

SUPPLEMENTARY MATERIAL

Metabolic functional profiles of microbial communities in methane production systems treating winery wastewater

BioEnergy Research

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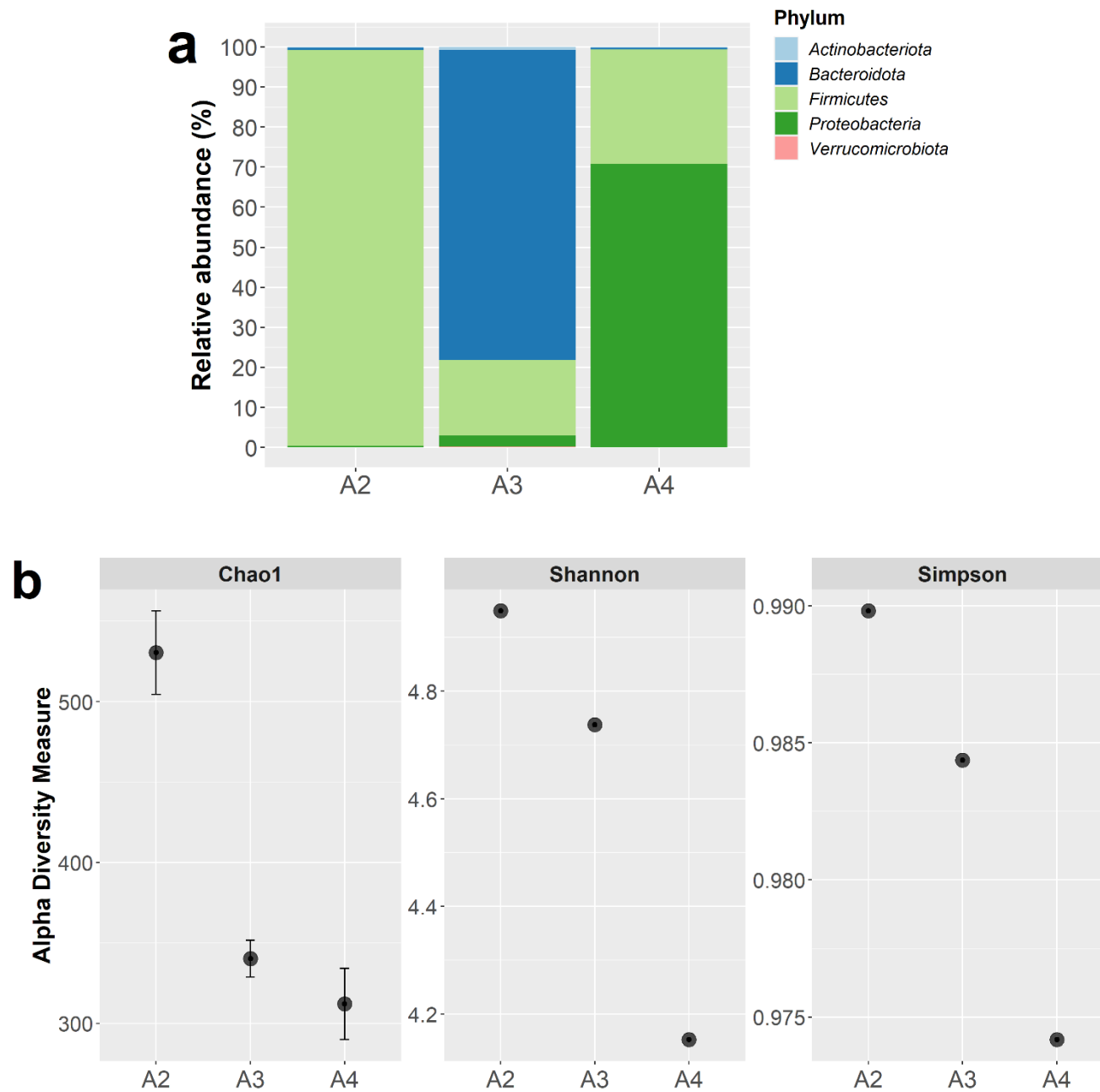


Fig. S1 (a) Relative abundance of the predominant bacteria in the acidogenic reactors at the phylum level. (b) Diversity indexes Chao1, Shannon, and Simpson in the acidogenic reactors based on observed ASVs.

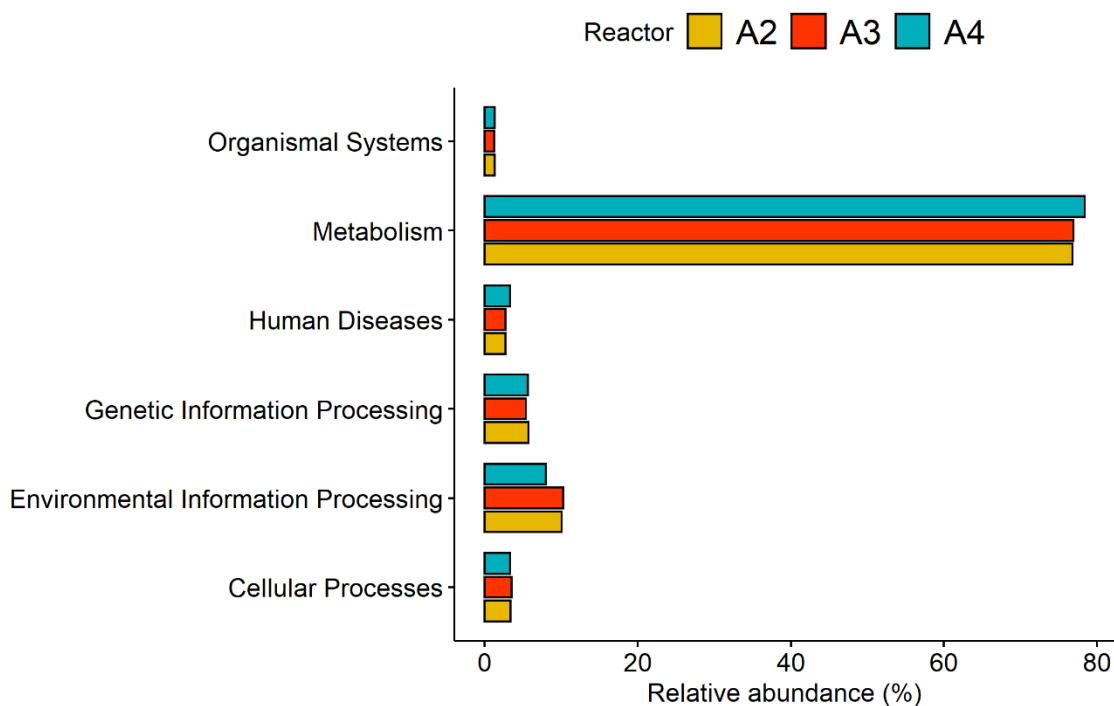
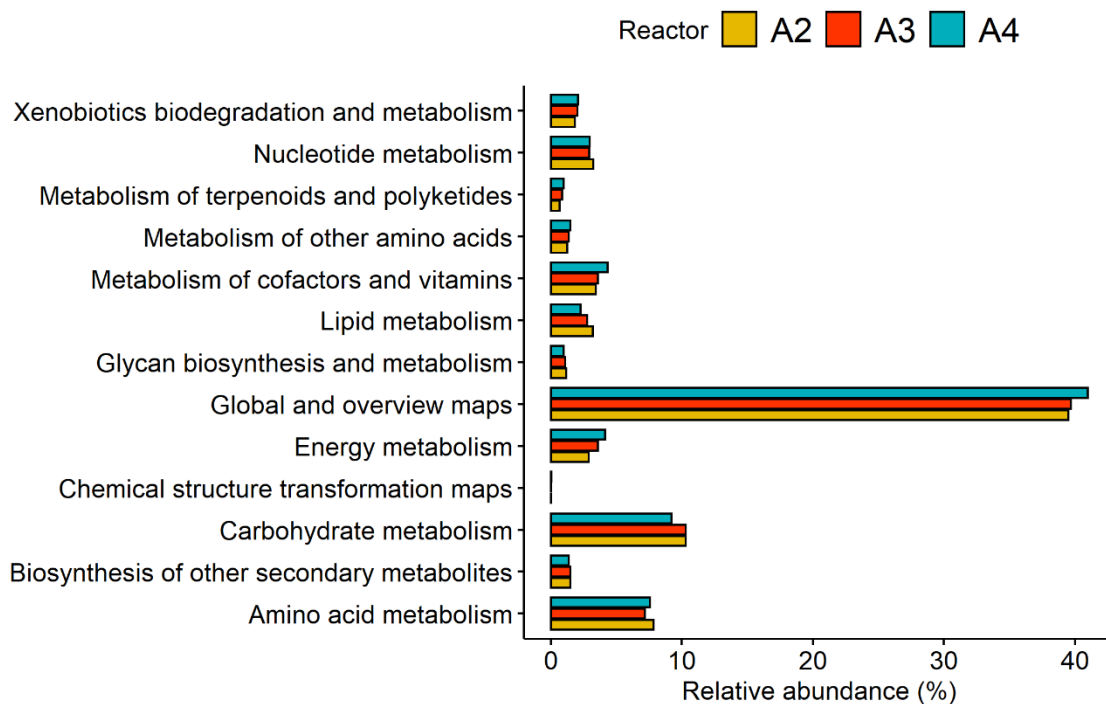
a**b**

Fig. S2 Metabolic pathways in the acidogenic reactors. (a) Relative abundances of metabolic pathways on the main KEGG categories (level 3). (b) Relative abundances of metabolic pathways on KEGG categories of Metabolism (level 2).

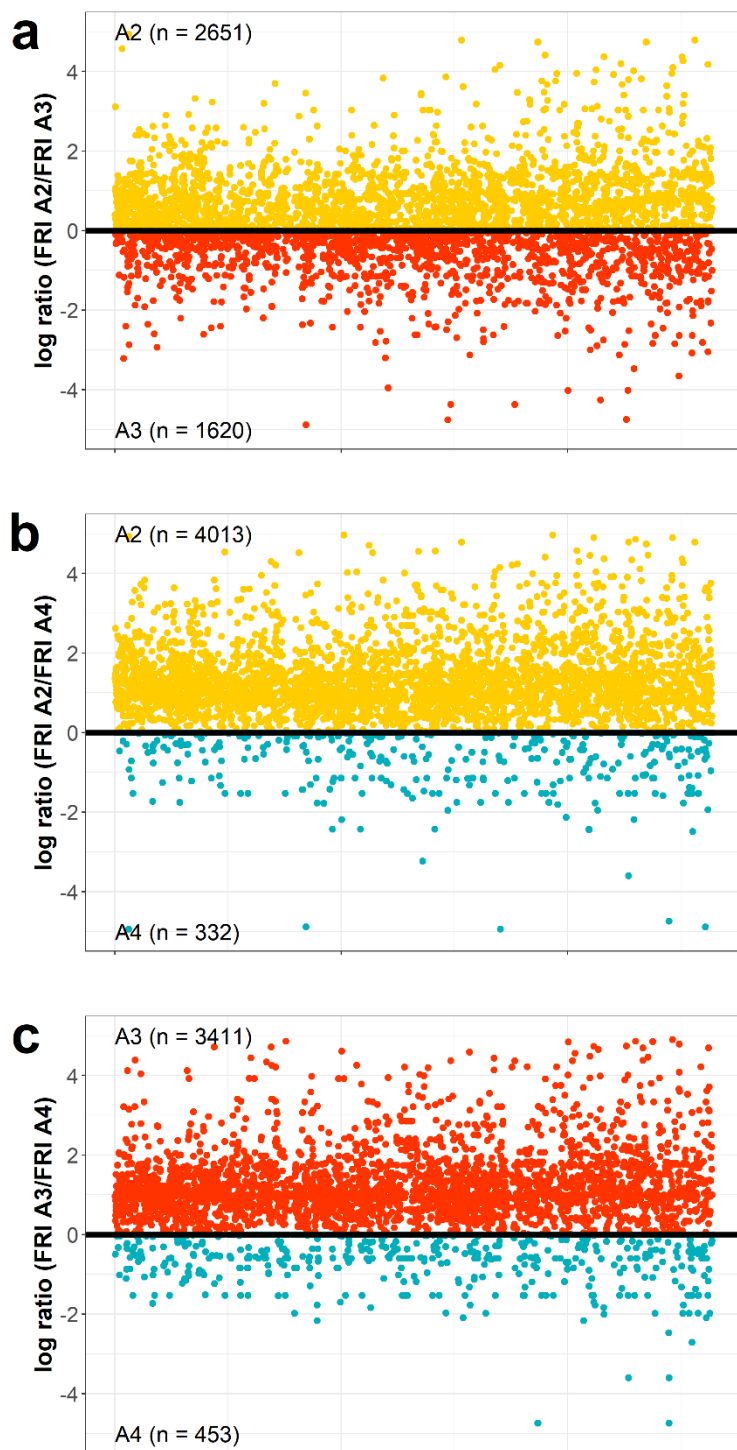


Fig. S3 Differences in functional redundancy in the acidogenic reactors. (a) A2 vs. A3; (b) A2 vs. A4; (c) A3 vs. A4. A log ratio greater than zero denotes that a function is more redundant in the reactor above the x-axis, while a log ratio lower than zero denotes a more redundant function below the x-axis. All predictions were made using a 97% similarity cut-off using the “Tax4Fun2” package in R.

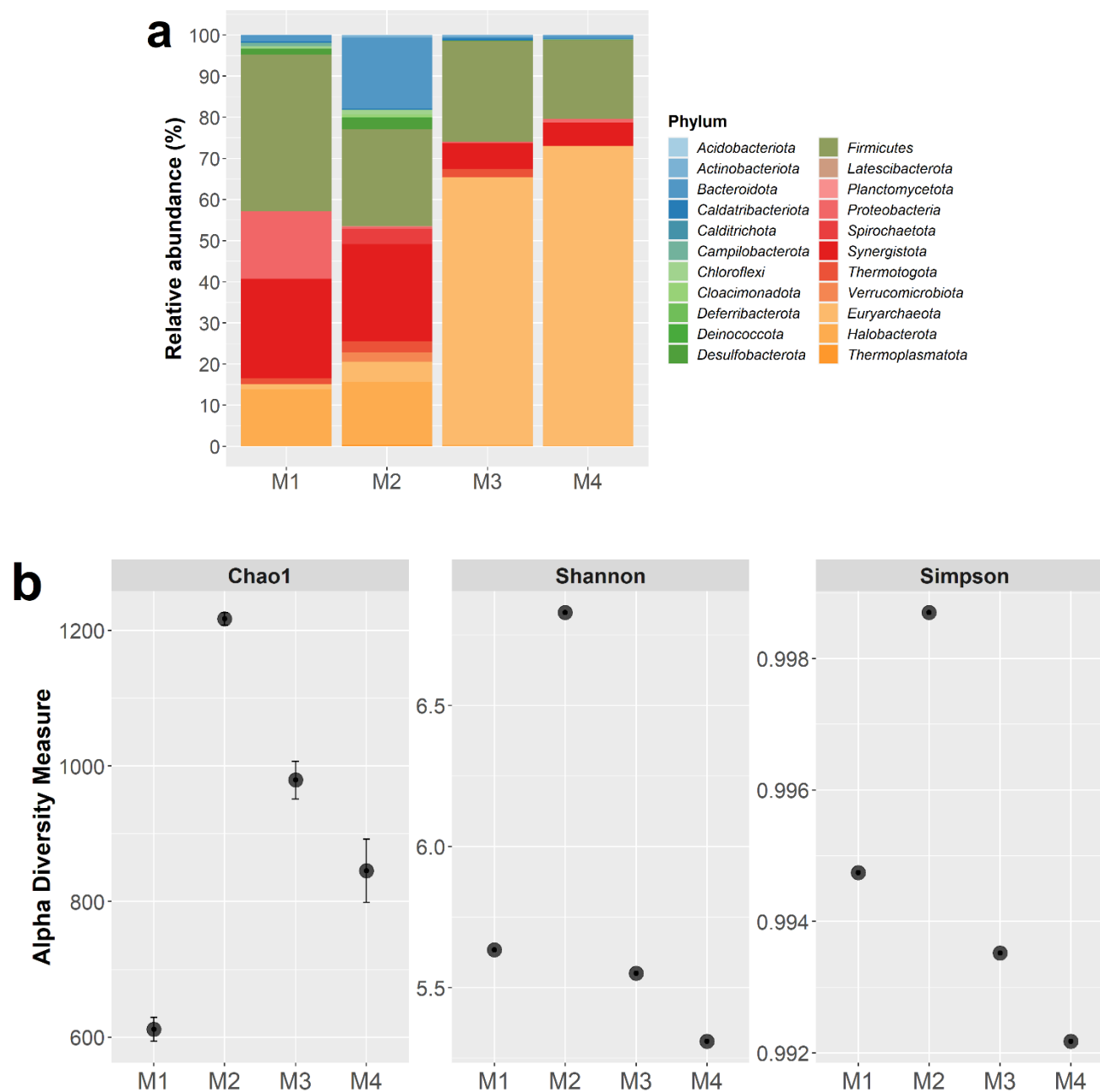


Fig. S4 (a) Relative abundance of the predominant bacteria and archaea in the methanogenic reactor at the phylum level; (b) Diversity indexes Chao1, Shannon, and Simpson in the methanogenic reactors based on observed ASVs.

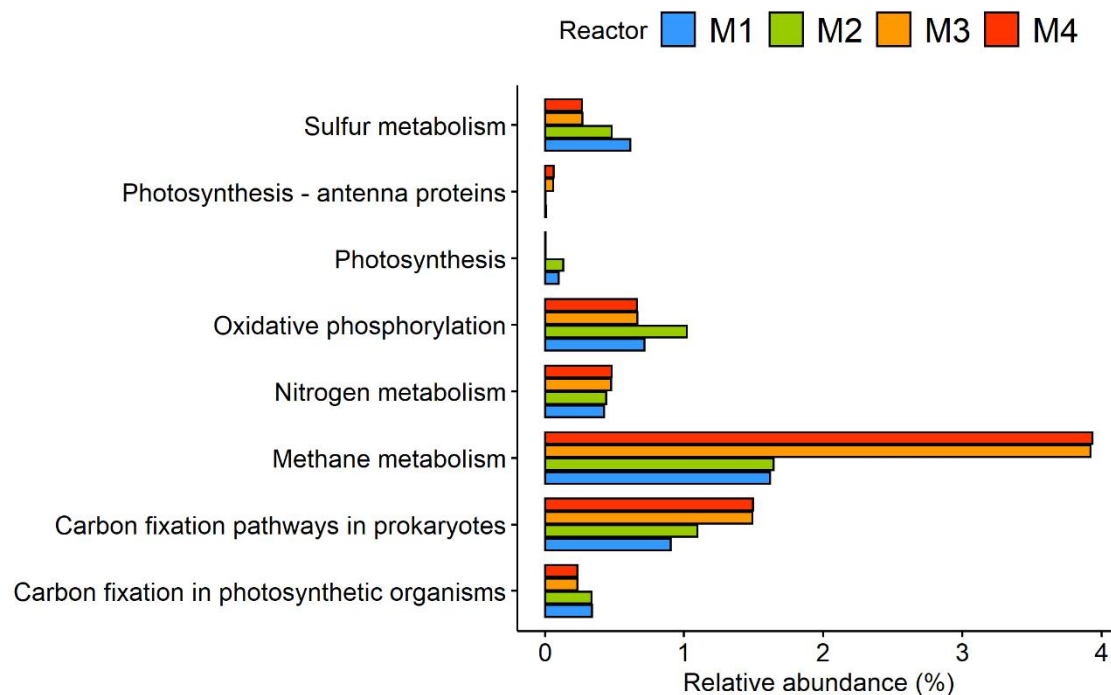
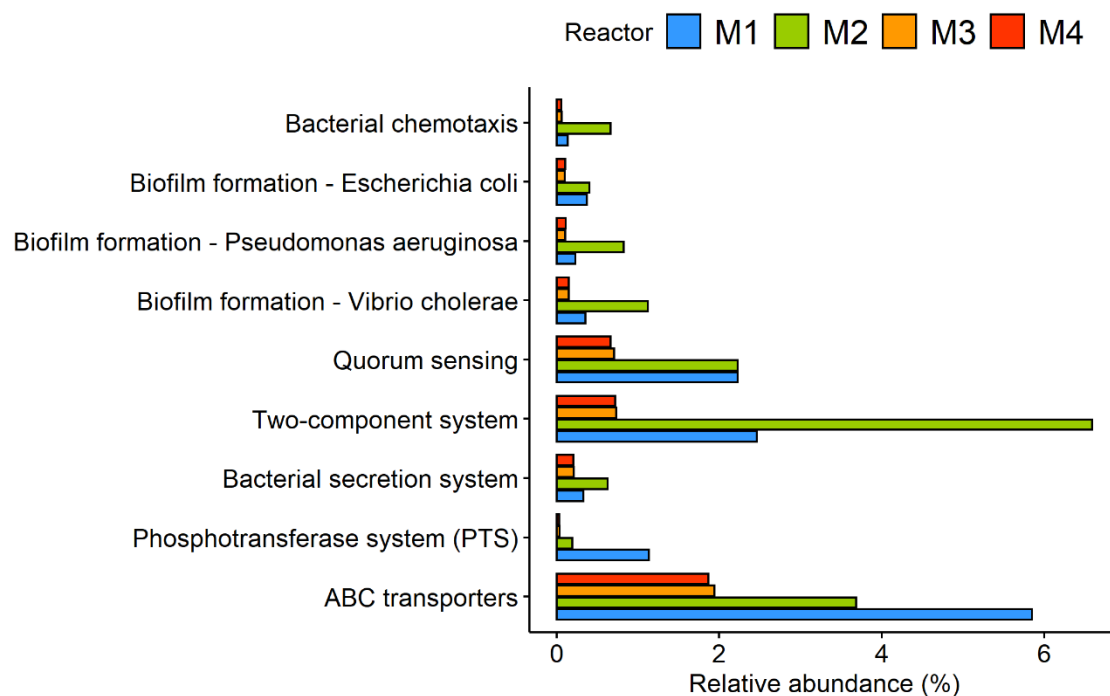
a**b**

Fig. S5 (a) Relative abundances of metabolic pathways on KEGG categories of Energy metabolism (level 1). (b) Relative abundances of metabolic pathways on selected KEGG categories of Cellular community, Cell motility, Membrane transport, and Signal transduction (level 1).

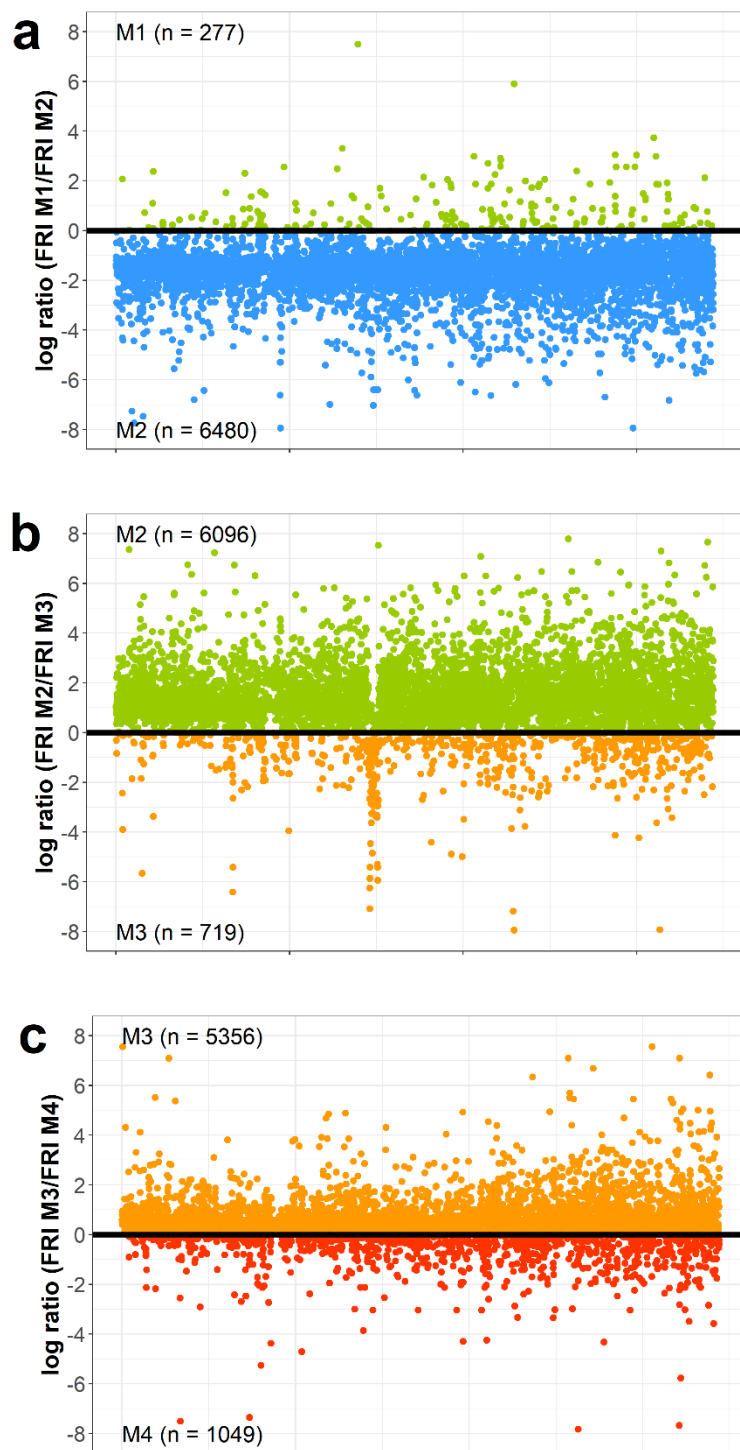


Fig. S6 Differences in functional redundancy in the methanogenic reactor. (a) M1 vs. M2; (b) M2 vs. M3; (c) M3 vs. M4. A log ratio greater than zero denotes that a function is more redundant in the reactor above the x-axis, while a log ratio lower than zero denotes a more redundant function below the x-axis. All predictions were made using a 97% similarity cut-off using the “Tax4Fun2” package in R.

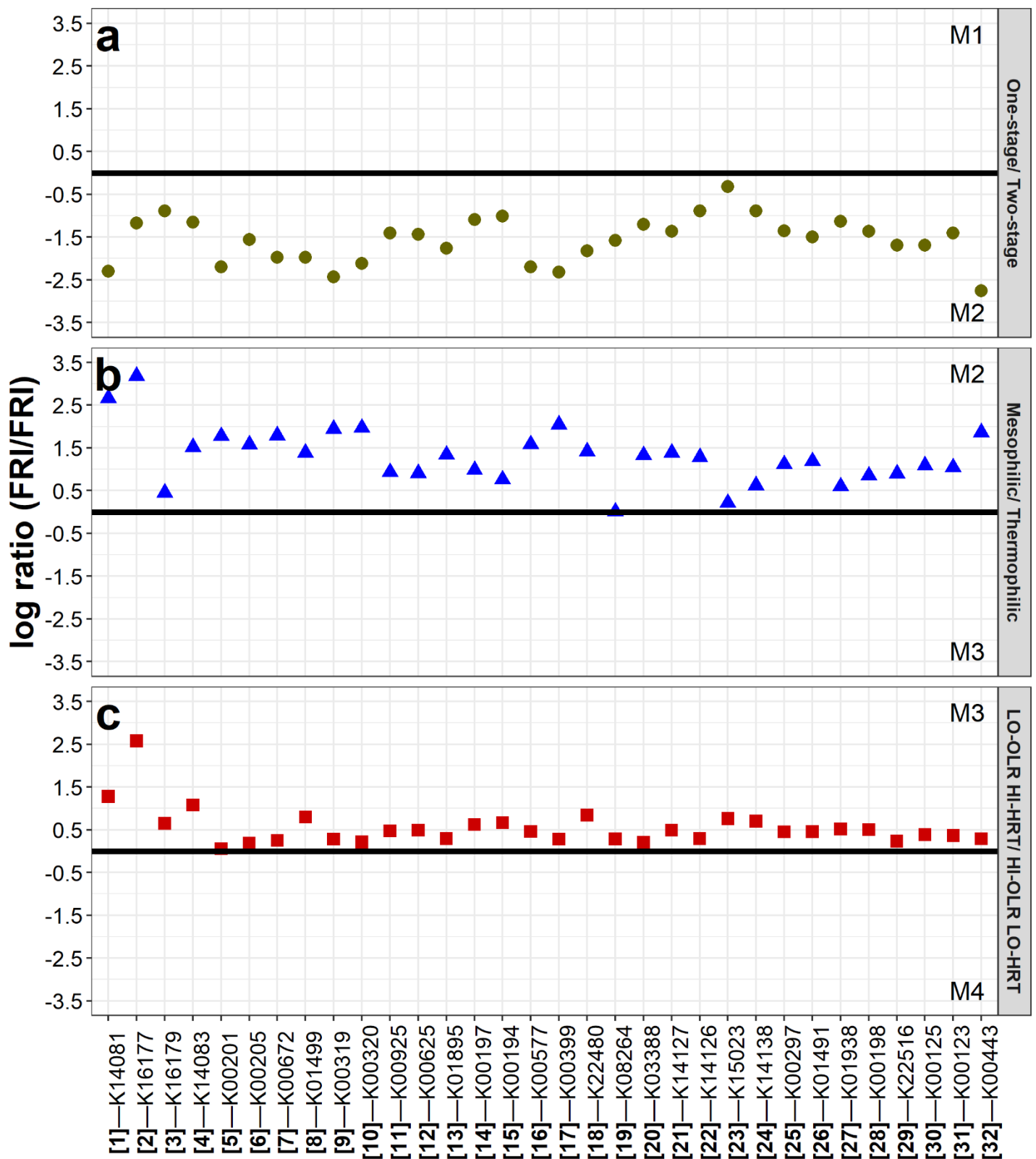


Fig. S7 Differences in functional redundancy of metabolic functions related to methanogenesis and syntrophic acetate oxidation in the methanogenic reactors. (a) M1 vs. M2; (b) M2 vs. M3; (c) M3 vs. M4. A log ratio greater than zero denotes that a function is more redundant in the reactor above the x axis, while a log ratio lower than zero denotes a more redundant function in the reactor below the x axis. All predictions were made using a 97% similarity cut off using the “Tax4Fun2” package in R.