Supplementary materials

Rapid Enrichment of *Ca. Nitrospira inopinata* Using Anammox Granules and Kanamycin: A Path Towards Sustainable Nitrification

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Table. S1. MLSS and MLVSS concentrations at different cycles.

Unit: mg/L	RCK		RKAN	
	MLSS	MLVSS	**MLSS**	**MLVSS**
Inoculated sludge	1078	925	1078	925
cycle 30	944	864	974	889
cycle 60	873	722	905	753
cycle 120	836	660	867	688

Table.S2. List of primers used in this study.

Target	Primer	Sequence	Usage	Reference
Comammox *amoA*	Ntsp-amoA 162F	5'-GGATTTCTGGNTSGATTGGA-3'	RT-qPCR	Fowler et al., 2018
	Ntsp-amoA 359R	5'-WAGTTNGACCACCASTACCA-3'		
Anammox hdh	hdh-1-F	5'-ACTCCTACGGGAGGCAGCAG-3'	RT-qPCR	Wang et al., 2016
	hdh-2-R	5'-ATTACCGCGGCTGCTGG-3'		
AOB *amoA*	amoA-1F	5'-GGGGTTTCTACTGGTGGT-3'	RT-qPCR	Rotthauwe et al., 1997
	amoA-2R	5'-CCCCTCKGAAAGCCTTCTTC-3'		
AOA amoA	amoA-F(635)	5'-TAATGGTCTGGCTTAGACG-3'	RT-qPCR	Francis et al., 2005
	amoA-R	5'GCGGCCATCCATCTGTATGT-3'		
Bacteria 16S rRNA	515F	5'-GTGCCAGCMGCCGCGG-3'	RT-qPCR and 16S amplicon sequencing	Stubner, 2002; Parada et al., 2016
	907R	5'-CCGTCAATTCMTTTRAGTTT-3'		

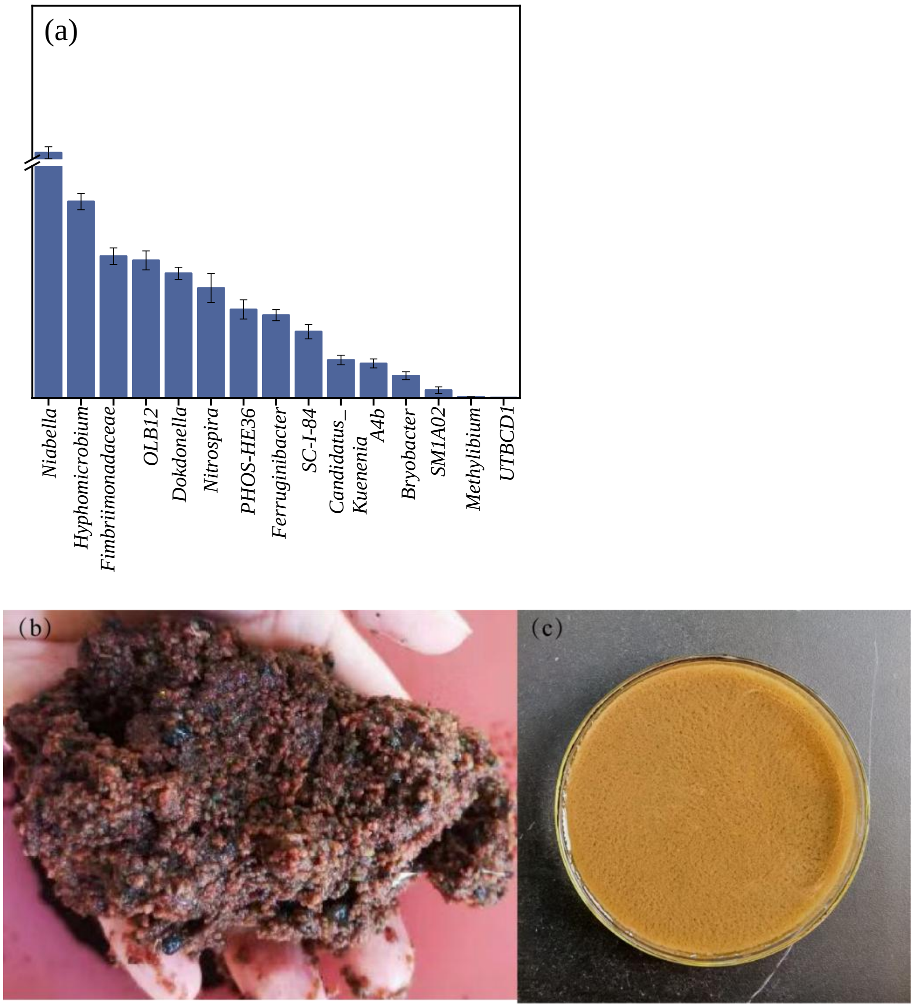

Fig. S1. (a) Relative abundance of the top 15 dominant genera in anammox seed sludge. (b) The morphology of anammox seed sludge at the beginning of experiment. (c) The morphology of flocculent activated sludge at the end of experiment.

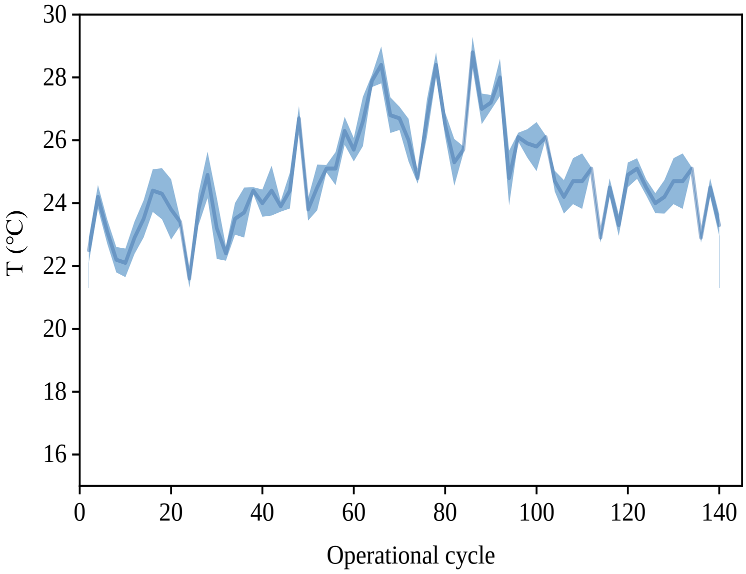

Fig. S2. Variation of operational temperature of the bioreactors during the experimental period.

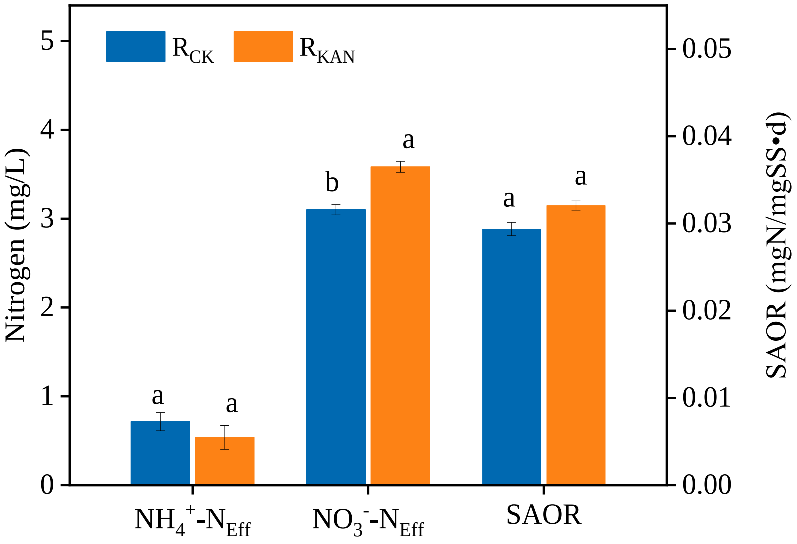

Fig. S3. The average concentrations NH_4^+-N and NO_3^--N in effluent and specific ammonia oxidation rate (SAOR) in R_{CK} and R_{KAN}, respectively.

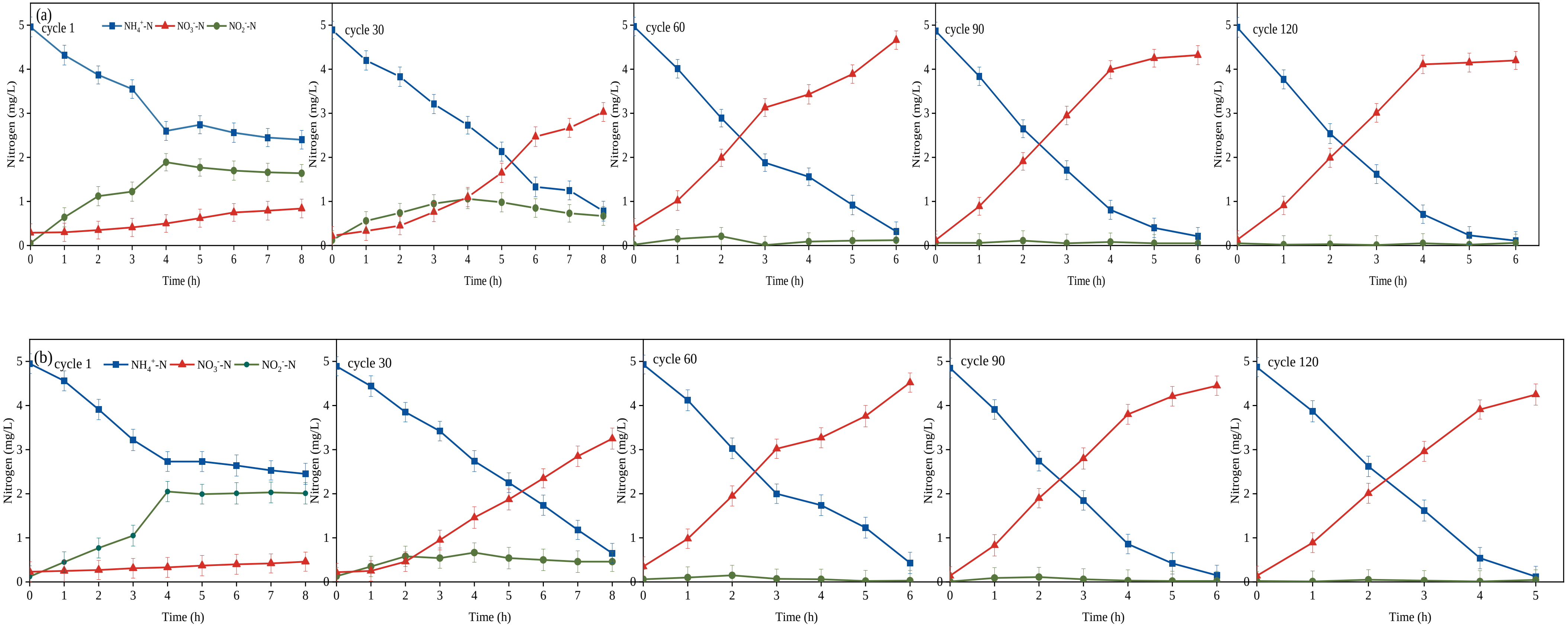

Fig. S4. Typical nitrogen profiles in different operational cycles for R_{CK} (a) and R_{KAN} (b), respectively, in three biological replicates.

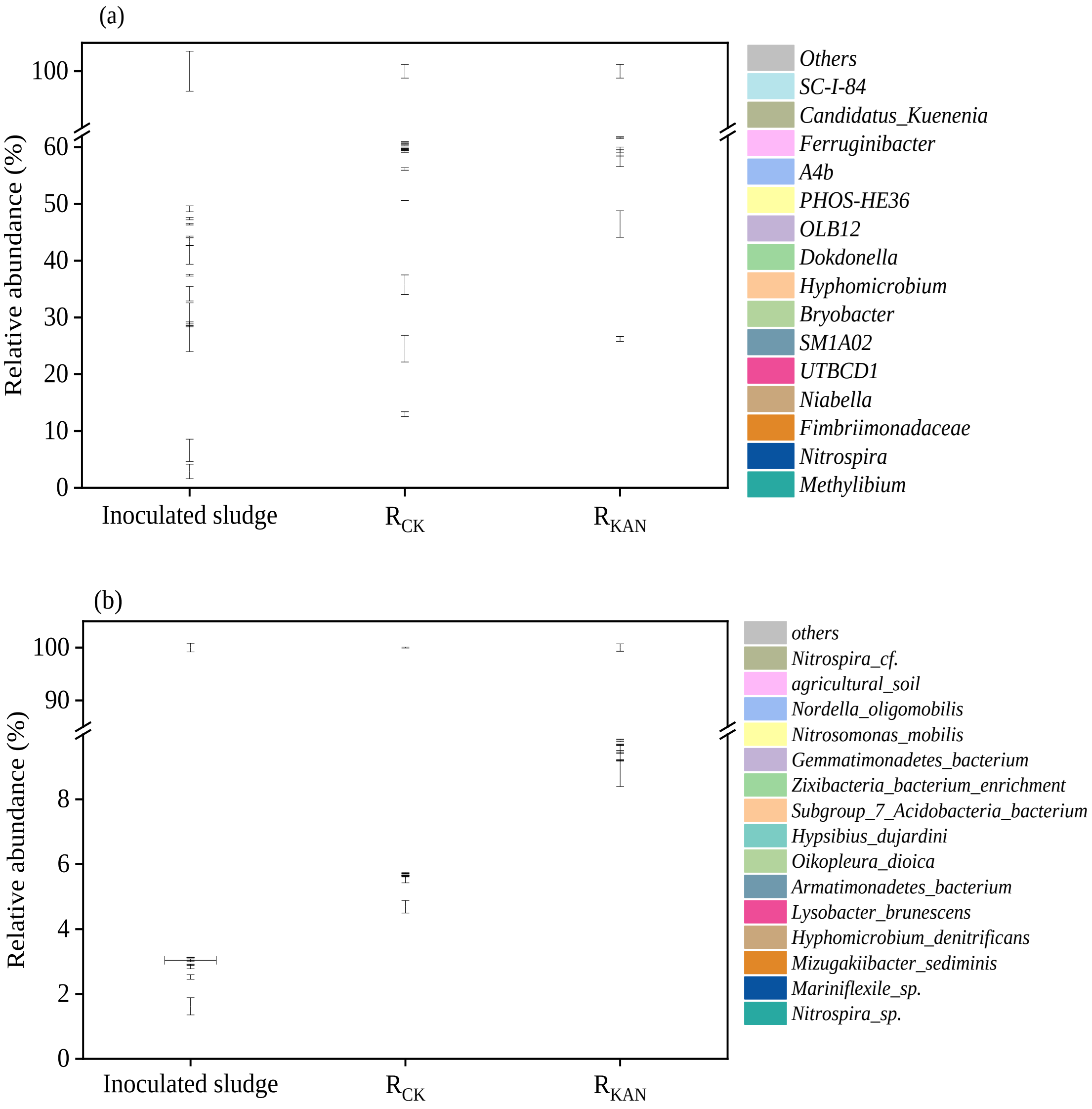

Fig. S5. Microbial community composition of the top 15 abundant bacteria based on 16S rRNA gene amplicon sequencing. (a) at the genus level; (b) at the species level.

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