9.40E-02	9.68E-01	5.69E-01	1.97E+00	3.59E-01	4.98E-16
Normalized peak height	2.14E-01	1.86E-01	7.52E-02	1.22E-02	2.91E-02	3.76E-01	5.12E-03	2.68E-03	6.17E-03	8.30E-03	3.83E-01	5.19E-03	6.42E-01	7.87E-01	2.47E-03	1.17E-01	1.27E-01	3.96E-03	2.88E-03	4.05E-03	9.03E-03	2.96E-02	2.47E-02	2.69E-01
Peak sensitivity value	1.24E-03	1.01E-03	4.93E-03	4.90E-03	5.89E-02	3.85E-16	-3.84E-02	-1.45E-01	-9.17E-03	-1.06E-02	-5.66E-16	-1.10E+00	-8.20E-17	2.21E-15	2.92E-01	1.94E-16	1.50E-16	3.72E-02	-3.73E-01	8.48E-01	2.62E-02	-6.41E-02	2.31E-04	5.38E-19
Shapiro-Wilk score	6.057E-01	4.878E-01	8.772E-01	7.635E-01	6.056E-01	3.084E-01	9.103E-01	9.784E-01	9.128E-01	8.392E-01	4.350E-01	9.565E-01	3.352E-01	2.797E-01	9.861E-01	8.215E-01	7.665E-01	9.372E-01	9.955E-01	9.490E-01	7.960E-01	7.066E-01	9.830E-01	7.620E-01
(Cyanide flow)																							
Local	2.36E-02	1.02E-02	1.83E+00	8.13E-03	9.84E-02	-5.36E-15	-7.71E-02	-1.69E-01	-1.45E-02	-4.36E-02	-7.92E-15	-1.54E+00	0.00E+00	0.00E+00	2.63E-01	-4.59E-15	7.47E-15	6.31E-02	-3.30E-01	8.14E-01	6.50E-02	-6.85E-02	1.17E-01	9.70E-18
Min	-2.83E-01	-1.97E-01	-5.36E-01	2.11E-05	1.82E-02	-1.74E-13	-4.64E-01	-4.78E-01	-7.86E-02	-2.87E-01	-8.57E-13	-3.08E+00	-5.94E-13	-3.16E-12	3.08E-03	-4.43E-13	-2.65E-13	1.04E-03	-7.49E-01	3.51E-01	2.36E-03	-3.72E-01	-2.04E-02	-2.96E-16
Max	2.83E+00	1.64E+00	3.23E+00	1.30E-01	2.98E+00	1.01E-13	-1.07E-04	-2.38E-03	-4.19E-05	-1.67E-05	6.34E-13	-2.61E-01	7.60E-13	6.43E-12	6.60E-01	3.97E-13	4.57E-13	3.04E-01	-9.98E-02	9.65E-01	5.66E-01	9.28E-01	3.78E-01	3.18E-16
Normalized peak height	2.28E-01	1.31E-01	3.13E-02	1.43E-02	2.83E-02	1.33E-01	4.75E-03	2.77E-03	6.02E-03	7.29E-03	4.31E-01	5.22E-03	6.70E-01	7.84E-01	2.27E-03	1.24E-01	1.41E-01	4.75E-03	3.09E-03	4.02E-03	9.04E-03	1.69E-02	2.70E-02	2.55E-01
Peak sensitivity value	1.54E-03	2.38E-03	4.17E-03	5.02E-03	5.81E-02	5.56E-17	-2.63E-02	-1.40E-01	-8.96E-03	-1.11E-02	-7.35E-16	-1.14E+00	-1.95E-16	1.94E-16	2.78E-01	8.82E-17	-2.34E-16	4.45E-02	-3.99E-01	8.56E-01	2.91E-02	-6.30E-02	1.41E-04	-8.42E-20
Shapiro-Wilk score	6.041E-01	4.896E-01	8.773E-01	7.631E-01	6.053E-01	6.597E-01	9.096E-01	9.781E-01	9.099E-01	8.421E-01	3.961E-01	9.608E-01	3.242E-01	2.831E-01	9.861E-01	8.133E-01	7.501E-01	9.374E-01	9.958E-01	9.452E-01	7.835E-01	7.114E-01	9.830E-01	8.875E-01
(Storage)																							
Local	1.21E-02	5.20E-03	9.43E-01	-1.53E-03	-1.85E-02	-1.69E-15	9.90E-03	2.16E-02	1.80E-03	5.06E-03	-3.99E-15	1.98E-01	0.00E+00	0.00E+00	-3.37E-02	-2.74E-15	-1.38E-16	-8.11E-03	-4.21E-02	-1.20E-02	-9.55E-04	1.62E-02	-9.65E-02	-1.73E-18
Min	-2.46E-01	-1.83E-01	-3.99E+00	-2.56E-02	-9.88E-01	-5.21E-14	-7.30E-04	-1.62E-03	-9.89E-05	-9.01E-04	-3.40E-13	-2.30E-02	-1.07E-13	-7.70E-13	-2.31E-01	-4.09E-13	-5.70E-13	-5.01E-02	-1.55E-01	-5.37E-02	-1.71E-02	-1.59E-01	-5.03E-01	-2.68E-16
Max	1.59E+00	2.35E+00	1.82E+00	4.21E-02	1.19E+00	1.30E-13	1.04E-01	1.39E-01	2.94E-02	6.52E-02	2.00E-13	1.10E+00	1.85E-13	6.86E-13	2.66E-03	5.22E-13	2.65E-13	1.56E-03	4.21E-03	2.40E-03	1.16E-04	1.57E+00	2.23E-02	2.03E-15
Normalized peak height	1.56E-01	1.84E-01	5.73E-02	1.51E-02	4.05E-02	1.25E-01	9.88E-03	6.15E-03	1.55E-02	1.44E-02	3.53E-01	6.49E-03	4.50E-01	6.50E-01	6.42E-03	1.84E-01	2.21E-01	5.81E-03	4.21E-03	5.36E-03	1.90E-02	3.43E-02	4.95E-03	4.97E-01
Peak sensitivity value	6.80E-04	5.43E-04	3.75E-03	-1.02E-03	-1.38E-02	-8.46E-17	4.14E-03	1.14E-02	5.65E-04	9.17E-04	2.41E-16	7.74E-02	-5.45E-17	-4.84E-16	-1.45E-02	3.30E-16	2.87E-16	-5.44E-03	-2.72E-02	-9.03E-03	-1.67E-04	2.15E-02	-7.45E-02	-8.47E-19
Shapiro-Wilk score	6.007E-01	5.345E-01	8.289E-01	8.715E-01	6.014E-01	6.981E-01	8.397E-01	8.805E-01	7.755E-01	7.188E-01	4.542E-01	8.308E-01	3.752E-01	3.252E-01	8.711E-01	6.395E-01	6.016E-01	8.765E-01	9.316E-01	9.304E-01	7.178E-01	7.092E-01	9.384E-01	1.199E-01
(ATP consumption)																							
Local	-1.59E-03	-6.83E-04	-1.24E-01	2.97E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	9.53E-01	2.35E-17
Min	-1.62E+01	-2.41E+00	-9.67E+00	4.55E-06	3.28E-02	-4.11E-13	-1.88E-03	-5.22E-03	-1.06E-03	-2.95E-04	-3.71E-13	-4.41E-02	-3.11E-13	-9.52E-13	-6.92E-01	-5.85E-13	-4.68E-13	-3.51E-01	-5.70E-01	-1.81E-01	-3.76E-02	-1.94E+00	4.10E-01	-3.16E-14
Max	3.00E+00	6.15E-01	3.70E+00	1.78E-01	1.75E+01	1.38E-13	2.36E-01	5.44E-01	5.44E-02	1.42E-01	7.74E-13	4.32E+00	3.05E-13	1.32E-12	7.44E-03	6.14E-13	5.83E-13	2.67E-03	1.89E-02	2.96E-03	1.52E-04	4.62E-01	1.01E+00	2.29E-15
Normalized peak height	5.94E-01	5.20E-01	1.11E-01	6.52E-03	5.21E-02	4.00E-01	3.84E-02	3.65E-02	4.75E-02	4.68E-02	4.86E-01	3.81E-02	4.39E-01	7.55E-01	2.84E-02	5.93E-01	3.49E-01	5.82E-02	2.07E-02	2.28E-02	7.01E-02	1.25E-02	8.98E-03	5.10E-01
Peak sensitivity value	-6.96E-03	6.90E-05	-7.38E-03	2.03E-02	1.81E-01	-8.04E-17	1.80E-03	3.83E-03	2.99E-04	7.75E-04	-4.50E-16	3.22E-02	1.72E-16	-6.96E-16	-8.29E-03	-2.44E-17	1.71E-16	-1.75E-03	-1.09E-02	-3.37E-03	-5.53E-05	-2.36E-01	9.57E-01	5.09E-18
Shapiro-Wilk score	2.893E-01	4.517E-01	4.785E-01	8.936E-01	6.169E-01	3.923E-01	5.666E-01	6.398E-01	5.580E-01	5.852E-01	2.484E-01	6.469E-01	2.046E-01	2.052E-01	6.362E-01	4.395E-01	3.863E-01	6.299E-01	6.968E-01	6.812E-01	5.377E-01	8.215E-01	8.123E-01	4.255E-02
(Adenylate kinase)																							
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Peak sensitivity value	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
Shapiro-Wilk score	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 31: Flux control coefficients for *Saccharomyces cerevisiae* model with parameter variation of ±90900%

	(GlucoseMixedflowtoextracellularmedium)	(Glucoseuptake)	(Hexokinase)	(Phosphoglucoisomerase)	(Phosphofructokinase)	(Aldolase)	(Triosephosphateisomerase)	(Glyceraldehyde3-phosphatedehydrogenase)	(Phosphoenolpyruvatesynthesis)	(Pyruvatekinase)	(Pyruvatedecarboxylase)	(Alcoholdehydrogenase)	(Ethanolout)	(Ethanolflow)	(Glycerolsynthesis)	(Glycerolout)	(Glycerolflow)	(Acetaldehydeout)	(Acetaldehydeflow)	(Cyanide-Acetaldehydeflow)	(Cyanideflow)	(Storage)	(ATPconsumption)	(Adenylatekinase)
(Glucose Mixed flow to extracellular medium)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-3.45E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.14E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.35E-17	-5.80E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	-1.00E-01	-3.33E-01	-1.32E+01	-2.71E-01	-9.66E-01	-1.33E-11	-2.04E-01	-7.69E+00	-7.92E-03	-9.48E-01	-9.54E-12	-9.90E+00	-8.06E-12	-1.02E-11	-7.40E+02	-7.80E-11	-1.11E-11	-5.09E+02	-1.75E+02	-8.58E+01	-4.64E-01	-1.26E+01	-1.78E+03	-1.96E-09
Max	1.02E+00	1.01E+01	1.78E+03	9.68E-01	6.42E+00	2.18E-11	3.80E+01	7.01E+02	2.98E+00	2.46E+00	2.52E-12	6.26E+02	4.05E-12	2.05E-11	9.59E+00	4.53E-10	1.87E-11	6.14E+00	4.21E+00	2.00E+00	2.94E-02	2.15E+00	1.24E+01	1.87E-12
Normalized peak height	7.78E-02	1.90E-01	8.56E-01	1.79E-01	1.16E-01	9.71E-01	9.59E-01	9.71E-01	9.60E-01	8.99E-01	9.75E-01	9.03E-01	9.48E-01	9.61E-01	9.73E-01	8.83E-01	9.33E-01	8.28E-01	8.92E-01	8.72E-01	6.74E-01	2.24E-01	7.81E-01	1.00E+00
Peak sensitivity value	9.36E-04	6.68E-03	2.04E-01	1.04E-04	4.29E-03	-2.77E-15	6.70E-03	-2.52E-01	-4.44E-04	7.24E-05	-3.53E-15	-3.71E-02	9.38E-16	-1.07E-14	2.21E-01	-2.61E-13	1.13E-14	2.17E-01	1.11E-02	2.38E-02	2.34E-05	2.21E-03	8.08E-01	8.88E-13
Shapiro-Wilk score	6.352E-01	7.430E-01	1.956E-02	4.731E-01	7.064E-01	1.276E-02	7.987E-03	1.600E-03	1.107E-02	4.352E-02	8.873E-03	1.460E-02	3.486E-02	1.490E-02	1.944E-03	8.058E-03	3.107E-02	4.947E-03	2.093E-02	1.583E-02	1.599E-01	5.521E-01	9.301E-03	4.663E-04

(Glucose uptake)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-2.20E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-8.36E-17	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	-3.43E-01	-5.97E-01	-3.22E+00	-1.31E-01	-9.71E-02	-1.21E-11	-2.14E-01	-1.07E+00	-2.79E-03	-2.79E-01	-2.65E-12	-2.98E+00	-2.43E-11	-1.11E-11	-3.86E+01	-1.03E-10	-1.24E-11	-5.25E+01	-2.78E+01	-9.23E+00	-5.48E-01	-5.38E+00	-1.58E+02	-5.05E-12
Max	1.00E+00	1.48E+00	1.60E+02	9.51E-01	2.68E+00	4.10E-11	1.26E+01	3.82E+01	4.45E+00	2.66E+00	4.68E-12	7.04E+01	6.98E-12	1.69E-11	2.99E+00	2.10E-10	9.69E-11	1.34E+00	6.78E-01	2.32E-01	5.33E-02	4.70E-01	3.01E+00	1.95E-11
Normalized peak height	8.72E-02	1.03E-01	2.78E-01	1.94E-01	7.30E-02	9.70E-01	8.19E-01	8.91E-01	9.73E-01	8.95E-01	9.59E-01	4.77E-01	9.48E-01	9.64E-01	6.78E-01	9.62E-01	9.59E-01	4.50E-01	5.11E-01	6.73E-01	6.49E-01	1.52E-01	6.73E-01	9.99E-01
Peak sensitivity value	-5.86E-05	1.30E-03	-4.54E-02	3.61E-04	1.57E-03	1.04E-14	-3.43E-03	9.78E-03	-5.63E-04	1.33E-03	-2.31E-15	-9.65E-03	-1.35E-14	-6.33E-15	1.45E-02	5.64E-14	4.79E-14	-3.00E-02	7.95E-03	-1.39E-04	1.27E-04	-7.74E-04	3.26E-02	-3.36E-15
Shapiro-Wilk score	6.338E-01	7.562E-01	1.515E-01	4.746E-01	7.080E-01	1.138E-02	3.694E-02	3.022E-02	7.454E-03	4.421E-02	1.713E-02	1.036E-01	1.647E-02	1.956E-02	4.029E-02	2.086E-02	5.297E-03	4.735E-02	8.917E-02	8.317E-02	1.351E-01	5.737E-01	6.326E-02	1.595E-03
(Hexokinase)																								
Local	1.25E-02	5.36E-03	9.73E-01	1.37E-03	1.65E-02	-4.14E-17	2.30E-04	5.02E-04	4.31E-05	1.30E-04	-1.06E-16	4.60E-03	0.00E+00	0.00E+00	-7.83E-04	-6.57E-17	-3.32E-18	-1.88E-04	-9.78E-04	-2.78E-04	-2.22E-05	-9.81E-03	-2.24E-03	1.36E-18
Min	-5.51E-01	-6.46E-01	-3.09E+00	-3.55E-02	-3.67E-01	-1.01E-10	-2.41E-01	-8.58E-01	-5.73E-03	-3.01E-01	-1.67E-11	-2.34E+00	-2.26E-11	-1.45E-10	-6.49E+01	-2.14E-10	-3.33E-11	-1.55E+02	-6.19E+01	-5.65E+01	-1.24E+00	-6.73E+00	-1.75E+03	-2.29E-11
Max	1.00E+00	1.04E+00	1.75E+03	9.42E-01	3.40E+00	4.72E-11	5.46E+00	6.37E+01	2.39E+00	2.37E+00	1.99E-11	2.25E+02	1.61E-11	4.03E-11	2.31E+00	1.43E-10	1.16E-11	1.15E+00	1.62E+00	2.64E-01	1.66E-02	5.18E-01	3.02E+00	1.18E-10
Normalized peak height	1.14E-01	9.50E-02	5.51E-01	1.69E-01	6.37E-02	9.83E-01	8.37E-01	9.28E-01	9.67E-01	7.92E-01	9.91E-01	8.04E-01	9.69E-01	9.88E-01	8.86E-01	9.67E-01	9.61E-01	9.34E-01	7.73E-01	8.65E-01	8.21E-01	1.66E-01	9.34E-01	9.99E-01
Peak sensitivity value	2.01E-04	3.30E-04	-4.53E-01	1.37E-04	-2.10E-04	-4.39E-14	1.52E-03	1.34E-02	2.67E-04	-9.39E-04	-6.19E-15	4.68E-02	1.13E-14	6.18E-14	-6.29E-03	-3.13E-14	1.03E-14	-2.68E-02	-2.99E-03	8.96E-03	-2.83E-04	-6.80E-04	3.92E-01	5.14E-14
Shapiro-Wilk score	6.322E-01	7.539E-01	2.195E-02	4.712E-01	7.133E-01	5.316E-03	5.263E-02	1.791E-02	1.496E-02	4.137E-02	3.730E-03	4.671E-02	1.289E-02	3.640E-03	2.345E-02	1.665E-02	1.850E-02	2.210E-02	4.865E-02	2.258E-02	7.891E-02	5.716E-01	1.134E-02	1.239E-03
(Phosphoglucoisomerase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	4.62E-16	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	2.63E-15	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	1.83E-15	9.24E-17	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	-5.53E-02	-2.90E-01	-7.80E+00	-2.66E-01	-2.25E-01	-3.55E-08	-4.59E-01	-1.65E+00	-1.16E-02	-4.27E+00	-4.50E-11	-4.05E+00	-1.33E-11	-1.59E-11	-5.27E+01	-4.15E-11	-1.42E-11	-5.62E+01	-7.20E+01	-2.16E+01	-5.22E-01	-7.16E+00	-4.45E+02	-1.67E-12
Max	4.77E+00	3.07E+00	4.47E+02	2.32E+00	3.54E+00	3.49E-10	1.28E+01	3.90E+01	5.37E+00	2.10E+00	6.28E-11	1.01E+02	6.08E-12	7.52E-11	3.62E+00	3.72E-10	6.34E-12	3.16E+00	2.48E+00	6.63E-01	1.84E-01	5.54E-01	7.29E+00	2.40E-10
Normalized peak height	2.20E-01	1.80E-01	5.46E-01	1.03E-01	4.77E-02	1.00E+00	8.62E-01	8.55E-01	9.78E-01	8.66E-01	9.93E-01	4.73E-01	9.48E-01	9.81E-01	7.24E-01	9.68E-01	9.25E-01	6.65E-01	6.92E-01	8.00E-01	6.89E-01	8.43E-02	5.42E-01	9.99E-01
Peak sensitivity value	1.71E-04	5.68E-04	1.55E-01	1.93E-03	9.98E-01	8.63E-12	-2.03E-03	-4.13E-03	1.85E-03	1.03E-03	2.49E-14	5.49E-03	2.81E-15	-1.67E-14	-1.71E-02	8.72E-14	6.69E-15	-1.34E-02	-1.72E-02	6.69E-03	2.52E-04	1.72E-03	-1.76E-01	-9.92E-14
Shapiro-Wilk score	6.417E-01	7.558E-01	9.166E-02	5.194E-01	7.157E-01	4.191E-04	4.345E-02	4.335E-02	5.632E-03	6.175E-02	2.359E-03	7.911E-02	2.986E-02	5.715E-03	4.609E-02	8.437E-03	3.309E-02	5.622E-02	4.736E-02	4.693E-02	1.842E-01	5.925E-01	4.144E-02	4.439E-04
(Phosphofructokinase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.39E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	3.85E-15	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	2.02E-15	1.13E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	-2.56E-02	-4.14E-02	-9.03E+00	-4.68E-02	-4.36E-01	-2.36E-11	-4.23E-01	-4.16E+00	-1.04E-02	-5.34E+00	-7.93E-12	-5.83E+00	-7.29E-12	-2.88E-11	-2.22E+01	-3.87E-10	-1.40E-11	-6.80E+01	-6.71E+01	-2.84E+01	-8.21E-01	-4.72E+00	-5.64E+02	-2.64E-11
Max	3.53E+00	3.66E+00	5.66E+02	9.40E-01	2.51E+00	8.75E-12	4.96E+00	2.18E+01	2.50E+00	1.97E+00	1.48E-10	1.61E+02	2.83E-11	4.77E-11	6.04E+00	8.78E-11	1.36E-11	2.26E+00	2.62E+00	7.24E-01	1.12E+00	1.16E+00	8.49E+00	4.72E-12
Normalized peak height	2.32E-01	2.03E-01	4.49E-01	8.54E-02	6.17E-02	9.50E-01	7.60E-01	7.29E-01	9.47E-01	9.03E-01	9.93E-01	6.88E-01	9.67E-01	9.80E-01	6.56E-01	9.70E-01	8.43E-01	6.38E-01	7.98E-01	8.25E-01	8.19E-01	7.27E-02	8.67E-01	9.99E-01
Peak sensitivity value	1.10E-03	1.16E-03	-1.29E-01	3.40E-05	9.99E-01	1.04E-14	-1.19E-03	4.32E-03	8.88E-04	-1.99E-03	-4.97E-14	-7.96E-02	-4.56E-15	7.40E-15	-6.05E-03	1.22E-13	1.33E-14	-2.17E-02	4.78E-03	1.02E-02	2.49E-04	1.50E-03	1.91E-01	-2.46E-15
Shapiro-Wilk score	6.415E-01	7.518E-01	6.042E-02	5.215E-01	7.145E-01	1.367E-02	8.883E-02	6.089E-02	1.417E-02	5.827E-02	9.845E-04	5.830E-02	1.437E-02	9.842E-03	7.751E-02	8.675E-03	2.839E-02	3.660E-02	4.179E-02	3.924E-02	1.009E-01	5.966E-01	3.007E-02	1.330E-03
(Aldolase)																								
Local	1.27E-02	5.48E-03	9.94E-01	3.42E-03	4.14E-02	1.11E-15	-6.63E-03	-1.45E-02	-1.24E-03	-3.75E-03	-1.02E-14	-1.33E-01	0.00E+00	0.00E+00	2.26E-02	3.98E-16	1.24E-16	5.43E-03	2.82E-02	8.02E-03	6.39E-04	-2.82E-02	6.46E-02	3.55E-18
Min	-6.17E-02	-2.73E-01	-3.83E+00	-4.07E-04	-3.47E-03	-1.30E-09	-4.56E-01	-2.40E+00	-1.63E-02	-5.30E+00	-3.44E-10	-3.47E+00	-8.42E-12	-3.44E-11	-8.48E+01	-9.42E-11	-1.08E-11	-1.28E+02	-3.94E+02	-3.32E+02	-3.03E-01	-7.70E+00	-8.84E+02	-1.48E-09
Max	5.73E+00	2.16E+00	8.86E+02	1.01E+00	4.01E+00	1.74E-09	2.25E+01	8.43E+01	2.33E+00	2.24E+00	1.64E-11	8.42E+02	1.11E-11	3.00E-11	3.46E+00	5.95E-11	8.87E-11	2.54E+00	6.62E-01	2.17E-01	4.93E-02	5.35E-01	3.82E+00	1.36E-10
Normalized peak height	2.02E-01	1.75E-01	6.11E-01	8.96E-02	7.10E-02	9.88E-01	8.93E-01	9.33E-01	9.13E-01	9.04E-01	9.61E-01	7.79E-01	9.29E-01	9.67E-01	8.14E-01	9.29E-01	9.74E-01	9.20E-01	9.47E-01	9.79E-01	6.02E-01	1.07E-01	9.45E-01	1.00E+00
Peak sensitivity value	-8.76E-04	8.26E-04	1.72E-01	1.00E-04	9.99E-01	6.47E-13	-9.07E-03	-1.42E-02	-1.07E-03	-5.91E-04	5.91E-15	3.33E-01	-5.41E-15	2.04E-14	-2.40E-02	-3.70E-14	2.84E-14	-8.75E-03	7.00E-02	5.06E-02	1.16E-04	-3.66E-03	-1.70E-01	-3.23E-13
Shapiro-Wilk score	6.383E-01	7.529E-01	3.172E-02	5.165E-01	7.163E-01	6.460E-03	2.017E-02	1.706E-02	1.201E-02	5.825E-02	6.273E-03	1.155E-02	3.754E-02	1.350E-02	2.089E-02	3.169E-02	6.959E-03	2.024E-02	9.041E-03	3.388E-03	2.305E-01	5.931E-01	1.718E-02	4.959E-04
(Triosephosphate isomerase)																								
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-1.03E-15	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-5.10E-15	1.84E-01	0.00E+00	0.00E+00	-3.13E-02	-1.10E-17	1.39E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-5.94E+00	-9.44E+00	-4.86E+00	-1.26E+00	-4.25E+00	-3.37E-09	-6.62E-03	-2.48E+00	-2.66E-02	-3.35E-02	-2.46E-10	-3.62E+00	-5.98E-12	-8.43E-11	-4.90E+01	-4.41E-11	-1.13E-11	-1.31E+02	-1.31E+02	-2.20E+01	-4.99E-01	-4.13E+00	-3.92E+02	-1.23E-07
Max	1.58E+00	2.41E+00	3.94E+02	9.37E-01	2.07E+00	3.15E-10	2.03E+01	3.64E+01	1.48E+00	1.48E+01	1.99E-11	1.74E+02	1.72E-11	6.74E-11	3.56E+00	1.77E-10	2.75E-11	1.35E+00	2.06E+00	1.13E+00	7.93E-02	8.26E-01	4.86E+00	1.74E-11
Normalized peak height	2.38E-01	2.46E-01	5.72E-01	1.43E-01	5.61E-02	9.96E-01	7.86E-01	3.77E-01	8.40E-01	8.88E-01	9.21E-01	2.98E-01	9.43E-01	9.86E-01	4.72E-01	8.64E-01	8.67E-01	7.49E-01	5.65E-01	5.10E-01	4.99E-01	6.61E-02	7.23E-01	1.00E+00
Peak sensitivity value	4.37E-03	-1.68E-03	1.25E-01	2.55E-04	2.98E-02	-2.63E-13	3.53E-03	-1.11E-02	-1.69E-04	3.64E-03	1.29E-13	2.04E-01	3.69E-15	-2.63E-14	9.72E-03	1.00E-13	1.80E-14	-3.98E-02	-4.09E-03	-1.32E-02	-2.16E-04	1.93E-03	-9.61E-02	-4.40E-11
Shapiro-Wilk score	6.216E-01	7.258E-01	7.883E-02	5.012E-01	7.162E-01	1.698E-03	7.330E-02	9.340E-02	2.956E-02	5.637E-02	1.242E-03	1.002E-01	1.810E-02	5.951E-03	1.017E-01	2.502E-02	2.057E-02	4.291E-02	5.678E-02	9.517E-02	3.505E-01	5.649E-01	3.903E-02	3.814E-04
(Glyceraldehyde 3-phosphate dehydrogenase)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-1.85E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-9.79E-15	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	7.65E-16	6.61E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-3.87E-01	-3.04E-01	-6.18E+00	-1.51E-02	-2.04E-01	-9.54E-08	-8.23E-02	-5.17E+00	-5.05E-03	-1.92E-01	-4.14E-08	-6.10E+00	-2.68E-11	-2.25E-11	-3.84E+01	-7.21E-11	-6.83E-12	-5.09E+01	-5.50E+01	-1.57E+01	-2.82E-01	-4.43E+00	-4.29E+02	-5.32E-10
Max	1.02E+00	1.68E+00	4.31E+02	9.42E-01	2.17E+00	5.80E-08	1.10E+01	2.93E+01	1.25E+00	4.40E+00	8.10E-11	1.14E+02	1.11E-11	1.56E-10	6.20E+00	1.49E-10	1.08E-11	1.15E+00	2.11E+00	2.83E+00	8.51E-03	3.84E-01	6.14E+00	1.19E-10
Normalized peak height	1.38E-01	9.46E-02	5.54E-01	6.93E-02	2.16E-02	9.99E-01	8.55E-01	8.68E-01	9.54E-01	8.45E-01	1.00E+00	6.56E-01	9.68E-01	9.88E-01	8.47E-01	9.54E-01	9.23E-01	7.97E-01	7.61E-01	4.51E-01	5.86E-01	7.38E-02	5.28E-01	1.00E+00
Peak sensitivity value	4.49E-05	1.39E-03	1.63E-01	-2.66E-04	3.20E-02	-5.80E-11	1.09E-03	1.22E-02	5.94E-04	-1.02E-03	1.88E-11	5.94E-02	2.40E-16	4.25E-14	-2.20E-02	-2.36E-14	4.06E-15	-1.57E-02	-2.87E-02	-1.11E-02	-6.74E-05	1.08E-03	-1.73E-01	-9.61E-14
Shapiro-Wilk score	6.379E-01	7.516E-01	7.495E-02	5.122E-01	7.183E-01	1.049E-03	3.725E-02	5.162E-02	2.101E-02	4.939E-02	3.896E-04	9.176E-02	1.230E-02	3.058E-03	5.650E-02	2.733E-02	3.950E-02	7.059E-02	6.069E-02	5.308E-02	2.014E-01	5.867E-01	3.538E-02	5.785E-04
(Phosphoenolpyruvate synthesis)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-2.35E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-4.52E-14	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	-2.42E-15	1.16E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-1.89E-01	-8.12E-01	-2.84E+00	-3.60E-02	-4.20E-01	-1.25E-08	-1.16E-01	-2.82E+00	-1.24E-02	-3.42E+00	-4.47E-10	-2.80E+00	-1.07E-11	-1.58E-11	-6.71E+01	-3.66E-11	-2.70E-11	-8.41E+01	-9.58E+01	-4.78E+01	-9.04E-01	-4.13E+00	-4.32E+02	-2.24E-12
Max	1.02E+00	2.56E+00	4.34E+02	9.87E-01	2.06E+00	5.63E-08	9.97E+00	6.28E+01	2.57E+00	2.48E+00	1.34E-09	1.70E+02	6.20E-11	3.65E-11	3.91E+00	3.67E-11	2.29E-11	1.16E+00	1.46E+00	6.45E-01	1.72E-02	5.69E-01	2.76E+00	4.90E-12
Normalized peak height	1.47E-01	1.95E-01	4.94E-01	1.02E-01	2.20E-02	9.95E-01	8.40E-01	9.30E-01	9.25E-01	7.75E-01	9.82E-01	7.33E-01	9.47E-01	9.54E-01	9.09E-01	8.71E-01	9.38E-01	7.50E-01	7.22E-01	9.02E-01	6.39E-01	8.88E-02	8.11E-01	9.98E-01
Peak sensitivity value	3.21E-04	1.09E-03	4.83E-03	3.47E-04	3.49E-02	1.82E-11	4.72E-04	3.18E-02	-7.56E-04	-2.36E-03	-6.46E-13	5.04E-02	-2.36E-14	-1.80E-14	-3.19E-02	8.76E-15	1.76E-14	1.04E-02	-5.01E-02	-8.78E-03	1.73E-04	-1.81E-03	-6.80E-02	-4.10E-16
Shapiro-Wilk score	6.404E-01	7.531E-01	7.515E-02	5.072E-01	7.174E-01	3.185E-03	3.426E-02	1.829E-02	1.124E-02	5.071E-02	8.032E-03	4.265E-02	1.367E-02	1.306E-02	2.319E-02	7.496E-02	2.447E-02	3.039E-02	3.322E-02	2.790E-02	1.281E-01	5.821E-01	3.586E-02	3.516E-03
(Pyruvate kinase)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	2.24E-15	5.23E-04	1.14E-03	9.81E-05	2.96E-04	5.94E-14	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	4.02E-15	-8.26E-16	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	1.05E+00	1.11E+00	7.79E+02	9.64E-01	4.03E+00	7.97E-11	1.22E+01	4.19E+01	6.11E+00	2.77E+00	2.48E-11	1.17E+02	4.74E-12	1.67E-11	3.01E+00	1.85E-10	1.51E-11	1.18E+00	1.04E+00	4.13E-01	2.01E-02	9.07E-01	2.87E+00	5.61E-12
Normalized peak height	1.12E-01	1.33E-01	3.97E-01	6.77E-02	3.85E-02	9.98E-01	6.42E-01	8.46E-01	9.83E-01	8.72E-01	9.97E-01	4.57E-01	9.24E-01	9.33E-01	8.74E-01	9.39E-01	9.13E-01	7.24E-01	6.76E-01	8.87E-01	6.91E-01	1.10E-01	9.19E-01	1.00E+00
Peak sensitivity value	-2.90E-04	1.29E-04	4.28E-01	-3.22E-04	3.24E-02	-2.19E-12	-5.02E-03	1.95E-03	5.00E-04	7.44E-05	9.00E-13	-1.30E-02	-4.10E-16	-9.25E-15	-2.31E-02	-4.38E-14	-2.47E-14	1.11E-03	-3.40E-02	-9.73E-03	-1.42E-04	-2.04E-03	1.39E-01	-3.12E-12
Shapiro-Wilk score	6.389E-01	7.513E-01	4.145E-02	5.189E-01	7.200E-01	5.661E-04	2.552E-02	2.897E-02	6.213E-03	5.336E-02	5.170E-04	6.497E-02	5.118E-02	3.505E-02	3.652E-02	2.643E-02	1.413E-02	4.803E-02	4.700E-02	3.143E-02	1.594E-01	5.790E-01	1.958E-02	3.809E-04
(Pyruvate decarboxylase)																								
Local	1.16E-02	4.98E-03	9.03E-01	2.92E-03	3.54E-02	-8.93E-16	5.23E-04	1.14E-03	9.81E-05	2.96E-04	-6.66E-16	1.05E-02	0.00E+00	0.00E+00	-1.78E-03	-6.65E-16	1.91E-15	-4.28E-04	-2.23E-03	-6.32E-04	-5.04E-05	-2.40E-02	5.89E-02	2.91E-18
Min	-1.95E-01	-1.10E+00	-1.40E+01	-7.25E-03	-6.28E-01	-5.85E-12	-9.55E-02	-3.73E+00	-8.14E-02	-5.25E-01	-1.04E-11	-6.64E+00	-9.87E-12	-2.92E-11	-2.62E+02	-1.32E-10	-1.91E-11	-1.24E+03	-1.48E+03	-2.48E+02	-7.81E-01	-6.85E+00	-4.04E+03	-9.33E-12
Max	1.33E+00	1.06E+00	4.04E+03	1.68E+00	3.42E+00	2.72E-11	8.79E+01	1.73E+02	4.92E+00	2.91E+00	3.49E-12	2.97E+03	3.45E-12	1.82E-11	6.07E+00	2.54E-10	1.63E-11	1.29E+00	2.97E+00	5.12E+00	2.52E+00	1.25E+00	1.29E+01	1.02E-09
Normalized peak height	1.47E-01	1.58E-01	9.70E-01	1.19E-01	3.45E-02	9.18E-01	9.85E-01	9.79E-01	9.83E-01	7.80E-01	9.49E-01	9.93E-01	8.49E-01	9.63E-01	9.50E-01	9.53E-01	8.27E-01	9.95E-01	7.94E-01	9.86E-01	8.73E-01	8.75E-02	9.89E-01	1.00E+00
Peak sensitivity value	7.70E-04	5.37E-04	2.09E-01	3.47E-04	3.02E-02	1.26E-14	3.65E-02	7.22E-02	1.03E-03	-1.08E-03	-4.69E-15	7.94E-01	-5.95E-15	-6.80E-15	3.36E-02	9.52E-14	-1.73E-14	-5.66E-01	-7.45E-01	-7.91E-02	-2.77E-04	2.03E-03	-1.29E+00	4.65E-13
Shapiro-Wilk score	6.356E-01	7.531E-01	7.851E-03	5.107E-01	7.195E-01	2.306E-02	3.501E-03	7.044E-03	8.749E-03	5.371E-02	1.254E-02	2.746E-03	4.020E-02	1.924E-02	6.871E-03	2.063E-02	2.982E-02	2.088E-03	2.346E-03	5.893E-03	4.207E-02	5.797E-01	5.062E-03	4.117E-04
(Alcohol dehydrogenase)																								
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.80E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	6.30E-16	1.84E-01	0.00E+00	0.00E+00	-3.13E-02	-1.84E-16	1.26E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-4.13E+00	-4.13E+00	-4.54E+00	-6.54E-01	-9.77E+00	-5.67E-12	-8.78E-03	-9.78E-01	-1.91E-02	-9.57E-04	-5.39E-12	-2.45E+00	-1.74E-11	-6.95E-11	-1.39E+02	-1.58E-10	-8.62E-11	-4.24E+01	-5.44E+01	-5.99E+01	-3.89E-01	-7.77E+00	-3.73E+02	-5.48E-12
Max	1.43E+00	1.77E+00	3.74E+02	9.59E-01	3.88E+00	4.09E-12	6.60E+01	1.36E+02	5.82E+00	1.22E+01	2.19E-11	1.38E+02	2.23E-11	3.18E-11	2.40E+00	8.37E-11	7.60E-11	1.00E+00	1.73E+00	3.09E-01	1.20E-03	8.61E-01	3.38E+00	7.56E-10
Normalized peak height	2.83E-01	2.37E-01	3.85E-01	1.04E-01	1.18E-01	9.07E-01	9.32E-01	9.03E-01	9.70E-01	8.91E-01	9.72E-01	2.74E-01	9.66E-01	9.78E-01	8.64E-01	9.19E-01	9.87E-01	4.17E-01	3.67E-01	8.20E-01	4.51E-01	9.26E-02	7.75E-01	1.00E+00
Peak sensitivity value	1.26E-03	9.11E-04	1.97E-01	-1.33E-04	2.69E-02	-1.46E-15	2.42E-02	5.25E-02	1.39E-03	5.14E-03	-9.72E-15	1.60E-01	-5.53E-15	2.77E-14	-6.44E-02	-9.97E-14	2.63E-14	-1.70E-02	-4.16E-02	-2.19E-02	-1.62E-04	2.50E-03	1.83E-01	2.32E-13
Shapiro-Wilk score	6.219E-01	7.386E-01	9.463E-02	5.085E-01	7.062E-01	5.033E-02	1.660E-02	2.412E-02	1.033E-02	5.659E-02	4.448E-03	1.351E-01	1.360E-02	7.756E-03	2.908E-02	2.149E-02	5.084E-03	8.889E-02	1.009E-01	3.910E-02	3.459E-01	5.619E-01	4.455E-02	7.527E-04
(Ethanol out)																								
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-4.21E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	5.13E-16	1.84E-01	2.37E-16	-8.88E-16	-3.13E-02	-1.07E-16	1.31E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-5.65E+00	-8.59E+00	-5.01E+00	-1.01E+00	-4.56E+00	-1.00E-11	-1.40E-03	-2.51E+00	-4.56E-03	-6.99E-04	-1.52E-12	-3.74E+00	-1.01E-11	-6.11E-12	-2.82E+01	-2.97E-10	-2.70E-11	-9.55E+01	-1.77E+02	-6.40E+01	-4.82E-01	-8.33E+00	-4.17E+02	-2.68E-11
Max	1.29E+00	2.06E+00	4.18E+02	9.34E-01	4.16E+00	2.31E-11	5.16E+00	2.78E+01	6.87E+00	1.47E+01	2.53E-11	3.37E+02	1.37E-11	6.74E-11	3.72E+00	1.04E-10	1.60E-10	1.71E+00	9.90E-01	9.93E-01	1.50E-03	8.62E-01	4.83E+00	2.39E-11
Normalized peak height	2.93E-01	2.86E-01	4.09E-01	1.06E-01	7.85E-02	8.75E-01	5.74E-01	5.22E-01	9.47E-01	9.08E-01	9.84E-01	6.20E-01	9.50E-01	9.70E-01	5.16E-01	9.53E-01	9.88E-01	4.23E-01	5.91E-01	7.99E-01	4.81E-01	9.63E-02	8.74E-01	9.99E-01
Peak sensitivity value	8.41E-04	7.61E-04	-1.41E-01	1.20E-03	2.88E-02	-1.54E-14	1.18E-03	1.71E-02	-1.12E-03	6.65E-03	-3.40E-15	1.70E-01	7.97E-16	2.17E-14	-4.60E-03	-1.44E-13	-1.37E-14	9.45E-03	1.17E-02	-1.45E-02	-1.91E-04	2.69E-03	-2.18E-02	-2.15E-14
Shapiro-Wilk score	6.188E-01	7.238E-01	7.396E-02	5.049E-01	7.182E-01	1.612E-02	2.037E-01	1.083E-01	6.657E-03	5.507E-02	3.092E-03	6.594E-02	2.861E-02	7.814E-03	1.307E-01	1.214E-02	3.036E-03	4.867E-02	4.178E-02	4.135E-02	3.244E-01	5.557E-01	3.362E-02	1.429E-03

(Ethanol flow)																							
Local	1.01E-02	4.37E-03	7.92E-01	2.32E-03	2.81E-02	-3.81E-16	9.18E-03	2.01E-02	1.72E-03	5.20E-03	-1.74E-16	1.84E-01	-3.41E-16	-1.11E-15	-3.13E-02	-1.73E-16	1.29E-15	-7.52E-03	-3.91E-02	-1.11E-02	-8.85E-04	-1.89E-02	5.21E-02	2.13E-18
Min	-5.27E+00	-2.91E+00	-6.04E+00	-1.29E+00	-5.60E+00	-1.36E-10	-2.78E-02	-3.32E+00	-8.31E-03	-1.17E-03	-1.45E-12	-4.61E+00	-2.44E-11	-6.11E-11	-5.43E+01	-2.40E-10	-4.64E-11	-7.20E+01	-1.60E+02	-4.92E+01	-7.02E-01	-1.85E+01	-1.14E+03	-1.90E-10
Max	1.37E+00	1.65E+00	1.14E+03	9.01E-01	9.31E+00	6.15E-12	1.34E-01	3.90E+01	1.96E+00	7.47E+00	4.60E-11	2.65E+02	8.57E-11	2.14E-11	6.23E+00	3.73E-10	3.79E-11	8.38E+01	2.26E+00	7.51E+01	2.85E-02	1.46E+00	4.39E+00	3.89E-11
Normalized peak height	2.13E-01	1.53E-01	7.71E-01	1.72E-01	1.31E-01	9.85E-01	7.69E-01	6.57E-01	9.18E-01	8.48E-01	9.92E-01	4.87E-01	9.74E-01	9.79E-01	7.26E-01	9.79E-01	9.66E-01	4.01E-01	5.83E-01	8.05E-01	5.49E-01	1.94E-01	9.08E-01	9.99E-01
Peak sensitivity value	-1.42E-03	2.86E-03	2.44E-01	9.81E-04	2.84E-02	-5.01E-14	5.69E-03	8.66E-03	4.41E-04	2.57E-03	-4.56E-16	1.02E-01	-4.25E-14	4.60E-15	-2.90E-02	-4.38E-14	-1.80E-14	-1.44E-04	-1.01E-01	-2.34E-02	-3.56E-04	-8.16E-03	3.97E-01	2.57E-14
Shapiro-Wilk score	6.222E-01	7.366E-01	3.255E-02	5.114E-01	7.135E-01	1.440E-03	9.181E-02	1.117E-01	2.184E-02	6.670E-02	1.777E-03	6.147E-02	1.119E-01	9.099E-03	8.827E-03	7.336E-02	3.071E-02	4.461E-02	3.261E-01	5.390E-01	1.630E-02	1.209E-03	
(Glycerol synthesis)																							
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.06E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.65E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	9.87E-15	-6.51E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-1.44E+00	-9.36E-01	-2.40E+00	-1.01E-01	-1.73E-01	-1.73E-11	-4.09E+00	-2.90E+00	-1.55E-01	-3.68E+01	-1.32E-11	-6.95E+00	-8.35E-11	-8.70E-11	-9.84E+01	-1.09E-10	-1.55E-11	-3.91E+02	-1.48E+02	-9.38E+01	-6.49E-01	-5.12E+00	-7.13E+03	-4.47E-10
Max	1.53E+01	1.77E+01	7.13E+03	3.35E+00	1.04E+01	1.46E-11	7.75E+01	8.16E+01	3.13E+00	2.02E+00	1.35E-11	5.77E+02	1.78E-11	3.58E-11	2.09E+00	2.10E-10	2.32E-11	9.51E+01	1.24E+00	8.11E+01	5.19E-01	1.57E+00	1.14E+01	4.87E-11
Normalized peak height	4.06E-01	3.27E-01	9.89E-01	1.37E-01	6.22E-02	9.06E-01	5.05E-01	3.51E-01	6.73E-01	8.73E-01	8.87E-01	6.06E-01	8.80E-01	9.43E-01	4.89E-01	8.65E-01	9.11E-01	5.04E-01	3.73E-01	5.53E-01	3.59E-01	7.15E-02	9.87E-01	9.99E-01
Peak sensitivity value	7.60E-03	5.60E-03	1.16E+00	3.81E-04	4.29E-02	9.09E-15	3.25E-02	1.84E-02	1.06E-03	-1.71E-02	1.21E-14	-8.23E-01	-4.61E-14	-1.88E-14	2.85E-02	-1.32E-13	4.85E-16	-2.96E-02	1.26E-01	6.42E-03	-5.19E-05	1.10E-03	7.34E-01	-1.75E-13
Shapiro-Wilk score	6.105E-01	6.921E-01	3.778E-03	4.979E-01	7.107E-01	4.197E-02	7.622E-02	8.961E-02	3.672E-02	6.042E-02	3.010E-02	4.749E-02	2.195E-02	3.380E-02	9.851E-02	4.010E-02	4.280E-02	2.479E-02	6.447E-02	6.426E-02	3.715E-01	6.478E-01	2.405E-03	1.042E-03
(Glycerol out)																							
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.12E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.55E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	9.24E-15	-6.55E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-1.37E+00	-5.45E-01	-5.43E+00	-3.60E-02	-1.38E+00	-2.57E-11	-3.51E+00	-9.49E+00	-2.21E-01	-4.84E+01	-8.80E-11	-6.43E+00	-2.56E-11	-6.84E-11	-2.53E+02	-3.24E-10	-7.35E-12	-7.05E+02	-1.92E+03	-1.42E+02	-2.66E-01	-6.85E+00	-2.99E+03	-1.43E-11
Max	3.33E+01	2.17E+01	2.99E+03	6.56E+00	1.63E+01	5.07E-12	1.77E+01	2.52E+02	2.53E+00	2.00E+00	9.50E-12	2.77E+03	2.59E-11	2.28E-10	4.61E+00	7.71E-11	1.59E-11	2.30E+00	2.26E+00	1.04E+00	5.57E-01	2.75E+00	4.03E+00	1.21E-10
Normalized peak height	3.82E-01	2.92E-01	5.65E-01	1.78E-01	1.03E-01	9.15E-01	5.81E-01	6.48E-01	6.35E-01	7.98E-01	9.82E-01	6.81E-01	9.16E-01	9.70E-01	7.13E-01	9.20E-01	8.80E-01	5.39E-01	8.21E-01	4.47E-01	3.53E-01	9.18E-02	9.82E-01	9.99E-01
Peak sensitivity value	-4.27E-03	-1.33E-03	-9.32E-01	3.06E-04	4.17E-02	2.98E-15	-5.30E-03	3.59E-02	9.08E-04	1.09E-02	5.12E-01	5.12E-01	-8.38E-15	1.24E-14	1.09E-01	-1.01E-13	5.13E-16	-1.74E-01	-6.29E-01	-3.70E-02	1.23E-04	-9.28E-04	-4.61E-01	-2.02E-14
Shapiro-Wilk score	5.398E-01	6.823E-01	1.138E-02	4.719E-01	7.001E-01	3.833E-02	3.485E-01	2.174E-02	4.299E-02	4.811E-02	4.784E-03	5.615E-03	5.128E-02	1.321E-02	3.577E-02	2.192E-02	6.310E-02	1.051E-02	2.899E-03	3.199E-02	3.804E-01	6.473E-01	6.338E-03	5.381E-04
(Glycerol flow)																							
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	8.14E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	1.49E-14	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	9.72E-15	-6.66E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-4.85E-01	-3.51E-01	-1.07E+00	-2.22E-02	-9.21E-03	-2.44E-11	-4.30E+00	-5.54E+00	-1.83E-01	-2.49E+01	-5.14E-11	-7.64E+00	-1.61E-11	-2.03E-11	-6.99E+01	-1.77E-09	-1.50E-11	-7.43E+01	-9.18E+01	-1.62E+02	-2.88E-01	-4.68E+00	-1.04E+03	-7.70E-12
Max	1.24E+01	9.25E+00	1.04E+03	9.20E+00	8.82E+00	8.77E-12	6.15E+01	3.52E+01	2.29E+00	1.86E+00	4.24E-12	3.24E+02	6.78E-11	2.20E-10	9.46E-01	8.45E-11	9.75E-11	9.54E-01	9.02E-01	8.35E-01	5.21E-01	1.09E+00	2.55E+00	4.84E-09
Normalized peak height	2.70E-01	2.18E-01	7.07E-01	2.29E-01	5.17E-02	9.15E-01	6.56E-01	4.04E-01	5.29E-01	8.19E-01	9.60E-01	3.91E-01	8.96E-01	9.62E-01	3.39E-01	9.85E-01	9.62E-01	1.96E-01	2.36E-01	5.34E-01	2.72E-01	7.02E-02	9.44E-01	1.00E+00
Peak sensitivity value	-1.41E-03	-4.29E-04	4.93E-01	8.93E-04	3.93E-02	-2.23E-15	6.84E-03	-1.89E-02	-1.32E-03	-5.18E-03	-1.21E-14	-8.41E-01	-3.49E-14	4.35E-14	-1.07E-02	1.73E-14	-6.35E-15	1.27E-02	1.14E-01	1.02E-01	-1.45E-04	5.66E-04	-5.84E-02	-4.22E-13
Shapiro-Wilk score	6.256E-01	7.335E-01	3.306E-02	4.327E-01	7.202E-01	4.277E-02	1.066E-01	2.530E-01	5.332E-02	7.638E-02	9.090E-03	9.089E-02	3.242E-02	1.506E-02	1.853E-01	2.594E-03	1.003E-02	1.773E-01	1.035E-01	2.004E-02	3.855E-01	6.486E-01	1.696E-02	3.868E-04
(Acetaldehyde out)																							
Local	2.51E-02	1.08E-02	1.96E+00	8.63E-03	1.04E-01	-5.92E-15	-8.18E-02	-1.79E-01	-1.53E-02	-4.63E-02	4.56E-21	-1.64E+00	0.00E+00	0.00E+00	2.79E-01	-5.24E-15	8.08E-15	6.70E-02	3.48E-01	9.89E-02	7.89E-03	-7.27E-02	1.24E-01	1.03E-17
Min	-9.83E-01	-6.39E-01	-2.94E+00	-1.31E-01	-5.02E-01	-8.37E-12	-5.15E+00	-4.64E+00	-2.23E-01	-6.81E+01	-9.02E-11	-7.92E+00	-2.63E-11	-8.87E-11	-4.47E+01	-4.20E-11	-2.31E-11	-5.49E+01	-1.20E+02	-5.02E+01	-7.71E-01	-8.18E+00	-7.31E+02	-3.09E-11
Max	3.09E+01	2.88E+01	7.33E+02	4.58E+00	8.22E+00	1.15E-11	1.84E+01	3.12E+01	5.25E+00	1.99E+00	1.15E-11	1.74E+02	6.90E-11	1.60E-10	2.79E+00	8.80E-11	1.04E-11	1.70E+00	1.04E+00	8.48E-01	4.95E-01	1.35E+00	4.99E+00	1.75E-11
Normalized peak height	2.79E-01	2.80E-01	4.42E-01	1.35E-01	5.09E-02	8.48E-01	5.86E-01	3.03E-01	9.17E-01	8.91E-01	9.77E-01	2.17E-01	9.48E-01	9.71E-01	3.66E-01	8.11E-01	9.03E-01	1.97E-01	3.00E-01	3.97E-01	2.90E-01	9.15E-02	8.85E-01	9.98E-01
Peak sensitivity value	1.98E-02	-6.14E-03	3.73E-01	3.70E-03	4.25E-02	-4.33E-15	-4.95E-03	-1.30E-03	-1.17E-03	-7.67E-03	-3.11E-15	-7.23E-01	2.28E-15	3.17E-14	1.11E-02	5.56E-14	-9.97E-15	2.79E-02	1.31E-01	5.25E-03	7.77E-04	-5.40E-04	2.08E-01	1.99E-14
Shapiro-Wilk score	5.744E-01	6.152E-01	4.596E-02	4.931E-01	7.165E-01	8.294E-02	3.237E-01	1.859E-01	1.896E-02	4.044E-02	7.160E-03	1.624E-01	2.684E-02	1.349E-02	2.263E-01	6.542E-02	4.348E-02	2.452E-01	9.133E-02	1.242E-01	3.619E-01	6.392E-01	2.174E-02	1.639E-03
(Acetaldehyde flow)																							
Local	2.55E-02	1.10E-02	1.99E+00	8.78E-03	1.06E-01	-5.73E-15	-8.32E-02	-1.82E-01	-1.56E-02	-4.71E-02	-8.63E-15	-1.67E+00	0.00E+00	0.00E+00	2.84E-01	-5.10E-15	7.94E-15	6.82E-02	5.75E-01	-1.21E-01	-9.62E-03	-7.39E-02	1.27E-01	1.05E-17
Min	-2.90E-01	-8.42E-01	-2.53E+01	-1.41E-01	-1.63E-01	-8.82E-11	-5.47E+00	-3.32E+00	-2.01E+00	-4.75E+01	-9.00E-12	-6.05E+00	-2.01E-11	-2.06E-10	-6.58E+01	-2.38E-10	-3.64E-11	-3.02E+02	-1.24E+02	-8.10E+01	-2.13E+00	-6.09E+00	-1.26E+03	-4.94E-12
Max	1.23E+01	2.27E+01	1.26E+03	5.80E+00	9.75E+00	1.56E-11	8.92E+00	6.31E+01	3.46E+00	8.89E+00	1.01E-10	4.70E+02	2.96E-11	6.93E-11	4.55E+00	6.77E-11	3.59E-11	2.42E+00	2.40E+00	1.22E+00	1.53E+00	1.35E-06	2.63E+01	7.29E-11
Normalized peak height	3.01E-01	3.15E-01	5.36E-01	1.60E-01	5.70E-02	9.00E-01	4.06E-01	4.63E-01	6.89E-01	8.40E-01	9.82E-01	4.27E-01	9.28E-01	9.68E-01	4.08E-01	9.27E-01	9.45E-01	6.69E-01	2.02E-01	2.90E-01	3.66E-01	8.34E-02	9.56E-01	9.99E-01
Peak sensitivity value	4.60E-04	7.52E-04	-1.75E-01	4.26E-03	5.03E-02	4.77E-14	3.33E-03	-3.46E-02	2.11E-03	5.37E-03	-3.08E-14	-5.81E-01	-9.63E-15	-8.78E-14	1.08E-02	3.93E-15	1.78E-14	1.34E-01	4.34E-01	-1.38E-01	-1.07E-03	-3.68E-04	-1.02E-01	-4.11E-15
Shapiro-Wilk score	6.111E-01	6.387E-01	2.750E-02	4.784E-01	7.140E-01	1.163E-02	4.327E-01	1.257E-01	2.827E-02	5.041E-02	3.641E-03	6.347E-02	4.509E-02	1.137E-02	1.900E-01	3.267E-02	2.504E-02	3.729E-02	1.130E-01	9.029E-02	3.619E-01	6.541E-01	1.325E-02	7.052E-04
(Cyanide-Acetaldehyde flow)																							
Local	2.36E-02	1.02E-02	1.85E+00	8.13E-03	9.84E-02	-5.30E-15	-7.71E-02	-1.69E-01	-1.45E-02	-4.36E-02	-8.00E-15	-1.54E+00	0.00E+00	0.00E+00	2.63E-01	-4.73E-15	7.34E-15	6.31E-02	-3.93E-01	8.14E-01	6.50E-02	-6.85E-02	1.17E-01	9.70E-18
Min	-1.04E+00	-7.72E-01	-3.15E+00	-2.98E-02	-2.16E-01	-5.12E-11	-3.27E+00	-7.23E+00	-2.43E-01	-4.09E+01	-6.91E-12	-5.54E+00	-5.96E-11	-3.65E-11	-2.36E+01	-8.61E-11	-6.58E-11	-1.09E+02	-8.25E+01	-2.60E+01	-1.92E-01	-3.61E+00	-9.08E+02	-3.79E-11
Max	1.43E+01	2.27E+01	9.10E+02	2.22E+00	1.23E+01	4.20E-12	1.07E+01	2.13E+01	1.46E+00	6.20E+00	2.58E-10	1.74E+02	1.71E-11	6.32E-11	2.59E+00	1.64E-09	1.23E-10	1.72E+00	3.95E-01	1.03E+00	9.98E-01	1.30E+00	2.81E+00	8.48E-10
Normalized peak height	2.77E-01	2.14E-01	5.66E-01	1.23E-01	7.94E-02	9.37E-01	5.03E-01	2.34E-01	7.39E-01	8.19E-01	9.86E-01	2.18E-01	9.46E-01	9.42E-01	2.95E-01	9.78E-01	9.77E-01	2.66E-01	1.38E-01	7.14E-02	6.36E-02	7.81E-02	6.21E-01	1.00E+00
Peak sensitivity value	-2.55E-03	1.51E-02	5.06E-02	5.42E-04	4.04E-02	1.24E-14	-1.11E-03	-2.18E-02	4.84E-05	7.35E-03	1.08E-13	-7.93E-01	1.39E-14	3.24E-14	3.87E-03	-5.21E-13	-4.62E-14	1.11E-01	-5.59E-01	8.30E-01	9.14E-04	-1.69E-03	-3.80E-01	-2.78E-13
Shapiro-Wilk score	5.734E-01	5.972E-01	4.358E-02	4.932E-01	7.033E-01	1.509E-02	4.253E-01	2.164E-01	6.179E-02	4.336E-02	1.304E-03	1.454E-01	2.756E-02	2.448E-02	2.969E-01	2.521E-03	6.485E-03	1.275E-01	1.403E-01	3.824E-01	5.554E-01	6.361E-01	2.158E-02	4.739E-04
(Cyanide flow)																							
Local	2.36E-02	1.02E-02	1.85E+00	8.13E-03	9.84E-02	-5.36E-15	-7.71E-02	-1.69E-01	-1.45E-02	-4.36E-02	-7.92E-15	-1.54E+00	0.00E+00	0.00E+00	2.63E-01	-4.59E-15	7.47E-15	6.31E-02	-3.93E-01	8.14E-01	6.50E-02	-6.85E-02	1.17E-01	9.70E-18
Min	-5.55E-01	-2.75E-01	-1.74E+01	-2.11E-01	-1.00E+00	-5.91E-12	-4.02E+00	-1.16E+01	-1.40E-01	-5.99E+01	-1.35E-11	-1.20E+01	-1.65E-11	-5.02E-11	-1.22E+04	-1.32E-09	-1.98E-11	-1.22E+04	-6.31E+03	-2.14E+02	-2.35E-01	-8.86E+00	-3.76E+04	-1.15E-11
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	3.16E-01	3.60E-01	9.98E-01	1.85E-01	1.03E-01	8.33E-01	5.84E-01	9.96E-01	9.07E-01	8.93E-01	9.74E-01	9.98E-01	9.04E-01	9.86E-01	9.83E-01	9.84E-01	9.51E-01	1.00E+00	9.98E-01	4.77E-01	1.24E-01	9.13E-02	9.98E-01	9.99E-01
Peak sensitivity value	-2.60E-04	2.38E-03	1.43E+00	2.65E-03	3.69E-02	-7.05E-15	5.52E-02	-5.55E+00	5.34E-04	-3.12E-02	1.84E-15	-2.59E+00	3.64E-15	-8.76E-16	6.03E+00	-5.87E-14	6.65E-15	-3.86E+00	-1.65E+00	9.04E-01	1.46E-03	1.90E-03	-3.76E+00	-2.08E-15
Shapiro-Wilk score	6.105E-01	6.088E-01	7.570E-04	4.780E-01	6.770E-01	5.816E-02	2.864E-02	4.930E-04	1.066E-02	4.196E-02	1.612E-02	8.305E-04	6.844E-02	3.924E-03	5.426E-04	2.759E-03	2.082E-02	6.611E-04	1.070E-03	4.177E-02	5.525E-01	6.257E-01	6.341E-04	2.519E-03
(Storage)																							
Local	1.21E-02	5.20E-03	9.43E-01	-1.53E-03	-1.85E-02	-1.69E-15	9.90E-03	2.16E-02	1.86E-03	5.60E-03	-3.99E-15	1.98E-01	0.00E+00	0.00E+00	-3.37E-02	-2.74E-15	-1.38E-16	-8.11E-03	-4.21E-02	-1.20E-02	-9.55E-04	1.62E-02	-9.65E-02	-1.73E-18
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	7.48E+00	6.56E+00	4.30E+03	1.20E+00	4.58E+00	1.87E-10	3.97E+01	2.18E+02	9.87E+00	1.38E+01	1.84E-11	1.53E+03	2.07E-11	2.14E-11	3.30E+00	1.37E-10	3.52E-11	1.91E+00	9.07E-01	3.67E-01	8.04E-03	1.05E+00	4.20E+00	6.08E-11
Normalized peak height	2.63E-01	2.93E-01	9.23E-01	1.72E-01	4.74E-02	9.80E-01	8.69E-01	9.23E-01	9.35E-01	8.89E-01	9.38E-01	9.34E-01	9.34E-01	9.61E-01	8.94E-01	8.58E-01	9.55E-01	9.65E-01	8.11E-01	5.84E-01	4.47E-01	7.30E-02	7.14E-01	9.99E-01
Peak sensitivity value	-8.22E-04	7.25E-03	-1.23E-02	-6.16E-04	-8.51E-03	-5.70E-14	1.37E-02	6.03E-02	-2.72E-03	6.80E-03	-6.64E-15	4.49E-01	3.13E-15	-1.59E-13	-8.65E-02	3.04E-13	4.64E-14	-6.00E-02	7.81E-02	7.36E-02	1.20E-04	6.06E-04	-2.25E+00	2.13E-14
Shapiro-Wilk score	6.082E-01	6.951E-01	1.033E-02	6.711E-01	8.474E-01	7.672E-03	5.002E-02	1.548E-02	8.493E-03	5.864E-02	2.632E-02	1.325E-02	3.823E-02	3.292E-03	2.218E-02	3.267E-02	1.572E-02	7.148E-03	1.417E-02	1.210E-02	2.888E-01	8.039E-01	8.201E-03	1.270E-03
(ATP consumption)																							
Local	-1.59E-03	-6.83E-04	-1.24E-01	2.57E-02	3.11E-01	-8.56E-16	4.80E-03	1.05E-02	9.01E-04	2.72E-03	-2.17E-15	9.61E-02	0.00E+00	0.00E+00	-1.64E-02	-1.37E-15	-6.97E-17	-3.93E-03	-2.04E-02	-5.81E-03	-4.63E-04	-2.32E-01	9.53E-01	2.55E-17
Min	-3.25E+01	-4.31E+00	-1.15E+01	-2.22E-01	-3.15E+00	-6.47E-11	-2.40E-03	-1.34E+00	-3.61E-04	-2.26E-05	-1.27E-11	-3.25E+00	-6.61E-12	-1.94E-11	-6.36E+01	-1.74E-10	-3.35E-11	-1.13E+02	-1.59E+02	-5.87E+01	-5.06E-01	-6.85E+00	-5.17E+02	-1.69E-10
Max	1.20E+00	1.18E+00	5.19E+02	2.34E+00	3.40E+01	7.13E-11	5.45E+00	5.65E+01	4.90E+00	2.25E+01	1.45E-11	3.27E+02	6.19E-12	2.37E-11	2.80E+00	1.68E-10	1.54E-11	9.41E+01	1.93E+00	4.88E-01	1.71E-02	1.95E+00	4.20E+00	1.91E-11
Normalized peak height	5.61E-01	2.18E-01	5.86E-01	7.14E-02	1.19E-01	9.63E-01	6.01E-01	7.91E-01	9.76E-01	9.53E-01	9.68E-01	5.65E-01	8.98E-01	9.21E-01	7.77E-01	9.22E-01	8.78E-01	7.39E-01	7.15E-01	8.34E-01	3.92E-01	2.21E-02	7.94E-01	9.99E-01
Peak sensitivity value	6.93E-03	-3.16E-04	-1.43E-01	-7.99E-04	1.30E-01	-3.16E-14	3.25E-04	1.49E-02	2.09E-03	1.12E-02	2.39E-15	2.13E-01	-2.24E-16	1.74E-14	-2.45E-02	4.54E-14	2.05E-14	-2.31E-02	-8.64E-02	-1.45E-02	1.07E-04	-2.26E-01	8.07E-01	3.68E-15
Shapiro-Wilk score	2.692E-01	6.409E-01	7.788E-02	5.832E-01	6.119E-01	1.541E-02	1.825E-01	5.734E-02	1.130E-02	3.859E-02	1.671E-02	5.191E-02	7.280E-02	3.421E-02	7.540E-02	4.401E-02	3.986E-02	4.569E-02	3.537E-02	2.412E-02	3.157E-01	8.249E-01	4.514E-02	8.334E-04
(Adenylate kinase)																							
Local	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Min	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF	-INF
Max	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF	INF
Normalized peak height	7.42E-01	6.77E-01	6.13E-01	4.84E-01	5.48E-01	4.52E-01	5.16E-01	4.19E-01	5.48E-01	3.87E-01	5.48E-01	3.87E-01	7.10E-01	8.39E-01	5.48E-01	9.68E-01	9.68E-01	3.87E-01	5.16E-01	3.23E-01	4.84E-01	6.13E-01	2.90E-01	4.52E-01
Peak sensitivity value	-5.96E-04	-7.22E-04	-1.74E-04	-4.03E-04	3.42E-04	-1.82E-03	4.60E-04	-1.72E-03	8.04E-04	-3.08E-04	-7.42E-06	-3.42E-04	-5.78E-20	-3.69E-20	3.22E-04	2.53E-09	2.23E-11	-9.12E-05	-7.46E-05	7.51E-06	-2.79E-07	-1.29E-04	1.34E-05	-3.60E-16
Shapiro-Wilk score	3.049E-01	1.960E-01	2.578E-01	3.460E-01	2.674E-01	2.188E-01	1.852E-01	3.672E-01	2.220E-01	3.058E-01	5.463E-01	3.032E-01	2.066E-01	1.823E-01	2.626E-01	1.756E-01	1.756E-01	2.900E-01	3.642E-01	3.055E-01	3.520E-01	2.766E-01	3.868E-01	2.783E-01

APPENDIX

B

SUPPLEMENTARY INFORMATION FOR CHAPTER 7

Publication title: Supplementary Information for Chapter 7

Page number: 43

Supplementary information

Below we present the full outputs of the global sensitivity analyses using both random-sampling and optimisation-based approaches. The results of random sampling are presented as distributions for each sensitivity – distribution x axes show the sensitivity coefficient values, and the y axes show the frequency these values occurred during sampling. The initial sensitivity value is shown as a dotted red line, zero is shown as a dashed magenta line. The bounds found by the optimisation technique are shown on a second distribution as dotted blue lines.

Table 1: **Model: Mass action, irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

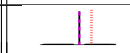
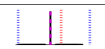
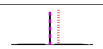
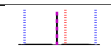
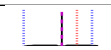
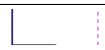
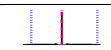
ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).k1				
	Local	1.00E+00		1.00E+00	
	Min	1.00E+00	1.00E+00	1.00E+00	1.00E+00
	Max	1.00E+00	1.00E+00	1.00E+00	1.00E+00
	Normalized peak height	1.00E+00		1.00E+00	
	Peak sensitivity value	1.00E+00		1.00E+00	
	Shapiro-Wilk score	1.000E+00		1.00E+00	
2	(v2).k1				
	Local	2.22E-13		1.78E-13	
	Min	-7.05E-13	-6.69E-13	-7.98E-13	-6.73E-13
	Max	6.63E-13	8.18E-13	8.80E-13	8.08E-13
	Normalized peak height	4.61E-01		5.02E-01	
	Peak sensitivity value	1.36E-16		1.50E-16	
	Shapiro-Wilk score	9.395E-01		9.27E-01	
3	(v3).k1				
	Local	4.44E-13		3.55E-13	
	Min	-7.30E-13	-7.32E-13	-8.54E-13	-8.88E-13
	Max	6.64E-13	6.65E-13	8.26E-13	7.11E-13
	Normalized peak height	4.62E-01		5.02E-01	
	Peak sensitivity value	-1.49E-16		2.61E-16	
	Shapiro-Wilk score	9.390E-01		9.27E-01	
4	(v4).k1				
	Local	-9.99E-01		0.00E+00	
	Min	-9.99E-01	-9.99E-01	-8.84E-13	-7.13E-13
	Max	-9.99E-01	-9.99E-01	8.80E-13	8.26E-13
	Normalized peak height	1.00E+00		3.64E-01	
	Peak sensitivity value	-9.99E-01		4.34E-16	
	Shapiro-Wilk score	1.000E+00		9.69E-01	

Table 2: **Model: Mass action, Reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)

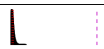
1	(v1).k1				
	Local	7.06E-01		1.01E+00	
	Min	3.26E-01	2.91E-01	1.00E+00	1.00E+00
	Max	8.94E-01	9.00E-01	1.44E+00	2.91E+00
	Normalized peak height	2.53E-03		3.70E-02	
	Peak sensitivity value	7.25E-01		1.00E+00	
	Shapiro-Wilk score	9.838E-01		4.86E-01	
2	(v1).k2				
	Local	-2.12E-01		-3.02E-01	
	Min	-5.12E-01	-5.74E-01	-1.07E+00	-2.62E+00
	Max	-5.69E-02	-5.04E-02	-1.05E-01	-1.00E-01
	Normalized peak height	2.90E-03		4.01E-03	
	Peak sensitivity value	-2.03E-01		-2.84E-01	
	Shapiro-Wilk score	9.860E-01		9.80E-01	
3	(v2).k1				
	Local	2.12E-01		3.02E-01	
	Min	5.69E-02	5.03E-02	1.05E-01	9.99E-02
	Max	5.12E-01	5.74E-01	1.07E+00	2.62E+00
	Normalized peak height	2.91E-03		3.99E-03	
	Peak sensitivity value	2.03E-01		2.93E-01	
	Shapiro-Wilk score	9.861E-01		9.80E-01	
4	(v2).k2				
	Local	-6.35E-02		-9.07E-02	
	Min	-3.12E-01	-3.84E-01	-8.10E-01	-2.28E+00
	Max	-7.15E-03	-6.15E-03	-1.25E-02	-1.00E-02
	Normalized peak height	4.32E-03		7.29E-03	
	Peak sensitivity value	-4.91E-02		-6.96E-02	
	Shapiro-Wilk score	9.353E-01		9.07E-01	
5	(v3).k1				
	Local	6.35E-02		9.07E-02	
	Min	7.14E-03	5.39E-03	1.25E-02	1.01E-02
	Max	3.12E-01	3.84E-01	8.10E-01	2.35E+00
	Normalized peak height	4.30E-03		7.35E-03	
	Peak sensitivity value	4.91E-02		6.96E-02	
	Shapiro-Wilk score	9.346E-01		9.07E-01	
6	(v3).k2				
	Local	-1.91E-02		-2.72E-02	
	Min	-1.72E-01	-2.12E-01	-5.98E-01	-1.59E+00
	Max	-1.16E-03	-9.00E-04	-1.61E-03	-1.07E-03
	Normalized peak height	6.92E-03		1.58E-02	
	Peak sensitivity value	-1.17E-02		-1.74E-02	
	Shapiro-Wilk score	8.619E-01		8.00E-01	
7	(v4).k1				
	Local	-9.80E-01		2.72E-02	
	Min	-9.98E-01	-9.98E-01	1.61E-03	9.99E-04
	Max	-8.27E-01	-7.87E-01	5.97E-01	2.12E+00
	Normalized peak height	6.94E-03		1.58E-02	
	Peak sensitivity value	-9.87E-01		1.74E-02	
	Shapiro-Wilk score	7.484E-01		8.00E-01	
8	(v4).k2				
	Local	2.94E-01		-8.17E-03	
	Min	1.06E-01	9.99E-02	-4.41E-01	-1.90E+00
	Max	6.74E-01	7.09E-01	-2.03E-04	-1.00E-04
	Normalized peak height	2.53E-03		3.63E-02	
	Peak sensitivity value	2.75E-01		-3.95E-03	
	Shapiro-Wilk score	9.838E-01		6.72E-01	

Table 3: **Model: Michaelis Menten, irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)

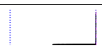
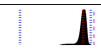
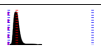
1	(v1).Km				
	Local	-9.99E-01		-5.00E-01	
	Min	-3.71E+02	-9.94E+02	-6.00E-01	-6.00E-01
	Max	-4.32E-01	-4.28E-01	-3.33E-01	-3.33E-01
	Normalized peak height	6.42E-03		5.96E-05	
	Peak sensitivity value	-7.53E-01		-5.84E-01	
	Shapiro-Wilk score	1.005E-01		9.38E-01	
2	(v1).V				
	Local	2.00E+00		1.00E+00	
	Min	1.16E+00	1.15E+00	1.00E+00	1.00E+00
	Max	1.47E+05	3.59E+05	1.00E+00	1.00E+00
	Normalized peak height	7.57E-01		1.00E+00	
	Peak sensitivity value	1.89E+00		1.00E+00	
	Shapiro-Wilk score	1.655E-03		1.00E+00	
3	(v2).Km				
	Local	-6.66E-13		-1.78E-13	
	Min	-1.49E-10	-5.59E-08	-9.15E-13	-1.06E-12
	Max	1.86E-10	4.73E-08	1.12E-12	1.10E-12
	Normalized peak height	3.49E-01		6.14E-01	
	Peak sensitivity value	-8.18E-16		2.41E-18	
	Shapiro-Wilk score	1.497E-01		8.53E-01	
4	(v2).V				
	Local	-4.44E-13		-1.78E-13	
	Min	-1.70E-10	-5.33E-08	-1.00E-12	-1.15E-12
	Max	1.63E-10	6.43E-08	1.12E-12	9.23E-13
	Normalized peak height	3.47E-01		6.13E-01	
	Peak sensitivity value	1.48E-15		4.97E-18	
	Shapiro-Wilk score	1.495E-01		8.54E-01	
5	(v3).Km				
	Local	-4.44E-13		-1.78E-13	
	Min	-1.24E-10	-6.84E-08	-1.09E-12	-8.99E-13
	Max	1.92E-10	7.19E-08	1.06E-12	9.80E-13
	Normalized peak height	3.48E-01		6.14E-01	
	Peak sensitivity value	-1.22E-15		-8.73E-18	
	Shapiro-Wilk score	1.565E-01		8.53E-01	
6	(v3).V				
	Local	-4.44E-13		-1.78E-13	
	Min	-1.45E-10	-6.35E-08	-1.08E-12	-1.11E-12
	Max	1.95E-10	8.55E-08	1.05E-12	1.09E-12
	Normalized peak height	3.47E-01		6.13E-01	
	Peak sensitivity value	-1.60E-15		8.49E-18	
	Shapiro-Wilk score	1.518E-01		8.54E-01	
7	(v4).Km				
	Local	1.00E+00		0.00E+00	
	Min	1.00E+00	1.00E+00	-9.14E-13	-1.09E-12
	Max	1.00E+00	1.00E+00	1.02E-12	8.85E-13
	Normalized peak height	1.00E+00		4.65E-01	
	Peak sensitivity value	1.00E+00		5.88E-18	
	Shapiro-Wilk score	1.000E+00		9.39E-01	
8	(v4).V				
	Local	-2.00E+00		0.00E+00	
	Min	-4.99E+02	-9.97E+02	-9.09E-13	-1.02E-12
	Max	-1.15E+00	-1.15E+00	1.06E-12	1.02E-12
	Normalized peak height	4.72E-03		4.63E-01	
	Peak sensitivity value	-1.46E+00		-2.92E-19	
	Shapiro-Wilk score	1.188E-01		9.39E-01	

Table 4: **Model: Michaelis Menten, Reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)

1	(v1).Kmp				
	Local	2.76E-01		3.03E-01	
	Min	6.03E-02	2.83E-02	-6.63E+01	4.61E-02
	Max	8.14E-01	1.13E+00	1.11E+02	5.11E+06
	Normalized peak height	5.86E-03		7.31E-01	
	Peak sensitivity value	2.56E-01		2.64E-01	
	Shapiro-Wilk score	9.845E-01		2.27E-01	
2	(v1).Kms				
	Local	-3.97E-01		-4.35E-01	
	Min	-1.17E+00	-2.57E+00	-1.11E+02	-9.62E+07
	Max	-1.57E-01	-1.30E-01	6.62E+01	-1.77E-02
	Normalized peak height	5.85E-03		5.53E-01	
	Peak sensitivity value	-3.65E-01		-5.04E-01	
	Shapiro-Wilk score	9.654E-01		2.63E-01	
3	(v1).Vf				
	Local	5.18E-01		5.67E-01	
	Min	1.66E-01	6.55E-02	-6.62E+01	2.63E-02
	Max	1.91E+00	4.89E+00	1.11E+02	9.85E+07
	Normalized peak height	6.36E-03		5.68E-01	
	Peak sensitivity value	4.60E-01		5.73E-01	
	Shapiro-Wilk score	9.592E-01		3.40E-01	
4	(v1).Vr				
	Local	-1.55E-01		-1.70E-01	
	Min	-3.77E-01	-5.32E-01	-1.10E+02	-5.50E+05
	Max	-2.92E-02	-1.25E-02	6.64E+01	-3.11E-03
	Normalized peak height	3.08E-03		7.80E-01	
	Peak sensitivity value	-1.40E-01		-1.56E-01	
	Shapiro-Wilk score	9.893E-01		2.32E-01	
5	(v2).Kmp				
	Local	1.92E-01		2.11E-01	
	Min	1.70E-02	3.34E-03	-6.64E+01	4.82E-03
	Max	6.92E-01	9.59E-01	1.10E+02	3.17E+05
	Normalized peak height	4.88E-03		7.98E-01	
	Peak sensitivity value	1.79E-01		2.02E-01	
	Shapiro-Wilk score	9.914E-01		2.20E-01	
6	(v2).Kms				
	Local	-2.76E-01		-3.03E-01	
	Min	-8.13E-01	-1.13E+00	-1.10E+02	-1.62E+07
	Max	-6.03E-02	-2.83E-02	6.63E+01	-4.62E-02
	Normalized peak height	5.89E-03		7.22E-01	
	Peak sensitivity value	-2.61E-01		-2.61E-01	
	Shapiro-Wilk score	9.844E-01		2.27E-01	
7	(v2).Vf				
	Local	3.60E-01		3.95E-01	
	Min	6.97E-02	3.24E-02	-6.63E+01	1.98E-02
	Max	1.41E+00	3.55E+00	1.11E+02	INF
	Normalized peak height	6.50E-03		4.75E-01	
	Peak sensitivity value	3.49E-01		3.08E-01	
	Shapiro-Wilk score	9.721E-01		2.79E-01	
8	(v2).Vr				
	Local	-1.08E-01		-1.18E-01	
	Min	-3.57E-01	-5.65E-01	-1.10E+02	-7.67E+04
	Max	-7.01E-03	-1.48E-03	6.65E+01	-2.13E-03
	Normalized peak height	3.48E-03		8.26E-01	
	Peak sensitivity value	-9.17E-02		-9.96E-02	
	Shapiro-Wilk score	9.796E-01		1.78E-01	
9	(v3).Kmp				
	Local	1.34E-01		1.46E-01	
	Min	6.29E-03	6.93E-04	-6.64E+01	7.67E-04
	Max	6.33E-01	9.44E-01	1.10E+02	2.10E+06
	Normalized peak height	4.56E-03		8.14E-01	
	Peak sensitivity value	1.18E-01		1.31E-01	
	Shapiro-Wilk score	9.728E-01		2.01E-01	
10	(v3).Kms				
	Local	-1.92E-01		-2.11E-01	
	Min	-6.91E-01	-9.58E-01	-1.10E+02	-2.68E+03
	Max	-1.70E-02	-3.35E-03	6.64E+01	-4.83E-03
	Normalized peak height	4.90E-03		7.93E-01	
	Peak sensitivity value	-1.83E-01		-1.96E-01	
	Shapiro-Wilk score	9.920E-01		2.20E-01	

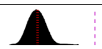
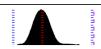
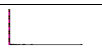
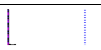
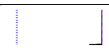
11	(v3).Vf				
	Local	2.51E-01		2.75E-01	
	Min	2.01E-02	3.82E-03	-6.63E+01	5.51E-03
	Max	1.11E+00	3.50E+00	1.11E+02	5.47E+06
	Normalized peak height	5.07E-03		6.50E-01	
	Peak sensitivity value	2.30E-01		2.57E-01	
	Shapiro-Wilk score	9.758E-01		2.98E-01	
12	(v3).Vr				
	Local	-7.52E-02		-8.24E-02	
	Min	-3.53E-01	-7.59E-01	-1.10E+02	-2.53E+04
	Max	-2.87E-03	-3.07E-04	6.66E+01	-3.39E-04
	Normalized peak height	3.95E-03		5.50E-01	
	Peak sensitivity value	-5.84E-02		-1.61E-01	
	Shapiro-Wilk score	9.558E-01		1.41E-01	
13	(v4).Kmp				
	Local	-6.02E-01		1.02E-01	
	Min	-8.85E-01	-9.38E-01	-6.65E+01	4.18E-04
	Max	-1.85E-01	-2.59E-02	1.10E+02	7.42E+10
	Normalized peak height	3.39E-03		7.36E-01	
	Peak sensitivity value	-6.16E-01		5.38E-02	
	Shapiro-Wilk score	9.978E-01		1.60E-01	
14	(v4).Kms				
	Local	8.66E-01		-1.46E-01	
	Min	3.67E-01	5.59E-02	-1.10E+02	-1.11E+12
	Max	9.94E-01	9.99E-01	6.64E+01	-7.68E-04
	Normalized peak height	4.56E-03		8.08E-01	
	Peak sensitivity value	8.82E-01		-1.27E-01	
	Shapiro-Wilk score	9.719E-01		2.01E-01	
15	(v4).Vf				
	Local	-1.13E+00		1.91E-01	
	Min	-3.28E+00	-6.36E+00	-6.64E+01	8.77E-04
	Max	-6.35E-01	-3.11E-01	1.10E+02	2.31E+06
	Normalized peak height	9.95E-03		6.61E-01	
	Peak sensitivity value	-1.10E+00		2.06E-01	
	Shapiro-Wilk score	9.175E-01		2.89E-01	
16	(v4).Vr				
	Local	3.39E-01		-5.73E-02	
	Min	6.31E-02	6.05E-03	-1.10E+02	-4.16E+07
	Max	8.86E-01	1.29E+00	6.67E+01	-1.85E-04
	Normalized peak height	3.10E-03		9.53E-01	
	Peak sensitivity value	3.41E-01		-9.68E-02	
	Shapiro-Wilk score	9.921E-01		1.08E-01	

Table 5: **Model: Branch, irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Km				
	Local	-6.66E-01		-5.00E-01	
	Min	-3.15E+02	-9.88E+02	-8.16E-01	-8.52E-01
	Max	-3.24E-01	-2.50E-01	-2.18E-01	-1.67E-01
	Normalized peak height	1.08E-02		5.23E-05	
	Peak sensitivity value	-6.62E-01		-5.57E-01	
	Shapiro-Wilk score	5.439E-02		9.80E-01	
2	(v1).V				
	Local	1.33E+00		1.00E+00	
	Min	9.13E-01	7.50E-01	6.04E-01	5.00E-01
	Max	2.09E+04	2.22E+05	1.54E+00	1.62E+00
	Normalized peak height	4.28E-01		1.30E-04	
	Peak sensitivity value	1.23E+00		1.00E+00	
	Shapiro-Wilk score	1.435E-03		9.61E-01	

3	(v2a).Km				
	Local	-5.00E-01		-3.75E-01	
	Min	-1.44E+02	-9.91E+02	-8.18E-01	-8.45E-01
	Max	-5.57E-02	-1.16E-01	-2.72E-02	-1.13E-06
	Normalized peak height	4.49E-03		4.92E-05	
	Peak sensitivity value	-5.07E-01		-3.11E-01	
	Shapiro-Wilk score	7.603E-02		9.88E-01	
4	(v2a).V				
	Local	6.66E-01		5.00E-01	
	Min	1.47E-01	1.31E-01	1.37E-01	1.16E-01
	Max	5.79E+02	2.30E+05	8.64E-01	8.84E-01
	Normalized peak height	1.48E-02		4.42E-05	
	Peak sensitivity value	7.06E-01		5.38E-01	
	Shapiro-Wilk score	3.393E-02		9.95E-01	
5	(v2b).Km				
	Local	5.00E-01		3.75E-01	
	Min	5.57E-02	1.58E-06	2.72E-02	1.05E-06
	Max	2.03E+02	7.26E+04	8.18E-01	8.46E-01
	Normalized peak height	6.22E-03		4.92E-05	
	Peak sensitivity value	5.09E-01		3.42E-01	
	Shapiro-Wilk score	5.347E-02		9.88E-01	
6	(v2b).V				
	Local	-6.66E-01		-5.00E-01	
	Min	-2.41E+02	-9.90E+02	-1.15E+00	-1.25E+00
	Max	-1.35E-01	-1.21E-01	-1.24E-01	-1.07E-01
	Normalized peak height	5.12E-03		5.02E-05	
	Peak sensitivity value	-6.55E-01		-4.54E-01	
	Shapiro-Wilk score	8.441E-02		9.90E-01	
7	(v3a).Km				
	Local	1.67E-13		1.78E-13	
	Min	-1.25E-10	-3.76E-08	-1.09E-12	-8.90E-13
	Max	2.08E-10	5.58E-08	9.60E-13	1.09E-12
	Normalized peak height	4.43E-01		5.97E-01	
	Peak sensitivity value	7.25E-16		-9.19E-18	
	Shapiro-Wilk score	2.447E-01		8.65E-01	
8	(v3a).V				
	Local	1.67E-13		1.78E-13	
	Min	-2.52E-10	-5.43E-08	-1.00E-12	-1.04E-12
	Max	1.04E-10	5.11E-08	1.07E-12	9.56E-13
	Normalized peak height	4.43E-01		5.96E-01	
	Peak sensitivity value	1.46E-15		4.14E-18	
	Shapiro-Wilk score	2.207E-01		8.66E-01	
9	(v3b).Km				
	Local	0.00E+00		0.00E+00	
	Min	-2.16E-10	-1.46E-08	-1.12E-12	-1.07E-12
	Max	1.27E-10	3.18E-08	1.04E-12	8.80E-13
	Normalized peak height	5.31E-01		6.65E-01	
	Peak sensitivity value	9.87E-16		4.34E-18	
	Shapiro-Wilk score	1.674E-01		8.07E-01	
10	(v3b).V				
	Local	0.00E+00		0.00E+00	
	Min	-1.62E-10	-3.31E-08	-1.08E-12	-9.21E-13
	Max	1.91E-10	1.97E-08	1.10E-12	8.54E-13
	Normalized peak height	5.29E-01		6.64E-01	
	Peak sensitivity value	-1.40E-15		2.73E-18	
	Shapiro-Wilk score	1.885E-01		8.08E-01	
11	(v4a).Km				
	Local	1.00E+00		0.00E+00	
	Min	1.00E+00	1.00E+00	-1.12E-12	-8.87E-13
	Max	1.00E+00	1.00E+00	1.08E-12	9.44E-13
	Normalized peak height	1.00E+00		4.09E-01	
	Peak sensitivity value	1.00E+00		6.47E-18	
	Shapiro-Wilk score	1.000E+00		9.59E-01	
12	(v4a).V				
	Local	-1.33E+00		5.33E-13	
	Min	-4.90E+02	-9.97E+02	-1.11E-12	-1.06E-12
	Max	-1.02E+00	-1.01E+00	1.20E-12	1.40E-12
	Normalized peak height	1.14E-02		4.06E-01	
	Peak sensitivity value	-1.18E+00		-9.41E-18	
	Shapiro-Wilk score	5.508E-02		9.59E-01	

13	(v4b).Km				
	Local	-1.67E-13		-1.78E-13	
	Min	-3.33E-10	-4.67E-08	-1.14E-12	-9.92E-13
	Max	2.23E-10	5.12E-08	1.06E-12	1.03E-12
	Normalized peak height	5.53E-01		6.81E-01	
	Peak sensitivity value	-1.52E-15		5.73E-20	
	Shapiro-Wilk score	1.206E-01		7.91E-01	
14	(v4b).V				
	Local	-1.67E-13		-1.78E-13	
	Min	-1.33E-10	-6.88E-08	-1.09E-12	-8.81E-13
	Max	1.02E-10	3.92E-08	1.04E-12	9.71E-13
	Normalized peak height	5.43E-01		6.75E-01	
	Peak sensitivity value	-1.13E-15		-1.83E-18	
	Shapiro-Wilk score	2.150E-01		7.97E-01	

Table 6: **Model: Branch, reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Kmp				
	Local	1.78E-01		2.47E-01	
	Min	2.47E-02	1.61E-03	-2.02E+03	2.08E-02
	Max	5.37E-01	1.07E+00	6.15E+03	2.00E+08
	Normalized peak height	6.70E-05		4.32E-01	
	Peak sensitivity value	1.85E-01		2.27E-01	
	Shapiro-Wilk score	9.968E-01		9.24E-04	
2	(v1).Kms				
	Local	-3.51E-01		-4.87E-01	
	Min	-1.02E+00	-2.32E+00	-9.64E+03	-6.06E+06
	Max	-8.71E-02	-1.27E-02	4.28E+03	-9.98E-03
	Normalized peak height	8.40E-05		4.74E-01	
	Peak sensitivity value	-3.54E-01		-4.29E-01	
	Shapiro-Wilk score	9.899E-01		8.78E-04	
3	(v1).Vf				
	Local	5.24E-01		7.26E-01	
	Min	1.27E-01	1.72E-02	-5.85E+03	1.37E-02
	Max	1.56E+00	4.44E+00	1.23E+04	1.16E+06
	Normalized peak height	7.50E-05		4.53E-01	
	Peak sensitivity value	4.83E-01		7.52E-01	
	Shapiro-Wilk score	9.845E-01		9.29E-04	
4	(v1).Vr				
	Local	-8.50E-02		-1.18E-01	
	Min	-2.67E-01	-6.89E-01	-3.88E+03	-5.93E+04
	Max	-1.06E-02	-7.15E-04	1.42E+03	-6.54E-03
	Normalized peak height	5.60E-05		3.58E-01	
	Peak sensitivity value	-6.98E-02		-1.26E-01	
	Shapiro-Wilk score	9.789E-01		1.06E-03	
5	(v2a).Kmp				
	Local	2.01E-01		2.79E-01	
	Min	2.25E-02	5.02E-03	-5.18E+03	6.76E-03
	Max	5.31E-01	9.68E-01	1.07E+04	1.33E+06
	Normalized peak height	6.30E-05		4.98E-01	
	Peak sensitivity value	1.89E-01		2.05E-01	
	Shapiro-Wilk score	9.958E-01		8.66E-04	
6	(v2a).Kms				
	Local	-3.17E-01		-4.40E-01	
	Min	-6.88E-01	-1.17E+00	-1.07E+04	-4.29E+04
	Max	-1.20E-01	-2.04E-02	5.17E+03	-5.93E-02
	Normalized peak height	6.70E-05		4.27E-01	
	Peak sensitivity value	-2.94E-01		-3.45E-01	
	Shapiro-Wilk score	9.924E-01		8.91E-04	

7	(v2a).Vf				
	Local	3.80E-01		5.27E-01	
	Min	1.19E-01	1.89E-02	-5.18E+03	7.48E-02
	Max	1.20E+00	4.11E+00	1.07E+04	3.91E+07
	Normalized peak height	8.50E-05		4.92E-01	
	Peak sensitivity value	3.71E-01		4.81E-01	
	Shapiro-Wilk score	9.844E-01		8.83E-04	
8	(v2a).Vr				
	Local	-1.30E-01		-1.80E-01	
	Min	-4.31E-01	-6.49E-01	-1.07E+04	-1.41E+03
	Max	-1.57E-02	-2.10E-03	5.18E+03	-2.89E-03
	Normalized peak height	6.90E-05		5.84E-01	
	Peak sensitivity value	-1.27E-01		-1.87E-01	
	Shapiro-Wilk score	9.799E-01		8.42E-04	
9	(v2b).Kmp				
	Local	-8.81E-02		-1.22E-01	
	Min	-2.25E-01	-5.68E-01	-4.29E+03	-1.32E+03
	Max	-1.08E-02	-9.87E-04	1.44E+03	-1.38E-03
	Normalized peak height	6.60E-05		4.45E-01	
	Peak sensitivity value	-7.70E-02		-8.43E-02	
	Shapiro-Wilk score	9.873E-01		8.10E-04	
10	(v2b).Kms				
	Local	1.39E-01		1.92E-01	
	Min	3.41E-02	4.53E-03	-3.15E+03	1.42E-03
	Max	3.71E-01	8.49E-01	5.25E+03	1.43E+09
	Normalized peak height	7.10E-05		4.34E-01	
	Peak sensitivity value	1.21E-01		1.62E-01	
	Shapiro-Wilk score	9.740E-01		1.08E-03	
11	(v2b).Vf				
	Local	-1.66E-01		-2.30E-01	
	Min	-4.68E-01	-1.34E+00	-6.09E+03	-2.78E+03
	Max	-3.34E-02	-3.93E-03	3.59E+03	-1.31E-03
	Normalized peak height	7.10E-05		4.20E-01	
	Peak sensitivity value	-1.42E-01		-1.87E-01	
	Shapiro-Wilk score	9.750E-01		1.10E-03	
12	(v2b).Vr				
	Local	5.69E-02		7.89E-02	
	Min	6.41E-03	6.98E-04	-8.66E+02	1.18E-03
	Max	1.77E-01	7.65E-01	3.22E+03	1.57E+07
	Normalized peak height	6.70E-05		4.37E-01	
	Peak sensitivity value	5.31E-02		8.00E-02	
	Shapiro-Wilk score	9.759E-01		7.49E-04	
13	(v3a).Kmp				
	Local	1.37E-01		1.90E-01	
	Min	8.03E-03	1.04E-03	-5.18E+03	1.15E-03
	Max	4.85E-01	9.62E-01	1.07E+04	5.03E+03
	Normalized peak height	5.50E-05		4.48E-01	
	Peak sensitivity value	9.84E-02		1.01E-01	
	Shapiro-Wilk score	9.796E-01		8.36E-04	
14	(v3a).Kms				
	Local	-2.01E-01		-2.79E-01	
	Min	-5.30E-01	-9.72E-01	-1.07E+04	-3.81E+03
	Max	-2.26E-02	-5.22E-03	5.18E+03	-6.77E-03
	Normalized peak height	6.00E-05		5.75E-01	
	Peak sensitivity value	-2.10E-01		-2.53E-01	
	Shapiro-Wilk score	9.960E-01		8.69E-04	
15	(v3a).Vf				
	Local	2.41E-01		3.34E-01	
	Min	2.36E-02	5.28E-03	-5.18E+03	8.06E-03
	Max	9.63E-01	4.04E+00	1.07E+04	2.52E+06
	Normalized peak height	7.60E-05		4.09E-01	
	Peak sensitivity value	2.40E-01		3.98E-01	
	Shapiro-Wilk score	9.868E-01		9.04E-04	
16	(v3a).Vr				
	Local	-8.84E-02		-1.23E-01	
	Min	-4.48E-01	-8.79E-01	-1.07E+04	-7.93E+03
	Max	-4.79E-03	-4.59E-04	5.18E+03	-4.64E-04
	Normalized peak height	6.50E-05		7.01E-01	
	Peak sensitivity value	-7.43E-02		-9.72E-02	
	Shapiro-Wilk score	9.525E-01		7.88E-04	

17	(v3b).Kmp				
	Local	-5.99E-02		-8.31E-02	
	Min	-1.96E-01	-5.42E-01	-3.01E+03	-3.20E+08
	Max	-3.71E-03	-1.37E-04	8.67E+02	-2.41E-04
	Normalized peak height	6.00E-05		3.78E-01	
	Peak sensitivity value	-4.97E-02		-5.39E-02	
	Shapiro-Wilk score	9.850E-01		8.30E-04	
18	(v3b).Kms				
	Local	8.81E-02		1.22E-01	
	Min	1.08E-02	9.88E-04	-1.45E+03	1.38E-03
	Max	2.25E-01	5.68E-01	4.29E+03	5.61E+04
	Normalized peak height	6.70E-05		4.67E-01	
	Peak sensitivity value	7.82E-02		8.84E-02	
	Shapiro-Wilk score	9.873E-01		8.11E-04	
19	(v3b).Vf				
	Local	-1.06E-01		-1.46E-01	
	Min	-3.65E-01	-1.48E+00	-5.20E+03	-9.31E+03
	Max	-1.17E-02	-1.63E-03	1.69E+03	-1.89E-03
	Normalized peak height	7.60E-05		4.60E-01	
	Peak sensitivity value	-1.07E-01		-1.39E-01	
	Shapiro-Wilk score	9.771E-01		8.38E-04	
20	(v3b).Vr				
	Local	3.87E-02		5.37E-02	
	Min	2.62E-03	1.44E-04	-4.23E+02	9.44E-05
	Max	1.76E-01	8.56E-01	2.08E+03	4.20E+06
	Normalized peak height	7.20E-05		3.75E-01	
	Peak sensitivity value	2.86E-02		3.58E-02	
	Shapiro-Wilk score	9.569E-01		8.88E-04	
21	(v4a).Kmp				
	Local	-6.36E-01		1.40E-01	
	Min	-9.21E-01	-9.78E-01	-5.18E+03	6.22E-04
	Max	-2.74E-01	-1.76E-02	1.07E+04	9.85E+04
	Normalized peak height	5.40E-05		6.29E-01	
	Peak sensitivity value	-6.42E-01		9.53E-02	
	Shapiro-Wilk score	9.974E-01		7.95E-04	
22	(v4a).Kms				
	Local	8.63E-01		-1.90E-01	
	Min	5.14E-01	3.79E-02	-1.07E+04	-8.08E+05
	Max	9.92E-01	9.98E-01	5.18E+03	-1.15E-03
	Normalized peak height	5.40E-05		6.08E-01	
	Peak sensitivity value	8.37E-01		-1.81E-01	
	Shapiro-Wilk score	9.793E-01		8.40E-04	
23	(v4a).Vf				
	Local	-1.03E+00		2.27E-01	
	Min	-2.80E+00	-6.34E+00	-5.18E+03	1.32E-03
	Max	-5.57E-01	-2.34E-01	1.07E+04	5.46E+04
	Normalized peak height	1.55E-04		4.11E-01	
	Peak sensitivity value	-1.03E+00		1.36E-01	
	Shapiro-Wilk score	9.648E-01		8.88E-04	
24	(v4a).Vr				
	Local	4.11E-01		-9.05E-02	
	Min	8.40E-02	4.10E-03	-1.07E+04	-1.80E+06
	Max	9.98E-01	1.41E+00	5.18E+03	-2.44E-04
	Normalized peak height	4.90E-05		5.78E-01	
	Peak sensitivity value	3.89E-01		-1.39E-01	
	Shapiro-Wilk score	9.938E-01		7.49E-04	
25	(v4b).Kmp				
	Local	-4.42E-02		-6.14E-02	
	Min	-1.77E-01	-7.35E-01	-2.49E+03	-3.99E+04
	Max	-2.48E-03	-9.50E-05	6.53E+02	-1.26E-04
	Normalized peak height	6.80E-05		4.23E-01	
	Peak sensitivity value	-4.03E-02		-4.41E-02	
	Shapiro-Wilk score	9.682E-01		7.87E-04	
26	(v4b).Kms				
	Local	6.00E-02		8.32E-02	
	Min	3.71E-03	1.37E-04	-8.68E+02	2.84E-04
	Max	1.96E-01	5.42E-01	3.01E+03	3.96E+03
	Normalized peak height	6.10E-05		3.88E-01	
	Peak sensitivity value	4.91E-02		5.53E-02	
	Shapiro-Wilk score	9.851E-01		8.31E-04	

27	(v4b).Vf				
	Local	-7.17E-02		-9.95E-02	
	Min	-4.04E-01	-1.74E+00	-3.51E+03	-1.56E+04
	Max	-4.01E-03	-3.41E-04	1.23E+03	-6.73E-04
	Normalized peak height	9.20E-05		4.08E-01	
	Peak sensitivity value	-6.05E-02		-9.50E-02	
	Shapiro-Wilk score	9.703E-01		8.51E-04	
28	(v4b).Vr				
	Local	2.86E-02		3.96E-02	
	Min	1.46E-03	6.71E-05	-4.04E+02	1.09E-04
	Max	1.75E-01	1.17E+00	1.59E+03	1.83E+05
	Normalized peak height	9.00E-05		3.78E-01	
	Peak sensitivity value	2.50E-02		3.26E-02	
	Shapiro-Wilk score	9.254E-01		9.32E-04	

Table 7: **Model: Cofactors, case 2 (A=1; AH=0.1), irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Km				
	Local	NA		NA	
	Min	-4.68E+00	-9.93E+02	-6.00E-01	-6.00E-01
	Max	-4.50E-01	-4.28E-01	-3.33E-01	-3.33E-01
	Normalized peak height	7.23E-04		4.33E-04	
	Peak sensitivity value	-7.09E-01		-5.92E-01	
	Shapiro-Wilk score	8.145E-01		8.61E-01	
2	(v1).V				
	Local	NA		NA	
	Min	1.16E+00	1.15E+00	1.00E+00	1.00E+00
	Max	8.53E+00	2.45E+05	1.00E+00	1.00E+00
	Normalized peak height	7.23E-04		1.00E+00	
	Peak sensitivity value	1.23E+00		1.00E+00	
	Shapiro-Wilk score	7.434E-01		1.00E+00	
3	(v2).V				
	Local	NA		NA	
	Min	-1.54E-12	-1.72E-12	-8.55E-13	-8.88E-13
	Max	9.06E-13	1.75E-12	7.56E-13	1.06E-12
	Normalized peak height	5.79E-01		7.92E-01	
	Peak sensitivity value	7.85E-18		-7.07E-18	
	Shapiro-Wilk score	8.631E-01		6.49E-01	
4	(v2).km_A				
	Local	NA		NA	
	Min	-8.28E-13	-1.32E-12	-8.55E-13	-8.46E-13
	Max	7.50E-13	1.56E-12	7.21E-13	8.88E-13
	Normalized peak height	5.89E-01		7.99E-01	
	Peak sensitivity value	-4.82E-18		-1.27E-18	
	Shapiro-Wilk score	8.609E-01		6.38E-01	
5	(v2).km_B				
	Local	NA		NA	
	Min	-9.14E-13	-7.22E-08	-8.55E-13	-1.06E-12
	Max	1.45E-12	1.51E-12	7.56E-13	8.88E-13
	Normalized peak height	5.84E-01		7.94E-01	
	Peak sensitivity value	5.83E-18		-7.07E-18	
	Shapiro-Wilk score	8.601E-01		6.45E-01	
6	(v3).V				
	Local	NA		NA	
	Min	-9.21E-13	-1.50E-12	-8.55E-13	-8.88E-13
	Max	1.12E-12	6.04E-08	7.77E-13	8.88E-13
	Normalized peak height	5.76E-01		7.88E-01	
	Peak sensitivity value	5.41E-18		4.96E-18	
	Shapiro-Wilk score	8.675E-01		6.55E-01	

7	(v3).km_A				
	Local	NA		NA	
	Min	-9.14E-13	-1.45E-12	-7.52E-13	-1.11E-12
	Max	9.48E-13	1.61E-12	6.99E-13	8.88E-13
	Normalized peak height	5.76E-01		7.92E-01	
	Peak sensitivity value	-4.31E-18		-5.81E-19	
	Shapiro-Wilk score	8.671E-01		6.48E-01	
8	(v3).km_B				
	Local	NA		NA	
	Min	-8.52E-13	-1.61E-12	-6.82E-13	-8.12E-13
	Max	8.75E-13	1.75E-12	7.56E-13	8.86E-13
	Normalized peak height	5.83E-01		7.89E-01	
	Peak sensitivity value	-6.38E-18		6.73E-18	
	Shapiro-Wilk score	8.639E-01		6.54E-01	
9	(v4).Km				
	Local	NA		NA	
	Min	1.00E+00	1.00E+00	-7.30E-13	-7.95E-13
	Max	1.00E+00	1.00E+00	5.89E-13	8.82E-13
	Normalized peak height	1.00E+00		6.34E-01	
	Peak sensitivity value	1.00E+00		-2.94E-18	
	Shapiro-Wilk score	1.000E+00		8.37E-01	
10	(v4).V				
	Local	NA		NA	
	Min	-8.39E+00	-9.95E+02	-5.57E-13	-6.66E-13
	Max	-1.16E+00	-1.15E+00	6.97E-13	8.88E-13
	Normalized peak height	7.95E-04		6.34E-01	
	Peak sensitivity value	-1.26E+00		-5.77E-18	
	Shapiro-Wilk score	7.453E-01		8.37E-01	

Table 8: **Model: Cofactors, case 3 (A=1; AH=10), irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Km				
	Local	NA		NA	
	Min	-2.12E+02	-9.93E+02	-6.00E-01	-6.00E-01
	Max	-4.30E-01	-4.28E-01	-3.33E-01	-3.33E-01
	Normalized peak height	7.75E-03		1.38E-04	
	Peak sensitivity value	-7.26E-01		-5.84E-01	
	Shapiro-Wilk score	9.064E-02		8.99E-01	
2	(v1).V				
	Local	NA		NA	
	Min	1.16E+00	1.15E+00	1.00E+00	1.00E+00
	Max	9.56E+02	3.45E+05	1.00E+00	1.00E+00
	Normalized peak height	2.16E-02		1.00E+00	
	Peak sensitivity value	1.29E+00		1.00E+00	
	Shapiro-Wilk score	3.404E-02		1.00E+00	
3	(v2).V				
	Local	NA		NA	
	Min	-4.11E-11	-5.34E-08	-8.75E-13	-1.03E-12
	Max	2.84E-11	6.09E-09	8.10E-13	9.96E-13
	Normalized peak height	5.39E-01		7.49E-01	
	Peak sensitivity value	-4.23E-17		-1.45E-18	
	Shapiro-Wilk score	4.407E-01		7.13E-01	
4	(v2).km_A				
	Local	NA		NA	
	Min	-3.09E-11	-1.59E-12	-8.15E-13	-7.86E-13
	Max	2.95E-11	8.10E-08	8.10E-13	9.21E-13
	Normalized peak height	5.47E-01		7.54E-01	
	Peak sensitivity value	5.34E-17		4.22E-18	
	Shapiro-Wilk score	5.020E-01		7.06E-01	

5	(v2).km_B				
	Local	NA		NA	
	Min	-4.74E-11	-5.41E-08	-8.01E-13	-1.05E-12
	Max	1.34E-11	6.70E-08	8.10E-13	1.07E-12
	Normalized peak height	5.43E-01		7.52E-01	
	Peak sensitivity value	1.28E-17		-5.58E-18	
	Shapiro-Wilk score	4.358E-01		7.08E-01	
6	(v3).V				
	Local	NA		NA	
	Min	-4.56E-11	-6.43E-08	-8.15E-13	-1.09E-12
	Max	2.27E-11	5.80E-08	8.84E-13	1.05E-12
	Normalized peak height	5.40E-01		7.50E-01	
	Peak sensitivity value	-3.07E-16		-2.97E-18	
	Shapiro-Wilk score	4.426E-01		7.12E-01	
7	(v3).km_A				
	Local	NA		NA	
	Min	-1.05E-10	-5.64E-08	-7.66E-13	-9.17E-13
	Max	2.41E-11	6.87E-08	9.57E-13	9.34E-13
	Normalized peak height	5.40E-01		7.52E-01	
	Peak sensitivity value	2.12E-16		7.40E-18	
	Shapiro-Wilk score	2.206E-01		7.09E-01	
8	(v3).km_B				
	Local	NA		NA	
	Min	-4.60E-11	-6.58E-08	-8.15E-13	-9.17E-13
	Max	1.49E-11	5.97E-08	8.10E-13	9.46E-13
	Normalized peak height	5.57E-01		7.60E-01	
	Peak sensitivity value	-1.79E-17		4.22E-18	
	Shapiro-Wilk score	4.721E-01		6.97E-01	
9	(v4).Km				
	Local	NA		NA	
	Min	1.00E+00	1.00E+00	-7.31E-13	-8.88E-13
	Max	1.00E+00	1.00E+00	7.66E-13	8.88E-13
	Normalized peak height	1.00E+00		5.65E-01	
	Peak sensitivity value	1.00E+00		-3.14E-18	
	Shapiro-Wilk score	1.000E+00		8.89E-01	
10	(v4).V				
	Local	NA		NA	
	Min	-3.29E+02	-9.96E+02	-7.76E-13	-1.10E-12
	Max	-1.16E+00	-1.15E+00	7.63E-13	1.11E-12
	Normalized peak height	7.60E-03		5.66E-01	
	Peak sensitivity value	-1.30E+00		3.99E-18	
	Shapiro-Wilk score	1.008E-01		8.88E-01	

Table 9: **Model: Cofactors, case 4 (A=10; AH=1), irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Km				
	Local	-9.99E-01		-5.00E-01	
	Min	-3.58E+02	-9.95E+02	-6.00E-01	-6.00E-01
	Max	-4.33E-01	-4.28E-01	-3.33E-01	-3.33E-01
	Normalized peak height	6.63E-03		6.35E-05	
	Peak sensitivity value	-7.36E-01		-5.94E-01	
	Shapiro-Wilk score	9.032E-02		9.34E-01	
2	(v1).V				
	Local	2.00E+00		1.00E+00	
	Min	1.16E+00	1.15E+00	1.00E+00	1.00E+00
	Max	1.54E+05	4.18E+05	1.00E+00	1.00E+00
	Normalized peak height	7.96E-01		1.00E+00	
	Peak sensitivity value	1.93E+00		1.00E+00	
	Shapiro-Wilk score	1.882E-03		1.00E+00	

3	(v2).V				
	Local	3.33E-13		3.55E-13	
	Min	-2.01E-10	-4.16E-08	-1.08E-12	-9.36E-13
	Max	2.30E-10	5.14E-08	8.92E-13	7.80E-13
	Normalized peak height	3.59E-01		6.19E-01	
	Peak sensitivity value	1.87E-15		-3.12E-18	
	Shapiro-Wilk score	1.357E-01		8.50E-01	
4	(v2).km_A				
	Local	-2.22E-13		0.00E+00	
	Min	-1.78E-10	-2.76E-08	-9.47E-13	-9.46E-13
	Max	1.28E-10	6.28E-08	9.41E-13	9.24E-13
	Normalized peak height	3.62E-01		6.22E-01	
	Peak sensitivity value	1.01E-15		-1.65E-18	
	Shapiro-Wilk score	1.384E-01		8.48E-01	
5	(v2).km_B				
	Local	-1.11E-13		1.78E-13	
	Min	-2.32E-10	-4.52E-08	-9.37E-13	-1.06E-12
	Max	1.87E-10	5.59E-08	9.99E-13	1.01E-12
	Normalized peak height	3.74E-01		6.33E-01	
	Peak sensitivity value	-8.53E-16		-7.89E-18	
	Shapiro-Wilk score	1.273E-01		8.39E-01	
6	(v3).V				
	Local	-2.22E-13		0.00E+00	
	Min	-1.90E-10	-4.74E-08	-8.63E-13	-1.03E-12
	Max	1.65E-10	8.01E-08	1.04E-12	1.06E-12
	Normalized peak height	3.59E-01		6.19E-01	
	Peak sensitivity value	1.04E-15		4.38E-18	
	Shapiro-Wilk score	1.454E-01		8.50E-01	
7	(v3).km_A				
	Local	1.11E-13		1.78E-13	
	Min	-1.96E-10	-5.00E-08	-9.67E-13	-9.61E-13
	Max	1.60E-10	8.69E-08	8.96E-13	1.03E-12
	Normalized peak height	3.61E-01		6.21E-01	
	Peak sensitivity value	-1.72E-15		-5.67E-18	
	Shapiro-Wilk score	1.390E-01		8.49E-01	
8	(v3).km_B				
	Local	1.11E-13		1.78E-13	
	Min	-1.84E-10	-4.57E-08	-9.42E-13	-1.16E-12
	Max	1.99E-10	6.00E-08	8.88E-13	1.10E-12
	Normalized peak height	3.64E-01		6.24E-01	
	Peak sensitivity value	1.89E-15		8.14E-18	
	Shapiro-Wilk score	1.310E-01		8.46E-01	
9	(v4).Km				
	Local	1.00E+00		0.00E+00	
	Min	1.00E+00	1.00E+00	-9.11E-13	-1.25E-12
	Max	1.00E+00	1.00E+00	9.60E-13	8.86E-13
	Normalized peak height	1.00E+00		4.69E-01	
	Peak sensitivity value	1.00E+00		3.07E-18	
	Shapiro-Wilk score	1.000E+00		9.38E-01	
10	(v4).V				
	Local	-2.00E+00		0.00E+00	
	Min	-4.99E+02	-9.97E+02	-1.10E-12	-1.08E-12
	Max	-1.16E+00	-1.15E+00	1.04E-12	1.01E-12
	Normalized peak height	5.31E-03		4.66E-01	
	Peak sensitivity value	-1.43E+00		1.05E-17	
	Shapiro-Wilk score	1.075E-01		9.38E-01	

Table 10: **Model: Cofactors, case 1 (A=0.1; AH=1), reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

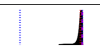
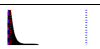
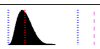
ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)

1	(v1).Kmp				
	Local	3.39E-02		2.33E-01	
	Min	8.36E-04	4.24E-05	-1.28E+02	1.86E-03
	Max	2.07E-01	2.76E-01	9.65E+02	2.17E+04
	Normalized peak height	8.10E-05		3.39E-02	
	Peak sensitivity value	2.40E-02		1.66E-01	
	Shapiro-Wilk score	9.355E-01		2.13E-02	
2	(v1).Kms				
	Local	-3.46E-02		-2.38E-01	
	Min	-2.28E-01	-2.93E-01	-9.65E+02	-6.02E+11
	Max	-8.44E-04	-4.25E-05	1.28E+02	-1.86E-03
	Normalized peak height	8.10E-05		3.30E-02	
	Peak sensitivity value	-2.64E-02		-1.66E-01	
	Shapiro-Wilk score	9.326E-01		2.22E-02	
3	(v1).Vf				
	Local	3.54E-02		2.43E-01	
	Min	8.57E-04	4.26E-05	-1.28E+02	1.87E-03
	Max	2.43E-01	3.24E-01	9.65E+02	2.04E+11
	Normalized peak height	8.50E-05		3.21E-02	
	Peak sensitivity value	2.30E-02		1.88E-01	
	Shapiro-Wilk score	9.294E-01		2.25E-02	
4	(v1).Vr				
	Local	-3.17E-02		-2.18E-01	
	Min	-1.88E-01	-2.53E-01	-9.65E+02	-1.55E+09
	Max	-7.48E-04	-4.16E-05	1.28E+02	-1.74E-03
	Normalized peak height	7.60E-05		3.56E-02	
	Peak sensitivity value	-2.62E-02		-1.63E-01	
	Shapiro-Wilk score	9.379E-01		2.07E-02	
5	(v2).V_f				
	Local	6.84E-02		4.70E-01	
	Min	4.43E-03	6.48E-04	-1.28E+02	3.81E-02
	Max	3.14E-01	4.25E-01	9.66E+02	1.31E+06
	Normalized peak height	6.70E-05		2.73E-02	
	Peak sensitivity value	5.43E-02		4.90E-01	
	Shapiro-Wilk score	9.365E-01		2.41E-02	
6	(v2).V_r				
	Local	-9.31E-03		-6.40E-02	
	Min	-5.91E-02	-1.21E-01	-9.65E+02	-1.40E+05
	Max	-2.13E-04	-1.90E-05	1.28E+02	-4.26E-04
	Normalized peak height	7.50E-05		1.16E-01	
	Peak sensitivity value	-6.59E-03		-3.35E-02	
	Shapiro-Wilk score	9.178E-01		7.40E-03	
7	(v2).km_A				
	Local	-3.39E-02		-2.33E-01	
	Min	-2.07E-01	-2.76E-01	-9.65E+02	-1.12E+04
	Max	-8.37E-04	-4.25E-05	1.28E+02	-1.86E-03
	Normalized peak height	7.80E-05		3.38E-02	
	Peak sensitivity value	-2.48E-02		-1.93E-01	
	Shapiro-Wilk score	9.360E-01		2.15E-02	
8	(v2).km_B				
	Local	-6.65E-02		-4.57E-01	
	Min	-2.92E-01	-3.96E-01	-9.65E+02	-2.05E+04
	Max	-4.41E-03	-6.47E-04	1.28E+02	-3.81E-02
	Normalized peak height	6.30E-05		2.84E-02	
	Peak sensitivity value	-6.40E-02		-4.69E-01	
	Shapiro-Wilk score	9.389E-01		2.30E-02	
9	(v2).km_P				
	Local	1.06E-02		7.28E-02	
	Min	2.73E-04	2.09E-05	-1.28E+02	5.30E-04
	Max	6.33E-02	1.23E-01	9.65E+02	6.97E+04
	Normalized peak height	7.60E-05		1.05E-01	
	Peak sensitivity value	6.42E-03		4.36E-02	
	Shapiro-Wilk score	9.254E-01		7.70E-03	
10	(v2).km_Q				
	Local	2.17E-02		1.49E-01	
	Min	5.05E-04	3.07E-05	-1.28E+02	1.06E-03
	Max	1.22E-01	1.98E-01	9.65E+02	3.01E+04
	Normalized peak height	6.80E-05		5.12E-02	
	Peak sensitivity value	1.61E-02		1.02E-01	
	Shapiro-Wilk score	9.399E-01		1.37E-02	

11	(v3).V_f				
	Local	8.67E-02		5.96E-01	
	Min	5.90E-03	5.13E-04	-1.28E+02	3.75E-02
	Max	4.14E-01	5.26E-01	9.65E+02	1.35E+14
	Normalized peak height	7.60E-05		2.89E-02	
	Peak sensitivity value	6.98E-02		6.08E-01	
	Shapiro-Wilk score	9.408E-01		2.16E-02	
12	(v3).V_r				
	Local	-6.73E-03		-4.63E-02	
	Min	-5.89E-02	-1.71E-01	-9.65E+02	-1.04E+04
	Max	-2.99E-04	-7.49E-05	1.28E+02	-3.89E-04
	Normalized peak height	9.90E-05		1.54E-01	
	Peak sensitivity value	-3.86E-03		-2.05E-02	
	Shapiro-Wilk score	9.004E-01		6.05E-03	
13	(v3).km_A				
	Local	-8.31E-02		-5.71E-01	
	Min	-3.85E-01	-4.76E-01	-9.65E+02	-4.55E+05
	Max	-5.86E-03	-5.13E-04	1.28E+02	-3.74E-02
	Normalized peak height	7.10E-05		3.07E-02	
	Peak sensitivity value	-6.60E-02		-5.90E-01	
	Shapiro-Wilk score	9.443E-01		2.03E-02	
14	(v3).km_B				
	Local	-5.21E-02		-3.58E-01	
	Min	-2.13E-01	-3.11E-01	-9.65E+02	-4.05E+09
	Max	-3.41E-03	-2.53E-04	1.28E+02	-1.37E-02
	Normalized peak height	7.10E-05		3.64E-02	
	Peak sensitivity value	-3.96E-02		-3.50E-01	
	Shapiro-Wilk score	9.482E-01		1.68E-02	
15	(v3).km_P				
	Local	1.80E-02		1.24E-01	
	Min	7.78E-04	6.50E-05	-1.28E+02	9.62E-04
	Max	1.11E-01	1.77E-01	9.65E+02	1.81E+05
	Normalized peak height	8.00E-05		6.21E-02	
	Peak sensitivity value	1.24E-02		8.80E-02	
	Shapiro-Wilk score	9.330E-01		1.21E-02	
16	(v3).km_Q				
	Local	8.56E-03		5.88E-02	
	Min	7.89E-04	6.77E-05	-1.28E+02	1.59E-03
	Max	5.97E-02	1.58E-01	9.65E+02	1.69E+04
	Normalized peak height	9.00E-05		1.38E-01	
	Peak sensitivity value	6.26E-03		3.88E-02	
	Shapiro-Wilk score	9.131E-01		6.34E-03	
17	(v4).Kmp				
	Local	-9.20E-01		1.16E-01	
	Min	-9.90E-01	-1.02E+00	-1.28E+02	9.06E-04
	Max	-6.73E-01	-5.52E-01	9.65E+02	4.20E+04
	Normalized peak height	7.60E-05		6.48E-02	
	Peak sensitivity value	-9.46E-01		7.12E-02	
	Shapiro-Wilk score	9.328E-01		1.18E-02	
18	(v4).Kms				
	Local	9.82E-01		-1.24E-01	
	Min	8.89E-01	8.23E-01	-9.65E+02	-5.87E+09
	Max	9.99E-01	1.00E+00	1.28E+02	-9.63E-04
	Normalized peak height	1.22E-04		6.24E-02	
	Peak sensitivity value	9.87E-01		-8.12E-02	
	Shapiro-Wilk score	9.178E-01		1.22E-02	
19	(v4).Vf				
	Local	-1.00E+00		1.27E-01	
	Min	-1.11E+00	-1.22E+00	-1.28E+02	9.66E-04
	Max	-9.41E-01	-8.42E-01	9.65E+02	1.54E+08
	Normalized peak height	4.82E-04		6.11E-02	
	Peak sensitivity value	-1.00E+00		8.38E-02	
	Shapiro-Wilk score	4.074E-01		1.24E-02	
20	(v4).Vr				
	Local	8.60E-01		-1.09E-01	
	Min	4.66E-01	3.53E-01	-9.65E+02	-2.13E+06
	Max	1.00E+00	1.12E+00	1.28E+02	-8.64E-04
	Normalized peak height	6.60E-05		6.84E-02	
	Peak sensitivity value	8.64E-01		-6.67E-02	
	Shapiro-Wilk score	9.502E-01		1.15E-02	

Table 11: **Model: Cofactors, case 2 (A=1; AH=0.1), reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Kmp				
	Local	2.35E-01		5.21E-01	
	Min	2.21E-02	3.27E-03	-3.24E+02	2.57E-02
	Max	5.59E-01	1.43E+00	6.44E+05	6.79E+04
	Normalized peak height	6.80E-05		1.00E+00	
	Peak sensitivity value	2.14E-01		1.80E+00	
	Shapiro-Wilk score	9.963E-01		2.90E-05	
2	(v1).Kms				
	Local	-2.59E-01		-5.74E-01	
	Min	-6.88E-01	-1.90E+00	-6.43E+05	-1.59E+06
	Max	-2.16E-02	-3.23E-03	3.23E+02	-2.69E-02
	Normalized peak height	6.60E-05		1.00E+00	
	Peak sensitivity value	-2.22E-01		-1.82E+00	
	Shapiro-Wilk score	9.949E-01		2.90E-05	
3	(v1).Vf				
	Local	2.83E-01		6.27E-01	
	Min	2.13E-02	3.24E-03	-3.24E+02	2.92E-02
	Max	8.54E-01	2.95E+00	6.44E+05	1.46E+04
	Normalized peak height	6.80E-05		1.00E+00	
	Peak sensitivity value	2.71E-01		1.85E+00	
	Shapiro-Wilk score	9.902E-01		2.89E-05	
4	(v1).Vr				
	Local	-1.84E-01		-4.07E-01	
	Min	-3.92E-01	-7.15E-01	-6.44E+05	-4.65E+03
	Max	-2.26E-02	-3.30E-03	3.23E+02	-1.64E-02
	Normalized peak height	6.00E-05		1.00E+00	
	Peak sensitivity value	-1.67E-01		-1.77E+00	
	Shapiro-Wilk score	9.875E-01		2.93E-05	
5	(v2).V_f				
	Local	2.87E-01		6.37E-01	
	Min	2.10E-02	3.21E-03	-3.24E+02	7.08E-02
	Max	8.47E-01	3.22E+00	6.44E+05	4.59E+06
	Normalized peak height	6.90E-05		1.00E+00	
	Peak sensitivity value	2.42E-01		1.83E+00	
	Shapiro-Wilk score	9.915E-01		2.87E-05	
6	(v2).V_r				
	Local	-6.18E-02		-1.37E-01	
	Min	-2.09E-01	-3.38E-01	-6.44E+05	-7.96E+05
	Max	-3.64E-03	-5.47E-04	3.24E+02	-4.25E-03
	Normalized peak height	5.80E-05		1.00E+00	
	Peak sensitivity value	-4.32E-02		-1.53E+00	
	Shapiro-Wilk score	9.699E-01		2.82E-05	
7	(v2).km_A				
	Local	-2.35E-01		-5.21E-01	
	Min	-5.59E-01	-1.42E+00	-6.44E+05	-8.49E+03
	Max	-2.20E-02	-3.81E-03	3.23E+02	-2.58E-02
	Normalized peak height	5.90E-05		1.00E+00	
	Peak sensitivity value	-2.24E-01		-1.80E+00	
	Shapiro-Wilk score	9.962E-01		2.90E-05	
8	(v2).km_B				
	Local	-2.52E-01		-5.58E-01	
	Min	-6.41E-01	-2.00E+00	-6.44E+05	-4.85E+06
	Max	-2.21E-02	-3.33E-03	3.23E+02	-6.51E-02
	Normalized peak height	6.20E-05		1.00E+00	
	Peak sensitivity value	-2.53E-01		-1.81E+00	
	Shapiro-Wilk score	9.958E-01		2.89E-05	
9	(v2).km_P				
	Local	8.08E-02		1.79E-01	
	Min	3.90E-03	5.59E-04	-3.24E+02	1.07E-02
	Max	2.52E-01	3.60E-01	6.44E+05	1.31E+08
	Normalized peak height	5.60E-05		1.00E+00	
	Peak sensitivity value	7.07E-02		1.43E+00	
	Shapiro-Wilk score	9.818E-01		2.83E-05	

10	(v2).km_Q				
	Local	2.09E-01		4.64E-01	
	Min	2.38E-02	3.51E-03	-3.24E+02	2.34E-02
	Max	4.77E-01	1.16E+00	6.44E+05	1.55E+04
	Normalized peak height	6.40E-05		1.00E+00	
	Peak sensitivity value	1.75E-01		1.74E+00	
	Shapiro-Wilk score	9.959E-01		2.89E-05	
11	(v3).V_f				
	Local	1.30E-01		2.88E-01	
	Min	4.42E-03	5.84E-04	-3.24E+02	2.90E-02
	Max	7.59E-01	1.81E+00	6.44E+05	1.33E+05
	Normalized peak height	7.70E-05		1.00E+00	
	Peak sensitivity value	1.07E-01		1.53E+00	
	Shapiro-Wilk score	9.385E-01		2.87E-05	
12	(v3).V_r				
	Local	-1.28E-02		-2.85E-02	
	Min	-1.83E-01	-5.00E-01	-6.44E+05	-6.58E+03
	Max	-2.59E-04	-4.59E-05	3.24E+02	-5.45E-05
	Normalized peak height	1.29E-04		1.00E+00	
	Peak sensitivity value	-6.54E-03		-1.08E+00	
	Shapiro-Wilk score	8.324E-01		2.75E-05	
13	(v3).km_A				
	Local	-1.18E-01		-2.62E-01	
	Min	-5.20E-01	-1.48E+00	-6.44E+05	-1.22E+04
	Max	-4.38E-03	-5.83E-04	3.24E+02	-2.88E-02
	Normalized peak height	6.60E-05		1.00E+00	
	Peak sensitivity value	-1.08E-01		-1.61E+00	
	Shapiro-Wilk score	9.632E-01		2.84E-05	
14	(v3).km_B				
	Local	-3.69E-02		-8.17E-02	
	Min	-2.42E-01	-6.36E-01	-6.44E+05	-1.49E+06
	Max	-1.02E-03	-1.21E-04	3.24E+02	-2.46E-03
	Normalized peak height	7.50E-05		1.00E+00	
	Peak sensitivity value	-3.37E-02		-1.24E+00	
	Shapiro-Wilk score	9.187E-01		2.78E-05	
15	(v3).km_P				
	Local	2.06E-02		4.56E-02	
	Min	4.45E-04	6.11E-05	-3.24E+02	2.05E-04
	Max	2.06E-01	5.42E-01	6.44E+05	3.01E+06
	Normalized peak height	9.50E-05		1.00E+00	
	Peak sensitivity value	1.31E-02		1.19E+00	
	Shapiro-Wilk score	8.605E-01		2.76E-05	
16	(v3).km_Q				
	Local	2.35E-02		5.20E-02	
	Min	6.40E-04	8.63E-05	-3.24E+02	1.02E-03
	Max	1.83E-01	3.84E-01	6.44E+05	7.47E+04
	Normalized peak height	8.40E-05		1.00E+00	
	Peak sensitivity value	1.51E-02		1.21E+00	
	Shapiro-Wilk score	8.914E-01		2.76E-05	
17	(v4).Kmp				
	Local	-8.03E-01		3.74E-02	
	Min	-9.83E-01	-9.96E-01	-3.24E+02	1.41E-04
	Max	-4.59E-01	-1.93E-01	6.44E+05	4.71E+06
	Normalized peak height	5.20E-05		1.00E+00	
	Peak sensitivity value	-8.52E-01		1.16E+00	
	Shapiro-Wilk score	9.820E-01		2.75E-05	
18	(v4).Kms				
	Local	9.79E-01		-4.57E-02	
	Min	7.94E-01	5.79E-01	-6.44E+05	-9.10E+07
	Max	1.00E+00	1.00E+00	3.24E+02	-2.05E-04
	Normalized peak height	1.17E-04		1.00E+00	
	Peak sensitivity value	9.88E-01		-1.13E+00	
	Shapiro-Wilk score	8.500E-01		2.76E-05	
19	(v4).Vf				
	Local	-1.07E+00		4.98E-02	
	Min	-2.16E+00	-7.13E+00	-3.24E+02	2.11E-04
	Max	-8.09E-01	-5.29E-01	6.44E+05	5.11E+04
	Normalized peak height	2.25E-04		1.00E+00	
	Peak sensitivity value	-1.05E+00		1.21E+00	
	Shapiro-Wilk score	8.909E-01		2.77E-05	

20	(v4).Vr				
	Local	6.28E-01		-2.93E-02	
	Min	1.71E-01	4.66E-02	-6.44E+05	-1.06E+04
	Max	9.77E-01	1.13E+00	3.24E+02	-5.61E-05
	Normalized peak height	4.20E-05		1.00E+00	
	Peak sensitivity value	6.40E-01		-1.07E+00	
	Shapiro-Wilk score	9.929E-01		2.75E-05	

Table 12: **Model: Cofactors, case 3 (A=1; AH=10), reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Kmp				
	Local	1.35E-01		2.69E-01	
	Min	6.54E-03	5.02E-04	-6.29E+02	3.43E-03
	Max	3.67E-01	5.59E-01	5.16E+02	1.60E+08
	Normalized peak height	5.80E-05		4.65E-02	
	Peak sensitivity value	1.22E-01		2.55E-01	
	Shapiro-Wilk score	9.949E-01		1.85E-02	
2	(v1).Kms				
	Local	-1.52E-01		-3.02E-01	
	Min	-4.96E-01	-9.11E-01	-5.16E+02	-3.29E+03
	Max	-6.75E-03	-5.07E-04	6.28E+02	-3.50E-03
	Normalized peak height	6.20E-05		3.92E-02	
	Peak sensitivity value	-1.35E-01		-2.92E-01	
	Shapiro-Wilk score	9.873E-01		2.13E-02	
3	(v1).Vf				
	Local	1.68E-01		3.34E-01	
	Min	7.14E-03	5.15E-04	-6.29E+02	3.62E-03
	Max	6.87E-01	1.55E+00	5.16E+02	6.56E+04
	Normalized peak height	7.40E-05		3.50E-02	
	Peak sensitivity value	1.57E-01		3.28E-01	
	Shapiro-Wilk score	9.757E-01		2.39E-02	
4	(v1).Vr				
	Local	-1.02E-01		-2.03E-01	
	Min	-2.82E-01	-3.74E-01	-5.16E+02	-1.43E+05
	Max	-4.46E-03	-4.34E-04	6.29E+02	-2.50E-03
	Normalized peak height	5.70E-05		5.01E-02	
	Peak sensitivity value	-1.00E-01		-1.67E-01	
	Shapiro-Wilk score	9.911E-01		1.75E-02	
5	(v2).V_f				
	Local	2.19E-01		4.35E-01	
	Min	3.06E-02	5.18E-03	-6.29E+02	4.10E-02
	Max	6.65E-01	1.24E+00	5.16E+02	1.91E+04
	Normalized peak height	6.80E-05		4.47E-02	
	Peak sensitivity value	1.99E-01		4.41E-01	
	Shapiro-Wilk score	9.837E-01		1.85E-02	
6	(v2).V_r				
	Local	-4.06E-02		-8.07E-02	
	Min	-2.06E-01	-5.13E-01	-5.16E+02	-8.64E+09
	Max	-2.50E-03	-2.10E-04	6.29E+02	-8.49E-04
	Normalized peak height	7.40E-05		1.07E-01	
	Peak sensitivity value	-3.71E-02		-5.10E-02	
	Shapiro-Wilk score	9.445E-01		9.46E-03	
7	(v2).km_A				
	Local	-1.35E-01		-2.69E-01	
	Min	-3.67E-01	-5.59E-01	-5.16E+02	-1.10E+05
	Max	-6.55E-03	-5.03E-04	6.29E+02	-3.51E-03
	Normalized peak height	6.00E-05		4.66E-02	
	Peak sensitivity value	-1.41E-01		-2.61E-01	
	Shapiro-Wilk score	9.950E-01		1.85E-02	

8	(v2).km_B				
	Local	-1.87E-01		-3.72E-01	
	Min	-5.08E-01	-8.09E-01	-5.16E+02	-5.10E+02
	Max	-2.90E-02	-5.10E-03	6.28E+02	-3.96E-02
	Normalized peak height	6.50E-05		5.49E-02	
	Peak sensitivity value	-1.63E-01		-3.65E-01	
	Shapiro-Wilk score	9.914E-01		1.52E-02	
9	(v2).km_P				
	Local	7.39E-02		1.47E-01	
	Min	4.39E-03	3.47E-04	-6.29E+02	2.04E-03
	Max	2.26E-01	3.75E-01	5.16E+02	1.02E+06
	Normalized peak height	6.60E-05		7.68E-02	
	Peak sensitivity value	6.28E-02		1.20E-01	
	Shapiro-Wilk score	9.819E-01		1.20E-02	
10	(v2).km_Q				
	Local	7.39E-02		1.47E-01	
	Min	4.43E-03	3.47E-04	-6.29E+02	1.96E-03
	Max	2.28E-01	3.61E-01	5.16E+02	9.68E+05
	Normalized peak height	6.20E-05		7.66E-02	
	Peak sensitivity value	7.14E-02		1.24E-01	
	Shapiro-Wilk score	9.821E-01		1.20E-02	
11	(v3).V_f				
	Local	2.53E-01		5.04E-01	
	Min	4.20E-02	9.18E-03	-6.29E+02	5.36E-02
	Max	7.87E-01	1.53E+00	5.16E+02	1.91E+03
	Normalized peak height	6.70E-05		3.75E-02	
	Peak sensitivity value	2.43E-01		5.11E-01	
	Shapiro-Wilk score	9.731E-01		2.08E-02	
12	(v3).V_r				
	Local	-3.34E-02		-6.64E-02	
	Min	-2.04E-01	-6.67E-01	-5.16E+02	-6.59E+02
	Max	-1.64E-03	-4.18E-04	6.29E+02	-5.51E-04
	Normalized peak height	7.80E-05		1.24E-01	
	Peak sensitivity value	-2.40E-02		-4.38E-02	
	Shapiro-Wilk score	9.347E-01		8.51E-03	
13	(v3).km_A				
	Local	-1.91E-01		-3.80E-01	
	Min	-4.91E-01	-8.75E-01	-5.16E+02	-2.66E+04
	Max	-3.67E-02	-8.32E-03	6.28E+02	-2.15E-02
	Normalized peak height	6.60E-05		4.98E-02	
	Peak sensitivity value	-1.63E-01		-3.77E-01	
	Shapiro-Wilk score	9.828E-01		1.58E-02	
14	(v3).km_B				
	Local	-1.91E-01		-3.80E-01	
	Min	-5.26E-01	-8.75E-01	-5.16E+02	-6.69E+07
	Max	-3.34E-02	-8.32E-03	6.28E+02	-2.15E-02
	Normalized peak height	6.20E-05		4.96E-02	
	Peak sensitivity value	-1.67E-01		-3.66E-01	
	Shapiro-Wilk score	9.828E-01		1.58E-02	
15	(v3).km_P				
	Local	7.58E-02		1.51E-01	
	Min	8.36E-03	1.49E-03	-6.29E+02	1.76E-03
	Max	2.93E-01	4.44E-01	5.16E+02	1.53E+06
	Normalized peak height	6.10E-05		6.51E-02	
	Peak sensitivity value	5.54E-02		1.24E-01	
	Shapiro-Wilk score	9.670E-01		1.35E-02	
16	(v3).km_Q				
	Local	6.40E-02		1.27E-01	
	Min	7.61E-03	2.40E-03	-6.29E+02	7.43E-03
	Max	2.11E-01	4.20E-01	5.16E+02	1.04E+05
	Normalized peak height	6.50E-05		9.20E-02	
	Peak sensitivity value	6.24E-02		1.08E-01	
	Shapiro-Wilk score	9.691E-01		1.03E-02	
17	(v4).Kmp				
	Local	-7.41E-01		1.21E-01	
	Min	-9.41E-01	-9.80E-01	-6.29E+02	9.67E-04
	Max	-4.19E-01	-2.72E-01	5.16E+02	2.19E+06
	Normalized peak height	5.30E-05		7.41E-02	
	Peak sensitivity value	-7.70E-01		9.65E-02	
	Shapiro-Wilk score	9.883E-01		1.25E-02	

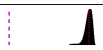
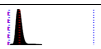
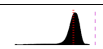
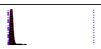
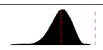
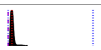
18	(v4).Kms				
	Local	9.24E-01		-1.51E-01	
	Min	7.07E-01	5.55E-01	-5.16E+02	-1.34E+09
	Max	9.92E-01	9.99E-01	6.29E+02	-1.76E-03
	Normalized peak height	6.70E-05		6.48E-02	
	Peak sensitivity value	9.43E-01		-1.19E-01	
	Shapiro-Wilk score	9.552E-01		1.35E-02	
19	(v4).Vf				
	Local	-1.02E+00		1.67E-01	
	Min	-1.53E+00	-2.62E+00	-6.29E+02	1.99E-03
	Max	-7.93E-01	-4.46E-01	5.16E+02	1.08E+05
	Normalized peak height	1.30E-04		5.71E-02	
	Peak sensitivity value	-1.01E+00		1.30E-01	
	Shapiro-Wilk score	9.627E-01		1.51E-02	
20	(v4).Vr				
	Local	5.60E-01		-9.14E-02	
	Min	1.73E-01	8.41E-02	-5.16E+02	-4.12E+03
	Max	9.91E-01	1.44E+00	6.29E+02	-4.41E-04
	Normalized peak height	5.00E-05		8.96E-02	
	Peak sensitivity value	5.94E-01		-6.59E-02	
	Shapiro-Wilk score	9.959E-01		1.09E-02	

Table 13: **Model: Cofactors, case 4 (A=10; AH=1), reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Kmp				
	Local	2.66E-01		3.22E-01	
	Min	6.24E-02	2.84E-02	-4.39E+02	2.91E-03
	Max	7.67E-01	1.98E+00	1.97E+04	5.19E+04
	Normalized peak height	8.50E-05		6.67E-01	
	Peak sensitivity value	2.48E-01		3.77E-01	
	Shapiro-Wilk score	9.796E-01		1.40E-04	
2	(v1).Kms				
	Local	-3.56E-01		-4.31E-01	
	Min	-1.29E+00	-5.02E+00	-1.97E+04	-5.45E+07
	Max	-1.14E-01	-1.69E-02	4.39E+02	-2.41E-02
	Normalized peak height	9.60E-05		7.56E-01	
	Peak sensitivity value	-3.37E-01		-4.34E-01	
	Shapiro-Wilk score	9.636E-01		1.44E-04	
3	(v1).Vf				
	Local	4.46E-01		5.40E-01	
	Min	1.15E-01	1.64E-02	-4.39E+02	5.80E-03
	Max	2.06E+00	9.95E+00	1.97E+04	1.20E+08
	Normalized peak height	1.06E-04		6.06E-01	
	Peak sensitivity value	4.03E-01		4.90E-01	
	Shapiro-Wilk score	9.505E-01		1.58E-04	
4	(v1).Vr				
	Local	-1.59E-01		-1.92E-01	
	Min	-3.89E-01	-5.60E-01	-1.97E+04	-1.51E+06
	Max	-2.85E-02	-1.19E-02	4.39E+02	-6.75E-04
	Normalized peak height	6.50E-05		7.23E-01	
	Peak sensitivity value	-1.65E-01		-2.27E-01	
	Shapiro-Wilk score	9.917E-01		1.47E-04	
5	(v2).V_f				
	Local	3.45E-01		4.17E-01	
	Min	7.50E-02	1.71E-02	-4.39E+02	6.13E-02
	Max	1.51E+00	6.89E+00	1.97E+04	9.40E+03
	Normalized peak height	1.08E-04		7.35E-01	
	Peak sensitivity value	3.02E-01		4.34E-01	
	Shapiro-Wilk score	9.587E-01		1.47E-04	

6	(v2).V_r				
	Local	-9.27E-02		-1.12E-01	
	Min	-3.79E-01	-7.86E-01	-1.97E+04	-8.01E+06
	Max	-3.12E-03	-2.51E-04	4.39E+02	-4.02E-04
	Normalized peak height	6.20E-05		7.28E-01	
	Peak sensitivity value	-8.54E-02		-1.71E-01	
	Shapiro-Wilk score	9.751E-01		1.27E-04	
7	(v2).km_A				
	Local	-2.66E-01		-3.22E-01	
	Min	-7.66E-01	-1.98E+00	-1.97E+04	-1.68E+04
	Max	-6.25E-02	-2.85E-02	4.39E+02	-2.92E-03
	Normalized peak height	8.70E-05		7.53E-01	
	Peak sensitivity value	-2.66E-01		-3.54E-01	
	Shapiro-Wilk score	9.796E-01		1.41E-04	
8	(v2).km_B				
	Local	-2.16E-01		-2.62E-01	
	Min	-6.90E-01	-1.31E+00	-1.97E+04	-5.97E+03
	Max	-1.75E-02	-3.67E-03	4.39E+02	-6.38E-03
	Normalized peak height	8.00E-05		6.62E-01	
	Peak sensitivity value	-2.08E-01		-3.16E-01	
	Shapiro-Wilk score	9.931E-01		1.44E-04	
9	(v2).km_P				
	Local	1.73E-01		2.10E-01	
	Min	7.63E-03	9.13E-04	-4.39E+02	1.38E-03
	Max	5.21E-01	9.10E-01	1.97E+04	6.96E+03
	Normalized peak height	7.10E-05		5.18E-01	
	Peak sensitivity value	1.62E-01		2.96E-01	
	Shapiro-Wilk score	9.964E-01		1.42E-04	
10	(v2).km_Q				
	Local	1.81E-01		2.19E-01	
	Min	1.07E-02	1.80E-03	-4.39E+02	3.01E-03
	Max	5.37E-01	9.31E-01	1.97E+04	9.16E+03
	Normalized peak height	7.30E-05		5.09E-01	
	Peak sensitivity value	1.75E-01		3.07E-01	
	Shapiro-Wilk score	9.958E-01		1.42E-04	
11	(v3).V_f				
	Local	2.58E-01		3.12E-01	
	Min	1.15E-02	1.50E-03	-4.39E+02	2.31E-03
	Max	1.38E+00	6.75E+00	1.97E+04	1.61E+04
	Normalized peak height	1.02E-04		5.89E-01	
	Peak sensitivity value	2.44E-01		3.71E-01	
	Shapiro-Wilk score	9.733E-01		1.67E-04	
12	(v3).V_r				
	Local	-6.42E-02		-7.76E-02	
	Min	-4.07E-01	-9.26E-01	-1.97E+04	-1.80E+08
	Max	-2.20E-03	-8.14E-05	4.39E+02	-9.02E-05
	Normalized peak height	7.70E-05		6.29E-01	
	Peak sensitivity value	-4.71E-02		-1.59E-01	
	Shapiro-Wilk score	9.451E-01		1.13E-04	
13	(v3).km_A				
	Local	-1.90E-01		-2.30E-01	
	Min	-6.02E-01	-1.17E+00	-1.97E+04	-2.46E+07
	Max	-9.24E-03	-2.59E-03	4.39E+02	-1.91E-03
	Normalized peak height	6.90E-05		6.42E-01	
	Peak sensitivity value	-2.00E-01		-2.90E-01	
	Shapiro-Wilk score	9.959E-01		1.45E-04	
14	(v3).km_B				
	Local	-1.84E-01		-2.22E-01	
	Min	-6.10E-01	-1.13E+00	-1.97E+04	-1.69E+06
	Max	-8.52E-03	-2.22E-03	4.39E+02	-1.57E-03
	Normalized peak height	7.50E-05		6.35E-01	
	Peak sensitivity value	-1.77E-01		-2.85E-01	
	Shapiro-Wilk score	9.952E-01		1.44E-04	
15	(v3).km_P				
	Local	1.13E-01		1.37E-01	
	Min	3.80E-03	2.00E-04	-4.39E+02	2.21E-04
	Max	5.17E-01	7.53E-01	1.97E+04	2.44E+08
	Normalized peak height	7.80E-05		6.01E-01	
	Peak sensitivity value	1.06E-01		2.13E-01	
	Shapiro-Wilk score	9.705E-01		1.29E-04	

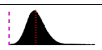
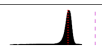
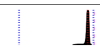
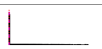
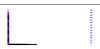
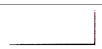
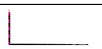
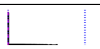
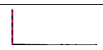
16	(v3).km_Q				
	Local	1.56E-01		1.89E-01	
	Min	7.25E-03	8.68E-04	-4.39E+02	-9.68E+02
	Max	4.92E-01	8.68E-01	1.97E+04	2.29E+09
	Normalized peak height	6.70E-05		5.34E-01	
	Peak sensitivity value	1.47E-01		2.73E-01	
	Shapiro-Wilk score	9.923E-01		1.38E-04	
17	(v4).Kmp				
	Local	-6.32E-01		9.75E-02	
	Min	-8.91E-01	-9.67E-01	-4.39E+02	1.20E-04
	Max	-2.66E-01	-6.81E-03	1.97E+04	3.38E+04
	Normalized peak height	5.40E-05		8.87E-01	
	Peak sensitivity value	-6.86E-01		1.35E-01	
	Shapiro-Wilk score	9.968E-01		1.17E-04	
18	(v4).Kms				
	Local	8.87E-01		-1.37E-01	
	Min	4.83E-01	1.47E-02	-1.97E+04	-4.00E+06
	Max	9.96E-01	1.00E+00	4.39E+02	-2.21E-04
	Normalized peak height	7.30E-05		4.78E-01	
	Peak sensitivity value	8.97E-01		-2.34E-01	
	Shapiro-Wilk score	9.705E-01		1.29E-04	
19	(v4).Vf				
	Local	-1.11E+00		1.71E-01	
	Min	-3.42E+00	-1.22E+01	-4.39E+02	2.54E-04
	Max	-5.93E-01	-2.13E-01	1.97E+04	1.01E+04
	Normalized peak height	1.53E-04		4.85E-01	
	Peak sensitivity value	-1.08E+00		2.69E-01	
	Shapiro-Wilk score	9.089E-01		1.46E-04	
20	(v4).Vr				
	Local	3.78E-01		-5.83E-02	
	Min	7.88E-02	1.58E-03	-1.97E+04	-1.04E+05
	Max	9.21E-01	1.57E+00	4.39E+02	-5.34E-05
	Normalized peak height	5.20E-05		7.06E-01	
	Peak sensitivity value	3.90E-01		1.42E-02	
	Shapiro-Wilk score	9.939E-01		1.03E-04	

Table 14: **Model: Explicit enzyme binding, very low enzyme (E=0.0001), irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1_1).k1				
	Local	1.00E+00		5.00E-01	
	Min	3.41E-01	3.33E-01	2.52E-01	2.50E-01
	Max	8.17E+02	2.40E+03	7.49E-01	7.50E-01
	Normalized peak height	9.82E-03		3.88E-05	
	Peak sensitivity value	9.82E-01		5.08E-01	
	Shapiro-Wilk score	6.523E-02		9.88E-01	
2	(v1_1).k2				
	Local	-9.09E-02		-4.55E-02	
	Min	-3.93E+01	-8.58E+01	-1.24E-01	-1.25E-01
	Max	-3.12E-02	-3.03E-02	-1.57E-02	-1.56E-02
	Normalized peak height	4.41E-03		4.77E-05	
	Peak sensitivity value	-9.14E-02		-4.28E-02	
	Shapiro-Wilk score	9.799E-02		9.72E-01	
3	(v1_2).k1				
	Local	1.09E+00		5.45E-01	
	Min	4.02E-01	3.87E-01	2.88E-01	2.86E-01
	Max	9.04E+02	1.43E+03	7.81E-01	7.82E-01
	Normalized peak height	1.14E-02		3.55E-05	
	Peak sensitivity value	1.03E+00		5.36E-01	
	Shapiro-Wilk score	6.587E-02		9.88E-01	

4	(v2_1).k1				
	Local	-2.22E-13		-2.17E-13	
	Min	-1.10E-10	-1.34E-08	-9.65E-13	-9.46E-13
	Max	2.02E-10	6.75E-08	9.60E-13	9.46E-13
	Normalized peak height	3.55E-01		7.43E-01	
	Peak sensitivity value	2.39E-16		-4.75E-18	
	Shapiro-Wilk score	1.405E-01		7.04E-01	
5	(v2_1).k2				
	Local	0.00E+00		0.00E+00	
	Min	-2.13E-10	-8.09E-09	-9.68E-13	-9.46E-13
	Max	1.70E-10	1.84E-08	9.60E-13	9.46E-13
	Normalized peak height	3.56E-01		7.44E-01	
	Peak sensitivity value	-7.49E-16		-7.89E-18	
	Shapiro-Wilk score	1.340E-01		7.01E-01	
6	(v2_2).k1				
	Local	0.00E+00		-2.17E-13	
	Min	-2.02E-10	-1.01E-08	-9.59E-13	-9.46E-13
	Max	1.36E-10	7.87E-09	1.09E-12	9.46E-13
	Normalized peak height	3.50E-01		7.43E-01	
	Peak sensitivity value	2.79E-16		-6.30E-18	
	Shapiro-Wilk score	1.355E-01		7.03E-01	
7	(v3_1).k1				
	Local	0.00E+00		0.00E+00	
	Min	-1.56E-10	-5.18E-07	-8.95E-13	-9.46E-13
	Max	1.90E-10	5.53E-09	9.60E-13	9.46E-13
	Normalized peak height	3.54E-01		7.42E-01	
	Peak sensitivity value	-1.38E-15		-3.49E-18	
	Shapiro-Wilk score	1.287E-01		7.04E-01	
8	(v3_1).k2				
	Local	-2.22E-13		0.00E+00	
	Min	-1.95E-10	-9.64E-09	-1.09E-12	-9.46E-13
	Max	1.79E-10	7.64E-09	9.94E-13	9.46E-13
	Normalized peak height	3.56E-01		7.44E-01	
	Peak sensitivity value	1.03E-15		-2.11E-18	
	Shapiro-Wilk score	1.303E-01		7.01E-01	
9	(v3_2).k1				
	Local	0.00E+00		0.00E+00	
	Min	-1.28E-10	-1.04E-08	-9.65E-13	-9.46E-13
	Max	1.68E-10	1.50E-08	9.94E-13	9.46E-13
	Normalized peak height	3.49E-01		7.43E-01	
	Peak sensitivity value	-1.45E-15		-2.95E-18	
	Shapiro-Wilk score	1.443E-01		7.03E-01	
10	(v4_1).k1				
	Local	-9.99E-01		-2.17E-13	
	Min	-9.99E-01	-9.99E-01	-8.83E-13	-9.46E-13
	Max	-9.99E-01	-9.99E-01	8.80E-13	9.46E-13
	Normalized peak height	1.00E+00		7.45E-01	
	Peak sensitivity value	-9.99E-01		1.71E-18	
	Shapiro-Wilk score	1.000E+00		7.00E-01	
11	(v4_1).k2				
	Local	9.09E-02		-2.17E-13	
	Min	3.23E-02	3.23E-02	-8.83E-13	-9.46E-13
	Max	2.31E-01	2.31E-01	8.88E-13	9.46E-13
	Normalized peak height	4.33E-05		7.48E-01	
	Peak sensitivity value	6.28E-02		5.02E-18	
	Shapiro-Wilk score	9.567E-01		6.96E-01	
12	(v4_2).k1				
	Local	-1.09E+00		0.00E+00	
	Min	-4.38E+02	-6.13E+02	-1.14E-12	-1.12E-12
	Max	-2.29E-01	-2.12E-01	1.04E-12	1.17E-12
	Normalized peak height	4.56E-03		4.67E-01	
	Peak sensitivity value	-5.59E-01		-6.25E-18	
	Shapiro-Wilk score	1.220E-01		9.40E-01	

Table 15: **Model: Explicit enzyme binding, low enzyme (E=0.1), irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1_1).k1				
	Local	1.00E+00		5.00E-01	
	Min	3.41E-01	3.33E-01	2.52E-01	2.50E-01
	Max	7.44E+03	2.17E+04	7.48E-01	7.50E-01
	Normalized peak height	8.82E-02		3.77E-05	
	Peak sensitivity value	9.74E-01		5.24E-01	
	Shapiro-Wilk score	2.148E-02		9.88E-01	
2	(v1_1).k2				
	Local	-9.09E-02		-4.55E-02	
	Min	-7.25E+01	-6.80E+02	-1.24E-01	-1.25E-01
	Max	-3.07E-02	-3.03E-02	-1.58E-02	-1.56E-02
	Normalized peak height	7.97E-03		4.77E-05	
	Peak sensitivity value	-8.90E-02		-4.79E-02	
	Shapiro-Wilk score	6.613E-02		9.72E-01	
3	(v1_2).k1				
	Local	1.09E+00		5.45E-01	
	Min	3.94E-01	3.87E-01	2.89E-01	2.86E-01
	Max	6.80E+03	1.06E+04	7.81E-01	7.82E-01
	Normalized peak height	8.24E-02		3.99E-05	
	Peak sensitivity value	1.04E+00		5.60E-01	
	Shapiro-Wilk score	1.933E-02		9.88E-01	
4	(v2_1).k1				
	Local	-4.44E-13		-2.22E-13	
	Min	-3.91E-10	-5.67E-08	-9.01E-13	-9.69E-13
	Max	3.01E-10	2.18E-06	9.12E-13	9.69E-13
	Normalized peak height	3.57E-01		7.43E-01	
	Peak sensitivity value	6.78E-17		-5.99E-18	
	Shapiro-Wilk score	8.534E-02		7.00E-01	
5	(v2_1).k2				
	Local	0.00E+00		-1.11E-13	
	Min	-2.95E-10	-1.02E-07	-9.72E-13	-9.69E-13
	Max	2.71E-10	1.04E-07	9.12E-13	9.69E-13
	Normalized peak height	3.59E-01		7.44E-01	
	Peak sensitivity value	-3.98E-16		-4.53E-19	
	Shapiro-Wilk score	8.586E-02		6.99E-01	
6	(v2_2).k1				
	Local	-2.22E-13		-1.11E-13	
	Min	-2.83E-10	-6.48E-08	-9.72E-13	-9.69E-13
	Max	3.03E-10	2.37E-07	9.12E-13	1.00E-12
	Normalized peak height	3.52E-01		7.44E-01	
	Peak sensitivity value	-8.39E-16		-4.53E-19	
	Shapiro-Wilk score	8.742E-02		6.99E-01	
7	(v3_1).k1				
	Local	0.00E+00		0.00E+00	
	Min	-3.63E-10	-1.06E-07	-9.72E-13	-9.69E-13
	Max	2.10E-10	8.67E-08	9.35E-13	9.69E-13
	Normalized peak height	3.57E-01		7.44E-01	
	Peak sensitivity value	1.11E-15		-9.51E-18	
	Shapiro-Wilk score	8.210E-02		6.99E-01	
8	(v3_1).k2				
	Local	-2.22E-13		-1.11E-13	
	Min	-3.10E-10	-8.29E-08	-8.85E-13	-9.69E-13
	Max	2.92E-10	7.03E-08	9.12E-13	9.69E-13
	Normalized peak height	3.57E-01		7.44E-01	
	Peak sensitivity value	-2.02E-15		7.56E-18	
	Shapiro-Wilk score	8.613E-02		6.99E-01	
9	(v3_2).k1				
	Local	-4.44E-13		-2.22E-13	
	Min	-2.42E-10	-7.94E-08	-8.84E-13	-9.69E-13
	Max	2.78E-10	6.29E-08	1.03E-12	9.69E-13
	Normalized peak height	3.52E-01		7.44E-01	
	Peak sensitivity value	2.45E-15		9.32E-18	
	Shapiro-Wilk score	9.027E-02		6.99E-01	

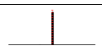
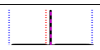
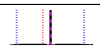
10	(v4_1).k1				
	Local	-9.99E-01		-1.11E-13	
	Min	-9.99E-01	-9.99E-01	-8.99E-13	-9.69E-13
	Max	-9.99E-01	-9.99E-01	9.99E-13	9.69E-13
	Normalized peak height	1.00E+00		7.47E-01	
	Peak sensitivity value	-9.99E-01		-1.27E-19	
	Shapiro-Wilk score	1.000E+00		6.95E-01	
11	(v4_1).k2				
	Local	9.09E-02		-2.22E-13	
	Min	3.23E-02	3.23E-02	-9.65E-13	-9.69E-13
	Max	2.31E-01	2.31E-01	9.35E-13	9.69E-13
	Normalized peak height	4.99E-05		7.49E-01	
	Peak sensitivity value	9.14E-02		-8.71E-18	
	Shapiro-Wilk score	9.567E-01		6.92E-01	
12	(v4_2).k1				
	Local	-1.09E+00		0.00E+00	
	Min	-6.05E+02	-9.68E+02	-1.05E-12	-1.13E-12
	Max	-2.24E-01	-2.12E-01	1.02E-12	1.24E-12
	Normalized peak height	6.37E-03		4.76E-01	
	Peak sensitivity value	-5.96E-01		-3.73E-18	
	Shapiro-Wilk score	1.010E-01		9.36E-01	

Table 16: **Model: Explicit enzyme binding, medium enzyme (E=1), irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1_1).k1				
	Local	1.00E+00		5.00E-01	
	Min	3.46E-01	3.33E-01	2.52E-01	2.50E-01
	Max	1.10E+04	2.85E+04	7.48E-01	7.50E-01
	Normalized peak height	1.31E-01		3.44E-05	
	Peak sensitivity value	9.52E-01		4.60E-01	
	Shapiro-Wilk score	1.919E-02		9.88E-01	
2	(v1_1).k2				
	Local	-9.09E-02		-4.55E-02	
	Min	-7.20E+01	-7.46E+02	-1.23E-01	-1.25E-01
	Max	-3.08E-02	-3.03E-02	-1.59E-02	-1.56E-02
	Normalized peak height	8.07E-03		4.88E-05	
	Peak sensitivity value	-8.94E-02		-4.18E-02	
	Shapiro-Wilk score	6.998E-02		9.72E-01	
3	(v1_2).k1				
	Local	1.09E+00		5.45E-01	
	Min	3.98E-01	3.87E-01	2.87E-01	2.86E-01
	Max	6.15E+03	1.69E+05	7.82E-01	7.82E-01
	Normalized peak height	7.41E-02		3.99E-05	
	Peak sensitivity value	1.04E+00		5.46E-01	
	Shapiro-Wilk score	2.234E-02		9.88E-01	
4	(v2_1).k1				
	Local	0.00E+00		-1.78E-13	
	Min	-2.32E-10	-1.57E-08	-9.47E-13	-7.75E-13
	Max	4.26E-10	9.81E-07	8.88E-13	7.75E-13
	Normalized peak height	3.46E-01		7.38E-01	
	Peak sensitivity value	-8.45E-16		-7.95E-18	
	Shapiro-Wilk score	7.313E-02		7.24E-01	
5	(v2_1).k2				
	Local	0.00E+00		-1.78E-13	
	Min	-2.60E-10	-1.28E-08	-9.41E-13	-7.86E-13
	Max	3.96E-10	3.80E-08	9.61E-13	7.75E-13
	Normalized peak height	3.47E-01		7.40E-01	
	Peak sensitivity value	-2.78E-15		-3.11E-19	
	Shapiro-Wilk score	7.611E-02		7.22E-01	

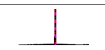
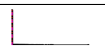
6	(v2_2).k1				
	Local	0.00E+00		-1.78E-13	
	Min	-4.72E-10	-7.85E-07	-9.28E-13	-7.75E-13
	Max	5.99E-10	1.34E-06	8.78E-13	7.75E-13
	Normalized peak height	3.41E-01		7.38E-01	
	Peak sensitivity value	5.80E-16		-4.56E-18	
	Shapiro-Wilk score	6.612E-02		7.24E-01	
7	(v3_1).k1				
	Local	0.00E+00		-1.78E-13	
	Min	-2.87E-10	-1.37E-06	-9.28E-13	-8.22E-13
	Max	2.84E-10	2.15E-06	1.01E-12	7.75E-13
	Normalized peak height	3.45E-01		7.39E-01	
	Peak sensitivity value	3.82E-16		6.46E-18	
	Shapiro-Wilk score	7.659E-02		7.23E-01	
8	(v3_1).k2				
	Local	0.00E+00		0.00E+00	
	Min	-2.38E-10	-1.42E-08	-1.01E-12	-7.75E-13
	Max	2.91E-10	1.86E-08	9.42E-13	7.75E-13
	Normalized peak height	3.47E-01		7.39E-01	
	Peak sensitivity value	3.14E-17		-4.45E-18	
	Shapiro-Wilk score	7.929E-02		7.22E-01	
9	(v3_2).k1				
	Local	0.00E+00		0.00E+00	
	Min	-3.28E-10	-1.74E-06	-9.44E-13	-7.75E-13
	Max	3.04E-10	1.37E-06	9.42E-13	7.75E-13
	Normalized peak height	3.41E-01		7.39E-01	
	Peak sensitivity value	1.12E-15		-1.47E-18	
	Shapiro-Wilk score	7.418E-02		7.23E-01	
10	(v4_1).k1				
	Local	-9.99E-01		0.00E+00	
	Min	-9.99E-01	-9.99E-01	-9.47E-13	-7.54E-13
	Max	-9.99E-01	-9.99E-01	8.79E-13	7.75E-13
	Normalized peak height	1.00E+00		7.40E-01	
	Peak sensitivity value	-9.99E-01		-7.12E-19	
	Shapiro-Wilk score	1.000E+00		7.21E-01	
11	(v4_1).k2				
	Local	9.09E-02		-1.78E-13	
	Min	3.23E-02	3.23E-02	-9.47E-13	-7.75E-13
	Max	2.30E-01	2.31E-01	9.42E-13	7.75E-13
	Normalized peak height	4.66E-05		7.44E-01	
	Peak sensitivity value	8.82E-02		4.78E-18	
	Shapiro-Wilk score	9.568E-01		7.17E-01	
12	(v4_2).k1				
	Local	-1.09E+00		-1.78E-13	
	Min	-6.26E+02	-9.97E+02	-8.78E-13	-9.63E-13
	Max	-2.30E-01	-2.12E-01	7.96E-13	9.64E-13
	Normalized peak height	6.45E-03		4.30E-01	
	Peak sensitivity value	-5.59E-01		-2.82E-18	
	Shapiro-Wilk score	1.053E-01		9.52E-01	

Table 17: **Model: Explicit enzyme binding, high enzyme (E=10), irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1_1).k1				
	Local	1.00E+00		5.00E-01	
	Min	3.39E-01	3.33E-01	2.52E-01	2.50E-01
	Max	7.05E+03	5.41E+04	7.48E-01	7.50E-01
	Normalized peak height	8.41E-02		3.55E-05	
	Peak sensitivity value	9.39E-01		4.85E-01	
	Shapiro-Wilk score	1.982E-02		9.88E-01	

2	(v1_1).k2				
	Local	-9.09E-02		-4.55E-02	
	Min	-7.67E+01	-8.29E+02	-1.23E-01	-1.25E-01
	Max	-3.11E-02	-3.03E-02	-1.59E-02	-1.56E-02
	Normalized peak height	8.53E-03		4.55E-05	
	Peak sensitivity value	-9.21E-02		-4.69E-02	
	Shapiro-Wilk score	6.578E-02		9.72E-01	
3	(v1_2).k1				
	Local	1.09E+00		5.45E-01	
	Min	3.96E-01	3.87E-01	2.88E-01	2.86E-01
	Max	2.35E+04	6.62E+04	7.82E-01	7.82E-01
	Normalized peak height	2.74E-01		3.66E-05	
	Peak sensitivity value	9.84E-01		5.41E-01	
	Shapiro-Wilk score	8.751E-03		9.88E-01	
4	(v2_1).k1				
	Local	0.00E+00		0.00E+00	
	Min	-1.88E-10	-1.94E-06	-1.15E-12	-1.24E-12
	Max	2.84E-10	2.03E-06	1.13E-12	1.24E-12
	Normalized peak height	3.97E-01		7.62E-01	
	Peak sensitivity value	-1.03E-15		-8.04E-18	
	Shapiro-Wilk score	8.763E-02		6.94E-01	
5	(v2_1).k2				
	Local	0.00E+00		-1.42E-13	
	Min	-2.88E-10	-1.82E-06	-1.15E-12	-6.87E-13
	Max	2.65E-10	1.48E-06	1.14E-12	1.24E-12
	Normalized peak height	4.66E-01		7.97E-01	
	Peak sensitivity value	-1.97E-15		9.99E-18	
	Shapiro-Wilk score	8.440E-02		6.40E-01	
6	(v2_2).k1				
	Local	0.00E+00		0.00E+00	
	Min	-2.35E-10	-1.72E-06	-1.15E-12	-1.24E-12
	Max	2.78E-10	2.21E-06	1.16E-12	1.24E-12
	Normalized peak height	3.81E-01		7.59E-01	
	Peak sensitivity value	-1.25E-15		-1.80E-18	
	Shapiro-Wilk score	9.064E-02		6.99E-01	
7	(v3_1).k1				
	Local	0.00E+00		-1.42E-13	
	Min	-1.73E-10	-1.73E-06	-1.15E-12	-1.21E-12
	Max	2.53E-10	2.22E-06	1.16E-12	8.74E-13
	Normalized peak height	4.02E-01		7.67E-01	
	Peak sensitivity value	-1.53E-15		-1.80E-18	
	Shapiro-Wilk score	9.546E-02		6.87E-01	
8	(v3_1).k2				
	Local	0.00E+00		-1.42E-13	
	Min	-2.72E-10	-1.57E-06	-1.15E-12	-1.24E-12
	Max	2.83E-10	1.47E-06	1.16E-12	1.24E-12
	Normalized peak height	4.66E-01		7.98E-01	
	Peak sensitivity value	-2.76E-15		-1.80E-18	
	Shapiro-Wilk score	7.170E-02		6.39E-01	
9	(v3_2).k1				
	Local	0.00E+00		0.00E+00	
	Min	-1.69E-10	-1.89E-06	-1.15E-12	-1.24E-12
	Max	3.36E-10	1.88E-06	1.13E-12	1.24E-12
	Normalized peak height	3.78E-01		7.61E-01	
	Peak sensitivity value	1.54E-15		-8.04E-18	
	Shapiro-Wilk score	9.157E-02		6.96E-01	
10	(v4_1).k1				
	Local	-9.99E-01		0.00E+00	
	Min	-9.99E-01	-9.99E-01	-1.15E-12	-1.24E-12
	Max	-9.99E-01	-9.99E-01	1.14E-12	1.24E-12
	Normalized peak height	1.00E+00		7.61E-01	
	Peak sensitivity value	-9.99E-01		-6.83E-18	
	Shapiro-Wilk score	1.000E+00		6.96E-01	
11	(v4_1).k2				
	Local	9.09E-02		0.00E+00	
	Min	3.23E-02	3.23E-02	-1.15E-12	-1.24E-12
	Max	2.31E-01	2.31E-01	1.16E-12	1.24E-12
	Normalized peak height	4.55E-05		7.91E-01	
	Peak sensitivity value	8.27E-02		-1.80E-18	
	Shapiro-Wilk score	9.567E-01		6.50E-01	

12	(v4_2).k1				
	Local	-1.09E+00		-1.42E-13	
	Min	-6.30E+02	-9.86E+02	-1.02E-12	-1.37E-12
	Max	-2.33E-01	-2.12E-01	1.15E-12	1.35E-12
	Normalized peak height	6.62E-03		5.03E-01	
	Peak sensitivity value	-5.70E-01		-4.67E-18	
	Shapiro-Wilk score	1.016E-01		9.19E-01	

Table 18: **Model: Explicit enzyme binding, very low enzyme (E=0.0001), Reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1_1).k1				
	Local	3.97E-01		4.35E-01	
	Min	1.82E-01	8.70E-02	-1.69E+02	2.90E-02
	Max	1.33E+00	3.54E+00	1.73E+02	1.32E+07
	Normalized peak height	9.80E-05		1.73E-02	
	Peak sensitivity value	3.73E-01		4.19E-01	
	Shapiro-Wilk score	9.477E-01		7.23E-02	
2	(v1_1).k2				
	Local	-1.83E-01		-2.01E-01	
	Min	-4.50E-01	-1.05E+00	-1.73E+02	-9.20E+03
	Max	-5.46E-02	-1.78E-02	1.69E+02	-5.08E-03
	Normalized peak height	5.70E-05		1.79E-02	
	Peak sensitivity value	-1.77E-01		-1.82E-01	
	Shapiro-Wilk score	9.946E-01		7.70E-02	
3	(v1_2).k1				
	Local	4.25E-01		4.66E-01	
	Min	1.82E-01	8.42E-02	-1.69E+02	3.23E-02
	Max	1.44E+00	4.08E+00	1.73E+02	3.61E+06
	Normalized peak height	9.40E-05		1.63E-02	
	Peak sensitivity value	3.97E-01		4.43E-01	
	Shapiro-Wilk score	9.484E-01		7.66E-02	
4	(v1_2).k2				
	Local	-2.76E-01		-3.03E-01	
	Min	-7.21E-01	-1.32E+00	-1.73E+02	-2.65E+03
	Max	-1.20E-01	-7.35E-02	1.69E+02	-1.71E-02
	Normalized peak height	8.40E-05		2.15E-02	
	Peak sensitivity value	-2.64E-01		-2.78E-01	
	Shapiro-Wilk score	9.657E-01		6.42E-02	
5	(v2_1).k1				
	Local	2.76E-01		3.03E-01	
	Min	1.20E-01	7.34E-02	-1.69E+02	1.70E-02
	Max	7.22E-01	1.32E+00	1.73E+02	3.80E+04
	Normalized peak height	8.80E-05		2.15E-02	
	Peak sensitivity value	2.78E-01		2.84E-01	
	Shapiro-Wilk score	9.656E-01		6.44E-02	
6	(v2_1).k2				
	Local	-1.28E-01		-1.40E-01	
	Min	-3.27E-01	-5.10E-01	-1.73E+02	-8.86E+05
	Max	-2.10E-02	-9.53E-03	1.69E+02	-3.62E-03
	Normalized peak height	6.30E-05		2.46E-02	
	Peak sensitivity value	-1.40E-01		-1.15E-01	
	Shapiro-Wilk score	9.894E-01		5.62E-02	
7	(v2_2).k1				
	Local	2.96E-01		3.24E-01	
	Min	5.83E-02	2.52E-02	-1.69E+02	3.84E-02
	Max	1.12E+00	3.16E+00	1.73E+02	INF
	Normalized peak height	9.60E-05		1.69E-02	
	Peak sensitivity value	2.71E-01		2.94E-01	
	Shapiro-Wilk score	9.708E-01		7.95E-02	

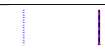
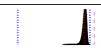
8	(v2_2).k2				
	Local	-1.92E-01		-2.11E-01	
	Min	-5.30E-01	-9.55E-01	-1.73E+02	-1.58E+05
	Max	-2.89E-02	-8.35E-03	1.69E+02	-1.09E-02
	Normalized peak height	7.00E-05		2.24E-02	
	Peak sensitivity value	-1.94E-01		-1.91E-01	
	Shapiro-Wilk score	9.944E-01		6.36E-02	
9	(v3_1).k1				
	Local	1.92E-01		2.11E-01	
	Min	2.89E-02	8.34E-03	-1.69E+02	1.09E-02
	Max	5.30E-01	9.56E-01	1.73E+02	2.11E+04
	Normalized peak height	7.20E-05		2.24E-02	
	Peak sensitivity value	1.77E-01		1.92E-01	
	Shapiro-Wilk score	9.944E-01		6.38E-02	
10	(v3_1).k2				
	Local	-8.87E-02		-9.72E-02	
	Min	-3.23E-01	-6.34E-01	-1.73E+02	-9.47E+05
	Max	-7.84E-03	-1.44E-03	1.69E+02	-1.47E-03
	Normalized peak height	5.70E-05		3.03E-02	
	Peak sensitivity value	-8.15E-02		-7.58E-02	
	Shapiro-Wilk score	9.749E-01		4.45E-02	
11	(v3_2).k1				
	Local	2.06E-01		2.25E-01	
	Min	1.87E-02	3.49E-03	-1.69E+02	3.94E-03
	Max	9.31E-01	3.26E+00	1.73E+02	5.17E+04
	Normalized peak height	7.50E-05		1.58E-02	
	Peak sensitivity value	1.72E-01		2.00E-01	
	Shapiro-Wilk score	9.737E-01		8.76E-02	
12	(v3_2).k2				
	Local	-1.34E-01		-1.46E-01	
	Min	-4.67E-01	-9.19E-01	-1.73E+02	-3.45E+08
	Max	-1.05E-02	-1.36E-03	1.69E+02	-1.52E-03
	Normalized peak height	6.20E-05		2.29E-02	
	Peak sensitivity value	-1.24E-01		-1.27E-01	
	Shapiro-Wilk score	9.843E-01		5.96E-02	
13	(v4_1).k1				
	Local	-8.65E-01		1.46E-01	
	Min	-9.89E-01	-9.98E-01	-1.69E+02	1.46E-03
	Max	-5.32E-01	-7.96E-02	1.73E+02	8.77E+06
	Normalized peak height	6.60E-05		2.28E-02	
	Peak sensitivity value	-8.61E-01		1.29E-01	
	Shapiro-Wilk score	9.842E-01		5.97E-02	
14	(v4_1).k2				
	Local	4.00E-01		-6.76E-02	
	Min	1.41E-01	1.11E-01	-1.73E+02	-8.18E+09
	Max	8.24E-01	1.19E+00	1.69E+02	-3.26E-04
	Normalized peak height	5.50E-05		3.80E-02	
	Peak sensitivity value	4.33E-01		-4.78E-02	
	Shapiro-Wilk score	9.959E-01		3.52E-02	
15	(v4_2).k1				
	Local	-9.26E-01		1.57E-01	
	Min	-2.90E+00	-7.07E+00	-1.69E+02	8.85E-04
	Max	-4.90E-01	-4.16E-01	1.73E+02	2.06E+06
	Normalized peak height	1.10E-04		1.77E-02	
	Peak sensitivity value	-8.71E-01		1.34E-01	
	Shapiro-Wilk score	9.191E-01		7.98E-02	
16	(v4_2).k2				
	Local	6.03E-01		-1.02E-01	
	Min	3.25E-01	2.80E-01	-1.73E+02	-6.37E+04
	Max	8.38E-01	9.12E-01	1.69E+02	-6.01E-04
	Normalized peak height	5.30E-05		2.75E-02	
	Peak sensitivity value	6.34E-01		-7.97E-02	
	Shapiro-Wilk score	9.899E-01		4.85E-02	

Table 19: **Model: Explicit enzyme binding, low enzyme (E=0.1), Reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1_1).k1				
	Local	3.97E-01		4.35E-01	
	Min	1.88E-01	8.70E-02	-4.22E+03	2.90E-02
	Max	1.34E+00	3.54E+00	1.30E+02	9.32E+03
	Normalized peak height	9.30E-05		2.17E-01	
	Peak sensitivity value	3.44E-01		4.22E-01	
	Shapiro-Wilk score	9.478E-01		7.00E-04	
2	(v1_1).k2				
	Local	-1.83E-01		-2.01E-01	
	Min	-4.82E-01	-1.05E+00	-1.29E+02	-1.54E+04
	Max	-5.37E-02	-1.78E-02	4.22E+03	-5.08E-03
	Normalized peak height	6.30E-05		2.21E-01	
	Peak sensitivity value	-1.81E-01		-1.74E-01	
	Shapiro-Wilk score	9.944E-01		7.44E-04	
3	(v1_2).k1				
	Local	4.25E-01		4.66E-01	
	Min	1.88E-01	8.42E-02	-4.22E+03	7.95E-02
	Max	1.60E+00	4.08E+00	1.30E+02	1.27E+07
	Normalized peak height	1.05E-04		2.02E-01	
	Peak sensitivity value	4.10E-01		4.38E-01	
	Shapiro-Wilk score	9.483E-01		7.38E-04	
4	(v1_2).k2				
	Local	-2.76E-01		-3.03E-01	
	Min	-7.47E-01	-1.32E+00	-1.30E+02	-2.07E+05
	Max	-1.22E-01	-7.80E-02	4.22E+03	-1.71E-02
	Normalized peak height	9.10E-05		2.60E-01	
	Peak sensitivity value	-2.63E-01		-2.99E-01	
	Shapiro-Wilk score	9.659E-01		6.33E-04	
5	(v2_1).k1				
	Local	2.76E-01		3.03E-01	
	Min	1.22E-01	7.34E-02	-4.22E+03	4.35E-02
	Max	7.47E-01	1.32E+00	1.30E+02	1.08E+07
	Normalized peak height	9.30E-05		2.60E-01	
	Peak sensitivity value	2.67E-01		2.99E-01	
	Shapiro-Wilk score	9.658E-01		6.34E-04	
6	(v2_1).k2				
	Local	-1.28E-01		-1.40E-01	
	Min	-3.53E-01	-5.22E-01	-1.29E+02	-8.26E+04
	Max	-2.21E-02	-9.53E-03	4.22E+03	-1.05E-02
	Normalized peak height	6.20E-05		3.02E-01	
	Peak sensitivity value	-1.34E-01		-1.23E-01	
	Shapiro-Wilk score	9.897E-01		5.65E-04	
7	(v2_2).k1				
	Local	2.96E-01		3.24E-01	
	Min	6.73E-02	2.52E-02	-4.22E+03	3.84E-02
	Max	1.10E+00	3.16E+00	1.30E+02	2.22E+04
	Normalized peak height	9.30E-05		2.09E-01	
	Peak sensitivity value	2.60E-01		3.12E-01	
	Shapiro-Wilk score	9.708E-01		7.63E-04	
8	(v2_2).k2				
	Local	-1.92E-01		-2.11E-01	
	Min	-5.72E-01	-9.55E-01	-1.29E+02	-2.57E+14
	Max	-2.62E-02	-8.35E-03	4.22E+03	-1.09E-02
	Normalized peak height	7.80E-05		2.76E-01	
	Peak sensitivity value	-1.95E-01		-1.91E-01	
	Shapiro-Wilk score	9.945E-01		6.28E-04	
9	(v3_1).k1				
	Local	1.92E-01		2.11E-01	
	Min	2.62E-02	8.34E-03	-4.22E+03	1.09E-02
	Max	5.72E-01	9.56E-01	1.29E+02	4.62E+06
	Normalized peak height	7.60E-05		2.72E-01	
	Peak sensitivity value	2.09E-01		1.84E-01	
	Shapiro-Wilk score	9.939E-01		6.28E-04	

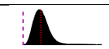
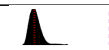
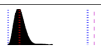
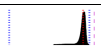
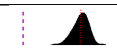
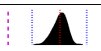
10	(v3_1).k2				
	Local	-8.87E-02		-9.72E-02	
	Min	-3.36E-01	-6.34E-01	-1.29E+02	-1.19E+08
	Max	-4.53E-03	-1.44E-03	4.22E+03	-1.47E-03
	Normalized peak height	6.00E-05		3.49E-01	
	Peak sensitivity value	-7.45E-02		-9.28E-02	
	Shapiro-Wilk score	9.757E-01		4.65E-04	
11	(v3_2).k1				
	Local	2.06E-01		2.25E-01	
	Min	1.44E-02	4.84E-03	-4.22E+03	3.94E-03
	Max	9.01E-01	3.26E+00	1.29E+02	1.54E+05
	Normalized peak height	7.20E-05		1.92E-01	
	Peak sensitivity value	1.89E-01		2.26E-01	
	Shapiro-Wilk score	9.740E-01		8.35E-04	
12	(v3_2).k2				
	Local	-1.34E-01		-1.46E-01	
	Min	-5.08E-01	-9.19E-01	-1.29E+02	-9.81E+09
	Max	-6.28E-03	-1.36E-03	4.22E+03	-1.46E-03
	Normalized peak height	6.80E-05		2.77E-01	
	Peak sensitivity value	-1.05E-01		-1.18E-01	
	Shapiro-Wilk score	9.844E-01		5.94E-04	
13	(v4_1).k1				
	Local	-8.65E-01		1.46E-01	
	Min	-9.93E-01	-9.98E-01	-4.22E+03	1.46E-03
	Max	-4.91E-01	-7.96E-02	1.29E+02	3.00E+04
	Normalized peak height	6.60E-05		2.73E-01	
	Peak sensitivity value	-8.60E-01		1.14E-01	
	Shapiro-Wilk score	9.837E-01		5.94E-04	
14	(v4_1).k2				
	Local	4.00E-01		-6.76E-02	
	Min	1.38E-01	1.11E-01	-1.29E+02	-4.31E+06
	Max	8.21E-01	1.19E+00	4.22E+03	-3.26E-04
	Normalized peak height	5.00E-05		4.14E-01	
	Peak sensitivity value	4.16E-01		-6.40E-02	
	Shapiro-Wilk score	9.959E-01		3.85E-04	
15	(v4_2).k1				
	Local	-9.26E-01		1.57E-01	
	Min	-3.27E+00	-6.88E+00	-4.22E+03	8.85E-04
	Max	-5.17E-01	-4.16E-01	1.29E+02	2.66E+03
	Normalized peak height	1.20E-04		2.24E-01	
	Peak sensitivity value	-9.15E-01		1.26E-01	
	Shapiro-Wilk score	9.187E-01		7.67E-04	
16	(v4_2).k2				
	Local	6.03E-01		-1.02E-01	
	Min	2.98E-01	2.80E-01	-1.29E+02	-3.27E+03
	Max	8.53E-01	9.12E-01	4.22E+03	-6.01E-04
	Normalized peak height	6.10E-05		3.16E-01	
	Peak sensitivity value	6.23E-01		-6.50E-02	
	Shapiro-Wilk score	9.900E-01		4.99E-04	

Table 20: **Model: Explicit enzyme binding, medium enzyme (E=1), Reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1_1).k1				
	Local	3.97E-01		4.35E-01	
	Min	1.91E-01	8.70E-02	-4.90E+02	2.90E-02
	Max	1.38E+00	3.54E+00	6.76E+02	1.36E+04
	Normalized peak height	1.06E-04		5.85E-02	
	Peak sensitivity value	3.80E-01		4.11E-01	
	Shapiro-Wilk score	9.483E-01		1.04E-02	

2	(v1_1).k2				
	Local	-1.83E-01		-2.01E-01	
	Min	-5.08E-01	-1.05E+00	-6.76E+02	-1.36E+07
	Max	-5.03E-02	-1.78E-02	4.90E+02	-5.08E-03
	Normalized peak height	6.50E-05		6.07E-02	
	Peak sensitivity value	-1.85E-01		-1.95E-01	
	Shapiro-Wilk score	9.945E-01		1.12E-02	
3	(v1_2).k1				
	Local	4.25E-01		4.66E-01	
	Min	1.92E-01	8.42E-02	-4.90E+02	3.23E-02
	Max	1.62E+00	4.08E+00	6.76E+02	7.53E+04
	Normalized peak height	1.09E-04		5.50E-02	
	Peak sensitivity value	4.04E-01		4.55E-01	
	Shapiro-Wilk score	9.487E-01		1.11E-02	
4	(v1_2).k2				
	Local	-2.76E-01		-3.03E-01	
	Min	-7.25E-01	-1.32E+00	-6.76E+02	-7.59E+08
	Max	-1.15E-01	-7.35E-02	4.90E+02	-1.71E-02
	Normalized peak height	8.70E-05		7.33E-02	
	Peak sensitivity value	-2.65E-01		-2.85E-01	
	Shapiro-Wilk score	9.655E-01		9.34E-03	
5	(v2_1).k1				
	Local	2.76E-01		3.03E-01	
	Min	1.15E-01	7.34E-02	-4.90E+02	8.53E-02
	Max	7.25E-01	1.32E+00	6.76E+02	1.02E+06
	Normalized peak height	8.60E-05		7.33E-02	
	Peak sensitivity value	2.51E-01		2.87E-01	
	Shapiro-Wilk score	9.654E-01		9.33E-03	
6	(v2_1).k2				
	Local	-1.28E-01		-1.40E-01	
	Min	-3.52E-01	-5.22E-01	-6.76E+02	-1.81E+05
	Max	-2.20E-02	-9.53E-03	4.90E+02	-1.05E-02
	Normalized peak height	6.30E-05		8.31E-02	
	Peak sensitivity value	-1.27E-01		-1.16E-01	
	Shapiro-Wilk score	9.899E-01		8.21E-03	
7	(v2_2).k1				
	Local	2.96E-01		3.24E-01	
	Min	6.33E-02	2.52E-02	-4.90E+02	3.85E-02
	Max	1.05E+00	3.16E+00	6.76E+02	1.92E+04
	Normalized peak height	8.50E-05		5.72E-02	
	Peak sensitivity value	2.91E-01		3.07E-01	
	Shapiro-Wilk score	9.709E-01		1.15E-02	
8	(v2_2).k2				
	Local	-1.92E-01		-2.11E-01	
	Min	-5.23E-01	-9.55E-01	-6.76E+02	-1.27E+05
	Max	-2.47E-02	-8.35E-03	4.90E+02	-1.09E-02
	Normalized peak height	6.70E-05		7.61E-02	
	Peak sensitivity value	-1.98E-01		-1.94E-01	
	Shapiro-Wilk score	9.942E-01		9.26E-03	
9	(v3_1).k1				
	Local	1.92E-01		2.11E-01	
	Min	2.47E-02	8.34E-03	-4.90E+02	1.09E-02
	Max	5.23E-01	9.56E-01	6.76E+02	4.12E+07
	Normalized peak height	6.70E-05		7.57E-02	
	Peak sensitivity value	1.83E-01		1.87E-01	
	Shapiro-Wilk score	9.941E-01		9.24E-03	
10	(v3_1).k2				
	Local	-8.87E-02		-9.72E-02	
	Min	-3.34E-01	-6.34E-01	-6.76E+02	-1.24E+09
	Max	-6.56E-03	-1.44E-03	4.90E+02	-1.47E-03
	Normalized peak height	5.70E-05		1.03E-01	
	Peak sensitivity value	-8.63E-02		-7.04E-02	
	Shapiro-Wilk score	9.757E-01		6.53E-03	
11	(v3_2).k1				
	Local	2.06E-01		2.25E-01	
	Min	1.59E-02	3.49E-03	-4.90E+02	3.94E-03
	Max	9.46E-01	3.26E+00	6.76E+02	1.79E+09
	Normalized peak height	8.10E-05		5.35E-02	
	Peak sensitivity value	1.85E-01		2.02E-01	
	Shapiro-Wilk score	9.735E-01		1.27E-02	

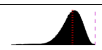
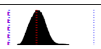
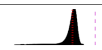
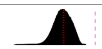
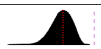
12	(v3_2).k2				
	Local	-1.34E-01		-1.46E-01	
	Min	-4.82E-01	-6.11E-01	-6.76E+02	-2.24E+08
	Max	-7.92E-03	-2.25E-03	4.90E+02	-1.46E-03
	Normalized peak height	6.70E-05		7.70E-02	
	Peak sensitivity value	-1.21E-01		-1.26E-01	
	Shapiro-Wilk score	9.845E-01		8.68E-03	
13	(v4_1).k1				
	Local	-8.65E-01		1.46E-01	
	Min	-9.91E-01	-9.98E-01	-4.90E+02	1.46E-03
	Max	-5.18E-01	-7.96E-02	6.76E+02	2.16E+03
	Normalized peak height	6.50E-05		7.73E-02	
	Peak sensitivity value	-8.78E-01		1.28E-01	
	Shapiro-Wilk score	9.829E-01		8.67E-03	
14	(v4_1).k2				
	Local	4.00E-01		-6.76E-02	
	Min	1.41E-01	1.85E-02	-6.76E+02	-1.78E+08
	Max	8.35E-01	1.19E+00	4.90E+02	-3.81E-04
	Normalized peak height	5.10E-05		1.27E-01	
	Peak sensitivity value	4.44E-01		-4.06E-02	
	Shapiro-Wilk score	9.961E-01		5.24E-03	
15	(v4_2).k1				
	Local	-9.26E-01		1.57E-01	
	Min	-3.25E+00	-7.07E+00	-4.90E+02	8.85E-04
	Max	-5.11E-01	-4.16E-01	6.76E+02	1.99E+05
	Normalized peak height	1.22E-04		6.08E-02	
	Peak sensitivity value	-8.67E-01		1.18E-01	
	Shapiro-Wilk score	9.189E-01		1.15E-02	
16	(v4_2).k2				
	Local	6.03E-01		-1.02E-01	
	Min	3.19E-01	2.80E-01	-6.76E+02	-4.40E+07
	Max	8.49E-01	9.18E-01	4.90E+02	-6.01E-04
	Normalized peak height	5.10E-05		9.28E-02	
	Peak sensitivity value	6.36E-01		-8.12E-02	
	Shapiro-Wilk score	9.901E-01		7.11E-03	

Table 21: **Model: Explicit enzyme binding, high enzyme (E=10), Reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1_1).k1				
	Local	3.97E-01		4.35E-01	
	Min	1.90E-01	8.70E-02	-6.69E+01	2.90E-02
	Max	1.29E+00	3.54E+00	2.93E+02	1.77E+06
	Normalized peak height	9.20E-05		1.83E-02	
	Peak sensitivity value	3.50E-01		4.18E-01	
	Shapiro-Wilk score	9.485E-01		7.66E-02	
2	(v1_1).k2				
	Local	-1.83E-01		-2.01E-01	
	Min	-4.66E-01	-1.05E+00	-2.93E+02	-3.22E+06
	Max	-5.95E-02	-1.78E-02	6.70E+01	-5.08E-03
	Normalized peak height	6.10E-05		1.89E-02	
	Peak sensitivity value	-1.89E-01		-1.90E-01	
	Shapiro-Wilk score	9.945E-01		8.20E-02	
3	(v1_2).k1				
	Local	4.25E-01		4.66E-01	
	Min	1.93E-01	8.42E-02	-6.68E+01	3.23E-02
	Max	1.43E+00	4.08E+00	2.93E+02	7.67E+05
	Normalized peak height	9.10E-05		1.71E-02	
	Peak sensitivity value	3.87E-01		4.46E-01	
	Shapiro-Wilk score	9.492E-01		8.14E-02	

4	(v1_2).k2				
	Local	-2.76E-01		-3.03E-01	
	Min	-7.07E-01	-1.32E+00	-2.93E+02	-3.35E+04
	Max	-1.12E-01	-7.35E-02	6.69E+01	-4.35E-02
	Normalized peak height	8.80E-05		2.28E-02	
	Peak sensitivity value	-2.75E-01		-2.84E-01	
	Shapiro-Wilk score	9.660E-01		6.81E-02	
5	(v2_1).k1				
	Local	2.76E-01		3.03E-01	
	Min	1.12E-01	7.34E-02	-6.69E+01	1.70E-02
	Max	7.07E-01	1.32E+00	2.93E+02	1.81E+06
	Normalized peak height	8.90E-05		2.26E-02	
	Peak sensitivity value	2.53E-01		2.79E-01	
	Shapiro-Wilk score	9.662E-01		6.79E-02	
6	(v2_1).k2				
	Local	-1.28E-01		-1.40E-01	
	Min	-3.49E-01	-5.22E-01	-2.93E+02	-1.15E+04
	Max	-2.28E-02	-9.53E-03	6.71E+01	-3.62E-03
	Normalized peak height	6.60E-05		2.59E-02	
	Peak sensitivity value	-1.31E-01		-1.21E-01	
	Shapiro-Wilk score	9.901E-01		5.94E-02	
7	(v2_2).k1				
	Local	2.96E-01		3.24E-01	
	Min	5.91E-02	2.52E-02	-6.69E+01	3.84E-02
	Max	1.02E+00	3.16E+00	2.93E+02	5.63E+08
	Normalized peak height	8.90E-05		1.77E-02	
	Peak sensitivity value	2.82E-01		3.11E-01	
	Shapiro-Wilk score	9.715E-01		8.42E-02	
8	(v2_2).k2				
	Local	-1.92E-01		-2.11E-01	
	Min	-5.38E-01	-9.55E-01	-2.93E+02	-2.83E+05
	Max	-2.73E-02	-8.35E-03	6.70E+01	-1.09E-02
	Normalized peak height	7.40E-05		2.36E-02	
	Peak sensitivity value	-1.81E-01		-1.89E-01	
	Shapiro-Wilk score	9.943E-01		6.73E-02	
9	(v3_1).k1				
	Local	1.92E-01		2.11E-01	
	Min	2.73E-02	8.34E-03	-6.70E+01	1.09E-02
	Max	5.39E-01	9.56E-01	2.93E+02	1.19E+07
	Normalized peak height	7.30E-05		2.37E-02	
	Peak sensitivity value	1.95E-01		1.89E-01	
	Shapiro-Wilk score	9.944E-01		6.71E-02	
10	(v3_1).k2				
	Local	-8.87E-02		-9.72E-02	
	Min	-3.40E-01	-6.34E-01	-2.92E+02	-8.01E+07
	Max	-6.02E-03	-1.44E-03	6.71E+01	-1.47E-03
	Normalized peak height	6.10E-05		3.20E-02	
	Peak sensitivity value	-7.56E-02		-7.51E-02	
	Shapiro-Wilk score	9.753E-01		4.67E-02	
11	(v3_2).k1				
	Local	2.06E-01		2.25E-01	
	Min	1.49E-02	3.49E-03	-6.70E+01	3.94E-03
	Max	1.03E+00	3.26E+00	2.93E+02	1.92E+03
	Normalized peak height	8.00E-05		1.66E-02	
	Peak sensitivity value	1.81E-01		1.90E-01	
	Shapiro-Wilk score	9.738E-01		9.29E-02	
12	(v3_2).k2				
	Local	-1.34E-01		-1.46E-01	
	Min	-4.89E-01	-9.19E-01	-2.93E+02	-1.37E+04
	Max	-7.80E-03	-1.36E-03	6.71E+01	-1.46E-03
	Normalized peak height	6.70E-05		2.40E-02	
	Peak sensitivity value	-1.28E-01		-1.32E-01	
	Shapiro-Wilk score	9.842E-01		6.30E-02	
13	(v4_1).k1				
	Local	-8.65E-01		1.46E-01	
	Min	-9.91E-01	-9.98E-01	-6.71E+01	1.46E-03
	Max	-5.10E-01	-7.96E-02	2.93E+02	INF
	Normalized peak height	6.50E-05		2.39E-02	
	Peak sensitivity value	-8.87E-01		1.26E-01	
	Shapiro-Wilk score	9.840E-01		6.28E-02	

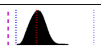
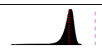
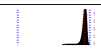
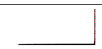
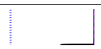
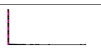
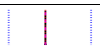
14	(v4_1).k2				
	Local	4.00E-01		-6.76E-02	
	Min	1.36E-01	1.11E-01	-2.92E+02	-2.60E+04
	Max	8.28E-01	1.19E+00	6.73E+01	-3.26E-04
	Normalized peak height	4.90E-05		4.03E-02	
	Peak sensitivity value	4.03E-01		-4.80E-02	
	Shapiro-Wilk score	9.959E-01		3.68E-02	
15	(v4_2).k1				
	Local	-9.26E-01		1.57E-01	
	Min	-2.91E+00	-7.07E+00	-6.71E+01	8.85E-04
	Max	-5.16E-01	-4.16E-01	2.92E+02	8.13E+04
	Normalized peak height	1.12E-04		1.88E-02	
	Peak sensitivity value	-8.53E-01		1.22E-01	
	Shapiro-Wilk score	9.199E-01		8.44E-02	
16	(v4_2).k2				
	Local	6.03E-01		-1.02E-01	
	Min	3.17E-01	2.80E-01	-2.92E+02	-2.20E+04
	Max	8.52E-01	9.18E-01	6.72E+01	-6.01E-04
	Normalized peak height	5.40E-05		2.89E-02	
	Peak sensitivity value	6.20E-01		-7.65E-02	
	Shapiro-Wilk score	9.900E-01		5.11E-02	

Table 22: **Model: Hill, h=0.5, irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Shalve				
	Local	-9.99E-01		-2.50E-01	
	Min	-3.10E+02	-7.76E+02	-2.75E-01	-2.75E-01
	Max	-5.18E-01	-5.14E-01	-2.07E-01	-2.07E-01
	Normalized peak height	5.54E-03		5.66E-05	
	Peak sensitivity value	-7.30E-01		-2.64E-01	
	Shapiro-Wilk score	1.106E-01		9.42E-01	
2	(v1).V				
	Local	4.01E+00		1.00E+00	
	Min	2.36E+00	2.35E+00	1.00E+00	1.00E+00
	Max	2.31E+04	2.75E+04	1.00E+00	1.00E+00
	Normalized peak height	1.04E-01		1.00E+00	
	Peak sensitivity value	2.94E+00		1.00E+00	
	Shapiro-Wilk score	1.771E-02		1.00E+00	
3	(v2).Shalve				
	Local	-2.22E-13		-1.78E-13	
	Min	-2.52E-10	-1.45E-09	-9.34E-13	-1.09E-12
	Max	2.36E-10	1.56E-09	9.34E-13	9.50E-13
	Normalized peak height	1.73E-01		5.98E-01	
	Peak sensitivity value	-1.78E-15		8.89E-18	
	Shapiro-Wilk score	2.024E-01		8.65E-01	
4	(v2).V				
	Local	0.00E+00		0.00E+00	
	Min	-3.79E-10	-1.50E-09	-1.11E-12	-8.87E-13
	Max	3.23E-10	1.31E-09	1.09E-12	1.07E-12
	Normalized peak height	1.70E-01		5.93E-01	
	Peak sensitivity value	3.99E-16		-9.29E-18	
	Shapiro-Wilk score	1.959E-01		8.68E-01	
5	(v3).Shalve				
	Local	-6.66E-13		-1.78E-13	
	Min	-2.27E-10	-6.34E-10	-1.02E-12	-8.96E-13
	Max	2.53E-10	1.57E-09	1.05E-12	9.67E-13
	Normalized peak height	1.73E-01		5.97E-01	
	Peak sensitivity value	1.02E-15		-6.99E-18	
	Shapiro-Wilk score	1.934E-01		8.65E-01	

6	(v3).V				
	Local	-2.22E-13		-1.78E-13	
	Min	-2.61E-10	-1.73E-09	-1.01E-12	-1.07E-12
	Max	2.12E-10	1.42E-09	1.05E-12	1.09E-12
	Normalized peak height	1.68E-01		5.93E-01	
	Peak sensitivity value	-2.14E-15		9.78E-18	
	Shapiro-Wilk score	1.973E-01		8.68E-01	
7	(v4).Shalve				
	Local	1.00E+00		-1.78E-13	
	Min	1.00E+00	1.00E+00	-1.09E-12	-8.21E-13
	Max	1.00E+00	1.00E+00	1.07E-12	1.11E-12
	Normalized peak height	1.00E+00		4.65E-01	
	Peak sensitivity value	1.00E+00		-9.25E-18	
	Shapiro-Wilk score	1.000E+00		9.39E-01	
8	(v4).V				
	Local	-3.99E+00		-3.55E-13	
	Min	-6.90E+02	-9.57E+02	-9.37E-13	-1.10E-12
	Max	-2.35E+00	-2.35E+00	1.15E-12	1.10E-12
	Normalized peak height	3.21E-03		4.62E-01	
	Peak sensitivity value	-2.84E+00		9.55E-18	
	Shapiro-Wilk score	1.475E-01		9.40E-01	
9	Values[h].InitialValue				
	Local	-8.88E-13		-3.55E-13	
	Min	-1.41E+02	NA	-1.12E-01	NA
	Max	1.99E+02	NA	1.44E-01	
	Normalized peak height	1.00E-03		3.85E-05	
	Peak sensitivity value	2.07E-01		-4.77E-02	
	Shapiro-Wilk score	5.384E-01		9.52E-01	

Table 23: **Model: Hill, h=2, irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Shalve				
	Local	-9.99E-01		-1.00E+00	
	Min	-3.37E+02	-9.99E+02	-1.38E+00	-1.38E+00
	Max	-2.76E-01	-2.73E-01	-4.00E-01	-4.00E-01
	Normalized peak height	5.46E-03		6.03E-05	
	Peak sensitivity value	-8.27E-01		-1.34E+00	
	Shapiro-Wilk score	1.022E-01		9.30E-01	
2	(v1).V				
	Local	1.00E+00		1.00E+00	
	Min	5.59E-01	5.57E-01	1.00E+00	1.00E+00
	Max	2.23E+04	1.17E+06	1.00E+00	1.00E+00
	Normalized peak height	3.43E-01		1.00E+00	
	Peak sensitivity value	6.70E-01		1.00E+00	
	Shapiro-Wilk score	5.845E-03		1.00E+00	
3	(v2).Shalve				
	Local	2.22E-13		1.78E-13	
	Min	-1.08E-10	-1.26E+01	-1.09E-12	-1.28E-12
	Max	1.19E-10	1.12E+01	1.22E-12	1.24E-12
	Normalized peak height	5.10E-01		6.41E-01	
	Peak sensitivity value	-9.69E-16		1.10E-17	
	Shapiro-Wilk score	1.474E-01		8.24E-01	
4	(v2).V				
	Local	-2.22E-13		-1.78E-13	
	Min	-1.30E-10	-3.79E+01	-1.18E-12	-1.22E-12
	Max	1.63E-10	4.76E+01	1.30E-12	1.22E-12
	Normalized peak height	5.09E-01		6.40E-01	
	Peak sensitivity value	3.77E-16		1.20E-17	
	Shapiro-Wilk score	1.438E-01		8.25E-01	

5	(v3).Shalve				
	Local	2.22E-13		1.78E-13	
	Min	-9.21E-11	-3.21E+01	-1.27E-12	-1.28E-12
	Max	1.29E-10	2.43E+01	1.32E-12	1.23E-12
	Normalized peak height	5.10E-01		6.42E-01	
	Peak sensitivity value	-3.38E-16		-1.07E-18	
	Shapiro-Wilk score	1.507E-01		8.24E-01	
6	(v3).V				
	Local	-2.22E-13		-1.78E-13	
	Min	-1.11E-10	-3.27E+01	-1.31E-12	-1.11E-12
	Max	1.28E-10	2.33E+01	1.23E-12	1.04E-12
	Normalized peak height	5.09E-01		6.40E-01	
	Peak sensitivity value	-4.87E-16		4.63E-18	
	Shapiro-Wilk score	1.480E-01		8.25E-01	
7	(v4).Shalve				
	Local	1.00E+00		0.00E+00	
	Min	1.00E+00	-2.58E+01	-1.41E-12	-1.36E-12
	Max	1.00E+00	2.84E+01	1.27E-12	1.30E-12
	Normalized peak height	1.00E+00		3.71E-01	
	Peak sensitivity value	1.00E+00		1.10E-17	
	Shapiro-Wilk score	1.000E+00		9.67E-01	
8	(v4).V				
	Local	-9.99E-01		-1.78E-13	
	Min	-2.93E+02	-9.99E+02	-1.38E-12	-1.28E-12
	Max	-5.58E-01	-5.57E-01	1.25E-12	1.21E-12
	Normalized peak height	6.12E-03		3.70E-01	
	Peak sensitivity value	-7.32E-01		9.35E-18	
	Shapiro-Wilk score	1.011E-01		9.67E-01	
9	Values[h].InitialValue				
	Local	0.00E+00		0.00E+00	
	Min	-1.51E+02	NA	-5.61E-01	NA
	Max	1.65E+02	NA	2.78E-01	
	Normalized peak height	5.10E-03		2.75E-03	
	Peak sensitivity value	-3.49E-04		2.78E-01	
	Shapiro-Wilk score	1.524E-01		9.39E-01	

Table 24: **Model: Hill, h=0.5, Reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Phalve				
	Local	2.71E-01		2.80E-01	
	Min	6.87E-02	2.28E-02	-3.24E+02	2.18E-02
	Max	7.13E-01	9.80E-01	6.50E+02	2.74E+04
	Normalized peak height	8.10E-05		7.02E-02	
	Peak sensitivity value	2.41E-01		2.53E-01	
	Shapiro-Wilk score	9.687E-01		1.02E-02	
2	(v1).Shalve				
	Local	-3.39E-01		-3.50E-01	
	Min	-9.33E-01	-1.33E+00	-6.50E+02	-8.05E+05
	Max	-1.53E-01	-9.59E-02	3.24E+02	-6.81E-02
	Normalized peak height	8.60E-05		7.52E-02	
	Peak sensitivity value	-2.94E-01		-3.32E-01	
	Shapiro-Wilk score	9.530E-01		9.32E-03	
3	(v1).Vf				
	Local	4.69E-01		4.84E-01	
	Min	1.59E-01	7.94E-02	-3.24E+02	1.09E-01
	Max	1.53E+00	3.51E+00	6.50E+02	1.40E+05
	Normalized peak height	8.00E-05		4.88E-02	
	Peak sensitivity value	3.94E-01		4.57E-01	
	Shapiro-Wilk score	9.509E-01		1.32E-02	

4	(v2).Phalve				
	Local	2.17E-01		2.24E-01	
	Min	4.60E-02	1.07E-02	-3.24E+02	9.74E-03
	Max	6.01E-01	8.39E-01	6.50E+02	5.23E+12
	Normalized peak height	7.50E-05		6.99E-02	
	Peak sensitivity value	2.04E-01		2.00E-01	
	Shapiro-Wilk score	9.769E-01		1.03E-02	
5	(v2).Shalve				
	Local	-2.71E-01		-2.80E-01	
	Min	-7.12E-01	-9.79E-01	-6.50E+02	-1.38E+07
	Max	-6.87E-02	-2.28E-02	3.24E+02	-2.18E-02
	Normalized peak height	8.10E-05		7.04E-02	
	Peak sensitivity value	-2.50E-01		-2.58E-01	
	Shapiro-Wilk score	9.692E-01		1.02E-02	
6	(v2).Vf				
	Local	3.75E-01		3.87E-01	
	Min	9.35E-02	3.75E-02	-3.24E+02	3.67E-02
	Max	1.23E+00	2.96E+00	6.50E+02	1.80E+08
	Normalized peak height	8.80E-05		4.88E-02	
	Peak sensitivity value	3.31E-01		3.62E-01	
	Shapiro-Wilk score	9.601E-01		1.35E-02	
7	(v3).Phalve				
	Local	1.73E-01		1.79E-01	
	Min	2.91E-02	6.42E-03	-3.24E+02	6.99E-03
	Max	5.33E-01	7.78E-01	6.50E+02	3.98E+08
	Normalized peak height	6.80E-05		7.25E-02	
	Peak sensitivity value	1.53E-01		1.58E-01	
	Shapiro-Wilk score	9.721E-01		9.80E-03	
8	(v3).Shalve				
	Local	-2.17E-01		-2.24E-01	
	Min	-6.01E-01	-8.38E-01	-6.50E+02	-5.46E+06
	Max	-4.60E-02	-1.70E-02	3.24E+02	-9.75E-03
	Normalized peak height	6.90E-05		6.95E-02	
	Peak sensitivity value	-2.11E-01		-2.07E-01	
	Shapiro-Wilk score	9.773E-01		1.04E-02	
9	(v3).Vf				
	Local	3.00E-01		3.09E-01	
	Min	6.70E-02	1.60E-02	-3.24E+02	1.49E-02
	Max	1.36E+00	2.73E+00	6.50E+02	3.20E+14
	Normalized peak height	9.40E-05		4.88E-02	
	Peak sensitivity value	2.78E-01		2.86E-01	
	Shapiro-Wilk score	9.665E-01		1.41E-02	
10	(v4).Phalve				
	Local	-6.60E-01		1.43E-01	
	Min	-8.57E-01	-9.00E-01	-3.24E+02	3.89E-03
	Max	-1.97E-01	-3.41E-02	6.50E+02	2.78E+06
	Normalized peak height	7.50E-05		8.04E-02	
	Peak sensitivity value	-6.96E-01		1.17E-01	
	Shapiro-Wilk score	9.714E-01		8.73E-03	
11	(v4).Shalve				
	Local	8.27E-01		-1.79E-01	
	Min	4.67E-01	2.22E-01	-6.50E+02	-8.14E+04
	Max	9.71E-01	9.94E-01	3.24E+02	-5.47E-03
	Normalized peak height	7.10E-05		7.24E-02	
	Peak sensitivity value	8.40E-01		-1.55E-01	
	Shapiro-Wilk score	9.690E-01		9.83E-03	
12	(v4).Vf				
	Local	-1.14E+00		2.47E-01	
	Min	-2.99E+00	-4.74E+00	-3.24E+02	7.58E-03
	Max	-6.26E-01	-3.09E-01	6.50E+02	1.98E+03
	Normalized peak height	1.27E-04		4.92E-02	
	Peak sensitivity value	-1.08E+00		2.21E-01	
	Shapiro-Wilk score	9.361E-01		1.40E-02	
13	Values[Vr_1].InitialValue				
	Local	-1.41E-01		-1.45E-01	
	Min	-3.62E-01	-6.10E-01	-6.50E+02	-2.57E+05
	Max	-2.42E-02	-6.39E-03	3.24E+02	-6.11E-03
	Normalized peak height	5.80E-05		6.95E-02	
	Peak sensitivity value	-1.42E-01		-1.27E-01	
	Shapiro-Wilk score	9.835E-01		1.01E-02	

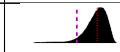
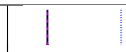
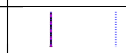
14	Values[Vr_2].InitialValue				
	Local	-1.13E-01		-1.16E-01	
	Min	-3.66E-01	-3.89E-01	-6.50E+02	-8.87E+04
	Max	-1.25E-02	-4.42E-03	3.24E+02	-3.28E-03
	Normalized peak height	6.30E-05		7.97E-02	
	Peak sensitivity value	-1.09E-01		-9.13E-02	
	Shapiro-Wilk score	9.761E-01		8.70E-03	
15	Values[Vr_3].InitialValue				
	Local	-8.99E-02		-9.28E-02	
	Min	-3.73E-01	-8.15E-01	-6.50E+02	-2.66E+03
	Max	-7.37E-03	-1.46E-03	3.24E+02	-1.22E-03
	Normalized peak height	6.40E-05		9.25E-02	
	Peak sensitivity value	-7.79E-02		-7.00E-02	
	Shapiro-Wilk score	9.626E-01		7.47E-03	
16	Values[Vr_4].InitialValue				
	Local	3.43E-01		-7.42E-02	
	Min	5.85E-02	8.20E-03	-6.50E+02	-1.14E+03
	Max	8.60E-01	1.35E+00	3.24E+02	-1.03E-03
	Normalized peak height	5.30E-05		1.09E-01	
	Peak sensitivity value	3.42E-01		-5.69E-02	
	Shapiro-Wilk score	9.943E-01		6.33E-03	
17	Values[h].InitialValue				
	Local	0.00E+00		1.44E-01	
	Min	-3.65E-01	NA	-2.98E-01	NA
	Max	2.20E-01	NA	2.71E-01	
	Normalized peak height	7.80E-05		6.20E-05	
	Peak sensitivity value	-4.13E-03		1.80E-01	
	Shapiro-Wilk score	9.945E-01		9.67E-01	

Table 25: **Model: Hill, h=2, Reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Phalve				
	Local	2.77E-01		3.12E-01	
	Min	1.32E-02	-1.26E-03	-3.10E+02	-5.10E-04
	Max	9.12E-01	2.44E+00	5.42E+01	6.86E+07
	Normalized peak height	9.10E-05		1.61E-02	
	Peak sensitivity value	2.53E-01		2.76E-01	
	Shapiro-Wilk score	9.838E-01		1.08E-01	
2	(v1).Shalve				
	Local	-4.29E-01		-4.84E-01	
	Min	-2.14E+00	-1.30E+01	-5.43E+01	-2.34E+05
	Max	-1.01E-01	-1.09E-02	3.10E+02	-7.26E-03
	Normalized peak height	1.09E-04		8.46E-03	
	Peak sensitivity value	-3.38E-01		-3.94E-01	
	Shapiro-Wilk score	9.289E-01		2.45E-01	
3	(v1).Vf				
	Local	5.43E-01		6.12E-01	
	Min	1.42E-01	1.60E-02	-3.10E+02	1.45E-02
	Max	2.55E+00	1.28E+01	5.44E+01	5.72E+03
	Normalized peak height	1.00E-04		7.36E-03	
	Peak sensitivity value	4.82E-01		5.61E-01	
	Shapiro-Wilk score	9.474E-01		2.49E-01	
4	(v2).Phalve				
	Local	1.79E-01		2.02E-01	
	Min	-5.62E-02	-1.07E-01	-3.10E+02	-1.89E-01
	Max	8.06E-01	9.82E-01	5.39E+01	9.06E+08
	Normalized peak height	7.20E-05		1.82E-02	
	Peak sensitivity value	1.91E-01		1.97E-01	
	Shapiro-Wilk score	9.940E-01		8.84E-02	

5	(v2).Shalve				
	Local	-2.77E-01		-3.12E-01	
	Min	-9.11E-01	-2.44E+00	-5.42E+01	-3.42E+03
	Max	-1.32E-02	1.15E-03	3.10E+02	4.67E-04
	Normalized peak height	9.30E-05		1.61E-02	
	Peak sensitivity value	-2.87E-01		-2.76E-01	
	Shapiro-Wilk score	9.839E-01		1.08E-01	
6	(v2).Vf				
	Local	3.50E-01		3.95E-01	
	Min	1.33E-02	-1.14E-03	-3.10E+02	-4.63E-04
	Max	1.71E+00	5.19E+00	5.42E+01	5.87E+04
	Normalized peak height	1.07E-04		1.36E-02	
	Peak sensitivity value	3.26E-01		3.74E-01	
	Shapiro-Wilk score	9.734E-01		1.14E-01	
7	(v3).Phalve				
	Local	1.15E-01		1.30E-01	
	Min	-3.85E-02	-8.00E-02	-3.11E+02	-1.75E-01
	Max	8.00E-01	9.82E-01	5.37E+01	4.58E+02
	Normalized peak height	1.04E-04		1.64E-02	
	Peak sensitivity value	-3.61E-06		1.39E-01	
	Shapiro-Wilk score	9.606E-01		7.70E-02	
8	(v3).Shalve				
	Local	-1.79E-01		-2.02E-01	
	Min	-8.05E-01	-9.81E-01	-5.39E+01	-3.83E+05
	Max	5.61E-02	1.07E-01	3.10E+02	1.89E-01
	Normalized peak height	7.60E-05		1.82E-02	
	Peak sensitivity value	-1.96E-01		-1.97E-01	
	Shapiro-Wilk score	9.940E-01		8.81E-02	
9	(v3).Vf				
	Local	2.26E-01		2.55E-01	
	Min	-5.76E-02	-1.16E-01	-3.11E+02	-2.01E-01
	Max	1.46E+00	5.12E+00	5.39E+01	4.67E+06
	Normalized peak height	7.30E-05		1.20E-02	
	Peak sensitivity value	2.33E-01		2.77E-01	
	Shapiro-Wilk score	9.778E-01		1.35E-01	
10	(v4).Phalve				
	Local	-5.70E-01		8.40E-02	
	Min	-9.53E-01	-1.02E+00	-3.11E+02	-2.07E-01
	Max	-1.79E-01	-1.45E-01	5.35E+01	1.49E+09
	Normalized peak height	4.30E-05		2.35E-02	
	Peak sensitivity value	-5.78E-01		2.11E-03	
	Shapiro-Wilk score	9.939E-01		5.53E-02	
11	(v4).Shalve				
	Local	8.84E-01		-1.30E-01	
	Min	2.00E-01	1.78E-02	-5.37E+01	-5.71E+06
	Max	1.04E+00	1.09E+00	3.11E+02	2.18E-01
	Normalized peak height	1.29E-04		1.64E-02	
	Peak sensitivity value	1.00E+00		-1.39E-01	
	Shapiro-Wilk score	9.610E-01		7.67E-02	
12	(v4).Vf				
	Local	-1.12E+00		1.65E-01	
	Min	-3.85E+00	-1.30E+01	-3.11E+02	-2.17E-01
	Max	-6.36E-01	-2.82E-01	5.37E+01	8.18E+03
	Normalized peak height	1.84E-04		1.14E-02	
	Peak sensitivity value	-1.04E+00		2.65E-03	
	Shapiro-Wilk score	8.670E-01		1.29E-01	
13	Values[Vr_1].InitialValue				
	Local	-1.63E-01		-1.84E-01	
	Min	-5.43E-01	-1.31E+00	-5.41E+01	-4.79E+04
	Max	-2.32E-02	-2.37E-03	3.10E+02	-2.15E-03
	Normalized peak height	6.70E-05		1.74E-02	
	Peak sensitivity value	-1.35E-01		-1.53E-01	
	Shapiro-Wilk score	9.781E-01		1.02E-01	
14	Values[Vr_2].InitialValue				
	Local	-1.05E-01		-1.19E-01	
	Min	-3.61E-01	-5.81E-01	-5.39E+01	-3.32E+04
	Max	-1.32E-03	8.40E-05	3.10E+02	3.51E-05
	Normalized peak height	5.80E-05		2.66E-02	
	Peak sensitivity value	-1.05E-01		-9.27E-02	
	Shapiro-Wilk score	9.859E-01		5.43E-02	

15	Values[Vr_3].InitialValue				
	Local	-6.79E-02		-7.66E-02	
	Min	-3.65E-01	-6.68E-01	-5.37E+01	-5.86E+08
	Max	2.37E-02	8.52E-02	3.11E+02	1.51E-01
	Normalized peak height	5.40E-05		3.08E-02	
	Peak sensitivity value	-4.60E-02		-4.94E-02	
	Shapiro-Wilk score	9.588E-01		4.07E-02	
16	Values[Vr_4].InitialValue				
	Local	3.36E-01		-4.95E-02	
	Min	6.43E-02	4.08E-03	-5.35E+01	-1.10E+07
	Max	8.89E-01	9.81E-01	3.11E+02	1.99E-01
	Normalized peak height	4.90E-05		3.97E-02	
	Peak sensitivity value	3.16E-01		-2.25E-02	
	Shapiro-Wilk score	9.873E-01		3.01E-02	
17	Values[h].InitialValue				
	Local	0.00E+00		2.77E-01	
	Min	-5.54E-01	NA	-1.19E+00	NA
	Max	5.67E-01	NA	2.78E-01	
	Normalized peak height	1.71E-04		2.03E-04	
	Peak sensitivity value	-2.24E-03		2.49E-01	
	Shapiro-Wilk score	9.365E-01		7.30E-01	

Table 26: **Model: Inhibition, competitive, irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Ki				
	Local	2.76E-01		1.71E-01	
	Min	3.69E-02	3.21E-02	3.09E-02	2.79E-02
	Max	8.38E-01	8.64E-01	2.85E-01	2.86E-01
	Normalized peak height	4.47E-05		4.57E-05	
	Peak sensitivity value	3.16E-01		1.59E-01	
	Shapiro-Wilk score	9.732E-01		9.92E-01	
2	(v1).Km				
	Local	-7.23E-01		-4.47E-01	
	Min	-1.17E+00	-1.20E+00	-5.87E-01	-5.92E-01
	Max	-4.46E-01	-4.34E-01	-1.18E-01	-9.47E-02
	Normalized peak height	5.89E-05		4.67E-05	
	Peak sensitivity value	-6.90E-01		-4.07E-01	
	Shapiro-Wilk score	9.874E-01		9.85E-01	
3	(v1).V				
	Local	1.17E+00		7.23E-01	
	Min	8.78E-01	8.73E-01	1.70E-01	1.36E-01
	Max	1.96E+00	2.00E+00	9.64E-01	9.68E-01
	Normalized peak height	9.24E-05		4.67E-05	
	Peak sensitivity value	1.12E+00		7.28E-01	
	Shapiro-Wilk score	9.603E-01		9.73E-01	
4	(v2).Km				
	Local	0.00E+00		0.00E+00	
	Min	-1.78E-12	-8.55E-12	-1.39E-12	-1.01E-12
	Max	2.72E-12	1.58E-12	1.02E-12	1.04E-12
	Normalized peak height	4.34E-01		6.24E-01	
	Peak sensitivity value	6.22E-18		-5.58E-18	
	Shapiro-Wilk score	9.430E-01		8.44E-01	
5	(v2).V				
	Local	0.00E+00		0.00E+00	
	Min	-2.87E-12	-1.36E-12	-1.39E-12	-1.30E-12
	Max	2.15E-12	1.73E-12	1.04E-12	1.03E-12
	Normalized peak height	4.32E-01		6.23E-01	
	Peak sensitivity value	-1.34E-17		-1.20E-17	
	Shapiro-Wilk score	9.437E-01		8.45E-01	

6	(v3).Km				
	Local	1.80E-13		1.16E-13	
	Min	-5.14E-12	-9.12E-12	-1.04E-12	-8.19E-13
	Max	2.44E-12	1.90E-12	1.12E-12	1.23E-12
	Normalized peak height	4.33E-01		6.24E-01	
	Peak sensitivity value	-1.33E-17		8.78E-18	
	Shapiro-Wilk score	9.434E-01		8.44E-01	
7	(v3).V				
	Local	1.80E-13		1.16E-13	
	Min	-4.48E-12	-8.73E-12	-9.98E-13	-1.04E-12
	Max	2.15E-12	1.74E-12	1.04E-12	1.08E-12
	Normalized peak height	4.31E-01		6.22E-01	
	Peak sensitivity value	2.83E-18		-2.61E-18	
	Shapiro-Wilk score	9.440E-01		8.46E-01	
8	(v4).Km				
	Local	7.23E-01		-1.71E-01	
	Min	1.62E-01	1.36E-01	-2.85E-01	-2.86E-01
	Max	9.63E-01	9.68E-01	-3.09E-02	-2.80E-02
	Normalized peak height	4.67E-05		4.57E-05	
	Peak sensitivity value	7.36E-01		-1.71E-01	
	Shapiro-Wilk score	9.732E-01		9.91E-01	
9	(v4).V				
	Local	-1.17E+00		2.76E-01	
	Min	-1.96E+00	-2.00E+00	3.58E-02	3.21E-02
	Max	-8.77E-01	-8.72E-01	8.30E-01	8.64E-01
	Normalized peak height	8.93E-05		4.77E-05	
	Peak sensitivity value	-1.16E+00		2.40E-01	
	Shapiro-Wilk score	9.598E-01		9.73E-01	

Table 27: **Model: Inhibition, noncompetitive, irreversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Ki				
	Local	3.33E-01		2.22E-01	
	Min	5.91E-02	5.03E-02	4.84E-02	4.39E-02
	Max	7.36E-01	7.61E-01	3.17E-01	3.17E-01
	Normalized peak height	4.51E-05		5.21E-05	
	Peak sensitivity value	3.12E-01		2.42E-01	
	Shapiro-Wilk score	9.950E-01		9.84E-01	
2	(v1).Km				
	Local	-5.00E-01		-3.33E-01	
	Min	-8.13E-01	-8.19E-01	-5.62E-01	-5.69E-01
	Max	-2.65E-01	-2.63E-01	-9.18E-02	-7.96E-02
	Normalized peak height	4.61E-05		4.71E-05	
	Peak sensitivity value	-5.15E-01		-3.03E-01	
	Shapiro-Wilk score	9.923E-01		9.92E-01	
3	(v1).V				
	Local	1.00E+00		6.66E-01	
	Min	7.89E-01	7.89E-01	2.71E-01	2.39E-01
	Max	1.36E+00	1.37E+00	9.44E-01	9.50E-01
	Normalized peak height	6.72E-05		4.51E-05	
	Peak sensitivity value	1.00E+00		6.77E-01	
	Shapiro-Wilk score	9.881E-01		9.95E-01	
4	(v2).Km				
	Local	0.00E+00		0.00E+00	
	Min	-2.00E-12	-1.45E-12	-9.54E-13	-1.08E-12
	Max	1.34E-12	1.81E-12	1.10E-12	1.01E-12
	Normalized peak height	4.55E-01		6.21E-01	
	Peak sensitivity value	4.75E-18		-6.40E-18	
	Shapiro-Wilk score	9.384E-01		8.46E-01	

5	(v2).V				
	Local	0.00E+00		0.00E+00	
	Min	-1.33E-12	-1.51E-12	-9.85E-13	-1.05E-12
	Max	1.21E-12	6.44E-12	1.00E-12	1.10E-12
	Normalized peak height	4.52E-01		6.17E-01	
	Peak sensitivity value	-3.51E-18		9.21E-18	
	Shapiro-Wilk score	9.395E-01		8.49E-01	
6	(v3).Km				
	Local	0.00E+00		0.00E+00	
	Min	-1.27E-12	-1.45E-12	-1.09E-12	-1.21E-12
	Max	1.28E-12	1.13E-12	1.00E-12	1.12E-12
	Normalized peak height	4.53E-01		6.19E-01	
	Peak sensitivity value	-1.20E-17		-3.10E-18	
	Shapiro-Wilk score	9.389E-01		8.48E-01	
7	(v3).V				
	Local	0.00E+00		0.00E+00	
	Min	-2.00E-12	-1.57E-12	-1.07E-12	-1.10E-12
	Max	1.36E-12	1.30E-11	1.02E-12	1.10E-12
	Normalized peak height	4.51E-01		6.17E-01	
	Peak sensitivity value	6.83E-18		1.67E-19	
	Shapiro-Wilk score	9.398E-01		8.49E-01	
8	(v4).Km				
	Local	6.67E-01		-2.22E-01	
	Min	2.64E-01	2.39E-01	-3.17E-01	-3.17E-01
	Max	9.41E-01	9.50E-01	-4.85E-02	-4.40E-02
	Normalized peak height	4.61E-05		4.81E-05	
	Peak sensitivity value	6.89E-01		-2.16E-01	
	Shapiro-Wilk score	9.950E-01		9.84E-01	
9	(v4).V				
	Local	-9.99E-01		3.33E-01	
	Min	-1.36E+00	-1.36E+00	5.57E-02	5.03E-02
	Max	-7.88E-01	-7.88E-01	7.28E-01	7.61E-01
	Normalized peak height	6.72E-05		4.71E-05	
	Peak sensitivity value	-1.00E+00		3.25E-01	
	Shapiro-Wilk score	9.881E-01		9.95E-01	

Table 28: **Model: Inhibition, competitive, Reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Ki				
	Local	9.43E-02		1.12E-01	
	Min	-1.48E-02	-1.02E-01	5.81E-03	9.88E-04
	Max	4.87E-01	7.38E-01	5.50E-01	6.81E-01
	Normalized peak height	6.70E-05		6.70E-05	
	Peak sensitivity value	5.33E-02		8.07E-02	
	Shapiro-Wilk score	9.232E-01		9.40E-01	
2	(v1).Kmp				
	Local	2.04E-01		2.43E-01	
	Min	1.70E-02	1.36E-03	-2.42E+02	5.00E-03
	Max	4.44E-01	6.59E-01	1.01E+02	9.78E+03
	Normalized peak height	6.00E-05		1.71E-02	
	Peak sensitivity value	1.96E-01		2.32E-01	
	Shapiro-Wilk score	9.989E-01		9.54E-02	
3	(v1).Kms				
	Local	-4.03E-01		-4.81E-01	
	Min	-8.02E-01	-1.05E+00	-1.01E+02	-4.48E+08
	Max	-1.50E-01	-6.17E-02	2.42E+02	-5.69E-02
	Normalized peak height	6.60E-05		1.74E-02	
	Peak sensitivity value	-3.73E-01		-4.80E-01	
	Shapiro-Wilk score	9.914E-01		8.24E-02	

4	(v1).Vf				
Local		5.09E-01		6.06E-01	
Min		1.53E-01	5.40E-02	-2.42E+02	8.34E-02
Max		1.18E+00	1.52E+00	1.01E+02	8.95E+03
Normalized peak height		6.90E-05		1.41E-02	
Peak sensitivity value		4.74E-01		5.96E-01	
Shapiro-Wilk score		9.909E-01		9.98E-02	
5	(v1).Vr				
Local		-1.21E-01		-1.44E-01	
Min		-3.65E-01	-5.26E-01	-1.01E+02	-3.63E+05
Max		-9.61E-03	-1.07E-03	2.42E+02	-2.22E-03
Normalized peak height		5.70E-05		2.10E-02	
Peak sensitivity value		-1.12E-01		-1.15E-01	
Shapiro-Wilk score		9.877E-01		7.61E-02	
6	(v2).Kmp				
Local		1.37E-01		1.63E-01	
Min		5.78E-03	4.52E-04	-2.42E+02	1.62E-03
Max		3.84E-01	5.29E-01	1.01E+02	2.02E+03
Normalized peak height		5.30E-05		1.97E-02	
Peak sensitivity value		1.39E-01		1.50E-01	
Shapiro-Wilk score		9.931E-01		7.86E-02	
7	(v2).Kms				
Local		-2.04E-01		-2.43E-01	
Min		-4.44E-01	-6.59E-01	-1.01E+02	-3.78E+06
Max		-1.70E-02	-1.36E-03	2.42E+02	-5.01E-03
Normalized peak height		5.70E-05		1.72E-02	
Peak sensitivity value		-1.98E-01		-2.33E-01	
Shapiro-Wilk score		9.991E-01		9.52E-02	
8	(v2).Vf				
Local		2.57E-01		3.06E-01	
Min		1.78E-02	1.40E-03	-2.42E+02	5.68E-03
Max		8.06E-01	1.65E+00	1.01E+02	7.84E+09
Normalized peak height		6.30E-05		1.27E-02	
Peak sensitivity value		2.52E-01		3.10E-01	
Shapiro-Wilk score		9.953E-01		1.32E-01	
9	(v2).Vr				
Local		-8.12E-02		-9.68E-02	
Min		-3.57E-01	-5.67E-01	-1.00E+02	-4.46E+04
Max		-3.15E-03	-3.38E-04	2.42E+02	-8.63E-04
Normalized peak height		6.80E-05		2.84E-02	
Peak sensitivity value		-6.91E-02		-6.88E-02	
Shapiro-Wilk score		9.686E-01		5.53E-02	
10	(v3).Kmp				
Local		9.43E-02		1.12E-01	
Min		3.22E-03	3.75E-04	-2.42E+02	4.69E-04
Max		3.56E-01	6.53E-01	1.00E+02	2.53E+07
Normalized peak height		5.50E-05		2.56E-02	
Peak sensitivity value		6.51E-02		8.97E-02	
Shapiro-Wilk score		9.717E-01		6.00E-02	
11	(v3).Kms				
Local		-1.37E-01		-1.63E-01	
Min		-3.84E-01	-5.29E-01	-1.01E+02	-2.66E+04
Max		-5.79E-03	-4.53E-04	2.42E+02	-1.67E-03
Normalized peak height		4.90E-05		1.97E-02	
Peak sensitivity value		-1.36E-01		-1.49E-01	
Shapiro-Wilk score		9.931E-01		7.83E-02	
12	(v3).Vf				
Local		1.73E-01		2.06E-01	
Min		6.33E-03	4.65E-04	-2.42E+02	1.73E-03
Max		7.32E-01	1.69E+00	1.01E+02	2.27E+11
Normalized peak height		7.10E-05		1.44E-02	
Peak sensitivity value		1.65E-01		1.76E-01	
Shapiro-Wilk score		9.827E-01		1.11E-01	
13	(v3).Vr				
Local		-5.59E-02		-6.66E-02	
Min		-3.61E-01	-7.63E-01	-1.00E+02	-7.54E+05
Max		-1.64E-03	-1.78E-04	2.42E+02	-2.24E-04
Normalized peak height		7.60E-05		3.87E-02	
Peak sensitivity value		-4.21E-02		-4.48E-02	
Shapiro-Wilk score		9.345E-01		4.02E-02	

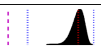
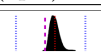
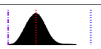
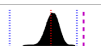
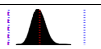
14	(v4).Kmp				
	Local	-5.76E-01		1.60E-01	
	Min	-8.72E-01	-9.33E-01	-2.42E+02	6.52E-03
	Max	-2.46E-01	-1.09E-01	1.00E+02	1.25E+07
	Normalized peak height	5.20E-05		2.12E-02	
	Peak sensitivity value	-5.77E-01		1.42E-01	
	Shapiro-Wilk score	9.980E-01		7.18E-02	
15	(v4).Kms				
	Local	8.11E-01		-2.25E-01	
	Min	4.54E-01	2.30E-01	-1.00E+02	-1.91E+04
	Max	9.68E-01	9.94E-01	2.42E+02	-1.26E-02
	Normalized peak height	6.00E-05		1.83E-02	
	Peak sensitivity value	8.42E-01		-2.14E-01	
	Shapiro-Wilk score	9.784E-01		8.04E-02	
16	(v4).Vf				
	Local	-1.02E+00		2.83E-01	
	Min	-1.83E+00	-2.66E+00	-2.42E+02	1.20E-02
	Max	-6.44E-01	-3.17E-01	1.00E+02	7.54E+07
	Normalized peak height	1.41E-04		1.32E-02	
	Peak sensitivity value	-1.01E+00		2.72E-01	
	Shapiro-Wilk score	9.684E-01		1.19E-01	
17	(v4).Vr				
	Local	3.41E-01		-9.46E-02	
	Min	7.51E-02	2.84E-02	-1.00E+02	-1.29E+04
	Max	8.98E-01	1.37E+00	2.42E+02	-1.54E-03
	Normalized peak height	5.10E-05		2.84E-02	
	Peak sensitivity value	3.51E-01		-7.34E-02	
	Shapiro-Wilk score	9.914E-01		5.40E-02	

Table 29: **Model: Inhibition, noncompetitive, Reversible**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(v1).Ki				
	Local	1.60E-01		2.13E-01	
	Min	-3.01E-02	-4.69E-01	2.42E-02	2.99E-03
	Max	4.78E-01	6.49E-01	6.62E-01	7.62E-01
	Normalized peak height	6.00E-05		5.80E-05	
	Peak sensitivity value	1.50E-01		1.65E-01	
	Shapiro-Wilk score	9.825E-01		9.83E-01	
2	(v1).Kmp				
	Local	1.64E-01		2.17E-01	
	Min	8.06E-03	1.28E-03	-6.59E+01	5.87E-03
	Max	3.90E-01	4.78E-01	3.66E+01	4.37E+04
	Normalized peak height	5.20E-05		5.31E-03	
	Peak sensitivity value	1.53E-01		2.01E-01	
	Shapiro-Wilk score	9.975E-01		3.63E-01	
3	(v1).Kms				
	Local	-3.03E-01		-4.03E-01	
	Min	-5.55E-01	-6.83E-01	-3.67E+01	-2.21E+05
	Max	-8.76E-02	-6.17E-02	6.58E+01	-1.16E-01
	Normalized peak height	6.10E-05		5.24E-03	
	Peak sensitivity value	-2.78E-01		-3.99E-01	
	Shapiro-Wilk score	9.985E-01		3.48E-01	
4	(v1).Vf				
	Local	4.43E-01		5.88E-01	
	Min	1.22E-01	1.12E-02	-6.58E+01	1.30E-01
	Max	8.61E-01	1.06E+00	3.68E+01	1.26E+12
	Normalized peak height	5.90E-05		4.58E-03	
	Peak sensitivity value	4.15E-01		5.89E-01	
	Shapiro-Wilk score	9.975E-01		3.69E-01	

5	(v1).Vr				
	Local	-7.99E-02		-1.06E-01	
	Min	-3.41E-01	-5.25E-01	-3.63E+01	-3.77E+14
	Max	-2.91E-03	-3.99E-04	6.61E+01	-1.22E-03
	Normalized peak height	6.10E-05		7.76E-03	
	Peak sensitivity value	-6.52E-02		-7.73E-02	
	Shapiro-Wilk score	9.657E-01		2.71E-01	
6	(v2).Kmp				
	Local	1.06E-01		1.40E-01	
	Min	3.05E-03	4.42E-04	-6.60E+01	1.23E-03
	Max	3.52E-01	5.22E-01	3.65E+01	3.75E+08
	Normalized peak height	5.70E-05		6.32E-03	
	Peak sensitivity value	1.08E-01		1.20E-01	
	Shapiro-Wilk score	9.877E-01		3.11E-01	
7	(v2).Kms				
	Local	-1.64E-01		-2.17E-01	
	Min	-3.89E-01	-5.20E-01	-3.66E+01	-3.42E+07
	Max	-8.07E-03	-1.28E-03	6.59E+01	-5.87E-03
	Normalized peak height	5.10E-05		5.34E-03	
	Peak sensitivity value	-1.71E-01		-2.15E-01	
	Shapiro-Wilk score	9.976E-01		3.63E-01	
8	(v2).Vf				
	Local	1.99E-01		2.64E-01	
	Min	8.47E-03	1.32E-03	-6.59E+01	6.04E-03
	Max	6.04E-01	9.21E-01	3.66E+01	3.55E+06
	Normalized peak height	5.60E-05		4.12E-03	
	Peak sensitivity value	2.12E-01		2.47E-01	
	Shapiro-Wilk score	9.927E-01		4.46E-01	
9	(v2).Vr				
	Local	-6.65E-02		-8.83E-02	
	Min	-3.31E-01	-5.66E-01	-3.65E+01	-2.77E+04
	Max	-1.74E-03	-2.93E-04	6.61E+01	-7.04E-04
	Normalized peak height	6.60E-05		8.83E-03	
	Peak sensitivity value	-6.11E-02		-6.63E-02	
	Shapiro-Wilk score	9.621E-01		2.38E-01	
10	(v3).Kmp				
	Local	7.19E-02		9.54E-02	
	Min	1.64E-03	3.04E-04	-6.61E+01	4.15E-04
	Max	3.29E-01	6.58E-01	3.65E+01	5.19E+05
	Normalized peak height	6.30E-05		8.50E-03	
	Peak sensitivity value	6.65E-02		6.95E-02	
	Shapiro-Wilk score	9.656E-01		2.47E-01	
11	(v3).Kms				
	Local	-1.06E-01		-1.40E-01	
	Min	-3.52E-01	-5.22E-01	-3.65E+01	-1.94E+05
	Max	-3.05E-03	-4.16E-04	6.60E+01	-1.38E-03
	Normalized peak height	5.60E-05		6.30E-03	
	Peak sensitivity value	-1.05E-01		-1.19E-01	
	Shapiro-Wilk score	9.870E-01		3.11E-01	
12	(v3).Vf				
	Local	1.28E-01		1.70E-01	
	Min	3.33E-03	4.30E-04	-6.60E+01	1.32E-03
	Max	5.30E-01	1.04E+00	3.66E+01	2.25E+06
	Normalized peak height	6.30E-05		4.94E-03	
	Peak sensitivity value	1.09E-01		1.44E-01	
	Shapiro-Wilk score	9.789E-01		3.85E-01	
13	(v3).Vr				
	Local	-4.54E-02		-6.02E-02	
	Min	-3.08E-01	-7.66E-01	-3.64E+01	-1.22E+04
	Max	-9.90E-04	-1.58E-04	6.62E+01	-1.85E-04
	Normalized peak height	8.10E-05		1.22E-02	
	Peak sensitivity value	-3.03E-02		-3.67E-02	
	Shapiro-Wilk score	9.282E-01		1.83E-01	
14	(v4).Kmp				
	Local	-5.60E-01		2.25E-01	
	Min	-9.01E-01	-9.39E-01	-6.61E+01	1.34E-02
	Max	-2.57E-01	-1.64E-01	3.67E+01	2.27E+04
	Normalized peak height	5.20E-05		5.07E-03	
	Peak sensitivity value	-5.93E-01		2.07E-01	
	Shapiro-Wilk score	9.979E-01		3.98E-01	

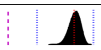
15	(v4).Kms				
	Local	7.67E-01		-3.08E-01	
	Min	4.76E-01	3.38E-01	-3.67E+01	-7.95E+05
	Max	9.57E-01	9.89E-01	6.60E+01	-1.93E-02
	Normalized peak height	5.30E-05		4.82E-03	
	Peak sensitivity value	7.32E-01		-3.01E-01	
	Shapiro-Wilk score	9.921E-01		4.06E-01	
16	(v4).Vf				
	Local	-9.31E-01		3.74E-01	
	Min	-1.27E+00	-1.59E+00	-6.60E+01	2.01E-02
	Max	-6.77E-01	-3.31E-01	3.68E+01	1.22E+06
	Normalized peak height	6.80E-05		3.71E-03	
	Peak sensitivity value	-8.97E-01		3.79E-01	
	Shapiro-Wilk score	9.877E-01		4.87E-01	
17	(v4).Vr				
	Local	3.53E-01		-1.42E-01	
	Min	8.73E-02	4.85E-02	-3.66E+01	-3.75E+07
	Max	9.36E-01	1.91E+00	6.62E+01	-4.45E-03
	Normalized peak height	5.00E-05		5.96E-03	
	Peak sensitivity value	3.35E-01		-1.08E-01	
	Shapiro-Wilk score	9.918E-01		3.50E-01	

Table 30: **Model: Signalling, 2 stage**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(S1_dephosphorylation).Km				
	Local	4.13E-03			
	Min	7.24E-05	3.77E-05		
	Max	8.02E-01	1.21E+00		
	Normalized peak height	1.50E-03			
	Peak sensitivity value	1.46E-03			
	Shapiro-Wilk score	4.021E-01			
2	(S1_dephosphorylation).V				
	Local	-1.14E-02			
	Min	-1.90E+00	-2.63E+00		
	Max	-2.56E-04	-1.24E-04		
	Normalized peak height	1.26E-03			
	Peak sensitivity value	-3.26E-03			
	Shapiro-Wilk score	4.276E-01			
3	(S1_phosphorylation).Km				
	Local	-9.24E-03			
	Min	-1.02E+00	-1.35E+00		
	Max	-2.33E-04	-1.17E-04		
	Normalized peak height	8.41E-04			
	Peak sensitivity value	-3.70E-03			
	Shapiro-Wilk score	4.943E-01			
4	(S1_phosphorylation).kcat				
	Local	1.14E-02			
	Min	2.56E-04	1.24E-04		
	Max	1.90E+00	2.64E+00		
	Normalized peak height	1.25E-03			
	Peak sensitivity value	3.26E-03			
	Shapiro-Wilk score	4.267E-01			
5	(S2_dephosphorylation).Km				
	Local	2.54E-02			
	Min	2.64E-03	2.24E-03		
	Max	7.36E-01	7.89E-01		
	Normalized peak height	2.72E-04			
	Peak sensitivity value	1.59E-02			
	Shapiro-Wilk score	7.557E-01			

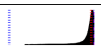
6	(S2_dephosphorylation).V Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 -7.30E-02 -1.43E+00 -8.73E-03 1.91E-04 -5.01E-02 7.732E-01	 -1.77E+00 -7.70E-03		
7	(S2_phosphorylation).Km Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 -6.49E-02 -7.50E-01 -8.44E-03 1.17E-04 -4.66E-02 8.392E-01	 -7.65E-01 -7.47E-03		
8	(S2_phosphorylation).kcat Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 7.29E-02 8.72E-03 1.43E+00 1.89E-04 4.70E-02 7.721E-01	 7.69E-03 1.77E+00		

Table 31: **Model: Signalling, 3 stage**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(S1_dephosphorylation).Km Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 2.79E-04 1.49E-06 4.75E-01 1.31E-02 6.08E-05 2.069E-01	 2.88E-07 2.14E+00		
2	(S1_dephosphorylation).V Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 -7.73E-04 -9.62E-01 -5.15E-06 9.21E-03 -1.73E-04 2.252E-01	 -4.66E+00 -9.45E-07		
3	(S1_phosphorylation).Km Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 -6.25E-04 -5.24E-01 -4.80E-06 6.20E-03 -1.49E-04 2.690E-01	 -2.40E+00 -8.92E-07		
4	(S1_phosphorylation).kcat Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 7.71E-04 5.14E-06 9.60E-01 9.22E-03 1.73E-04 2.238E-01	 9.44E-07 4.68E+00		
5	(S2_dephosphorylation).Km Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 1.71E-03 3.16E-05 4.61E-01 1.95E-03 5.77E-04 4.878E-01	 1.71E-05 1.53E+00		

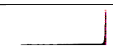
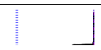
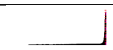
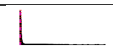
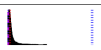
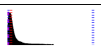
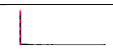
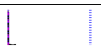
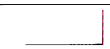
6	(S2_dephosphorylation).V Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 -4.93E-03 -8.82E-01 -1.33E-04 1.27E-03 -1.80E-03 5.093E-01	 -3.13E+00 -5.88E-05		
7	(S2_phosphorylation).Km Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 -4.38E-03 -5.34E-01 -1.28E-04 9.09E-04 -1.72E-03 5.689E-01	 -1.35E+00 -5.71E-05		
8	(S2_phosphorylation).kcat Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 4.92E-03 1.33E-04 8.81E-01 1.30E-03 1.80E-03 5.077E-01	 5.87E-05 3.14E+00		
9	(S3_dephosphorylation).Km Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 2.34E-02 2.47E-03 4.38E-01 1.93E-04 1.65E-02 8.042E-01	 2.22E-03 9.73E-01		
10	(S3_dephosphorylation).V Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 -6.76E-02 -9.36E-01 -8.31E-03 1.49E-04 -4.27E-02 8.139E-01	 -1.77E+00 -7.64E-03		
11	(S3_phosphorylation).Km Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 -6.05E-02 -5.46E-01 -8.07E-03 1.07E-04 -3.89E-02 8.581E-01	 -7.65E-01 -7.42E-03		
12	(S3_phosphorylation).kcat Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 6.75E-02 8.31E-03 9.36E-01 1.42E-04 4.27E-02 8.096E-01	 7.63E-03 1.77E+00		

Table 32: **Model: Signalling, 4 stage**. Local sensitivity values are shown as a dotted red line, the best values found by the optimisation-based technique are shown as dotted blue lines, and 0 is shown as a dashed magenta line.

ID	Parameter Name	Conc.	Conc. (opt.)	Flux	Flux (opt.)
1	(S1_dephosphorylation).Km Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 1.88E-05 3.89E-08 3.42E-01 1.29E-01 5.17E-06 5.780E-02	 2.20E-09 3.80E+00		

2	(S1_dephosphorylation).V	 Local -5.19E-05 Min -8.02E-01 Max -1.23E-07 Normalized peak height 1.14E-01 Peak sensitivity value -1.22E-05 Shapiro-Wilk score 6.476E-02	 -8.23E+00 -7.22E-09		
3	(S1_phosphorylation).Km	 Local -4.20E-05 Min -4.55E-01 Max -1.14E-07 Normalized peak height 8.49E-02 Peak sensitivity value -6.94E-06 Shapiro-Wilk score 8.481E-02	 -4.24E+00 -6.81E-09		
4	(S1_phosphorylation).kcat	 Local 5.18E-05 Min 1.22E-07 Max 7.99E-01 Normalized peak height 1.13E-01 Peak sensitivity value 1.21E-05 Shapiro-Wilk score 6.438E-02	 7.21E-09 8.29E+00		
5	(S2_dephosphorylation).Km	 Local 1.15E-04 Min 5.60E-07 Max 2.96E-01 Normalized peak height 1.87E-02 Peak sensitivity value 3.17E-05 Shapiro-Wilk score 2.350E-01	 1.36E-07 2.83E+00		
6	(S2_dephosphorylation).V	 Local -3.31E-04 Min -7.15E-01 Max -1.61E-06 Normalized peak height 1.51E-02 Peak sensitivity value -7.67E-05 Shapiro-Wilk score 2.557E-01	 -5.52E+00 -4.49E-07		
7	(S2_phosphorylation).Km	 Local -2.95E-04 Min -3.84E-01 Max -1.54E-06 Normalized peak height 9.24E-03 Peak sensitivity value -6.88E-05 Shapiro-Wilk score 3.224E-01	 -2.40E+00 -4.36E-07		
8	(S2_phosphorylation).kcat	 Local 3.31E-04 Min 1.60E-06 Max 7.13E-01 Normalized peak height 1.51E-02 Peak sensitivity value 7.65E-05 Shapiro-Wilk score 2.563E-01	 4.48E-07 5.56E+00		
9	(S3_dephosphorylation).Km	 Local 1.57E-03 Min 4.11E-05 Max 3.00E-01 Normalized peak height 1.42E-03 Peak sensitivity value 6.10E-04 Shapiro-Wilk score 5.593E-01	 1.70E-05 1.72E+00		
10	(S3_dephosphorylation).V	 Local -4.54E-03 Min -5.57E-01 Max -1.01E-04 Normalized peak height 9.13E-04 Peak sensitivity value -2.05E-03 Shapiro-Wilk score 5.606E-01	 -3.13E+00 -5.83E-05		
11	(S3_phosphorylation).Km	 Local -4.07E-03 Min -3.53E-01 Max -9.72E-05 Normalized peak height 6.55E-04 Peak sensitivity value -1.72E-03 Shapiro-Wilk score 6.037E-01	 -1.35E+00 -5.66E-05		

12	(S3_phosphorylation).kcat Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 4.54E-03 1.01E-04 5.56E-01 9.22E-04 2.16E-03 5.611E-01	 5.82E-05 3.14E+00		
13	(S4_dephosphorylation).Km Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 2.33E-02 2.48E-03 2.80E-01 1.32E-04 1.18E-02 8.087E-01	 2.22E-03 9.92E-01		
14	(S4_dephosphorylation).V Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 -6.72E-02 -8.69E-01 -8.62E-03 1.33E-04 -5.12E-02 8.155E-01	 -1.77E+00 -7.63E-03		
15	(S4_phosphorylation).Km Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 -6.02E-02 -5.48E-01 -8.35E-03 1.05E-04 -4.01E-02 8.590E-01	 -7.65E-01 -7.42E-03		
16	(S4_phosphorylation).kcat Local Min Max Normalized peak height Peak sensitivity value Shapiro-Wilk score	 6.71E-02 8.61E-03 8.69E-01 1.30E-04 4.15E-02 8.114E-01	 7.63E-03 1.77E+00		