Analyte	Precursor ion (amu)	Fragmentor voltage (V)	Product ions (amu)
Sulfamethoxazole	254	110	156 92
Trimethoprim	291	140	261 123
Metoprolol	268	130	159 116
Atenolol Acid	268	130	191 145
Atenolol	267	130	190 145
Emtricitabine	248	60	130 113
Carbamazepine	237	120	194 179

Collision energy (V)	Internal standard
10 25	Sulfamethoxazole-d4
17 20	Trimethoprim-d3
17 14	Metoprolol-d7
17 25	Atenolol Acid-d5
16 24	Atenolol-d7
16 45	Emtricitabine-13C, 15N2
15 35	Carbamazepine-d10

Bottle ID	Compound	Spike	Experiment	Methane
LD1	Atenolol	Spike 1	Light/Dark	No Methane
LD2	Atenolol	Spike 1	Light/Dark	No Methane
LD1	Atenolol	Spike 2	Light/Dark	No Methane
LD2	Atenolol	Spike 2	Light/Dark	No Methane
LD3	Atenolol	Spike 1	Light/Dark	No Methane
LD4	Atenolol	Spike 1	Light/Dark	No Methane
LD3	Atenolol	Spike 2	Light/Dark	No Methane
LD4	Atenolol	Spike 2	Light/Dark	No Methane
LD7	Atenolol	Spike 1	Light/Dark	No Methane
LD8	Atenolol	Spike 1	Light/Dark	No Methane
LD7	Atenolol	Spike 2	Light/Dark	No Methane
LD8	Atenolol	Spike 2	Light/Dark	No Methane
LD5	Atenolol	Spike 1	Light/Dark	No Methane
LD6	Atenolol	Spike 1	Light/Dark	No Methane
LD5	Atenolol	Spike 2	Light/Dark	No Methane
LD6	Atenolol	Spike 2	Light/Dark	No Methane
A11	Atenolol	Spike 1	Dark/Anoxic	No Methane
A12	Atenolol	Spike 1	Dark/Anoxic	No Methane
A11	Atenolol	Spike 2	Dark/Anoxic	No Methane
A12	Atenolol	Spike 2	Dark/Anoxic	No Methane
O1	Atenolol	Spike 1	Dark/Oxic	No Methane
O2	Atenolol	Spike 1	Dark/Oxic	No Methane
O1	Atenolol	Spike 2	Dark/Oxic	No Methane
O2	Atenolol	Spike 2	Dark/Oxic	No Methane
S5	Atenolol	Spike 1	Dark/Oxic	No Methane
S1	Atenolol	Spike 1	Dark/Oxic	No Methane
S2	Atenolol	Spike 1	Dark/Oxic	No Methane
O7	Atenolol	Spike 1	Dark/Oxic	No Methane
O8	Atenolol	Spike 1	Dark/Oxic	No Methane
O7	Atenolol	Spike 2	Dark/Oxic	No Methane
O8	Atenolol	Spike 2	Dark/Oxic	No Methane
O13	Atenolol	Spike 1	Dark/Oxic	No Methane
O14	Atenolol	Spike 1	Dark/Oxic	No Methane
O13	Atenolol	Spike 2	Dark/Oxic	No Methane
O14	Atenolol	Spike 2	Dark/Oxic	No Methane
A1	Atenolol	Spike 1	Dark/Anoxic	No Methane
A2	Atenolol	Spike 1	Dark/Anoxic	No Methane
A1	Atenolol	Spike 2	Dark/Anoxic	No Methane
A2	Atenolol	Spike 2	Dark/Anoxic	No Methane
S3	Atenolol	Spike 1	Dark/Anoxic	No Methane
S4	Atenolol	Spike 1	Dark/Anoxic	No Methane
A5	Atenolol	Spike 1	Dark/Anoxic	No Methane
A6	Atenolol	Spike 1	Dark/Anoxic	No Methane
A5	Atenolol	Spike 2	Dark/Anoxic	No Methane

A6	Atenolol	Spike 2	Dark/Anoxic	No Methane
A10	Atenolol	Spike 1	Dark/Anoxic	No Methane
A9	Atenolol	Spike 1	Dark/Anoxic	No Methane
A10	Atenolol	Spike 2	Dark/Anoxic	No Methane
A9	Atenolol	Spike 2	Dark/Anoxic	No Methane
A7	Atenolol	Spike 1	Dark/Anoxic	No Methane
A8	Atenolol	Spike 1	Dark/Anoxic	No Methane
A7	Atenolol	Spike 2	Dark/Anoxic	No Methane
A8	Atenolol	Spike 2	Dark/Anoxic	No Methane
LD1	Carbamazepine	Spike 1	Light/Dark	No Methane
LD2	Carbamazepine	Spike 1	Light/Dark	No Methane
LD3	Carbamazepine	Spike 1	Light/Dark	No Methane
LD4	Carbamazepine	Spike 1	Light/Dark	No Methane
LD7	Carbamazepine	Spike 1	Light/Dark	No Methane
LD8	Carbamazepine	Spike 1	Light/Dark	No Methane
LD5	Carbamazepine	Spike 1	Light/Dark	No Methane
LD6	Carbamazepine	Spike 1	Light/Dark	No Methane
A11	Carbamazepine	Spike 1	Dark/Anoxic	No Methane
A12	Carbamazepine	Spike 1	Dark/Anoxic	No Methane
A11	Carbamazepine	Spike 2	Dark/Anoxic	No Methane
A12	Carbamazepine	Spike 2	Dark/Anoxic	No Methane
O1	Carbamazepine	Spike 1	Dark/Oxic	No Methane
O2	Carbamazepine	Spike 1	Dark/Oxic	No Methane
S5	Carbamazepine	Spike 1	Dark/Oxic	No Methane
S1	Carbamazepine	Spike 1	Dark/Oxic	No Methane
S2	Carbamazepine	Spike 1	Dark/Oxic	No Methane
O7	Carbamazepine	Spike 1	Dark/Oxic	No Methane
O8	Carbamazepine	Spike 1	Dark/Oxic	No Methane
O13	Carbamazepine	Spike 1	Dark/Oxic	No Methane
O14	Carbamazepine	Spike 1	Dark/Oxic	No Methane
A1	Carbamazepine	Spike 1	Dark/Anoxic	No Methane
A2	Carbamazepine	Spike 1	Dark/Anoxic	No Methane
A1	Carbamazepine	Spike 2	Dark/Anoxic	No Methane
A2	Carbamazepine	Spike 2	Dark/Anoxic	No Methane
S3	Carbamazepine	Spike 1	Dark/Anoxic	No Methane
S4	Carbamazepine	Spike 1	Dark/Anoxic	No Methane
A5	Carbamazepine	Spike 1	Dark/Anoxic	No Methane
A6	Carbamazepine	Spike 1	Dark/Anoxic	No Methane
A5	Carbamazepine	Spike 2	Dark/Anoxic	No Methane
A6	Carbamazepine	Spike 2	Dark/Anoxic	No Methane
A10	Carbamazepine	Spike 1	Dark/Anoxic	No Methane
A9	Carbamazepine	Spike 1	Dark/Anoxic	No Methane
A10	Carbamazepine	Spike 2	Dark/Anoxic	No Methane
A9	Carbamazepine	Spike 2	Dark/Anoxic	No Methane
A7	Carbamazepine	Spike 1	Dark/Anoxic	No Methane

A8	Carbamazepine	Spike 1	Dark/Anoxic	No Methane
A7	Carbamazepine	Spike 2	Dark/Anoxic	No Methane
A8	Carbamazepine	Spike 2	Dark/Anoxic	No Methane
LD1	Emtricitabine	Spike 1	Light/Dark	No Methane
LD2	Emtricitabine	Spike 1	Light/Dark	No Methane
LD3	Emtricitabine	Spike 1	Light/Dark	No Methane
LD4	Emtricitabine	Spike 1	Light/Dark	No Methane
LD7	Emtricitabine	Spike 1	Light/Dark	No Methane
LD8	Emtricitabine	Spike 1	Light/Dark	No Methane
LD5	Emtricitabine	Spike 1	Light/Dark	No Methane
LD6	Emtricitabine	Spike 1	Light/Dark	No Methane
A11	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
A12	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
A11	Emtricitabine	Spike 2	Dark/Anoxic	No Methane
A12	Emtricitabine	Spike 2	Dark/Anoxic	No Methane
O1	Emtricitabine	Spike 1	Dark/Oxic	No Methane
O2	Emtricitabine	Spike 1	Dark/Oxic	No Methane
S5	Emtricitabine	Spike 1	Dark/Oxic	No Methane
S1	Emtricitabine	Spike 1	Dark/Oxic	No Methane
S2	Emtricitabine	Spike 1	Dark/Oxic	No Methane
O7	Emtricitabine	Spike 1	Dark/Oxic	No Methane
O8	Emtricitabine	Spike 1	Dark/Oxic	No Methane
O13	Emtricitabine	Spike 1	Dark/Oxic	No Methane
O14	Emtricitabine	Spike 1	Dark/Oxic	No Methane
A1	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
A2	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
A1	Emtricitabine	Spike 2	Dark/Anoxic	No Methane
A2	Emtricitabine	Spike 2	Dark/Anoxic	No Methane
S3	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
S4	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
A5	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
A6	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
A5	Emtricitabine	Spike 2	Dark/Anoxic	No Methane
A6	Emtricitabine	Spike 2	Dark/Anoxic	No Methane
A10	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
A9	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
A10	Emtricitabine	Spike 2	Dark/Anoxic	No Methane
A9	Emtricitabine	Spike 2	Dark/Anoxic	No Methane
A7	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
A8	Emtricitabine	Spike 1	Dark/Anoxic	No Methane
A7	Emtricitabine	Spike 2	Dark/Anoxic	No Methane
A8	Emtricitabine	Spike 2	Dark/Anoxic	No Methane
LD1	Metoprolol	Spike 1	Light/Dark	No Methane
LD2	Metoprolol	Spike 1	Light/Dark	No Methane
LD3	Metoprolol	Spike 1	Light/Dark	No Methane

LD4	Metoprolol	Spike 1	Light/Dark	No Methane
LD7	Metoprolol	Spike 1	Light/Dark	No Methane
LD8	Metoprolol	Spike 1	Light/Dark	No Methane
LD5	Metoprolol	Spike 1	Light/Dark	No Methane
LD6	Metoprolol	Spike 1	Light/Dark	No Methane
A11	Metoprolol	Spike 1	Dark/Anoxic	No Methane
A12	Metoprolol	Spike 1	Dark/Anoxic	No Methane
A11	Metoprolol	Spike 2	Dark/Anoxic	No Methane
A12	Metoprolol	Spike 2	Dark/Anoxic	No Methane
O1	Metoprolol	Spike 1	Dark/Oxic	No Methane
O2	Metoprolol	Spike 1	Dark/Oxic	No Methane
S5	Metoprolol	Spike 1	Dark/Oxic	No Methane
S1	Metoprolol	Spike 1	Dark/Oxic	No Methane
S2	Metoprolol	Spike 1	Dark/Oxic	No Methane
O7	Metoprolol	Spike 1	Dark/Oxic	No Methane
O8	Metoprolol	Spike 1	Dark/Oxic	No Methane
O13	Metoprolol	Spike 1	Dark/Oxic	No Methane
O14	Metoprolol	Spike 1	Dark/Oxic	No Methane
A1	Metoprolol	Spike 1	Dark/Anoxic	No Methane
A2	Metoprolol	Spike 1	Dark/Anoxic	No Methane
A1	Metoprolol	Spike 2	Dark/Anoxic	No Methane
A2	Metoprolol	Spike 2	Dark/Anoxic	No Methane
S3	Metoprolol	Spike 1	Dark/Anoxic	No Methane
S4	Metoprolol	Spike 1	Dark/Anoxic	No Methane
A5	Metoprolol	Spike 1	Dark/Anoxic	No Methane
A6	Metoprolol	Spike 1	Dark/Anoxic	No Methane
A5	Metoprolol	Spike 2	Dark/Anoxic	No Methane
A6	Metoprolol	Spike 2	Dark/Anoxic	No Methane
A10	Metoprolol	Spike 1	Dark/Anoxic	No Methane
A9	Metoprolol	Spike 1	Dark/Anoxic	No Methane
A10	Metoprolol	Spike 2	Dark/Anoxic	No Methane
A9	Metoprolol	Spike 2	Dark/Anoxic	No Methane
A7	Metoprolol	Spike 1	Dark/Anoxic	No Methane
A8	Metoprolol	Spike 1	Dark/Anoxic	No Methane
A7	Metoprolol	Spike 2	Dark/Anoxic	No Methane
A8	Metoprolol	Spike 2	Dark/Anoxic	No Methane
LD1	Sulfamethoxazole	Spike 1	Light/Dark	No Methane
LD2	Sulfamethoxazole	Spike 1	Light/Dark	No Methane
LD3	Sulfamethoxazole	Spike 1	Light/Dark	No Methane
LD4	Sulfamethoxazole	Spike 1	Light/Dark	No Methane
LD7	Sulfamethoxazole	Spike 1	Light/Dark	No Methane
LD8	Sulfamethoxazole	Spike 1	Light/Dark	No Methane
LD5	Sulfamethoxazole	Spike 1	Light/Dark	No Methane
LD6	Sulfamethoxazole	Spike 1	Light/Dark	No Methane
A11	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane

A12	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane
A11	Sulfamethoxazole	Spike 2	Dark/Anoxic	No Methane
A12	Sulfamethoxazole	Spike 2	Dark/Anoxic	No Methane
O3	Sulfamethoxazole	Spike 1	Dark/Oxic	Low Methane
O4	Sulfamethoxazole	Spike 1	Dark/Oxic	Low Methane
O5	Sulfamethoxazole	Spike 1	Dark/Oxic	High Methane
O6	Sulfamethoxazole	Spike 1	Dark/Oxic	High Methane
O1	Sulfamethoxazole	Spike 1	Dark/Oxic	No Methane
O2	Sulfamethoxazole	Spike 1	Dark/Oxic	No Methane
S5	Sulfamethoxazole	Spike 1	Dark/Oxic	No Methane
O19	Sulfamethoxazole	Spike 1	Dark/Oxic	Low Methane
O20	Sulfamethoxazole	Spike 1	Dark/Oxic	Low Methane
O21	Sulfamethoxazole	Spike 1	Dark/Oxic	High Methane
O22	Sulfamethoxazole	Spike 1	Dark/Oxic	High Methane
S1	Sulfamethoxazole	Spike 1	Dark/Oxic	No Methane
S2	Sulfamethoxazole	Spike 1	Dark/Oxic	No Methane
O10	Sulfamethoxazole	Spike 1	Dark/Oxic	Low Methane
O9	Sulfamethoxazole	Spike 1	Dark/Oxic	Low Methane
O11	Sulfamethoxazole	Spike 1	Dark/Oxic	High Methane
O12	Sulfamethoxazole	Spike 1	Dark/Oxic	High Methane
O7	Sulfamethoxazole	Spike 1	Dark/Oxic	No Methane
O8	Sulfamethoxazole	Spike 1	Dark/Oxic	No Methane
O15	Sulfamethoxazole	Spike 1	Dark/Oxic	Low Methane
O16	Sulfamethoxazole	Spike 1	Dark/Oxic	Low Methane
O17	Sulfamethoxazole	Spike 1	Dark/Oxic	High Methane
O18	Sulfamethoxazole	Spike 1	Dark/Oxic	High Methane
O13	Sulfamethoxazole	Spike 1	Dark/Oxic	No Methane
O14	Sulfamethoxazole	Spike 1	Dark/Oxic	No Methane
A3	Sulfamethoxazole	Spike 1	Dark/Anoxic	High Methane
A4	Sulfamethoxazole	Spike 1	Dark/Anoxic	High Methane
A3	Sulfamethoxazole	Spike 2	Dark/Anoxic	High Methane
A4	Sulfamethoxazole	Spike 2	Dark/Anoxic	High Methane
A1	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane
A2	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane
A1	Sulfamethoxazole	Spike 2	Dark/Anoxic	No Methane
A2	Sulfamethoxazole	Spike 2	Dark/Anoxic	No Methane
S3	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane
S4	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane
A5	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane
A6	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane
A5	Sulfamethoxazole	Spike 2	Dark/Anoxic	No Methane
A6	Sulfamethoxazole	Spike 2	Dark/Anoxic	No Methane
A10	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane
A9	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane
A10	Sulfamethoxazole	Spike 2	Dark/Anoxic	No Methane

A9	Sulfamethoxazole	Spike 2	Dark/Anoxic	No Methane
A7	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane
A8	Sulfamethoxazole	Spike 1	Dark/Anoxic	No Methane
A7	Sulfamethoxazole	Spike 2	Dark/Anoxic	No Methane
A8	Sulfamethoxazole	Spike 2	Dark/Anoxic	No Methane
LD1	Trimethoprim	Spike 1	Light/Dark	No Methane
LD2	Trimethoprim	Spike 1	Light/Dark	No Methane
LD3	Trimethoprim	Spike 1	Light/Dark	No Methane
LD4	Trimethoprim	Spike 1	Light/Dark	No Methane
LD7	Trimethoprim	Spike 1	Light/Dark	No Methane
LD8	Trimethoprim	Spike 1	Light/Dark	No Methane
LD5	Trimethoprim	Spike 1	Light/Dark	No Methane
LD6	Trimethoprim	Spike 1	Light/Dark	No Methane
A11	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
A12	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
A11	Trimethoprim	Spike 2	Dark/Anoxic	No Methane
A12	Trimethoprim	Spike 2	Dark/Anoxic	No Methane
O1	Trimethoprim	Spike 1	Dark/Oxic	No Methane
O2	Trimethoprim	Spike 1	Dark/Oxic	No Methane
S5	Trimethoprim	Spike 1	Dark/Oxic	No Methane
S1	Trimethoprim	Spike 1	Dark/Oxic	No Methane
S2	Trimethoprim	Spike 1	Dark/Oxic	No Methane
O7	Trimethoprim	Spike 1	Dark/Oxic	No Methane
O8	Trimethoprim	Spike 1	Dark/Oxic	No Methane
O13	Trimethoprim	Spike 1	Dark/Oxic	No Methane
O14	Trimethoprim	Spike 1	Dark/Oxic	No Methane
A1	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
A2	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
A1	Trimethoprim	Spike 2	Dark/Anoxic	No Methane
A2	Trimethoprim	Spike 2	Dark/Anoxic	No Methane
S3	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
S4	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
A5	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
A6	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
A5	Trimethoprim	Spike 2	Dark/Anoxic	No Methane
A6	Trimethoprim	Spike 2	Dark/Anoxic	No Methane
A10	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
A9	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
A10	Trimethoprim	Spike 2	Dark/Anoxic	No Methane
A9	Trimethoprim	Spike 2	Dark/Anoxic	No Methane
A7	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
A8	Trimethoprim	Spike 1	Dark/Anoxic	No Methane
A7	Trimethoprim	Spike 2	Dark/Anoxic	No Methane
A8	Trimethoprim	Spike 2	Dark/Anoxic	No Methane

Inhibitor
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Biomat-Free Control
Biomat-Free Control
Biomat-Free Control
Biomat-Free Control
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Triple Pasteurized
Double Autoclaved
Double Autoclaved
6% Acetylene
6% Acetylene
6% Acetylene
6% Acetylene
100 µM ATU
100 µM ATU
100 µM ATU
100 µM ATU
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Double Autoclaved
Double Autoclaved
6% Acetylene
6% Acetylene
6% Acetylene

6% Acetylene
20 mM Chlorate
20 mM Chlorate
20 mM Chlorate
20 mM Chlorate
100 µM ATU
100 µM ATU
100 µM ATU
100 µM ATU
Uninhibited
Uninhibited
Biomat-Free Control
Biomat-Free Control
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Uninhibited
Uninhibited
Triple Pasteurized
Double Autoclaved
Double Autoclaved
6% Acetylene
6% Acetylene
100 µM ATU
100 µM ATU
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Double Autoclaved
Double Autoclaved
6% Acetylene
6% Acetylene
6% Acetylene
6% Acetylene
20 mM Chlorate
20 mM Chlorate
20 mM Chlorate
20 mM Chlorate
100 µM ATU

100 µM ATU
100 µM ATU
100 µM ATU
Uninhibited
Uninhibited
Biomat-Free Control
Biomat-Free Control
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Uninhibited
Uninhibited
Triple Pasteurized
Double Autoclaved
Double Autoclaved
6% Acetylene
6% Acetylene
100 µM ATU
100 µM ATU
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Double Autoclaved
Double Autoclaved
6% Acetylene
6% Acetylene
6% Acetylene
6% Acetylene
20 mM Chlorate
20 mM Chlorate
20 mM Chlorate
20 mM Chlorate
100 µM ATU
100 µM ATU
100 µM ATU
100 µM ATU
Uninhibited
Uninhibited
Biomat-Free Control

Biomat-Free Control
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Uninhibited
Uninhibited
Triple Pasteurized
Double Autoclaved
Double Autoclaved
6% Acetylene
6% Acetylene
100 µM ATU
100 µM ATU
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Double Autoclaved
Double Autoclaved
6% Acetylene
6% Acetylene
6% Acetylene
6% Acetylene
20 mM Chlorate
20 mM Chlorate
20 mM Chlorate
20 mM Chlorate
100 µM ATU
100 µM ATU
100 µM ATU
100 µM ATU
Uninhibited
Uninhibited
Biomat-Free Control
Biomat-Free Control
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Oxic/Anoxic Inoculation Storage Control

Oxic/Anoxic Inoculation Storage Control		
Oxic/Anoxic Inoculation Storage Control		
Oxic/Anoxic Inoculation Storage Control		
	Uninhibited	
	Uninhibited	
	Uninhibited	
	Uninhibited	
	Uninhibited	
	Uninhibited	
	Triple Pasteurized	
	MilliQ Control	
	MilliQ Control	
	MilliQ Control	
	MilliQ Control	
	Double Autoclaved	
	Double Autoclaved	
	6% Acetylene	
	6% Acetylene	
	6% Acetylene	
	6% Acetylene	
	6% Acetylene	
	6% Acetylene	
	100 µM ATU	
	100 µM ATU	
	100 µM ATU	
	100 µM ATU	
	100 µM ATU	
	100 µM ATU	
	Uninhibited	
	Uninhibited	
	Uninhibited	
	Uninhibited	
	Uninhibited	
	Uninhibited	
	Uninhibited	
	Uninhibited	
	Double Autoclaved	
	Double Autoclaved	
	6% Acetylene	
	6% Acetylene	
	6% Acetylene	
	6% Acetylene	
	20 mM Chlorate	
	20 mM Chlorate	
	20 mM Chlorate	

20 mM Chlorate
100 µM ATU
100 µM ATU
100 µM ATU
100 µM ATU
Uninhibited
Uninhibited
Biomat-Free Control
Biomat-Free Control
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Oxic/Anoxic Inoculation Storage Control
Uninhibited
Uninhibited
Triple Pasteurized
Double Autoclaved
Double Autoclaved
6% Acetylene
6% Acetylene
100 µM ATU
100 µM ATU
Uninhibited
Uninhibited
Uninhibited
Uninhibited
Double Autoclaved
Double Autoclaved
6% Acetylene
6% Acetylene
6% Acetylene
6% Acetylene
20 mM Chlorate
20 mM Chlorate
20 mM Chlorate
20 mM Chlorate
100 µM ATU
100 µM ATU
100 µM ATU
100 µM ATU

Condition
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + No Biomat
Light/Oxic + 2X Daily Swirl + No Biomat
Light/Oxic + 2X Daily Swirl + No Biomat
Light/Oxic + 2X Daily Swirl + No Biomat
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Triple Pasteurized
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene

Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + No Biomat
Light/Oxic + 2X Daily Swirl + No Biomat
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Triple Pasteurized
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 100 µM ATU

Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + No Biomat
Light/Oxic + 2X Daily Swirl + No Biomat
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Triple Pasteurized
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + No Biomat

Light/Oxic + 2X Daily Swirl + No Biomat
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Triple Pasteurized
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + No Biomat
Light/Oxic + 2X Daily Swirl + No Biomat
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited + Storage Control

Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Low Methane
Dark/Oxic + 200 RPM + Uninhibited + Low Methane
Dark/Oxic + 200 RPM + Uninhibited + High Methane
Dark/Oxic + 200 RPM + Uninhibited + High Methane
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Triple Pasteurized
Dark/Oxic + 200 RPM + MilliQ Control + Low Methane
Dark/Oxic + 200 RPM + MilliQ Control + Low Methane
Dark/Oxic + 200 RPM + MilliQ Control + High Methane
Dark/Oxic + 200 RPM + MilliQ Control + High Methane
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + 6% Acetylene + Low Methane
Dark/Oxic + 200 RPM + 6% Acetylene + Low Methane
Dark/Oxic + 200 RPM + 6% Acetylene + High Methane
Dark/Oxic + 200 RPM + 6% Acetylene + High Methane
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 100 µM ATU + Low Methane
Dark/Oxic + 200 RPM + 100 µM ATU + Low Methane
Dark/Oxic + 200 RPM + 100 µM ATU + High Methane
Dark/Oxic + 200 RPM + 100 µM ATU + High Methane
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + Uninhibited + High Methane
Dark/Anoxic + 200 RPM + Uninhibited + High Methane
Dark/Anoxic + 200 RPM + Uninhibited + High Methane
Dark/Anoxic + 200 RPM + Uninhibited + High Methane
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate

Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + Uninhibited
Light/Oxic + 2X Daily Swirl + No Biomat
Light/Oxic + 2X Daily Swirl + No Biomat
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
Diel Light Cycling/Oxic + 2X Daily Swirl + Uninhibited
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Dark/Oxic + 2X Daily Swirl + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited + Storage Control
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Uninhibited
Dark/Oxic + 200 RPM + Triple Pasteurized
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + Double Autoclaved
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 6% Acetylene
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Oxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Uninhibited
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + Double Autoclaved
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 6% Acetylene
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 20 mM Chlorate
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU
Dark/Anoxic + 200 RPM + 100 µM ATU

Sorption Removal (% decrease in first ~3 hours)	Total Removal (%)
11.9	99.7
11.0	99.6
NA	19.7
NA	21.1
-0.1	11.6
-6.1	17.5
NA	7.1
NA	5.0
9.6	99.8
14.3	99.9
NA	23.5
NA	22.8
8.7	99.7
11.0	99.7
NA	96.2
NA	99.8
16.3	99.8
21.8	99.8
NA	99.9
NA	99.9
9.4	99.9
4.0	99.5
NA	99.7
NA	99.6
NA	16.9
NA	14.3
NA	14.5
14.9	99.6
11.7	99.9
NA	99.5
NA	99.4
15.8	99.9
16.5	99.9
NA	99.5
NA	99.4
28.3	99.8
33.5	99.8
NA	99.9
NA	99.8
NA	11.7
NA	14.6
38.8	99.9
38.8	99.9
NA	99.6

NA	99.7
38.0	99.8
32.8	99.8
NA	99.8
NA	99.7
35.7	99.8
37.9	99.8
NA	100.0
NA	99.9
0.2	18.5
-7.0	15.3
-1.1	8.4
-6.6	3.3
-2.2	15.3
3.1	15.9
-0.8	8.8
0.5	11.9
1.5	12.6
2.2	9.2
NA	0.2
NA	-1.9
-1.3	12.2
-8.8	5.9
NA	11.2
NA	11.7
NA	10.8
-2.0	12.6
-5.5	7.1
0.1	9.4
1.9	11.6
-6.2	0.6
1.0	4.5
NA	-4.7
NA	-4.7
NA	9.1
NA	7.7
3.2	4.5
2.5	2.5
NA	-3.0
NA	-4.6
1.1	6.7
-8.6	-2.1
NA	-7.5
NA	-2.5
-2.3	-1.0

-1.3	2.4
NA	-4.6
NA	-2.7
-0.4	39.4
-1.9	41.7
-1.8	5.6
-1.3	5.3
1.0	48.5
1.8	43.5
1.3	99.4
0.5	99.4
-2.3	99.9
1.9	99.9
NA	99.6
NA	99.5
-1.8	99.5
-1.6	99.7
NA	18.7
NA	11.0
NA	11.2
0.7	99.7
-2.7	99.9
3.1	99.6
2.8	99.6
-2.9	92.1
-1.0	84.9
NA	-4.0
NA	-13.7
NA	8.4
NA	15.2
-0.2	62.6
0.9	66.7
NA	-14.9
NA	-6.4
-1.0	30.0
-5.8	30.0
NA	-1.1
NA	0.1
-3.1	91.0
-4.5	91.0
NA	-7.3
NA	-9.7
4.0	99.7
3.5	99.8
-5.2	11.1

-5.1	9.7
3.9	99.6
8.5	99.9
2.8	64.0
8.3	67.0
9.1	85.3
13.8	83.4
NA	57.6
NA	53.2
3.2	63.8
-2.2	59.7
NA	15.1
NA	12.4
NA	11.8
2.8	58.2
1.8	53.5
8.8	53.9
4.1	50.6
33.0	37.9
41.8	41.0
NA	11.2
NA	14.9
NA	12.7
NA	6.4
36.9	45.1
45.1	51.2
NA	16.0
NA	14.7
36.2	25.1
32.6	16.8
NA	0.8
NA	3.3
35.9	30.2
38.8	33.7
NA	16.4
NA	12.3
-1.2	22.8
2.6	25.1
3.2	6.3
0.9	5.3
1.8	20.5
4.2	22.8
1.2	14.2
0.5	13.3
0.8	23.9

-0.2	21.0
NA	2.0
NA	-2.3
1.1	78.051
2.818	76.044
0	91.158
3.641	89.71
0.7	17.9
-2.0	15.8
NA	25.1
-3.499	2.037
-1.62	2.351
-4.942	2.019
-0.472	3.983
NA	10.9
NA	13.0
0.843	19.926
0.103	20.411
0.972	19.754
-0.839	20.294
2.9	17.4
0.5	20.8
3.383	11.734
1.4	10.84
1.585	11.81
2.56	10.599
2.2	10.6
3.6	12.4
-0.571	1.998
3.096	3.151
NA	-4.341
NA	-3.536
-1.5	0.4
0.8	5.2
NA	-7.1
NA	-3.2
NA	9.9
NA	1.3
2.3	-1.9
2.2	-3.9
NA	0.0
NA	2.7
-1.7	15.2
1.8	14.9
NA	-9.6

NA	0.0
-1.1	-2.7
0.9	-0.1
NA	-5.6
NA	-11.2
7.8	17.5
0.0	10.8
-2.9	0.6
-6.5	-4.2
5.4	11.3
11.6	14.1
1.5	96.8
8.8	97.1
12.9	99.6
11.8	99.6
NA	99.6
NA	99.8
7.5	86.5
0.5	84.9
NA	50.7
NA	40.6
NA	42.1
6.0	84.8
1.5	82.9
10.6	57.2
8.3	60.4
5.8	93.6
10.9	97.7
NA	91.7
NA	94.7
NA	24.3
NA	23.2
10.2	23.4
14.9	19.2
NA	96.2
NA	92.9
6.8	65.1
-4.8	60.6
NA	16.3
NA	21.4
8.3	93.4
10.5	93.0
NA	93.1
NA	92.9

# Timepoints	k1 (day-1)	k1 (day-1 g biomat-1)	k1 R2, adj
8	0.43	0.21	0.92
7	0.52	0.24	0.92
5	0.04	0.02	0.92
5	0.05	0.02	0.65
8	0.01	NA	0.50
8	0.02	NA	0.92
5	0.02	NA	0.38
5	0.01	NA	0.44
7	0.59	0.28	0.98
7	0.62	0.31	0.99
5	0.05	0.02	0.89
5	0.05	0.02	0.98
8	0.40	0.20	1.00
7	0.52	0.25	0.97
5	0.61	0.30	0.94
3	1.95	0.94	0.51
8	0.48	0.23	0.99
8	0.47	0.25	0.99
6	0.62	0.30	0.95
6	0.63	0.33	0.97
8	0.46	0.23	0.99
7	0.53	0.25	1.00
5	1.14	0.56	1.00
5	1.07	0.52	1.00
6	0.00	0.00	0.49
6	0.00	0.00	0.34
6	0.00	0.00	0.29
7	0.53	0.26	1.00
8	0.46	0.23	0.99
5	1.05	0.51	1.00
5	1.03	0.51	0.99
8	0.47	0.23	1.00
8	0.48	0.24	1.00
5	1.03	0.51	0.99
5	1.03	0.50	1.00
7	0.85	0.41	0.97
7	0.88	0.38	0.96
6	0.56	0.27	0.90
6	0.50	0.22	0.89
6	0.00	0.00	0.35
6	0.00	0.00	0.37
7	0.93	0.45	0.97
7	0.93	0.44	0.96
6	0.47	0.22	0.99

6	0.49	0.23	0.97
7	0.46	0.23	0.99
8	0.47	0.23	0.98
6	0.53	0.27	0.99
6	0.49	0.24	0.99
7	0.85	0.40	0.97
7	0.88	0.41	0.98
6	0.65	0.31	0.97
6	0.56	0.26	0.92
13	0.01	0.00	0.82
13	0.01	0.00	0.81
13	0.00	NA	0.15
13	0.00	NA	0.18
13	0.01	0.00	0.58
13	0.01	0.00	0.63
13	0.00	0.00	0.52
13	0.00	0.00	0.40
14	0.00	0.00	0.39
14	0.00	0.00	0.29
6	0.00	0.00	-0.22
6	0.00	0.00	0.04
13	0.01	0.00	0.55
13	0.00	0.00	0.39
6	0.00	0.00	0.70
6	0.00	0.00	0.73
6	0.00	0.00	0.77
13	0.00	0.00	0.37
13	0.00	0.00	0.35
13	0.00	0.00	0.38
13	0.00	0.00	0.36
14	0.00	0.00	0.07
14	0.00	0.00	-0.08
6	0.00	0.00	0.54
6	0.00	0.00	0.24
6	0.00	0.00	0.81
6	0.00	0.00	0.68
9	0.00	0.00	-0.10
9	0.00	0.00	-0.07
6	0.00	0.00	0.27
6	0.00	0.00	0.77
13	0.00	0.00	0.06
14	0.00	0.00	-0.06
6	0.00	0.00	0.34
6	0.00	0.00	-0.13
14	0.00	0.00	-0.04

14	0.00	0.00	-0.03
6	0.00	0.00	0.34
6	0.00	0.00	0.36
13	0.02	0.01	0.93
13	0.03	0.01	0.91
12	0.00	NA	0.41
13	0.00	NA	0.48
13	0.03	0.01	0.87
13	0.03	0.01	0.87
13	0.26	0.13	0.98
13	0.26	0.13	0.98
10	0.34	0.16	0.98
10	0.33	0.18	0.97
5	0.97	0.47	1.00
5	0.95	0.51	1.00
11	0.32	0.16	0.97
12	0.32	0.16	0.97
6	0.00	0.00	0.97
6	0.00	0.00	0.93
6	0.00	0.00	0.72
10	0.37	0.18	0.97
8	0.52	0.25	0.94
13	0.26	0.13	0.96
13	0.26	0.13	0.96
14	0.08	0.04	0.98
14	0.06	0.03	0.93
6	-0.01	0.00	0.34
6	-0.01	0.00	0.52
6	0.00	0.00	0.79
6	0.00	0.00	0.91
9	0.06	0.03	0.94
9	0.06	0.03	0.91
6	-0.01	0.00	0.15
6	-0.01	0.00	0.67
13	0.01	0.00	0.99
14	0.01	0.00	0.98
6	0.00	0.00	-0.09
6	0.00	0.00	-0.08
14	0.07	0.04	0.98
14	0.07	0.03	0.98
6	-0.01	0.00	0.24
6	-0.01	0.00	0.65
8	0.44	0.22	0.96
8	0.45	0.20	0.96
13	0.01	NA	0.35

13	0.01	NA	0.68
8	0.38	0.18	0.95
8	0.47	0.23	0.94
13	0.05	0.02	0.99
13	0.05	0.03	0.99
14	0.05	0.02	1.00
14	0.05	0.02	1.00
6	0.07	0.03	0.95
6	0.06	0.03	0.99
13	0.05	0.02	0.98
13	0.05	0.02	0.98
6	0.00	0.00	0.27
6	0.00	0.00	0.20
6	0.00	0.00	0.12
13	0.04	0.02	0.98
13	0.04	0.02	0.97
13	0.03	0.02	0.97
13	0.04	0.02	0.97
14	0.00	0.00	-0.08
14	0.00	0.00	-0.05
6	0.01	0.00	0.34
6	0.01	0.00	0.51
6	0.00	0.00	0.04
6	0.00	0.00	-0.04
9	0.01	0.01	-0.05
9	0.01	0.01	-0.03
6	0.01	0.00	0.46
6	0.01	0.00	0.43
13	-0.01	0.00	0.14
14	-0.01	0.00	0.25
6	0.00	0.00	-0.18
6	0.00	0.00	0.47
14	0.00	0.00	0.00
14	0.00	0.00	0.01
6	0.01	0.01	0.72
6	0.01	0.00	0.17
13	0.01	0.01	0.78
13	0.01	0.01	0.83
13	0.00	NA	0.13
13	0.00	NA	0.16
13	0.01	0.00	0.68
13	0.01	0.01	0.77
13	0.01	0.00	0.69
13	0.01	0.00	0.63
14	0.01	0.00	0.94

14	0.01	0.00	0.92
6	0.00	0.00	0.03
6	0.00	0.00	-0.22
13	0.068	0.034170854271357	0.933
13	0.065	0.030805687203792	0.952
13	0.123	0.060891089108911	0.987
13	0.119	0.053846153846154	0.992
13	0.01	0.00	0.81
13	0.01	0.00	0.79
6	0.01	0.00	0.72
13	0.002	NA	0.2
13	0.001	NA	-0.029
13	0.001	NA	-0.019
13	0.001	NA	0.046
6	0.00	0.00	0.33
6	0.00	0.00	0.25
13	0.011	0.005314009661836	0.92
13	0.011	0.00547263681592	0.874
13	0.01	0.004950495049505	0.864
13	0.01	0.004854368932039	0.865
13	0.01	0.00	0.81
13	0.01	0.01	0.90
13	0.004	0.001923076923077	0.24
12	0.004	0.001923076923077	0.361
13	0.006	0.002803738317757	0.713
13	0.005	0.002380952380952	0.467
13	0.01	0.00	0.54
13	0.01	0.00	0.69
14	0	0	0.044
14	0	0	0.022
6	-0.005	-0.002314814814815	0.555
6	-0.002	-0.001025641025641	0.693
14	0.00	0.00	0.14
14	0.00	0.00	-0.07
6	-0.01	0.00	0.88
6	0.00	0.00	-0.04
6	0.00	0.00	0.45
6	0.00	0.00	-0.25
9	0.00	0.00	0.67
9	0.00	0.00	0.55
6	0.00	0.00	-0.24
6	0.00	0.00	0.21
13	0.00	0.00	0.91
14	0.00	0.00	0.72
6	-0.01	0.00	0.62

6	0.00	0.00	-0.17
14	0.00	0.00	0.23
14	0.00	0.00	0.14
6	0.00	0.00	0.25
6	-0.01	0.00	0.87
13	0.01	0.00	0.81
13	0.01	0.00	0.64
13	0.00	NA	-0.03
13	0.00	NA	-0.02
13	0.01	0.00	0.59
13	0.01	0.00	0.60
13	0.13	0.07	0.85
13	0.13	0.06	0.86
11	0.16	0.08	0.76
11	0.15	0.08	0.74
6	0.46	0.22	0.97
6	0.54	0.29	0.94
13	0.08	0.04	0.96
13	0.08	0.04	0.97
6	0.01	0.01	0.77
6	0.01	0.00	0.67
6	0.01	0.00	0.59
13	0.08	0.04	0.96
13	0.08	0.04	0.99
13	0.04	0.02	0.95
13	0.04	0.02	0.96
14	0.06	0.03	0.91
14	0.09	0.04	0.92
6	0.21	0.10	1.00
6	0.24	0.11	1.00
6	0.01	0.00	0.89
6	0.01	0.00	0.66
9	0.01	0.00	0.14
9	0.01	0.00	0.08
6	0.27	0.13	1.00
6	0.22	0.10	1.00
13	0.02	0.01	0.95
14	0.02	0.01	0.96
6	0.01	0.01	0.82
6	0.02	0.01	0.67
14	0.06	0.03	0.91
14	0.06	0.03	0.92
6	0.22	0.11	1.00
6	0.22	0.10	1.00

k1 sigma	k1 p-value	k1 t1/2 (days)	k0 (µg L-1 day-1)
0.66	0.00	1.62	1.44
0.57	0.00	1.34	1.96
0.02	0.01	16.91	1.22
0.07	0.06	14.75	1.35
0.03	0.03	>70	0.17
0.03	0.00	40.77	0.39
0.04	0.16	46.21	0.34
0.03	0.13	53.32	0.27
0.30	0.00	1.17	2.00
0.24	0.00	1.11	2.09
0.04	0.01	13.59	1.46
0.01	0.00	14.75	1.42
0.13	0.00	1.74	1.56
0.38	0.00	1.34	2.10
0.32	0.00	1.13	5.80
2.38	0.33	0.36	10.76
0.16	0.00	1.44	1.38
0.16	0.00	1.48	1.44
0.65	0.00	1.12	1.73
0.49	0.00	1.11	1.93
0.21	0.00	1.49	1.38
0.06	0.00	1.32	2.00
0.14	0.00	0.61	4.83
0.07	0.00	0.65	5.34
0.08	0.07	>70	0.10
0.08	0.13	>70	0.08
0.07	0.16	>70	0.06
0.12	0.00	1.31	2.05
0.25	0.00	1.49	1.35
0.11	0.00	0.66	5.39
0.15	0.00	0.67	5.78
0.11	0.00	1.49	1.38
0.05	0.00	1.44	1.38
0.17	0.00	0.67	5.67
0.11	0.00	0.67	5.53
0.33	0.00	0.81	2.35
0.41	0.00	0.79	2.25
0.82	0.00	1.25	1.52
0.75	0.00	1.40	1.47
0.06	0.13	>70	0.06
0.06	0.12	>70	0.07
0.40	0.00	0.75	2.30
0.45	0.00	0.75	2.32
0.23	0.00	1.49	1.64

0.37	0.00	1.42	1.61
0.22	0.00	1.51	1.06
0.27	0.00	1.47	1.11
0.25	0.00	1.32	1.75
0.26	0.00	1.41	1.67
0.37	0.00	0.82	2.23
0.32	0.00	0.79	2.29
0.50	0.00	1.07	1.58
0.71	0.00	1.24	1.53
0.03	0.00	>70	0.17
0.03	0.00	>70	0.16
0.04	0.11	>70	0.05
0.04	0.09	>70	0.05
0.04	0.00	>70	0.12
0.03	0.00	>70	0.11
0.03	0.00	>70	0.07
0.04	0.01	>70	0.09
0.03	0.01	>70	0.03
0.03	0.03	>70	0.02
0.02	0.76	>70	-0.03
0.02	0.33	>70	-0.06
0.03	0.00	>70	0.09
0.03	0.01	>70	0.07
0.03	0.02	>70	0.05
0.03	0.02	>70	0.05
0.02	0.01	>70	0.04
0.04	0.02	>70	0.08
0.04	0.02	>70	0.07
0.03	0.02	>70	0.07
0.03	0.02	>70	0.07
0.02	0.19	>70	-0.01
0.03	0.95	>70	0.00
0.01	0.06	>70	-0.15
0.02	0.19	>70	-0.11
0.02	0.01	>70	0.04
0.02	0.03	>70	0.03
0.02	0.60	>70	0.01
0.02	0.52	>70	-0.01
0.02	0.17	>70	-0.10
0.01	0.01	>70	-0.15
0.02	0.21	>70	0.01
0.03	0.64	>70	0.00
0.02	0.13	>70	-0.16
0.02	0.55	>70	-0.04
0.02	0.49	>70	-0.01

0.02	0.46	>70	0.01
0.01	0.13	>70	-0.10
0.01	0.12	>70	-0.09
0.05	0.00	28.88	0.37
0.06	0.00	27.73	0.38
0.02	0.01	>70	0.05
0.02	0.01	>70	0.05
0.09	0.00	23.11	0.43
0.08	0.00	25.67	0.40
0.26	0.00	2.66	1.07
0.26	0.00	2.64	1.07
0.37	0.00	2.06	1.02
0.43	0.00	2.09	1.03
0.06	0.00	0.71	2.95
0.04	0.00	0.73	3.31
0.35	0.00	2.20	1.21
0.37	0.00	2.15	1.16
0.01	0.00	>70	0.07
0.01	0.00	>70	0.04
0.02	0.02	>70	0.04
0.42	0.00	1.88	1.27
0.69	0.00	1.34	1.48
0.41	0.00	2.69	1.10
0.40	0.00	2.69	1.09
0.15	0.00	9.00	0.53
0.23	0.00	11.55	0.48
0.03	0.13	>70	-0.14
0.04	0.06	>70	-0.25
0.02	0.01	>70	0.03
0.02	0.00	>70	0.06
0.09	0.00	11.55	0.74
0.12	0.00	11.00	0.76
0.05	0.25	>70	-0.20
0.02	0.03	>70	-0.15
0.01	0.00	>70	0.15
0.02	0.00	69.32	0.15
0.04	0.49	>70	0.09
0.02	0.46	>70	0.06
0.14	0.00	9.37	0.52
0.14	0.00	9.37	0.52
0.04	0.18	>70	-0.13
0.02	0.03	>70	-0.17
0.46	0.00	1.59	1.64
0.49	0.00	1.54	1.60
0.06	0.02	>70	0.17

0.03	0.00	>70	0.15
0.44	0.00	1.81	1.65
0.62	0.00	1.49	1.69
0.04	0.00	14.44	0.71
0.04	0.00	13.33	0.75
0.04	0.00	14.44	0.45
0.04	0.00	15.07	0.46
0.07	0.00	10.19	1.31
0.03	0.00	11.18	1.33
0.05	0.00	14.44	0.70
0.05	0.00	15.40	0.64
0.10	0.16	>70	0.09
0.10	0.21	>70	0.07
0.09	0.26	>70	0.06
0.04	0.00	16.91	0.62
0.05	0.00	19.25	0.58
0.05	0.00	20.39	0.56
0.05	0.00	19.80	0.57
0.17	0.76	>70	0.00
0.21	0.57	>70	-0.01
0.04	0.13	>70	0.28
0.04	0.07	69.32	0.35
0.09	0.33	>70	0.05
0.07	0.42	>70	0.03
0.23	0.45	63.01	0.16
0.26	0.41	49.51	0.21
0.04	0.08	69.32	0.39
0.04	0.09	>70	0.35
0.20	0.12	>70	-0.08
0.17	0.04	>70	-0.09
0.01	0.64	>70	0.03
0.01	0.08	>70	0.09
0.17	0.35	>70	-0.03
0.18	0.31	>70	-0.03
0.03	0.02	57.76	0.46
0.04	0.23	>70	0.25
0.05	0.00	57.76	0.20
0.04	0.00	57.76	0.20
0.04	0.13	>70	0.05
0.04	0.10	>70	0.05
0.05	0.00	69.32	0.17
0.04	0.00	63.01	0.18
0.04	0.00	>70	0.13
0.04	0.00	>70	0.13
0.02	0.00	>70	0.09

0.02	0.00	>70	0.09
0.02	0.35	>70	0.06
0.02	0.77	>70	-0.02
0.134	5.07E-08	10.193	0.755
0.108	8.40E-09	10.664	0.743
0.104	6.22E-12	5.635	0.985
0.079	4.35E-13	5.825	0.949
0.03	0.00	>70	0.15
0.03	0.00	>70	0.15
0.07	0.02	>70	0.10
0.028	0.070847266411	>70	0.041
0.034	0.433025566528	>70	0.019
0.035	0.398024610901	>70	0.023
0.03	0.235079479482	>70	0.028
0.05	0.14	>70	0.04
0.06	0.18	>70	0.04
0.024	1.37E-07	63.013	0.19
0.03	1.73E-06	63.013	0.184
0.03	2.66E-06	69.315	0.182
0.03	2.52E-06	69.315	0.177
0.03	0.00	>70	0.15
0.03	0.00	63.01	0.19
0.044	0.051149223318	>70	0.067
0.041	0.022918973474	>70	0.079
0.027	0.00017367915	>70	0.106
0.034	0.00599721678	>70	0.083
0.04	0.00	>70	0.10
0.03	0.00	>70	0.11
0.019	0.229251986038	>70	-0.009
0.019	0.277349843063	>70	-0.008
0.017	0.054686277721	>70	-0.188
0.006	0.0247388261	>70	-0.087
0.02	0.10	>70	-0.01
0.03	0.66	>70	-0.01
0.01	0.00	>70	-0.23
0.02	0.42	>70	-0.06
0.04	0.09	>70	0.04
0.05	0.95	>70	0.00
0.01	0.00	>70	-0.03
0.01	0.01	>70	-0.04
0.02	0.88	>70	0.01
0.01	0.20	>70	0.06
0.02	0.00	>70	0.06
0.03	0.00	>70	0.06
0.02	0.04	>70	-0.27

0.01	0.63	>70	-0.01
0.02	0.05	>70	-0.02
0.02	0.10	>70	-0.01
0.03	0.18	>70	-0.17
0.02	0.00	>70	-0.38
0.03	0.00	>70	0.15
0.04	0.00	>70	0.12
0.02	0.44	>70	0.02
0.03	0.41	>70	0.02
0.03	0.00	>70	0.08
0.03	0.00	>70	0.08
0.40	0.00	5.29	0.82
0.39	0.00	5.17	0.85
0.79	0.00	4.44	0.56
0.81	0.00	4.62	0.58
0.36	0.00	1.50	1.32
0.62	0.00	1.28	1.46
0.13	0.00	8.35	0.69
0.11	0.00	8.35	0.67
0.15	0.01	49.51	0.18
0.12	0.03	>70	0.12
0.14	0.05	>70	0.12
0.13	0.00	8.56	0.69
0.06	0.00	8.35	0.70
0.07	0.00	18.73	0.44
0.06	0.00	16.91	0.46
0.26	0.00	11.55	0.38
0.37	0.00	7.79	0.41
0.05	0.00	3.35	1.67
0.07	0.00	2.86	1.53
0.04	0.00	>70	0.08
0.06	0.03	>70	0.07
0.08	0.17	>70	0.11
0.08	0.24	>70	0.10
0.08	0.00	2.57	1.57
0.03	0.00	3.17	1.72
0.08	0.00	28.88	0.25
0.06	0.00	28.88	0.23
0.03	0.01	53.32	0.32
0.05	0.03	43.32	0.39
0.25	0.00	11.95	0.38
0.23	0.00	12.16	0.38
0.04	0.00	3.14	1.74
0.04	0.00	3.17	1.73

k0 (µg L-1 day-1 g biomat-1)	k0 R2, adj	k0 sigma	k0 p-value	k0 t1/2 (days)
0.72	0.49	7.12	0.03	8.29
0.89	0.52	6.78	0.04	5.81
0.61	0.93	0.66	0.00	13.41
0.61	0.65	1.91	0.06	11.99
NA	0.50	0.82	0.03	76.10
NA	0.91	0.62	0.00	31.94
NA	0.37	0.76	0.16	33.73
NA	0.45	0.54	0.13	38.58
0.95	0.55	6.59	0.03	5.75
1.03	0.54	6.92	0.04	5.92
0.70	0.91	0.95	0.01	11.24
0.70	0.99	0.25	0.00	11.92
0.78	0.69	5.23	0.01	7.67
1.01	0.73	4.81	0.01	5.75
2.89	0.93	3.17	0.00	2.70
5.18	0.99	1.73	0.05	1.47
0.67	0.51	5.71	0.03	7.98
0.77	0.52	5.84	0.03	8.15
0.84	0.43	7.71	0.09	7.10
1.03	0.47	8.14	0.08	6.83
0.68	0.50	6.64	0.03	8.47
0.96	0.60	5.56	0.02	5.32
2.38	0.48	8.67	0.12	2.97
2.57	0.50	9.24	0.11	2.96
0.05	0.50	1.71	0.07	127.26
0.04	0.36	1.70	0.12	165.93
0.03	0.30	1.59	0.15	195.00
1.00	0.57	6.07	0.03	5.67
0.66	0.50	6.55	0.03	8.55
2.64	0.50	9.37	0.11	2.96
2.85	0.62	8.16	0.07	2.80
0.68	0.55	6.13	0.02	8.61
0.67	0.56	6.02	0.02	8.59
2.79	0.49	10.00	0.12	2.96
2.71	0.51	9.37	0.11	2.93
1.14	0.39	6.36	0.08	4.53
0.98	0.35	6.45	0.10	4.72
0.74	0.25	9.18	0.18	8.88
0.64	0.30	8.14	0.15	8.47
0.03	0.35	1.34	0.13	212.37
0.03	0.37	1.45	0.12	197.58
1.11	0.33	6.78	0.10	4.86
1.10	0.32	6.99	0.11	4.89
0.79	0.44	7.17	0.09	7.69

0.77	0.40	7.51	0.10	7.79
0.54	0.33	5.96	0.10	10.34
0.54	0.46	4.96	0.04	8.99
0.89	0.43	7.85	0.09	7.56
0.82	0.45	7.25	0.09	7.49
1.06	0.37	6.17	0.09	4.71
1.08	0.36	6.51	0.09	4.81
0.75	0.26	9.24	0.17	8.71
0.72	0.29	8.61	0.16	8.50
0.08	0.81	0.59	0.00	60.61
0.07	0.80	0.57	0.00	59.84
NA	0.16	0.68	0.10	213.72
NA	0.18	0.69	0.08	191.86
0.06	0.59	0.70	0.00	84.48
0.05	0.64	0.58	0.00	95.43
0.03	0.52	0.47	0.00	142.28
0.04	0.41	0.72	0.01	116.74
0.01	0.39	0.45	0.01	339.07
0.01	0.29	0.45	0.03	421.59
-0.01	-0.22	0.83	0.76	>1,000
-0.03	0.04	0.56	0.33	>1,000
0.04	0.55	0.55	0.00	113.90
0.04	0.39	0.64	0.01	125.48
0.02	0.70	0.60	0.02	203.88
0.02	0.73	0.58	0.02	199.71
0.02	0.76	0.45	0.02	237.74
0.04	0.37	0.69	0.02	126.56
0.03	0.35	0.65	0.02	135.87
0.03	0.39	0.59	0.01	148.28
0.03	0.37	0.59	0.02	153.85
-0.01	0.07	0.44	0.19	>1,000
0.00	-0.08	0.58	0.95	>1,000
-0.07	0.55	0.54	0.06	>1,000
-0.05	0.25	0.64	0.18	>1,000
0.02	0.80	0.36	0.01	274.87
0.02	0.68	0.40	0.03	332.10
0.01	-0.09	0.34	0.59	847.27
-0.01	-0.08	0.29	0.53	>1,000
-0.05	0.28	0.60	0.16	>1,000
-0.07	0.77	0.34	0.01	>1,000
0.01	0.06	0.42	0.21	832.73
0.00	-0.06	0.43	0.63	>1,000
-0.08	0.35	0.79	0.13	>1,000
-0.02	-0.13	0.62	0.55	>1,000
0.00	-0.04	0.36	0.49	>1,000

0.00	-0.03	0.34	0.46	>1,000
-0.05	0.34	0.53	0.13	>1,000
-0.04	0.36	0.44	0.12	>1,000
0.19	0.89	0.94	0.00	26.47
0.17	0.87	1.08	0.00	25.89
NA	0.41	0.41	0.01	196.80
NA	0.48	0.34	0.01	213.70
0.21	0.82	1.49	0.00	23.00
0.20	0.83	1.33	0.00	25.08
0.53	0.93	2.22	0.00	9.19
0.51	0.92	2.33	0.00	9.23
0.49	0.89	2.65	0.00	8.92
0.55	0.90	2.51	0.00	9.11
1.43	0.64	4.69	0.06	3.13
1.76	0.64	5.25	0.06	3.14
0.60	0.94	2.10	0.00	7.96
0.56	0.93	2.20	0.00	8.36
0.03	0.98	0.20	0.00	141.74
0.02	0.93	0.22	0.00	249.88
0.02	0.70	0.44	0.02	278.19
0.62	0.92	2.36	0.00	7.63
0.73	0.90	2.53	0.00	6.48
0.54	0.95	1.82	0.00	9.06
0.53	0.95	1.84	0.00	9.13
0.26	0.92	2.13	0.00	17.51
0.21	0.87	2.61	0.00	18.93
-0.07	0.35	0.72	0.13	>1,000
-0.11	0.54	0.94	0.06	>1,000
0.02	0.78	0.33	0.01	296.52
0.03	0.92	0.33	0.00	172.24
0.36	0.97	0.77	0.00	12.57
0.36	0.95	0.98	0.00	12.30
-0.10	0.16	1.40	0.23	>1,000
-0.07	0.68	0.42	0.03	>1,000
0.07	0.99	0.23	0.00	64.41
0.08	0.98	0.33	0.00	57.50
0.05	-0.09	1.16	0.49	175.44
0.03	-0.07	0.75	0.46	259.03
0.25	0.93	1.93	0.00	17.56
0.24	0.93	1.96	0.00	17.49
-0.06	0.24	0.82	0.18	>1,000
-0.08	0.66	0.52	0.03	>1,000
0.82	0.59	6.73	0.02	7.11
0.73	0.59	6.61	0.02	7.13
NA	0.33	1.66	0.02	72.28

NA	0.66	0.80	0.00	82.18
0.79	0.66	5.98	0.01	6.95
0.84	0.66	6.09	0.01	7.11
0.35	0.97	0.87	0.00	16.16
0.36	0.96	1.12	0.00	16.07
0.22	0.96	1.29	0.00	22.58
0.24	0.96	1.33	0.00	23.02
0.64	0.87	2.19	0.00	11.23
0.71	0.95	1.40	0.00	11.80
0.34	0.96	1.00	0.00	16.40
0.31	0.96	0.92	0.00	16.39
0.04	0.30	2.08	0.15	141.00
0.04	0.23	2.06	0.19	167.50
0.03	0.14	1.85	0.25	217.32
0.30	0.98	0.71	0.00	17.82
0.28	0.96	0.88	0.00	19.11
0.27	0.95	0.97	0.00	20.98
0.28	0.95	0.96	0.00	20.01
0.00	-0.08	2.56	0.98	>1,000
-0.01	-0.08	2.81	0.83	>1,000
0.13	0.33	1.46	0.14	76.88
0.15	0.48	1.45	0.08	55.55
0.03	0.05	1.98	0.32	250.59
0.02	-0.03	1.63	0.41	362.35
0.08	-0.04	3.25	0.43	60.61
0.10	-0.03	3.99	0.41	52.06
0.19	0.43	1.74	0.09	53.47
0.17	0.40	1.62	0.10	59.27
-0.04	0.06	2.79	0.21	>1,000
-0.04	0.19	2.23	0.07	>1,000
0.01	-0.17	0.48	0.64	848.60
0.04	0.47	0.37	0.08	241.35
-0.01	-0.05	2.41	0.55	>1,000
-0.02	-0.04	2.46	0.51	>1,000
0.22	0.69	1.29	0.03	46.61
0.12	0.16	1.75	0.23	84.21
0.10	0.77	0.80	0.00	47.37
0.09	0.82	0.69	0.00	49.12
NA	0.13	0.70	0.13	216.22
NA	0.17	0.67	0.09	202.71
0.08	0.68	0.85	0.00	56.67
0.09	0.76	0.73	0.00	55.03
0.07	0.69	0.64	0.00	71.86
0.06	0.63	0.72	0.00	73.81
0.05	0.94	0.34	0.00	94.20

0.05	0.91	0.39	0.00	95.87
0.03	0.03	0.52	0.34	289.04
-0.01	-0.22	0.60	0.77	>1,000
0.379396984924621	0.992	0.511	5.48E-13	12.642
0.352132701421803	0.995	0.373	2.11E-14	12.894
0.487623762376235	0.979	1.074	9.90E-11	9.645
0.429411764705886	0.975	1.108	2.06E-10	9.984
0.07	0.80	0.55	0.00	63.33
0.07	0.78	0.58	0.00	62.00
0.05	0.70	1.24	0.02	95.10
NA	0.209	0.52	0.06593377	233.537
NA	-0.032	0.628	0.4431083565	503.684
NA	-0.017	0.645	0.3889702557	409.13
NA	0.048	0.564	0.2307652983	340.714
0.02	0.34	0.95	0.13	240.85
0.02	0.26	1.07	0.17	239.02
0.091787439613527	0.914	0.428	2.14E-07	49.921
0.091542288557214	0.858	0.546	3.32E-06	52.853
0.09009900990099	0.864	0.529	2.65E-06	53.681
0.085922330097087	0.855	0.535	3.84E-06	53.87
0.08	0.80	0.56	0.00	61.93
0.09	0.89	0.49	0.00	49.97
0.032211538461539	0.24	0.778	0.051233974	141.194
0.037980769230769	0.368	0.729	0.0216011553	122.025
0.049532710280374	0.71	0.488	0.0001821284	92.264
0.039523809523809	0.469	0.622	0.0058750097	117.651
0.05	0.55	0.64	0.00	99.34
0.05	0.69	0.53	0.00	89.77
-0.004166666666667	0.052	0.334	0.2156597737	>1,000
-0.004102564102564	0.026	0.339	0.2691684342	>1,000
-0.087037037037037	0.562	0.673	0.0526905947	>1,000
-0.044615384615384	0.697	0.241	0.0241695837	>1,000
-0.01	0.15	0.37	0.10	>1,000
0.00	-0.06	0.59	0.64	>1,000
-0.11	0.88	0.37	0.00	>1,000
-0.03	-0.05	0.70	0.43	>1,000
0.02	0.46	0.70	0.08	264.32
0.00	-0.25	0.98	0.94	>1,000
-0.02	0.67	0.14	0.00	>1,000
-0.02	0.55	0.22	0.01	>1,000
0.01	-0.24	0.67	0.88	1649.09
0.03	0.21	0.36	0.20	327.28
0.03	0.91	0.29	0.00	136.80
0.03	0.71	0.49	0.00	157.32
-0.14	0.63	0.86	0.04	>1,000

-0.01	-0.17	0.20	0.63	>1,000
-0.01	0.23	0.36	0.05	>1,000
-0.01	0.14	0.34	0.10	>1,000
-0.08	0.27	0.98	0.17	>1,000
-0.18	0.86	0.64	0.00	>1,000
0.08	0.80	0.56	0.00	60.62
0.05	0.63	0.68	0.00	71.61
NA	-0.03	0.48	0.43	668.33
NA	-0.02	0.52	0.40	544.72
0.04	0.59	0.47	0.00	113.29
0.04	0.59	0.51	0.00	111.73
0.41	0.99	0.74	0.00	10.68
0.41	0.97	1.16	0.00	11.33
0.27	0.93	1.44	0.00	14.88
0.31	0.93	1.46	0.00	15.14
0.64	0.75	3.20	0.02	6.63
0.78	0.80	3.14	0.01	6.48
0.34	0.95	1.19	0.00	13.17
0.32	0.96	0.97	0.00	12.36
0.09	0.71	2.17	0.02	50.78
0.06	0.60	1.82	0.04	74.92
0.06	0.53	2.09	0.06	75.04
0.34	0.98	0.75	0.00	12.57
0.34	0.96	1.02	0.00	12.26
0.21	0.89	1.11	0.00	20.84
0.23	0.92	1.00	0.00	19.08
0.19	0.98	0.85	0.00	22.49
0.18	0.96	1.19	0.00	21.09
0.81	0.82	3.31	0.01	7.10
0.67	0.74	3.81	0.02	7.06
0.04	0.86	0.63	0.00	109.46
0.04	0.63	1.05	0.04	128.29
0.05	0.13	1.24	0.18	83.76
0.05	0.07	1.33	0.25	96.45
0.76	0.71	4.24	0.02	7.02
0.82	0.81	3.53	0.01	6.97
0.13	0.87	1.37	0.00	35.20
0.11	0.90	1.05	0.00	33.16
0.16	0.79	0.71	0.01	42.68
0.19	0.63	1.25	0.04	37.00
0.18	0.98	0.82	0.00	22.84
0.18	0.97	0.91	0.00	23.32
0.83	0.80	3.68	0.01	7.03
0.81	0.81	3.61	0.01	7.04

Wet Biomat Added to Microcosm (g)
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SampleID	16S Reads	18S Reads
A1_t11	8341	528
A10_t11	12040	683
A2_t11	11567	752
A5_t11	13213	579
A6_t11	10531	509
A7_t11	11090	635
A8_t11	14693	834
A9_t11	8810	556
Anoxic_Inoculum_Shield_Normalized_Input	12252	831
Core_Extrusion_Swab_Neg_Oct18_AM3	12223	260
Core_Extrusion_Swab_Neg_Oct18_PM1	12119	580
Core_Extrusion_Swab_Neg_Oct18_PM2	11313	557
CSM_Prado_Jun18_A3_Bubble1_DNA_Amplicon	5787	1639
CSM_Prado_Jun18_A3_Bubble2_DNA_Amplicon	7342	1721
CSM_Prado_Jun18_A3_Bubble3_DNA_Amplicon	6493	1098
CSM_Prado_Jun18_Biowall_Coupon1_DNA_Amplicon	14327	952
CSM_Prado_Jun18_Biowall_Coupon2_DNA_Amplicon	11942	351
CSM_Prado_Jun18_Biowall_Coupon3_DNA_Amplicon	10908	380
CSM_Prado_Oct18_17PM1_0_5z_DNA_Amplicon	23485	1103
CSM_Prado_Oct18_17PM1_1_0z_DNA_Amplicon	10931	628
CSM_Prado_Oct18_17PM1_1_5z_DNA_Amplicon	8696	416
CSM_Prado_Oct18_17PM1_2_5z_DNA_Amplicon	10962	590
CSM_Prado_Oct18_17PM2_0_5z_DNA_Amplicon	11989	564
CSM_Prado_Oct18_17PM2_1_0z_DNA_Amplicon	11951	779
CSM_Prado_Oct18_17PM2_1_5z_DNA_Amplicon	8487	639
CSM_Prado_Oct18_17PM2_2_5z_DNA_Amplicon	14414	519
CSM_Prado_Oct18_AM1_0_5z1_DNA_Amplicon	5292	328
CSM_Prado_Oct18_AM1_0_5z2_DNA_Amplicon	19724	1501
CSM_Prado_Oct18_AM1_1_0z1_DNA_Amplicon	10741	621
CSM_Prado_Oct18_AM1_1_5z1_DNA_Amplicon	10227	315
CSM_Prado_Oct18_AM1_1_5z2_DNA_Amplicon	17890	1493
CSM_Prado_Oct18_AM1_2_5z1_DNA_Amplicon	10509	822
CSM_Prado_Oct18_AM1_2_5z2_DNA_Amplicon	24460	2077
CSM_Prado_Oct18_AM1_Bottom_DNA_Amplicon	33553	637
CSM_Prado_Oct18_AM2_0_5z1_DNA_Amplicon	11618	573
CSM_Prado_Oct18_AM2_0_5z2_DNA_Amplicon	21664	2692
CSM_Prado_Oct18_AM2_1_0z1_DNA_Amplicon	11247	760
CSM_Prado_Oct18_AM2_1_5z1_DNA_Amplicon	9441	365
CSM_Prado_Oct18_AM2_1_5z2_DNA_Amplicon	8957	1151
CSM_Prado_Oct18_AM2_2_5z1_DNA_Amplicon	7917	98
CSM_Prado_Oct18_AM2_2_5z2_DNA_Amplicon	18100	1741
CSM_Prado_Oct18_AM2_Bottom_DNA_Amplicon	27056	1670
CSM_Prado_Oct18_AM3_0_5z1_DNA_Amplicon	11627	542
CSM_Prado_Oct18_AM3_0_5z2_DNA_Amplicon	22307	2675

CSM_Prado_Oct18_AM3_1_0z1_DNA_Amplicon	7223	314
CSM_Prado_Oct18_AM3_1_5z1_DNA_Amplicon	9395	457
CSM_Prado_Oct18_AM3_1_5z2_DNA_Amplicon	26314	2788
CSM_Prado_Oct18_AM3_2_5z1_DNA_Amplicon	9187	890
CSM_Prado_Oct18_AM3_2_5z2_DNA_Amplicon	20922	2057
CSM_Prado_Oct18_AM3_Bottom_DNA_Amplicon	25607	1668
CSM_Prado_Oct18_PM1_0_5z1_DNA_Amplicon	2294	266
CSM_Prado_Oct18_PM1_0_5z2_DNA_Amplicon	20287	2366
CSM_Prado_Oct18_PM1_1_0z1_DNA_Amplicon	7207	565
CSM_Prado_Oct18_PM1_1_5z1_DNA_Amplicon	4330	403
CSM_Prado_Oct18_PM1_1_5z2_DNA_Amplicon	21851	2537
CSM_Prado_Oct18_PM1_2_5z1_DNA_Amplicon	7228	653
CSM_Prado_Oct18_PM1_2_5z2_DNA_Amplicon	15002	1349
CSM_Prado_Oct18_PM1_Bottom_DNA_Amplicon	23657	1722
CSM_Prado_Oct18_PM2_0_5z1_DNA_Amplicon	9599	650
CSM_Prado_Oct18_PM2_0_5z2_DNA_Amplicon	20164	1886
CSM_Prado_Oct18_PM2_1_0z1_DNA_Amplicon	10846	770
CSM_Prado_Oct18_PM2_1_5z1_DNA_Amplicon	10777	815
CSM_Prado_Oct18_PM2_1_5z2_DNA_Amplicon	23590	2500
CSM_Prado_Oct18_PM2_2_5z1_DNA_Amplicon	6737	417
CSM_Prado_Oct18_PM2_2_5z2_DNA_Amplicon	19690	2405
CSM_Prado_Oct18_PM2_Bottom_DNA_Amplicon	21985	1742
CSM_Prado_Oct18_PM3_0_5z1_DNA_Amplicon	7853	736
CSM_Prado_Oct18_PM3_0_5z2_DNA_Amplicon	20891	2377
CSM_Prado_Oct18_PM3_1_0z1_DNA_Amplicon	9039	775
CSM_Prado_Oct18_PM3_1_5z1_DNA_Amplicon	9404	678
CSM_Prado_Oct18_PM3_1_5z2_DNA_Amplicon	21015	2391
CSM_Prado_Oct18_PM3_2_5z1_DNA_Amplicon	1467	110
CSM_Prado_Oct18_PM3_2_5z2_DNA_Amplicon	19567	2078
CSM_Prado_Oct18_PM3_Bottom_DNA_Amplicon	23153	1886
CSM_Prado_Pilot_2021_Freeze_Dried	12572	799
CSM_Prado_Pilot_2021_Shield	16286	609
Ext_Neg1_August2018	9359	1752
Ext_Neg1_February2021	27834	2171
Ext_Neg1_May2018	12441	2828
Ext_Neg1_November2018	1405	7
Ext_Neg1_November2021	278	19
Ext_Neg2_August2018	8707	1145
Ext_Neg2_February2021	9842	430
Ext_Neg2_May2018	3252	709
Ext_Neg2_November2021	9625	3181
Ext_Neg3_February2021	2644	119
Ext_Neg3_November2021	9361	95
Ext_Neg4_November2021	8706	144
Ext_Neg5_November2021	11109	1475

LD1_t10	5278	2394
LD1_t4	11404	3158
LD2_t10	8543	5049
LD2_t4	11920	2763
LD5_t10	11731	1368
LD6_t10	7445	676
LD7_t10	6878	5346
LD8_t10	5462	3947
O1_t10	14540	1023
O13_t10	10070	515
O14_t10	12271	688
O2_t10	14078	832
O7_t10	7494	574
O8_t10	10008	498
Oxic_Inoculum_Freeze_Dried	11862	1001
Oxic_Inoculum_Shield_Inoc_Input	13997	426
Oxic_Inoculum_Shield_Normalized_Input	12662	535
PCR_Neg1_August2018	708	26
PCR_Neg1_February2021	99	14
PCR_Neg1_May2018	741	41
PCR_Neg1_November2018	450	23
PCR_Neg1_November2021	2139	85
PCR_Neg2_August2018	159	5
PCR_Neg2_February2021	19494	3444
PCR_Neg2_May2018	0	0
PCR_Neg2_November2018	506	71
PCR_Neg3_August2018	0	0
PCR_Neg3_February2021	824	164
PCR_Neg3_May2018	504	15
PCR_Neg3_November2018	44	0
PCR_Neg4_August2018	3505	0
ZJ_Disco_r1t1	17511	3133
ZJ_Disco_r2m1	3926	1621
ZJ_Disco_r3m2	9946	3342
ZJ_Disco_r4b1	14364	3671
ZJ_Prado_1	5883	2712
ZJ_Prado_136	20846	1048
ZJ_Prado_137	13444	2994
ZJ_Prado_139	22714	2604
ZJ_Prado_144	12700	1852
ZJ_Prado_2	134	5
ZJ_Prado_201	12116	2178
ZJ_Prado_202	11401	3365
ZJ_Prado_206	12662	3144
ZJ_Prado_37	12434	5118

ZJ_Prado_39	4752	2361
ZJ_Prado_4	138	14
ZJ_Prado_40	14023	3684
ZJ_Prado_44	8568	2635
ZJ_Prado_5	4017	1131
ZJ_Prado_7	38	1
ZJ_Prado_9	35	12
Rehy_Fresh	14344	3065

Final 16S ps	Final 18S ps	NCBI SRA Accession
yes	yes	SRR19093969
yes	yes	SRR19093968
yes	yes	SRR19093909
yes	yes	SRR19093898
yes	yes	SRR19093883
yes	yes	SRR19093872
yes	yes	SRR19093861
yes	yes	SRR19093849
yes	yes	SRR19093936
no	no	SRR19093925
no	no	SRR19093967
no	no	SRR19093956
yes	yes	SRR19093945
yes	yes	SRR19093916
yes	yes	SRR19093915
yes	yes	SRR19093914
yes	yes	SRR19093913
yes	yes	SRR19093912
yes	yes	SRR19093911
yes	yes	SRR19093910
yes	yes	SRR19093908
yes	yes	SRR19093907
yes	yes	SRR19093906
yes	yes	SRR19093905
yes	yes	SRR19093904
yes	yes	SRR19093903
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yes	yes	SRR13758409
yes	yes	SRR13758408
yes	yes	SRR13758397
yes	yes	SRR13758386
yes	yes	SRR13758375
no	no	SRR13758370
yes	yes	SRR13758369
yes	yes	SRR13758368
yes	yes	SRR13758367
yes	yes	SRR13758366

yes	yes	SRR13758407
no	no	SRR13758406
yes	yes	SRR13758405
yes	yes	SRR13758404
yes	yes	SRR13758403
no	no	SRR13758402
no	no	SRR13758401
yes	yes	SRR13758400

Sequencing Run
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ASV Taxon Cluster (Silva v138)

Bacteria; Proteobacteria; Alphaproteobacteria; Sphingomonadales; Sphingomonadaceae; Porphyrobac
Bacteria; Bacteroidota; Bacteroidia; Chitinophagales; Chitinophagaceae; uncl. Chitinophagaceae
Bacteria; Bacteroidota; Bacteroidia; Cytophagales; Cyclobacteriaceae; Mariniradius
Bacteria; Cyanobacteria; Cyanobacteriia; Phormidesmiales; Nodosilineaceae; Nodosilinea PCC-7104
Bacteria; Proteobacteria; Alphaproteobacteria; Rhodobacterales; Rhodobacteraceae; Seohaeicola
Bacteria; Proteobacteria; Gammaproteobacteria; Xanthomonadales; Xanthomonadaceae; Silanimonas
Bacteria; Proteobacteria; Alphaproteobacteria; Sphingomonadales; Sphingomonadaceae; Sandarakinc
Bacteria; Proteobacteria; Alphaproteobacteria; Sphingomonadales; Sphingomonadaceae; Polymorphol
Bacteria; Bacteroidota; Bacteroidia; Cytophagales; Spirosomaceae; uncl. Spirosomaceae
Bacteria; Proteobacteria; Alphaproteobacteria; Rhodobacterales; Rhodobacteraceae; Tabrizicola
Bacteria; Proteobacteria; Alphaproteobacteria; Rhodobacterales; Rhodobacteraceae; Rubribacterium
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Cryomorphaceae; NS10 marine group
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae; Rhodopirellula
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Comamonadaceae; Hydrogenophag
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Flavobacteriaceae; Flavobacterium
Bacteria; Proteobacteria; Alphaproteobacteria; Rhodobacterales; Rhodobacteraceae; uncl. Rhodobacte
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae; Pirellula
Bacteria; Proteobacteria; Alphaproteobacteria; Acetobacterales; Acetobacteraceae; Roseomonas
Bacteria; Nitrospirota; Nitrospiria; Nitrospirales; Nitrospiraceae; Nitrospira
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales; Halieaceae; OM60(NOR5) clade
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae; Candidatus Anammoximicrobiu
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae; uncl. Pirellulaceae
Bacteria; Planctomycetota; Planctomycetes; Gemmatales; Gemmataceae; uncl. Gemmataceae
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae; Pirellula
Bacteria; Acidobacteriota; Vicinamibacteria; Vicinamibacterales; Vicinamibacteraceae; uncl. Vicinamiba
Bacteria; Nitrospirota; Nitrospiria; Nitrospirales; Nitrospiraceae; Nitrospira
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Nitrosomonadaceae; Ellin6067
Bacteria; Proteobacteria; Gammaproteobacteria; Methylococcales; Methylomonadaceae; Crenothrix
Bacteria; Bacteroidota; Bacteroidia; Chitinophagales; 37-13; uncl. 37-13
Bacteria; Desulfobacterota; Desulfobacteria; Desulfobacterales; Desulfococcaceae; Desulfococcus
Bacteria; Desulfobacterota; Desulfobacteria; Desulfobacterales; Desulfosarcinaceae; Sva0081 sedimer
Bacteria; Bacteroidota; Bacteroidia; Sphingobacteriales; NS11-12 marine group; uncl. NS11-12 marine
Bacteria; Bdellovibrionota; Bdellovibrionia; Bdellovibrionales; Bdellovibrionaceae; Bdellovibrio
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Hydrogenophilaceae; Thiobacillus
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Hydrogenophilaceae; uncl. Hydroger
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Gallionellaceae; uncl. Gallionellacea
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae; Candidatus Anammoximicrobiu
Bacteria; Myxococcota; Myxococcia; Myxococcales; Myxococcaceae; uncl. Myxococcaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Comamonadaceae; uncl. Comamona

Bacteria; Bacteroidota; Bacteroidia; Bacteroidales; Prolixibacteraceae; uncl. Prolixibacteraceae
Bacteria; Myxococcota; Myxococcia; Myxococcales; Myxococcaceae; uncl. Myxococcaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Gallionellaceae; uncl. Gallionellacea
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Hyphomicrobiaceae; Hyphomicrobium
Bacteria; Desulfobacterota; Desulfobaccia; Desulfobaccales; Desulfobaccaceae; Desulfobacca
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiales Incertae Sedis; uncl. Rhizobial
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae; Pir4 lineage
Bacteria; Desulfobacterota; Syntrophobacteria; Syntrophobacterales; Syntrophobacteraceae; Desulforh
Bacteria; Firmicutes; Clostridia; Peptostreptococcales-Tissierellales; Peptostreptococcaceae; Rombout
Bacteria; Planctomycetota; Planctomycetes; Gemmatales; Gemmataceae; uncl. Gemmataceae
Bacteria; Proteobacteria; Gammaproteobacteria; Competibacterales; Competibacteraceae; Candidatus
Bacteria; Verrucomicrobiota; Verrucomicrobiae; Verrucomicrobiales; Rubritaleaceae; Luteolibacter
Bacteria; Bacteroidota; Bacteroidia; Cytophagales; Microscillaceae; uncl. Microscillaceae
Bacteria; Bacteroidota; Bacteroidia; Chitinophagales; Chitinophagaceae; Dinghuibacter
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae; uncl. Pirellulaceae
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; uncl. Rhizobiaceae
Bacteria; Proteobacteria; Alphaproteobacteria; Sphingomonadales; Sphingomonadaceae; uncl. Sphing
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; A0839; uncl. A0839
Bacteria; Bacteroidota; Bacteroidia; Bacteroidales; Bacteroidetes BD2-2; uncl. Bacteroidetes BD2-2
Bacteria; Proteobacteria; Gammaproteobacteria; Diplorickettsiales; Diplorickettsiaceae; uncl. Diplorickе
Bacteria; Verrucomicrobiota; Verrucomicrobiae; Verrucomicrobiales; Verrucomicrobiaceae; uncl. Verru
Bacteria; Bacteroidota; Bacteroidia; Cytophagales; Microscillaceae; Chryseolinea
Bacteria; Cyanobacteria; Vampirivibrionia; Obscuribacterales; Obscuribacteraceae; uncl. Obscuribacter
Archaea; Euryarchaeota; Methanobacteria; Methanobacteriales; Methanobacteriaceae; Methanobacter
Archaea; Halobacterota; Methanosarcinia; Methanosarciniales; Methanosaetaceae; Methanosaeta
Bacteria; Bacteroidota; Bacteroidia; Chitinophagales; Saprospiraceae; uncl. Saprospiraceae
Bacteria; Planctomycetota; Planctomycetes; Planctomycetales; Rubinisphaeraceae; uncl. Rubinisphae
Archaea; Halobacterota; Methanomicrobia; Methanomicrobiales; Methanoregulaceae; Methanolinea
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales; Halieaceae; Halioglobus
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales; KI89A clade; uncl. KI89A clade
Bacteria; Myxococcota; Polyangia; Polyangiales; Polyangiaceae; Pajaroellobacter
Bacteria; Verrucomicrobiota; Verrucomicrobiae; Chthoniobacterales; Chthoniobacteraceae; Chthonioba
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Rhodocyclaceae; Candidatus Accum
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales; Halieaceae; OM60(NOR5) clade
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Nitrosomonadaceae; MND1
Bacteria; Myxococcota; Myxococcia; Myxococcales; Myxococcaceae; uncl. Myxococcaceae
Bacteria; Planctomycetota; Planctomycetes; Planctomycetales; Schlesneriaceae; Planctopirus
Bacteria; Proteobacteria; Gammaproteobacteria; Chromatiales; Chromatiaceae; uncl. Chromatiaceae
Bacteria; Acidobacteriota; Thermoanaerobaculia; Thermoanaerobaculales; Thermoanaerobaculaceae;
Bacteria; Bacteroidota; Bacteroidia; Bacteroidales; SB-5; uncl. SB-5
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales; 211ds20; uncl. 211ds20
Bacteria; Bacteroidota; Bacteroidia; Cytophagales; Microscillaceae; OLB12
Bacteria; Bacteroidota; Bacteroidia; Chitinophagales; Chitinophagaceae; Terrimonas
Bacteria; Planctomycetota; Planctomycetes; Planctomycetales; Rubinisphaeraceae; SH-PL14
Bacteria; Acidobacteriota; Thermoanaerobaculia; Thermoanaerobaculales; Thermoanaerobaculaceae;

Bacteria; Desulfobacterota; Desulfuromonadia; Geobacterales; Geobacteraceae; uncl. Geobacteracea
Bacteria; Proteobacteria; Alphaproteobacteria; Reyranellales; Reyranellaceae; Reyranella
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Xanthobacteraceae; uncl. Xanthobacterace
Bacteria; Bacteroidota; Bacteroidia; Sphingobacteriales; AKYH767; uncl. AKYH767
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Nitrosomonadaceae; uncl. Nitrosomo
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; TRA3-20; uncl. TRA3-20
Archaea; Euryarchaeota; Methanobacteria; Methanobacteriales; Methanobacteriaceae; uncl. Methanob
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae; Candidatus Anammoximicrobiu
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Flavobacteriaceae; Actibacter
Archaea; Crenarchaeota; Nitrososphaeria; Nitrosopumilales; Nitrosopumilaceae; Nitrosarchaeum
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae; Blastopirellula
Bacteria; Desulfobacterota; Desulfobulbia; Desulfobulbales; Desulfocapsaceae; Desulfoprunum
Bacteria; Proteobacteria; Alphaproteobacteria; Sphingomonadales; Sphingomonadaceae; Novosphingo
Bacteria; Bacteroidota; Bacteroidia; Bacteroidales; Prolixibacteraceae; uncl. Prolixibacteraceae
Bacteria; Bacteroidota; Ignavibacteria; Ignavibacteriales; PHOS-HE36; uncl. PHOS-HE36
Bacteria; Desulfobacterota; Desulfobulbia; Desulfobulbales; Desulfocapsaceae; uncl. Desulfocapsacea
Bacteria; Proteobacteria; Gammaproteobacteria; Acidiferrobacterales; Acidiferrobacteraceae; Sulfurifus
Bacteria; Bacteroidota; Bacteroidia; Sphingobacteriales; env.OPS 17; uncl. env.OPS 17
Bacteria; Myxococcota; Polyangia; Polyangiales; Sandaracinaceae; uncl. Sandaracinaceae
Bacteria; Desulfobacterota; Syntrophorhabdia; Syntrophorhabdales; Syntrophorhabdaceae; Syntropho
Bacteria; Desulfobacterota; Desulfobacteria; Desulfobacterales; Desulfosarcinaceae; uncl. Desulfosarc
Bacteria; Bacteroidota; Bacteroidia; Cytophagales; Cyclobacteriaceae; uncl. Cyclobacteriaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; B1-7BS; uncl. B1-7BS
Bacteria; Verrucomicrobiota; Verrucomicrobiae; Pedosphaerales; Pedosphaeraceae; ADurb.Bin063-1
Bacteria; Desulfobacterota; Desulfobacteria; Desulfobacterales; Desulfosarcinaceae; Desulfatirhabdium
Bacteria; Proteobacteria; Gammaproteobacteria; Gammaproteobacteria Incertae Sedis; Unknown Fam
Bacteria; Acidobacteriota; Thermoanaerobaculia; Thermoanaerobaculales; Thermoanaerobaculaceae;
Bacteria; Desulfobacterota; Desulfobulbia; Desulfobulbales; Desulfobulbaceae; Desulfobulbus
Bacteria; Bdellovibrionota; Bdellovibrionia; Bdellovibrionales; Bdellovibrionaceae; Bdellovibrio
Bacteria; Chloroflexi; Anaerolineae; Anaerolineales; Anaerolineaceae; UTCFX1
Bacteria; Nitrospirota; Nitrospiria; Nitrospirales; Nitrospiraceae; Nitrospira
Bacteria; Proteobacteria; Gammaproteobacteria; Methylococcales; Methylomonadaceae; Crenothrix
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; SC-I-84; uncl. SC-I-84
Bacteria; Bacteroidota; Bacteroidia; Bacteroidales; Bacteroidetes vadinHA17; uncl. Bacteroidetes vadin
Bacteria; Bacteroidota; Kryptonia; Kryptoniales; BSV26; uncl. BSV26
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Hydrogenophilaceae; uncl. Hydroger
Bacteria; Bacteroidota; Bacteroidia; Sphingobacteriales; Lentimicrobiaceae; uncl. Lentimicrobiaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Rhodocyclaceae; Dechloromonas
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Comamonadaceae; uncl. Comamona
Bacteria; Acidobacteriota; Vicinamibacteria; Vicinamibacterales; Vicinamibacteraceae; uncl. Vicinamiba
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Sutterellaceae; uncl. Sutterellaceae
Bacteria; Verrucomicrobiota; Verrucomicrobiae; Pedosphaerales; Pedosphaeraceae; uncl. Pedosphaer
Bacteria; Chloroflexi; Anaerolineae; Anaerolineales; Anaerolineaceae; uncl. Anaerolineaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Rhodocyclaceae; Denitratisoma
Bacteria; Bacteroidota; Ignavibacteria; Ignavibacteriales; Ignavibacteriaceae; Ignavibacterium

Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Rhodocyclaceae; uncl. Rhodocyclac
Bacteria; Desulfobacterota; Desulfobacteria; Desulfobacterales; Desulfosarcinaceae; Sva0081 sedimer
Bacteria; Proteobacteria; Gammaproteobacteria; Steroidobacterales; Steroidobacteraceae; uncl. Steroi
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Hydrogenophilaceae; Thiobacillus
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Rhodocyclaceae; Ferribacterium
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Rhodocyclaceae; Denitratisoma
Bacteria; Bacteroidota; Ignavibacteria; Ignavibacteriales; Ignavibacteriaceae; Ignavibacterium
Bacteria; Bacteroidota; Bacteroidia; Sphingobacteriales; Lentimicrobiaceae; uncl. Lentimicrobiaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Rhodocyclaceae; uncl. Rhodocyclac
Bacteria; Bacteroidota; Bacteroidia; Bacteroidales; Bacteroidetes vadinHA17; uncl. Bacteroidetes vadir
Bacteria; Proteobacteria; Gammaproteobacteria; Steroidobacterales; Steroidobacteraceae; uncl. Steroi
Bacteria; Chloroflexi; Anaerolineae; Anaerolineales; Anaerolineaceae; RBG-16-58-14
Bacteria; Bacteroidota; Bacteroidia; Bacteroidales; Bacteroidetes vadinHA17; uncl. Bacteroidetes vadir
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Hydrogenophilaceae; Thiobacillus
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Crocinitomicaceae; Fluviicola
Bacteria; Desulfobacterota; Desulfuromonadia; Geobacterales; Geobacteraceae; uncl. Geobacteracea
Bacteria; Firmicutes; Clostridia; Oscillospirales; Hungateiclostridiaceae; uncl. Hungateiclostridiaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Rhodocyclaceae; Methyloversatilis
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Rhodocyclaceae; Ferribacterium

Taxon Cluster Inoculum Abundance [%] (n=1)	Max # ASV's in Taxon Cluster in Inoculum (n=1)	Mean Taxon Cluster Field 0-5mm Abundance [%] (n=6)	Max # ASV's in Taxon Cluster in Field 0-5mm (n=6)
0.229	1	0.000	15
0.000	55	0.207	2
0.103	1	0.380	5
0.000	9	0.010	9
0.000	1	0.000	1
0.000	6	0.000	6
0.000	13	0.000	13
0.000	9	0.000	9
0.000	4	0.000	4
0.000	12	0.016	12
0.000	12	0.050	12
0.000	2	0.000	2
0.000	14	0.000	14
0.000	18	0.000	18
0.284	4	0.151	150
1.358	6	1.361	9
0.079	1	1.837	14
0.363	1	0.904	12
0.111	1	0.000	5
0.150	1	0.000	5
0.561	3	0.941	5
1.272	9	1.507	17
0.150	1	0.373	5
0.079	1	1.837	14
0.379	2	0.202	4
0.111	1	0.000	5
1.019	2	0.135	3
1.241	4	0.761	6
0.000	12	0.049	1
0.449	1	0.111	1
2.661	7	2.497	9
0.106	1	0.168	68
0.514	5	0.084	5
3.689	3	2.222	6
1.771	4	0.980	3
0.294	1	0.000	4
0.539	3	0.941	5
0.000	15	0.034	15
2.514	9	2.175	18

4.024	6	3.283	7
0.000	15	0.034	15
0.294	1	0.000	4
0.806	1	1.507	2
0.979	3	0.657	7
1.493	2	1.247	3
0.600	3	0.017	76
0.679	1	0.011	4
0.166	1	0.000	5
0.150	1	0.373	5
0.205	2	2.886	11
1.050	9	2.825	12
0.229	1	1.390	6
1.777	5	2.311	8
1.272	9	1.507	17
0.000	33	0.070	33
0.039	1	0.006	55
0.000	5	0.000	5
0.190	2	0.130	3
0.000	3	0.000	3
0.119	1	0.060	23
0.190	1	0.000	3
0.000	7	0.000	7
0.071	2	0.125	16
0.158	1	0.193	3
0.276	3	0.940	12
0.087	1	0.078	40
0.261	2	0.265	5
0.237	1	0.100	1
0.158	1	0.186	1
0.000	4	0.000	4
0.000	16	0.032	16
0.316	1	0.519	4
0.150	1	0.000	5
0.000	8	0.000	8
0.197	1	0.034	15
0.000	10	0.000	10
0.229	2	0.264	6
0.284	3	0.067	15
0.387	4	0.070	25
0.000	3	0.000	3
0.395	2	1.226	4
0.197	2	0.215	2
0.055	1	0.002	17
0.308	3	0.044	19

0.000	18	0.032	18
0.000	4	0.000	4
0.363	2	0.000	35
0.000	17	0.000	17
0.213	1	0.073	1
0.103	1	0.016	10
0.245	1	0.192	1
0.561	3	0.941	5
1.501	3	0.046	3
0.000	2	0.000	2
0.332	3	0.121	4
0.387	2	0.000	3
0.000	27	0.012	27
3.459	7	3.283	7
0.687	1	0.983	4
0.892	3	0.013	9
0.158	1	0.027	8
0.205	2	1.587	26
0.000	28	0.000	28
0.553	3	0.193	5
0.971	4	1.164	8
0.474	1	0.363	2
0.513	4	0.795	3
1.358	8	0.219	8
0.916	2	0.120	2
0.924	1	0.107	2
0.892	6	0.345	3
1.532	4	0.246	12
0.411	4	0.084	5
0.584	1	0.041	17
0.111	1	0.000	5
1.137	4	0.761	6
2.638	11	1.622	7
2.662	11	2.591	24
1.437	6	0.687	12
1.682	4	0.980	3
3.846	15	3.194	18
2.654	6	0.204	17
1.974	11	2.175	18
0.379	2	0.202	4
3.483	9	3.850	12
1.722	19	1.249	21
6.160	26	5.193	80
3.183	1	0.190	2
1.872	4	1.339	4

3.736	10	2.442	9
3.136	8	2.497	9
5.829	12	4.825	11
3.214	5	2.222	6
0.000	1	0.000	1
3.004	1	0.190	2
1.314	4	1.339	4
4.342	17	3.194	18
3.534	8	2.442	9
2.864	9	2.591	24
5.901	11	4.825	11
0.359	1	0.762	22
2.864	9	2.591	24
3.689	3	2.222	6
0.000	35	0.135	35
0.008	1	0.032	18
0.579	1	0.478	5
0.000	1	0.000	1
0.000	1	0.000	1

Mean Taxon Cluster Abundance acoss Microcosms and Meta-Analysis [%] (n=86)	Max # ASV's in Taxon Cluster across Microcosms and Meta-Analysis (n=86)
1.719	15
0.516	55
0.474	16
0.064	9
0.101	1
0.170	6
0.101	13
0.142	9
0.098	4
0.090	12
0.065	12
0.028	2
0.048	14
0.105	18
1.655	150
2.674	111
1.745	129
1.036	89
0.041	5
0.044	5
0.617	26
1.314	243
0.259	66
1.745	129
0.332	53
0.041	5
0.256	20
0.738	16
0.100	12
0.114	8
2.420	30
0.625	68
0.460	88
2.249	12
0.852	26
0.071	4
0.617	26
0.082	15
1.716	132

1.905	43
0.082	15
0.071	4
1.425	12
0.726	19
1.474	14
0.173	76
0.173	4
0.047	5
0.259	66
2.050	38
2.672	125
0.833	33
1.740	31
1.314	243
0.032	33
0.108	55
0.008	5
0.126	40
0.004	3
0.184	23
0.029	3
0.015	7
0.118	16
0.217	10
0.691	143
0.086	40
0.187	8
0.116	3
0.152	8
0.014	4
0.032	16
0.342	7
0.044	5
0.024	8
0.082	15
0.019	10
0.308	42
0.095	15
0.127	25
0.015	3
0.558	21
0.133	26
0.033	17
0.114	19

0.048	18
0.030	4
0.071	35
0.061	17
0.099	3
0.051	10
0.314	2
0.617	26
0.233	3
0.019	2
0.175	40
0.117	3
0.074	27
1.905	43
0.730	10
0.170	9
0.172	8
0.555	26
0.037	28
0.318	26
1.195	73
0.430	20
0.727	18
0.332	71
0.290	9
0.264	11
0.491	18
0.436	12
0.460	88
0.213	17
0.041	5
0.738	16
1.432	32
2.082	92
0.928	59
0.852	26
2.028	128
0.525	17
1.716	132
0.332	53
3.648	35
1.125	376
4.489	493
0.884	11
1.266	20

2.278	70
2.420	30
4.899	39
2.249	12
0.595	1
0.884	11
1.266	20
2.028	128
2.278	70
2.082	92
4.899	39
0.522	22
2.082	92
2.249	12
0.156	35
0.048	18
0.770	104
0.017	1
0.595	1

DESeq Test_criteria [Cond_A:Cond_B]	Cond_A1 [read counts]	Cond_A2 [read counts]	Cond_B1 [read counts]
oxic light:dark	1566	2080	0
oxic light:dark	594	610	0
oxic light:dark	348	474	0
oxic light:dark	151	190	0
oxic light:dark	100	87	0
oxic light:dark	65	140	0
oxic light:dark	48	117	0
oxic light:dark	40	55	0
oxic light:dark	31	54	0
oxic light:dark	35	21	0
oxic light:dark	24	38	0
oxic light:dark	26	17	0
oxic light:dark	24	23	0
oxic light:dark	17	27	0
oxic light:dark	367	311	0
oxic light:dark	629	1364	54
oxic light:dark	443	613	61
oxic light:dark	57	189	25
dark/oxic uninhibited:ATU	104	92	0
dark/oxic uninhibited:ATU	42	40	0
dark/oxic uninhibited:ATU	73	83	9
dark/oxic uninhibited:ATU	358	299	70
dark/oxic uninhibited:ATU	110	116	25
dark/oxic uninhibited:ATU	204	123	64
dark/oxic uninhibited:ATU	195	192	103
dark/oxic uninhibited:acetylene	104	92	0
dark/oxic uninhibited:acetylene	83	103	0
dark/anoxic uninhibited:chlorate	96	117	0
dark/anoxic uninhibited:chlorate	75	78	0
dark/anoxic uninhibited:chlorate	35	33	0
dark/anoxic uninhibited:chlorate	261	247	15
dark/anoxic uninhibited:chlorate	108	91	14
dark/anoxic uninhibited:chlorate	131	191	33
dark/anoxic uninhibited:chlorate	236	268	64
dark/anoxic uninhibited:chlorate	95	180	34
dark/anoxic uninhibited:chlorate	83	103	27
dark/anoxic uninhibited:chlorate	79	81	24
dark/anoxic uninhibited:chlorate	98	77	32
dark/anoxic uninhibited:chlorate	159	273	76

dark/anoxic uninhibited:chlorate	276	421	181
dark/anoxic uninhibited:acetylene	98	77	18
dark/anoxic uninhibited:acetylene	83	103	15
oxic light:dark	33	77	157
oxic light:dark	29	61	172
oxic light:dark	22	58	169
oxic light:dark	13	19	118
oxic light:dark	0	32	83
oxic light:dark	0	4	12
oxic light:dark	4	5	52
oxic light:dark	0	5	28
oxic light:dark	0	14	94
oxic light:dark	0	10	79
oxic light:dark	0	24	167
oxic light:dark	0	34	260
oxic light:dark	0	1	15
oxic light:dark	0	1	19
oxic light:dark	0	0	12
oxic light:dark	0	0	12
oxic light:dark	0	0	15
oxic light:dark	0	0	22
oxic light:dark	0	0	19
oxic light:dark	0	0	19
oxic light:dark	0	0	25
oxic light:dark	0	0	29
oxic light:dark	0	0	16
oxic light:dark	0	0	31
oxic light:dark	0	0	30
oxic light:dark	0	0	17
oxic light:dark	0	0	19
oxic light:dark	0	0	20
oxic light:dark	0	0	19
oxic light:dark	0	0	27
oxic light:dark	0	0	38
oxic light:dark	0	0	32
oxic light:dark	0	0	22
oxic light:dark	0	0	29
oxic light:dark	0	0	32
oxic light:dark	0	0	31
oxic light:dark	0	0	43
oxic light:dark	0	0	25
oxic light:dark	0	0	41
oxic light:dark	0	0	46
oxic light:dark	0	0	40
oxic light:dark	0	0	41

oxic light:dark	0	0	45
oxic light:dark	0	0	55
oxic light:dark	0	0	62
oxic light:dark	0	0	66
oxic light:dark	0	0	49
oxic light:dark	0	0	59
oxic light:dark	0	0	56
oxic light:dark	0	0	64
oxic light:dark	0	0	66
oxic light:dark	0	0	55
oxic light:dark	0	0	83
oxic light:dark	0	0	66
oxic light:dark	0	0	57
oxic light:dark	0	0	79
oxic light:dark	0	0	84
oxic light:dark	0	0	89
oxic light:dark	0	0	95
oxic light:dark	0	0	69
oxic light:dark	0	0	88
oxic light:dark	0	0	73
oxic light:dark	0	0	100
oxic light:dark	0	0	95
oxic light:dark	0	0	98
oxic light:dark	0	0	131
oxic light:dark	0	0	116
oxic light:dark	0	0	112
oxic light:dark	0	0	120
oxic light:dark	0	0	117
oxic light:dark	0	0	113
oxic light:dark	0	0	140
oxic light:dark	0	0	185
oxic light:dark	0	0	163
oxic light:dark	0	0	175
oxic light:dark	0	0	167
oxic light:dark	0	0	163
oxic light:dark	0	0	157
oxic light:dark	0	0	148
oxic light:dark	0	0	295
oxic light:dark	0	0	180
oxic light:dark	0	0	185
oxic light:dark	0	0	194
oxic light:dark	0	0	228
oxic light:dark	0	1	683
oxic light:dark	0	0	220
oxic light:dark	0	0	284

oxic light:dark	0	0	357
oxic light:dark	0	0	348
oxic light:dark	0	0	478
oxic light:dark	0	0	618
dark/oxic uninhibited:acetylene	0	0	2183
dark/anoxic uninhibited:chlorate	330	461	526
dark/anoxic uninhibited:chlorate	209	301	356
dark/anoxic uninhibited:chlorate	280	513	557
dark/anoxic uninhibited:chlorate	187	336	394
dark/anoxic uninhibited:chlorate	181	289	345
dark/anoxic uninhibited:chlorate	338	453	697
dark/anoxic uninhibited:chlorate	0	0	68
dark/anoxic uninhibited:acetylene	181	289	446
dark/anoxic uninhibited:acetylene	236	268	542
dark/anoxic uninhibited:acetylene	18	31	144
dark/anoxic uninhibited:acetylene	0	0	48
dark/anoxic uninhibited:acetylene	0	0	61
dark/anoxic uninhibited:acetylene	0	0	129
dark/anoxic uninhibited:acetylene	0	0	864

Cond_B2 [read counts]	DESEq baseMean	DESeq log2FoldChange	DESeq log2FoldChange SE	DESeq stat
0	746.265845	12.228017085355	1.62419304692606	7.52867223
0	263.091117	10.722739540281	1.66275275452634	6.44878772
0	167.151431	10.066884519164	1.5896192306013	6.3328905
0	70.7790743	8.821348752311	1.57768273194327	5.59133251
0	42.5397922	8.0877728569118	1.76440463715845	4.58385378
0	36.9651376	7.8853530128506	1.5554887038737	5.06937337
0	28.8170136	7.5278109491565	1.55340733026774	4.84599937
0	19.2705401	6.9363073391312	1.66929122538465	4.155241
0	16.2042893	6.6850372461518	1.61969306583842	4.12734819
0	13.8341654	6.4583391986175	1.98009748034209	3.2616269
0	12.1203991	6.2624582226656	1.67087636473527	3.74800814
0	10.4330696	6.0469219206642	1.98648242689731	3.04403494
0	10.446174	6.0464987230726	1.84886160217863	3.27039012
0	8.59458395	5.7625594416723	1.70909152496648	3.3717091
7	158.904644	5.4504767387063	1.52523910049276	3.57352282
57	407.147389	2.9017158465457	0.45096613238562	6.43444294
33	251.906038	2.4831266245111	0.55927517141365	4.43990141
18	57.7743951	1.1727794534429	0.34018212877144	3.4475046
0	44.3961996	8.8046569593974	1.54812367782271	5.6873085
0	18.5955593	7.5490720659253	1.93127640825716	3.90885118
3	38.5699993	3.4913547735874	0.77794411960283	4.48792489
82	190.228772	1.8495650271077	0.2450016805357	7.54919323
28	65.7882247	1.8366116659005	0.41399274501871	4.43633781
41	101.494977	1.3980997201133	0.35551461385305	3.9326083
58	130.270682	1.0395363687307	0.27319282907956	3.80513783
0	32.0723007	7.8737963859437	1.96010086687788	4.01703633
0	30.5123889	7.8018201488226	1.9954167750798	3.90986998
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0	17.451228	7.6027823601816	1.99278627213406	3.81515191
20	139.113014	3.9178488051354	0.4009729336129	9.77085603
13	58.1670551	2.9661820784764	0.56148811117233	5.28271573
24	93.3343479	2.5348421641558	0.33590337550962	7.54634323
43	152.927487	2.3026488749911	0.25781243887764	8.93148866
24	80.4560663	2.2567149512596	0.39390846478137	5.72903391
24	59.0747971	1.9085908719971	0.44019468540101	4.33578808
21	51.7429073	1.8935218437565	0.5086559439445	3.72259848
21	58.272959	1.8375194126103	0.53552988602869	3.43121731
76	142.756397	1.506910951864	0.26804267127481	5.62190693

115	242.279951	1.2766856383366	0.17709806938719	7.20891901
12	52.4779041	2.6226344450723	0.56607087043345	4.63304964
19	54.6417984	2.4463786641116	0.4582902060026	5.33805574
129	140.713701	-2.664233027699	0.35470889048552	-7.51104102
97	125.717325	-2.793812228066	0.35306471579626	-7.91303153
102	124.722124	-3.042163522713	0.30773079785347	-9.8857948
50	72.6669263	-3.495318462228	0.51971365243312	-6.72546978
52	59.1087692	-3.856524372965	1.22191445589964	-3.15613287
12	10.8506328	-4.087246558461	1.13796274506539	-3.59172264
22	31.0607312	-4.149481076462	0.8154194871695	-5.08876859
12	16.3570041	-4.403995144579	1.0329680633814	-4.26343786
30	49.152067	-4.702398084671	1.08091452540994	-4.35038847
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100	111.970742	-5.209021704395	1.15123387339379	-4.52472936
141	166.16744	-5.336211730925	1.33486922895973	-3.99755393
11	10.9974624	-5.928958650717	1.4450097998044	-4.10305775
32	23.4728362	-7.031482013515	1.55238207694723	-4.529479
13	10.9340149	-7.261436163693	1.67717529647296	-4.32956303
14	11.463857	-7.329027397719	1.68778478931518	-4.34239451
16	13.5350581	-7.570826620273	1.64769924231537	-4.59478673
12	13.7758954	-7.617949621625	1.59615582692864	-4.77268541
15	14.353905	-7.662955374697	1.59556105935556	-4.80267134
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14	17.5329578	-7.970159079299	1.58636036564868	-5.02417941
23	17.9182975	-7.976115706236	1.67726052564377	-4.75544233
23	18.5926421	-8.02988672124	1.64437818936063	-4.88323597
23	18.9298143	-8.056185562322	1.63062124335895	-4.94056213
25	19.6523263	-8.110217393806	1.66262264201622	-4.87796641
20	19.7004938	-8.122373918001	1.55963173887246	-5.20787934
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27	21.7235274	-8.256136820348	1.64409747541362	-5.02168329
23	21.9643647	-8.277728656388	1.563110100903	-5.29567857
23	22.9758815	-8.345834505719	1.55575453604182	-5.36449312
24	23.1685514	-8.355743809129	1.5614653805597	-5.35121938
22	26.1549343	-8.542661208441	1.56784795743765	-5.4486541
36	27.5036234	-8.599737426783	1.70302579772121	-5.04968124
26	27.5999583	-8.614536223381	1.55608108029835	-5.53604586
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28	28.3224703	-8.649153564897	1.5586382967099	-5.54917301
30	29.7193268	-8.717654282477	1.56129976326158	-5.58358778

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23	33.0910495	-8.883963779674	1.62585198988484	-5.46418975
21	33.3800543	-8.896711387874	1.66564810283667	-5.3412911
33	34.0062313	-8.914179142062	1.54965950639575	-5.75234695
27	34.1989012	-8.929999121932	1.57869287225378	-5.65657784
39	39.54549	-9.130856563468	1.52659627913859	-5.98118618
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46	46.6261075	-9.367755518147	1.4970358614052	-6.25753581
57	48.7454761	-9.425556101019	1.53780360129083	-6.12923269
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46	56.4041032	-9.654670383273	1.48893751618397	-6.48426833
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53	57.7527923	-9.682242466356	1.47382275577482	-6.56947549
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74	71.2396829	-9.974566439097	1.47413170925242	-6.76640111
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64	78.0794631	-10.12259853502	1.48062367878104	-6.83671258
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96	90.3139996	-10.31850760509	1.48405656520736	-6.95290722
104	93.2040476	-10.36378680789	1.50012258913819	-6.90862659
92	95.9495932	-10.41101774623	1.47173159842481	-7.07399213
76	102.644871	-10.51471725908	1.51587077435418	-6.9364206
106	111.122345	-10.62329748401	1.47505999912653	-7.20194263
99	111.459517	-10.630892294	1.47884695203328	-7.1886359
110	114.590403	-10.66734610567	1.47555848321542	-7.22936178
116	116.420766	-10.68858799905	1.47875716806258	-7.22808872
125	119.166312	-10.72085252115	1.48862804503637	-7.2018343
131	119.310814	-10.72209563807	1.50260578423518	-7.13566775
54	128.077293	-10.83160844765	1.71210691193432	-6.32647901
151	140.69717	-10.96074832082	1.49494748837466	-7.33186176
150	141.853189	-10.97273156152	1.49050569383102	-7.36175085
174	157.60395	-11.12465252482	1.50419300344298	-7.39576138
160	161.650017	-11.16288041461	1.47627127619827	-7.56153736
342	411.606281	-11.17049646597	1.32079188043833	-8.45742363
184	171.66885	-11.24835455917	1.49353380198113	-7.53136926
178	190.068823	-11.39847303183	1.4722869187517	-7.74201882

223	238.525294	-11.72609142072	1.47195224073122	-7.96635318
306	279.46764	-11.95250298575	1.50188503051452	-7.95833419
323	332.307351	-12.20365983506	1.47413165375045	-8.27854134
490	467.995104	-12.69726083298	1.49191412426232	-8.5107183
2136	1608.05943	-14.70402346917	1.47440777550041	-9.97283364
670	485.748867	-0.560183055481	0.1427706059138	-3.92365818
421	315.248647	-0.579098639152	0.15360609522002	-3.77002383
694	495.589975	-0.651678235467	0.19376762349267	-3.36319465
517	347.100208	-0.78477766511	0.17716344952521	-4.42968156
519	322.058217	-0.840160333696	0.16667703992268	-5.04064827
855	573.586024	-0.935520334782	0.15731520500795	-5.94678903
106	41.5360531	-8.810725319051	1.5688494041287	-5.61604275
360	311.403713	-0.78970582736	0.14687245615069	-5.37681365
379	349.911691	-0.838471177595	0.19638545277472	-4.26951776
129	79.0850962	-2.498442765897	0.3471586809735	-7.19683218
33	19.6799867	-7.749921736431	1.85808490891612	-4.17091905
36	23.3762346	-7.998925290644	1.72868261451806	-4.62717981
83	51.3250051	-9.134171061601	1.506347933064	-6.0637857
578	349.837238	-11.90254650703	1.4543960129656	-8.18384154

DESeq pvalue	DESeq padj	ASV Associated Final Dereplicated Bin ID's
5.13E-14	5.34E-13	Prado207
1.12748E-10	3.47941E-10	Prado033, 038, 041, 054, 058, 059, 062, 064, 065
2.4061E-10	6.83552E-10	none
2.25334E-08	4.94153E-08	none
4.56484E-06	6.41129E-06	Prado209
3.99128E-07	7.02689E-07	none
1.25976E-06	1.92036E-06	Prado205
3.24945E-05	4.18743E-05	none
3.66971E-05	4.68075E-05	Prado034, 035, 083
0.00110775	0.0012941	Prado177, 224
0.00017824	0.0002206	Prado209
0.00233428	0.00267693	none
0.00107399	0.0012665	Prado164, 166, 169, 172
0.00074703	0.00088933	Prado179, 180, 202, 208
0.00035221	0.00042744	Prado043
1.23927E-10	3.60253E-10	Prado177, 181, 191, 200, 204, 209, 223, 224
9E-06	1.22283E-05	Prado161, 163 - 166, 168, 169, 172
0.00056579	0.00068004	Prado186
1.29057E-08	1.10344E-06	none
9.27361E-05	0.00264298	none
7.19203E-06	0.00039117	Prado164, 166, 169, 172
4.37963E-14	7.48916E-12	Prado161, 163 - 166, 168, 169, 172
9.15022E-06	0.00039117	Prado160
8.40291E-05	0.00264298	Prado161, 163 - 166, 168, 169, 172
0.00014173	0.00346215	Prado004
5.89346E-05	0.0045085	none
9.23458E-05	0.00470964	none
1.42968E-09	3.51701E-08	Prado188
3.87013E-08	4.76026E-07	none
0.0001361	0.00104626	none
1.50178E-22	1.84719E-20	Prado112, 113, 118, 120, 121, 123, 124
1.27283E-07	1.42325E-06	none
4.47649E-14	1.83536E-12	none
4.20314E-19	2.58493E-17	Prado216, 219, 227
1.01004E-08	1.77479E-07	Prado216, 219, 227
1.45239E-05	0.0001276	Prado183
0.00019718	0.00134742	Prado164, 166, 169, 172
0.00060088	0.0038899	Prado148
1.88861E-08	2.6702E-07	Prado190, 196, 199, 203, 212

5.63978E-13	1.73423E-11	none
3.60318E-06	6.93699E-05	Prado148
9.39486E-08	2.46145E-06	Prado183
5.8659E-14	5.64029E-13	Prado221
2.51196E-15	4.48564E-14	none
4.79759E-23	5.99699E-21	none
1.75027E-11	6.6298E-11	Prado164, 166, 169, 172
0.00159876	0.00185042	Prado114, 125
0.0003285	0.00040257	none
3.60396E-07	6.43564E-07	Prado160
2.01306E-05	2.62117E-05	Prado215
1.35897E-05	1.82657E-05	none
7.12341E-15	1.11303E-13	Prado074
6.04728E-06	8.30671E-06	none
6.40004E-05	8.00005E-05	Prado161, 163 - 166, 168, 169, 172
4.07725E-05	5.14805E-05	Prado225
5.91293E-06	8.2124E-06	Prado175, 205, 207
1.49406E-05	1.96586E-05	none
1.40938E-05	1.87418E-05	none
4.33192E-06	6.1533E-06	none
1.81786E-06	2.67332E-06	none
1.56563E-06	2.3298E-06	Prado074
1.27769E-06	1.92423E-06	none
7.34602E-07	1.19254E-06	none
1.13043E-06	1.74448E-06	Prado138
2.79128E-06	4.01046E-06	Prado044
6.99757E-07	1.15092E-06	none
5.0559E-07	8.53677E-07	Prado136, 137, 139
1.98012E-06	2.87809E-06	none
1.04359E-06	1.65125E-06	none
7.78977E-07	1.24836E-06	Prado143, 144, 147
1.07185E-06	1.67477E-06	none
1.91011E-07	3.46035E-07	none
4.32137E-07	7.50238E-07	none
1.08177E-07	2.01823E-07	none
5.12206E-07	8.53677E-07	Prado148
1.18575E-07	2.17969E-07	none
8.11769E-08	1.58549E-07	Prado222
8.73635E-08	1.68007E-07	Prado014
5.07524E-08	1.00699E-07	none
4.42548E-07	7.57787E-07	none
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4.0991E-08	8.39979E-08	none
2.87024E-08	6.08102E-08	none
2.35607E-08	5.07773E-08	Prado014

1.63238E-08	3.66071E-08	none
1.64E-08	3.66071E-08	none
4.65026E-08	9.37552E-08	none
9.22869E-08	1.74786E-07	Prado048, 076
8.80129E-09	2.07578E-08	none
1.54421E-08	3.57456E-08	Prado183
2.21519E-09	5.32496E-09	none
4.74418E-10	1.21025E-09	Prado164, 166, 169, 172
3.91108E-10	1.03403E-09	none
8.83039E-10	2.16431E-09	none
3.97066E-10	1.03403E-09	Prado164, 166, 169, 172
2.57468E-10	6.99641E-10	none
5.64687E-10	1.41172E-09	none
1.14125E-10	3.47941E-10	none
6.65599E-11	2.31111E-10	none
7.19804E-11	2.43177E-10	none
8.91634E-11	2.8578E-10	none
1.2306E-10	3.60253E-10	none
5.04928E-11	1.80331E-10	none
8.04193E-11	2.64537E-10	Prado114, 125
2.14005E-11	7.86785E-11	none
1.32025E-11	5.15723E-11	Prado047, 052, 060, 061, 063, 073
1.11944E-11	4.51388E-11	
8.10311E-12	3.3763E-11	Prado241, 246
4.34125E-12	2.00984E-11	none
4.6018E-12	2.05438E-11	none
3.13254E-12	1.63153E-11	Prado014
3.57834E-12	1.78917E-11	none
4.89E-12	2.11E-11	none
1.51E-12	8.18E-12	none
4.02159E-12	1.93346E-11	none
5.93607E-13	3.71299E-12	Prado188
6.54418E-13	3.89535E-12	Prado183
4.85269E-13	3.40166E-12	Prado049, 051, 053, 066, 068, 082, 084 - 086
4.90E-13	3.40E-12	none
5.94079E-13	3.71299E-12	Prado216, 219, 227
9.63184E-13	5.47264E-12	none
2.50818E-10	6.96718E-10	none
2.27E-13	1.77E-12	Prado190, 196, 199, 203, 212
1.81514E-13	1.51261E-12	Prado004
1.406E-13	1.25536E-12	Prado183
3.98333E-14	4.97916E-13	Prado240, 241, 246
2.73349E-17	1.13896E-15	Prado087, 089, 090, 097, 099
5.0211E-14	5.33947E-13	none
9.78505E-15	1.35903E-13	Prado045, 046, 050, 067, 070

1.63425E-15	3.63273E-14	none
1.74E-15	3.63E-14	Prado112, 113, 118, 120, 121, 123, 124
1.24693E-16	3.89666E-15	Prado184, 182
1.72859E-17	1.08037E-15	Prado216, 219, 227
2.00427E-23	3.06654E-21	none
8.72145E-05	0.00071516	none
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0.00077046	0.00473833	none
9.43723E-06	8.92907E-05	none
4.63957E-07	4.75556E-06	Prado049, 051, 053, 066, 068, 082, 084 - 086
2.73453E-09	5.6058E-08	Prado184, 182
1.9538E-08	2.6702E-07	Prado087, 089, 090, 097, 099
7.58156E-08	2.46145E-06	Prado049, 051, 053, 066, 068, 082, 084 - 086
1.95896E-05	0.00032078	Prado216, 219, 227
6.16275E-13	4.0366E-11	none
3.03374E-05	0.00044158	none
3.70679E-06	6.93699E-05	none
1.32954E-09	5.80567E-08	none
2.74936E-16	3.60166E-14	none

GTDB Taxonomy Assocation Criteria	MAG Photosynthesis Genes	MAG narGHI Genes
g__Porphyrobacter;	Encoded	Absent
f__Chitinophagaceae;	Absent	Transcribed
-	-	-
-	-	-
f__Rhodobacteraceae; g__;	Encoded	Absent
-	-	-
g__Sandarakinorhabdus;	Absent	Encoded
-	-	-
f__Spirosomaceae;	Absent	Absent
g__Tabrizicola;	Encoded	Absent
f__Rhodobacteraceae; g__;	Encoded	Absent
-	-	-
f__Pirellulaceae; g__;	Transcribed	Absent
g__Hydrogenophaga;	Encoded	Encoded
g__Flavobacterium;	Transcribed	Absent
f__Rhodobacteraceae;	Encoded	Transcribed
g__Pirellula_B; OR f__Pirellulaceae; g__;	Transcribed	Absent
f__Acetobacteraceae; g__;	Absent	Absent
-	-	-
-	-	-
f__Pirellulaceae; g__;	Transcribed	Absent
g__Pirellula_B; OR f__Pirellulaceae; g__;	Transcribed	Absent
f__Gemmataceae;	Absent	Absent
g__Pirellula_B; OR f__Pirellulaceae; g__;	Transcribed	Absent
o__Vicinamibacterales; f__;	Absent	Absent
-	-	-
-	-	-
ceae; [Crenothrix ASV BLAST ~ 97% Methylobacter tund	Absent	Absent
-	-	-
-	-	-
a0081 sediment group ASV BLAST top family hit = Desul	Absent	Transcribed
-	-	-
-	-	-
f__Thiobacillaceae;	Absent	Encoded
f__Thiobacillaceae;	Absent	Encoded
o__Burkholderiales; f__;	Absent	Absent
f__Pirellulaceae; g__;	Transcribed	Absent
f__Myxococcaceae;	Encoded	Encoded
f__Burkholderiaceae; g__;	Transcribed	Transcribed

-	-	-
f__Myxococcaceae;	Encoded	Encoded
o__Burkholderiales; f__;	Absent	Absent
g__Hyphomicrobium;	Transcribed	Absent
-	-	-
-	-	-
f__Pirellulaceae; g__;	Transcribed	Absent
f__Syntrophobacteraceae; g__;	Absent	Transcribed
-	-	-
f__Gemmataceae;	Absent	Absent
f__Competibacteraceae; g__Contendobacter;	Absent	Absent
-	-	-
f__Microscillaceae; g__;	Absent	Absent
-	-	-
g__Pirellula_B; OR f__Pirellulaceae; g__;	Transcribed	Absent
f__Rhizobiaceae; g__;	Encoded	Encoded
f__Sphingomonadaceae;	Encoded	Encoded
-	-	-
-	-	-
-	-	-
-	-	-
f__Microscillaceae; g__;	Absent	Absent
-	-	-
-	-	-
g__Methanothrix;	Absent	Absent
f__Saprospiraceae;	Absent	Absent
-	-	-
f__Methanoregulaceae;	Absent	Absent
-	-	-
-	-	-
f__Polyangiaceae; g__;	Encoded	Encoded
-	-	-
-	-	-
-	-	-
-	-	-
f__Myxococcaceae;	Encoded	Encoded
-	-	-
f__Chromatiaceae; g__	Transcribed	Transcribed
f__Thermoanaerobaculaceae; g__;	Encoded	Absent
-	-	-
-	-	-
f__Microscillaceae; g__;	Absent	Absent
-	-	-
-	-	-
f__Thermoanaerobaculaceae; g__;	Encoded	Absent

-	-	-
-	-	-
-	-	-
o__AKYH767;	Absent	Absent
-	-	-
o__Burkholderiales; f__;	Absent	Absent
-	-	-
f__Pirellulaceae; g__;	Transcribed	Absent
-	-	-
-	-	-
f__Pirellulaceae; g__;	Transcribed	Absent
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
f__Syntrophobacteraceae; g__;	Absent	Transcribed
-	-	-
f__Cyclobacteriaceae;	Absent	Absent
f__Pedosphaeraceae; g__;	Absent	Absent
-	-	-
-	-	-
f__Thermoanaerobaculaceae; g__;	Encoded	Absent
-	-	-
-	-	-
-	-	-
-	-	-
ceae; [Crenothrix ASV BLAST ~ 97% Methylobacter tund	Absent	Absent
o__Burkholderiales; f__;	Absent	Absent
f__VadinHA17;	Encoded	Absent
-	-	-
f__Thiobacillaceae;	Absent	Encoded
-	-	-
-	-	-
f__Burkholderiaceae; g__;	Transcribed	Transcribed
o__Vicinamibacterales; f__;	Absent	Absent
o__Burkholderiales; f__;	Absent	Absent
f__Pedosphaeraceae;	Encoded	Absent
f__A4b;	Encoded	Absent
-	-	-
bacteriaceae; g__; OR f__Ignavibacteriaceae; g__Ignavib	Encoded	Absent

-	-	-
a0081 sediment group ASV BLAST top family hit = Desul	Absent	Transcribed
f__Steroidobacteraceae;	Transcribed	Absent
f__Thiobacillaceae;	Absent	Encoded
-	-	-
-	-	-
acteriaceae; g__; OR f__Ignavibacteriaceae; g__Ignavib	Encoded	Absent
-	-	-
-	-	-
f__VadinHA17;	Encoded	Absent
f__Steroidobacteraceae;	Transcribed	Absent
f__A4b;	Encoded	Absent
f__VadinHA17;	Encoded	Absent
f__Thiobacillaceae;	Absent	Encoded
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

MAG amoCAB/pmoCAB Genes	MAG nirK Genes	MAG nosZ Genes
Absent	Absent	Absent
Absent	Absent	Transcribed
-	-	-
-	-	-
Absent	Absent	Absent
-	-	-
Absent	Absent	Absent
-	-	-
Absent	Absent	Encoded
Absent	Absent	Encoded
Absent	Absent	Absent
-	-	-
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Encoded
Absent	Absent	Absent
Absent	Absent	Encoded
-	-	-
-	-	-
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Absent
-	-	-
-	-	-
Absent	Encoded	Absent
-	-	-
-	-	-
Absent	Absent	Absent
-	-	-
-	-	-
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Encoded
Absent	Encoded	Absent

-	-	-
Absent	Absent	Encoded
Absent	Absent	Absent
Absent	Absent	Transcribed
-	-	-
-	-	-
Absent	Absent	Absent
Absent	Absent	Absent
-	-	-
Absent	Absent	Absent
Absent	Absent	Absent
-	-	-
Absent	Absent	Encoded
-	-	-
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Absent
-	-	-
-	-	-
-	-	-
-	-	-
Absent	Absent	Encoded
-	-	-
-	-	-
Absent	Absent	Absent
Absent	Absent	Encoded
-	-	-
Absent	Absent	Absent
-	-	-
-	-	-
Absent	Absent	Encoded
-	-	-
-	-	-
-	-	-
-	-	-
Absent	Absent	Encoded
-	-	-
Absent	Absent	Transcribed
Absent	Absent	Absent
-	-	-
-	-	-
Absent	Absent	Encoded
-	-	-
-	-	-
Absent	Absent	Absent

-	-	-
-	-	-
-	-	-
Absent	Absent	Transcribed
-	-	-
Absent	Absent	Absent
-	-	-
Absent	Absent	Absent
-	-	-
-	-	-
Absent	Absent	Absent
-	-	-
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-	-	-
-	-	-
-	-	-
Absent	Absent	Absent
-	-	-
Absent	Absent	Transcribed
Absent	Encoded	Absent
-	-	-
-	-	-
Absent	Absent	Absent
-	-	-
-	-	-
-	-	-
-	-	-
Absent	Encoded	Absent
Absent	Absent	Absent
Absent	Absent	Absent
-	-	-
Absent	Absent	Absent
-	-	-
-	-	-
Absent	Encoded	Absent
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Encoded	Absent
Absent	Encoded	Absent
-	-	-
Absent	Absent	Transcribed

-	-	-
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Absent
-	-	-
-	-	-
Absent	Absent	Transcribed
-	-	-
-	-	-
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Encoded	Absent
Absent	Absent	Absent
Absent	Absent	Absent
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Sample Source	Total Sequencing (bp)	Read Length (bp)	# Reads
0-5mm_PM	48,535,230,266	151	321,425,366
10-15mm_PM	55,132,116,152	151	365,113,352
20-25mm_PM	42,973,005,138	151	284,589,438
Bottom_PM	58,853,944,220	151	389,761,220
Bubble	55,472,882,080	151	367,370,080

# JGI Filtered Reads	# JGI Filtered and Sickle Trimmed Reads	# Trimmed Reads that Mapped to dRep MAGs	% Trimmed Reads that Mapped to dRep MAGs
315,860,910	315,123,798	26,590,931	8.43824908457088
360,230,460	359,349,068	30,167,472	8.39503276518864
280,427,096	279,637,318	24,257,156	8.67450602569432
385,814,088	384,837,218	36,900,592	9.58862352029579
361,952,894	360,883,468	59,929,835	16.6064229353948

NCBI BioSample ID Reads	SRA #	JGI GOLD ID
SAMN15738986	SRP284303	Gp0432472
SAMN15738887	SRP284306	Gp0432473
SAMN15738854	SRP284305	Gp0432474
SAMN15738886	SRP284304	Gp0432475
SAMN15738985	SRP284302	Gp0432476

Metagenome

0-5mm_PM
10-15mm_PM
20-25mm_PM
Bottom_PM
Bubble
Bottom_PM

Type

Standard
Standard
Standard
Standard
Standard
Subassembly; Assembled reads from scaffolds >2.5kb which didn't map to "bottom" metagenome bins

Assembler	# Trimmed Reads into Assembly Command	DNA Assembly Length (bp) [>2.5 kbp]	N50 (bp)	Mean Scaffold Length (bp)
IDBA-UD	315,123,798	699,327,498	5010	4996
IDBA-UD	359,349,068	813,544,230	5116	5060
IDBA-UD	279,637,318	608,620,873	5072	5031
IDBA-UD	384,837,218	971,566,222	5696	5431
IDBA-UD	360,883,468	981,682,440	6588	5953
IDBA-UD	318,125,394	279,572,169	3516	3768

# Scaffolds	# Scaffolds 2.5 - 5 kbp	# Scaffolds 5 - 10 kbp	# Scaffolds 10 - 20 kbp	# Scaffolds 20 - 50 kbp	# Scaffolds 50 - 100 kbp
139983	104119	26913	6653	1962	286
160790	118046	32133	7875	2373	305
120974	89393	23844	5753	1668	264
178890	126726	37267	10863	3446	489
164911	109166	38974	11956	4008	638
74200	65815	7207	951	191	31

# Scaffolds > 100 kbp	NCBI BioSample ID
50	SAMN26854324
58	SAMN26854332
52	SAMN26855351
99	SAMN26855375
169	SAMN26855485
5	SAMN26855375

Final Dereplicated Bin ID	Source Metagenome	Assembly	EukRep
Prado001	Bubble	Standard	No
Prado002	0-5mm_PM	Standard	No
Prado003	10-15mm_PM	Standard	No
Prado004	10-15mm_PM	Standard	No
Prado005	20-25mm_PM	Standard	No
Prado006	Bottom_PM	Standard	No
Prado007	Bottom_PM	Standard	No
Prado008	Bottom_PM	Standard	No
Prado009	Bottom_PM	Standard	No
Prado010	Bubble	Standard	Yes
Prado011	0-5mm_PM	Standard	Yes
Prado012	0-5mm_PM	Standard	Yes
Prado013	20-25mm_PM	Standard	Yes
Prado014	Bottom_PM	Standard	Yes
Prado015	Bottom_PM	Standard	Yes
Prado016	10-15mm_PM	Standard	No
Prado017	0-5mm_PM	Standard	No
Prado018	0-5mm_PM	Standard	No
Prado019	10-15mm_PM	Standard	No
Prado020	10-15mm_PM	Standard	No
Prado021	20-25mm_PM	Standard	No
Prado022	Bottom_PM	Standard	No
Prado023	10-15mm_PM	Standard	Yes
Prado024	10-15mm_PM	Standard	Yes
Prado025	10-15mm_PM	Standard	Yes
Prado026	20-25mm_PM	Standard	Yes
Prado027	20-25mm_PM	Standard	Yes
Prado028	20-25mm_PM	Standard	Yes
Prado029	Bottom_PM	Standard	Yes
Prado030	10-15mm_PM	Standard	No
Prado031	Bottom_PM	Standard	Yes
Prado032	Bubble	Standard	No
Prado033	Bubble	Standard	No
Prado034	Bubble	Standard	No
Prado035	Bubble	Standard	No
Prado036	Bubble	Standard	No
Prado037	Bubble	Standard	No
Prado038	Bubble	Standard	No
Prado039	Bubble	Standard	No
Prado040	Bubble	Standard	No

Prado041	Bubble	Standard	No
Prado042	Bubble	Standard	No
Prado043	Bubble	Standard	No
Prado044	Bubble	Standard	No
Prado045	0-5mm_PM	Standard	No
Prado046	0-5mm_PM	Standard	No
Prado047	10-15mm_PM	Standard	No
Prado048	10-15mm_PM	Standard	No
Prado049	10-15mm_PM	Standard	No
Prado050	10-15mm_PM	Standard	No
Prado051	10-15mm_PM	Standard	No
Prado052	20-25mm_PM	Standard	No
Prado053	Bottom_PM	Standard	No
Prado054	Bottom_PM	Standard	No
Prado055	Bottom_PM	Standard	No
Prado056	Bottom_PM	Standard	No
Prado057	Bubble	Standard	Yes
Prado058	Bubble	Standard	Yes
Prado059	Bubble	Standard	Yes
Prado060	Bubble	Standard	Yes
Prado061	Bubble	Standard	Yes
Prado062	0-5mm_PM	Standard	Yes
Prado063	0-5mm_PM	Standard	Yes
Prado064	0-5mm_PM	Standard	Yes
Prado065	10-15mm_PM	Standard	Yes
Prado066	20-25mm_PM	Standard	Yes
Prado067	20-25mm_PM	Standard	Yes
Prado068	20-25mm_PM	Standard	Yes
Prado069	Bottom_PM	Standard	Yes
Prado070	Bottom_PM	Standard	Yes
Prado071	Bubble	Standard	No
Prado072	Bubble	Standard	No
Prado073	Bubble	Standard	No
Prado074	Bubble	Standard	No
Prado075	Bubble	Standard	No
Prado076	Bubble	Standard	No
Prado077	Bubble	Standard	No
Prado078	Bubble	Standard	No
Prado079	Bubble	Standard	No
Prado080	Bubble	Standard	No
Prado081	20-25mm_PM	Standard	No
Prado082	Bottom_PM	Standard	No
Prado083	Bubble	Standard	Yes

Prado084	20-25mm_PM	Standard	Yes
Prado085	Bottom_PM	Standard	Yes
Prado086	Bottom_PM	Standard	Yes
Prado087	Bubble	Standard	No
Prado088	Bubble	Standard	No
Prado089	Bubble	Standard	No
Prado090	Bubble	Standard	No
Prado091	Bottom_PM	Standard	No
Prado092	0-5mm_PM	Standard	Yes
Prado093	10-15mm_PM	Standard	Yes
Prado094	Bottom_PM	Standard	Yes
Prado095	Bottom_PM	Standard	Yes
Prado096	Bottom_PM	Standard	Yes
Prado097	Bubble	Standard	No
Prado098	Bottom_PM	Standard	No
Prado099	Bubble	Standard	Yes
Prado100	Bottom_PM	Standard	Yes
Prado101	0-5mm_PM	Standard	No
Prado102	Bubble	Standard	No
Prado103	Bubble	Standard	No
Prado104	Bubble	Standard	No
Prado105	Bubble	Standard	Yes
Prado106	Bubble	Standard	Yes
Prado107	10-15mm_PM	Standard	Yes
Prado108	0-5mm_PM	Standard	No
Prado109	0-5mm_PM	Standard	No
Prado110	10-15mm_PM	Standard	No
Prado111	10-15mm_PM	Standard	No
Prado112	10-15mm_PM	Standard	No
Prado113	20-25mm_PM	Standard	No
Prado114	Bottom_PM	Standard	No
Prado115	Bottom_PM	Standard	No
Prado116	Bottom_PM	Standard	No
Prado117	Bottom_PM	Standard	No
Prado118	Bottom_PM	Standard	No
Prado119	20-25mm_PM	Standard	Yes
Prado120	20-25mm_PM	Standard	Yes
Prado121	Bottom_PM	Standard	Yes
Prado122	Bottom_PM	Standard	Yes
Prado123	Bottom_PM	Subassembly	Yes
Prado124	20-25mm_PM	Standard	No
Prado125	10-15mm_PM	Standard	Yes
Prado126	Bottom_PM	Standard	No

Prado127	Bottom_PM	Standard	Yes
Prado128	20-25mm_PM	Standard	No
Prado129	Bubble	Standard	No
Prado130	Bubble	Standard	No
Prado131	Bubble	Standard	No
Prado132	Bottom_PM	Standard	No
Prado133	Bubble	Standard	Yes
Prado134	Bubble	Standard	Yes
Prado135	Bubble	Standard	Yes
Prado136	Bottom_PM	Standard	No
Prado137	Bottom_PM	Standard	No
Prado138	Bottom_PM	Standard	No
Prado139	Bottom_PM	Standard	No
Prado140	Bottom_PM	Standard	No
Prado141	Bottom_PM	Standard	Yes
Prado142	Bottom_PM	Subassembly	Yes
Prado143	Bubble	Standard	No
Prado144	Bubble	Standard	No
Prado145	Bubble	Standard	No
Prado146	Bottom_PM	Standard	No
Prado147	Bottom_PM	Standard	No
Prado148	Bubble	Standard	Yes
Prado149	Bottom_PM	Standard	Yes
Prado150	Bottom_PM	Standard	No
Prado151	Bottom_PM	Standard	No
Prado152	Bottom_PM	Standard	Yes
Prado153	Bottom_PM	Standard	No
Prado154	Bottom_PM	Standard	No
Prado155	Bubble	Standard	No
Prado156	Bubble	Standard	No
Prado157	10-15mm_PM	Standard	No
Prado158	Bottom_PM	Standard	No
Prado159	20-25mm_PM	Standard	Yes
Prado160	Bubble	Standard	No
Prado161	Bubble	Standard	No
Prado162	Bubble	Standard	No
Prado163	Bubble	Standard	No
Prado164	0-5mm_PM	Standard	No
Prado165	10-15mm_PM	Standard	No
Prado166	Bottom_PM	Standard	No
Prado167	Bottom_PM	Standard	No
Prado168	Bubble	Standard	Yes
Prado169	20-25mm_PM	Standard	Yes

Prado170	Bottom_PM	Standard	Yes
Prado171	Bubble	Standard	No
Prado172	Bottom_PM	Standard	Yes
Prado173	Bottom_PM	Standard	Yes
Prado174	Bubble	Standard	No
Prado175	Bubble	Standard	No
Prado176	Bubble	Standard	No
Prado177	Bubble	Standard	No
Prado178	Bubble	Standard	No
Prado179	Bubble	Standard	No
Prado180	Bubble	Standard	No
Prado181	Bubble	Standard	No
Prado182	Bubble	Standard	No
Prado183	0-5mm_PM	Standard	No
Prado184	0-5mm_PM	Standard	No
Prado185	0-5mm_PM	Standard	No
Prado186	10-15mm_PM	Standard	No
Prado187	10-15mm_PM	Standard	No
Prado188	10-15mm_PM	Standard	No
Prado189	10-15mm_PM	Standard	No
Prado190	20-25mm_PM	Standard	No
Prado191	20-25mm_PM	Standard	No
Prado192	20-25mm_PM	Standard	No
Prado193	20-25mm_PM	Standard	No
Prado194	Bottom_PM	Standard	No
Prado195	Bottom_PM	Standard	No
Prado196	Bottom_PM	Standard	No
Prado197	Bottom_PM	Standard	No
Prado198	Bottom_PM	Standard	No
Prado199	Bottom_PM	Standard	No
Prado200	Bubble	Standard	Yes
Prado201	Bubble	Standard	Yes
Prado202	Bubble	Standard	Yes
Prado203	Bubble	Standard	Yes
Prado204	Bubble	Standard	Yes
Prado205	Bubble	Standard	Yes
Prado206	Bubble	Standard	Yes
Prado207	Bubble	Standard	Yes
Prado208	Bubble	Standard	Yes
Prado209	Bubble	Standard	Yes
Prado210	Bubble	Standard	Yes
Prado211	Bubble	Standard	Yes
Prado212	0-5mm_PM	Standard	Yes

Prado213	0-5mm_PM	Standard	Yes
Prado214	0-5mm_PM	Standard	Yes
Prado215	0-5mm_PM	Standard	Yes
Prado216	10-15mm_PM	Standard	Yes
Prado217	20-25mm_PM	Standard	Yes
Prado218	20-25mm_PM	Standard	Yes
Prado219	Bottom_PM	Standard	Yes
Prado220	Bottom_PM	Subassembly	Yes
Prado221	10-15mm_PM	Standard	No
Prado222	Bottom_PM	Standard	No
Prado223	Bubble	Standard	Yes
Prado224	Bubble	Standard	Yes
Prado225	Bubble	Standard	Yes
Prado226	Bubble	Standard	Yes
Prado227	10-15mm_PM	Standard	Yes
Prado228	Bottom_PM	Standard	Yes
Prado229	Bubble	Standard	No
Prado230	Bottom_PM	Standard	No
Prado231	Bottom_PM	Standard	Yes
Prado232	Bottom_PM	Standard	No
Prado233	Bottom_PM	Standard	No
Prado234	Bottom_PM	Standard	No
Prado235	Bottom_PM	Standard	Yes
Prado236	Bottom_PM	Standard	No
Prado237	Bottom_PM	Standard	Yes
Prado238	Bubble	Standard	No
Prado239	Bottom_PM	Standard	No
Prado240	Bottom_PM	Standard	No
Prado241	Bottom_PM	Standard	No
Prado242	Bubble	Standard	Yes
Prado243	0-5mm_PM	Standard	Yes
Prado244	10-15mm_PM	Standard	Yes
Prado245	Bubble	Standard	No
Prado246	0-5mm_PM	Standard	No
Prado247	Bottom_PM	Standard	No

GTDB Taxonomy (RS202)

d__Bacteria; p__Acidobacteriota; c__Acidobacteriae; o__Bryobacterales; f__; g__; s__
d__Bacteria; p__Acidobacteriota; c__Mor1; o__J045; f__J045; g__; s__
d__Bacteria; p__Acidobacteriota; c__Mor1; o__J045; f__J045; g__; s__
d__Bacteria; p__Acidobacteriota; c__Vicinamibacteria; o__Vicinamibacterales; f__; g__; s__
d__Bacteria; p__Acidobacteriota; c__Thermoanaerobaculia; o__Thermoanaerobaculales; f__FEB-10;
d__Bacteria; p__Acidobacteriota; c__Aminicenantia; o__Aminicenantales; f__RBG-16-66-30; g__RBG
d__Bacteria; p__Acidobacteriota; c__Vicinamibacteria; o__Vicinamibacterales; f__; g__; s__
d__Bacteria; p__Acidobacteriota; c__Aminicenantia; o__UBA2199; f__UBA2199; g__; s__
d__Bacteria; p__Acidobacteriota; c__Vicinamibacteria_A; o__Fen-336; f__Fen-336; g__; s__
d__Bacteria; p__Acidobacteriota; c__Blastocatellia; o__Pyrinomonadales; f__Pyrinomonadaceae; g__
d__Bacteria; p__Acidobacteriota; c__Mor1; o__J045; f__; g__; s__
d__Bacteria; p__Acidobacteriota; c__Acidobacteriae; o__Bryobacterales; f__Bryobacteraceae; g__Bry
d__Bacteria; p__Acidobacteriota; c__Aminicenantia; o__UBA2199; f__UBA2199; g__UBA2199; s__
d__Bacteria; p__Acidobacteriota; c__Thermoanaerobaculia; o__Thermoanaerobaculales; f__Thermoa
d__Bacteria; p__Acidobacteriota; c__Aminicenantia; o__UBA2199; f__UBA2199; g__UBA2199; s__
d__Bacteria; p__Acidobacteriota; c__Thermoanaerobaculia; o__Thermoanaerobaculales; f__FEB-10;
d__Bacteria; p__Actinobacteriota; c__Actinomycetia; o__Nanopelagicales; f__UBA10799; g__; s__
d__Bacteria; p__Actinobacteriota; c__Acidimicrobiia; o__Acidimicrobiales; f__UBA8139; g__; s__
d__Bacteria; p__Actinobacteriota; c__Acidimicrobiia; o__Acidimicrobiales; f__Ilumatobacteraceae; g__
d__Bacteria; p__Actinobacteriota; c__Actinomycetia; o__Nanopelagicales; f__FW305-bin1; g__; s__
d__Bacteria; p__Actinobacteriota; c__Acidimicrobiia; o__UBA5794; f__UBA11373; g__; s__
d__Bacteria; p__Actinobacteriota; c__Acidimicrobiia; o__Acidimicrobiales; f__MedAcidi-G1; g__; s__
d__Bacteria; p__Actinobacteriota; c__Actinomycetia; o__Nanopelagicales; f__; g__; s__
d__Bacteria; p__Actinobacteriota; c__Thermoleophilia; o__Solirubrobacterales; f__Solirubrobacterace
d__Bacteria; p__Actinobacteriota; c__Actinomycetia; o__Nanopelagicales; f__UBA10799; g__; s__
d__Bacteria; p__Actinobacteriota; c__Actinomycetia; o__RP-AC37; f__; g__; s__
d__Bacteria; p__Actinobacteriota; c__Actinomycetia; o__Nanopelagicales; f__; g__; s__
d__Bacteria; p__Actinobacteriota; c__Actinomycetia; o__Nanopelagicales; f__UBA10799; g__; s__
d__Bacteria; p__Actinobacteriota; c__Thermoleophilia; o__Solirubrobacterales; f__Solirubrobacterace
d__Bacteria; p__Actinobacteriota; c__Acidimicrobiia; o__Acidimicrobiales; f__UBA8139; g__; s__
d__Bacteria; p__Actinobacteriota; c__Thermoleophilia; o__Ga0077560; f__Ga0077560; g__; s__
d__Bacteria; p__Armatimonadota; c__Fimbriimonadia; o__Fimbriimonadales; f__Fimbriimonadaceae;
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Chitinophagales; f__Chitinophagaceae; g__UBA19
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Spirosomaceae; g__; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Spirosomaceae; g__; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Flavobacteriales; f__PHOS-HE28; g__PHOS-HE28
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Amoebophilaceae; g__UBA8403
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Chitinophagales; f__Chitinophagaceae; g__Sedimi
d__Bacteria; p__Bacteroidota; c__Kapabacteria; o__Kapabacteriales; f__Kapabacteriaceae; g__Kapa
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Chitinophagales; f__UBA8649; g__; s__

d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Chitinophagales; f__Chitinophagaceae; g__RDXD0
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__; g__; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Flavobacteriales; f__Flavobacteriaceae; g__Flavob
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Chitinophagales; f__Saprospiraceae; g__UBA6168
d__Bacteria; p__Bacteroidota; c__Ignavibacteria; o__Ignavibacteriales; f__Ignavibacteriaceae; g__Ign
d__Bacteria; p__Bacteroidota; c__Ignavibacteria; o__Ignavibacteriales; f__Ignavibacteriaceae; g__; s_
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Cyclobacteriaceae; g__UBA2336
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__AKYH767; f__B-17BO; g__; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Bacteroidales; f__VadinHA17; g__LD21; s__
d__Bacteria; p__Bacteroidota; c__Ignavibacteria; o__Ignavibacteriales; f__Ignavibacteriaceae; g__; s_
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Bacteroidales; f__VadinHA17; g__SR-FBR-E99; s_
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Cyclobacteriaceae; g__ELB16-1
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Bacteroidales; f__VadinHA17; g__SR-FBR-E99; s_
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Chitinophagales; f__Chitinophagaceae; g__SXYR0
d__Bacteria; p__Bacteroidota; c__Ignavibacteria; o__SJA-28; f__B-1AR; g__; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Bacteroidales; f__4484-276; g__; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Bernardetiaceae; g__Thermoflex
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Chitinophagales; f__Chitinophagaceae; g__RDXD0
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Chitinophagales; f__Chitinophagaceae; g__Flavihu
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Cyclobacteriaceae; g__Algoripha
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Cyclobacteriaceae; g__Ga00775
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Chitinophagales; f__Chitinophagaceae; g__RDXD0
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Cyclobacteriaceae; g__UBA2336
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Chitinophagales; f__Chitinophagaceae; g__RDXD0
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Chitinophagales; f__Chitinophagaceae; g__RDXD0
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Bacteroidales; f__VadinHA17; g__LD21; s__
d__Bacteria; p__Bacteroidota; c__Ignavibacteria; o__Ignavibacteriales; f__Ignavibacteriaceae; g__; s_
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Bacteroidales; f__VadinHA17; g__SR-FBR-E99; s_
d__Bacteria; p__Bacteroidota; c__UBA10030; o__UBA10030; f__UBA10030; g__; s__
d__Bacteria; p__Bacteroidota; c__Ignavibacteria; o__Ignavibacteriales; f__Ignavibacteriaceae; g__; s_
d__Bacteria; p__Bacteroidota; c__Kapabacteria; o__Kapabacteriales; f__UBA4661; g__PH2015; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Cytophagaceae; g__; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Cyclobacteriaceae; g__ELB16-1
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Microscillaceae; g__; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__NS11-12g; f__UKL13-3; g__; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__AKYH767; f__Palsa-965; g__GCA-2737665; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Cytophagaceae; g__; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Thermonemataceae; g__Raineya
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Bernardetiaceae; g__; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__NS11-12g; f__UKL13-3; g__UKL13-3; s__
d__Bacteria; p__Bacteroidota; c__UBA10030; o__UBA10030; f__UBA10030; g__2-02-FULL-55-14; s_
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Bacteroidales; f__VadinHA17; g__SR-FBR-E99; s_
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Cytophagales; f__Spirosomaceae; g__Arcicella; s_

d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Bacteroidales; f__VadinHA17; g__LD21; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Bacteroidales; f__VadinHA17; g__LD21; s__
d__Bacteria; p__Bacteroidota; c__Bacteroidia; o__Bacteroidales; f__VadinHA17; g__LD21; s__
d__Bacteria; p__Chloroflexota; c__Anaerolineae; o__SBR1031; f__A4b; g__OLB13; s__
d__Bacteria; p__Chloroflexota; c__Chloroflexia; o__Chloroflexales; f__Chloroflexaceae; g__; s__
d__Bacteria; p__Chloroflexota; c__Anaerolineae; o__SBR1031; f__A4b; g__OLB13; s__
d__Bacteria; p__Chloroflexota; c__Anaerolineae; o__SBR1031; f__A4b; g__GCA-2794515; s__
d__Bacteria; p__Chloroflexota; c__Ellin6529; o__CSP1-4; f__CSP1-4; g__; s__
d__Bacteria; p__Chloroflexota; c__Anaerolineae; o__UBA3071; f__CG2-30-64-16; g__; s__
d__Bacteria; p__Chloroflexota; c__Ellin6529; o__CSP1-4; f__CSP1-4; g__; s__
d__Bacteria; p__Chloroflexota; c__Anaerolineae; o__Anaerolineales; f__UBA6092; g__; s__
d__Bacteria; p__Chloroflexota; c__Anaerolineae; o__UBA3071; f__CG2-30-64-16; g__; s__
d__Bacteria; p__Chloroflexota; c__Anaerolineae; o__Anaerolineales; f__UBA4823; g__; s__
d__Bacteria; p__Chloroflexota; c__Anaerolineae; o__SBR1031; f__A4b; g__OLB13; s__
d__Bacteria; p__Chloroflexota; c__Ellin6529; o__CSP1-4; f__CSP1-4; g__; s__
d__Bacteria; p__Chloroflexota; c__Anaerolineae; o__SBR1031; f__A4b; g__GCA-2699585; s__
d__Bacteria; p__Chloroflexota; c__Anaerolineae; o__B4-G1; f__SLSP01; g__PWVB01; s__
d__Bacteria; p__Cyanobacteria; c__Cyanobacteriia; o__Cyanobacteriales; f__Oscillatoriaceae_A; g__
d__Bacteria; p__Cyanobacteria; c__Cyanobacteriia; o__Cyanobacteriales; f__Microcystaceae; g__Hy
d__Bacteria; p__Cyanobacteria; c__Cyanobacteriia; o__Elainellales; f__Elainellaceae; g__Elainella; s
d__Bacteria; p__Cyanobacteria; c__Cyanobacteriia; o__Cyanobacteriales; f__Phormidiaceae; g__; s_
d__Bacteria; p__Cyanobacteria; c__Cyanobacteriia; o__Leptolyngbyales; f__Leptolyngbyaceae; g__L
d__Bacteria; p__Cyanobacteria; c__Cyanobacteriia; o__Elainellales; f__Elainellaceae; g__; s__
d__Bacteria; p__Cyanobacteria; c__Cyanobacteriia; o__PCC-6307; f__Cyanobiaceae; g__Cyanobium
d__Bacteria; p__Desulfobacterota; c__Syntrophia; o__Syntrophales; f__UBA2192; g__UBA2192; s__
d__Bacteria; p__Desulfobacterota; c__Desulfobacteria; o__Desulfobacterales; f__UBA2174; g__; s__
d__Bacteria; p__Desulfobacterota; c__Syntrophia; o__Syntrophales; f__UBA2192; g__UBA2192; s__
d__Bacteria; p__Desulfobacterota; c__Desulfobacteria; o__Desulfobacterales; f__SG8-13; g__; s__
d__Bacteria; p__Desulfobacterota; c__Desulfobacteria; o__Desulfobacterales; f__UBA2174; g__; s__
d__Bacteria; p__Desulfobacterota; c__Desulfobacteria; o__Desulfobacterales; f__UBA2174; g__; s__
d__Bacteria; p__Desulfobacterota; c__Syntrophobacteria; o__Syntrophobacterales; f__Syntrophobact
d__Bacteria; p__Desulfobacterota; c__Desulfobaccia; o__RBG-13-43-22; f__RBG-13-43-22; g__; s__
d__Bacteria; p__Desulfobacterota; c__Desulfomonilia_A; o__UBA1062; f__UBA1062; g__; s__
d__Bacteria; p__Desulfobacterota; c__Desulfobacteria; o__Desulfatiglandales; f__HGW-15; g__; s__
d__Bacteria; p__Desulfobacterota; c__Desulfobacteria; o__Desulfobacterales; f__UBA2174; g__; s__
d__Bacteria; p__Desulfobacterota; c__Syntrophia; o__Syntrophales; f__UBA2192; g__UBA2192; s__
d__Bacteria; p__Desulfobacterota; c__Desulfobacteria; o__Desulfobacterales; f__UBA5852; g__; s__
d__Bacteria; p__Desulfobacterota; c__Desulfobacteria; o__Desulfobacterales; f__SKZT01; g__SKZT0
d__Bacteria; p__Desulfobacterota; c__Syntrophia; o__Syntrophales; f__UBA2185; g__; s__
d__Bacteria; p__Desulfobacterota; c__Desulfobacteria; o__Desulfobacterales; f__UBA2174; g__; s__
d__Bacteria; p__Desulfobacterota; c__Desulfobacteria; o__Desulfobacterales; f__SURF-3; g__; s__
d__Bacteria; p__Desulfobacterota; c__Syntrophobacteria; o__Syntrophobacterales; f__Syntrophobact
d__Bacteria; p__Edwardsbacteria; c__AC1; o__AC1; f__EtOH8; g__UBA2255; s__

d__Bacteria; p__Eisenbacteria; c__; o__; f__; g__; s__
d__Bacteria; p__Fibrobacterota; c__Chitinivibrionia; o__Chitinivibrionales; f__Chitinispirillaceae; g__;
d__Bacteria; p__Gemmatimonadota; c__Gemmatimonadetes; o__Gemmatimonadales; f__Gemmatim
d__Bacteria; p__Gemmatimonadota; c__Gemmatimonadetes; o__Gemmatimonadales; f__Gemmatim
d__Bacteria; p__Gemmatimonadota; c__Gemmatimonadetes; o__Gemmatimonadales; f__Gemmatim
d__Bacteria; p__Gemmatimonadota; c__Gemmatimonadetes; o__Gemmatimonadales; f__GWC2-71-
d__Bacteria; p__Gemmatimonadota; c__Gemmatimonadetes; o__Gemmatimonadales; f__Gemmatim
d__Bacteria; p__Gemmatimonadota; c__Gemmatimonadetes; o__Gemmatimonadales; f__Gemmatim
d__Bacteria; p__Gemmatimonadota; c__Gemmatimonadetes; o__Gemmatimonadales; f__Gemmatim
d__Archaea; p__Halobacteriota; c__Methanomicrobia; o__Methanomicrobiales; f__Methanoregulacea
d__Archaea; p__Halobacteriota; c__Methanomicrobia; o__Methanomicrobiales; f__Methanoregulacea
d__Archaea; p__Halobacteriota; c__Methanosarcinia; o__Methanotrichales; f__Methanotrichaceae; g
d__Archaea; p__Halobacteriota; c__Methanomicrobia; o__Methanomicrobiales; f__Methanoregulacea
d__Bacteria; p__Krumholzibacteriota; c__Krumholzibacteria; o__SSS58A; f__SSS58A; g__; s__
d__Bacteria; p__KSB1; c__UBA2214; o__AABM5-25-91; f__; g__; s__
d__Bacteria; p__Margulisbacteria; c__WOR-1; o__O2-12-FULL-45-9; f__XYB2-FULL-48-7; g__; s__
d__Bacteria; p__Myxococcota; c__Polyangia; o__Polyangiales; f__Polyangiaceae; g__; s__
d__Bacteria; p__Myxococcota; c__Polyangia; o__Polyangiales; f__Polyangiaceae; g__; s__
d__Bacteria; p__Myxococcota; c__Polyangia; o__Polyangiales; f__SG8-38; g__GCA-2699025; s__
d__Bacteria; p__Myxococcota; c__Polyangia; o__; f__; g__; s__
d__Bacteria; p__Myxococcota; c__Polyangia; o__Polyangiales; f__Polyangiaceae; g__; s__
d__Bacteria; p__Myxococcota; c__Myxococcia; o__Myxococcales; f__Myxococcaceae; g__; s__
d__Bacteria; p__Myxococcota_A; c__UBA9160; o__UBA9160; f__UBA9160; g__PR03; s__
d__Archaea; p__Nanoarchaeota; c__Nanoarchaeia; o__Pacearchaeales; f__UBA73; g__ARS50; s__
d__Bacteria; p__Omnitrophota; c__Koll11; o__GIF10; f__UBA6249; g__; s__
d__Bacteria; p__Omnitrophota; c__Koll11; o__GIF10; f__UBA6249; g__; s__
d__Bacteria; p__Omnitrophota; c__Koll11; o__GIF10; f__UBA6249; g__; s__
d__Bacteria; p__Patescibacteria; c__Paceibacteria; o__Paceibacterales; f__UBA5738; g__; s__
d__Bacteria; p__Patescibacteria; c__Paceibacteria; o__UBA9983; f__UBA9973; g__; s__
d__Bacteria; p__Patescibacteria; c__Paceibacteria; o__UBA9983; f__UBA2163; g__OLB19; s__
d__Bacteria; p__Patescibacteria; c__Saccharimonadia; o__Saccharimonadales; f__; g__; s__
d__Bacteria; p__Patescibacteria; c__ABY1; o__BM507; f__UM-FILTER-48-10; g__; s__
d__Bacteria; p__Patescibacteria; c__ABY1; o__BM507; f__UBA12465; g__; s__
d__Bacteria; p__Planctomycetota; c__Planctomycetes; o__Gemmatales; f__Gemmataceae; g__Fimb
d__Bacteria; p__Planctomycetota; c__Planctomycetes; o__Pirellulales; f__Pirellulaceae; g__Pirellula_
d__Bacteria; p__Planctomycetota; c__Phycisphaerae; o__Phycisphaerales; f__SM1A02; g__; s__
d__Bacteria; p__Planctomycetota; c__Planctomycetes; o__Pirellulales; f__Pirellulaceae; g__Pirellula_
d__Bacteria; p__Planctomycetota; c__Planctomycetes; o__Pirellulales; f__Pirellulaceae; g__; s__
d__Bacteria; p__Planctomycetota; c__Planctomycetes; o__Pirellulales; f__Pirellulaceae; g__Pirellula_
d__Bacteria; p__Planctomycetota; c__Planctomycetes; o__Pirellulales; f__Pirellulaceae; g__; s__
d__Bacteria; p__Planctomycetota; c__UBA8742; o__; f__; g__; s__
d__Bacteria; p__Planctomycetota; c__Planctomycetes; o__Pirellulales; f__Pirellulaceae; g__Pirellula_
d__Bacteria; p__Planctomycetota; c__Planctomycetes; o__Pirellulales; f__Pirellulaceae; g__; s__

d__Bacteria; p__Planctomycetota; c__SBBH01; o__; f__; g__; s__
d__Bacteria; p__Planctomycetota; c__UBA1135; o__UBA2386; f__UBA2386; g__UBA2386; s__
d__Bacteria; p__Planctomycetota; c__Planctomycetes; o__Pirellulales; f__Pirellulaceae; g__; s__
d__Bacteria; p__Planctomycetota; c__Phycisphaerae; o__Sedimentisphaerales; f__Anaerohalophaera
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhizobiales; f__Beijerinckiaceae; g__; s
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Sphingomonadales; f__Sphingomonada
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Caulobacterales; f__Hyphomonadaceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhodobacterales; f__Rhodobacteraceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Ga0077523; g__;
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhodobacterales; f__Rhodobacteraceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Steroidobacterales; f__Steroidobacter
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__; g__; s__
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Steroidobacterales; f__Steroidobacter
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Acetobacterales; f__Acetobacteraceae;
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhizobiales; f__Rhizobiaceae; g__Nitrat
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Methylococcales; f__Methylococcacea
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Acetobacterales; f__Acetobacteraceae;
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhodobacterales; f__Rhodobacteraceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Chromatiales; f__Sedimenticolaceae;
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Chromatiales; f__Sedimenticolaceae;
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhodospirillales; f__2-12-FULL-67-15; g
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Xanthomonadales; f__SZUA-36; g__;
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhodobacterales; f__Rhodobacteraceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhodobacterales; f__Rhodobacteraceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Sphingomonadales; f__Sphingomonada
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Xanthomonadales; f__SZUA-5; g__; s
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Sphingomonadales; f__Sphingomonada
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhodobacterales; f__Rhodobacteraceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Caulobacterales; f__Hyphomonadaceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae

d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__; f__; g__; s__
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Acetobacterales; f__Acetobacteraceae;
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Competibacterales; f__Competibacter
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Thiobacillaceae; g
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__SG8-39; g__; s__
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__SG8-39; g__; s__
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Thiobacillaceae; g
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhizobiales; f__Hyphomicrobiaceae; g__
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Chromatiales; f__Chromatiaceae; g__
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhodobacterales; f__Rhodobacteraceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhodobacterales; f__Rhodobacteraceae
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhizobiales; f__Rhizobiaceae; g__; s__
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhizobiales; f__Beijerinckiaceae; g__PA
d__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Burkholderiales; f__Thiobacillaceae; g
d__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhodospirillales; f__2-12-FULL-67-15; g
d__Bacteria; p__Spirochaetota; c__Leptospirae; o__Leptospirales; f__Leptospiraceae; g__Leptospira
d__Bacteria; p__Spirochaetota; c__UBA4802; o__UBA4802; f__UBA5368; g__; s__
d__Bacteria; p__Spirochaetota; c__UBA4802; o__; f__; g__; s__
d__Bacteria; p__Spirochaetota; c__UBA4802; o__UBA4802; f__UBA5550; g__; s__
d__Archaea; p__Thermoplasmatota; c__Thermoplasmata; o__Methanomassiliicoccales; f__UBA472;
d__Archaea; p__Thermoplasmatota; c__E2; o__DHVEG-1; f__DHVEG-1; g__SM1-50; s__
d__Archaea; p__Thermoplasmatota; c__Thermoplasmata; o__UBA10834; f__UBA10834; g__UBA965
d__Archaea; p__Thermoplasmatota; c__EX4484-6; o__EX4484-6; f__EX4484-6; g__; s__
d__Archaea; p__Thermoplasmatota; c__Thermoplasmata; o__UBA10834; f__UBA10834; g__COMBC
d__Bacteria; p__Verrucomicrobiota; c__Verrucomicrobiae; o__Verrucomicrobiales; f__Akkermansiace
d__Bacteria; p__Verrucomicrobiota; c__Kiritimatiellae; o__Kiritimatiellales; f__Pontiellaceae; g__UBA5
d__Bacteria; p__Verrucomicrobiota; c__Verrucomicrobiae; o__Pedosphaerales; f__Pedosphaeraceae
d__Bacteria; p__Verrucomicrobiota; c__Verrucomicrobiae; o__Pedosphaerales; f__Pedosphaeraceae
d__Bacteria; p__Verrucomicrobiota; c__Verrucomicrobiae; o__Opitutales; f__Opitutaceae; g__IMCC2
d__Bacteria; p__Verrucomicrobiota; c__Verrucomicrobiae; o__Verrucomicrobiales; f__Akkermansiace
d__Bacteria; p__Verrucomicrobiota; c__Verrucomicrobiae; o__Verrucomicrobiales; f__Akkermansiace
d__Bacteria; p__Verrucomicrobiota; c__Verrucomicrobiae; o__Verrucomicrobiales; f__Akkermansiace
d__Bacteria; p__Verrucomicrobiota; c__Verrucomicrobiae; o__Pedosphaerales; f__Pedosphaeraceae
d__Bacteria; p__Verrucomicrobiota; c__Verrucomicrobiae; o__Verrucomicrobiales; f__Akkermansiace

GTDB Taxonomy (RS207)

d__Bacteria;p__Acidobacteriota;c__Acidobacteriae;o__Bryobacterales;f__Bryobacteraceae;g__JACT
d__Bacteria;p__Acidobacteriota;c__Mor1;o__J045;f__J045;g__JAGOJY01;s__
d__Bacteria;p__Acidobacteriota;c__Mor1;o__J045;f__J045;g__JAGOJY01;s__
d__Bacteria;p__Acidobacteriota;c__Vicinamibacteria;o__Vicinamibacterales;f__JAFNAJ01;g__JAEU
d__Bacteria;p__Acidobacteriota;c__Thermoanaerobaculia;o__Thermoanaerobaculales;f__FEB-10;g_
d__Bacteria;p__Acidobacteriota;c__Aminicenantia;o__Aminicenantales;f__RBG-16-66-30;g__RBG-16
d__Bacteria;p__Acidobacteriota;c__Vicinamibacteria;o__Vicinamibacterales;f__;g__;s__
d__Bacteria;p__Acidobacteriota;c__Aminicenantia;o__UBA2199;f__UBA2199;g__;s__
d__Bacteria;p__Acidobacteriota;c__Vicinamibacteria;o__Fen-336;f__Fen-336;g__;s__
d__Bacteria;p__Acidobacteriota;c__Blastocatellia;o__Pyrinomonadales;f__Pyrinomonadaceae;g__;s_
d__Bacteria;p__Acidobacteriota;c__Mor1;o__J045;f__J045;g__JAGOJY01;s__
d__Bacteria;p__Acidobacteriota;c__Acidobacteriae;o__Bryobacterales;f__Bryobacteraceae;g__VFZY
d__Bacteria;p__Acidobacteriota;c__Aminicenantia;o__UBA2199;f__UBA2199;g__UBA2199;s__
d__Bacteria;p__Acidobacteriota;c__Thermoanaerobaculia;o__Thermoanaerobaculales;f__Thermoana
d__Bacteria;p__Acidobacteriota;c__Aminicenantia;o__UBA2199;f__UBA2199;g__UBA2199;s__
d__Bacteria;p__Acidobacteriota;c__Thermoanaerobaculia;o__Thermoanaerobaculales;f__FEB-10;g_
d__Bacteria;p__Actinobacteriota;c__Actinomycetia;o__Nanopelagicales;f__UBA10799;g__JADKAV01
d__Bacteria;p__Actinobacteriota;c__Acidimicrobiia;o__Acidimicrobiales;f__UBA8139;g__;s__
d__Bacteria;p__Actinobacteriota;c__Acidimicrobiia;o__Acidimicrobiales;f__Ilumatobacteraceae;g__;s
d__Bacteria;p__Actinobacteriota;c__Actinomycetia;o__Nanopelagicales;f__;g__;s__
d__Bacteria;p__Actinobacteriota;c__Acidimicrobiia;o__UBA5794;f__UBA11373;g__VGBK01;s__
d__Bacteria;p__Actinobacteriota;c__Acidimicrobiia;o__Acidimicrobiales;f__SHLQ01;g__;s__
d__Bacteria;p__Actinobacteriota;c__Actinomycetia;o__Nanopelagicales;f__CAIYMF01;g__;s__
d__Bacteria;p__Actinobacteriota;c__Thermoleophilia;o__Solirubrobacterales;f__Solirubrobacteraceae
d__Bacteria;p__Actinobacteriota;c__Actinomycetia;o__Nanopelagicales;f__UBA10799;g__JADKAV01
d__Bacteria;p__Actinobacteriota;c__Actinomycetia;o__;f__;g__;s__
d__Bacteria;p__Actinobacteriota;c__Actinomycetia;o__Nanopelagicales;f__;g__;s__
d__Bacteria;p__Actinobacteriota;c__Actinomycetia;o__Nanopelagicales;f__UBA10799;g__JADKAV01
d__Bacteria;p__Actinobacteriota;c__Thermoleophilia;o__Solirubrobacterales;f__Solirubrobacteraceae
d__Bacteria;p__Actinobacteriota;c__Acidimicrobiia;o__Acidimicrobiales;f__UBA8139;g__;s__
d__Bacteria;p__Actinobacteriota;c__Thermoleophilia;o__Miltoncostaeales;f__Miltoncostaeaceae;g__
d__Bacteria;p__Armatimonadota;c__Fimbriimonadia;o__Fimbriimonadales;f__Fimbriimonadaceae;g_
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Chitinophagales;f__Chitinophagaceae;g__UBA1930
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Spirosomaceae;g__;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Spirosomaceae;g__Runella;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Flavobacteriales;f__PHOS-HE28;g__PHOS-HE28;s_
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Amoebophilaceae;g__UBA8403;s_
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Chitinophagales;f__Chitinophagaceae;g__JAFLBI01
d__Bacteria;p__Bacteroidota;c__Kapabacteria;o__Kapabacteriales;f__Kapabacteriaceae;g__ZLKRG4
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Chitinophagales;f__JADJOU01;g__;s__

d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Chitinophagales;f__Chitinophagaceae;g__Phnomiba
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__172606-1;g__CADCTQ01;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Flavobacteriales;f__Flavobacteriaceae;g__Flavobact
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Chitinophagales;f__Saprospiraceae;g__UBA6168;s_
d__Bacteria;p__Bacteroidota;c__Ignavibacteria;o__Ignavibacteriales;f__Ignavibacteriaceae;g__IGN3;
d__Bacteria;p__Bacteroidota;c__Ignavibacteria;o__Ignavibacteriales;f__Ignavibacteriaceae;g__IGN2;
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Cyclobacteriaceae;g__UBA2336;s_
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__AKYH767;f__B-17BO;g__UBA2475;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Bacteroidales;f__VadinHA17;g__LD21;s__
d__Bacteria;p__Bacteroidota;c__Ignavibacteria;o__Ignavibacteriales;f__Ignavibacteriaceae;g__IGN2;
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Bacteroidales;f__VadinHA17;g__SR-FBR-E99;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Cyclobacteriaceae;g__ELB16-189;
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Bacteroidales;f__VadinHA17;g__SR-FBR-E99;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Chitinophagales;f__Chitinophagaceae;g__SXYR01;s
d__Bacteria;p__Bacteroidota;c__Ignavibacteria;o__SJA-28;f__B-1AR;g__;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Bacteroidales;f__JAGOPY01;g__JAGOPY01;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Bernardetiaceae;g__Thermoflexiba
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Chitinophagales;f__Chitinophagaceae;g__Phnomiba
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Chitinophagales;f__Chitinophagaceae;g__Flavihumil
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Cyclobacteriaceae;g__Algoriphagu
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Cyclobacteriaceae;g__Chryseotale
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Chitinophagales;f__Chitinophagaceae;g__Phnomiba
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Cyclobacteriaceae;g__UBA2336;s_
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Chitinophagales;f__Chitinophagaceae;g__Phnomiba
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Chitinophagales;f__Chitinophagaceae;g__Phnomiba
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Bacteroidales;f__VadinHA17;g__LD21;s__
d__Bacteria;p__Bacteroidota;c__Ignavibacteria;o__Ignavibacteriales;f__Ignavibacteriaceae;g__IGN2;
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Bacteroidales;f__VadinHA17;g__SR-FBR-E99;s__
d__Bacteria;p__Bacteroidota;c__UBA10030;o__UBA10030;f__UBA10030;g__Fen-1254;s__
d__Bacteria;p__Bacteroidota;c__Ignavibacteria;o__Ignavibacteriales;f__Ignavibacteriaceae;g__IGN2;
d__Bacteria;p__Bacteroidota;c__Kapabacteria;o__Kapabacteriales;f__UBA4661;g__PH2015;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Cytophagaceae;g__;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Cyclobacteriaceae;g__ELB16-189;
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Microscillaceae;g__;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__NS11-12g;f__UKL13-3;g__;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__AKYH767;f__Palsa-965;g__GCA-2737665;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Cytophagaceae;g__;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Thermonemataceae;g__Raineya;s_
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Bernardetiaceae;g__;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__NS11-12g;f__UKL13-3;g__UKL13-3;s__
d__Bacteria;p__Bacteroidota;c__UBA10030;o__UBA10030;f__UBA10030;g__2-02-FULL-55-14;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Bacteroidales;f__VadinHA17;g__SR-FBR-E99;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Cytophagales;f__Spirosomaceae;g__Arcicella;s__

d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Bacteroidales;f__VadinHA17;g__LD21;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Bacteroidales;f__VadinHA17;g__LD21;s__
d__Bacteria;p__Bacteroidota;c__Bacteroidia;o__Bacteroidales;f__VadinHA17;g__LD21;s__
d__Bacteria;p__Chloroflexota;c__Anaerolineae;o__Aggregatilineales;f__A4b;g__OLB13;s__
d__Bacteria;p__Chloroflexota;c__Chloroflexia;o__Chloroflexales;f__Chloroflexaceae;g__;s__
d__Bacteria;p__Chloroflexota;c__Anaerolineae;o__Aggregatilineales;f__A4b;g__OLB13;s__
d__Bacteria;p__Chloroflexota;c__Anaerolineae;o__Aggregatilineales;f__A4b;g__GCA-2794515;s__
d__Bacteria;p__Chloroflexota;c__Limnocylindria;o__Limnocylindrales;f__CSP1-4;g__CTSoil-043;s__
d__Bacteria;p__Chloroflexota;c__Anaerolineae;o__CG2-30-64-16;f__CG2-30-64-16;g__MWBF01;s__
d__Bacteria;p__Chloroflexota;c__Limnocylindria;o__Limnocylindrales;f__CSP1-4;g__CTSoil-043;s__
d__Bacteria;p__Chloroflexota;c__Anaerolineae;o__Anaerolineales;f__UBA4823;g__DSTM01;s__
d__Bacteria;p__Chloroflexota;c__Anaerolineae;o__CG2-30-64-16;f__CG2-30-64-16;g__MWBF01;s__
d__Bacteria;p__Chloroflexota;c__Anaerolineae;o__Anaerolineales;f__UBA4823;g__JAFGQI01;s__
d__Bacteria;p__Chloroflexota;c__Anaerolineae;o__Aggregatilineales;f__A4b;g__;s__
d__Bacteria;p__Chloroflexota;c__Limnocylindria;o__Limnocylindrales;f__CSP1-4;g__CAIYQJ01;s__
d__Bacteria;p__Chloroflexota;c__Anaerolineae;o__Aggregatilineales;f__A4b;g__;s__
d__Bacteria;p__Chloroflexota;c__Anaerolineae;o__B4-G1;f__SLSP01;g__PWVB01;s__
d__Bacteria;p__Cyanobacteria;c__Cyanobacteriia;o__Cyanobacteriales;f__Oscillatoriaceae_A;g__PC
d__Bacteria;p__Cyanobacteria;c__Cyanobacteriia;o__Cyanobacteriales;f__Microcystaceae;g__Hydro
d__Bacteria;p__Cyanobacteria;c__Cyanobacteriia;o__Elainellales;f__Elainellaceae;g__Elainella;s__
d__Bacteria;p__Cyanobacteria;c__Cyanobacteriia;o__Cyanobacteriales;f__Microcoleaceae;g__Micro
d__Bacteria;p__Cyanobacteria;c__Cyanobacteriia;o__Leptolyngbyales;f__Leptolyngbyaceae;g__Lept
d__Bacteria;p__Cyanobacteria;c__Cyanobacteriia;o__Elainellales;f__Elainellaceae;g__JAAUPA01;s_
d__Bacteria;p__Cyanobacteria;c__Cyanobacteriia;o__PCC-6307;f__Cyanobiaceae;g__NIES-981;s__
d__Bacteria;p__Desulfobacterota;c__Syntrophia;o__Syntrophales;f__UBA4778;g__UBA2192;s__
d__Bacteria;p__Desulfobacterota;c__Desulfobacteria;o__Desulfobacterales;f__UBA2174_A;g__SpSt-
d__Bacteria;p__Desulfobacterota;c__Syntrophia;o__Syntrophales;f__UBA4778;g__UBA2192;s__
d__Bacteria;p__Desulfobacterota;c__Desulfobacteria;o__Desulfobacterales;f__UBA2174_A;g__SpSt-
d__Bacteria;p__Desulfobacterota;c__Desulfobacteria;o__Desulfobacterales;f__JAABRJ01;g__JAABR
d__Bacteria;p__Desulfobacterota;c__Desulfobacteria;o__Desulfobacterales;f__UBA2174_A;g__SpSt-
d__Bacteria;p__Desulfobacterota;c__Syntrophobacteria;o__Syntrophobacterales;f__Syntrophobacter
d__Bacteria;p__Desulfobacterota;c__RBG-13-43-22;o__RBG-13-43-22;f__RBG-13-43-22;g__JACRC
d__Bacteria;p__Desulfobacterota;c__Desulfomonilia;o__UBA1062;f__UBA1062;g__MWEI01;s__
d__Bacteria;p__Desulfobacterota;c__DSM-4660;o__Desulfatiglandales;f__HGW-15;g__DSXZ01;s__
d__Bacteria;p__Desulfobacterota;c__Desulfobacteria;o__Desulfobacterales;f__UBA2174_A;g__SpSt-
d__Bacteria;p__Desulfobacterota;c__Syntrophia;o__Syntrophales;f__UBA4778;g__UBA2192;s__
d__Bacteria;p__Desulfobacterota;c__Desulfobacteria;o__Desulfobacterales;f__UBA2174_A;g__SpSt-
d__Bacteria;p__Desulfobacterota;c__Desulfobacteria;o__Desulfobacterales;f__SKZT01;g__SKZT01;s
d__Bacteria;p__Desulfobacterota;c__Syntrophia;o__Syntrophales;f__JAAYKM01;g__JAAYKM01;s__
d__Bacteria;p__Desulfobacterota;c__Desulfobacteria;o__Desulfobacterales;f__UBA2174_A;g__SpSt-
d__Bacteria;p__Desulfobacterota;c__Desulfobacteria;o__Desulfobacterales;f__SURF-3;g__;s__
d__Bacteria;p__Desulfobacterota;c__Syntrophobacteria;o__Syntrophobacterales;f__Syntrophobacter
d__Bacteria;p__Edwardsbacteria;c__AC1;o__AC1;f__UBA2255;g__UBA2255;s__

d__Bacteria;p__Fermentibacterota;c__JAFGKV01;o__JAFGKV01;f__JAFGKV01;g__JAFGKV01;s__
d__Bacteria;p__Fibrobacterota;c__Chitinivibrionia;o__Chitinivibrionales;f__Chitinispirillaceae;g__;s__
d__Bacteria;p__Gemmatimonadota;c__Gemmatimonadetes;o__Gemmatimonadales;f__Gemmatimon
d__Bacteria;p__Gemmatimonadota;c__Gemmatimonadetes;o__Gemmatimonadales;f__Gemmatimon
d__Bacteria;p__Gemmatimonadota;c__Gemmatimonadetes;o__Gemmatimonadales;f__Gemmatimon
d__Bacteria;p__Gemmatimonadota;c__Gemmatimonadetes;o__Gemmatimonadales;f__GWC2-71-9;g
d__Bacteria;p__Gemmatimonadota;c__Gemmatimonadetes;o__Gemmatimonadales;f__Gemmatimon
d__Bacteria;p__Gemmatimonadota;c__Gemmatimonadetes;o__Gemmatimonadales;f__Gemmatimon
d__Bacteria;p__Gemmatimonadota;c__Gemmatimonadetes;o__Gemmatimonadales;f__Gemmatimon
d__Archaea;p__Halobacteriota;c__Methanomicrobia;o__Methanomicrobiales;f__Methanoregulaceae;
d__Archaea;p__Halobacteriota;c__Methanomicrobia;o__Methanomicrobiales;f__Methanoregulaceae;
d__Archaea;p__Halobacteriota;c__Methanosarcinia;o__Methanotrichales;f__Methanotrichaceae;g__M
d__Archaea;p__Halobacteriota;c__Methanomicrobia;o__Methanomicrobiales;f__Methanoregulaceae;
d__Bacteria;p__Krumholzibacteriota;c__Krumholzibacteria;o__Krumholzibacteriales;f__Krumholzibact
d__Bacteria;p__KSB1;c__UBA2214;o__AABM5-25-91;f__;g__;s__
d__Bacteria;p__Margulisbacteria;c__WOR-1;o__O2-12-FULL-45-9;f__XYB2-FULL-48-7;g__;s__
d__Bacteria;p__Myxococcota;c__Polyangia;o__Polyangiales;f__Polyangiaceae;g__;s__
d__Bacteria;p__Myxococcota;c__Polyangia;o__Polyangiales;f__Polyangiaceae;g__;s__
d__Bacteria;p__Myxococcota;c__Polyangia;o__Polyangiales;f__SG8-38;g__;s__
d__Bacteria;p__Myxococcota;c__Polyangia;o__JAAYKL01;f__JAAYKL01;g__;s__
d__Bacteria;p__Myxococcota;c__Polyangia;o__Polyangiales;f__Polyangiaceae;g__MWCO01;s__
d__Bacteria;p__Myxococcota;c__Myxococcia;o__Myxococcales;f__Myxococcaceae;g__JAEUJQ01;s
d__Bacteria;p__Myxococcota_A;c__UBA9160;o__UBA9160;f__PR03;g__PR03;s__
d__Archaea;p__Nanoarchaeota;c__Nanoarchaeia;o__Pacearchaeales;f__GW2011-AR1;g__JAGVXK
d__Bacteria;p__Omnitrophota;c__Koll11;o__GIF10;f__UBA6249;g__JAGOOP01;s__
d__Bacteria;p__Omnitrophota;c__Koll11;o__GIF10;f__UBA6249;g__;s__
d__Bacteria;p__Omnitrophota;c__Koll11;o__GIF10;f__UBA6249;g__;s__
d__Bacteria;p__Patescibacteria;c__Paceibacteria;o__Paceibacterales;f__UBA5738;g__;s__
d__Bacteria;p__Patescibacteria;c__Paceibacteria;o__UBA9983_A;f__UBA9973;g__;s__
d__Bacteria;p__Patescibacteria;c__Paceibacteria;o__UBA9983_A;f__UBA918;g__OLB19;s__
d__Bacteria;p__Patescibacteria;c__Saccharimonadia;o__Saccharimonadales;f__CAIOMD01;g__;s__
d__Bacteria;p__Patescibacteria;c__ABY1;o__BM507;f__UBA12075;g__;s__
d__Bacteria;p__Patescibacteria;c__ABY1;o__BM507;f__UBA12465;g__;s__
d__Bacteria;p__Planctomycetota;c__Planctomycetia;o__Gemmatales;f__Gemmataceae;g__Fimbriigl
d__Bacteria;p__Planctomycetota;c__Planctomycetia;o__Pirellulales;f__Pirellulaceae;g__Pirellula_B;s
d__Bacteria;p__Planctomycetota;c__Phycisphaerae;o__Phycisphaerales;f__UBA1924;g__CAILKP01
d__Bacteria;p__Planctomycetota;c__Planctomycetia;o__Pirellulales;f__Pirellulaceae;g__Pirellula_B;s
d__Bacteria;p__Planctomycetota;c__Planctomycetia;o__Pirellulales;f__Pirellulaceae;g__Anammoxim
d__Bacteria;p__Planctomycetota;c__Planctomycetia;o__Pirellulales;f__Pirellulaceae;g__Pirellula_B;s
d__Bacteria;p__Planctomycetota;c__Planctomycetia;o__Pirellulales;f__Pirellulaceae;g__JAAYDI01;s
d__Bacteria;p__Planctomycetota;c__PLA2;o__;f__;g__;s__
d__Bacteria;p__Planctomycetota;c__Planctomycetia;o__Pirellulales;f__Pirellulaceae;g__Pirellula_B;s
d__Bacteria;p__Planctomycetota;c__Planctomycetia;o__Pirellulales;f__Pirellulaceae;g__Anammoxim

d__Bacteria;p__Planctomycetota;c__JACOTG01;o__JACOTG01;f__;g__;s__
d__Bacteria;p__Planctomycetota;c__UBA1135;o__UBA2386;f__UBA2386;g__UBA2386;s__
d__Bacteria;p__Planctomycetota;c__Planctomycetia;o__Pirellulales;f__Pirellulaceae;g__Anatilimnocc
d__Bacteria;p__Planctomycetota;c__Phycisphaerae;o__Sedimentisphaerales;f__SG8-4;g__PLanc-01
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhizobiales;f__Beijerinckiaceae;g__Bosea
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales;f__Sphingomonadace
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Caulobacterales;f__Hyphomonadaceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales;f__Rhodobacteraceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Ga0077523;g__;s__
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales;f__Rhodobacteraceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Steroidobacterales;f__Steroidobacterac
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__JAEUMW01;g__;s__
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Steroidobacterales;f__Steroidobacterac
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Acetobacterales;f__Acetobacteraceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhizobiales;f__Rhizobiaceae;g__BOKV01
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Methylococcales;f__Methylococcaceae;
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Acetobacterales;f__Acetobacteraceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales;f__Rhodobacteraceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Chromatiales;f__Sedimenticolaceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Chromatiales;f__Sedimenticolaceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodospirillales;f__UXAT02;g__JAEULH
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Xanthomonadales;f__SZUA-36;g__;s__
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales;f__Rhodobacteraceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales;f__Rhodobacteraceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales;f__Sphingomonadace
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Xanthomonadales;f__SZUA-5;g__;s__
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales;f__Sphingomonadace
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales;f__Rhodobacteraceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Caulobacterales;f__TH1-2;g__Aquidulciba
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g

d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__JAABTG01;f__JAABTG01;g__JAGNLM
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Acetobacterales;f__Acetobacteraceae;g__
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Competibacterales;f__Competibacterac
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Thiobacillaceae;g__
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__SG8-39;g__JAABRE
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__SG8-39;g__;s__
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Thiobacillaceae;g__
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Burkholderiaceae;g_
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhizobiales;f__Hyphomicrobiaceae;g__Hy
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Chromatiales;f__Chromatiaceae;g__;s_
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales;f__Rhodobacteraceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales;f__Rhodobacteraceae;g
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhizobiales;f__Rhizobiaceae;g__Notoacm
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhizobiales;f__Beijerinckiaceae;g__Rhab
d__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Burkholderiales;f__Thiobacillaceae;g__
d__Bacteria;p__Proteobacteria;c__Alphaproteobacteria;o__Rhodospirillales;f__UXAT02;g__Defluviic
d__Bacteria;p__Spirochaetota;c__Leptospirae;o__Leptospirales;f__Leptospiraceae;g__Leptospira_A;
d__Bacteria;p__Spirochaetota;c__UBA4802;o__UBA4802;f__UBA5368;g__MVZN01;s__
d__Bacteria;p__Spirochaetota;c__UBA4802;o__UBA4802;f__JAFGDQ01;g__;s__
d__Bacteria;p__Spirochaetota;c__UBA4802;o__UBA4802;f__UBA5550;g__;s__
d__Archaea;p__Thermoplasmatota;c__Thermoplasmata;o__Methanomassiliicoccales;f__UBA472;g__
d__Archaea;p__Thermoplasmatota;c__E2;o__DHVEG-1;f__DHVEG-1;g__SM1-50;s__
d__Archaea;p__Thermoplasmatota;c__Thermoplasmata;o__UBA10834;f__UBA10834;g__;s__
d__Archaea;p__Thermoplasmatota;c__EX4484-6;o__EX4484-6;f__EX4484-6;g__;s__
d__Archaea;p__Thermoplasmatota;c__Thermoplasmata;o__UBA10834;f__UBA10834;g__COMBO-5
d__Bacteria;p__Verrucomicrobiota;c__Verrucomicrobiae;o__Verrucomicrobiales;f__Akkermansiaceae
d__Bacteria;p__Verrucomicrobiota;c__Kiritimatiellae;o__Kiritimatiellales;f__Pontiellaceae;g__UBA554
d__Bacteria;p__Verrucomicrobiota;c__Verrucomicrobiae;o__Pedosphaerales;f__UBA11358;g__;s__
d__Bacteria;p__Verrucomicrobiota;c__Verrucomicrobiae;o__Pedosphaerales;f__DSYF01;g__;s__
d__Bacteria;p__Verrucomicrobiota;c__Verrucomicrobiae;o__Opitutales;f__Opitutaceae;g__IMCC2613
d__Bacteria;p__Verrucomicrobiota;c__Verrucomicrobiae;o__Verrucomicrobiales;f__Akkermansiaceae
d__Bacteria;p__Verrucomicrobiota;c__Verrucomicrobiae;o__Verrucomicrobiales;f__Akkermansiaceae
d__Bacteria;p__Verrucomicrobiota;c__Verrucomicrobiae;o__Verrucomicrobiales;f__Akkermansiaceae
d__Bacteria;p__Verrucomicrobiota;c__Verrucomicrobiae;o__Pedosphaerales;f__DSYF01;g__;s__
d__Bacteria;p__Verrucomicrobiota;c__Verrucomicrobiae;o__Verrucomicrobiales;f__Akkermansiaceae

MIMAG Quality	checkM Completeness	checkM Contamination	checkM Strain Heterogeneity	Genome Size (bp)
MEDIUM	83.64	3.47	20	4165195
MEDIUM	79.98	2.56	0	4279947
MEDIUM	57.76	3.31	28.57	2864546
MEDIUM	52.99	9.47	6.67	2328988
MEDIUM	89.08	4.27	0	3333724
MEDIUM	64.92	2.99	50	1823556
MEDIUM	91.84	5.98	0	5065387
MEDIUM	78.23	7.08	0	7015926
MEDIUM	52.5	2.09	25	2456677
MEDIUM	61.89	4.27	16.67	2815852
MEDIUM	51.92	2.74	0	2343528
MEDIUM	60.51	2.61	0	3588236
MEDIUM	82.04	2.62	25	2587097
MEDIUM	79.64	4.66	25	4875913
MEDIUM	73.47	3.42	50	2186344
MEDIUM	95.3	3.42	0	4555191
MEDIUM	76.74	1.43	50	2841708
MEDIUM	95.73	5.63	12.5	4847103
MEDIUM	68.89	2.14	0	2435436
MEDIUM	87.99	1.05	50	2775985
MEDIUM	74.07	3.94	16.67	1934750
MEDIUM	72.36	4.7	12.5	3510691
MEDIUM	68.73	1.72	100	2745625
MEDIUM	58.6	3.49	11.11	1784078
MEDIUM	80.54	2.07	66.67	2994002
MEDIUM	85.16	1.97	42.86	2459587
MEDIUM	51.21	2.59	33.33	2580445
MEDIUM	59.32	1.27	33.33	2294663
MEDIUM	72.41	0	0	2350343
HIGH	100	1.36	33.33	3285463
HIGH	95.98	0	0	3163586
MEDIUM	91.67	2.78	33.33	2992049
MEDIUM	58.97	1.72	0	2953624
MEDIUM	70.09	2.68	40	3995661
MEDIUM	83.79	0	0	4300096
MEDIUM	67.91	1.61	33.33	2321027
MEDIUM	80.49	0.18	0	896380
MEDIUM	58.49	4.26	7.69	1944229
MEDIUM	87.72	0.55	0	2672370
MEDIUM	89.41	0.99	0	2169390

MEDIUM	76.1	0.19	100	3081815
MEDIUM	70.65	1.46	57.14	4529766
MEDIUM	76.81	6.3	9.43	2813050
MEDIUM	73.45	0	0	4511080
MEDIUM	82.53	7.94	60.87	3392487
MEDIUM	57.66	0.56	0	1579258
MEDIUM	86.77	0.52	66.67	3389773
MEDIUM	85.73	0.63	50	3046262
MEDIUM	63.24	0.86	100	2520053
MEDIUM	50.69	0.02	0	1439162
MEDIUM	64.96	1.19	0	1726417
MEDIUM	71.38	1.79	66.67	2573194
MEDIUM	94.95	5.65	66.67	3470492
MEDIUM	85.16	1.97	80	3138315
MEDIUM	64.16	3.01	0	2259143
MEDIUM	54.17	3.33	7.69	1883701
MEDIUM	82.03	3.79	44.44	5383223
MEDIUM	71.27	4.35	63.64	3259233
MEDIUM	61.36	0	0	2619841
MEDIUM	65.52	5.17	75	3725595
MEDIUM	53.36	5.11	59.09	1902714
MEDIUM	73.23	1.23	66.67	2617468
MEDIUM	76.86	1.24	66.67	3010476
MEDIUM	52.35	0	0	2361974
MEDIUM	66.75	0.99	50	2588791
MEDIUM	56.38	6.9	100	2516497
MEDIUM	56.35	0.56	0	1927836
MEDIUM	51.83	1.72	100	1305782
MEDIUM	56.03	0.6	50	1993154
MEDIUM	77.37	1.4	33.33	2792018
MEDIUM	96.17	1.09	0	5614454
MEDIUM	98.65	0.6	0	2942665
MEDIUM	96.08	0.3	100	3419346
MEDIUM	93.42	1.63	22.22	6818139
MEDIUM	97.14	0	0	3435668
HIGH	99.52	0.63	0	5376839
HIGH	98.36	1.19	0	4523365
MEDIUM	99.39	2.03	0	4895559
MEDIUM	91.36	0.67	0	4577466
MEDIUM	99.52	0	0	2981991
HIGH	95.63	1.09	0	3225489
MEDIUM	94.67	3.57	10	3597142
MEDIUM	91.46	1.31	71.43	5394006

MEDIUM	98.57	2.06	0	3294153
HIGH	97.81	2.8	22.22	3284353
MEDIUM	92.38	1.67	25	2925167
MEDIUM	86.57	1.82	50	4378345
MEDIUM	74.06	2.83	33.33	6712761
MEDIUM	79.55	1.36	50	2673762
MEDIUM	67.78	1.67	66.67	3238625
MEDIUM	66.56	5.5	9.09	1821828
MEDIUM	82.27	2.22	25	4552154
MEDIUM	73.32	5.86	33.33	2610766
MEDIUM	50.24	3.03	0	3035010
MEDIUM	61.73	0.91	0	4117913
MEDIUM	66.97	9.42	34.62	2823863
MEDIUM	99.09	0	0	5239579
MEDIUM	91.67	2.78	33.33	2760349
MEDIUM	90.45	1.82	50	4738441
HIGH	95.45	1.52	20	4807223
MEDIUM	69.2	0.22	100	4435334
MEDIUM	94.98	1.93	27.27	6521992
MEDIUM	98.11	0.47	0	5836603
MEDIUM	97.59	1.2	50	8535657
MEDIUM	92.9	0.86	20	5685471
MEDIUM	93.75	1.73	0	7517168
MEDIUM	92.66	1.1	80	2411983
MEDIUM	59.42	1.31	0	1804152
MEDIUM	80.97	1.45	0	2411945
MEDIUM	85.16	4.52	44.44	2522937
MEDIUM	86.29	1.94	33.33	4112616
MEDIUM	84.19	1.94	0	3094360
MEDIUM	52.18	6.67	31.25	2522054
MEDIUM	90.81	5.97	42.86	4452316
MEDIUM	74.7	2.53	28.57	2854190
MEDIUM	86.75	2.93	71.43	2760932
MEDIUM	57.14	1.29	50	3880465
MEDIUM	89.55	0.9	0	4134121
MEDIUM	71.34	1.24	25	2207381
MEDIUM	91.96	8.12	47.62	4889012
MEDIUM	65.08	2.62	22.22	1993480
MEDIUM	52.46	2.58	0	1415864
MEDIUM	59.57	8.03	29.41	2071210
MEDIUM	92.53	1.29	66.67	3651685
MEDIUM	91.77	2.1	25	4010075
MEDIUM	88.46	0	0	2517944

MEDIUM	79.12	0.73	0	3902267
MEDIUM	69.83	5.17	0	2187816
MEDIUM	56.55	3.1	0	2738511
MEDIUM	74.13	0.55	0	2955662
MEDIUM	63.76	0	0	3194355
MEDIUM	59.94	4.4	0	2347541
MEDIUM	56.03	7.76	40	4009027
MEDIUM	51.9	6.9	50	1558100
MEDIUM	62.24	0.34	0	4701364
MEDIUM	74.4	2.12	0	1753201
MEDIUM	79.25	0.65	0	1596477
MEDIUM	51.46	0.98	50	1104432
MEDIUM	99.35	0	0	1838665
MEDIUM	95.05	1.1	0	2548571
MEDIUM	82.9	4.4	25	4081542
MEDIUM	88.89	0.85	0	1528338
MEDIUM	90.73	9.09	4.76	9677514
MEDIUM	79.69	2.14	0	7651706
MEDIUM	92.81	5.18	25	8334035
MEDIUM	87.48	2.62	33.33	5910135
MEDIUM	59.8	2.8	87.5	5668005
MEDIUM	91.88	2.1	0	8411174
MEDIUM	76.1	4.68	22.22	3495957
MEDIUM	60	0	0	550067
MEDIUM	51.82	1.08	100	621139
MEDIUM	86.76	2.15	0	1294887
HIGH	90.44	1.08	0	1621624
MEDIUM	50	0	0	1024719
MEDIUM	76.61	0	0	685189
MEDIUM	53.34	1.71	50	816383
MEDIUM	52.04	1.72	100	659616
MEDIUM	53.86	1.49	50	882060
MEDIUM	72.5	0.99	0	984839
MEDIUM	89.44	2.27	0	4997048
MEDIUM	73.14	0.07	100	5097261
MEDIUM	53.67	0	0	1856541
MEDIUM	51.54	3.57	50	4491263
MEDIUM	54.89	5.94	87.5	6392647
MEDIUM	88.86	0.59	100	4619888
MEDIUM	82.46	0	0	6919312
MEDIUM	88.53	4.84	16.67	5025435
MEDIUM	83.14	1.18	0	4526299
MEDIUM	65.09	3.74	40	6799754

MEDIUM	52.01	0	0	2579349
MEDIUM	95.25	2.27	50	7548791
MEDIUM	90.7	4.13	60	5906174
HIGH	96.59	2.27	0	7591643
MEDIUM	87.28	1.1	16.67	3226408
MEDIUM	59.66	0.92	100	1379221
MEDIUM	57.63	8.62	0	3667041
MEDIUM	51.02	3.45	100	3448469
MEDIUM	53.45	0	0	2801464
MEDIUM	64.34	3.78	20	2576656
MEDIUM	85.4	0.7	50	3189630
MEDIUM	68.68	1.44	27.27	3016126
MEDIUM	75.33	0	0	4276071
MEDIUM	57.84	4.03	20.83	2190125
MEDIUM	71.72	0	0	3094930
MEDIUM	75.48	2.53	33.33	3155309
MEDIUM	60.06	8.93	55.56	4701084
MEDIUM	53.45	3.45	0	1674260
MEDIUM	73.57	4.46	4.17	2908203
MEDIUM	76.27	9.45	23.33	3576386
MEDIUM	58.52	1.08	0	2296120
MEDIUM	52.74	8.62	20	3122326
MEDIUM	51.02	3.45	0	5307579
MEDIUM	74.07	2.3	7.69	2122080
MEDIUM	59.15	4.77	44.83	2051405
MEDIUM	73.6	6.92	73.68	3148448
MEDIUM	51.3	0.62	0	1278218
MEDIUM	66.35	6.03	25	2950801
MEDIUM	78.71	0.33	0	2733359
MEDIUM	58.78	2.59	66.67	3379862
MEDIUM	77.93	4.31	0	3430244
MEDIUM	89.01	2.23	75	2733407
MEDIUM	77.81	5.29	47.62	3202723
MEDIUM	70.06	4.73	60	3718241
MEDIUM	81.05	7.55	64.29	3894488
MEDIUM	75.83	2.71	45.45	2500638
MEDIUM	69.75	4.08	66.67	4766398
MEDIUM	59.66	6.03	50	2765404
MEDIUM	53.92	0	0	2626324
MEDIUM	84.95	2.5	38.46	3187292
MEDIUM	68.22	1.52	37.5	2181624
MEDIUM	86.74	2.95	41.67	3255805
MEDIUM	51.03	3.45	50	3417572

MEDIUM	55.34	6.9	60	3039025
MEDIUM	55.17	1.72	0	2714452
MEDIUM	81.13	6.5	44.44	3058562
MEDIUM	84.3	9.67	5.88	3179618
MEDIUM	65.52	0	0	2977832
MEDIUM	71.95	7.86	34	2997303
MEDIUM	57.24	1.72	0	1505013
MEDIUM	66.08	1.35	25	2162821
MEDIUM	91.98	4.43	73.68	2923492
MEDIUM	98.84	0.69	25	4693865
MEDIUM	90.31	0.48	25	2873533
MEDIUM	93.96	0.61	50	4108979
MEDIUM	96.77	1.49	20	3019997
MEDIUM	95.01	1.25	60	3293155
MEDIUM	92.29	3.96	10	3188647
MEDIUM	92.77	1.76	0	3125520
MEDIUM	57.41	0	0	2698604
MEDIUM	82.02	0	0	3233663
MEDIUM	56.53	1.82	0	**3233663**
HIGH	97.69	3.37	0	3657468
MEDIUM	70.69	1.68	0	1298802
MEDIUM	84.4	3.6	14.29	2069614
MEDIUM	90	2.53	33.33	1686865
MEDIUM	93.6	3.2	0	2707365
MEDIUM	90.4	1.72	25	1641877
MEDIUM	65.96	1.36	0	3950458
MEDIUM	81.16	3.41	37.5	2464066
MEDIUM	89.51	6.79	8.33	4371346
MEDIUM	78.43	4.09	0	3147581
MEDIUM	73.97	4.68	33.33	3547223
MEDIUM	51.08	0	0	2010901
MEDIUM	52.28	1.36	0	3559725
MEDIUM	97.28	1.36	0	4682663
MEDIUM	98.65	2.03	0	3330353
MEDIUM	90.3	2.07	25	3772057

# Scaffolds	N50 (scaffolds)	GC Content	Photosynthesis Genes	narGHI Genes
583	8237	62.3	Absent	Absent
252	26699	72.9	Encoded	Absent
566	5440	72.3	Encoded	Absent
643	3494	72.5	Absent	Absent
482	8359	71.6	Encoded	Encoded
343	5548	69.1	Absent	Absent
253	39337	69.1	Absent	Absent
1231	6369	40.9	Absent	Absent
488	5347	65.3	Absent	Absent
592	5003	36.1	Absent	Absent
545	4373	72.3	Encoded	Absent
779	4738	64.7	Absent	Absent
124	33493	63.4	Absent	Absent
450	17177	70.3	Encoded	Absent
188	17150	63.6	Absent	Absent
142	66175	70.9	Absent	Transcribed
476	6563	66.4	Absent	Transcribed
279	27803	72.4	Transcribed	Transcribed
464	5687	72.4	Absent	Absent
139	30908	74.4	Absent	Transcribed
361	5953	72	Absent	Absent
618	6448	72.4	Transcribed	Absent
163	26695	74.6	Absent	Absent
467	3715	74.3	Absent	Encoded
474	7146	66.4	Absent	Encoded
321	9794	74.4	Absent	Encoded
263	15805	71.6	Absent	Encoded
490	4853	66.4	Absent	Encoded
395	6518	75	Absent	Encoded
33	168373	72.4	Absent	Absent
186	25269	76.4	Absent	Encoded
170	25250	54.3	Absent	Absent
655	4766	33	Absent	Absent
534	9373	38.4	Absent	Absent
572	9227	48.1	Absent	Absent
384	6501	61.5	Absent	Absent
58	18479	46.2	Absent	Absent
423	4679	37.5	Absent	Absent
281	12330	54.5	Absent	Absent
161	21072	34.8	Absent	Absent

447	8061	53.2	Absent	Absent
766	6442	53.6	Encoded	Absent
555	5432	32.6	Transcribed	Absent
645	8318	53.2	Absent	Absent
391	11140	34.2	Encoded	Absent
316	5218	36.1	Absent	Absent
344	12525	47.9	Absent	Absent
234	22646	41.4	Absent	Absent
377	7855	47.7	Absent	Absent
288	5181	36.1	Absent	Absent
252	7550	49.7	Absent	Absent
464	5839	40.6	Absent	Absent
207	27094	46.2	Absent	Absent
390	9672	52.4	Absent	Transcribed
364	7111	40.1	Absent	Absent
398	4977	47.3	Absent	Encoded
785	8210	36.4	Absent	Absent
586	6177	46.4	Absent	Absent
492	5816	44	Absent	Absent
478	9865	43.3	Absent	Absent
446	4338	38	Absent	Absent
417	6946	43.2	Absent	Absent
376	9407	43.1	Absent	Absent
397	6351	54.8	Absent	Absent
441	6560	43.2	Absent	Absent
456	6174	47.9	Absent	Absent
360	5917	36.1	Encoded	Absent
240	5853	49.4	Absent	Absent
396	5293	58.1	Absent	Absent
447	7032	36.3	Encoded	Absent
131	76448	47.6	Encoded	Absent
45	101535	37	Absent	Absent
154	32958	53.5	Absent	Absent
697	13091	38.5	Absent	Absent
83	64841	35.1	Absent	Absent
48	165407	49.1	Absent	Absent
135	48866	42.2	Absent	Absent
33	307097	32.9	Absent	Absent
389	15241	56.9	Absent	Absent
37	123039	38.9	Absent	Absent
47	113110	61.8	Absent	Absent
106	59824	49.6	Encoded	Absent
474	15326	36.7	Absent	Absent

86	69651	40	Absent	Absent
288	15680	47.3	Absent	Absent
160	30154	42.3	Absent	Absent
519	10879	60.8	Encoded	Absent
936	8320	60.8	Absent	Absent
444	6844	64.2	Encoded	Absent
605	5638	47.3	Encoded	Absent
359	5409	74.2	Absent	Absent
549	10997	65.9	Encoded	Absent
238	15217	73.5	Encoded	Absent
326	13523	56.4	Encoded	Absent
745	6201	63.4	Absent	Encoded
341	10625	56.2	Encoded	Absent
230	35935	50.8	Encoded	Absent
301	12928	74	Transcribed	Absent
382	18318	64.2	Encoded	Absent
369	20852	63	Absent	Absent
566	8850	53.7	Transcribed	Transcribed
533	16252	42.3	Transcribed	Absent
157	49694	49.9	Transcribed	Absent
161	89661	45.7	Transcribed	Encoded
383	20236	47.1	Encoded	Absent
609	15425	51.8	Encoded	Absent
242	13733	70	Encoded	Absent
342	5726	64.3	Absent	Absent
380	7249	66	Absent	Absent
363	8040	64	Absent	Absent
194	34526	65.2	Absent	Transcribed
320	12853	62.5	Absent	Absent
559	4760	68.1	Absent	Transcribed
163	44566	60.7	Absent	Transcribed
568	5369	59.4	Absent	Encoded
249	14490	59	Absent	Absent
779	5250	56.7	Encoded	Encoded
477	10463	59.8	Absent	Transcribed
377	6665	63.8	Absent	Absent
597	12277	64	Absent	Encoded
427	4724	44.2	Absent	Encoded
240	6580	53.7	Absent	Absent
499	4124	65.6	Absent	Absent
335	14727	48.4	Absent	Absent
118	61074	62.9	Absent	Absent
211	17052	67.8	Absent	Absent

502	9423	64.5	Encoded	Absent
234	11305	56	Encoded	Absent
552	5475	72	Absent	Absent
410	8943	68.2	Encoded	Absent
561	6383	73	Encoded	Absent
364	7760	73	Absent	Absent
713	6361	71.1	Absent	Absent
348	4645	73.8	Encoded	Absent
521	12612	68.4	Encoded	Absent
224	9393	49.6	Absent	Absent
74	29309	52.3	Absent	Absent
173	7106	52.1	Absent	Absent
53	55165	56.7	Absent	Absent
199	17565	60	Absent	Absent
731	6084	42.9	Absent	Absent
5	783540	58	Absent	Absent
1064	11862	71.4	Encoded	Absent
570	19312	69.9	Encoded	Encoded
699	17407	70.4	Absent	Absent
492	16695	61.1	Encoded	Absent
1243	4787	65.1	Encoded	Absent
651	18561	70.3	Encoded	Encoded
532	7893	71.1	Absent	Absent
68	9017	42.2	Absent	Absent
102	6735	49.8	Absent	Absent
57	34571	41.4	Absent	Absent
14	272391	42.2	Absent	Absent
117	10466	50.3	Absent	Absent
12	109744	41.8	Absent	Absent
42	36846	48.2	Absent	Absent
97	7422	37.7	Absent	Absent
95	10982	47.4	Absent	Absent
120	9580	32	Absent	Absent
471	14936	64.9	Absent	Absent
459	15602	50.7	Absent	Absent
377	5168	66.7	Absent	Absent
875	5229	49.7	Absent	Absent
1364	4875	63.8	Transcribed	Absent
544	10041	54.8	Absent	Absent
540	20201	65.6	Transcribed	Absent
534	12432	70.9	Transcribed	Absent
424	13663	53.3	Absent	Absent
1497	4633	63.8	Encoded	Absent

622	4210	71.7	Absent	Absent
258	54948	70.5	Absent	Absent
699	11149	63.1	Encoded	Absent
527	20768	64	Absent	Absent
253	17934	65.7	Encoded	Encoded
303	4833	62	Absent	Absent
868	4167	63.2	Encoded	Absent
421	10625	65.2	Absent	Absent
400	8430	71.7	Encoded	Absent
527	5147	68.4	Encoded	Absent
355	11612	65.9	Encoded	Encoded
516	6694	70.1	Encoded	Absent
109	71162	72.3	Encoded	Absent
508	4308	64.8	Absent	Absent
105	50230	70.9	Transcribed	Absent
274	16293	72.8	Transcribed	Transcribed
549	10986	70.8	Absent	Absent
426	3950	64.6	Absent	Transcribed
521	6271	61.6	Absent	Absent
562	7644	73.5	Transcribed	Absent
474	5148	68.7	Transcribed	Transcribed
776	3976	69.4	Absent	Transcribed
1205	4511	68.8	Encoded	Encoded
138	23456	71.8	Transcribed	Absent
432	5050	70.1	Absent	Absent
559	6118	68.9	Absent	Absent
273	4973	72.1	Absent	Absent
589	5161	66.7	Absent	Absent
333	10601	72	Transcribed	Transcribed
565	6981	69.3	Transcribed	Transcribed
197	32163	64.7	Encoded	Absent
290	12441	66	Encoded	Encoded
484	7942	65.7	Encoded	Encoded
644	6506	70.3	Encoded	Encoded
495	10914	70.5	Encoded	Encoded
374	8132	66.8	Absent	Encoded
371	20734	67.5	Absent	Absent
360	9844	63.9	Encoded	Absent
486	5786	66.4	Encoded	Encoded
350	11407	62.9	Encoded	Absent
421	5511	63.7	Encoded	Absent
414	10429	71.6	Encoded	Absent
731	4725	68.9	Absent	Encoded

663	4719	71.9	Absent	Encoded
456	6696	73.7	Absent	Absent
432	8679	63.2	Absent	Absent
344	14277	63.8	Absent	Encoded
267	15683	69.1	Absent	Encoded
273	14269	69	Absent	Absent
294	5564	67	Absent	Absent
390	6191	72.2	Absent	Absent
180	26913	62.5	Transcribed	Absent
203	44165	68.6	Transcribed	Transcribed
236	16272	63.3	Encoded	Encoded
165	37939	64.3	Encoded	Absent
179	23938	63.6	Encoded	Encoded
153	32170	64	Encoded	Encoded
329	13617	68.9	Absent	Encoded
239	20691	66.9	Encoded	Absent
508	5628	38.4	Encoded	Absent
174	28830	58.1	Absent	Absent
422	5622	43.5	Absent	Absent
50	143776	49	Absent	Absent
238	6077	63.4	Absent	Absent
100	28469	44	Absent	Absent
189	11045	63	Absent	Absent
108	42054	53.8	Absent	Absent
154	13279	59.9	Absent	Absent
736	5850	58.9	Absent	Absent
349	8044	53.6	Absent	Absent
567	9580	59.7	Encoded	Absent
513	6891	62.2	Absent	Absent
426	10913	66.9	Absent	Absent
380	5829	63.4	Absent	Absent
791	4643	65.4	Absent	Absent
162	42855	61.2	Absent	Absent
96	57790	63.7	Absent	Absent
406	11797	63.1	Absent	Absent

amoCAB/pmoCAB Genes	nirK Genes	nosZ Genes	mmoXYZ Genes
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Cytochrome-c Dependent mdh Genes	Lanthanide Dependent mdh Genes	NAD-Dependent mdh Genes	MOX Genes
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Aerobic Respiration Genes	narGHI or napAB Genes	nirS or nirK Genes	norBC Genes	0-5mm MAG Abundance [%]
Encoded	Encoded	Absent	Absent	0.000
Transcribed	Absent	Absent	Transcribed	0.350
Encoded	Absent	Absent	Transcribed	0.146
Transcribed	Absent	Absent	Absent	0.012
Transcribed	Encoded	Absent	Transcribed	0.010
Absent	Absent	Absent	Absent	0.081
Transcribed	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.106
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Encoded	Absent	0.000
Encoded	Absent	Absent	Absent	0.014
Absent	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Encoded	0.000
Absent	Absent	Absent	Absent	0.000
Transcribed	Transcribed	Absent	Transcribed	0.000
Transcribed	Transcribed	Absent	Absent	0.021
Transcribed	Transcribed	Transcribed	Absent	0.099
Encoded	Absent	Absent	Absent	0.103
Transcribed	Transcribed	Absent	Absent	0.030
Encoded	Absent	Absent	Absent	0.104
Transcribed	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.001
Encoded	Encoded	Encoded	Absent	0.080
Encoded	Encoded	Absent	Absent	0.003
Encoded	Encoded	Absent	Absent	0.010
Encoded	Encoded	Absent	Absent	0.059
Encoded	Encoded	Absent	Absent	0.088
Encoded	Encoded	Encoded	Absent	0.006
Transcribed	Absent	Transcribed	Absent	0.005
Encoded	Encoded	Encoded	Absent	0.021
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
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Encoded	Absent	Encoded	Absent	0.000
Encoded	Absent	Absent	Absent	0.000

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Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Encoded	Absent	Encoded	0.000
Transcribed	Absent	Absent	Encoded	0.000
Encoded	Absent	Absent	Absent	0.000
Transcribed	Absent	Absent	Encoded	0.000
Transcribed	Absent	Absent	Transcribed	0.000
Transcribed	Absent	Absent	Transcribed	0.000
Encoded	Absent	Absent	Absent	0.000
Transcribed	Absent	Absent	Transcribed	0.000
Transcribed	Absent	Absent	Encoded	0.000
Transcribed	Absent	Absent	Transcribed	0.000
Transcribed	Transcribed	Absent	Transcribed	0.000
Encoded	Absent	Absent	Absent	0.065
Encoded	Encoded	Absent	Absent	0.024
Encoded	Absent	Encoded	Absent	0.048
Encoded	Absent	Absent	Absent	0.109
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Encoded	0.015
Encoded	Absent	Absent	Absent	0.005
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Encoded	0.089
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.080
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.001
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Encoded	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.030
Encoded	Absent	Absent	Absent	0.073
Encoded	Absent	Absent	Absent	0.034
Encoded	Absent	Absent	Absent	0.011
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Transcribed	Absent	Absent	Absent	0.025
Transcribed	Absent	Absent	Transcribed	0.001
Encoded	Absent	Absent	Absent	0.000

Encoded	Absent	Absent	Encoded	0.000
Encoded	Absent	Absent	Encoded	0.000
Encoded	Absent	Absent	Absent	0.046
Encoded	Absent	Encoded	Absent	0.000
Encoded	Absent	Encoded	Absent	0.000
Encoded	Absent	Encoded	Absent	0.000
Encoded	Absent	Encoded	Absent	0.000
Encoded	Absent	Encoded	Absent	0.000
Encoded	Absent	Encoded	Absent	0.001
Encoded	Absent	Encoded	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Encoded	Absent	Absent	0.212
Encoded	Absent	Encoded	Absent	0.042
Encoded	Absent	Encoded	Absent	0.000
Transcribed	Absent	Transcribed	Absent	0.008
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Transcribed	Transcribed	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Transcribed	Absent	Transcribed	Transcribed	0.000
Encoded	Encoded	Absent	Absent	0.068
Encoded	Absent	Absent	Encoded	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.043
Encoded	Absent	Absent	Absent	0.002
Transcribed	Absent	Absent	Absent	0.122
Encoded	Absent	Absent	Absent	0.001
Transcribed	Transcribed	Absent	Absent	0.178
Transcribed	Absent	Absent	Absent	0.068
Transcribed	Transcribed	Absent	Transcribed	0.041
Transcribed	Transcribed	Absent	Transcribed	0.059
Encoded	Encoded	Absent	Absent	0.094
Encoded	Absent	Absent	Absent	0.000
Absent	Encoded	Absent	Transcribed	0.000
Transcribed	Transcribed	Absent	Absent	0.001
Encoded	Absent	Absent	Absent	0.162
Encoded	Encoded	Absent	Absent	0.112
Encoded	Encoded	Absent	Absent	0.001
Encoded	Absent	Absent	Encoded	0.136
Absent	Absent	Absent	Absent	0.000
Transcribed	Absent	Absent	Absent	0.043
Encoded	Absent	Absent	Encoded	0.001
Absent	Absent	Absent	Absent	0.001

Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.001
Encoded	Absent	Absent	Absent	0.049
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.001
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Absent	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.001
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Encoded	0.003
Absent	Absent	Absent	Absent	0.003
Encoded	Encoded	Absent	Encoded	0.000
Encoded	Encoded	Absent	Encoded	0.001
Encoded	Encoded	Encoded	Encoded	0.000
Absent	Absent	Absent	Absent	0.000
Transcribed	Absent	Absent	Absent	0.000
Encoded	Encoded	Absent	Absent	0.000
Encoded	Absent	Encoded	Encoded	0.002
Absent	Absent	Absent	Absent	0.006
Absent	Absent	Absent	Absent	0.000
Absent	Absent	Absent	Absent	0.000
Absent	Absent	Absent	Absent	0.000
Absent	Absent	Absent	Absent	0.004
Absent	Absent	Absent	Absent	0.000
Absent	Absent	Absent	Absent	0.000
Absent	Absent	Absent	Absent	0.000
Absent	Absent	Absent	Absent	0.000
Absent	Absent	Absent	Absent	0.000
Encoded	Encoded	Absent	Absent	0.084
Encoded	Encoded	Absent	Absent	0.058
Encoded	Absent	Absent	Absent	0.082
Encoded	Absent	Absent	Absent	0.000
Transcribed	Absent	Absent	Absent	0.000
Transcribed	Absent	Absent	Absent	0.052
Transcribed	Absent	Absent	Transcribed	0.000
Transcribed	Absent	Absent	Absent	0.071
Encoded	Absent	Absent	Absent	0.003
Encoded	Absent	Absent	Encoded	0.000

Absent	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.024
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Encoded	0.000
Encoded	Encoded	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Transcribed	Absent	Encoded	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.028
Encoded	Absent	Absent	Absent	0.088
Encoded	Encoded	Absent	Absent	0.067
Encoded	Absent	Absent	Absent	0.111
Encoded	Absent	Absent	Absent	0.005
Transcribed	Absent	Transcribed	Absent	0.027
Transcribed	Absent	Transcribed	Absent	0.022
Transcribed	Transcribed	Absent	Absent	0.182
Transcribed	Absent	Absent	Absent	0.266
Transcribed	Transcribed	Absent	Absent	0.086
Transcribed	Absent	Absent	Transcribed	0.097
Transcribed	Absent	Absent	Absent	0.089
Transcribed	Transcribed	Absent	Absent	0.097
Transcribed	Transcribed	Absent	Absent	0.064
Transcribed	Transcribed	Transcribed	Absent	0.120
Transcribed	Absent	Transcribed	Transcribed	0.141
Transcribed	Absent	Absent	Absent	0.037
Transcribed	Transcribed	Transcribed	Transcribed	0.597
Transcribed	Absent	Absent	Absent	0.129
Transcribed	Absent	Transcribed	Absent	0.000
Transcribed	Transcribed	Transcribed	Transcribed	0.000
Transcribed	Transcribed	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Encoded	Absent	Absent	0.000
Encoded	Encoded	Absent	Absent	0.000
Encoded	Encoded	Encoded	Absent	0.000
Encoded	Encoded	Absent	Absent	0.000
Encoded	Encoded	Absent	Absent	0.000
Encoded	Absent	Encoded	Encoded	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Encoded	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Encoded	Encoded	Absent	0.001

Encoded	Encoded	Absent	Absent	0.062
Encoded	Absent	Absent	Absent	0.070
Encoded	Absent	Absent	Encoded	0.028
Encoded	Encoded	Absent	Absent	0.100
Encoded	Encoded	Encoded	Absent	0.103
Encoded	Encoded	Absent	Absent	0.053
Encoded	Encoded	Absent	Absent	0.120
Absent	Absent	Absent	Absent	0.083
Transcribed	Absent	Absent	Transcribed	0.029
Transcribed	Transcribed	Transcribed	Transcribed	0.093
Encoded	Encoded	Absent	Absent	0.212
Encoded	Absent	Absent	Absent	0.000
Encoded	Encoded	Absent	Absent	0.000
Encoded	Encoded	Absent	Absent	0.000
Encoded	Encoded	Encoded	Encoded	0.000
Encoded	Absent	Encoded	Encoded	0.000
Encoded	Absent	Encoded	Encoded	0.000
Transcribed	Absent	Absent	Absent	0.104
Absent	Absent	Absent	Absent	0.000
Transcribed	Absent	Absent	Absent	0.003
Encoded	Absent	Absent	Absent	0.253
Absent	Absent	Absent	Absent	0.010
Absent	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.100
Absent	Absent	Absent	Absent	0.027
Encoded	Encoded	Encoded	Absent	0.000
Absent	Absent	Absent	Absent	0.000
Transcribed	Absent	Absent	Transcribed	0.000
Transcribed	Absent	Encoded	Transcribed	0.000
Encoded	Encoded	Encoded	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Absent	Absent	0.000
Encoded	Absent	Encoded	Absent	0.000
Transcribed	Absent	Absent	Absent	0.000
Transcribed	Absent	Absent	Absent	0.000

10-15mm MAG Abundance [%]	20-25mm MAG Abundance [%]	Bottom MAG Abundance [%]	Bubble MAG Abndance [%]
0.000	0.000	0.000	0.056
0.360	0.274	0.000	0.000
0.170	0.214	0.119	0.000
0.030	0.008	0.001	0.000
0.022	0.002	0.002	0.000
0.093	0.119	0.040	0.000
0.000	0.014	0.080	0.000
0.101	0.131	0.259	0.000
0.000	0.001	0.081	0.000
0.000	0.000	0.028	0.000
0.000	0.000	0.000	0.030
0.011	0.004	0.001	0.000
0.000	0.000	0.000	0.202
0.000	0.000	0.000	0.142
0.000	0.000	0.000	0.025
0.000	0.039	0.215	0.000
0.012	0.004	0.003	0.000
0.092	0.066	0.002	0.000
0.097	0.088	0.097	0.000
0.030	0.000	0.000	0.000
0.109	0.105	0.055	0.000
0.000	0.041	0.032	0.000
0.001	0.001	0.041	0.000
0.080	0.064	0.023	0.000
0.007	0.002	0.006	0.000
0.024	0.004	0.002	0.000
0.060	0.062	0.043	0.000
0.088	0.077	0.037	0.000
0.007	0.006	0.002	0.000
0.003	0.001	0.028	0.000
0.030	0.016	0.057	0.000
0.000	0.000	0.000	0.048
0.000	0.000	0.000	0.156
0.000	0.000	0.000	0.092
0.000	0.000	0.000	0.063
0.000	0.000	0.000	0.029
0.000	0.000	0.000	0.248
0.000	0.000	0.000	0.159
0.000	0.000	0.000	0.072
0.000	0.000	0.000	0.070

0.000	0.000	0.000	0.064
0.000	0.000	0.000	1.480
0.000	0.000	0.000	0.110
0.000	0.000	0.000	0.015
0.000	0.000	0.000	0.024
0.000	0.000	0.000	0.368
0.000	0.000	0.000	0.040
0.000	0.000	0.000	0.040
0.000	0.000	0.000	0.075
0.000	0.000	0.000	0.093
0.000	0.000	0.000	0.037
0.000	0.000	0.000	0.384
0.000	0.000	0.000	0.099
0.000	0.000	0.000	0.062
0.060	0.044	0.000	0.000
0.021	0.016	0.003	0.000
0.050	0.008	0.000	0.000
0.084	0.024	0.000	0.000
0.013	0.005	0.000	0.000
0.021	0.013	0.002	0.000
0.015	0.005	0.004	0.000
0.024	0.118	0.019	0.000
0.079	0.048	0.000	0.001
0.001	0.000	0.056	0.000
0.072	0.054	0.042	0.000
0.000	0.000	0.026	0.000
0.000	0.023	0.130	0.000
0.001	0.000	0.017	0.000
0.000	0.000	0.000	0.090
0.000	0.000	0.000	0.041
0.000	0.000	0.000	0.039
0.000	0.000	0.000	0.063
0.000	0.000	0.000	0.018
0.000	0.000	0.000	0.177
0.011	0.000	0.000	0.000
0.065	0.043	0.001	0.000
0.008	0.000	0.000	0.000
0.025	0.000	0.000	0.000
0.004	0.011	0.000	0.000
0.003	0.166	0.286	0.000
0.028	0.033	0.008	0.000
0.003	0.004	0.003	0.000
0.000	0.000	0.052	0.000

0.000	0.000	0.020	0.000
0.000	0.000	0.129	0.000
0.047	0.045	0.025	0.000
0.000	0.000	0.000	0.078
0.000	0.000	0.000	0.094
0.000	0.000	0.000	0.173
0.000	0.000	0.000	0.130
0.000	0.000	0.000	0.043
0.001	0.001	0.049	0.000
0.000	0.001	0.024	0.000
0.000	0.000	0.000	0.102
0.227	0.250	0.234	0.000
0.044	0.049	0.034	0.000
0.000	0.002	0.067	0.000
0.009	0.007	0.080	0.000
0.000	0.000	0.092	0.000
0.001	0.002	0.060	0.000
0.000	0.000	0.000	0.102
0.000	0.000	0.000	0.194
0.000	0.000	0.000	0.929
0.000	0.000	0.010	0.000
0.000	0.000	0.000	0.091
0.000	0.000	0.000	0.155
0.047	0.046	0.033	0.000
0.002	0.019	0.064	0.000
0.130	0.155	0.151	0.000
0.013	0.038	0.107	0.000
0.193	0.232	0.136	0.000
0.068	0.075	0.118	0.000
0.052	0.077	0.047	0.000
0.061	0.067	0.067	0.000
0.096	0.111	0.105	0.000
0.000	0.000	0.032	0.000
0.000	0.000	0.043	0.000
0.014	0.034	0.048	0.000
0.169	0.190	0.219	0.000
0.111	0.108	0.080	0.000
0.002	0.039	0.088	0.000
0.141	0.145	0.108	0.000
0.000	0.000	0.016	0.000
0.047	0.054	0.065	0.000
0.001	0.001	0.089	0.000
0.001	0.001	0.051	0.000

0.018	0.040	0.000	0.000
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0.031	0.001	0.000	0.000
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0.000	0.000	0.000	0.093
0.000	0.000	0.000	0.072
0.000	0.000	0.041	0.000
0.000	0.000	0.061	0.000
0.000	0.026	0.046	0.000
0.000	0.000	0.000	0.419
0.001	0.075	0.078	0.000
0.000	0.000	0.000	0.199
0.003	0.002	0.098	0.000
0.003	0.003	0.073	0.000
0.000	0.000	0.000	0.151
0.001	0.001	0.044	0.000
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0.000	0.000	0.045	0.000
0.000	0.001	0.024	0.000
0.000	0.000	0.000	0.015
0.002	0.002	0.078	0.000
0.008	0.000	0.000	0.000
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0.007	0.017	0.013	0.000
0.011	0.006	0.018	0.000
0.000	0.000	0.000	0.094
0.000	0.000	0.000	0.171
0.000	0.000	0.000	0.023
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cytochrome b6-f complex iron-sulfur subunit
cytochrome b6-f complex iron-sulfur subunit
cytochrome b6-f complex iron-sulfur subunit
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cytochrome b6-f complex iron-sulfur subunit
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nitrite oxidoreductase [EC:1.7.99.4] [RN:R00798]
nitrite reductase (NO-forming) [EC:1.7.2.1] [RN:R00783 R00785]
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]

nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
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nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
nitrite reductase (NO-forming) [EC:1.7.2.1] [RN:R00783 R00785]
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
cytochrome b6-f complex iron-sulfur subunit
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
ferredoxin
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbC; photosystem II CP43 chlorophyll apoprotein
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
cytochrome b6-f complex iron-sulfur subunit
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
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nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
cytochrome b6-f complex iron-sulfur subunit
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
cytochrome b6
cytochrome b6-f complex iron-sulfur subunit
nitrite reductase (NO-forming) [EC:1.7.2.1] [RN:R00783 R00785]
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
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cytochrome b6-f complex iron-sulfur subunit
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nitrite reductase (NO-forming) [EC:1.7.2.1] [RN:R00783 R00785]
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cytochrome b6-f complex iron-sulfur subunit
nitrite oxidoreductase [EC:1.7.99.4] [RN:R00798]
cytochrome b6-f complex iron-sulfur subunit
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cytochrome b6-f complex iron-sulfur subunit
nitrite reductase (NO-forming) [EC:1.7.2.1] [RN:R00783 R00785]
cytochrome b6-f complex iron-sulfur subunit
apocytochrome f
cytochrome b6-f complex iron-sulfur subunit
nitrite oxidoreductase [EC:1.7.99.4] [RN:R00798]
psaA; photosystem I P700 chlorophyll a apoprotein A1
psaC; photosystem I subunit VII
psaD; photosystem I subunit II
psaE; photosystem I subunit IV
psaF; photosystem I subunit III
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbC; photosystem II CP43 chlorophyll apoprotein
psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]

psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]
psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]
psbE; photosystem II cytochrome b559 subunit alpha
apocytochrome f
cytochrome b6
cytochrome b6
cytochrome b6-f complex iron-sulfur subunit
cytochrome b6-f complex subunit 5
ferredoxin
ferredoxin
ferredoxin
ferredoxin
ferredoxin
ferredoxin
ferredoxin--NADP+ reductase
plastocyanin
psaA; photosystem I P700 chlorophyll a apoprotein A1
psaC; photosystem I subunit VII
psaC; photosystem I subunit VII
psaD; photosystem I subunit II
psaE; photosystem I subunit IV
psaF; photosystem I subunit III
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbB; photosystem II CP47 chlorophyll apoprotein
psbC; photosystem II CP43 chlorophyll apoprotein
psbC; photosystem II CP43 chlorophyll apoprotein
psbC; photosystem II CP43 chlorophyll apoprotein
psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]
psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]
psbE; photosystem II cytochrome b559 subunit alpha
cytochrome b6
cytochrome b6
ferredoxin
ferredoxin
ferredoxin
ferredoxin
ferredoxin--NADP+ reductase
nitrite reductase (NO-forming) [EC:1.7.2.1] [RN:R00783 R00785]
plastocyanin
psaA; photosystem I P700 chlorophyll a apoprotein A1
psaD; photosystem I subunit II
psaE; photosystem I subunit IV

psaE; photosystem I subunit IV
psaF; photosystem I subunit III
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbB; photosystem II CP47 chlorophyll apoprotein
psbC; photosystem II CP43 chlorophyll apoprotein
psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]
psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]
apocytochrome f
cytochrome b6
cytochrome b6-f complex iron-sulfur subunit
cytochrome b6-f complex subunit 4
cytochrome b6-f complex subunit 5
cytochrome b6-f complex subunit 7
ferredoxin
ferredoxin
ferredoxin
ferredoxin
ferredoxin
ferredoxin--NADP+ reductase
nitrite oxidoreductase [EC:1.7.99.4] [RN:R00798]
psaD; photosystem I subunit II
psaE; photosystem I subunit IV
psaF; photosystem I subunit III
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbB; photosystem II CP47 chlorophyll apoprotein
psbC; photosystem II CP43 chlorophyll apoprotein
psbE; photosystem II cytochrome b559 subunit alpha
apocytochrome f
cytochrome b6
cytochrome b6
cytochrome b6-f complex iron-sulfur subunit
cytochrome b6-f complex subunit 5
cytochrome b6-f complex subunit 7
ferredoxin
ferredoxin
ferredoxin
ferredoxin
ferredoxin
ferredoxin--NADP+ reductase
plastocyanin

psaB; photosystem I P700 chlorophyll a apoprotein A2
psaB; photosystem I P700 chlorophyll a apoprotein A2
psaD; photosystem I subunit II
psaE; photosystem I subunit IV
psaF; photosystem I subunit III
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbB; photosystem II CP47 chlorophyll apoprotein
psbC; photosystem II CP43 chlorophyll apoprotein
psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]
psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]
psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]
apocytochrome f
cytochrome b6
cytochrome b6
cytochrome b6-f complex iron-sulfur subunit
cytochrome b6-f complex subunit 5
ferredoxin
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ferredoxin--NADP+ reductase
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psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
psbB; photosystem II CP47 chlorophyll apoprotein
psbB; photosystem II CP47 chlorophyll apoprotein
psbE; photosystem II cytochrome b559 subunit alpha
apocytochrome f
cytochrome b6
cytochrome b6-f complex subunit 7
cytochrome b6-f complex subunit 8
ferredoxin
ferredoxin

ferredoxin
ferredoxin--NADP+ reductase
psaA; photosystem I P700 chlorophyll a apoprotein A1
psaA; photosystem I P700 chlorophyll a apoprotein A1
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psaE; photosystem I subunit IV
psbA; photosystem II reaction center D1 protein [EC:1.10.3.9]
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psbC; photosystem II CP43 chlorophyll apoprotein
psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]
psbD; photosystem II reaction center D2 protein [EC:1.10.3.9]
psbE; photosystem II cytochrome b559 subunit alpha
nitrite oxidoreductase [EC:1.7.99.4] [RN:R00798]
nitrate reductase 1 [EC:1.7.99.-] [RN:R00798]
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cytochrome b6-f complex iron-sulfur subunit
cytochrome b6-f complex iron-sulfur subunit
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cytochrome b6-f complex iron-sulfur subunit
cytochrome b6-f complex iron-sulfur subunit
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
pufL; photosynthetic reaction center L subunit
cytochrome b6-f complex iron-sulfur subunit
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
pufL; photosynthetic reaction center L subunit
pufM; photosynthetic reaction center M subunit
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
cytochrome b6-f complex iron-sulfur subunit
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]
pufM; photosynthetic reaction center M subunit
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]

pufL; photosynthetic reaction center L subunit
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cytochrome b6
cytochrome b6
nitrite oxidoreductase [EC:1.7.99.4] [RN:R00798]
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pufL; photosynthetic reaction center L subunit
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cytochrome b6-f complex iron-sulfur subunit
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nitrite oxidoreductase [EC:1.7.99.4] [RN:R00798]
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pufL; photosynthetic reaction center L subunit
pufM; photosynthetic reaction center M subunit
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ammonia monooxygenase [EC:1.14.99.39] [RN:R00148]
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pufM; photosynthetic reaction center M subunit
nitrite oxidoreductase [EC:1.7.99.4] [RN:R00798]
pufL; photosynthetic reaction center L subunit
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nitrite oxidoreductase [EC:1.7.99.4] [RN:R00798]
pufL; photosynthetic reaction center L subunit
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nitrite oxidoreductase [EC:1.7.99.4] [RN:R00798]
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ferredoxin--NADP+ reductase
nitrite reductase (NO-forming) [EC:1.7.2.1] [RN:R00783 R00785]
nitrite reductase (NO-forming) [EC:1.7.2.1] [RN:R00783 R00785]
cytochrome b6
nitrite reductase (NO-forming) [EC:1.7.2.1] [RN:R00783 R00785]
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nitrite reductase (NO-forming) [EC:1.7.2.1] [RN:R00783 R00785]
nitrous-oxide reductase [EC:1.7.2.4] [RN:R02804]

module	header
Cytochrome b6f complex	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Cytochrome b6f complex	Photosynthesis
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Cytochrome b6f complex	Photosynthesis
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
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Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
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Denitrification, nitrate => nitrogen	Nitrogen

Denitrification, nitrate => nitrogen	Nitrogen
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Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Photosystem II	Photosynthesis
Photosystem II	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
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Denitrification, nitrate => nitrogen	Nitrogen
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Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen

Cytochrome b6f complex	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Cytochrome b6f complex	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
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Cytochrome b6f complex	Photosynthesis
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Photosystem I	Photosynthesis
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Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
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Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
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Photosystem II	Photosynthesis
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Cytochrome b6f complex	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
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Complete nitrification, comammox, ammonia => nitrite => nitrate	Nitrogen
Cytochrome b6f complex	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
Anoxygenic photosystem II	Photosynthesis
Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
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Anoxygenic photosystem II	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
Denitrification, nitrate => nitrogen	Nitrogen
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Cytochrome b6f complex	Photosynthesis
Denitrification, nitrate => nitrogen	Nitrogen
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Denitrification, nitrate => nitrogen	Nitrogen

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Denitrification, nitrate => nitrogen	Nitrogen
Cytochrome b6f complex	Photosynthesis
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Anoxygenic photosystem II	Photosynthesis
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Cytochrome b6f complex	Photosynthesis
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Anoxygenic photosystem II	Photosynthesis
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Denitrification, nitrate => nitrogen	Nitrogen
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Denitrification, nitrate => nitrogen	Nitrogen

gene_position	start_position	end_position	strandedness	kegg_id
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2	2462	2971	-1	K02636
3	1922	5473	-1	K00370
8	5191	5478	-1	K00374
1	2	1204	1	K00370
1	3	2633	-1	K00370
12	11357	12205	1	K02636
1	2	2773	1	K00370
9	6376	7809	-1	K00368
3	2069	4129	-1	K00376
40	35043	38726	-1	K00370
1	3	569	1	K02636
3	1891	3660	1	K00370
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1	2	3454	1	K00370
4	2463	3722	1	K00368
9	7206	8288	1	K00370
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2	482	952	1	K00374
2	914	2728	1	K00370
1	3	1892	-1	K00370
2	962	2971	-1	K00370
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5	3031	3594	-1	K00371
1	1	492	1	K00371
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256	265066	266499	1	K00368
16	13416	16904	1	K00370
6	3950	5035	1	K00368
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1	1	1443	-1	K00376
4	2000	3982	1	K00376
5	3283	3669	1	K00376

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16	10059	12032	-1	K00376
8	7452	7877	-1	K00368
7	4552	6591	-1	K00376
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1	2	451	1	K00376
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4	3254	3616	1	K02703
3	2554	3240	-1	K02705
4	1716	3665	1	K00376
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3	958	2901	-1	K00376
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2	116	2086	1	K00376
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7	4870	6870	1	K00376
1	114	2093	-1	K00376
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3	2494	4452	1	K00376

3	1961	2785	1	K08928
15	12095	15565	-1	K00370
1	180	1004	1	K08928
4	4184	5686	1	K00368
7	4460	6403	1	K00376
3	2290	2817	1	K02635
4	4934	6052	1	K02635
12	10252	13722	1	K00370
2	1059	3335	1	K00376
3	947	1771	-1	K08928
6	6175	7215	1	K00368
15	11619	13649	-1	K00376
1	2	916	1	K02635
2	406	996	-1	K02636
6	10108	10719	-1	K02636
12	15118	15579	-1	K02636
8	8767	10038	-1	K02635
3	2174	2764	-1	K02636
42	47240	49207	-1	K00376
14	16564	17451	1	K02636
3	1493	2221	1	K00374
2	315	3161	-1	K00370
5	3859	4893	1	K00370
25	17933	18397	-1	K00371
22	22430	23254	1	K08928
1	3	203	-1	K08928
6	5273	5575	-1	K08929
7	8150	8629	-1	K00376
9	7353	8243	1	K10944
15	14720	15079	-1	K10945
9	7924	8742	-1	K08928
1	3	371	1	K08929
7	5564	5689	-1	K00371
7	6342	7178	-1	K08928
5	2171	3019	1	K08928
62	69633	70457	1	K08928
7	5197	6168	1	K08929
8	7181	8437	-1	K00371
7	4542	5381	1	K08928
1	1	297	-1	K00376
1	3	326	1	K00371
6	4966	5913	-1	K10946
7	7043	7159	1	K10946

4	3137	3265	-1	K10946
6	4659	5483	-1	K08928
1	3	1760	-1	K00370
1	1	849	1	K00371
3	2461	3288	-1	K08928
1	3	2762	-1	K00370
1	1	1878	-1	K00370
1	2	487	1	K00371
3	1262	1426	-1	K00374
1	2	184	1	K08929
24	33498	34358	1	K02641
3	2034	3008	1	K00376
2	522	1247	1	K00374
12	11151	11975	1	K08928
4	2202	2366	-1	K00374
2	937	4239	1	K00370
13	11071	11910	1	K08928
1	2	376	1	K08929
23	21537	22385	1	K08928
3	950	2902	-1	K00370
8	6230	7054	1	K08928
3	949	3609	-1	K00370
23	18004	18849	-1	K00371
5	1570	2409	1	K08928
2	1223	2713	1	K00370
2	793	1521	1	K00370
1	3	1598	1	K00368
4	3445	3780	-1	K08928
4	1647	2540	-1	K00370
5	3702	3917	-1	K08929
15	14020	14721	-1	K00374
10	9562	10485	-1	K08929
1	2	289	1	K00374
1	1	894	-1	K00370
2	264	1103	-1	K08928
17	15473	16321	-1	K08928
5	2675	3529	1	K08928
4	2307	3101	-1	K08929
6	2574	2807	-1	K00371
4	5896	6147	1	K00370
26	25703	25942	1	K00370
1	1	903	1	K00371
5	3014	3895	-1	K00371

1	4	3759	-1	K00370
1	2	172	1	K00371
33	27637	29571	-1	K00376
1	1	816	1	K08928
8	10350	11921	1	K00370
31	31203	32195	1	K00371
40	39856	42171	-1	K00376
13	11678	12502	1	K08928
39	35390	36178	-1	K00374
11	9597	10499	1	K08928
86	81381	82346	-1	K08928
1	1	774	1	K00371
12	10947	11813	1	K08928
33	35052	36173	-1	K00370
6	6156	9686	1	K00370
8	7609	8454	-1	K08928
1	1	1092	-1	K00370
10	8767	9591	1	K08928
3	2122	3069	1	K02641
2	502	1902	1	K00368
4	2440	2724	-1	K00368
5	3601	4692	1	K02635
12	8589	9479	-1	K00368
11	12406	13917	-1	K00368
4	2001	3509	1	K00368
12	6573	8468	1	K00376
16	10135	12111	-1	K00376
14	15866	17281	1	K00368
19	17337	17963	-1	K00376

kegg_hit
dwd:DSCW_54970 cytochrome b6; K02636
geb:GM18_0922 Rieske (2Fe-2S) iron-sulfur domain protein; K02636
dwd:DSCW_54970 cytochrome b6; K02636
ddn:DND132_0694 Rieske (2Fe-2S) iron-sulfur domain-containing protein; K02636
tig:THII_1673 putative nitrite oxidoreductase/nitrate reductase alpha subunit; K00370
ank:AnaeK_1461 Nitrous-oxide reductase; K00376
dwd:DSCW_54970 cytochrome b6; K02636
dwd:DSCW_54970 cytochrome b6; K02636
tig:THII_1673 putative nitrite oxidoreductase/nitrate reductase alpha subunit; K00370
cej:GC089_14510 narI; respiratory nitrate reductase subunit gamma; K00374
cceu:CBR64_15305 nitrate reductase subunit alpha; K00370
sro:Sros_5441 Nitrate reductase; K00370
aym:YM304_04030 putative iron-sulfur protein; K02636
xce:Xcel_1824 nitrate reductase, alpha subunit; K00370
aaq:AOC05_16865 copper oxidase; K00368
pbf:CFX0092_A0107 nosZ; Nitrous-oxide reductase; K00376
xce:Xcel_1824 nitrate reductase, alpha subunit; K00370
aym:YM304_04030 putative iron-sulfur protein; K02636
rxy:Rxyl_1205 respiratory nitrate reductase alpha subunit apoprotein; K00370
rxy:Rxyl_1205 respiratory nitrate reductase alpha subunit apoprotein; K00370
fpl:Ferp_0311 nitrate reductase, alpha subunit; K00370
now:GBF35_29935 multicopper oxidase domain-containing protein; K00368
sro:Sros_5441 Nitrate reductase; K00370
pdx:Psed_4301 nitrate reductase, beta subunit; K00371
scx:AS200_11100 nitrate reductase; K00374
req:REQ_04220 narH; putative nitrate reductase beta subunit NarH; K00371
rby:CEJ39_12135 narI; respiratory nitrate reductase subunit gamma; K00374
sro:Sros_5441 Nitrate reductase; K00370
sro:Sros_5441 Nitrate reductase; K00370
cet:B8281_05980 nitrate reductase subunit alpha; K00370
gbr:Gbro_3700 nitrate reductase, beta subunit; K00371
rxy:Rxyl_1205 respiratory nitrate reductase alpha subunit apoprotein; K00370
psc:A458_17320 narH; nitrate reductase A subunit beta; K00371
rrd:RradSPS_0574 narH: nitrate reductase, beta subunit; K00371
now:GBF35_29935 multicopper oxidase domain-containing protein; K00368
tfu:Tfu_2794 conserved membrane protein; K00368
ttf:THTE_1509 Respiratory nitrate reductase alpha chain; K00370
mhas:MHAS_01626 aniA; Copper-containing nitrite reductase; K00368
fls:GLV81_12140 nosZ; Sec-dependent nitrous-oxide reductase; K00376
fls:GLV81_12140 nosZ; Sec-dependent nitrous-oxide reductase; K00376
fgg:FSB75_05815 nosZ; Sec-dependent nitrous-oxide reductase; K00376
fls:GLV81_12140 nosZ; Sec-dependent nitrous-oxide reductase; K00376

run:DR864_24950 nosZ; Sec-dependent nitrous-oxide reductase; K00376
pgin:FRZ67_00065 nosZ; Sec-dependent nitrous-oxide reductase; K00376
fls:GLV81_12140 nosZ; Sec-dependent nitrous-oxide reductase; K00376
beb:AEM42_05515 membrane protein; K00368
fls:GLV81_12140 nosZ; Sec-dependent nitrous-oxide reductase; K00376
sli:Slin_4885 Rieske (2Fe-2S) domain-containing protein; K02636
fgg:FSB75_05815 nosZ; Sec-dependent nitrous-oxide reductase; K00376
gei:GEI7407_2688 ferredoxin (2Fe-2S); K02639
atr:2546591 psbA, AmtrCp001; photosystem II protein D1; K02703
ccp:CHC_210 psbC; photosystem II CP43 protein; K02705
fbu:UJ101_02274 nosZ; nitrous-oxide reductase; K00376
dwd:DSCW_54970 cytochrome b6; K02636
ial:IALB_0848 nosZ; Nitrous oxide reductase protein NosZ; K00376
ial:IALB_0848 nosZ; Nitrous oxide reductase protein NosZ; K00376
psn:Pedsa_3647 nitrous oxide reductase apoprotein; K00376
bbd:Belba_1979 nitrous oxide reductase; K00376
fls:GLV81_12140 nosZ; Sec-dependent nitrous-oxide reductase; K00376
ial:IALB_0848 nosZ; Nitrous oxide reductase protein NosZ; K00376
dat:HRM2_00660 narG; NarG; K00370
nko:Niako_5286 nitrous oxide reductase apoprotein; K00376
deu:DBW_2564 narG; Respiratory nitrate reductase 1 alpha chain; K00370
fbt:D770_21185 nitrous-oxide reductase; K00376
bbd:Belba_2007 dissimilatory nitrite reductase (NO-forming), copper type apoprotein; K00368
fls:GLV81_12140 nosZ; Sec-dependent nitrous-oxide reductase; K00376
nko:Niako_5286 nitrous oxide reductase apoprotein; K00376
bbd:Belba_1979 nitrous oxide reductase; K00376
pgo:FSB84_30470 nosZ; Sec-dependent nitrous-oxide reductase; K00376
fgg:FSB75_05815 nosZ; Sec-dependent nitrous-oxide reductase; K00376
fls:GLV81_12140 nosZ; Sec-dependent nitrous-oxide reductase; K00376
pgo:FSB84_30470 nosZ; Sec-dependent nitrous-oxide reductase; K00376
dwd:DSCW_54970 cytochrome b6; K02636
ial:IALB_0848 nosZ; Nitrous oxide reductase protein NosZ; K00376
dwd:DSCW_54970 cytochrome b6; K02636
ial:IALB_0848 nosZ; Nitrous oxide reductase protein NosZ; K00376
obr:BBW32_gp034 petB; cytochrome b6; K02635
cte:CT0302 petC; cytochrome b6-f complex, iron-sulfur subunit; K02636
fcm:BIW12_10795 nitrite reductase, copper-containing; K00368
pgin:FRZ67_00065 nosZ; Sec-dependent nitrous-oxide reductase; K00376
nko:Niako_5286 nitrous oxide reductase apoprotein; K00376
fla:SY85_10520 nitrous oxide reductase; K00376
fls:GLV81_12140 nosZ; Sec-dependent nitrous-oxide reductase; K00376
fls:GLV81_12140 nosZ; Sec-dependent nitrous-oxide reductase; K00376
fls:GLV81_12140 nosZ; Sec-dependent nitrous-oxide reductase; K00376

ddn:DND132_0694 Rieske (2Fe-2S) iron-sulfur domain-containing protein; K02636
pbf:CFX0092_A2591 putative enzyme; K02636
hdt:HYPDE_25578 nitrite reductase, copper-containing protein; K00368
cdn:BN940_07386 Copper-containing nitrite reductase; K00368
cdn:BN940_07386 Copper-containing nitrite reductase; K00368
hau:Haur_1295 Nitrite reductase (NO-forming); K00368
dru:Desru_1528 Nitrous-oxide reductase; K00376
pbf:CFX0092_A2591 putative enzyme; K02636
lus:E5843_12210 nirK; nitrite reductase, copper-containing; K00368
pbf:CFX0092_A2591 putative enzyme; K02636
hdn:Hden_0591 nitrite reductase, copper-containing protein; K00368
hau:Haur_1295 Nitrite reductase (NO-forming); K00368
cap:CLDAP_20100 putative iron-sulfur protein; K02636
lus:E5843_12210 nirK; nitrite reductase, copper-containing; K00368
scl:sce0366 hypothetical protein; K02636
hau:Haur_1295 Nitrite reductase (NO-forming); K00368
lpil:LIP_1511 hypothetical protein; K02636
mhd:Marky_1848 nitrate reductase, alpha subunit; K00370
ddn:DND132_0694 Rieske (2Fe-2S) iron-sulfur domain-containing protein; K02636
cap:CLDAP_20100 putative iron-sulfur protein; K02636
cap:CLDAP_20100 putative iron-sulfur protein; K02636
dfc:DFI_14580 nitrite reductase, copper-containing; K00368
cdn:BN940_07386 Copper-containing nitrite reductase; K00368
cap:CLDAP_20100 putative iron-sulfur protein; K02636
hdt:HYPDE_25578 nitrite reductase, copper-containing protein; K00368
abai:IMCC26256_112209 Rieske Fe-S protein; K02636
actc:CHIBA101_1885 membrane protein; K00368
pbf:CFX0092_A2591 putative enzyme; K02636
oac:Oscil6304_4256 Apocytochrome F, C-terminal; K02634
oac:Oscil6304_5889 Rieske Fe-S protein; K02636
deu:DBW_2564 narG; Respiratory nitrate reductase 1 alpha chain; K00370
gei:GEI7407_3202 photosystem I core protein PsaA; K02689
gei:GEI7407_2241 photosystem I iron-sulfur protein PsaC; K02691
plp:Ple7327_4331 PsaD; K02692
lbo:LBWT_13890 Photosystem I reaction centre subunit IV / PsaE; K02693
cep:Cri9333_2431 photosystem I reaction center protein PsaF subunit III; K02694
ter:Tery_4763 photosystem q(b) protein; K02703
ter:Tery_4763 photosystem q(b) protein; K02703
peq:12079718 psbA, PHEQC_p001; photosystem II protein D1; K02703
ter:Tery_4763 photosystem q(b) protein; K02703
cmp:Cha6605_4162 photosystem II DI subunit, Q(B) protein; K02703
noe:CLI64_18530 psbC; photosystem II 44 kDa subunit reaction center protein; K02705
oac:Oscil6304_1899 Photosystem II DII subunit, Q(A) protein; K02706

cep:Cri9333_1394 Photosystem II D2 protein; K02706
oac:Oscil6304_1899 Photosystem II DII subunit, Q(A) protein; K02706
noe:CLI64_04305 psbE; cytochrome b559 subunit alpha; K02707
plp:Ple7327_4543 Apocytochrome F; K02634
mic:Mic7113_2526 hypothetical protein; K02635
plp:Ple7327_1434 cytochrome b subunit of the bc complex; K02635
fis:FIS3754_15310 Rieske (2Fe-2S) domain protein; K02636
slw:BRW62_08650 cytochrome b6-f complex subunit PetG; K02640
plp:Ple7327_4593 ferredoxin, (2Fe-2S); K02639
cyb:CYB_1598 ferredoxin, 2Fe-2S; K02639
plp:Ple7327_4295 ferredoxin, (2Fe-2S); K02639
plp:Ple7327_0856 ferredoxin, (2Fe-2S); K02639
plp:Ple7327_2360 ferredoxin; K02639
lbo:LBWT_23340 FER2, Ferredoxin II; Short=FdII; K02639
plp:Ple7327_4119 Oxidoreductase NAD-binding domain/CpcD/allophycocyanin linker domain protein;
plp:Ple7327_3340 plastocyanin; K02638
plp:Ple7327_2488 photosystem I core protein PsaA; K02689
dsl:Dacsa_1253 photosystem I iron-sulfur protein PsaC; K02691
mar:MAE_59230 psaC; photosystem subunit VII; K02691
plp:Ple7327_4331 PsaD; K02692
scs:Sta7437_0827 Photosystem I reaction center subunit IV; K02693
plp:Ple7327_0482 Photosystem I reaction centre subunit III; K02694
mpk:VL20_471 photosystem II protein D1; K02703
plp:Ple7327_0153 photosystem II DI subunit, Q(B) protein; K02703
plp:Ple7327_4139 photosystem II chlorophyll-binding protein CP47; K02704
plp:Ple7327_3699 chlorophyll a/b binding light-harvesting protein; K02705
plp:Ple7327_2139 photosystem II reaction center protein P6/CP43; K02705
plp:Ple7327_3696 chlorophyll a/b binding light-harvesting protein; K02705
let:O77CONTIG1_00932 psbD1_1; Photosystem II D2 protein; K02706
plp:Ple7327_2138 Photosystem II DII subunit, Q(A) protein; K02706
plp:Ple7327_0922 cytochrome b559, alpha subunit; K02707
let:O77CONTIG1_03130 petB; Cytochrome b6; K02635
mic:Mic7113_2526 hypothetical protein; K02635
oni:Osc7112_1075 ferredoxin (2Fe-2S); K02639
let:O77CONTIG1_02407 Ferredoxin-1; K02639
lbo:LBWT_42580 FER1, Ferredoxin-1; K02639
cyn:Cyan7425_4804 ferredoxin (2Fe-2S); K02639
let:O77CONTIG1_02038 petH; Ferredoxin--NADP reductase; K02641
jaj:EKL02_14855 nirK; nitrite reductase, copper-containing; K00368
chon:NIES4102_13790 petE; plastocyanin; K02638
let:O77CONTIG1_03639 psaA; Photosystem I P700 chlorophyll a apoprotein A1; K02689
gei:GEI7407_3662 photosystem I protein PsaD; K02692
lbo:LBWT_13890 Photosystem I reaction centre subunit IV / PsaE; K02693

cthe:Chro_2108 photosystem I reaction centre subunit IV/PsaE; K02693
gei:GEI7407_1158 photosystem I reaction center protein PsaF subunit III; K02694
lbo:LBWT_57790 photosystem II DI subunit, Q(B) protein; K02703
nop:Nos7524_1111 photosystem II DI subunit, Q(B) protein; K02703
cthe:Chro_4335 photosystem q(b) protein; K02703
mic:Mic7113_6184 photosystem II chlorophyll-binding protein CP47; K02704
let:O77CONTIG1_03053 psbC_2; Photosystem II 44 kDa reaction center protein; K02705
let:O77CONTIG1_00932 psbD1_1; Photosystem II D2 protein; K02706
let:O77CONTIG1_00932 psbD1_1; Photosystem II D2 protein; K02706
oni:Osc7112_1985 Apocytochrome f; K02634
oni:Osc7112_0899 Cytochrome b6; K02635
oac:Oscil6304_5889 Rieske Fe-S protein; K02636
hao:PCC7418_3066 cytb6/f complex subunit IV; K02637
oni:Osc7112_0243 Cytochrome b6-f complex subunit 5; K02640
oni:Osc7112_0381 Cytochrome b6-f complex subunit 7; K02643
cyb:CYB_1598 ferredoxin, 2Fe-2S; K02639
csg:Cylst_0949 ferredoxin, (2Fe-2S); K02639
ann:EH233_01505 2Fe-2S iron-sulfur cluster binding domain-containing protein; K02639
oni:Osc7112_4817 ferredoxin (2Fe-2S); K02639
oni:Osc7112_1853 ferredoxin (2Fe-2S); K02639
arp:NIES39_L02790 petH; ferredoxin--NADP+ oxidoreductase; K02641
deu:DBW_2564 narG; Respiratory nitrate reductase 1 alpha chain; K00370
oni:Osc7112_5843 photosystem I protein PsaD; K02692
oni:Osc7112_4583 Photosystem I reaction center subunit IV; K02693
oni:Osc7112_0987 photosystem I reaction center protein PsaF subunit III; K02694
oni:Osc7112_1569 Photosystem Q(B) protein; K02703
oni:Osc7112_1569 Photosystem Q(B) protein; K02703
oni:Osc7112_0976 photosystem II chlorophyll-binding protein CP47; K02704
calo:Cal7507_2849 chlorophyll a/b binding light-harvesting protein; K02705
oni:Osc7112_3192 Cytochrome b559 subunit alpha; K02707
lbo:LBWT_55010 cytochrome f; K02634
lbo:LBWT_51310 cytochrome b/b6 domain-containing protein; K02635
len:LEP3755_16840 cytochrome b6; K02635
lbo:LBWT_24120 Rieske (2Fe-2S) domain-containing protein; K02636
len:LEP3755_41450 cytochrome b6/f complex subunit 5; K02640
lbo:LBWT_32645 PetM family of cytochrome b6f complex subunit 7; K02643
lbo:LBWT_23340 FER2, Ferredoxin II; Short=FdII; K02639
cyb:CYB_1598 ferredoxin, 2Fe-2S; K02639
lbo:LBWT_45260 ferredoxin 2Fe-2S; K02639
lbo:LBWT_46540 2Fe-2S ferredoxin; K02639
lbo:LBWT_42580 FER1, Ferredoxin-1; K02639
len:LEP3755_22940 ferredoxin-NADP+ oxidoreductase; K02641
lbo:LBWT_6780 plastocyanin; K02638

lbo:LBWT_48210 Photosystem I P700 chlorophyll a apoprotein A2; K02690
lbo:LBWT_25810 photosystem I core protein PsaB; K02690
lbo:LBWT_32780 PsaD protein; K02692
lbo:LBWT_13890 Photosystem I reaction centre subunit IV / PsaE; K02693
lbo:LBWT_33520 Photosystem I reaction centre subunit III; K02694
lbo:LBWT_57790 photosystem II DI subunit, Q(B) protein; K02703
lbo:LBWT_45920 photosystem II chlorophyll-binding protein CP47; K02704
lbo:LBWT_23870 photosystem II 44 kDa subunit reaction center protein; K02705
lbo:LBWT_23880 Photosystem II DII subunit, Q(A) protein; K02706
lbo:LBWT_23880 Photosystem II DII subunit, Q(A) protein; K02706
lbo:LBWT_23880 Photosystem II DII subunit, Q(A) protein; K02706
let:O77CONTIG1_03480 petA; Apocytochrome f precursor; K02634
cthe:Chro_4114 Cytochrome b/b6 domain protein; K02635
cthe:Chro_4126 Cytochrome b/b6 domain protein; K02635
gei:GEI7407_1514 Rieske (2Fe-2S) iron-sulfur domain protein; K02636
syo:C7I86_08620 cytochrome b6-f complex subunit 5; K02640
hhg:XM38_025510 Ferredoxin-1; K02639
cep:Cri9333_1947 ferredoxin (2Fe-2S); K02639
cyb:CYB_1598 ferredoxin, 2Fe-2S; K02639
gei:GEI7407_2688 ferredoxin (2Fe-2S); K02639
glp:Glo7428_2823 Ferredoxin--NADP(+) reductase; K02641
let:O77CONTIG1_02038 petH; Ferredoxin--NADP reductase; K02641
let:O77CONTIG1_04424 petE; Plastocyanin precursor; K02638
oni:Osc7112_2068 Photosystem I P700 chlorophyll a apoprotein A1; K02689
let:O77CONTIG1_03639 psaA; Photosystem I P700 chlorophyll a apoprotein A1; K02689
syf:Synpcc7942_0535 photosystem I iron-sulfurcenter; K02691
hhg:XM38_006600 psaD; Photosystem I reaction center subunit II; K02692
lbo:LBWT_13890 Photosystem I reaction centre subunit IV / PsaE; K02693
syc:syc0300_d psaF; photosystem I reaction center subunit III precursor; K02694
let:O77CONTIG1_02842 psbA2_3; Photosystem Q(B) protein 2 precursor; K02703
tvn:NIES2134_117690 psbA1; photosystem II D1 protein; K02703
ter:Tery_4763 photosystem q(b) protein; K02703
cthe:Chro_4335 photosystem q(b) protein; K02703
nsp:BMF81_03744 psbA2; photosystem II protein D1 2; K02703
cyn:Cyan7425_0861 photosystem II chlorophyll-binding protein CP47; K02704
calo:Cal7507_0256 photosystem II chlorophyll-binding protein CP47; K02704
awa:AA650_21810 psbE; cytochrome b559 subunit alpha; K02707
cyi:CBM981_1276 petA; Apocytochrome f; K02634
cyi:CBM981_1765 petB; Cytochrome b6; K02635
cyi:CBM981_2669 petM; Cytochrome b6-f complex subunit 7; K02643
syd:Syncc9605_1443 cytochrome b6-f complex subunit VIII; K03689
cyi:CBM981_0484 petF; Ferredoxin-2; K02639
cyi:CBM981_2836 petF; Ferredoxin-2; K02639

cyi:CBM981_2799 petF; Ferredoxin; K02639
cyi:CBM981_1213 petH; Ferredoxin--NADP reductase; K02641
cyi:CBM981_1894 psaA; Photosystem I P700 chlorophyll a apoprotein A1; K02689
cyi:CBM981_1894 psaA; Photosystem I P700 chlorophyll a apoprotein A1; K02689
pmj:P9211_17321 psaC; Photosystem I subunit PsaC; K02691
cyi:CBM981_1829 psaD; Photosystem I reaction center subunit II; K02692
cyi:CBM981_1744 psaE; Photosystem I reaction center subunit IV; K02693
cyi:CBM981_0737 psbA; Photosystem Q(B) protein 2; K02703
cyi:CBM981_1035 psbA; Photosystem Q(B) protein 3; K02703
cyi:CBM981_0737 psbA; Photosystem Q(B) protein 2; K02703
cyi:CBM981_1782 psbB; Photosystem II CP47 chlorophyll apoprotein; K02704
cyi:CBM981_2676 psbC; Photosystem II 44 kDa reaction center protein; K02705
cyi:CBM981_3130 psbD; Photosystem II D2 protein; K02706
syr:SynRCC307_1695 psbD; Photosystem II D2 protein; K02706
cgc:Cyagr_2141 cytochrome b559, alpha subunit; K02707
dwd:DSCW_06240 narG; nitrate reductase subunit alpha; K00370
dml:Dmul_36430 narI; NarI: nitrate reductase, subunit gamma; K00374
pta:HPL003_16460 nitrate reductase subunit alpha; K00370
hlm:DV707_06525 respiratory nitrate reductase subunit beta; K00371
dwd:DSCW_54970 cytochrome b6; K02636
dwd:DSCW_54970 cytochrome b6; K02636
dwd:DSCW_54970 cytochrome b6; K02636
dat:HRM2_00660 narG; NarG; K00370
dat:HRM2_00660 narG; NarG; K00370
dml:Dmul_36430 narI; NarI: nitrate reductase, subunit gamma; K00374
dat:HRM2_00660 narG; NarG; K00370
dti:Desti_0965 respiratory nitrate reductase beta subunit; K00371
amr:AM1_3682 short putative Rieske iron sulfur protein; K02636
dwd:DSCW_54970 cytochrome b6; K02636
gau:GAU_1385 nosZ; putative nitrous oxide reductase; K00376
gau:GAU_1385 nosZ; putative nitrous oxide reductase; K00376
gph:GEMMAAP_06490 photosynthetic reaction center subunit L; K08928
euz:DVS28_a2472 plastoquinol--plastocyanin reductase; K02636
gau:GAU_1385 nosZ; putative nitrous oxide reductase; K00376
gph:GEMMAAP_06490 photosynthetic reaction center subunit L; K08928
abaw:D5400_04795 photosynthetic reaction center subunit M; K08929
rbar:AWN76_011775 nitrous oxide reductase; K00376
gau:GAU_1385 nosZ; putative nitrous oxide reductase; K00376
gau:GAU_1385 nosZ; putative nitrous oxide reductase; K00376
lpil:LIP_1511 hypothetical protein; K02636
gau:GAU_1385 nosZ; putative nitrous oxide reductase; K00376
rdp:RD2015_1045 Photosynthetic reaction center M subunit; K08929
cap:CLDAP_07150 putative nitrous oxide reductase; K00376

rge:RGE_33630 pufL; photosynthesis reaction center complex, L subunit PufL; K08928
tig:THII_1673 putative nitrite oxidoreductase/nitrate reductase alpha subunit; K00370
metd:C0214_15335 photosynthetic reaction center subunit L; K08928
lmb:C9I47_0657 membrane protein; K00368
tni:TVNIR_1638 nosZ_[H]; Nitrous-oxide reductase; K00376
prs:B9H02_08935 cytochrome B; K02635
ctm:Cabther_A0913 Cytochrome b subunit of the bc complex; K02635
tig:THII_1673 putative nitrite oxidoreductase/nitrate reductase alpha subunit; K00370
sdr:SCD_n00349 nosZ; nitrous-oxide reductase; K00376
mets:DK389_31405 photosynthetic reaction center subunit L; K08928
nlc:EBAPG3_001590 nirK; nitrite reductase, copper-containing; K00368
pbf:CFX0092_A0107 nosZ; Nitrous-oxide reductase; K00376
mox:DAMO_0821 petB; Cytochrome bc complex cytochrome b subunit; K02635
psl:Psta_2937 Rieske (2Fe-2S) domain protein; K02636
psl:Psta_2937 Rieske (2Fe-2S) domain protein; K02636
nja:NSJP_2410 putative Cytochrome b6-f complex iron-sulfur subunit; K02636
mox:DAMO_0821 petB; Cytochrome bc complex cytochrome b subunit; K02635
psl:Psta_2937 Rieske (2Fe-2S) domain protein; K02636
rmr:Rmar_2012 Nitrous-oxide reductase; K00376
psl:Psta_2937 Rieske (2Fe-2S) domain protein; K02636
bos:BSY19_1092 narI; respiratory nitrate reductase, gamma subunit; K00374
bos:BSY19_1089 nitrate reductase, alpha subunit; K00370
bos:BSY19_1089 nitrate reductase, alpha subunit; K00370
cbot:ATE48_08780 narH; nitrate reductase; K00371
thaa:CFI11_23580 photosynthetic reaction center subunit L; K08928
blas:BSY18_3560 pufL; photosynthetic reaction center L subunit; K08928
lih:L63ED372_00635 pufM; Reaction center protein M chain; K08929
php:PhaeoP97_03839 nosZ; Nitrous-oxide reductase precursor; K00376
azr:CJ010_10955 hypothetical protein; K10944
azr:CJ010_10960 methane monooxygenase/ammonia monooxygenase subunit B; K10945
abaw:D5400_04800 photosynthetic reaction center subunit L; K08928
hyr:BSY239_1374 pufM; photosynthetic reaction center M subunit; K08929
mpt:Mpe_A1707 respiratory nitrate reductase beta subunit; K00371
hyr:BSY239_1375 pufL; photosynthetic reaction center L subunit; K08928
rid:RIdsm_01762 pufL; Photosynthetic reaction center L subunit; K08928
metp:C1M51_03550 photosynthetic reaction center subunit L; K08928
rce:RC1_2100 pufM; photosynthetic reaction center M subunit; K08929
pts:CUJ90_08135 narH; nitrate reductase subunit beta; K00371
rge:RGE_33630 pufL; photosynthesis reaction center complex, L subunit PufL; K08928
seds:AAY24_11260 cytochrome C; K00376
don:BSK21_00510 nitrate reductase subunit beta; K00371
mmai:sS8_3418 methane monooxygenase, C subunit; K10946
mca:MCA2855 ammonia monooxygenase/methane monooxygenase, subunit C family protein; K1094

mca:MCA0295 pmoC3; methane monooxygenase, C subunit; K10946
rdp:RD2015_1044 Photosynthetic reaction center L subunit; K08928
mpt:Mpe_A1708 respiratory nitrate reductase alpha subunit apoprotein; K00370
mpt:Mpe_A1707 respiratory nitrate reductase beta subunit; K00371
mdi:METDI3502 pufL; photosynthetic reaction center L subunit; K08928
don:BSK21_00505 nitrate reductase subunit alpha; K00370
tii:DY252_05915 nitrate reductase subunit alpha; K00370
malg:MALG_04639 nitrate reductase, beta subunit; K00371
pts:CUJ90_08125 narI; respiratory nitrate reductase subunit gamma; K00374
lim:L103DPR2_00980 pufM; Reaction center protein M chain; K08929
seds:AAY24_02965 oxidoreductase; K02641
seds:AAY24_11260 cytochrome C; K00376
odi:ODI_R3857 Respiratory nitrate reductase gamma chain; K00374
metp:C1M51_03550 photosynthetic reaction center subunit L; K08928
pts:CUJ90_08125 narI; respiratory nitrate reductase subunit gamma; K00374
mpt:Mpe_A1708 respiratory nitrate reductase alpha subunit apoprotein; K00370
rge:RGE_33630 pufL; photosynthesis reaction center complex, L subunit PufL; K08928
rbn:RBXJA2T_09477 photosynthetic reaction center subunit M; K08929
taw:EI545_18975 photosynthetic reaction center subunit L; K08928
hyr:BSY239_3897 nitrate reductase, alpha subunit; K00370
metr:BSY238_2453 pufL; photosynthetic reaction center L subunit; K08928
hyr:BSY239_3897 nitrate reductase, alpha subunit; K00370
otk:C6570_00030 narH; nitrate reductase subunit beta; K00371
lim:L103DPR2_00979 pufL; Reaction center protein L chain; K08928
jeu:BJP62_06720 nitrate reductase subunit alpha; K00370
tni:TVNIR_1752 narG_[H]; Respiratory nitrate reductase alpha chain; K00370
melm:C7H73_04615 nirK; nitrite reductase, copper-containing; K00368
rbn:RBXJA2T_09472 photosynthetic reaction center subunit L; K08928
pkd:F8A10_19655 nitrate reductase subunit alpha; K00370
maru:FIU81_13825 pufM; Reaction center protein M chain; K08929
spho:C3E99_14795 narI; respiratory nitrate reductase subunit gamma; K00374
porl:BG023_112676 photosynthetic reaction center M subunit; K08929
boz:DBV39_17400 narI; respiratory nitrate reductase subunit gamma; K00374
odi:ODI_R3860 Respiratory nitrate reductase alpha chain; K00370
hyr:BSY239_1375 pufL; photosynthetic reaction center L subunit; K08928
taw:EI545_18975 photosynthetic reaction center subunit L; K08928
taw:EI545_18975 photosynthetic reaction center subunit L; K08928
metp:C1M51_03545 photosynthetic reaction center subunit M; K08929
buq:AC233_31255 narH; nitrate reductase; K00371
rhf:EUB48_19745 nitrate reductase subunit alpha; K00370
rjg:CCGE525_33910 nitrate reductase subunit alpha; K00370
cti:RALTA_B2043 narH; nitrate reductase 1, Fe-S (beta) subunit; K00371
rfr:Rfer_2793 respiratory nitrate reductase beta subunit; K00371

tni:TVNIR_1752 narG_[H]; Respiratory nitrate reductase alpha chain; K00370
bfn:OI25_4163 narH; nitrate reductase, beta subunit; K00371
mico:GDR74_00450 nosZ; TAT-dependent nitrous-oxide reductase; K00376
brq:CIT40_23910 photosynthetic reaction center subunit L; K08928
hut:Huta_0024 DMSO reductase family type II enzyme, molybdopterin subunit; K00370
paur:FGL86_17045 respiratory nitrate reductase subunit beta; K00371
tbn:TBH_C0619 nitrous-oxide reductase; K00376
ebs:ECTOBSL9_3041 photosynthetic reaction center subunit L; K08928
lvs:LOKVESSMR4R_01114 narI; respiratory nitrate reductase 1 gamma chain; K00374
taw:EI545_18975 photosynthetic reaction center subunit L; K08928
taw:EI545_18975 photosynthetic reaction center subunit L; K08928
bos:BSY19_1090 narH; nitrate reductase, beta subunit; K00371
rpod:E0E05_11820 photosynthetic reaction center subunit L; K08928
bos:BSY19_1089 nitrate reductase, alpha subunit; K00370
bos:BSY19_1089 nitrate reductase, alpha subunit; K00370
bos:BSY19_4049 pufL; photosynthetic reaction center L subunit; K08928
tmz:Tmz1t_2635 nitrate reductase, alpha subunit; K00370
rce:RC1_2099 pufL; photosynthetic reaction center L subunit; K08928
lbf:LBF_3318 Reductase; K02641
lbf:LBF_1028 Multicopper oxidase lipoprotein; K00368
anp:FK178_10520 nirK; nitrite reductase, copper-containing; K00368
ctm:Cabther_A0913 Cytochrome b subunit of the bc complex; K02635
dji:CH75_00620 membrane protein; K00368
obg:Verru16b_00368 aniA; Copper-containing nitrite reductase precursor; K00368
obg:Verru16b_00368 aniA; Copper-containing nitrite reductase precursor; K00368
vbh:CMV30_03810 nitrous-oxide reductase; K00376
hyd:PK28_17985 nitrous oxide reductase; K00376
pact:CA264_06880 nitrite reductase, copper-containing; K00368
run:DR864_24950 nosZ; Sec-dependent nitrous-oxide reductase; K00376

kegg_RBH	kegg_identity	kegg_bitScore	kegg_eVal
0	0.559	171	5.98E-46
0	0.457	84	4.52E-16
0	0.555	166	5.36E-44
0	0.605	174	3.25E-47
0	0.814	282	2.11E-84
1	0.814	1034	0
0	0.555	166	5.36E-44
0	0.549	163	2.87E-43
1	0.776	1821	0
0	0.69	131	1.82E-33
0	0.768	638	2.42E-203
1	0.743	1302	0
0	0.597	252	5.78E-72
1	0.719	1353	0
1	0.474	404	3.69E-121
1	0.667	890	3.72E-285
1	0.745	1869	0
0	0.629	237	2.28E-68
0	0.818	923	3.34E-298
0	0.722	968	1.90099999999902e-312
1	0.556	1206	0
0	0.243	99	1.39E-18
1	0.835	606	4.71E-193
1	0.774	873	1.20E-281
0	0.643	107	4.23E-25
0	0.589	190	8.62E-53
0	0.658	203	2.37E-57
1	0.798	981	5.33499989429711e-318
1	0.776	984	1.32099813925512e-318
1	0.739	1025	0
0	0.664	201	1.01E-56
1	0.77	1412	0
0	0.532	163	6.11E-43
0	0.716	185	4.76E-51
0	0.243	99	1.39E-18
1	0.49	390	3.92E-116
1	0.6	1303	0
0	0.54	267	1.14E-75
0	0.914	791	5.91E-256
0	0.919	908	1.96E-295
1	0.793	1073	0
0	0.872	232	4.58E-68

1	0.891	1236	0
1	0.766	1007	0
1	0.917	1251	0
0	0.45	111	1.03E-25
1	0.941	1277	0
0	0.525	162	4.54E-43
0	0.895	261	8.85E-78
0	0.75	156	3.89E-42
0	0.905	220	7.66E-64
1	0.948	454	5.09E-143
1	0.77	1022	0
0	0.541	161	2.60E-42
1	0.875	1154	0
1	0.822	1068	0
0	0.912	183	1.30E-51
1	0.805	1068	0
1	0.87	1175	0
1	0.822	1068	0
1	0.809	2038	0
1	0.869	1161	0
1	0.646	1258	0
0	0.902	91	1.35E-20
0	0.662	76	2.88E-15
1	0.845	1128	0
1	0.905	653	1.81E-209
1	0.896	1215	0
1	0.857	1142	0
1	0.812	1080	0
1	0.953	1279	0
1	0.869	1139	0
0	0.508	153	1.93E-39
1	0.822	1068	0
0	0.509	153	1.41E-39
1	0.822	1068	0
0	0.292	70	1.63E-09
0	0.361	83	1.12E-15
0	0.569	117	1.23E-27
1	0.729	960	0
1	0.818	1086	0
1	0.812	1075	0
1	0.891	1207	0
1	0.871	1142	0
1	0.899	1220	0

0	0.519	149	1.62E-38
0	0.468	165	2.74E-43
1	0.546	413	3.89E-123
0	0.732	139	2.81E-36
0	0.714	135	6.65E-35
1	0.653	616	6.36E-194
0	0.714	266	3.30E-78
0	0.464	164	6.76E-43
1	0.532	464	1.65E-139
0	0.464	164	4.70E-43
1	0.557	468	1.53E-142
1	0.629	502	6.99E-155
0	0.441	122	1.25E-28
1	0.653	552	1.28E-171
0	0.319	78	1.02E-13
1	0.704	574	8.52E-180
0	0.502	143	1.61E-36
1	0.814	1530	0
0	0.524	108	2.37E-25
0	0.483	166	4.93E-44
0	0.489	168	9.80E-45
0	0.449	132	3.32E-31
0	0.822	131	8.59E-34
0	0.586	158	8.11E-41
1	0.57	484	3.59E-148
0	0.386	118	7.44E-27
0	0.21	88	4.90E-15
0	0.473	166	2.35E-43
1	0.747	501	2.90E-157
0	0.867	321	9.16E-98
0	0.788	212	8.27E-61
1	0.909	1452	0
0	1	176	1.44E-49
0	0.872	259	3.08E-77
0	0.746	122	1.08E-30
0	0.759	257	7.89E-76
0	0.955	231	6.01E-68
0	0.958	105	1.72E-25
0	0.955	107	5.35E-26
0	0.964	167	2.86E-46
0	1	65	4.54E-12
1	0.943	916	1.57E-298
0	1	125	2.12E-31

0	1	94	6.25E-22
0	1	125	2.34E-32
0	0.886	152	4.77E-41
1	0.836	569	5.73E-181
0	0.645	253	4.77E-73
1	0.957	449	3.17E-141
0	0.613	173	2.09E-47
0	0.886	71	9.16E-14
0	0.959	198	8.88E-57
0	0.689	126	6.81E-32
0	0.906	233	1.82E-68
0	0.705	143	2.00E-37
0	0.817	179	5.11E-50
0	0.805	166	1.30E-45
1	0.896	748	1.68E-241
0	0.834	219	1.40E-63
1	0.931	1489	0
0	1	180	8.35E-51
0	1	177	7.65E-50
0	0.919	275	1.01E-82
0	0.594	151	8.74E-40
0	0.864	300	9.99E-91
1	0.966	734	3.01E-237
1	0.953	724	4.44E-234
1	0.952	1013	0
1	0.909	359	8.27E-111
1	0.992	891	2.08E-290
0	0.867	369	1.83E-113
0	1	61	9.78E-11
0	1	95	4.32E-22
0	0.94	160	6.20E-44
1	0.936	437	2.16E-137
0	0.637	242	3.62E-69
0	0.818	208	1.10E-59
0	0.755	165	3.95E-45
0	0.935	196	3.47E-56
0	0.854	177	1.35E-49
1	0.781	666	6.51E-213
1	0.633	570	1.31E-177
0	0.731	177	9.20E-49
1	0.939	1480	0
0	0.834	245	3.64E-72
0	0.855	134	8.69E-35

0	0.625	156	1.64E-41
0	0.752	248	7.11E-73
0	0.991	61	1.42E-10
1	0.884	664	3.65E-213
0	0.966	181	3.34E-51
1	0.914	975	4.395000477832 48e-318
1	0.959	931	1.30E-303
0	1	72	2.40E-14
0	1	72	2.40E-14
1	0.865	592	6.96E-189
0	0.957	328	1.12E-100
0	0.8	293	7.45E-88
0	0.87	289	9.72E-87
0	0.929	78	2.29E-16
0	0.881	65	8.72E-12
0	0.61	119	2.03E-29
0	0.799	171	4.80E-47
0	0.818	169	1.04E-46
0	0.915	192	1.54E-54
0	0.908	201	7.63E-58
1	0.763	625	6.29E-199
1	0.755	1845	0
0	0.952	284	6.74E-86
0	0.613	151	2.74E-40
0	0.888	302	1.71E-91
0	0.965	90	2.82E-20
0	0.965	90	2.82E-20
1	0.956	1024	0
1	0.752	485	5.71E-152
0	0.916	156	2.22E-42
1	0.915	587	1.44E-187
1	0.838	381	9.89E-118
1	0.985	449	1.66E-141
0	0.799	228	1.73E-66
0	0.896	72	4.59E-14
0	0.856	63	4.29E-11
0	0.967	204	8.54E-59
0	0.604	118	7.20E-29
0	0.877	196	9.18E-56
0	0.943	244	3.61E-72
0	0.955	201	7.80E-58
1	0.874	749	1.35E-241
0	0.853	239	2.84E-70

1	0.963	1499	0
0	0.876	64	1.20E-11
0	0.955	283	1.58E-85
0	0.922	153	1.67E-41
0	0.922	349	1.05E-107
1	0.978	524	3.52E-166
1	0.993	1061	0
1	1	492	5.72E-156
0	1	94	1.06E-21
0	1	68	7.11E-13
0	1	68	7.11E-13
1	0.753	500	7.13E-157
0	0.633	236	5.33E-68
1	0.933	436	5.58E-137
0	0.522	155	5.80E-41
0	0.9	72	3.34E-14
0	0.828	209	4.48E-60
0	0.752	164	7.80E-45
0	0.621	122	3.04E-30
0	0.942	198	9.79E-57
0	0.669	94	3.85E-21
1	0.781	666	6.24E-213
0	0.627	172	3.11E-47
1	0.916	1471	0
1	0.929	1462	0
0	1	180	8.35E-51
0	0.866	256	7.23E-76
0	0.878	141	1.92E-37
0	0.737	239	6.71E-70
0	0.92	62	6.86E-11
0	0.987	65	6.60E-12
0	0.973	103	1.04E-24
0	0.932	106	1.06E-25
1	0.945	544	3.34E-173
1	0.918	980	1.003990798914e-319
1	0.842	887	2.36E-287
0	0.885	150	2.56E-40
1	0.819	514	8.48E-162
1	0.942	451	6.05E-142
0	0.838	60	5.19E-10
0	0.869	62	7.68E-11
0	0.936	236	1.90E-69
0	0.802	173	4.70E-48

0	0.97	205	4.54E-59
1	0.799	643	5.30E-205
1	0.987	1020	0
0	0.977	334	1.29E-102
0	1	179	1.15E-50
0	0.958	290	6.51E-88
0	0.949	140	3.49E-37
0	0.947	352	9.53E-109
0	0.869	203	3.95E-58
1	0.978	410	1.87E-128
1	0.973	1065	0
1	0.998	977	1.83100728348766e-319
0	1	91	1.27E-20
0	1	76	9.98E-16
0	0.933	161	3.46E-44
1	0.796	2007	0
0	0.597	251	9.21E-73
0	0.852	108	8.27E-25
1	0.547	365	8.79E-110
0	0.573	191	1.21E-52
0	0.574	191	6.53E-53
0	0.6	181	1.40E-49
1	0.818	1905	0
1	0.773	1940	0
0	0.6	255	3.95E-74
0	1	91	9.79E-21
0	0.54	72	2.26E-13
0	0.331	69	4.78E-11
0	0.317	74	1.13E-12
1	0.738	983	1.16799984257617e-317
1	0.79	1039	0
1	0.928	532	3.59E-169
0	0.507	104	1.19E-22
1	0.76	1008	0
0	0.776	436	5.12E-136
1	0.779	505	7.89E-156
0	0.854	94	1.23E-21
1	0.759	1008	0
0	0.753	739	8.92E-237
0	0.427	108	3.04E-24
0	0.722	273	1.24E-80
0	0.882	233	6.29E-65
1	0.605	771	1.38E-244

1	0.89	510	2.18E-161
1	0.615	1375	0
1	0.869	496	9.81E-157
1	0.599	580	2.31E-181
1	0.642	726	5.33E-229
0	0.659	186	3.13E-51
0	0.385	185	1.49E-47
1	0.646	1458	0
1	0.816	1268	0
1	0.872	498	2.78E-157
1	0.703	475	6.25E-148
1	0.63	820	4.67E-261
0	0.507	240	1.68E-67
0	0.807	271	5.50E-80
0	0.707	255	2.25E-74
0	0.388	96	2.60E-20
0	0.503	338	3.11E-99
0	0.807	271	5.50E-80
1	0.634	810	6.73E-258
1	0.685	405	1.03E-124
1	0.814	408	7.48E-127
1	0.903	1777	0
0	0.966	704	3.59E-227
0	0.715	222	4.17E-64
1	0.898	515	3.62E-163
0	0.896	128	5.52E-33
0	0.947	195	9.40E-56
0	0.859	285	8.46E-86
0	0.547	255	1.13E-72
0	0.617	128	5.06E-32
1	0.914	522	1.55E-165
0	0.938	244	2.63E-72
0	0.99	84	2.98E-18
1	0.965	558	3.81E-178
1	0.959	557	1.62E-177
1	0.928	534	7.09E-170
1	0.82	550	1.68E-174
1	0.915	801	1.31E-259
1	0.956	563	9.09E-180
0	0.806	166	9.03E-46
0	1	234	4.68E-69
1	0.796	445	3.87E-138
0	0.872	73	1.36E-14

0	0.9	79	1.04E-16
1	0.889	507	1.44E-160
1	0.861	1061	0
1	0.879	513	1.85E-162
1	0.937	538	3.18E-171
1	0.923	1777	0
0	0.916	1200	0
0	0.895	299	1.48E-90
0	0.896	92	7.47E-21
0	0.919	118	1.12E-29
1	0.652	361	1.42E-109
1	0.818	548	8.51E-174
1	0.744	357	3.24E-109
1	0.949	548	1.14E-174
0	0.896	92	7.47E-21
1	0.879	2019	0
1	0.94	552	6.19E-176
0	0.859	223	5.41E-65
1	0.947	563	1.43E-179
1	0.955	1306	0
1	0.969	559	1.68E-178
1	0.927	1720	0
1	0.898	524	3.56E-166
1	0.959	563	1.25E-179
1	0.789	801	4.65E-258
0	0.854	422	8.82E-132
1	0.7	642	3.28E-202
0	0.946	219	9.33E-64
1	0.892	554	2.97E-176
0	0.973	144	1.63E-38
1	0.82	395	2.23E-122
1	0.919	590	1.21E-188
0	0.762	150	4.60E-40
1	0.986	622	8.49E-200
1	0.971	562	1.71E-179
1	0.939	557	1.18E-177
1	0.826	468	1.11E-146
1	0.861	471	2.59E-148
0	0.905	148	9.27E-40
0	1	187	2.27E-53
0	0.912	155	3.43E-42
1	0.832	496	4.46E-156
1	0.883	540	1.52E-171

1	0.813	2089	0
0	0.945	111	1.46E-27
1	0.702	911	3.49E-293
1	0.864	487	1.20E-153
0	0.476	397	7.94E-118
1	0.695	448	6.07E-139
1	0.789	1217	0
1	0.919	528	8.01E-168
1	0.87	475	1.38E-149
1	0.963	500	1.39E-157
1	0.987	488	8.63E-153
1	0.837	444	5.22E-139
1	0.886	526	1.40E-166
0	0.931	716	7.95E-231
1	0.89	2181	0
1	0.914	508	1.06E-160
1	0.92	702	2.24E-226
1	0.902	517	5.46E-164
1	0.777	497	2.51E-156
1	0.816	761	1.05E-244
0	0.713	132	9.20E-34
1	0.742	539	6.96E-170
1	0.618	351	7.81E-106
1	0.769	767	6.78E-246
0	0.707	693	2.29E-220
1	0.948	1262	0
1	0.761	986	7.27101589015187e-319
1	0.73	648	2.19E-205
1	0.863	365	1.30E-112

Sample Source	Total Sequencing (bp)	Read Length (bp)	# Reads
0-5mm_PM1	59,120,809,238	151	391,528,538
0-5mm_PM2	18,526,094,266	151	122,689,366
0-5mm_PM3	10,833,626,974	151	71,745,874
10-15mm_PM1	8,003,359,682	151	53,002,382
10-15mm_PM2	9,673,422,400	151	64,062,400
10-15mm_PM3	10,283,788,258	151	68,104,558
20-25mm_PM1	25,799,439,918	151	170,857,218
20-25mm_PM2	12,742,394,116	151	84,386,716
20-25mm_PM3	26,942,124,868	151	178,424,668
Bottom_PM	14,938,852,800	151	98,932,800
0-5mm_AM1	29,441,373,282	151	194,975,982
0-5mm_AM2	24,894,884,384	151	164,866,784
0-5mm_AM3	23,428,707,000	151	155,157,000
10-15mm_AM1	13,088,637,720	151	86,679,720
10-15mm_AM2	18,397,648,532	151	121,838,732
10-15mm_AM3	21,972,492,294	151	145,513,194
20-25mm_AM1	24,097,460,330	151	159,585,830
20-25mm_AM2	31,663,483,544	151	209,691,944
20-25mm_AM3	27,212,660,696	151	180,216,296
Bottom_AM	24,912,637,454	151	164,984,354

# JGI Filtered Reads	# JGI Filtered and Sickle Trimmed Reads	# Trimmed Reads that Mapped to dRep MAGs	% Trimmed Reads that Mapped to dRep MAGs
19,200,916	19,094,176	2,361,156	12.3658439096822
27,622,310	27,519,264	2,879,437	10.4633503279739
44,052,100	43,972,578	5,188,552	11.7995174174232
29,447,708	29,354,918	4,168,758	14.2012251575699
40,577,298	40,489,536	4,035,545	9.96688378943142
42,416,992	42,340,866	5,722,705	13.5157958271331
16,822,104	16,721,390	2,575,928	15.4049872648147
46,857,978	46,776,340	5,243,866	11.2105094156576
31,026,380	30,888,638	3,805,418	12.3197986262781
16,451,128	16,401,358	2,677,467	16.3246665306617
28,921,404	28,834,294	4,420,627	15.3311435334605
37,296,152	37,191,512	4,629,144	12.4467754900634
18,479,260	18,421,848	2,943,524	15.9784403823113
37,191,918	37,129,648	7,227,254	19.4649138607508
16,495,394	16,435,720	1,648,718	10.0313098543903
14,770,994	14,731,214	1,769,445	12.0115355054919
26,084,542	26,005,336	6,016,753	23.1366093481738
15,914,834	15,808,412	1,553,519	9.82716670086787
27,004,688	26,850,172	3,893,601	14.5012143683847
19,379,006	19,313,676	3,385,682	17.52997202604

NCBI BioSample ID Reads	SRA #	JGI GOLD ID
SAMN14511326	SRP272202	Gp0434213
SAMN14511239	SRP272188	Gp0434214
SAMN14511380	SRP272190	Gp0434215
SAMN14511381	SRP272189	Gp0434216
SAMN14511294	SRP272213	Gp0434217
SAMN14511622	SRP272221	Gp0434218
SAMN14511447	SRP272516	Gp0434219
SAMN14511388	SRP272515	Gp0434220
SAMN14511404	SRP272517	Gp0434221
SAMN15739416	SRP284299	Gp0434222
SAMN14511621	SRP272521	Gp0434223
SAMN14511422	SRP272522	Gp0434224
SAMN14511387	SRP272526	Gp0434225
SAMN14511620	SRP272530	Gp0434226
SAMN14511421	SRP272536	Gp0434227
SAMN14511602	SRP272537	Gp0434228
SAMN14511293	SRP272538	Gp0434229
SAMN14511601	SRP272542	Gp0434230
SAMN14511238	SRP272541	Gp0434231
SAMN14511237	SRP272558	Gp0434232

fasta	scaffold
CSM_Prado_Oct18_PM_0.5z2_DNA_contigs_2500	scaffold_16767
CSM_Prado_Oct18_PM_0.5z2_DNA_contigs_2500	scaffold_16767
CSM_Prado_Oct18_PM_0.5z2_DNA_contigs_2500	scaffold_16767
CSM_Prado_Oct18_PM_0.5z2_DNA_contigs_2500	scaffold_22262
CSM_Prado_Oct18_PM_0.5z2_DNA_contigs_2500	scaffold_22262
CSM_Prado_Oct18_PM_0.5z2_DNA_contigs_2500	scaffold_22262
CSM_Prado_Oct18_PM_0.5z2_DNA_contigs_2500	scaffold_27162
CSM_Prado_Oct18_PM_0.5z2_DNA_contigs_2500	scaffold_33625
CSM_Prado_Oct18_PM_1.5z2_DNA_contigs_2500	scaffold_14283
CSM_Prado_Oct18_PM_1.5z2_DNA_contigs_2500	scaffold_2126
CSM_Prado_Oct18_PM_1.5z2_DNA_contigs_2500	scaffold_2756
CSM_Prado_Oct18_PM_1.5z2_DNA_contigs_2500	scaffold_3065
CSM_Prado_Oct18_PM_1.5z2_DNA_contigs_2500	scaffold_3065
CSM_Prado_Oct18_PM_1.5z2_DNA_contigs_2500	scaffold_49112
CSM_Prado_Oct18_PM_1.5z2_DNA_contigs_2500	scaffold_49112
CSM_Prado_Oct18_PM_1.5z2_DNA_contigs_2500	scaffold_49112
CSM_Prado_Oct18_PM_1.5z2_DNA_contigs_2500	scaffold_68184
CSM_Prado_Oct18_PM_1.5z2_DNA_contigs_2500	scaffold_9478
CSM_Prado_Oct18_PM_2.5z2_DNA_contigs_2500	scaffold_102140
CSM_Prado_Oct18_PM_2.5z2_DNA_contigs_2500	scaffold_1607
CSM_Prado_Oct18_PM_2.5z2_DNA_contigs_2500	scaffold_29233
CSM_Prado_Oct18_PM_2.5z2_DNA_contigs_2500	scaffold_29233
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CSM_Prado_Oct18_PM_2.5z2_DNA_contigs_2500	scaffold_42895
CSM_Prado_Oct18_PM_2.5z2_DNA_contigs_2500	scaffold_30079
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CSM_Prado_Oct18_PM_2.5z2_DNA_contigs_2500	scaffold_72681
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CSM_Prado_Jun18_A3_Bubble_DNA_contigs_2500	scaffold_22954
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CSM_Prado_Jun18_A3_Bubble_DNA_contigs_2500	scaffold_122866
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CSM_Prado_Oct18_PM_Bottom_DNA_contigs_2500	scaffold_145796

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Subassembly_CSM_Prado_Oct18_PM_Bottom_DNA_contigs_2500	scaffold_11046
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Subassembly_CSM_Prado_Oct18_PM_Bottom_DNA_contigs_2500	scaffold_52665

gene_position	start_position	end_position	strandedness	rank
5	3571	4350	1	A
6	4499	5242	1	A
7	5352	6596	1	A
1	3	350	1	C
2	658	1416	1	A
3	1578	2837	1	A
5	5677	6072	1	C
1	3	92	1	C
1	50	1309	1	C
36	21669	21878	1	C
25	28346	28474	-1	C
19	16166	17425	-1	A
20	17587	18345	-1	A
3	982	1758	-1	A
4	1829	3064	-1	A
5	3079	3831	-1	A
1	2	118	-1	C
12	8636	9406	-1	A
1	2	130	1	C
17	19302	19439	1	C
5	4771	5880	-1	A
6	6043	6801	-1	A
1	2	166	1	C
6	5249	5422	1	C
6	4687	5364	1	A
7	5672	6430	1	A
8	6592	7851	1	A
4	2132	3361	-1	C
5	3450	4193	-1	A
6	4346	4528	-1	C
3	1315	2091	-1	A
4	2162	3397	-1	A
5	3412	3963	-1	A
2	1086	2330	-1	A
3	2420	3052	-1	C
10	9996	10445	-1	C
11	10406	11182	-1	C
12	11188	12048	-1	C
13	12175	12957	-1	C
4	2337	2828	-1	C
1	2	613	-1	C
2	619	1479	-1	C
3	1611	2393	-1	C
1	2	205	1	C

2	339	1082	1	A
3	1172	2416	1	A
1	396	1163	1	A
2	1505	2263	1	A
3	2426	3685	1	A
1	422	1681	-1	A
2	1843	2601	-1	A
3	2909	3628	-1	A
1	1	225	1	C
2	378	1121	1	A
3	1210	1692	1	C
4	1668	2426	1	C
1	230	1474	-1	A
2	1585	2328	-1	A
3	2450	3202	-1	A
36	21698	22450	1	A
37	22465	23700	1	A
38	23771	24547	1	A
1	354	1598	-1	A
2	1709	2452	-1	A
3	2574	3326	-1	A
1	1	225	1	C
2	378	1121	1	A
3	1210	2439	1	A
1	55	831	-1	A
2	902	2137	-1	A
3	2153	2905	-1	A
1	2	313	1	C
2	655	1413	1	A
3	1576	2835	1	A
1	205	1449	-1	A
2	1539	2282	-1	A
3	2416	2619	-1	C

Blast, NCBI Taxonomy	Blast, Taxid	Blast, Max Score	Blast, Total Score
Methylococcus geothermalis	2681310	2612	6036
Methylococcus geothermalis	2681310	2612	6036
Methylococcus geothermalis	2681310	2612	6036
Methylocystis parvus	134	3626	9855
Methylocystis parvus	134	3626	9855
Methylocystis parvus	134	3626	9855
Methylocystis parvus	134	2019	6018
Methylocystis parvus	134	1694	3749
Methylocystis sp. M	51782	1975	1975
Methylocystis rosea	173366	15575	17951
Methylococcus geothermalis	2681310	815	815
Methylocystis parvus	134	3138	14764
Methylocystis parvus	134	3138	14764
Methylocystis sp. SB2	743836	3181	3181
Methylocystis sp. SB2	743836	3181	3181
Methylocystis sp. SB2	743836	3181	3181
Methylococcus sp. EFPC2	2812648	608	608
Methylocystis sp. SC2	187303	1803	4679
Methylomonas sp. LL1	2785785	261	261
Methylocystis parvus	134	7009	14391
Methylocystis parvus	134	2964	9832
Methylocystis parvus	134	2964	9832
Methylococcus geothermalis	2681310	815	1346
Methylomagnum ishizawai	1760988	198	397
Methylocystis parvus	134	6242	15158
Methylocystis parvus	134	6242	15158
Methylocystis parvus	134	6242	15158
Methylococcus capsulatus	414	1746	4038
Methylococcus capsulatus	414	1746	4038
Methylococcus capsulatus	414	1746	4038
Methylocystis sp. SB2	743836	2752	2752
Methylocystis sp. SB2	743836	2752	2752
Methylocystis sp. SB2	743836	2752	2752
Methylococcus sp. Mc7	2860258	1807	3614
Methylococcus sp. Mc7	2860258	1807	3614
Hydrogenophaga pseudoflava	47421	2281	2729
Hydrogenophaga pseudoflava	47421	2281	2729
Hydrogenophaga pseudoflava	47421	2281	2729
Hydrogenophaga pseudoflava	47421	2281	2729
			No sign
uncultured bacterium	77133	87.9	87.9
uncultured bacterium	77133	87.9	87.9
uncultured bacterium	77133	87.9	87.9
Methylococcus sp. Mc7	2860258	1849	4155

Methylococcus sp. Mc7	2860258	1849	4155
Methylococcus sp. Mc7	2860258	1849	4155
Methylocystis parvus	134	4558	11402
Methylocystis parvus	134	4558	11402
Methylocystis parvus	134	4558	11402
Methylocystis parvus	134	4233	11585
Methylocystis parvus	134	4233	11585
Methylocystis parvus	134	4233	11585
Methylococcus capsulatus	414	1674	4027
Methylococcus capsulatus	414	1674	4027
Methylococcus capsulatus	414	1674	4027
Methylococcus capsulatus	414	1674	4027
Methylobacter sp. S3L5C	2839024	4076	4076
Methylobacter sp. S3L5C	2839024	4076	4076
Methylobacter sp. S3L5C	2839024	4076	4076
Methylocystis sp. SC2	187303	13021	17314
Methylocystis sp. SC2	187303	13021	17314
Methylocystis sp. SC2	187303	13021	17314
Methylobacter sp. S3L5C	2839024	4082	4082
Methylobacter sp. S3L5C	2839024	4082	4082
Methylobacter sp. S3L5C	2839024	4082	4082
Methylococcus capsulatus	414	1746	4171
Methylococcus capsulatus	414	1746	4171
Methylococcus capsulatus	414	1746	4171
Methylocystis sp. SB2	743836	3544	3544
Methylocystis sp. SB2	743836	3544	3544
Methylocystis sp. SB2	743836	3544	3544
Methylocystis parvus	134	3631	8501
Methylocystis parvus	134	3631	8501
Methylocystis parvus	134	3631	8501
Methylococcus sp. Mc7	2860258	1849	4155
Methylococcus sp. Mc7	2860258	1849	4155
Methylococcus sp. Mc7	2860258	1849	4155

Blast, Query cover	Blast, E Value	Blast, Per. Identity	Blast, Acc. Len
39%	0	82.46	3371031
39%	0	82.46	3371031
39%	0	82.46	3371031
72%	0	89.37	4075934
72%	0	89.37	4075934
72%	0	89.37	4075934
65%	0	84.42	4075934
78%	0	82.59	4075934
11%	0	92.65	5050
83%	0	85.75	3642720
3%	0	79.75	3371031
66%	0	90.36	4075934
66%	0	90.36	4075934
84%	0	82.75	3543002
84%	0	82.75	3543002
84%	0	82.75	3543002
34%	2.00E-168	75.7	4443394
43%	0	76.59	3773444
19%	4.00E-64	76.02	4798577
98%	0	78.7	4075934
84%	0	88.81	4075934
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3%	6.00E-45	85.79	4607412
73%	0	83.76	4075934
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49%	0	82	3255256
49%	0	82	3255256
49%	0	82	3255256
79%	0	82.48	3543002
79%	0	82.48	3543002
79%	0	82.48	3543002
64%	0	83.25	4003396
64%	0	83.25	4003396
30%	0	76.31	4860785
30%	0	76.31	4860785
30%	0	76.31	4860785
30%	0	76.31	4860785
ificant similarity found			
8%	1.00E-11	70.58	508
8%	1.00E-11	70.58	508
8%	1.00E-11	70.58	508
84%	0	82.66	4003396

84%	0	82.66	4003396
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Blast, NCBI Accessior	Kaiju, Scaffold Taxonomy
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CP046565.1	Methylococcaceae
CP046565.1	Methylococcaceae
CP044331.1	Methylocystis sp. ATCC 49242
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CP044331.1	Methylocystis sp. ATCC 49242
CP044331.1	Methylocystis parvus
CP044331.1	Methylocystis parvus
U81596.2	Rhizobiales bacterium
CP034086.1	Methylocystis sp.
CP046565.1	Candidatus Competibacteraceae bacterium
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CP091318.1	uncultured bacterium
CP091318.1	uncultured bacterium
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HE956757.1	Methylocystis
CP064653.1	Thioalbus denitrificans
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CP044331.1	Rhizobiales bacterium
CP044331.1	Rhizobiales bacterium
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CP079095.1	uncultured Gammaproteobacteria bacterium
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CP079095.1	uncultured Gammaproteobacteria bacterium
CP079095.1	uncultured Gammaproteobacteria bacterium
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CP091318.1	Methylocystis hirsuta
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CP079095.1	uncultured Gammaproteobacteria bacterium
CP079095.1	uncultured Gammaproteobacteria bacterium
CP079095.1	uncultured Gammaproteobacteria bacterium

Kaiju, Scaffold Taxonomy Unbinned Read % of Source Metagenome	kegg_id
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kegg_hit

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mmai:sS8_3977 methane monooxygenase subunit A; K10944
mmai:sS8_3976 methane monooxygenase subunit C; K10946

kegg_RBH	kegg_identity	kegg_bitScore	kegg_eVal	peptidase_id	peptidase_family
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1	0.946	492	6.49E-156		
1	0.87	749	1.25E-241		
0	0.979	240	6.05E-71		
1	0.992	530	8.06E-169		
1	0.941	829	3.64E-269		
0	1	280	1.34E-84		
0	1	67	1.34E-12		
0	0.937	825	8.51E-268		
0	0.901	134	4.04E-35		
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1	0.941	829	3.64E-269		
1	0.992	530	8.06E-169		
1	0.865	461	7.11E-145		
1	0.7	582	1.40E-183		
1	0.922	484	5.61E-153		
0	0.846	71	9.16E-14		
1	0.955	516	8.28E-164		
0	0.9	79	1.04E-16		
0	0.844	85	1.95E-18		
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1	0.99	529	2.08E-168		
0	0.948	108	2.29E-26		
0	0.927	115	8.87E-29		
1	0.992	455	2.35E-143		
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1	0.941	829	3.64E-269		
0	0.876	739	3.56E-238		
1	0.948	494	2.52E-156		
0	0.87	113	6.93E-28		
1	0.865	461	7.11E-145		
1	0.695	577	6.10E-182		
1	0.939	362	3.64E-112		
1	0.869	749	2.34E-241		
0	0.957	424	4.06E-133		
0	0.538	153	3.20E-40		
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0	0.626	272	2.56E-79		
0	0.932	133	6.88E-35		

1	0.936	487	5.36E-154
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1	0.941	829	3.64E-269
1	0.992	530	8.06E-169
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1	0.906	784	8.33E-254
1	0.933	485	2.59E-153
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1	0.906	784	8.33E-254
1	0.933	485	2.59E-153
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peptidase_hit	peptidase_RBH	peptidase_identity	peptidase_bitScore	peptidase_eVal
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Monooxygenase subunit B protein [PF04744.13]
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Monooxygenase subunit B protein [PF04744.13]
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Monooxygenase subunit B protein [PF04744.13]
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Ammonia monooxygenase/methane monooxygenase, subunit C [PF04896.13]
Monooxygenase subunit B protein [PF04744.13]
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Ammonia monooxygenase/methane monooxygenase, subunit C [PF04896.13]
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Monooxygenase subunit B protein [PF04744.13]
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Ammonia monooxygenase/methane monooxygenase, subunit C [PF04896.13]
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Monooxygenase subunit B protein [PF04744.13]
Ammonia monooxygenase [PF02461.17]
Ammonia monooxygenase/methane monooxygenase, subunit C [PF04896.13]
Ammonia monooxygenase [PF02461.17]
Monooxygenase subunit B protein [PF04744.13]
Monooxygenase subunit B protein [PF04744.13]
Ammonia monooxygenase [PF02461.17]
Ammonia monooxygenase/methane monooxygenase, subunit C [PF04896.13]

cazy_hits	vogdb_description	vogdb_categories	heme_regulatory_motif_count
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SampleID	16S Reads	Final 16S ps
O2_t10	14122	yes
O7_t10	7441	yes
O8_t10	10081	yes
Oxic_Inoculum_Freeze_Dried	11801	yes
Oxic_Inoculum_Shield_Inoc_Input	12291	yes
Oxic_Inoculum_Shield_Normalized_Input	13734	yes
CSM_Prado_Jun18_A3_Bubble1_DNA_Amplicon	5778	yes
ZJ_Disco_r1t1	17455	yes
ZJ_Disco_r2m1	3889	yes
CSM_Prado_Pilot_2021_Freeze_Dried	12688	yes
CSM_Prado_Pilot_2021_Shield	16121	yes
Anoxic_Inoculum_Shield_Normalized_Input	12128	yes
ZJ_Disco_r3m2	9954	yes
ZJ_Disco_r4b1	14286	yes
CSM_Prado_Jun18_A3_Bubble2_DNA_Amplicon	7334	yes
CSM_Prado_Jun18_A3_Bubble3_DNA_Amplicon	6525	yes
CSM_Prado_Jun18_Biowall_Coupon1_DNA_Amplicon	14274	yes
CSM_Prado_Jun18_Biowall_Coupon2_DNA_Amplicon	12028	yes
CSM_Prado_Jun18_Biowall_Coupon3_DNA_Amplicon	10776	yes
CSM_Prado_Oct18_17PM1_0_5z_DNA_Amplicon	23669	yes
CSM_Prado_Oct18_17PM1_1_0z_DNA_Amplicon	11091	yes
CSM_Prado_Oct18_17PM1_1_5z_DNA_Amplicon	8771	yes
CSM_Prado_Oct18_17PM1_2_5z_DNA_Amplicon	11089	yes
CSM_Prado_Oct18_17PM2_0_5z_DNA_Amplicon	12173	yes
CSM_Prado_Oct18_17PM2_1_0z_DNA_Amplicon	12092	yes
CSM_Prado_Oct18_17PM2_1_5z_DNA_Amplicon	8535	yes
CSM_Prado_Oct18_17PM2_2_5z_DNA_Amplicon	14534	yes
CSM_Prado_Oct18_AM1_0_5z1_DNA_Amplicon	5406	yes
CSM_Prado_Oct18_AM1_0_5z2_DNA_Amplicon	19860	yes
CSM_Prado_Oct18_AM1_1_0z1_DNA_Amplicon	10990	yes
CSM_Prado_Oct18_AM1_1_5z1_DNA_Amplicon	10255	yes
CSM_Prado_Oct18_AM1_1_5z2_DNA_Amplicon	18007	yes
CSM_Prado_Oct18_AM1_2_5z1_DNA_Amplicon	10646	yes
O1_t10	14459	yes
O13_t10	10037	yes
CSM_Prado_Oct18_AM1_2_5z2_DNA_Amplicon	24668	yes
O14_t10	12171	yes
CSM_Prado_Oct18_AM1_Bottom_DNA_Amplicon	33983	yes
CSM_Prado_Oct18_AM2_0_5z1_DNA_Amplicon	11826	yes
CSM_Prado_Oct18_AM2_0_5z2_DNA_Amplicon	21920	yes
CSM_Prado_Oct18_AM2_1_0z1_DNA_Amplicon	11408	yes
CSM_Prado_Oct18_AM2_1_5z1_DNA_Amplicon	9641	yes
CSM_Prado_Oct18_AM2_1_5z2_DNA_Amplicon	9096	yes
CSM_Prado_Oct18_AM2_2_5z1_DNA_Amplicon	8089	yes

CSM_Prado_Oct18_AM2_2_5z2_DNA_Amplicon	18294	yes
CSM_Prado_Oct18_AM2_Bottom_DNA_Amplicon	27429	yes
CSM_Prado_Oct18_AM3_0_5z1_DNA_Amplicon	11778	yes
CSM_Prado_Oct18_AM3_0_5z2_DNA_Amplicon	22567	yes
CSM_Prado_Oct18_AM3_1_0z1_DNA_Amplicon	7315	yes
CSM_Prado_Oct18_AM3_1_5z1_DNA_Amplicon	9525	yes
CSM_Prado_Oct18_AM3_1_5z2_DNA_Amplicon	26553	yes
CSM_Prado_Oct18_AM3_2_5z1_DNA_Amplicon	9307	yes
CSM_Prado_Oct18_AM3_2_5z2_DNA_Amplicon	21118	yes
CSM_Prado_Oct18_AM3_Bottom_DNA_Amplicon	25828	yes
CSM_Prado_Oct18_PM1_0_5z1_DNA_Amplicon	2329	yes
CSM_Prado_Oct18_PM1_0_5z2_DNA_Amplicon	20547	yes
CSM_Prado_Oct18_PM1_1_0z1_DNA_Amplicon	7353	yes
CSM_Prado_Oct18_PM1_1_5z1_DNA_Amplicon	4418	yes
CSM_Prado_Oct18_PM1_1_5z2_DNA_Amplicon	22181	yes
CSM_Prado_Oct18_PM1_2_5z1_DNA_Amplicon	7343	yes
CSM_Prado_Oct18_PM1_2_5z2_DNA_Amplicon	15108	yes
CSM_Prado_Oct18_PM1_Bottom_DNA_Amplicon	23825	yes
CSM_Prado_Oct18_PM2_0_5z1_DNA_Amplicon	9839	yes
CSM_Prado_Oct18_PM2_0_5z2_DNA_Amplicon	20417	yes
CSM_Prado_Oct18_PM2_1_0z1_DNA_Amplicon	11131	yes
CSM_Prado_Oct18_PM2_1_5z1_DNA_Amplicon	11025	yes
CSM_Prado_Oct18_PM2_1_5z2_DNA_Amplicon	24032	yes
CSM_Prado_Oct18_PM2_2_5z1_DNA_Amplicon	6831	yes
CSM_Prado_Oct18_PM2_2_5z2_DNA_Amplicon	19953	yes
CSM_Prado_Oct18_PM3_Bottom_DNA_Amplicon	23322	yes
CSM_Prado_Oct18_PM2_Bottom_DNA_Amplicon	22057	yes
CSM_Prado_Oct18_PM3_0_5z1_DNA_Amplicon	8012	yes
CSM_Prado_Oct18_PM3_0_5z2_DNA_Amplicon	21142	yes
CSM_Prado_Oct18_PM3_1_0z1_DNA_Amplicon	9239	yes
CSM_Prado_Oct18_PM3_1_5z1_DNA_Amplicon	9585	yes
CSM_Prado_Oct18_PM3_1_5z2_DNA_Amplicon	21309	yes
CSM_Prado_Oct18_PM3_2_5z1_DNA_Amplicon	1507	yes
CSM_Prado_Oct18_PM3_2_5z2_DNA_Amplicon	19741	yes
ZJ_Prado_1	5987	yes
ZJ_Prado_136	20630	yes
ZJ_Prado_39	4788	yes
ZJ_Prado_4	138	no
ZJ_Prado_40	13999	yes
ZJ_Prado_44	8522	yes
ZJ_Prado_5	3980	yes
ZJ_Prado_7	39	no
ZJ_Prado_9	35	no
Rehy_Fresh	14261	yes
ZJ_Prado_137	13407	yes

ZJ_Prado_139	22736	yes
ZJ_Prado_144	12750	yes
ZJ_Prado_2	135	no
ZJ_Prado_201	12166	yes
ZJ_Prado_202	11313	yes
ZJ_Prado_206	12758	yes
ZJ_Prado_37	12380	yes
A1_t17	7663	yes
A2_t17	11361	yes
A3_t17	5602	yes
A4_t17	9912	yes
O10_t10	10241	yes
O11_t10	10441	yes
O12_t10	11431	yes
O15_t10	12014	yes
O16_t10	12830	yes
O17_t10	9909	yes
O18_t10	10730	yes
O3_t10	13563	yes
O4_t10	8075	yes
O5_t10	17300	yes
O6_t10	10023	yes
O9_t10	12647	yes

NCBI SRA Accession	Sequencing Run
SRR19093966	November 2021
SRR19093965	November 2021
SRR19093964	November 2021
SRR19093963	November 2021
SRR19093962	November 2021
SRR19093961	November 2021
SRR19093945	August 2018
SRR19093944	May 2018
SRR19093943	May 2018
SRR19093942	November 2021
SRR19093941	November 2021
SRR19093936	November 2021
SRR19093918	May 2018
SRR19093917	May 2018
SRR19093916	August 2018
SRR19093915	August 2018
SRR19093914	August 2018
SRR19093913	August 2018
SRR19093912	August 2018
SRR19093911	November 2018
SRR19093910	November 2018
SRR19093908	November 2018
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SRR19093905	November 2018
SRR19093904	November 2018
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SRR19093901	February 2021
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SRR19093897	February 2021
SRR19093896	November 2018
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SRR19093887	November 2018
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SRR19093876	February 2021
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SRR19093871	November 2018
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SRR19093869	November 2018
SRR19093868	November 2018
SRR19093867	February 2021
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SRR19093865	February 2021
SRR19093864	February 2021
SRR19093863	November 2018
SRR19093862	February 2021
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SRR19093858	February 2021
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SRR19093856	February 2021
SRR19093855	February 2021
SRR19093854	February 2021
SRR19093853	November 2018
SRR19093852	February 2021
SRR19093851	November 2018
SRR19093850	November 2018
SRR19093848	February 2021
SRR19093847	November 2018
SRR19093846	February 2021
SRR13758409	Brady et al. [May 2018]
SRR13758408	Brady et al. [May 2018]
SRR13758407	Brady et al. [May 2018]
SRR13758406	Brady et al. [May 2018]
SRR13758405	Brady et al. [May 2018]
SRR13758404	Brady et al. [May 2018]
SRR13758403	Brady et al. [May 2018]
SRR13758402	Brady et al. [May 2018]
SRR13758401	Brady et al. [May 2018]
SRR13758400	Brady et al. [February 2021]
SRR13758397	Brady et al. [May 2018]

SRR13758386	Brady et al. [May 2018]
SRR13758375	Brady et al. [May 2018]
SRR13758370	Brady et al. [May 2018]
SRR13758369	Brady et al. [May 2018]
SRR13758368	Brady et al. [May 2018]
SRR13758367	Brady et al. [May 2018]
SRR13758366	Brady et al. [May 2018]
not yet published	November 2021
not yet published	November 2021
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ASV Taxon Cluster (Silva v138)

Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; A0839
Bacteria; Proteobacteria; Alphaproteobacteria; Caulobacterales; Caulobacteraceae
Bacteria; Bacteroidota; Bacteroidia; Chitinophagales; Chitinophagaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Comamonadaceae
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Crocinitomicaceae
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Cryomorphaceae
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Devosiaceae
Bacteria; Bacteroidota; Bacteroidia; Sphingobacteriales; env.OPS 17
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Flavobacteriaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Methylococcales; Methylococcaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Methylococcales; Methylomonadaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Methylophilaceae
Bacteria; Bacteroidota; Bacteroidia; Sphingobacteriales; NS11-12 marine group
Bacteria; Verrucomicrobiota; Verrucomicrobiae; Opitutales; Opitutaceae
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Pleomorphomonadaceae
Bacteria; Bacteroidota; Bacteroidia; Chitinophagales; Saprospiraceae
Bacteria; Bacteroidota; Bacteroidia; Cytophagales; Spirosomaceae
Bacteria; Verrucomicrobiota; Verrucomicrobiae; Verrucomicrobiales; Verrucomicrobiaceae
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; A0839
Bacteria; Bdellovibrionota; Bdellovibrionia; Bdellovibrionales; Bdellovibrionaceae
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Beijerinckiaceae
Bacteria; Proteobacteria; Alphaproteobacteria; Caulobacterales; Caulobacteraceae
Bacteria; Bacteroidota; Bacteroidia; Chitinophagales; Chitinophagaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Comamonadaceae
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Crocinitomicaceae
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Devosiaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Diplorickettsiales; Diplorickettsiaceae
Bacteria; Bacteroidota; Bacteroidia; Sphingobacteriales; env.OPS 17
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Flavobacteriaceae
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Hyphomicrobiaceae
Bacteria; Spirochaetota; Leptospirae; Leptospirales; Leptospiraceae
Bacteria; Proteobacteria; Gammaproteobacteria; Methylococcales; Methylococcaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Methylococcales; Methylomonadaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Methylophilaceae
Bacteria; Bacteroidota; Bacteroidia; Cytophagales; Microscillaceae
Bacteria; Bacteroidota; Bacteroidia; Sphingobacteriales; NS11-12 marine group
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; NS9 marine group
Bacteria; Verrucomicrobiota; Verrucomicrobiae; Opitutales; Opitutaceae
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Pleomorphomonadaceae

Bacteria; Proteobacteria; Alphaproteobacteria; Rhodobacterales; Rhodobacteraceae
Bacteria; Bacteroidota; Bacteroidia; Chitinophagales; Saprospiraceae
Bacteria; Planctomycetota; Planctomycetes; Planctomycetales; Schlesneriaceae
Bacteria; Bacteroidota; Bacteroidia; Cytophagales; Spirosomaceae
Bacteria; Verrucomicrobiota; Verrucomicrobiae; Verrucomicrobiales; Verrucomicrobiaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Comamonadaceae
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Crocinitomicaceae
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Flavobacteriaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Methylococcales; Methylococcaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Methylococcales; Methylomonadaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Methylophilaceae
Bacteria; Verrucomicrobiota; Verrucomicrobiae; Opitutales; Opitutaceae
Bacteria; Bacteroidota; Bacteroidia; Chitinophagales; Saprospiraceae
Bacteria; Bdellovibrionota; Bdellovibrionia; Bdellovibrionales; Bdellovibrionaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Comamonadaceae
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Crocinitomicaceae
Bacteria; Bacteroidota; Bacteroidia; Sphingobacteriales; env.OPS 17
Bacteria; Bacteroidota; Bacteroidia; Flavobacteriales; Flavobacteriaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Methylococcales; Methylococcaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Methylococcales; Methylomonadaceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Methylophilaceae
Bacteria; Bacteroidota; Bacteroidia; Cytophagales; Microscillaceae
Bacteria; Bacteroidota; Bacteroidia; Chitinophagales; Saprospiraceae
Bacteria; Proteobacteria; Gammaproteobacteria; Burkholderiales; Nitrosomonadaceae
Bacteria; Nitrospirota; Nitrospiria; Nitrospirales; Nitrospiraceae
Bacteria; Planctomycetota; Planctomycetes; Gemmatales; Gemmataceae
Bacteria; Nitrospirota; Nitrospiria; Nitrospirales; Nitrospiraceae
Bacteria; Planctomycetota; Planctomycetes; Pirellulales; Pirellulaceae

Taxon Cluster Inoculum Abundance [%] (n=1)	Max # ASV's in Taxon Cluster in Inoculum (n=1)	Taxon Cluster Field 0-5mm Abundance [%] (n=1)
0	5	0
0	16	0
3.22	14	5.66
2.32	16	2.8
0.163	2	0.133
0	15	0.274
0	15	0
0.211	2	1.57
1.81	6	0.195
0	54	0.677
0.984	5	0.778
0	30	0
0.114	1	0.166
0	35	0.016
0	5	0.01
0.285	3	0.938
0	23	0.042
0.13	1	0.059
0	5	0
0.423	4	0.082
0.488	5	0.713
0	16	0
3.22	14	5.66
2.32	16	2.8
0.163	2	0.133
0	15	0
0	11	0
0.211	2	1.57
1.81	6	0.195
0.74	2	1.49
0	38	0.097
0	54	0.677
0.984	5	0.778
0	30	0
0.919	5	2.59
0.114	1	0.166
0.163	1	0.254
0	35	0.016
2.95	19	4.39
0	5	0.01

1.4	6	2.2
0.285	3	0.938
0	11	0
0	23	0.042
0.13	1	0.059
2.32	16	2.8
0.163	2	0.133
1.81	6	0.195
0	54	0.677
0.984	5	0.778
0	30	0
0	35	0.016
0.285	3	0.938
0.423	4	0.082
2.32	16	2.8
0.163	2	0.133
0.211	2	1.57
1.81	6	0.195
0	54	0.677
0.984	5	0.778
0	30	0
0.919	5	2.59
0.285	3	0.938
1.28	3	0.518
0.114	1	0
0.22	2	0.525
0.114	1	0
2.95	19	4.39

Max # ASV's in Taxon Cluster in Field 0-5mm (n=6)	Mean Taxon Cluster Abundance acoss Microcosms and Meta-Analysis [%] (n=104)	Max # ASV's in Taxon Cluster across Microcosms and Meta-Analysis (n=104)
5	0.027	5
16	0.012	16
18	3.81	24
20	2.4	166
48	0.423	48
15	0.102	15
15	0.019	15
22	0.651	22
159	1.87	159
10	0.506	54
6	1.34	90
30	1.19	30
60	0.425	60
35	0.106	35
5	0.018	5
12	0.756	160
2	0.233	23
38	0.26	38
5	0.027	5
5	1.04	90
10	0.871	59
16	0.012	16
18	3.81	24
20	2.4	166
48	0.423	48
15	0.019	15
11	0.236	11
22	0.651	22
159	1.87	159
2	1.44	17
38	0.081	38
10	0.506	54
6	1.34	90
30	1.19	30
9	1.62	70
60	0.425	60
4	0.191	29
35	0.106	35
41	3.89	47
5	0.018	5

14	3.11	152
12	0.756	160
11	0.029	11
2	0.233	23
38	0.26	38
20	2.4	166
48	0.423	48
159	1.87	159
10	0.506	54
6	1.34	90
30	1.19	30
35	0.106	35
12	0.756	160
5	1.04	90
20	2.4	166
48	0.423	48
22	0.651	22
159	1.87	159
10	0.506	54
6	1.34	90
30	1.19	30
9	1.62	70
12	0.756	160
8	0.574	47
5	0.02	5
8	0.442	95
5	0.02	5
41	3.89	47

DESeq Test Criteria [Cond_A:Cond_B]	Cond_A1 [read counts]	Cond_A2 [read counts]	Cond_B1 [read counts]
High Methane; Uninhibited vs Acetylene	66	87	0
High Methane; Uninhibited vs Acetylene	41	21	0
High Methane; Uninhibited vs Acetylene	830	529	202
High Methane; Uninhibited vs Acetylene	836	396	55
High Methane; Uninhibited vs Acetylene	371	345	138
High Methane; Uninhibited vs Acetylene	97	14	0
High Methane; Uninhibited vs Acetylene	61	33	0
High Methane; Uninhibited vs Acetylene	683	337	25
High Methane; Uninhibited vs Acetylene	1360	1003	45
High Methane; Uninhibited vs Acetylene	111	71	0
High Methane; Uninhibited vs Acetylene	2334	1273	74
High Methane; Uninhibited vs Acetylene	5083	2701	0
High Methane; Uninhibited vs Acetylene	221	211	68
High Methane; Uninhibited vs Acetylene	236	197	0
High Methane; Uninhibited vs Acetylene	90	54	0
High Methane; Uninhibited vs Acetylene	203	124	29
High Methane; Uninhibited vs Acetylene	185	66	0
High Methane; Uninhibited vs Acetylene	359	133	50
High Methane; Uninhibited vs ATU	66	87	0
High Methane; Uninhibited vs ATU	262	137	81
High Methane; Uninhibited vs ATU	187	108	88
High Methane; Uninhibited vs ATU	41	21	0
High Methane; Uninhibited vs ATU	830	529	304
High Methane; Uninhibited vs ATU	836	396	192
High Methane; Uninhibited vs ATU	371	345	99
High Methane; Uninhibited vs ATU	61	33	0
High Methane; Uninhibited vs ATU	210	217	118
High Methane; Uninhibited vs ATU	683	337	0
High Methane; Uninhibited vs ATU	1360	1003	72
High Methane; Uninhibited vs ATU	306	124	139
High Methane; Uninhibited vs ATU	31	11	0
High Methane; Uninhibited vs ATU	111	71	0
High Methane; Uninhibited vs ATU	2334	1273	115
High Methane; Uninhibited vs ATU	5083	2701	0
High Methane; Uninhibited vs ATU	413	267	153
High Methane; Uninhibited vs ATU	221	211	91
High Methane; Uninhibited vs ATU	64	54	0
High Methane; Uninhibited vs ATU	236	197	0
High Methane; Uninhibited vs ATU	109	50	316
High Methane; Uninhibited vs ATU	90	54	0

High Methane; Uninhibited vs ATU	223	175	66
High Methane; Uninhibited vs ATU	203	124	25
High Methane; Uninhibited vs ATU	74	19	0
High Methane; Uninhibited vs ATU	185	66	0
High Methane; Uninhibited vs ATU	359	133	12
Low Methane; Uninhibited vs Acetylene	509	265	142
Low Methane; Uninhibited vs Acetylene	1112	142	127
Low Methane; Uninhibited vs Acetylene	604	190	73
Low Methane; Uninhibited vs Acetylene	124	82	0
Low Methane; Uninhibited vs Acetylene	2186	1407	118
Low Methane; Uninhibited vs Acetylene	3929	3036	0
Low Methane; Uninhibited vs Acetylene	159	101	9
Low Methane; Uninhibited vs Acetylene	120	52	27
Low Methane; Uninhibited vs ATU	720	245	134
Low Methane; Uninhibited vs ATU	509	265	172
Low Methane; Uninhibited vs ATU	1112	142	100
Low Methane; Uninhibited vs ATU	83	264	0
Low Methane; Uninhibited vs ATU	604	190	133
Low Methane; Uninhibited vs ATU	124	82	0
Low Methane; Uninhibited vs ATU	2186	1407	152
Low Methane; Uninhibited vs ATU	3929	3036	0
Low Methane; Uninhibited vs ATU	390	216	192
Low Methane; Uninhibited vs ATU	120	52	31
No Methane; Uninhibited vs Acetylene	267	255	48
No Methane; Uninhibited vs Acetylene	104	92	0
No Methane; Uninhibited vs ATU	162	166	28
No Methane; Uninhibited vs ATU	104	92	0
No Methane; Uninhibited vs ATU	821	654	233

Cond_B2 [read counts]	DESEq baseMean	DESeq log2FoldChange	DESeq log2FoldChange SE
0	55.61706918	9.605225308	1.907564291
0	19.74110939	8.114023266	2.321778442
375	553.1565787	2.059186118	0.465060193
229	436.7314549	2.991459283	0.684733168
116	299.6085632	2.269732369	0.670652614
0	30.71373905	8.7552198	2.220843957
0	30.157891	8.725115796	2.074435577
20	332.2870561	5.159966479	0.640201143
67	813.4295245	5.218894497	0.483956688
0	59.78494035	9.711680056	1.812666796
104	1192.600945	5.090801503	0.431975287
0	2491.114889	15.09309438	1.521612039
54	175.1429397	2.597326782	0.752887718
20	150.8195014	5.542279783	1.342116539
0	46.87551723	9.36098021	1.888245607
58	122.7130656	2.733400938	0.68187168
0	76.18906858	10.06361024	1.773824325
30	166.8740649	3.169451733	0.810515856
0	60.19402469	9.883000824	1.597122839
135	176.9120194	1.951711153	0.289024984
67	132.6662798	1.945754483	0.389948574
0	21.79489162	8.426238988	1.789081639
310	597.0114683	2.202721081	0.19913274
146	489.1622159	2.846745261	0.336249358
171	315.6536488	2.570379402	0.33504591
0	33.25547256	9.035400462	1.656013545
141	207.835139	1.868819088	0.369122017
5	357.765808	8.722766034	0.701113998
115	899.1166335	4.772392388	0.206200652
113	191.7158784	1.735246613	0.406425635
0	14.17649081	7.809855099	1.927755439
0	65.68314561	10.01502128	1.511029991
125	1318.861801	4.952138778	0.173748849
0	2748.063424	15.40326432	1.449610751
183	303.5075305	2.089482208	0.213408491
123	200.1395716	2.158003723	0.342910714
0	44.03748936	9.434827211	1.591109699
0	161.3851834	11.308458	1.48252446
347	169.8871654	-1.040597238	0.307852539
0	51.57261424	9.667290253	1.542437249

34	165.4129115	3.028452758	0.51496291
25	126.0692628	3.767720504	0.348513881
7	31.46545669	4.802976723	1.40629456
0	84.76913234	10.39007424	1.531098075
15	171.4515357	5.179771428	0.469117587
199	328.0976799	2.400640988	0.643916354
86	416.4640688	3.56682111	1.021897079
80	288.4565664	3.503577244	0.722005631
0	75.92604078	10.3992037	1.748096633
114	1354.634318	5.218313472	0.577208329
0	2624.776108	15.5113014	1.669485058
0	96.63336193	6.135817315	1.522186715
32	68.81892568	2.730441304	0.75586414
156	377.336279	2.954663214	0.572885886
157	333.7030019	2.537096589	0.464960174
173	431.9896204	3.274421221	0.979466355
8	163.996185	7.11315265	1.744028547
131	311.4943227	2.792477764	0.605214795
0	78.54119666	10.48386211	1.698090573
167	1411.752536	4.844118423	0.448930328
0	2719.435395	15.59862234	1.604300671
255	291.3710866	1.759100381	0.49699321
32	70.96855917	2.717657015	0.64430141
39	118.290468	1.373186439	0.296578579
0	31.97755671	7.850876733	1.70401358
30	89.30197603	2.261624402	0.320580702
0	44.11042644	8.816368725	1.613343599
277	466.9326686	1.295551842	0.165823384

DESeq stat	DESeq pvalue	DESeq padj	ASV Associated Final Dereplicated Bin ID's
5.03533504	4.77E-07	5.37E-06	none
3.49474486	0.000474515	0.0022477	none
4.42778408	9.52E-06	7.79E-05	Prado033, 038, 041, 054, 058, 059, 064, 065
4.36879565	1.25E-05	9.37E-05	Prado190, 199
3.38436371	0.000713434	0.0029186	none
3.942294	8.07E-05	0.00045397	none
4.20601917	2.60E-05	0.00017994	none
8.0599145	7.63E-16	1.72E-14	none
10.7838049	4.11E-27	1.85E-25	Prado043
5.35767527	8.43E-08	1.08E-06	Prado188
11.7849369	4.67E-32	4.20E-30	Prado188
9.91914759	3.44E-23	1.03E-21	Prado183
3.44981957	0.000560961	0.00252433	none
4.1295071	3.64E-05	0.00023371	Prado242
4.95750139	7.14E-07	7.14E-06	none
4.00867351	6.11E-05	0.00036637	Prado044
5.67339736	1.40E-08	2.52E-07	Prado034, 035, 083
3.91041299	9.21E-05	0.00048779	Prado238, 243-245, 247
6.18800294	6.09E-10	3.27E-09	none
6.75274201	1.45E-11	9.87E-11	none
4.98977202	6.05E-07	2.37E-06	Prado174, 226
4.70981246	2.48E-06	8.72E-06	none
11.0615717	1.93E-28	4.91E-27	Prado033, 038, 041, 054, 058, 059, 064, 065
8.46617306	2.54E-17	2.87E-16	Prado190, 199
7.67172296	1.70E-14	1.57E-13	none
5.45611507	4.87E-08	2.07E-07	none
5.06287624	4.13E-07	1.68E-06	none
12.4412949	1.56E-35	5.30E-34	none
23.1444098	1.65E-118	8.44E-117	Prado043
4.26953042	1.96E-05	6.45E-05	Prado221
4.05126861	5.09E-05	0.00015745	Prado229
6.62794342	3.40E-11	2.17E-10	Prado188
28.501707	1.12E-178	1.14E-176	Prado188
10.6257934	2.26E-26	3.29E-25	Prado183
9.79099846	1.23E-22	1.57E-21	Prado074
6.29319422	3.11E-10	1.87E-09	none
5.9297151	3.03E-09	1.55E-08	none
7.62783907	2.39E-14	2.03E-13	Prado242
-3.38018079	0.000724382	0.00167925	Prado161, 163-166, 168, 169, 172
6.26754201	3.67E-10	2.08E-09	none

5.88091433	4.08E-09	1.98E-08	Prado177, 181, 191, 200, 204, 209, 223, 224
10.8108191	3.06E-27	5.20E-26	Prado044
3.41534189	0.00063702	0.00151107	none
6.78602789	1.15E-11	8.40E-11	Prado034, 035, 083
11.0415205	2.41E-28	4.91E-27	Prado238, 243-245, 247
3.72818763	0.000192862	0.00175719	Prado190, 199
3.49039173	0.000482313	0.00359542	none
4.85256222	1.22E-06	2.50E-05	Prado043
5.94887234	2.70E-09	7.38E-08	Prado188
9.04060667	1.56E-19	6.39E-18	Prado188
9.29106932	1.53E-20	1.25E-18	Prado183
4.03092292	5.56E-05	0.00067407	Prado242
3.61234402	0.000303442	0.00248822	Prado044
5.15750743	2.50E-07	5.06E-06	none
5.45658904	4.85E-08	1.23E-06	Prado190, 199
3.34306656	0.00082858	0.00464926	none
4.07857581	4.53E-05	0.00041605	none
4.61402759	3.95E-06	5.70E-05	Prado043
6.1739122	6.66E-10	2.24E-08	Prado188
10.7903568	3.82E-27	3.86E-25	Prado188
9.72300431	2.41E-22	1.21E-20	Prado183
3.53948575	0.000400907	0.00253073	Prado074
4.21799017	2.46E-05	0.00024895	Prado044
4.63009313	3.66E-06	0.00014279	none
4.60728531	4.08E-06	0.00014279	none
7.05477401	1.73E-12	1.02E-10	Prado160
5.46465659	4.64E-08	1.82E-06	none
7.81284167	5.59E-15	6.60E-13	Prado161, 163-166, 168, 169, 172

GTDB Taxonomy Assocation Criteria (RS202)	pmoCAB/amoCAB Genes
-	Absent
-	Absent
f__Chitinophagaceae	Absent
f__Burkholderiaceae	Absent
-	Absent
-	Absent
-	Absent
-	Absent
f__Flavobacteriaceae	Absent
f__Methylococcaceae	Transcribed
f__Methylococcaceae	Transcribed
o__Burkholderiales; f__;	Absent
-	Absent
f__Opitutaceae	Absent
-	Absent
f__Saprospiraceae	Absent
f__Spirosomaceae	Absent
o__Verrucomicrobiales; f__Akkermansiaceae	Absent
-	Absent
-	Absent
f__Beijerinckiaceae	Absent
-	Absent
f__Chitinophagaceae	Absent
f__Burkholderiaceae	Absent
-	Absent
-	Absent
-	Absent
-	Absent
f__Flavobacteriaceae	Absent
f__Hyphomicrobiaceae	Absent
f__Leptospiraceae	Absent
f__Methylococcaceae	Transcribed
f__Methylococcaceae	Transcribed
o__Burkholderiales; f__;	Absent
f__Microscillaceae	Absent
-	Absent
-	Absent
f__Opitutaceae	Absent
f__Pirellulaceae	Absent
-	Absent

f__Rhodobacteraceae	Absent
f__Saprospiraceae	Absent
-	Absent
f__Spirosomaceae	Absent
o__Verrucomicrobiales; f__Akkermansiaceae	Absent
f__Burkholderiaceae	Absent
-	Absent
f__Flavobacteriaceae	Absent
f__Methylococcaceae	Transcribed
f__Methylococcaceae	Transcribed
o__Burkholderiales; f__;	Absent
f__Opitutaceae	Absent
f__Saprospiraceae	Absent
-	Absent
f__Burkholderiaceae	Absent
-	Absent
-	Absent
f__Flavobacteriaceae	Absent
f__Methylococcaceae	Transcribed
f__Methylococcaceae	Transcribed
o__Burkholderiales; f__;	Absent
f__Microscillaceae	Absent
f__Saprospiraceae	Absent
-	Absent
-	Absent
f__Gemmataceae	Absent
-	Absent
f__Pirellulaceae	Absent

mmoXYZ Genes	Cytochrome-c Dependent mdh Genes
Absent	Absent
Absent	Absent
Absent	Absent
Absent	Absent
Absent	Absent
Absent	Absent
Absent	Absent
Absent	Absent
Absent	Absent
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Lanthanide Dependent mdh Genes	Aerobic Respiration Genes
Absent	Absent
Absent	Absent
Absent	Transcribed
Absent	Transcribed
Absent	Absent
Absent	Absent
Absent	Absent
Absent	Absent
Absent	Encoded
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Transcribed	Transcribed
Absent	Encoded
Absent	Encoded
Absent	Absent
Absent	Absent
Absent	Encoded
Absent	Absent
Absent	Transcribed

narGHI or napAB Genes	nirS or nirK Genes	norBC Genes
Absent	Absent	Absent
Absent	Absent	Absent
Transcribed	Absent	Transcribed
Transcribed	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Absent
Absent	Absent	Absent
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Absent	Absent	Absent
Absent	Absent	Transcribed
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Transcribed	Absent	Absent
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Encoded	Absent	Transcribed
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Transcribed	Absent	Absent
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Encoded	Encoded	Absent
Transcribed	Absent	Absent
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Encoded	Encoded	Absent
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Transcribed	Absent	Absent
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Encoded	Absent	Encoded
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Encoded	Absent	Absent
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Encoded	Absent	Transcribed

nosZ Genes

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