

## Supporting Information

### **Facile and green synthesis of MIL-100(Fe) with high-yield and its catalytic performance**

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Table S1. Textural properties and product yield of MIL-100(Fe) prepared under various conditions.

Samples <sup>a</sup>	S <sub>BET</sub> (m <sup>2</sup> /g)	V <sub>Total</sub> (cm <sup>3</sup> /g)	Product yield (%)
MIL-100(Fe)-1.0-4-160	1649	0.85	91
MIL-100(Fe)-1.5-4-160	1940	0.96	93
MIL-100(Fe)-2.0-4-160	1538	0.83	91
MIL-100(Fe)-1.5-4-100	1317	0.66	92
MIL-100(Fe)-1.5-4-130	1864	0.88	89
MIL-100(Fe)-1.5-1-160	1656	0.79	87
MIL-100(Fe)-1.5-2-160	1780	0.88	81
MIL-100(Fe)-1.5-8-160	1849	0.93	91
MIL-100(Fe)-1.5-12-160	1796	0.91	89
MIL-100(Fe)-1.5-14-160	1708	0.83	81

Table S2. Elemental content in MIL-100(Fe)-S and MIL-100(Fe)-H.

Samples	Fe (wt/%) <sup>a</sup>	C (wt/%) <sup>a</sup>	O (wt/%) <sup>a</sup>
MIL-100(Fe)-S	10.8	53.7	35.5
MIL-100(Fe)-H	9.4	62.2	28.4

<sup>a</sup> Measured by EDX.

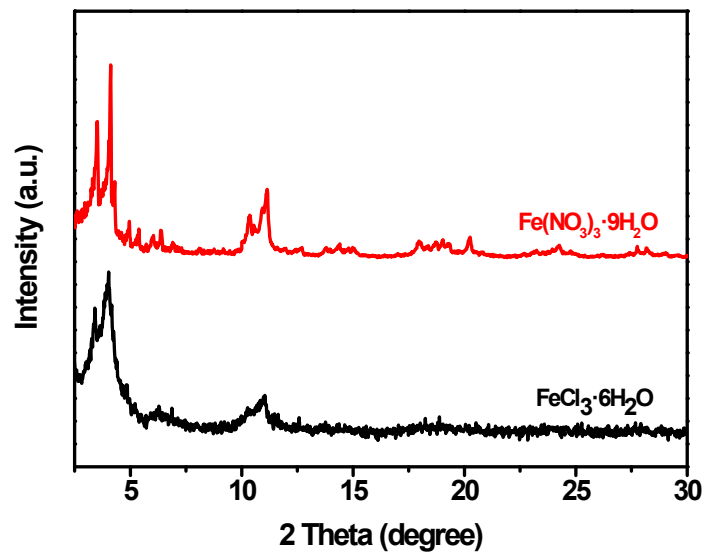


Figure S1. XRD patterns of MIL-100(Fe) prepared by using different iron precursors.

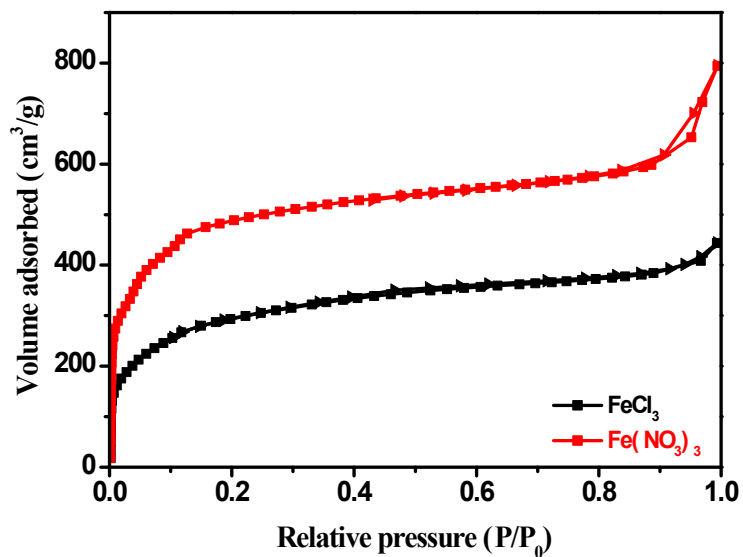


Figure S2.  $\text{N}_2$  sorption isotherms of MIL-100(Fe) prepared by using different iron precursors.

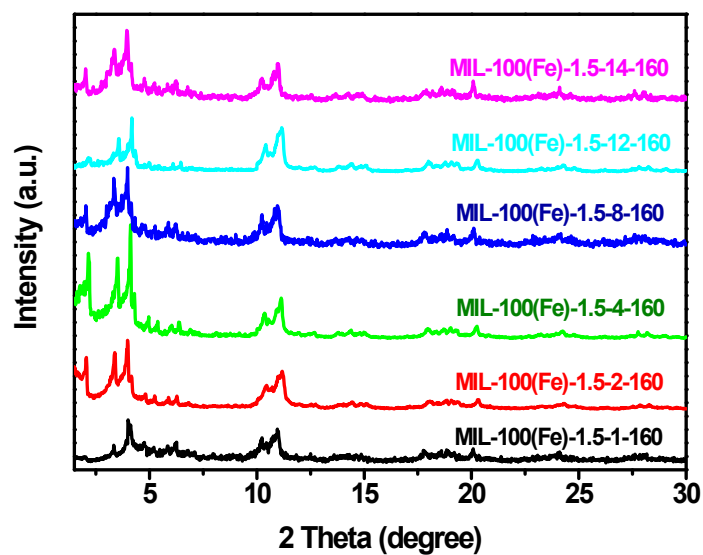


Figure S3. XRD patterns of MIL-100(Fe) prepared for different crystallization time.

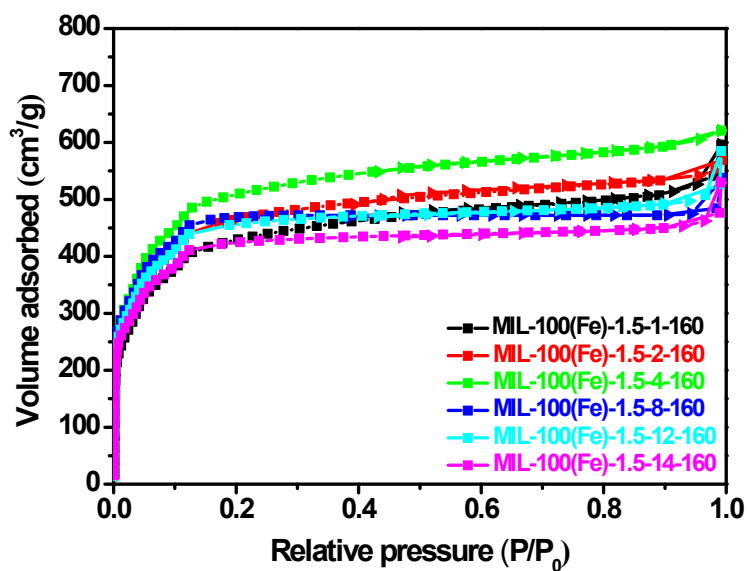


Figure S4. N<sub>2</sub> sorption isotherms of MIL-100(Fe) prepared for different crystallization time.

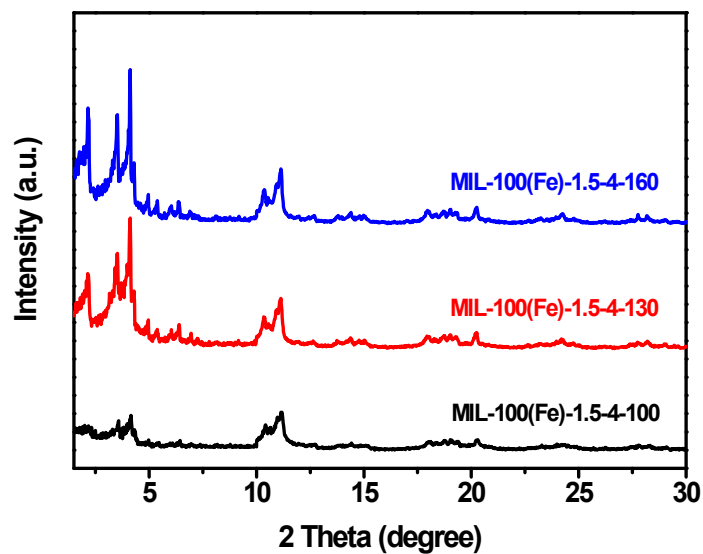


Figure S5. XRD patterns of MIL-100(Fe) prepared at different crystallization temperatures.

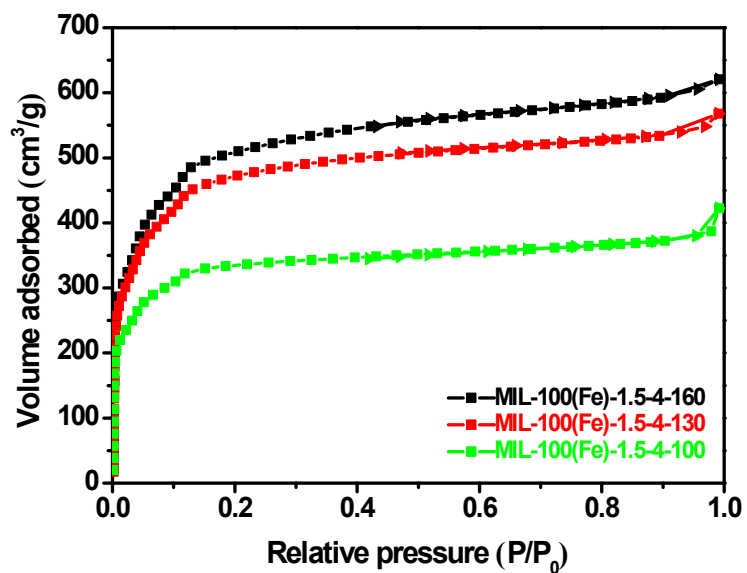


Figure S6.  $N_2$  sorption isotherms of MIL-100(Fe) prepared at different crystallization temperatures.

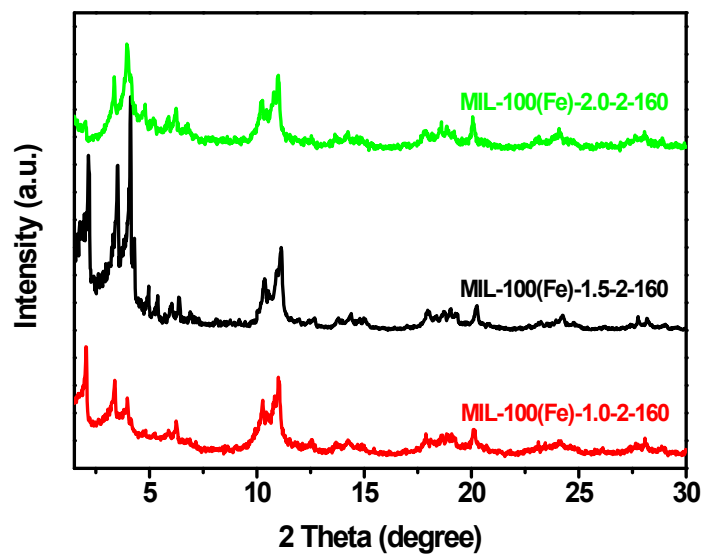


Figure S7. XRD patterns of MIL-100(Fe) prepared at different Fe/BTC molar ratios.

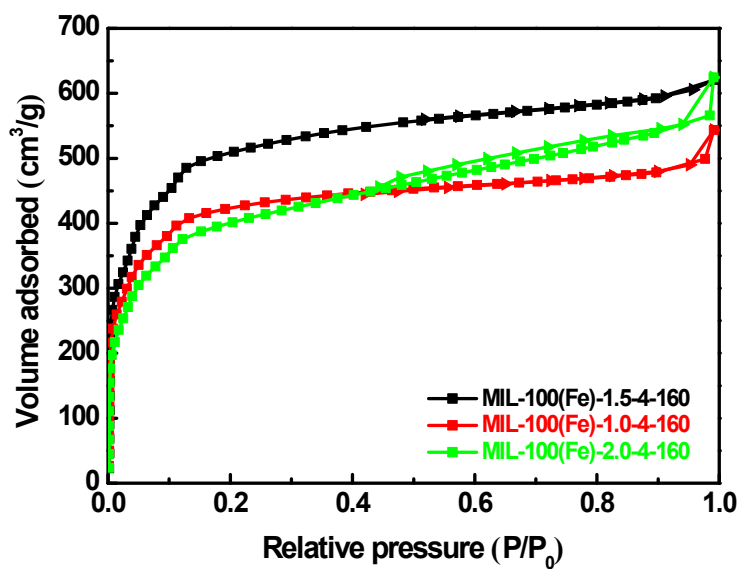


Figure S8. N<sub>2</sub> sorption isotherms of MIL-100(Fe) prepared at different Fe/BTC molar ratios.

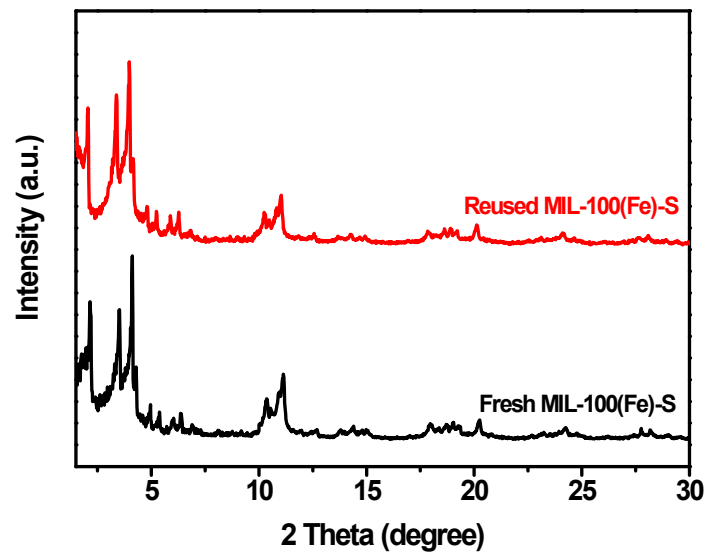


Figure S9. XRD patterns of fresh and reused MIL-100(Fe)-S.

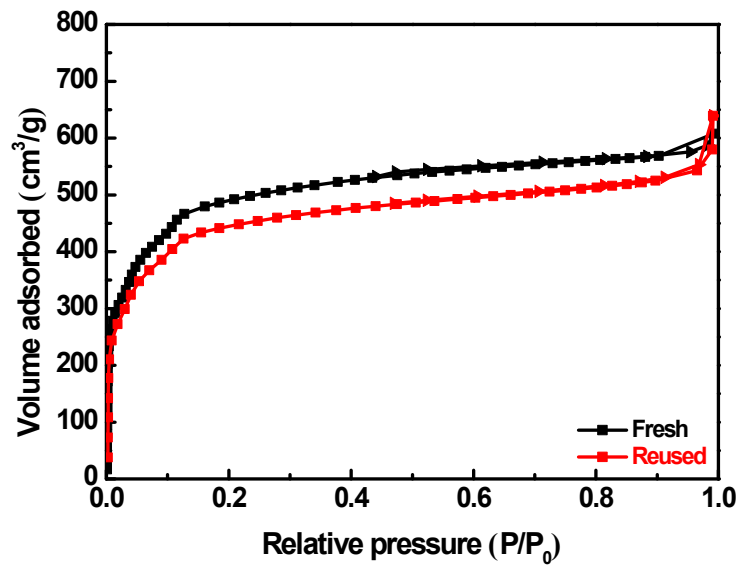


Figure S10. N<sub>2</sub> sorption isotherms of fresh and reused MIL-100(Fe)-S.