

## Supplementary Materials:

# Design of Scorodite@Fe<sub>3</sub>O<sub>4</sub> Core–Shell Materials and the Fe<sub>3</sub>O<sub>4</sub> Shell Prevents Leaching of Arsenic from Scorodite in Neutral and Alkaline Environments

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Table S1. Components of dust.

Test	As (wt %)	K (wt %)	Al (wt %)	Zn (wt %)	Na (wt %)
Sample 1	41.3	0.7	0.1	0.4	0.3
Sample 2	42.5	0.6	0.1	0.5	0.2
Sample 3	43.1	0.5	0.1	0.6	0.3

Table S2. Components of leaching liquid.

Test	As (g·L <sup>-1</sup> )	K (g·L <sup>-1</sup> )	Al (g·L <sup>-1</sup> )	Zn (g·L <sup>-1</sup> )	Na (g·L <sup>-1</sup> )
Sample 1	20.7	0.4	0.01	0.01	0.2
Sample 2	22.1	0.6	0.01	0.01	0.2
Sample 3	24.7	0.7	0.01	0.01	0.3

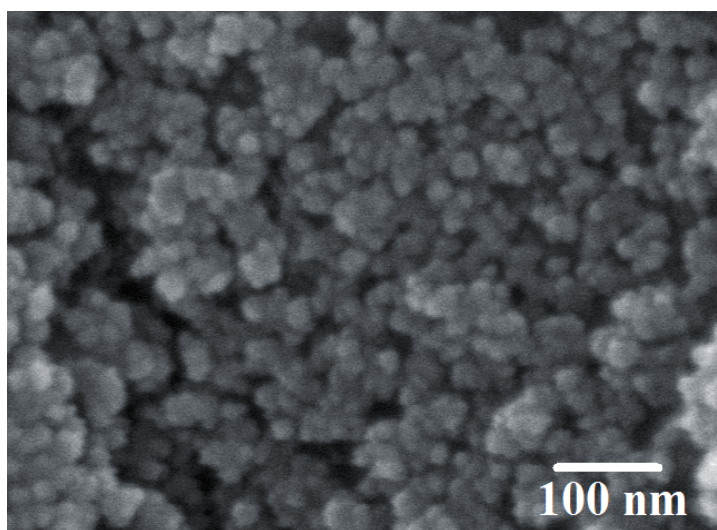
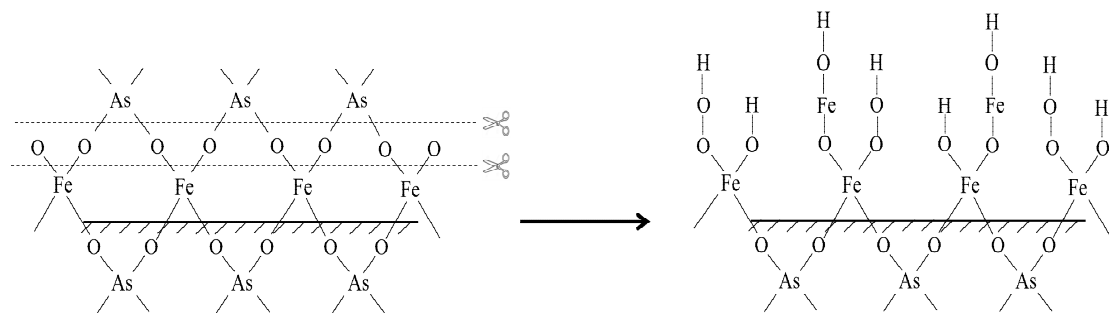


Figure S1. The SEM image of Sample 2 (initial Fe ions/Scorodite molar ratio = 9%, initial reaction pH = 8, reaction time = 15 min).



**Figure S2.** Schematic diagram of the forming process of  $\text{Fe}_x(\text{OH})_y\text{-AsO}_4$  layer.