Electronic Supplementary Information

Shape-controlled synthesis of metal-organic framework MIL-125 towards highly enhanced catalytic performance for oxidative desulfurization of 4,6-dimethyldibenzothiophene

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Table 1. Textural properties of the MIL-125 and MIL-125-TRO.

Sample	S_{BET} (m^2/g)[a]	S_{ext} (m^2/g)[b]	V_{total} (cm^3/g)	V_{micro} (cm^3/g)[b]	V_{micro}/V_{total}
MIL-125	1181	165	0.61	0.50	0.82
MIL-125-TRO	1320	181	0.67	0.55	0.82

[a]Specific surface area calculated using the BET method.

[b]S_{ext} (external surface area) and V_{micro} (micropore volume) calculated using the *t*-plot method.

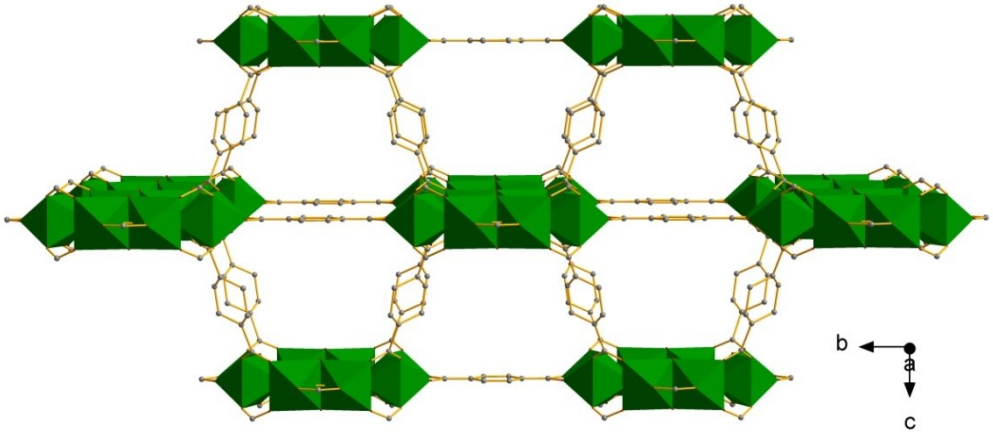

Fig. S1 Representation of the structure of MIL-125.

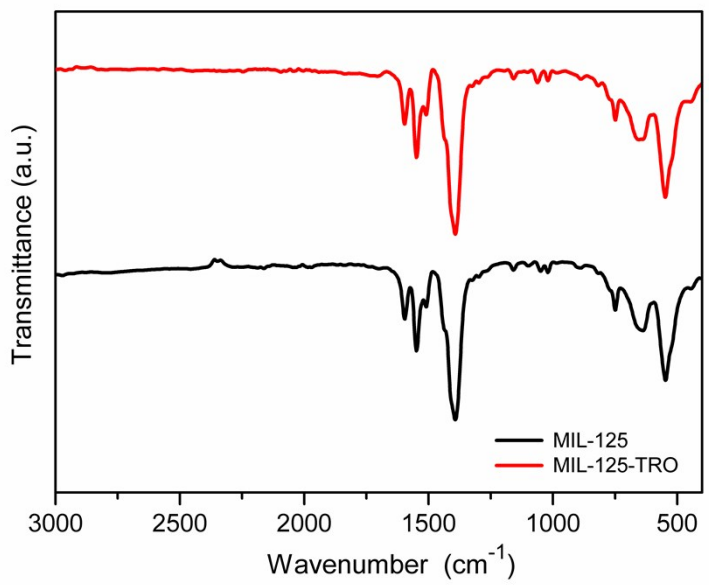

Fig. S2 IR spectra of MIL-125 and MIL-125-TRO.

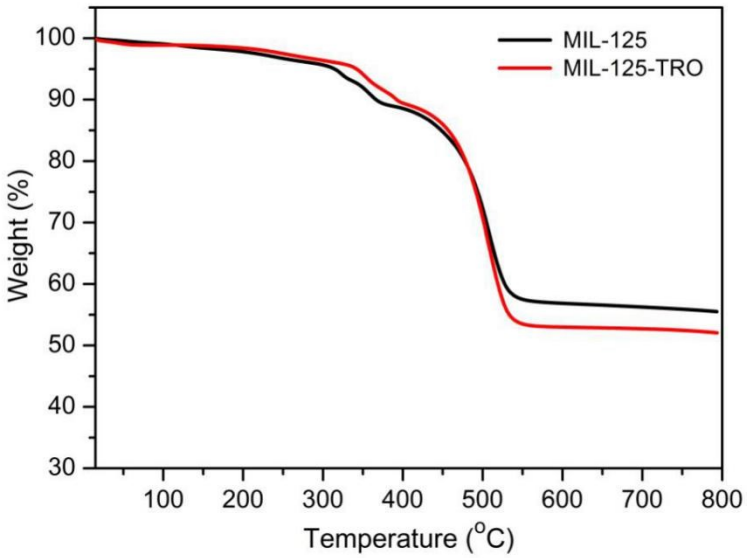

Fig. S3 TGA curves of MIL-125 and MIL-125-TRO.

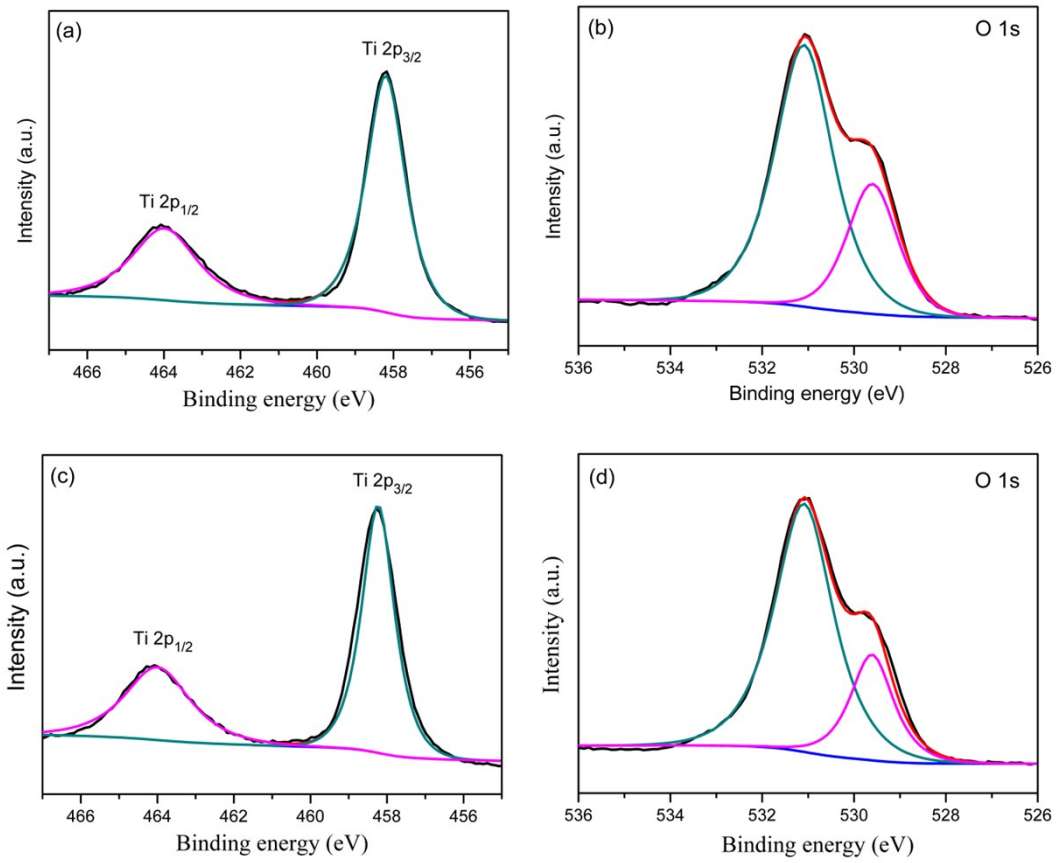

Fig. S4 Ti 2p XPS spectra of (a) MIL-125 and (c) MIL-125-TRO; O 1s XPS spectra of (b) MIL-125 and (d) MIL-125-TRO.

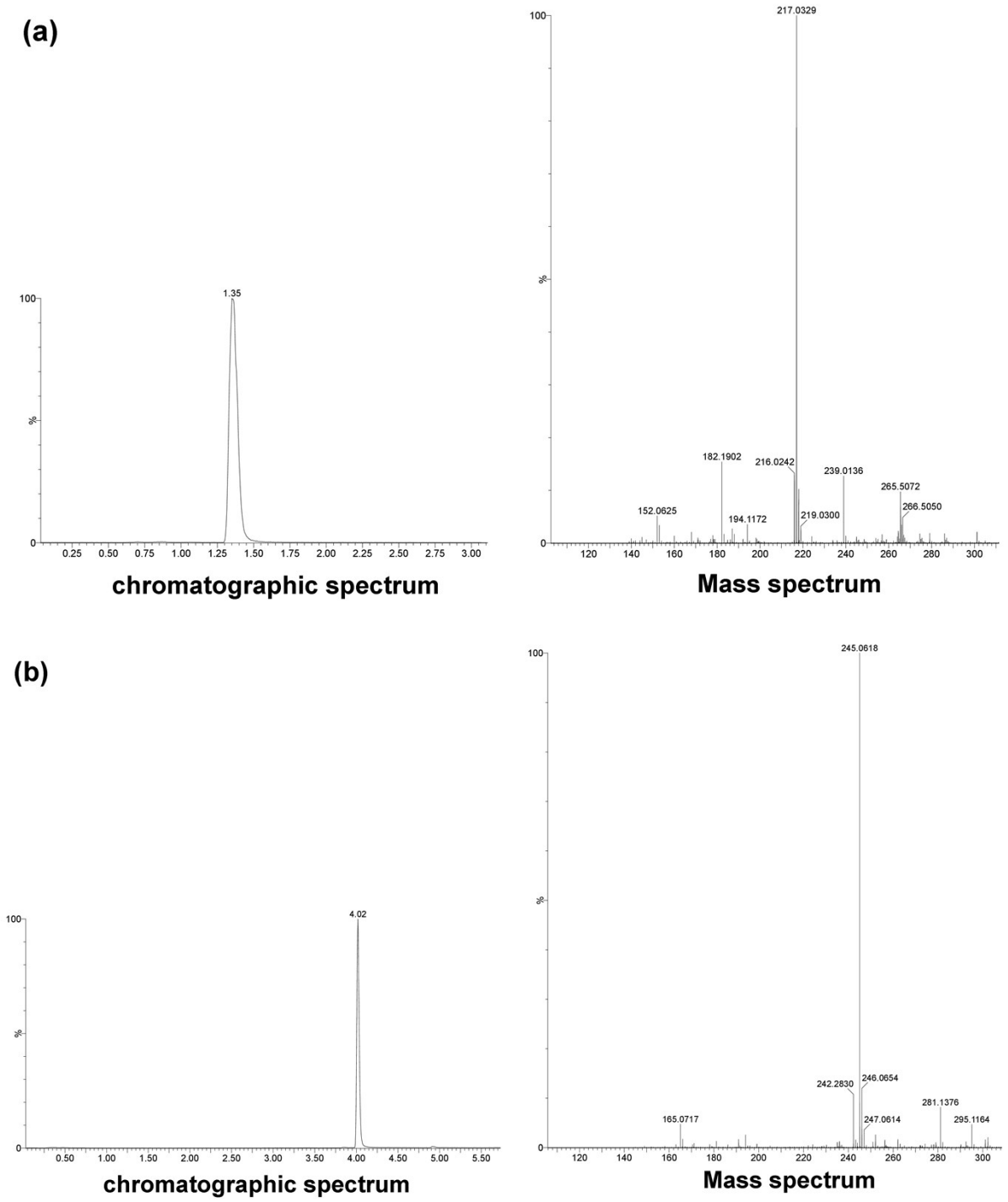

Fig. S5 LC-MS analysis of the products for ODS of (a) DBT and (b) 4,6-DMDBT.

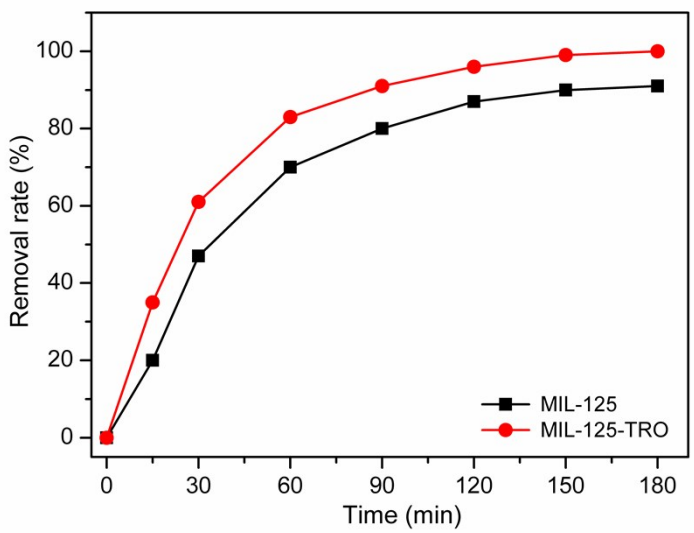

Fig. S6 Oxidative desulfurization of Th over MIL-125 and MIL-125-TRO catalysts.

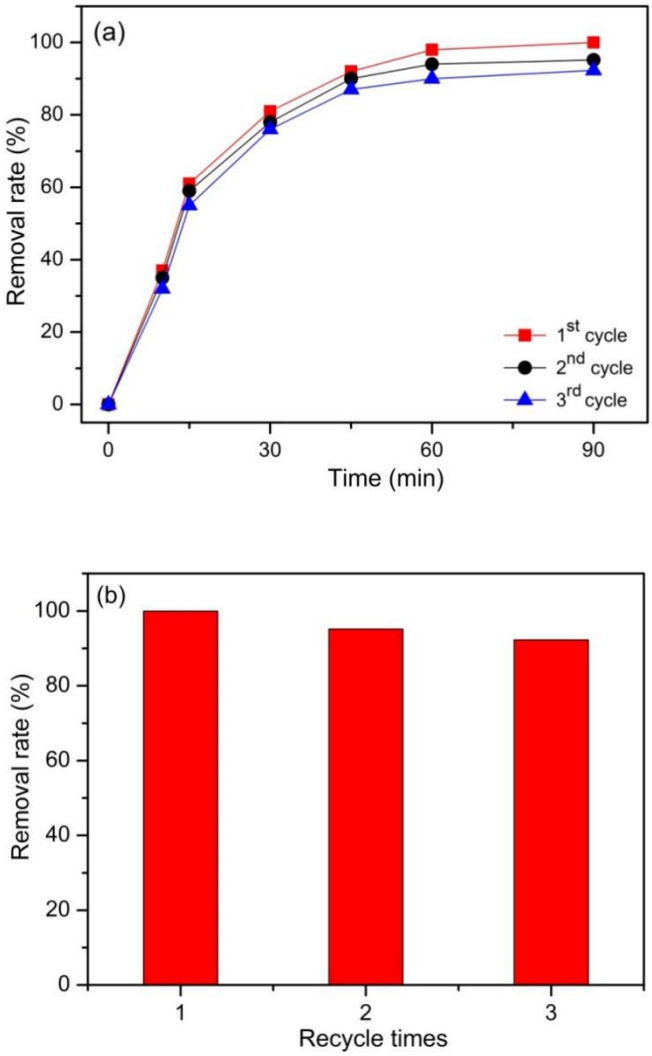

Fig. S7 (a) Kinetic profiles and (b) final removal rates for three consecutive ODS cycles of 4,6-DMDBT over MIL-125-TRO catalyst.

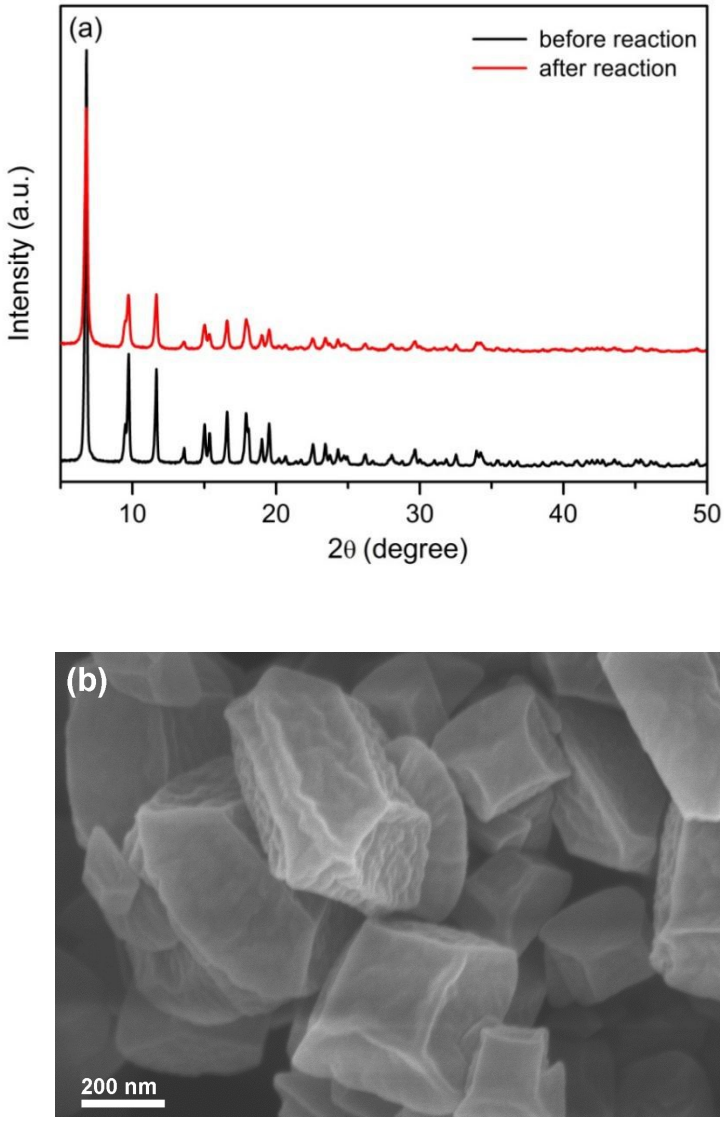

Fig. S8 (a) PXRD patterns and (b) SEM image of MIL-125-TRO after three consecutive cycles for ODS of 4,6-DMDBT.