

# SUPPLEMENTARY DATA

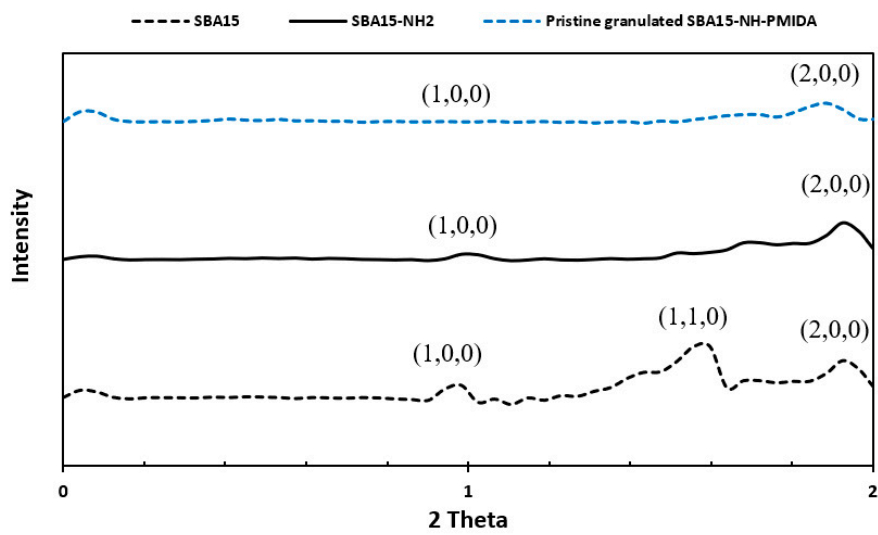


Figure S1: XRD patterns of SBA15, SBA15-NH<sub>2</sub> and pristine granulated SBA15-NH-PMIDA

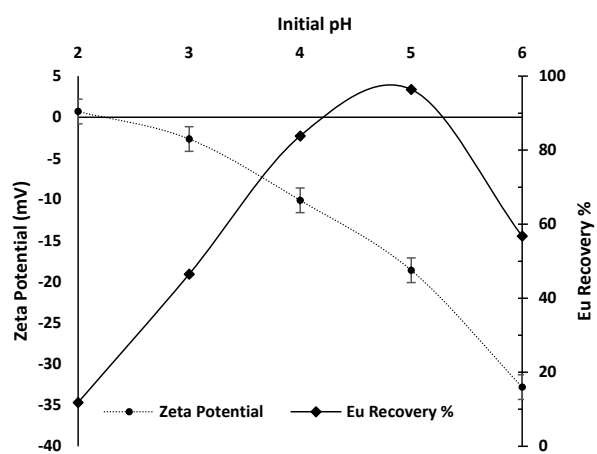


Figure S2: Influence of pH on Eu uptake and SBA15-PMIDA surface charge (Initial Eu Concentration: 5 mg/l)

**Table S1.** Physical properties of adsorbents

Adsorbent	BET Surface	Pore	Mean Pore
	Area	Volume	Diameter
	(m <sup>2</sup> .g <sup>-1</sup> )	(cm <sup>3</sup> .g <sup>-1</sup> )	(nm)
SBA15	828	1.26	6.15
SBA15- NH <sub>2</sub>	329	0.77	9.42
SBA15-NH- PMIDA	116	0.28	9.19

**Table S2.** Comparison of Eu adsorption capacities of different adsorbents (modified from Fonseka et al., [1, 2]).

Adsorbent	pH	Langmuir Adsorption Capacity (mg/g) <sup>1</sup>	Competing Metals /Ions	Eu selectivity (%)	Ref
Cr-MIL-PMIDA	5.5	69.14	Na, Mg, Al, Ca, Mn, Fe, Co, Ni, Cu, Zn	85	[2]
SBA15-NH <sub>2</sub> -PMIDA	4.8	86.21	Na, Mg, Al, Ca, Mn, Fe, Ni, Cu, Zn	81	[1]
Cr-MIL-NH <sub>2</sub>	5.5	-	Na, Ca, Mn, Co, Ni, Cu, Zn	12.3	[2]
Graphene-Based Macrostructure	6	136.99	ReO <sub>4</sub> <sup>-</sup> , Na, Sc, Sr, Co, UO <sub>2</sub> , Th	50	[3]
SBA-15 Mesoporous Silica	4	15.2	Th, Ba, Cu, Pb, Co, Ni, Mn, Cd, Cr, Fe, U	30	[4]
SBA-15/SO <sub>3</sub> H	4	8.6	Na, Mn, Ni, Co, Cd, Pb, Cu, Cr, Fe, Th, U	26	[5]
TiO <sub>2</sub>	4.5	2.69	-	-	[6]
Mesoporous	6	5.14	-	-	[7]
Al <sub>2</sub> O <sub>3</sub> /EG composites					

<sup>1</sup>Langmuir Adsorption Capacity (mg/g) has been calculated based on equations 1 and 2.

**Table S3:** Raw data obtained from the preliminary column experiment for adsorption of Eu [8]

(Inflow Eu Concentration = 1 mg/l, flowrate = 1.39E-08 m<sup>3</sup>/s, bed height = 0.1 m)

Time (hr)	0.5	1	2	4	6	8	10	12	14
C <sub>t</sub> (mg/l)	0.0014	0.0062	0.0094	0.0298	0.0667	0.0545	0.0980	0.1267	0.2200
Time (hr)	16	18	20						
C <sub>t</sub> (mg/l)	0.5887	0.8842	0.9842						

Where C<sub>t</sub>: concentration of Eu at outlet at time t, C<sub>0</sub>: Inflow Eu Concentration

Commented [M1]: We deleted \* here, please confirm

Commented [CFWM2R1]: Confirmed

## Reference

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