

1 **Supplementary Figures**

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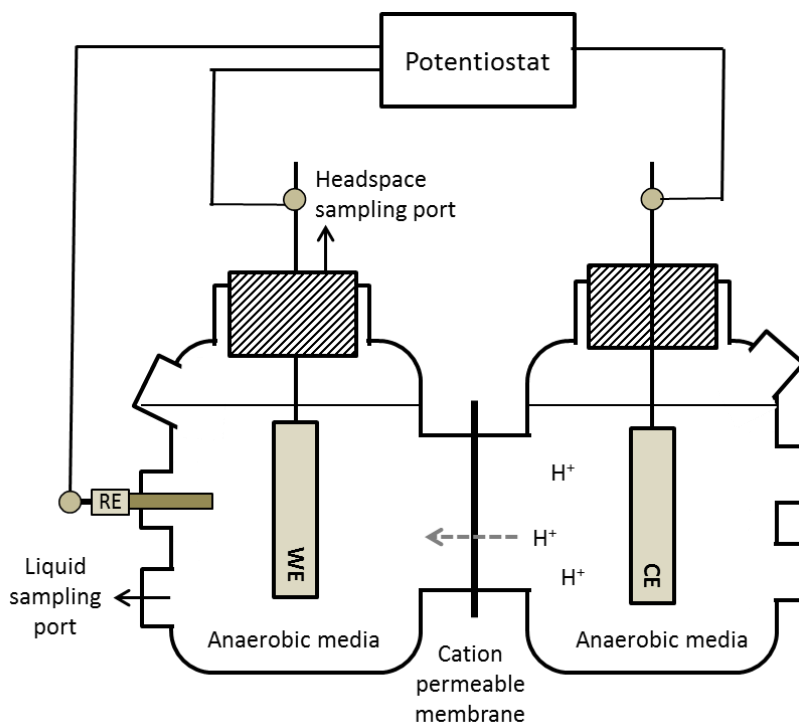
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11 **(Fig. S1)** Two chambered electrochemical reactors separated by a proton exchange membrane. RE;

12 reference electrode, WE; working electrode, CE; counter electrode.

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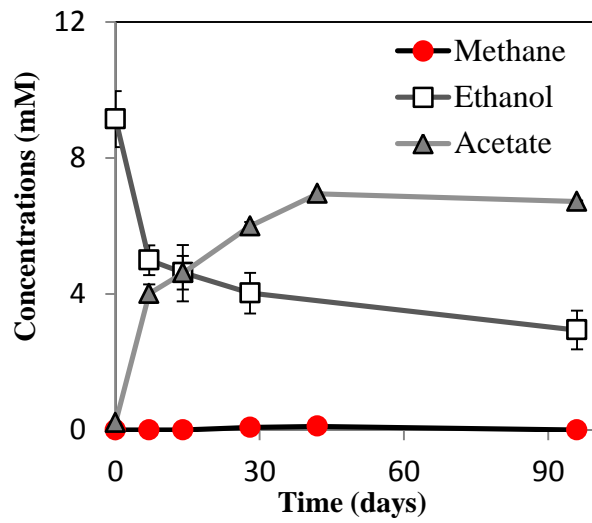
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28 **(Fig. S2)** *G.metallireducens* with ethanol as the sole substrate ammended with granular activated
29 carbon. Error bars are based on standard deviation (n=3). Circles; Methane, Squares; Ethanol,
30 Triangles; Acetate .

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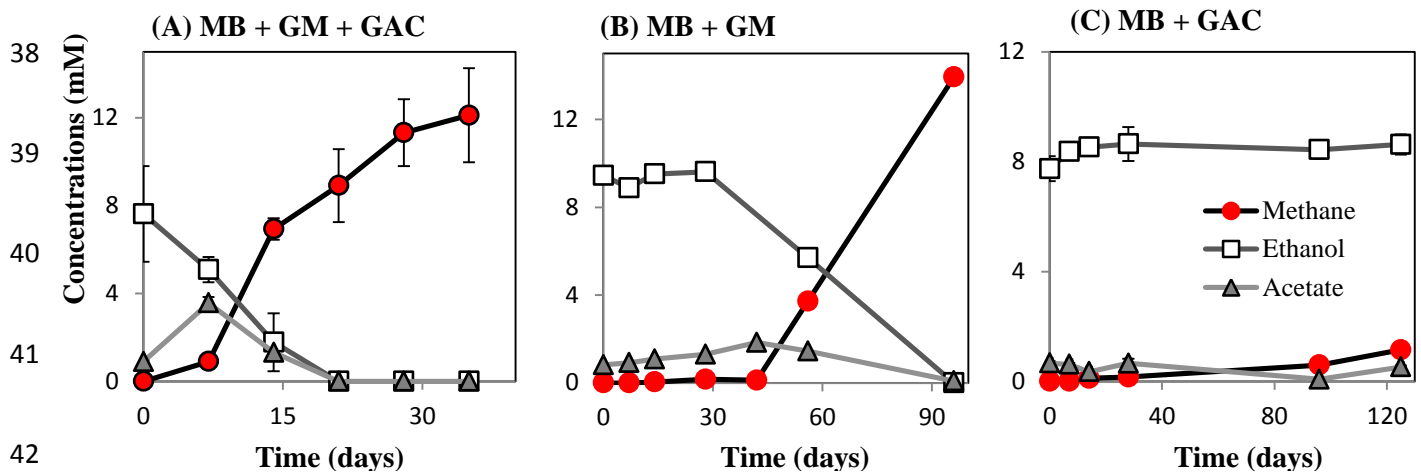
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43 (Fig. S3) Co-cultures of *M. barkeri* with *G.metallireducens* feeding on ethanol with or without GAC.

44 MH; *Methanosarcina barkeri*, GM; *Geobacter metallireducens*, GAC; granular activated carbon,

45 Circles; Methane, Squares; Ethanol, Triangles; Acetate. The results are from triplicate samples except

46 for (B) which is a representative sample for which the rest of the replicate data is presented in Fig S4.

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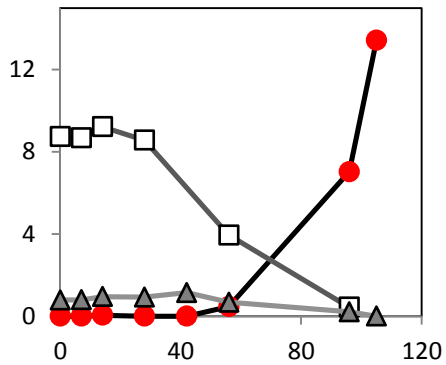
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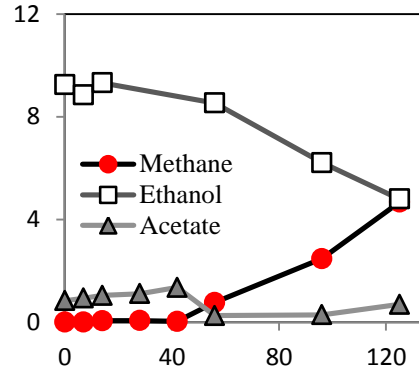
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(A) MB + GM



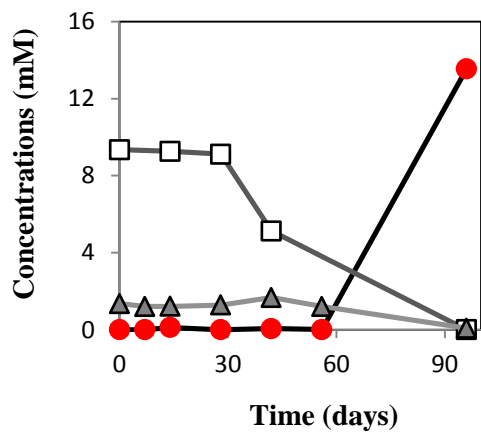
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(B) MB + GM



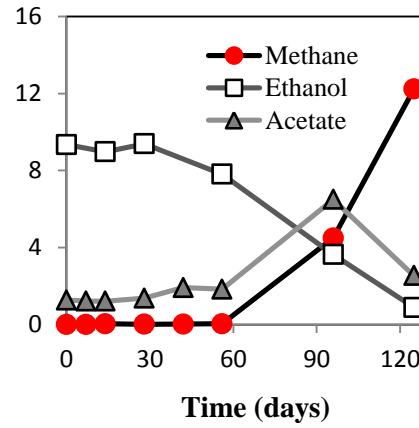
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(C) MH + GM



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(D) MH + GM



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62 (Fig. S4) Replicate co-cultures of *Methanosarcina* sp. with *G. metallireducens* (A to D) feeding on
 63 syntrophically oxidizing ethanol without the addition of external electron shuttles. MB;
 64 *Methanosarcina barkeri*, MH; *Methanosarcina horonobensis*, GM; *Geobacter metallireducens*,
 65 Circles; Methane, Squares; Ethanol, Triangles; Acetate .

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