Supporting Information

Amino-Modified Fe-Terephthalate Metal-Organic Framework as an Efficient Catalyst for the Selective Oxidation of H$_2$S

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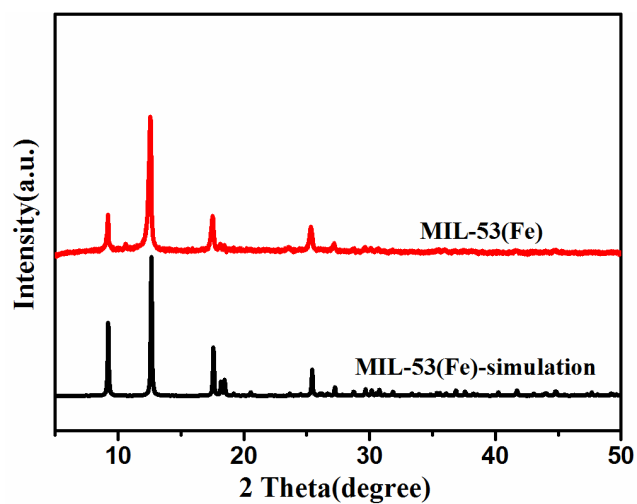
Figure S1. XRD patterns of MIL-53(Fe) synthesized in the present study and that reported in literature simulated here for comparison.
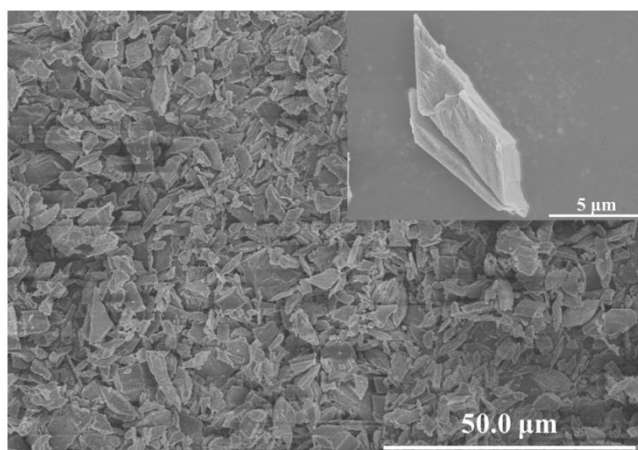

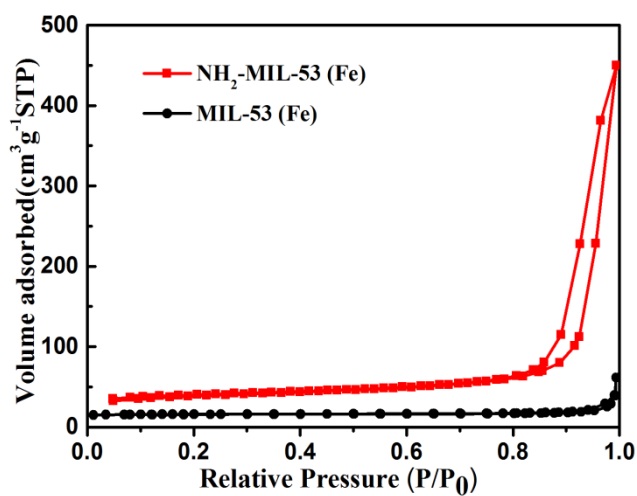**Figure S2.** SEM images of MIL-53(Fe).

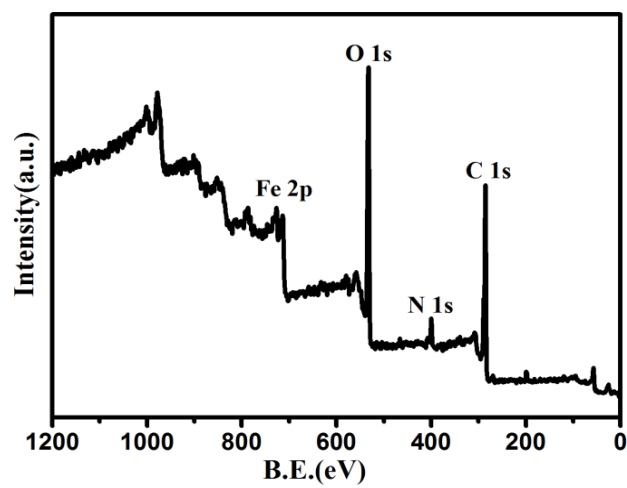**Figure S3.** N_2 adsorption-desorption isotherms of MIL-53(Fe) and NH_2-MIL-53(Fe).

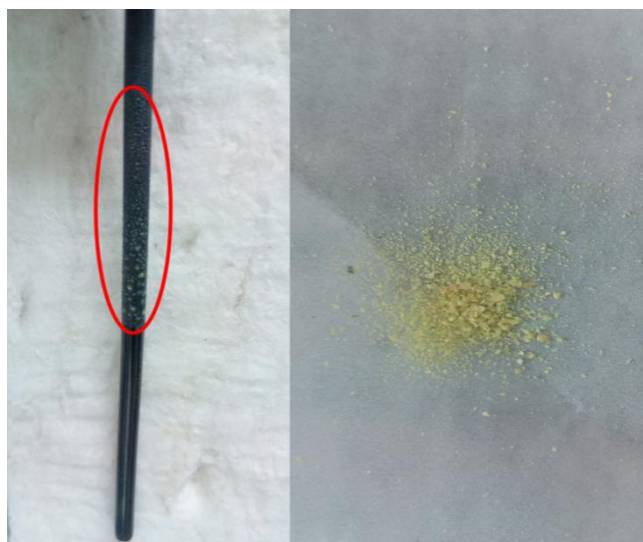**Figure S4.** XPS survey spectrum of NH$_2$-MIL-53(Fe).

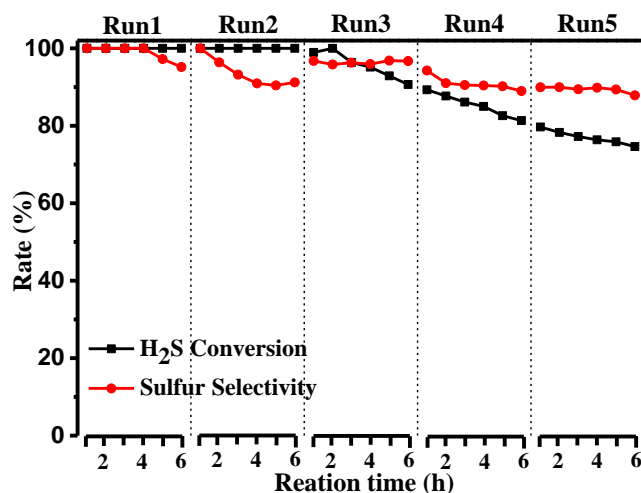**Figure S5.** Pictures of sulfur recovered from the effluent.

Figure S6. Stability test of NH_2-MIL-53(Fe) at 160 °C. Reaction conditions: catalyst (0.2 g), $H_2S/O_2/N_2$ = 5/2.5/92.5 (wt %), WHSV (3000 mL·g^{-1}·h^{-1}), gas flow rate (10 mL/min).
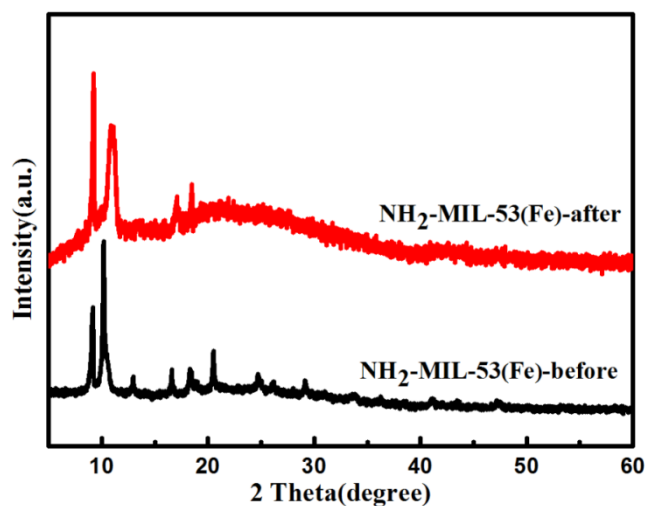

Figure S7. XRD patterns of fresh and used NH_2-MIL-53(Fe) samples.

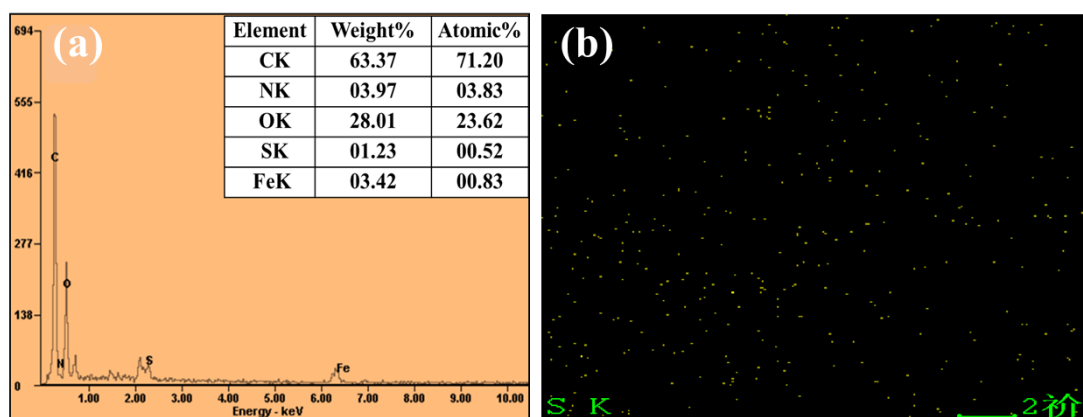| Element	Weight%	Atomic%
CK	63.37	71.20
NK	03.97	03.83
OK	28.01	23.62
SK	01.23	00.52
FeK	03.42	00.83

Figure S8. (a) EDX spectrum (inset are the elemental ratio of components), and (b) S elemental mapping of used NH_2-MIL-53(Fe).