Supporting Information

NanoSIMS analyses. For NanoSIMS analyses of ITO-microarrays, mass resolution was set to ~10,000 mass resolving power to minimize the contribution of isobaric interferences to the species of interest (e.g., $^{11}B^{16}O^-$ contribution to $^{13}C^{14}N^-$ <1/100; $^{13}C_2^-$ contribution to $^{12}C^{14}N^-$ <1/1000). Analyses were performed in imaging mode to generate digital ion images of the sample for each ion species. Analytical conditions were optimized for speed of analysis, ability to spatially resolve adjacent hybridization locations, and analytical stability. The primary beam current was 5 to 7 pA Cs^+, which yielded a spatial resolution of 200-400 nm and a maximum count rate on the detectors of ~300,000 cps $^{12}C^{14}N$. Analysis area was 50 x 50 μm^2 with a pixel density of 256 x 256 with 0.5 or 1 ms/pixel dwell time. For peak switching, one scan of the analysis area was made per species set, resulting in two scans per analytical cycle. With these conditions, reproducible secondary ion ratios could be measured for a maximum of 4 cycles through the two sets of measurements before the sample was largely consumed. Data were collected for 2 to 4 cycles.. Ion counts were corrected for detector dead time on a pixel by pixel basis.

Supplemental Table 1: list of probes specific for laboratory bacterial strains and San Francisco Bay natural community

SEQUENCE_ID	PROBE_SEQUENCE	SEQUENCE_ID	PROBE_SEQUENCE	SEQUENCE_ID	PROBE_SEQUENCE
Pstutzeri_1	TAACCGTCCCCCCGAAGGTTAGACT	Vcholerae_1	AACTTAACCACCTTCCTCCCTACTG	Bcereus_1	TCCACCTCGCGGTCTTGCAGCTCTT
Pstutzeri_2	GGTAACCGTCCCCCCGAAGGTTAGA	Vcholerae_2	GTAGGTAACGTCAAATGATTAAGGT	Bcereus_2	GCCTTTCAATTTCGAACCATGCGGT
Pstutzeri_3	TGGTAACCGTCCCCCCGAAGGTTAG	Vcholerae_3	TGTAGGTAACGTCAAATGATTAAGG	Bcereus_3	CTCTTAATCCATTCGCTCGACTTGC
Pstutzeri_4	GTAACCGTCCCCCCGAAGGTTAGAC	Vcholerae_4	TAACTTAACCACCTTCCTCCCTACT	Bcereus_4	CCACCTCGCGGTCTTGCAGCTCTTT
Pstutzeri_5	ACTCCGTGGTAACCGTCCCCCCGAA	Vcholerae_5	ACTTAACCACCTTCCTCCCTACTGA	Bcereus_5	CTCTGCTCCCGAAGGAGAAGCCCTA
Pstutzeri_6	CACTCCGTGGTAACCGTCCCCCCGA	Vcholerae_6	TTAACTTAACCACCTTCCTCCCTAC	Bcereus_6	CCGCCTTTCAATTTCGAACCATGCG
Pstutzeri_7	TCACTCCGTGGTAACCGTCCCCCCG	Vcholerae_7	TAAGGTATTAACTTAACCACCTTCC	Bcereus_7	TCTGCTCCCGAAGGAGAAGCCCTAT
Pstutzeri_8	ACCGTCCCCCCGAAGGTTAGACTAG	Vcholerae_8	CTGTAGGTAACGTCAAATGATTAAG	Bcereus_8	ACCTGTCACTCTGCTCCCGAAGGAG
Pstutzeri_9	ATCACTCCGTGGTAACCGTCCCCCC	Vcholerae_9	CTTAACCACCTTCCTCCCTACTGAA	Bcereus_9	GCTCTTAATCCATTCGCTCGACTTG
Pstutzeri_10	CCGTGGTAACCGTCCCCCCGAAGGT	Vcholerae_10	ATTAACTTAACCACCTTCCTCCCTA	Bcereus_10	CGCCTTTCAATTTCGAACCATGCGG
Pstutzeri_11	CTCCGTGGTAACCGTCCCCCCGAAG	Vcholerae_11	AAGGTATTAACTTAACCACCTTCCT	Bcereus_11	ACTCTGCTCCCGAAGGAGAAGCCCT
Pstutzeri_12	CCGTCCCCCCGAAGGTTAGACTAGC	Vcholerae_12	TTAACCACCTTCCTCCCTACTGAAA	Bcereus_12	GCTCCCGAAGGAGAAGCCCTATCTC
Pstutzeri_13	CCACCACCCTCTGCCATACTCTAGC	Vcholerae_13	CTTCTGTAGGTAACGTCAAATGATT	Bcereus_13	TCACTCTGCTCCCGAAGGAGAAGCC
Pstutzeri_14	TCCACCACCCTCTGCCATACTCTAG	Vcholerae_14	TATTAACTTAACCACCTTCCTCCCT	Bcereus_14	TCTTAATCCATTCGCTCGACTTGCA
Pstutzeri_15	TTCCACCACCCTCTGCCATACTCTA	Vcholerae_15	ACGACGTACTTTGTGAGATTCGCTC	Bcereus_15	CTGCTCCCGAAGGAGAAGCCCTATC
Pstutzeri_16	AATTCCACCACCCTCTGCCATACTC	Vcholerae_16	TACGACGTACTTTGTGAGATTCGCT	Bcereus_16	TAATCCATTCGCTCGACTTGCATGT
Pstutzeri_17	AAATTCCACCACCCTCTGCCATACT	Vcholerae_17	ACTACGACGTACTTTGTGAGATTCG	Bcereus_17	CACTCTGCTCCCGAAGGAGAAGCCC
Pstutzeri_18	GAAATTCCACCACCCTCTGCCATAC	Vcholerae_18	CTACGACGTACTTTGTGAGATTCGC	Bcereus_18	GGTCTTGCAGCTCTTTGTACCGTCC
Pstutzeri_19	ATTCCACCACCCTCTGCCATACTCT	Vcholerae_19	GACTACGACGTACTTTGTGAGATTC	Bcereus_19	TGCTCCCGAAGGAGAAGCCCTATCT
Pstutzeri_20	GGAAATTCCACCACCCTCTGCCATA	Vcholerae_20	AGGTATTAACTTAACCACCTTCCTC	Bcereus_20	CTTAATCCATTCGCTCGACTTGCAT
Pstutzeri_21	CAGGAAATTCCACCACCCTCTGCCA	Vcholerae_21	GGTATTAACTTAACCACCTTCCTCC	Bcereus_21	TTAATCCATTCGCTCGACTTGCATG
Pstutzeri_22	AGGAAATTCCACCACCCTCTGCCAT	Vcholerae_22	GTATTAACTTAACCACCTTCCTCCC	Bcereus_22	CTCCCGAAGGAGAAGCCCTATCTCT
Pstutzeri_23	CAGTGTCAGTATTAGCCCAGGTGGT	Vcholerae_23	CGCGGTATCGCTGCCCTCTGTATAC	Bcereus_23	GTCACTCTGCTCCCGAAGGAGAAGC
Pstutzeri_24	TCAGTATTAGCCCAGGTGGTCGCCT	Vcholerae_24	TCGCGGTATCGCTGCCCTCTGTATA	Bcereus_24	CACCTCGCGGTCTTGCAGCTCTTTG
Pstutzeri_25	TCAGTGTCAGTATTAGCCCAGGTGG	Vcholerae_25	CTTGTCAGTTTCAAATGCGATTCCT	Bcereus_25	GTCTTGCAGCTCTTTGTACCGTCCA
Pstutzeri_26	TGTCAGTATTAGCCCAGGTGGTCGC	Vcholerae_26	TTGTCAGTTTCAAATGCGATTCCTA	Bcereus_26	TGTCACTCTGCTCCCGAAGGAGAAG
Pstutzeri_27	GTCAGTATTAGCCCAGGTGGTCGCC	Vcholerae_27	GCGGTATCGCTGCCCTCTGTATACG	Bcereus_27	TCCCGAAGGAGAAGCCCTATCTCTA
Pstutzeri_28	CCTCAGTGTCAGTATTAGCCCAGGT	Vcholerae_28	CCTGGGCATATCCGGTAGCGCAAGG	Bcereus_28	CGGTCTTGCAGCTCTTTGTACCGTC
Pstutzeri_29	CTCAGTGTCAGTATTAGCCCAGGTG	Vcholerae_29	TCCCACCTGGGCATATCCGGTAGCG	Bcereus_29	TCAAAATGTTATCCGGTATTAGCCC
Pstutzeri_30	ACCTCAGTGTCAGTATTAGCCCAGG	Vcholerae_30	GGCATATCCGGTAGCGCAAGGCCCG	Bcereus_30	CCTGTCACTCTGCTCCCGAAGGAGA
Pstutzeri_31	GTGTCAGTATTAGCCCAGGTGGTCG	Vcholerae_31	ACCTGGGCATATCCGGTAGCGCAAG	Bcereus_31	TTCAAAATGTTATCCGGTATTAGCC
Pstutzeri_32	AGTGTCAGTATTAGCCCAGGTGGTC	Vcholerae_32	CTGGGCATATCCGGTAGCGCAAGGC	Bcereus_32	CACCTGTCACTCTGCTCCCGAAGGA
Pstutzeri_33	CACCTCAGTGTCAGTATTAGCCCAG	Vcholerae_33	CCCACCTGGGCATATCCGGTAGCGC	Bcereus_33	TCTTGCAGCTCTTTGTACCGTCCAT
Pstutzeri_34	GCACCTCAGTGTCAGTATTAGCCCA	Vcholerae_34	TGGGCATATCCGGTAGCGCAAGGCC	Bcereus_34	CTGTCACTCTGCTCCCGAAGGAGAA
Pstutzeri_35	CGCACCTCAGTGTCAGTATTAGCCC	Vcholerae_35	GGGCATATCCGGTAGCGCAAGGCCC	Bcereus_35	GCGGTCTTGCAGCTCTTTGTACCGT
Pstutzeri_36	TTCGCACCTCAGTGTCAGTATTAGC	Vcholerae_36	GCATATCCGGTAGCGCAAGGCCCGA	Bcereus_36	CGCGGTCTTGCAGCTCTTTGTACCG
Pstutzeri_37	TCGCACCTCAGTGTCAGTATTAGCC	Vcholerae_37	CCACCTGGGCATATCCGGTAGCGCA	Bcereus_37	AGCTCTTAATCCATTCGCTCGACTT
Pstutzeri_38	AATGCGTTAGCTGCGCCACTAAGAT	Vcholerae_38	CATATCCGGTAGCGCAAGGCCCGAA	Bcereus_38	ACCTCGCGGTCTTGCAGCTCTTTGT
Pstutzeri_39	CACCACCCTCTGCCATACTCTAGCT	Vcholerae_39	CACCTGGGCATATCCGGTAGCGCAA	Bcereus_39	TCGCGGTCTTGCAGCTCTTTGTACC
Pstutzeri_40	ACACAGGAAATTCCACCACCCTCTG	Vcholerae_40	ATATCCGGTAGCGCAAGGCCCGAAG	Bcereus_40	CTCGCGGTCTTGCAGCTCTTTGTAC
Pstutzeri_41	CACAGGAAATTCCACCACCCTCTGC	Vcholerae_41	TATCCGGTAGCGCAAGGCCCGAAGG	Bcereus_41	TGCACCACCTGTCACCTCTGCTCCCG
Pstutzeri_42	ACAGGAAATTCCACCACCCTCTGCC	Vcholerae_42	TCCCCTGCTTTGCTCTTGCGAGGTT	Bcereus_42	ATGCACCACCTGTCACTCTGCTCCC
Pstutzeri_43	GAAGTTAGCCGGTGCTTATTCTGTC	Vcholerae_43	GTCCCCTGCTTTGCTCTTGCGAGGT	Bcereus_43	ACCACCTGTCACTCTGCTCCCGAAG
Pstutzeri_44	GAAAGTTCTCTGCATGTCAAGGCCT	Vcholerae_44	CCGAAGGTCCCCTGCTTTGCTCTTG	Bcereus_44	GCACCACCTGTCACTCTGCTCCCGA
Pstutzeri_45	AAAGTTCTCTGCATGTCAAGGCCTG	Vcholerae_45	GGTCCCCTGCTTTGCTCTTGCGAGG	Bcereus_45	CACCACCTGTCACTCTGCTCCCGAA
Pstutzeri_46	TCTCTGCATGTCAAGGCCTGGTAAG	Vcholerae_46	GAAAGGTCCCCTGCTTTGCTCTTGCG	Bcereus_46	CATAAAGAGCAAGCTCTTAATCCATT
Pstutzeri_47	GTTCTCTGCATGTCAAGGCCTGGTA	Vcholerae_47	AGGTCCCCTGCTTTGCTCTTGCGAG	Bcereus_47	CCTCGCGGTCTTGCAGCTCTTTGTA
Pstutzeri_48	AGTTCTCTGCATGTCAAGGCCTGGT	Vcholerae_48	CGAAGGTCCCCTGCTTTGCTCTTGC	Bcereus_48	CCACCTGTCACTCTGCTCCCGAAGG
Pstutzeri_49	AAGTTCTCTGCATGTCAAGGCCTGG	Vcholerae_49	AAGGTCCCCTGCTTTGCTCTTGCGA	Bcereus_49	AAGAGCAAGCTCTTAATCCATTCGC
Pstutzeri_50	CTCTGCATGTCAAGGCCTGGTAAGG	Vcholerae_50	CCCCTGCTTTGCTCTTGCGAGGTTA	Bcereus_50	CGAAGGAGAAGCCCTATCTCTAGGG
Pstutzeri_51	TTCTCTGCATGTCAAGGCCTGGTAA	Vcholerae_51	TCTAGGGCACAACCTCCAAGTAGAC	Bcereus_51	AAGCTCTTAATCCATTCGCTCGACT
Pstutzeri_52	CTGCATGTCAAGGCCTGGTAAGGTT	Vcholerae_52	CTCTAGGGCACAACCTCCAAGTAGA	Bcereus_52	TAAGAGCAAGCTCTTAATCCATTCG
Pstutzeri_53	TCTGCATGTCAAGGCCTGGTAAGGT	Vcholerae_53	CCTCTAGGGCACAACCTCCAAGTAG	Bcereus_53	ATAAGAGCAAGCTCTTAATCCATTC
Pstutzeri_54	TACTCACCCGTCCGCCGCTGAATCA	Vcholerae_54	CGACGTACTTTGTGAGATTCGCTCC	Bcereus_54	CCCGAAGGAGAAGCCCTATCTCTAG
Pstutzeri_55	CAGCCATGCAGCACCTGTGTCAGAG	Vcholerae_55	TCAGTTTCAAATGCGATTCCTAGGT	Bcereus_55	CCGAAGGAGAAGCCCTATCTCTAGG
Pstutzeri_56	ACAGCCATGCAGCACCTGTGTCAGA	Vcholerae_56	AGTTTCAAATGCGATTCCTAGGTTG	Bcereus_56	CAAGCTCTTAATCCATTCGCTCGAC
Pstutzeri_57	GACAGCCATGCAGCACCTGTGTCAG	Vcholerae_57	TGTCAGTTTCAAATGCGATTCCTAG	Bcereus_57	AAGGAGAAGCCCTATCTCTAGGGTT
Pstutzeri_58	CTGGAAAGTTCTCTGCATGTCAAGG	Vcholerae_58	GTTTCAAATGCGATTCCTAGGTTGA	Bcereus_58	GAAGGAGAAGCCCTATCTCTAGGGT
Pstutzeri_59	TGGAAAGTTCTCTGCATGTCAAGGC	Vcholerae_59	CTAGCTTGTCAGTTTCAAATGCGAT	Bcereus_59	GCAAGCTCTTAATCCATTCGCTCGA
Pstutzeri_60	GGAAAGTTCTCTGCATGTCAAGGCC	Vcholerae_60	TCTAGCTTGTCAGTTTCAAATGCGA	Bcereus_60	AGCAAGCTCTTAATCCATTCGCTCG
eukaryotes_1	AACTAAGAACGGCCATGCACCACCA	sphingo_1_1	CCAGCTTGCTGCCCTCTGTACCATC	alpha_7_1	ACATCTCTGTTTCCGCGACCGGGAT
eukaryotes_2	CACCAACTAAGAACGGCCATGCACC	sphingo_1_2	CAGCTTGCTGCCCTCTGTACCATCC	alpha_7_2	CATCTCTGTTTCCGCGACCGGGATG
eukaryotes_3	CCAACTAAGAACGGCCATGCACCAC	sphingo_1_3	GCCAGCTTGCTGCCCTCTGTACCAT	alpha_7_3	AAACATCTCTGTTTCCGCGACCGGG
eukaryotes_4	ACCAACTAAGAACGGCCATGCACCA	sphingo_1_4	TGCCAGCTTGCTGCCCTCTGTACCA	alpha_7_4	GAAACATCTCTGTTTCCGCGACCGG
eukaryotes_5	CCACCAACTAAGAACGGCCATGCAC	sphingo_1_5	CAGTTTACGACCCAGAGGGCTGTCT	alpha_7_5	AGAAACATCTCTGTTTCCGCGACCG
eukaryotes_6	TCCACCAACTAAGAACGGCCATGCA	sphingo_1_6	AGCAGTTTACGACCCAGAGGGCTGT	alpha_7_6	AACATCTCTGTTTCCGCGACCGGGA
eukaryotes_7	CAACTAAGAACGGCCATGCACCACC	sphingo_1_7	AAGCAGTTTACGACCCAGAGGGCTG	alpha_7_7	ATCTCTGTTTCCGCGACCGGGATGT
eukaryotes_8	CTCCACCAACTAAGAACGGCCATGC	sphingo_1_8	GCAGTTTACGACCCAGAGGGCTGTC	alpha_7_8	CTGCCACTGTCCACCCGAGCAAGCT
eukaryotes_9	TTGGAGCTGGAATTACCGCGGCTGC	sphingo_1_9	CCGCCTACCTCTAGTGTATTCAAGC	alpha_7_9	CCACTGTCCACCCGAGCAAGCTCGG
eukaryotes_10	TCAGGCTCCCTCTCCGGAATCGAAC	sphingo_1_10	CATTCCGCCTACCTCTAGTGTATTC	alpha_7_10	GCCACTGTCCACCCGAGCAAGCTCG
eukaryotes_11	TCTCAGGCTCCCTCTCCGGAATCGA	sphingo_1_11	TGCTGTTGCCAGCTTGCTGCCCTCT	alpha_7_11	AAACCTCTAGGTAGATACCCACGCG
eukaryotes_12	TATTGGAGCTGGAATTACCGCGGCT	sphingo_1_12	GCTGTTGCCAGCTTGCTGCCCTCTG	alpha_7_12	CCAAACCTCTAGGTAGATACCCACG
eukaryotes_13	ATTGGAGCTGGAATTACCGCGGCTG	sphingo_1_13	TTGCTGTTGCCAGCTTGCTGCCCTC	alpha_7_13	GTCTGCCACTGTCCACCCGAGCAAG
eukaryotes_14	TAAGAACGGCCATGCACCACCACCC	sphingo_1_14	CACATTCCGCCTACCTCTAGTGTAT	alpha_7_14	CCACCCGAGCAAGCTCGGGTTTCTC
eukaryotes_15	CTAAGAACGGCCATGCACCACCACC	sphingo_1_15	GTCACATTCCGCCTACCTCTAGTGT	alpha_7_15	TGCCACTGTCCACCCGAGCAAGCTC
eukaryotes_16	ACTAAGAACGGCCATGCACCACCAC	sphingo_1_16	TCACATTCCGCCTACCTCTAGTGTA	alpha_7_16	CAAACCTCTAGGTAGATACCCACGC
eukaryotes_17	CTCAGGCTCCCTCTCCGGAATCGAA	sphingo_1_17	GCTTTCGCTTAGCCGCTAACTGTGT	alpha_7_17	TCTGCCACTGTCCACCCGAGCAAGC
eukaryotes_18	CTATTGGAGCTGGAATTACCGCGGC	sphingo_1_18	CGCTTTCGCTTAGCCGCTAACTGTG	alpha_7_18	CGTCTGCCACTGTCCACCCGAGCAA
eukaryotes_19	AAGAACGGCCATGCACCACCACCCA	sphingo_1_19	TCGCTTAGCCGCTAACTGTGTATCG	alpha_7_19	TCCGAACCTCTAGGTAGATTCCCAC
eukaryotes_20	AGGCTCCCTCTCCGGAATCGAACCC	sphingo_1_20	TTCGCTTAGCCGCTAACTGTGTATC	alpha_7_20	CACCCGAGCAAGCTCGGGTTTCTCG
eukaryotes_21	CAGGCTCCCTCTCCGGAATCGAACC	sphingo_1_21	CTTTCGCTTAGCCGCTAACTGTGTA	alpha_7_21	ACCCGAGCAAGCTCGGGTTTCTCGT
eukaryotes_22	GCTATTGGAGCTGGAATTACCGCGG	sphingo_1_22	CTGTTGCCAGCTTGCTGCCCTCTGT	alpha_7_22	CCGTCTGCCACTGTCCACCCGAGCA
eukaryotes_23	TTTCTCAGGCTCCCTCTCCGGAATC	sphingo_1_23	GTTGCCAGCTTGCTGCCCTCTGTAC	alpha_7_23	CCGAACCTCTAGGTAGATTCCCACG
eukaryotes_24	GGCTCCCTCTCCGGAATCGAACCCT	sphingo_1_24	TGTTGCCAGCTTGCTGCCCTCTGTA	alpha_7_24	AACCTCTAGGTAGATACCCACGCGT
eukaryotes_25	CACTCCACCAACTAAGAACGGCCAT	sphingo_1_25	CGCTTAGCCGCTAACTGTGTATCGC	alpha_7_25	TCCACCCGAGCAAGCTCGGGTTTCT
archaea_1	TTGTGGTGCTCCCCCGCCAATTCCT	sphingo_2_1	TCACCGCTACACCCCTCGTTCCGCT	alpha_8_1	CTGCCACTGTCCACCCGAGCAAGCT
archaea_2	TGCTCCCCCGCCAATTCCTTTAAGT	sphingo_2_2	GCTATCGGCGTTCTGAGGAATATCT	alpha_8_2	GCCACTGTCCACCCGAGCAAGCTCG
archaea_3	CGCGCCTGCTGCGCCCCGTAGGGCC	sphingo_2_3	CGCTATCGGCGTTCTGAGGAATATC	alpha_8_3	AAACCTCTAGGTAGATACCCACGCG
archaea_4	TTTCGCGCCTGCTGCGCCCCGTAGG	sphingo_2_4	TCGGCGTTCTGAGGAATATCTATGC	alpha_8_4	GTCTGCCACTGTCCACCCGAGCAAG
archaea_5	TCGCGCCTGCTGCGCCCCGTAGGGC	sphingo_2_5	TTCACCGCTACACCCCTCGTTCCGC	alpha_8_5	CCACCCGAGCAAGCTCGGGTTTCTC
archaea_6	TTCGCGCCTGCTGCGCCCCGTAGGG	sphingo_2_6	TTTCACCGCTACACCCCTCGTTCCG	alpha_8_6	TGCCACTGTCCACCCGAGCAAGCTC
archaea_7	GTGCTCCCCCGCCAATTCCTTTAAG	sphingo_2_7	TCGCTTTCGCTTAGCCACTTACTGT	alpha_8_7	CAAACCTCTAGGTAGATACCCACGC
archaea_8	GCTCCCCCGCCAATTCCTTTAAGTT	sphingo_2_8	CGGCGTTCTGAGGAATATCTATGCA	alpha_8_8	TCTGCCACTGTCCACCCGAGCAAGC
archaea_9	GCGCCTGCTGCGCCCCGTAGGGCCT	sphingo_2_9	AACTAATGGGGCGCATGCCCATCCC	alpha_8_9	ACTGTCCACCCGAGCAAGCTCGGGT
archaea_10	CGCCTGCTGCGCCCCGTAGGGCCTG	sphingo_2_10	CGCTTAGCCACTTACTGTATATCGC	alpha_8_10	CCACTGTCCACCCGAGCAAGCTCGG
archaea_11	GCCTGCTGCGCCCCGTAGGGCCTGG	sphingo_2_11	ACTAATGGGGCGCATGCCCATCCCG	alpha_8_11	CCAAACCTCTAGGTAGATACCCACG
archaea_12	GTTTCGCGCCTGCTGCGCCCCGTAG	sphingo_2_12	GCCATGCAGCACCTCGTATAGAGTC	alpha_8_12	GTCCACCCGAGCAAGCTCGGGTTTC
archaea_13	CTTGTGGTGCTCCCCCGCCAATTCC	sphingo_2_13	AGCCATGCAGCACCTCGTATAGAGT	alpha_8_13	TCCACCCGAGCAAGCTCGGGTTTCT
archaea_14	GGTTTCGCGCCTGCTGCGCCCCGTA	sphingo_2_14	CAGCCATGCAGCACCTCGTATAGAG	alpha_8_14	CGTCTGCCACTGTCCACCCGAGCAA
archaea_15	AGGTTTCGCGCCTGCTGCGCCCCGT	sphingo_2_15	ACAGCCATGCAGCACCTCGTATAGA	alpha_8_15	TGTCCACCCGAGCAAGCTCGGGTTT
archaea_16	CCTGCTGCGCCCCGTAGGGCCTGGA	sphingo_2_16	CTTACTTGTCAGCCTACGCACCCTT	alpha_8_16	ACCTCTAGGTAGATACCCACGCGTT
archaea_17	CCTTGTGGTGCTCCCCCGCCAATTC	sphingo_2_17	ACTTACTTGTCAGCCTACGCACCCT	alpha_8_17	CACCCGAGCAAGCTCGGGTTTCTCG
archaea_18	CCCCTTGTGGTGCTCCCCCGCCAAT	sphingo_2_18	CCACTGACTTACTTGTCAGCCTACG	alpha_8_18	TAAGCCGTCTGCCACTGTCCACCCG
archaea_19	ACCCCTTGTGGTGCTCCCCCGCCAA	sphingo_2_19	CACTGACTTACTTGTCAGCCTACGC	alpha_8_19	ACCCGAGCAAGCTCGGGTTTCTCGT
archaea_20	CCCTTGTGGTGCTCCCCCGCCAATT	sphingo_2_20	GACTTACTTGTCAGCCTACGCACCC	alpha_8_20	CCGTCTGCCACTGTCCACCCGAGCA
archaea_21	CACCCCTTGTGGTGCTCCCCCGCCA	sphingo_2_21	TGACTTACTTGTCAGCCTACGCACC	alpha_8_21	AACCTCTAGGTAGATACCCACGCGT

archaea_22	GTGTGTGCAAGGAGCAGGGACGTAT	sphingo_2_22	CTGACTTACTTGTCAGCCTACGCAC	alpha_8_22	GCCGTCTGCCACTGTCCACCCGAGC
archaea_23	TGTGTGCAAGGAGCAGGGACGTATT	sphingo_2_23	ACTGACTTACTTGTCAGCCTACGCA	alpha_8_23	TAGATACCCACGCGTTACTAAGCCG
archaea_24	CGGTGTGTGCAAGGAGCAGGGACGT	sphingo_2_24	CCATGCAGCACCTCGTATAGAGTCC	alpha_8_24	AAGCCGTCTGCCACTGTCCACCCGA
archaea_25	GGTGTGTGCAAGGAGCAGGGACGTA	sphingo_2_25	CGCTTTCGCTTAGCCACTTACTGTA	alpha_8_25	GTAGATACCCACGCGTTACTAAGCC
bacteria_1	CGCTCGTTGCGGGACTTAACCCAAC	sphingo_3_1	AGTTTCCTCGAGCTATGCCCCAGTT	alpha_9_1	TCTCCGGCGACCAAACTCCCCATGT
bacteria_2	GCTCGTTGCGGGACTTAACCCAACA	sphingo_3_2	CGAGTTTCCTCGAGCTATGCCCCAG	alpha_9_2	CGTCTCCGGCGACCAAACTCCCCAT
bacteria_3	GACTTAACCCAACATCTCACGACAC	sphingo_3_3	GTTTCCTCGAGCTATGCCCCAGTTA	alpha_9_3	GTCTCCGGCGACCAAACTCCCCATG
bacteria_4	AACCCAACATCTCACGACACGAGCT	sphingo_3_4	TTTCCTCGAGCTATGCCCCAGTTAA	alpha_9_4	CTCCGGCGACCAAACTCCCCATGTC
bacteria_5	ACTTAACCCAACATCTCACGACACG	sphingo_3_5	GAGTTTCCTCGAGCTATGCCCCAGT	alpha_9_5	GCCGTCTCCGGCGACCAAACTCCCC
bacteria_6	TAACCCAACATCTCACGACACGAGC	sphingo_3_6	TCGAGTTTCCTCGAGCTATGCCCCA	alpha_9_6	TCCGGCGACCAAACTCCCCATGTCA
bacteria_7	GGACTTAACCCAACATCTCACGACA	sphingo_3_7	TTACCGAAGTAAATGCTGCCCCTCG	alpha_9_7	CCGTCTCCGGCGACCAAACTCCCCA
bacteria_8	CTTAACCCAACATCTCACGACACGA	sphingo_3_8	GTTGCTAGCTCTACCCTAAACAGCG	alpha_9_8	CGCCGTCTCCGGCGACCAAACTCCC
bacteria_9	TTAACCCAACATCTCACGACACGAG	sphingo_3_9	AGTTGCTAGCTCTACCCTAAACAGC	alpha_9_9	CCGGCGACCAAACTCCCCATGTCAA
bacteria_10	GGGACTTAACCCAACATCTCACGAC	sphingo_3_10	CCATTTACCGAAGTAAATGCTGCCC	alpha_9_10	ACGCCGTCTCCGGCGACCAAACTCC
bacteria_11	ACTGCTGCCTCCCGTAGGAGTCTGG	sphingo_3_11	CATTTACCGAAGTAAATGCTGCCCC	alpha_9_11	GAACTGAAGGACGCCGTCTCCGGCG
bacteria_12	CTCGTTGCGGGACTTAACCCAACAT	sphingo_3_12	CGCCATTTACCGAAGTAAATGCTGC	alpha_9_12	CGGCGACCAAACTCCCCATGTCAAG
bacteria_13	CGGGACTTAACCCAACATCTCACGA	sphingo_3_13	TTGCTAGCTCTACCCTAAACAGCGC	alpha_9_13	GTCGGCAGCCTCCCTTACGGGTCGG
bacteria_14	TCGTTGCGGGACTTAACCCAACATC	sphingo_3_14	GCCATTTACCGAAGTAAATGCTGCC	alpha_9_14	GGTCGGCAGCCTCCCTTACGGGTCG
bacteria_15	CGTTGCGGGACTTAACCCAACATCT	sphingo_3_15	TCCTCGAGCTATGCCCCAGTTAAAG	alpha_9_15	TGGTCGGCAGCCTCCCTTACGGGTC
bacteria_16	GTTGCGGGACTTAACCCAACATCTC	sphingo_3_16	TTCCTCGAGCTATGCCCCAGTTAAA	alpha_9_16	TCGGCAGCCTCCCTTACGGGTCGGC
bacteria_17	TGCGGGACTTAACCCAACATCTCAC	sphingo_3_17	CAGTTGCTAGCTCTACCCTAAACAG	alpha_9_17	GTGGTCGGCAGCCTCCCTTACGGGT
bacteria_18	TTGCGGGACTTAACCCAACATCTCA	sphingo_3_18	TGCTAGCTCTACCCTAAACAGCGCC	alpha_9_18	CGTGGTCGGCAGCCTCCCTTACGGG
bacteria_19	CCCCACTGCTGCCTCCCGTAGGAGT	sphingo_3_19	CCGTCAGATCCTCTCGCAAGAGTAT	alpha_9_19	CGGCAGCCTCCCTTACGGGTCGGCG
bacteria_20	GCGGGACTTAACCCAACATCTCACG	sphingo_3_20	CTCGAGCTATGCCCCAGTTAAAGGT	alpha_9_20	CGCACCTCAGCGTCAGATCCGGACC
bacteria_21	GCGCTCGTTGCGGGACTTAACCCAA	sphingo_3_21	CCTCGAGCTATGCCCCAGTTAAAGG	alpha_9_21	AATCTTTCCCCCTCAGGGCTTATCC
bacteria_22	TCCCCACTGCTGCCTCCCGTAGGAG	sphingo_3_22	CCAGTTGCTAGCTCTACCCTAAACA	alpha_9_22	CGAACTGAAGGACGCCGTCTCCGGC
bacteria_23	ATTCCCCACTGCTGCCTCCCGTAGG	sphingo_3_23	TCTCTCTGGATGTCACTCGCATTCT	alpha_9_23	TACCCTCTTCCGATCTCTAGCCTAG
bacteria_24	TTCCCCACTGCTGCCTCCCGTAGGA	sphingo_3_24	ATCTCTCTGGATGTCACTCGCATTC	alpha_9_24	GGCAGCCTCCCTTACGGGTCGGCGA
bacteria_25	ACCCAACATCTCACGACACGAGCTG	sphingo_3_25	CTCTCTGGATGTCACTCGCATTCTA	alpha_9_25	GGCGACCAAACTCCCCATGTCAAGG
rhodobacter_1	TCCCCAGGCGGAATGCTTAATCCGT	caldithrix_1_1	ACTCCTCAGAGCTTCATCGCCCACG	alpha_10_1	CGCACCTGAGCGTCAGATCTAGTCC
rhodobacter_2	CTCCCCAGGCGGAATGCTTAATCCG	caldithrix_1_2	CTCCTCAGAGCTTCATCGCCCACGC	alpha_10_2	TCGCACCTGAGCGTCAGATCTAGTC
rhodobacter_3	ACTCCCCAGGCGGAATGCTTAATCC	caldithrix_1_3	AACAGGGCTTTACACTCCTCAGAGC	alpha_10_3	CGTGCGCCACTCTCCAGTTCCCGAA
rhodobacter_4	CCCCAGGCGGAATGCTTAATCCGTT	caldithrix_1_4	CACTCCTCAGAGCTTCATCGCCCAC	alpha_10_4	CCGTGCGCCACTCTCCAGTTCCCGA
rhodobacter_5	CACCGCGTCATGCTGTTACGCGATT	caldithrix_1_5	ACAGGGCTTTACACTCCTCAGAGCT	alpha_10_5	CCCGTGCGCCACTCTCCAGTTCCCG
rhodobacter_6	TCACCGCGTCATGCTGTTACGCGAT	caldithrix_1_6	ACACTCCTCAGAGCTTCATCGCCCA	alpha_10_6	CTGAGCGTCAGATCTAGTCCAGGTG
rhodobacter_7	ATTCACCGCGTCATGCTGTTACGCG	caldithrix_1_7	CAGGGCTTTACACTCCTCAGAGCTT	alpha_10_7	TTCGCACCTGAGCGTCAGATCTAGT
rhodobacter_8	TAGCCCAACCCGTAAGGGCCATGAG	caldithrix_1_8	TCCTCAGAGCTTCATCGCCCACGCG	alpha_10_8	CCAACCGTTATCCCCCACTAAGAGG
rhodobacter_9	TACTCCCCAGGCGGAATGCTTAATC	caldithrix_1_9	TACACTCCTCAGAGCTTCATCGCCC	alpha_10_9	TCCAACCGTTATCCCCCACTAAGAG
rhodobacter_10	AGCCCAACCCGTAAGGGCCATGAGG	caldithrix_1_10	CTTCTGGCACTCCCGACTTTCATGG	alpha_10_10	GCACCTGAGCGTCAGATCTAGTCCA
rhodobacter_11	GCCCAACCCGTAAGGGCCATGAGGA	caldithrix_1_11	TTACACTCCTCAGAGCTTCATCGCC	alpha_10_11	CCTGAGCGTCAGATCTAGTCCAGGT
rhodobacter_12	AACGTATTCACCGCGTCATGCTGTT	caldithrix_1_12	CCTCAGAGCTTCATCGCCCACGCGG	alpha_10_12	GTTAGCCCACCGTCTTCGGGTAAAA
rhodobacter_13	TTCACCGCGTCATGCTGTTACGCGA	caldithrix_1_13	CCTAACAGGGCTTTACACTCCTCAG	alpha_10_13	CCACTAAGAGGTAGGTCCCCACGCG
rhodobacter_14	ACCGCGTCATGCTGTTACGCGATTA	caldithrix_1_14	AGGGCTTTACACTCCTCAGAGCTTC	alpha_10_14	TGAGCGTCAGATCTAGTCCAGGTGG
rhodobacter_15	GCGGAATGCTTAATCCGTTAGGTGT	caldithrix_1_15	TTCTGGCACTCCCGACTTTCATGGC	alpha_10_15	ATCCCCCACTAAGAGGTAGGTCCCC
rhodobacter_16	CCAACCCGTAAGGGCCATGAGGACT	caldithrix_1_16	TCTGGCACTCCCGACTTTCATGGCG	alpha_10_16	GCTTTCACCCCTGACTGGCAAGACC
rhodobacter_17	CCCAGGCGGAATGCTTAATCCGTTA	caldithrix_1_17	CTCAGAGCTTCATCGCCCACGCGGC	alpha_10_17	CAACCGTTATCCCCCACTAAGAGGT
rhodobacter_18	CCCAACCCGTAAGGGCCATGAGGAC	caldithrix_1_18	GGGCTTTACACTCCTCAGAGCTTCA	alpha_10_18	GCGTCACCGAAATCGAAATCCCGAC
rhodobacter_19	AATTCCACTCACCTCTCTCGAACTC	caldithrix_1_19	CTCCTAACAGGGCTTTACACTCCTC	alpha_10_19	TGCGTCACCGAAATCGAAATCCCGA
rhodobacter_20	GAATTCCACTCACCTCTCTCGAACT	caldithrix_1_20	CTGGCACTCCCGACTTTCATGGCGT	alpha_10_20	CGTCACCGAAATCGAAATCCCGACA
rhodobacter_21	TATTCACCGCGTCATGCTGTTACGC	caldithrix_1_21	TCAGAGCTTCATCGCCCACGCGGCG	alpha_10_21	CTGCGTCACCGAAATCGAAATCCCG
rhodobacter_22	ACGTATTCACCGCGTCATGCTGTTA	caldithrix_1_22	ACCTCTACAGCAGTCCCGAAGGAAG	alpha_10_22	TTTCGCACCTGAGCGTCAGATCTAG
rhodobacter_23	GAACGTATTCACCGCGTCATGCTGT	caldithrix_1_23	CCCTCCTAACAGGGTTTTACACTCC	alpha_10_23	CTTTCACCCCTGACTGGCAAGACCG
rhodobacter_24	GGAATTCCACTCACCTCTCTCGAAC	caldithrix_1_24	GGTCGAAACCTCCAACACCTAGTGC	alpha_10_24	CTAAAAGGTTAGCCCACCGTCTTCG
rhodobacter_25	GTAGCCCAACCCGTAAGGGCCATGA	caldithrix_1_25	GTCGAAACCTCCAACACCTAGTGCC	alpha_10_25	CCCACTAAGAGGTAGGTCCCCACGC
margrpA_1	ACGAAGTTAGCCGGTGCTTTCTTGT	chloroflexi_1_1	TCTCCGAGGAGTCGTTCCAGTTTCC	alpha_12_1	CCGTGCGCCACTCTATAAATAGCGT
margrpA_2	CACGAAGTTAGCCGGTGCTTCTTG	chloroflexi_1_2	CTCCGAGGAGTCGTTCCAGTTTCCC	alpha_12_2	CCCGTGCGCCACTCTATAAATAGCG
margrpA_3	GTTACTCACCCGTTCGCCAGTTTAC	chloroflexi_1_3	ACGAATGGGTTTGACACCACCCACA	alpha_12_3	CCAACCGTTATCCCGCAGAAAAAGG
margrpA_4	TAAGGGACATACTGACTTGACATCA	chloroflexi_1_4	CGAATGGGTTTGACACCACCCACAC	alpha_12_4	CCCGCAGAAAAAGGCAGGTTCCCAC
margrpA_5	ATAAGGGACATACTGACTTGACATC	chloroflexi_1_5	CTCTCCGAGGAGTCGTTCCAGTTTC	alpha_12_5	ACCGTTATCCCGCAGAAAAAGGCAG
margrpA_6	AAGGGACATACTGACTTGACATCAT	chloroflexi_1_6	TCCGAGGAGTCGTTCCAGTTTCCCT	alpha_12_6	CAACCGTTATCCCGCAGAAAAAGGC
margrpA_7	TTACTCACCCGTTCGCCAGTTTACT	chloroflexi_1_7	GAATGGGTTTGACACCACCCACACC	alpha_12_7	CGTTTCCAACCGTTATCCCGCAGAA
margrpA_8	CGTTACTCACCCGTTCGCCAGTTTA	chloroflexi_1_8	GCTCTCCGAGGAGTCGTTCCAGTTT	alpha_12_8	CCGCAGAAAAAGGCAGGTTCCCACG
margrpA_9	GCGTTACTCACCCGTTCGCCAGTTT	chloroflexi_1_9	CCGAGGAGTCGTTCCAGTTTCCCTT	alpha_12_9	CGCAGAAAAAGGCAGGTTCCCACGC
margrpA_10	CGCGTTACTCACCCGTTCGCCAGTT	chloroflexi_1_10	CGCTCTCCGAGGAGTCGTTCCAGTT	alpha_12_10	CCGTTATCCCGCAGAAAAAGGCAGG
margrpA_11	ACATACTGACTTGACATCATCCCCA	chloroflexi_1_11	AATGGGTTTGACACCACCCACACCT	alpha_12_11	CGTTATCCCGCAGAAAAAGGCAGGT
margrpA_12	TACTGACTTGACATCATCCCCACCT	chloroflexi_1_12	CGAGGAGTCGTTCCAGTTTCCCTTC	alpha_12_12	ACCCGTGCGCCACTCTATAAATAGC
margrpA_13	GGACATACTGACTTGACATCATCCC	chloroflexi_1_13	AGGAGTCGTTCCAGTTTCCCTTCAC	alpha_12_13	CACCCGTGCGCCACTCTATAAATAG
margrpA_14	GACATACTGACTTGACATCATCCCC	chloroflexi_1_14	GAGGAGTCGTTCCAGTTTCCCTTCA	alpha_12_14	TCCCGCAGAAAAAGGCAGGTTCCCA
margrpA_15	ATACTGACTTGACATCATCCCCACC	chloroflexi_1_15	CGCTTTGCGACATGAGCGTCAGGTT	alpha_12_15	GCAGAAAAAGGCAGGTTCCCACGCG
margrpA_16	CATACTGACTTGACATCATCCCCAC	chloroflexi_1_16	TGAGCGTCAGGTTCAATGCCAGGGT	alpha_12_16	GGAAACCAAACTCCCCATGTCAAGG
margrpA_17	AGGGACATACTGACTTGACATCATC	chloroflexi_1_17	ACGCTTTGCGACATGAGCGTCAGGT	alpha_12_17	CCTCCTGCAAGCAGGTTAGCTCACC
margrpA_18	GGGACATACTGACTTGACATCATCC	chloroflexi_1_18	TCCCCACGCTTTGCGACATGAGCGT	alpha_12_18	TTTCGCGCCTCAGCGTCAAAATCGG
margrpA_19	ACGCGTTACTCACCCGTTCGCCAGT	chloroflexi_1_19	TCAGGTTCAATGCCAGGGTACCGCT	alpha_12_19	TTCGCGCCTCAGCGTCAAAATCGGA
margrpA_20	GCACGAAGTTAGCCGGTGCTTTCTT	chloroflexi_1_20	ATCATCTCGGCCTTCACGTTCGACT	alpha_12_20	ACTCCCCATGTCAAGGACTGGTAAG
margrpA_21	GGCACGAAGTTAGCCGGTGCTTTCT	chloroflexi_1_21	TGCGACATGAGCGTCAGGTTCAATG	alpha_12_21	GCCTCCTGCAAGCAGGTTAGCTCAC
margrpA_22	TGGCACGAAGTTAGCCGGTGCTTTC	chloroflexi_1_22	ATGAGCGTCAGGTTCAATGCCAGGG	alpha_12_22	CAGAAAAAGGCAGGTTCCCACGCGT
margrpA_23	ACTGACTTGACATCATCCCCACCTT	chloroflexi_1_23	CACGCTTTGCGACATGAGCGTCAGG	alpha_12_23	TCCGGCGGACCTTTCCCCCGTAGGG
margrpA_24	CTGGCACGAAGTTAGCCGGTGCTTT	chloroflexi_1_24	CATGAGCGTCAGGTTCAATGCCAGG	alpha_12_24	TATCCCGCAGAAAAAGGCAGGTTCC
margrpA_25	ACGATTACTAGCGATTCCTGCTTCA	chloroflexi_1_25	GTAATCATCTCGGCCTTCACGTTCG	alpha_12_25	CCCCTCTTTCTCCGGCGGACCTTTC
vibrionaceae_1	TATCCCCCACATCAGGGCAATTTCC	chloroflexi_2_1	GGTGACTCCCCTTTCAGGTTGCTAC	alpha_13_1	TCTAACTGTTCAAGCAGCCTGCGAG
vibrionaceae_2	CGACATTACTCGCTGGCAAACAAGG	chloroflexi_2_2	AGGTGACTCCCCTTTCAGGTTGCTA	alpha_13_2	CTAACTGTTCAAGCAGCCTGCGAGC
vibrionaceae_3	CCGACATTACTCGCTGGCAAACAAG	chloroflexi_2_3	CCCTCCCCATTAAGCGGGGAGATTT	alpha_13_3	TAACTGTTCAAGCAGCCTGCGAGCC
vibrionaceae_4	CCCCACATCAGGGCAATTTCCTAGG	chloroflexi_2_4	GCAAGCTTGGCTCATCGGTACCGTT	alpha_13_4	GTCTAACTGTTCAAGCAGCCTGCGA
vibrionaceae_5	CCCCCACATCAGGGCAATTTCCTAG	chloroflexi_2_5	CTCTCCCGATGTTCCAAGCAAGCTT	alpha_13_5	CGCTCCTCAGCGTCAGAAAATAGCC
vibrionaceae_6	CCCACATCAGGGCAATTTCCTAGGC	chloroflexi_2_6	CCCCTCCCCATTAAGCGGGGAGATT	alpha_13_6	GCTCCTCAGCGTCAGAAAATAGCCA
vibrionaceae_7	CCACATCAGGGCAATTTCCTAGGCA	chloroflexi_2_7	TTCCAAGCAAGCTTGGCTCATCGGT	alpha_13_7	TCGCTCCTCAGCGTCAGAAAATAGC
vibrionaceae_8	TCCCCCACATCAGGGCAATTTCCTA	chloroflexi_2_8	AGCAAGCTTGGCTCATCGGTACCGT	alpha_13_8	CGTCTAACTGTTCAAGCAGCCTGCG
vibrionaceae_9	CCCGACATTACTCGCTGGCAAACAA	chloroflexi_2_9	ACTCTCCCGATGTTCCAAGCAAGCT	alpha_13_9	AACTGTTCAAGCAGCCTGCGAGCCC
vibrionaceae_10	ATCCCCCACATCAGGGCAATTTCCT	chloroflexi_2_10	ACCCCTCCCCATTAAGCGGGGAGAT	alpha_13_10	CACGTCTAACTGTTCAAGCAGCCTG
vibrionaceae_11	TGGTTATCCCCCACATCAGGGCAAT	chloroflexi_2_11	TCTCCCGATGTTCCAAGCAAGCTTG	alpha_13_11	ACGTCTAACTGTTCAAGCAGCCTGC
vibrionaceae_12	CCCCCACATCAGGGCAATTTCCCAG	chloroflexi_2_12	CTCCCGATGTTCCAAGCAAGCTTGG	alpha_13_12	ACTGTTCAAGCAGCCTGCGAGCCCT
vibrionaceae_13	TCCCCCACATCAGGGCAATTTCCCA	chloroflexi_2_13	AATGACCCCTCCCCATTAAGCGGGG	alpha_13_13	CCGGGGATTTCACGTCTAACTGTTC
vibrionaceae_14	CCCCACATCAGGGCAATTTCCCAGG	chloroflexi_2_14	GAATGACCCCTCCCCATTAAGCGGG	alpha_13_14	CTCCTCAGCGTCAGAAAATAGCCAG
vibrionaceae_15	CCCACATCAGGGCAATTTCCCAGGC	chloroflexi_2_15	GTTCCAAGCAAGCTTGGCTCATCGG	alpha_13_15	TTCAAGCAGCCTGCGAGCCCTTTAC
vibrionaceae_16	CACATCAGGGCAATTTCCCAGGCAT	chloroflexi_2_16	CGAATGACCCCTCCCCATTAAGCGG	alpha_13_16	TGTTCAAGCAGCCTGCGAGCCCTTT
vibrionaceae_17	CCACATCAGGGCAATTTCCCAGGCA	chloroflexi_2_17	TGTTCCAAGCAAGCTTGGCTCATCG	alpha_13_17	CTGTTCAAGCAGCCTGCGAGCCCTT
vibrionaceae_18	ATCCCCCACATCAGGGCAATTTCCC	chloroflexi_2_18	TCGAATGACCCCTCCCCATTAAGCG	alpha_13_18	GTTCAAGCAGCCTGCGAGCCCTTTA
vibrionaceae_19	TCCCGACATTACTCGCTGGCAAACA	chloroflexi_2_19	AAGCAAGCTTGGCTCATCGGTACCG	alpha_13_19	CGGCATTGCTGGATCAGAGTTGCCT
vibrionaceae_20	GGTTATCCCCCACATCAGGGCAATT	chloroflexi_2_20	TGACCCCTCCCCATTAAGCGGGGAG	alpha_13_20	GGCATTGCTGGATCAGAGTTGCCTC
vibrionaceae_21	CGCAAGTTGGCCGCCCTCTGTATGC	chloroflexi_2_21	CCACTCTCCCGATGTTCCAAGCAAG	alpha_13_21	CGCGGCATTGCTGGATCAGAGTTGC
vibrionaceae_22	GCAAGTTGGCCGCCCTCTGTATGCG	chloroflexi_2_22	CCTCCCCATTAAGCGGGGAGATTTC	alpha_13_22	GCATTGCTGGATCAGAGTTGCCTCC
vibrionaceae_23	ATGGTTATCCCCCACATCAGGGCAA	chloroflexi_2_23	CAAGCTTGGCTCATCGGTACCGTTC	alpha_13_23	GCGGCATTGCTGGATCAGAGTTGCC
vibrionaceae_24	ACTCGCTGGCAAACAAGGATAAGGG	chloroflexi_2_24	CCGATGTTCCAAGCAAGCTTGGCTC	alpha_13_24	CCCGGGATTTCACGTCTAACTGTT
vibrionaceae_25	CGCATCTGAGTGTCAGTATCTGTCC	chloroflexi_2_25	CACTCTCCCGATGTTCCAAGCAAGC	alpha_13_25	ACGCGGCATTGCTGGATCAGAGTTG
alteromonadales_1	CCCACTTGGGCCAATCTAAAGGCGA	chlorella_pl_1	CGCCACTCATCGCAATCTGGCAAGC	delta_1_1	CCGAACTACGAACTGCTTTCTGGGA
alteromonadales_2	ATCCCACTTGGGCCAATCTAAAGGC	chlorella_pl_2	GCCACTCATCGCAATCTGGCAAGCC	delta_1_2	TCCGAACTACGAACTGCTTTCTGGG
alteromonadales_3	TCCCACTTGGGCCAATCTAAAGGCG	chlorella_pl_3	CCACTCATCGCAATCTGGCAAGCCA	delta_1_3	TTGCTGCGGCACAGCAGGGGTCAAT
alteromonadales_4	CCACTTGGGCCAATCTAAAGGCGAG	chlorella_pl_4	CACTCATCGCAATCTGGCAAGCCAA	delta_1_4	GTTTGCTGCGGCACAGCAGGGGTCA
alteromonadales_5	CACTTGGGCCAATCTAAAGGCGAGA	chlorella_pl_5	GCAAGCCAAATTGCATGCGTACGAC	delta_1_5	TTTGCTGCGGCACAGCAGGGGTCAA
alteromonadales_6	ACTTGGGCCAATCTAAAGGCGAGAG	chlorella_pl_6	GCCAAATTGCATGCGTACGACTTGC	delta_1_6	TTGCCCAACGACTTCTGGTACAACC
alteromonadales_7	CTTGGGCCAATCTAAAGGCGAGAGC	chlorella_pl_7	TGGCAAGCCAAATTGCATGCGTACG	delta_1_7	GGTTTGCCCAACGACTTCTGGTACA
alteromonadales_8	CACCTCAAGGCATGTTCCCAAGCAT	chlorella_pl_8	CTGTGTCCACTCTGGAACTTCCCCT	delta_1_8	TCCCCGAAGGGTTTGCCCAACGACT

alteromonadales_9	TGAGCGTCAGTGTTGACCCAGGTGG	chlorella_pl_9	CCGTCCGCCACTCATCGCAATCTGG	delta_1_9	CCCCGAAGGGTTTGCCCAACGACTT
alteromonadales_10	CGAAGCCCCCTTTGGTCCGTAGACA	chlorella_pl_10	CCGCCACTCATCGCAATCTGGCAAG	delta_1_10	CCGAAGGGTTTGCCCAACGACTTCT
alteromonadales_11	ACAGAACCGAGGTTCCGAGCTTCTA	chlorella_pl_11	CGTCCGCCACTCATCGCAATCTGGC	delta_1_11	CCCGAAGGGTTTGCCCAACGACTTC
alteromonadales_12	CAGAACCGAGGTTCCGAGCTTCTAG	chlorella_pl_12	CCTGTGTCCACTCTGGAACTTCCCC	delta_1_12	CCCGGGCTTTCACACCTGACTTAAA
alteromonadales_13	AGAACCGAGGTTCCGAGCTTCTAGT	chlorella_pl_13	GTCCGCCACTCATCGCAATCTGGCA	delta_1_13	GCTTCCTTCAGTGGTACCGTCAACA
alteromonadales_14	GAAAAACAGAACCGAGGTTCCGAGC	chlorella_pl_14	TCCGCCACTCATCGCAATCTGGCAA	delta_1_14	AGGCGCCTGCATCCCCGAAGGGTTT
alteromonadales_15	GAACCGAGGTTCCGAGCTTCTAGTA	chlorella_pl_15	ACCTGTGTCCACTCTGGAACTTCCC	delta_1_15	GGCGCCTGCATCCCCGAAGGGTTTG
alteromonadales_16	CCGAGGTTCCGAGCTTCTAGTAGAC	chlorella_pl_16	GGCAAGCCAAATTGCATGCGTACGA	delta_1_16	GCGCCTGCATCCCCGAAGGGTTTGC
alteromonadales_17	CGAGGTTCCGAGCTTCTAGTAGACA	chlorella_pl_17	CTGGCAAGCCAAATTGCATGCGTAC	delta_1_17	GCATCCCCGAAGGGTTTGCCCAACG
alteromonadales_18	AACCGAGGTTCCGAGCTTCTAGTAG	chlorella_pl_18	CCCGTCCGCCACTCATCGCAATCTG	delta_1_18	ATCCCCGAAGGGTTTGCCCAACGAC
alteromonadales_19	ACCGAGGTTCCGAGCTTCTAGTAGA	chlorella_pl_19	CACCTGTGTCCACTCTGGAACTTCC	delta_1_19	CATCCCCGAAGGGTTTGCCCAACGA
alteromonadales_20	AACAGAACCGAGGTTCCGAGCTTCT	chlorella_pl_20	ACCCGTCCGCCACTCATCGCAATCT	delta_1_20	ACCTTAGGCGCCTGCATCCCCGAAG
alteromonadales_21	AAACAGAACCGAGGTTCCGAGCTTC	chlorella_pl_21	CCACCTGTGTCCACTCTGGAACTTC	delta_1_21	CCTTAGGCGCCTGCATCCCCGAAGG
alteromonadales_22	CCGAAGCCCCCTTTGGTCCGTAGAC	chlorella_pl_22	CACCCGTCCGCCACTCATCGCAATC	delta_1_22	TACCTTAGGCGCCTGCATCCCCGAA
alteromonadales_23	GAAGCCCCCTTTGGTCCGTAGACAT	chlorella_pl_23	TCACCCGTCCGCCACTCATCGCAAT	delta_1_23	ATACCTTAGGCGCCTGCATCCCCGA
alteromonadales_24	AAGCCCCCTTTGGTCCGTAGACATT	chlorella_pl_24	ACCACCTGTGTCCACTCTGGAACTT	delta_1_24	CTTAGGCGCCTGCATCCCCGAAGGG
alteromonadales_25	CCACCTCAAGGCATGTTCCCAAGCA	chlorella_pl_25	CACCACCTGTGTCCACTCTGGAACT	delta_1_25	CATACCTTAGGCGCCTGCATCCCCG
polaribacters_1	GCCAGATGGCTGCTCATTGTCCATA	plastid_1_1	GGTCTCACGACTTGGCATCTCATTG	delta_2_1	CTCCAGTCTTTCGATAGGATTCCCG
polaribacters_2	TGCCAGATGGCTGCTCATTGTCCAT	plastid_1_2	TCTCCCTAGGCAGGTTTTTGACCTG	delta_2_2	GGCCACCCTTGATCCAAAAACCCGA
polaribacters_3	TTGCCAGATGGCTGCTCATTGTCCA	plastid_1_3	CCACGTGGATTCGATACACGCAATG	delta_2_3	AGGCCACCCTTGATCCAAAAACCCG
polaribacters_4	CCAGATGGCTGCTCATTGTCCATAC	plastid_1_4	ATGCACCACCTGTATGTGTCTGCCG	delta_2_4	AAGGGCACTCCAGTCTTTCGATAGG
polaribacters_5	GTTGCCAGATGGCTGCTCATTGTCC	plastid_1_5	CACCACCTGTATGTGTCTGCCGAAG	delta_2_5	GAGGCCACCCTTGATCCAAAAACCC
polaribacters_6	TCCCTCAGCGTCAGTACATACGTAG	plastid_1_6	AACACCACGTGGATTCGATACACGC	delta_2_6	GAAGGGCACTCCAGTCTTTCGATAG
polaribacters_7	CCCTCAGCGTCAGTACATACGTAGT	plastid_1_7	ACCACCTGTATGTGTCTGCCGAAGC	delta_2_7	ACCCTAGCAAGCTAGAGTGTTCTCG
polaribacters_8	GTCCCTCAGCGTCAGTACATACGTA	plastid_1_8	CTTCTCCCTAGGCAGGTTTTTGACC	delta_2_8	CATGTAGAGGCCACCCTTGATCCAA
polaribacters_9	CAGATGGCTGCTCATTGTCCATACC	plastid_1_9	TGCACCACCTGTATGTGTCTGCCGA	delta_2_9	AGAGGCCACCCTTGATCCAAAAACC
polaribacters_10	TTCGCATAGTGGCTGCTCATTGTCC	plastid_1_10	ACACCACGTGGATTCGATACACGCA	delta_2_10	ACATGTAGAGGCCACCCTTGATCCA
polaribacters_11	CGTCCCTCAGCGTCAGTACATACGT	plastid_1_11	CCACCTGTATGTGTCTGCCGAAGCA	delta_2_11	TACATGTAGAGGCCACCCTTGATCC
polaribacters_12	AGACCCCCTACCTATCGTTGCCATG	plastid_1_12	GCACCACCTGTATGTGTCTGCCGAA	delta_2_12	CCCCGAAGGGCACTCCAGTCTTTCG
polaribacters_13	CGCTTAGTCACTGAGCTAATGCCCA	plastid_1_13	CACCACGTGGATTCGATACACGCAA	delta_2_13	CCCTAGCAAGCTAGAGTGTTCTCGT
polaribacters_14	TGTTGCCAGATGGCTGCTCATTGTC	plastid_1_14	CTCACGACTTGGCATCTCATTGTCC	delta_2_14	GCTTACATGTAGAGGCCACCCTTGA
polaribacters_15	GATTCGCTCCTATTCGCATAGTGGC	plastid_1_15	CAGGTACACGTCAGAAACTTCCTCC	delta_2_15	GGGCACTCCAGTCTTTCGATAGGAT
polaribacters_16	TCGTCCCTCAGCGTCAGTACATACG	plastid_1_16	CTCCCTAGGCAGGTTTTTGACCTGT	delta_2_16	CCGAAGGGCACTCCAGTCTTTCGAT
polaribacters_17	TCGCTTAGTCACTGAGCTAATGCCC	plastid_1_17	CGGTCTCACGACTTGGCATCTCATT	delta_2_17	CGAAGGGCACTCCAGTCTTTCGATA
polaribacters_18	TCGCATAGTGGCTGCTCATTGTCCA	plastid_1_18	GACCAACTACTGATCGTCACCTTGG	delta_2_18	AGGGCACTCCAGTCTTTCGATAGGA
polaribacters_19	CAGACCCCCTACCTATCGTTGCCAT	plastid_1_19	GCTTCTCCCTAGGCAGGTTTTTGAC	delta_2_19	CCCGAAGGGCACTCCAGTCTTTCGA
polaribacters_20	TTCGTCCCTCAGCGTCAGTACATAC	plastid_1_20	CACCTGTATGTGTCTGCCGAAGCAC	delta_2_20	CCAGTCTTTCGATAGGATTCCCGGG
polaribacters_21	CTCTCTGTTGCCAGATGGCTGCTCA	plastid_1_21	CTGTATGTGTCTGCCGAAGCACTTC	delta_2_21	TCCAGTCTTTCGATAGGATTCCCGG
polaribacters_22	GCAGATTCTATACGCGTTACGCACC	plastid_1_22	CATGCACCACCTGTATGTGTCTGCC	delta_2_22	GTCTTTCGATAGGATTCCCGGGATG
polaribacters_23	GGCAGATTCTATACGCGTTACGCAC	plastid_1_23	AGGTACACGTCAGAAACTTCCTCCC	delta_2_23	CTTTCGATAGGATTCCCGGGATGTC
polaribacters_24	CACCTCTGACTTAATTGACCGCCTG	plastid_1_24	TCGGTCTCACGACTTGGCATCTCAT	delta_2_24	CAGTCTTTCGATAGGATTCCCGGGA
polaribacters_25	CCTCTGACTTAATTGACCGCCTGCG	plastid_1_25	CCTTCTACTTCGACTCTACTCGAGC	delta_2_25	GGGCTCCCCGAAGGGCACTCCAGTC
desulfovibrionales_1	CCCGAGCATGCTGATCTCGAATTAC	plastid_2_1	CAGGTAACGTCAGAAACTTCCTCCCT	delta_3_1	GGCACAGAAAGGGTCAACACTTCCT
desulfovibrionales_2	CACCCGAGCATGCTGATCTCGAATT	plastid_2_2	AGGTAACGTCAGAACTTCCTCCCTG	delta_3_2	TCGGCACAGAAAGGGTCAACACTTC
desulfovibrionales_3	TCACCCGAGCATGCTGATCTCGAAT	plastid_2_3	GGTAACGTCAGAACTTCCTCCCTGA	delta_3_3	CGGCACAGAAAGGGTCAACACTTCC
desulfovibrionales_4	TTCACCCGAGCATGCTGATCTCGAA	plastid_2_4	TCAGGTAACGTCAGAACTTCCTCCC	delta_3_4	CTTCGGCACAGAAAGGGTCAACACT
desulfovibrionales_5	GCACCCTCTAATTTCCTAGAGGTCC	plastid_2_5	CGCGTTAGCTATAATACCGCATGGG	delta_3_5	CACTTTACTCTCCCGACGAATCGGA
desulfovibrionales_6	AGGGCACCCTCTAATTTCCTAGAGG	plastid_2_6	AATACCGCATGGGTCGATACATGCG	delta_3_6	CCACTTTACTCTCCCGACGAATCGG
desulfovibrionales_7	GGGCACCCTCTAATTTCCTAGAGGT	plastid_2_7	CTGTATGTACGTTCCCGAAGGTGGT	delta_3_7	GCTTCGGCACAGAAAGGGTCAACAC
desulfovibrionales_8	CCCTCTAATTTCCTAGAGGTCCCCT	plastid_2_8	CCTGTATGTACGTTCCCGAAGGTGG	delta_3_8	CTCTCCCGACGAATCGGAATTTCTC
desulfovibrionales_9	ACCCTCTAATTTCCTAGAGGTCCCC	plastid_2_9	TCAGCCGCGAGCTCCTCTCTAGGCA	delta_3_9	CCGACGAATCGGAATTTCTCGTTCG
desulfovibrionales_10	ATTTCCTAGAGGTCCCCTGGATGTC	plastid_2_10	ATACCGCATGGGTCGATACATGCGA	delta_3_10	GCCACTTTACTCTCCCGACGAATCG
desulfovibrionales_11	AGGGTACCGTCAAATGCCTACCCTA	plastid_2_11	ACCTGTATGTACGTTCCCGAAGGTG	delta_3_11	AGCTTCGGCACAGAAAGGGTCAACA
desulfovibrionales_12	GAGGGTACCGTCAAATGCCTACCCT	plastid_2_12	GCCGCGAGCTCCTCTCTAGGCAGAA	delta_3_12	ACTCTCACGAGTTCGCTACCCTTTG
desulfovibrionales_13	GGGTACCGTCAAATGCCTACCCTAT	plastid_2_13	GCGCCTTCCTCCAAACGGTTAGAAT	delta_3_13	TCTCCCGACGAATCGGAATTTCTCG
desulfovibrionales_14	TTTCCTAGAGGTCCCCTGGATGTCA	plastid_2_14	AGCCGCGAGCTCCTCTCTAGGCAGA	delta_3_14	TAGCTTCGGCACAGAAAGGGTCAAC
desulfovibrionales_15	TTCCTAGAGGTCCCCTGGATGTCAA	plastid_2_15	CAGCCGCGAGCTCCTCTCTAGGCAG	delta_3_15	CTCTCACGAGTTCGCTACCCTTTGT
desulfovibrionales_16	TGAGGGTACCGTCAAATGCCTACCC	plastid_2_16	CACCTGTATGTACGTTCCCGAAGGT	delta_3_16	GTGCTGGTTACACCCGAAGGCAATC
desulfovibrionales_17	CTCTAATTTCCTAGAGGTCCCCTGG	plastid_2_17	AATCAGCCGCGAGCTCCTCTCTAGG	delta_3_17	CGCCACTTTACTCTCCCGACGAATC
desulfovibrionales_18	CACCCTCTAATTTCCTAGAGGTCCC	plastid_2_18	TAATCAGCCGCGAGCTCCTCTCTAG	delta_3_18	CTCCCGACGAATCGGAATTTCTCGT
desulfovibrionales_19	GGCACCCTCTAATTTCCTAGAGGTC	plastid_2_19	ATCAGCCGCGAGCTCCTCTCTAGGC	delta_3_19	CTTACTCTCACGAGTTCGCTACCCT
desulfovibrionales_20	CCTCTAATTTCCTAGAGGTCCCCTG	plastid_2_20	GGCGCCTTCCTCCAAACGGTTAGAA	delta_3_20	TGTGCTGGTTACACCCGAAGGCAAT
desulfovibrionales_21	CAACCGTTATCCCCGTCTTGAAGGT	plastid_2_21	CCGCGAGCTCCTCTCTAGGCAGAAA	delta_3_21	CTCACGAGTTCGCTACCCTTTGTAC
desulfovibrionales_22	ATCAAAGGCTGTTCCACCGTTGAGC	plastid_2_22	GCATGGGTCGATACATGCGACATCT	delta_3_22	CTGTGCTGGTTACACCCGAAGGCAA
desulfovibrionales_23	TTGCTCGTTAGCTCGCCGGCTTCGG	plastid_2_23	CCGCATGGGTCGATACATGCGACAT	delta_3_23	TCGCCACTTTACTCTCCCGACGAAT
desulfovibrionales_24	ATTGCTCGTTAGCTCGCCGGCTTCG	plastid_2_24	TACCGCATGGGTCGATACATGCGAC	delta_3_24	CCTGTGCTGGTTACACCCGAAGGCA
desulfovibrionales_25	CCTAGAGGTCCCCTGGATGTCAAGC	plastid_2_25	ACCGCATGGGTCGATACATGCGACA	delta_3_25	GCTTACTCTCACGAGTTCGCTACCC
aquificae_1	AACCAGACGCTCCACCGGTTGTGCG	plastid_3_1	CACCGTCGTATATCTGACCGACGAT	altero_1_1	CCCACTTGGGCCAATCTAAAGGCGA
aquificae_2	ACCAGACGCTCCACCGGTTGTGCGG	plastid_3_2	TTCACCGTCGTATATCTGACCGACG	altero_1_2	ATCCCACTTGGGCCAATCTAAAGGC
aquificae_3	AAACCAGACGCTCCACCGGTTGTGC	plastid_3_3	TCACCGTCGTATATCTGACCGACGA	altero_1_3	TCCCACTTGGGCCAATCTAAAGGCG
aquificae_4	TGCCACTGTAGCGCCTGTGTAGCCC	plastid_3_4	GTAGCCGAGTTTCAGGCTACAATCC	altero_1_4	CCACTTGGGCCAATCTAAAGGCGAG
aquificae_5	TAAACCAGACGCTCCACCGGTTGTG	plastid_3_5	TAGCCGAGTTTCAGGCTACAATCCG	altero_1_5	CACTTGGGCCAATCTAAAGGCGAGA
aquificae_6	GCCACTGTAGCGCCTGTGTAGCCCA	plastid_3_6	GACCTCATCCTCACCTTCCTCCAAT	altero_1_6	ACTTGGGCCAATCTAAAGGCGAGAG
aquificae_7	CCAGACGCTCCACCGGTTGTGCGGG	plastid_3_7	AGCCGAGTTTCAGGCTACAATCCGA	altero_1_7	CTTGGGCCAATCTAAAGGCGAGAGC
aquificae_8	CCACTGTAGCGCCTGTGTAGCCCAG	plastid_3_8	GCCGAGTTTCAGGCTACAATCCGAA	altero_1_8	CTGTCAGTAACGTCACAGCTAGCAG
aquificae_9	GCATAAAGGGCATACTGACCTGACG	plastid_3_9	CCGAGTTTCAGGCTACAATCCGAAC	altero_1_9	ACAGAACCGAGGTTCCGAGCTTCTA
aquificae_10	TTAAACCAGACGCTCCACCGGTTGT	plastid_3_10	CTCCCGTAGGAGTCTGTTCCGTTCT	altero_1_10	CAGAACCGAGGTTCCGAGCTTCTAG
aquificae_11	CATTGCCCACGATTCCCCACTGCTG	plastid_3_11	CCTCCCGTAGGAGTCTGTTCCGTTC	altero_1_11	AGAACCGAGGTTCCGAGCTTCTAGT
aquificae_12	ATTGCCCACGATTCCCCACTGCTGC	plastid_3_12	TCCCGTAGGAGTCTGTTCCGTTCTA	altero_1_12	GAAAAACAGAACCGAGGTTCCGAGC
aquificae_13	CCATTGCCCACGATTCCCCACTGCT	plastid_3_13	CCCGTAGGAGTCTGTTCCGTTCTAA	altero_1_13	GAACCGAGGTTCCGAGCTTCTAGTA
aquificae_14	GCCCATTGCCCACGATTCCCCACTG	plastid_3_14	TGACCTCATCCTCACCTTCCTCCAA	altero_1_14	CCGAGGTTCCGAGCTTCTAGTAGAC
aquificae_15	CCCATTGCCCACGATTCCCCACTGC	plastid_3_15	CTAAAGCATTCATCCTCCACGCGGT	altero_1_15	CGAGGTTCCGAGCTTCTAGTAGACA
aquificae_16	CGCCCATTGCCCACGATTCCCCACT	plastid_3_16	CCTAAAGCATTCATCCTCCACGCGG	altero_1_16	AACCGAGGTTCCGAGCTTCTAGTAG
aquificae_17	TGCCCACGATTCCCCACTGCTGCCC	plastid_3_17	CCCTAAAGCATTCATCCTCCACGCG	altero_1_17	ACCGAGGTTCCGAGCTTCTAGTAGA
aquificae_18	ATTAAACCAGACGCTCCACCGGTTG	plastid_3_18	ACCCTAAAGCATTCATCCTCCACGC	altero_1_18	AACAGAACCGAGGTTCCGAGCTTCT
aquificae_19	TTGCCCACGATTCCCCACTGCTGCC	plastid_3_19	ACATAAGGGGCATGCTGACTTGACC	altero_1_19	AAACAGAACCGAGGTTCCGAGCTTC
aquificae_20	GCCCACGATTCCCCACTGCTGCCCC	plastid_3_20	GTTCCGTTCTAAATCCCAGTGTGGC	altero_1_20	CCAACTGTTGTCCCCCACCTCAAGG
aquificae_21	CAGACGCTCCACCGGTTGTGCGGGC	plastid_3_21	CATAAGGGGCATGCTGACTTGACCT	altero_1_21	CCGGACTACGACGCACTTTAAGTGA
aquificae_22	GGCATAAAGGGCATACTGACCTGAC	plastid_3_22	GCGGTATTGCTTGGTCAAGCTTTCG	altero_1_22	TGGGCCAATCTAAAGGCGAGAGCCG
aquificae_23	GCAGTTCGGAATGCCTTGCCGAAGT	plastid_3_23	CGGTATTGCTTGGTCAAGCTTTCGC	altero_1_23	GGGCCAATCTAAAGGCGAGAGCCGA
aquificae_24	CAGTTCGGAATGCCTTGCCGAAGTT	plastid_3_24	CACGCGGTATTGCTTGGTCAAGCTT	altero_1_24	TTGGGCCAATCTAAAGGCGAGAGCC
aquificae_25	CGCAGTTCGGAATGCCTTGCCGAAG	plastid_3_25	CATCCTCCACGCGGTATTGCTTGGT	altero_1_25	GGTTCCGAGCTTCTAGTAGACATCG
bacilli_1	CACTCTGCTCCCGAAGGAGAAGCCC	plastid_4_1	CTTAAGCGCCGCCCTCCGAATGGTT	altero_2_1	TCTCACTTGGGCCTCTCTTTGCGCC
bacilli_2	GTCACTCTGCTCCCGAAGGAGAAGC	plastid_4_2	CCTTAAGCGCCGCCCTCCGAATGGT	altero_2_2	CCCCTCGCAAAGGCAAGTTCCCAAG
bacilli_3	CTGCTCCCGAAGGAGAAGCCCTATC	plastid_4_3	TACCTTAAGCGCCGCCCTCCGAATG	altero_2_3	CCCTCGCAAAGGCAAGTTCCCAAGC
bacilli_4	TCACTCTGCTCCCGAAGGAGAAGCC	plastid_4_4	ACCTTAAGCGCCGCCCTCCGAATGG	altero_2_4	TCACTTGGGCCTCTCTTTGCGCCGG
bacilli_5	TCTGCTCCCGAAGGAGAAGCCCTAT	plastid_4_5	AGCCCTACCTTAAGCGCCGCCCTCC	altero_2_5	CTTGGGCCTCTCTTTGCGCCGGAGC
bacilli_6	TGCTCCCGAAGGAGAAGCCCTATCT	plastid_4_6	TTAAGCGCCGCCCTCCGAATGGTTA	altero_2_6	CGACATTCTTTAAGGGGTCCGCTCC
bacilli_7	CTCTGCTCCCGAAGGAGAAGCCCTA	plastid_4_7	TAAGCGCCGCCCTCCGAATGGTTAG	altero_2_7	CACTTGGGCCTCTCTTTGCGCCGGA
bacilli_8	GCTCCCGAAGGAGAAGCCCTATCTC	plastid_4_8	TAGCCCTACCTTAAGCGCCGCCCTC	altero_2_8	CTCACTTGGGCCTCTCTTTGCGCCG
bacilli_9	ACTCTGCTCCCGAAGGAGAAGCCCT	plastid_4_9	CTACCTTAAGCGCCGCCCTCCGAAT	altero_2_9	ACTTGGGCCTCTCTTTGCGCCGGAG
bacilli_10	CCGAAGCCGCCTTTCAATTTCGAAC	plastid_4_10	GCCCTACCTTAAGCGCCGCCCTCCG	altero_2_10	CTACGACATTCTTTAAGGGGTCCGC
bacilli_11	CGTCCGCCGCTAACTTCATAAGAGC	plastid_4_11	CCCTACCTTAAGCGCCGCCCTCCGA	altero_2_11	CCGGACTACGACATTCTTTAAGGGG
bacilli_12	GTCCGCCGCTAACTTCATAAGAGCA	plastid_4_12	CCTACCTTAAGCGCCGCCCTCCGAA	altero_2_12	ATCTCACTTGGGCCTCTCTTTGCGC
bacilli_13	CCGCCGCTAACTTCATAAGAGCAAG	plastid_4_13	CTAGCCCTACCTTAAGCGCCGCCCT	altero_2_13	CCCCCTCGCAAAGGCAAGTTCCCAA
bacilli_14	AGCCGAAGCCGCCTTTCAATTTCGA	plastid_4_14	ACTAGCCCTACCTTAAGCGCCGCCC	altero_2_14	ACATTCTTTAAGGGGTCCGCTCCAC
bacilli_15	CTCCCGAAGGAGAAGCCCTATCTCT	plastid_4_15	AAGCGCCGCCCTCCGAATGGTTAGG	altero_2_15	TTGGGCCTCTCTTTGCGCCGGAGCC
bacilli_16	CAGCCGAAGCCGCCTTTCAATTTCG	plastid_4_16	CACTAGCCCTACCTTAAGCGCCGCC	altero_2_16	TCCCCCTCGCAAAGGCAAGTTCCCA
bacilli_17	CTGTCACTCTGCTCCCGAAGGAGAA	plastid_4_17	CGCCGCCCTCCGAATGGTTAGGCTA	altero_2_17	CCTCGCAAAGGCAAGTTCCCAAGCA
bacilli_18	GCCGAAGCCGCCTTTCAATTTCGAA	plastid_4_18	GCGCCGCCCTCCGAATGGTTAGGCT	altero_2_18	GGGTCCGCTCCACATCACTGTCTCG
bacilli_19	CCCGTCCGCCGCTAACTTCATAAGA	plastid_4_19	GCCGCCCTCCGAATGGTTAGGCTAA	altero_2_19	ACGACATTCTTTAAGGGGTCCGCTC
bacilli_20	CCGTCCGCCGCTAACTTCATAAGAG	plastid_4_20	AGCGCCGCCCTCCGAATGGTTAGGC	altero_2_20	CATTCTTTAAGGGGTCCGCTCCACA

bacilli_21	CGCCGCTAACTTCATAAGAGCAAGC	plastid_4_21	ACGAGATTAGCTAGCCTTCGCAGGT	altero_2_21	GACATTCTTTAAGGGGTCCGCTCCA
bacilli_22	CCCGAAGGAGAAGCCCTATCTCTAG	plastid_4_22	CCGCCCTCCGAATGGTTAGGCTAAC	altero_2_22	AATCTCACTTGGGCCTCTCTTTGCG
bacilli_23	CGAAGGAGAAGCCCTATCTCTAGGG	plastid_4_23	CGCCCTCCGAATGGTTAGGCTAACG	altero_2_23	TAAGGGGTCCGCTCCACATCACTGT
bacilli_24	CCGAAGGAGAAGCCCTATCTCTAGG	plastid_4_24	GCCCTCCGAATGGTTAGGCTAACGA	altero_2_24	ATCCCCCTCGCAAAGGCAAGTTCCC
bacilli_25	TGTCACTCTGCTCCCGAAGGAGAAG	plastid_4_25	TCACTAGCCCTACCTTAAGCGCCGC	altero_2_25	GGTCCGCTCCACATCACTGTCTCGC
crenarch_1_1	AGCCTGTACGTTGAGCGTACAGATT	plastid_5_1	CTCTACCCCTACCATACTCAAGCCT	colwel_1_1	TGCGCCACTCACGGATCAAGTCCAC
crenarch_1_2	CCTGTACGTTGAGCGTACAGATTTA	plastid_5_2	GACGTCGTCCTCCAAATGGTTAGAC	colwel_1_2	CTGCGCCACTCACGGATCAAGTCCA
crenarch_1_3	GCCTGTACGTTGAGCGTACAGATTT	plastid_5_3	CCTTAGACGTCGTCCTCCAAATGGT	colwel_1_3	GCTGCGCCACTCACGGATCAAGTCC
crenarch_1_4	GAGCGTACAGATTTAACCGAAAACT	plastid_5_4	ACCTTAGACGTCGTCCTCCAAATGG	colwel_1_4	TAGCTGCGCCACTCACGGATCAAGT
crenarch_1_5	TGAGCGTACAGATTTAACCGAAAAC	plastid_5_5	CCTCTACCCCTACCATACTCAAGCC	colwel_1_5	GTTAGCTGCGCCACTCACGGATCAA
crenarch_1_6	CAGCCTGTACGTTGAGCGTACAGAT	plastid_5_6	GCTAGTTCTCGCGAATTTGCGACTC	colwel_1_6	CGTTAGCTGCGCCACTCACGGATCA
crenarch_1_7	CCTTGTCACGAACCTCAAGTTCGAT	plastid_5_7	CCTCTCGGCATATGGGGATTTAGCT	colwel_1_7	GTGCGTTAGCTGCGCCACTCACGGA
crenarch_1_8	CTTGTCACGAACCTCAAGTTCGATA	plastid_5_8	GACTAACGGTGTTGGGTATGACCAG	colwel_1_8	TGCGTTAGCTGCGCCACTCACGGAT
crenarch_1_9	TTGTCACGAACCTCAAGTTCGATAA	plastid_5_9	ACTAACGGTGTTGGGTATGACCAGC	colwel_1_9	TTAGCTGCGCCACTCACGGATCAAG
crenarch_1_10	CTGTACGTTGAGCGTACAGATTTAA	plastid_5_10	CCAACAGTTATTCCCCTCCTAAGGG	colwel_1_10	GCGTTAGCTGCGCCACTCACGGATC
crenarch_1_11	GTCACGAACCTCAAGTTCGATAACG	plastid_5_11	CTCTCGGCATATGGGGATTTAGCTG	colwel_1_11	AGCTGCGCCACTCACGGATCAAGTC
crenarch_1_12	TTCCCTTGTCACGAACCTCAAGTTC	plastid_5_12	GCGCGAGCTCATCCTTAGGCAGTGT	colwel_1_12	GCGGTATTGCTGCCCTCTGTACCTG
crenarch_1_13	TCACGAACCTCAAGTTCGATAACGC	plastid_5_13	CGCGAGCTCATCCTTAGGCAGTGTA	colwel_1_13	CGCGGTATTGCTGCCCTCTGTACCT
crenarch_1_14	TGTCACGAACCTCAAGTTCGATAAC	plastid_5_14	GCGAGCTCATCCTTAGGCAGTGTAA	colwel_1_14	GGATCAAGTCCACGAACGGCTAGTT
crenarch_1_15	CTGCAGCACTGCATTGGCCACAAGC	plastid_5_15	CACCTCTCGGCATATGGGGATTTAG	colwel_1_15	CGGATCAAGTCCACGAACGGCTAGT
crenarch_1_16	GCAGCCTGTACGTTGAGCGTACAGA	plastid_5_16	ACCTCTCGGCATATGGGGATTTAGC	colwel_1_16	GCGCCACTCACGGATCAAGTCCACG
crenarch_1_17	CACGAACCTCAAGTTCGATAACGCC	plastid_5_17	GCAGCCTACAATCCGAACTTGGACA	colwel_1_17	ACGGATCAAGTCCACGAACGGCTAG
crenarch_1_18	TGTACGTTGAGCGTACAGATTTAAC	plastid_5_18	GGCGCGAGCTCATCCTTAGGCAGTG	colwel_1_18	CACGGATCAAGTCCACGAACGGCTA
crenarch_1_19	CGTTGAGCGTACAGATTTAACCGAA	plastid_5_19	CGGCAGTCTCTCTAGAGATCCCAAT	colwel_1_19	CGCCACTCACGGATCAAGTCCACGA
crenarch_1_20	GTACGTTGAGCGTACAGATTTAACC	plastid_5_20	ATCACCGGCAGTCTCTCTAGAGATC	colwel_1_20	GCCACTCACGGATCAAGTCCACGAA
crenarch_1_21	CCTGCAGCACTGCATTGGCCACAAG	plastid_5_21	CACCGGCAGTCTCTCTAGAGATCCC	colwel_1_21	TCACGGATCAAGTCCACGAACGGCT
crenarch_1_22	GGCAGCCTGTACGTTGAGCGTACAG	plastid_5_22	ACCGGCAGTCTCTCTAGAGATCCCA	colwel_1_22	GATCAAGTCCACGAACGGCTAGTTG
crenarch_1_23	TACGTTGAGCGTACAGATTTAACCG	plastid_5_23	CCGGCAGTCTCTCTAGAGATCCCAA	colwel_1_23	ACTCACGGATCAAGTCCACGAACGG
crenarch_1_24	ACGTTGAGCGTACAGATTTAACCGA	plastid_5_24	TTCGCCTCTCAGTGTCAGTAATGGC	colwel_1_24	CACTCACGGATCAAGTCCACGAACG
crenarch_1_25	CCACTCCCTAGCTCTGCAGTATTCC	plastid_5_25	TCGCCTCTCAGTGTCAGTAATGGCC	colwel_1_25	CTCACGGATCAAGTCCACGAACGGC
acido_1_1	TGCAGCACCTCTTCTGGAGTCCCCG	margrpA_1_1	GCTCCGGTACCGAAGGGGTCGAATC	altero_3_1	CAACTGTTGTCCCCCACGTTTTGGC
acido_1_2	GCCGGCAGTCCCCCCAAAGTCCCCG	margrpA_1_2	AGCTCCGGTACCGAAGGGGTCGAAT	altero_3_2	AACTGTTGTCCCCCACGTTTTGGCA
acido_1_3	CCATGCAGCACCTCTTCTGGAGTCC	margrpA_1_3	CACCCGATTCGGGTACTACTGACTT	altero_3_3	CCCCACGTTTTGGCATATTCCCAAG
acido_1_4	CATGCAGCACCTCTTCTGGAGTCCC	margrpA_1_4	ACCCGATTCGGGTACTACTGACTTC	altero_3_4	CCCACGTTTTGGCATATTCCCAAGC
acido_1_5	GCGCCGGCAGTCCCCCCAAAGTCCC	margrpA_1_5	CTCCGGTACCGAAGGGGTCGAATCC	altero_3_5	TCCCCCACGTTTTGGCATATTCCCA
acido_1_6	ATGCAGCACCTCTTCTGGAGTCCCC	margrpA_1_6	CCACCCGATTCGGGTACTACTGACT	altero_3_6	CCCCCACGTTTTGGCATATTCCCAA
acido_1_7	CGCCGGCAGTCCCCCCAAAGTCCCC	margrpA_1_7	GCCACCCGATTCGGGTACTACTGAC	altero_3_7	CCAACTGTTGTCCCCCACGTTTTGG
acido_1_8	GCAGCACCTCTTCTGGAGTCCCCGA	margrpA_1_8	GGCCACCCGATTCGGGTACTACTGA	altero_3_8	GTCCCCCACGTTTTGGCATATTCCC
acido_1_9	CAGCACCTCTTCTGGAGTCCCCGAA	margrpA_1_9	TAGCTCCGGTACCGAAGGGGTCGAA	altero_3_9	ACTGTTGTCCCCCACGTTTTGGCAT
acido_1_10	AGCACCTCTTCTGGAGTCCCCGAAG	margrpA_1_10	TCCGGTACCGAAGGGGTCGAATCCC	altero_3_10	TCCAACTGTTGTCCCCCACGTTTTG
acido_1_11	CCGGCAGTCCCCCCAAAGTCCCCGG	margrpA_1_11	GAAGGGGTCGAATCCCCCGACACCA	altero_3_11	TGTCCCCCACGTTTTGGCATATTCC
acido_1_12	GCAGTCCCCCCAAAGTCCCCGGCAT	margrpA_1_12	AAGGGGTCGAATCCCCCGACACCAA	altero_3_12	GCATACCATCGCTGGTTAGCAACCC
acido_1_13	GCACCTCTTCTGGAGTCCCCGAAGG	margrpA_1_13	CTTCCCTTACGACAGACCTTTACGC	altero_3_13	CGCATACCATCGCTGGTTAGCAACC
acido_1_14	GCCATGCAGCACCTCTTCTGGAGTC	margrpA_1_14	CCCGATTCGGGTACTACTGACTTCC	altero_3_14	TCGCATACCATCGCTGGTTAGCAAC
acido_1_15	ACCTCTTCTGGAGTCCCCGAAGGGA	margrpA_1_15	ACAACTGTATCCCGAAGGATCCGCT	altero_3_15	CTGTTGTCCCCCACGTTTTGGCATA
acido_1_16	CACCTCTTCTGGAGTCCCCGAAGGG	margrpA_1_16	CAACTGTATCCCGAAGGATCCGCTG	altero_3_16	CTTGGGCTAATCAAAACGCGCAAGG
acido_1_17	CGGCAGTCCCCCCAAAGTCCCCGGC	margrpA_1_17	AACTGTATCCCGAAGGATCCGCTGC	altero_3_17	TCCCACTTGGGCTAATCAAAACGCG
acido_1_18	CCCCGAAGGGGCCTTACCGCTCAAC	margrpA_1_18	AACAACTGTATCCCGAAGGATCCGC	altero_3_18	TTGGGCTAATCAAAACGCGCAAGGC
acido_1_19	CCTCTTCTGGAGTCCCCGAAGGGAA	margrpA_1_19	GTTAGCTCCGGTACCGAAGGGGTCG	altero_3_19	CCCACTTGGGCTAATCAAAACGCGC
acido_1_20	GGCAGTCCCCCCAAAGTCCCCGGCA	margrpA_1_20	TTAGCTCCGGTACCGAAGGGGTCGA	altero_3_20	TCACCGGCAGTCTCCCTATAGTTCC
acido_1_21	AGCCATGCAGCACCTCTTCTGGAGT	margrpA_1_21	GCGTTAGCTCCGGTACCGAAGGGGT	altero_3_21	TGGGCTAATCAAAACGCGCAAGGCC
acido_1_22	CAGCCATGCAGCACCTCTTCTGGAG	margrpA_1_22	CGTTAGCTCCGGTACCGAAGGGGTC	altero_3_22	CCACTTGGGCTAATCAAAACGCGCA
acido_1_23	CCCCCGAAGGGGCCTTACCGCTCAA	margrpA_1_23	TGCGTTAGCTCCGGTACCGAAGGGG	altero_3_23	ATAGTTCCCGACATAACTCGCTGGC
acido_1_24	ACAGCCATGCAGCACCTCTTCTGGA	margrpA_1_24	TCCCTTACGACAGACCTTTACGCTC	altero_3_24	CCATCGCTGGTTAGCAACCCTTTGT
acido_1_25	CCGAAGGGGCCTTACCGCTCAACTT	margrpA_1_25	ACTGTATCCCGAAGGATCCGCTGCA	altero_3_25	GGGCTAATCAAAACGCGCAAGGCCC
acido_2_1	GTCAACTCCCTCCACACCAAGTGTT	margrpA_2_1	GCTGCCTTCGCATTTGACTTTCCTC	gamma_1_1	CTAAAAGGTCAAGCCTCCCAACGGC
acido_2_2	GGTCAACTCCCTCCACACCAAGTGT	margrpA_2_2	GGCTGCCTTCGCATTTGACTTTCCT	gamma_1_2	ACTAAAAGGTCAAGCCTCCCAACGG
acido_2_3	GGGTCAACTCCCTCCACACCAAGTG	margrpA_2_3	AGGCTGCCTTCGCATTTGACTTTCC	gamma_1_3	GAAGAGGCCCTCTTTCCCTCTTAAG
acido_2_4	TCAACTCCCTCCACACCAAGTGTTC	margrpA_2_4	ACAACTGTGCTCCGAAGAGCCCGCT	gamma_1_4	CACTAAAAGGTCAAGCCTCCCAACG
acido_2_5	GGGGTCAACTCCCTCCACACCAAGT	margrpA_2_5	TAACAACTGTGCTCCGAAGAGCCCG	gamma_1_5	GCATGTATTAGGCCTGCCGCCAACG
acido_2_6	AGGGGTCAACTCCCTCCACACCAAG	margrpA_2_6	AACAACTGTGCTCCGAAGAGCCCGC	gamma_1_6	GGCTCCTCCAATAGTGAGAGCTTTC
acido_2_7	CAACTCCCTCCACACCAAGTGTTCA	margrpA_2_7	GATACCATCTTCGGGTACTGCAGAC	gamma_1_7	AAGAGGCCCTCTTTCCCTCTTAAGG
acido_2_8	AAGGGGTCAACTCCCTCCACACCAA	margrpA_2_8	TTAACAACTGTGCTCCGAAGAGCCC	gamma_1_8	CAAGAAGAGGCCCTCTTTCCCTCTT
acido_2_9	GAAGGGGTCAACTCCCTCCACACCA	margrpA_2_9	CAACTGTGCTCCGAAGAGCCCGCTG	gamma_1_9	TCAAGAAGAGGCCCTCTTTCCCTCT
acido_2_10	AACTCCCTCCACACCAAGTGTTCAT	margrpA_2_10	CAGAAGGCTGCCTTCGCATTTGACT	gamma_1_10	TAGCTGCGCCACTAAAAGGTCAAGC
acido_2_11	ACTCCCTCCACACCAAGTGTTCATC	margrpA_2_11	ACCATCTTCGGGTACTGCAGACTTC	gamma_1_11	CAGGCTCCTCCAATAGTGAGAGCTT
acido_2_12	CTCCCTCCACACCAAGTGTTCATCG	margrpA_2_12	TTGCGGTTAGGATACCATCTTCGGG	gamma_1_12	CTCAGCGTCAGTATCAATCCAGGGG
acido_2_13	CAGTCCCCGTAGAGTTCCCGCCATG	margrpA_2_13	CTTGCGGTTAGGATACCATCTTCGG	gamma_1_13	AAAGGTCAAGCCTCCCAACGGCTAG
acido_2_14	TCCCCGTAGAGTTCCCGCCATGACG	margrpA_2_14	CCTTGCGGTTAGGATACCATCTTCG	gamma_1_14	GCGTTAGCTGCGCCACTAAAAGGTC
acido_2_15	GTCCCCGTAGAGTTCCCGCCATGAC	margrpA_2_15	CCATCTTCGGGTACTGCAGACTTCC	gamma_1_15	GAGGCCCTCTTTCCCTCTTAAGGCG
acido_2_16	AGTCCCCGTAGAGTTCCCGCCATGA	margrpA_2_16	GGATACCATCTTCGGGTACTGCAGA	gamma_1_16	AGAGGCCCTCTTTCCCTCTTAAGGC
acido_2_17	GCAGTCCCCGTAGAGTTCCCGCCAT	margrpA_2_17	ACCTGCCTTACCTTAAACAGCTCCC	gamma_1_17	CCCCCTCTATCGTACTCTAGCCTAT
acido_2_18	GGCAGTCCCCGTAGAGTTCCCGCCA	margrpA_2_18	CCTGCCTTACCTTAAACAGCTCCCT	gamma_1_18	CCCCTCTATCGTACTCTAGCCTATC
acido_2_19	CCGGCACGGAAGGGGTCAACTCCCT	margrpA_2_19	CCAGAAGGCTGCCTTCGCATTTGAC	gamma_1_19	TTCAAGAAGAGGCCCTCTTTCCCTC
acido_2_20	ACGCGCTGGCAACTACGGGTAAGGG	margrpA_2_20	TGCGGTTAGGATACCATCTTCGGGT	gamma_1_20	AGGCCCTCTTTCCCTCTTAAGGCGT
acido_2_21	GACGCGCTGGCAACTACGGGTAAGG	margrpA_2_21	CGAAGAGCCCGCTGCATTATTTGGT	gamma_1_21	GCCCTCTTTCCCTCTTAAGGCGTAT
acido_2_22	TGACGCGCTGGCAACTACGGGTAAG	margrpA_2_22	CCACCATGAATTCTGCGTTCCTCTC	gamma_1_22	CCCTCTTTCCCTCTTAAGGCGTATG
acido_2_23	AGCTCCGGCACGGAAGGGGTCAACT	margrpA_2_23	CCTCCTTGCGGTTAGGATACCATCT	gamma_1_23	CTCTTTCCCTCTTAAGGCGTATGCG
acido_2_24	GCTCCGGCACGGAAGGGGTCAACTC	margrpA_2_24	CATCTTCGGGTACTGCAGACTTCCA	gamma_1_24	CCTCTTTCCCTCTTAAGGCGTATGC
acido_2_25	CTCCGGCACGGAAGGGGTCAACTCC	margrpA_2_25	CGGTTAGGATACCATCTTCGGGTAC	gamma_1_25	GGCCCTCTTTCCCTCTTAAGGCGTA
acido_3_1	CTCACGGCATTCGTCCCACTCGACA	OP10_1_1	CCGCTTGCACGGGCAGTTCCGTAAG	gamma_2_1	TACCTGCTAGCAACCAGGGATAGGG
acido_3_2	CGAGGTCCCCACGGTGTCATGCGGT	OP10_1_2	CCCGCTTGCACGGGCAGTTCCGTAA	gamma_2_2	CAGCATTACCTGCTAGCAACCAGGG
acido_3_3	TCACCCTCACGGCATTCGTCCCACT	OP10_1_3	CGCTTGCACGGGCAGTTCCGTAAGA	gamma_2_3	TTACCTGCTAGCAACCAGGGATAGG
acido_3_4	AGGTCCCCACGGTGTCATGCGGTAT	OP10_1_4	TCCCGCTTGCACGGGCAGTTCCGTA	gamma_2_4	ACCTGCTAGCAACCAGGGATAGGGG
acido_3_5	GGACCGAGGTCCCCACGGTGTCATG	OP10_1_5	GGGTGCAGACAATTCAGGTGACTTG	gamma_2_5	TCAGCATTACCTGCTAGCAACCAGG
acido_3_6	CCGAGGTCCCCACGGTGTCATGCGG	OP10_1_6	CTCCCGCTTGCACGGGCAGTTCCGT	gamma_2_6	TCTCCCTGGAGTTCTCAGCATTACC
acido_3_7	ACCCTCACGGCATTCGTCCCACTCG	OP10_1_7	CCTCCCGCTTGCACGGGCAGTTCCG	gamma_2_7	GTCTCCCTGGAGTTCTCAGCATTAC
acido_3_8	ACCGAGGTCCCCACGGTGTCATGCG	OP10_1_8	GCTTGCACGGGCAGTTCCGTAAGAG	gamma_2_8	CAGTCTCCCTGGAGTTCTCAGCATT
acido_3_9	CACCCTCACGGCATTCGTCCCACTC	OP10_1_9	CGGGTGCAGACAATTCAGGTGACTT	gamma_2_9	TCCCTGGAGTTCTCAGCATTACCTG
acido_3_10	GACCGAGGTCCCCACGGTGTCATGC	OP10_1_10	CCGTAAGAGTTCCCGACTTTACGCT	gamma_2_10	CTCCCTGGAGTTCTCAGCATTACCT
acido_3_11	CCTCACGGCATTCGTCCCACTCGAC	OP10_1_11	GCAGACAATTCAGGTGACTTGACGG	gamma_2_11	GCAGTCTCCCTGGAGTTCTCAGCAT
acido_3_12	TTCACCCTCACGGCATTCGTCCCAC	OP10_1_12	TCGGGTGCAGACAATTCAGGTGACT	gamma_2_12	GGCAGTCTCCCTGGAGTTCTCAGCA
acido_3_13	GAGGTCCCCACGGTGTCATGCGGTA	OP10_1_13	CGTAAGAGTTCCCGACTTTACGCTG	gamma_2_13	CCTGCTAGCAACCAGGGATAGGGGT
acido_3_14	CCCTCACGGCATTCGTCCCACTCGA	OP10_1_14	TTGCACGGGCAGTTCCGTAAGAGTT	gamma_2_14	TGCTAGCAACCAGGGATAGGGGTTG
acido_3_15	GGTCCCCACGGTGTCATGCGGTATT	OP10_1_15	TCCGTAAGAGTTCCCGACTTTACGC	gamma_2_15	CTGCTAGCAACCAGGGATAGGGGTT
acido_3_16	GTCCCCACGGTGTCATGCGGTATTA	OP10_1_16	GGCAGTTCCGTAAGAGTTCCCGACT	gamma_2_16	TAGCAACCAGGGATAGGGGTTGCGC
acido_3_17	GATTGTTCACCCTCACGGCATTCGT	OP10_1_17	CTTGCACGGGCAGTTCCGTAAGAGT	gamma_2_17	AGCAACCAGGGATAGGGGTTGCGCT
acido_3_18	AGGACCGAGGTCCCCACGGTGTCAT	OP10_1_18	CGGGCAGTTCCGTAAGAGTTCCCGA	gamma_2_18	CTCAGCATTACCTGCTAGCAACCAG
acido_3_19	ATTGTTCACCCTCACGGCATTCGTC	OP10_1_19	TGCACGGGCAGTTCCGTAAGAGTTC	gamma_2_19	CTAGCAACCAGGGATAGGGGTTGCG
acido_3_20	TTGTTCACCCTCACGGCATTCGTCC	OP10_1_20	ACGGGCAGTTCCGTAAGAGTTCCCG	gamma_2_20	GCTAGCAACCAGGGATAGGGGTTGC
acido_3_21	TGTTCACCCTCACGGCATTCGTCCC	OP10_1_21	GCACGGGCAGTTCCGTAAGAGTTCC	gamma_2_21	GCATTACCTGCTAGCAACCAGGGAT
acido_3_22	GGATTGTTCACCCTCACGGCATTCG	OP10_1_22	CACGGGCAGTTCCGTAAGAGTTCCC	gamma_2_22	AGCATTACCTGCTAGCAACCAGGGA
acido_3_23	CACGGCATTCGTCCCACTCGACAGG	OP10_1_23	GCAGTTCCGTAAGAGTTCCCGACTT	gamma_2_23	TCGCGAGTTGGCAGCCCTCTGTACG
acido_3_24	TCACGGCATTCGTCCCACTCGACAG	OP10_1_24	GGGCAGTTCCGTAAGAGTTCCCGAC	gamma_2_24	CTCGCGAGTTGGCAGCCCTCTGTAC
acido_3_25	GCTTTGATCGCAAGGACCGAGGTCC	OP10_1_25	CCCCCTTACTCCCCACACCTTAGAC	gamma_2_25	CGCGAGTTGGCAGCCCTCTGTACGC
actino_1_1	AAACCTAGATCCGTCATCCCACACG	OP3_1_1	ATCCAAGGGTGATAGGTCCTTACGG	gamma_3_1	TGCGACACCGAAGGGCAACCCCCCC
actino_1_2	CAAACCTAGATCCGTCATCCCACAC	OP3_1_2	TCCAAGGGTGATAGGTCCTTACGGA	gamma_3_2	CTGCGACACCGAAGGGCAACCCCCC
actino_1_3	CACCACCTGTATAGGGCGCTAATGC	OP3_1_3	CCAAGGGTGATAGGTCCTTACGGAT	gamma_3_3	GACTAGTTCCGAGTATGTCAAGGGC
actino_1_4	ACCACCTGTATAGGGCGCTAATGCA	OP3_1_4	TGTTCTCCCCTGCTGACAGGAGTTT	gamma_3_4	GCTGCGACACCGAAGGGCAACCCCC
actino_1_5	CCACCTGTATAGGGCGCTAATGCAC	OP3_1_5	TTGTTCTCCCCTGCTGACAGGAGTT	gamma_3_5	AACGCGCTAGCTGCGACACCGAAGG
actino_1_6	CACCTGTATAGGGCGCTAATGCACA	OP3_1_6	CTTGTTCTCCCCTGCTGACAGGAGT	gamma_3_6	TAACGCGCTAGCTGCGACACCGAAG
actino_1_7	GCACCACCTGTATAGGGCGCTAATG	OP3_1_7	GTTCTCCCCTGCTGACAGGAGTTTA	gamma_3_7	TTACTTAACCGCCAACGCGCGCTTT

actino_1_8	AACCTAGATCCGTCATCCCACACGC	OP3_1_8	CATCCAAGGGTGATAGGTCCTTACG	gamma_3_8	ACGCGCTAGCTGCGACACCGAAGGG
actino_1_9	TGCACCACCTGTATAGGGCGCTAAT	OP3_1_9	TCGACAGGTTATCCCGAACCCTAGG	gamma_3_9	TTAACGCGCTAGCTGCGACACCGAA
actino_1_10	AGCCCTGAACTTTCACGACCGACTT	OP3_1_10	TTCGACAGGTTATCCCGAACCCTAG	gamma_3_10	CGCGCTAGCTGCGACACCGAAGGGC
actino_1_11	GCCCTGAACTTTCACGACCGACTTG	OP3_1_11	TTCTCCCCTGCTGACAGGAGTTTAC	gamma_3_11	TACTTAACCGCCAACGCGCGCTTTA
actino_1_12	GAGCCCTGAACTTTCACGACCGACT	OP3_1_12	CCATCCAAGGGTGATAGGTCCTTAC	gamma_3_12	AGCTGCGACACCGAAGGGCAACCCC
actino_1_13	AGCGTCGATAGCGGCCCAGTGAGCT	OP3_1_13	TGATAGGTCCTTACGGATCCCCATC	gamma_3_13	CTTACTTAACCGCCAACGCGCGCTT
actino_1_14	GCGTCGATAGCGGCCCAGTGAGCTG	OP3_1_14	TCTCCCCTGCTGACAGGAGTTTACA	gamma_3_14	ATCCGACTTACTTAACCGCCAACGC
actino_1_15	CGTCGATAGCGGCCCAGTGAGCTGC	OP3_1_15	CGGATCCCCATCTTTCCCTCATGTT	gamma_3_15	CGACTTACTTAACCGCCAACGCGCG
actino_1_16	CAGCGTCGATAGCGGCCCAGTGAGC	OP3_1_16	TCCTTGCCGGTTAGGCAACCTACTT	gamma_3_16	TCCGACTTACTTAACCGCCAACGCG
actino_1_17	CCCTGAACTTTCACGACCGACTTGT	OP3_1_17	AGTGCGCACCGACCGAAGTCGGTGT	gamma_3_17	CTTAACGCGCTAGCTGCGACACCGA
actino_1_18	TGAGCCCTGAACTTTCACGACCGAC	OP3_1_18	CCAGTAATGCGCCTTCGCGACTGGT	gamma_3_18	ACTTACTTAACCGCCAACGCGCGCT
actino_1_19	ACCTAGATCCGTCATCCCACACGCG	OP3_1_19	AGAGTGCGCACCGACCGAAGTCGGT	gamma_3_19	GCGCTAGCTGCGACACCGAAGGGCA
actino_1_20	CTCGGGCTATCCCAGTAACTAAGGT	OP3_1_20	TCGAAAAGCACAGGACGTATCCGGT	gamma_3_20	CCGACTTACTTAACCGCCAACGCGC
actino_1_21	CCTCGGGCTATCCCAGTAACTAAGG	OP3_1_21	CTGTGCTTCGAAAAGCACAGGACGT	gamma_3_21	ACTTAACCGCCAACGCGCGCTTTAC
actino_1_22	TCGATAGCGGCCCAGTGAGCTGCCT	OP3_1_22	CCTTAGAGTGCGCACCGACCGAAGT	gamma_3_22	CATCCGACTTACTTAACCGCCAACG
actino_1_23	GTCGATAGCGGCCCAGTGAGCTGCC	OP3_1_23	GCCCTCCTTGCCGGTTAGGCAACCT	gamma_3_23	TCTTCACACACGCGGCATTGCTAGA
actino_1_24	CGATAGCGGCCCAGTGAGCTGCCTT	OP3_1_24	CTCCTTGCCGGTTAGGCAACCTACT	gamma_3_24	AGAACTTAACGCGCTAGCTGCGACA
actino_1_25	TCCTCGGGCTATCCCAGTAACTAAG	OP3_1_25	CAGTAATGCGCCTTCGCGACTGGTG	gamma_3_25	ACTTAACGCGCTAGCTGCGACACCG
actino_2_1	CCGGTTTCCCCAAGTGCAAGCACTT	OP9_1_1	GGGCAAGATAATGTCAAGTCCCGGT	gamma_4_1	ACACCGAAAGGCAAACCCTCCCGAC
actino_2_2	CAAGCACTTGGTTCGTCCCTCGACT	OP9_1_2	GCTGGCACATAATTAGCCGGAGCTT	gamma_4_2	GACACCGAAAGGCAAACCCTCCCGA
actino_2_3	GCCGGTTTCCCCAAGTGCAAGCACT	OP9_1_3	TGCTGGCACATAATTAGCCGGAGCT	gamma_4_3	CACCGAAAGGCAAACCCTCCCGACA
actino_2_4	GCTTCGACACGGAAATCGTGAACTG	OP9_1_4	CCCACTTACAGGGTAGATTACCCAC	gamma_4_4	ACCGAAAGGCAAACCCTCCCGACAT
actino_2_5	TTCGCCGGTTTCCCCAAGTGCAAGC	OP9_1_5	CCCCACTTACAGGGTAGATTACCCA	gamma_4_5	CGACACCGAAAGGCAAACCCTCCCG
actino_2_6	CGACACGGAAATCGTGAACTGATCC	OP9_1_6	CCCCCACTTACAGGGTAGATTACCC	gamma_4_6	CCGAAAGGCAAACCCTCCCGACATC
actino_2_7	GACACGGAAATCGTGAACTGATCCC	OP9_1_7	CTGCTAACCTCATCATCCCGAAGGA	gamma_4_7	GCGACACCGAAAGGCAAACCCTCCC
actino_2_8	ACACGGAAATCGTGAACTGATCCCC	OP9_1_8	TCTGCTAACCTCATCATCCCGAAGG	gamma_4_8	CGAAAGGCAAACCCTCCCGACATCT
actino_2_9	CGCCGGTTTCCCCAAGTGCAAGCAC	OP9_1_9	CTGCTGGCACATAATTAGCCGGAGC	gamma_4_9	GCTGCGACACCGAAAGGCAAACCCT
actino_2_10	ACGGAAATCGTGAACTGATCCCCAC	OP9_1_10	CCACTTACAGGGTAGATTACCCACG	gamma_4_10	AGCTGCGACACCGAAAGGCAAACCC
actino_2_11	TCGCCGGTTTCCCCAAGTGCAAGCA	OP9_1_11	GACGGGCAAGATAATGTCAAGTCCC	gamma_4_11	TTGGCTAGCCATTGCTGGTTTGCAG
actino_2_12	CACGGAAATCGTGAACTGATCCCCA	OP9_1_12	TCCCCCACTTACAGGGTAGATTACC	gamma_4_12	TGGCTAGCCATTGCTGGTTTGCAGC
actino_2_13	CGGTTTCCCCAAGTGCAAGCACTTG	OP9_1_13	GCAGTCTGCCTAGAGTGCACTTGTA	gamma_4_13	GGATTGGCTAGCCATTGCTGGTTTG
actino_2_14	AAGTGCAAGCACTTGGTTCGTCCCT	OP9_1_14	GCTGCTGGCACATAATTAGCCGGAG	gamma_4_14	GATTGGCTAGCCATTGCTGGTTTGC
actino_2_15	GTTCGCCGGTTTCCCCAAGTGCAAG	OP9_1_15	GGGTACCGTCAGGCTTAAGGGTTTA	gamma_4_15	GGGATTGGCTAGCCATTGCTGGTTT
actino_2_16	CGGAAATCGTGAACTGATCCCCACA	OP9_1_16	CACTTACAGGGTAGATTACCCACGC	gamma_4_16	GGCTAGCCATTGCTGGTTTGCAGCC
actino_2_17	GCAAGCACTTGGTTCGTCCCTCGAC	OP9_1_17	GGCAGTCTGCCTAGAGTGCACTTGT	gamma_4_17	GAAAGGCAAACCCTCCCGACATCTA
actino_2_18	CGTTCGCCGGTTTCCCCAAGTGCAA	OP9_1_18	GGTTATCCCCCACTTACAGGGTAGA	gamma_4_18	CTGCGACACCGAAAGGCAAACCCTC
actino_2_19	AAGCACTTGGTTCGTCCCTCGACTT	OP9_1_19	GAGGGTTATCCCCCACTTACAGGGT	gamma_4_19	TGCGACACCGAAAGGCAAACCCTCC
actino_2_20	GGTTTCCCCAAGTGCAAGCACTTGG	OP9_1_20	GGGTTATCCCCCACTTACAGGGTAG	gamma_4_20	AGGGATTGGCTAGCCATTGCTGGTT
actino_2_21	AGTGCAAGCACTTGGTTCGTCCCTC	OP9_1_21	GTCAGAGATAGACCAGAAAGCCGCC	gamma_4_21	AAGGGATTGGCTAGCCATTGCTGGT
actino_2_22	CAAGTGCAAGCACTTGGTTCGTCCC	OP9_1_22	GGGGTACCGTCAGGCTTAAGGGTTT	gamma_4_22	TAAGGGATTGGCTAGCCATTGCTGG
actino_2_23	CCGTTCGCCGGTTTCCCCAAGTGCA	OP9_1_23	AGGGTTATCCCCCACTTACAGGGTA	gamma_4_23	TAGCTGCGACACCGAAAGGCAAACC
actino_2_24	CCGTAGTTATCCCGGTGTACAGGGC	OP9_1_24	CGGCAGTCTGCCTAGAGTGCACTTG	gamma_4_24	TTAGCTGCGACACCGAAAGGCAAAC
actino_2_25	CCTCAAGCCTTGCAGTATCGACTGC	OP9_1_25	CTCCGCATTATCTGCGGCAGTCTGC	gamma_4_25	GTTAGCTGCGACACCGAAAGGCAAA
bacter_1_1	GTTTCCGCGACTGTCATTCCACGTT	plancto_1_1	TGCAACACCTGTGCAGGTCACACCC	gamma_5_1	CCACTAAGGGACAAATTCCCCCAAC
bacter_1_2	TTCCGCGACTGTCATTCCACGTTCG	plancto_1_2	GCAACACCTGTGCAGGTCACACCCG	gamma_5_2	CGCCACTAAGGGACAAATTCCCCCA
bacter_1_3	ACGTTTCCGCGACTGTCATTCCACG	plancto_1_3	ATGCAACACCTGTGCAGGTCACACC	gamma_5_3	GCCACTAAGGGACAAATTCCCCCAA
bacter_1_4	TTTCCGCGACTGTCATTCCACGTTC	plancto_1_4	AACACCTGTGCAGGTCACACCCGAA	gamma_5_4	CACTAAGGGACAAATTCCCCCAACG
bacter_1_5	CACGTTTCCGCGACTGTCATTCCAC	plancto_1_5	CAACACCTGTGCAGGTCACACCCGA	gamma_5_5	ACTAAGGGACAAATTCCCCCAACGG
bacter_1_6	TCACGTTTCCGCGACTGTCATTCCA	plancto_1_6	TGTGCAGGTCACACCCGAAGGTAAT	gamma_5_6	CTAAGGGACAAATTCCCCCAACGGC
bacter_1_7	CGTTTCCGCGACTGTCATTCCACGT	plancto_1_7	GTGCAGGTCACACCCGAAGGTAATC	gamma_5_7	GCGCCACTAAGGGACAAATTCCCCC
bacter_1_8	TGTCATTCCACGTTCGAGCCCAGGT	plancto_1_8	TGCAGGTCACACCCGAAGGTAATCA	gamma_5_8	GGTACCGTCAAGACGCGCAGTTATT
bacter_1_9	CTGTCATTCCACGTTCGAGCCCAGG	plancto_1_9	CTGTGCAGGTCACACCCGAAGGTAA	gamma_5_9	AGGTACCGTCAAGACGCGCAGTTAT
bacter_1_10	CCGCGACTGTCATTCCACGTTCGAG	plancto_1_10	CCTGTGCAGGTCACACCCGAAGGTA	gamma_5_10	TAGGTACCGTCAAGACGCGCAGTTA
bacter_1_11	ACTGTCATTCCACGTTCGAGCCCAG	plancto_1_11	ACACCTGTGCAGGTCACACCCGAAG	gamma_5_11	TGCGCCACTAAGGGACAAATTCCCC
bacter_1_12	CGCGACTGTCATTCCACGTTCGAGC	plancto_1_12	ACAGAGTTAGCCAGTGCTTCCTCTC	gamma_5_12	TAAGGGACAAATTCCCCCAACGGCT
bacter_1_13	GCGACTGTCATTCCACGTTCGAGCC	plancto_1_13	ACCTGTGCAGGTCACACCCGAAGGT	gamma_5_13	CTGTAGGTACCGTCAAGACGCGCAG
bacter_1_14	CGACTGTCATTCCACGTTCGAGCCC	plancto_1_14	CATGCAACACCTGTGCAGGTCACAC	gamma_5_14	GTAGGTACCGTCAAGACGCGCAGTT
bacter_1_15	TCCGCGACTGTCATTCCACGTTCGA	plancto_1_15	CACCTGTGCAGGTCACACCCGAAGG	gamma_5_15	CTGCGCCACTAAGGGACAAATTCCC
bacter_1_16	GACTGTCATTCCACGTTCGAGCCCA	plancto_1_16	CACAGAGTTAGCCAGTGCTTCCTCT	gamma_5_16	TGTAGGTACCGTCAAGACGCGCAGT
bacter_1_17	ATCACGTTTCCGCGACTGTCATTCC	plancto_1_17	CAGAGTTAGCCAGTGCTTCCTCTCG	gamma_5_17	TCTGTAGGTACCGTCAAGACGCGCA
bacter_1_18	GTCATTCCACGTTCGAGCCCAGGTA	plancto_1_18	AGCCAGTGCTTCCTCTCGAGCTTAC	gamma_5_18	GTCCGCCACTCGACGCCTGAAGAGC
bacter_1_19	ACGGTACCATCAGCACCGATACACG	plancto_1_19	GCACAGAGTTAGCCAGTGCTTCCTC	gamma_5_19	GCCACTCGACGCCTGAAGAGCAAGC
bacter_1_20	GTACCATCAGCACCGATACACGACC	plancto_1_20	GGCCTAGCCCCTGCATGTCAAGCCT	gamma_5_20	GCTGCGCCACTAAGGGACAAATTCC
bacter_1_21	GGTACCATCAGCACCGATACACGAC	plancto_1_21	GCAGGTCACACCCGAAGGTAATCAG	gamma_5_21	CACTCGGTTCCCGAAGGCACCAAAC
bacter_1_22	CGGTACCATCAGCACCGATACACGA	plancto_1_22	ACCGGCCTAGCCCCTGCATGTCAAG	gamma_5_22	CTTCTGTAGGTACCGTCAAGACGCG
bacter_1_23	GATCACGTTTCCGCGACTGTCATTC	plancto_1_23	CAGGTCACACCCGAAGGTAATCAGC	gamma_5_23	CACTCGACGCCTGAAGAGCAAGCTC
bacter_1_24	TACGGTACCATCAGCACCGATACAC	plancto_1_24	CCGGCCTAGCCCCTGCATGTCAAGC	gamma_5_24	CGCCACTCGACGCCTGAAGAGCAAG
bacter_1_25	CACCGATACACGACCGGTGGTTTTT	plancto_1_25	CGGCCTAGCCCCTGCATGTCAAGCC	gamma_5_25	GGACAAATTCCCCCAACGGCTAGTT
bacter_2_1	GGATTTCTCCGGGCTACCTTCCGGT	plancto_2_1	TCTCCGAAGAGCACTCTCCCCTTTC	gamma_6_1	AGCTGCGCCACCAACCTCTTGAATG
bacter_2_2	CTCCGGGCTACCTTCCGGTAAAGGG	plancto_2_2	TACGACCGAGAAACTGTGGGAGGTC	gamma_6_2	CCAACCTCTTGAATGAGGCCGACGG
bacter_2_3	CGGATTTCTCCGGGCTACCTTCCGG	plancto_2_3	ACCGAGAAACTGTGGGAGGTCCCTC	gamma_6_3	TGCGCCACCAACCTCTTGAATGAGG
bacter_2_4	TCTCCGGGCTACCTTCCGGTAAAGG	plancto_2_4	CGACCGAGAAACTGTGGGAGGTCCC	gamma_6_4	GCCACCAACCTCTTGAATGAGGCCG
bacter_2_5	TTCTCCGGGCTACCTTCCGGTAAAG	plancto_2_5	CTCCGAAGAGCACTCTCCCCTTTCA	gamma_6_5	ACCAACCTCTTGAATGAGGCCGACG
bacter_2_6	TTTCTCCGGGCTACCTTCCGGTAAA	plancto_2_6	GCCCGACCTTCCTCTGAGGTTTGGT	gamma_6_6	CTGCGCCACCAACCTCTTGAATGAG
bacter_2_7	GATTTCTCCGGGCTACCTTCCGGTA	plancto_2_7	AAACTGTGGGAGGTCCCTCGATCCA	gamma_6_7	CAACCTCTTGAATGAGGCCGACGGC
bacter_2_8	ATTTCTCCGGGCTACCTTCCGGTAA	plancto_2_8	TCCGAAGAGCACTCTCCCCTTTCAG	gamma_6_8	GCGCCACCAACCTCTTGAATGAGGC
bacter_2_9	CCGGATTTCTCCGGGCTACCTTCCG	plancto_2_9	GACCGAGAAACTGTGGGAGGTCCCT	gamma_6_9	CGCCACCAACCTCTTGAATGAGGCC
bacter_2_10	TCCGGATTTCTCCGGGCTACCTTCC	plancto_2_10	ACGACCGAGAAACTGTGGGAGGTCC	gamma_6_10	CACCAACCTCTTGAATGAGGCCGAC
bacter_2_11	TCCGGGCTACCTTCCGGTAAAGGGT	plancto_2_11	GAAACTGTGGGAGGTCCCTCGATCC	gamma_6_11	GCTGCGCCACCAACCTCTTGAATGA
bacter_2_12	ATCCGGATTTCTCCGGGCTACCTTC	plancto_2_12	CTCTCCGAAGAGCACTCTCCCCTTT	gamma_6_12	CCACCAACCTCTTGAATGAGGCCGA
bacter_2_13	CTTTATGGATTAGCTCCCCGTCGCT	plancto_2_13	GCCTGGAGGTAGGTATCTACCTGTT	gamma_6_13	TAGCTGCGCCACCAACCTCTTGAAT
bacter_2_14	ACTTTATGGATTAGCTCCCCGTCGC	plancto_2_14	TCCCGACGCTATTCCCAGCCTGGAG	gamma_6_14	AACCTCTTGAATGAGGCCGACGGCT
bacter_2_15	CCGGGCTACCTTCCGGTAAAGGGTA	plancto_2_15	TTGGGCATTACCGCCAGTTTCCCGA	gamma_6_15	AGAGGTCCACTTTGCCCCGAAGGGC
bacter_2_16	AATCCGGATTTCTCCGGGCTACCTT	plancto_2_16	CCGAGAAACTGTGGGAGGTCCCTCG	gamma_6_16	GAGGTCCACTTTGCCCCGAAGGGCG
bacter_2_17	GCTACCTTCCGGTAAAGGGTAGGTT	plancto_2_17	TGAGCAGACCCATCTCCAGGCGCCG	gamma_6_17	TCTTCAGGTAACGTCAATACGCGCG
bacter_2_18	GGCTACCTTCCGGTAAAGGGTAGGT	plancto_2_18	AACTGTGGGAGGTCCCTCGATCCAG	gamma_6_18	TTAGCTGCGCCACCAACCTCTTGAA
bacter_2_19	GGGCTACCTTCCGGTAAAGGGTAGG	plancto_2_19	CCCGACCTTCCTCTGAGGTTTGGTC	gamma_6_19	CAGAGGTCCACTTTGCCCCGAAGGG
bacter_2_20	TAATCCGGATTTCTCCGGGCTACCT	plancto_2_20	TGGGCATTACCGCCAGTTTCCCGAC	gamma_6_20	AGGTCCACTTTGCCCCGAAGGGCGT
bacter_2_21	CTACCTTCCGGTAAAGGGTAGGTTG	plancto_2_21	CGAGAAACTGTGGGAGGTCCCTCGA	gamma_6_21	ACCTCTTGAATGAGGCCGACGGCTA
bacter_2_22	CGGGCTACCTTCCGGTAAAGGGTAG	plancto_2_22	GAGAAACTGTGGGAGGTCCCTCGAT	gamma_6_22	CGCGCGGGTATTAACCGCACGCTTT
bacter_2_23	TTAATCCGGATTTCTCCGGGCTACC	plancto_2_23	CAGCCTGGAGGTAGGTATCTACCTG	gamma_6_23	CTTCAGGTAACGTCAATACGCGCGG
bacter_2_24	TTTATGGATTAGCTCCCCGTCGCTG	plancto_2_24	AGCCCGACCTTCCTCTGAGGTTTGG	gamma_6_24	TCAGAGGTCCACTTTGCCCCGAAGG
bacter_2_25	TACCTTCCGGTAAAGGGTAGGTTGC	plancto_2_25	AATAGTGAGCAGACCCATCTCCAGG	gamma_6_25	ACGCGCGGGTATTAACCGCACGCTT
bacter_3_1	GGCTCCTCGCCGTATCATCGAAATT	plancto_3_1	CGCAGTGCCTCAGTTAAGCTCAGGC	gamma_7_1	GTCCTCCGTAGTTAGACTAGCCACT
bacter_3_2	CAACCTTGCCAATCACTCCCCAGGT	plancto_3_2	GCAGTGCCTCAGTTAAGCTCAGGCA	gamma_7_2	CGTCCTCCGTAGTTAGACTAGCCAC
bacter_3_3	CTTGCCAATCACTCCCCAGGTGGAT	plancto_3_3	CAACTCTGAGGGAGTACCCTCAGAG	gamma_7_3	ACCGTCCTCCGTAGTTAGACTAGCC
bacter_3_4	CAGGTAAGGCTCCTCGCCGTATCAT	plancto_3_4	GTCAACTCTGAGGGAGTACCCTCAG	gamma_7_4	CCGTCCTCCGTAGTTAGACTAGCCA
bacter_3_5	AGGCTCCTCGCCGTATCATCGAAAT	plancto_3_5	TATGTTTTCCTACGCCGTTCGCCGC	gamma_7_5	GACCGTCCTCCGTAGTTAGACTAGC
bacter_3_6	AACCTTGCCAATCACTCCCCAGGTG	plancto_3_6	GCAGAAAGAGGAAACCTCCTCCCGC	gamma_7_6	TGACCGTCCTCCGTAGTTAGACTAG
bacter_3_7	ACCTTGCCAATCACTCCCCAGGTGG	plancto_3_7	AACTCTGAGGGAGTACCCTCAGAGA	gamma_7_7	CTGCAGGTAACGTCAAGTACTCACC
bacter_3_8	TCAACCTTGCCAATCACTCCCCAGG	plancto_3_8	TCAACTCTGAGGGAGTACCCTCAGA	gamma_7_8	TATTAGGGGTAAGCCTTCCTCCCTG
bacter_3_9	GGTAAGGCTCCTCGCCGTATCATCG	plancto_3_9	CTATGTTTTCCTACGCCGTTCGCCG	gamma_7_9	TGCAGGTAACGTCAAGTACTCACCC
bacter_3_10	TCCGCCTACCCCAACTATACTCTAG	plancto_3_10	TCCTATGTTTTCCTACGCCGTTCGC	gamma_7_10	GCAGGTAACGTCAAGTACTCACCCG
bacter_3_11	TTCAACCTTGCCAATCACTCCCCAG	plancto_3_11	CCTATGTTTTCCTACGCCGTTCGCC	gamma_7_11	TTCCCCGGGTTGTCCCCCACTCATG
bacter_3_12	CCCAGGTAAGGCTCCTCGCCGTATC	plancto_3_12	ACTCTGAGGGAGTACCCTCAGAGAT	gamma_7_12	TCCCCGGGTTGTCCCCCACTCATGG
bacter_3_13	AGGTAAGGCTCCTCGCCGTATCATC	plancto_3_13	ACGCAGTGCCTCAGTTAAGCTCAGG	gamma_7_13	CCCCGGGTTGTCCCCCACTCATGGG
bacter_3_14	CCAATCACTCCCCAGGTGGATTACC	plancto_3_14	TGTCAACTCTGAGGGAGTACCCTCA	gamma_7_14	TTTCCCCGGGTTGTCCCCCACTCAT
bacter_3_15	CCTTGCCAATCACTCCCCAGGTGGA	plancto_3_15	ATGTTTTCCTACGCCGTTCGCCGCT	gamma_7_15	CCCGGGTTGTCCCCCACTCATGGGT
bacter_3_16	GTAAGGCTCCTCGCCGTATCATCGA	plancto_3_16	AACGCAGTGCCTCAGTTAAGCTCAG	gamma_7_16	CCGGGTTGTCCCCCACTCATGGGTA
bacter_3_17	CCGCCTACCCCAACTATACTCTAGA	plancto_3_17	CAGTGCCTCAGTTAAGCTCAGGCAT	gamma_7_17	CTCACCCGTATTAGGGGTAAGCCTT
bacter_3_18	CCAGGTAAGGCTCCTCGCCGTATCA	plancto_3_18	CTGTCAACTCTGAGGGAGTACCCTC	gamma_7_18	ACCCGTATTAGGGGTAAGCCTTCCT
bacter_3_19	AAGGCTCCTCGCCGTATCATCGAAA	plancto_3_19	CTCTGAGGGAGTACCCTCAGAGATT	gamma_7_19	ACTCACCCGTATTAGGGGTAAGCCT

bacter_3_20	GCCAATCACTCCCCAGGTGGATTAC	plancto_3_20	TCTGTCAACTCTGAGGGAGTACCCT	gamma_7_20	GTCAAGTACTCACCCGTATTAGGGG
bacter_3_21	TAAGGCTCCTCGCCGTATCATCGAA	plancto_3_21	GGAGTACCCTCAGAGATTTCATCCC	gamma_7_21	TCACCCGTATTAGGGGTAAGCCTTC
bacter_3_22	GCCCAGGTAAGGCTCCTCGCCGTAT	plancto_3_22	CAAACGCAGTGCCTCAGTTAAGCTC	gamma_7_22	CCCGTATTAGGGGTAAGCCTTCCTC
bacter_3_23	CATTCCGCCTACCCCAACTATACTC	plancto_3_23	CTCTGTCAACTCTGAGGGAGTACCC	gamma_7_23	GTACTCACCCGTATTAGGGGTAAGC
bacter_3_24	CAATCACTCCCCAGGTGGATTACCT	plancto_3_24	ACAGCAGAAAGAGGAAACCTCCTCC	gamma_7_24	CACCCGTATTAGGGGTAAGCCTTCC
bacter_3_25	CCGCCGGAACTTTGATCATCAAGAG	plancto_3_25	CTGAGGGAGTACCCTCAGAGATTTC	gamma_7_25	TACTCACCCGTATTAGGGGTAAGCC
flavo_1_1	CTCAGACACCAAGGTCCAAACAGCT	plancto_4_1	ACTACCTAATATCGCATCGGCCGCT	gamma_8_1	CGCGAGCTCATCCATCAGCACAAGG
flavo_1_2	CAGACACCAAGGTCCAAACAGCTAG	plancto_4_2	CAACTACCTAATATCGCATCGGCCG	gamma_8_2	TCATCCATCAGCACAAGGTCCGAAG
flavo_1_3	CACTCAGACACCAAGGTCCAAACAG	plancto_4_3	AACTACCTAATATCGCATCGGCCGC	gamma_8_3	CTCATCCATCAGCACAAGGTCCGAA
flavo_1_4	GCTTAGCCACTCAGACACCAAGGTC	plancto_4_4	CCAACTACCTAATATCGCATCGGCC	gamma_8_4	GCTCATCCATCAGCACAAGGTCCGA
flavo_1_5	ACTCAGACACCAAGGTCCAAACAGC	plancto_4_5	ACGTTCCGATGTATTCCTACCCCGT	gamma_8_5	ACGCGAGCTCATCCATCAGCACAAG
flavo_1_6	CTTAGCCACTCAGACACCAAGGTCC	plancto_4_6	TACGTTCCGATGTATTCCTACCCCG	gamma_8_6	CATCCATCAGCACAAGGTCCGAAGA
flavo_1_7	TACCGTCAAGCTTGGTACACGTACC	plancto_4_7	GTACGTTCCGATGTATTCCTACCCC	gamma_8_7	GACGCGAGCTCATCCATCAGCACAA
flavo_1_8	GTACCGTCAAGCTTGGTACACGTAC	plancto_4_8	CTACCTAATATCGCATCGGCCGCTC	gamma_8_8	GCGAGCTCATCCATCAGCACAAGGT
flavo_1_9	GCCACTCAGACACCAAGGTCCAAAC	plancto_4_9	CGTTCCGATGTATTCCTACCCCGTT	gamma_8_9	TCCATCAGCACAAGGTCCGAAGATC
flavo_1_10	TTAGCCACTCAGACACCAAGGTCCA	plancto_4_10	GTTTCCACCCACTAATCCGTGCATG	gamma_8_10	CGACGCGAGCTCATCCATCAGCACA
flavo_1_11	ACCGTCAAGCTTGGTACACGTACCA	plancto_4_11	TTCCACCCACTAATCCGTGCATGTC	gamma_8_11	CATCAGCACAAGGTCCGAAGATCCC
flavo_1_12	CCACTCAGACACCAAGGTCCAAACA	plancto_4_12	TCCACCCACTAATCCGTGCATGTCA	gamma_8_12	CCCTCTAATGGGCAGATTCTCACGT
flavo_1_13	AGCCACTCAGACACCAAGGTCCAAA	plancto_4_13	CCACCCACTAATCCGTGCATGTCAA	gamma_8_13	CCGACGCGAGCTCATCCATCAGCAC
flavo_1_14	TAGCCACTCAGACACCAAGGTCCAA	plancto_4_14	GGCAGTAAACCTTTGGTCTCTCGAC	gamma_8_14	CCCCTCTAATGGGCAGATTCTCACG
flavo_1_15	CCGTCAAGCTTGGTACACGTACCAA	plancto_4_15	GGTACGTTCCGATGTATTCCTACCC	gamma_8_15	CCCCCTCTAATGGGCAGATTCTCAC
flavo_1_16	CGCTTAGCCACTCAGACACCAAGGT	plancto_4_16	TGCGAGCGTCATGAATGTTTCCACC	gamma_8_16	CGAGCTCATCCATCAGCACAAGGTC
flavo_1_17	TCGCTTAGCCACTCAGACACCAAGG	plancto_4_17	GCGAGCGTCATGAATGTTTCCACCC	gamma_8_17	CCATCAGCACAAGGTCCGAAGATCC
flavo_1_18	CGTCAAGCTTGGTACACGTACCAAG	plancto_4_18	GAGCGTCATGAATGTTTCCACCCAC	gamma_8_18	CCTCTAATGGGCAGATTCTCACGTG
flavo_1_19	CAGCTAGTAACCATCGTTTACCGGC	plancto_4_19	CGAGCGTCATGAATGTTTCCACCCA	gamma_8_19	CCCAGGTTATCCCCCTCTAATGGGC
flavo_1_20	GCCATAGCTAGAGACTATGGGGGAT	plancto_4_20	CAGTTATGCCCCAGTGAATCGCCTT	gamma_8_20	TCCGACGCGAGCTCATCCATCAGCA
flavo_1_21	TGCCATAGCTAGAGACTATGGGGGA	plancto_4_21	TCAGTTATGCCCCAGTGAATCGCCT	gamma_8_21	GAGCTCATCCATCAGCACAAGGTCC
flavo_1_22	ATGCCATAGCTAGAGACTATGGGGG	plancto_4_22	AGTTATGCCCCAGTGAATCGCCTTC	gamma_8_22	TTCCCCAGGTTATCCCCCTCTAATG
flavo_1_23	TTCGCTTAGCCACTCAGACACCAAG	plancto_4_23	GTCAGTTATGCCCCAGTGAATCGCC	gamma_8_23	TCCCCAGGTTATCCCCCTCTAATGG
flavo_1_24	AGCTAGTAACCATCGTTTACCGGCG	plancto_4_24	GTTATGCCCCAGTGAATCGCCTTCG	gamma_8_24	CCCCAGGTTATCCCCCTCTAATGGG
flavo_1_25	GTCAAGCTTGGTACACGTACCAAGG	plancto_4_25	CTCCACTGGATGTTCCATTCACCTC	gamma_8_25	ATCCCCCTCTAATGGGCAGATTCTC
flavo_2_1	TACAGTACCGTCAGAGCTCTACACG	alpha_1_1	CCGGCCCCTTGCGGGAAGAAAGCCA	gamma_9_1	CCTGTCCATCGGTTCCCGAAGGCAC
flavo_2_2	TCTTACAGTACCGTCAGAGCTCTAC	alpha_1_2	CACCTGTGCACCGGCCCCTTGCGGG	gamma_9_2	CTGTCCATCGGTTCCCGAAGGCACC
flavo_2_3	TTACAGTACCGTCAGAGCTCTACAC	alpha_1_3	GCACCTGTGCACCGGCCCCTTGCGG	gamma_9_3	TGTCCATCGGTTCCCGAAGGCACCA
flavo_2_4	GCATACTCATCTCTTACCGCCGAAG	alpha_1_4	CTGTGCACCGGCCCCTTGCGGGAAG	gamma_9_4	CAGCACCTGTCCATCGGTTCCCGAA
flavo_2_5	CATACTCATCTCTTACCGCCGAAGC	alpha_1_5	ACCTGTGCACCGGCCCCTTGCGGGA	gamma_9_5	AGCACCTGTCCATCGGTTCCCGAAG
flavo_2_6	ACAGTACCGTCAGAGCTCTACACGT	alpha_1_6	CCTGTGCACCGGCCCCTTGCGGGAA	gamma_9_6	ACCTGTCCATCGGTTCCCGAAGGCA
flavo_2_7	CAGTACCGTCAGAGCTCTACACGTA	alpha_1_7	AGCACCTGTGCACCGGCCCCTTGCG	gamma_9_7	GTCCATCGGTTCCCGAAGGCACCAA
flavo_2_8	CTTACAGTACCGTCAGAGCTCTACA	alpha_1_8	CGGCCCCTTGCGGGAAGAAAGCCAT	gamma_9_8	CACCTGTCCATCGGTTCCCGAAGGC
flavo_2_9	TACTCATCTCTTACCGCCGAAGCTT	alpha_1_9	GCACCGGCCCCTTGCGGGAAGAAAG	gamma_9_9	CCTCCCTCTCTCGCACTCTAGCCTT
flavo_2_10	ATACTCATCTCTTACCGCCGAAGCT	alpha_1_10	CACCGGCCCCTTGCGGGAAGAAAGC	gamma_9_10	GCACCTGTCCATCGGTTCCCGAAGG
flavo_2_11	CTCATCTCTTACCGCCGAAGCTTTA	alpha_1_11	ACCGGCCCCTTGCGGGAAGAAAGCC	gamma_9_11	GCAGCACCTGTCCATCGGTTCCCGA
flavo_2_12	CGCCCAGTGGCTGCTCTCTGTCTAT	alpha_1_12	TGTGCACCGGCCCCTTGCGGGAAGA	gamma_9_12	ACCTCCCTCTCTCGCACTCTAGCCT
flavo_2_13	CCAGTGGCTGCTCTCTGTCTATACC	alpha_1_13	GTGCACCGGCCCCTTGCGGGAAGAA	gamma_9_13	CTCCCTCTCTCGCACTCTAGCCTTC
flavo_2_14	CCCAGTGGCTGCTCTCTGTCTATAC	alpha_1_14	TGCACCGGCCCCTTGCGGGAAGAAA	gamma_9_14	TCTCTCGCACTCTAGCCTTCCAGTA
flavo_2_15	TCGCCCAGTGGCTGCTCTCTGTCTA	alpha_1_15	CAGCACCTGTGCACCGGCCCCTTGC	gamma_9_15	TCGCACTCTAGCCTTCCAGTATCGG
flavo_2_16	GCCCAGTGGCTGCTCTCTGTCTATA	alpha_1_16	TTGCGGGAAGAAAGCCATCTCTGGC	gamma_9_16	CTCGCACTCTAGCCTTCCAGTATCG
flavo_2_17	GACTCCGATCCGAACTGTGATATAG	alpha_1_17	GGCCCCTTGCGGGAAGAAAGCCATC	gamma_9_17	TACCTCCCTCTCTCGCACTCTAGCC
flavo_2_18	AGAACGCATACTCATCTCTTACCGC	alpha_1_18	CCTTGCGGGAAGAAAGCCATCTCTG	gamma_9_18	CTCTCGCACTCTAGCCTTCCAGTAT
flavo_2_19	GAACGCATACTCATCTCTTACCGCC	alpha_1_19	GCAGCACCTGTGCACCGGCCCCTTG	gamma_9_19	CCCTCTCTCGCACTCTAGCCTTCCA
flavo_2_20	CACGTAGAGCGGTTTCTTCCTGTAT	alpha_1_20	TGCGGGAAGAAAGCCATCTCTGGCG	gamma_9_20	TGCAGCACCTGTCCATCGGTTCCCG
flavo_2_21	GTCCTGTCACACTACATTTAAGCCC	alpha_1_21	AAAGCCATCTCTGGCGATCATACCG	gamma_9_21	ACTCCGTGGTAATCGCCCTCCCGAA
flavo_2_22	ACTCATCTCTTACCGCCGAAGCTTT	alpha_1_22	GCCCCTTGCGGGAAGAAAGCCATCT	gamma_9_22	TCCATCGGTTCCCGAAGGCACCAAT
flavo_2_23	CCCCTATCTATCGTAGCCATGGTGT	alpha_1_23	AACAGCAAGCTGCCCAACGGCTAGC	gamma_9_23	TCACTCCGTGGTAATCGCCCTCCCG
flavo_2_24	CCCTATCTATCGTAGCCATGGTGTG	alpha_1_24	CATGCAGCACCTGTGCACCGGCCCC	gamma_9_24	TCCCTCTCTCGCACTCTAGCCTTCC
flavo_2_25	CCTATCTATCGTAGCCATGGTGTGC	alpha_1_25	GCAAGCTGCCCAACGGCTAGCATCC	gamma_9_25	CCTCTCTCGCACTCTAGCCTTCCAG
flavo_3_1	CTGTCACCTAACATTTAAGCCCTGG	alpha_2_1	GTGACCCAGAAAGTTGCCTTCGCAT	gamma_10_1	CGCAGGCACATCCGATAGCGAGAGC
flavo_3_2	CCGTCAAGCTTTCTCACGAGAAAGT	alpha_2_2	GTATTCACCGCGACGCGCTGATTCG	gamma_10_2	ACGCAGGCACATCCGATAGCGAGAG
flavo_3_3	ACCGTCAAGCTTTCTCACGAGAAAG	alpha_2_3	CGTATTCACCGCGACGCGCTGATTC	gamma_10_3	GCGGCTTCGCGGCCCTCTGTACTTG
flavo_3_4	CTCTGACTTATTTGTCCACCTACGG	alpha_2_4	TATTCACCGCGACGCGCTGATTCGC	gamma_10_4	CGGCTTCGCGGCCCTCTGTACTTGC
flavo_3_5	CCTCTGACTTATTTGTCCACCTACG	alpha_2_5	ACGTATTCACCGCGACGCGCTGATT	gamma_10_5	GGCTTCGCGGCCCTCTGTACTTGCC
flavo_3_6	GTACCGTCAAGCTTTCTCACGAGAA	alpha_2_6	GGAACGTATTCACCGCGACGCGCTG	gamma_10_6	CGCGGCTTCGCGGCCCTCTGTACTT
flavo_3_7	GAGGCAGATTGTATACGCGATACTC	alpha_2_7	CCGGGAACGTATTCACCGCGACGCG	gamma_10_7	GCTTCGCGGCCCTCTGTACTTGCCA
flavo_3_8	TCTATCGTAGCCTAGGTGTGCCGTT	alpha_2_8	CGGGAACGTATTCACCGCGACGCGC	gamma_10_8	CACTACTGGGTAGTTTCCTACGCGT
flavo_3_9	CCCCTATCTATCGTAGCCTAGGTGT	alpha_2_9	GGGAACGTATTCACCGCGACGCGCT	gamma_10_9	CCACTACTGGGTAGTTTCCTACGCG
flavo_3_10	ATCTATCGTAGCCTAGGTGTGCCGT	alpha_2_10	AACGTATTCACCGCGACGCGCTGAT	gamma_10_10	CCCCACTACTGGGTAGTTTCCTACG
flavo_3_11	CCCTATCTATCGTAGCCTAGGTGTG	alpha_2_11	GAACGTATTCACCGCGACGCGCTGA	gamma_10_11	CCCACTACTGGGTAGTTTCCTACGC
flavo_3_12	TATCTATCGTAGCCTAGGTGTGCCG	alpha_2_12	CCCGGGAACGTATTCACCGCGACGC	gamma_10_12	CCCCCACTACTGGGTAGTTTCCTAC
flavo_3_13	CCTATCTATCGTAGCCTAGGTGTGC	alpha_2_13	ATTCACCGCGACGCGCTGATTCGCG	gamma_10_13	ACTACCGGGTAGTTTCCTACGCGTT
flavo_3_14	CTATCTATCGTAGCCTAGGTGTGCC	alpha_2_14	CCGCGACGCGCTGATTCGCGATTAC	gamma_10_14	CACTACCGGGTAGTTTCCTACGCGT
flavo_3_15	CTATCGTAGCCTAGGTGTGCCGTTA	alpha_2_15	CACCGCGACGCGCTGATTCGCGATT	gamma_10_15	ACCGGGTAGTTTCCTACGCGTTACT
flavo_3_16	TATCGTAGCCTAGGTGTGCCGTTAC	alpha_2_16	CGCGACGCGCTGATTCGCGATTACT	gamma_10_16	CCACTACCGGGTAGTTTCCTACGCG
flavo_3_17	CTTATTTGTCCACCTACGGACCCTT	alpha_2_17	TCACCGCGACGCGCTGATTCGCGAT	gamma_10_17	CCCCACTACCGGGTAGTTTCCTACG
flavo_3_18	ACTTATTTGTCCACCTACGGACCCT	alpha_2_18	ACCGCGACGCGCTGATTCGCGATTA	gamma_10_18	CCGGGTAGTTTCCTACGCGTTACTC
flavo_3_19	GACTTATTTGTCCACCTACGGACCC	alpha_2_19	GCGACGCGCTGATTCGCGATTACTA	gamma_10_19	CCCACTACCGGGTAGTTTCCTACGC
flavo_3_20	TGACTTATTTGTCCACCTACGGACC	alpha_2_20	TTCACCGCGACGCGCTGATTCGCGA	gamma_10_20	TACCGGGTAGTTTCCTACGCGTTAC
flavo_3_21	CTGACTTATTTGTCCACCTACGGAC	alpha_2_21	TCCTCAGTGTCAGTAGTGACCCAGA	gamma_10_21	CCCCCACTACCGGGTAGTTTCCTAC
flavo_3_22	AGATTGTATACGCGATACTCACCCG	alpha_2_22	CCCAGAAAGTTGCCTTCGCATTTGG	gamma_10_22	CTACCGGGTAGTTTCCTACGCGTTA
flavo_3_23	GATTGTATACGCGATACTCACCCGT	alpha_2_23	AGTGCGGGCTCATCTTTCGGCGTAT	gamma_10_23	CTGTTGTCCCCCACTACTGGGTAGT
flavo_3_24	TCTTCGGGCTATTCCCTAGTATGAG	alpha_2_24	AAGTGCGGGCTCATCTTTCGGCGTA	gamma_10_24	CTAGCTAATCTCACGCAGGCACATC
flavo_3_25	CTTCGGGCTATTCCCTAGTATGAGG	alpha_2_25	GTGCGGGCTCATCTTTCGGCGTATA	gamma_10_25	CAACTAGCTAATCTCACGCAGGCAC
flavo_4_1	CAGGAGATATTCCCATACTATGGGG	alpha_3_1	CACCTGTATCCAATCCACCCGAAGT	gamma_11_1	GCTTTCCCCCGTAGGATATATGCGG
flavo_4_2	TCAAACTCCCACACGTGGGAGTGGT	alpha_3_2	ACCTGTATCCAATCCACCCGAAGTG	gamma_11_2	CTTTCCCCCGTAGGATATATGCGGT
flavo_4_3	CAAACTCCCACACGTGGGAGTGGTT	alpha_3_3	CCTGTATCCAATCCACCCGAAGTGA	gamma_11_3	TGCTTTCCCCCGTAGGATATATGCG
flavo_4_4	GTCAAACTCCCACACGTGGGAGTGG	alpha_3_4	GCACCTGTATCCAATCCACCCGAAG	gamma_11_4	CTGCTTTCCCCCGTAGGATATATGC
flavo_4_5	GGAGATATTCCCATACTATGGGGCA	alpha_3_5	GGCAGTTCCTTCAAAGTTCCCACCA	gamma_11_5	CCTGCTTTCCCCCGTAGGATATATG
flavo_4_6	AGGAGATATTCCCATACTATGGGGC	alpha_3_6	AGCACCTGTATCCAATCCACCCGAA	gamma_11_6	CCCTGCTTTCCCCCGTAGGATATAT
flavo_4_7	CGTCAAACTCCCACACGTGGGAGTG	alpha_3_7	CGGCAGTTCCTTCAAAGTTCCCACC	gamma_11_7	CTCACTCAGGCTCATCAAATAGCGC
flavo_4_8	AAACTCCCACACGTGGGAGTGGTTC	alpha_3_8	CAGCACCTGTATCCAATCCACCCGA	gamma_11_8	CCCCTGCTTTCCCCCGTAGGATATA
flavo_4_9	CTGGGCTATTCCCCTCCAAAAGGTA	alpha_3_9	CCGGCAGTTCCTTCAAAGTTCCCAC	gamma_11_9	GTGTCAGTATCGAGCCAGTCAGTCG
flavo_4_10	CCGTCAAACTCCCACACGTGGGAGT	alpha_3_10	GCAGCACCTGTATCCAATCCACCCG	gamma_11_10	TCAGTGTCAGTATCGAGCCAGTCAG
flavo_4_11	CTTAACCACTCAGCCCTTAATCGGG	alpha_3_11	TGCAGCACCTGTATCCAATCCACCC	gamma_11_11	AGTGTCAGTATCGAGCCAGTCAGTC
flavo_4_12	GTTTCCCTGGGCTATTCCCCTCCAA	alpha_3_12	TCACCGGCAGTTCCTTCAAAGTTCC	gamma_11_12	TGTCAGTATCGAGCCAGTCAGTCGC
flavo_4_13	GCTTAACCACTCAGCCCTTAATCGG	alpha_3_13	CTTACAAATCCGCCTACGCTCGCTT	gamma_11_13	CAGTGTCAGTATCGAGCCAGTCAGT
flavo_4_14	AACTCCCACACGTGGGAGTGGTTCT	alpha_3_14	ATGCAGCACCTGTATCCAATCCACC	gamma_11_14	CTCAGTGTCAGTATCGAGCCAGTCA
flavo_4_15	ACCGTCAAACTCCCACACGTGGGAG	alpha_3_15	CGGGCCCATCCAATAGCGCATAAAG	gamma_11_15	TCCCCTGCTTTCCCCCGTAGGATAT
flavo_4_16	CCACACGTGGGAGTGGTTCTTCCTC	alpha_3_16	GGGCCCATCCAATAGCGCATAAAGC	gamma_11_16	CCCCACCAACTAGCTAATCTCACTC
flavo_4_17	AGTTTCCCTGGGCTATTCCCCTCCA	alpha_3_17	GCGGGCCCATCCAATAGCGCATAAA	gamma_11_17	CCTCAGTGTCAGTATCGAGCCAGTC
flavo_4_18	TTAACCACTCAGCCCTTAATCGGGC	alpha_3_18	ACTTACAAATCCGCCTACGCTCGCT	gamma_11_18	GTCCCCTGCTTTCCCCCGTAGGATA
flavo_4_19	CACGTGGGAGTGGTTCTTCCTCTGT	alpha_3_19	CGCGGGCCCATCCAATAGCGCATAA	gamma_11_19	TCAGTATCGAGCCAGTCAGTCGCCT
flavo_4_20	CACACGTGGGAGTGGTTCTTCCTCT	alpha_3_20	GGCCCATCCAATAGCGCATAAAGCT	gamma_11_20	GTATCGAGCCAGTCAGTCGCCTTCG
flavo_4_21	ACACGTGGGAGTGGTTCTTCCTCTG	alpha_3_21	CACCGGCAGTTCCTTCAAAGTTCCC	gamma_11_21	AGTATCGAGCCAGTCAGTCGCCTTC
flavo_4_22	CGCTTAACCACTCAGCCCTTAATCG	alpha_3_22	ACCGGCAGTTCCTTCAAAGTTCCCA	gamma_11_22	TATCGAGCCAGTCAGTCGCCTTCGC
flavo_4_23	ACGTGGGAGTGGTTCTTCCTCTGTA	alpha_3_23	AACTTACAAATCCGCCTACGCTCGC	gamma_11_23	ATCGAGCCAGTCAGTCGCCTTCGCC
flavo_4_24	TTTCCCTGGGCTATTCCCCTCCAAA	alpha_3_24	CGCATAAAGCTTTCTCCCGAAGGAC	gamma_11_24	GTCAGTATCGAGCCAGTCAGTCGCC
flavo_4_25	TTCCCTGGGCTATTCCCCTCCAAAA	alpha_3_25	CATGCAGCACCTGTATCCAATCCAC	gamma_11_25	CAGTATCGAGCCAGTCAGTCGCCTT
flavo_5_1	CGTCAACAGTTCACACGTGAACCTT	roseo_1_1	CTCTGGAATCCGCGACAAGTATGTC	gamma_12_1	CACTACCTGGTAGATTCCTACGCGT
flavo_5_2	ACAGTACCGTCAACAGTTCACACGT	roseo_1_2	TGCCCCTATAAATAGTTGGCGCACC	gamma_12_2	CCACTACCTGGTAGATTCCTACGCG
flavo_5_3	CCGTCAACAGTTCACACGTGAACCT	roseo_1_3	CCCTATAAATAGTTGGCGCACCACC	gamma_12_3	CCCACTACCTGGTAGATTCCTACGC
flavo_5_4	CAGTACCGTCAACAGTTCACACGTG	roseo_1_4	CCCCTATAAATAGTTGGCGCACCAC	gamma_12_4	AACTGTTGTCCCCCACTACCTGGTA
flavo_5_5	TACAGTACCGTCAACAGTTCACACG	roseo_1_5	GCCCCTATAAATAGTTGGCGCACCA	gamma_12_5	CAACTGTTGTCCCCCACTACCTGGT
flavo_5_6	ACCGTCAACAGTTCACACGTGAACC	roseo_1_6	CGTGGTTGGCTGCCCCTATAAATAG	gamma_12_6	CCAACTGTTGTCCCCCACTACCTGG

flavo_5_7	CTACAGTACCGTCAACAGTTCACAC	roseo_1_7	CTGCCCCTATAAATAGTTGGCGCAC	gamma_12_7	CCCCACTACCTGGTAGATTCCTACG
flavo_5_8	TACCGTCAACAGTTCACACGTGAAC	roseo_1_8	CCGTGGTTGGCTGCCCCTATAAATA	gamma_12_8	CGGTATTGCAACCCTCTGTACGCCC
flavo_5_9	AGTACCGTCAACAGTTCACACGTGA	roseo_1_9	TGGCTGCCCCTATAAATAGTTGGCG	gamma_12_9	ACTGTTGTCCCCCACTACCTGGTAG
flavo_5_10	GTACCGTCAACAGTTCACACGTGAA	roseo_1_10	GGCTGCCCCTATAAATAGTTGGCGC	gamma_12_10	TCCAACTGTTGTCCCCCACTACCTG
flavo_5_11	CCTACAGTACCGTCAACAGTTCACA	roseo_1_11	GGAATCCGCGACAAGTATGTCAAGG	gamma_12_11	CCCCCACTACCTGGTAGATTCCTAC
flavo_5_12	TCCTACAGTACCGTCAACAGTTCAC	roseo_1_12	GCTGCCCCTATAAATAGTTGGCGCA	gamma_12_12	GCGGTATTGCAACCCTCTGTACGCC
flavo_5_13	CCGAAGAAAAAGATGTTTCCACCCC	roseo_1_13	ACCGTGGTTGGCTGCCCCTATAAAT	gamma_12_13	GCGGTATCGCAACCCTCTGTACGTT
flavo_5_14	CTCAGACCGCAATTAGTCCGAACAG	roseo_1_14	CCATCTCTGGAATCCGCGACAAGTA	gamma_12_14	TCTATCAGTTTGGGGTGCAGTTCCC
flavo_5_15	TAGCCACTCAGACCGCAATTAGTCC	roseo_1_15	ATAGTTGGCGCACCACCTTCGGGTA	gamma_12_15	GTCTATCAGTTTGGGGTGCAGTTCC
flavo_5_16	TTAGCCACTCAGACCGCAATTAGTC	roseo_1_16	GGAATCCATCTCTGGAATCCGCGAC	gamma_12_16	CTGTTGTCCCCCACTACCTGGTAGA
flavo_5_17	ACTCAGACCGCAATTAGTCCGAACA	roseo_1_17	TACCGTGGTTGGCTGCCCCTATAAA	gamma_12_17	CTATCAGTTTGGGGTGCAGTTCCCA
flavo_5_18	AGATGTTTCCACCCCTGTCAAACTG	roseo_1_18	GAATCCGCGACAAGTATGTCAAGGG	gamma_12_18	CTGTTGCTAACGTCACAGCTAAGGG
flavo_5_19	CAGACCGCAATTAGTCCGAACAGCT	roseo_1_19	TCCATCTCTGGAATCCGCGACAAGT	gamma_12_19	CAGTTTGGGGTGCAGTTCCCAGGTT
flavo_5_20	GCCACTCAGACCGCAATTAGTCCGA	roseo_1_20	ATCCATCTCTGGAATCCGCGACAAG	gamma_12_20	AGTTTGGGGTGCAGTTCCCAGGTTG
flavo_5_21	CACTCAGACCGCAATTAGTCCGAAC	roseo_1_21	TAGTTGGCGCACCACCTTCGGGTAG	gamma_12_21	TTCCAACTGTTGTCCCCCACTACCT
flavo_5_22	CTTAGCCACTCAGACCGCAATTAGT	roseo_1_22	CCTACCGTGGTTGGCTGCCCCTATA	gamma_12_22	TATCAGTTTGGGGTGCAGTTCCCAG
flavo_5_23	AGCCACTCAGACCGCAATTAGTCCG	roseo_1_23	CTACCGTGGTTGGCTGCCCCTATAA	gamma_12_23	CGGTATCGCAACCCTCTGTACGTTC
flavo_5_24	TCAGACCGCAATTAGTCCGAACAGC	roseo_1_24	ACGTCGTCCACACCTTCCTCCGGCT	gamma_12_24	CCCCACCAACTAACTAATCTCACGC
flavo_5_25	ACTTTCGCTTAGCCACTCAGACCGC	roseo_1_25	GACGTCGTCCACACCTTCCTCCGGC	gamma_12_25	GTCAGCGACTAGCAAGCTAGTCCTG
flavo_6_1	AGTGCCGGAGTTAAGCCCCTGCATT	roseo_2_1	GTCACCGGGTCACCGAAGTGAAAAC	gamma_13_1	CGCCACTGAAAGACATTGTCTCCCA
flavo_6_2	GTGCCGGAGTTAAGCCCCTGCATTT	roseo_2_2	ACCGGGTCACCGAAGTGAAAACCAG	gamma_13_2	GCGCCACTGAAAGACATTGTCTCCC
flavo_6_3	CAGTGCCGGAGTTAAGCCCCTGCAT	roseo_2_3	CACCGGGTCACCGAAGTGAAAACCA	gamma_13_3	TGCGCCACTGAAAGACATTGTCTCC
flavo_6_4	TGCCGGAGTTAAGCCCCTGCATTTC	roseo_2_4	TCACCGGGTCACCGAAGTGAAAACC	gamma_13_4	TGTCAGTACAGATCCAGGAGGCCGC
flavo_6_5	AGTTAAGCCCCTGCATTTCACCACT	roseo_2_5	TGTCACCGGGTCACCGAAGTGAAAA	gamma_13_5	GTGTCAGTACAGATCCAGGAGGCCG
flavo_6_6	GCAGTGCCGGAGTTAAGCCCCTGCA	roseo_2_6	CCGGGTCACCGAAGTGAAAACCAGA	gamma_13_6	CTGCGCCACTGAAAGACATTGTCTC
flavo_6_7	GTTAAGCCCCTGCATTTCACCACTG	roseo_2_7	AGATCTCTCTGGCGGTCCCGGGATG	gamma_13_7	CTTGGCTCCAAAAGGCACACTCTCA
flavo_6_8	GGCAGTGCCGGAGTTAAGCCCCTGC	roseo_2_8	ACCAGATCTCTCTGGCGGTCCCGGG	gamma_13_8	GAGAGCTTCAAGAGAGGCCCTCTTT
flavo_6_9	TGGCAGTGCCGGAGTTAAGCCCCTG	roseo_2_9	AACCAGATCTCTCTGGCGGTCCCGG	gamma_13_9	CGAGAGCTTCAAGAGAGGCCCTCTT
flavo_6_10	GAGTTAAGCCCCTGCATTTCACCAC	roseo_2_10	AAACCAGATCTCTCTGGCGGTCCCG	gamma_13_10	GCGAGAGCTTCAAGAGAGGCCCTCT
flavo_6_11	GCCGGAGTTAAGCCCCTGCATTTCA	roseo_2_11	TCTCTGGCGGTCCCGGGATGTCAAG	gamma_13_11	TAGCGAGAGCTTCAAGAGAGGCCCT
flavo_6_12	ATGGCAGTGCCGGAGTTAAGCCCCT	roseo_2_12	ATCTCTCTGGCGGTCCCGGGATGTC	gamma_13_12	AGAGCTTCAAGAGAGGCCCTCTTTC
flavo_6_13	TTAAGCCCCTGCATTTCACCACTGA	roseo_2_13	GATCTCTCTGGCGGTCCCGGGATGT	gamma_13_13	AGCGAGAGCTTCAAGAGAGGCCCTC
flavo_6_14	GGAGTTAAGCCCCTGCATTTCACCA	roseo_2_14	CAGATCTCTCTGGCGGTCCCGGGAT	gamma_13_14	GTCAGTACAGATCCAGGAGGCCGCC
flavo_6_15	CGGAGTTAAGCCCCTGCATTTCACC	roseo_2_15	TCTGGCGGTCCCGGGATGTCAAGGG	gamma_13_15	TCAGTACAGATCCAGGAGGCCGCCT
flavo_6_16	CCCTGCATTTCACCACTGACTTATC	roseo_2_16	CTCTGGCGGTCCCGGGATGTCAAGG	gamma_13_16	CAGTACAGATCCAGGAGGCCGCCTT
flavo_6_17	CAATGGCAGTGCCGGAGTTAAGCCC	roseo_2_17	CCAGATCTCTCTGGCGGTCCCGGGA	gamma_13_17	AGTACAGATCCAGGAGGCCGCCTTC
flavo_6_18	TCAATGGCAGTGCCGGAGTTAAGCC	roseo_2_18	TCTCTCTGGCGGTCCCGGGATGTCA	gamma_13_18	GCTGCGCCACTGAAAGACATTGTCT
flavo_6_19	CCTTACGGTCACCGACTTCAGGCAC	roseo_2_19	CTCTCTGGCGGTCCCGGGATGTCAA	gamma_13_19	GAGCTTCAAGAGAGGCCCTCTTTCT
flavo_6_20	CCGGAGTTAAGCCCCTGCATTTCAC	roseo_2_20	CTGGCGGTCCCGGGATGTCAAGGGT	gamma_13_20	TCTTGGCTCCAAAAGGCACACTCTC
flavo_6_21	AATGGCAGTGCCGGAGTTAAGCCCC	roseo_2_21	ACCTGTCACCGGGTCACCGAAGTGA	gamma_13_21	AGTGTCAGTACAGATCCAGGAGGCC
flavo_6_22	TATCAATGGCAGTGCCGGAGTTAAG	roseo_2_22	CCTGTCACCGGGTCACCGAAGTGAA	gamma_13_22	GGCCCTCTTTCTCCCTTAGGAGGTA
flavo_6_23	GTATCAATGGCAGTGCCGGAGTTAA	roseo_2_23	CTGTCACCGGGTCACCGAAGTGAAA	gamma_13_23	AGCTTCAAGAGAGGCCCTCTTTCTC
flavo_6_24	CCCCTGCATTTCACCACTGACTTAT	roseo_2_24	CGGGTCACCGAAGTGAAAACCAGAT	gamma_13_24	AGCTGCGCCACTGAAAGACATTGTC
flavo_6_25	TAAGCCCCTGCATTTCACCACTGAC	roseo_2_25	AAAACCAGATCTCTCTGGCGGTCCC	gamma_13_25	CGAGAGCATCAAGAGAGGCCCTCTT
flavo_7_1	TCTTACAGTACCGTCACCAGACTAC	roseo_3_1	GCCGCTACACCCGAAGGTGCCGCTC	gamma_14_1	GGCGGTCAACTTACTACGTTAGCTG
flavo_7_2	CTTACAGTACCGTCACCAGACTACA	roseo_3_2	CTACACCCGAAGGTGCCGCTCGACT	gamma_14_2	CCAGGCGGTCAACTTACTACGTTAG
flavo_7_3	CGTCACCAGACTACACGTAGTCCTT	roseo_3_3	GCTACACCCGAAGGTGCCGCTCGAC	gamma_14_3	GCGGTCAACTTACTACGTTAGCTGC
flavo_7_4	GTACCGTCACCAGACTACACGTAGT	roseo_3_4	CCGCTACACCCGAAGGTGCCGCTCG	gamma_14_4	CAGGCGGTCAACTTACTACGTTAGC
flavo_7_5	CCGTCACCAGACTACACGTAGTCCT	roseo_3_5	CGCTACACCCGAAGGTGCCGCTCGA	gamma_14_5	CCCAGGCGGTCAACTTACTACGTTA
flavo_7_6	TACCGTCACCAGACTACACGTAGTC	roseo_3_6	CGCCGCTACACCCGAAGGTGCCGCT	gamma_14_6	CCGAGGGCACTGCTTCATTACAAAG
flavo_7_7	ACCGTCACCAGACTACACGTAGTCC	roseo_3_7	CCGCCGCTACACCCGAAGGTGCCGC	gamma_14_7	CGAGGGCACTGCTTCATTACAAAGC
flavo_7_8	TTACAGTACCGTCACCAGACTACAC	roseo_3_8	TACACCCGAAGGTGCCGCTCGACTT	gamma_14_8	TCCCGAGGGCACTGCTTCATTACAA
flavo_7_9	GTCACCAGACTACACGTAGTCCTTA	roseo_3_9	TCCGCCGCTACACCCGAAGGTGCCG	gamma_14_9	CCCGAGGGCACTGCTTCATTACAAA
flavo_7_10	TACAGTACCGTCACCAGACTACACG	roseo_3_10	ACACCCGAAGGTGCCGCTCGACTTG	gamma_14_10	CCCCAGGCGGTCAACTTACTACGTT
flavo_7_11	ACAGTACCGTCACCAGACTACACGT	roseo_3_11	GTCCGCCGCTACACCCGAAGGTGCC	gamma_14_11	TCCCCAGGCGGTCAACTTACTACGT
flavo_7_12	AACTTTCACCCCTGACTTAACAGCC	roseo_3_12	ACCCGAAGGTGCCGCTCGACTTGCA	gamma_14_12	CTCCCGAGGGCACTGCTTCATTACA
flavo_7_13	CAGTACCGTCACCAGACTACACGTA	roseo_3_13	CACCCGAAGGTGCCGCTCGACTTGC	gamma_14_13	CTCCCCAGGCGGTCAACTTACTACG
flavo_7_14	CCGGTCGTCAGCAAGAGCAAGCTCC	roseo_3_14	CGTCCGCCGCTACACCCGAAGGTGC	gamma_14_14	GCTCCCGAGGGCACTGCTTCATTAC
flavo_7_15	ACTTTCACCCCTGACTTAACAGCCC	roseo_3_15	CACCTGGTCTCTTACGAGAAAACCG	gamma_14_15	TCTTGGCTCCCGAGGGCACTGCTTC
flavo_7_16	CCCTGACTTAACAGCCCGCCTACGG	roseo_3_16	CCAGGAGTTTTGGAGGCCGTTCCAG	gamma_14_16	GGCTCCCGAGGGCACTGCTTCATTA
flavo_7_17	TCGCTTGGCCGCTCAGATCGAAATC	roseo_3_17	ACCTGGTCTCTTACGAGAAAACCGG	gamma_14_17	TATCTTGGCTCCCGAGGGCACTGCT
flavo_7_18	CGCTTGGCCGCTCAGATCGAAATCC	roseo_3_18	CCGGATCTCTCCGGCGGTCCAGGGA	gamma_14_18	ACTCCCCAGGCGGTCAACTTACTAC
flavo_7_19	TTCGCTTGGCCGCTCAGATCGAAAT	roseo_3_19	CCCGAAGGTGCCGCTCGACTTGCAT	gamma_14_19	ATCTTGGCTCCCGAGGGCACTGCTT
flavo_7_20	TTTCGCTTGGCCGCTCAGATCGAAA	roseo_3_20	ACCAGGAGTTTTGGAGGCCGTTCCA	gamma_14_20	TACTACGTTAGCTGCGCCACTGAGA
flavo_7_21	GCTTGGCCGCTCAGATCGAAATCCA	roseo_3_21	CAGGAGTTTTGGAGGCCGTTCCAGG	gamma_14_21	GTATCTTGGCTCCCGAGGGCACTGC
flavo_7_22	CTTGGCCGCTCAGATCGAAATCCAA	roseo_3_22	CCGAAGGTGCCGCTCGACTTGCATG	gamma_14_22	CTTGGCTCCCGAGGGCACTGCTTCA
flavo_7_23	TTGGCCGCTCAGATCGAAATCCAAA	roseo_3_23	CCGTCCGCCGCTACACCCGAAGGTG	gamma_14_23	TGGCTCCCGAGGGCACTGCTTCATT
flavo_7_24	GGCTATCCCTTAGTGTAAGGCAGAT	roseo_3_24	AAACCGGATCTCTCCGGCGGTCCAG	gamma_14_24	ACTACGTTAGCTGCGCCACTGAGAA
flavo_7_25	GGGCTATCCCTTAGTGTAAGGCAGA	roseo_3_25	CCTGGTCTCTTACGAGAAAACCGGA	gamma_14_25	TTGGCTCCCGAGGGCACTGCTTCAT
flavo_8_1	GCCGAAATACGGTACTACGGGGCAT	roseo_4_1	CGTACCATCTCTGGTAGTAGCACAG	gamma_15_1	TCCGTAGAAGTCCGGGCCGTGTCTC
flavo_8_2	GATGCCGAAATACGGTACTACGGGG	roseo_4_2	CCATCTCTGGTAGTAGCACAGGATG	gamma_15_2	CCGTAGAAGTCCGGGCCGTGTCTCA
flavo_8_3	ATGCCGAAATACGGTACTACGGGGC	roseo_4_3	GTACCATCTCTGGTAGTAGCACAGG	gamma_15_3	CGTAGAAGTCCGGGCCGTGTCTCAG
flavo_8_4	TGCCGAAATACGGTACTACGGGGCA	roseo_4_4	CTGGTAGTAGCACAGGATGTCAAGG	gamma_15_4	GTAGAAGTCCGGGCCGTGTCTCAGT
flavo_8_5	ACCGTATAACGATGCCGAAATACGG	roseo_4_5	TGGTAGTAGCACAGGATGTCAAGGG	gamma_15_5	TTCCGTAGAAGTCCGGGCCGTGTCT
flavo_8_6	CCGTATAACGATGCCGAAATACGGT	roseo_4_6	GAAGGGAACGTACCATCTCTGGTAG	gamma_15_6	CTTCCGTAGAAGTCCGGGCCGTGTC
flavo_8_7	CGATGCCGAAATACGGTACTACGGG	roseo_4_7	CCTTAGAGAAGGGCATATTCCCACG	gamma_15_7	TAGAAGTCCGGGCCGTGTCTCAGTC
flavo_8_8	CCGAAATACGGTACTACGGGGCATT	roseo_4_8	GGTAGTAGCACAGGATGTCAAGGGT	gamma_15_8	ACTGCTGCCTTCCGTAGAAGTCCGG
flavo_8_9	ACGATGCCGAAATACGGTACTACGG	roseo_4_9	GGGAACGTACCATCTCTGGTAGTAG	gamma_15_9	CATGCAGTCGAGTTCCAGACTGCAA
flavo_8_10	AACGATGCCGAAATACGGTACTACG	roseo_4_10	GGAACGTACCATCTCTGGTAGTAGC	gamma_15_10	CCTCGAGCTATCCCCCTCCATTGGG
flavo_8_11	CGAAGGAAAAGTCATCTCTGACCCT	roseo_4_11	CGAAGGGAACGTACCATCTCTGGTA	gamma_15_11	AGAAGTCCGGGCCGTGTCTCAGTCC
flavo_8_12	CGAAATACGGTACTACGGGGCATTA	roseo_4_12	CCGAAGGGAACGTACCATCTCTGGT	gamma_15_12	TCCTCGAGCTATCCCCCTCCATTGG
flavo_8_13	CCGAAGGAAAAGTCATCTCTGACCC	roseo_4_13	CGTCCCCGAAGGGAACGTACCATCT	gamma_15_13	CTCGAGCTATCCCCCTCCATTGGGT
flavo_8_14	GTCATCTCTGACCCTGTCAATATGC	roseo_4_14	CCCCGAAGGGAACGTACCATCTCTG	gamma_15_14	TCATGCAGTCGAGTTCCAGACTGCA
flavo_8_15	CCCGAAGGAAAAGTCATCTCTGACC	roseo_4_15	GTCCCCGAAGGGAACGTACCATCTC	gamma_15_15	CCTTCCGTAGAAGTCCGGGCCGTGT
flavo_8_16	TACAAGGCAGGTTCCATACGCGGTG	roseo_4_16	GCGTCCCCGAAGGGAACGTACCATC	gamma_15_16	GCGCCACTGGATAAATCCAACGGCT
flavo_8_17	GGCTTTAACCGTATAACGATGCCGA	roseo_4_17	ACTGCGTCCCCGAAGGGAACGTACC	gamma_15_17	TGCGCCACTGGATAAATCCAACGGC
flavo_8_18	CTGGGCTATTCCCCTGTACAAGGCA	roseo_4_18	CTGCGTCCCCGAAGGGAACGTACCA	gamma_15_18	TTCCTCGAGCTATCCCCCTCCATTG
flavo_8_19	GAAGGAAAAGTCATCTCTGACCCTG	roseo_4_19	CCCGAAGGGAACGTACCATCTCTGG	gamma_15_19	GTTCCAGACTGCAATTCGGACTACG
flavo_8_20	GCCCGAAGGAAAAGTCATCTCTGAC	roseo_4_20	TGCGTCCCCGAAGGGAACGTACCAT	gamma_15_20	CCAGCTCGCGCTTTGGCAACCGTTT
flavo_8_21	GTACAAGGCAGGTTCCATACGCGGT	roseo_4_21	CTTAGAGAAGGGCATATTCCCACGC	gamma_15_21	TCGAGCTATCCCCCTCCATTGGGTA
flavo_8_22	TGTACAAGGCAGGTTCCATACGCGG	roseo_4_22	GAAGGGCGCGCTCGACTTGCATGTA	gamma_15_22	GCTGCGCCACTGGATAAATCCAACG
flavo_8_23	CCTGGGCTATTCCCCTGTACAAGGC	roseo_4_23	CACTGCGTCCCCGAAGGGAACGTAC	gamma_15_23	CGCCACTGGATAAATCCAACGGCTA
flavo_8_24	ACAAGGCAGGTTCCATACGCGGTGC	roseo_4_24	TCACTGCGTCCCCGAAGGGAACGTA	gamma_15_24	CTGCGCCACTGGATAAATCCAACGG
flavo_8_25	GGCAGGTTCCATACGCGGTGCGCAC	roseo_4_25	TCCCCGAAGGGAACGTACCATCTCT	gamma_15_25	TTTCCTCGAGCTATCCCCCTCCATT
flavo_9_1	ATTCCGCCTACTTCAATACAACTCA	roseo_5_1	GTCACTATGTCCCGAAGGAAAGCCT	gamma_16_1	TTTAAGGGTTTGGCTCCAGCTCGCG
flavo_9_2	TTCCGCCTACTTCAATACAACTCAA	roseo_5_2	CCGAAGGAAAGCCTGATCTCTCAGG	gamma_16_2	TTTTAAGGGTTTGGCTCCAGCTCGC
flavo_9_3	TATTCCGCCTACTTCAATACAACTC	roseo_5_3	TGTCACTATGTCCCGAAGGAAAGCC	gamma_16_3	TTAAGGGTTTGGCTCCAGCTCGCGC
flavo_9_4	TCCGCCTACTTCAATACAACTCAAG	roseo_5_4	TCCCGAAGGAAAGCCTGATCTCTCA	gamma_16_4	GTTTTAAGGGTTTGGCTCCAGCTCG
flavo_9_5	CATATTCCGCCTACTTCAATACAAC	roseo_5_5	TCACTATGTCCCGAAGGAAAGCCTG	gamma_16_5	CACGCGGTATACCTGGATCAGGGTT
flavo_9_6	CCGCCTACTTCAATACAACTCAAGA	roseo_5_6	CCCGAAGGAAAGCCTGATCTCTCAG	gamma_16_6	ACACGCGGTATACCTGGATCAGGGT
flavo_9_7	CGCCTACTTCAATACAACTCAAGAT	roseo_5_7	CTGTCACTATGTCCCGAAGGAAAGC	gamma_16_7	CTTCCTCCGGGTTTCACCCGGCAGT
flavo_9_8	GAACTCAAGGTCCCGAACAGCTAGT	roseo_5_8	GTCCCGAAGGAAAGCCTGATCTCTC	gamma_16_8	TCCTCCGGGTTTCACCCGGCAGTCT
flavo_9_9	TCAGAACTCAAGGTCCCGAACAGCT	roseo_5_9	GCCTGATCTCTCAGGTTGTCATAGG	gamma_16_9	CTTCACACACGCGGTATACCTGGAT
flavo_9_10	ACTCAAGGTCCCGAACAGCTAGTAT	roseo_5_10	TGACTGACTAATCCGCCTACGTACG	gamma_16_10	CACACGCGGTATACCTGGATCAGGG
flavo_9_11	GATGCCTATCAATAATACCATGAGG	roseo_5_11	CTGACTGACTAATCCGCCTACGTAC	gamma_16_11	ACACACGCGGTATACCTGGATCAGG
flavo_9_12	AGAACTCAAGGTCCCGAACAGCTAG	roseo_5_12	CGAAGGAAAGCCTGATCTCTCAGGT	gamma_16_12	CACACACGCGGTATACCTGGATCAG
flavo_9_13	CTCAAGGTCCCGAACAGCTAGTATC	roseo_5_13	CACTATGTCCCGAAGGAAAGCCTGA	gamma_16_13	CCTTCCTCCGGGTTTCACCCGGCAG
flavo_9_14	AACTCAAGGTCCCGAACAGCTAGTA	roseo_5_14	GCACCTGTCACTATGTCCCGAAGGA	gamma_16_14	TTCCTCCGGGTTTCACCCGGCAGTC
flavo_9_15	CAGAACTCAAGGTCCCGAACAGCTA	roseo_5_15	CCTGTCACTATGTCCCGAAGGAAAG	gamma_16_15	CCTCCGGGTTTCACCCGGCAGTCTC
flavo_9_16	CTCAGAACTCAAGGTCCCGAACAGC	roseo_5_16	CTATGTCCCGAAGGAAAGCCTGATC	gamma_16_16	TTCACACACGCGGTATACCTGGATC
flavo_9_17	TCAAGGTCCCGAACAGCTAGTATCC	roseo_5_17	ATGTCCCGAAGGAAAGCCTGATCTC	gamma_16_17	CGCCTTCCTCCGGGTTTCACCCGGC
flavo_9_18	GCTCAGAACTCAAGGTCCCGAACAG	roseo_5_18	AGCACCTGTCACTATGTCCCGAAGG	gamma_16_18	CTCCGGGTTTCACCCGGCAGTCTCC

flavo_9_19	CTACATATTCCGCCTACTTCAATAC	roseo_5_19	CAGCACCTGTCACTATGTCCCGAAG	gamma_16_19	GCGGTATACCTGGATCAGGGTTGCC
flavo_9_20	GCCTACTTCAATACAACTCAAGATG	roseo_5_20	CCTCCGAAGAGGTTAGCGCACGGCC	gamma_16_20	CGGTATACCTGGATCAGGGTTGCCC
flavo_9_21	TACACGTAAGGCTTATTCTTCCTGT	roseo_5_21	TCCGCTGCCTCCTCCGAAGAGGTTA	gamma_16_21	GGTATACCTGGATCAGGGTTGCCCC
flavo_9_22	CACGTAAGGCTTATTCTTCCTGTAT	roseo_5_22	CCGCTGCCTCCTCCGAAGAGGTTAG	gamma_16_22	TCTTCACACACGCGGTATACCTGGA
flavo_9_23	ACACGTAAGGCTTATTCTTCCTGTA	roseo_5_23	TGTCCCGAAGGAAAGCCTGATCTCT	gamma_16_23	TCACACACGCGGTATACCTGGATCA
flavo_9_24	CTTAGCCGCTCAGAACTCAAGGTCC	roseo_5_24	CACCTGTCACTATGTCCCGAAGGAA	gamma_16_24	GCCTTCCTCCGGGTTTCACCCGGCA
flavo_9_25	CGCTCAGAACTCAAGGTCCCGAACA	roseo_5_25	GCAGCACCTGTCACTATGTCCCGAA	gamma_16_25	CGCGGTATACCTGGATCAGGGTTGC
flavo_10_1	CGCTTAGCCACTCATCTAACCAATG	roseo_6_1	CGATAAAACCTAGTCTCCTAGGCGG	gamma_17_1	GGCTCCTCCAATAGTGACCGGTCCG
flavo_10_2	CTTTCGCTTAGCCACTCATCTAACC	roseo_6_2	CCGAGGCTATTCCGAAGCAAAAGGT	gamma_17_2	AGGCTCCTCCAATAGTGACCGGTCC
flavo_10_3	ACACGTCGGAGTGTTTCTTCCTGTA	roseo_6_3	CCCGAGGCTATTCCGAAGCAAAAGG	gamma_17_3	CAGGCTCCTCCAATAGTGACCGGTC
flavo_10_4	CCCGTGCGCCACTCGTCATCTGGTG	roseo_6_4	AAAACCTAGTCTCCTAGGCGGTCAG	gamma_17_4	CATGTATTAGGCCTGCCGCCAACGT
flavo_10_5	ACCCGTGCGCCACTCGTCATCTGGT	roseo_6_5	AAACCTAGTCTCCTAGGCGGTCAGA	gamma_17_5	GCTCCTCCAATAGTGACCGGTCCGA
flavo_10_6	CACCCGTGCGCCACTCGTCATCTGG	roseo_6_6	TCCCGAGGCTATTCCGAAGCAAAAG	gamma_17_6	GCAGGCTCCTCCAATAGTGACCGGT
flavo_10_7	TACAACCCGTAGGGCTTTCATCCTG	roseo_6_7	CTAGTCTCCTAGGCGGTCAGAGGAT	gamma_17_7	CGCCTGAGAGCAAGCTCCCATCGTT
flavo_10_8	ACAACCCGTAGGGCTTTCATCCTGC	roseo_6_8	AACCTAGTCTCCTAGGCGGTCAGAG	gamma_17_8	ACGCCTGAGAGCAAGCTCCCATCGT
flavo_10_9	AACCCGTAGGGCTTTCATCCTGCAC	roseo_6_9	CCTAGTCTCCTAGGCGGTCAGAGGA	gamma_17_9	GCCTGAGAGCAAGCTCCCATCGTTT
flavo_10_10	CAGTTTACAACCCGTAGGGCTTTCA	roseo_6_10	TAGTCTCCTAGGCGGTCAGAGGATG	gamma_17_10	GACGCCTGAGAGCAAGCTCCCATCG
flavo_10_11	CAACCCGTAGGGCTTTCATCCTGCA	roseo_6_11	CCTCTCAAACCAGCTACTGATCGCA	gamma_17_11	AATCCTACGCAGGCTCCTCCAATAG
flavo_10_12	TTACAACCCGTAGGGCTTTCATCCT	roseo_6_12	TCCTCTCAAACCAGCTACTGATCGC	gamma_17_12	GCATGTATTAGGCCTGCCGCCAACG
flavo_10_13	AGCAGTTTACAACCCGTAGGGCTTT	roseo_6_13	CTCTCAAACCAGCTACTGATCGCAG	gamma_17_13	CTAATCCTACGCAGGCTCCTCCAAT
flavo_10_14	GCAGTTTACAACCCGTAGGGCTTTC	roseo_6_14	CTCAAACCAGCTACTGATCGCAGAC	gamma_17_14	GCTAATCCTACGCAGGCTCCTCCAA
flavo_10_15	AAGCAGTTTACAACCCGTAGGGCTT	roseo_6_15	CAGCTACTGATCGCAGACTTGGTAG	gamma_17_15	CGACGCCTGAGAGCAAGCTCCCATC
flavo_10_16	CACGTCGGAGTGTTTCTTCCTGTAT	roseo_6_16	CCAGCTACTGATCGCAGACTTGGTA	gamma_17_16	CCTGAGAGCAAGCTCCCATCGTTTC
flavo_10_17	TGCGCCACTCGTCATCTGGTGCAAG	roseo_6_17	CCATGCAGCACCTGTCACTCTGTAT	gamma_17_17	CTCCTCCAATAGTGACCGGTCCGAA
flavo_10_18	CCGTGCGCCACTCGTCATCTGGTGC	roseo_6_18	CATGCAGCACCTGTCACTCTGTATC	gamma_17_18	ATCCTACGCAGGCTCCTCCAATAGT
flavo_10_19	GCGCCACTCGTCATCTGGTGCAAGC	roseo_6_19	AACCAGCTACTGATCGCAGACTTGG	gamma_17_19	CGCAGGCTCCTCCAATAGTGACCGG
flavo_10_20	CGTGCGCCACTCGTCATCTGGTGCA	roseo_6_20	ACCAGCTACTGATCGCAGACTTGGT	gamma_17_20	AGCTAATCCTACGCAGGCTCCTCCA
flavo_10_21	GTGCGCCACTCGTCATCTGGTGCAA	roseo_6_21	GCCATGCAGCACCTGTCACTCTGTA	gamma_17_21	TCGACGCCTGAGAGCAAGCTCCCAT
flavo_10_22	GTTTACAACCCGTAGGGCTTTCATC	roseo_6_22	AGTTTCCCGAGGCTATTCCGAAGCA	gamma_17_22	CTGAGAGCAAGCTCCCATCGTTTCC
flavo_10_23	TTTACAACCCGTAGGGCTTTCATCC	roseo_6_23	GTTTCCCGAGGCTATTCCGAAGCAA	gamma_17_23	TGTATTAGGCCTGCCGCCAACGTTC
flavo_10_24	GCACCCGTGCGCCACTCGTCATCTG	roseo_6_24	GGCGGTCAGAGGATGTCAAGGGTTG	gamma_17_24	TGCATGTATTAGGCCTGCCGCCAAC
flavo_10_25	GCGAAGTGGCTGCTCTCTGTACCGG	roseo_6_25	AGGCGGTCAGAGGATGTCAAGGGTT	gamma_17_25	CGCCACCGGTATTCCTCAGAATATC
flavo_11_1	GTACAAGTACTTTATGCTGCCCCTC	alpha_4_1	CGACAGGCATGCCTGCCAACAACTA	gamma_19_1	GAGGTTGCGACCCTTTGTCCTTCCC
flavo_11_2	CCGCCGGAGCTTTTCTTAAAAACTC	alpha_4_2	CCGACAGGCATGCCTGCCAACAACT	gamma_19_2	GCGAGGTTGCGACCCTTTGTCCTTC
flavo_11_3	CGGTCGCCATCAAAGTACAAGTACT	alpha_4_3	ACCGACAGGCATGCCTGCCAACAAC	gamma_19_3	CGAAACCTTTCAAGAAGAGGGCTCC
flavo_11_4	CCGGTCGCCATCAAAGTACAAGTAC	alpha_4_4	GACAGGCATGCCTGCCAACAACTAG	gamma_19_4	AAAGTGGTGAGCGCCCAGATAAGCT
flavo_11_5	CGTCCCTCAGCGTCAGTTAATTGTT	alpha_4_5	CCGTCTGCCACTATATCGTTCGACT	gamma_19_5	TGAGCGCCCAGATAAGCTACCCACT
flavo_11_6	TACAAGTACTTTATGCTGCCCCTCG	alpha_4_6	CACCGACAGGCATGCCTGCCAACAA	gamma_19_6	CAAAGTGGTGAGCGCCCAGATAAGC
flavo_11_7	CACGCGGCATCGCTGGATCAGAGTT	alpha_4_7	CCCGTCTGCCACTATATCGTTCGAC	gamma_19_7	GTGGTGAGCGCCCAGATAAGCTACC
flavo_11_8	TCGTCCCTCAGCGTCAGTTAATTGT	alpha_4_8	CAGGCATGCCTGCCAACAACTAGCT	gamma_19_8	AGTGGTGAGCGCCCAGATAAGCTAC
flavo_11_9	TCACGCGGCATCGCTGGATCAGAGT	alpha_4_9	ACAGGCATGCCTGCCAACAACTAGC	gamma_19_9	GTGAGCGCCCAGATAAGCTACCCAC
flavo_11_10	TGCCAGTATCAAAGGCAGTTCTACC	alpha_4_10	TCACCGACAGGCATGCCTGCCAACA	gamma_19_10	GGTGAGCGCCCAGATAAGCTACCCA
flavo_11_11	ACAAGTACTTTATGCTGCCCCTCGA	alpha_4_11	GCATGCCTGCCAACAACTAGCTCTC	gamma_19_11	TGGTGAGCGCCCAGATAAGCTACCC
flavo_11_12	GTACATCGAACAGCTAGTGACCATC	alpha_4_12	GGCATGCCTGCCAACAACTAGCTCT	gamma_19_12	AAGTGGTGAGCGCCCAGATAAGCTA
flavo_11_13	GCCAGTATCAAAGGCAGTTCTACCG	alpha_4_13	CACCCGTCTGCCACTATATCGTTCG	gamma_19_13	CGCCCAGATAAGCTACCCACTTCTT
flavo_11_14	TTCGTCCCTCAGCGTCAGTTAATTG	alpha_4_14	ACCCGTCTGCCACTATATCGTTCGA	gamma_19_14	GCGCCCAGATAAGCTACCCACTTCT
flavo_11_15	CAAGTACTTTATGCTGCCCCTCGAC	alpha_4_15	GTCACCGACAGGCATGCCTGCCAAC	gamma_19_15	GCGAAACCTTTCAAGAAGAGGGCTC
flavo_11_16	CGCCGGTCGCCATCAAAGTACAAGT	alpha_4_16	AGGCATGCCTGCCAACAACTAGCTC	gamma_19_16	AGCGCCCAGATAAGCTACCCACTTC
flavo_11_17	TCGCCGGTCGCCATCAAAGTACAAG	alpha_4_17	CTCACCCGTCTGCCACTATATCGTT	gamma_19_17	ACAAAGTGGTGAGCGCCCAGATAAG
flavo_11_18	GCCGGTCGCCATCAAAGTACAAGTA	alpha_4_18	TCACCCGTCTGCCACTATATCGTTC	gamma_19_18	CACAAAGTGGTGAGCGCCCAGATAA
flavo_11_19	TTCGCCGGTCGCCATCAAAGTACAA	alpha_4_19	CATGCCTGCCAACAACTAGCTCTCA	gamma_19_19	CGAGGTTGCGACCCTTTGTCCTTCC
flavo_11_20	CGTTCGCCGGTCGCCATCAAAGTAC	alpha_4_20	CCTGCCAACAACTAGCTCTCATCGT	gamma_19_20	GAGCGCCCAGATAAGCTACCCACTT
flavo_11_21	GTTCGCCGGTCGCCATCAAAGTACA	alpha_4_21	CGTCACCGACAGGCATGCCTGCCAA	gamma_19_21	CGCGAGGTTGCGACCCTTTGTCCTT
flavo_11_22	TACCTATCGGAGCTTAGGTGAGCCG	alpha_4_22	CTCGGTATTCCGCTAACCTCTCCTG	gamma_19_22	GACGCCTAAGAGCAAGCTCTTATCG
flavo_11_23	TATCGGAGCTTAGGTGAGCCGTTAC	alpha_4_23	ACTCACCCGTCTGCCACTATATCGT	gamma_19_23	TCACAAAGTGGTGAGCGCCCAGATA
flavo_11_24	CCCTGACTTAACAAACAGCCTGCGG	alpha_4_24	GCGTCACCGACAGGCATGCCTGCCA	gamma_19_24	GCAGGCTCATCTGATAGCGAAACCT
flavo_11_25	ACCGTTGAGCGGTAGGATTTCACCC	alpha_4_25	TACTCACCCGTCTGCCACTATATCG	gamma_19_25	CGACGCCTAAGAGCAAGCTCTTATC
flavo_12_1	CGTCTTCCTGCACGCTGCATGGCTG	wolbach_1_1	GCCAGGACTTCTTCTGTGAGTACCG	gamma_20_1	CCACTAAGGGACAAATTCCCCCAAC
flavo_12_2	CCGTCTTCCTGCACGCTGCATGGCT	wolbach_1_2	AGCCAGGACTTCTTCTGTGAGTACC	gamma_20_2	CGCCACTAAGGGACAAATTCCCCCA
flavo_12_3	GTCTTCCTGCACGCTGCATGGCTGG	wolbach_1_3	CCAGGACTTCTTCTGTGAGTACCGT	gamma_20_3	GCCACTAAGGGACAAATTCCCCCAA
flavo_12_4	CTTCCTGCACGCTGCATGGCTGGAT	wolbach_1_4	CGGAGTTAGCCAGGACTTCTTCTGT	gamma_20_4	CACTAAGGGACAAATTCCCCCAACG
flavo_12_5	TTCCTGCACGCTGCATGGCTGGATC	wolbach_1_5	CCGGCCGAACCGACCCTATCCCTTC	gamma_20_5	ACTAAGGGACAAATTCCCCCAACGG
flavo_12_6	GCCGTCTTCCTGCACGCTGCATGGC	wolbach_1_6	ACGGAGTTAGCCAGGACTTCTTCTG	gamma_20_6	CTAAGGGACAAATTCCCCCAACGGC
flavo_12_7	TCTTCCTGCACGCTGCATGGCTGGA	wolbach_1_7	GGAGTTAGCCAGGACTTCTTCTGTG	gamma_20_7	GCGCCACTAAGGGACAAATTCCCCC
flavo_12_8	CACGCTGCATGGCTGGATCAGAGTT	wolbach_1_8	CAGGACTTCTTCTGTGAGTACCGTC	gamma_20_8	GGTACCGTCAAGACGCGCAGTTATT
flavo_12_9	GGCCGTCTTCCTGCACGCTGCATGG	wolbach_1_9	GGCACGGAGTTAGCCAGGACTTCTT	gamma_20_9	AGGTACCGTCAAGACGCGCAGTTAT
flavo_12_10	TGCCCACCTTTTACCACCGGAGTTT	wolbach_1_10	CACGGAGTTAGCCAGGACTTCTTCT	gamma_20_10	TAGGTACCGTCAAGACGCGCAGTTA
flavo_12_11	ATGCCCACCTTTTACCACCGGAGTT	wolbach_1_11	TGGCACGGAGTTAGCCAGGACTTCT	gamma_20_11	TGCGCCACTAAGGGACAAATTCCCC
flavo_12_12	CACACGTGGACAGATTTCTTCCTGT	wolbach_1_12	GCACGGAGTTAGCCAGGACTTCTTC	gamma_20_12	TAAGGGACAAATTCCCCCAACGGCT
flavo_12_13	GAAGACTCGCTCTTCCTCGCGGAGT	wolbach_1_13	CGCCTCAGCGTCAGATTTGAACCAG	gamma_20_13	CTGTAGGTACCGTCAAGACGCGCAG
flavo_12_14	CATGCCCACCTTTTACCACCGGAGT	wolbach_1_14	GCGCCTCAGCGTCAGATTTGAACCA	gamma_20_14	GTAGGTACCGTCAAGACGCGCAGTT
flavo_12_15	CCGGCTTTGAAGACTCGCTCTTCCT	wolbach_1_15	CTGGCACGGAGTTAGCCAGGACTTC	gamma_20_15	CTGCGCCACTAAGGGACAAATTCCC
flavo_12_16	CCACACGTGGACAGATTTCTTCCTG	wolbach_1_16	CTGCTGGCACGGAGTTAGCCAGGAC	gamma_20_16	TGTAGGTACCGTCAAGACGCGCAGT
flavo_12_17	TTTGAAGACTCGCTCTTCCTCGCGG	wolbach_1_17	GCTGGCACGGAGTTAGCCAGGACTT	gamma_20_17	TCTGTAGGTACCGTCAAGACGCGCA
flavo_12_18	GGCTTTGAAGACTCGCTCTTCCTCG	wolbach_1_18	TGCTGGCACGGAGTTAGCCAGGACT	gamma_20_18	GCTGCGCCACTAAGGGACAAATTCC
flavo_12_19	CTTTGAAGACTCGCTCTTCCTCGCG	wolbach_1_19	CGCGCCTCAGCGTCAGATTTGAACC	gamma_20_19	CTTCTGTAGGTACCGTCAAGACGCG
flavo_12_20	TGAAGACTCGCTCTTCCTCGCGGAG	wolbach_1_20	GCCTTCGCGCCTCAGCGTCAGATTT	gamma_20_20	TCTTCTGTAGGTACCGTCAAGACGC
flavo_12_21	GACCGGCTTTGAAGACTCGCTCTTC	wolbach_1_21	GCCTCAGCGTCAGATTTGAACCAGA	gamma_20_21	GGACAAATTCCCCCAACGGCTAGTT
flavo_12_22	CGGCTTTGAAGACTCGCTCTTCCTC	wolbach_1_22	TCGCGCCTCAGCGTCAGATTTGAAC	gamma_20_22	GACAAATTCCCCCAACGGCTAGTTG
flavo_12_23	GCTTTGAAGACTCGCTCTTCCTCGC	wolbach_1_23	CATGCAACACCTGTGTGAAACCCGG	gamma_20_23	AGCTGCGCCACTAAGGGACAAATTC
flavo_12_24	ACCGGCTTTGAAGACTCGCTCTTCC	wolbach_1_24	GACTTTGCAGCCCATTGTAGCCACC	gamma_20_24	CGTTACGCACCCGTCCGCCACTCGA
flavo_12_25	TCGTACAGTACCGTCAACTACCCAC	wolbach_1_25	CGACTTTGCAGCCCATTGTAGCCAC	gamma_20_25	TCGCGTTAGCTGCGCCACTAAGGGA
flavo_13_1	CGCCGGTCGTCAGCATAGCAAGCTA	rickett_1_1	TCTCTGCGATCCGCGACCACCATGT	gamma_21_1	TCGTCAGCGCAGAGCAAGCTCCGCC
flavo_13_2	AGGTCGCTCCTCACGGTAACGAACT	rickett_1_2	ATCTCTGCGATCCGCGACCACCATG	gamma_21_2	CTCGTCAGCGCAGAGCAAGCTCCGC
flavo_13_3	GGTCGCTCCTCACGGTAACGAACTT	rickett_1_3	GTCAGTTGTAGCCCAGATGACCGCC	gamma_21_3	ACTCGTCAGCGCAGAGCAAGCTCCG
flavo_13_4	TAGGTCGCTCCTCACGGTAACGAAC	rickett_1_4	CAGTTGTAGCCCAGATGACCGCCTT	gamma_21_4	AGCAAGCTCCGCCTGTTACCGTTCG
flavo_13_5	AGGACGCATAGTCATCTTGTACCCA	rickett_1_5	TCAGTTGTAGCCCAGATGACCGCCT	gamma_21_5	GTCAGCGCAGAGCAAGCTCCGCCTG
flavo_13_6	CCTCACGGTAACGAACTTCAGGCAC	rickett_1_6	CGTCAGTTGTAGCCCAGATGACCGC	gamma_21_6	GAGCAAGCTCCGCCTGTTACCGTTC
flavo_13_7	TCGCCCAGTGGCTGCTCATTGTCCA	rickett_1_7	GTTGTAGCCCAGATGACCGCCTTCG	gamma_21_7	CAAGCTCCGCCTGTTACCGTTCGAC
flavo_13_8	CGTTCGCCGGTCGTCAGCATAGCAA	rickett_1_8	AGTTGTAGCCCAGATGACCGCCTTC	gamma_21_8	GCTCCGCCTGTTACCGTTCGACTTG
flavo_13_9	GTCGCTCCTCACGGTAACGAACTTC	rickett_1_9	CATCTCTGCGATCCGCGACCACCAT	gamma_21_9	CTGGGCTTTCACATCCGACTGACCG
flavo_13_10	GTCGCCCAGTGGCTGCTCATTGTCC	rickett_1_10	GCGTCAGTTGTAGCCCAGATGACCG	gamma_21_10	CTTTTGCAAGCCACTCCCATGGTGT
flavo_13_11	TAGGACGCATAGTCATCTTGTACCC	rickett_1_11	AGCATCTCTGCGATCCGCGACCACC	gamma_21_11	TCTTTTGCAAGCCACTCCCATGGTG
flavo_13_12	ACCAGTATCAAAGGCAGTTCCATCG	rickett_1_12	GCATCTCTGCGATCCGCGACCACCA	gamma_21_12	CTTCTTTTGCAAGCCACTCCCATGG
flavo_13_13	TCCTCACGGTAACGAACTTCAGGCA	rickett_1_13	TTGTAGCCCAGATGACCGCCTTCGC	gamma_21_13	TTTTGCAAGCCACTCCCATGGTGTG
flavo_13_14	CTAGGTCGCTCCTCACGGTAACGAA	rickett_1_14	AGCGTCAGTTGTAGCCCAGATGACC	gamma_21_14	TTTGCAAGCCACTCCCATGGTGTGA
flavo_13_15	CTCCTCACGGTAACGAACTTCAGGC	rickett_1_15	CCACTAACTAATTGGAGCAAGCCCC	gamma_21_15	CCTCAGCGTCAGTATTGCTCCAGAA
flavo_13_16	CCGTTCGCCGGTCGTCAGCATAGCA	rickett_1_16	GCCACTAACTAATTGGAGCAAGCCC	gamma_21_16	GGGCTTTCACATCCGACTGACCGTG
flavo_13_17	GTTCGCCGGTCGTCAGCATAGCAAG	rickett_1_17	CAAGCCCCAATTAGTCCGTTCGACT	gamma_21_17	CTTTCACATCCGACTGACCGTGCCG
flavo_13_18	CTCACGGTAACGAACTTCAGGCACT	rickett_1_18	CCGTCTTGCTTCCCTCTGTAAACAC	gamma_21_18	GGCTTTCACATCCGACTGACCGTGC
flavo_13_19	TCGCTCCTCACGGTAACGAACTTCA	rickett_1_19	CCGTCTGCCACTAACTAATTGGAGC	gamma_21_19	CACTCGTCAGCGCAGAGCAAGCTCC
flavo_13_20	GGTCGCCCAGTGGCTGCTCATTGTC	rickett_1_20	CTCTGCGATCCGCGACCACCATGTC	gamma_21_20	GCTTTCACATCCGACTGACCGTGCC
flavo_13_21	CGGCATAGCTGGTTCAGAGTTGCCT	rickett_1_21	GCAAGCCCCAATTAGTCCGTTCGAC	gamma_21_21	TCAGCGCAGAGCAAGCTCCGCCTGT
flavo_13_22	GGCATAGCTGGTTCAGAGTTGCCTC	rickett_1_22	AGCAAGCCCCAATTAGTCCGTTCGA	gamma_21_22	CGTCAGCGCAGAGCAAGCTCCGCCT
flavo_13_23	CGCGGCATAGCTGGTTCAGAGTTGC	rickett_1_23	TGTAGCCCAGATGACCGCCTTCGCC	gamma_21_23	AGAGCAAGCTCCGCCTGTTACCGTT
flavo_13_24	GCGGCATAGCTGGTTCAGAGTTGCC	rickett_1_24	GAGCAAGCCCCAATTAGTCCGTTCG	gamma_21_24	AGCTCCGCCTGTTACCGTTCGACTT
flavo_13_25	GCATAGCTGGTTCAGAGTTGCCTCC	rickett_1_25	GAAGAAAAGCATCTCTGCGATCCGC	gamma_21_25	CAGAGCAAGCTCCGCCTGTTACCGT
flavo_14_1	GTGCAAGCACTCCTGTTACCCCTCG	alpha_5_1	ACCAAAGCCCTGTGGGCCCTAGCAG	verru_1_1	CCCCGAGATTTCACACCTCACACAT
flavo_14_2	AGTGCAAGCACTCCTGTTACCCCTC	alpha_5_2	CACCAAAGCCCTGTGGGCCCTAGCA	verru_1_2	CCCGAGATTTCACACCTCACACATC
flavo_14_3	GCAAGCACTCCTGTTACCCCTCGAC	alpha_5_3	CCAAAGCCCTGTGGGCCCTAGCAGC	verru_1_3	TCACACCTCACACATCTATCCGCCT
flavo_14_4	TGCAAGCACTCCTGTTACCCCTCGA	alpha_5_4	ACCCTATGGTAGATCCCCACGCGTT	verru_1_4	CACCTCACACATCTATCCGCCTACG
flavo_14_5	CAAGCACTCCTGTTACCCCTCGACT	alpha_5_5	CACCCTATGGTAGATCCCCACGCGT	verru_1_5	TTCACACCTCACACATCTATCCGCC

flavo_14_6	AAGCACTCCTGTTACCCCTCGACTT	alpha_5_6	GCACCCTATGGTAGATCCCCACGCG	verru_1_6	ACACCTCACACATCTATCCGCCTAC
flavo_14_7	AGCACTCCTGTTACCCCTCGACTTG	alpha_5_7	CCGCACCCTATGGTAGATCCCCACG	verru_1_7	CACACCTCACACATCTATCCGCCTA
flavo_14_8	GCACTCCTGTTACCCCTCGACTTGC	alpha_5_8	CGCACCCTATGGTAGATCCCCACGC	verru_1_8	GCCCCGAGATTTCACACCTCACACA
flavo_14_9	TGCTACACGTAGCAGTGTTTCTTCC	alpha_5_9	TATTCCGCACCCTATGGTAGATCCC	verru_1_9	ACCTCACACATCTATCCGCCTACGC
flavo_14_10	CCCGTGCGCCGGTCGTCAGCGAGTG	alpha_5_10	ATTCCGCACCCTATGGTAGATCCCC	verru_1_10	AGCCCCGAGATTTCACACCTCACAC
flavo_14_11	TCGTCAGCGAGTGCAAGCACTCCTG	alpha_5_11	TCCGCACCCTATGGTAGATCCCCAC	verru_1_11	CTCCCGAAGGATAGCTCACGTACTT
flavo_14_12	TGCGCCGGTCGTCAGCGAGTGCAAG	alpha_5_12	CGCACCAGCTTCGGGTTGATCCAAC	verru_1_12	CTGCCTCCCGAAGGATAGCTCACGT
flavo_14_13	CGGTCGTCAGCGAGTGCAAGCACTC	alpha_5_13	TTCCGCACCCTATGGTAGATCCCCA	verru_1_13	GGCTATGAACCTCCTTGTTGCTCCT
flavo_14_14	CCGTGCGCCGGTCGTCAGCGAGTGC	alpha_5_14	CCACCAAAGCCCTGTGGGCCCTAGC	verru_1_14	CCTCCCGAAGGATAGCTCACGTACT
flavo_14_15	GCGCCGGTCGTCAGCGAGTGCAAGC	alpha_5_15	CCCTATGGTAGATCCCCACGCGTTA	verru_1_15	CCCGAAGGATAGCTCACGTACTTCG
flavo_14_16	GGTCGTCAGCGAGTGCAAGCACTCC	alpha_5_16	CCTATGGTAGATCCCCACGCGTTAC	verru_1_16	TCCCGAAGGATAGCTCACGTACTTC
flavo_14_17	GCCGGTCGTCAGCGAGTGCAAGCAC	alpha_5_17	GCGCACCAGCTTCGGGTTGATCCAA	verru_1_17	GAGGCTATGAACCTCCTTGTTGCTC
flavo_14_18	GTCAGCGAGTGCAAGCACTCCTGTT	alpha_5_18	GCACCAGCTTCGGGTTGATCCAACT	verru_1_18	GACGCTGCCTCCCGAAGGATAGCTC
flavo_14_19	CCGGTCGTCAGCGAGTGCAAGCACT	alpha_5_19	AGCGCACCAGCTTCGGGTTGATCCA	verru_1_19	AGGCTATGAACCTCCTTGTTGCTCC
flavo_14_20	TCAGCGAGTGCAAGCACTCCTGTTA	alpha_5_20	CTATGGTAGATCCCCACGCGTTACG	verru_1_20	GCCTCCCGAAGGATAGCTCACGTAC
flavo_14_21	CGTGCGCCGGTCGTCAGCGAGTGCA	alpha_5_21	GCCACCAAAGCCCTGTGGGCCCTAG	verru_1_21	CGCTGCCTCCCGAAGGATAGCTCAC
flavo_14_22	CGCCGGTCGTCAGCGAGTGCAAGCA	alpha_5_22	CACCAGCTTCGGGTTGATCCAACTC	verru_1_22	TGCCTCCCGAAGGATAGCTCACGTA
flavo_14_23	GTGCGCCGGTCGTCAGCGAGTGCAA	alpha_5_23	TAGCGCACCAGCTTCGGGTTGATCC	verru_1_23	ACGCTGCCTCCCGAAGGATAGCTCA
flavo_14_24	CGTCAGCGAGTGCAAGCACTCCTGT	alpha_5_24	CAAAGCCCTGTGGGCCCTAGCAGCT	verru_1_24	GCTGCCTCCCGAAGGATAGCTCACG
flavo_14_25	GTCGTCAGCGAGTGCAAGCACTCCT	alpha_5_25	CGCCACCAAAGCCCTGTGGGCCCTA	verru_1_25	AGGACGCTGCCTCCCGAAGGATAGC
flavo_15_1	GGCGTACTCCCCAGGTGCATCACTT	alpha_6_1	GCGCCACTAACCCCGAAGCTTCGTT	verru_2_1	CGTCGCATGTTCACACTTTCGTGCA
flavo_15_2	CTCCCCAGGTGCATCACTTAATACT	alpha_6_2	CTTCTTGCGAGTAGCTGCCCACTGT	verru_2_2	CTACCCTAACTTTCGTCCATGAGCG
flavo_15_3	GCGTACTCCCCAGGTGCATCACTTA	alpha_6_3	CCCAGCTTGTTGGGCCATGAGGACT	verru_2_3	ACCCTAACTTTCGTCCATGAGCGTC
flavo_15_4	CGGCGTACTCCCCAGGTGCATCACT	alpha_6_4	ATCTTCTTGCGAGTAGCTGCCCACT	verru_2_4	GCGTCGCATGTTCACACTTTCGTGC
flavo_15_5	ACTCCCCAGGTGCATCACTTAATAC	alpha_6_5	TCTTCTTGCGAGTAGCTGCCCACTG	verru_2_5	CAAGTGTTCCCTTCTCCCCTCCAGT
flavo_15_6	CGTACTCCCCAGGTGCATCACTTAA	alpha_6_6	TAGCCCAGCTTGTTGGGCCATGAGG	verru_2_6	TACACCAAGTGTTCCCTTCTCCCCT
flavo_15_7	CCGGCGTACTCCCCAGGTGCATCAC	alpha_6_7	GCCACTAACCCCGAAGCTTCGTTCG	verru_2_7	CCAAGTGTTCCCTTCTCCCCTCCAG
flavo_15_8	GTACTCCCCAGGTGCATCACTTAAT	alpha_6_8	GTAGCCCAGCTTGTTGGGCCATGAG	verru_2_8	ACACCAAGTGTTCCCTTCTCCCCTC
flavo_15_9	GCCGGCGTACTCCCCAGGTGCATCA	alpha_6_9	CGCCACTAACCCCGAAGCTTCGTTC	verru_2_9	CGCTACACCAAGTGTTCCCTTCTCC
flavo_15_10	GAAGAGAAGGCCTGTTTCCAAGCCG	alpha_6_10	TTCTTGCGAGTAGCTGCCCACTGTC	verru_2_10	CACCAAGTGTTCCCTTCTCCCCTCC
flavo_15_11	CAACAGCGAGTGATGATCGTTTACG	alpha_6_11	TAGCATCTTCTTGCGAGTAGCTGCC	verru_2_11	GCTACACCAAGTGTTCCCTTCTCCC
flavo_15_12	GCATGCCCATCTCATACCGAAAAAC	alpha_6_12	AGCATCTTCTTGCGAGTAGCTGCCC	verru_2_12	CTACACCAAGTGTTCCCTTCTCCCC
flavo_15_13	TTGTAATCTGCTCCGAAGAGAAGGC	alpha_6_13	GCCCAGCTTGTTGGGCCATGAGGAC	verru_2_13	AGTGTTCCCTTCTCCCCTCCAGTAC
flavo_15_14	CGCCGGTCGTCAGCAAAAGCAAGCT	alpha_6_14	CACTAACCCCGAAGCTTCGTTCGAC	verru_2_14	AAGTGTTCCCTTCTCCCCTCCAGTA
flavo_15_15	AAGAGAAGGCCTGTTTCCAAGCCGG	alpha_6_15	CATCTTCTTGCGAGTAGCTGCCCAC	verru_2_15	ACCAAGTGTTCCCTTCTCCCCTCCA
flavo_15_16	GCCGGTCGTCAGCAAAAGCAAGCTT	alpha_6_16	TGTAGCCCAGCTTGTTGGGCCATGA	verru_2_16	GCTACCCTAACTTTCGTCCATGAGC
flavo_15_17	TGCCGGCGTACTCCCCAGGTGCATC	alpha_6_17	AGCCCAGCTTGTTGGGCCATGAGGA	verru_2_17	GTTCCCTTCTCCCCTCCAGTACTCT
flavo_15_18	GCGCCGGTCGTCAGCAAAAGCAAGC	alpha_6_18	CCACTAACCCCGAAGCTTCGTTCGA	verru_2_18	GTGTTCCCTTCTCCCCTCCAGTACT
flavo_15_19	CGAAGAGAAGGCCTGTTTCCAAGCC	alpha_6_19	GCATCTTCTTGCGAGTAGCTGCCCA	verru_2_19	TGTTCCCTTCTCCCCTCCAGTACTC
flavo_15_20	CCAACAGCGAGTGATGATCGTTTAC	alpha_6_20	GTGTAGCCCAGCTTGTTGGGCCATG	verru_2_20	CCGCTACACCAAGTGTTCCCTTCTC
flavo_15_21	GGAGTATTAATCCCCGTTTCCAGGG	alpha_6_21	TGCGCCACTAACCCCGAAGCTTCGT	verru_2_21	TTCCCTTCTCCCCTCCAGTACTCTA
flavo_15_22	TGGAGTATTAATCCCCGTTTCCAGG	alpha_6_22	CTCAAGCACCAAGTGCCCGAACAGC	verru_2_22	GGCGTCGCATGTTCACACTTTCGTG
flavo_15_23	TCCCCGTTTCCAGGGGCTATCCTCC	alpha_6_23	CCAGCTTGTTGGGCCATGAGGACTT	verru_2_23	CGCTACCCTAACTTTCGTCCATGAG
flavo_15_24	TGCGCCGGTCGTCAGCAAAAGCAAG	alpha_6_24	ACTAACCCCGAAGCTTCGTTCGACT	verru_2_24	CCCTAACTTTCGTCCATGAGCGTCA
flavo_15_25	AACAGCGAGTGATGATCGTTTACGG	alpha_6_25	TCTTGCGAGTAGCTGCCCACTGTCA	verru_2_25	ACCGCTACACCAAGTGTTCCCTTCT

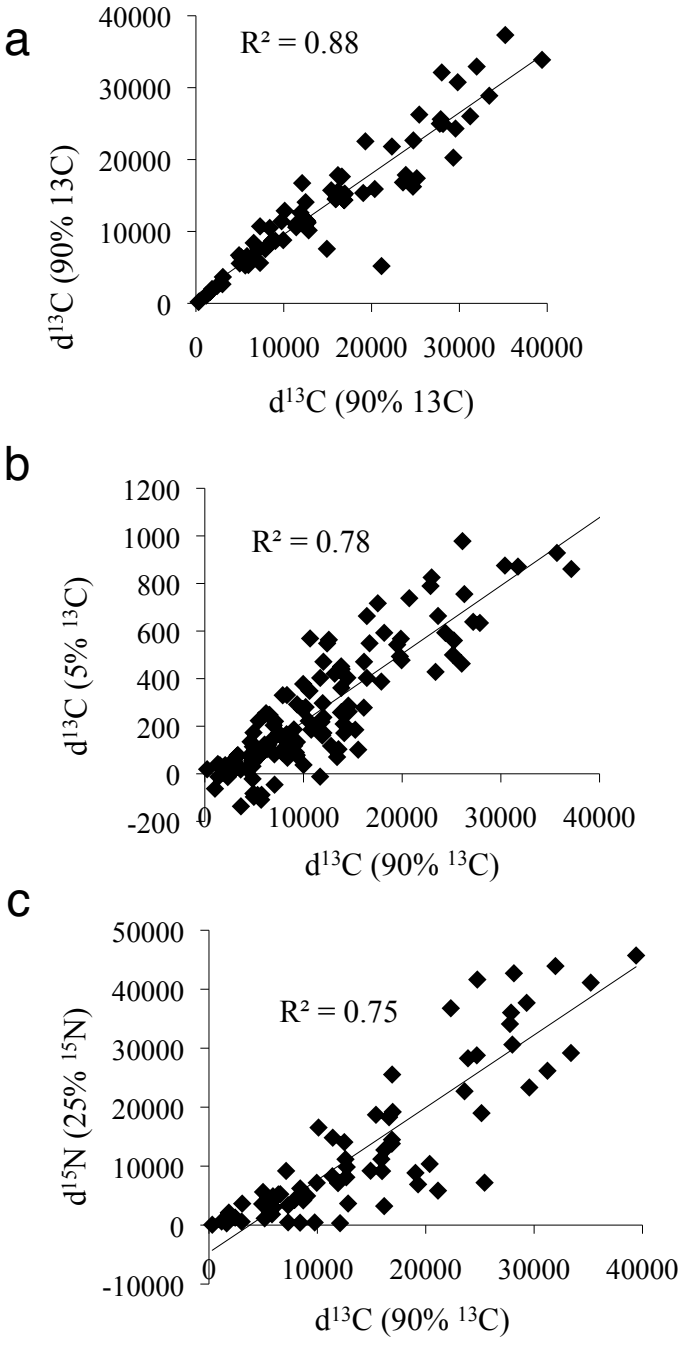
Supplemental Table 2: presence of identified amino acid transporters, extracellular nucleases, and nucleoside and fatty acid transport in 115 genomes of marine bacterial isolates. Word searches performed with Joint Genome Institute's Integrated Microbial Genomes (IMG) online at http://img.jgi.doe.gov/.

Genome	Amino acid transport	Extracellular nuclease or nucleoside transport	Fatty acid transport
Agreia sp. PHSC20C1	+	-	-
Algoriphagus sp. PR1	+	+	+
Alcanivorax sp. DG881	+	-	-
Alteromonas macleodii ATCC 27126	+	+	+
Alteromonas macleodii Deep DSM 17117	+	+	+
Aurantimonas sp. SI85-9A1	+	-	-
Bacillus sp. B14905	+	+	-
Bacillus sp. NRRL B-14911	+	+	-
Bacillus sp. SG-1	+	+	-
Beggiatoa sp. PS	+	-	+
Bermanella marisrubri	+	-	+
Blastopirellula marina DSM 3645	+	+	-
Caminibacter mediatlanticus TB-2	+	-	-
Candidatus Blochmannia pennsylvanicus BPEN	+	-	-
Candidatus Pelagibacter ubique HTCC1002	+	-	-
Carnobacterium sp. AT7	+	+	+
Congregibacter litoralis KT71	+	+	-
Croceibacter atlanticus HTCC2559	+	+	-
Cyanothece sp. CCY 0110	+	+	-
Dokdonia donghaensis MED134	+	+	-
Erythrobacter litoralis HTCC2594	+	+	+
Erythrobacter sp. NAP1	+	-	-
Erythrobacter sp. SD-21	+	+	-
Finegoldia magna ATCC 29328	+	-	-
Flavobacteria bacterium BAL38	+	-	+
Flavobacteria bacterium BBFL7	-	-	-
Flavobacteriales bacterium ALC-1	+	+	-
Flavobacteriales bacterium HTCC2170	+	+	-
Fulvimarina pelagi HTCC2506	+	-	+
Hoeflea phototrophica DFL-43	+	-	+
Hydrogenivirga sp. 128-5-R1-1	+	-	-
Idiomarina baltica OS145	+	+	+
Janibacter sp. HTCC2649	+	-	-
Kordia algicida OT-1	+	+	+
Labrenzia aggregata IAM 12614	+	-	-
Leeuwenhoekiella blandensis MED217	+	+	-

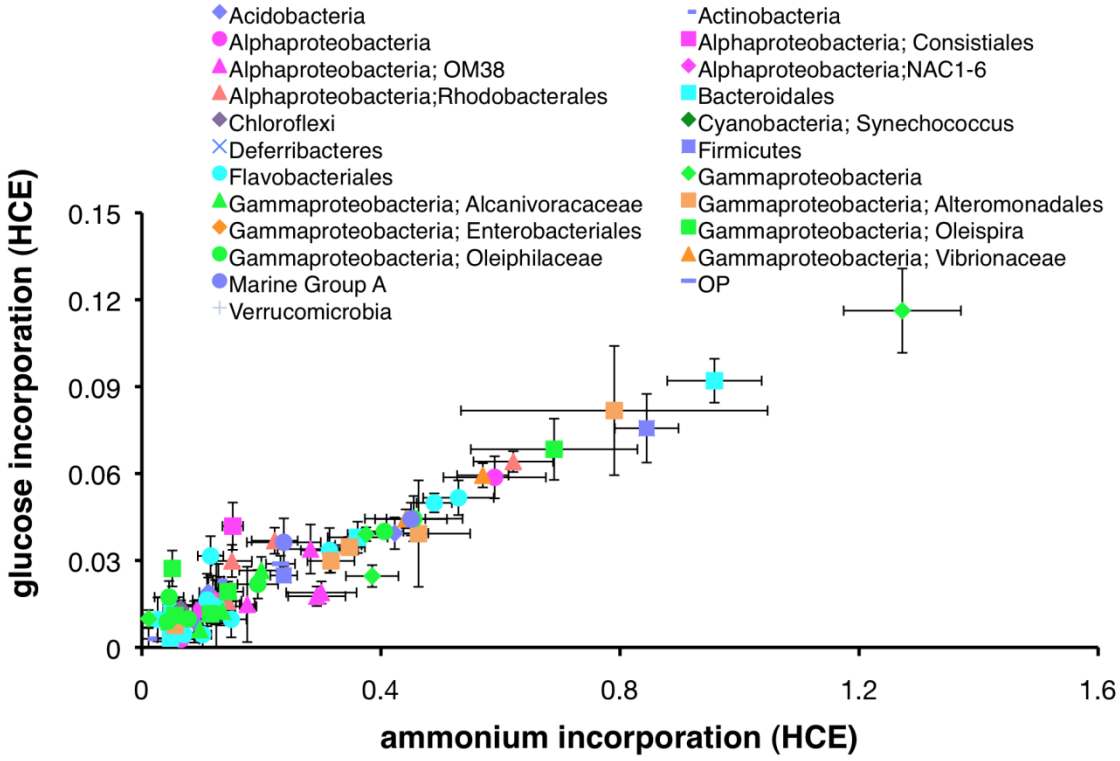
Lentisphaera araneosa HTCC2155	+	-	+
Limnobacter sp. MED105	+	-	+
Loktanella vestfoldensis SKA53	+	-	-
Lyngbya sp. PCC 8106	+	+	-
marine gamma proteobacterium HTCC2080	+	+	+
marine gamma proteobacterium HTCC2143	+	-	-
marine gamma proteobacterium HTCC2148	+	-	-
marine gamma proteobacterium HTCC2207	+	-	-
Marinobacter algicola DG893	+	+	+
Marinobacter sp. ELB17	+	-	+
Marinomonas sp. MED121	+	+	-
Mariprofundus ferrooxydans PV-1	+	-	+
Methylophilales bacterium HTCC2181	-	-	-
Microscilla marina ATCC 23134	+	+	-
Moritella sp. PE36	+	+	+
Neptuniibacter caesariensis	+	-	-
Nisaea sp. BAL199	+	-	+
Nitrobacter sp. Nb-311A	+	-	-
Nitrococcus mobilis Nb-231	+	-	-
Nodularia spumigena CCY9414	+	-	-
Oceanibulbus indolifex HEL-45	+	+	+
Oceanicaulis alexandrii HTCC2633	+	-	-
Oceanicola batsensis HTCC2597	+	+	-
Oceanicola granulosus HTCC2516	+	+	-
Parvularcula bermudensis HTCC2503	+	+	-
Pedobacter sp. BAL39	+	-	+
Pelotomaculum thermopropionicum SI	+	-	-
Phaeobacter gallaeciensis 2.10	+	-	-
Phaeobacter gallaeciensis BS107	+	-	-
Photobacterium angustum S14	+	+	+
Photobacterium profundum 3TCK	+	+	+
Photobacterium sp. SKA34	+	+	+
Planctomyces maris DSM 8797	+	+	-
Plesiocystis pacifica SIR-1	+	+	+
Polaribacter irgensii 23-P	+	+	-
Polaribacter sp. MED152	+	+	-
Prochlorococcus marinus AS9601	-	-	-
Prochlorococcus marinus MIT 9211	+	-	-
Prochlorococcus marinus MIT 9301	-	-	-
Prochlorococcus marinus MIT 9303	+	-	-
Prochlorococcus marinus MIT 9515	+	-	-
Prochlorococcus marinus NATL1A	+	-	-
Pseudoalteromonas sp. TW-7	+	+	+
Pseudoalteromonas tunicata D2	+	+	+
Psychroflexus torquis ATCC 700755	+	+	-

Psychromonas sp. CNPT3	+	-	+
Reinekea sp. MED297	+	+	-
Rhodobacterales bacterium HTCC2150	+	+	-
Rhodobacterales bacterium HTCC2654	+	-	-
Rhodobacterales sp. HTCC2255	+	+	-
Roseobacter litoralis Och 149	+	-	-
Roseobacter sp. AzwK-3b	+	-	-
Roseobacter sp. CCS2	+	+	-
Roseobacter sp. MED193	+	-	-
Roseobacter sp. SK209-2-6	+	+	-
Roseovarius nubinhibens ISM	+	-	-
Roseovarius sp. 217	+	+	+
Roseovarius sp. HTCC2601	+	+	-
Roseovarius sp. TM1035	+	-	-
Sagittula stellata E-37	+	+	-
Shewanella benthica KT99	+	+	+
Sphingomonas sp. SKA58	+	+	+
Sulfitobacter sp. EE-36	+	-	-
Sulfitobacter sp. NAS-14.1	+	-	-
Synechococcus sp. BL107	+	-	-
Synechococcus sp. RS9916	+	-	-
Synechococcus sp. RS9917	+	-	-
Synechococcus sp. WH 5701	+	-	-
Synechococcus sp. WH 7805	+	-	-
Thalassospira sp. TrichSKD10	+	-	-
Ulvibacter sp. SCB49	+	+	+
Vibrio alginolyticus 12G01	+	+	+
Vibrio campbellii AND4	+	+	+
Vibrio harveyi HY01	+	-	+
Vibrio parahaemolyticus 16	+	-	+
Vibrio shilonii AK1	+	+	+
Vibrio sp. MED222	+	+	+
Vibrio splendidus 12B01	+	+	+
Vibrionales bacterium SWAT-3	+	+	+
TOTAL (115)	111	56	41

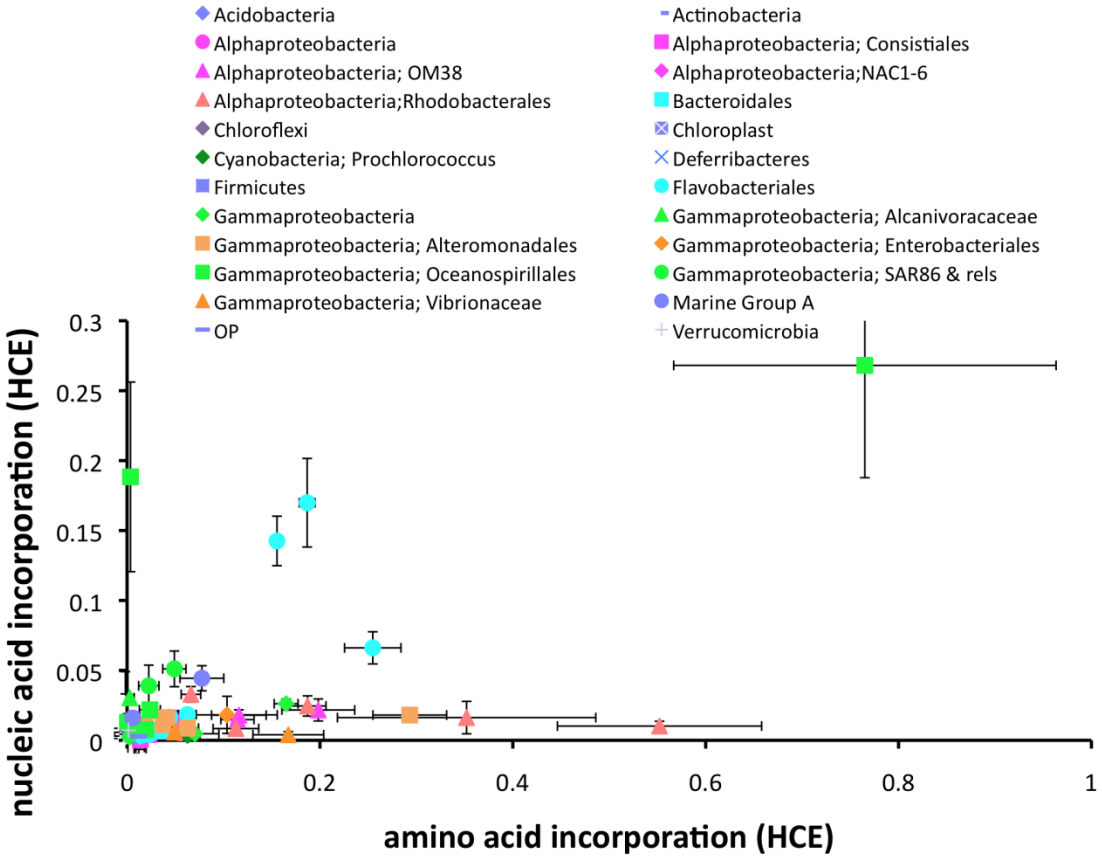
Supplemental Fig. 1: Reproducibility of Chip-SIP replicate arrays (analyzed by NanoSIMS) from (a) the same hybridization, (b) separate hybridizations of 5% and 100% ^{13}C *P. stutzeri* RNA, and (c) separate hybridization of *P. stutzeri* labeled with ^{13}C and ^{15}N. Each data point represents a distinct probe spot with a different base pair sequence.



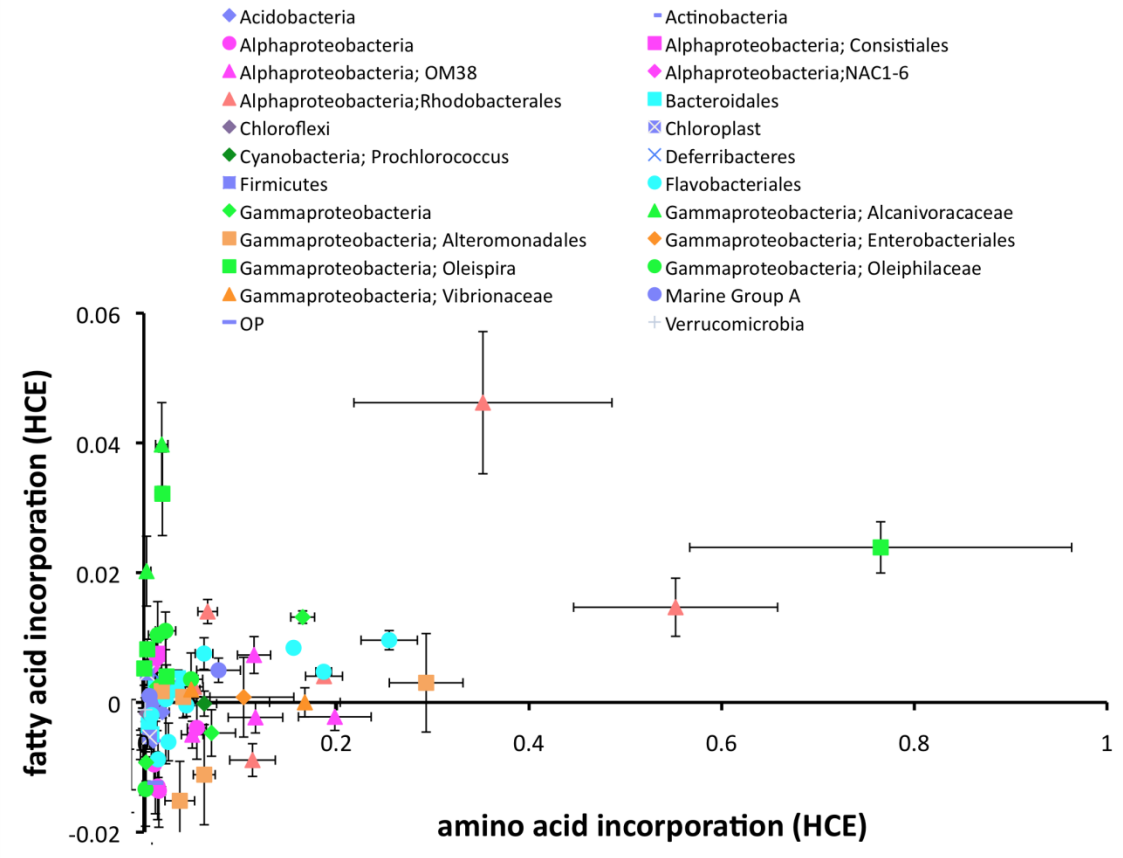
Supplemental Fig. 2: Relative incorporation of ^{15}N- ammonium and ^{13}C-glucose detected by chip-SIP for a natural estuarine microbial community from the San Francisco Bay. Units are the slope of permil isotope enrichment over fluorescence (HCE = hybridization corrected enrichment). Each point is the average of probe spots representing the identified taxon. Error bars represent the standard error of the slope calculation.



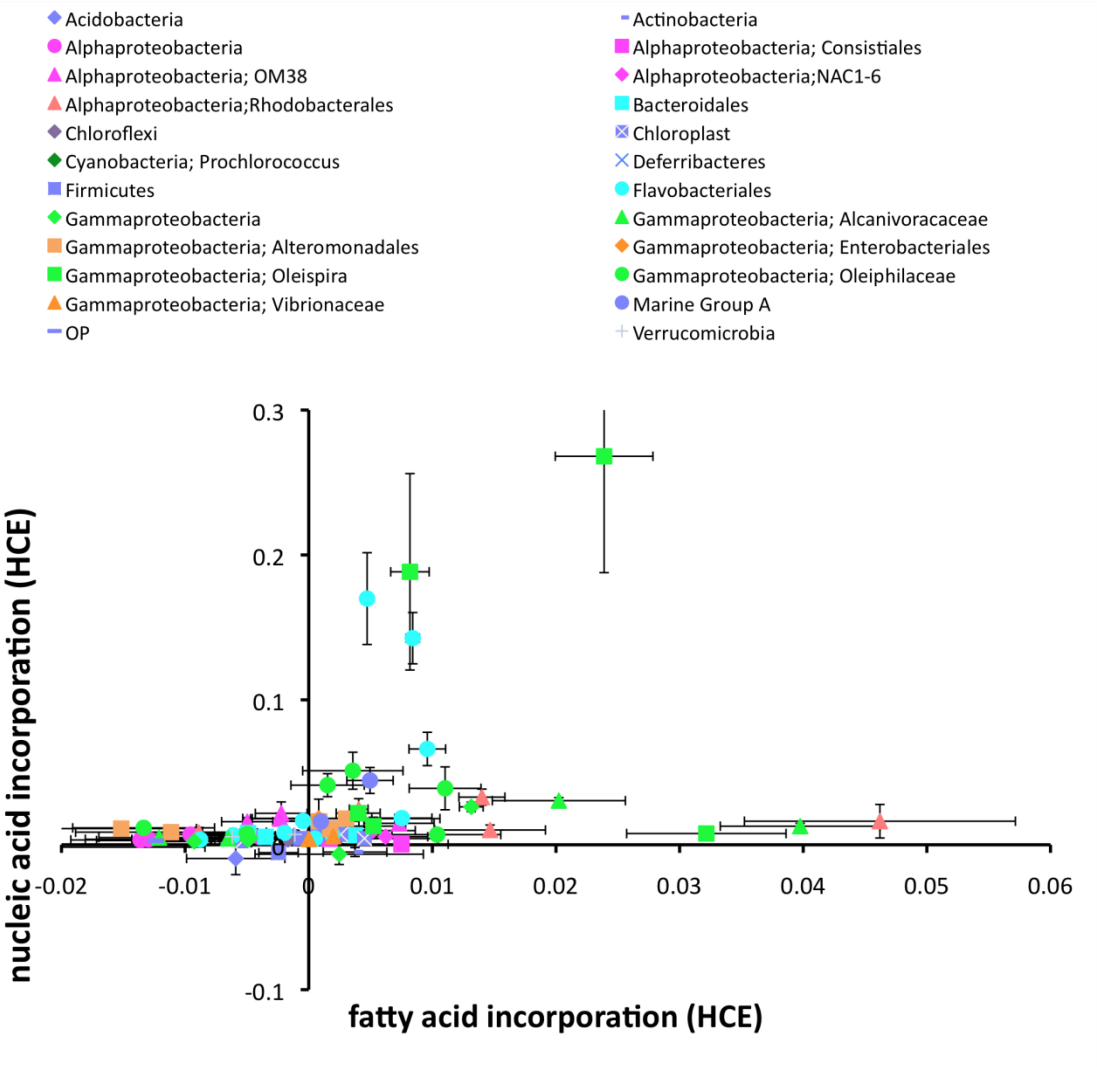
Supplemental Fig. 3: Relative incorporation of amino acids and nucleic acids detected by chip-SIP for a natural estuarine microbial community from the San Francisco Bay. Units are the slope of permil enrichment over fluorescence (HCE = hybridization corrected enrichment).



Supplemental Fig. 4: Relative incorporation of amino acids and fatty acids detected by chip-SIP for a natural estuarine microbial community. Units are the slope of permil enrichment over fluorescence (HCE = hybridization corrected enrichment).



Supplemental Fig. 5: Relative incorporation of fatty acids and nucleic acids detected by chip-SIP for a natural estuarine microbial community. Units are the slope of permil enrichment over fluorescence (HCE = hybridization corrected enrichment).



Supplemental Fig. 6: Results of permutations test to determine if amino acid (A), fatty acid (B), and nucleic acid (C) utilizations are randomly distribution on the 16S phylogeny. Presence/absence of a trait (mapped on the phylogeny in Fig. S7) were randomized (N =1000) and the parsimony scores calculated for each replicate. Shown are the frequency distributions of the parsimony scores, arrows indicate the parsimony score of the actual dataset.