

Table IV. Measured elemental composition (% of dry weight) of *E. coli* biomass at different dilution rates (D) and glucose concentrations in the feed ($C_{S,in}$) with their standard errors.

Chemostat code	D (h^{-1})	$C_{S,in}$ (mM)	C (%)	H (%)	N (%)	O (%)	S (%)
glu4	0.049	37.9	44.36 \pm 0.08	7.57 \pm 0.03	11.81 \pm 0.02	NA	0.41 \pm 0.01
glu6	0.100	75.8	43.91 \pm 0.05	7.29 \pm 0.04	12.25 \pm 0.01	28.36 \pm 0.29	0.58 \pm 0.02
glu2	0.099	37.9	43.46 \pm 0.06	7.35 \pm 0.05	12.06 \pm 0.01	27.66	0.47 \pm 0.003
glu2	0.099	37.9	45.09 \pm 0.01	7.43 \pm 0.03	12.38 \pm 0.01	29.17	0.50 \pm 0.03
glu7	0.102	151.5	45.47 \pm 0.03	7.63 \pm 0.02	12.42 \pm 0.03	NA	0.47 \pm 0.01
glu3	0.314	37.9	43.71 \pm 0.03	7.34 \pm 0.04	11.93 \pm 0.03	NA	0.45 \pm 0.02
Average			44.33 \pm 0.33	7.44 \pm 0.06	12.14 \pm 0.10	28.40 \pm 0.44	0.48 \pm 0.02

Table I. Overview of the conditions (substrate, substrate concentration in the feed vessel ($C_{S,in}$), and dilution rate (D)) and the purpose of the chemostat experiments carried out.

Chemostat name	Substrate	$C_{S,in}$ (mM)	D (h^{-1})	Purpose
glu1	Glucose	37.9	0.102	P
glu2	Glucose	37.9	0.099	B, P
glu3	Glucose	37.9	0.314	B, P
glu4	Glucose	37.9	0.049	B, P
glu5	Glucose	37.9	0.025	P
gly1	Glycerol	75.8	0.102	P
gly2	Glycerol	75.8	0.099	P
ace1	Acetic acid	113.6	0.097	P
glu6	Glucose	75.8	0.100	B
glu7	Glucose	151.5	0.102	B

B, determination of the biomass composition; P, parameter estimation and flux analysis.