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**Supplementary Fig. S1.** The polar lipid profiles of strain J12C1-MA-4T and closely related strains. (a) *Jannaschia koreensis* J12C1-MA-4T*,* (b) *J. helgolandensis* KCTC 12191T (AJ438157), (c) *Pseudooctadecabacter jejudonensis* KCTC 32525T (KF515220), (d) *Loktanella acticola* KCTC 52837T (KY817315), (e) *Loktanella ponticola* KCTC 42133T (KJ855314), (f) *Alterinioella\_nitratireducens* KCTC 72738T (MK880579). DPG: Diphosphatidylglycerol; PG: Phosphatidylglycerol; APL: unidentified aminophospholi; PE, phosphatidylethanolamine; AL, unidentified aminolipid; PL：phospholipids; PC：phosphatidylcholine; L：lipids.