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24 **Fig. S1.** Heatmap result showing the average nucleotide identity (ANI) and Average amino acid identity (AAI). Pairwise ANI (A) and AAI (B) values between
 25 the AOA bins, FF_bin01 and FF_bin02, and other AOA reference genomes used to reconstruct the phylogenomic tree in Fig. 2. The two AOA bins recovered
 26 in this study are highlighted in red.

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