Electronic Supplementary Material (ESI) for RSC Advances.

Assessing the performance and microbial structure of biofilms adhering on aerated membranes for domestic saline sewage treatment

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Supplementary

Table S1 Components of the synthetic wastewater

Synthetic wastewater	Concentration (mg/L)
CH_3COONa	See Table 1
NH_4Cl	See Table 1
$NaHCO_3$	45
KH_2PO_4	80
K_2SO_4	45
$MgSO_4•7H_2O$	55
Na_2CO_3	70
$Fe_2(SO_4)_3$	0.1
$MnSO_4$	0.1
$CuSO_4$	0.1
$ZnSO_4$	0.1

Table S2 The PCR system for bacterial 16S rDNA

	Bacteria	
	PCR mixture	
	5×Pfu Buffer	10 μl
	2.5 μM dNTP	5 μl
	341F 5 pmol/μl (forward primer)	1.25 μl
	1073R 5 pmol/μl (reverse primer)	1.25 μl
	FastPfu Polymerase	1 μl
	Template DNA	40-50 ng
	ddH_2O	29 μl
	Total	50 μl
	PCR conditions	
	95 ℃（initial denaturation）	2 min
	95 ℃（denaturation）	30 s
	56 ℃（annealing）	30 s
	72 ℃（elongation）	30 s
	72 ℃（final elongation）	5 min

Table S3 The PCR system for archaeal 16S rDNA

	Archaea	
	First round	
	PCR mixture	
	5×Pfu Buffer	4 μL
	2.5 μM dNTP	2 μL
	109F 5 pmol/μl (forward primer)	0.5 μL
	915R 5 pmol/μl (reverse primer)	0.5 μL
	FastPfu Polymerase	0.4 μL
	Template DNA	40-50 ng
	ddH_2O	11.6 μL
	Total	20 μL
	PCR conditions	
	95 ℃（initial denaturation）	2 min
	95 ℃（denaturation）	30 s
	54 ℃（annealing）	30 s } 28 cycles
	72 ℃（elongation）	30 s
	72 ℃（final elongation）	5 min
	Second round	
	PCR mixture	
	5×Pfu Buffer	10 μL
	2.5 μM dNTP	5 μL
	339F 5 pmol/μL (forward primer)	1.25 μL
	1048R 5 pmol/μL (reverse primer)	1.25 μL
	FastPfu Polymerase	1 μL
	DNA	40-50 ng
	ddH_2O	29 μL
	Total	50 μL
	PCR conditions	
	95 ℃（initial denaturation）	2 min
	95 ℃（denaturation）	30 s
	54 ℃（annealing）	30 s } 21 cycles
	72 ℃（elongation）	30 s
	72 ℃（final elongation）	5 min

Fig. S1 Variations in COD_{Cr}, NH_4-N, TN, NO_2-N, NO_3-N and DO under three salinities in an 24 h HRT.

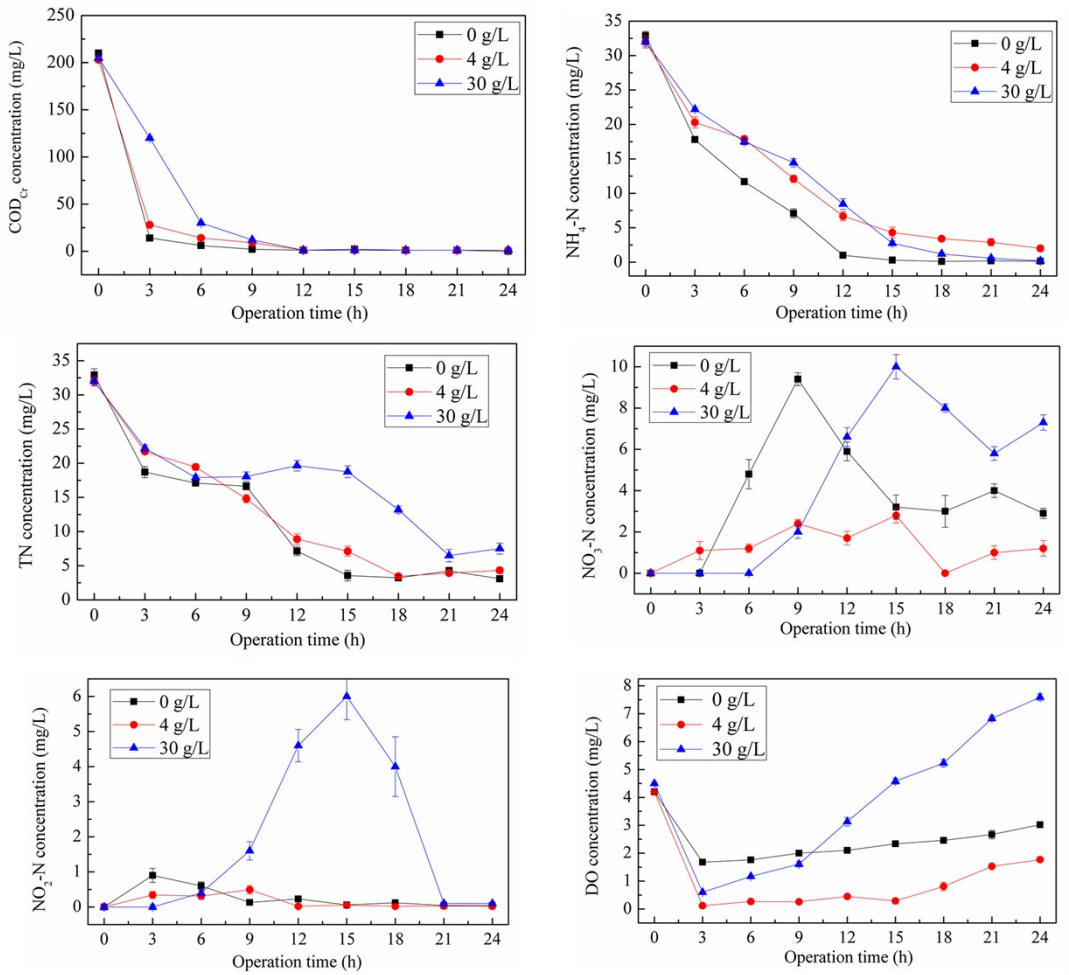

Fig. S2 The bacterial compositions in each biosample at different classification levels. The hot map (c) just listed the identified families no less than 1% in one sample, and the color bar represented the relative abundance in total reads.