

Fig. S1. Relevance between log concentration of various ARB in the activated sludge and in biosolids.

CEP, VAN, SD, ERY, TC and GEN and represent cephalalexin-, vancomycin-, sulfadiazine-, erythromycin-, tetracycline- and gentamicin- resistant heterotrophic bacteria, respectively

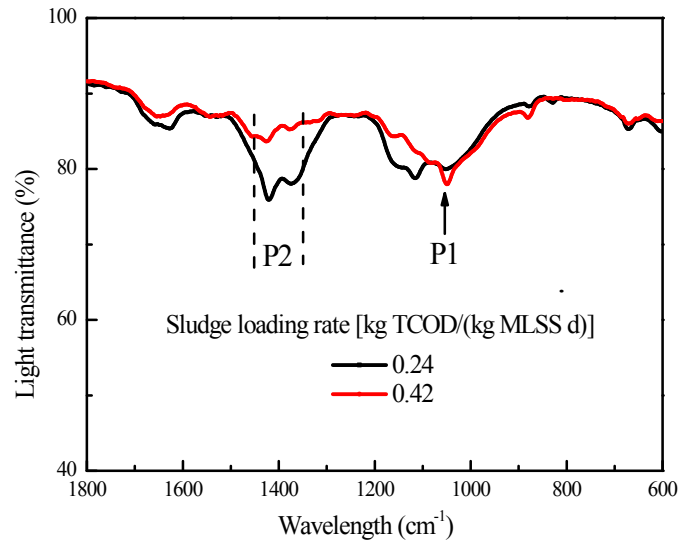


Fig. S2. Infrared spectroscopy analysis of activated sludge at two different sludge loading rates. The peak 1 (P1, 1040 cm⁻¹) represents polysaccharide, while peak 2 (P2, 1350–1450 cm⁻¹) represents protein peptides. Polysaccharide and protein were the two major constituents of extracellular polymeric substance (EPS). A higher ratio of polysaccharide/protein was found at the higher sludge loading rate (0.42 kg COD/(kg MLSS·d)), indicating that the composition of the EPS had changed.

Table S1. Physical and chemical indexes of the three reactors.

Reactor	Activated sludge			TCOD (mg/L)	FCOD (mg/L)	Turbidity (NTU)	NH ₄ ⁺ -N (mg/L)	TN (mg/L)	TP (mg/L)
	Sludge loading rate [kg COD/(kg MLSS·d)]	MLSS (mg/L)	PH						
Influent	–	–	7.36~8.29	259~438	118~290	65.0~240.0	25.8~39.5	32.0~45.0	5.8~12.5
A	0.24	1000	7.24~7.54	19~52	8~30	6.9~14.5	0.1~1.2	23.6~43.8	3.5~8.9
B	0.42	1167	7.13~7.49	22~47	6~32	4.3~15.2	0.1~1.5	21.5~42.6	3.8~7.6
C	0.61	1293	7.18~7.58	21~60	6~30	4.6~16.8	0.1~1.2	21.5~44.5	2.9~8.3

Table S2 Total release loads (RL_{total}) of various ARB in the activated sludge system at different sludge loading rates

Sludge loading rate [kg TCOD/(kg MLSS·d)]	CEP	VAN	SD	ERY	TC	GEN
0.24	4.9×10^7	3.9×10^7	3.0×10^7	4.8×10^7	2.7×10^6	1.4×10^6
0.42	9.8×10^7	1.0×10^8	1.5×10^8	5.9×10^7	7.2×10^6	6.3×10^6
0.61	2.4×10^8	2.1×10^8	1.4×10^8	1.8×10^8	1.6×10^7	6.8×10^6

