Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary Information: Understanding the interdependence of operating parameters in microbial electrosynthesis: a numerical investigation

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Table S1. Parameter values used in the dynamic simulation (DS) model.

Table S1: Parameter values used in the dynamic model.

Parameter	Value	Unit	Notes/Reference
$q_{max_{p,a}}$	1.5	day^{-1}	Estimated
$q_{max_{s,a}}$	0.01	day^{-1}	Estimated
$q_{max_{p,c}}$	1.3	day^{-1}	Estimated
$q_{max_{s,c}}$	0.05	day^{-1}	Estimated
$\mu_{max_{p,a}}$	0.2	day^{-1}	Estimated
$\mu_{max_{s,a}}$	0.1	day^{-1}	Estimated
$\mu_{max_{p,c}}$	0.18	day^{-1}	Estimated
$\mu_{max_{s,c}}$	1	day^{-1}	Estimated
M_{total_a}	0.1	-	Assumed
M_{total_c}	0.1	-	Assumed
K_{M_a}	0.4 x M_{total_a}	-	Estimated
K_{M_c}	0.02 x M_{total_c}	-	Estimated
$K_{S_{p,a}}$	0.5	$g\ L^{-1}$	Estimated
$K_{S_{s,a}}$	0.1	$g\ L^{-1}$	Estimated
$K_{S_{p,c}}$	0.5	$g\ L^{-1}$	Estimated
$K_{S_{s,c}}$	0.5	$g\ L^{-1}$	Estimated
$K_{d_{p,a}}$	0.05	day^{-1}	Estimated
$K_{d_{s,a}}$	0.05	day^{-1}	Estimated
$K_{d_{p,c}}$	0.13	day^{-1}	Estimated
$K_{d_{s,c}}$	0.14	day^{-1}	Estimated
m	2	-	[1]
i_0	20	$A\ m^{-2}$	Estimated
A_c	158	cm^2	Estimated
Y_a	1	-	Assumed
Y_c	1	-	Assumed
$M_{m_a} = M_{m_c}$	663400	$mg\ mol^{-1}$	[1]
R_{min}	1.1	Ω	Estimated
R_{max}	2000	Ω	Estimated
K_R	0.002	$L\ mg^{-1}$	Estimated
E_c	0.5	-	Assumed

q_{p_2}	0.8	day^{-1}	Estimated
$V_a = V_c$	2	L	[2]
β_c	0.5	-	Assumed
F	96,485	A s mol^{-1}	Constant
R	8.314	J K^{-1} mol^{-1}	Constant
T	298.15	K	Assumed

References

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[2] J Annie Modestra and S Venkata Mohan. Microbial electrosynthesis of carboxylic acids through co2 reduction with selectively enriched biocatalyst: Microbial dynamics. *J. CO2 Util.*, 20:190–199, 2017.