

Table S1. Reactor influent composition

Components	Names	Concentrations (mg/L)
Carbon source	Glucose	400±50
Nitrogen source	Ammonium chloride	60±5
Phosphorus source	Potassium dihydrogen phosphate	6±1
Constant elements	Calcium chloride	0.01
	Ferric chloride	0.01
	Sodium bicarbonate	0.01
	Magnesium sulfate heptahydrate	0.01
	Ammonium molybdate tetrahydrate	0.05
	Cobalt chloride hexahydrate	0.05
	Nickel chloride	0.05
Trace elements	Boric acid	0.03
	Copper chloride	0.03
	Zinc chloride	0.05
	Aluminium chloride	0.05
	Manganese sulfate monohydrate	0.05

Table S2. Primer sequence list

Target gene	Sequence	Amplicom size (bp)	Annealing temperature (°C)
<i>copA</i>	TGCACCTGACVGGSCAYAT GVACTTCRCGGAACATRCC	324	60
<i>cusA</i>	ATGCSACVGGYGTGGCTG CCR TTCAGYTCGGCRATRCC	410	55
<i>pcoA</i>	GGGGTTTCTACTGGTGGT GCTGCAGATGGCCAGTATGTAAA	147	56.3
<i>pcoD</i>	CCCTCGAGCGTAACCGGTCC AATGCACAGAGCGTCATTGT	245	56.3
<i>sul1</i>	CACCGGAAACATCGCTGCA CACCGGAAACATCGCTGCA	172	55
<i>sul2</i>	CTCCGATGGAGGCCGGTAT GGGAATGCCATCTGCCTTGA	165	55
<i>ermB</i>	AAA ACTTACCCGCCATACCA TTTGGCGTGTTTCATTGCTT	139	60
<i>tetM</i>	GTGGACAAAGGTACAACGAG CGGTAAAGTTCGTCACACAC	406	55
<i>tetQ</i>	AGAATCTGCTGTTTGCCAGTG CGGAGTGTCAATGATATTGCA	196	55
<i>intl1</i>	GGCTTCGTGATGCCTGCTT CATTCCTGGCCGTGGTTCT AGGATTGACTGCCTTTTTG	190	55
<i>SHV</i>	ATTGCTGATTCGCTCGG	392	55
<i>TEM</i>	ATAAAATTCTTGAAGACGAAA GACAGTTACCAATGATTAATC	1079	55

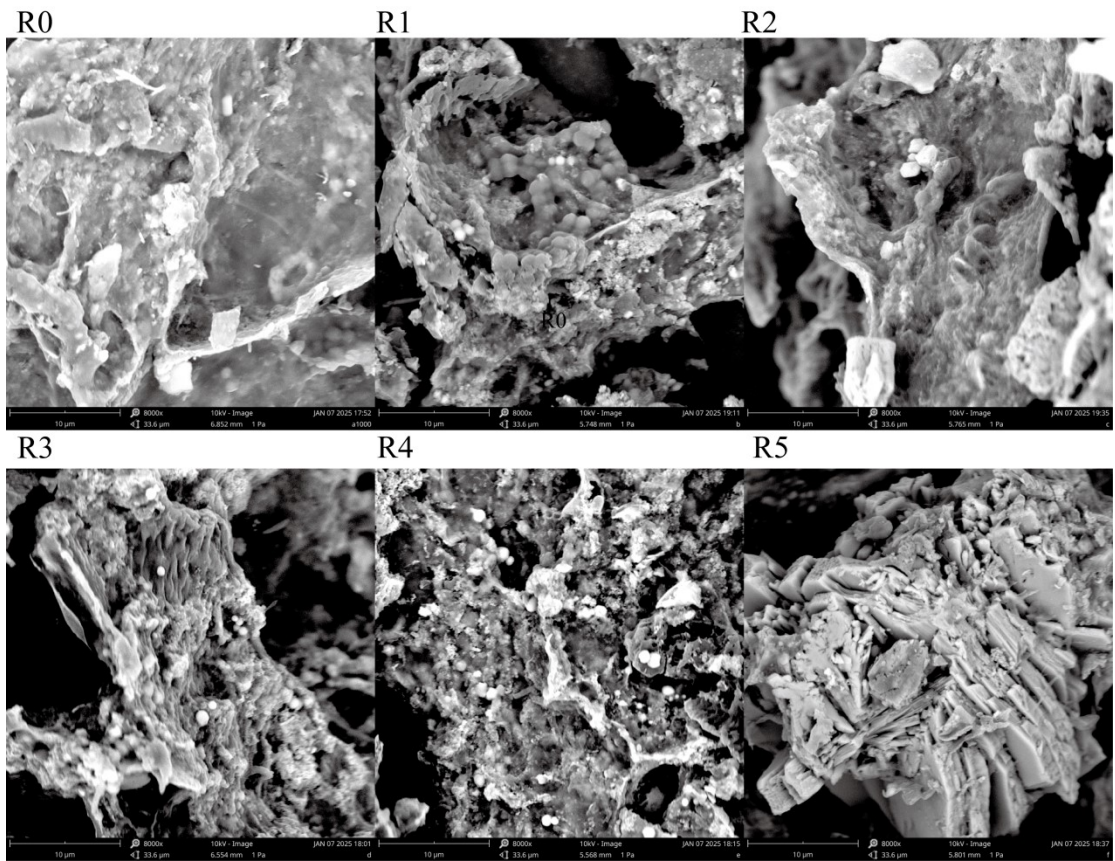


Figure S1. SEM Images of Sludge from R0-R5

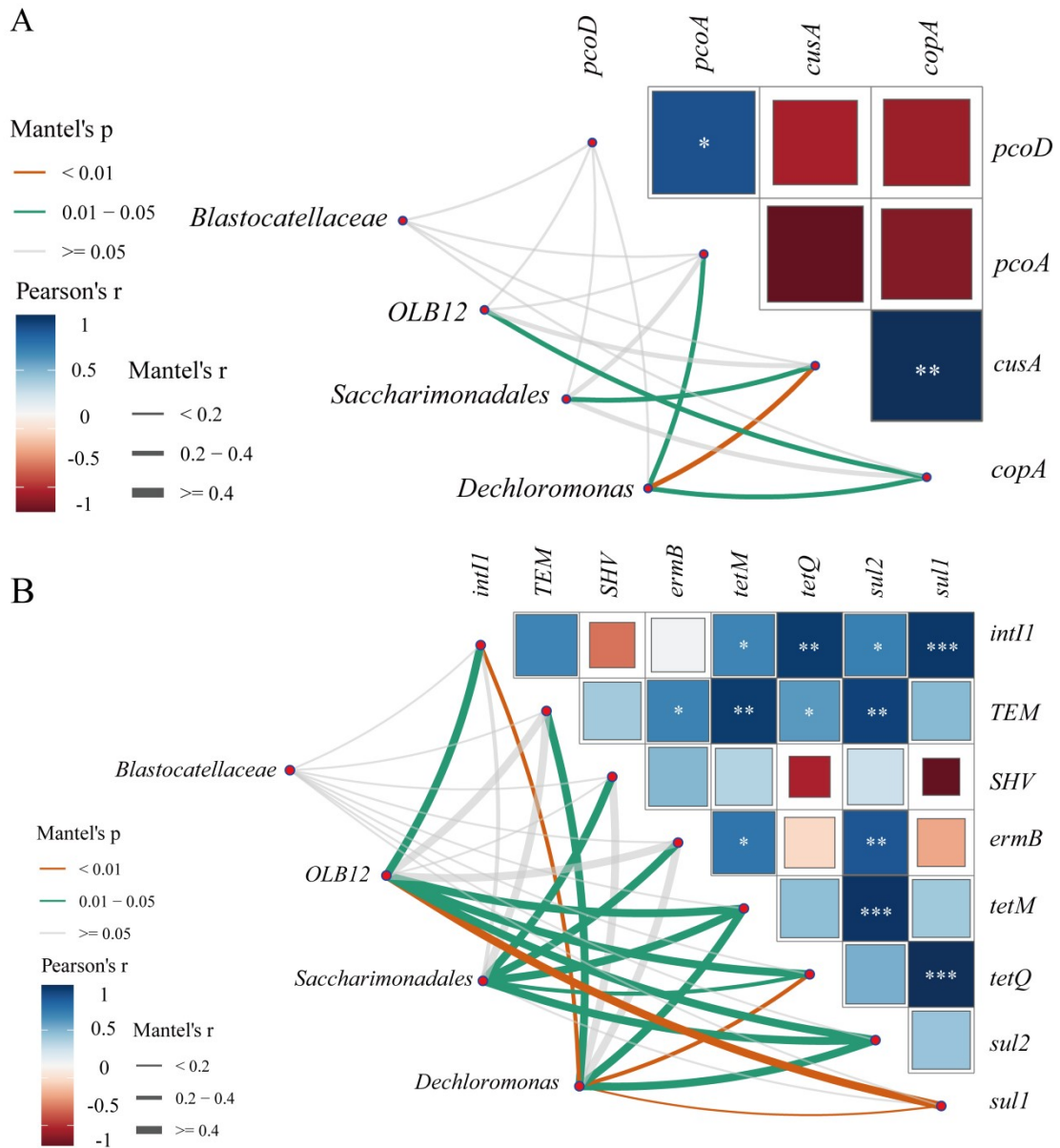


Figure S2. Mantel test of microorganisms and ARGs (A), CRGs (B) at genus level