Table S2. Taxonomic assignments of *nir* transcripts based on metatranscriptomic analysis.

Sample	Accession No.	NCBI-nr annotation	Organism	Phylum/Proteobacterial class	Identity(%)	Similarity(%)	Bit score	E-value
1	KPJ79435.1	nitrite reductase	Gammaproteobacteria bacterium SG8_30	Gammaproteobacteria	81%	92%	113	1.00E-27
	WP_051748346.1	nitrite reductase, copper-containing	Nevskia soli	Gammaproteobacteria	67%	74%	91.7	5.10E-19
	OLB91822.1	copper oxidase	Thaumarchaeota archaeon 13_1_40CM_38_12	Archaea	93%	98%	166	6.10E-47
	WP_035039989.1	nitrite reductase	Aquabacterium sp. NJ1	Betaproteobacteria	100%	100%	131	3.10E-33
	WP_066710706.1	nitrite reductase	Curvibacter delicatus	Betaproteobacteria	96%	100%	150	3.10E-40
	KPK19352.1	nitrite reductase	Betaproteobacteria bacterium SG8_41	Betaproteobacteria	83%	89%	129	3.10E-32
2	WP_014439850.1	nitrite reductase, copper-containing	Bradyrhizobium sp. S23321	Alphaproteobacteria	98%	98%	176	1.10E-51
	WP_009337412.1	nitrite reductase, copper-containing	Afipia sp. 1NLS2	Alphaproteobacteria	76%	90%	158	2.10E-44
	WP_056638598.1	nitrite reductase	Acidovorax sp. Root70	Betaproteobacteria	95%	98%	167	5.10E-45
	WP_085229106.1	nitrite reductase, copper-containing	Paraburkholderia caryophylli	Betaproteobacteria	59%	76%	95.9	3.00E-21
	BAV32586.1	nitrite reductase	Sulfuricaulis limicola	Gammaproteobacteria	73%	88%	103	2.10E-23
	OGW05822.1	nitrite reductase, copper-containing	Nitrospinae bacterium RIFCSPLOWO2_02_39_17	Nitrospinae	75%	86%	115	3.00E-29
	OTA40920.1	nitrite reductase, copper-containing, partial	Symbiobacterium thermophilum	Firmicutes	67%	77%	112	4.10E-28
3	WP_094299071.1	nitrite reductase	Noviherbaspirillum autotrophicum	Betaproteobacteria	89%	98%	154	2.10E-41
	WP_056638598.1	nitrite reductase	Acidovorax sp. Root70	Betaproteobacteria	95%	98%	168	1.10E-46
	WP_066339008.1	nitrite reductase	Azohydromonas lata	Betaproteobacteria	97%	99%	154	1.10E-41
	KPK05781.1	nitrite reductase, partial	Betaproteobacteria bacterium SG8_39	Betaproteobacteria	79%	91%	141	3.10E-40
	BAM92788.1	cytochrome cd1 nitrite reductase	Bradyrhizobium oligotrophicum S58	Alphaproteobacteria	93%	96%	148	2.10E-39
	WP_056388375.1	nitrite reductase	Rhodanobacter sp. Soil772	Gammaproteobacteria	61%	70%	98.2	5.10E-21
	WP_052154155.1	nitrite reductase	Thermoactinomyces daqus	Firmicutes	64%	84%	92	1.10E-19
	WP_012870640.1	nitrite reductase, copper-containing	Sphaerobacter thermophilus	Chloroflexi	70%	84%	122	4.10E-30