Supporting Information for

Microbiome for the Electrosynthesis of Chemicals from Carbon Dioxide

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Cultivation of *Cutaneotrichosporon oleaginosum* strain D

Cutaneotrichosporon oleaginosum strain D (ATCC 20509) was originally revived from frozen stock in YPD medium containing 10 g/L yeast extract, 20 g/L peptone, and 20 g/L dextrose. Following this, it was then routinely grown on the phosphate-based medium with 50 mM NaCl described in LaBelle 2014 and LaBelle 2017. Additionally, this medium was amended with 3 g/L $(NH_4)_2(SO_4)$, 0.1 g/L yeast extract, and 5 g/L acetic acid, and brought to a pH of 7 with KOH. 50 mL cultures were maintained in 300 mL Nephelo flasks at 30º C and shaking at 180 RPM. For the experiment with real microbial electrosynthesis effluent, the effluent was brought up to 5 g/L with acetic acid, and to pH=7 with KOH, amended with 3 g/L $(NH_4)_2(SO_4)$ and 0.1

g/L yeast extract. The flasks were inoculated with a 10% v/v culture that had been transferred away from YPD medium over 25 times. Cell dry weight was calculated using a regression curve calibrated from optical density measured at 600 nm and 50 mL cell cultures that were centrifuged (10,000 x g), washed with deionized water, and dried overnight to constant weight at 105º C on aluminum cups (g/L_{cdw} = 0.5637*OD600, R^2=0.9986).

References

LaBelle, Edward V, C W Marshall, Jack A Gilbert, and Harold D. May. 2014. "Influence of Acidic pH on Hydrogen and Acetate Production by an Electrosynthetic Microbiome." *PLoS ONE* 9 (10): 1–10. doi:10.1371/journal.pone.0109935.

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