Independent Section

Contains tests that are independent of the class of modeled organism, a model's

Consistency

Stoichiometric Consistency

Mass Balance

Charge Balance

Metabolite Connectivity

Unbounded Flux In Default Medium

Sub Total

Annotation - Metabolites

Presence of Metabolite Annotation

Metabolite Annotations Per Database

- pubchem.compound
- kegg.compound
- seed.compound
- inchikey
- inchi
- chebi
- hmdb
- reactome
- metanetx.chemical
- bigg.metabolite
- biocyc

Metabolite Annotation Conformity Per Database

- pubchem.compound
- kegg.compound
- seed.compound
- inchikey
- inchi
- chebi
- hmdb

Specific Section

Covers general statistics and specific aspects of a metabolic network that are not

SBML

SBML Level and Version	Errored
FBC enabled	Errored

Basic Information

Model Identifier	ChemoModelGrowth
Total Metabolites	1,114
Total Reactions	1,149
Total Genes	535
Total Compartments	3
Metabolic Coverage	2.15
Uncoserved Metabolites	0
Minimal Inconsistent Net Stoichiometries	Skipped

Metabolite Information

Unique Metabolites	818
Duplicate Metabolites in Identical Compartments	0
Metabolites without Charge	0
Metabolites without Formula	0
Medium Components	22

Reaction Information

Purely Metabolic Reactions	760
Purely Metabolic Reactions with Constraints	2
Transport Reactions	275
Transport Reactions with Constraints	0
Reactions With Partially	

bigg.metabolite
biocyc

Uniform Metabolite Identifier Namespace

Sub Total

Annotation - Reactions

Presence of Reaction Annotation

Reaction Annotations Per Database

rhea
kegg.reaction
seed.reaction
metanetx.reaction
bigg.reaction
reactome
ec-code
brenda
biocyc

Reaction Annotation Conformity Per Databas

rhea
kegg.reaction
seed.reaction
metanetx.reaction
bigg.reaction
reactome
ec-code
brenda
biocyc

Uniform Reaction Identifier Namespace

Sub Total

Annotation - Genes

Presence of Gene Annotation

Gene Annotations Per Database

refseq

Reactions With Identical Genes	0.59

Gene-Protein-Reaction (GPR) Associations

Reactions without GPR	69
Fraction of Transport Reactions without GPR	0.15
Enzyme Complexes	131

Biomass

Biomass Reactions Identified	1
Biomass Consistency	0.95
Biomass Production In Default Medium	0.09
Unrealistic Growth Rate In Default Medium	false
Biomass Production In Complete Medium	57.25
Blocked Biomass Precursors In Default Medium	0
Blocked Biomass Precursors In Complete Medium	0
Ratio of Direct Metabolites in Biomass Reaction	0.11
Number of Missing Essential Biomass Precursors	1

Energy Metabolism

Non-Growth Associated Maintenance Reaction	1
Growth-associated Maintenance in Biomass Reaction	true
Number of Reversible Oxygen-Containing Reactions	3
Erroneous Energy-generating Cycles	Info
MNXM3	Skipped
MNXM63	Skipped

ecogene	
kegg.genes	
ncbigi	
ncbigene	
ncbiprotein	
ccds	
hprd	
asap	

Gene Annotation Conformity Per Database

refseq	
uniprot	
ecogene	
kegg.genes	
ncbigi	
ncbigene	
ncbiprotein	
ccds	
hprd	
asap	

Sub Total

Annotation - SBO Terms

Metabolite General SBO Presence

Metabolite SBO:0000247 Presence

Reaction General SBO Presence

Metabolic Reaction SBO:0000176 Presence

Transport Reaction SBO:0000185 Presence

Exchange Reaction SBO:0000627 Presence

Demand Reaction SBO:0000628 Presence

Sink Reactions SBO:0000632 Presence

Gene General SBO Presence

Gene SBO:0000243 Presence

Biomass Reactions SBO:0000629 Presence

Sub Total

MNXM423	Skipped
MNXM6	Skipped
MNXM10	Skipped
MNXM38	Skipped
MNXM208	Skipped
MNXM191	Skipped
MNXM223	Skipped
MNXM7517	Skipped
MNXM12233	Skipped
MNXM558	Skipped
MNXM21	Skipped
MNXM89557	Skipped

Network Topology

Universally Blocked Reactions	481
Orphan Metabolites	168
Dead-end Metabolites	157
Stoichiometrically Balanced Cycles	41
Metabolite Production In Complete Medium	502
Metabolite Consumption In Complete Medium	518

Matrix Conditioning

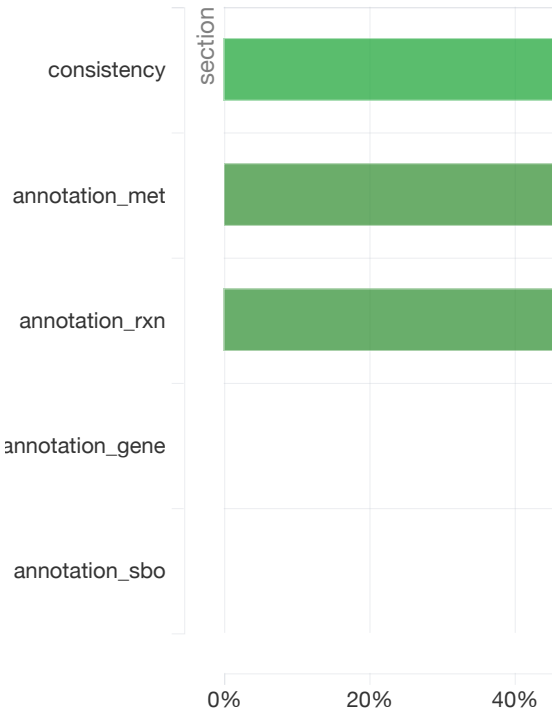
Ratio Min/Max Non-Zero Coefficients	0.00
Independent Conservation Relations	128
Rank	986
Degrees Of Freedom	163

Experimental Data Comparison

Growth Prediction	Skipped
Gene Essentiality Prediction	Skipped

51%

Score per Category



Environment

Python Version	3.8.12
Platform	Linux
Memote Version	0.13.0