

Supplemental Material for:
Applied Microbiology and Biotechnology

Surfactant-induced bacterial community changes correlated with increased polycyclic aromatic hydrocarbon degradation in contaminated soil
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Table S1. Average (and standard deviation) concentrations of PAHs in bioreactor slurry and in treatments after 14 days of post-bioreactor incubation ($\mu\text{g/g}$ dry soil).

PAH	Bioreactor	NoSurf	BrijLow	BrijHigh	POESH
NAP	19.9 (1.37)	17.0 (1.50)	16.9 (1.76)	17.7 (0.53)	17.0 (1.11)
ACE	2.19 (0.11)	1.69 (0.38) ^a	1.16 (0.10) ^{ab}	1.08 (0.17) ^b	1.36 (0.07) ^{ab}
FLU	1.98 (0.14)	1.55 (0.20)	1.16 (0.14)	1.15 (0.20)	1.26 (0.09)
PHN	29.7 (2.82)	22.2 (4.08) ^a	16.0 (1.63) ^{ab}	14.6 (1.35) ^b	17.3 (2.82) ^{ab}
ANT	3.04 (0.26)	2.48 (0.37) ^a	2.25 (0.14) ^{ab}	1.87 (0.09) ^c	1.93 (0.10) ^b
FLA	19.4 (0.48)	13.3 (0.85) ^a	6.87 (1.08) ^b	7.06 (0.81) ^b	6.02 (0.54) ^b
PYR	32.8 (0.63)	22.9 (1.26) ^a	9.91 (0.82) ^b	26.3 (3.13) ^a	8.89 (1.20) ^b
BaA	16.4 (0.45)	12.4 (1.25) ^a	6.23 (0.79) ^b	13.8 (1.25) ^a	4.55 (0.33) ^b
CHR	21.1 (4.61)	13.4 (1.23) ^a	6.15 (1.10) ^b	13.8 (1.70) ^a	3.98 (0.27) ^b
BbF	14.2 (0.11)	10.8 (0.73) ^b	9.63 (0.71) ^b	13.5 (0.43) ^a	10.2 (0.31) ^b
BkF	6.91 (0.25)	5.40 (0.24) ^{ab}	4.41 (0.33) ^c	5.89 (0.10) ^a	4.58 (0.56) ^{bc}
BaP	17.0 (0.60)	14.3 (1.12)	13.5 (1.10)	16.3 (1.20)	13.3 (1.51)
DBA	1.27 (0.09)	1.05 (0.01)	1.08 (0.09)	1.16 (0.23)	1.02 (0.27)
BgP	24.0 (1.13)	22.5 (2.58)	22.5 (2.40)	25.0 (2.25)	23.9 (0.09)

Abbreviations as in Figure 1. Identical superscripted letters indicate no significant difference between values in the four treatment conditions for that compound ($p < 0.05$; Tukey's HSD). No superscripted letters among all conditions within a row indicate that the ANOVA for all samples was not significant ($p < 0.05$).

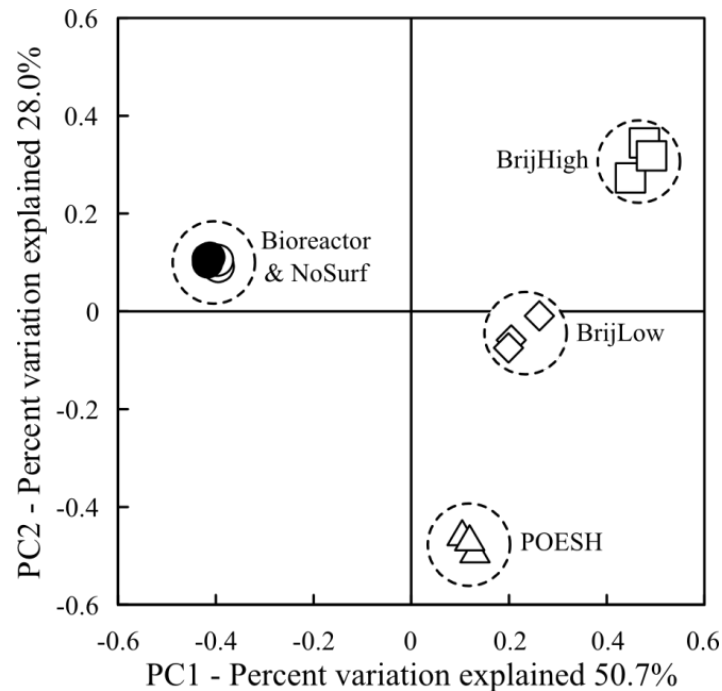


Figure S1. PCoA plot based on triplicate 16S rRNA gene amplicon libraries for each condition. Symbols for some Bioreactor and NoSurf replicates are obscured by other libraries within those conditions.

Table S2. Classifier phylogeny and relative abundance of all OTUs with an average representation of at least 0.1% in at least one condition.

OTU	Classifier results	Bioreactor	NoSurf	BrijLow	BrijHigh	POESH
1	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	10.4 (0.9)^a	5.5 (0.9)	10.8 (0.7)	4.5 (7.5)	5.2 (0.6)
2	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	11.0 (0.6)	13.7 (0.6)	3.8 (0.5)	1.0 (0.5)	4.3 (1.0)
3	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); <i>Sphingobacteriia</i> (100); <i>Sphingobacteriales</i> (100); <i>Chitinophagaceae</i> (100); <i>Sediminibacterium</i> (100);	0.6 (0.1)	1.0 (0.1)	7.3 (0.5)	5.7 (1.2)	21.3 (0.8)
4	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); <i>Pseudomonadales</i> (100); <i>Pseudomonadaceae</i> (100); <i>Pseudomonas</i> (100);	0.4 (0.1)	0.3 (0.0)	8.8 (1.9)	21.1 (0.8)	0.3 (0.1)
5	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	2.1 (0.2)	3.7 (0.2)	8.4 (1.6)	1.7 (0.7)	8.3 (2.8)
6	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	5.5 (0.4)	10.2 (0.3)	0.6 (0.5)	0.1 (0.0)	1.0 (0.2)
7	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); <i>Pseudomonadales</i> (100); <i>Moraxellaceae</i> (100); unclassified (100);	5.2 (0.3)	3.0 (0.3)	1.9 (0.2)	0.4 (0.1)	6.8 (2.8)
8	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	2.7 (0.2)	6.9 (0.4)	3.8 (0.2)	3.7 (0.8)	1.1 (0.3)
9	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Caulobacterales</i> (100); <i>Caulobacteraceae</i> (100); <i>Caulobacter</i> (100);	0.2 (0.0)	0.1 (0.0)	0.9 (0.2)	14.5 (2.2)	0.3 (0.0)
10	<i>Bacteria</i> (100); <i>Verrucomicrobia</i> (100); <i>Opitutae</i> (100); <i>Opitiales</i> (100); <i>Opitutaceae</i> (100); <i>Opitutus</i> (100);	2.1 (0.3)	2.2 (0.3)	0.7 (0.1)	0.5 (0.1)	6.3 (0.7)
11	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Caulobacterales</i> (100); <i>Caulobacteraceae</i> (100); <i>Phenylobacterium</i> (100);	0.2 (0.0)	0.2 (0.0)	10.6 (1.2)	0.2 (0.1)	2.1 (0.1)
12	<i>Bacteria</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	3.1 (0.4)	3.8 (0.4)	1.7 (0.0)	0.2 (0.1)	2.2 (0.9)
13	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); <i>Xanthomonadales</i> (100); <i>Xanthomonadaceae</i> (100); <i>Pseudoxanthomonas</i> (100);	0.2 (0.0)	0.1 (0.0)	5.4 (0.2)	8.5 (1.6)	0.2 (0.0)
14	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); <i>Sphingobacteriia</i> (100); <i>Sphingobacteriales</i> (100); <i>Chitinophagaceae</i> (100); <i>Terrimonas</i> (100);	0.3 (0.0)	0.8 (0.1)	1.5 (0.5)	0.5 (0.5)	8.9 (1.8)
15	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); <i>Xanthomonadales</i> (100); <i>Xanthomonadaceae</i> (100); <i>Lysobacter</i> (100);	0.1 (0.0)	0.1 (0.0)	4.9 (0.3)	4.8 (2.2)	1.8 (0.2)
16	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); <i>Sphingobacteriia</i> (100); <i>Sphingobacteriales</i> (100); <i>Chitinophagaceae</i> (100); unclassified (100);	2.9 (0.1)	4.0 (0.2)	0.2 (0.0)	0.2 (0.0)	1.7 (0.1)
17	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Sphingomonadales</i> (100); <i>Sphingomonadaceae</i> (100); <i>Novosphingobium</i> (98);	0.5 (0.1)	0.5 (0.1)	0.6 (0.4)	0.3 (0.1)	7.5 (5.0)
18	<i>Bacteria</i> (100); <i>Verrucomicrobia</i> (100); Subdivision3 (100); unclassified (100); unclassified (100); unclassified (100);	2.9 (0.2)	4.1 (0.5)	0.3 (0.0)	0.1 (0.0)	0.1 (0.0)

19	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (92); <i>Rhizobiales</i> (92); <i>Rhizobiaceae</i> (92); <i>Rhizobium</i> (92);	0.7 (0.1)	0.3 (0.0)	1.3 (0.1)	4.1 (1.3)	2.5 (1.1)
20	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhizobiales</i> (100); <i>Bradyrhizobiaceae</i> (100); unclassified (99);	0.1 (0.0)	0.1 (0.0)	8.1 (0.6)	0.5 (0.4)	0.1 (0.0)
21	<i>Bacteria</i> (100); <i>Actinobacteria</i> (99); <i>Actinobacteria</i> (99); unclassified (99); unclassified (99); unclassified (99);	2.1 (0.6)	3.3 (0.2)	0.4 (0.1)	0.3 (0.0)	0.4 (0.1)
22	<i>Bacteria</i> (100); <i>Proteobacteria</i> (89); <i>Alphaproteobacteria</i> (52); unclassified (52); unclassified (52); unclassified (52);	2.0 (0.2)	1.7 (0.0)	1.3 (0.0)	0.6 (0.1)	0.5 (0.1)
23	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Betaproteobacteria</i> (100); <i>Hydrogenophilales</i> (100); <i>Hydrogenophilaceae</i> (100); <i>Thiobacillus</i> (100);	2.6 (0.2)	1.2 (0.1)	0.3 (0.1)	0.1 (0.0)	0.2 (0.1)
24	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Sphingomonadales</i> (100); <i>Sphingomonadaceae</i> (100); <i>Sphingomonas</i> (97);	1.8 (0.2)	1.9 (0.2)	0.2 (0.0)	0.2 (0.1)	0.2 (0.0)
25	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Betaproteobacteria</i> (100); <i>Burkholderiales</i> (100); <i>Comamonadaceae</i> (100); unclassified (99);	1.5 (0.1)	0.9 (0.1)	1.5 (0.2)	0.1 (0.1)	0.5 (0.1)
26	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); <i>Sphingobacteriia</i> (100); <i>Sphingobacteriales</i> (100); <i>Chitinophagaceae</i> (100); <i>Sediminibacterium</i> (99);	0.1 (0.0)	0.1 (0.0)	0.1 (0.0)	4.6 (7.5)	0.2 (0.0)
27	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Betaproteobacteria</i> (100); <i>Burkholderiales</i> (100); <i>Comamonadaceae</i> (100); <i>Acidovorax</i> (72);	0.3 (0.0)	0.3 (0.0)	2.0 (0.4)	1.2 (1.2)	1.0 (0.6)
28	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Sphingomonadales</i> (100); <i>Sphingomonadaceae</i> (96); <i>Sphingobium</i> (93);	0.2 (0.0)	0.1 (0.0)	0.1 (0.0)	3.7 (0.9)	0.7 (0.2)
29	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Betaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	0.9 (0.2)	1.8 (0.2)	0.1 (0.0)	0.0 (0.0)	0.5 (0.1)
30	<i>Bacteria</i> (100); <i>Acidobacteria</i> (99); <i>Acidobacteria_Gp6</i> (99); Gp6 (99); unclassified (99); unclassified (99);	1.6 (0.2)	0.8 (0.1)	0.0 (0.0)	0.0 (0.0)	0.4 (0.1)
31	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	1.1 (0.1)	1.4 (0.2)	0.2 (0.0)	0.1 (0.0)	0.3 (0.1)
32	<i>Bacteria</i> (100); <i>Acidobacteria</i> (100); <i>Acidobacteria_Gp6</i> (100); Gp6 (100); unclassified (100); unclassified (100);	0.8 (0.1)	1.7 (0.3)	0.0 (0.0)	0.0 (0.0)	0.2 (0.0)
33	<i>Bacteria</i> (100); <i>Acidobacteria</i> (100); <i>Acidobacteria_Gp3</i> (100); Gp3 (98); unclassified (98); unclassified (98);	1.1 (0.3)	0.9 (0.1)	0.0 (0.0)	0.0 (0.0)	0.7 (0.1)
34	<i>Bacteria</i> (100); <i>Planctomycetes</i> (100); <i>Planctomycetia</i> (100); <i>Planctomycetales</i> (100); <i>Planctomycetaceae</i> (100); <i>Planctomyces</i> (98);	1.4 (0.2)	0.8 (0.0)	0.1 (0.0)	0.0 (0.0)	0.1 (0.0)
35	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Caulobacterales</i> (100); <i>Caulobacteraceae</i> (100); <i>Phenylobacterium</i> (100);	0.2 (0.1)	0.1 (0.0)	0.7 (0.1)	2.6 (0.2)	0.1 (0.0)
36	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); <i>Sphingobacteriia</i> (100); <i>Sphingobacteriales</i> (100); <i>Chitinophagaceae</i> (100); unclassified (99);	0.1 (0.0)	0.2 (0.1)	2.1 (0.3)	0.0 (0.0)	0.4 (0.1)
37	<i>Bacteria</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	0.7 (0.1)	1.0 (0.1)	0.2 (0.1)	0.1 (0.0)	0.3 (0.1)

38	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Sphingomonadales</i> (100); <i>Sphingomonadaceae</i> (100); <i>Sphingomonas</i> (100);	0.7 (0.1)	1.2 (0.2)	0.1 (0.0)	0.2 (0.0)	0.1 (0.0)
39	<i>Bacteria</i> (100); <i>Acidobacteria</i> (100); <i>Acidobacteria_Gp4</i> (100); Gp4 (100); unclassified (100); unclassified (100);	0.3 (0.0)	0.5 (0.1)	0.1 (0.0)	0.0 (0.0)	1.4 (0.2)
40	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); <i>Legionellales</i> (100); <i>Coxiellaceae</i> (100); <i>Coxiella</i> (100);	0.9 (0.1)	0.7 (0.1)	0.2 (0.0)	0.1 (0.1)	0.3 (0.1)
41	<i>Bacteria</i> (100); <i>Parcubacteria</i> (93); unclassified (93); unclassified (93); unclassified (93); unclassified (93);	1.0 (0.4)	0.6 (0.0)	0.1 (0.0)	0.1 (0.0)	0.2 (0.1)
42	<i>Bacteria</i> (100); <i>Planctomycetes</i> (100); <i>Planctomycetia</i> (100); <i>Planctomycetales</i> (100); <i>Planctomycetaceae</i> (100); unclassified (100);	0.5 (0.0)	0.9 (0.1)	0.2 (0.0)	0.1 (0.0)	0.2 (0.0)
43	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); <i>Sphingobacteriia</i> (100); <i>Sphingobacteriales</i> (100); <i>Sphingobacteriaceae</i> (100); <i>Mucilaginibacter</i> (100);	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	2.8 (2.4)	0.0 (0.0)
44	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhizobiales</i> (100); <i>Bradyrhizobiaceae</i> (100); <i>Bradyrhizobium</i> (89);	0.1 (0.0)	0.1 (0.0)	1.7 (0.5)	0.4 (0.2)	0.0 (0.0)
45	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Sphingomonadales</i> (100); <i>Sphingomonadaceae</i> (100); <i>Sphingosinicella</i> (100);	0.1 (0.0)	0.1 (0.0)	0.5 (0.1)	1.4 (0.5)	0.1 (0.0)
46	<i>Bacteria</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	1.0 (0.1)	0.4 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
47	<i>Bacteria</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	1.3 (0.2)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
48	<i>Bacteria</i> (100); <i>Verrucomicrobia</i> (100); <i>Spartobacteria</i> (99); unclassified (99); unclassified (99); unclassified (99);	0.7 (0.1)	0.5 (0.1)	0.2 (0.1)	0.1 (0.0)	0.1 (0.1)
49	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Betaproteobacteria</i> (100); unclassified (99); unclassified (99); unclassified (99);	0.5 (0.0)	1.0 (0.1)	0.1 (0.0)	0.0 (0.1)	0.0 (0.0)
50	<i>Bacteria</i> (100); unclassified (97); unclassified (97); unclassified (97); unclassified (97); unclassified (97);	0.5 (0.1)	0.6 (0.0)	0.3 (0.0)	0.1 (0.1)	0.0 (0.0)
51	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); <i>Cytophagia</i> (100); <i>Cytophagales</i> (100); <i>Cytophagaceae</i> (99); <i>Adhaeribacter</i> (99);	1.1 (0.2)	0.2 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
52	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhizobiales</i> (100); unclassified (100); unclassified (100);	0.5 (0.0)	0.5 (0.1)	0.2 (0.0)	0.1 (0.0)	0.2 (0.1)
53	<i>Bacteria</i> (100); <i>Actinobacteria</i> (100); <i>Actinobacteria</i> (100); <i>Acidimicrobiales</i> (100); unclassified (100); unclassified (100);	0.5 (0.2)	0.9 (0.2)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
54	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (99); unclassified (99); unclassified (99); unclassified (99);	0.7 (0.1)	0.5 (0.1)	0.0 (0.0)	0.0 (0.0)	0.1 (0.0)
55	<i>Bacteria</i> (100); <i>Actinobacteria</i> (100); <i>Actinobacteria</i> (100); <i>Acidimicrobiales</i> (100); <i>Acidimicrobiaceae</i> (100); <i>Ilumatobacter</i> (100);	0.2 (0.0)	0.3 (0.1)	0.0 (0.0)	0.0 (0.0)	1.0 (0.4)
56	<i>Bacteria</i> (100); <i>Verrucomicrobia</i> (100); <i>Verrucomicrobiae</i> (100); <i>Verrucomicrobiales</i> (100); <i>Verrucomicrobiaceae</i> (100); <i>Verrucomicrobium</i> (100);	0.2 (0.0)	0.2 (0.0)	0.3 (0.0)	0.8 (1.2)	0.0 (0.0)

57	<i>Bacteria</i> (100); <i>Gemmatimonadetes</i> (95); <i>Gemmatimonadetes</i> (95); <i>Gemmatimonadales</i> (95); <i>Gemmatimonadaceae</i> (95); <i>Gemmatimonas</i> (95);	0.4 (0.0)	0.7 (0.0)	0.0 (0.0)	0.0 (0.0)	0.2 (0.0)
58	<i>Bacteria</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	1.0 (0.2)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
59	<i>Bacteria</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	1.0 (0.1)	0.0 (0.0)	0.0 (0.0)	0.1 (0.1)	0.0 (0.0)
60	<i>Bacteria</i> (100); <i>Planctomycetes</i> (100); <i>Planctomycetia</i> (100); <i>Planctomycetales</i> (100); <i>Planctomycetaceae</i> (100); <i>Planctomyces</i> (95);	0.6 (0.1)	0.3 (0.1)	0.2 (0.0)	0.0 (0.0)	0.1 (0.1)
61	<i>Bacteria</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	0.9 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
62	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); <i>Xanthomonadales</i> (100); <i>Xanthomonadaceae</i> (100); <i>Luteimonas</i> (99);	0.1 (0.0)	0.1 (0.0)	0.1 (0.1)	0.1 (0.0)	0.9 (0.1)
63	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhizobiales</i> (100); unclassified (99); unclassified (99);	0.3 (0.1)	0.4 (0.1)	0.1 (0.0)	0.1 (0.0)	0.1 (0.0)
64	<i>Bacteria</i> (100); <i>Planctomycetes</i> (100); <i>Planctomycetia</i> (100); <i>Planctomycetales</i> (100); <i>Planctomycetaceae</i> (100); unclassified (100);	0.5 (0.1)	0.3 (0.0)	0.0 (0.0)	0.0 (0.0)	0.1 (0.0)
65	<i>Bacteria</i> (100); <i>Acidobacteria</i> (100); <i>Acidobacteria_Gp3</i> (100); Gp3 (100); unclassified (100); unclassified (100);	0.3 (0.0)	0.5 (0.1)	0.1 (0.0)	0.0 (0.0)	0.1 (0.0)
66	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Sphingomonadales</i> (100); <i>Erythrobacteraceae</i> (95); unclassified (94);	0.2 (0.0)	0.3 (0.1)	0.0 (0.0)	0.0 (0.0)	0.4 (0.0)
67	<i>Bacteria</i> (100); <i>Planctomycetes</i> (100); <i>Planctomycetia</i> (100); <i>Planctomycetales</i> (100); <i>Planctomycetaceae</i> (100); <i>Pirellula</i> (99);	0.4 (0.0)	0.2 (0.1)	0.2 (0.0)	0.0 (0.0)	0.0 (0.0)
68	<i>Bacteria</i> (100); <i>Actinobacteria</i> (100); <i>Actinobacteria</i> (100); <i>Acidimicrobiales</i> (100); <i>Acidimicrobiaceae</i> (100); <i>Ilumatobacter</i> (100);	0.3 (0.0)	0.5 (0.2)	0.0 (0.0)	0.0 (0.0)	0.1 (0.0)
69	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); <i>Sphingobacteriia</i> (100); <i>Sphingobacteriales</i> (100); <i>Chitinophagaceae</i> (100); unclassified (100);	0.0 (0.0)	0.0 (0.0)	0.1 (0.1)	0.0 (0.0)	0.8 (1.3)
70	<i>Bacteria</i> (100); <i>Planctomycetes</i> (100); <i>Planctomycetia</i> (100); <i>Planctomycetales</i> (100); <i>Planctomycetaceae</i> (100); unclassified (100);	0.3 (0.0)	0.1 (0.0)	0.2 (0.0)	0.1 (0.1)	0.2 (0.0)
71	<i>Bacteria</i> (100); <i>Acidobacteria</i> (100); <i>Acidobacteria_Gp4</i> (100); Gp4 (100); unclassified (100); unclassified (100);	0.1 (0.0)	0.2 (0.1)	0.0 (0.0)	0.0 (0.0)	0.5 (0.1)
72	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Betaproteobacteria</i> (100); <i>Rhodocyclales</i> (81); <i>Rhodocyclaceae</i> (81); unclassified (81);	0.4 (0.1)	0.2 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
73	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhizobiales</i> (100); <i>Phyllobacteriaceae</i> (99); <i>Mesorhizobium</i> (97);	0.2 (0.0)	0.1 (0.1)	0.1 (0.0)	0.1 (0.0)	0.2 (0.0)
74	<i>Bacteria</i> (100); <i>Nitrospirae</i> (100); <i>Nitrospira</i> (100); <i>Nitrospirales</i> (100); <i>Nitrospiraceae</i> (100); <i>Nitrospira</i> (100);	0.5 (0.1)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
75	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	0.2 (0.0)	0.1 (0.0)	0.2 (0.0)	0.1 (0.2)	0.1 (0.0)
76	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhizobiales</i> (100); unclassified (100); unclassified (100);	0.2 (0.0)	0.2 (0.0)	0.1 (0.0)	0.1 (0.0)	0.1 (0.0)

77	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Caulobacterales</i> (100); <i>Caulobacteraceae</i> (100); <i>Phenylobacterium</i> (100);	0.3 (0.1)	0.2 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)
78	<i>Bacteria</i> (100); <i>Acidobacteria</i> (100); <i>Acidobacteria_Gp3</i> (100); Gp3 (98); unclassified (98); unclassified (98);	0.4 (0.1)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
79	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	0.4 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
80	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Sphingomonadales</i> (100); <i>Sphingomonadaceae</i> (100); <i>Sphingomonas</i> (98);	0.2 (0.0)	0.2 (0.1)	0.0 (0.0)	0.0 (0.0)	0.1 (0.0)
81	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	0.2 (0.0)	0.1 (0.0)	0.1 (0.0)	0.1 (0.1)	0.1 (0.0)
82	<i>Bacteria</i> (100); <i>Planctomycetes</i> (100); <i>Planctomycetia</i> (100); <i>Planctomycetales</i> (100); <i>Planctomycetaceae</i> (100); unclassified (100);	0.2 (0.1)	0.2 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
83	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Betaproteobacteria</i> (100); <i>Burkholderiales</i> (100); unclassified (73); unclassified (73);	0.0 (0.0)	0.0 (0.0)	0.1 (0.0)	0.6 (0.8)	0.0 (0.0)
84	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Betaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	0.2 (0.0)	0.3 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
85	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Sphingomonadales</i> (100); <i>Sphingomonadaceae</i> (100); <i>Sphingopyxis</i> (100);	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.7 (0.8)	0.0 (0.0)
86	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhizobiales</i> (100); <i>Rhodobiaceae</i> (97); <i>Parvibaculum</i> (97);	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.6 (0.5)	0.0 (0.0)
87	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhodospirillales</i> (100); <i>Rhodospirillaceae</i> (100); <i>Magnetospirillum</i> (100);	0.2 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
88	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Deltaproteobacteria</i> (100); <i>Myxococcales</i> (95); unclassified (95); unclassified (95);	0.3 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
89	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	0.2 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
90	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Caulobacterales</i> (100); <i>Caulobacteraceae</i> (100); unclassified (91);	0.0 (0.0)	0.0 (0.0)	0.1 (0.1)	0.4 (0.5)	0.0 (0.0)
91	<i>Bacteria</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	0.1 (0.0)	0.2 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
92	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	0.2 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
93	<i>Bacteria</i> (100); <i>Verrucomicrobia</i> (100); <i>Opiritae</i> (100); <i>Opiritales</i> (100); <i>Opiritaceae</i> (100); <i>Opiritus</i> (100);	0.3 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
94	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhizobiales</i> (100); unclassified (100); unclassified (100);	0.1 (0.0)	0.1 (0.1)	0.0 (0.0)	0.1 (0.0)	0.0 (0.0)
95	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhizobiales</i> (100); unclassified (97); unclassified (97);	0.2 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
96	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); <i>Xanthomonadales</i> (96); <i>Sinobacteraceae</i> (94); <i>Steroidobacter</i> (94);	0.1 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.2 (0.0)

97	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Caulobacterales</i> (100); <i>Caulobacteraceae</i> (100); <i>Caulobacter</i> (94);	0.0 (0.0)	0.0 (0.0)	0.1 (0.0)	0.4 (0.2)	0.0 (0.0)
98	<i>Bacteria</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	0.3 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
99	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Sphingomonadales</i> (100); <i>Sphingomonadaceae</i> (100); <i>Sphingopyxis</i> (100);	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.4 (0.1)	0.0 (0.0)
100	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	0.2 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
101	<i>Bacteria</i> (100); <i>Actinobacteria</i> (100); <i>Actinobacteria</i> (100); <i>Acidimicrobiales</i> (100); unclassified (100); unclassified (100);	0.1 (0.1)	0.2 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
102	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); <i>Xanthomonadales</i> (100); <i>Xanthomonadaceae</i> (100); <i>Pseudoxanthomonas</i> (100);	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.4 (0.6)	0.0 (0.0)
103	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	0.1 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
105	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Sphingomonadales</i> (100); <i>Sphingomonadaceae</i> (100); unclassified (100);	0.1 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
106	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhodospirillales</i> (100); <i>Rhodospirillaceae</i> (100); unclassified (100);	0.1 (0.0)	0.2 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
107	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	0.2 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
108	<i>Bacteria</i> (100); unclassified (99); unclassified (99); unclassified (99); unclassified (99); unclassified (99);	0.1 (0.0)	0.1 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
110	<i>Bacteria</i> (100); <i>Planctomycetes</i> (100); <i>Planctomycetia</i> (100); <i>Planctomycetales</i> (100); <i>Planctomycetaceae</i> (100); unclassified (100);	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
113	<i>Bacteria</i> (100); <i>Planctomycetes</i> (99); <i>Planctomycetia</i> (99); <i>Planctomycetales</i> (99); <i>Planctomycetaceae</i> (99); unclassified (99);	0.1 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
114	<i>Bacteria</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	0.2 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
115	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhizobiales</i> (100); unclassified (84); unclassified (84);	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.1 (0.0)
118	<i>Bacteria</i> (100); <i>Acidobacteria</i> (100); <i>Acidobacteria_Gp1</i> (100); Gp1 (88); unclassified (88); unclassified (88);	0.1 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
119	<i>Bacteria</i> (100); <i>Bacteroidetes</i> (100); <i>Cytophagia</i> (100); <i>Cytophagales</i> (100); <i>Cytophagaceae</i> (100); <i>Dyadobacter</i> (100);	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.2 (0.4)	0.0 (0.0)
120	<i>Bacteria</i> (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100); unclassified (100);	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
125	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Alphaproteobacteria</i> (100); <i>Rhizobiales</i> (100); <i>Xanthobacteraceae</i> (96); <i>Ancylobacter</i> (95);	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.1 (0.1)	0.0 (0.0)

129	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); <i>Xanthomonadales</i> (100); <i>Xanthomonadaceae</i> (100); <i>Panacagrimonas</i> (100);	0.0 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
132	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Gammaproteobacteria</i> (100); <i>Pseudomonadales</i> (100); <i>Pseudomonadaceae</i> (100); <i>Pseudomonas</i> (99);	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.1 (0.1)
133	<i>Bacteria</i> (100); <i>Proteobacteria</i> (100); <i>Betaproteobacteria</i> (100); unclassified (100); unclassified (100); unclassified (100);	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)

^a Average relative abundance with standard deviation shown in parentheses (n=3 libraries per condition). Values $\geq 1.0\%$ are bolded. OTUs that did not comprise $\geq 0.1\%$ of at least one treatment are not shown.

Table S3. Partial 16S rRNA gene representative sequences of all OTUs presented in Table 2.

OTU	Representative sequence
1	ACGAAGGATGCAAGCGTTATCCGGATTCAATTGGGTTTTAAAGGGTGCCTAGGCGGACTGATAAGTCAGTGGT GAAATCTCTCAGCTTAACTGAGAAACTGCCATTGATACTGTCTGGTCTAGAGTATAGATGACGTTGGCGGAA TATGACATGTAGTGGTGAATACTTAGATATGTCATAGAACACCGATTGCGAAGGCAGCTAACGAAACTAT AACTGACGCTGAGGCACGAAAGTGCAGGGGATCAAACAGG
2	ACGGAGGGTGAAGCGTTAATCGGAATTACTGGGCGTAAAGCGCGCTAGGCGGCTTGTAAAGTCGGATGT GAAATCCCCGGGCTCAACCTGGGAAGTGCATTGATACTGGCTGGCTAGAGTGTGGTAGAGGGAAGTGGAA TTCCAGGTGTAGCGGTGAAATGCGTAGATATCTGGGGGAACATCAGTGGCGAAGGCGGCTTCTTGGACCAA CACTGACGCTGAGGCGCGAAAGCGTGGGGAGCAAACAGG
3	ACGGAGGGTGAAGCGTTATCCGGATTCACTGGGTTTTAAAGGGTGCCTAGGCGGGCAGGTAAGTCAGTGGT GAAATCCTAGAGCTTAACTCTAGAAGTGCCATTGATACTATCTGTCTTGAATATTGTGGAGGTAAGCGGAA TATGTCATGTAGCGGTGAAATGCTTAGATATGACATAGAACACCTATTGCGAAGGCAGCTTACTACGCATA TATTGACGCTGAGGCACGAAAGCGTGGGGATCAAACAGG
4	ACAGAGGGTGAAGCGTTAATCGGAATTACTGGGCGTAAAGCGCGCTAGGTGGTTCGTTAAGTTGGATGT GAAATCCCCGGGCTCAACCTGGGAAGTGCATCCAAAACCTGGCGAGCTAGAGTATGGTAGAGGGTGGTGGAA TTTCTGTGTAGCGGTGAAATGCGTAGATATAGGAAGGAACACCAGTGGCGAAGGCGACCACCTGGACTGA TACTGACACTGAGGTGCGAAAGCGTGGGGAGCAAACAGG
5	ACGGAGGGGGCTAGCGTTGTTCGGAATTACTGGGCGTAAAGCGCACGTAGGCGGCTTTACAAGTCAGGGGT GAAAGCCCGCGGCTCAACCGCGGAATTGCCCTTGAGACTGTATCGCTTGAACACGGGAGAGGTGAGTGGAA TTCCGAGTGTAGAGGTGAAATTCGTAGATATTCGGAAGAACACCAGTGGCGAAGGCGGCTCACTGGACCGT AGTTGACGCTGAGGTGCGAAAGCGTGGGGAGCAAACAGG
6	ACGAAGGCCCAAGCGTTATCCGGATTCAATTGGGTTTTAAAGGGTGCCTAGGCGGGTGTATAAGTCAGTGGT GAAAGCCCCAAGCTTAACTGGAAGTGCATTTGATACTGTCTGATCTTGAATGTGTTTGTAGTGGGCGGAA TATGACATGTAGCGGTGAAATGCTTAGATATGTCATAGAACACCGATTGCGAAGGCAGCTCACAAAGCCAC TATTGACGCTGAGGCACGAAAGCGTGGGGATCAAACAGG
7	ACAGAGGGTGAAGCGTTAATCGGAATTACTGGGCGTAAAGCGCGCTAGGCGGTTGTGTAAGTTGGAGGT GAAATCCCCGGGCTTAACTGGGCACCTGCCTTCAAACCTGCACGGCTAGAGTATGGGAGAGGAAGGTAGAA TTCCAGGTGTAGCGGTGAAATGCGTAGAGATCTGGAGGAATACCGATGGCGAAGGCAGCCTTCTGGCCTAA TACTGACGCTGAGGTGCGAAAGCATGGGGAGCAAACAGG
8	ACGAGGGGTGAAGCGTTAATCGGAATTACTGGGCGTAAAGCGCGCTAGGCGGCTGAGTAAGTCGATTGT GAAAGCCCCGGGCTCAACCTGGGAATTGCAGTCGAGACTGTTCCGGCTAGAGTGTGGGAGAGGGTGGTGGAA TTCCCGGTGTAGCGGTGAAATGCGTAGATATCGGGAGGAACATCAGTGGCGAAGGCGACCACCTGGCCCAA CACTGACGCTGAGGTGCGAAAGCGTGGGTAGCAAACAGG
9	ACGAAGGGGGCTAGCGTTGCTCGGAATTACTGGGCGTAAAGGGAGCGTAGGCGGACTGTTTAGTCAGAGGT GAAAGCCCAGGGCTCAACCTTGGAAATTGCCTTTGATACTGGCAGTCTTGAGTACGGAAGAGGTATGTGGAA CTCCGAGTGTAGAGGTGAAATTCGTAGATATTCGGAAGAACACCAGTGGCGAAGGCGACATACTGGTCCGT TACTGACGCTGAGGCTCGAAAGCGTGGGGAGCAAACAGG
10	ACAGAGACTGCAAGCGTTAATCCGGATTCACTGGGCGTAAAGGGTGCAGGCGGCCGGGTGTGTCAGATGT GAAATCCCCGAGGCTTAACTCGGAAGTGCCTTCAAACCTACTCGGCTAGAGTATGGAGAGGGTAACGGAA TTCACGGTGTAGCAGTGAATGCGTAGATATCGTGAGGAACACCAGAGGCGAAGGCGGTTACCTGGACAAT TACTGACGCTCAGGCACGAAAGCATGGGGAGCAAAAGG
11	ACGAAGGGGGCTAGCGTTGCTCGGAATTACTGGGCGTAAAGGGCGCGTAGGCGGATGTTAAGTCGGGGGT GAAAGCCCAGGGCTCAACCTTGGAAATTGCCTTCGATACTGGACATCTTGAGTACGGGAGAGGTGAGTGGAA CTCCGAGTGTAGAGGTGAAATTCGTAGATATTCGGAAGAACACCAGTGGCGAAGGCGACTCACTGGCCCGT TACTGACGCTGAGGCGCGAAAGCGTGGGGAGCAAACAGG
12	ACAGAGGCCACAAGCATTAACTCGGAATCACTGGGCTTAAAGGGTGCAGGCGGCCCGTCAAGCGTTTTGT GAAAGCCCTCGGCTCAACCGAGGAACAGCAGAGCGAACTGACGGGCTTGAAGGAGGTAGGGGCCGCGAGAA CAGTAGGTGGAGCGGTGAAATGCGTAGATATCTACTGGAATGCCGATGGTGAAGACGCGCGGCTGGGCCCTT TCTTGACGCTCATGCACGAAAGCGTGGGGATCAAACAGG
13	ACGAAGGGTGAAGCGTTACTCGGAATTACTGGGCGTAAAGCGTGCCTAGGTGGTGGTTTTAAGTCTGCTGT GAAAGCCCTGGGCTCAACCTGGGAATTGCAGTGGATACTGGATCACTAGAGTGTGGTAGAGGGATGCGGAA TTTCTGGTGTAGCAGTGAATGCGTAGAGATCAGAAGGAACATCCGTGGCGAAGGCGGCATCTTGGGCCAA CACTGACACTGAGGCACGAAAGCGTGGGGAGCAAACAGG

14	ACGGAGGGTGCAAGCGTTATCCGGATTTACTGGGTTTTAAAGGGTGCCTAGGTGGATTGGTAAGTCAGTGGT GAAATCCCCGAGCTTAACTTGGGAAGTGCCTTTGATACTATCAGTCTTGAATACCGTGGAGGTGAGCGGAA TATGTCATGTAGCGGTGAAATGCTTAGATATGACATAGAACACCAATTGCGAAGGCAGCTGGCTACACGAA TATTGACACTGAGGCACGAAAGCGTGGGGATCAAACAGG
15	ACGAAGGGTGCAAGCGTTACTCGGAATTACTGGGCGTAAAGCGTGCCTAGGTGGTTTCGTTAAGTCTGATGT GAAAGCCCTGGGCTCAACCTGGGAATGGCATTGGATACTGGCGACCTAGAGTGCAGGTAGAGGGGTGTGGAA TTCCCGGTGTAGCAGTAAAATGCGTAGATATCGGGAGGAACATCTGTGGCGAAGGCGACACCCCTGGACCAG CACTGACACTGAGGCACGAAAGCGTGGGGAGCAAACAGG
16	ACGGAGGGTGCAAGCGTTATCCGGATTCACCTGGGTTTTAAAGGGTGCCTAGGTGGGCAGGTAAGTCAGTGGT GAAATCTCCGGGCTTAACTCGGAAACTGCCATTGATACTATCTGTCTTGAATACCCCTGGAGGTGAGCGGAA TATGTCATGTAGCGGTGAAATGCTTAGATATGACATAGAACACCCATTGCGAAGGCAGCTCACTACGGGAA TATTGACACTGAGGCACGAAAGCGTGGGGATCAAACAGG
17	ACGGAGGGGAGCTAGCGTTGTTTCGGAATTACTGGGCGTAAAGCGCACGTAGGCGGTTATTCAAGTCAGAGGT GAAAGCCCGGGCTCAACCCCGGAAGTGCCTTTGAAACTAGATAACTAGAATCTTGGAGAGGTGAGTGGAA TTCCGAGTGTAGAGGTGAAATTCGTAGATATTCGGAAGAACACCAGTGGCGAAGGCGACTGACTGGACAAG TATTGACGCTGAGGTGCGAAAGCGTGGGGAGCAAACAGG
19	ACGAAGGGGGCTAGCGTTGTTTCGGAATTACTGGGCGTAAAGCGCACGTAGGCGGATATTTAAGTCAGGGGT GAAATCCCAGAGCTCAACTCTGGAAGTGCCTTTGATACTGGGTATCTTGAGTATGGAAGAGGTAAGTGGAA TTCCGAGTGTAGAGGTGAAATTCGTAGATATTCGGAGGAACACCAGTGGCGAAGGCGGCTTACTGGTCCAT TACTGACGCTGAGGTGCGAAAGCGTGGGGAGCAAACAGG
20	ACGAAGGGGGCTAGCGTTGCTTCGGAATCACTGGGCGTAAAGGGTGCCTAGGCGGGTTTTTAAGTCAGAGGT GAAATCCTGGAGCTCAACTCCAGAAGTGCCTTTGATACTGAAAGTCTTGAGTATGGGAGAGGTGAGTGGAA CTGCGAGTGTAGAGGTGAAATTCGTAGATATTCGCAAGAACACCAGTGGCGAAGGCGGCTCACTGGCCCAT AACTGACGCTGAGGCACGAAAGCGTGGGGAGCAAACAGG
25	ACGTAGGGTGCAAGCGTTAATTCGGAATTACTGGGCGTAAAGCGTGCAGGCGGTGATGTAAGACAGATGT GAAATCCCCGGGCTCAACCTGGGAAGTGCATTTGTGACTGCATCGCTGGAGTGCAGGCGAGGGGGATGGAA TTCCGCGTGTAGCAGTAAAATGCGTAGATATGCGGAGGAACACCGATGGCGAAGGCAATCCCCCTGGGCCCTG CACTGACGCTCATGCACGAAAGCGTGGGGAGCAAACAGG
26	ACGGAGGGTGCAAGCGTTATCCGGATTCACCTGGGTTTTAAAGGGTGCCTAGGCGGGTTGATAAGTCAGTGGT GAAATCCTGGAGCTTAACTCCAGAAGTGCCTTTGATACTATCAGTCTTGAATATGGTGGAGGTAAGCGGAA TATGTCATGTAGCGGTGAAATGCATAGATATGACATAGAACACCTATTGCGAAGGCAGCTTACTACGCCTA TATTGACGCTGAGGCACGAAAGCGTGGGGATCAAACAGG
27	ACGTAGGGTGCAAGCGTTAATTCGGAATTACTGGGCGTAAAGCGTGCAGGCGGTTATATAAGACAGATGT GAAATCCCCGGGCTCAACCTGGGAAGTGCATTTGTGACTGTATAGCTAGAGTACGGCAGAGGGGGATGGAA TTCCGCGTGTAGCAGTAAAATGCGTAGATATGCGGAGGAACACCAGTGGCGAAGGCAATCCCCCTGGGCCCTG TACTGACGCTCATGCACGAAAGCGTGGGGAGCAAACAGG
28	ACGGAGGGGAGCTAGCGTTGTTTCGGAATTACTGGGCGTAAAGCGCACGTAGGCGGCGATTTAAGTCAGAGGT GAAAGCCCGGGGCTCAACCCCGGAAGTGCCTTTGAGACTGGATTGCTAGAATCTTGGAGAGGCGAGTGGAA TTCCGAGTGTAGAGGTGAAATTCGTAGATATTCGGAAGAACACCAGTGGCGAAGGCGGCTCGCTGGACAAG TATTGACGCTGAGGTGCGAAAGCGTGGGGAGCAAACAGG
35	ACGAAGGGGGCTAGCGTTGCTTCGGAATTACTGGGCGTAAAGGGCGCTAGGCGGACAGTTTTAGTCAGAGGT AAAAGCCCAGGGCTCAACCTTGGAACTGCCTTTGATACTGGCTGTCTTGAGTTCGGGAGAGGTGAGTGGAA TGCCGAGTGTAGAGGTGAAATTCGTAGATATTCGGCGGAACACCAGTGGCGAAGGCGACTCACTGGCCCCG TACTGACGCTGAGGCGCGAAAGCGTGGGGAGCAAACAGG
36	ACGGAGGGTGCAAGCGTTATCCGGATTCACCTGGGTTTTAAAGGGTGCCTAGGCGGGTATGTAAGTCCGTGGT GAAATCTCCGAGCTTAACTCGGAAACTGCCATTGGTACTGCGTATCTTGAATGTTGTGGAGGTGAGCGGAA TATGTCATGTAGCGGTGAAATGCTTAGATATGACATAGAACACCAATTGCGAAGGCAGCTCACTACACAAA TATTGACGCTGAGGCACGAAAGCGTGGGGATCAAACAGG
62	ACGAAGGGTGCAAGCGTTACTCGGAATTACTGGGCGTAAAGCGTGCCTAGGTGGTTTCGTTAAGTCTGATGT GAAAGCCCTGGGCTCAACCTGGGAATGGCATTGGATACTGGCGGGCTAGAGTGCAGGTAGAGGATGGCGGAA TTCCCGGTGTAGCAGTAAAATGCGTAGAGATCGGGAGGAACATCTGTGGCGAAGGCGGCCATCTGGACCAG CACTGACACTGAGGCACGAAAGCGTGGGGAGCAAACAGG