

a. Table 1. Operational strategy of the ASBR

Periods	Fe/P	Agitation (rpm)	Cycle time (d)	HRT (d)	Temperature (°C)	COD (TCOD/SCOD, mg/L)	OLR (kg/(d·m <sup>3</sup> ))
Start- up/Run 1	1.5	100	1	2	30	800/400	0.40
Run 2	3	100	1	2	30	800/400	0.40
Run 3	3	50	1	2	30	800/400	0.40
Run 4	3	0	1	2	30	800/400	0.40
Run 5	3	100	1	2	30	800/400	0.40
Run 6	3	100	3	6	30	800/400	0.13
Run 7	3	100	2	4	30	800/400	0.20
Run 8	3	100	0.5	1	30	800/400	0.80

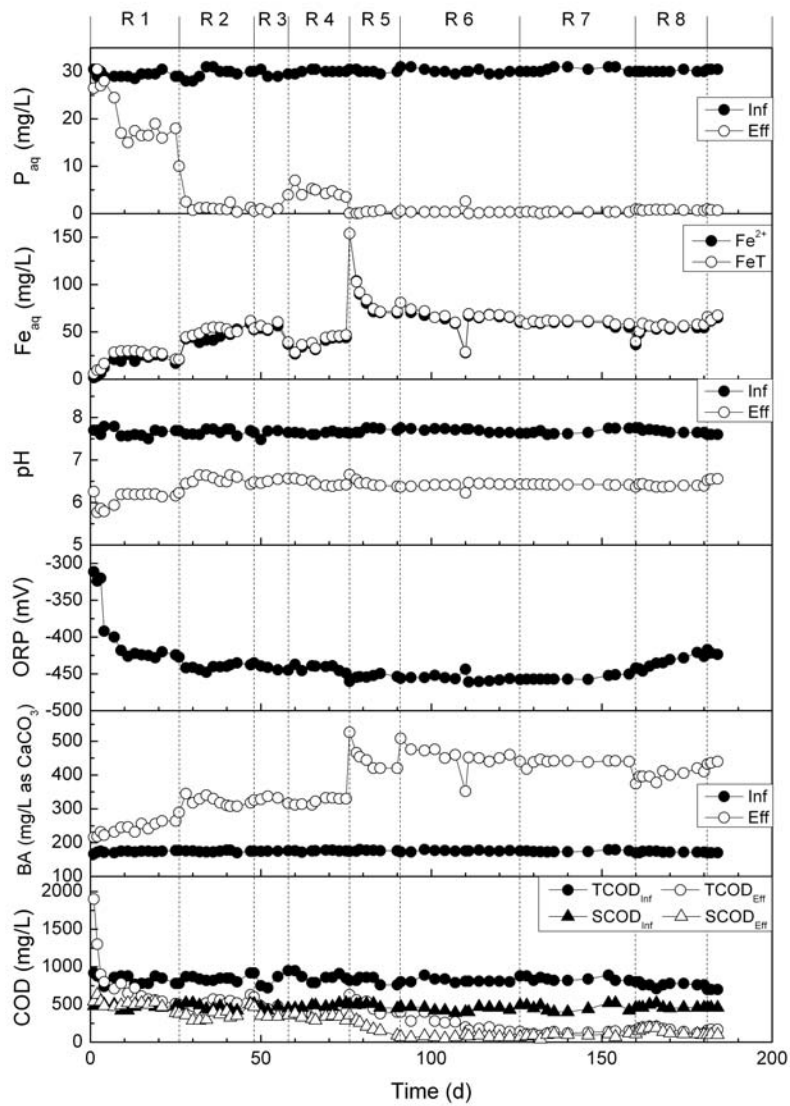


Figure 1. Performance of the ASBR under different operational conditions.

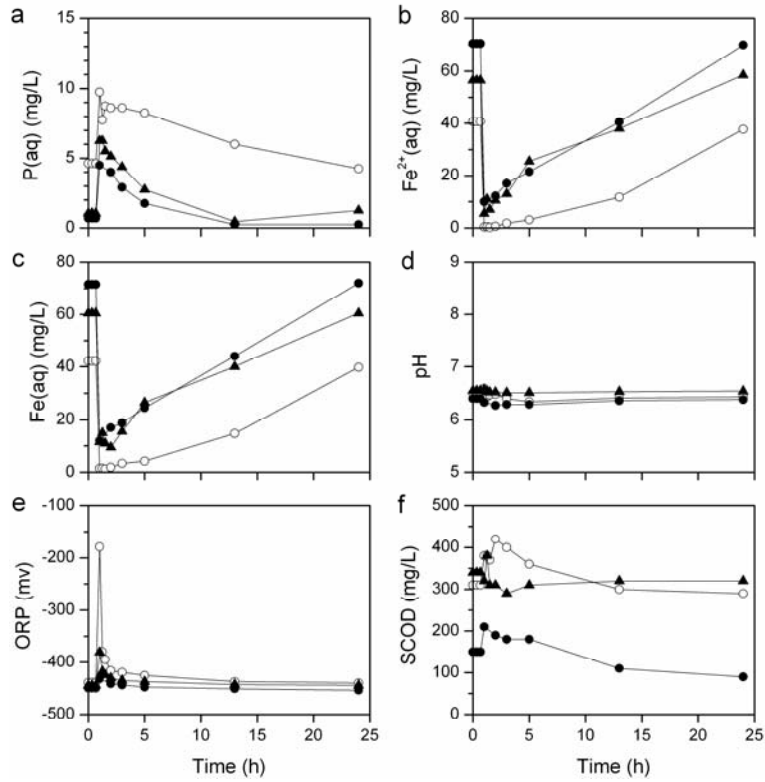


Figure 2. Profiles of soluble P, soluble Fe<sup>2+</sup>, soluble FeT, pH, ORP and SCOD during an operational cycle under different agitation: agitation free (open circle), 50 rpm (solid triangle) or 100 rpm (solid circle).

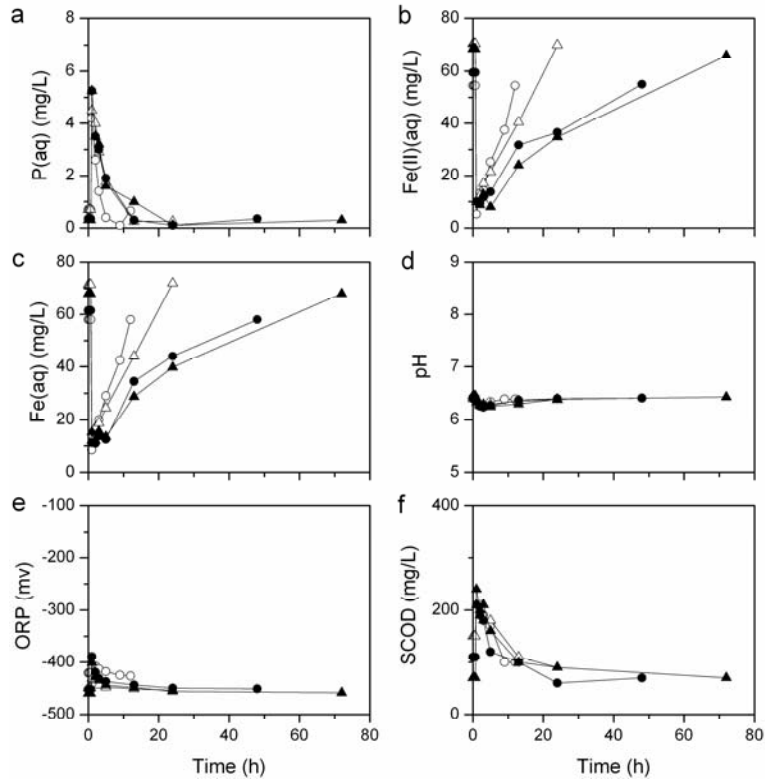


Figure 3. Profiles of soluble P, soluble  $\text{Fe}^{2+}$ , soluble FeT, pH, ORP and SCOD during an operational cycle under different cycle time: 0.5 d (open circle), 1 d (open triangle), 2 d (solid circle) and 3 d (solid triangle).

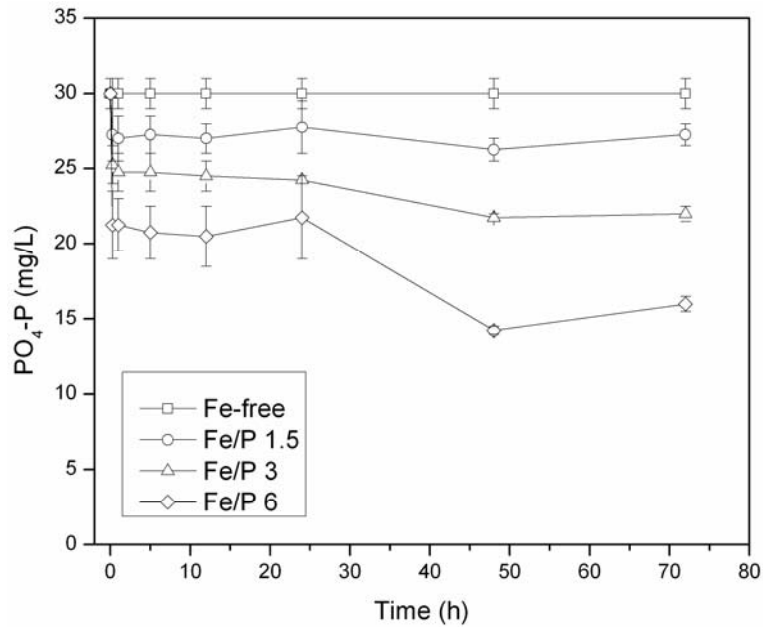


Figure 4. Phosphorus adsorption onto the A-FeOOH.

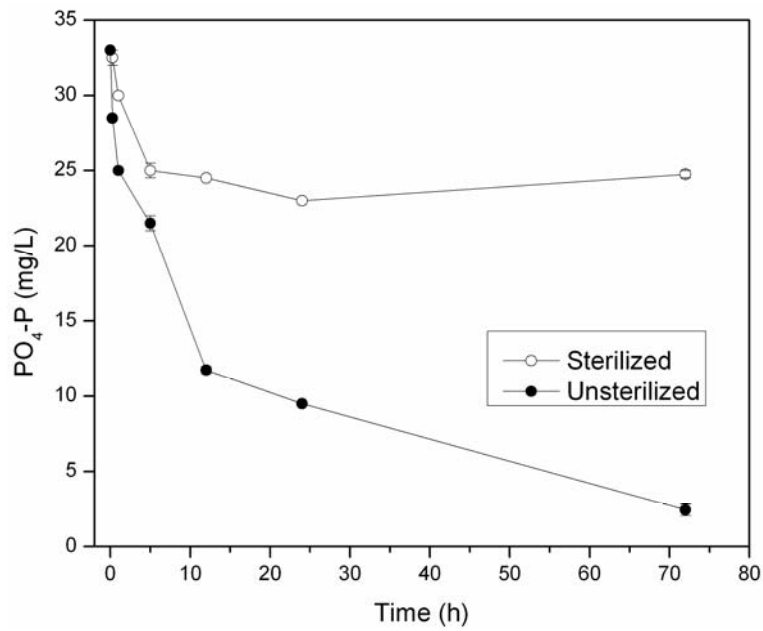


Figure 5. Phosphorus adsorption onto the biomass.

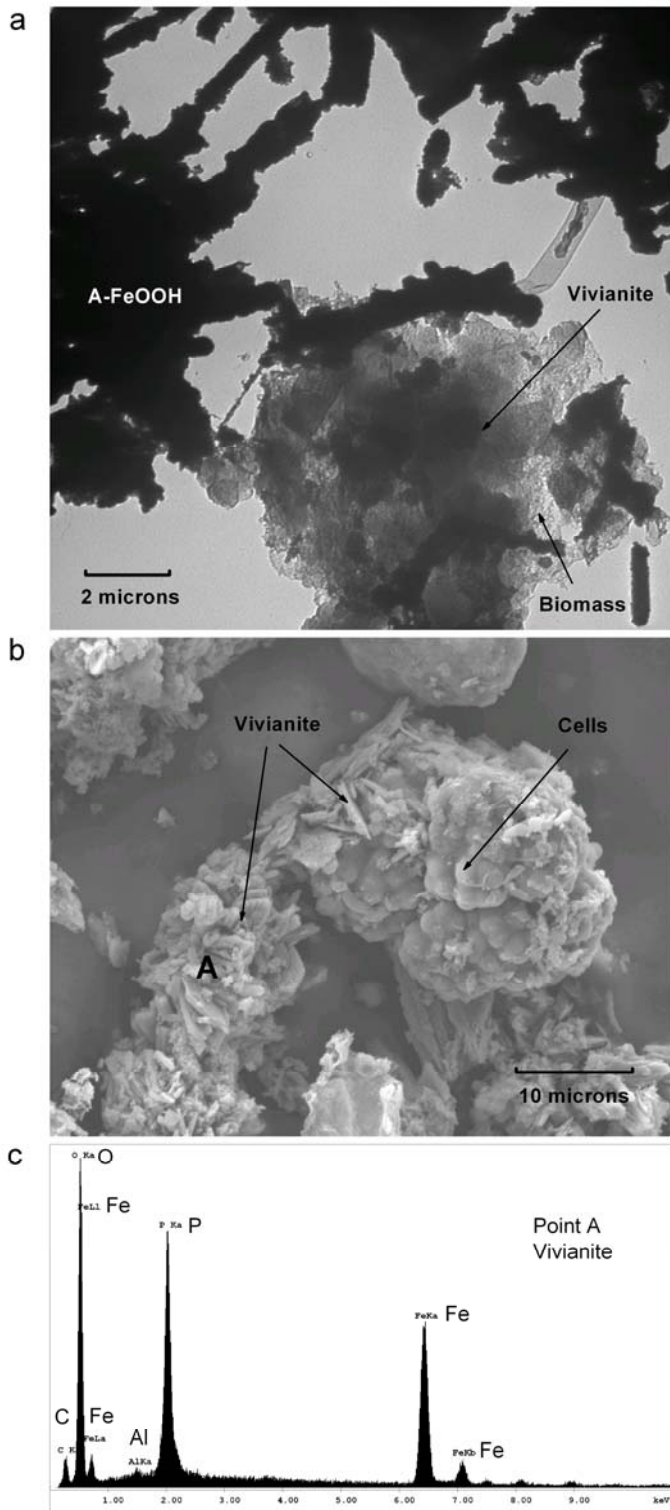


Figure 6 | TEM (a) and SEM (b) images of the collected precipitates from the ASBR and EDS spectrum (c) obtained from point A in b.

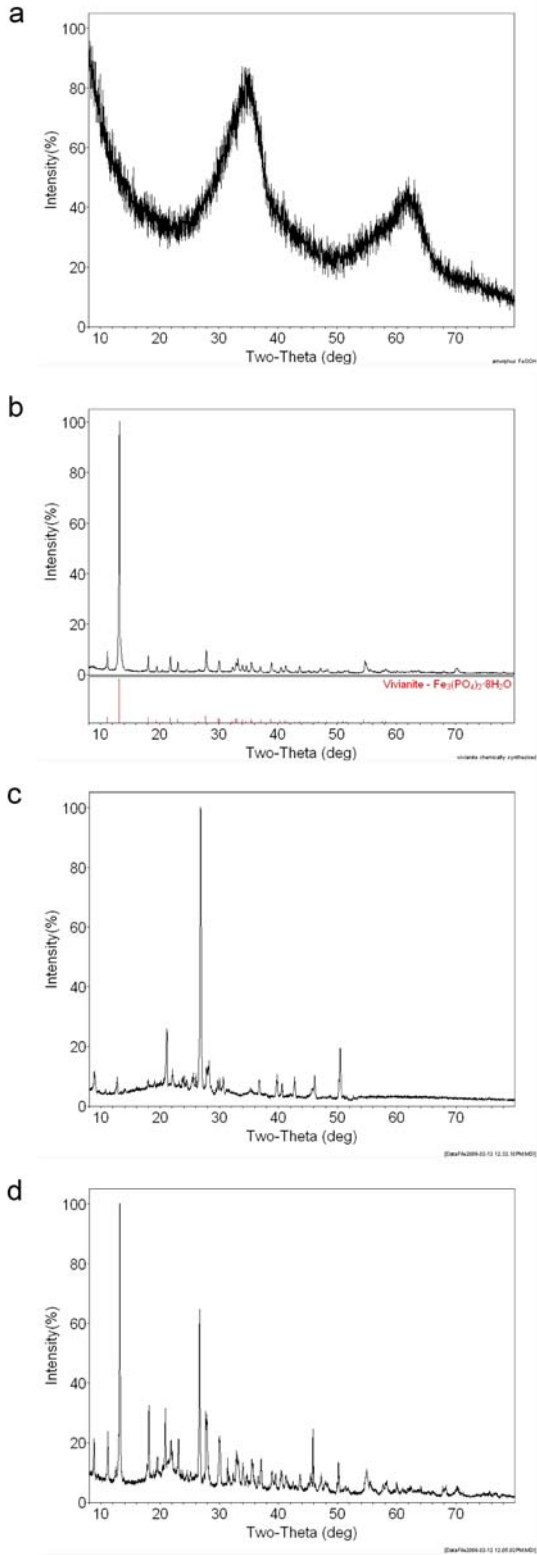


Figure 7 | XRD patterns of the synthesized A-FeOOH (a), the synthesized vivianite, the seed sludge (c) and the precipitates from the ASBR (d).