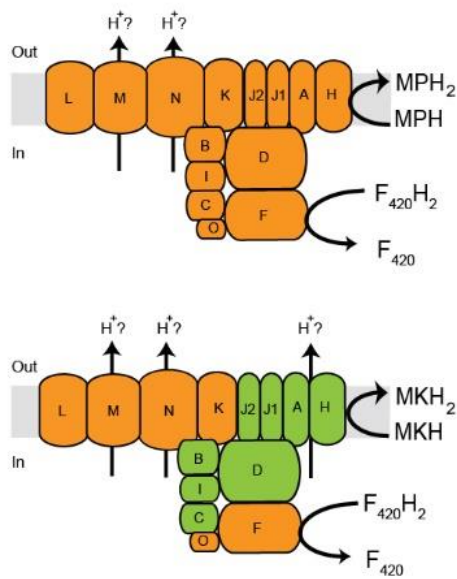
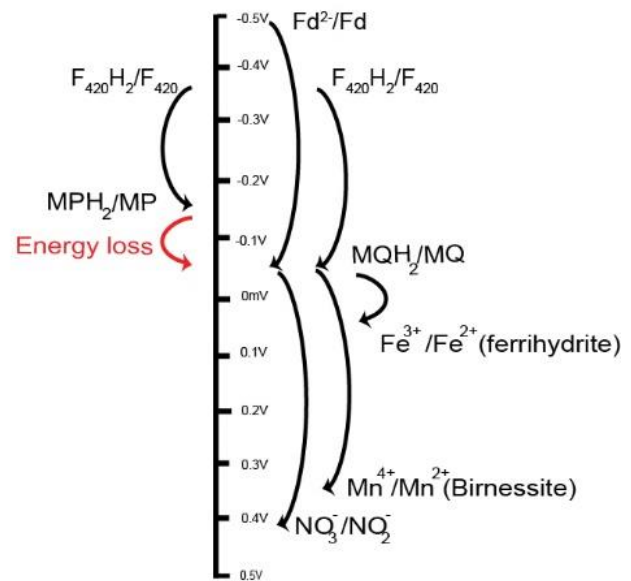


A.



B.



1

2 **Figure S5. Subunit compositions of the Fpo dehydrogenase protein complexes and**  
 3 **theoretical bioenergetics of energy metabolism in ANME-2a and *Methanoperedenaceae*.**

4 **A.** Fpo subunit components for the ANME-2a and ASW-3 genomes (top left) and the other  
 5 members of the *Methanoperedenaceae* (bottom left). The utilization of different electron  
 6 carriers shows greater biochemical energetic gains based on more potential proton  
 7 translocation. The colours orange and green depict *Methanosarcinales*-like and non-  
 8 *Methanosarcinales*-like subunits. **B.** Theoretical redox potential drop when utilizing MP (left)  
 9 or MK (right) during F<sub>420</sub>H<sub>2</sub> and Fd<sup>2-</sup> oxidation. This is due to differences between the  
 10 membrane-bound electron carriers' redox midpoint potential (E<sub>m</sub>) of -80mV and -165mV for  
 11 MK and MP, respectively (M., Tietze, A. Beuchle, I. Lamla, N. Orth, M. Dehler, G. Greiner  
 12 and U. Beifuss, *Chembiochem* 4: 333-335, 2003, <https://doi.org/10.1002/cbic.200390053>;  
 13 Q.H. Tran and G. Uden, *Eur. J. of Biochem.* 251: 538-543, 1998,  
 14 <https://doi.org/10.1046/j.1432-1327.1998.2510538.x>).