Supplementary Material

# Bacterial Community Composition in the Sea Surface Microlayer off the Peruvian Coast

**Birthe Zäncker1\*, Michael Cunliffe2,3, Anja Engel1**

1GEOMAR – Helmholtz Centre for Ocean Research Kiel, Kiel, Germany

2Marine Biological Association of the UK, The Laboratory, Citadel Hill, Plymouth, UK

3Marine Biology and Ecology Research Centre, School of Biological and Marine Sciences, Plymouth University, Plymouth, UK

\***Correspondence:**

Birthe Zäncker

bzaencker@posteo.de

# Supplementary Table

Table S1: Overview of all detected bacterial genera across all stations and depths.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **family** | **S1 SML** | **S1 ULW** | **S2 SML** | **S2 ULW** | **S3 SML** | **S3 ULW** | **S4 SML** | **S4 ULW** | **S5 SML** | **S5 ULW** | **S6 SML** | **S6 ULW** | **S7 SML** | **S7 ULW** | **S8 SML** | **S8 ULW** | **S9 SML** | **S9 ULW** | **S10 SML** | **S10 ULW** | **S11 SML** | **S11 ULW** |
| Acidobacteria\_Subgroup\_26\_Subgroup\_26\_Subgroup\_26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Actinobacteria | 0.01 | 0.03 | 0.01 | 0.02 | 0.13 | 0.14 | 0.00 | 0.01 | 0.05 | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 | 0.08 | 0.09 | 0.02 | 0.13 | 0.00 | 0.02 |
| Actinobacteria\_Acidimicrobiia\_Acidimicrobiales | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Actinobacteria\_Acidimicrobiia\_Acidimicrobiales\_Acidimicrobiaceae | 0.13 | 0.12 | 0.13 | 0.15 | 0.02 | 0.03 | 0.24 | 1.23 | 0.37 | 0.38 | 0.04 | 0.04 | 0.37 | 0.34 | 0.12 | 0.26 | 0.03 | 0.02 | 0.01 | 0.02 | 0.03 | 0.03 |
| Actinobacteria\_Acidimicrobiia\_Acidimicrobiales\_OM1\_clade | 6.44 | 7.69 | 6.37 | 8.16 | 13.46 | 10.81 | 5.07 | 3.93 | 6.94 | 7.99 | 7.32 | 8.75 | 6.72 | 7.42 | 0.80 | 1.08 | 6.36 | 8.95 | 6.61 | 8.33 | 1.37 | 1.82 |
| Actinobacteria\_Acidimicrobiia\_Acidimicrobiales\_Sva0996\_marine\_group | 0.45 | 0.36 | 0.51 | 0.56 | 0.98 | 1.44 | 0.35 | 0.54 | 0.28 | 0.24 | 1.29 | 1.11 | 0.10 | 0.10 | 0.16 | 0.16 | 0.40 | 0.25 | 0.25 | 0.22 | 0.11 | 0.10 |
| Actinobacteria\_Actinobacteria\_Bifidobacteriales\_Bifidobacteriaceae | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 |
| Actinobacteria\_Actinobacteria\_Corynebacteriales\_Corynebacteriaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Actinobacteria\_Actinobacteria\_Corynebacteriales\_Nocardiaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Actinobacteria\_Actinobacteria\_Micrococcales\_Micrococcaceae | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Actinobacteria\_Actinobacteria\_PeM15 | 0.01 | 0.00 | 0.01 | 0.02 | 0.02 | 0.02 | 0.13 | 0.28 | 0.08 | 0.12 | 0.01 | 0.01 | 0.10 | 0.04 | 0.03 | 0.02 | 0.01 | 0.03 | 0.00 | 0.02 | 0.01 | 0.01 |
| Actinobacteria\_Actinobacteria\_Propionibacteriales\_Propionibacteriaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Actinobacteria\_Thermoleophilia | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bacteria\_unknown | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 |
| Bacteria\_unknown | 0.28 | 0.42 | 0.26 | 0.37 | 0.48 | 0.34 | 0.85 | 1.03 | 0.24 | 0.46 | 0.25 | 0.30 | 0.11 | 0.19 | 0.09 | 0.07 | 0.18 | 0.25 | 0.35 | 0.28 | 0.08 | 0.11 |
| Bacteria\_unknown | 0.07 | 0.11 | 0.03 | 0.06 | 2.99 | 1.39 | 1.02 | 0.75 | 1.19 | 2.71 | 1.34 | 2.05 | 0.29 | 0.77 | 0.11 | 0.20 | 0.79 | 1.94 | 0.78 | 0.63 | 0.55 | 1.32 |
| Bacteroidetes | 0.14 | 0.22 | 0.29 | 0.31 | 0.14 | 0.13 | 0.19 | 0.22 | 0.08 | 0.09 | 0.22 | 0.19 | 0.11 | 0.11 | 0.07 | 0.05 | 0.19 | 0.15 | 0.64 | 0.67 | 0.08 | 0.10 |
| Bacteroidetes\_Bacteroidetes\_BD2-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| Bacteroidetes\_Bacteroidetes\_VC2.1\_Bac22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.04 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.09 | 0.07 | 0.00 | 0.00 | 0.01 | 0.02 | 0.03 | 0.02 |
| Bacteroidetes\_Bacteroidia\_Bacteroidales\_Bacteroidales\_S24-7\_group | 0.01 | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.01 | 0.00 | 0.02 | 0.02 | 0.00 | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 |
| Bacteroidetes\_Bacteroidia\_Bacteroidales\_Marinilabiaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bacteroidetes\_Bacteroidia\_Bacteroidales\_Prevotellaceae | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.02 | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 | 0.03 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 |
| Bacteroidetes\_Bacteroidia\_Bacteroidales\_Rikenellaceae | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bacteroidetes\_Bacteroidia\_Bacteroidia\_Incertae\_Sedis\_Prolixibacteraceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bacteroidetes\_Cytophagia\_Cytophagales | 0.00 | 0.01 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bacteroidetes\_Cytophagia\_Cytophagales | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.06 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| Bacteroidetes\_Cytophagia\_Cytophagales\_Cyclobacteriaceae | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bacteroidetes\_Cytophagia\_Cytophagales\_Cytophagaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| Bacteroidetes\_Cytophagia\_Cytophagales\_Flammeovirgaceae | 1.56 | 1.17 | 0.68 | 0.49 | 0.18 | 0.21 | 0.02 | 0.05 | 0.12 | 0.14 | 0.30 | 0.18 | 0.11 | 0.15 | 0.07 | 0.12 | 0.32 | 0.24 | 0.12 | 0.13 | 0.07 | 0.03 |
| Bacteroidetes\_Cytophagia\_Order\_II\_Rhodothermaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bacteroidetes\_Flavobacteriia\_Flavobacteriales | 0.19 | 0.22 | 0.21 | 0.14 | 0.12 | 0.17 | 0.04 | 0.05 | 0.05 | 0.08 | 0.07 | 0.09 | 0.01 | 0.01 | 0.04 | 0.04 | 0.07 | 0.07 | 0.03 | 0.04 | 0.01 | 0.01 |
| Bacteroidetes\_Flavobacteriia\_Flavobacteriales\_Cryomorphaceae | 2.20 | 2.04 | 2.52 | 2.09 | 2.50 | 2.67 | 3.49 | 3.18 | 5.73 | 5.12 | 2.75 | 2.11 | 6.79 | 5.29 | 15.11 | 13.16 | 4.53 | 3.21 | 4.73 | 3.75 | 10.63 | 9.40 |
| Bacteroidetes\_Flavobacteriia\_Flavobacteriales\_Flavobacteriaceae | 11.89 | 8.18 | 12.44 | 7.66 | 7.41 | 10.25 | 11.16 | 10.45 | 23.58 | 19.40 | 13.78 | 9.47 | 18.52 | 15.06 | 22.92 | 17.02 | 14.54 | 10.05 | 12.55 | 11.33 | 23.26 | 19.36 |
| Bacteroidetes\_Flavobacteriia\_Flavobacteriales\_NS7\_marine\_group | 1.10 | 0.80 | 1.04 | 0.75 | 0.91 | 1.05 | 1.03 | 0.62 | 1.18 | 1.09 | 0.56 | 0.45 | 0.94 | 1.00 | 0.34 | 0.26 | 0.79 | 0.71 | 1.11 | 0.94 | 0.27 | 0.18 |
| Bacteroidetes\_Flavobacteriia\_Flavobacteriales\_NS9\_marine\_group | 2.21 | 2.40 | 1.98 | 2.22 | 3.41 | 3.54 | 2.93 | 2.83 | 3.35 | 3.29 | 4.05 | 3.86 | 2.91 | 2.81 | 3.88 | 4.09 | 4.13 | 3.64 | 3.96 | 3.78 | 3.27 | 3.50 |
| Bacteroidetes\_Flavobacteriia\_Flavobacteriales\_Schleiferiaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Bacteroidetes\_Sphingobacteriia\_Sphingobacteriales\_NS11-12\_marine\_group | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.73 | 0.77 | 0.04 | 0.03 | 0.00 | 0.00 | 0.26 | 0.10 | 0.25 | 0.21 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| Bacteroidetes\_Sphingobacteriia\_Sphingobacteriales\_Saprospiraceae | 0.13 | 0.08 | 0.03 | 0.02 | 0.06 | 0.05 | 0.05 | 0.05 | 0.11 | 0.12 | 0.01 | 0.03 | 0.35 | 0.43 | 0.10 | 0.08 | 0.04 | 0.04 | 0.02 | 0.05 | 0.01 | 0.02 |
| Bacteroidetes\_Sphingobacteriia\_Sphingobacteriales\_WCHB1-69 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Candidate\_division\_SR1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chloroflexi\_JG30-KF-CM66 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chloroflexi\_SAR202\_clade | 0.25 | 0.44 | 0.16 | 0.23 | 0.54 | 0.39 | 0.18 | 0.15 | 0.07 | 0.04 | 0.39 | 0.25 | 0.03 | 0.01 | 0.07 | 0.06 | 0.16 | 0.27 | 0.36 | 0.29 | 0.03 | 0.03 |
| Cyanobacteria | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cyanobacteria | 0.01 | 0.03 | 0.01 | 0.03 | 0.55 | 0.40 | 0.16 | 0.25 | 0.04 | 0.07 | 0.04 | 0.06 | 0.03 | 0.03 | 0.02 | 0.02 | 0.11 | 0.11 | 0.05 | 0.06 | 0.03 | 0.03 |
| Cyanobacteria\_Cyanobacteria\_SubsectionI\_FamilyI | 3.99 | 6.88 | 4.77 | 7.26 | 2.37 | 1.90 | 1.12 | 2.31 | 0.26 | 0.56 | 7.22 | 5.28 | 0.11 | 0.10 | 0.02 | 0.01 | 2.17 | 2.32 | 0.80 | 2.38 | 0.59 | 1.06 |
| Cyanobacteria\_Cyanobacteria\_SubsectionIII\_FamilyI | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cyanobacteria\_ML635J-21\_ML635J-21\_ML635J-21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Firmicutes\_Bacilli\_Bacillales\_Bacillaceae | 0.01 | 0.01 | 0.01 | 0.03 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.01 | 0.00 | 0.01 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 |
| Firmicutes\_Bacilli\_Bacillales\_Staphylococcaceae | 0.05 | 0.00 | 0.04 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| Firmicutes\_Bacilli\_Lactobacillales\_Carnobacteriaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Firmicutes\_Bacilli\_Lactobacillales\_Enterococcaceae | 0.01 | 0.00 | 0.00 | 0.02 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 |
| Firmicutes\_Bacilli\_Lactobacillales\_Lactobacillaceae | 0.07 | 0.05 | 0.05 | 0.10 | 0.06 | 0.05 | 0.05 | 0.05 | 0.05 | 0.06 | 0.05 | 0.12 | 0.10 | 0.08 | 0.04 | 0.04 | 0.03 | 0.04 | 0.05 | 0.02 | 0.06 | 0.07 |
| Firmicutes\_Bacilli\_Lactobacillales\_Streptococcaceae | 0.03 | 0.04 | 0.02 | 0.04 | 0.02 | 0.01 | 0.04 | 0.02 | 0.02 | 0.03 | 0.01 | 0.03 | 0.03 | 0.03 | 0.02 | 0.06 | 0.01 | 0.02 | 0.03 | 0.01 | 0.01 | 0.03 |
| Firmicutes\_Clostridia\_Clostridiales | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Firmicutes\_Clostridia\_Clostridiales\_Christensenellaceae | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 |
| Firmicutes\_Clostridia\_Clostridiales\_Clostridiaceae\_1 | 0.06 | 0.06 | 0.07 | 0.09 | 0.06 | 0.07 | 0.07 | 0.05 | 0.06 | 0.06 | 0.05 | 0.09 | 0.06 | 0.09 | 0.03 | 0.08 | 0.06 | 0.06 | 0.06 | 0.02 | 0.04 | 0.04 |
| Firmicutes\_Clostridia\_Clostridiales\_Lachnospiraceae | 0.04 | 0.05 | 0.02 | 0.11 | 0.04 | 0.05 | 0.03 | 0.04 | 0.02 | 0.05 | 0.03 | 0.05 | 0.04 | 0.08 | 0.02 | 0.03 | 0.04 | 0.03 | 0.04 | 0.03 | 0.04 | 0.05 |
| Firmicutes\_Clostridia\_Clostridiales\_Ruminococcaceae | 0.03 | 0.02 | 0.03 | 0.06 | 0.03 | 0.01 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.05 | 0.03 | 0.05 | 0.02 | 0.05 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.03 |
| Firmicutes\_Erysipelotrichia\_Erysipelotrichales\_Erysipelotrichaceae | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.00 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Firmicutes\_Negativicutes\_Selenomonadales\_Acidaminococcaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| Firmicutes\_Negativicutes\_Selenomonadales\_Veillonellaceae | 0.11 | 0.08 | 0.04 | 0.25 | 0.11 | 0.09 | 0.09 | 0.13 | 0.09 | 0.12 | 0.08 | 0.11 | 0.03 | 0.02 | 0.02 | 0.02 | 0.03 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 |
| Fusobacteria\_Fusobacteriia\_Fusobacteriales\_Fusobacteriaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 |
| Gemmatimonadetes\_Gemmatimonadetes\_BD2-11\_terrestrial\_group | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.03 | 0.01 | 0.02 | 0.00 | 0.00 | 0.02 | 0.04 | 0.00 | 0.00 | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 |
| Gracilibacteria | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Hydrogenedentes | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lentisphaerae\_LD1-PB3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lentisphaerae\_Lentisphaerae\_Lentisphaerae\_Lentisphaerae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Lentisphaerae\_Lentisphaeria\_Lentisphaerales\_Lentisphaeraceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.02 | 0.00 | 0.00 | 0.16 | 0.37 | 0.01 | 0.01 | 0.07 | 0.12 | 0.02 | 0.02 | 0.02 | 0.05 | 0.01 | 0.01 | 0.02 | 0.03 |
| Lentisphaerae\_Oligosphaeria | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Marinimicrobia\_(SAR406\_clade) | 7.75 | 8.75 | 6.17 | 6.08 | 6.18 | 5.85 | 5.28 | 3.98 | 2.31 | 2.66 | 5.49 | 6.57 | 2.47 | 3.20 | 0.88 | 0.96 | 4.40 | 6.38 | 8.35 | 7.03 | 1.90 | 2.38 |
| Parcubacteria | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PAUC34f | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Planctomycetes | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Planctomycetes\_028H05-P-BN-P5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Planctomycetes\_OM190 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.17 | 0.31 | 0.07 | 0.08 | 0.02 | 0.02 | 0.13 | 0.05 | 0.16 | 0.22 | 0.03 | 0.01 | 0.04 | 0.07 | 0.04 | 0.03 |
| Planctomycetes\_Phycisphaerae\_Phycisphaerales\_Phycisphaeraceae | 0.17 | 0.20 | 0.28 | 0.37 | 0.17 | 0.26 | 0.58 | 0.73 | 0.27 | 0.30 | 0.35 | 0.36 | 0.37 | 0.19 | 0.47 | 0.37 | 0.57 | 0.45 | 0.89 | 1.51 | 0.34 | 0.31 |
| Planctomycetes\_Pla3\_lineage | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 | 0.01 | 0.01 |
| Planctomycetes\_Planctomycetacia\_Brocadiales\_Brocadiaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| Planctomycetes\_Planctomycetacia\_Planctomycetales\_Planctomycetaceae | 0.20 | 0.30 | 0.29 | 0.31 | 0.31 | 0.38 | 0.83 | 1.98 | 0.39 | 0.34 | 0.19 | 0.11 | 0.24 | 0.13 | 0.47 | 0.48 | 0.22 | 0.13 | 0.08 | 0.41 | 0.27 | 0.21 |
| Proteobacteria\_AEGEAN-245 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.02 | 0.04 | 0.04 | 0.03 | 0.02 | 0.00 | 0.01 | 0.05 | 0.05 | 0.00 | 0.01 | 0.01 | 0.01 | 0.05 | 0.10 |
| Proteobacteria\_Alphaproteobacteria | 0.03 | 0.05 | 0.07 | 0.04 | 0.14 | 0.14 | 0.10 | 0.17 | 0.01 | 0.03 | 0.11 | 0.12 | 0.06 | 0.05 | 0.06 | 0.07 | 0.13 | 0.08 | 0.08 | 0.11 | 0.06 | 0.09 |
| Proteobacteria\_Alphaproteobacteria\_Caulobacterales\_Caulobacteraceae | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Caulobacterales\_Hyphomonadaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.35 | 0.33 | 0.12 | 0.12 | 0.01 | 0.01 | 0.37 | 0.63 | 0.22 | 0.22 | 0.11 | 0.09 | 0.02 | 0.05 | 0.86 | 1.14 |
| Proteobacteria\_Alphaproteobacteria\_DB1-14\_DB1-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Kordiimonadales\_Temperatibacteraceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_OCS116\_clade | 2.13 | 2.18 | 2.24 | 3.03 | 2.72 | 2.19 | 1.82 | 1.56 | 0.91 | 1.07 | 2.20 | 2.73 | 1.09 | 1.18 | 0.28 | 0.34 | 2.23 | 3.00 | 3.10 | 2.34 | 0.54 | 0.79 |
| Proteobacteria\_Alphaproteobacteria\_Parvularculales\_Parvularculaceae | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Rhizobiales\_Bradyrhizobiaceae | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Rhizobiales\_Methylobacteriaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Rhizobiales\_Phyllobacteriaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | 0.02 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Proteobacteria\_Alphaproteobacteria\_Rhizobiales\_Rhizobiaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.03 | 0.01 |
| Proteobacteria\_Alphaproteobacteria\_Rhizobiales\_Rhodobiaceae | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.13 | 0.17 | 0.04 | 0.03 | 0.00 | 0.01 | 0.05 | 0.03 | 0.07 | 0.06 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 |
| Proteobacteria\_Alphaproteobacteria\_Rhodobacterales\_Rhodobacteraceae | 7.55 | 5.77 | 7.71 | 8.82 | 5.43 | 7.33 | 14.66 | 15.55 | 14.04 | 11.19 | 6.48 | 5.63 | 10.74 | 9.14 | 16.50 | 20.20 | 7.80 | 6.79 | 5.62 | 7.27 | 20.18 | 20.73 |
| Proteobacteria\_Alphaproteobacteria\_Rhodospirillales | 0.02 | 0.00 | 0.01 | 0.01 | 0.04 | 0.04 | 0.11 | 0.15 | 0.01 | 0.04 | 0.07 | 0.07 | 0.01 | 0.01 | 0.03 | 0.05 | 0.06 | 0.02 | 0.06 | 0.07 | 0.06 | 0.06 |
| Proteobacteria\_Alphaproteobacteria\_Rhodospirillales\_AT-s3-44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Rhodospirillales\_Rhodospirillaceae | 5.08 | 4.44 | 6.48 | 3.86 | 2.81 | 3.65 | 2.61 | 1.98 | 1.03 | 1.03 | 3.88 | 3.46 | 0.96 | 1.02 | 0.46 | 0.48 | 3.46 | 3.17 | 3.51 | 4.04 | 0.93 | 0.93 |
| Proteobacteria\_Alphaproteobacteria\_Rickettsiales | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Rickettsiales | 0.00 | 0.01 | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.03 | 0.01 | 0.01 | 0.00 | 0.01 |
| Proteobacteria\_Alphaproteobacteria\_Rickettsiales\_EF100-94H03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Rickettsiales\_Holosporaceae | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Rickettsiales\_LR\_A2-29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Rickettsiales\_LWSR-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Rickettsiales\_Rickettsiaceae | 0.01 | 0.03 | 0.01 | 0.03 | 0.07 | 0.01 | 0.00 | 0.00 | 0.00 | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 | 0.09 | 0.07 | 0.18 | 0.17 | 0.04 | 0.18 |
| Proteobacteria\_Alphaproteobacteria\_Rickettsiales\_Rickettsiales\_Incertae\_Sedis | 0.01 | 0.06 | 0.01 | 0.01 | 0.03 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.03 | 0.07 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 | 0.07 | 0.03 | 0.07 | 0.02 | 0.02 |
| Proteobacteria\_Alphaproteobacteria\_Rickettsiales\_S25-593 | 1.04 | 0.91 | 0.88 | 0.56 | 0.94 | 1.26 | 0.06 | 0.08 | 0.06 | 0.10 | 0.40 | 0.37 | 0.05 | 0.05 | 0.03 | 0.01 | 0.23 | 0.22 | 0.19 | 0.25 | 0.05 | 0.03 |
| Proteobacteria\_Alphaproteobacteria\_Rickettsiales\_SAR116\_clade | 7.96 | 6.76 | 8.55 | 6.92 | 5.38 | 6.29 | 2.43 | 1.96 | 4.81 | 4.37 | 3.00 | 3.22 | 2.70 | 2.47 | 0.97 | 1.10 | 4.67 | 3.33 | 2.79 | 2.98 | 1.15 | 1.29 |
| Proteobacteria\_Alphaproteobacteria\_Rickettsiales\_SHWN-night2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.18 | 0.33 | 0.01 | 0.01 | 0.03 | 0.05 | 0.01 | 0.00 | 0.01 | 0.00 | 0.04 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 |
| Proteobacteria\_Alphaproteobacteria\_SAR11\_clade | 0.31 | 1.49 | 0.53 | 0.64 | 1.29 | 0.95 | 0.22 | 0.21 | 0.24 | 0.36 | 0.70 | 0.62 | 0.12 | 0.23 | 0.06 | 0.10 | 0.76 | 1.15 | 1.55 | 1.52 | 0.12 | 0.20 |
| Proteobacteria\_Alphaproteobacteria\_SAR11\_clade\_Deep\_1 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.15 | 0.19 | 0.09 | 0.18 | 0.06 | 0.08 | 0.04 | 0.04 | 0.07 | 0.09 | 0.03 | 0.05 | 0.01 | 0.01 | 0.02 | 0.08 |
| Proteobacteria\_Alphaproteobacteria\_SAR11\_clade\_Surface\_1 | 1.94 | 6.36 | 4.38 | 3.41 | 8.09 | 6.05 | 6.59 | 5.79 | 6.40 | 9.40 | 7.58 | 6.88 | 5.21 | 7.83 | 0.64 | 0.75 | 6.39 | 9.59 | 9.66 | 9.69 | 1.10 | 2.57 |
| Proteobacteria\_Alphaproteobacteria\_SAR11\_clade\_Surface\_4 | 0.38 | 0.34 | 0.47 | 0.38 | 0.48 | 0.58 | 0.08 | 0.07 | 0.09 | 0.15 | 0.59 | 0.55 | 0.06 | 0.09 | 0.04 | 0.06 | 0.69 | 0.63 | 0.87 | 0.72 | 0.12 | 0.13 |
| Proteobacteria\_Alphaproteobacteria\_SB1-18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.34 | 0.40 | 0.59 | 0.91 | 0.04 | 0.04 | 0.32 | 0.52 | 0.21 | 0.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Sphingomonadales | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Sphingomonadales\_Erythrobacteraceae | 0.04 | 0.08 | 0.02 | 0.04 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 |
| Proteobacteria\_Alphaproteobacteria\_Sphingomonadales\_Sphingomonadaceae | 1.34 | 1.00 | 0.00 | 0.00 | 0.88 | 1.31 | 0.23 | 0.39 | 0.65 | 0.74 | 0.33 | 0.38 | 0.33 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 |
| Proteobacteria\_Betaproteobacteria | 0.04 | 0.06 | 0.05 | 0.05 | 0.06 | 0.10 | 0.70 | 0.61 | 0.21 | 0.21 | 0.05 | 0.05 | 0.18 | 0.24 | 0.18 | 0.15 | 0.09 | 0.07 | 0.02 | 0.01 | 0.06 | 0.06 |
| Proteobacteria\_Betaproteobacteria\_Burkholderiales | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| Proteobacteria\_Betaproteobacteria\_Burkholderiales\_Alcaligenaceae | 0.54 | 0.41 | 0.45 | 0.33 | 0.05 | 0.08 | 0.02 | 0.00 | 0.01 | 0.00 | 0.11 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.06 | 0.02 | 0.02 | 0.03 | 0.01 | 0.00 |
| Proteobacteria\_Betaproteobacteria\_Burkholderiales\_Burkholderiaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Betaproteobacteria\_Burkholderiales\_Comamonadaceae | 0.01 | 0.01 | 0.04 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.06 | 0.04 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 |
| Proteobacteria\_Betaproteobacteria\_Methylophilales\_Methylophilaceae | 0.00 | 0.00 | 0.00 | 0.01 | 0.08 | 0.12 | 1.19 | 0.97 | 0.54 | 0.73 | 0.11 | 0.16 | 0.72 | 0.69 | 0.20 | 0.19 | 0.61 | 0.80 | 0.92 | 0.80 | 0.26 | 0.26 |
| Proteobacteria\_Betaproteobacteria\_Nitrosomonadales\_Nitrosomonadaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 |
| Proteobacteria\_Deltaproteobacteria | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Deltaproteobacteria | 0.01 | 0.02 | 0.05 | 0.07 | 0.01 | 0.01 | 0.13 | 0.25 | 0.01 | 0.00 | 0.03 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.02 | 0.01 |
| Proteobacteria\_Deltaproteobacteria\_Bdellovibrionales\_Bacteriovoracaceae | 0.04 | 0.03 | 0.07 | 0.06 | 0.01 | 0.03 | 0.10 | 0.09 | 0.03 | 0.04 | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 | 0.06 | 0.02 | 0.01 | 0.01 | 0.04 | 0.00 | 0.01 |
| Proteobacteria\_Deltaproteobacteria\_Bdellovibrionales\_Bdellovibrionaceae | 0.48 | 0.58 | 0.58 | 0.64 | 0.08 | 0.12 | 0.48 | 0.68 | 0.14 | 0.22 | 0.44 | 0.52 | 0.32 | 0.27 | 0.31 | 0.33 | 0.14 | 0.15 | 0.25 | 0.51 | 0.12 | 0.11 |
| Proteobacteria\_Deltaproteobacteria\_Desulfarculales\_Desulfarculaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Deltaproteobacteria\_Desulfobacterales\_Nitrospinaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.07 | 0.06 | 0.00 | 0.00 | 0.01 | 0.01 | 0.05 | 0.02 |
| Proteobacteria\_Deltaproteobacteria\_Desulfovibrionales\_Desulfovibrionaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Deltaproteobacteria\_Desulfuromonadales | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Deltaproteobacteria\_Desulfuromonadales | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Deltaproteobacteria\_Desulfuromonadales\_GR-WP33-58 | 0.07 | 0.08 | 0.43 | 0.59 | 0.02 | 0.03 | 0.18 | 0.27 | 0.04 | 0.07 | 0.27 | 0.32 | 0.27 | 0.11 | 0.22 | 0.20 | 0.04 | 0.03 | 0.04 | 0.05 | 0.07 | 0.05 |
| Proteobacteria\_Deltaproteobacteria\_Myxococcales\_BIrii41 | 0.01 | 0.05 | 0.01 | 0.04 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 |
| Proteobacteria\_Deltaproteobacteria\_Myxococcales\_Blfdi19 | 0.01 | 0.01 | 0.14 | 0.07 | 0.04 | 0.03 | 0.13 | 0.21 | 0.01 | 0.00 | 0.03 | 0.07 | 0.01 | 0.03 | 0.00 | 0.01 | 0.03 | 0.04 | 0.06 | 0.10 | 0.02 | 0.01 |
| Proteobacteria\_Deltaproteobacteria\_Myxococcales\_Eel-36e1D6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Deltaproteobacteria\_Myxococcales\_Myxococcales | 0.00 | 0.00 | 0.01 | 0.01 | 0.03 | 0.01 | 0.03 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| Proteobacteria\_Deltaproteobacteria\_Myxococcales\_Nannocystaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Deltaproteobacteria\_Myxococcales\_P3OB-42 | 0.06 | 0.03 | 0.15 | 0.17 | 0.04 | 0.06 | 0.11 | 0.12 | 0.03 | 0.01 | 0.03 | 0.06 | 0.01 | 0.01 | 0.02 | 0.01 | 0.03 | 0.00 | 0.06 | 0.09 | 0.02 | 0.01 |
| Proteobacteria\_Deltaproteobacteria\_Myxococcales\_Sandaracinaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Deltaproteobacteria\_Oligoflexales\_Oligoflexaceae | 0.08 | 0.11 | 0.13 | 0.14 | 0.08 | 0.07 | 0.02 | 0.02 | 0.03 | 0.05 | 0.05 | 0.05 | 0.01 | 0.01 | 0.01 | 0.02 | 0.10 | 0.13 | 0.02 | 0.08 | 0.02 | 0.01 |
| Proteobacteria\_Deltaproteobacteria\_SAR324\_clade(Marine\_group\_B) | 0.51 | 0.58 | 0.29 | 0.54 | 0.47 | 1.10 | 0.57 | 0.30 | 0.46 | 0.37 | 0.95 | 0.64 | 0.13 | 0.07 | 0.55 | 0.52 | 0.24 | 0.20 | 0.29 | 0.17 | 0.30 | 0.25 |
| Proteobacteria\_Deltaproteobacteria\_Sh765B-TzT-29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.06 | 0.05 | 0.01 | 0.01 | 0.02 | 0.01 | 0.05 | 0.05 |
| Proteobacteria\_Epsilonproteobacteria\_Campylobacterales\_Campylobacteraceae | 0.01 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.05 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 | 0.04 | 0.03 |
| Proteobacteria\_Gammaproteobacteria\_Aeromonadales\_Succinivibrionaceae | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Alteromonadales | 0.06 | 0.11 | 0.07 | 0.12 | 0.07 | 0.10 | 0.00 | 0.00 | 0.04 | 0.05 | 0.00 | 0.01 | 0.11 | 0.16 | 0.00 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Alteromonadales\_Alteromonadaceae | 0.12 | 0.13 | 0.06 | 0.05 | 0.04 | 0.02 | 0.00 | 0.00 | 0.09 | 0.06 | 0.04 | 0.02 | 0.12 | 0.10 | 0.54 | 0.07 | 0.35 | 0.07 | 0.30 | 0.09 | 0.71 | 0.01 |
| Proteobacteria\_Gammaproteobacteria\_Alteromonadales\_Celerinatantimonadaceae | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Alteromonadales\_Colwelliaceae | 0.04 | 0.04 | 0.01 | 0.02 | 0.04 | 0.01 | 0.04 | 0.03 | 0.01 | 0.05 | 0.01 | 0.01 | 0.07 | 0.12 | 0.06 | 0.16 | 0.03 | 0.09 | 0.01 | 0.09 | 0.02 | 0.04 |
| Proteobacteria\_Gammaproteobacteria\_Alteromonadales\_Idiomarinaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.03 | 0.00 | 0.15 | 0.01 | 0.03 | 0.00 | 0.04 | 0.01 | 0.05 | 0.01 | 0.10 | 0.06 | 0.04 | 0.09 | 0.03 | 0.01 |
| Proteobacteria\_Gammaproteobacteria\_Alteromonadales\_Moritellaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Alteromonadales\_Pseudoalteromonadaceae | 0.13 | 0.11 | 0.10 | 0.19 | 0.14 | 0.07 | 0.08 | 0.03 | 0.32 | 0.02 | 0.03 | 0.02 | 0.10 | 0.04 | 0.45 | 0.03 | 0.17 | 0.07 | 0.05 | 0.09 | 0.10 | 0.06 |
| Proteobacteria\_Gammaproteobacteria\_Alteromonadales\_Psychromonadaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.04 |
| Proteobacteria\_Gammaproteobacteria\_Alteromonadales\_Shewanellaceae | 0.00 | 0.00 | 0.01 | 0.04 | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 |
| Proteobacteria\_Gammaproteobacteria\_Arenicellales\_Arenicellaceae | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.06 | 0.02 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_BD7-8\_marine\_group\_BD7-8\_marine\_group | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Cellvibrionales | 0.00 | 0.01 | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Cellvibrionales\_BD2-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.08 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.06 |
| Proteobacteria\_Gammaproteobacteria\_Cellvibrionales\_Cellvibrionaceae | 0.02 | 0.00 | 0.00 | 0.01 | 0.03 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.12 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 |
| Proteobacteria\_Gammaproteobacteria\_Cellvibrionales\_Halieaceae | 1.56 | 0.95 | 1.75 | 1.55 | 0.85 | 1.38 | 2.98 | 4.96 | 2.88 | 2.85 | 1.13 | 0.90 | 3.06 | 1.76 | 2.63 | 2.56 | 1.69 | 0.95 | 0.43 | 0.87 | 1.19 | 1.31 |
| Proteobacteria\_Gammaproteobacteria\_Cellvibrionales\_Porticoccaceae | 0.04 | 0.09 | 0.35 | 0.40 | 0.00 | 0.00 | 0.37 | 0.37 | 0.59 | 0.56 | 0.04 | 0.07 | 3.47 | 3.22 | 3.01 | 3.53 | 0.53 | 0.42 | 0.42 | 0.43 | 0.84 | 0.74 |
| Proteobacteria\_Gammaproteobacteria\_Cellvibrionales\_Spongiibacteraceae | 0.04 | 0.06 | 0.08 | 0.11 | 0.07 | 0.10 | 0.01 | 0.01 | 0.16 | 0.12 | 0.04 | 0.09 | 0.23 | 0.09 | 0.11 | 0.12 | 0.11 | 0.08 | 0.08 | 0.12 | 0.03 | 0.04 |
| Proteobacteria\_Gammaproteobacteria\_Chromatiales\_Chromatiaceae | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Chromatiales\_Ectothiorhodospiraceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Proteobacteria\_Gammaproteobacteria\_Chromatiales\_Granulosicoccaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 |
| Proteobacteria\_Gammaproteobacteria\_E01-9C-26\_marine\_group\_E01-9C-26\_marine\_group | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.17 | 0.75 | 1.46 | 0.21 | 0.18 | 0.13 | 0.13 | 0.15 | 0.09 | 0.40 | 0.29 | 0.26 | 0.11 | 0.09 | 0.16 | 0.26 | 0.23 |
| Proteobacteria\_Gammaproteobacteria\_Enterobacteriales\_Enterobacteriaceae | 0.01 | 0.05 | 0.01 | 0.04 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.04 | 0.03 | 0.08 | 0.02 | 0.05 | 0.05 | 0.07 | 0.05 | 0.03 | 0.02 | 0.03 |
| Proteobacteria\_Gammaproteobacteria\_KI89A\_clade | 0.32 | 0.21 | 0.34 | 0.51 | 0.31 | 0.48 | 0.34 | 0.30 | 0.45 | 0.43 | 0.32 | 0.34 | 0.72 | 0.55 | 0.35 | 0.39 | 0.43 | 0.23 | 0.22 | 0.28 | 0.18 | 0.14 |
| Proteobacteria\_Gammaproteobacteria\_Legionellales\_Coxiellaceae | 0.02 | 0.03 | 0.06 | 0.09 | 0.01 | 0.02 | 0.08 | 0.21 | 0.03 | 0.02 | 0.09 | 0.13 | 0.01 | 0.02 | 0.03 | 0.05 | 0.01 | 0.01 | 0.02 | 0.00 | 0.03 | 0.01 |
| Proteobacteria\_Gammaproteobacteria\_Legionellales\_Legionellaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Methylococcales\_Milano-WF1B-03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_NKB5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales | 2.22 | 2.96 | 1.90 | 2.27 | 5.78 | 4.58 | 0.02 | 0.03 | 0.07 | 0.09 | 1.65 | 2.14 | 0.01 | 0.03 | 0.01 | 0.02 | 0.61 | 1.50 | 0.95 | 0.99 | 0.05 | 0.05 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales | 0.04 | 0.03 | 0.03 | 0.07 | 4.13 | 3.84 | 9.84 | 9.12 | 4.76 | 5.93 | 4.96 | 7.27 | 6.24 | 6.76 | 7.64 | 9.02 | 6.31 | 6.19 | 6.22 | 4.68 | 8.21 | 9.11 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales\_Alcanivoracaceae | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales\_Hahellaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales\_Halomonadaceae | 0.00 | 0.00 | 0.01 | 0.00 | 0.31 | 0.76 | 0.17 | 0.02 | 0.31 | 0.09 | 0.09 | 0.04 | 0.07 | 0.02 | 0.25 | 0.12 | 0.46 | 0.37 | 0.15 | 0.53 | 0.21 | 0.06 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales\_JL-ETNP-Y6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales\_Litoricolaceae | 0.01 | 0.00 | 0.03 | 0.01 | 0.00 | 0.00 | 0.06 | 0.07 | 0.00 | 0.02 | 0.00 | 0.00 | 0.07 | 0.03 | 0.04 | 0.04 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales\_Oceanospirillaceae | 0.44 | 0.36 | 0.46 | 0.55 | 0.63 | 0.63 | 0.37 | 0.33 | 0.43 | 0.42 | 0.56 | 0.68 | 0.19 | 0.16 | 1.10 | 0.97 | 0.99 | 0.86 | 0.92 | 1.05 | 0.43 | 0.37 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales\_Oleiphilaceae | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.08 | 0.01 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales\_OM182\_clade | 0.06 | 0.05 | 0.05 | 0.04 | 0.12 | 0.13 | 0.88 | 0.75 | 0.57 | 0.49 | 0.18 | 0.19 | 1.01 | 0.76 | 1.93 | 1.87 | 0.50 | 0.33 | 0.19 | 0.32 | 1.03 | 0.85 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales\_SAR86\_clade | 21.88 | 19.29 | 17.58 | 21.06 | 9.35 | 9.48 | 9.35 | 8.31 | 8.58 | 8.20 | 13.37 | 14.95 | 16.20 | 19.47 | 10.92 | 12.80 | 14.67 | 15.02 | 13.75 | 12.13 | 15.15 | 15.31 |
| Proteobacteria\_Gammaproteobacteria\_Oceanospirillales\_SS1-B-06-26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| Proteobacteria\_Gammaproteobacteria\_Pasteurellales\_Pasteurellaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Pseudomonadales\_Moraxellaceae | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.03 | 0.06 | 0.21 | 0.16 | 0.03 | 0.03 | 0.16 | 0.10 | 0.26 | 0.14 | 0.63 | 0.20 | 0.23 | 0.42 | 0.12 | 0.12 |
| Proteobacteria\_Gammaproteobacteria\_Pseudomonadales\_Pseudomonadaceae | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.04 | 0.08 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 | 0.03 | 0.00 | 0.01 |
| Proteobacteria\_Gammaproteobacteria\_Salinisphaerales\_Salinisphaeraceae | 0.03 | 0.02 | 0.04 | 0.02 | 0.26 | 0.32 | 0.51 | 0.35 | 0.21 | 0.31 | 0.35 | 0.46 | 0.07 | 0.05 | 0.58 | 0.76 | 0.17 | 0.23 | 0.12 | 0.08 | 0.54 | 0.40 |
| Proteobacteria\_Gammaproteobacteria\_Sva0071\_Sva0071 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Thiotrichales | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_Thiotrichales | 0.01 | 0.02 | 0.02 | 0.03 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.01 | 0.00 | 0.01 | 0.02 | 0.01 | 0.05 | 0.00 | 0.00 | 0.01 | 0.02 |
| Proteobacteria\_Gammaproteobacteria\_Thiotrichales\_Francisellaceae | 0.00 | 0.00 | 0.01 | 0.01 | 0.04 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Proteobacteria\_Gammaproteobacteria\_Thiotrichales\_Piscirickettsiaceae | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.05 | 0.00 | 0.02 | 0.00 | 0.01 |
| Proteobacteria\_Gammaproteobacteria\_Thiotrichales\_Thiotrichaceae | 0.29 | 0.17 | 0.36 | 0.18 | 0.32 | 0.39 | 0.15 | 0.07 | 0.08 | 0.13 | 0.31 | 0.31 | 0.03 | 0.07 | 0.02 | 0.04 | 0.13 | 0.19 | 0.10 | 0.14 | 0.03 | 0.03 |
| Proteobacteria\_Gammaproteobacteria\_Thiotrichales\_Thiotrichales\_Incertae\_Sedis | 0.03 | 0.03 | 0.01 | 0.03 | 0.05 | 0.01 | 0.01 | 0.01 | 0.02 | 0.07 | 0.00 | 0.04 | 0.01 | 0.01 | 0.01 | 0.04 | 0.03 | 0.01 | 0.03 | 0.03 | 0.01 | 0.01 |
| Proteobacteria\_Gammaproteobacteria\_unknown | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_Gammaproteobacteria\_unknown | 0.14 | 0.17 | 0.16 | 0.28 | 0.52 | 0.36 | 0.22 | 0.25 | 0.12 | 0.14 | 0.27 | 0.39 | 0.10 | 0.12 | 0.13 | 0.13 | 0.07 | 0.08 | 0.05 | 0.12 | 0.07 | 0.09 |
| Proteobacteria\_Gammaproteobacteria\_unknown | 1.23 | 1.22 | 1.06 | 1.25 | 1.82 | 1.35 | 0.93 | 0.82 | 0.38 | 0.69 | 0.83 | 1.48 | 0.36 | 0.67 | 0.04 | 0.14 | 0.70 | 1.33 | 1.72 | 1.06 | 0.14 | 0.21 |
| Proteobacteria\_Gammaproteobacteria\_Vibrionales\_Vibrionaceae | 0.48 | 0.27 | 1.17 | 0.30 | 0.20 | 0.23 | 0.06 | 0.08 | 0.04 | 0.05 | 0.05 | 0.05 | 0.06 | 0.06 | 0.06 | 0.10 | 0.05 | 0.10 | 0.07 | 0.06 | 0.04 | 0.02 |
| Proteobacteria\_Gammaproteobacteria\_Xanthomonadales\_JTB255\_marine\_benthic\_group | 0.87 | 0.64 | 0.77 | 0.96 | 0.74 | 0.87 | 0.30 | 0.28 | 0.26 | 0.17 | 0.53 | 0.67 | 0.32 | 0.32 | 0.13 | 0.16 | 1.11 | 0.98 | 0.69 | 0.93 | 0.26 | 0.27 |
| Proteobacteria\_Gammaproteobacteria\_Xanthomonadales\_Xanthomonadaceae | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.02 | 0.06 | 0.07 | 0.00 | 0.00 | 0.01 | 0.03 | 0.10 | 0.06 | 0.08 | 0.05 | 0.44 | 0.26 | 0.11 | 0.07 |
| Proteobacteria\_SC3-20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.05 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_SPOTSOCT00m83 | 0.03 | 0.06 | 0.08 | 0.04 | 0.13 | 0.13 | 0.26 | 0.26 | 0.03 | 0.02 | 0.09 | 0.17 | 0.02 | 0.06 | 0.01 | 0.00 | 0.14 | 0.10 | 0.12 | 0.08 | 0.02 | 0.02 |
| Proteobacteria\_unknown | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | 0.00 | 0.00 |
| Proteobacteria\_unknown | 0.03 | 0.02 | 0.04 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| Proteobacteria\_unknown | 0.17 | 0.19 | 0.39 | 0.41 | 0.19 | 0.15 | 0.22 | 0.28 | 0.11 | 0.09 | 0.13 | 0.15 | 0.18 | 0.20 | 0.10 | 0.05 | 0.11 | 0.08 | 0.35 | 0.29 | 0.03 | 0.09 |
| Saccharibacteria | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Saccharibacteria\_Unknown | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tenericutes\_Mollicutes\_Acholeplasmatales\_Acholeplasmataceae | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tenericutes\_Mollicutes\_Entomoplasmatales\_Incertae\_Sedis | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Tenericutes\_Mollicutes\_Mycoplasmatales\_Mycoplasmataceae | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| TM6 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Verrucomicrobia\_Arctic97B-4\_marine\_group | 0.04 | 0.07 | 0.14 | 0.11 | 0.12 | 0.06 | 0.13 | 0.12 | 0.01 | 0.01 | 0.12 | 0.13 | 0.00 | 0.01 | 0.06 | 0.04 | 0.09 | 0.07 | 0.12 | 0.09 | 0.02 | 0.02 |
| Verrucomicrobia\_OPB35\_soil\_group | 0.04 | 0.02 | 0.03 | 0.06 | 0.07 | 0.08 | 0.38 | 0.39 | 0.02 | 0.03 | 0.25 | 0.23 | 0.06 | 0.04 | 0.14 | 0.10 | 0.18 | 0.12 | 0.10 | 0.12 | 0.02 | 0.02 |
| Verrucomicrobia\_Opitutae | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| Verrucomicrobia\_Opitutae\_MB11C04\_marine\_group | 0.02 | 0.04 | 0.13 | 0.12 | 0.20 | 0.09 | 0.29 | 0.34 | 0.02 | 0.01 | 0.15 | 0.14 | 0.60 | 0.82 | 0.18 | 0.19 | 0.06 | 0.06 | 0.09 | 0.06 | 0.07 | 0.06 |
| Verrucomicrobia\_Opitutae\_Opitutales\_Opitutaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Verrucomicrobia\_Opitutae\_Puniceicoccales\_Puniceicoccaceae | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.03 | 0.32 | 0.27 | 0.01 | 0.00 | 0.07 | 0.06 | 0.06 | 0.10 | 0.02 | 0.02 | 0.05 | 0.04 | 0.03 | 0.05 | 0.01 | 0.01 |
| Verrucomicrobia\_Opitutae\_RS-B22 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Verrucomicrobia\_Verrucomicrobiae\_Verrucomicrobiales\_DEV007 | 0.07 | 0.08 | 0.14 | 0.12 | 0.02 | 0.04 | 0.02 | 0.03 | 0.01 | 0.00 | 0.05 | 0.04 | 0.00 | 0.00 | 0.01 | 0.01 | 0.03 | 0.03 | 0.02 | 0.08 | 0.01 | 0.00 |
| Verrucomicrobia\_Verrucomicrobiae\_Verrucomicrobiales\_Rubritaleaceae | 0.01 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.04 |
| Verrucomicrobia\_Verrucomicrobiae\_Verrucomicrobiales\_Verrucomicrobiaceae | 0.05 | 0.06 | 0.15 | 0.15 | 0.22 | 0.21 | 0.54 | 0.90 | 0.54 | 0.46 | 0.16 | 0.11 | 0.39 | 0.22 | 0.47 | 0.43 | 0.39 | 0.20 | 0.16 | 0.42 | 0.12 | 0.12 |