SUPPORTING INFORMATION

Changes in electrode resistances and limiting currents as a function of microbial electrolysis cell reactor configurations

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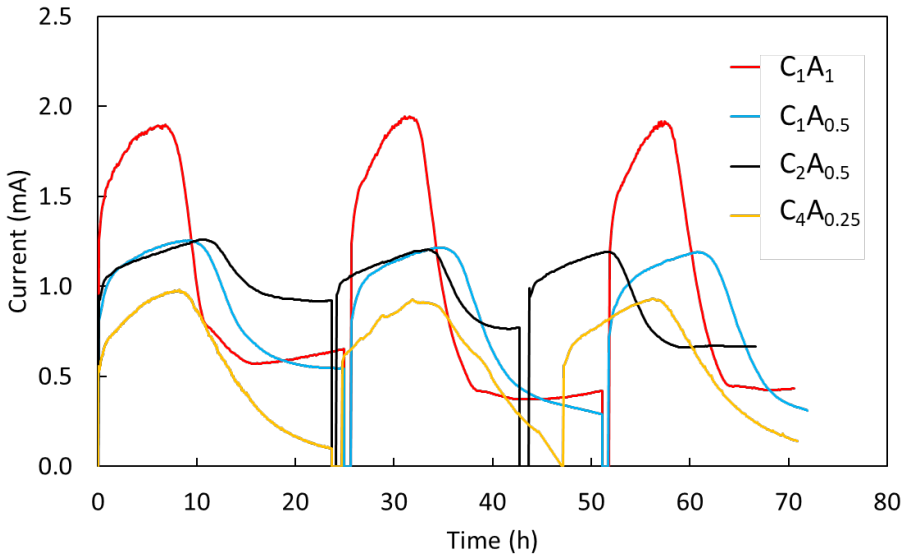

Fig. S1. Volumetric current density profiles for three repeated cycles during the acclimation period.

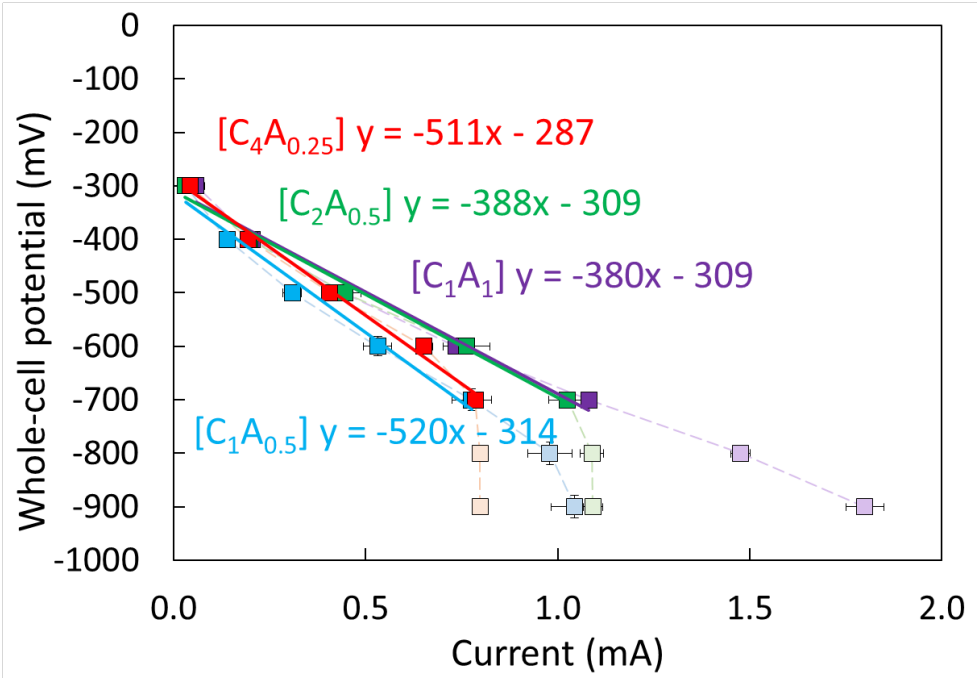

Fig. S2. Whole-cell polarization data used for calculating total internal resistances.

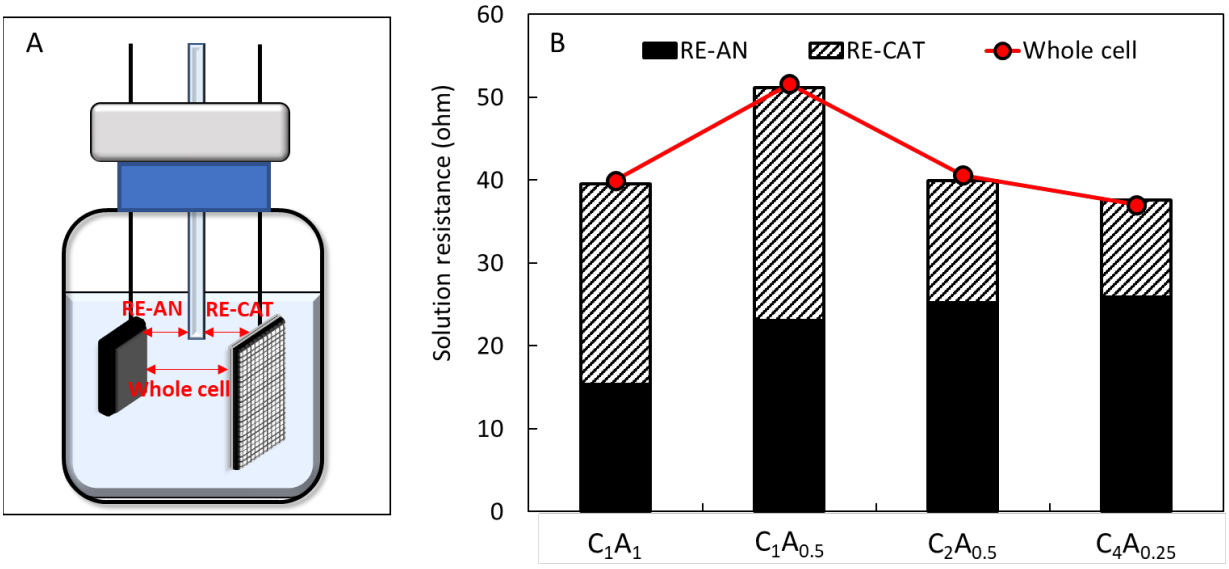

Fig. S3. (A) Schematic of each component of the solution resistance and (B) the results obtained using EIS. The solution resistances were measured between anode and cathode (whole cell), reference electrode and anode (RE-AN), and reference electrode and cathode (RE-CAT).

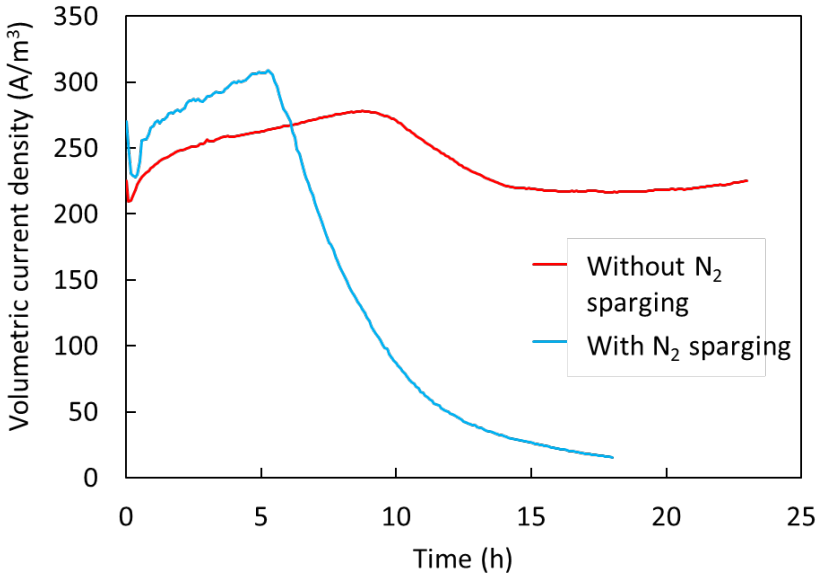

Fig. S4. Volumetric current density for the $C_2A_{0.5}$ reactor under normal original operating conditions (red) compared to results with continuous nitrogen sparging (blue) to remove H_2 gas that could sustain current generation after acetate depletion through H_2 recycling.

Table S1. Comparison of the electrode resistances of this study (A_1C_1 reactor) with previous MEC and MFC studies.

Reactor type	Reactor volume (mL)	Anode resistance (mΩ m^2)	Cathode resistance (mΩ m^2)	Substrate	Ref
MEC	5	20	35	Acetate	This study
MEC	42[a]	71	18	Acetate	[1]
MEC	150	21	8	Acetate	[2]
MEC	560	n.a.	32	Acetate[b]	[3]
MEC	560	n.a.	65	Acetate[c]	
MFC	28	11	-	Acetate	[4]
MFC	28	75	-	Domestic wastewater	
MFC	28	15	-	Acetate	[5]
MFC	28	80	-	Primary effluent wastewater	[6]
MFC	85000	290	-	Primary effluent wastewater	

[a] Sum of the anode and cathode chamber volumes.
[b] Reactor configuration using anion exchange membrane.
[c] Reactor configuration using cation exchange membrane.

References

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