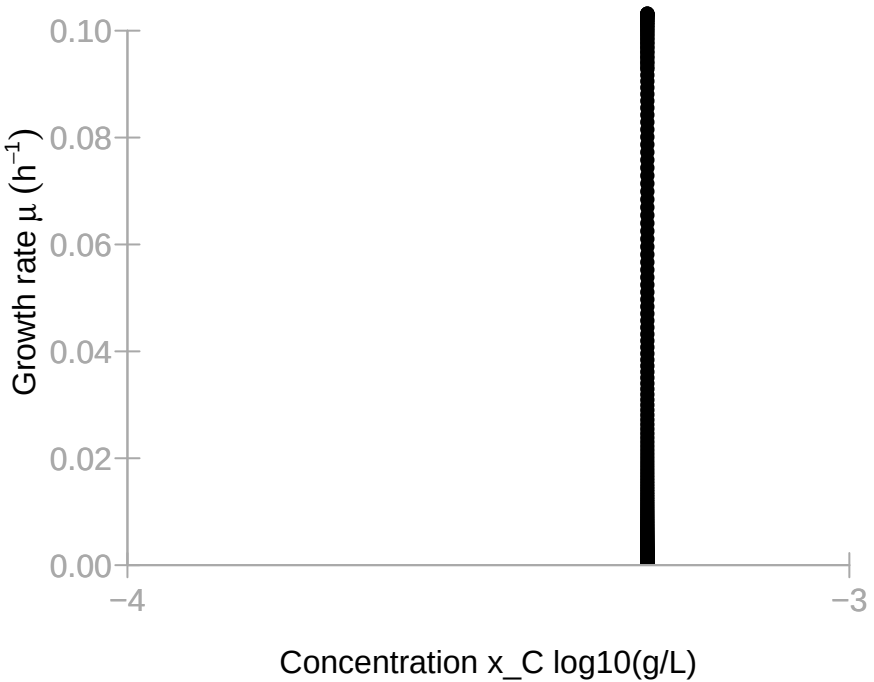
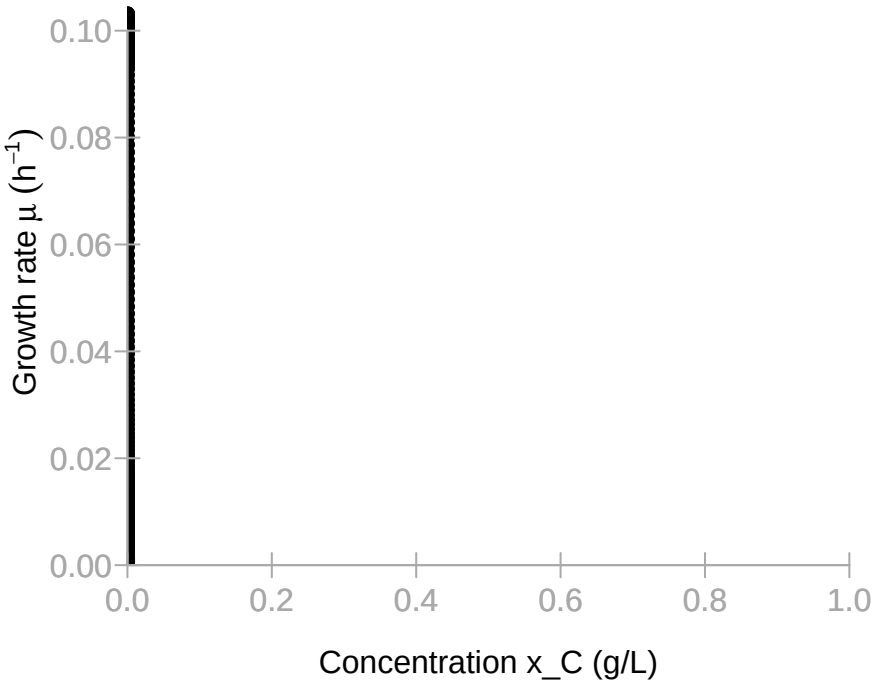
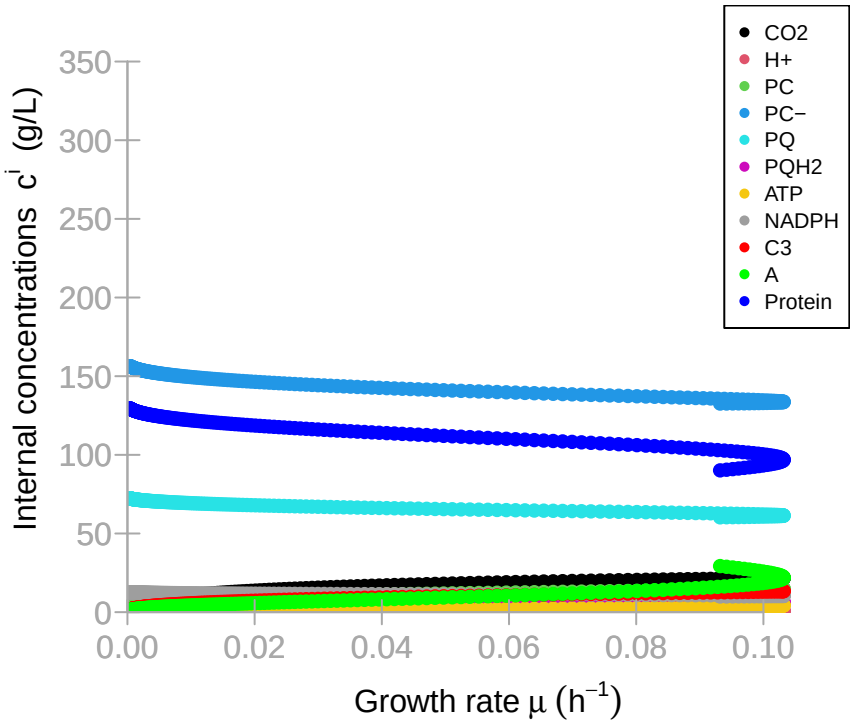
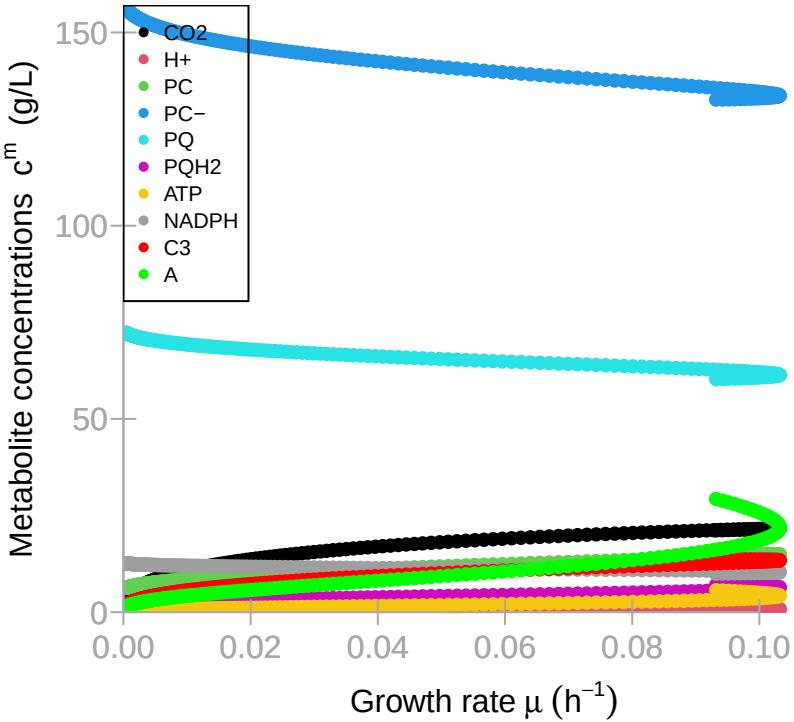
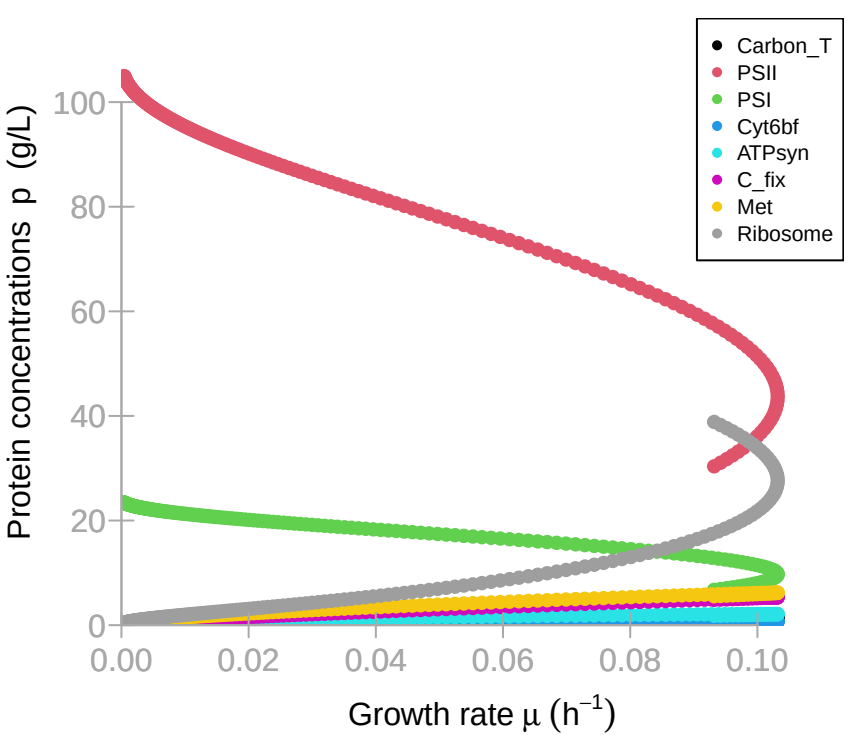
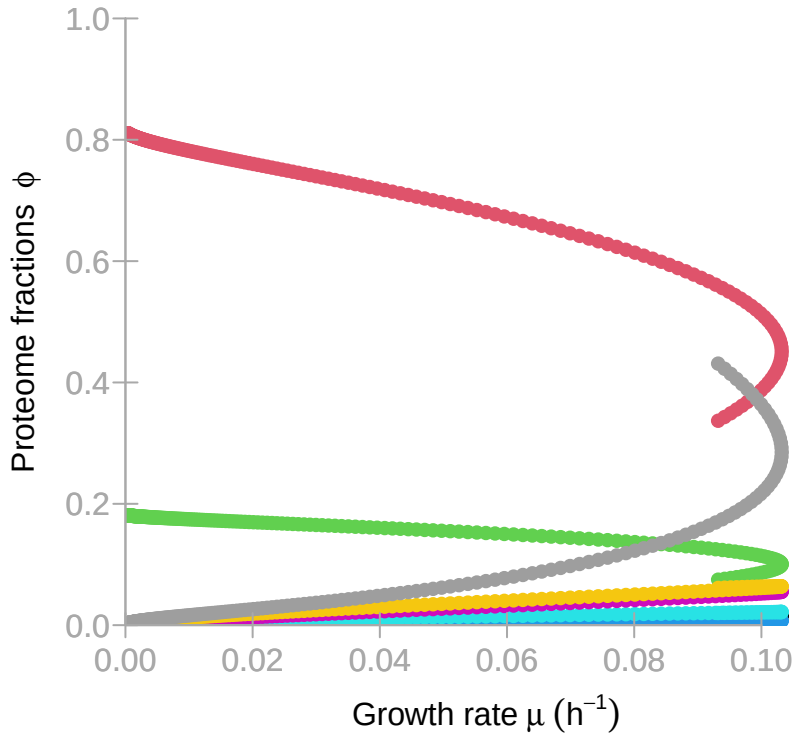

0.10
0.08
0.06
0.04
0.02
0.00
Growth rate μ (h⁻¹)
−4
−3
Concentration x_C log10(g/L)

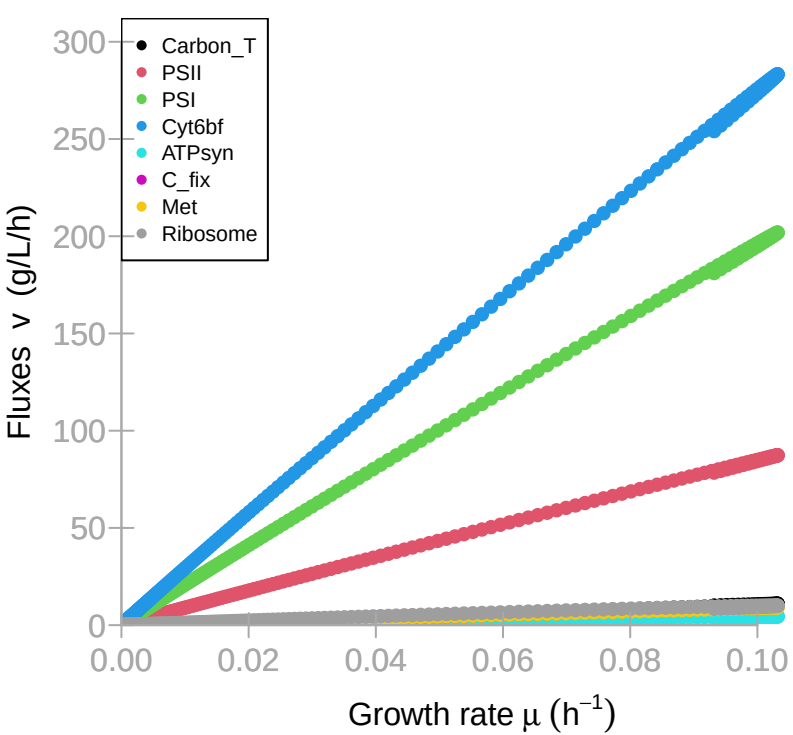

0.10
0.08
0.06
0.04
0.02
0.00
Growth rate μ (h⁻¹)
0.0
0.2
0.4
0.6
0.8
1.0
Concentration x_C (g/L)

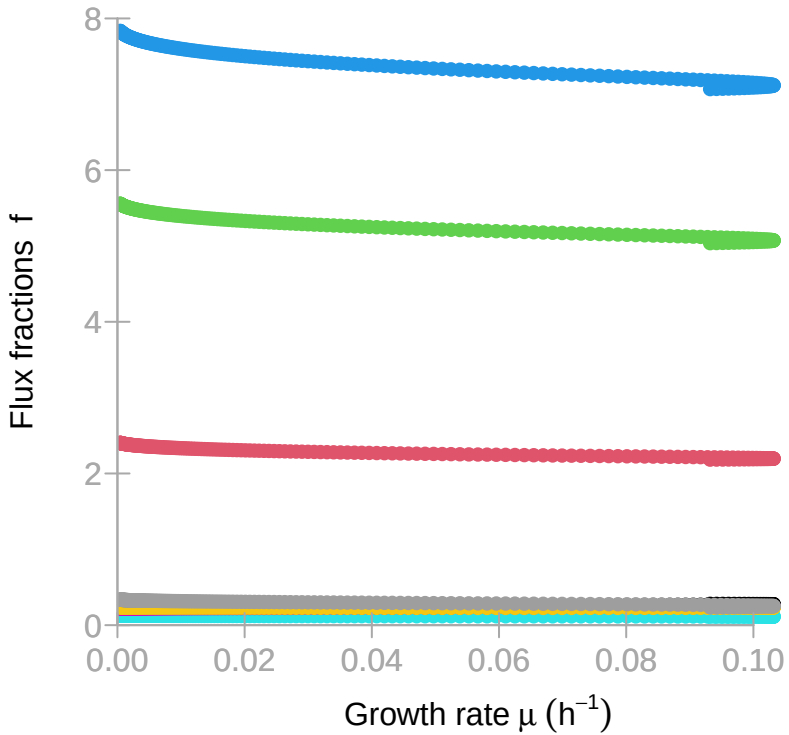

CO2
H+
PC
PC−
PQ
PQH2
ATP
NADPH
C3
A
Protein
Internal concentrations c^i (g/L)
350
300
250
200
150
100
50
0
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h^{-1})

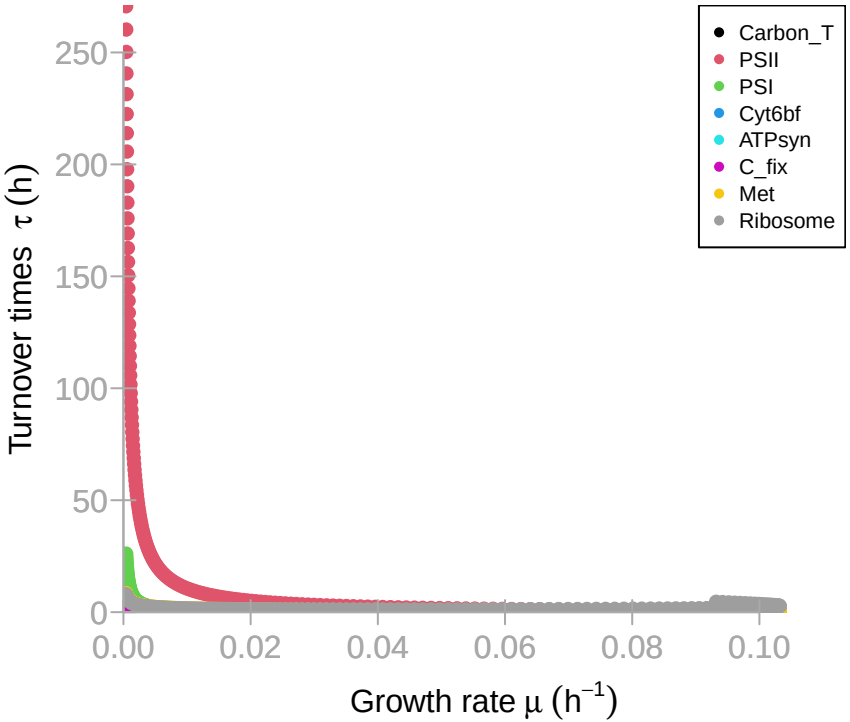

CO2
H+
PC
PC−
PQ
PQH2
ATP
NADPH
C3
A
Metabolite concentrations c^m (g/L)
150
100
50
0
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h^{-1})

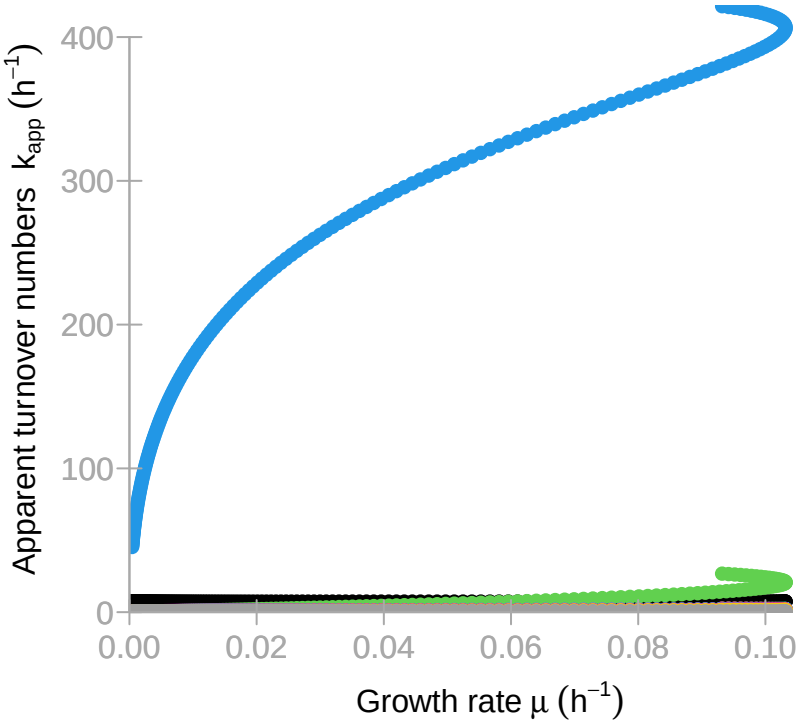

Carbon_T
PSII
PSI
Cyt6bf
ATPsyn
C_fix
Met
Ribosome
Protein concentrations p (g/L)
0
20
40
60
80
100
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h−1)

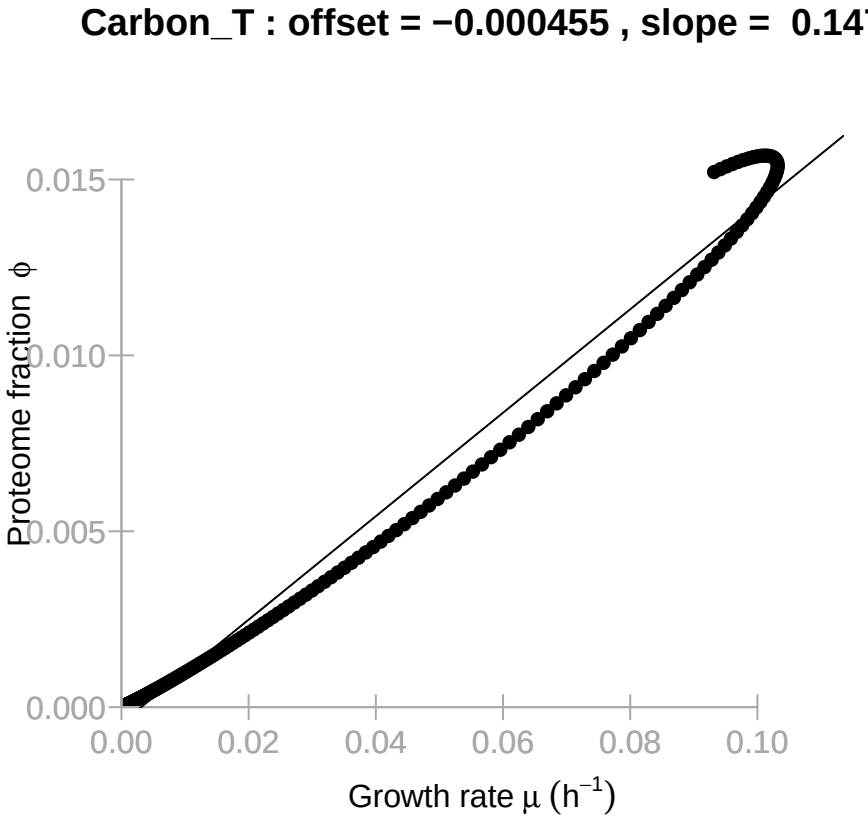

Proteome fractions ϕ
0.0
0.2
0.4
0.6
0.8
1.0
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h−1)

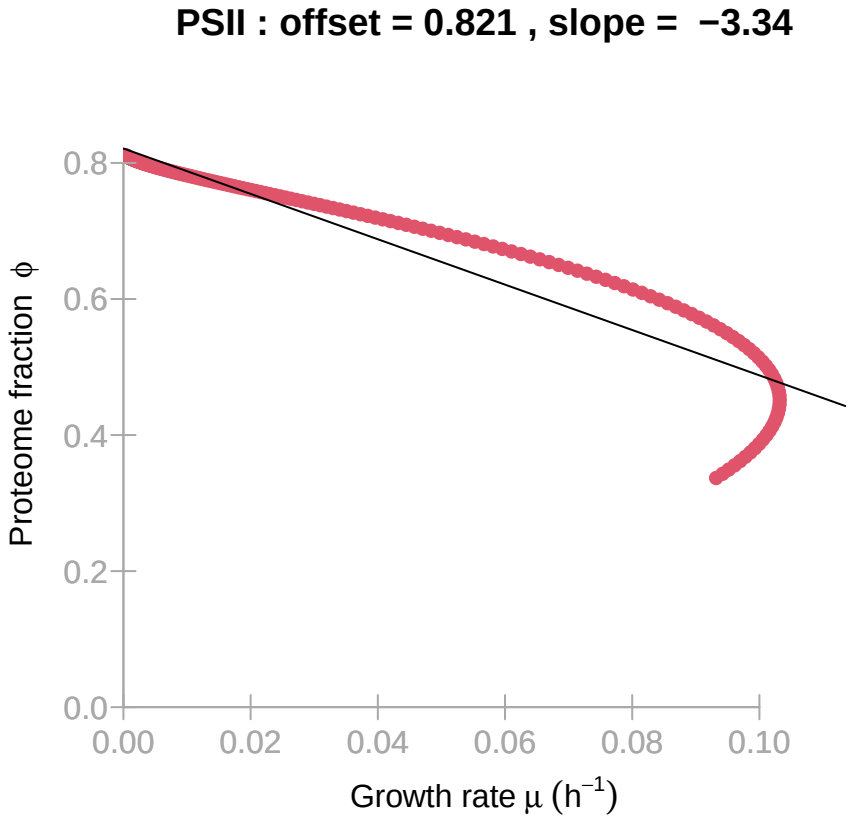

Carbon_T
PSII
PSI
Cyt6bf
ATPsyn
C_fix
Met
Ribosome
Fluxes v (g/L/h)
300
250
200
150
100
50
0
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h−1)

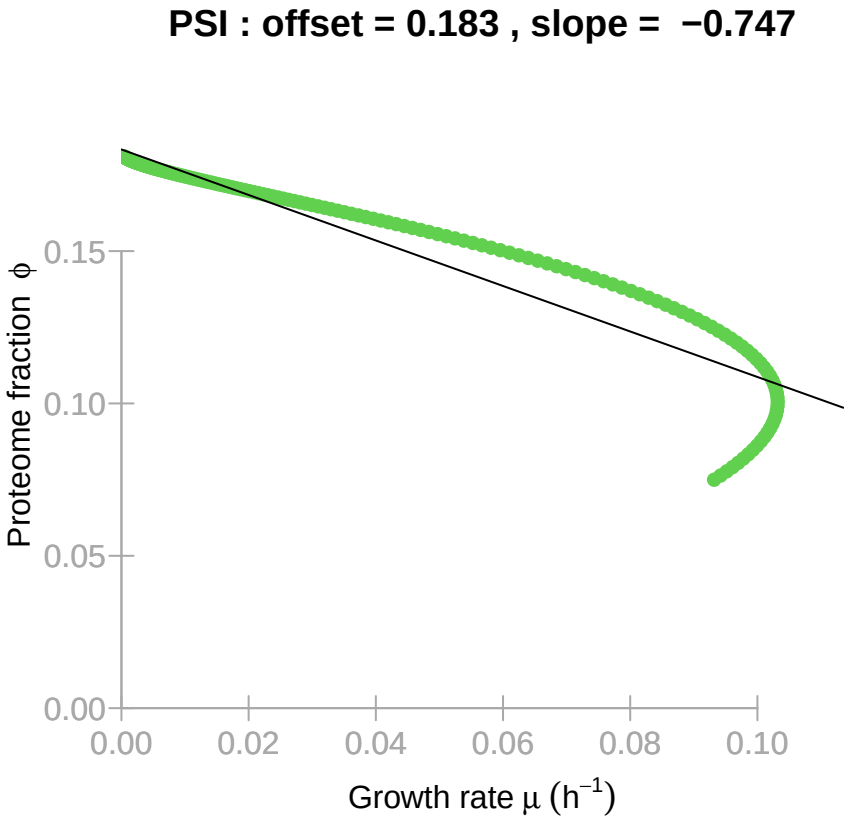

Flux fractions f
8
6
4
2
0
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h−1)

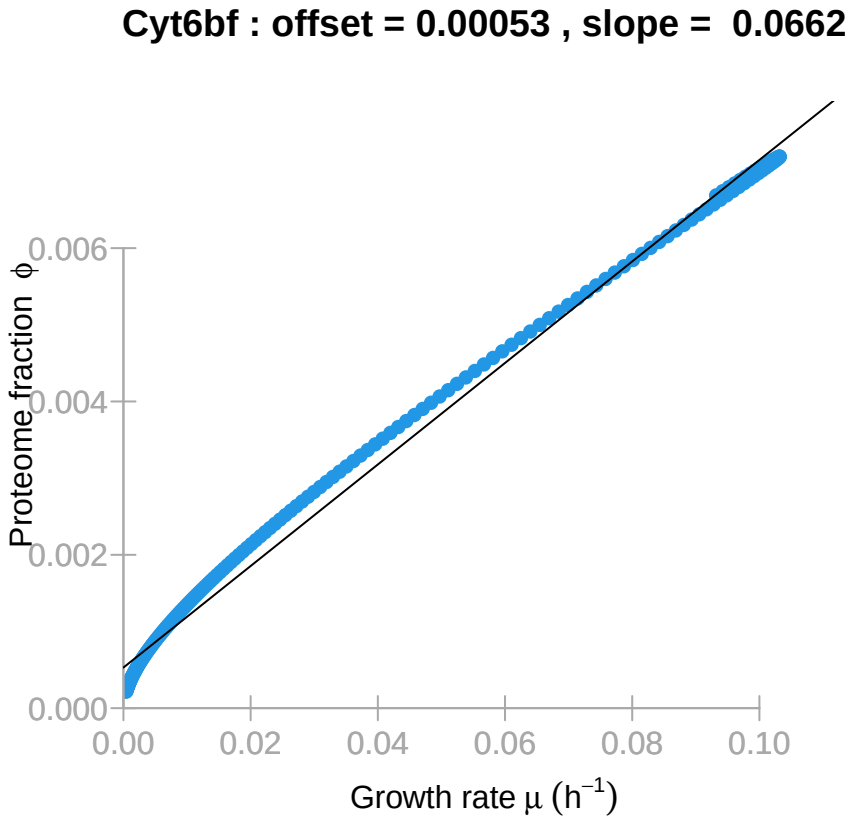

Carbon_T
PSII
PSI
Cyt6bf
ATPsyn
C_fix
Met
Ribosome
Turnover times τ (h)
250
200
150
100
50
0
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h^{-1})

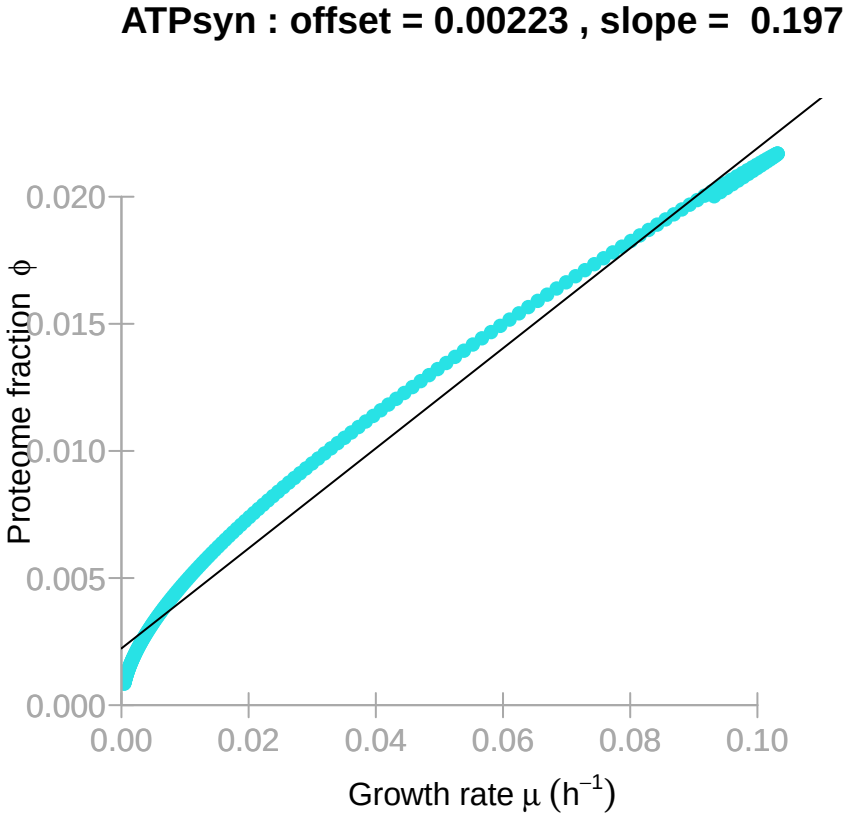

Apparent turnover numbers k_{app} (h^{-1})
400
300
200
100
0
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h^{-1})

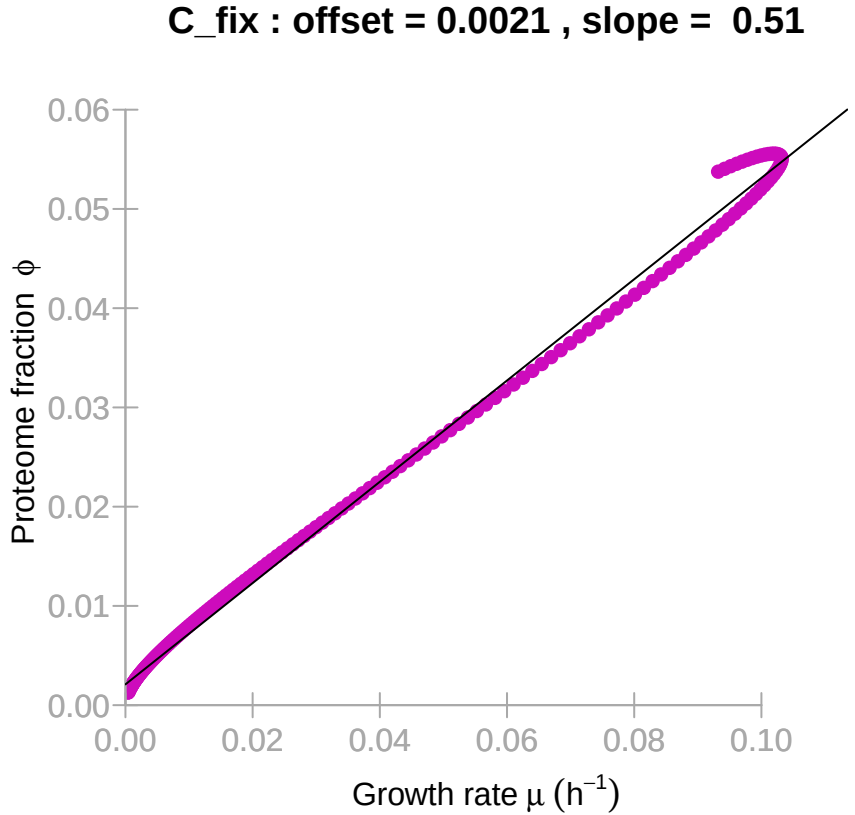

Carbon_T : offset = −0.000455 , slope = 0.147
0.015
0.010
0.005
0.000
Proteome fraction ϕ
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h−1)

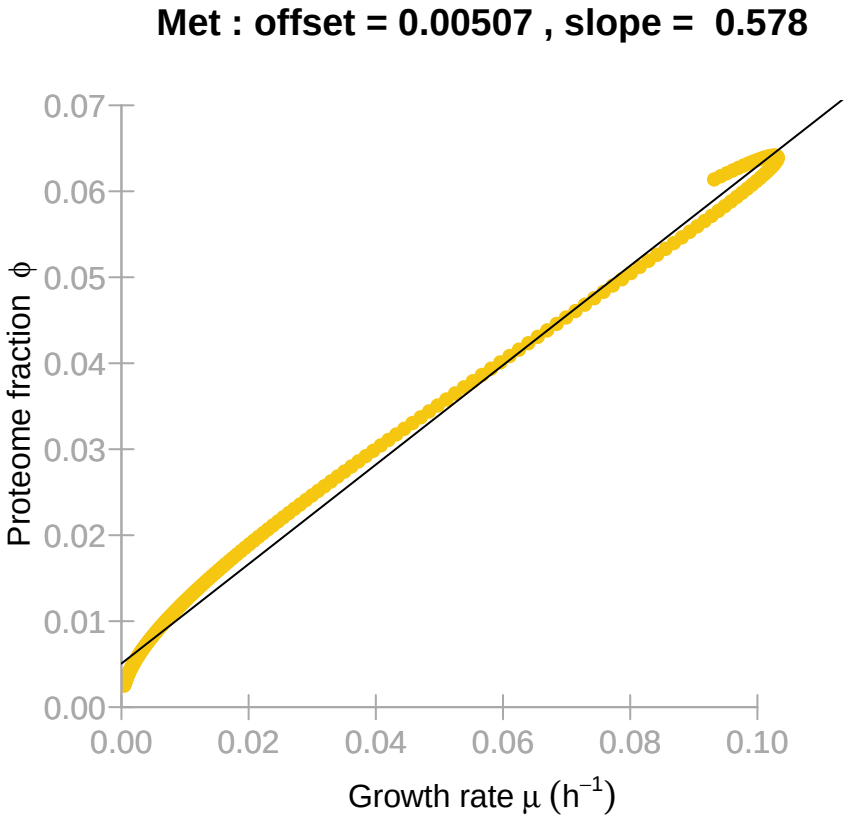

PSII : offset = 0.821 , slope = −3.34
0.8
0.6
0.4
0.2
0.0
Proteome fraction ϕ
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h−1)

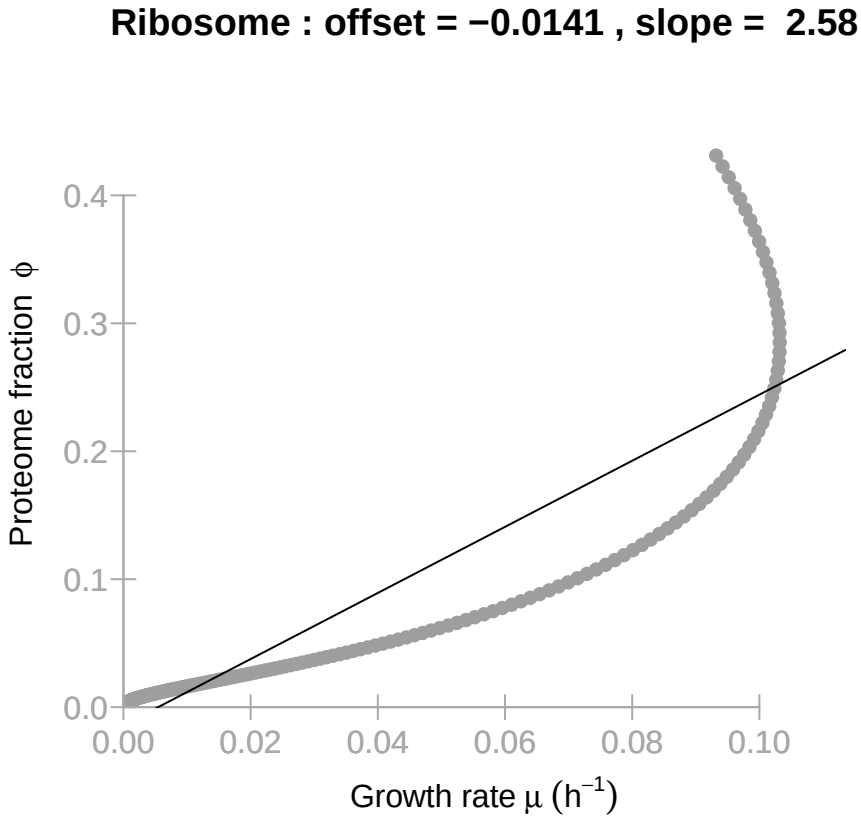

PSI : offset = 0.183 , slope = −0.747
Proteome fraction ϕ
0.15
0.10
0.05
0.00
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h^{-1})


Cyt6bf : offset = 0.00053 , slope = 0.0662
Proteome fraction ϕ
0.006
0.004
0.002
0.000
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h^{-1})


ATPsyn : offset = 0.00223 , slope = 0.197
Proteome fraction ϕ
0.020
0.015
0.010
0.005
0.000
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h^{-1})


C_fix : offset = 0.0021 , slope = 0.51
Proteome fraction ϕ
0.06
0.05
0.04
0.03
0.02
0.01
0.00
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h^{-1})


Met : offset = 0.00507 , slope = 0.578
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
Proteome fraction ϕ
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h−1)


Ribosome : offset = −0.0141 , slope = 2.58
0.4
0.3
0.2
0.1
0.0
Proteome fraction ϕ
0.00
0.02
0.04
0.06
0.08
0.10
Growth rate μ (h−1)