Supplementary Material

Glycine assistant phosphorus release and recovery from waste activated sludge

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Table S1. Comparison, advantages and disadvantages of different phosphorus recovery methods from waste activated sludge.

Method		Phosphorus release/ recovery (%)	Product	Advantages/ disadvantages	Reference
Wet chemical treatment	NaOH/KOH	36~46	Struvite	• High efficiency on P recovery; • Simple operation	(Bi et al., 2014) (Nochefranca et al., 2020)
	HCl	38	-	• Metal dissolution;	(He et al., 2017)
	H_2SO_4	25	Iron phosphate; Calcium phosphate	• High chemical dosage;	(Quist-Jensen et al., 2018)
	EDTA	36	Struvite	• Pipeline corrosion and clogging;	(Hu et al., 2023)
Physical treatment	Freeze-microwave	45	Struvite	• Wide range of applications	(Chang et al., 2019)
	Ultrasound	49	-	• High operating costs and energy consumption; • Requires power;	(Lin et al., 2020)
	Ozonation	86	Hydroxyapatite /Amorphous calcium phosphate		(Vasenko et al., 2020)
Biological treatment	Bioleaching	52	-	• Longer reaction time; • Accompanied metal solubilization; • Carbon/chemical cost	(Lee et al., 2020)
	Digestion	90	Struvite		(Alhraishawi et al., 2024)
	Carbon uptake (Acetate)	56	Calcium phosphate		(Anders et al., 2021)

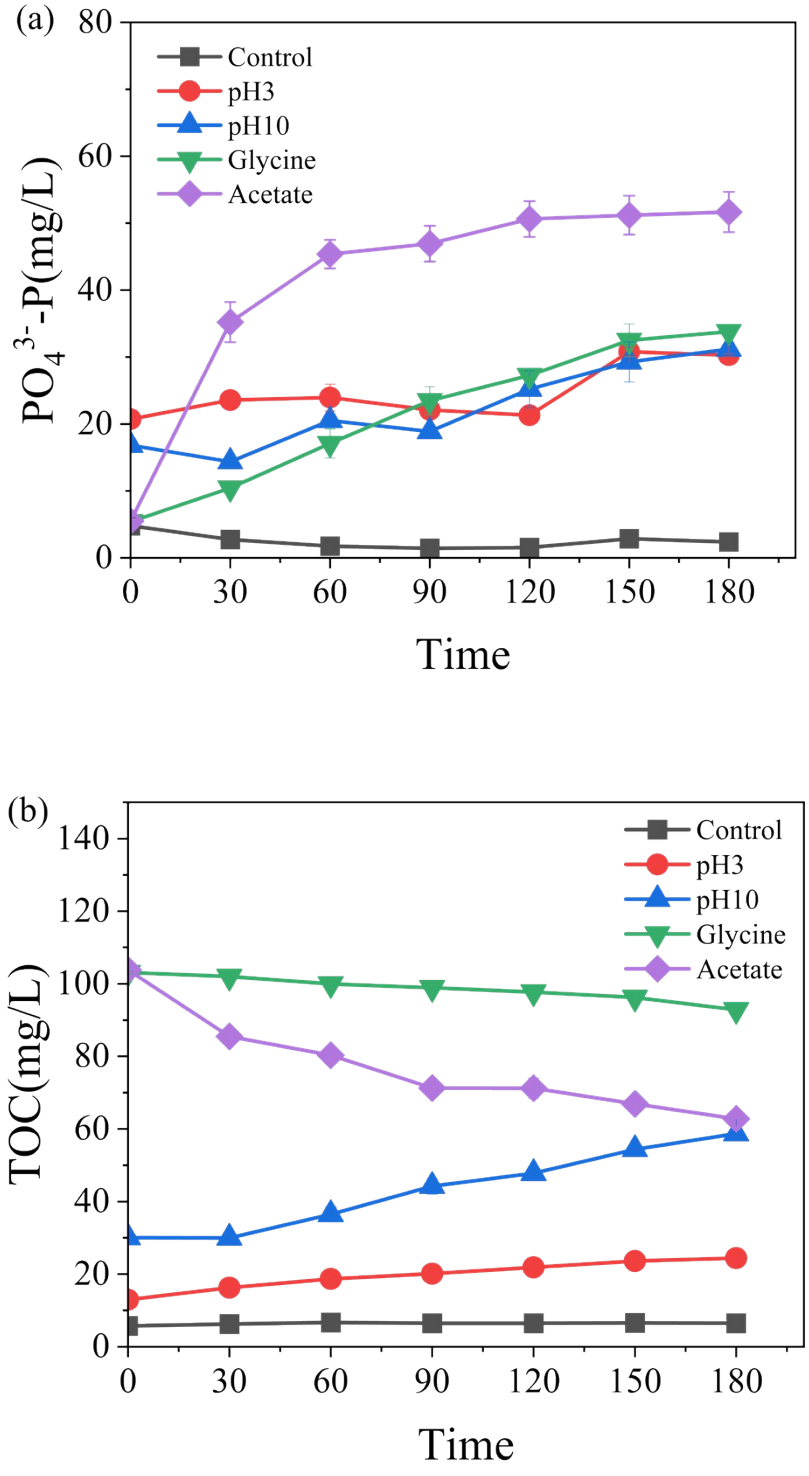

Fig. S1. P extraction performance in batch tests under different treatment of P (a) and TOC (b) profiles at a MLSS concentration of 5.0 g/L. The tests were conducted in 30°C, 180 rpm within an incubator.

Reference

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