

Mycoplasma genitalium
Whole Cell Model

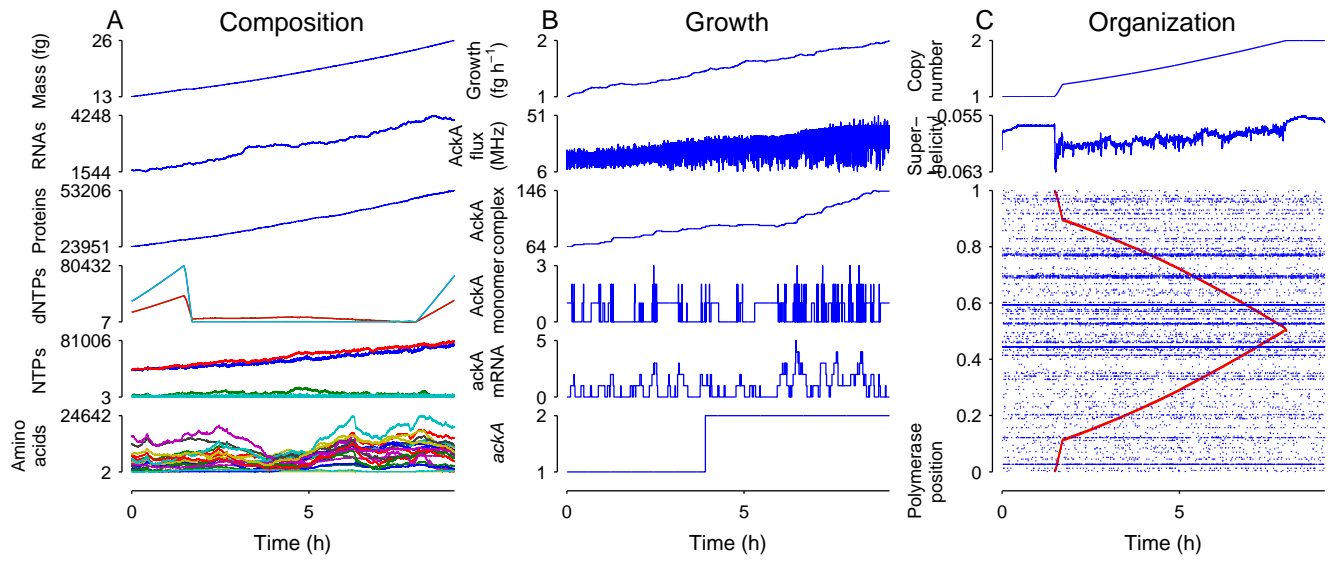
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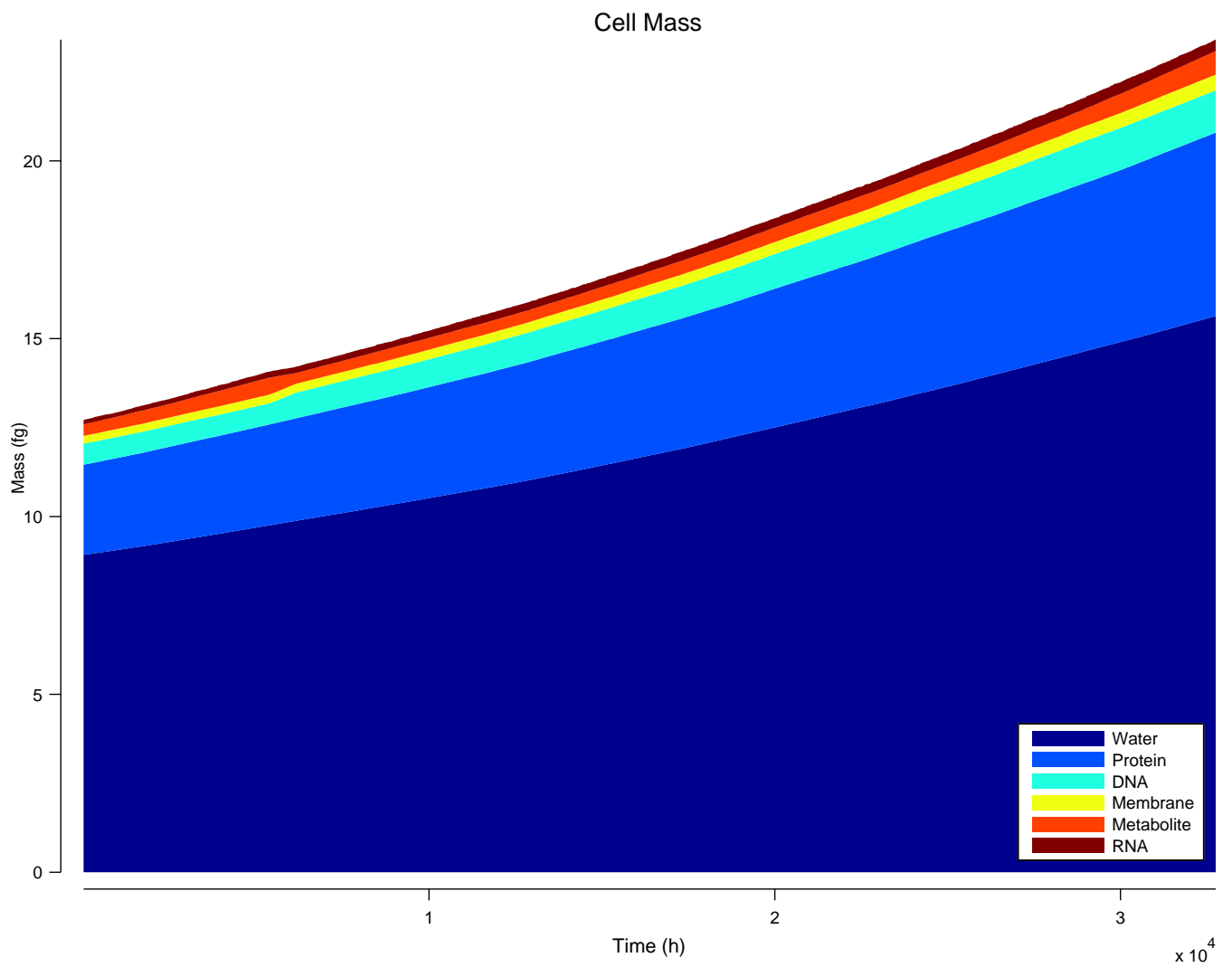
M. genitalium Whole Cell Model

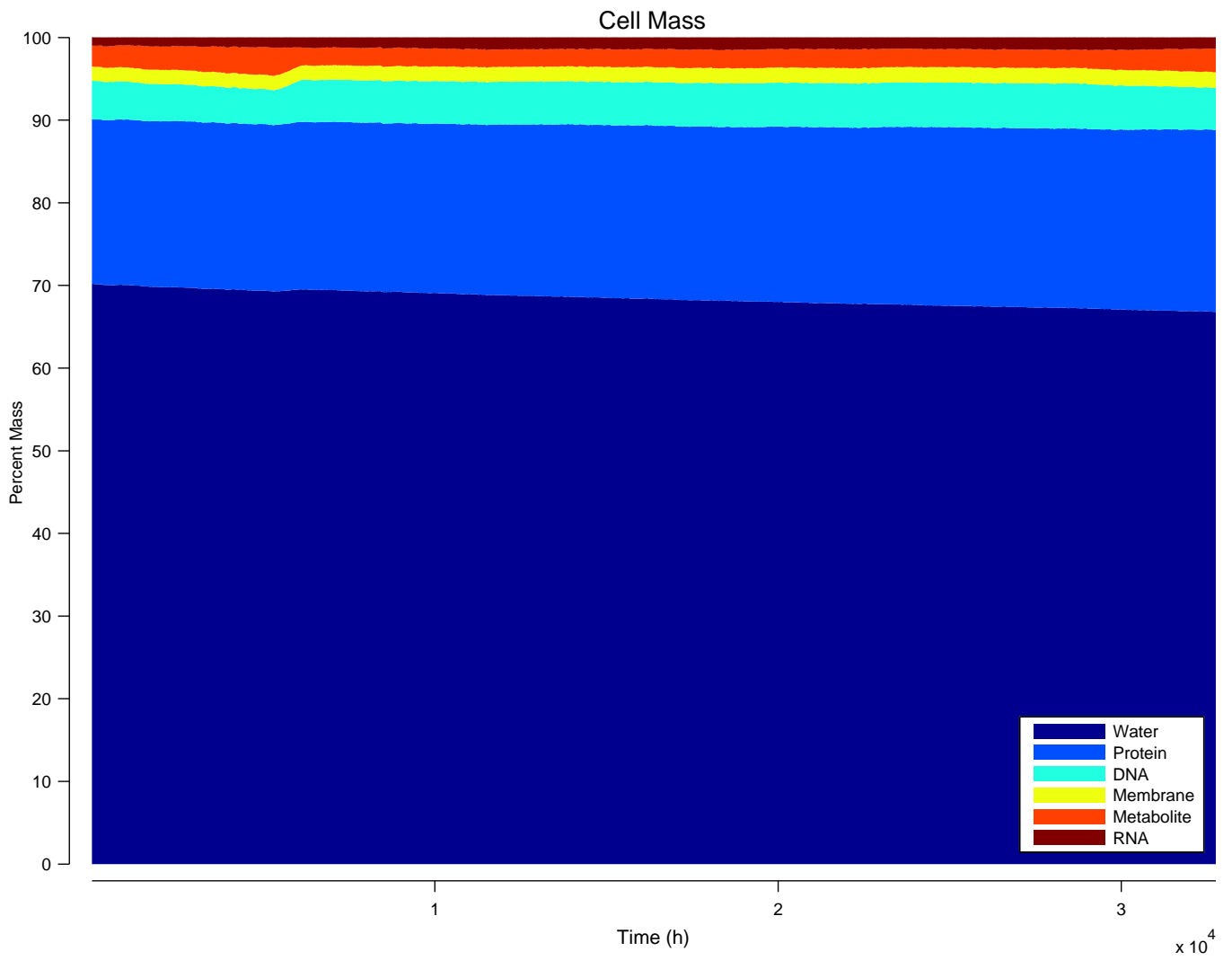
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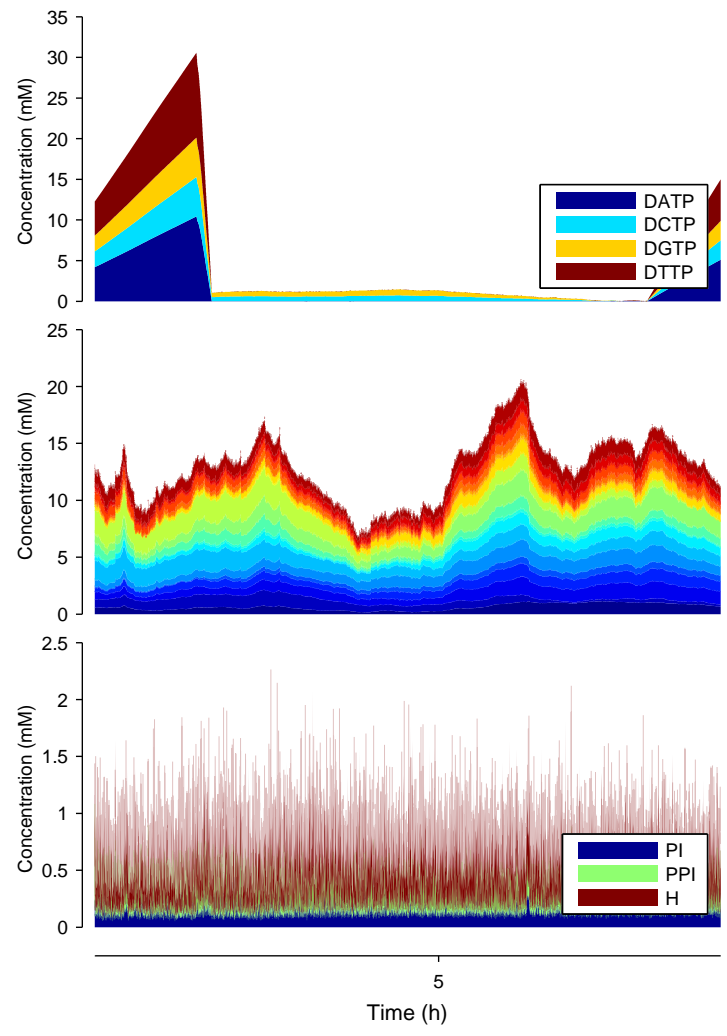
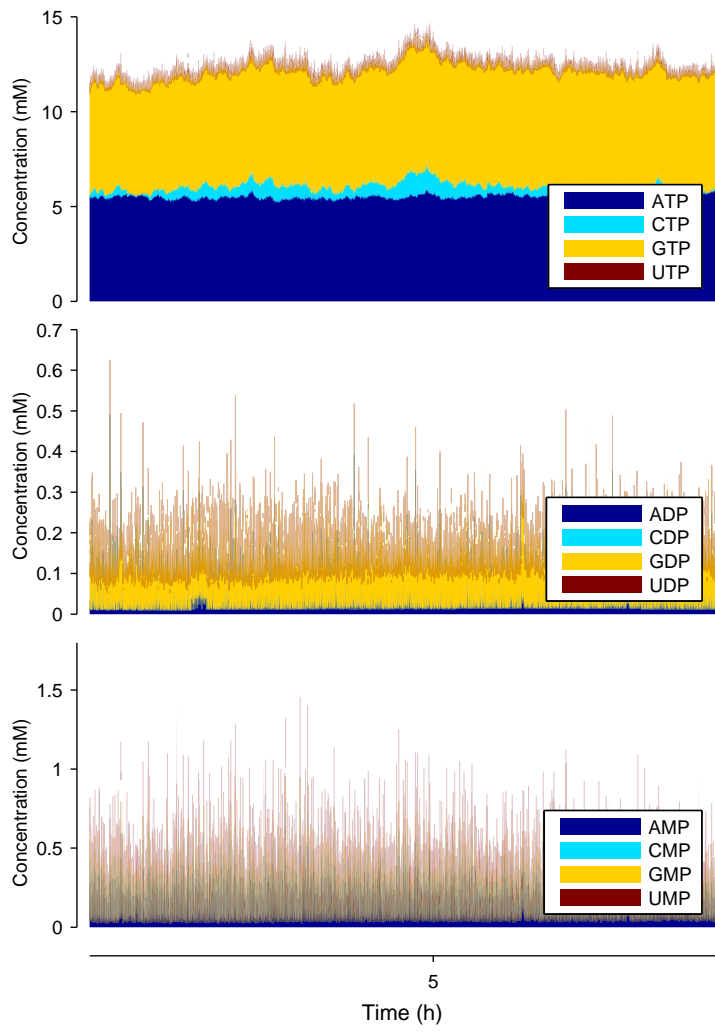
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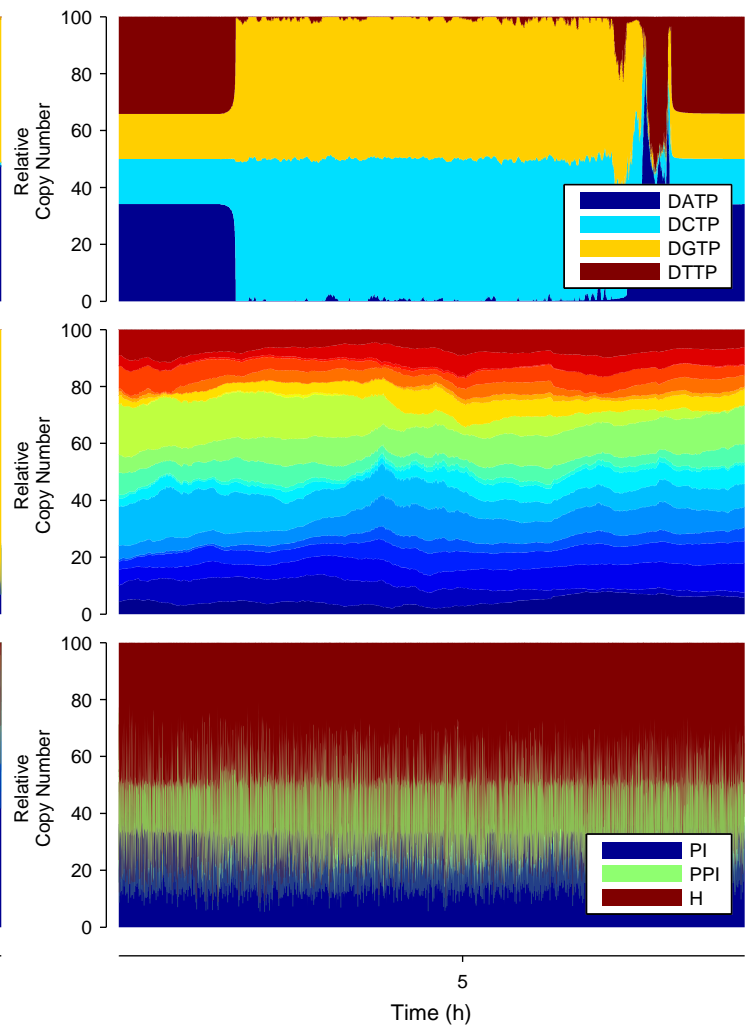
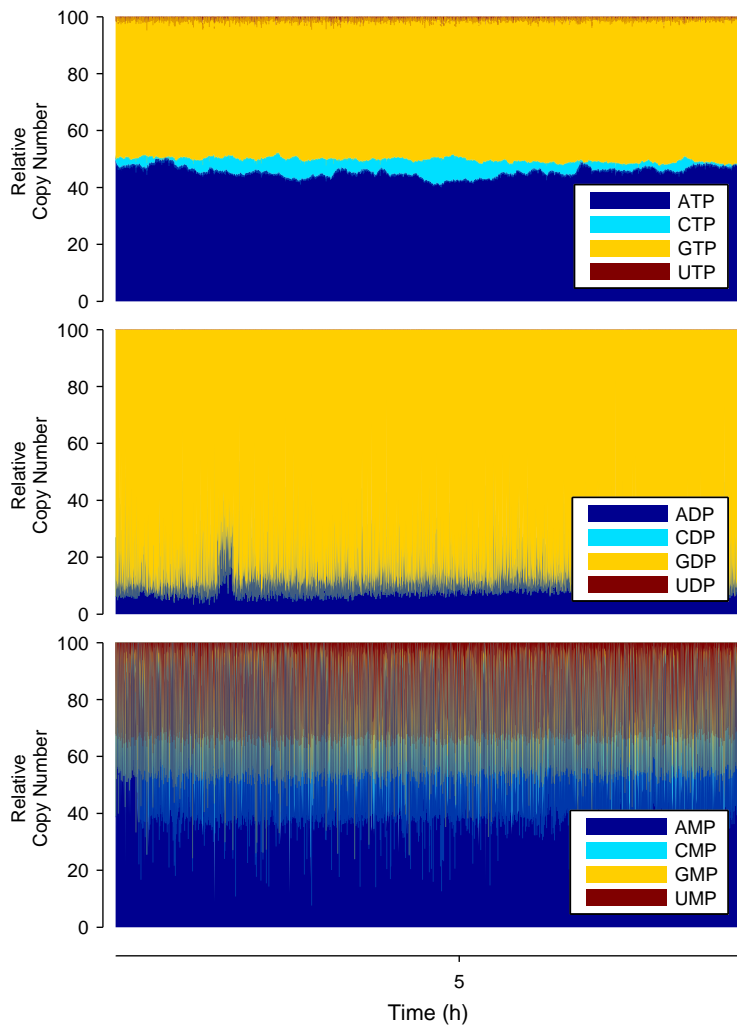
Growth





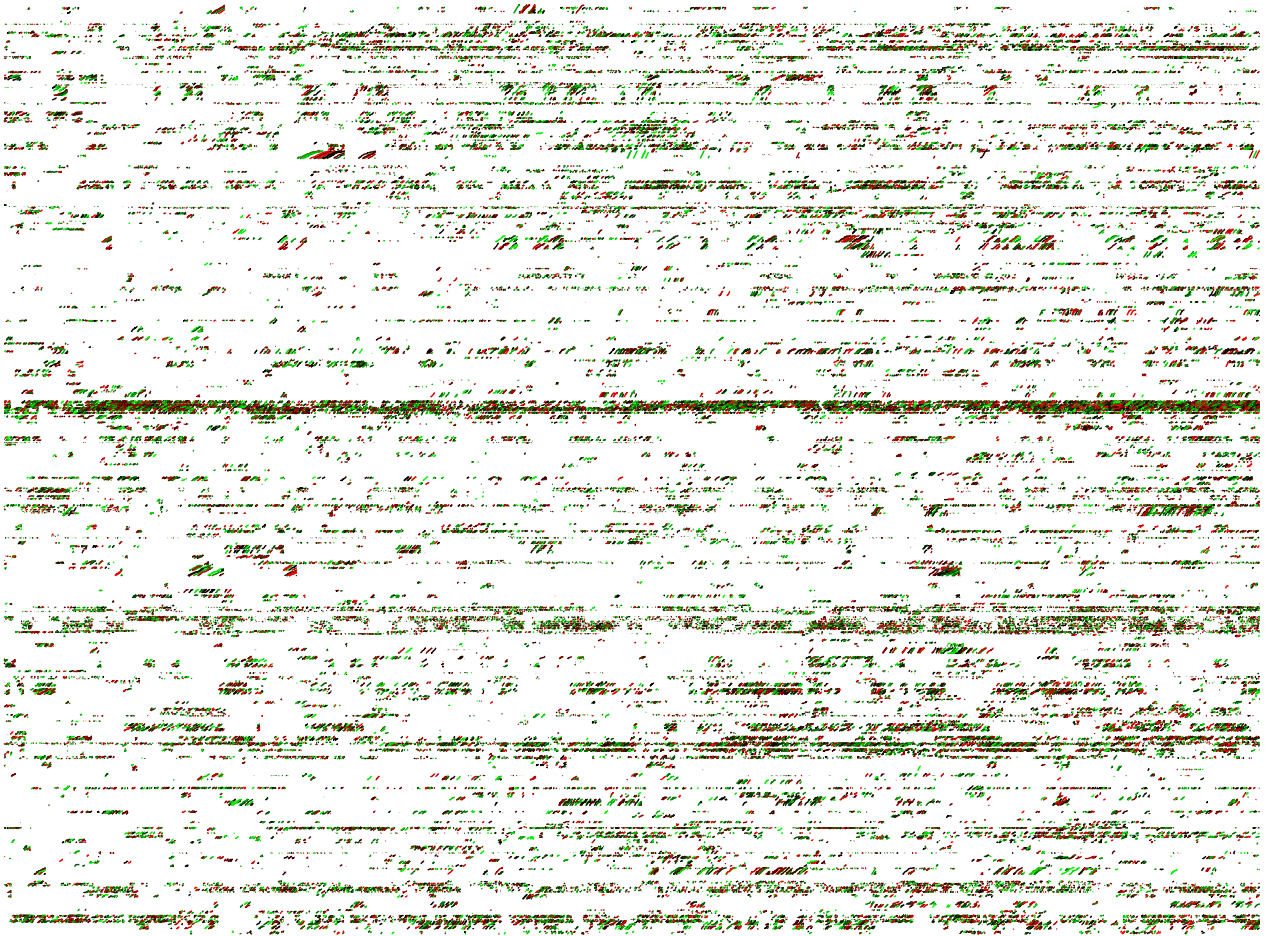


Nucleotides



Nucleotides

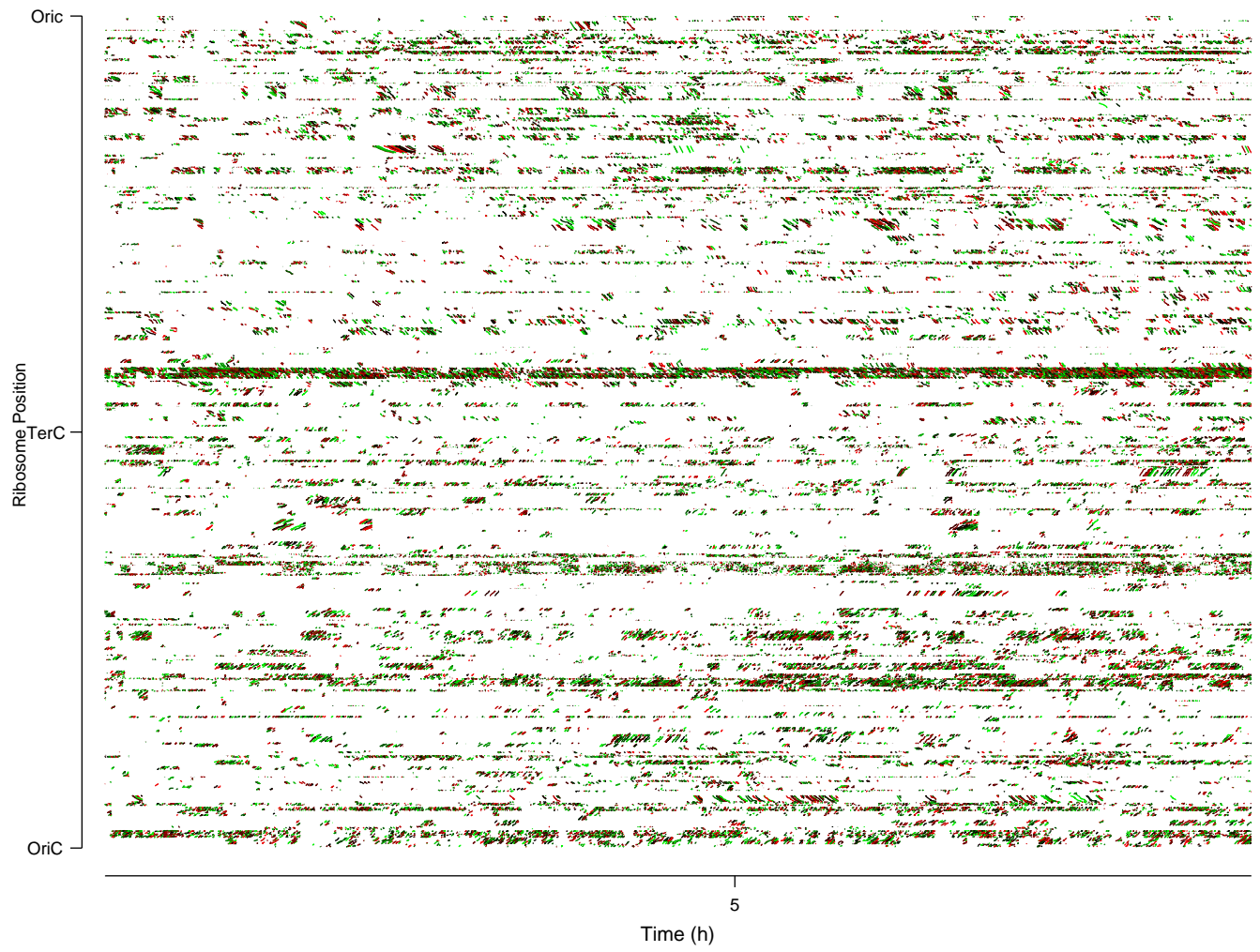
Ribosome Position



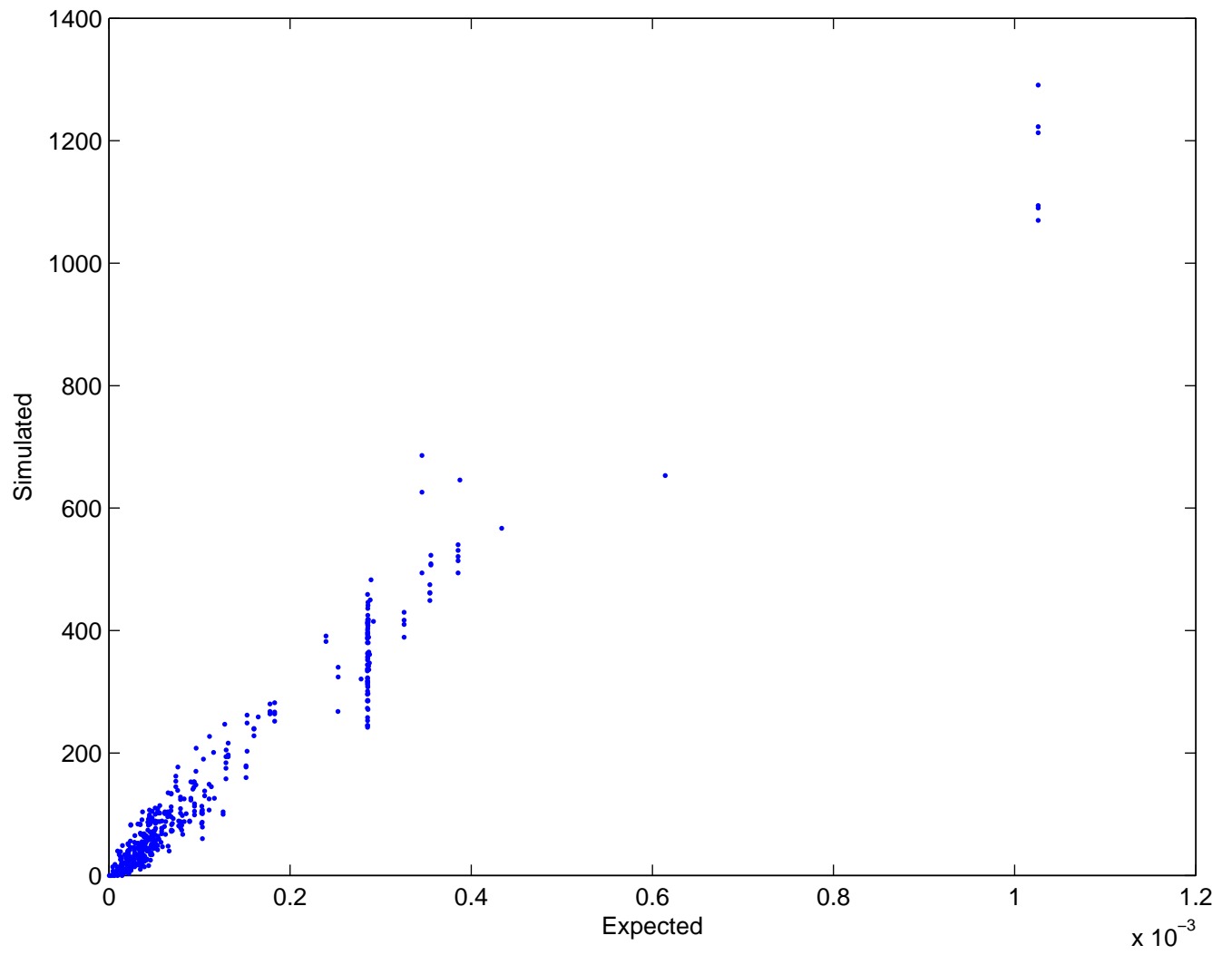
5

Time (h)

Translation

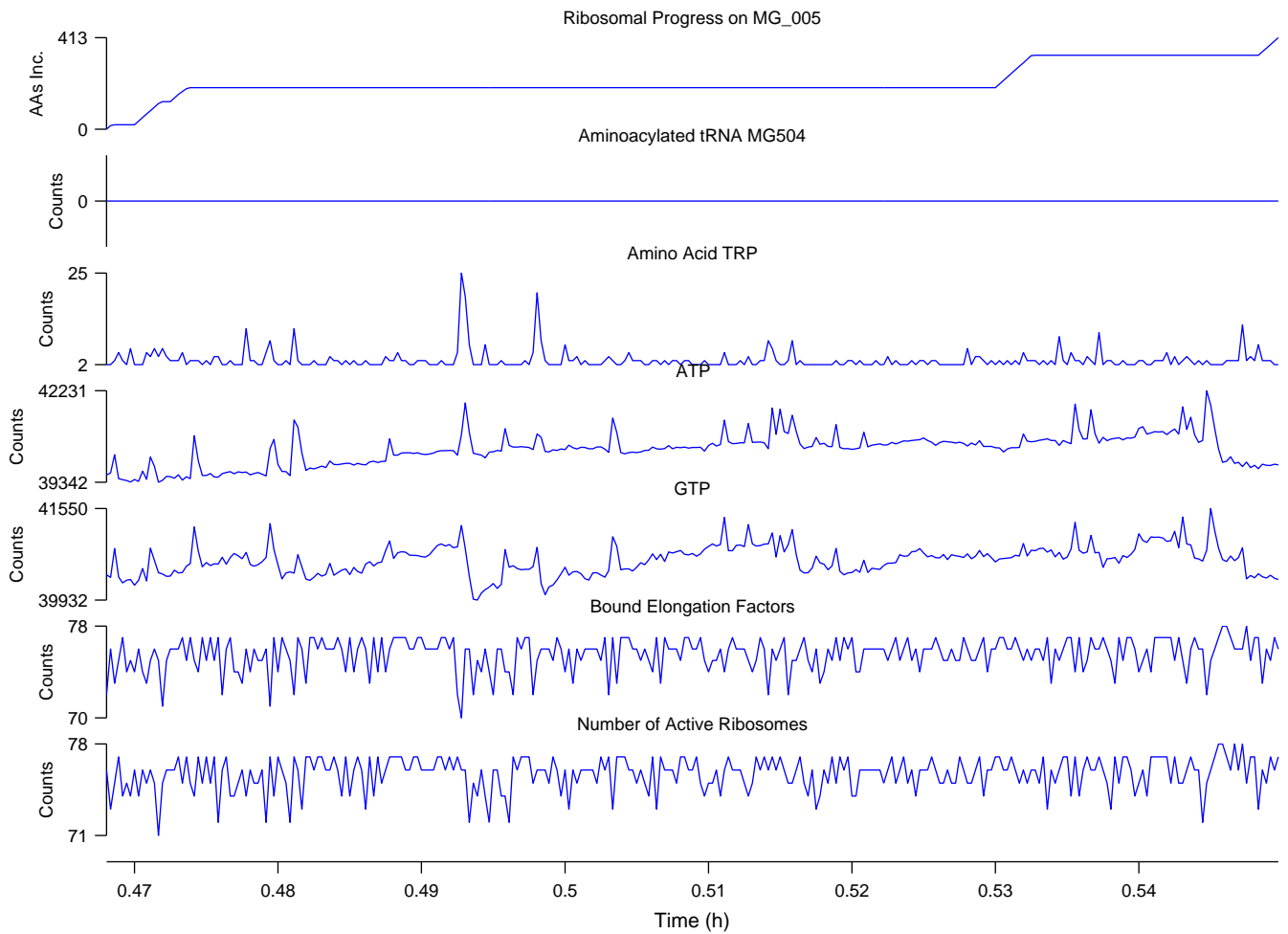


Translation

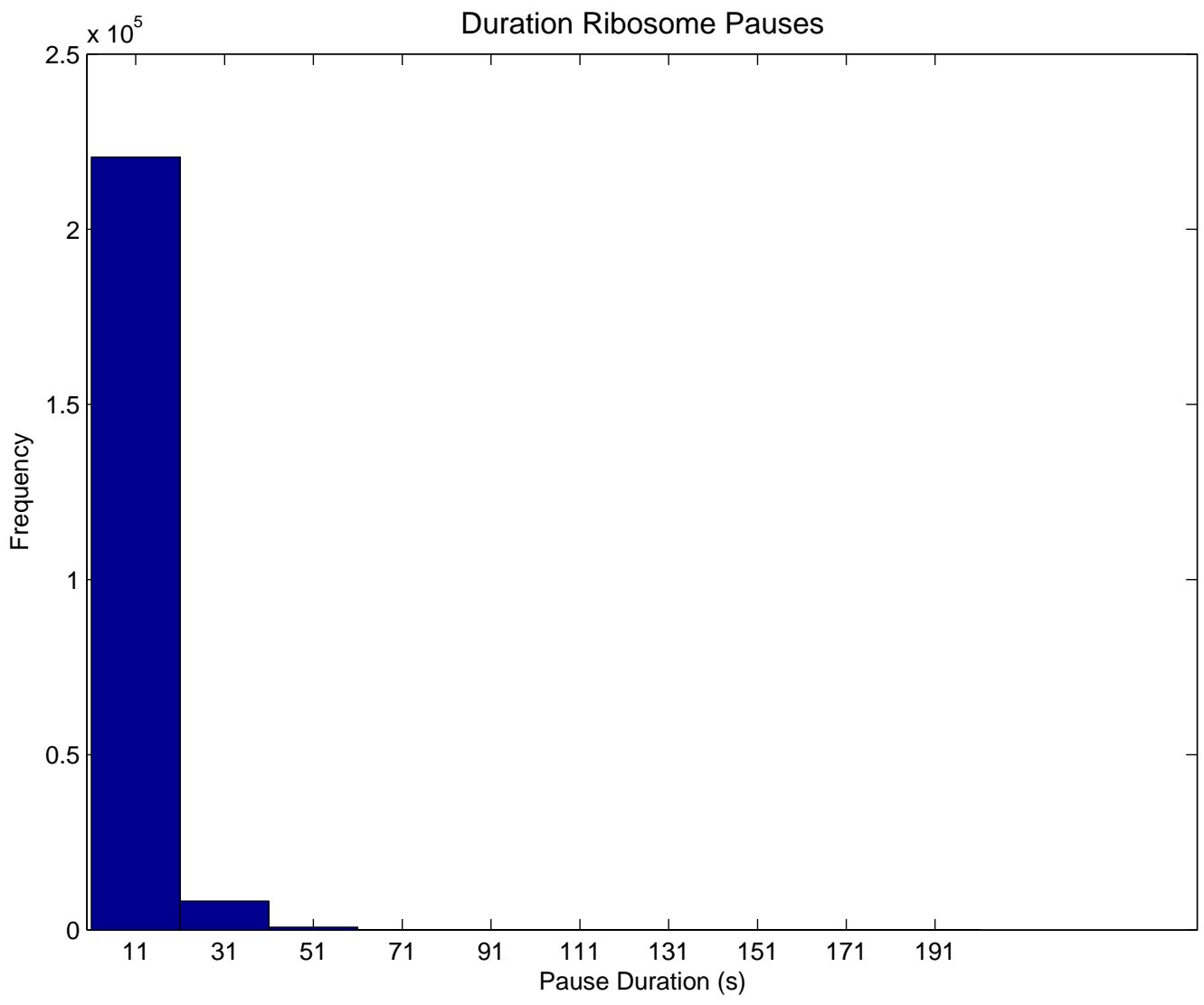


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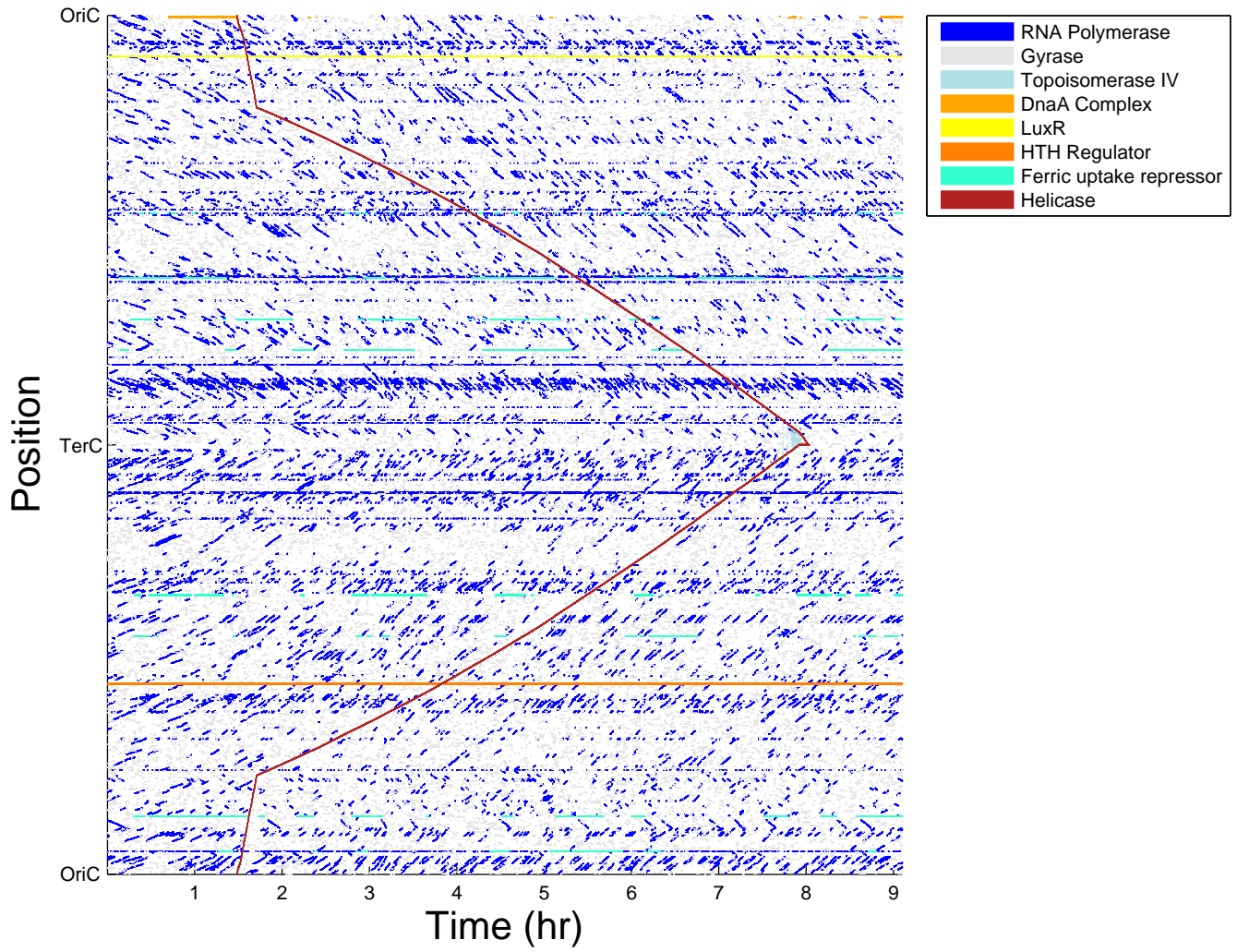
Longest Ribosome Stall Simulation: 2011:10:25 01:45:44 #1



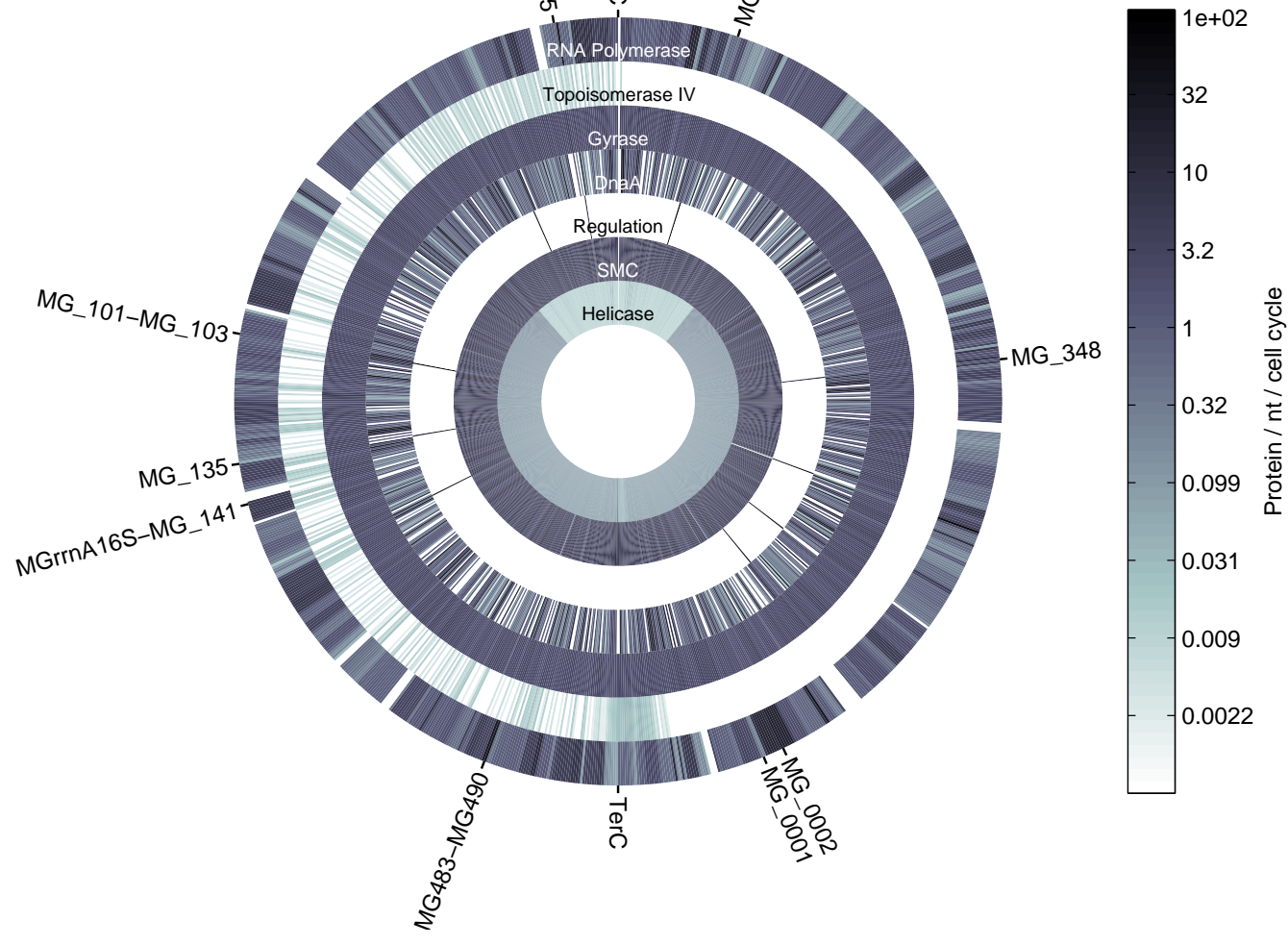
Stalled Ribosomes



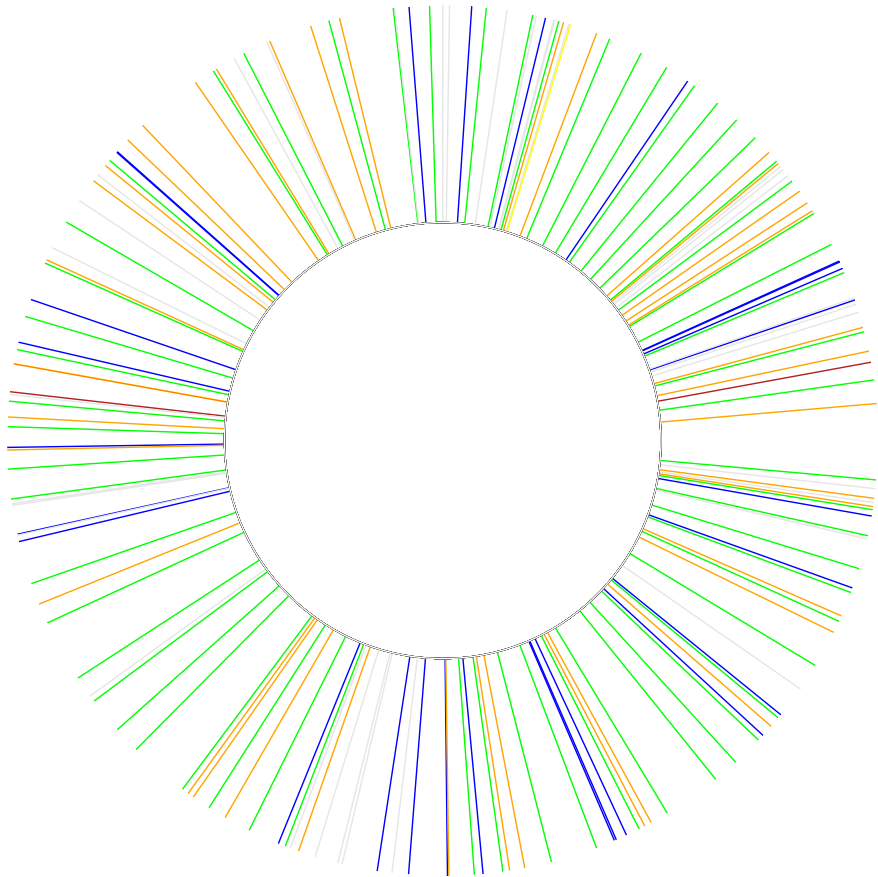
Stalled Ribosomes



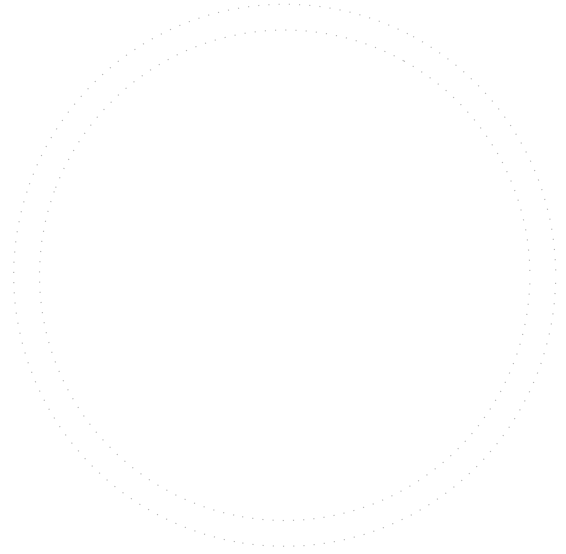
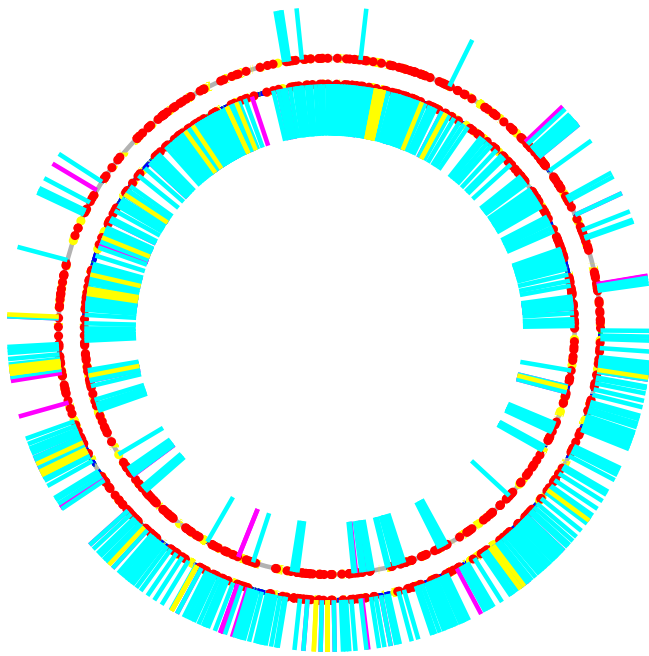
Circular Chromosome Density Plot
Simulation 2011-10-25 01:45:44 #1



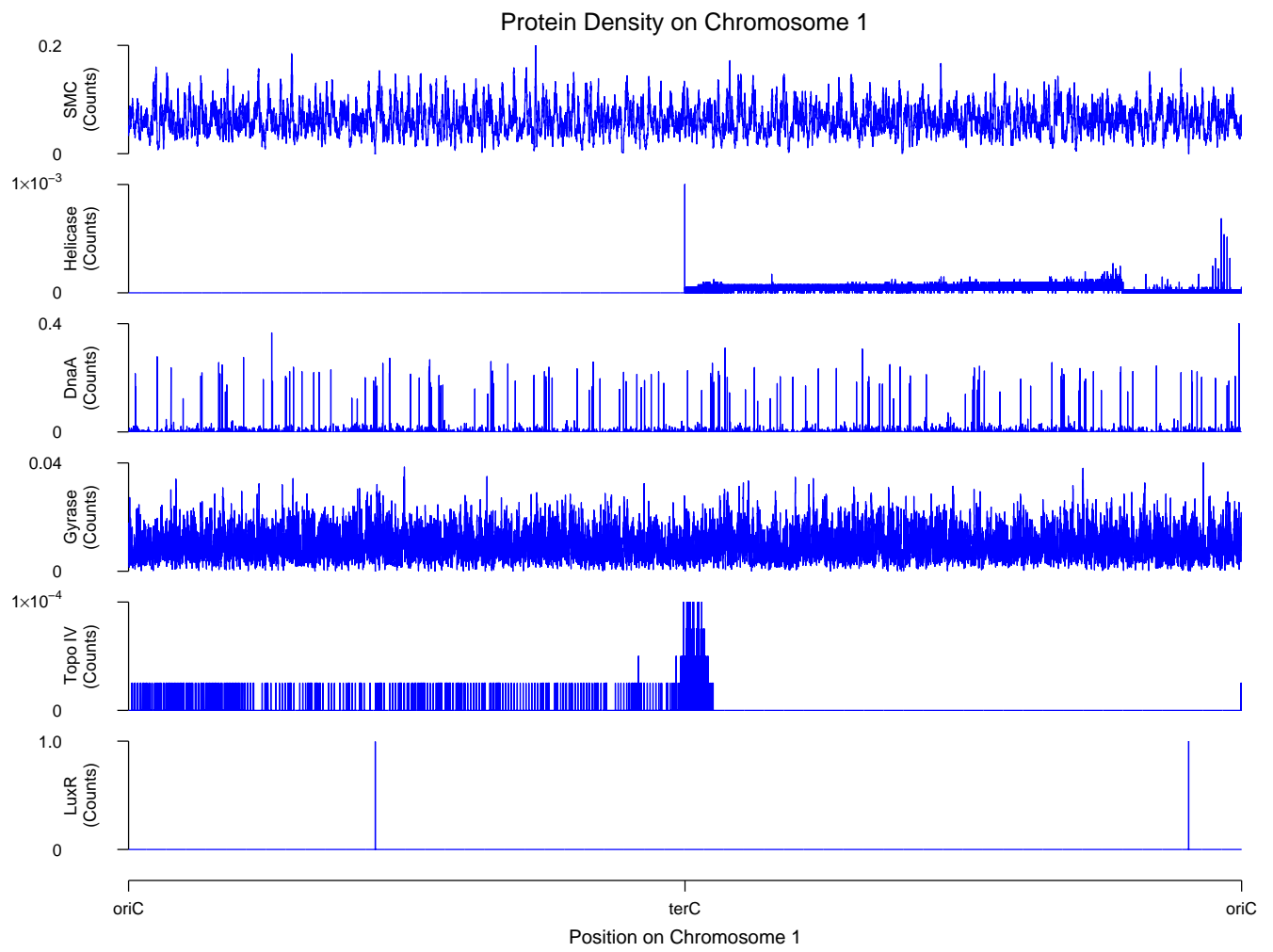
Chromosome Organization

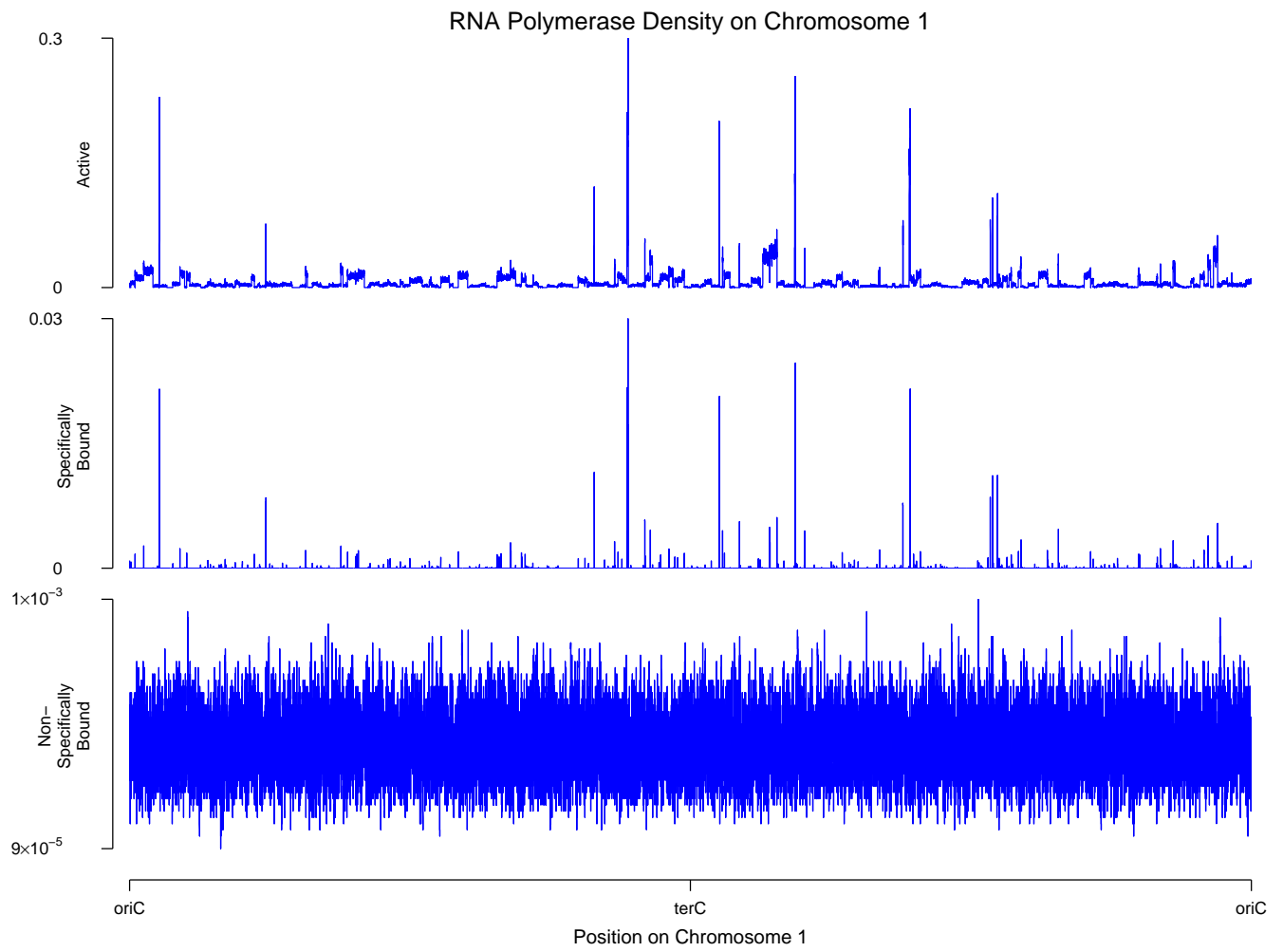


- RNA Polymerase
- SMC
- Helicase
- DnaA
- DnaA Complex
- Gyrase
- Topoisomerase IV
- LuxR
- HTH Regulator
- Ferric uptake repressor

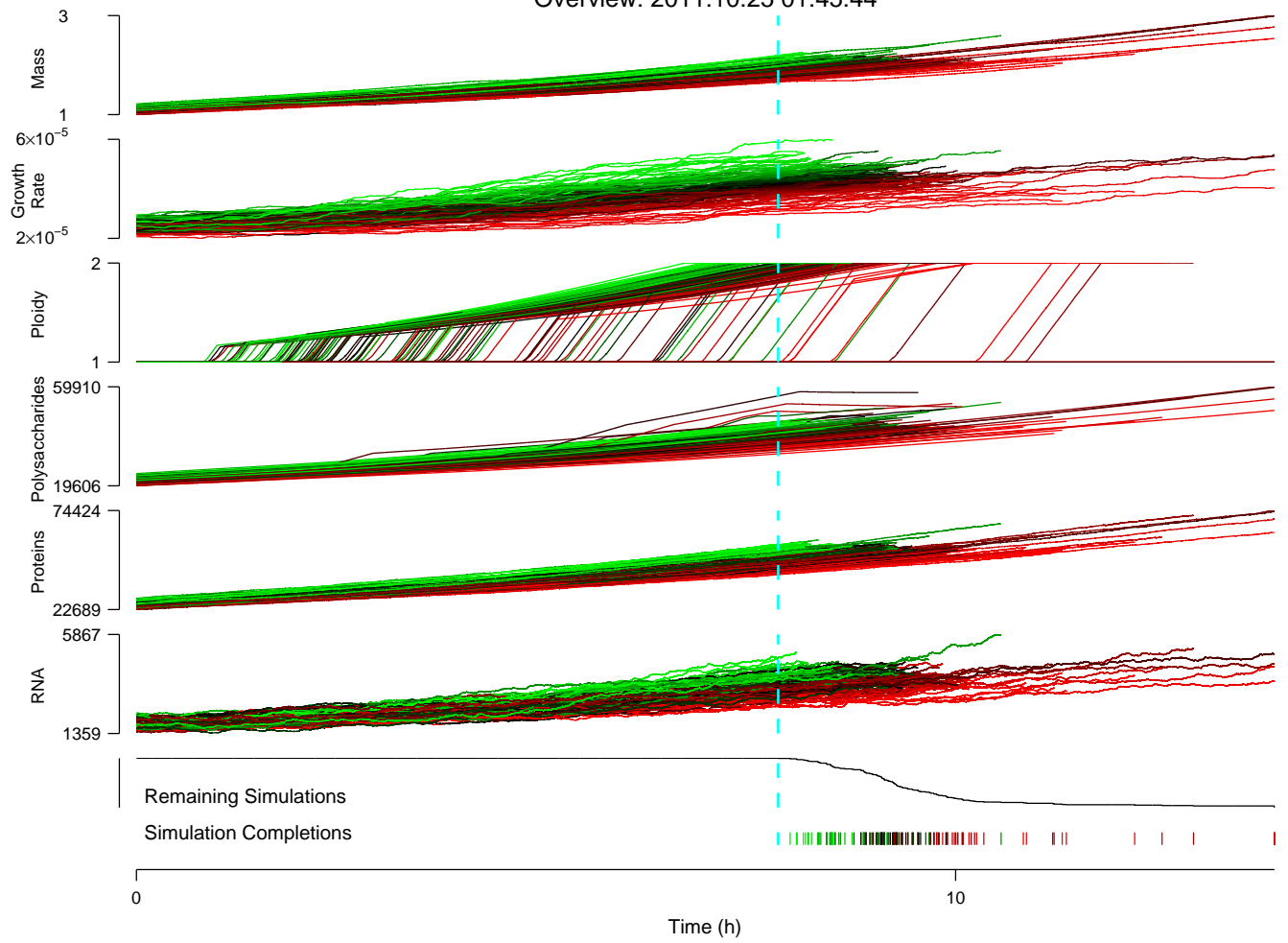


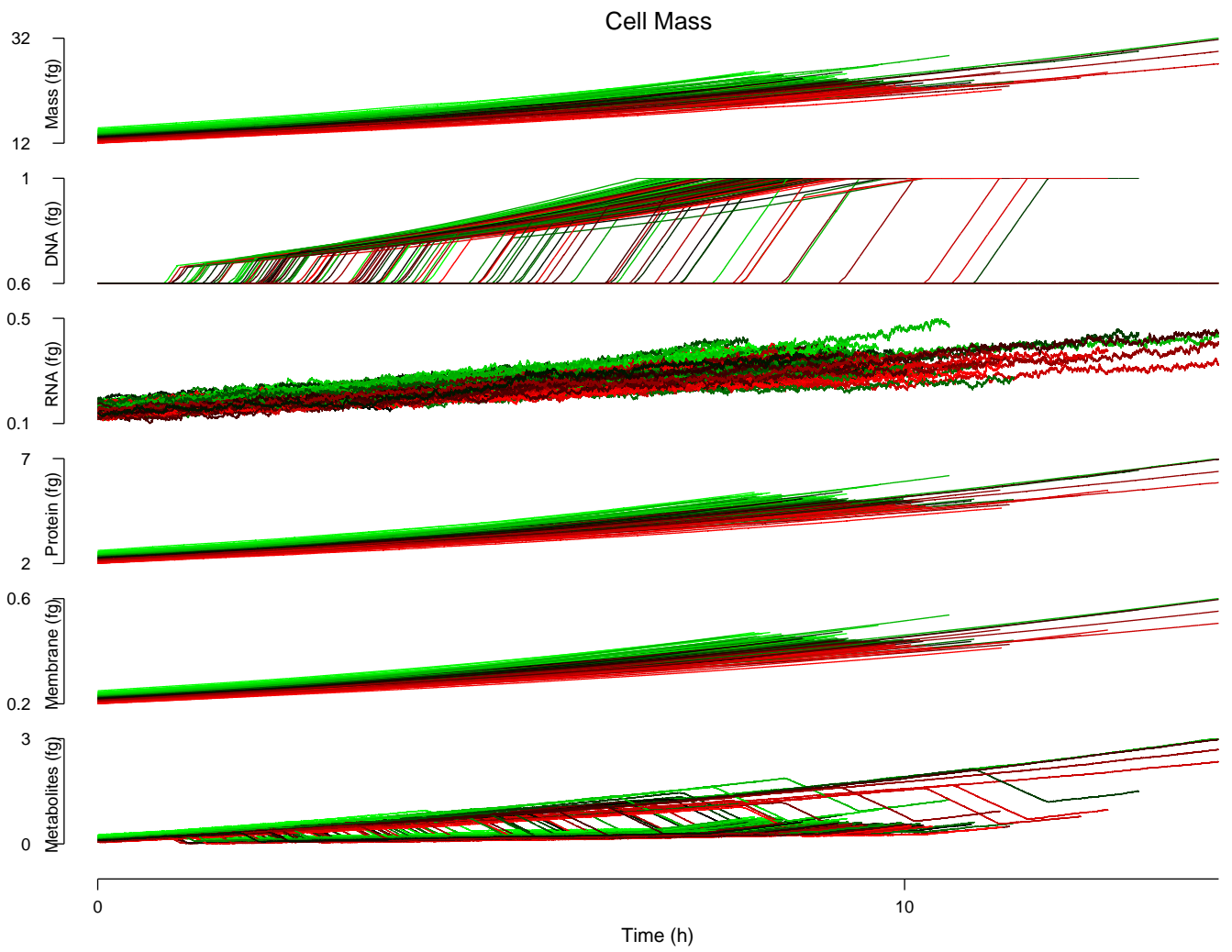
● Chromosome
 — Polymerized
 — Gene
 — TU
 — Bnd Prot
 — Damage
 — Exp RNA
 — E



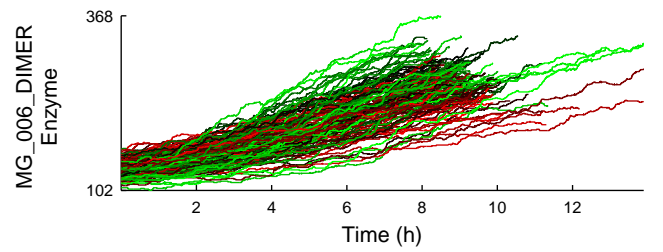
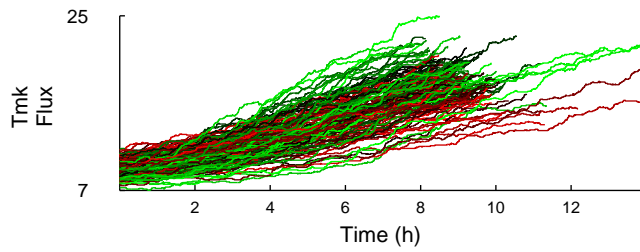
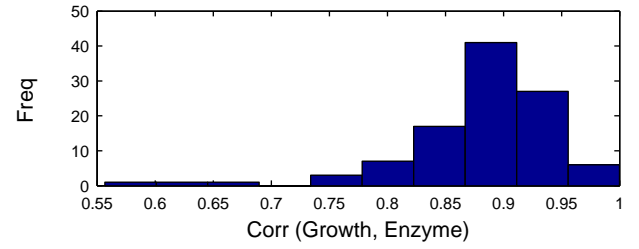
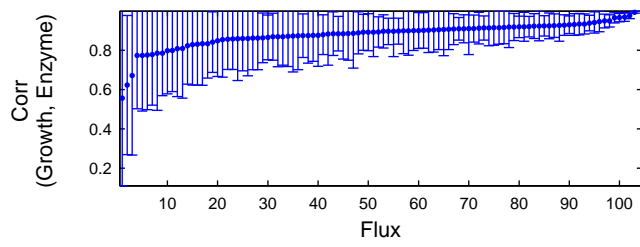
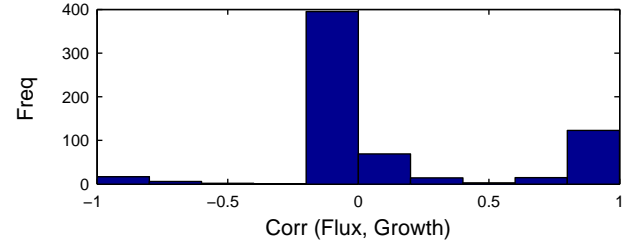
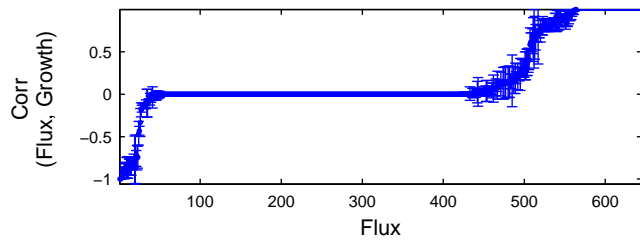
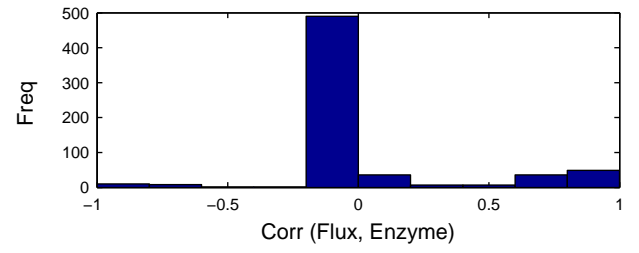
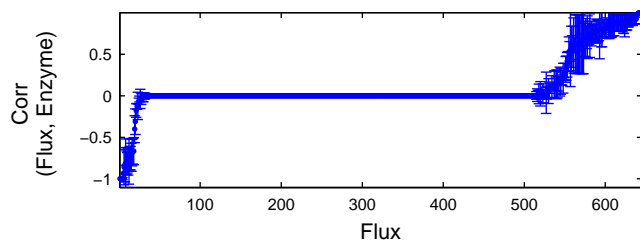


Overview: 2011:10:25 01:45:44

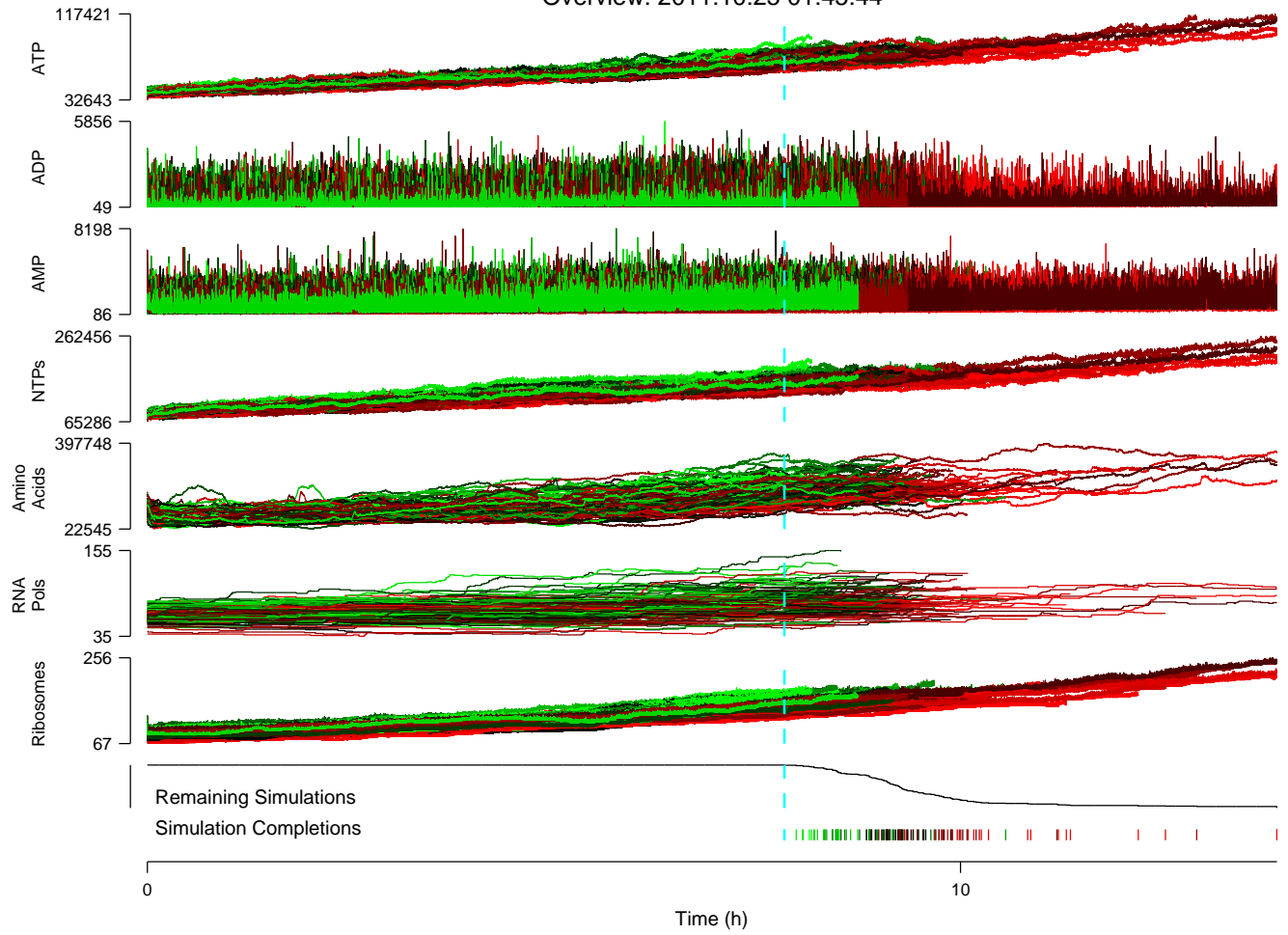




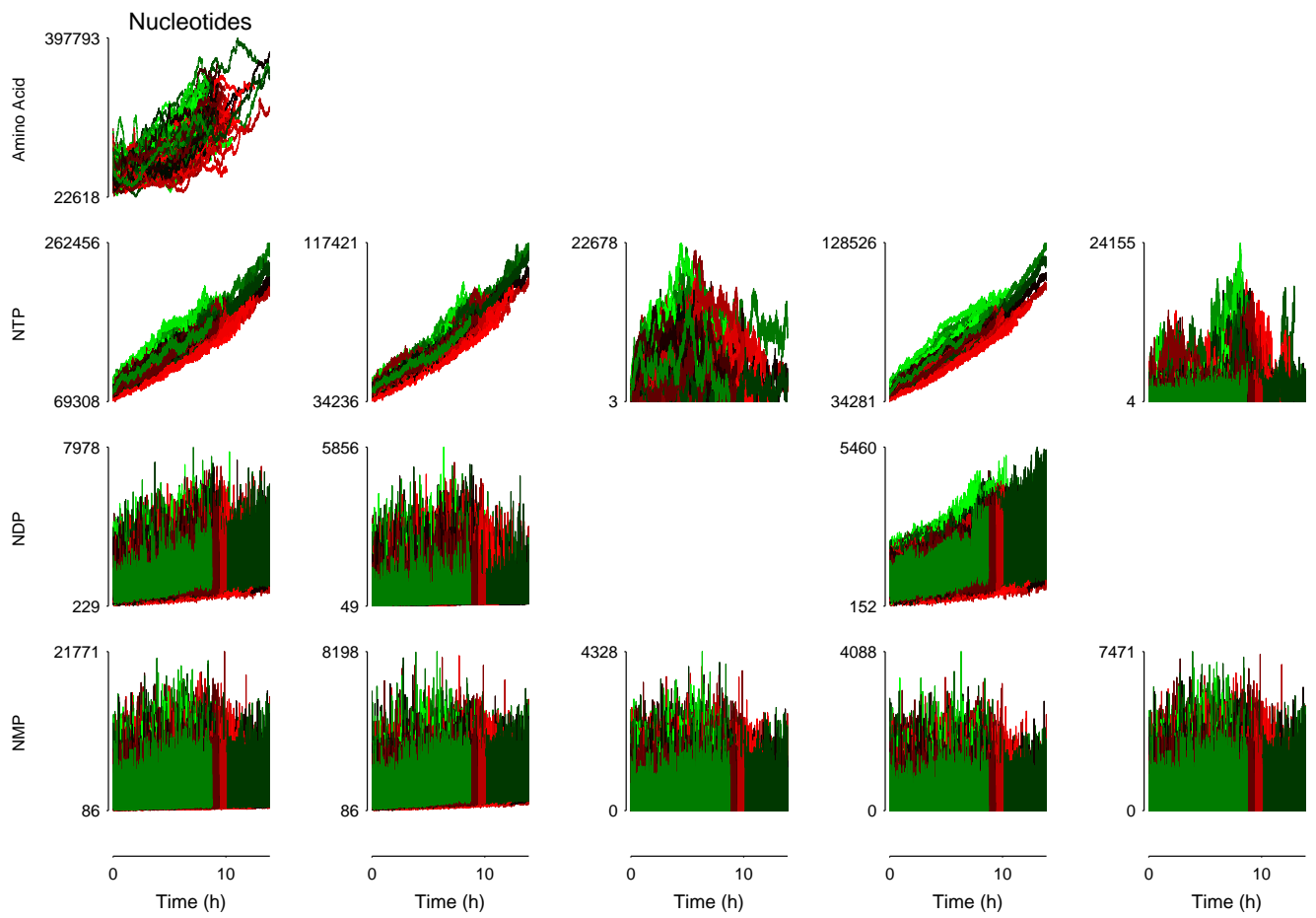
Cellular Composition



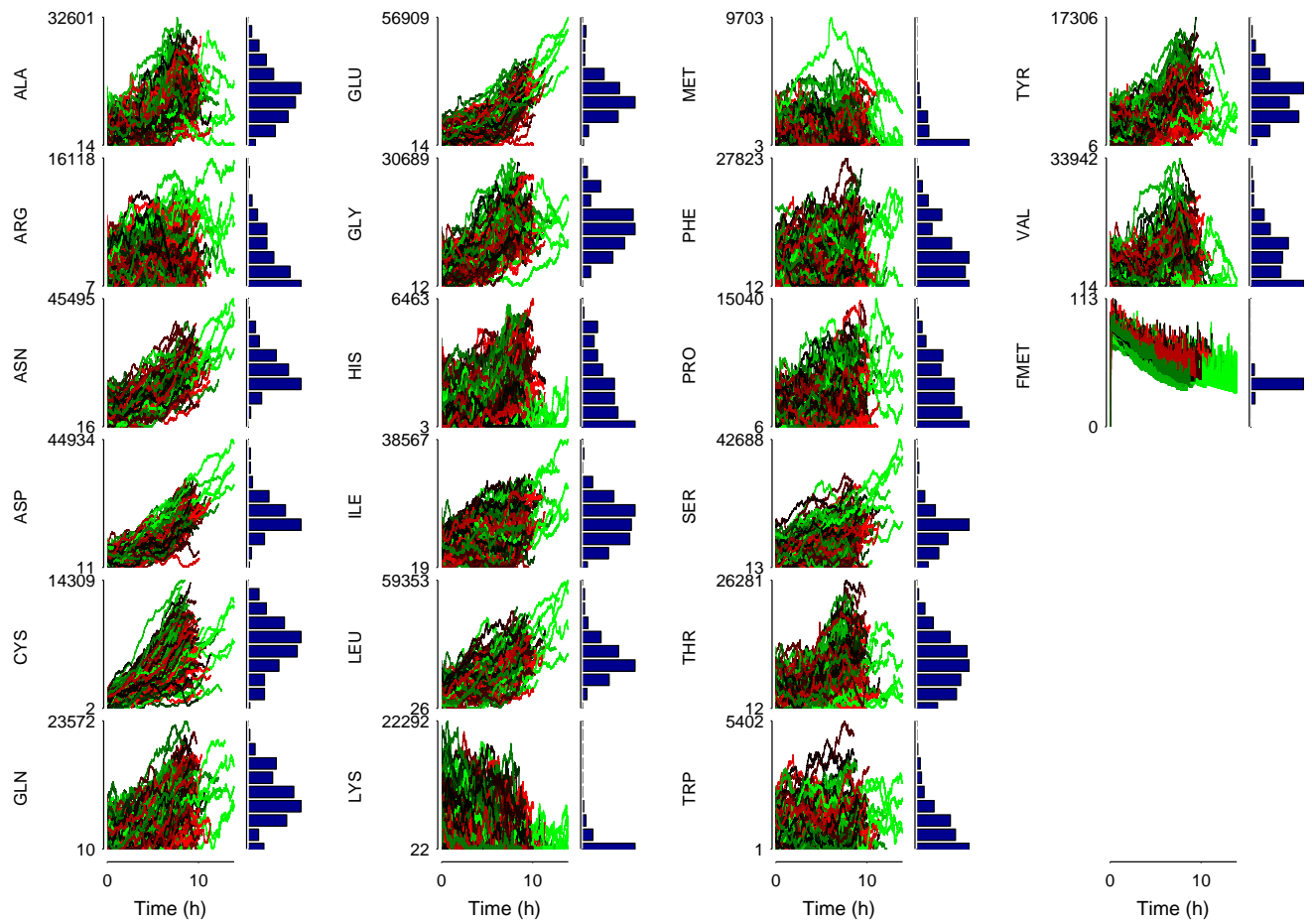
Overview: 2011:10:25 01:45:44



Energy Production

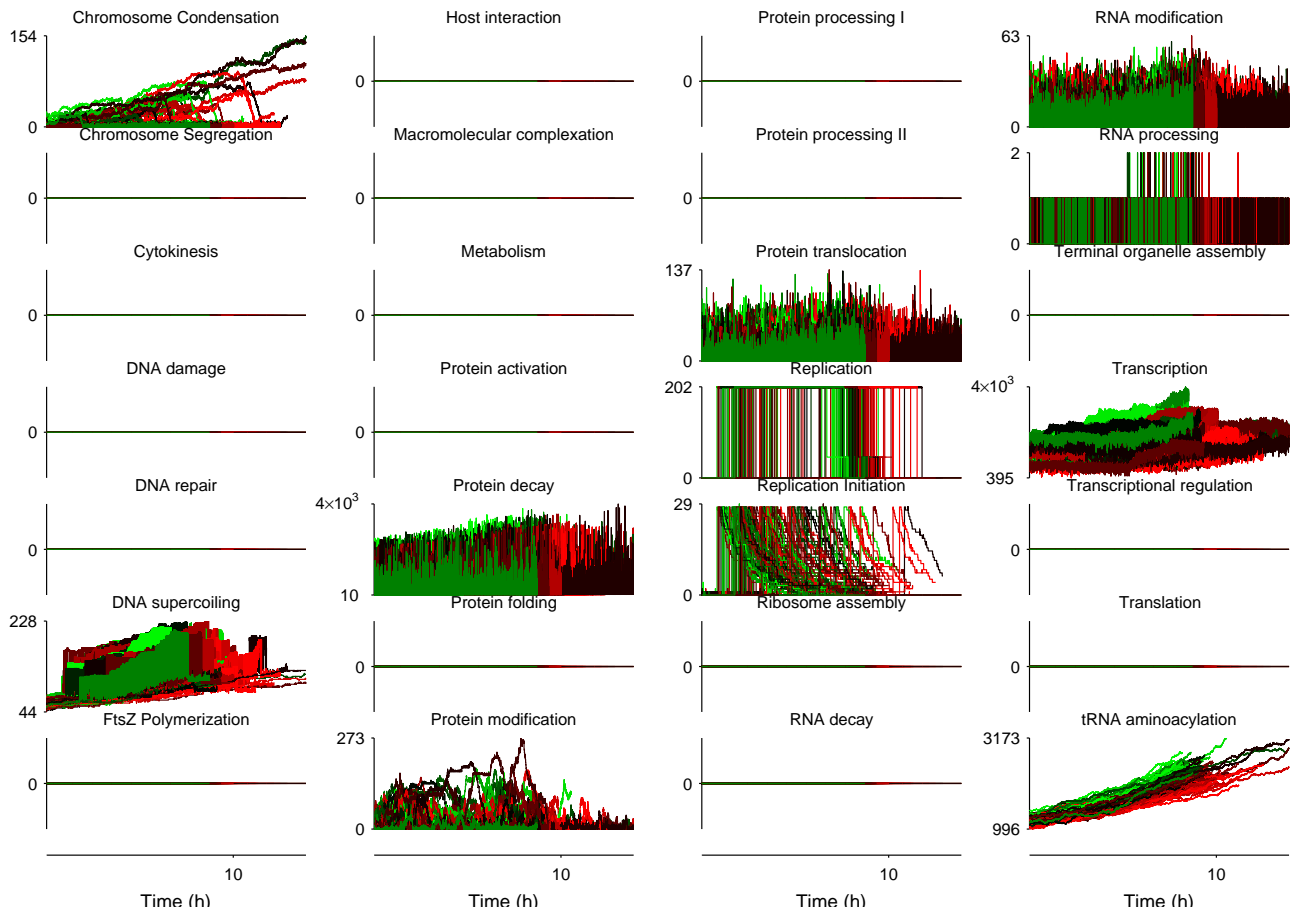


Nucleotide Concentrations



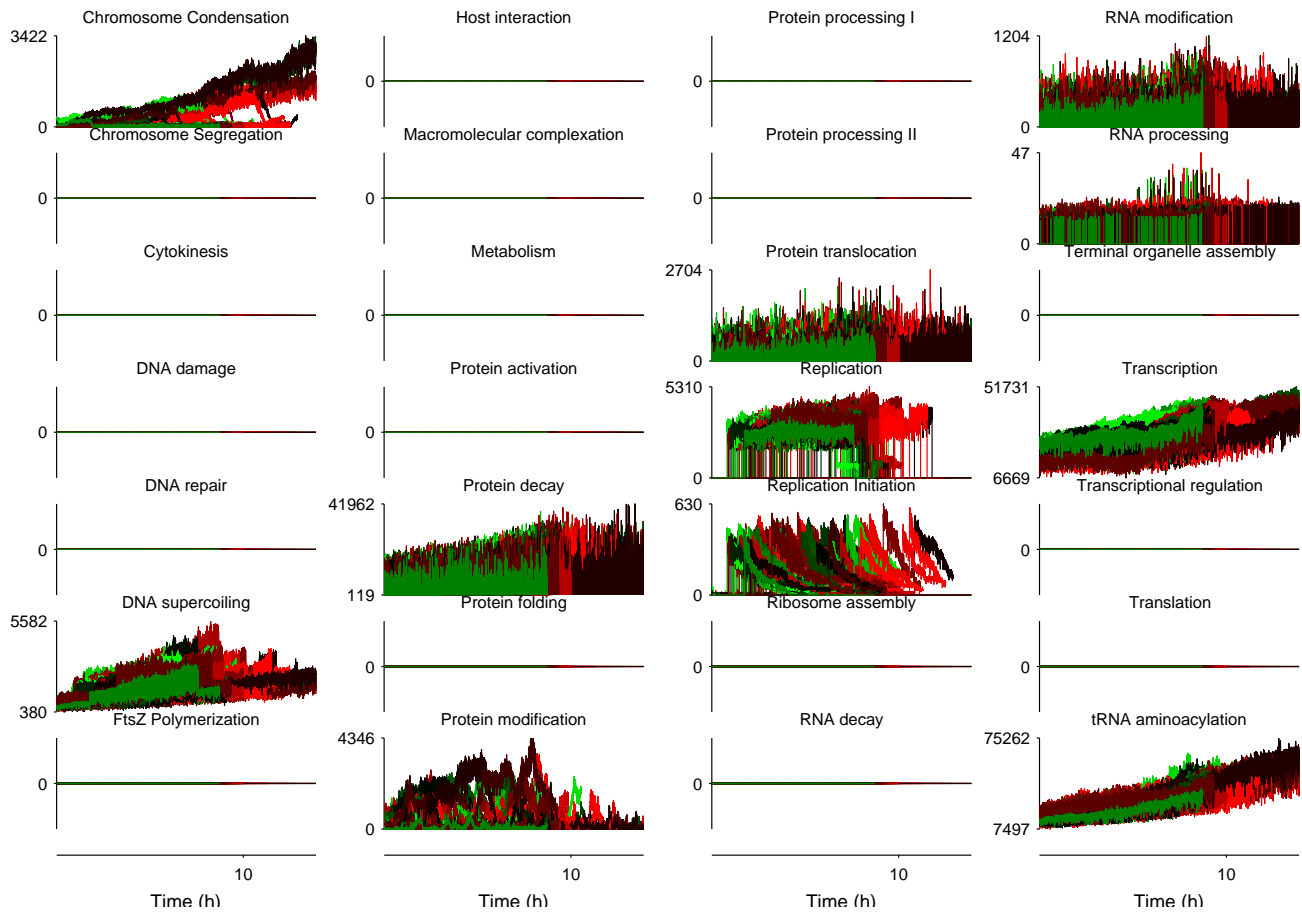
Amino Acid Counts

Requirements [ATP] Simulation Set: 2011:10:25 01:45:44



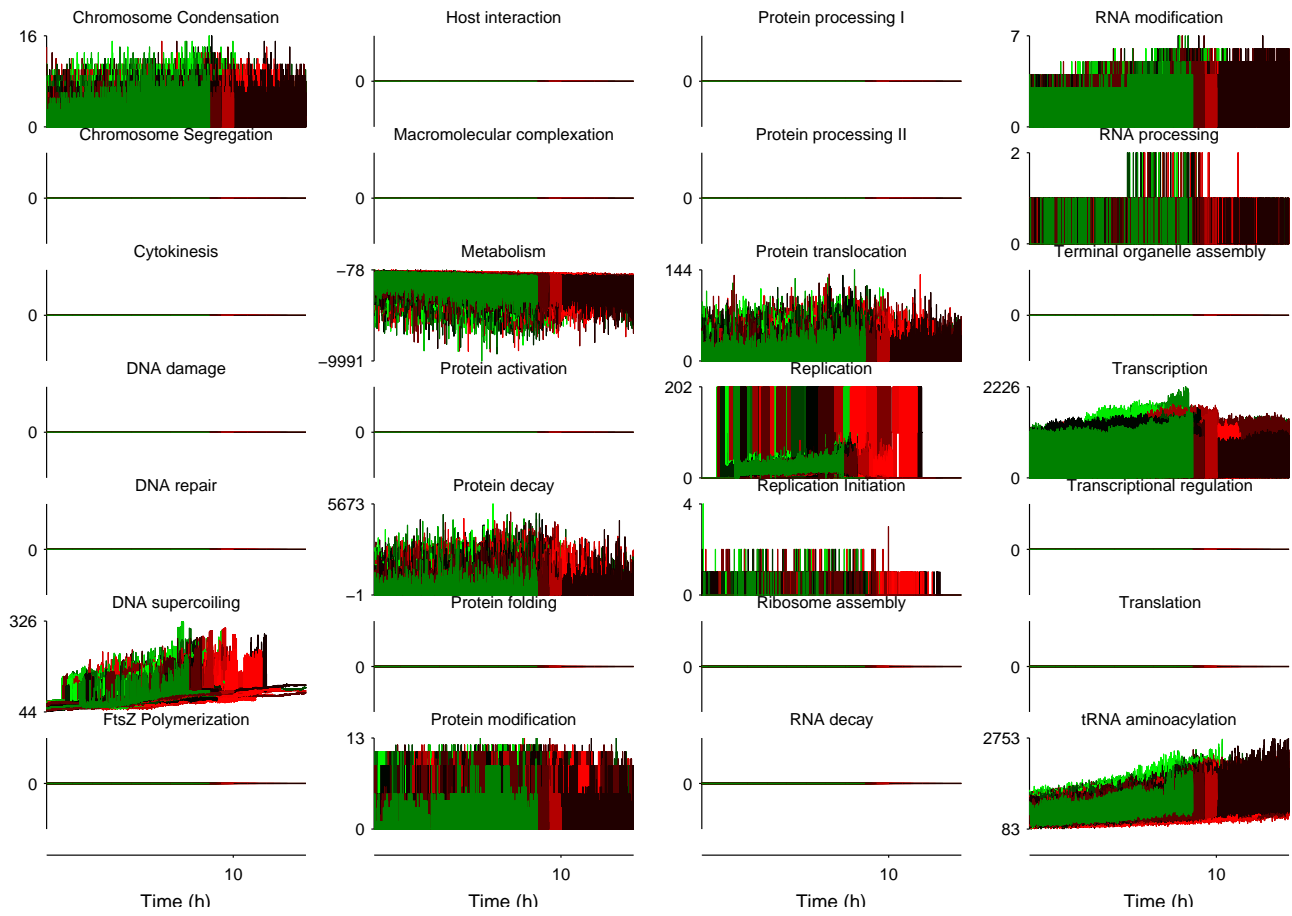
Allocations [ATP]

Simulation Set: 2011:10:25 01:45:44

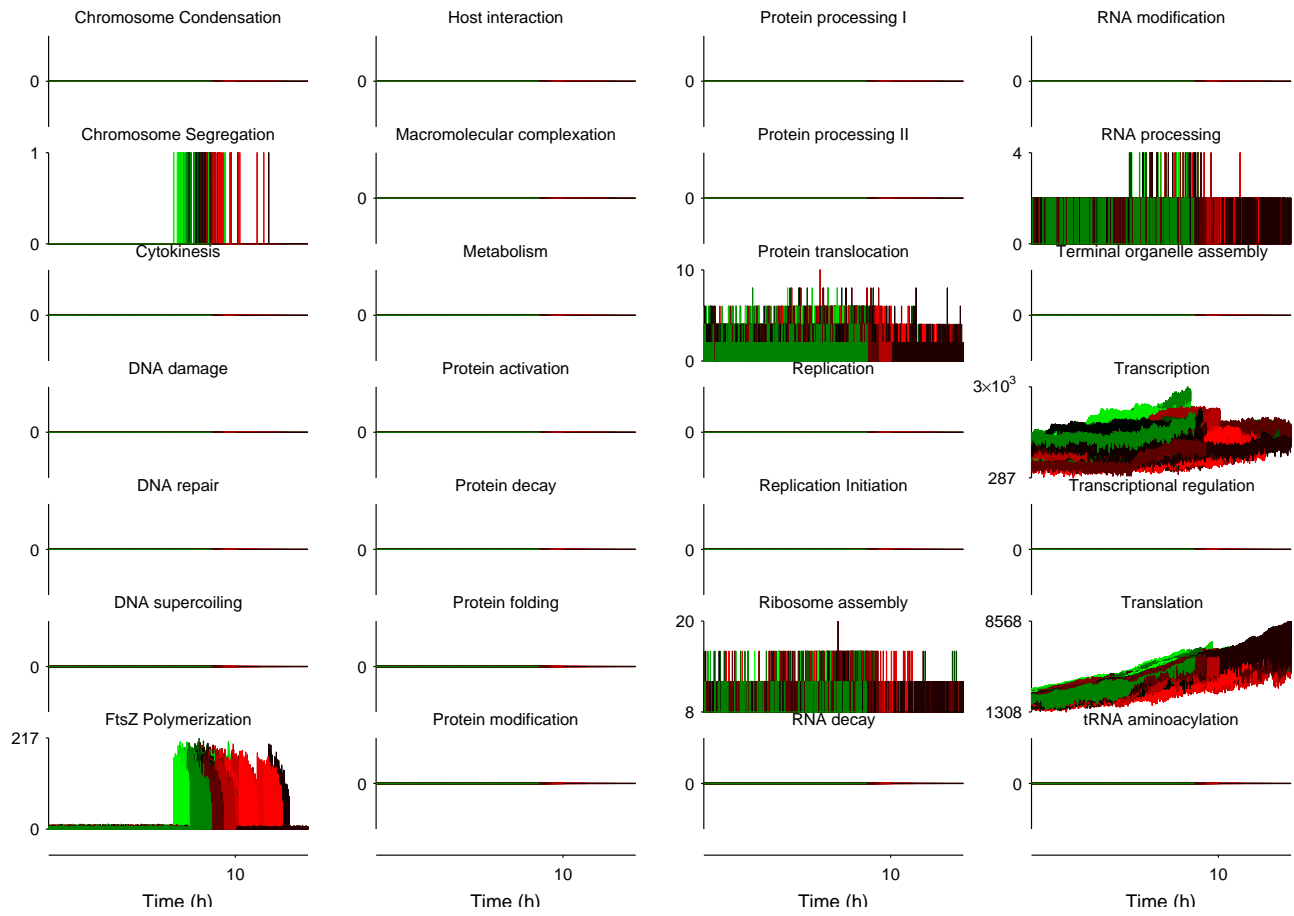


Usages [ATP]

Simulation Set: 2011:10:25 01:45:44

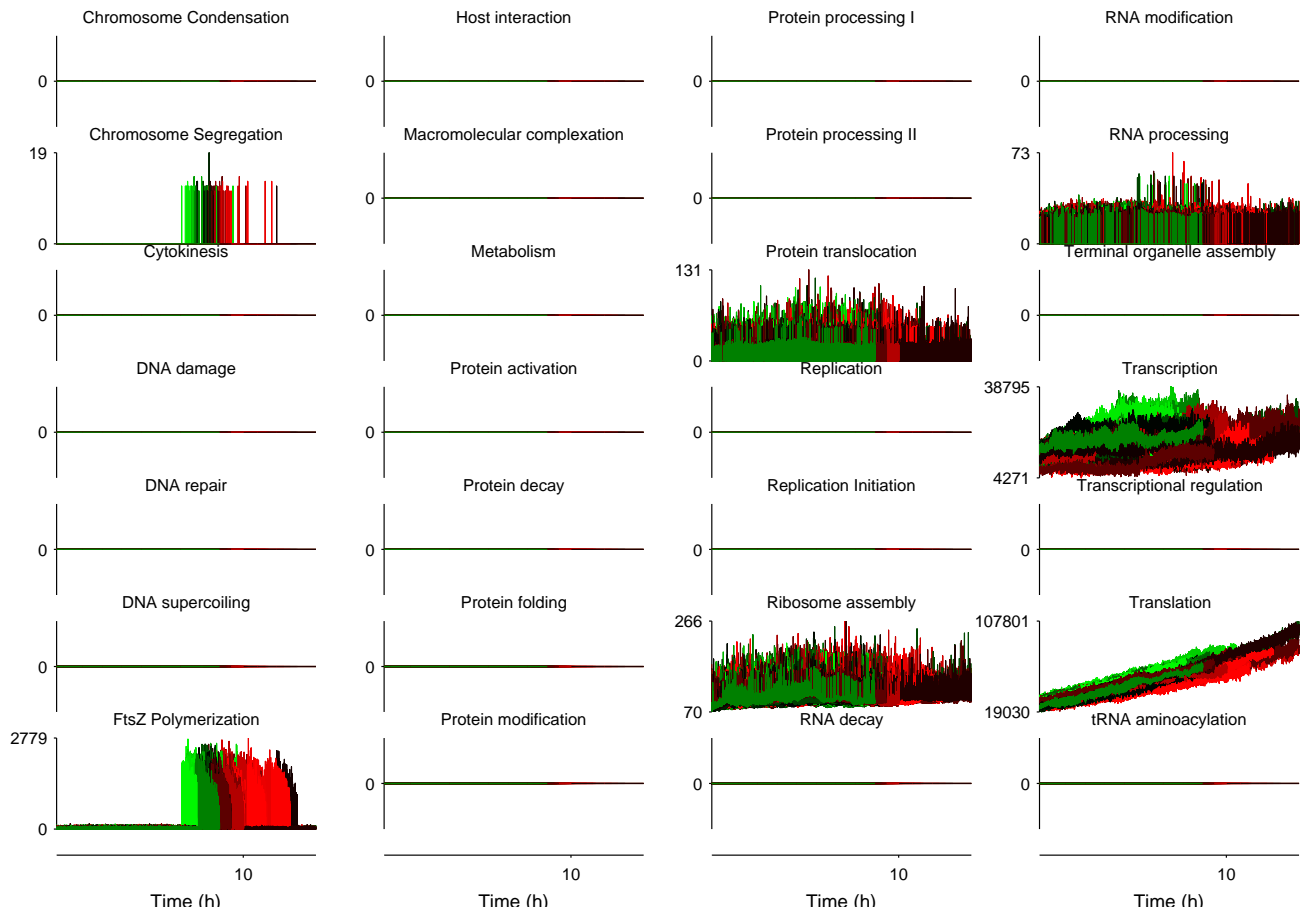


Requirements [GTP] Simulation Set: 2011:10:25 01:45:44



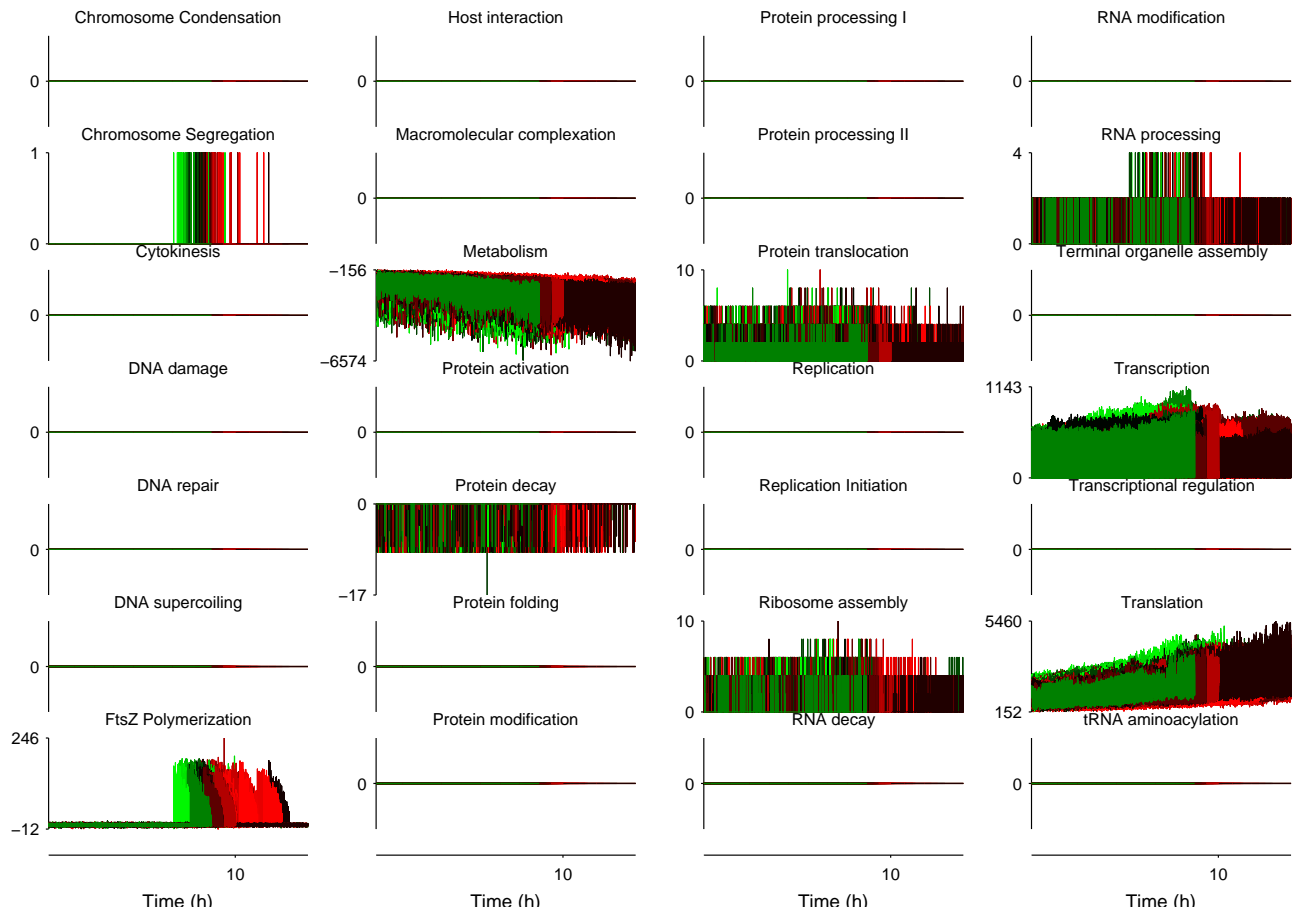
Allocations [GTP]

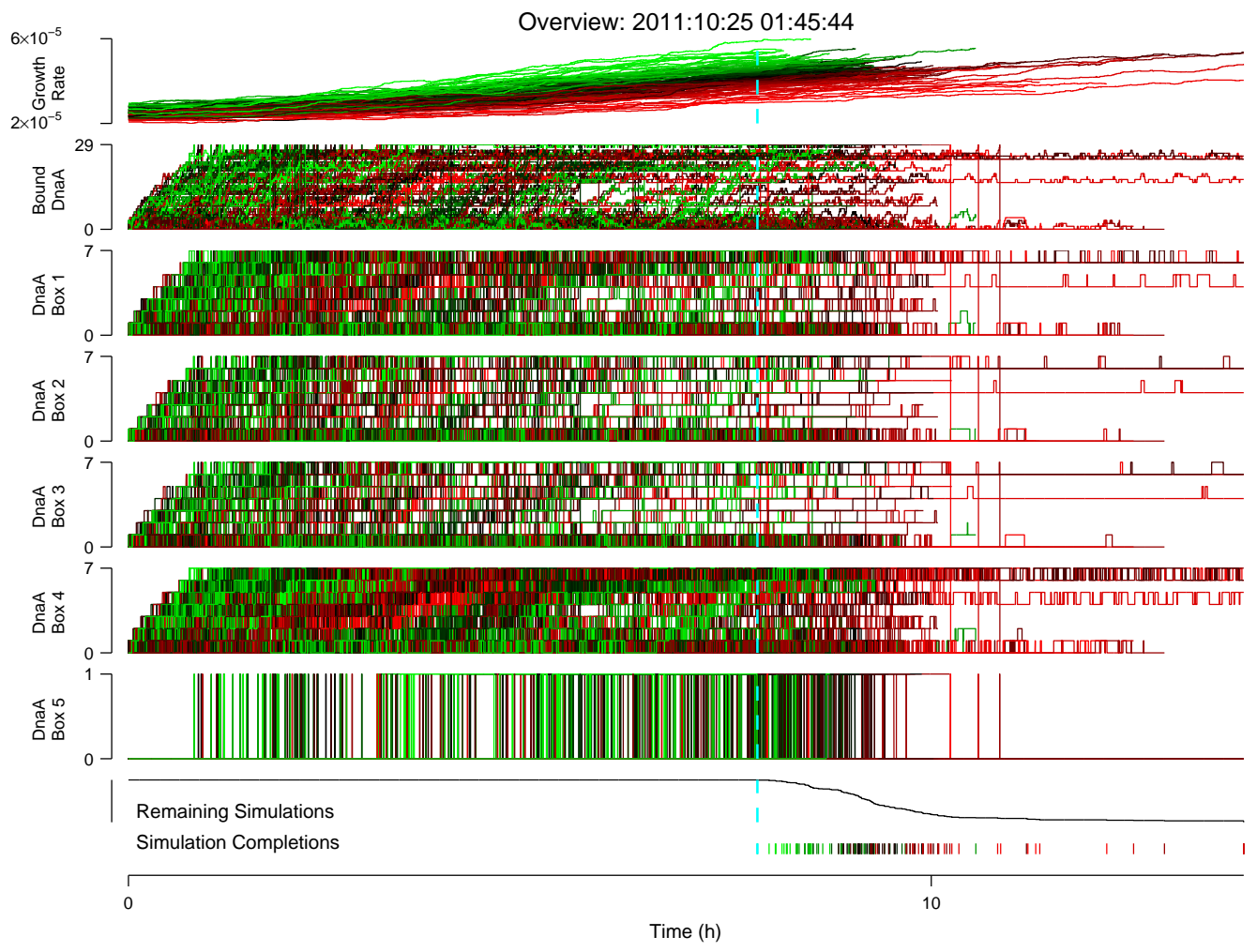
Simulation Set: 2011:10:25 01:45:44



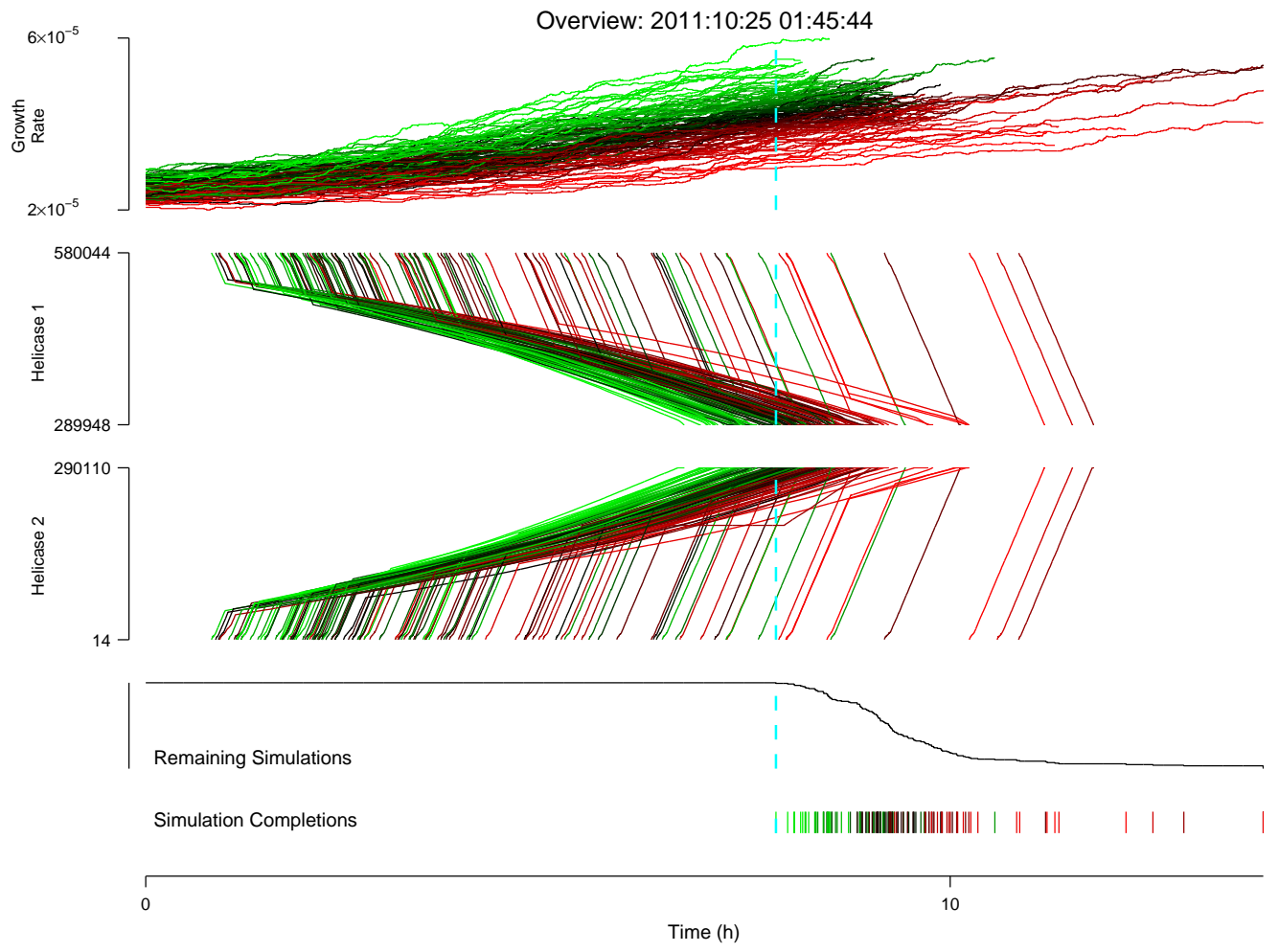
Usages [GTP]

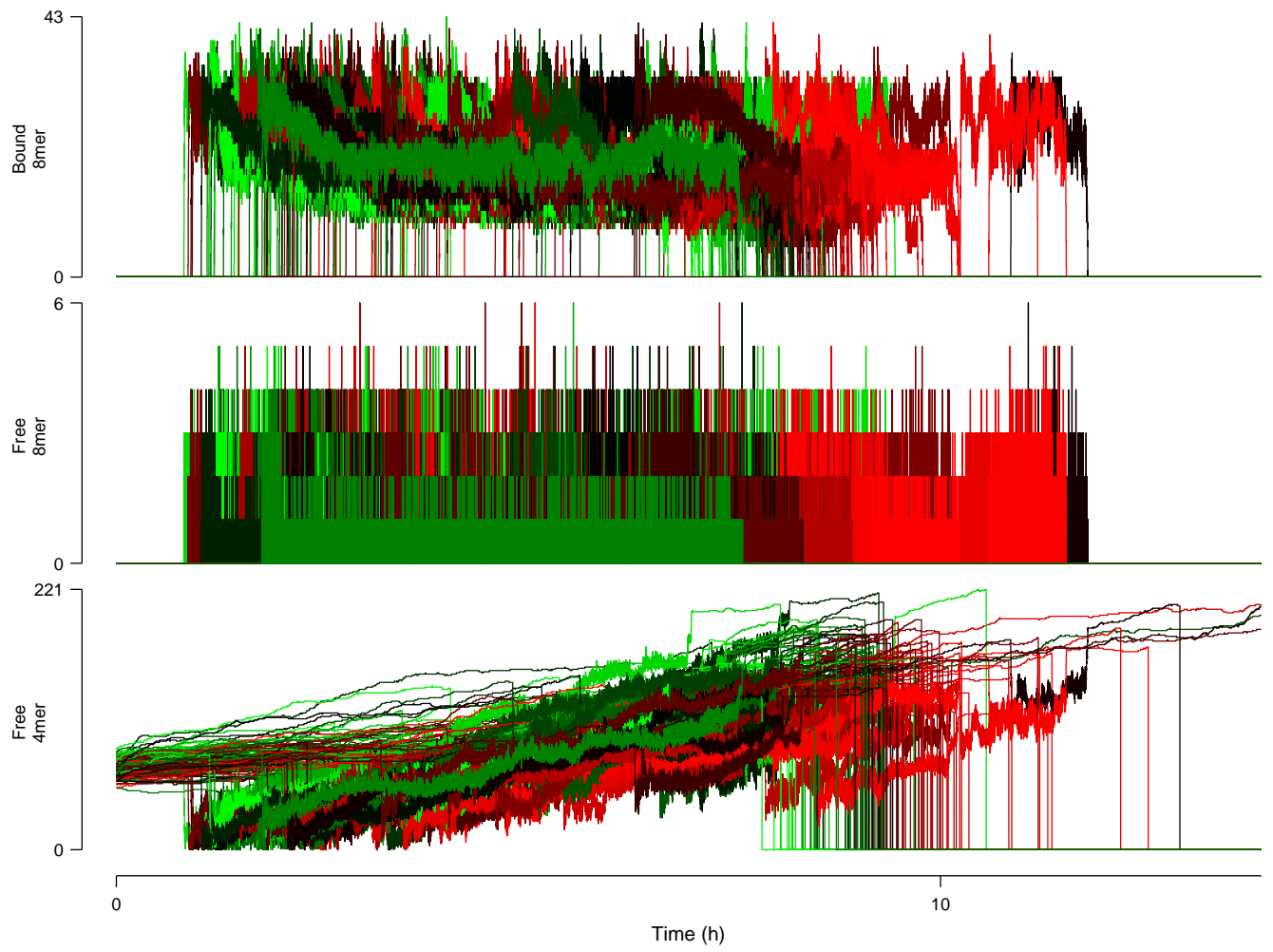
Simulation Set: 2011:10:25 01:45:44





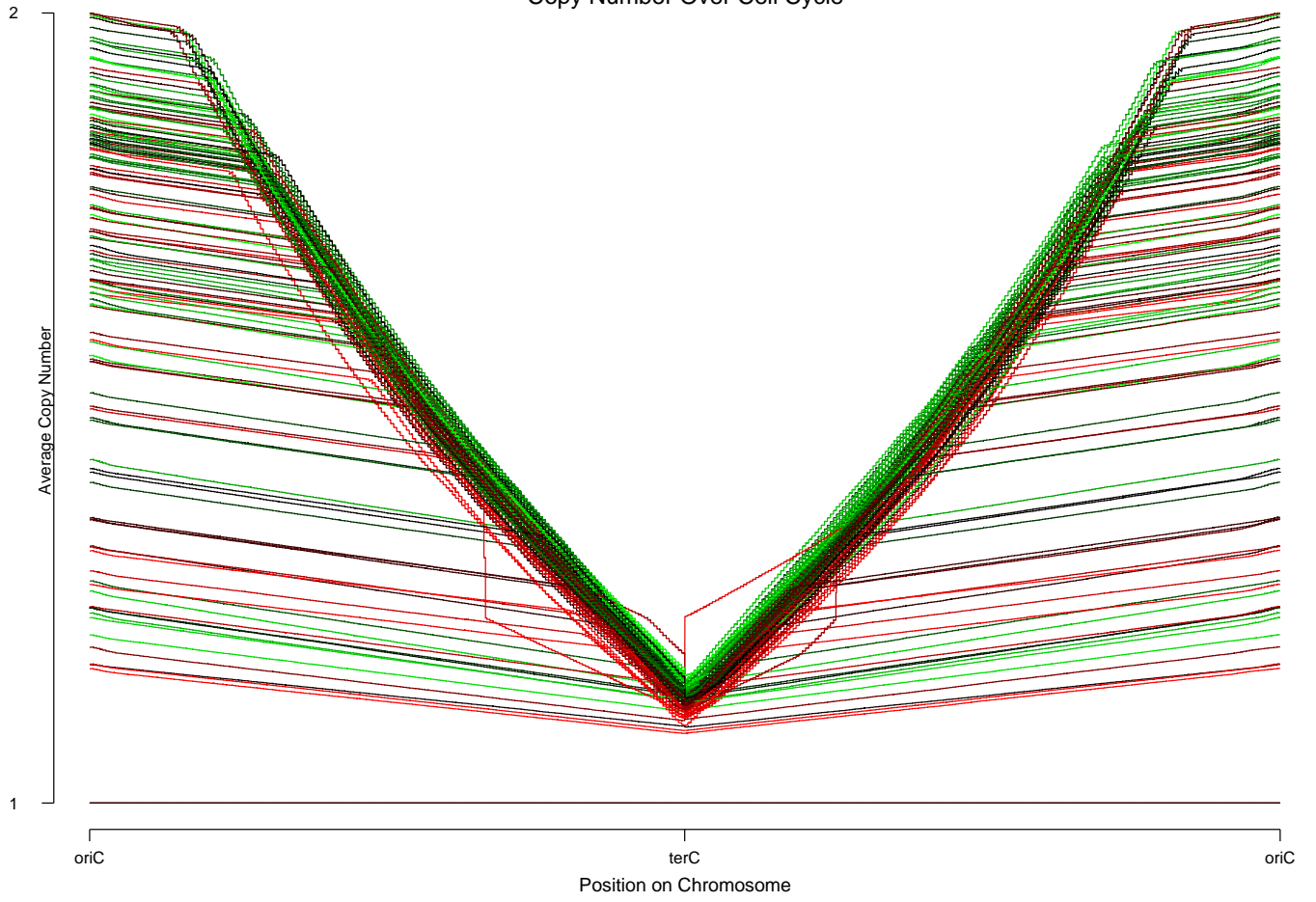
Replication Initiation



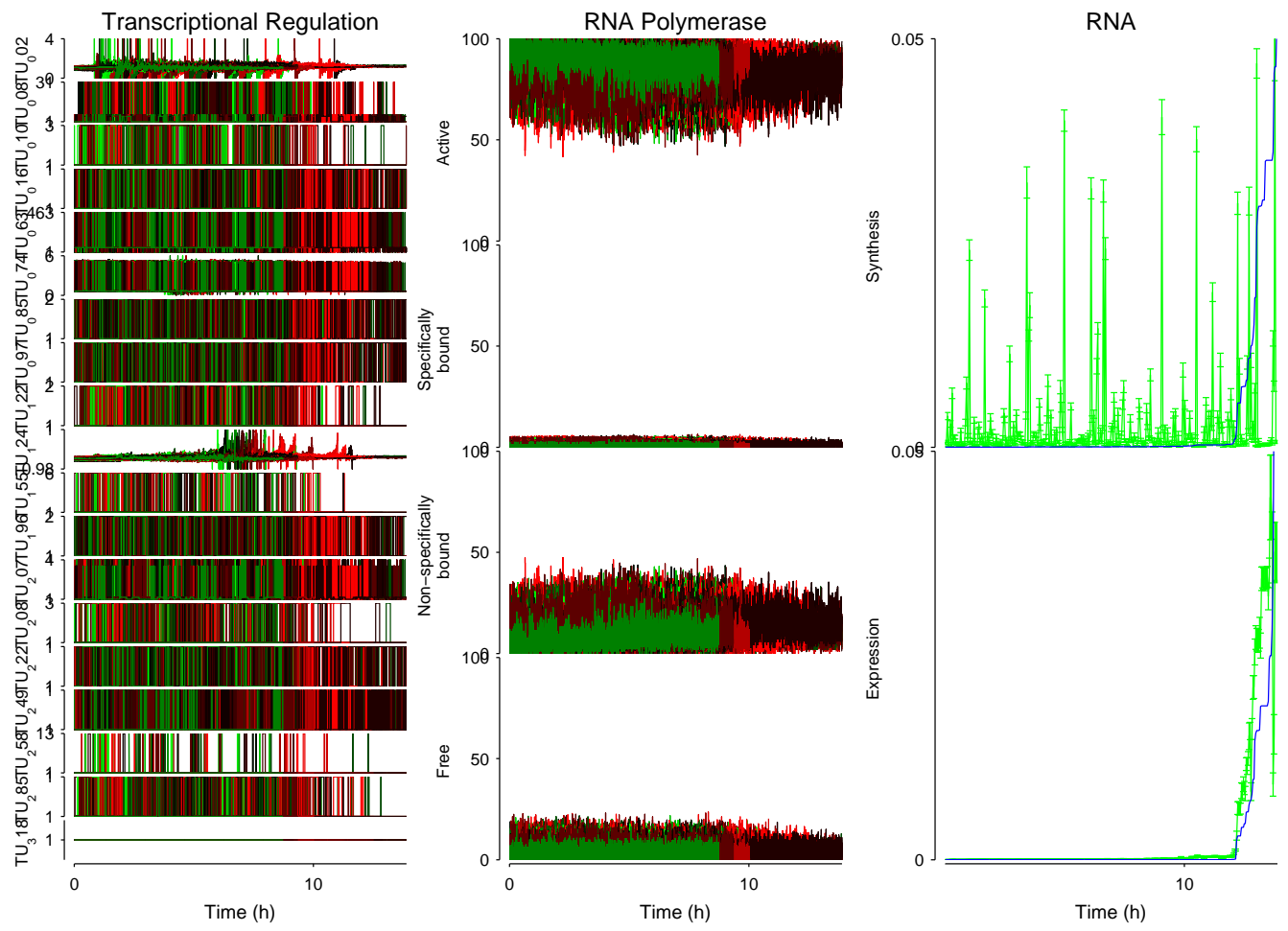


Replication

Copy Number Over Cell Cycle

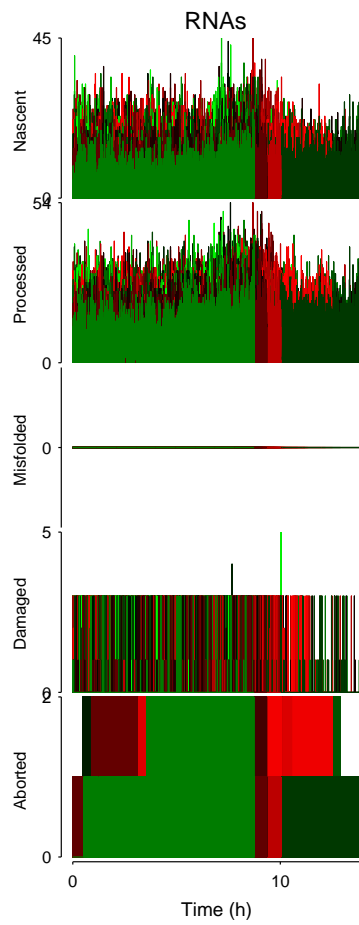


Replication

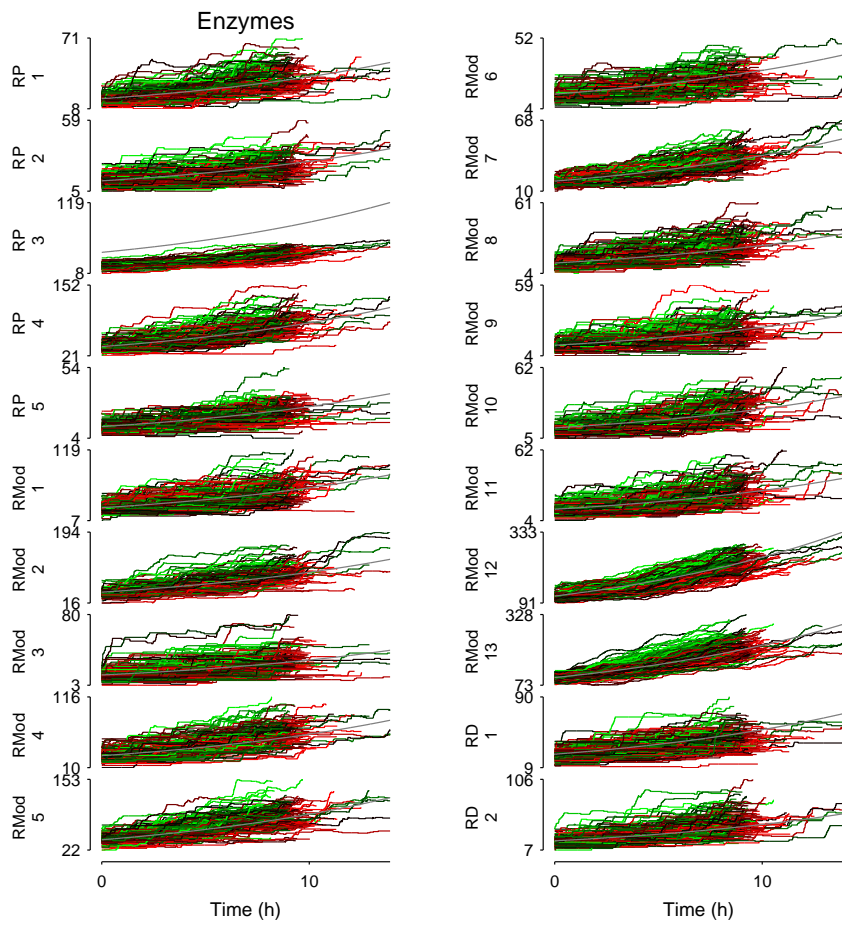


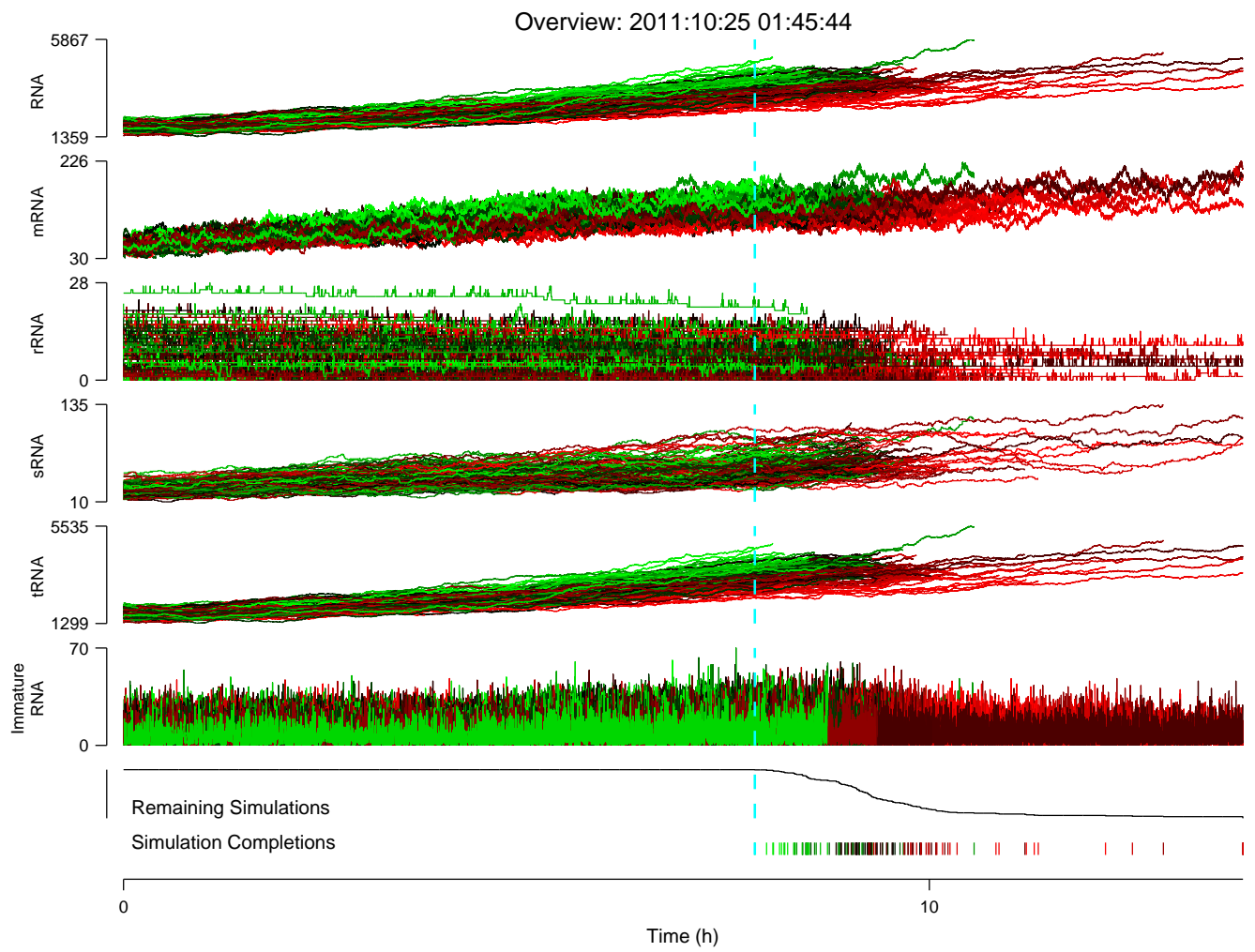
Transcription

A

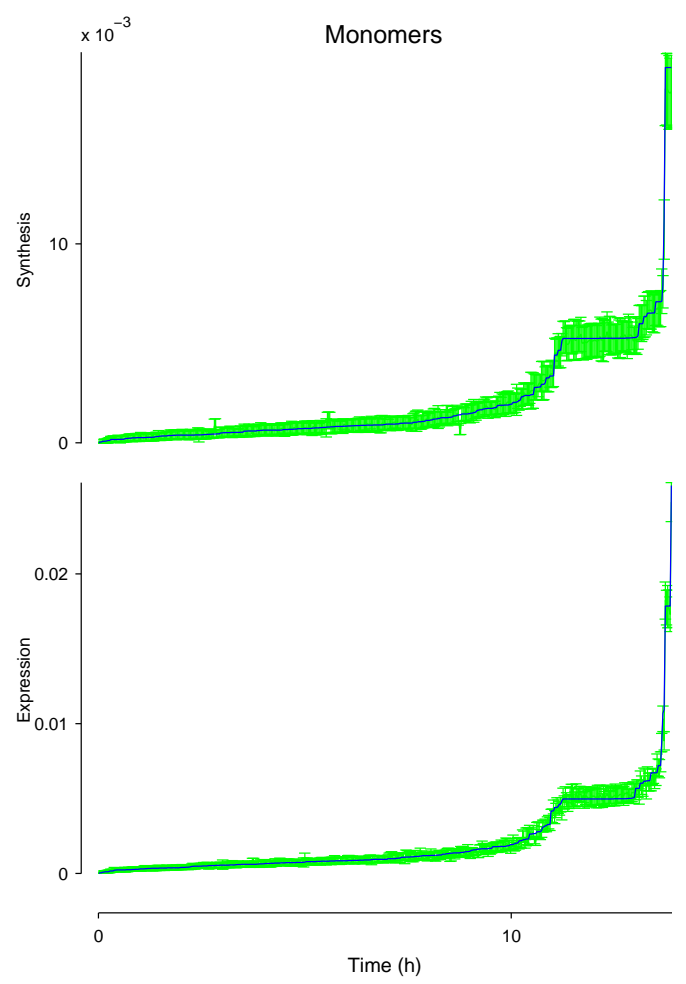
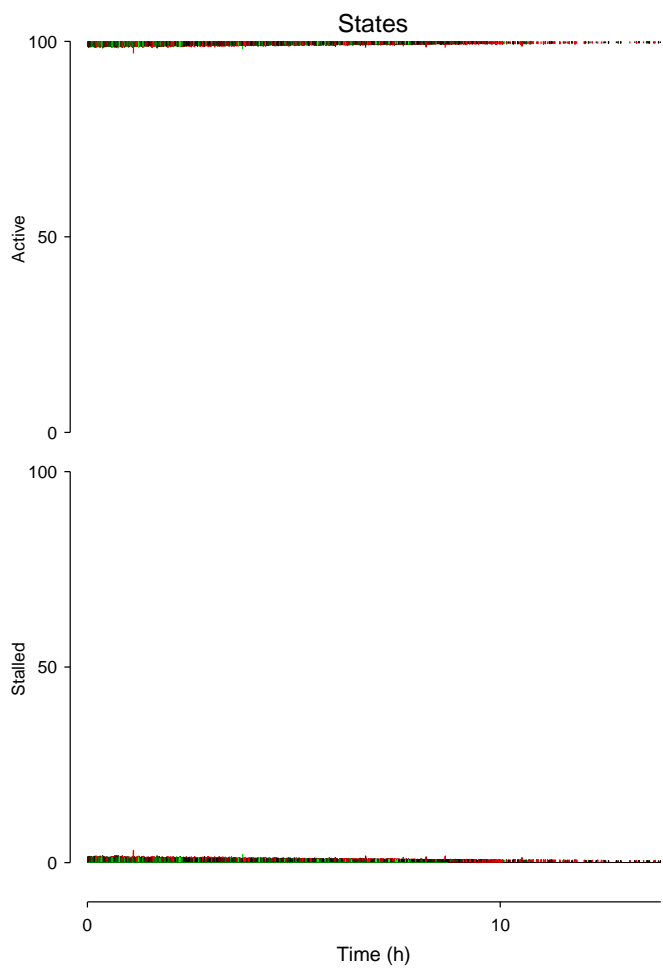


B

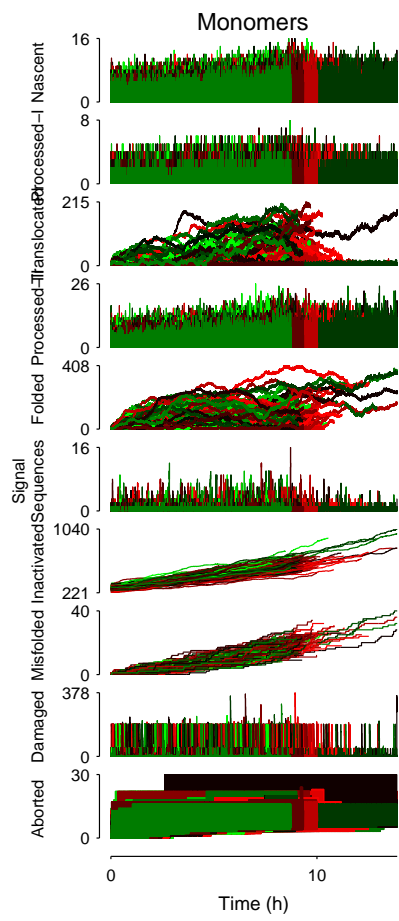




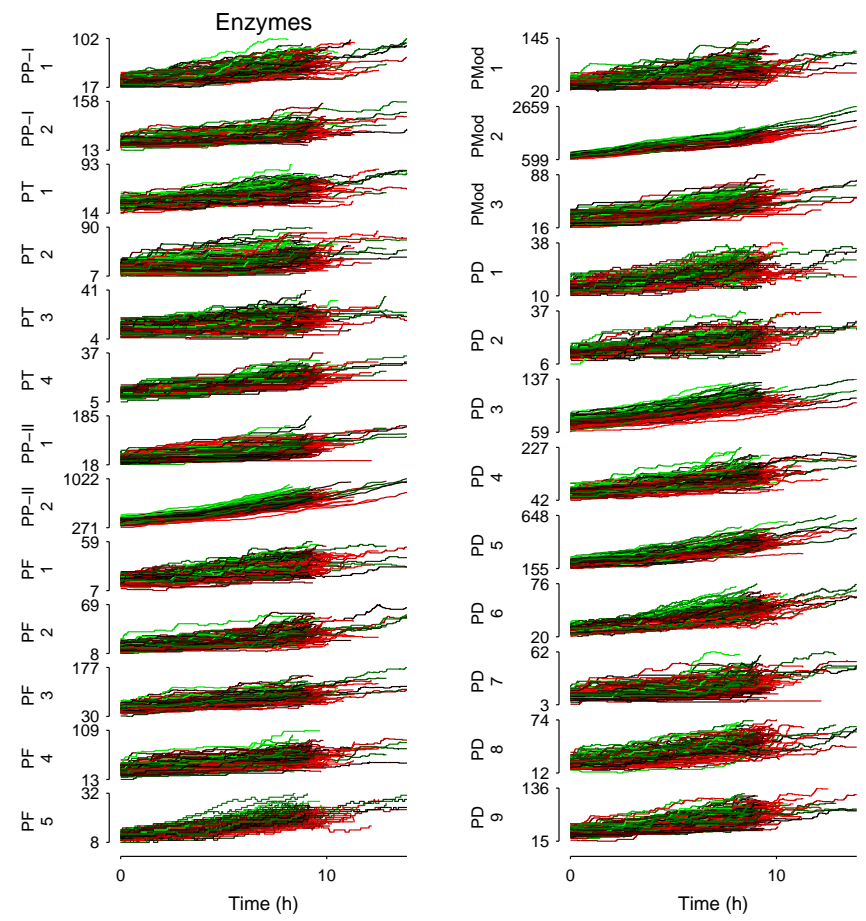
RNA Maturation

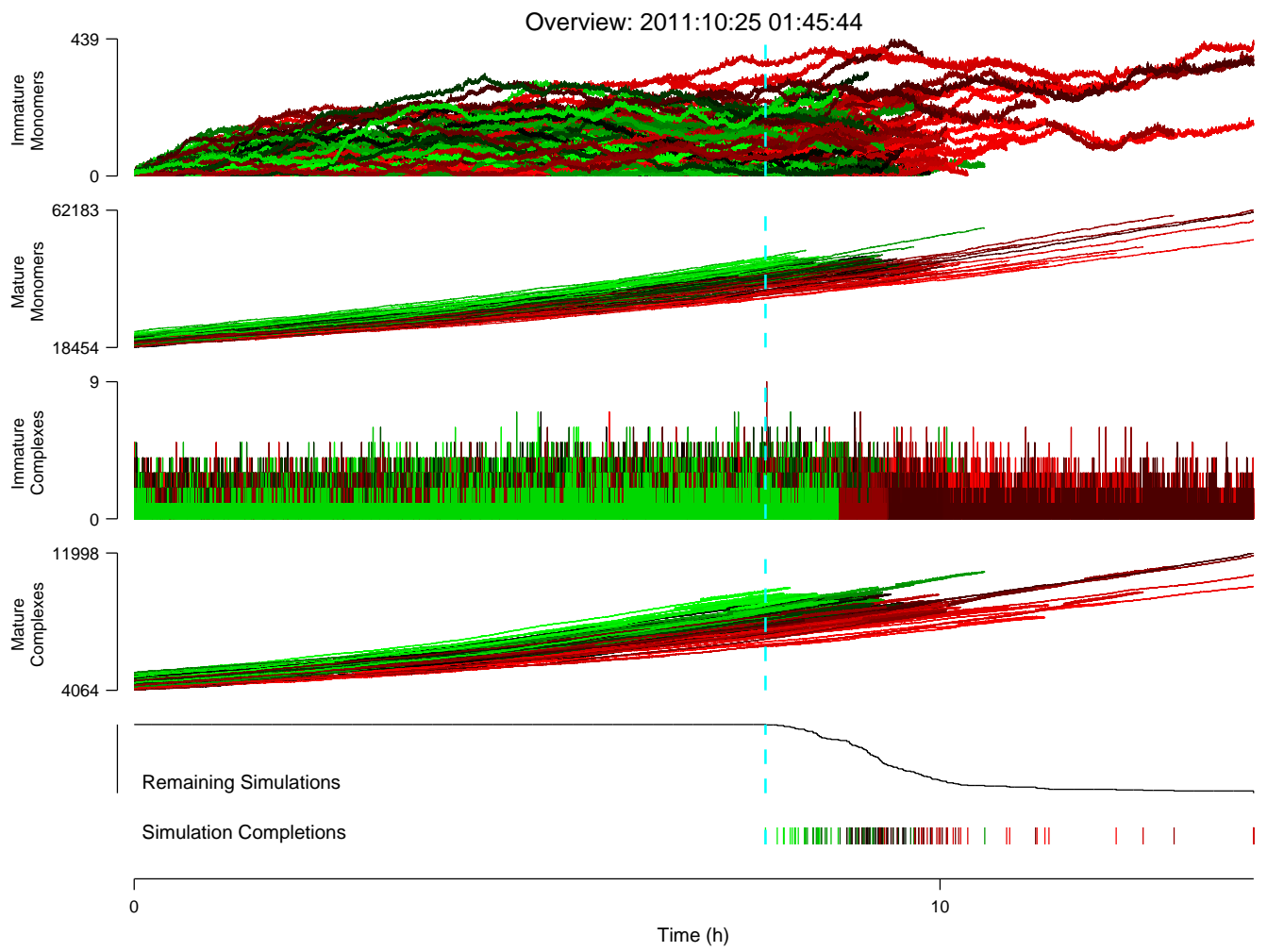


A



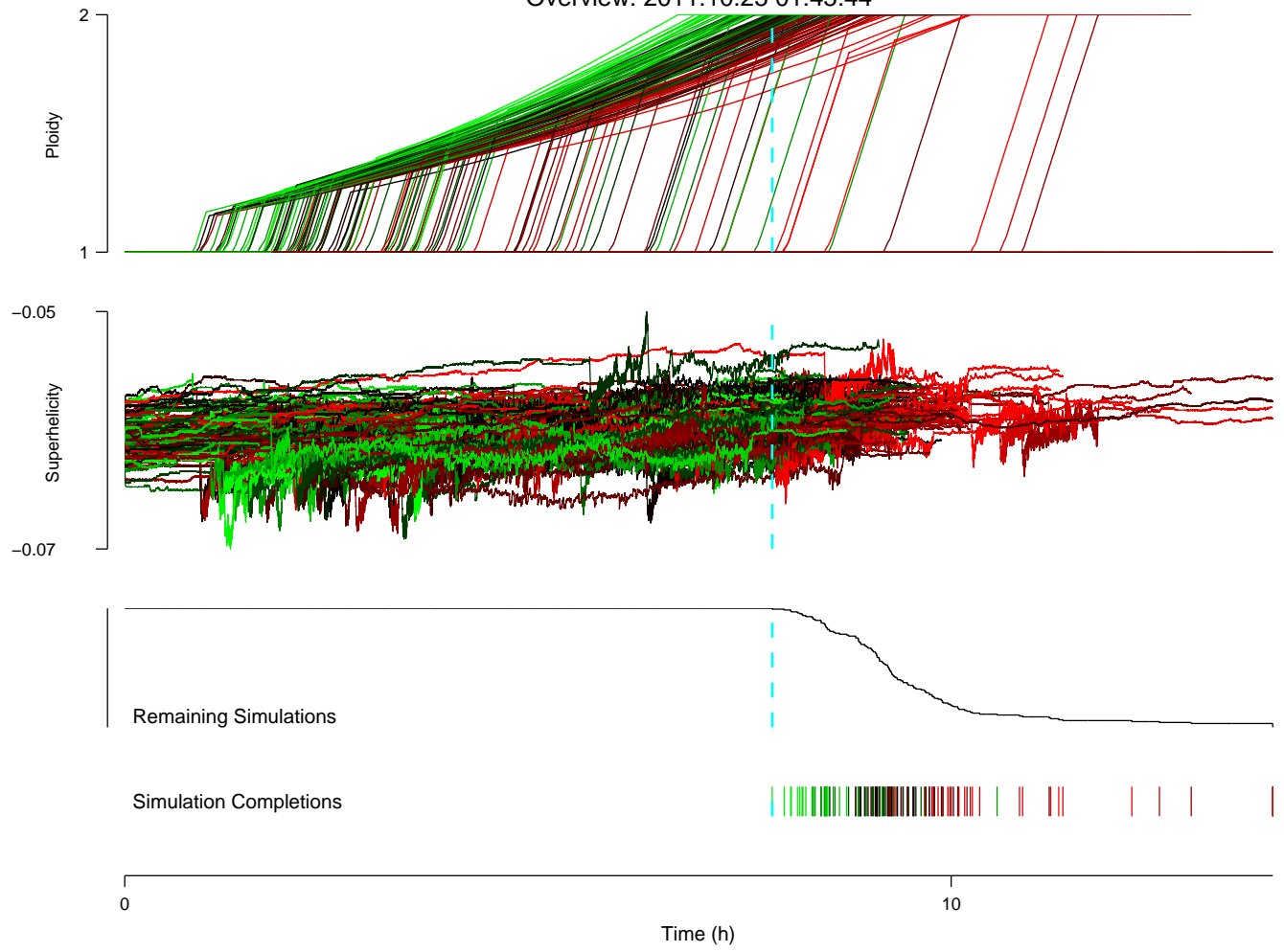
B

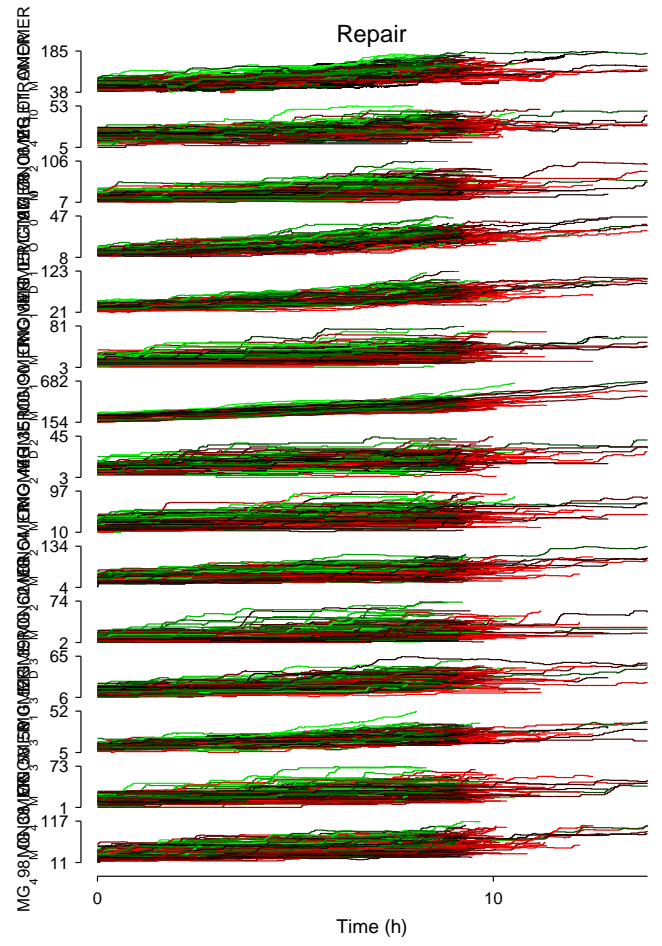
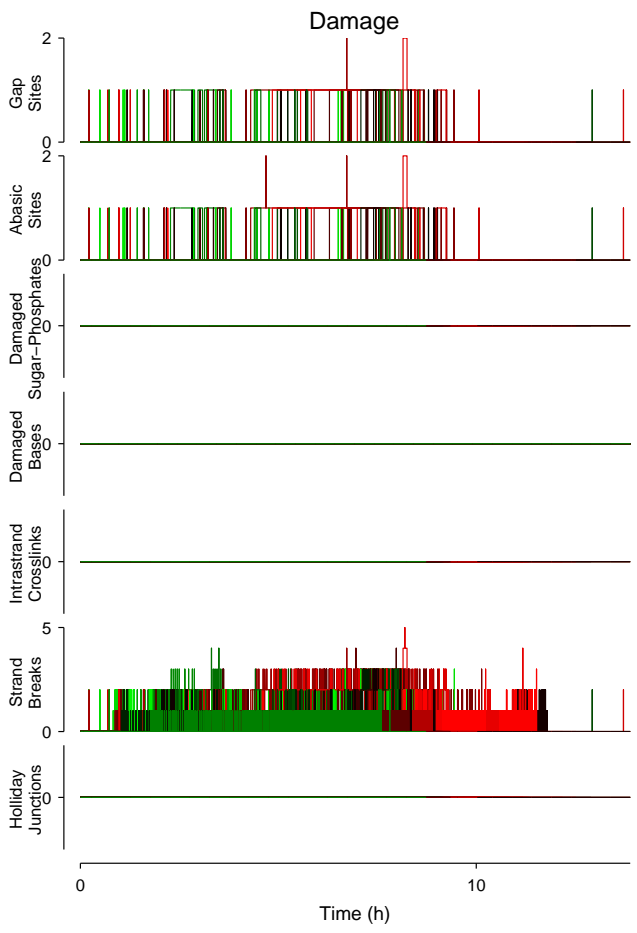




Protein Maturation

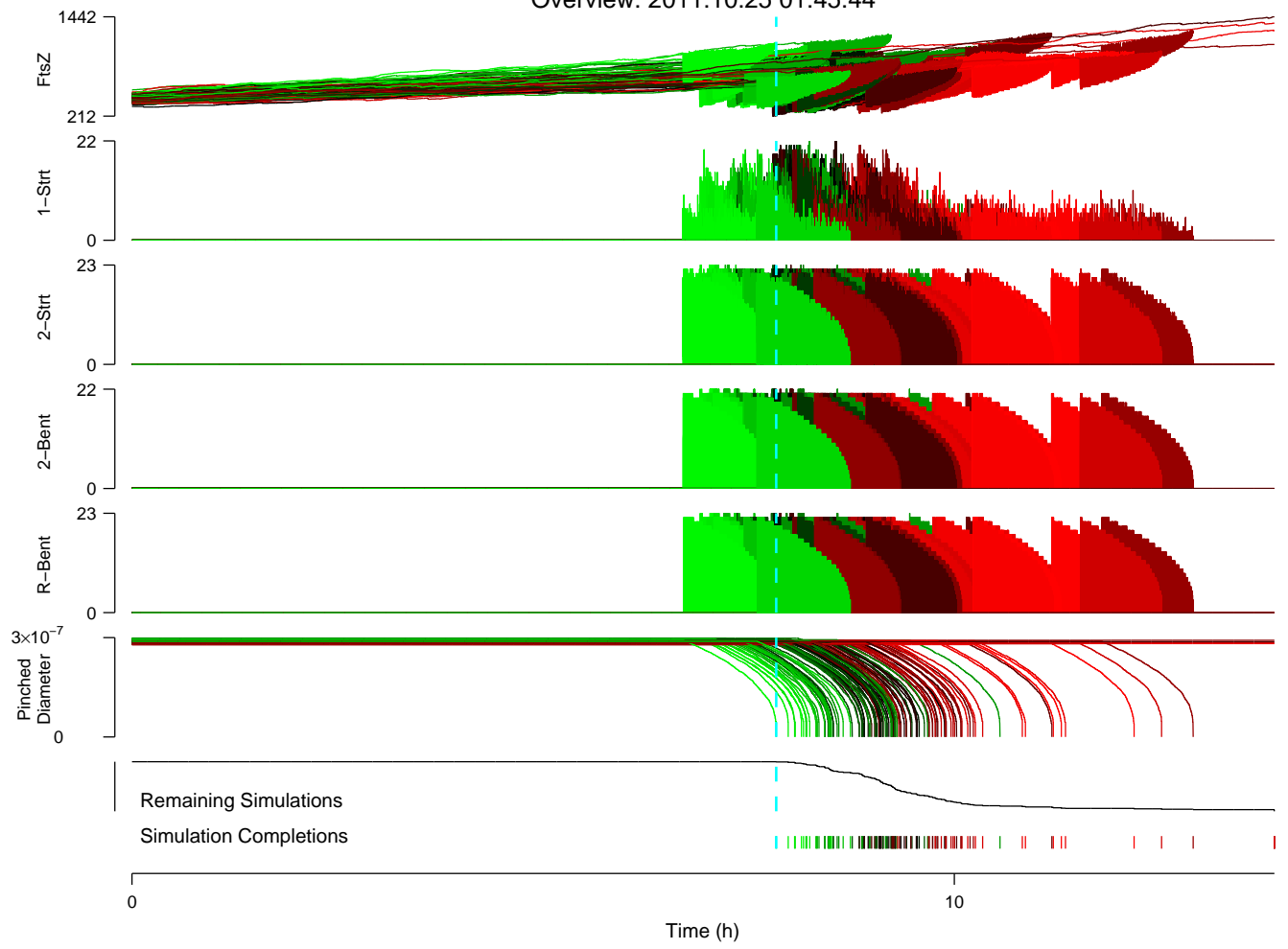
Overview: 2011:10:25 01:45:44



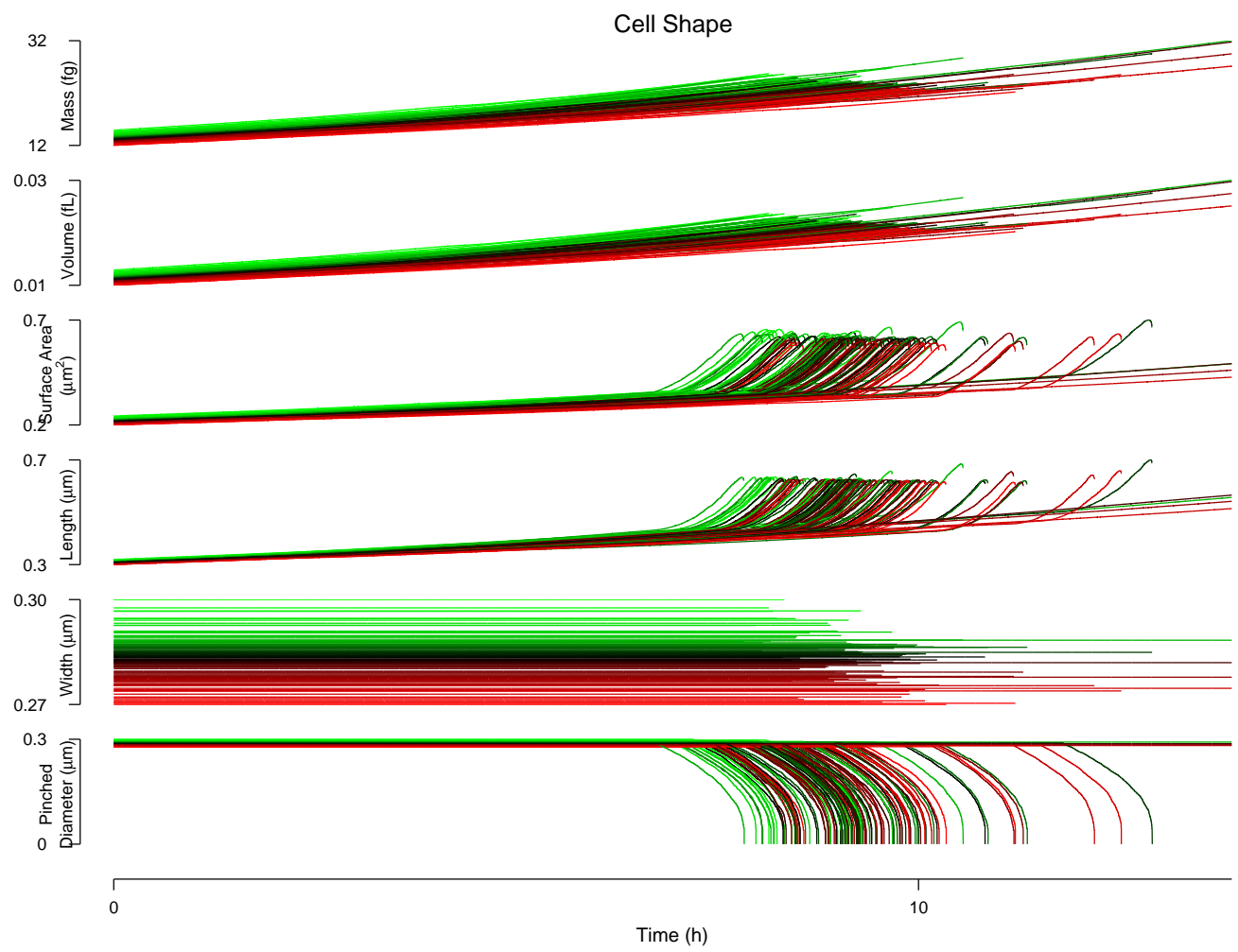


DNA Repair

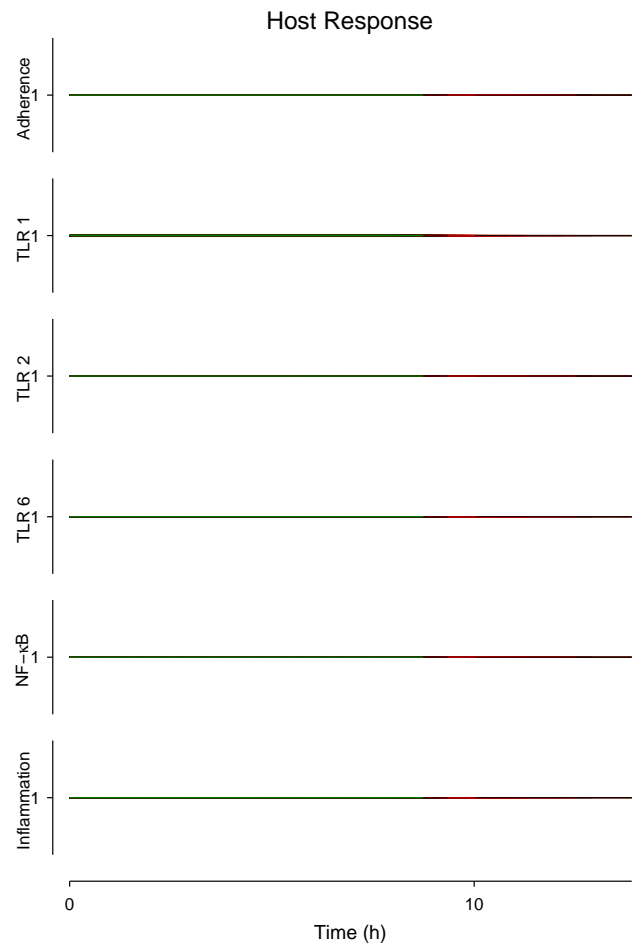
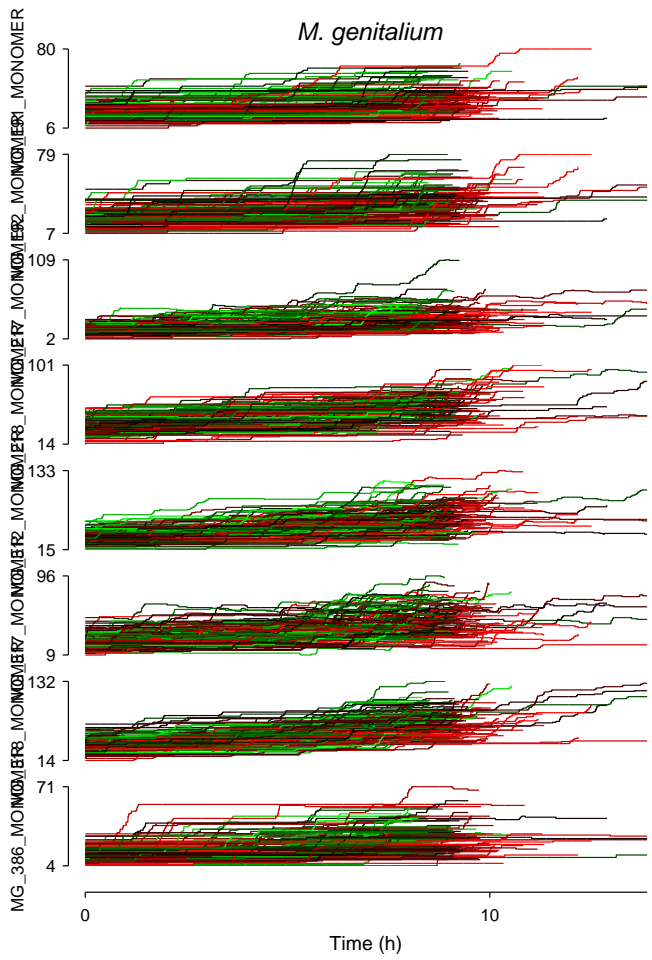
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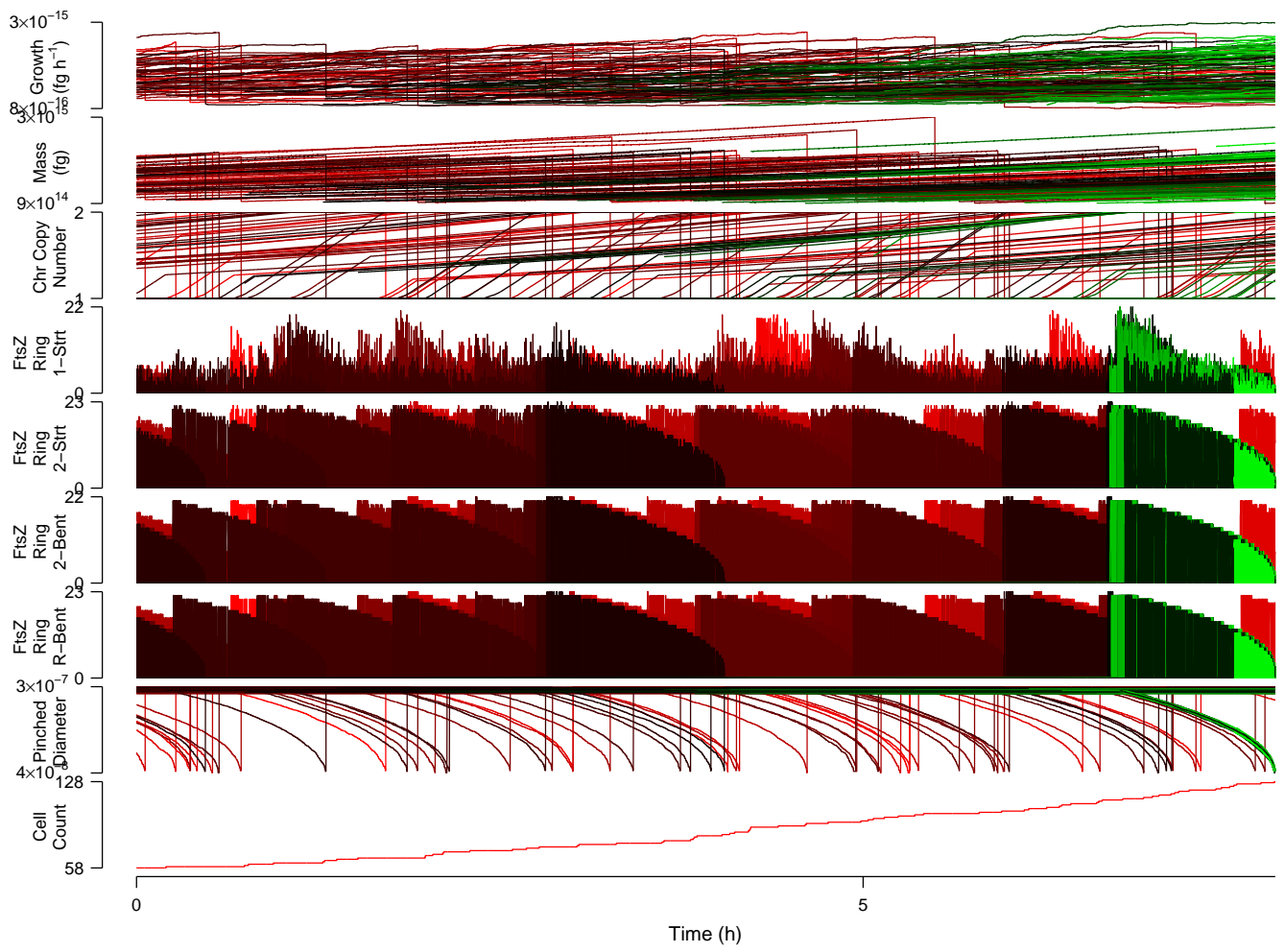


Cell Division

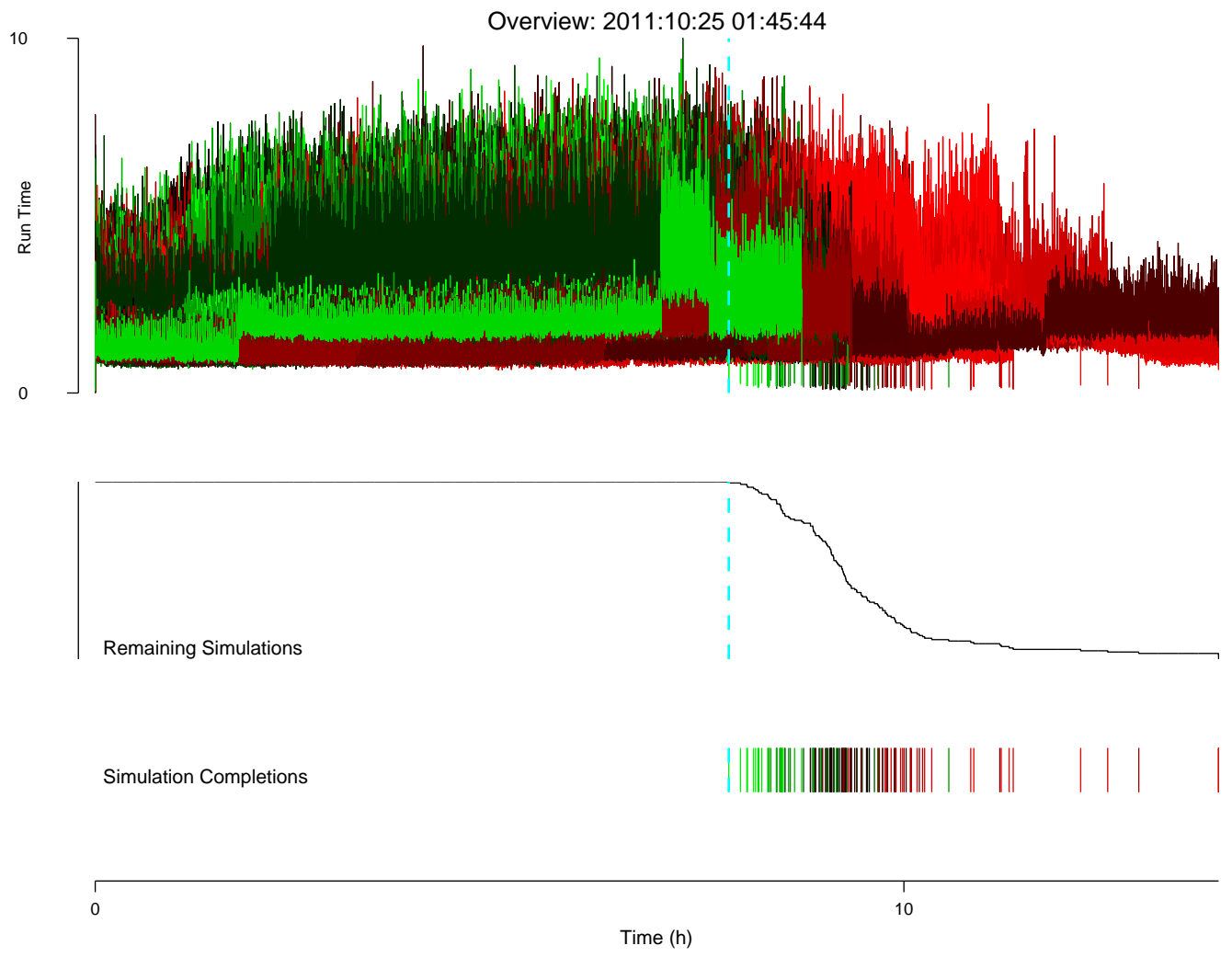


Cell Division

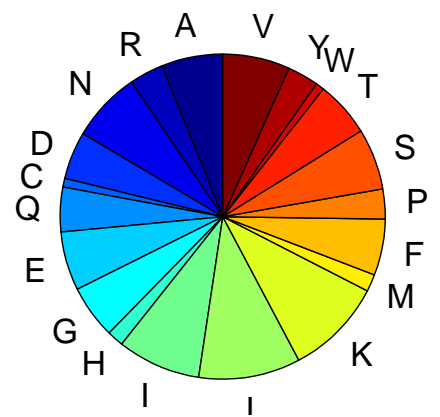
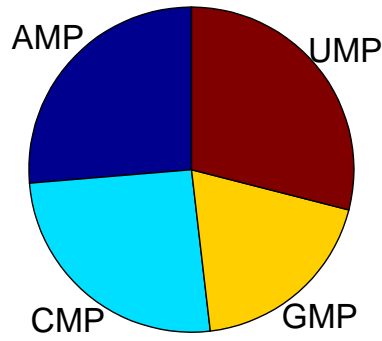
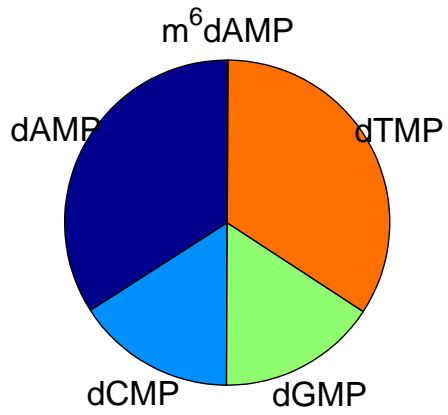
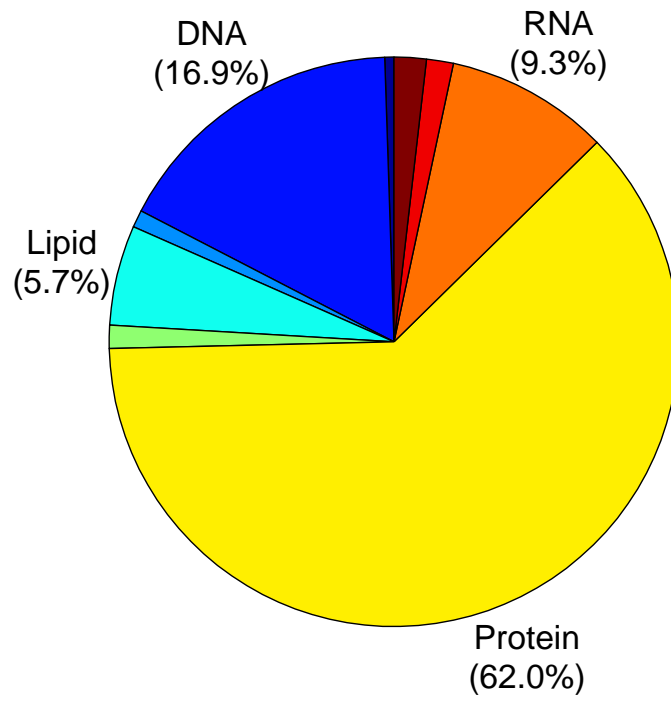




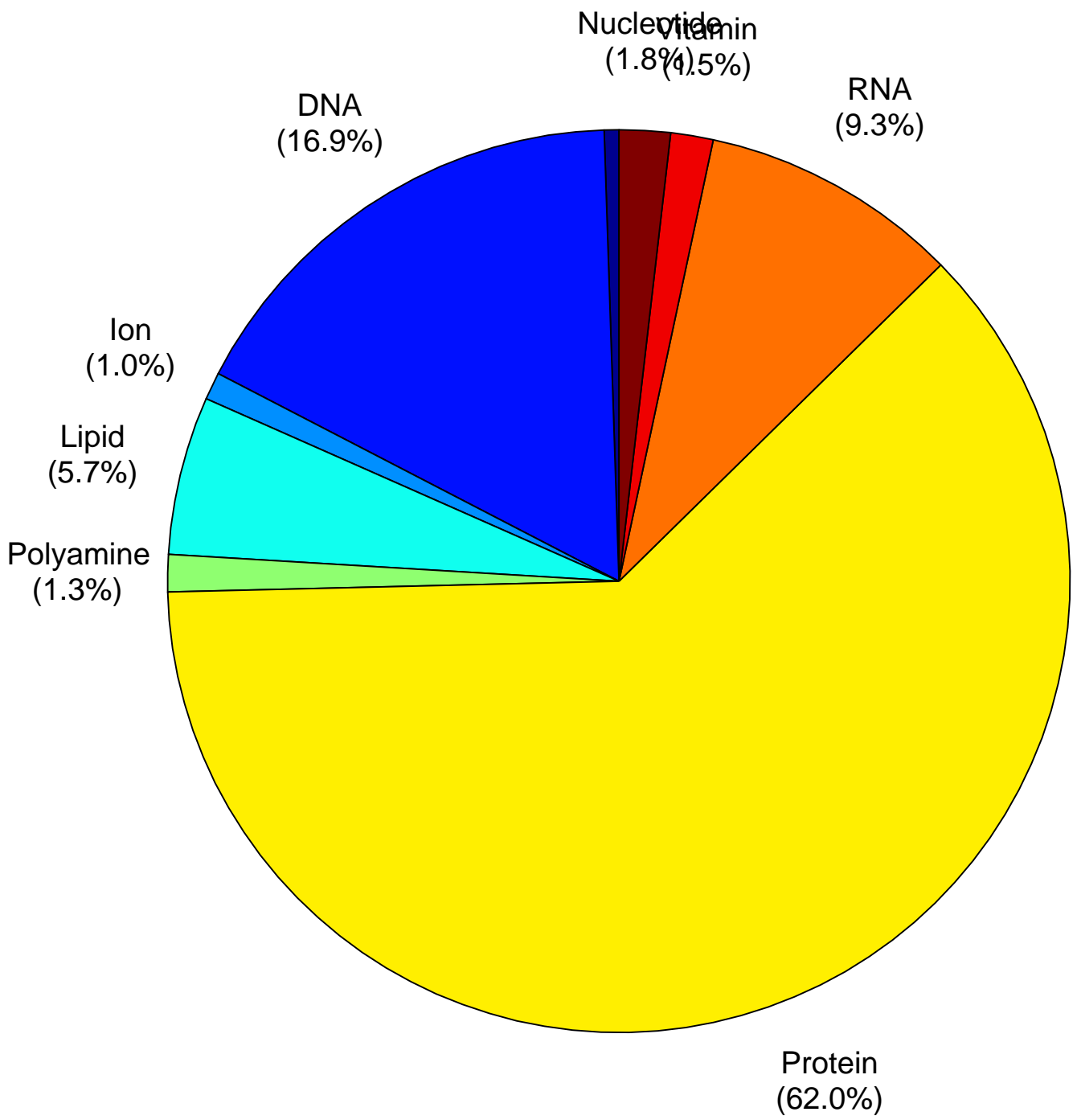
Unsynchronized Population



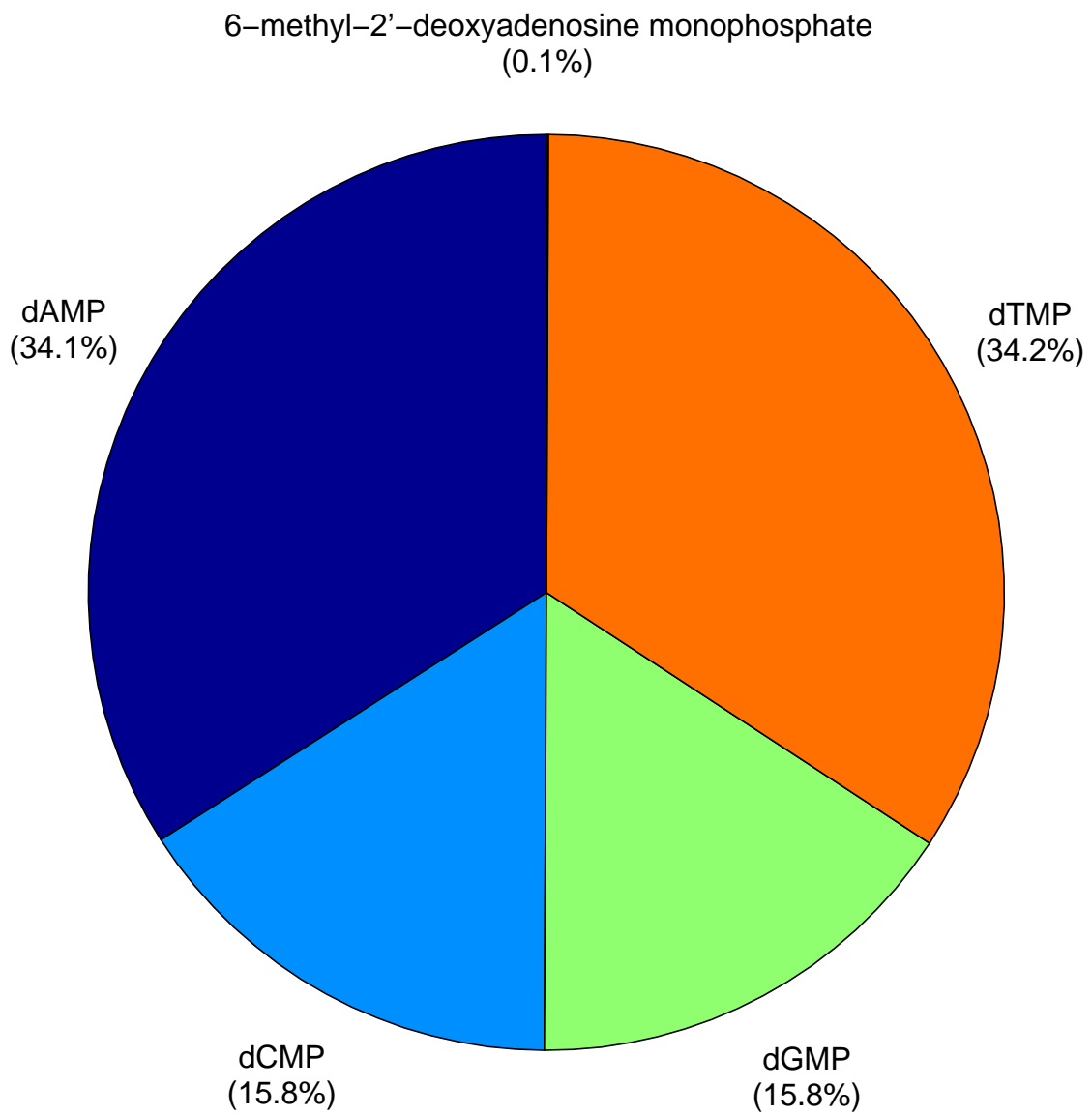
Simulation Runtime



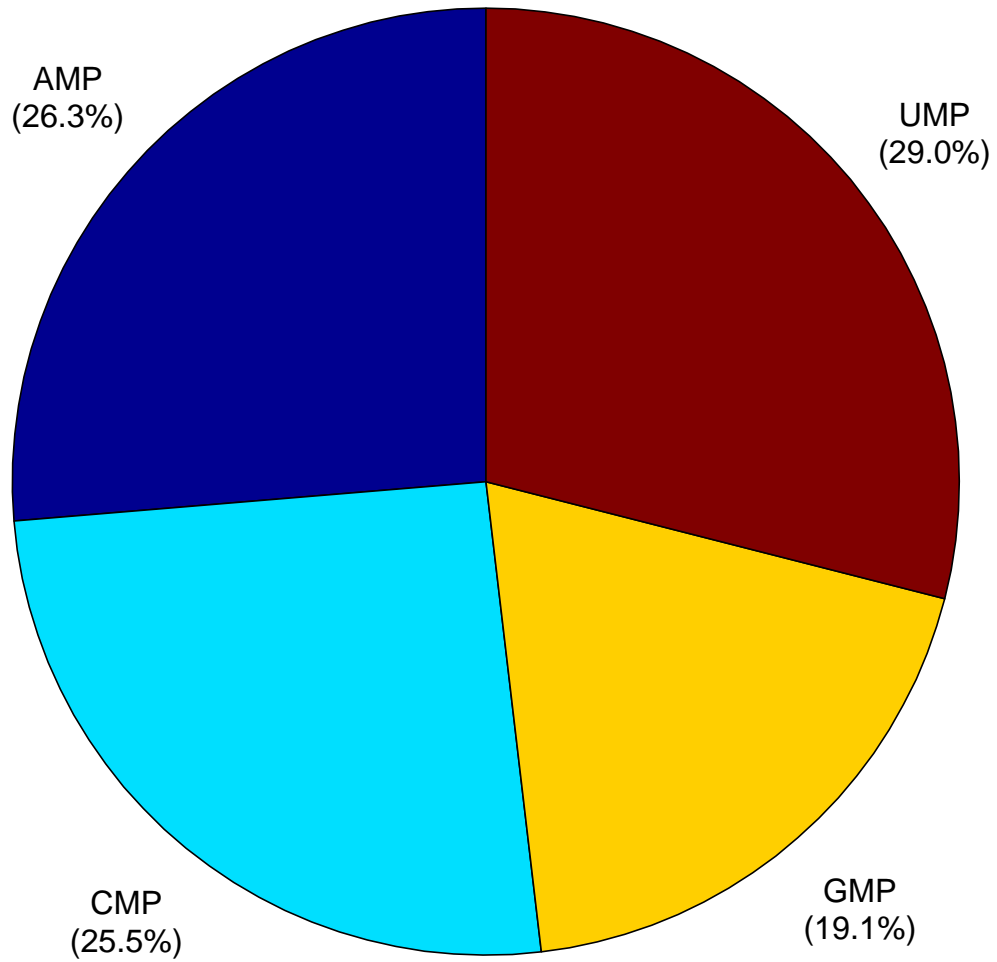
Biomass Composition



Biomass Composition

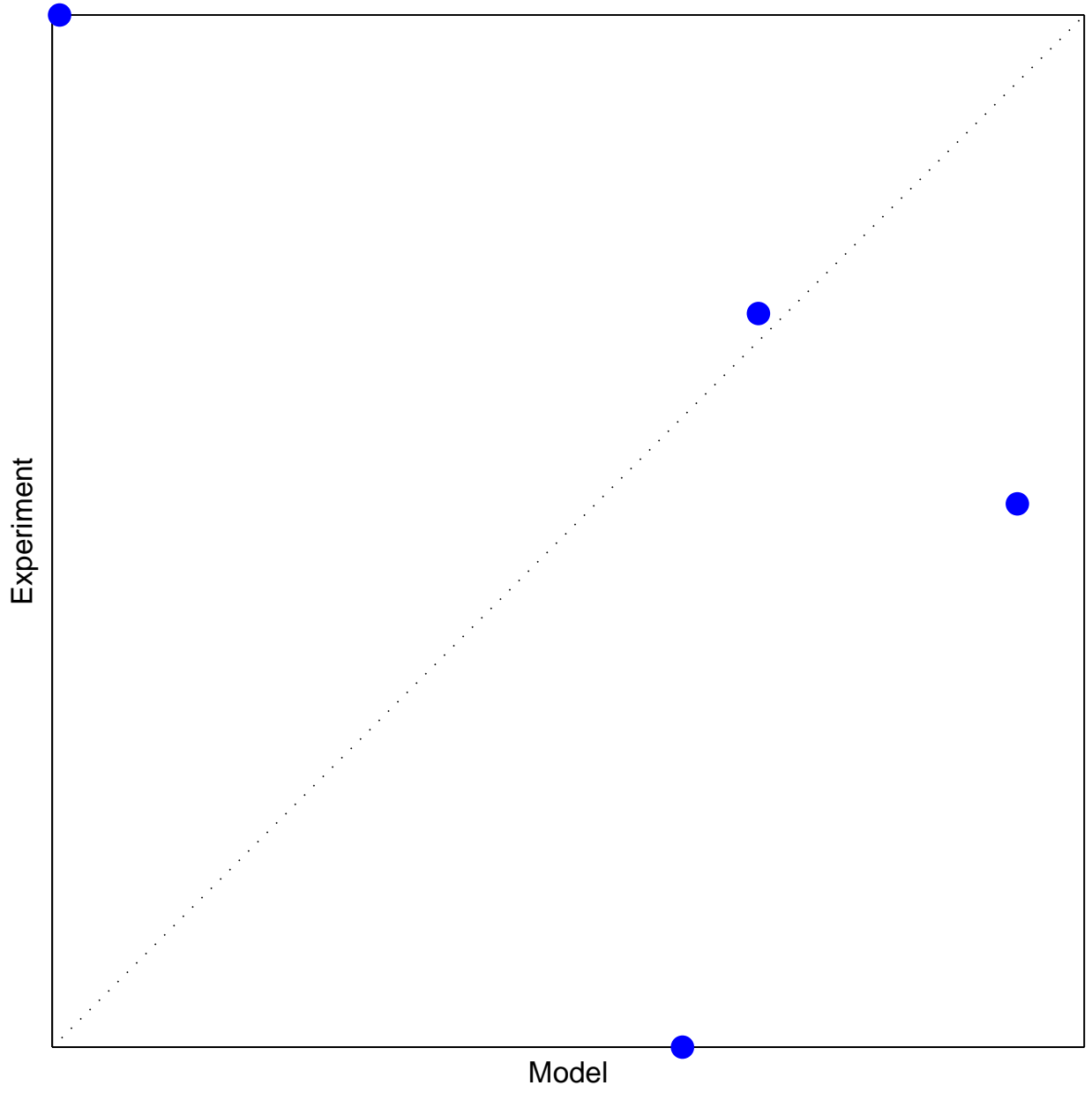


dNMP Composition

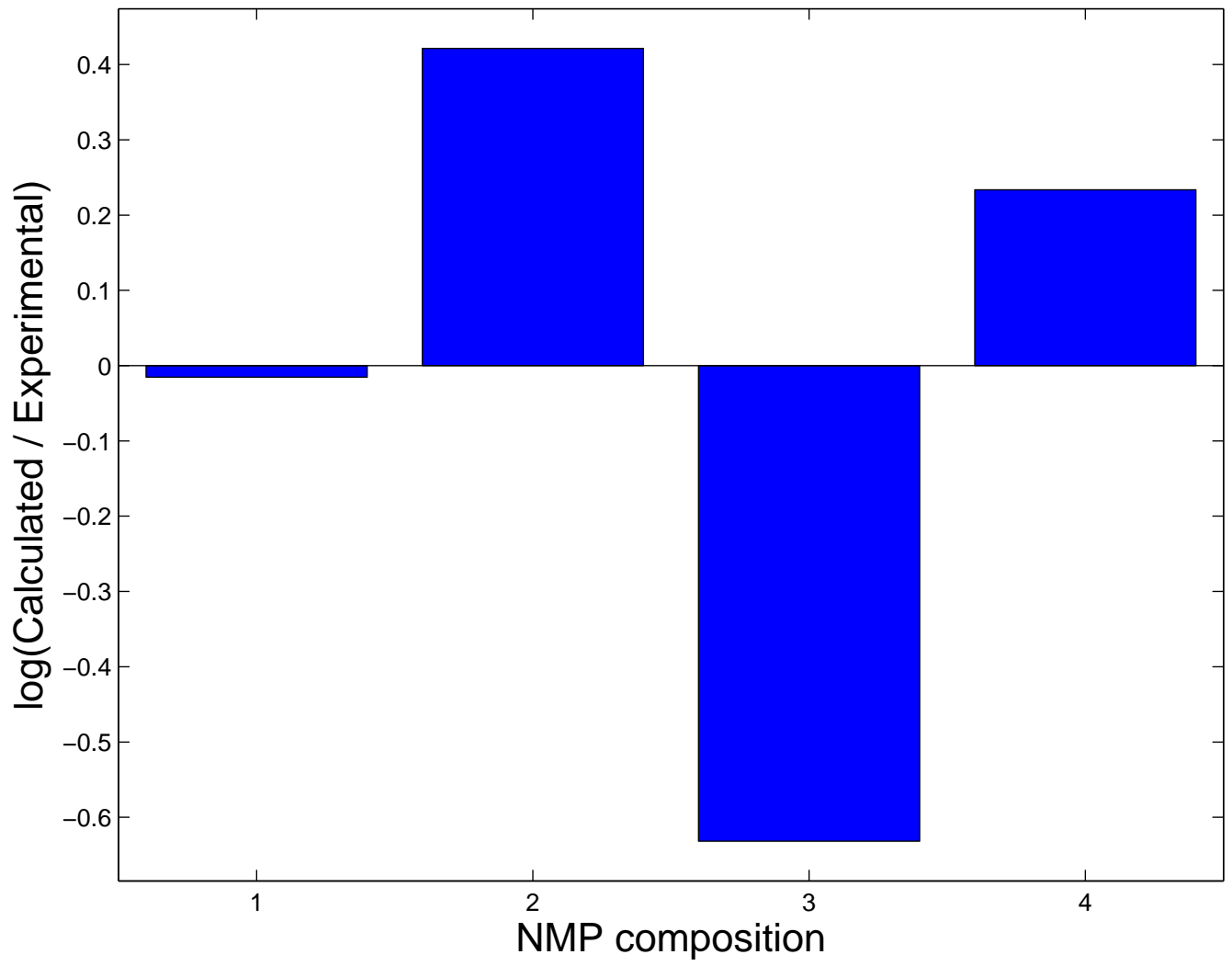


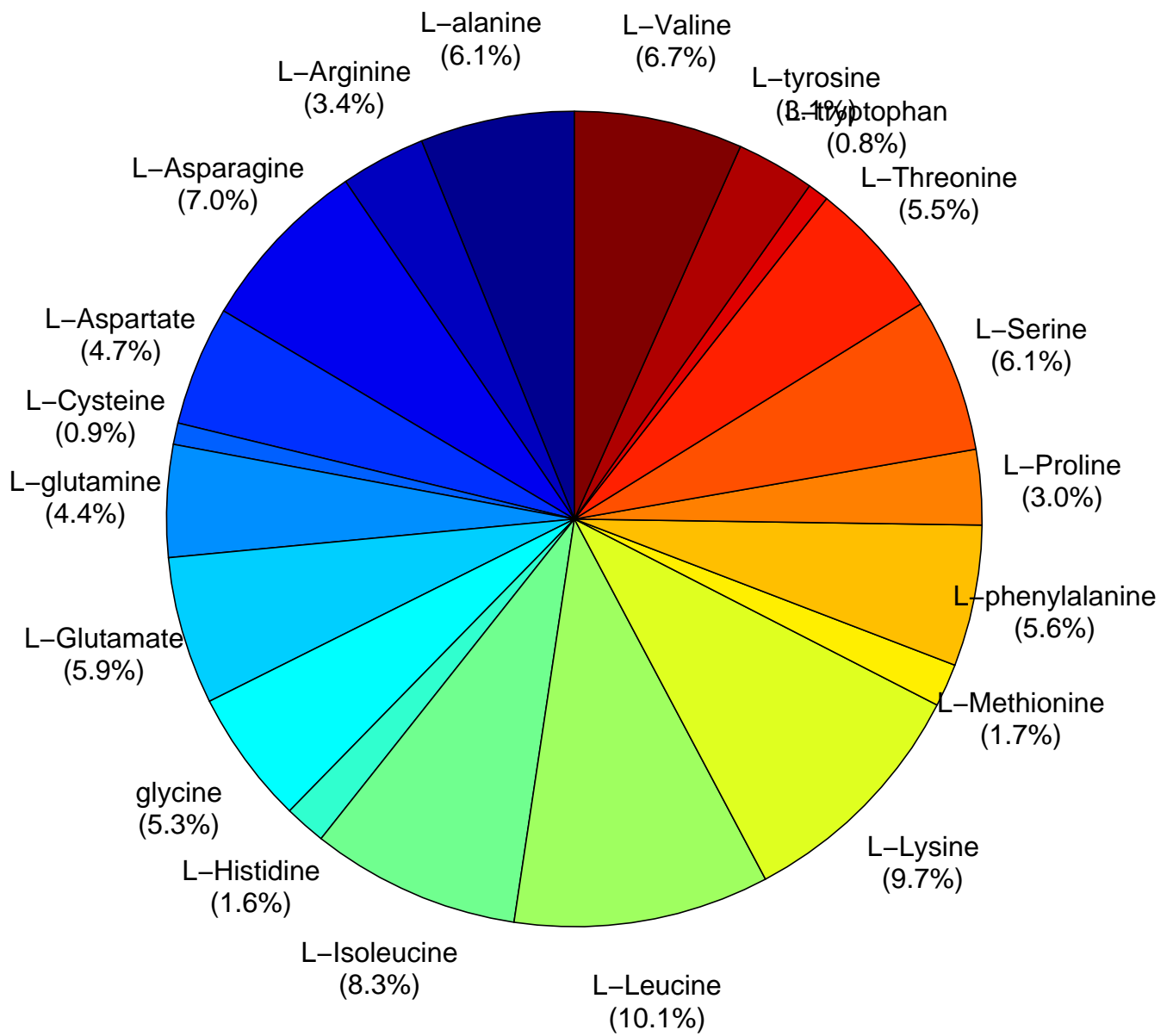
Nucleotide Composition

NMP Composition



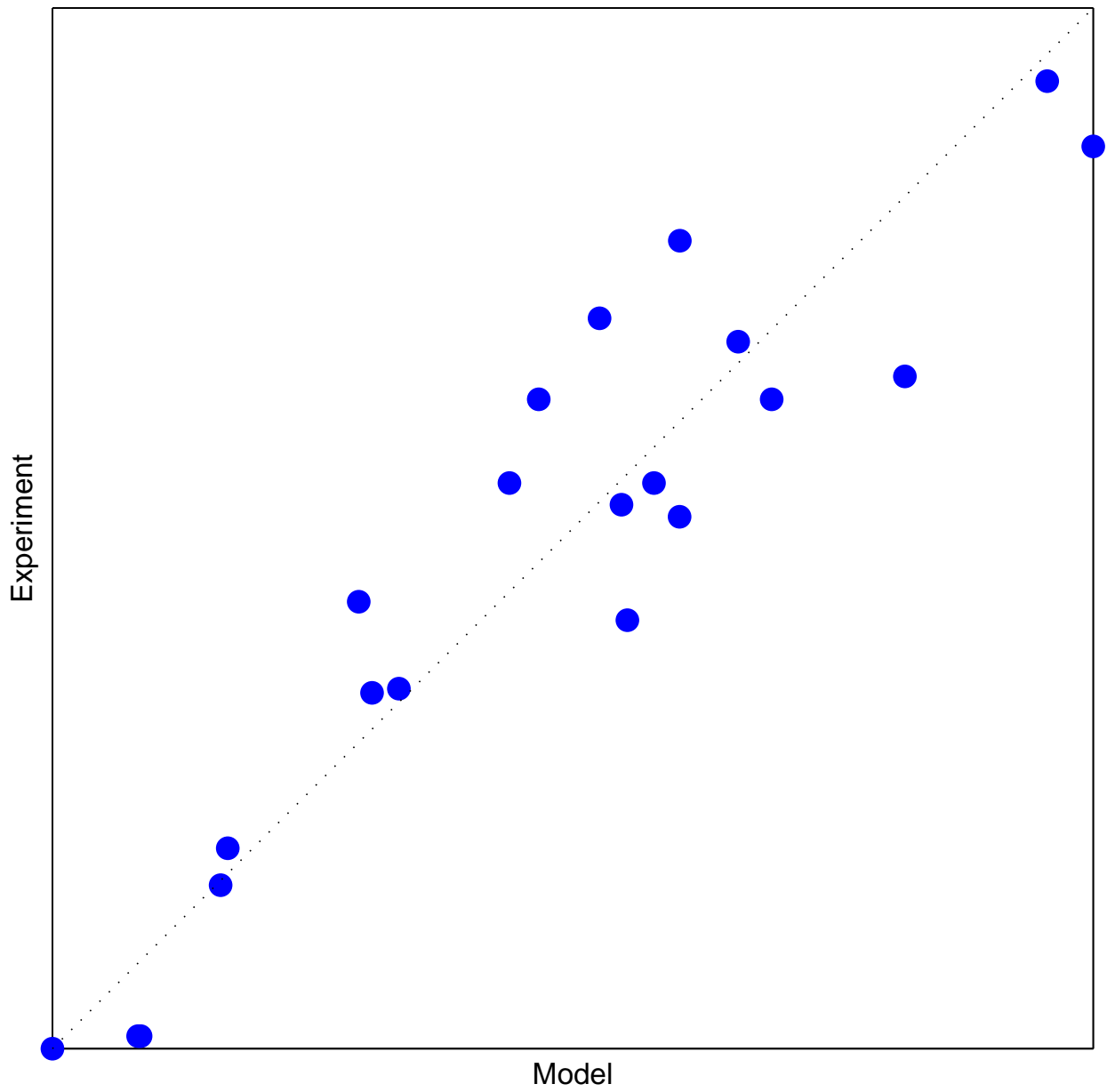
Nucleotide Composition



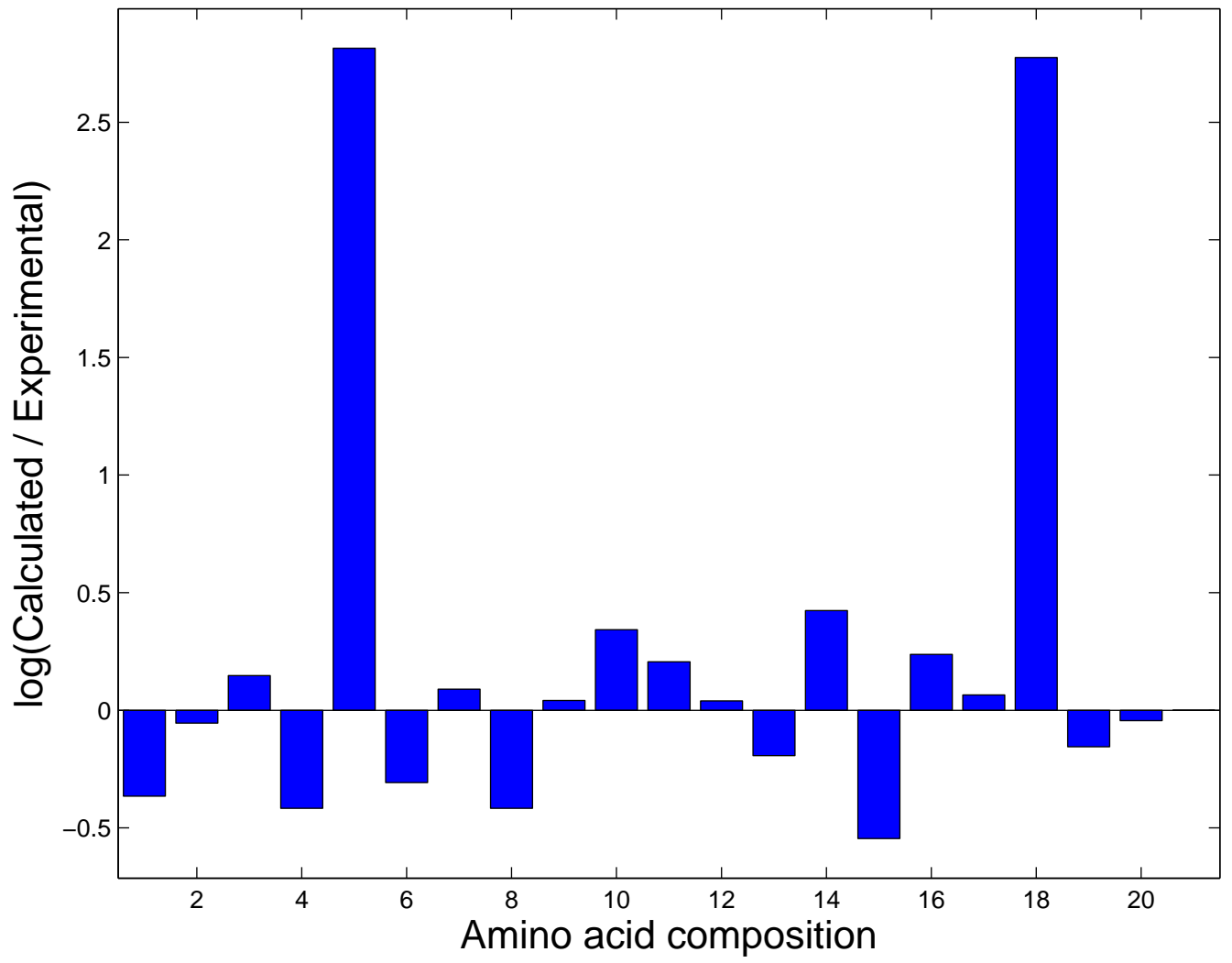


Amino Acid Composition

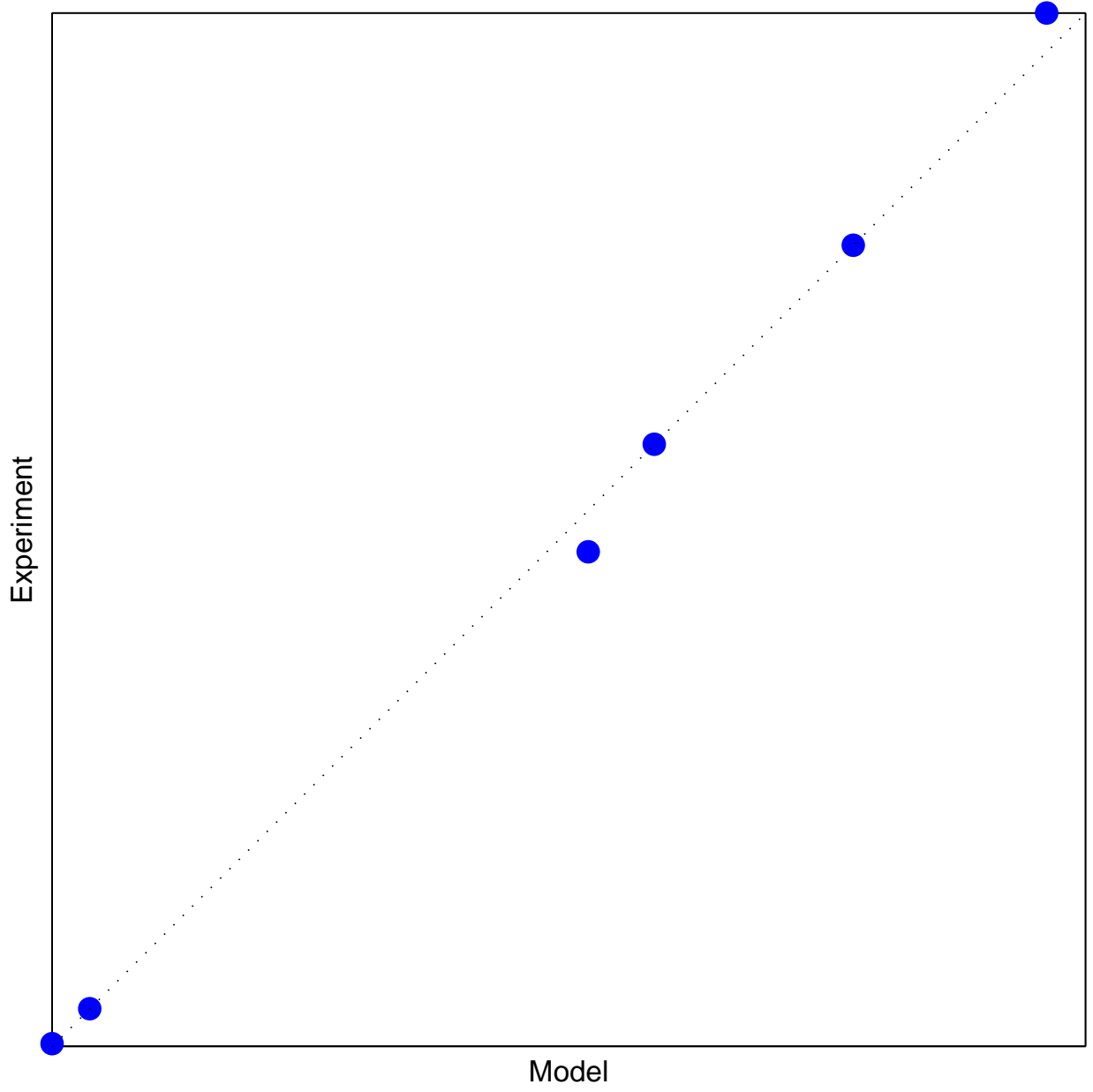
AA Composition

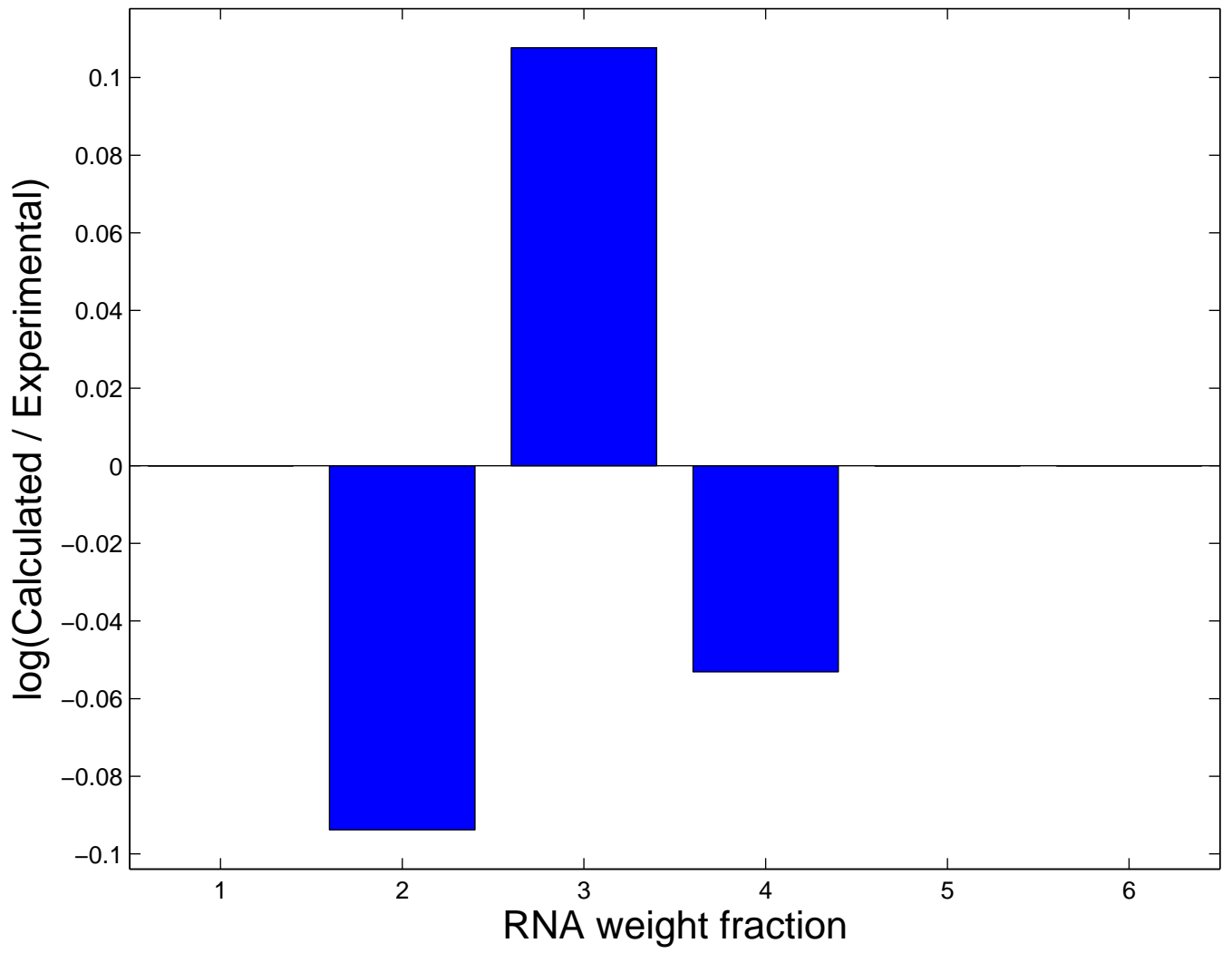


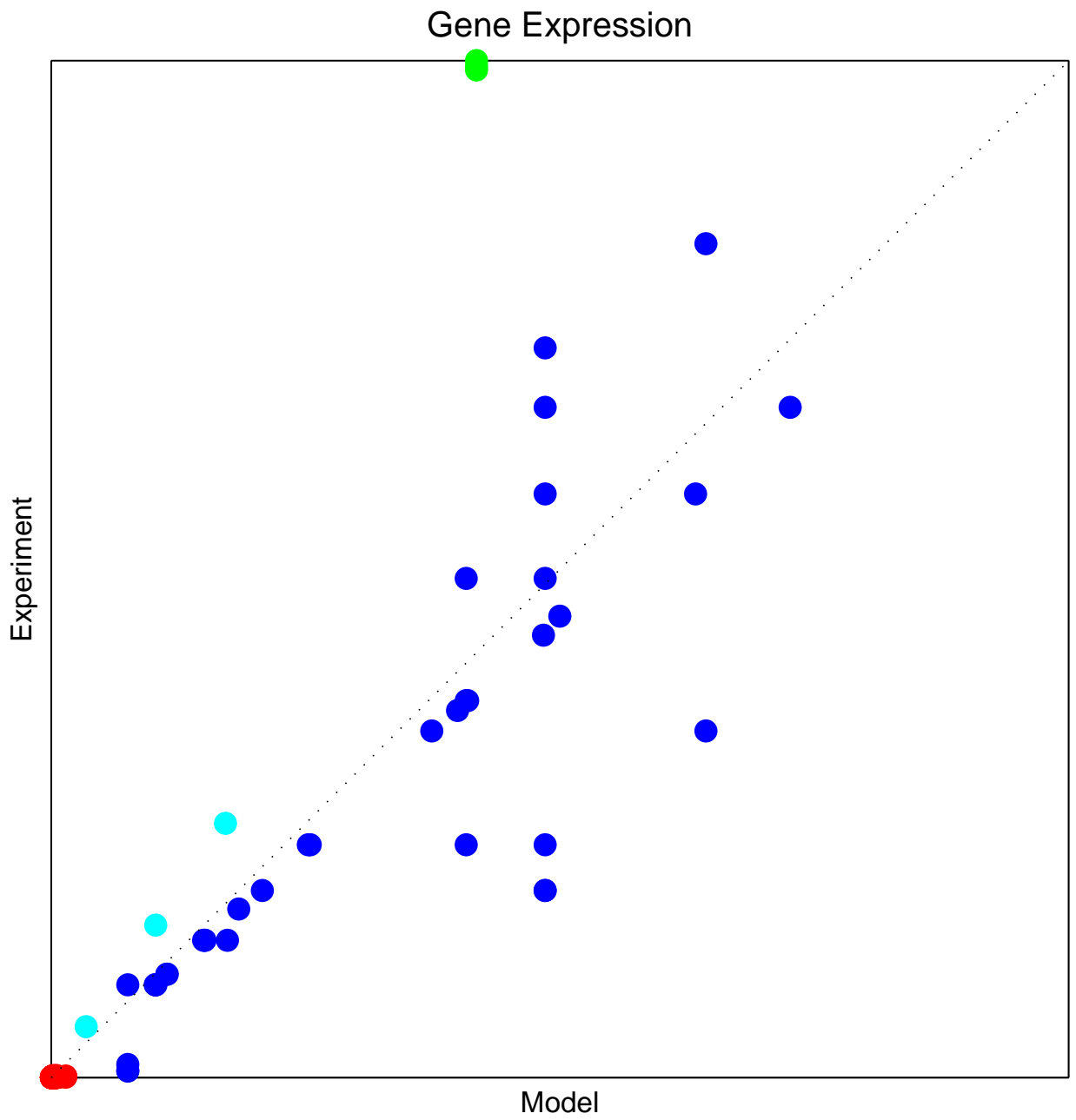
Amino Acid Composition

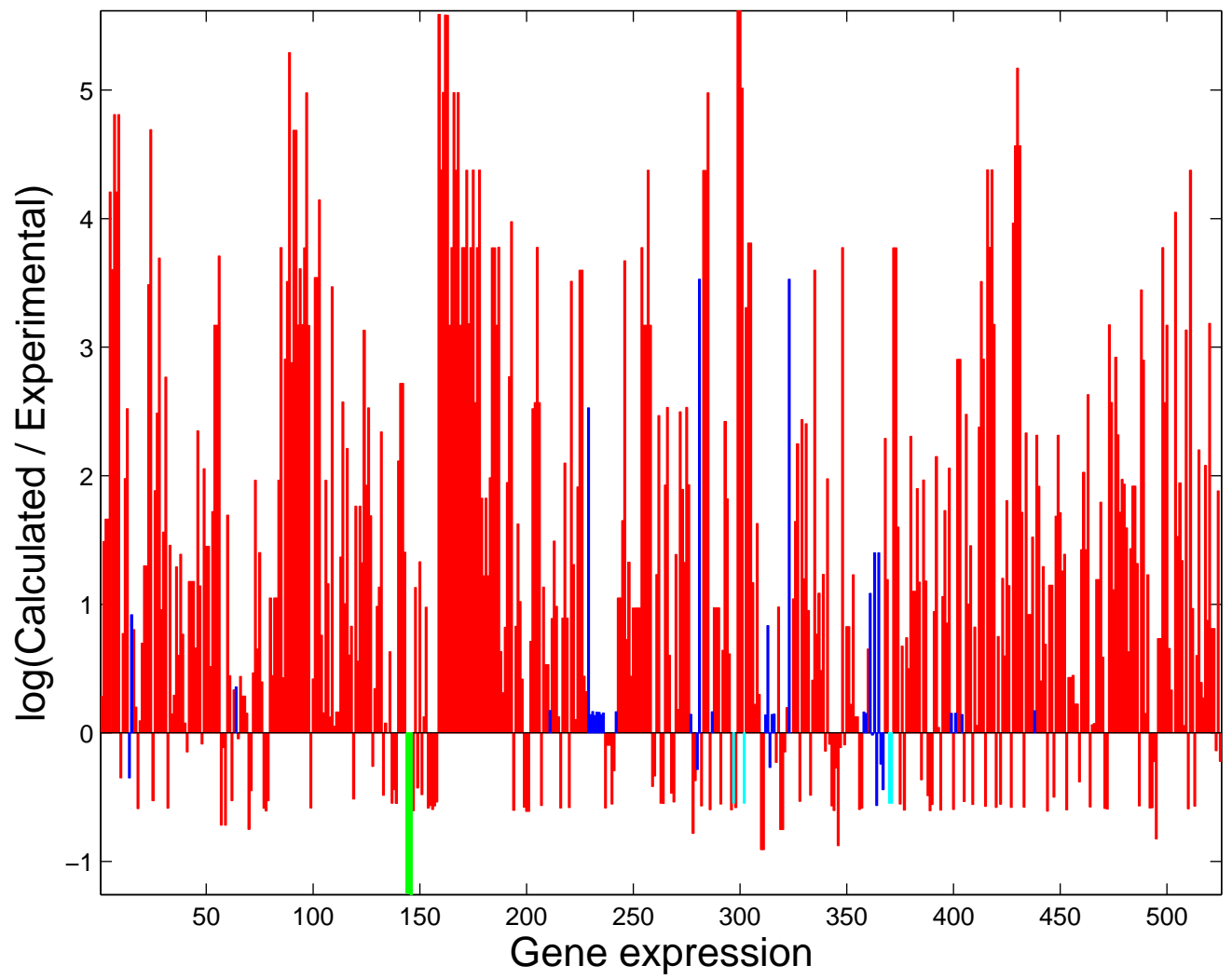


RNA Composition

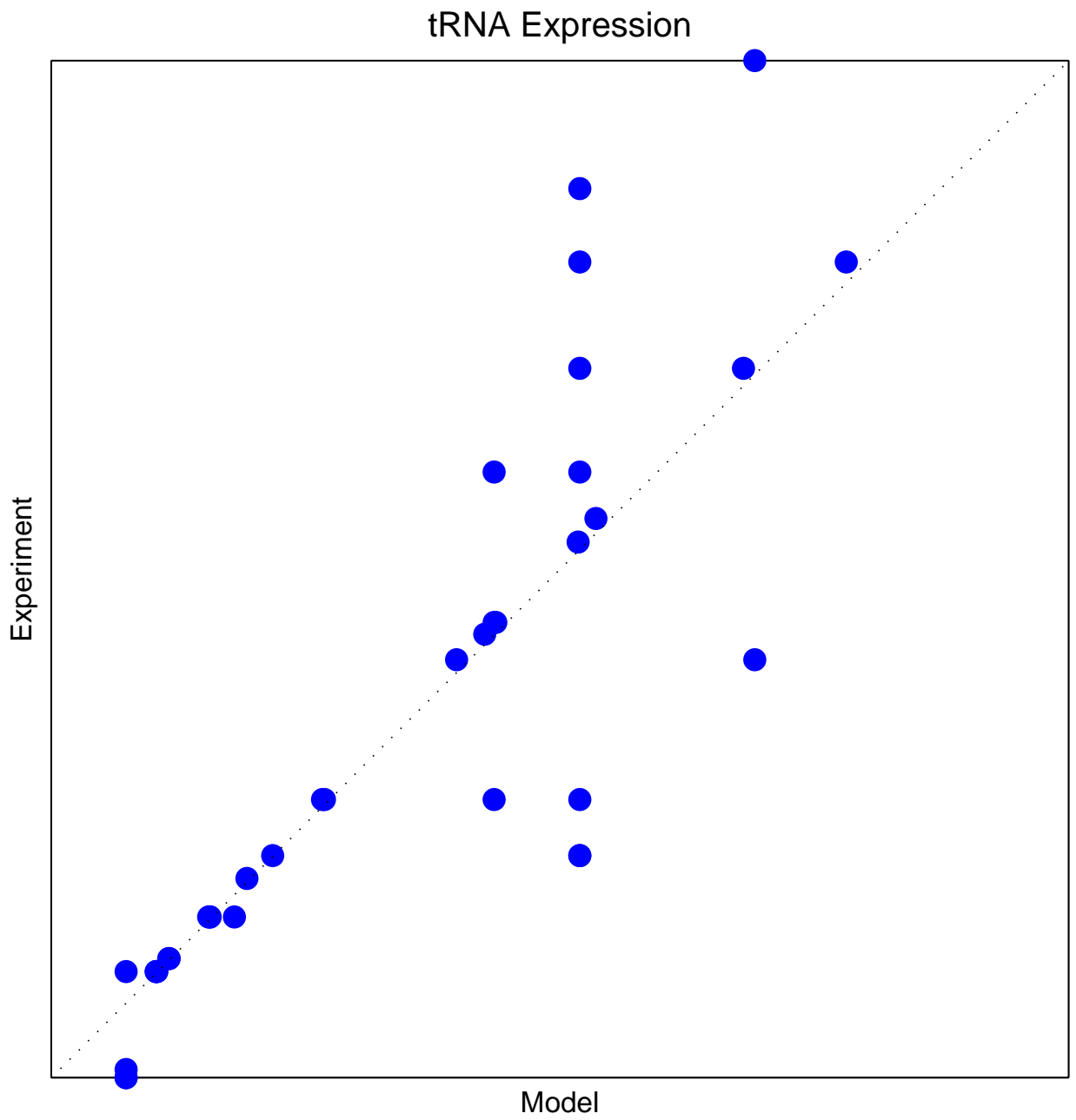




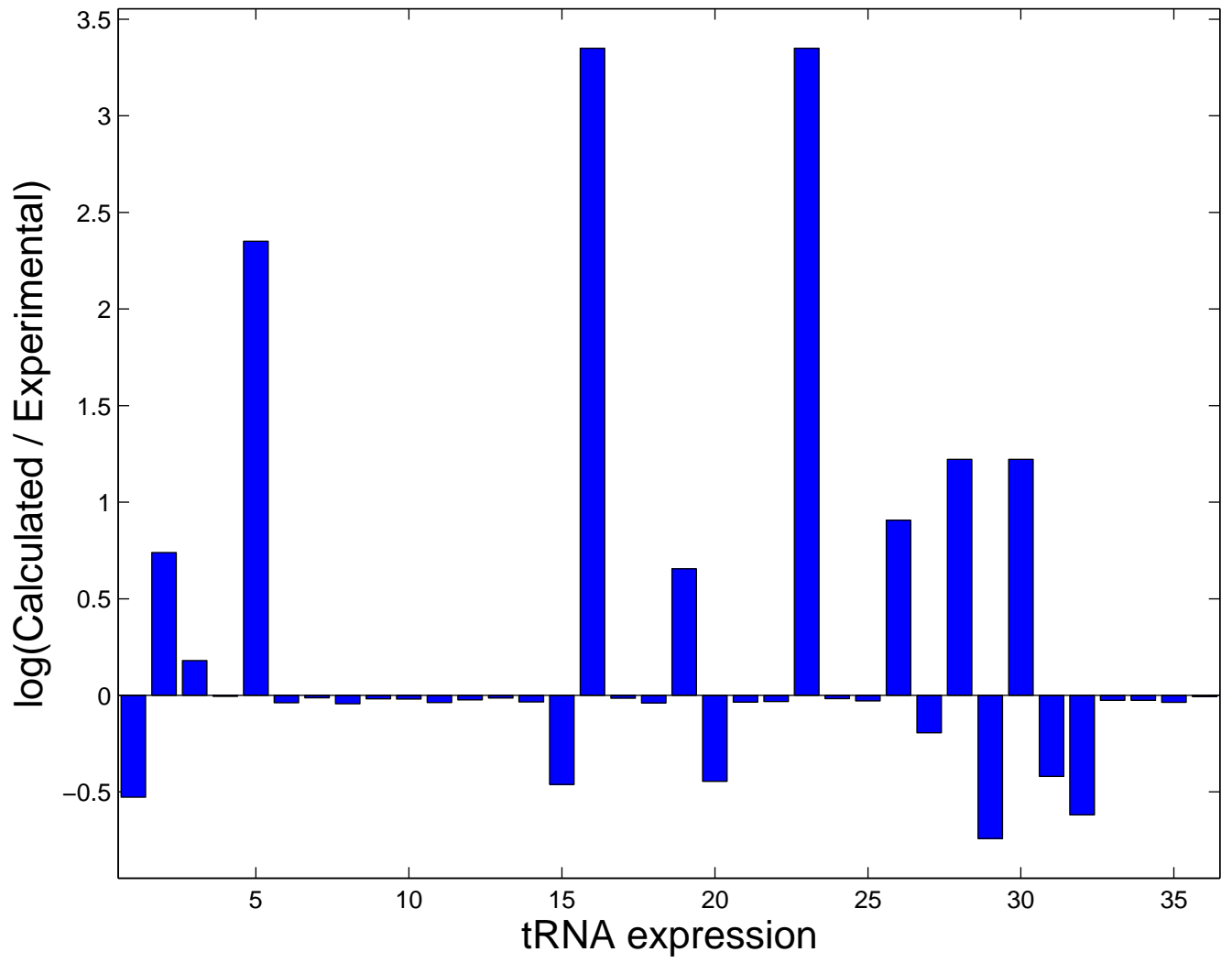




Gene Expression

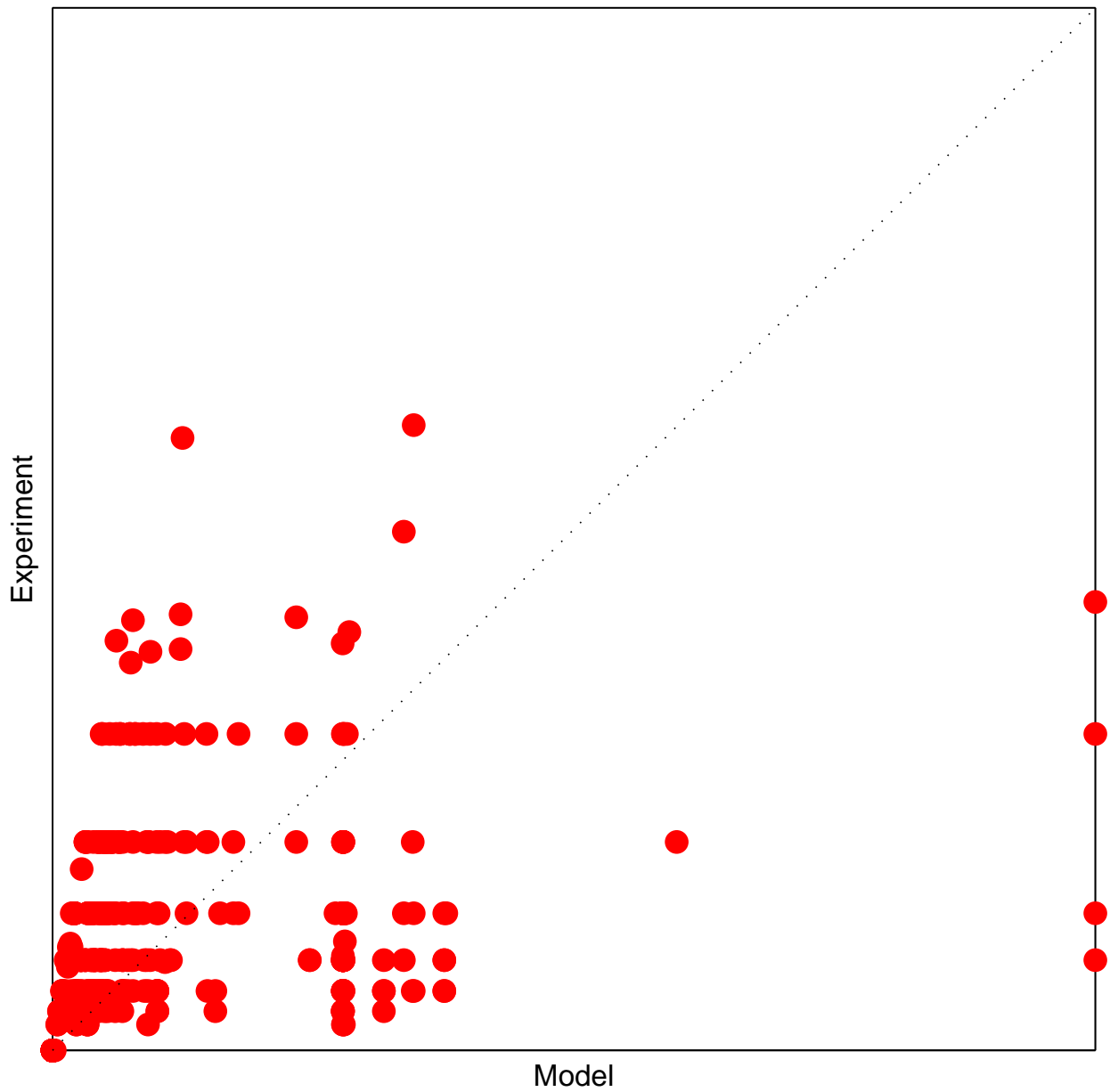


tRNA Expression

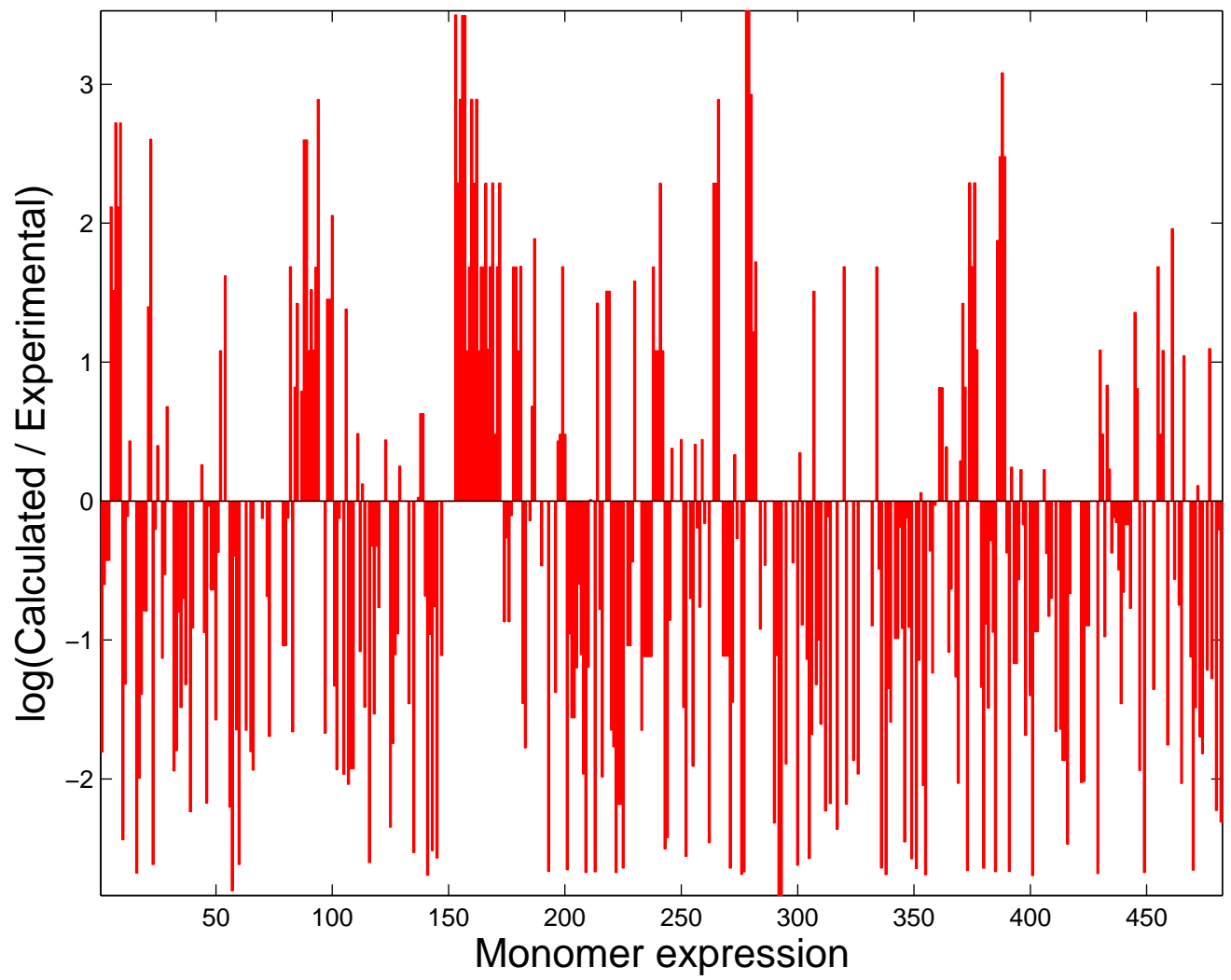


tRNA Expression

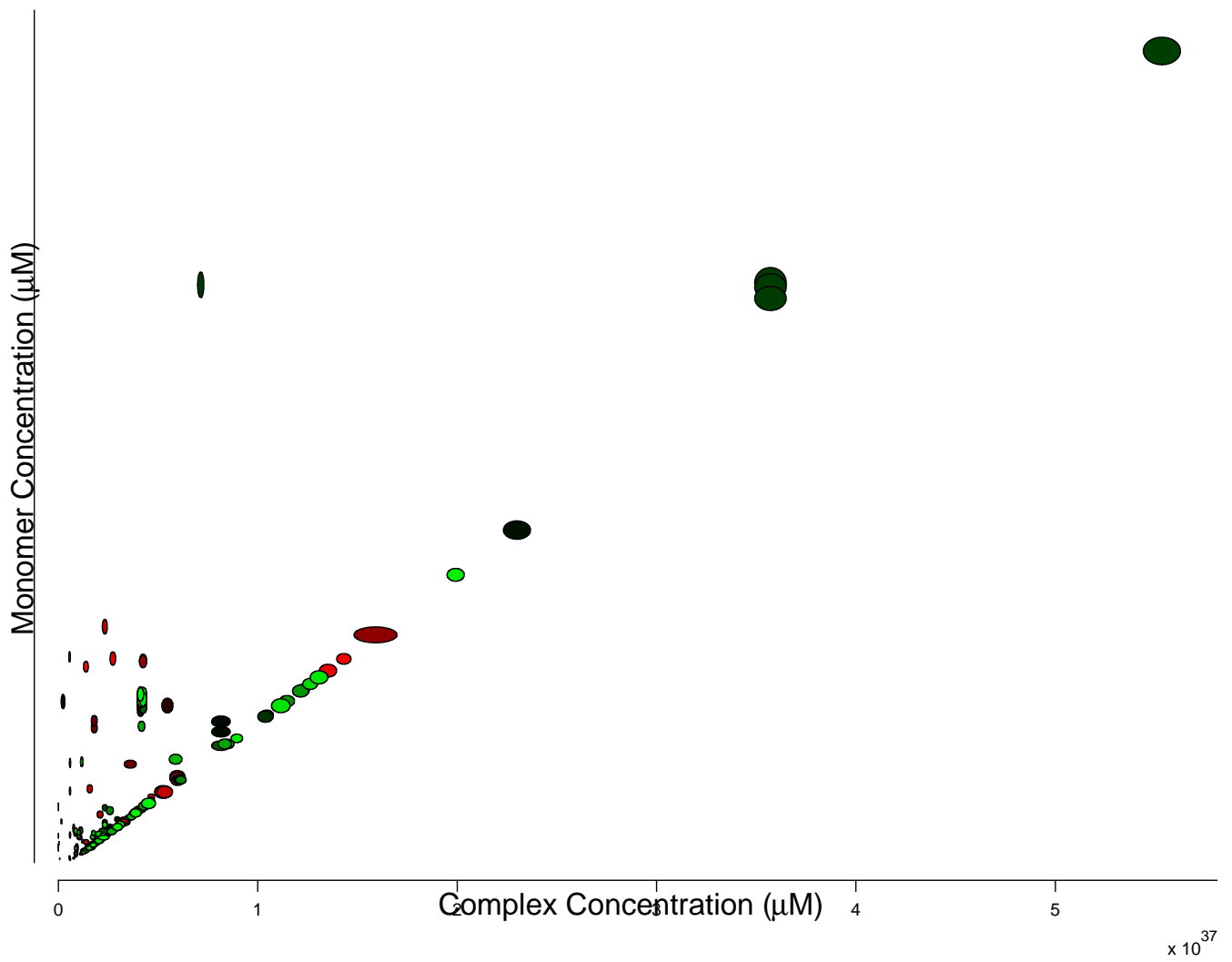
Protein Expression



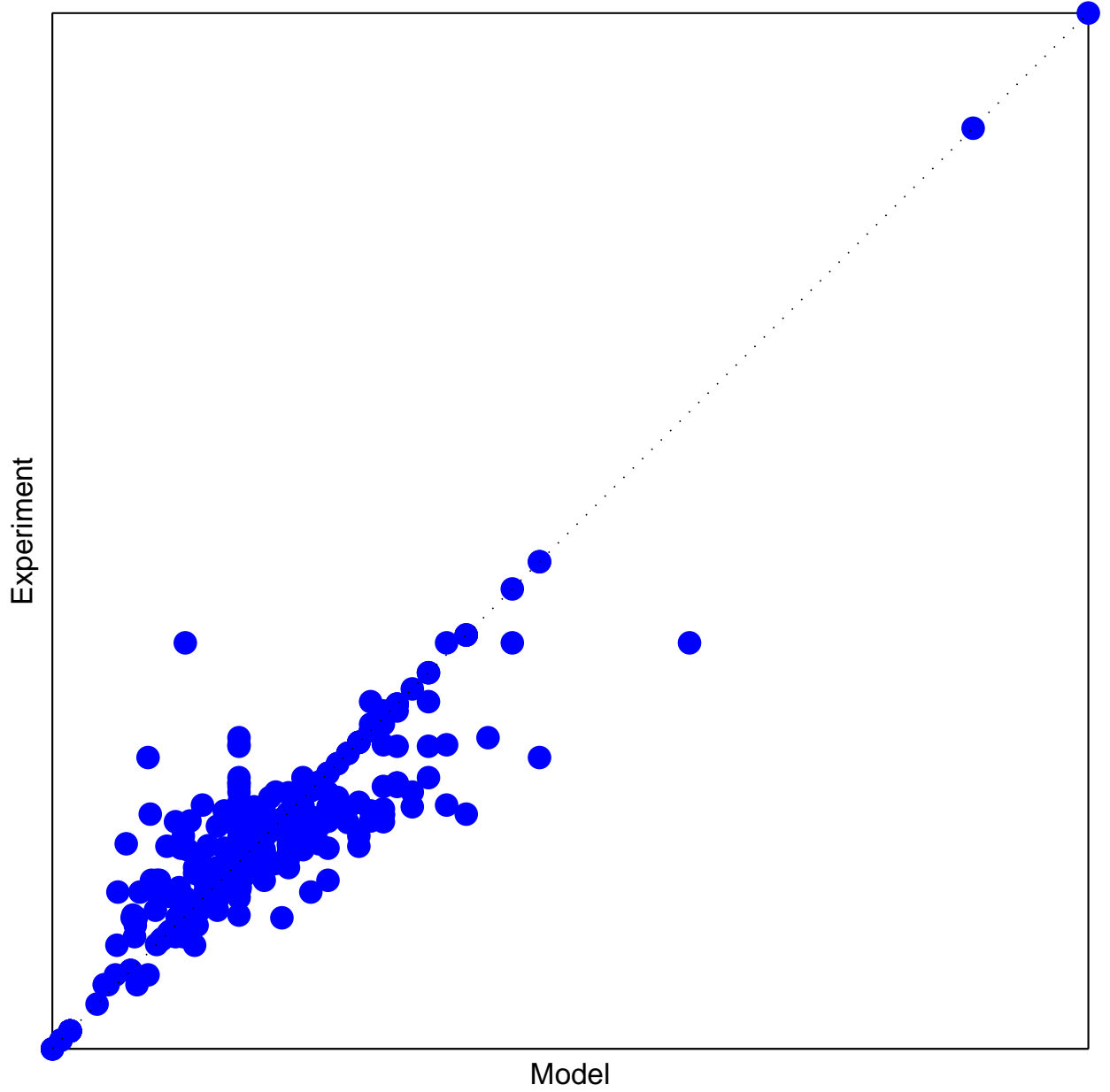
Protein Expression



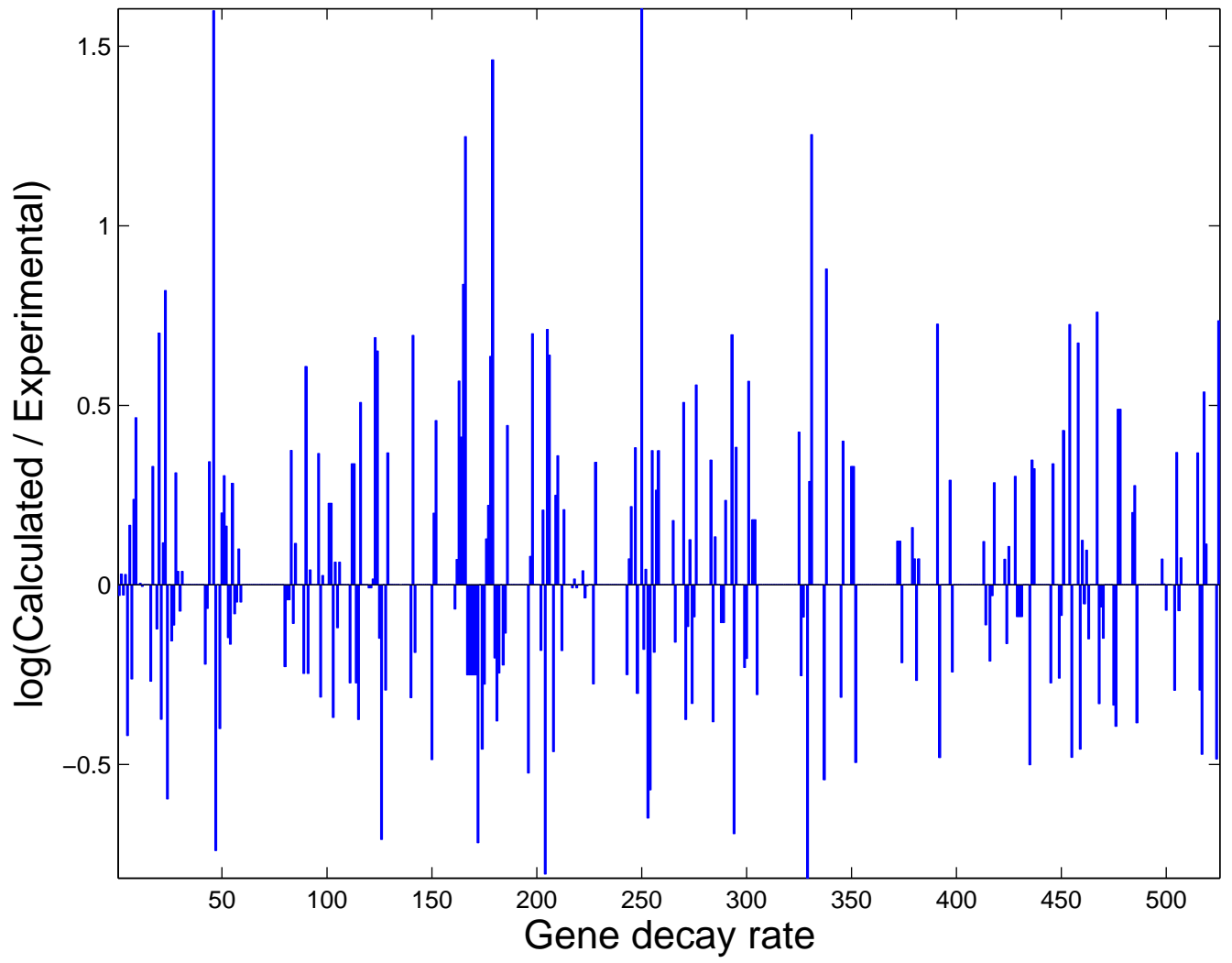
Protein Expression

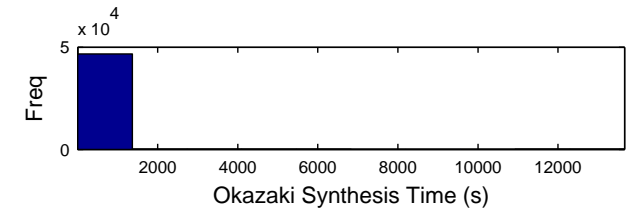
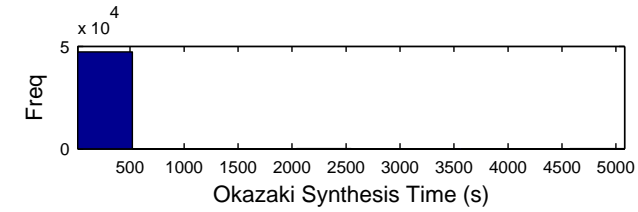
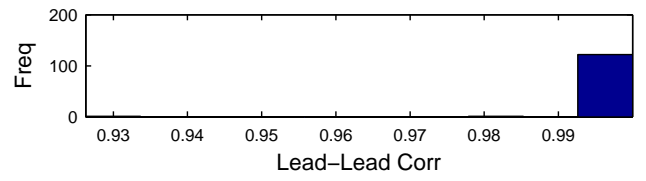
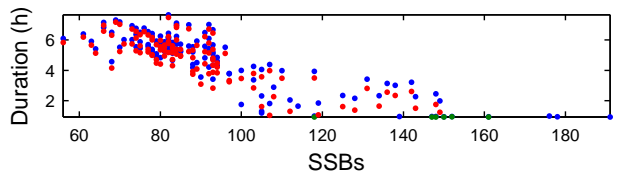
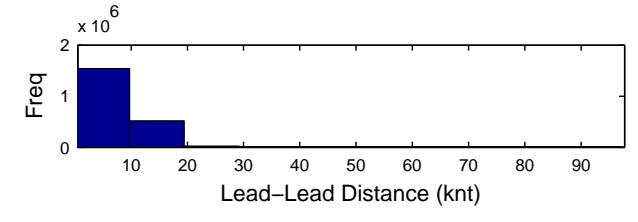
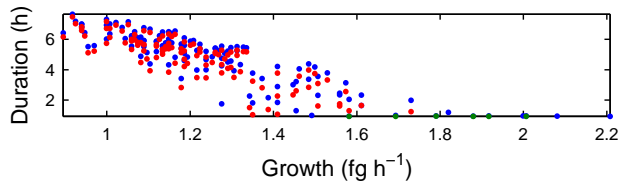
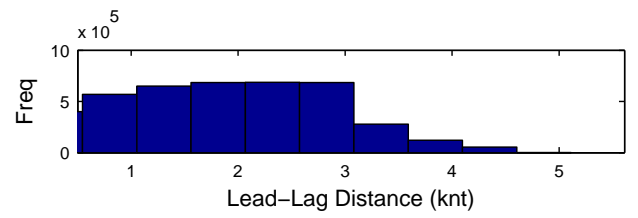
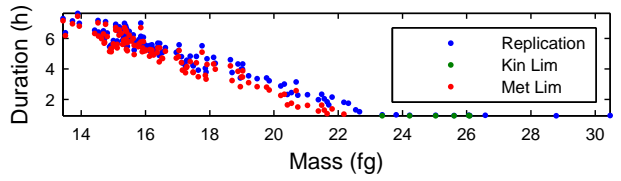


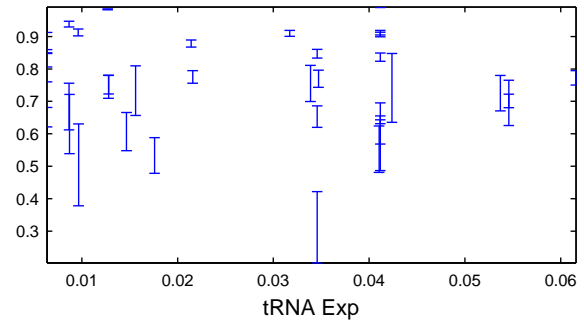
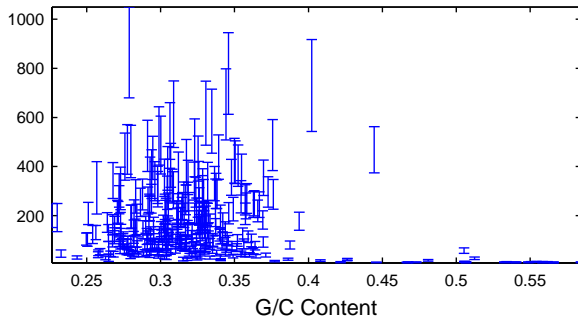
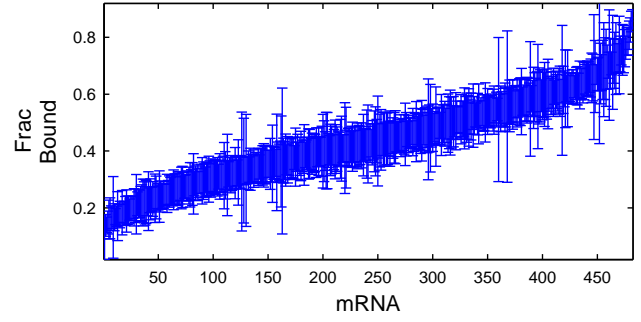
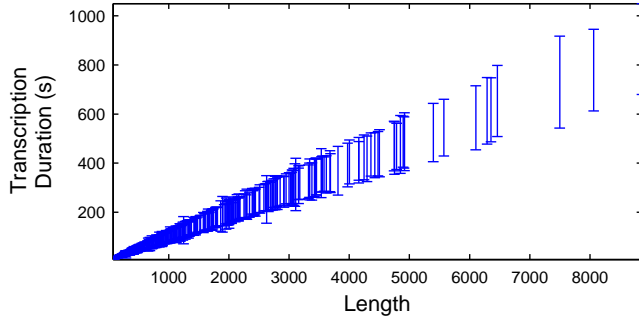
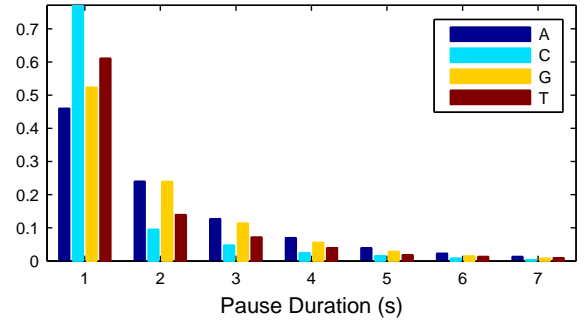
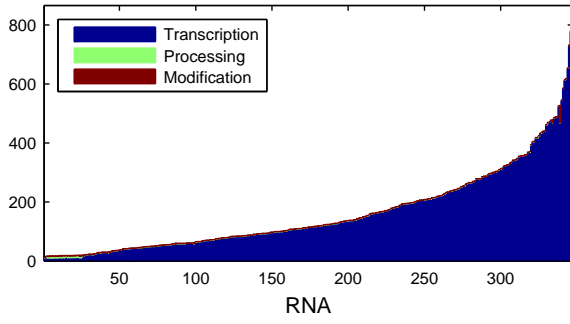
RNA Decay Rates

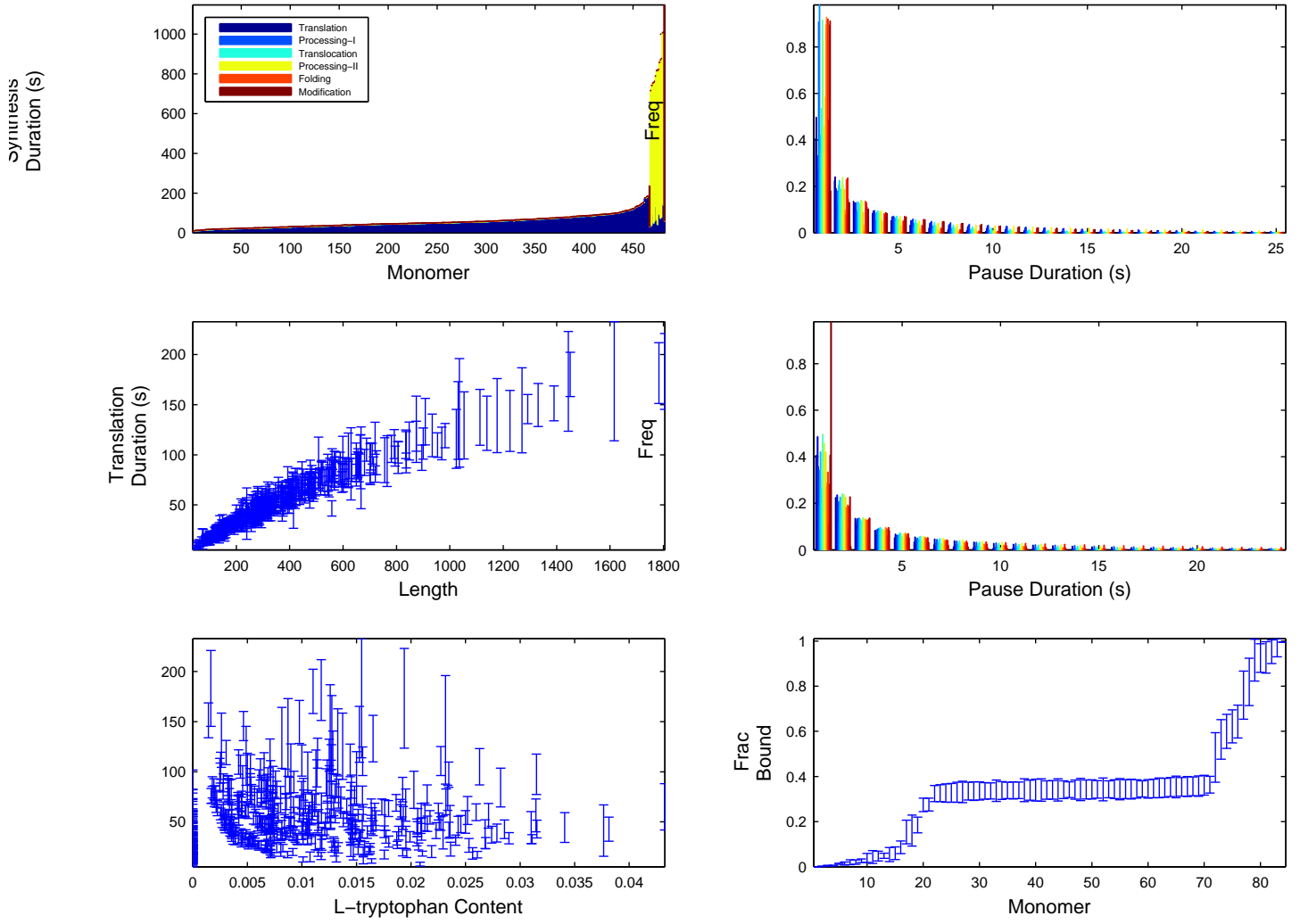


RNA Half Lives

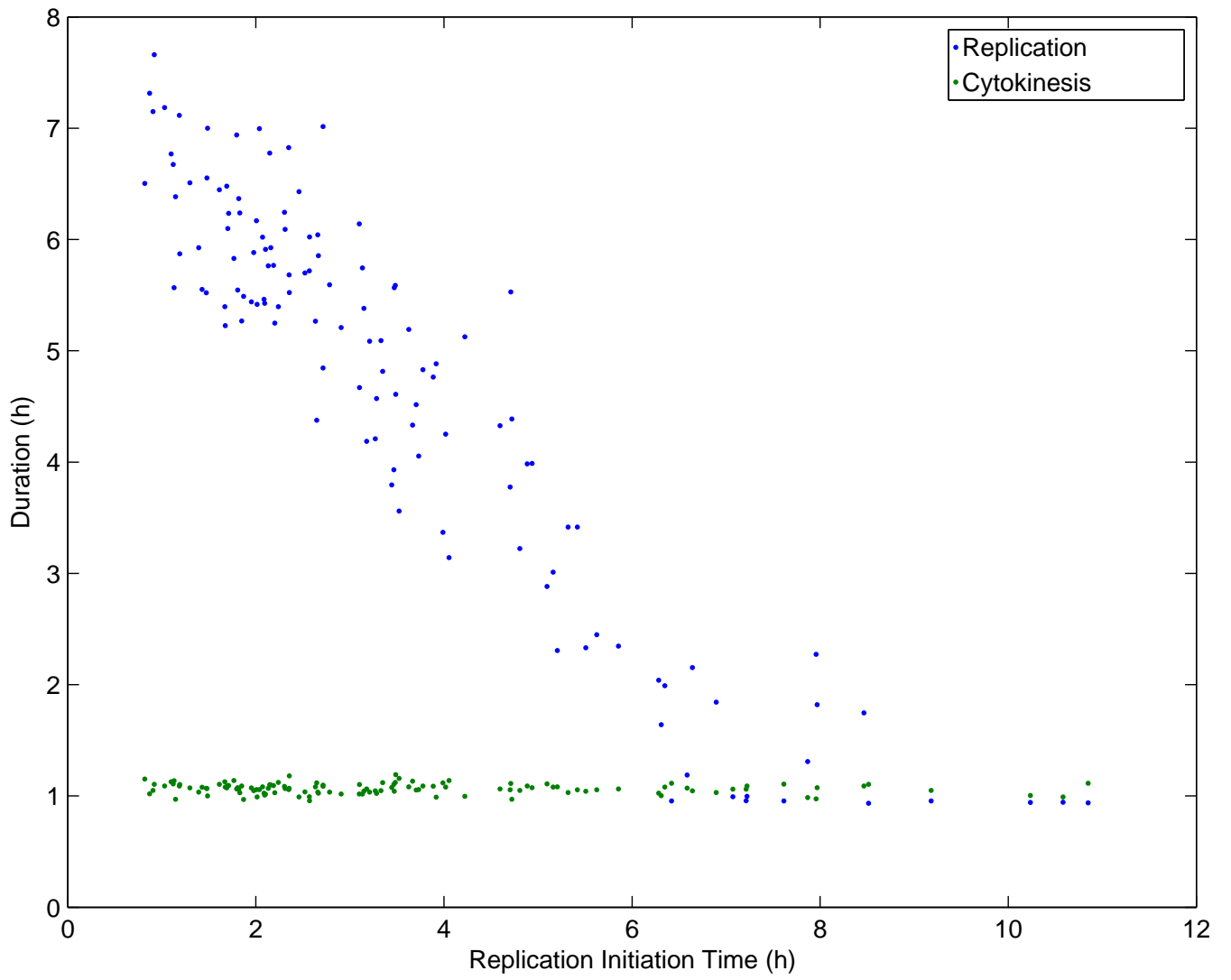






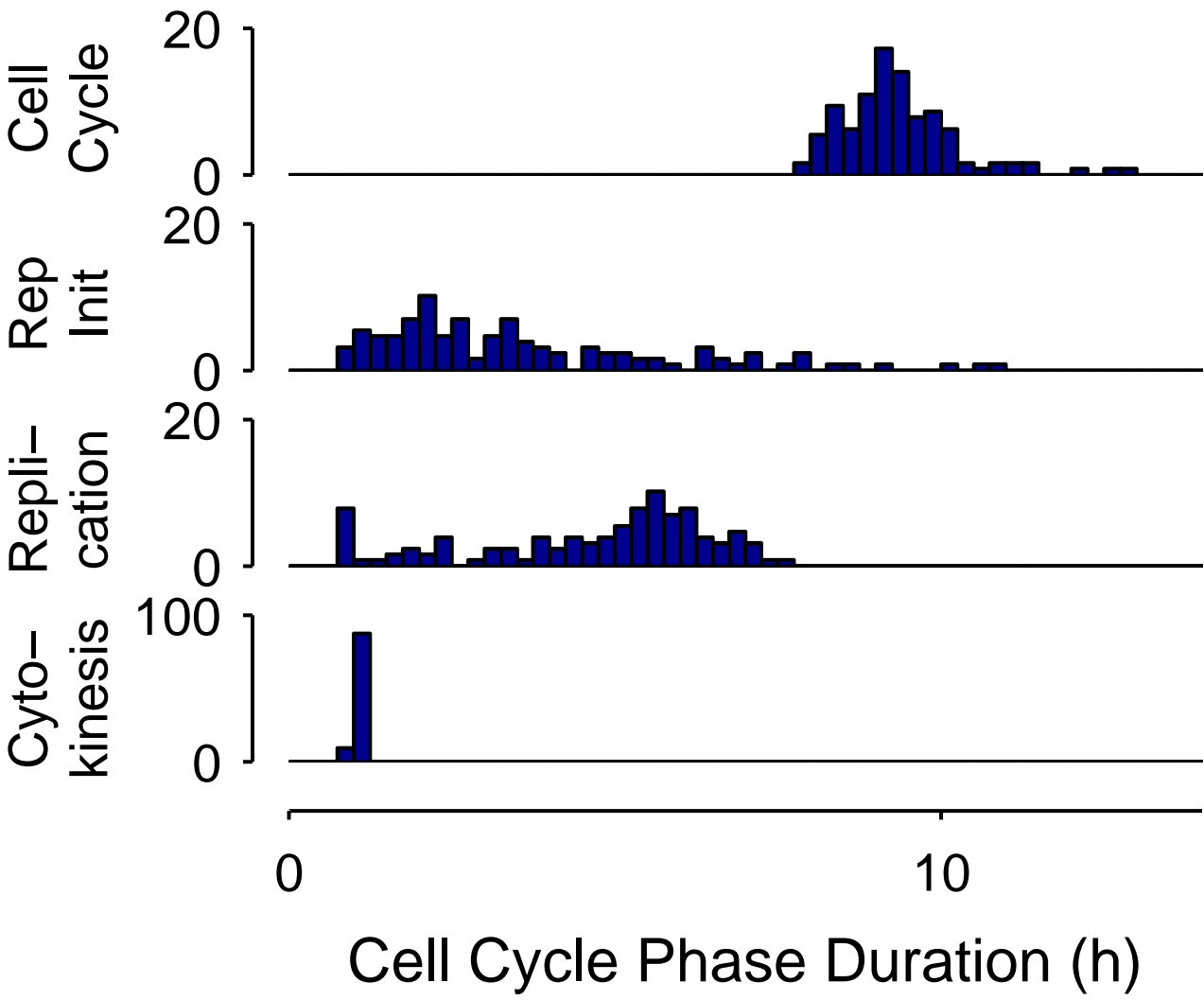


Protein Synthesis

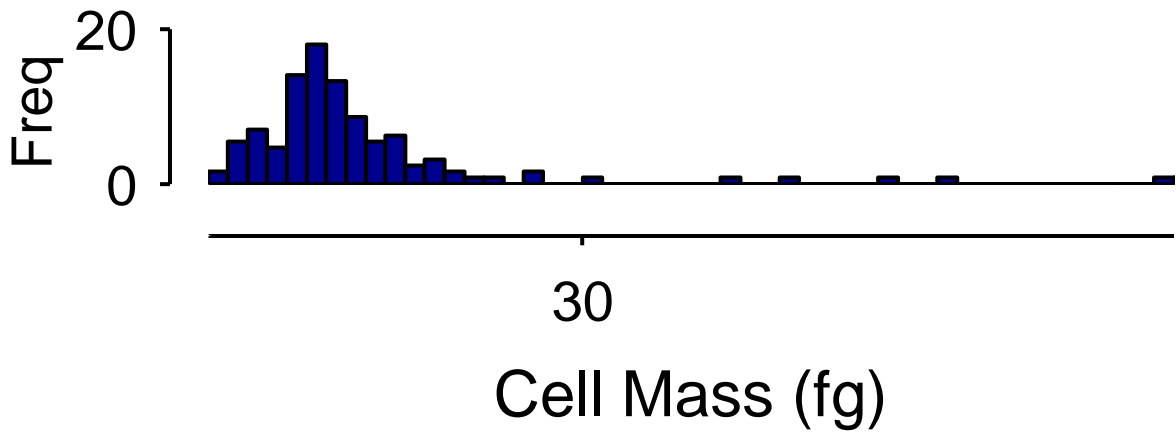


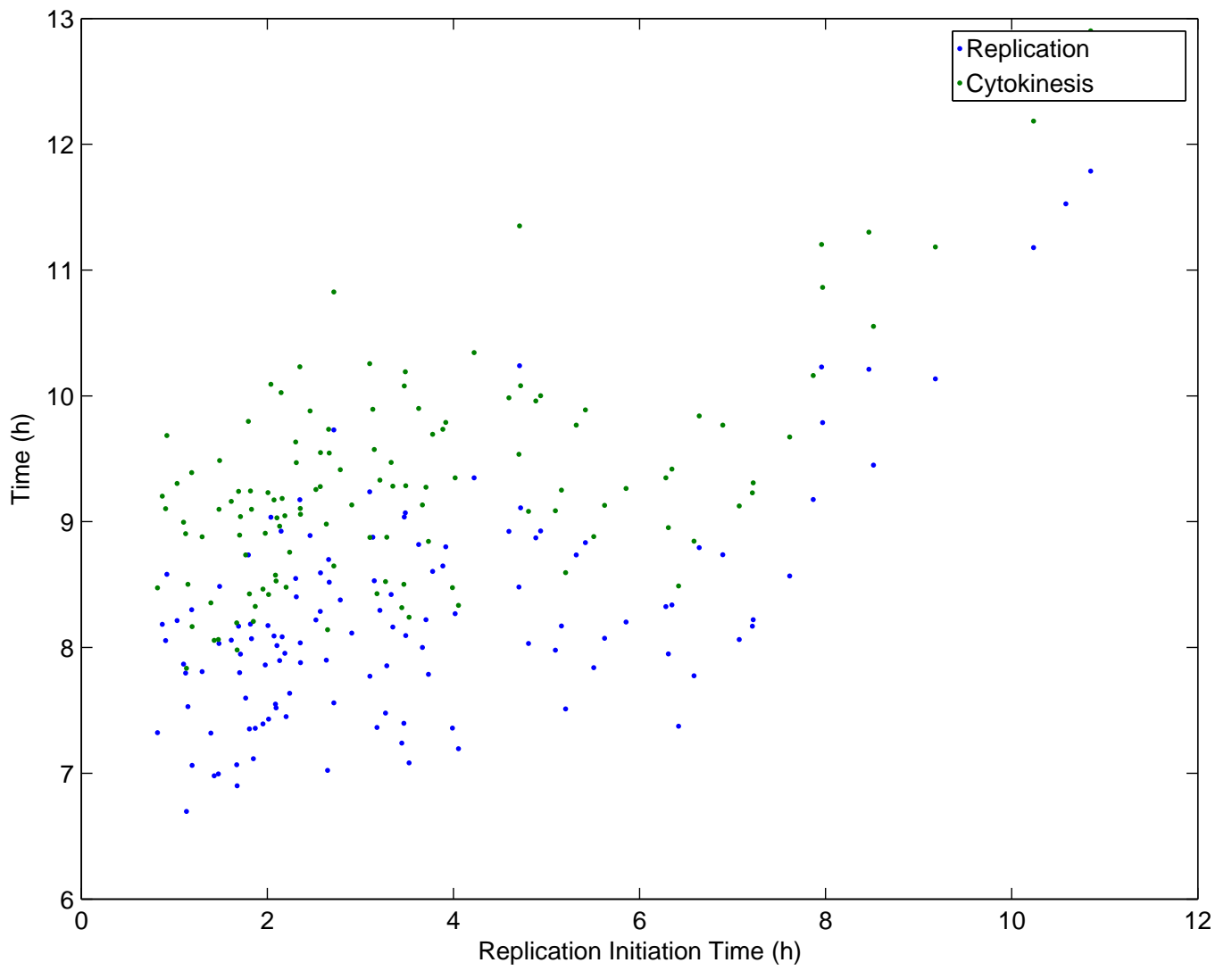
Cell Cycle Phase Durations

A

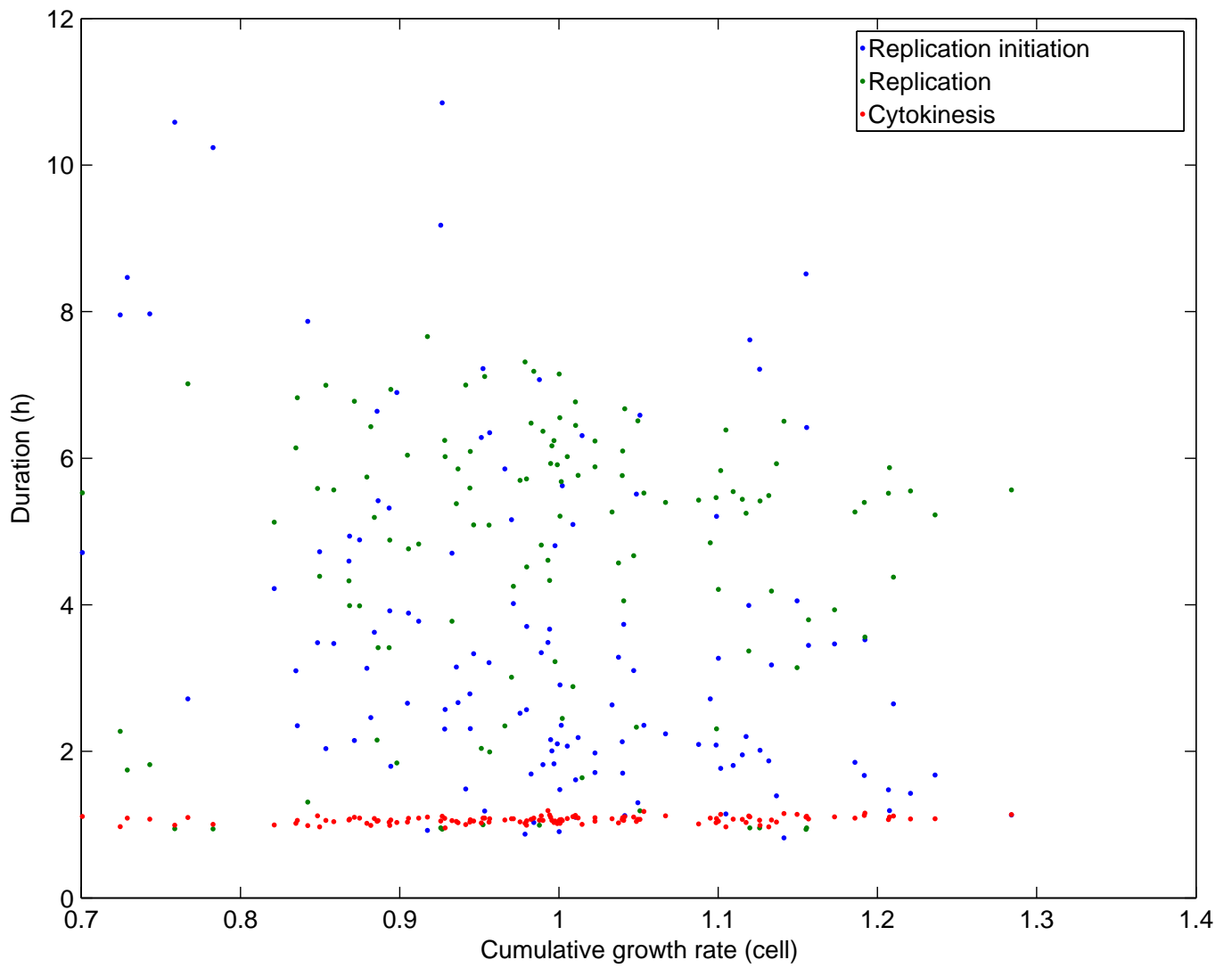


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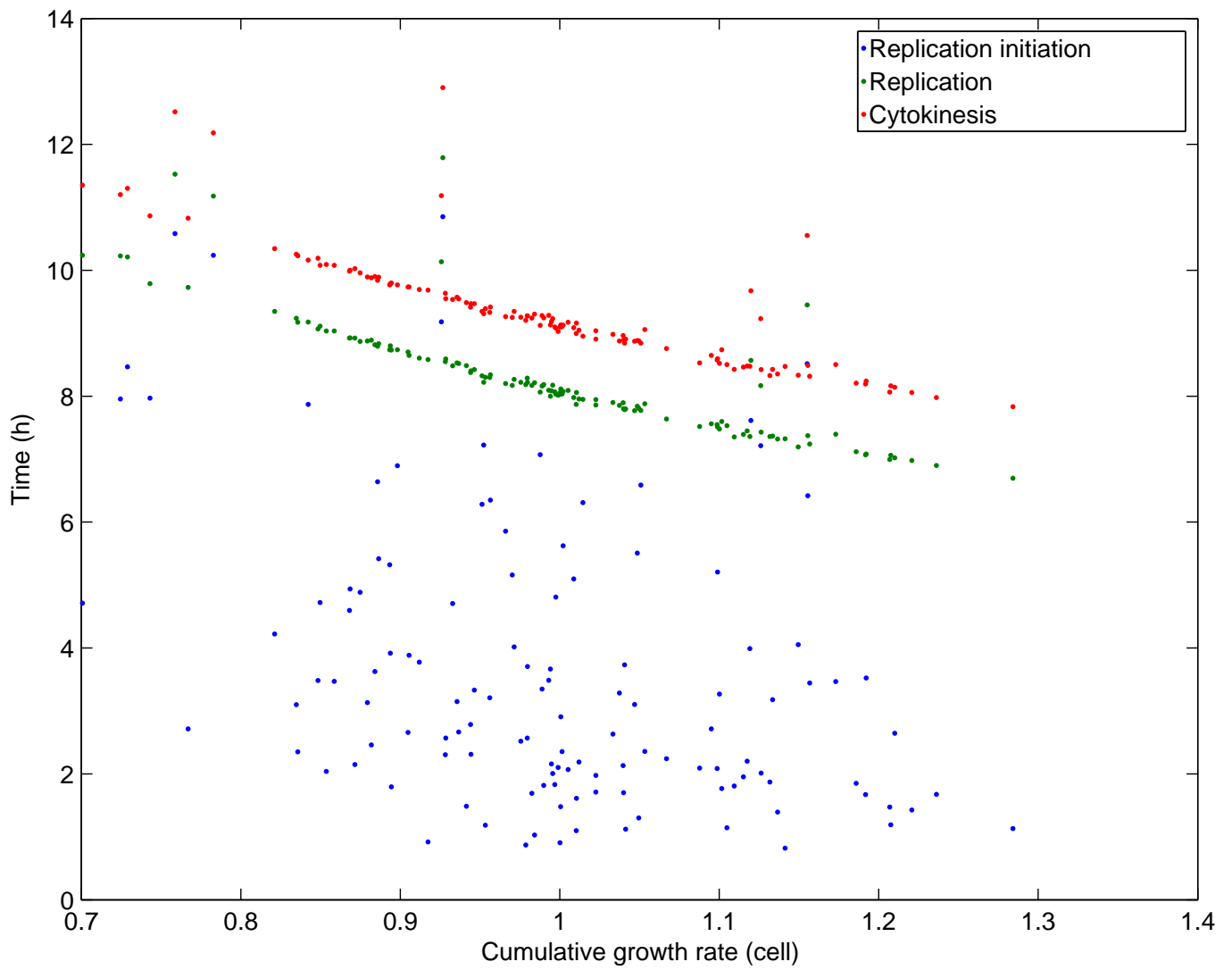




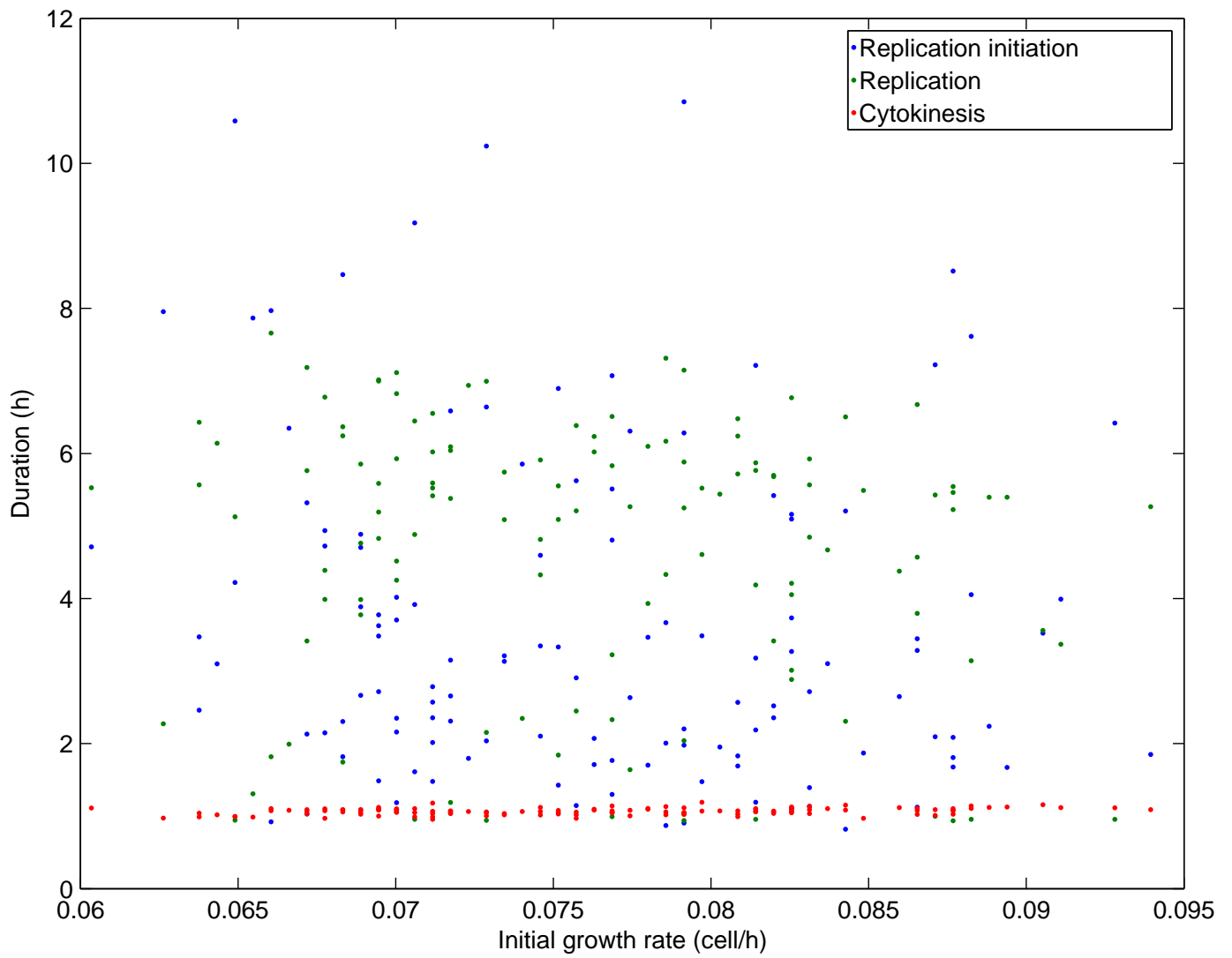
Cell Cycle Phase Lengths



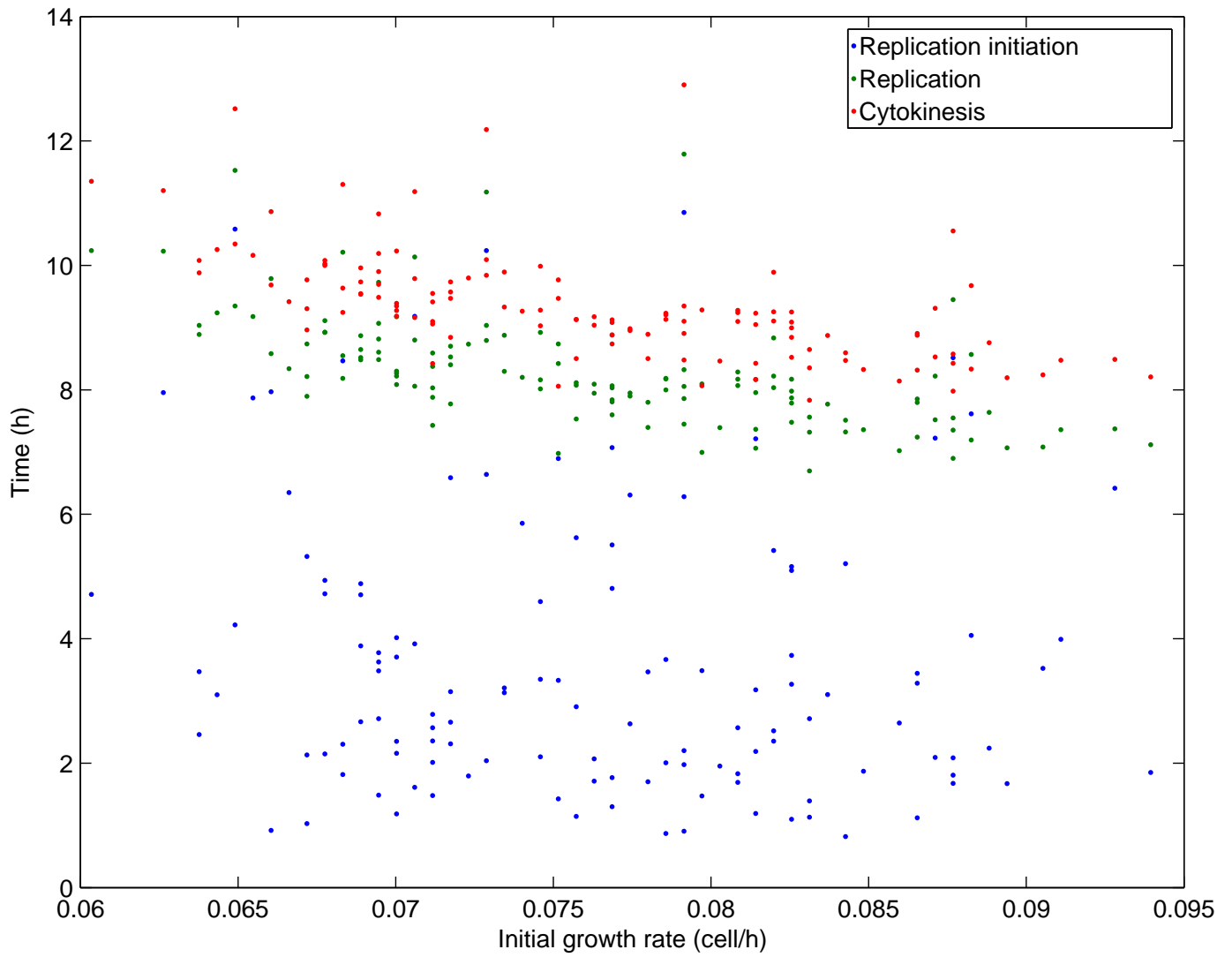
Cumulative Growth Vs. Cell Cycle Phase Durations



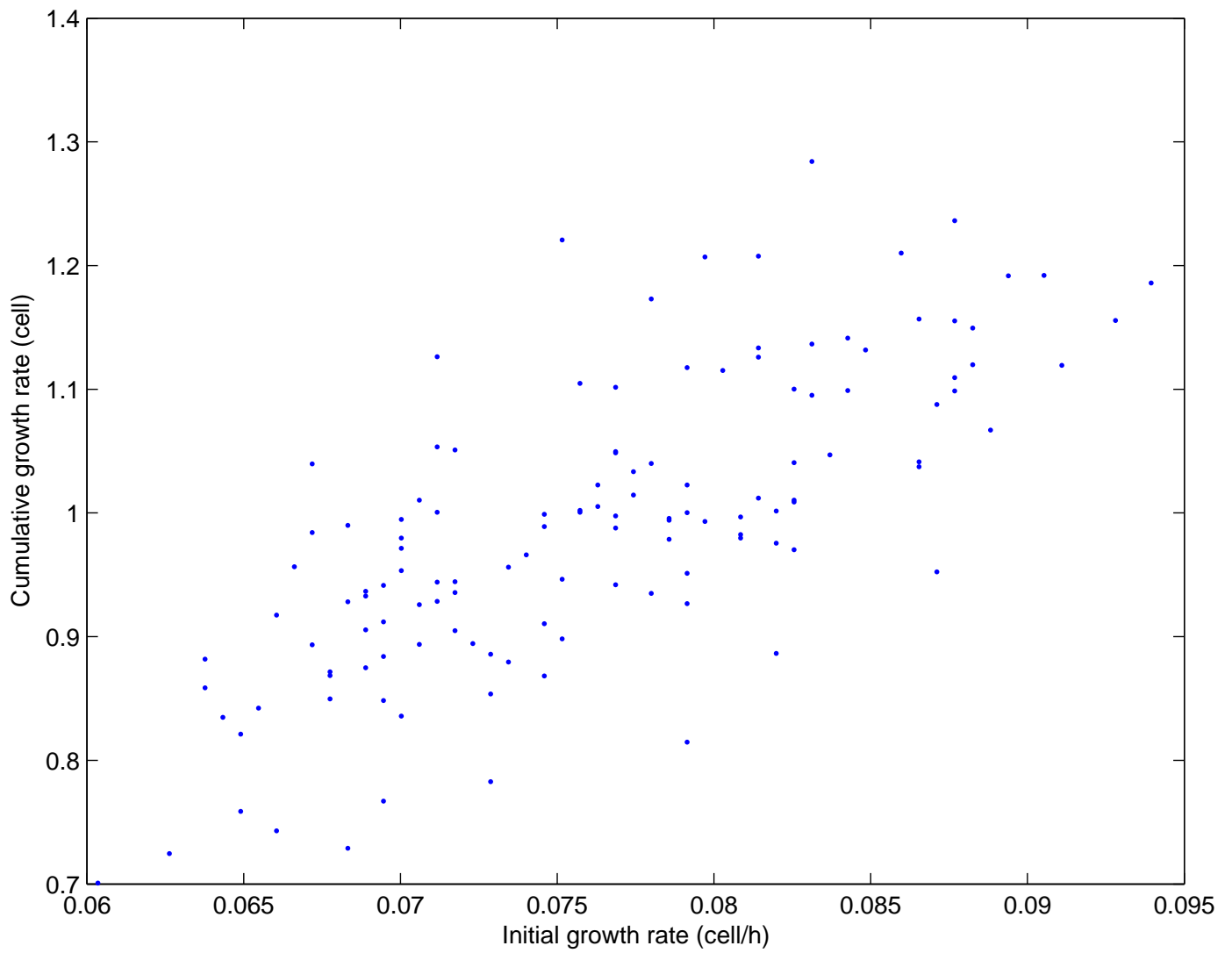
Cumulative Growth Vs. Cell Cycle Phase Times



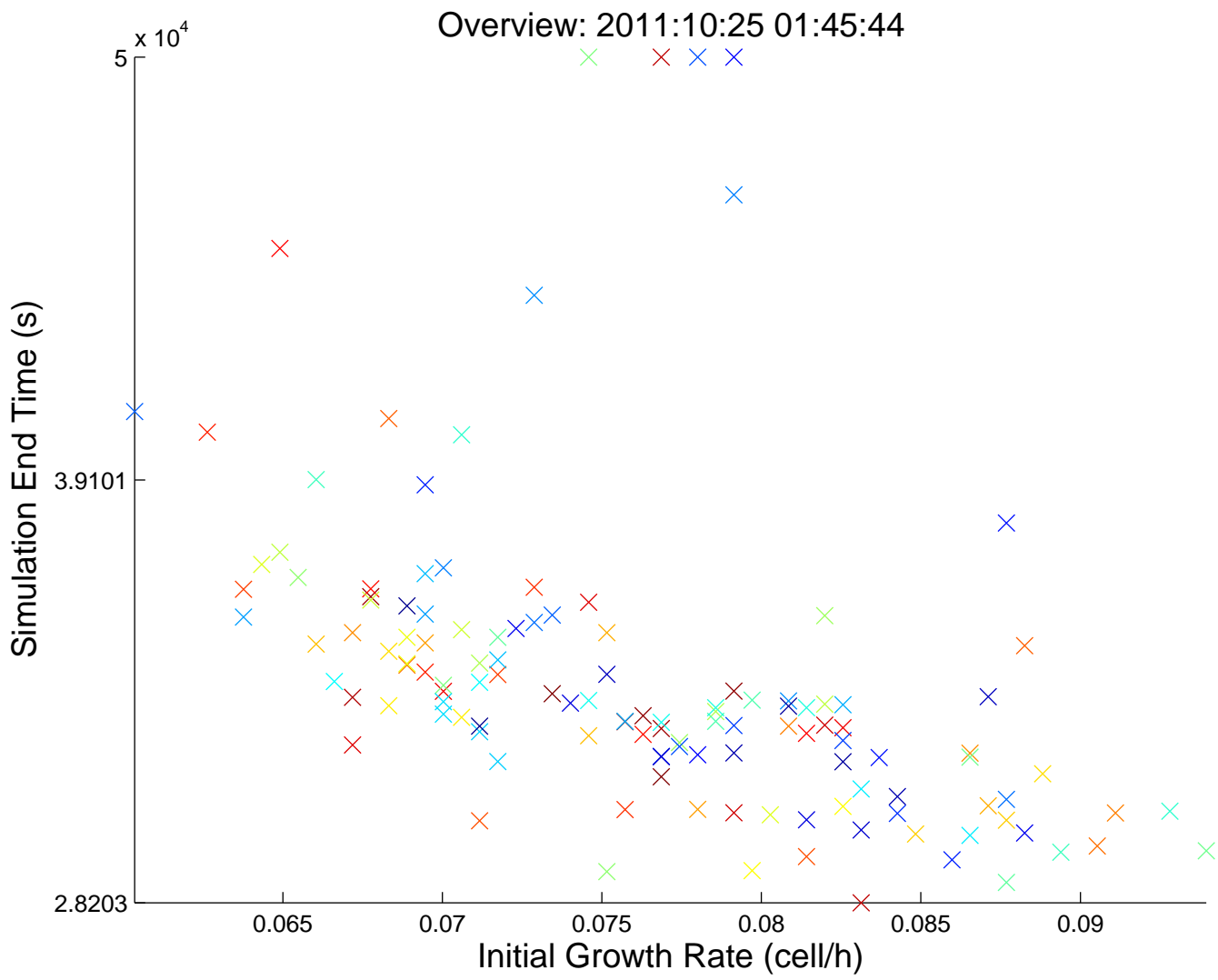
Initial Growth Vs. Cell Cycle Phase Durations



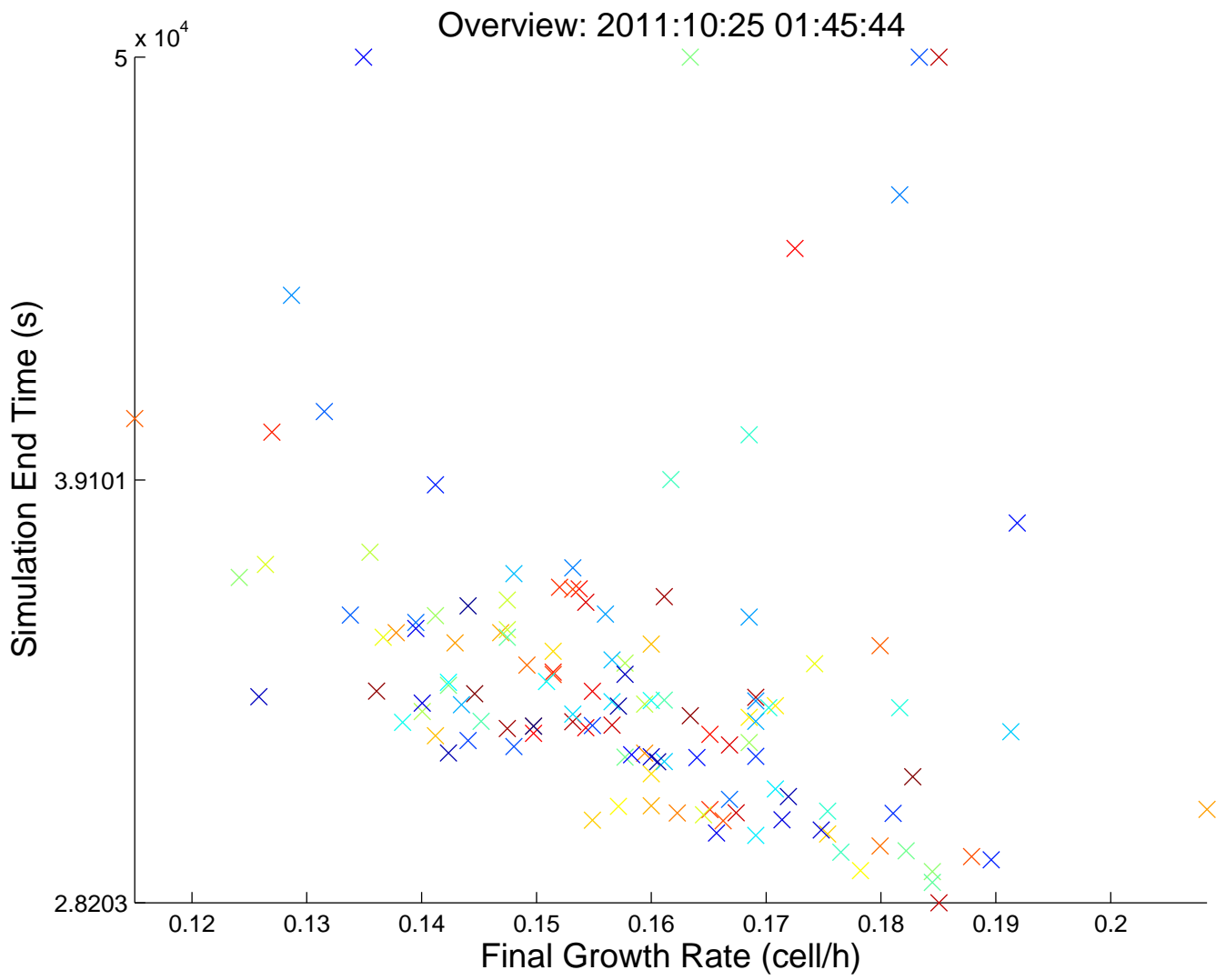
Initial Growth Vs. Cell Cycle Phase Times



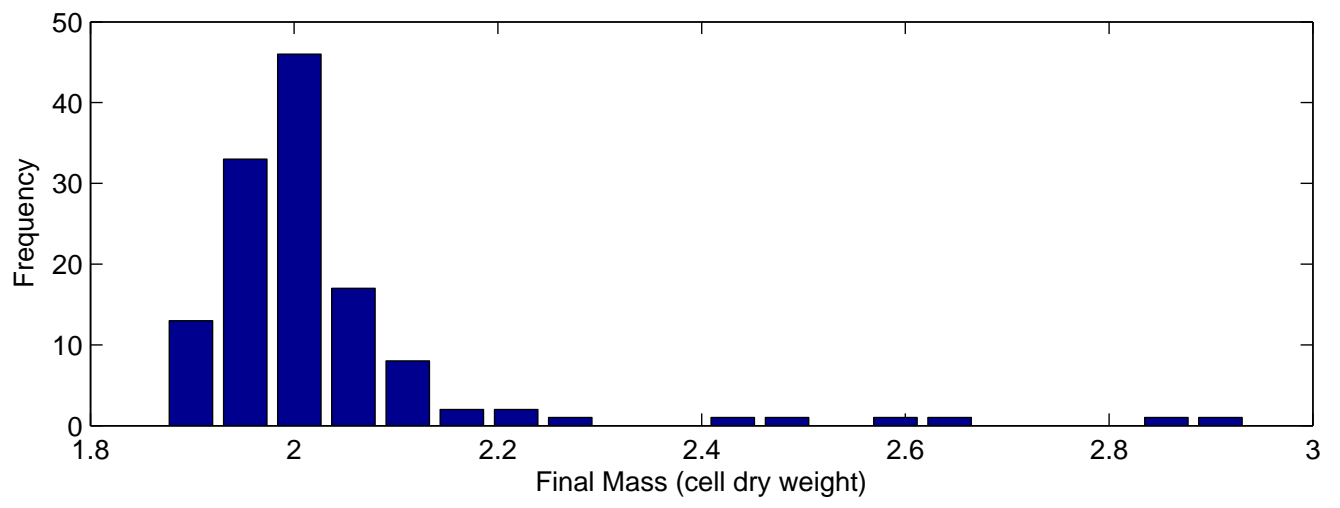
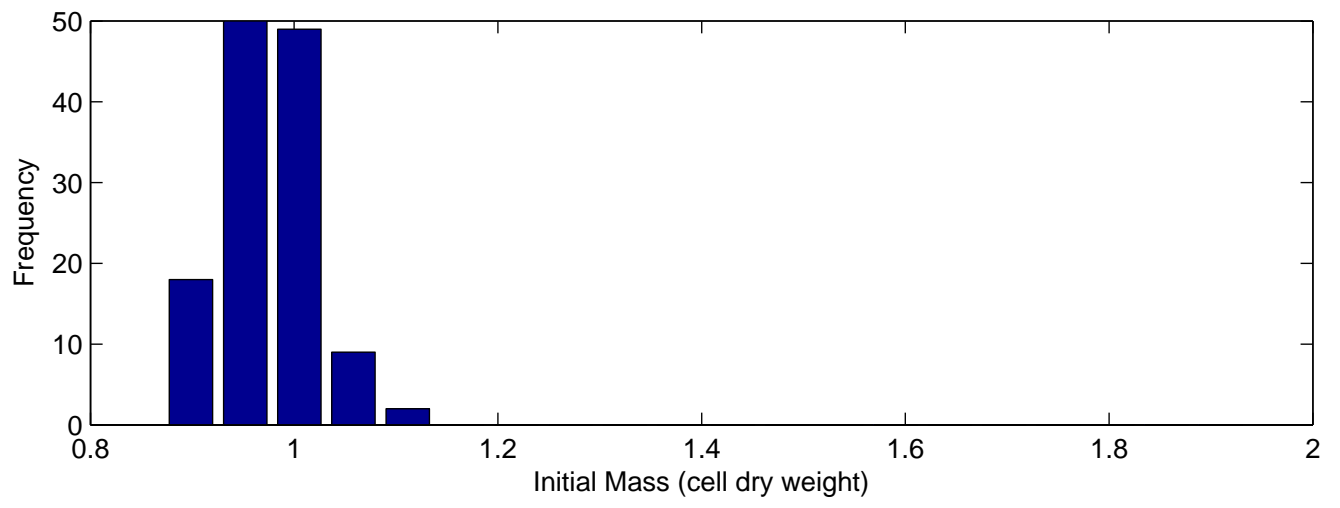
Initial Vs. Cumulative Growth



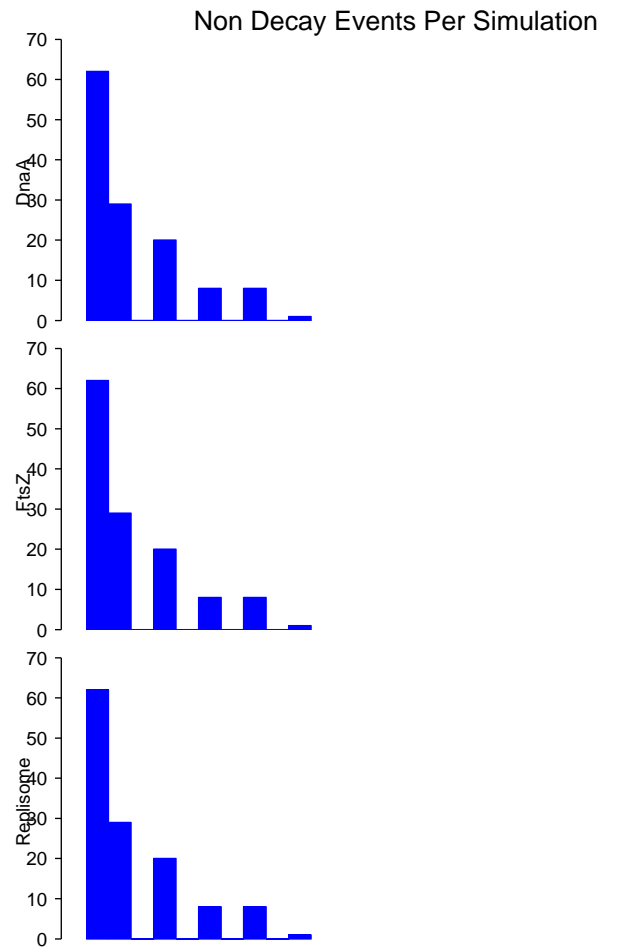
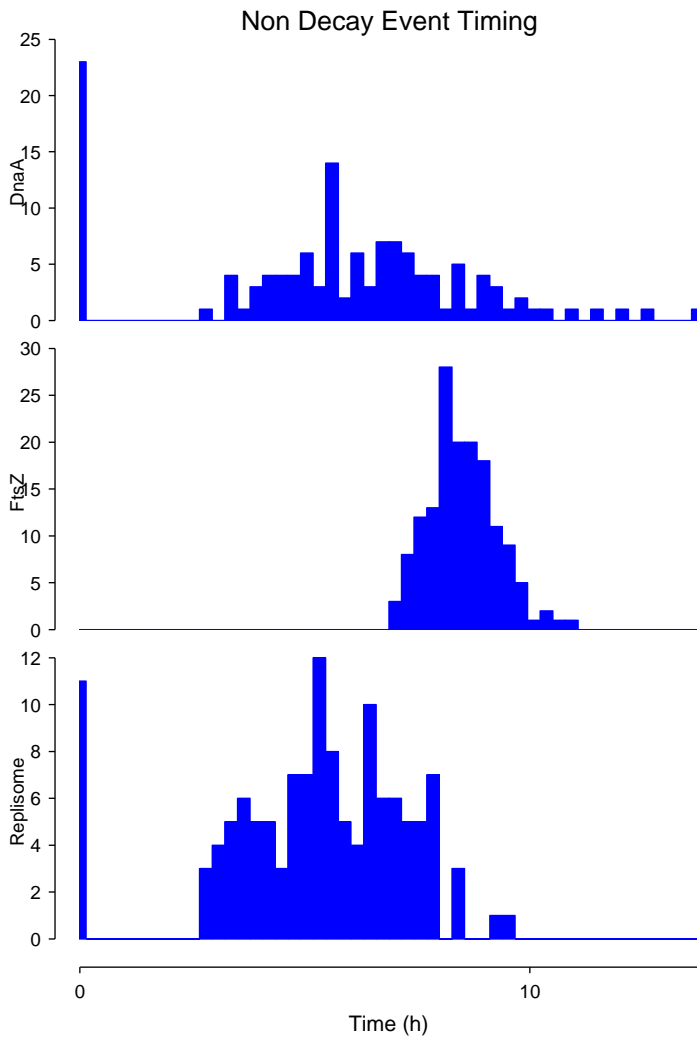
Initial Growth Rate Vs. End Time



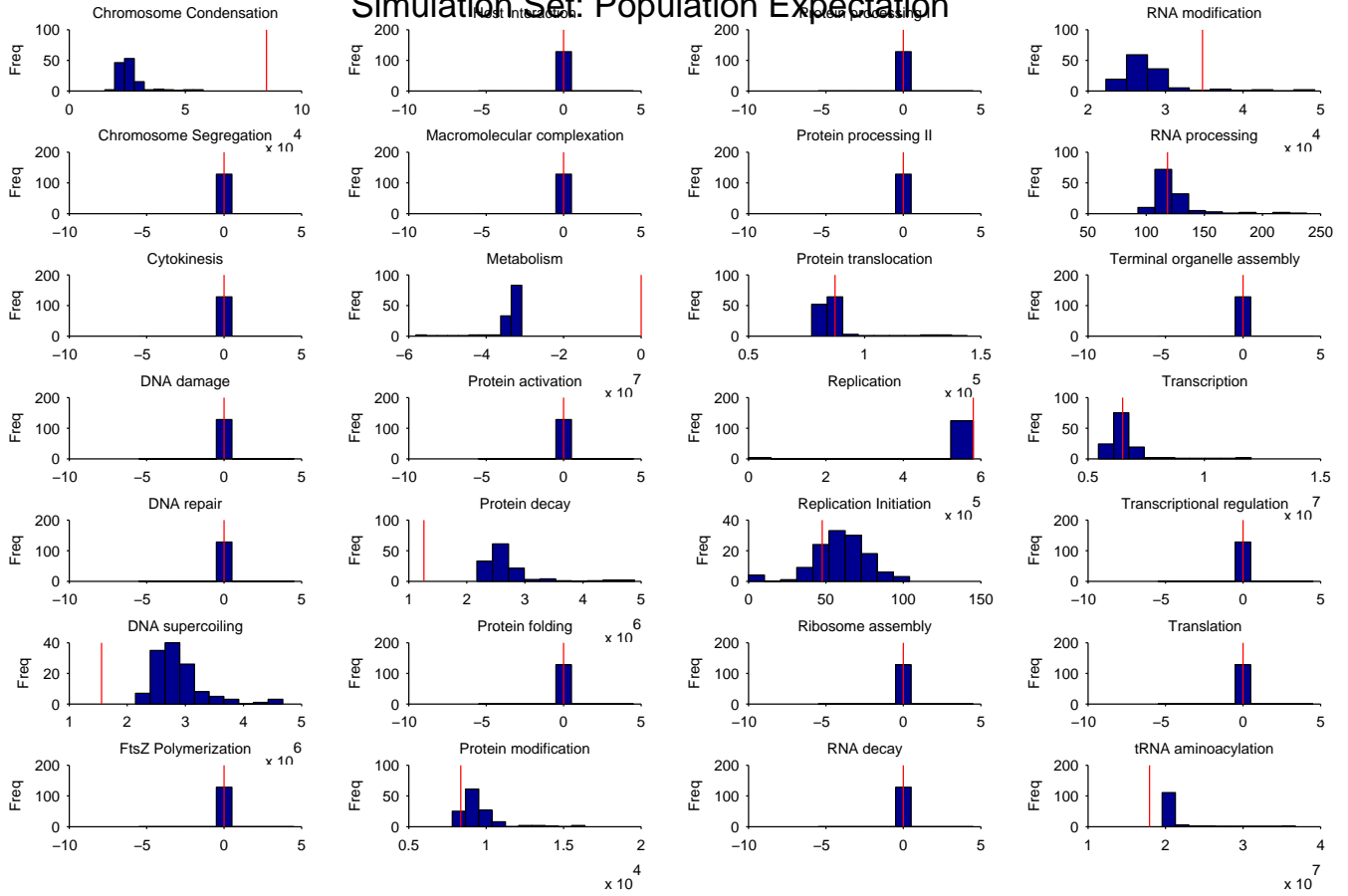
Final Growth Rate Vs. End Time



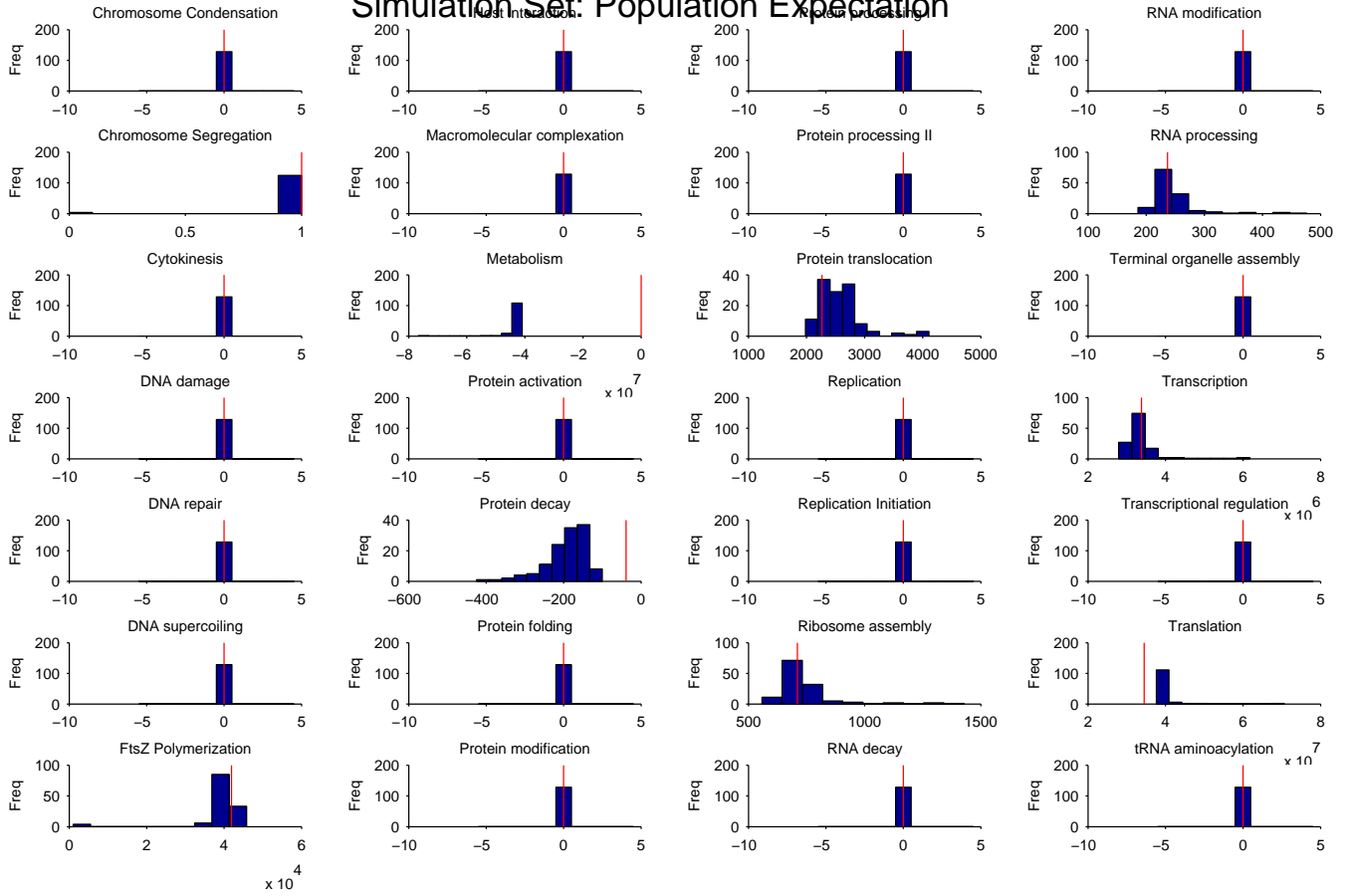
Cell Mass Distribution

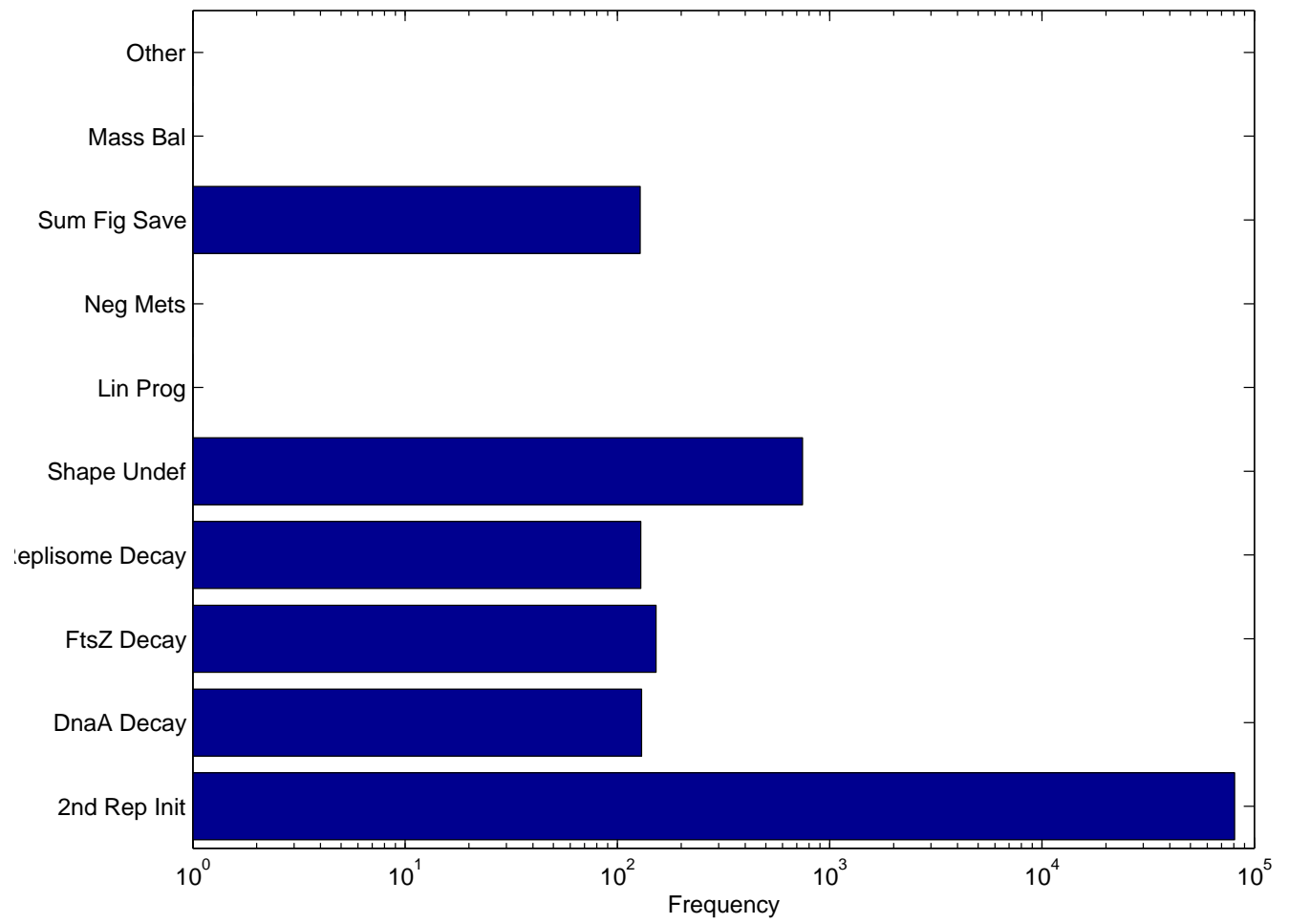


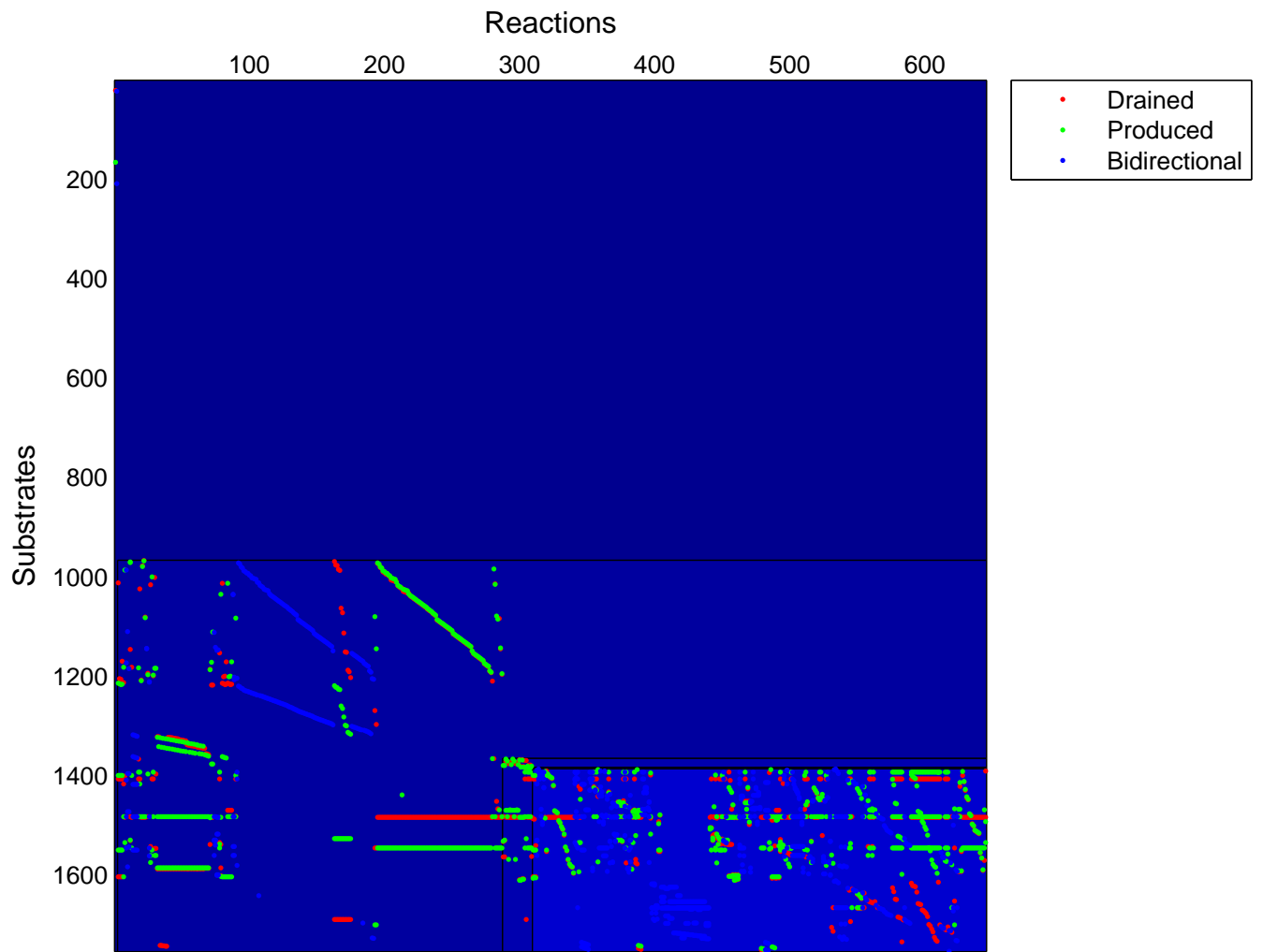
Usages [ATP] Simulation Set: Population Expectation

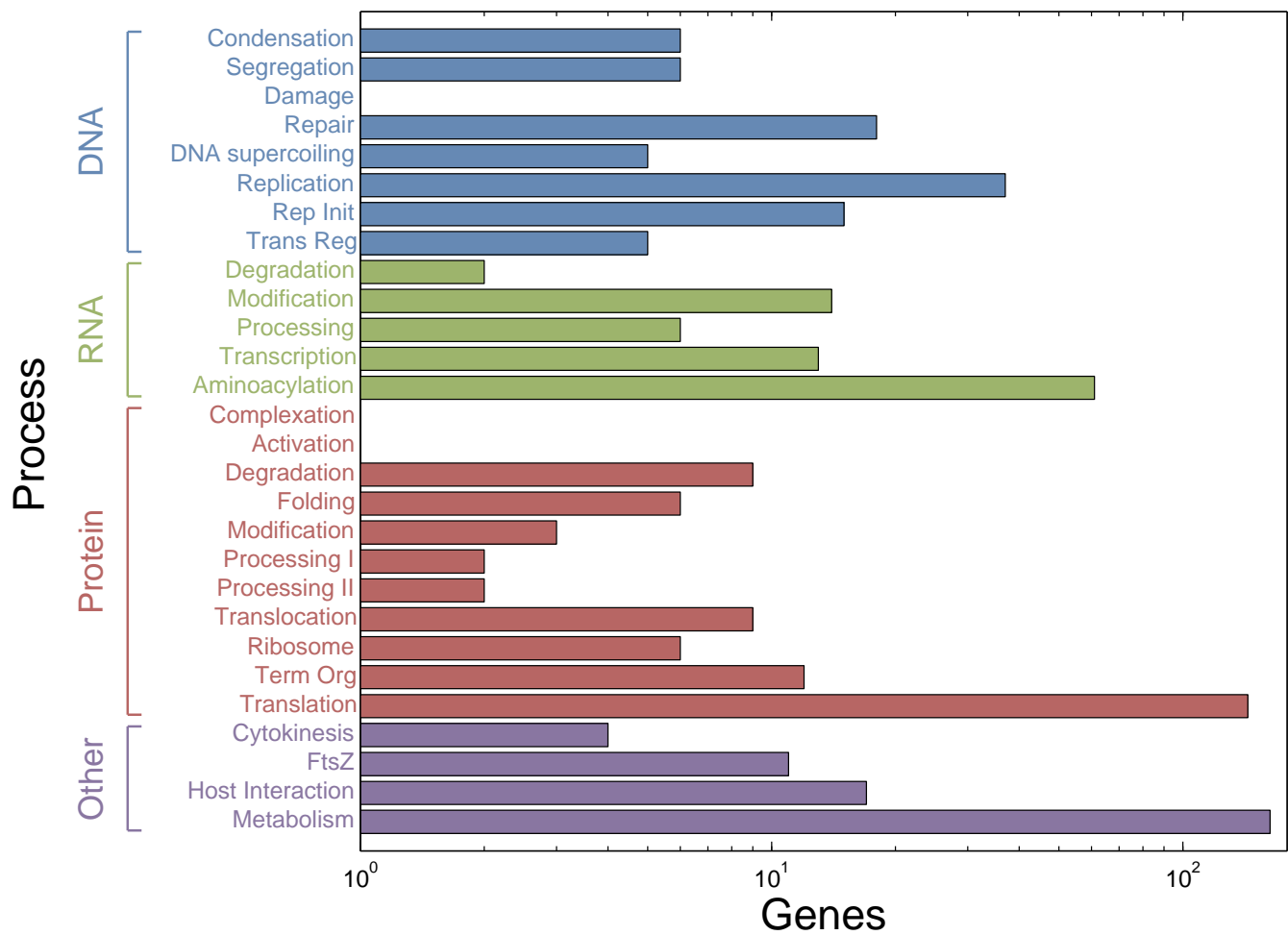


Usages [GTP] Simulation Set: Population Expectation

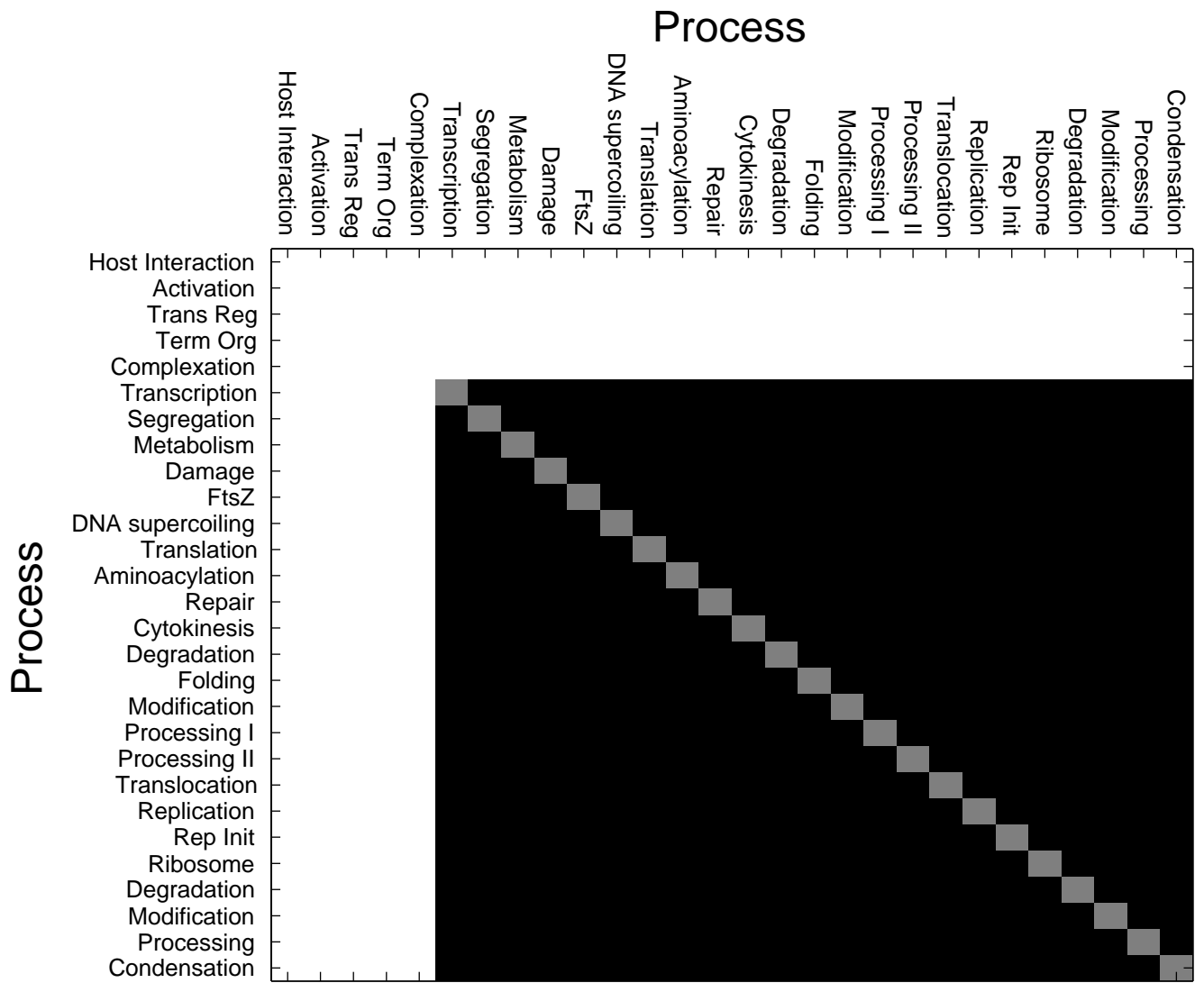




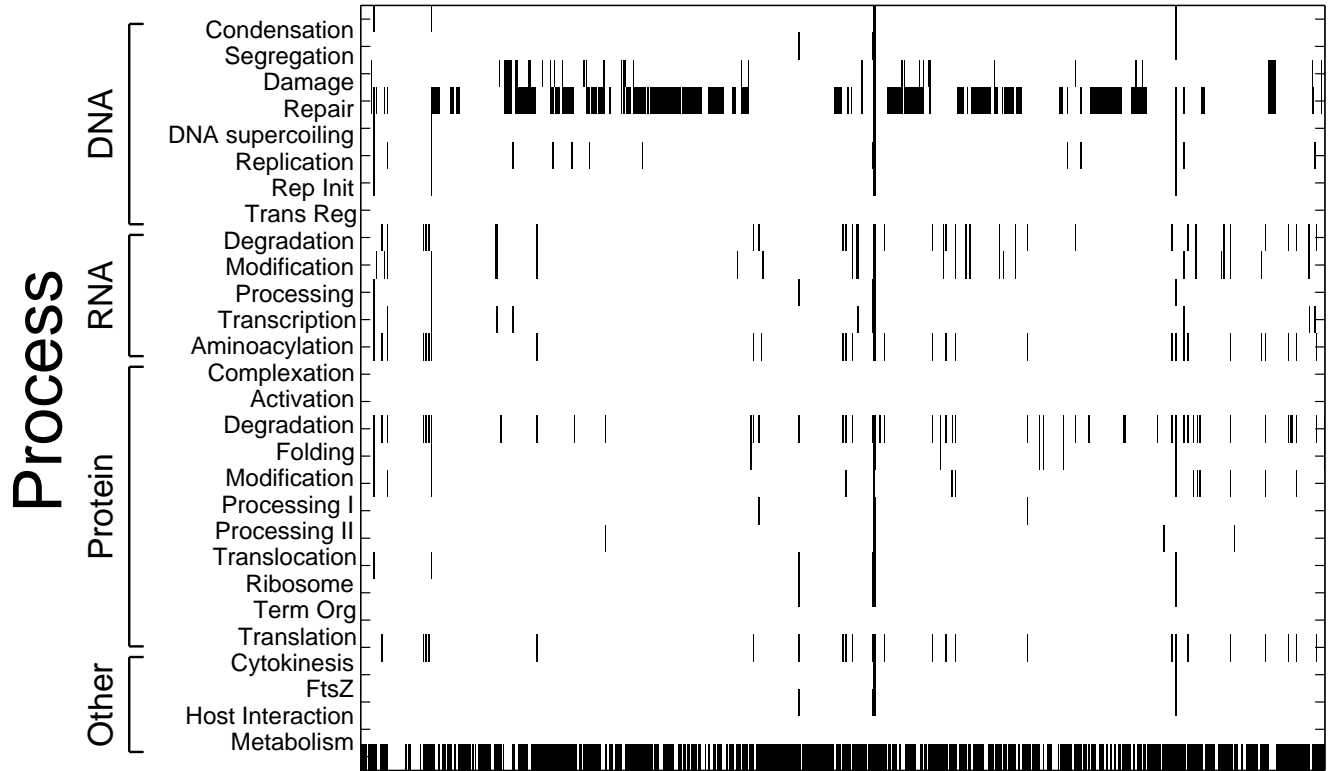




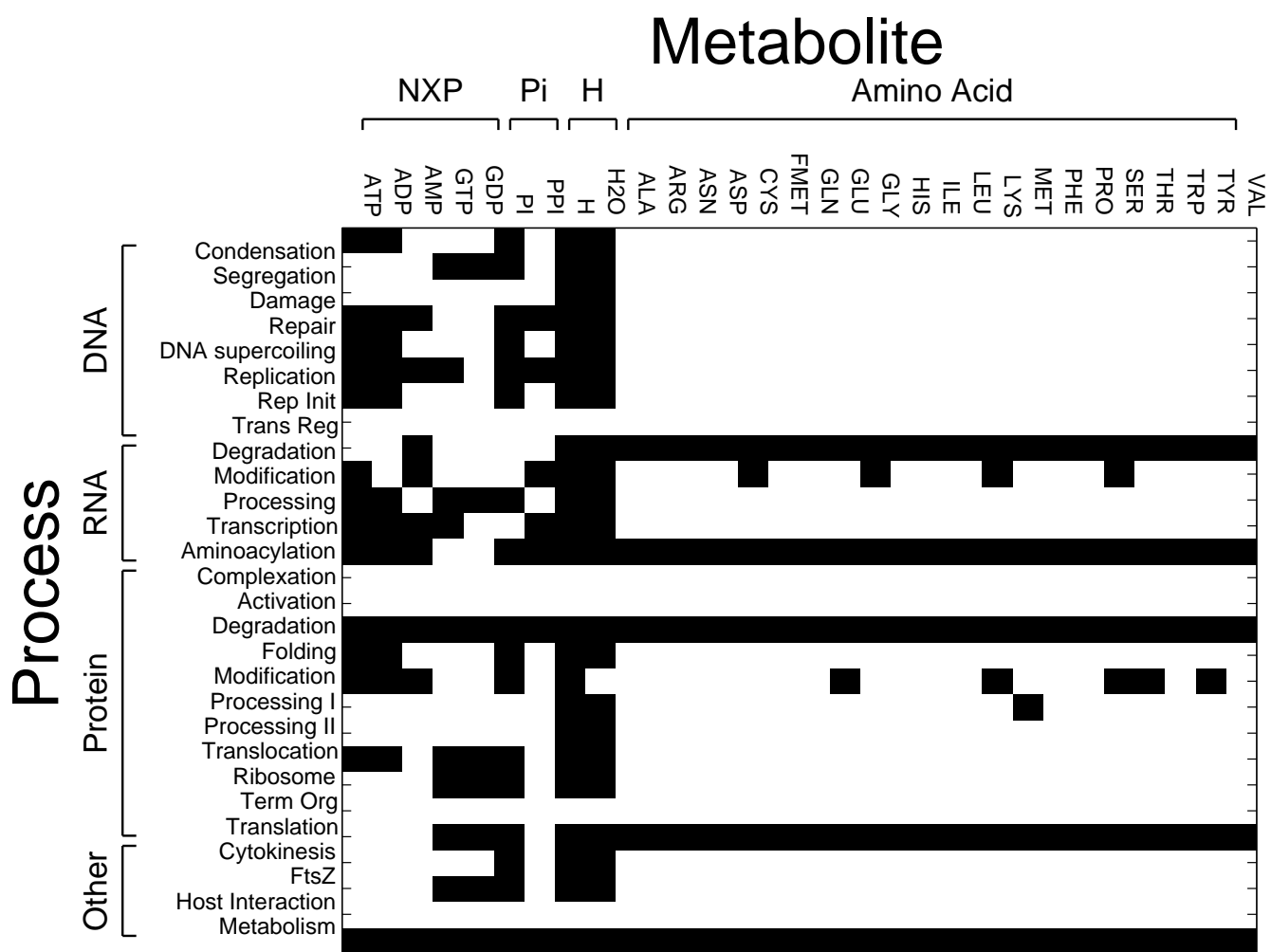
Shared Gene Products



Metabolite



Shared Metabolites



Shared Metabolites