

Electronic Supporting Information for

Synthesis of core-shell magnetic titanate nanofibers composite for the efficient removal of Sr(II)

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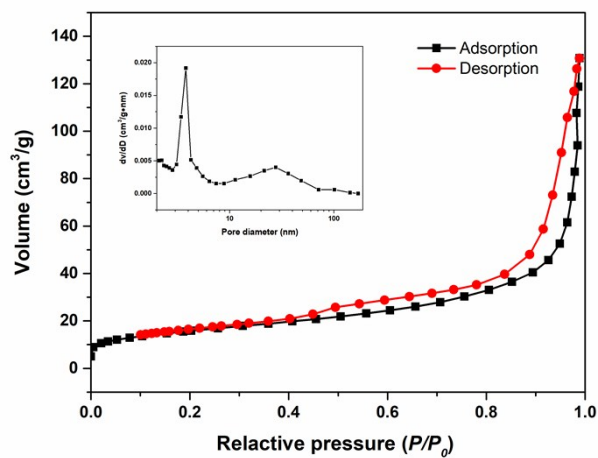


Fig. S1 N₂ adsorption-desorption isotherms and pore size distribution of Fe₃O₄/titanate nanofiber composite

Table S1 Structure parameters of Fe₃O₄/titanate nanofiber composite

Sample	S _{BET} (m ² /g)	Pore Volume(cm ³ /g)	Average pore width(nm)
Fe ₃ O ₄ /titanate nanofiber	56.7	0.2	14.3

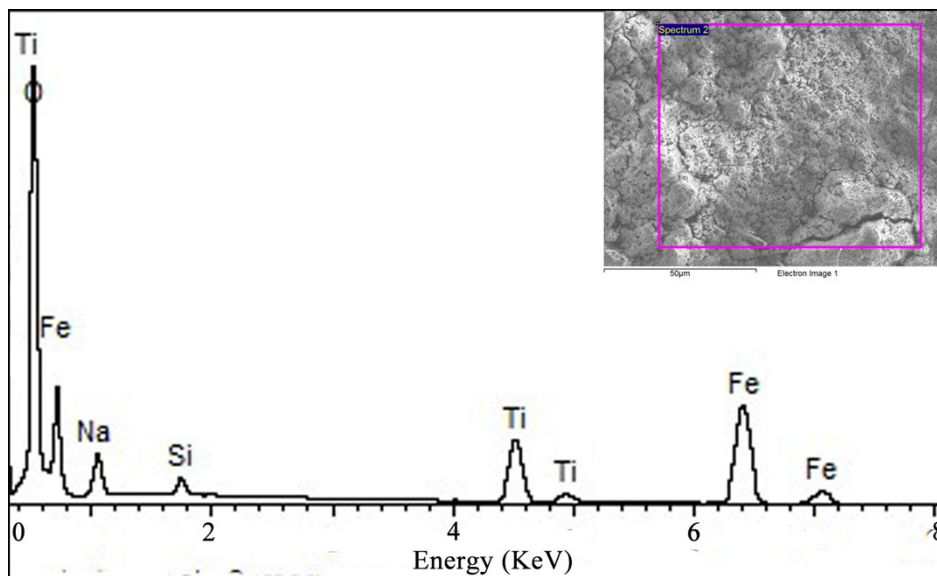


Fig. S2. EDS spectrum of Fe₃O₄/titanate composite

Table S2 Element composition for Fe₃O₄/titanate nanofibers by using EDS analysis

Element	Weight%	Atomic%
C K	28.13	43.29
O K	38.14	44.07
Na K	2.01	1.62
Si K	0.55	0.36
Ti K	6.38	2.46
Fe K	24.78	8.20
Totals	100.00	

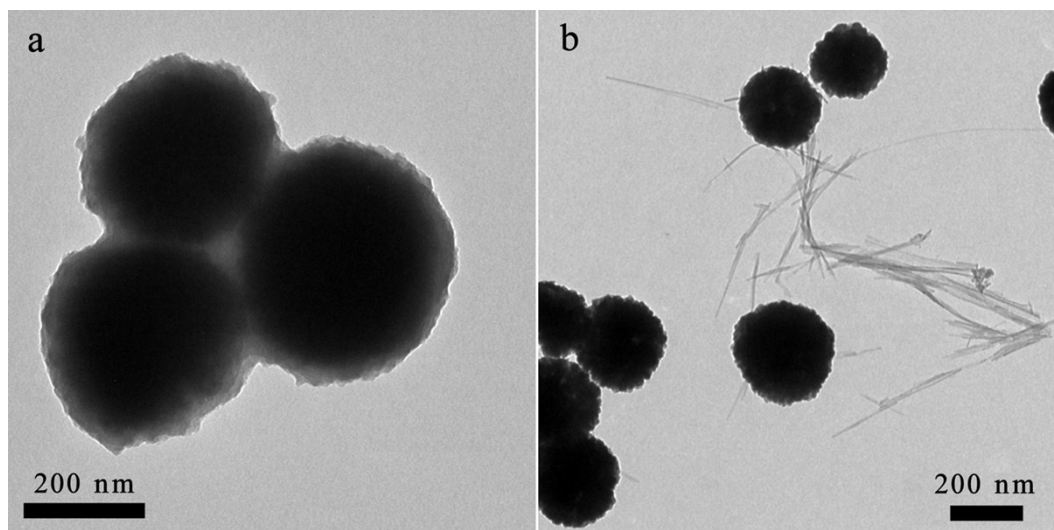


Fig. S3 TEM image of $\text{Fe}_3\text{O}_4@\text{TiO}_2$ microspheres and its product after hydrothermal treatment in 10 M NaOH solution

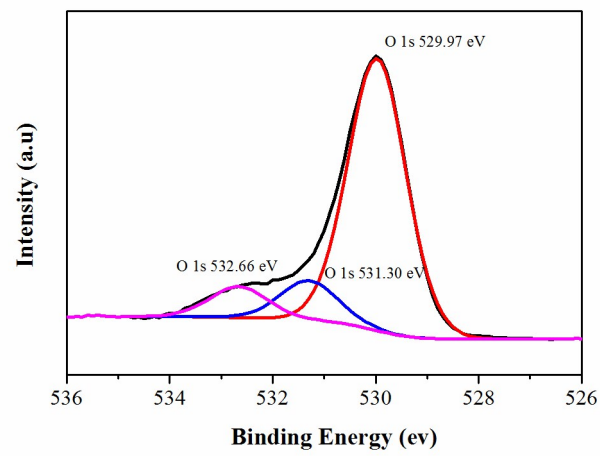


Fig. S4 XPS high resolution of O1s before Sr(II) treatment

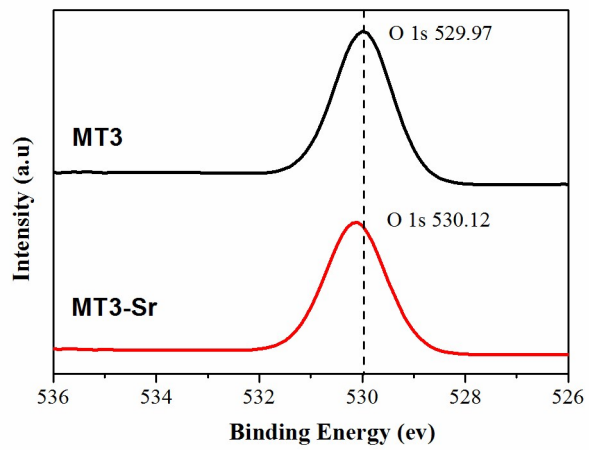


Fig. S5 XPS high resolution of O1s before and after Sr(II) treatment

Table S3. Parameters of adsorption isotherms fitted by Langmuir and Freundlich models

Langmuir model			Freundlich model		
K_L (L/mg)	q_{max} (mg/g)	R^2	K_F	n	R^2
509.58	39.08	0.931	44.36	10.99	0.557

Table S4 Desorption performance with various conditions of elution

No.	Mass of adsorbent(mg)	$C_{Sr(II)}$ (g/L)	q_e (mg/g)	Eluent	V_{Eluent} (mL)	Desorption rate(%)
1	10	0.2	36.2	5% Thiourea	2	14.1
2	10	0.2	36.5	5% Thiourea	4	18.5
3	10	0.2	36.3	5% EDTA(2Na)	2	90.3
4	10	0.2	35.9	5% EDTA(2Na)	4	92.2