Fig. S1. Photograph showing the IMS set up with the dialysis bags (a: IMS were encapsulated in the dialysis, the coin of the inset is included for scale, diameter=25 mm. b: loaded dialysis bags in solution.)
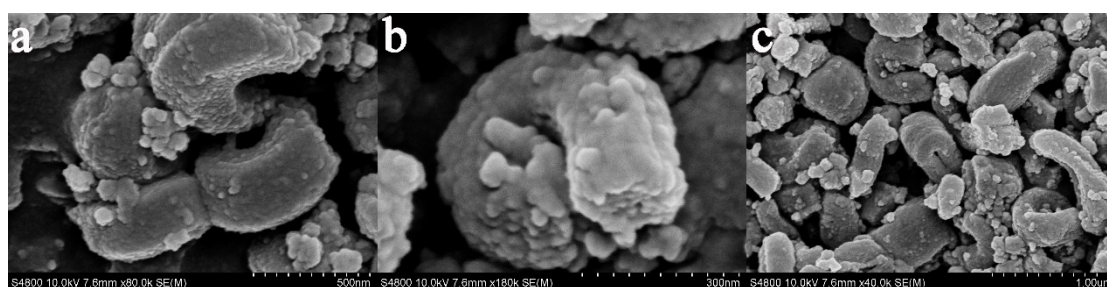

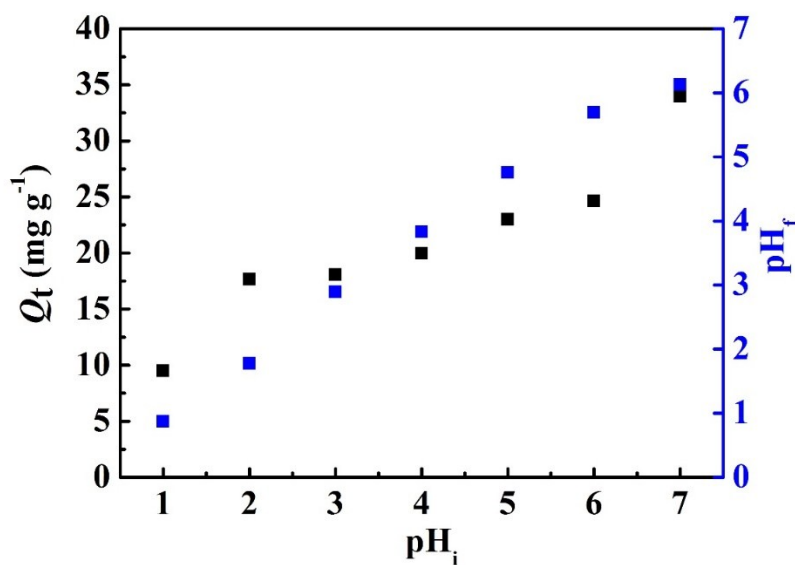Fig. S2. SEM images of SBA-15 (a), IMS (b), and NIMS (c).

Fig. S3. pH effect on Dy(III) adsorption capacities using IMS (including pH variation: pH_f vs. pH_i).
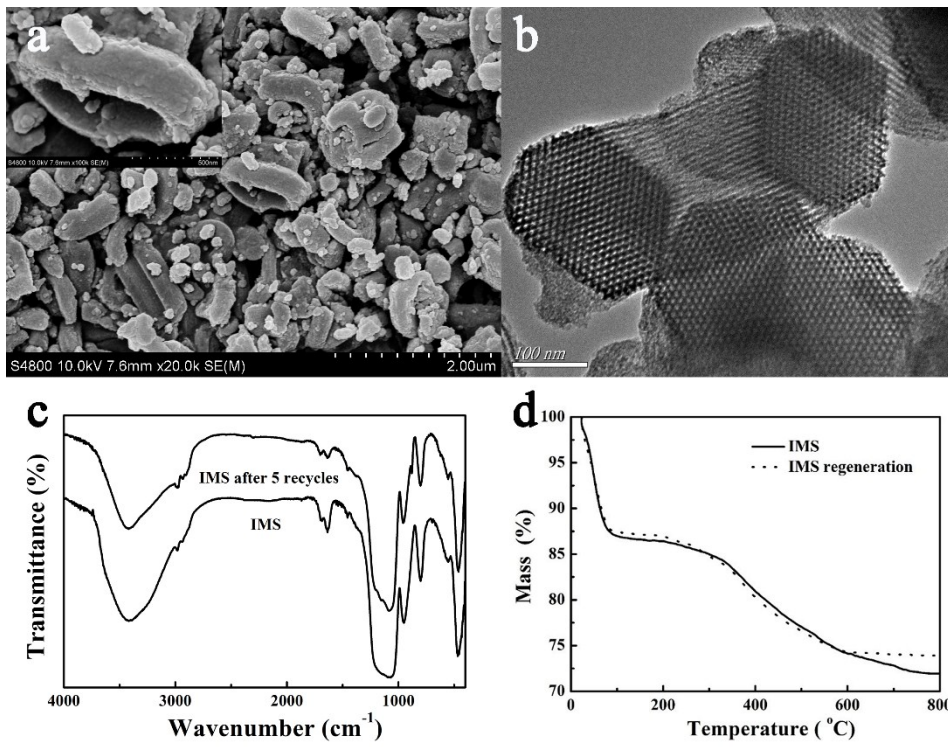
Fig. S4. SEM (a, in different magnification), TEM (b), FT-IR analysis (c), and TGA analysis (d) for IMS before and after the regeneration tests.

Table S1: Elemental composition of the materials from elemental analysis

Materials	N (%)	C (%)	H(%)
SBA-15	-	-	1.66
IMS	-	6.52	2.50
NIMS	-	5.53	2.40