

Table S1 Proportions of prokaryotic unidirectional overlapping genes in phase 1 and phase 2. Overall proportions of phase 1 and phase 2 overlapping genes pairs (OGP) are shown on the left side of the table and proportions of long phase 1 and phase 2 OGP on the right side. All taxon specific OGP were filtered from the non-redundant OGP database. Only unique overlap lengths for each homologous OGP were used in the comparison between long phase 1 and phase 2 overlaps (superscript a).

Taxonomic group	Phase 1 (%)	Phase 2 (%)	Number of overlapping genes pairs	Phase 1 long (%)	Phase 2 long (%)	Number of overlapping genes pairs ^a
Archaea						14,243
Crenarchaeota	37.5 ^{***}	62.5	8,863	73.2 ^{***}	26.8	5,749
Euryarchaeota	31.7 ^{***}	68.3	16,696	77.6 ^{***}	22.4	8,190
Korarchaeota	37.1 ^{***}	62.9	321	88.3 ^{***}	11.7	137
Nanoarchaeota	35.7 ^{***}	64.3	143	71.8 ^{***}	28.2	71
Thaumarchaeota	19.2 ^{***}	80.8	442	88.5 ^{***}	11.5	96
Bacteria						155,633
Acidobacteria	21.1 ^{***}	78.9	4,315	78.9 ^{***}	21.1	1,192
Actinobacteria	16.6 ^{***}	83.4	61,133	71.9 ^{***}	28.1	15,989
Aquificae	36.4 ^{***}	63.6	4,141	78.5 ^{***}	21.5	2,081
Bacteroidetes	36.3 ^{***}	63.7	17,541	81.9 ^{***}	18.1	8,743
Chlamydiae	37.1 ^{***}	62.9	1,950	70.7 ^{***}	29.3	1,229
Chlorobi	27.8 ^{***}	72.2	2,097	76.7 ^{***}	23.3	853
Chloroflexi	27.4 ^{***}	72.6	4,862	81.4 ^{***}	18.6	1,773
Chrysiogenetes	26.3 ^{***}	73.7	590	81.6 ^{***}	18.4	190
Cyanobacteria	32.1 ^{***}	67.9	7,039	75.3 ^{***}	24.7	3,294
Deferribacteres	45.6 ^{***}	54.4	2,413	86.4 ^{***}	13.6	1,427
Deinococcus-Thermus	22.5 ^{***}	77.5	5,574	73.5 ^{***}	26.5	1,927
Dictyoglomi	39.3 ^{***}	60.7	708	79.8 ^{***}	20.2	372
Elusimicrobia	32.7 ^{***}	67.3	376	79.9 ^{***}	20.1	154
Fibrobacteres	29.1 ^{***}	70.9	461	81.0 ^{***}	19.0	174
Firmicutes	43.6 ^{***}	56.4	50,413	83.0 ^{***}	17.0	35,673
Fusobacteria	44.4 ^{***}	55.6	1,411	86.4 ^{***}	13.6	778
Gemmatimonadetes	14.7 ^{***}	85.3	774	84.4 ^{***}	15.6	135
Nitrospirae	27.1 ^{***}	72.9	1,825	75.3 ^{***}	24.7	665
Planctomycetes	21.7 ^{***}	78.3	3,071	64.4 ^{***}	35.6	1,047
Proteobacteria	27.6 ^{***}	72.4	154,188	76.3 ^{***}	23.7	68,774
Spirochaetes	33.5 ^{***}	66.5	9,725	82.0 ^{***}	18.0	4,469
Synergistetes	37.6 ^{***}	62.4	1,520	78.3 ^{***}	21.7	812
Tenericutes	45.6	54.4	507	91.1 ^{***}	8.9	257

Thermobaculum	40.8***	59.2	463	84.9***	15.1	225
Thermotogae	35.7***	64.3	4,908	78.8***	21.2	2,870
Verrucomicrobia	27.7***	72.3	1,439	75.3***	24.7	530

*** p value ≤ 0.001