

Supplementary Materials: The following supporting information can be got as follows.

Table S1. Summary of batch adsorption experiment conditions.

No.	pH	Temperature (°C)	NaHCO ₃ (mmol/L)	NaCl (mol/L)
1	2	13	- *	-
2	4	13	-	-
3	6	13	-	-
4	8	13	-	-
5	10	13	-	-
6	12	13	-	-
7	8	5	-	-
8	8	10	-	-
9	8	15	-	-
10	8	20	-	-
11	8	25	-	-
12	8	30	-	-
13	8	13	1	-
14	8	13	10	-
15	8	13	25	-
16	8	13	50	-
17	8	13	100	-
18	8	13	-	1
19	8	13	-	5
20	8	13	-	10
21	8	13	-	15
22	8	13	-	20
23	8	13	-	25

* a dash indicates that this component was not added.

Table S2. Summary of batch desorption experiment conditions.

No.	pH	Temperature (°C)	NaHCO ₃ (mmol/L)
1	2	13	- *
2	4	13	-
3	6	13	-
4	8	13	-
5	10	13	-
6	12	13	-
7	8	5	-
8	8	10	-
9	8	15	-
10	8	20	-
11	8	25	-
12	8	30	-
13	8	13	1
14	8	13	10
15	8	13	25
16	8	13	50
17	8	13	100

* a dash indicates that this component was not added.

Table S3. Adsorption and desorption ratio of arsenic at equilibrium under different influencing factors.

pH	Adsorption ratio (%)	Desorption ratio (%)	Temperature (°C)	Adsorption ratio (%)	Desorption ratio (%)	HCO ₃ ⁻ concentration (mmol/L)	Adsorption ratio (%)	Desorption ratio (%)
2	40.36	21.99	5	43.33	9.23	1	74.97	16.90
4	41.70	19.18	10	56.67	11.76	10	62.83	20.31
6	52.18	12.42	15	68.04	13.19	25	48.77	27.34
8	91.19	4.81	20	71.33	14.02	50	39.73	36.07
10	66.32	29.39	25	74.33	16.14	100	29.59	54.09
12	39.68	50.40	30	83.65	16.34			