

Supporting Information

A three-species microbial consortium for power generation

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Supporting Figures & Figure captions

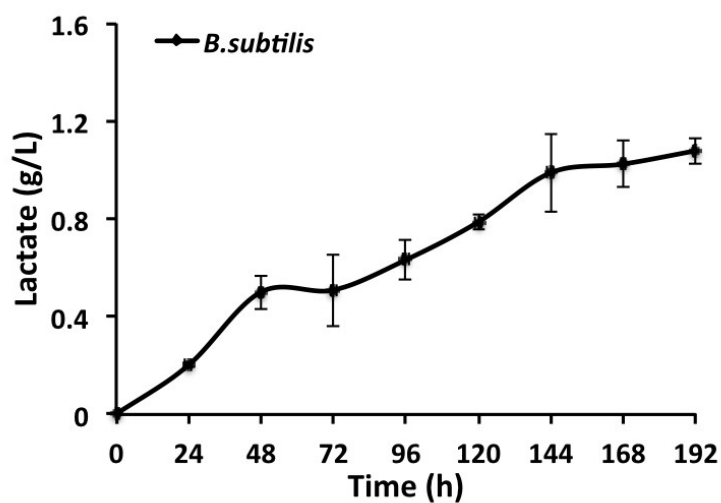


Figure S1. Functional redundancy of *B. subtilis* for lactate production. In anaerobic condition, *B. subtilis* could convert glucose to lactate and produced 1.1 g/L lactate in 192 h. However, the rate was much slower than *E. coli*, which produced 1.3 g/L lactate in 48 h at the same cultural condition. In the absence of *E. coli*, *B. subtilis* had the complementary role to provide carbon source that maintained the function of the three-species consortium.

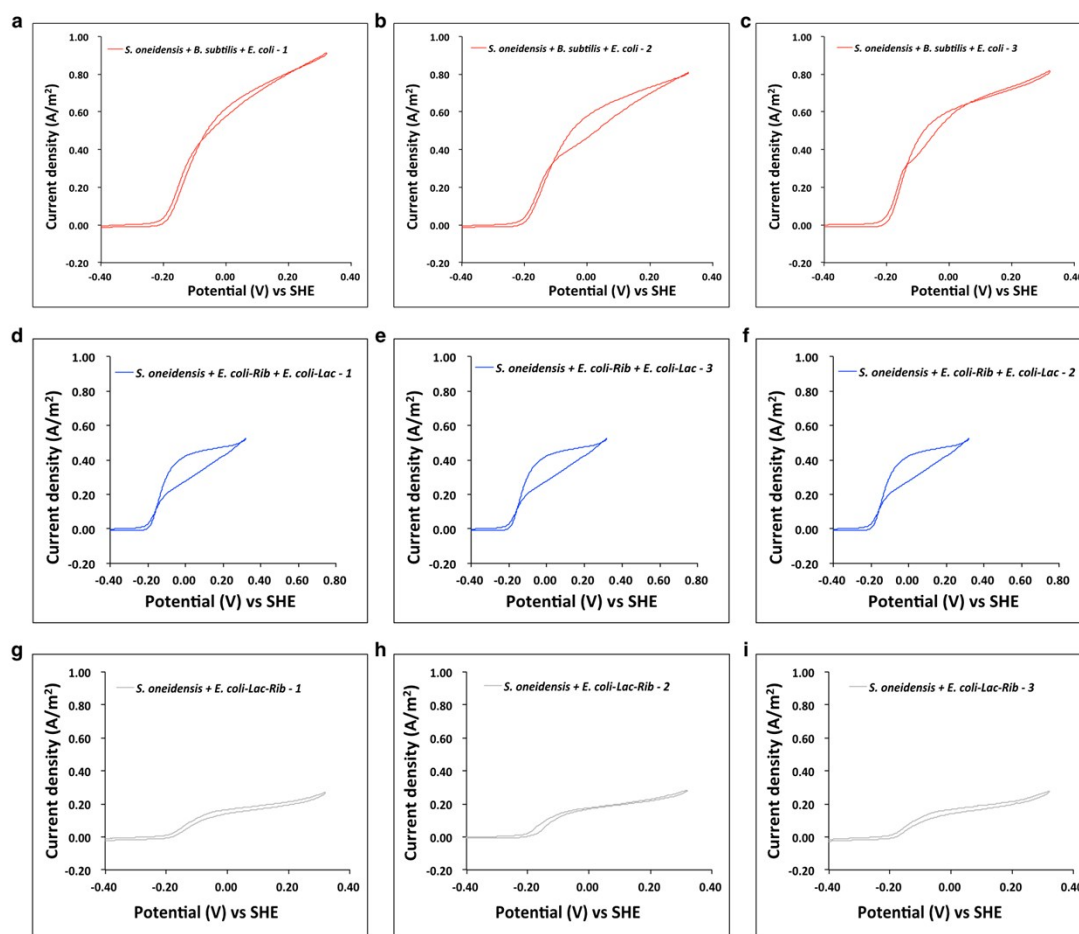


Figure S2. Turnover cyclic voltammetry (CV) of synthetic microbial consortia.

Turnover cyclic voltammetry (CV) at a low scan rate of 1mV/s. (a - c) Replicative experimental results of *S. oneidensis* + *B. subtilis* + *E. coli*-Lac consortium; (d - f) Replicative experimental results of CV of *S. oneidensis* + *E. coli*-Rib + *E. coli*-Lac consortium; (g - i) Replicative experimental results of *S. oneidensis* + *E. coli*-Lac-Rib consortium.

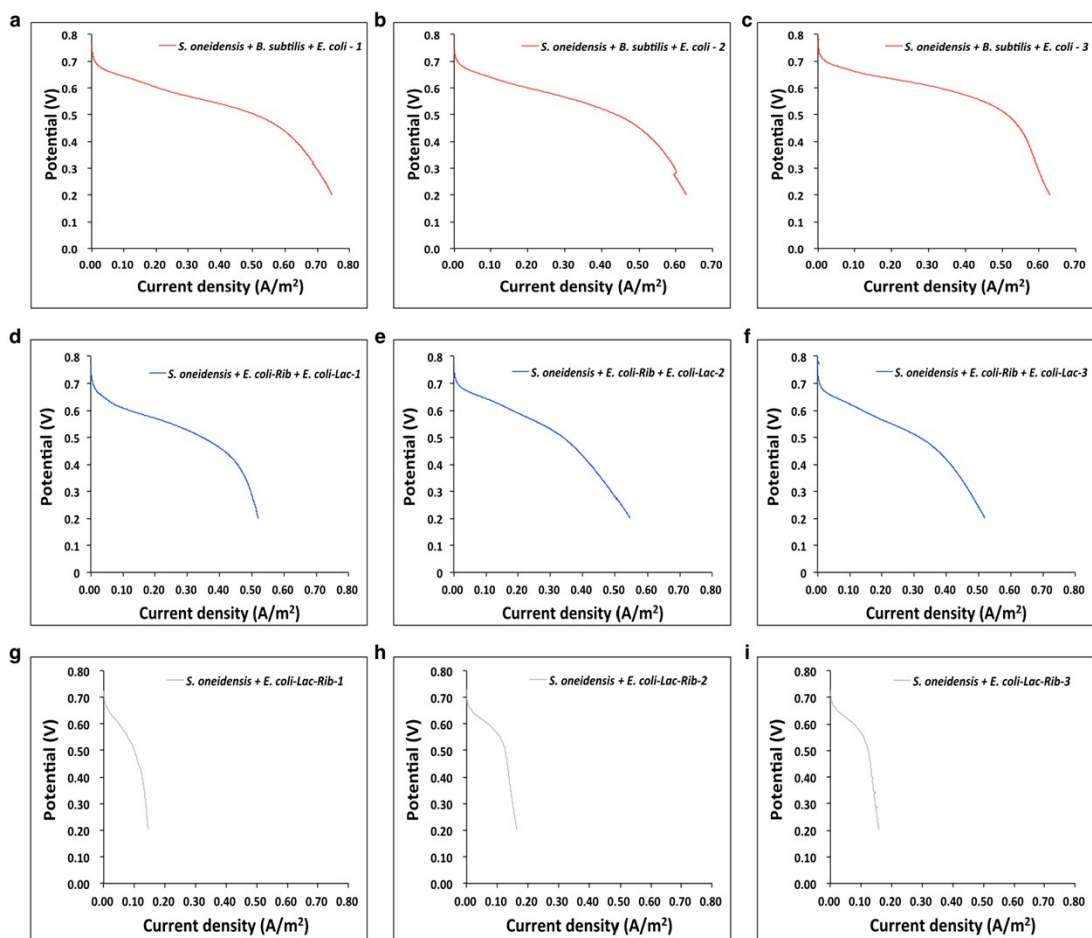


Figure S3. Linear sweep voltammetry (LSV) of synthetic microbial consortia. Polarization curves got by linear sweep voltammetry (LSV) with a low scan rate of 0.1mV/s. (a - c) Replicative experimental results of *S. oneidensis* + *B. subtilis* + *E. coli*-Lac consortium; (d - f) Replicative experimental results of CV of *S. oneidensis* + *E. coli*-Rib + *E. coli*-Lac consortium; (g - i) Replicative experimental results of *S. oneidensis* + *E. coli*-Lac-Rib consortium.

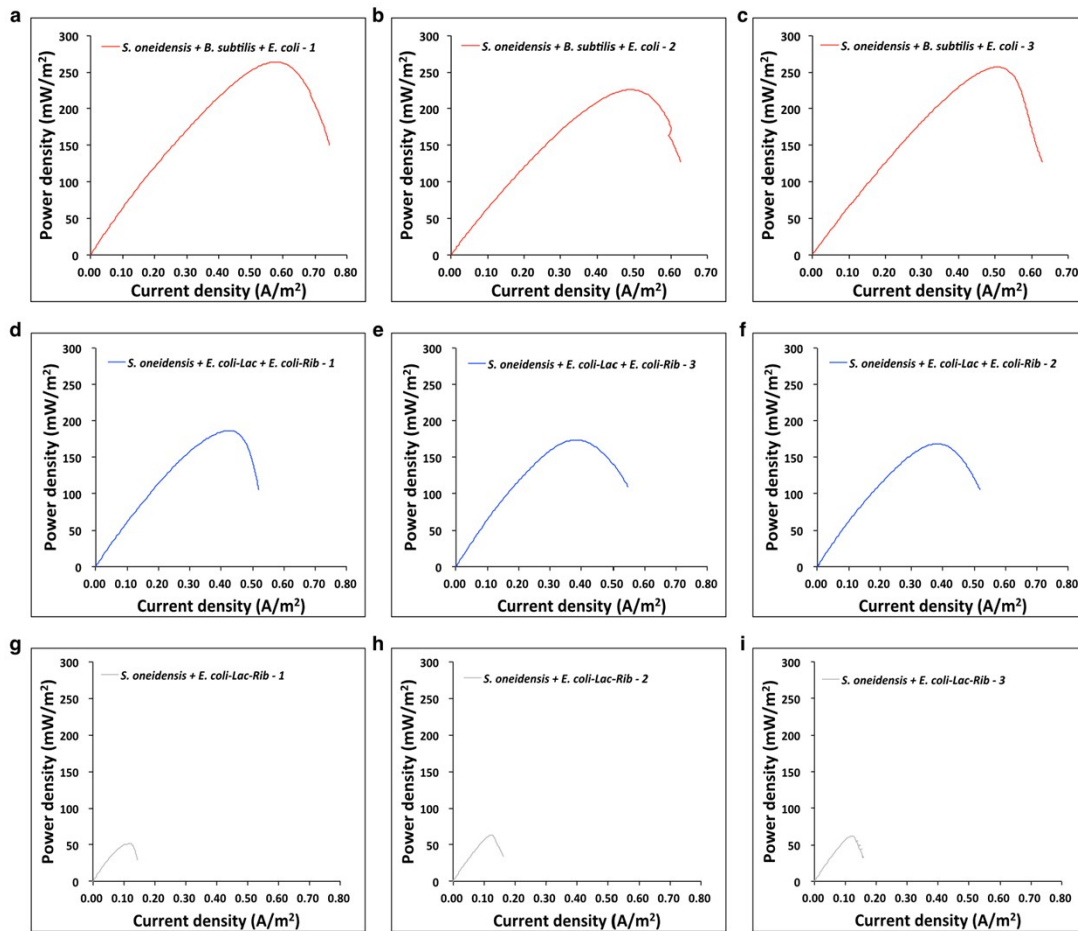


Figure S4. Power density output curves of synthetic microbial consortia. (a - c) Replicative experimental results of *S. oneidensis* + *B. subtilis* + *E. coli*-Lac consortium; (d - f) Replicative experimental results of CV of *S. oneidensis* + *E. coli*-Rib + *E. coli*-Lac consortium; (g - i) Replicative experimental results of *S. oneidensis* + *E. coli*-Lac-Rib consortium.