

Table I. Characteristics of an oscillating culture of *S. cerevisiae* in continuous cultivation at $D = 0.22 \text{ h}^{-1}$.

Variable	Mean value	Amplitude rel. SD (%)	Oscillatory state	Sense in phase plane plot vs. trehalose
Intracellular amino acids				
Histidine	1.97 ^a	7.7	stationary	—
Aromatic family				
Phenylalanine	0.54 ^a	11.8	chaotic	—
Tyrosine	0.25 ^a	13.3	chaotic	—
Tryptophan	0.24 ^a	29.2	chaotic	—
Serine family				
Serine	2.29 ^a	25.2	oscillatory	ccw
Glycine	0.78 ^a	36.8	chaotic	—
Pyruvate family				
Alanine	16.22 ^a	19.0	oscillatory	irregular
Valine	3.61 ^a	18.4	oscillatory	ccw
Leucine	0.47 ^a	37.0	oscillatory	ccw
Aspartate family				
Aspartate	8.12 ^a	24.7	oscillatory	cw
Asparagine	0.82 ^a	14.2	oscillatory	irregular
Methionine	0.16 ^a	21.2	chaotic	—
Threonine	2.21 ^a	9.5	stationary	—
Isoleucine	0.70 ^a	9.6	stationary	—
Glutamate family				
Glutamate	81.47 ^a	9.2	chaotic	—
Glutamine	17.14 ^a	11.5	chaotic	—
Lysine	1.86 ^a	36.7	oscillatory	ccw
Arginine	6.02 ^a	7.2	stationary	—
Others				
Trehalose _{intracellular}	24.29 ^a	39.2	oscillatory	—
2-Oxoglutarate _{intracellular}	0.410 ^a	47.6	oscillatory	ccw
Pyruvate _{extracellular}	0.118 ^a	17.2	oscillatory	ccw
Acetate _{extracellular}	0.080 ^a	30.5	oscillatory	ccw
CPR	4.75 ^b	11.2	oscillatory	ccw
OUR	3.79 ^b	15.0	oscillatory	ccw
Dissolved oxygen	63.45 ^c	4.7	oscillatory	cw
pH	6.20 ^d	0.2	oscillatory	irregular
Optical density	2.79 ^d	1.6	oscillatory	ccw

Variables without a clear time-dependent oscillatory pattern were characterized as stationary or chaotic, respectively, depending on a relative standard deviation (rel. SD) of below or above 10% of the related mean value, respectively. The sense of circular patterns observed in phase plane plots vs. trehalose was described as clockwise (cw), counterclockwise (ccw), or irregular.

^a(mM). ^b(mmol l⁻¹ h⁻¹). ^c(%). ^dabsolute units.