Supplementary Materials: Accelerated H_2 evolution during microbial electrosynthesis with *Sporomusa ovata*

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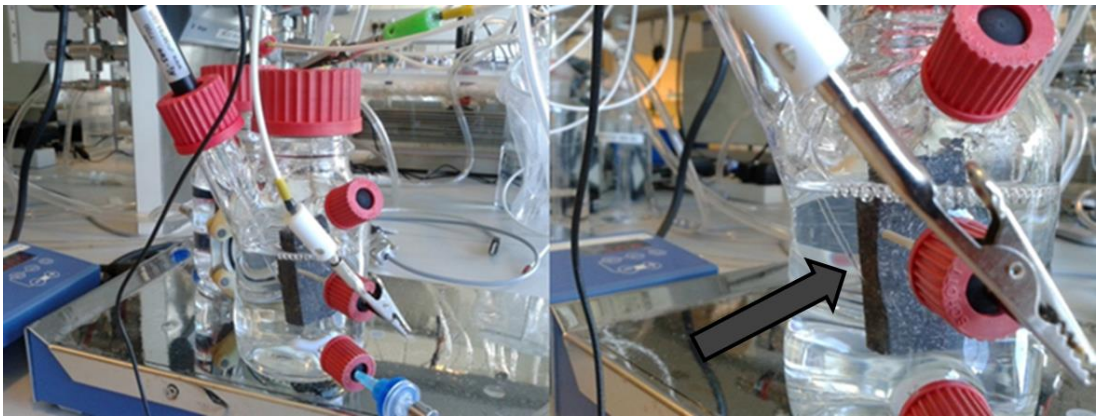

Figure S1. Experimental setup for H_2 measurement in close proximity to the cathode surface of a MES reactor. As indicated by the black arrow, the tip of a H_2 microsensor was positionned close to the surface of the cathode of a MES reactor to measure H_2 concentration at this specific location.

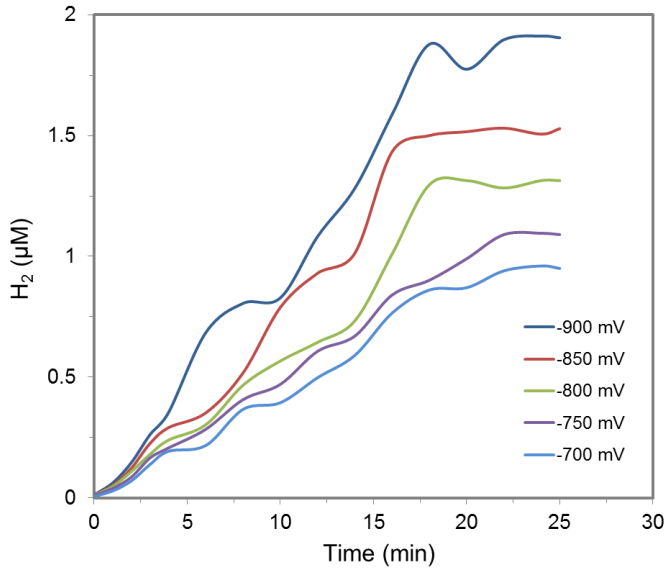

Figure S2. H_2 evolution profile over a period of 25 minutes with fresh sterile medium in the cathode chamber of a MES reactor. Each curve is the mean of three replicates.

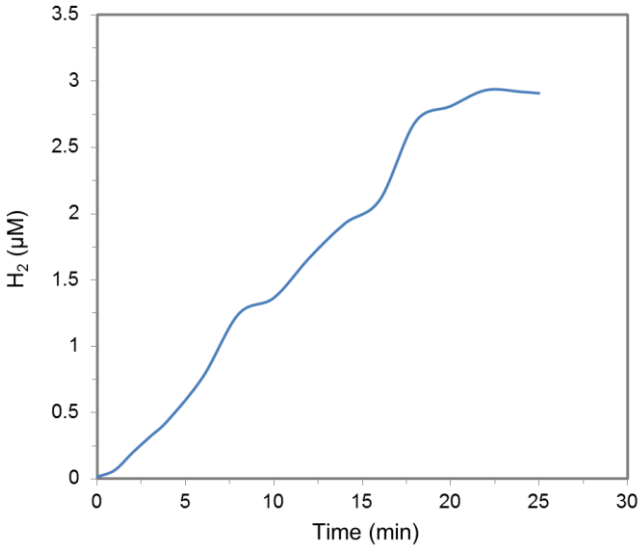

Figure S3. H_2 evolution profile over a period of 25 minutes with *S. ovata* cell suspension in the cathode chamber of a MES reactor. The cathode potential was -900 mV vs Ag/AgCl. The curve is the mean of three replicates.

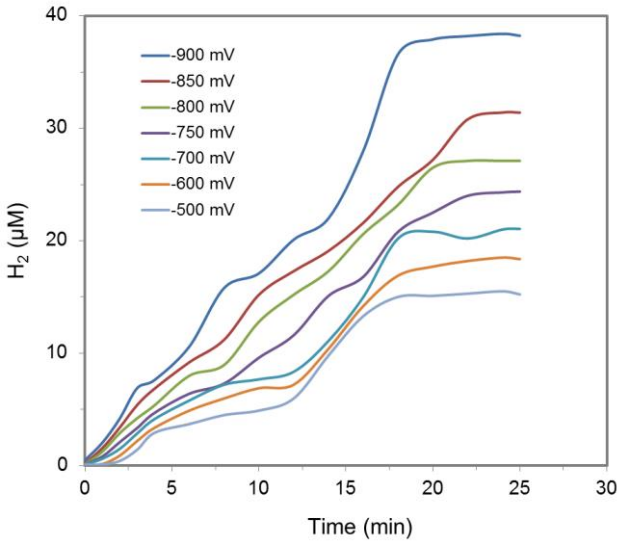

Figure S4. H_2 evolution profile over a period of 25 minutes with *S. ovata* cell-free spent medium in the cathode chamber of a MES reactor. Each curve is the mean of three replicates.

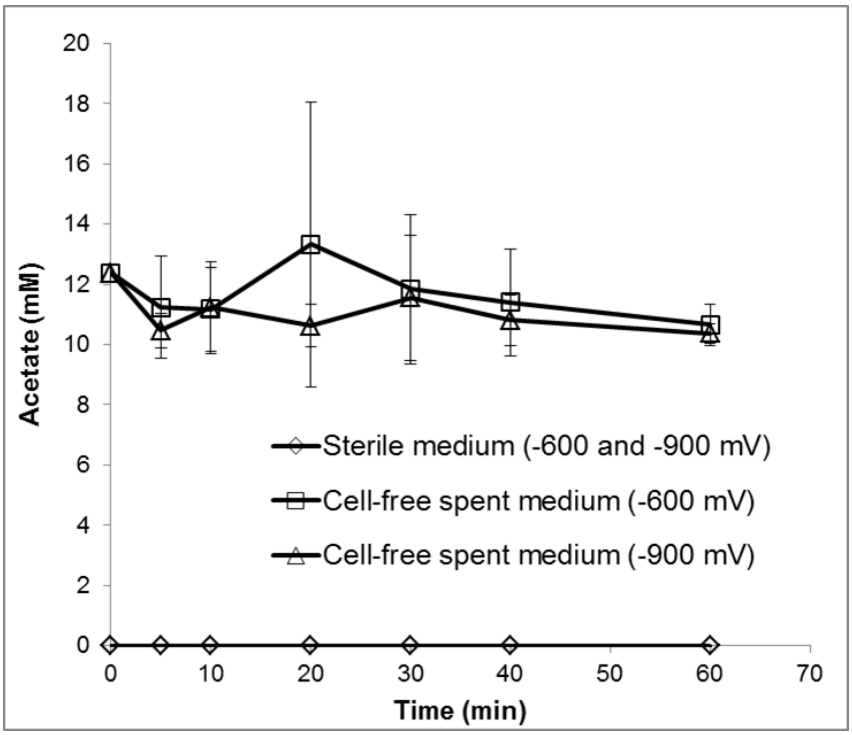

Figure S5. Evolution of acetate concentration over time in a MES reactor filled with sterile medium or with *S. ovata* cell-free spent medium with a cathode set at a potential of either -600 mV or -900 mV vs Ag/AgCl. Each curve is the mean of three replicates.

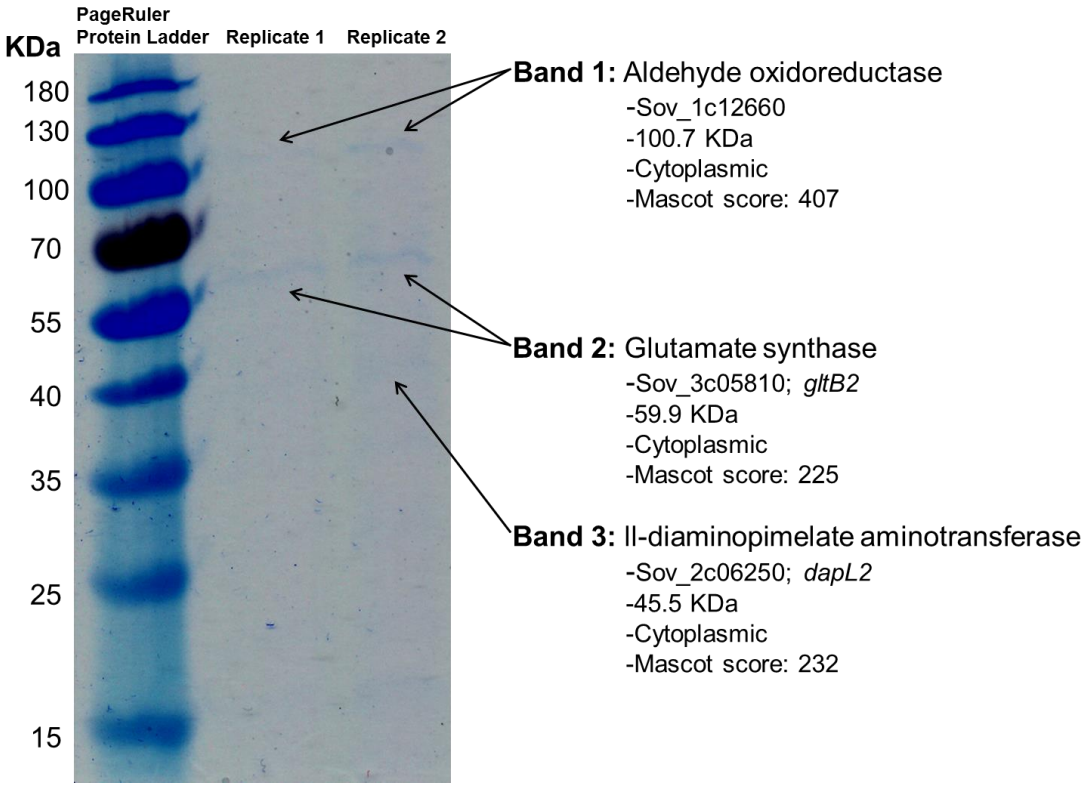

Figure S6. Proteins found in the cell-free spent medium of electrosynthetic *S. ovata*. Proteins from two replicates were concentrated 375 times before being loaded on a SDS-PAGE. Bands above 40 kDa were excised and identified by Mass spectrometry. The cut-off of 40 kDa was chosen because no protein from *S. ovata* annotated as the catalytic subunit of a hydrogenase has a lower molecular weight. Band 1 and 2 were found in both replicates. Band 3 was found only in replicate 2.