

**Table S3.**

<b>Cycle</b>	<b>Process</b>	<b>Cisó-ML %</b>	<b>Cisó-HL %</b>	<b>C-III-ML %</b>	<b>C-III-HL %</b>
<b>CARBON</b>	Aerobic C fixation	5.6	3.9	2.0	1.6
	Aerobic CH <sub>4</sub> oxidation	7.9	0.0	0.8	0.5
	Aerobic respiration	58.5	20.2	50.5	9.0
	Anaerobic C fixation	8.8	48.0	33.7	82.0
	CO oxidation	8.0	20.3	12.0	4.3
	Fermentation	11.2	7.0	1.0	2.5
	Methanogenesis	0.0	0.6	0.0	0.0
<b>NITROGEN</b>	Ammonification	1.7	8.1	0.5	2.6
	Anammox (SRAO)	0.0	5.5	0.3	0.3
	Denitrification	1.8	2.7	2.3	4.6
	Nitrate reduction + Nitrite oxidation (NarGH/NxrAB)	3.5	5.2	1.8	1.5
	Nitrate reduction	1.8	3.6	2.6	6.5
	Nitrification	0.0	0.0	0.0	0.1
	Nitrogen assimilation	63.6	25.5	42.5	36.1
	Nitrogen Fixation	1.1	10.7	8.1	25.8
	Nitrogen Mineralization	26.5	38.8	41.9	22.6
<b>SULFUR</b>	Assimilatory sulfate reduction	26.5	26.9	39.9	18.1
	Sulfur Mineralization	71.5	18.2	34.1	16.8
	Sulfur oxidation	0.4	5.6	16.6	41.8
	Dissimilatory sulfate reduction	0.7	15.6	0.9	2.7
	Polysulfide reduction	1.0	33.8	8.5	20.6