

## Supporting Information

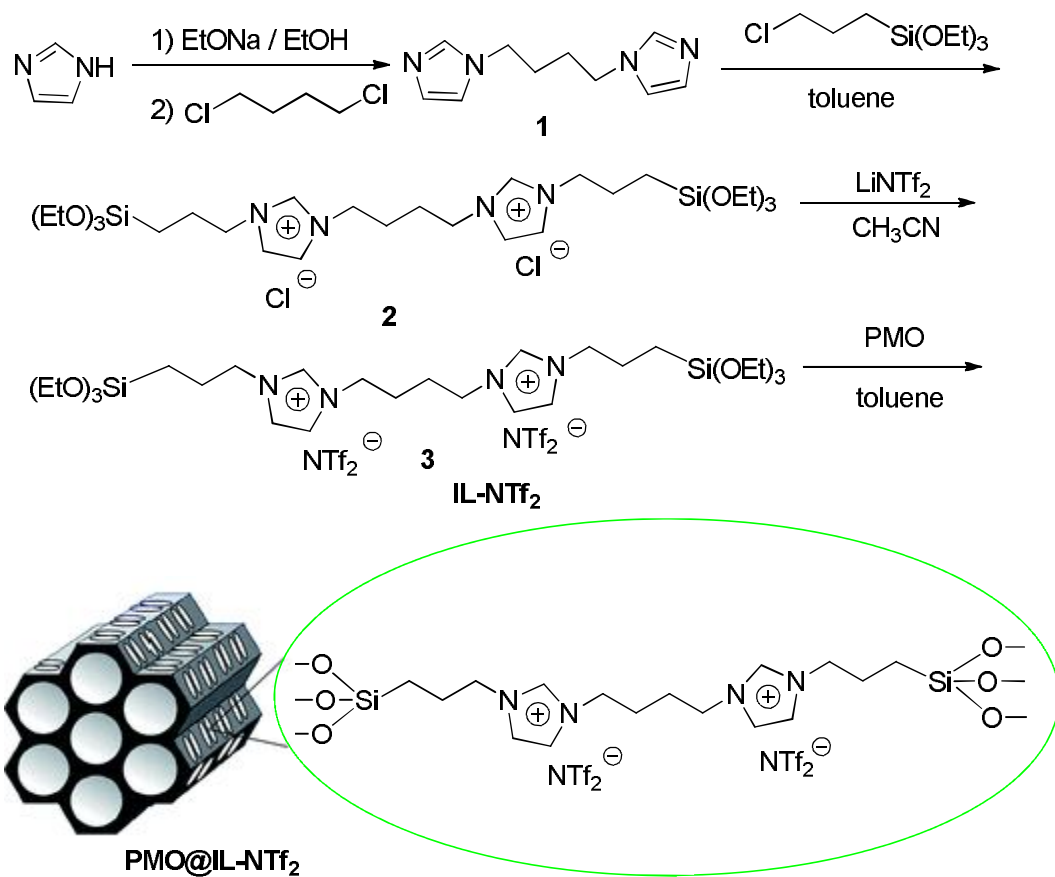
Novel and effective strategy of dual bis(trifluoromethylsulfonyl)imide  
imidazolium ionic liquid immobilized on periodic mesoporous  
organosilica-mediated greener cycloaddition of carbon dioxide to epoxides

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Scheme S1 Preparation of PMO@IL-NTf<sub>2</sub>.

**Table S1** EDX elemental composition of PMO and PMO@IL-NTf<sub>2</sub>

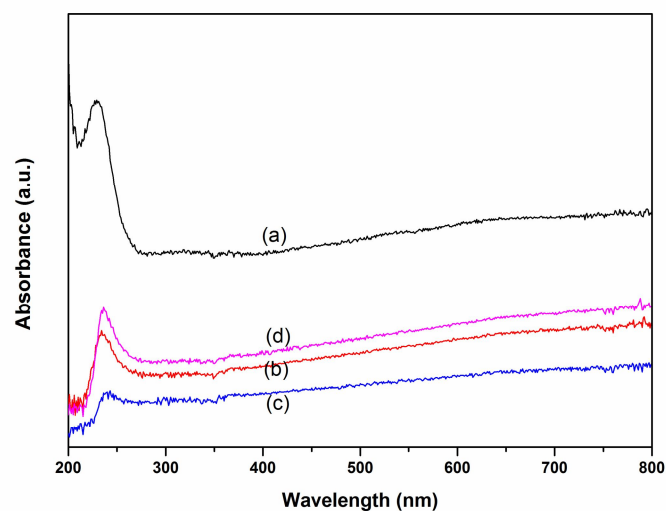
Sample	Si (wt.%)	C (wt.%)	O (wt.%)	F (wt.%)
PMO	51.32	1.79	47.29	-
PMO@IL-NTf <sub>2</sub> (0.5)	46.42	6.31	42.75	0.16
PMO@IL-NTf <sub>2</sub> (1.0)	39.27	13.71	36.09	2.51
PMO@IL-NTf <sub>2</sub> (1.5)	28.34	17.95	31.27	4.38

**Table S2** BET surface area and pore volume of the samples

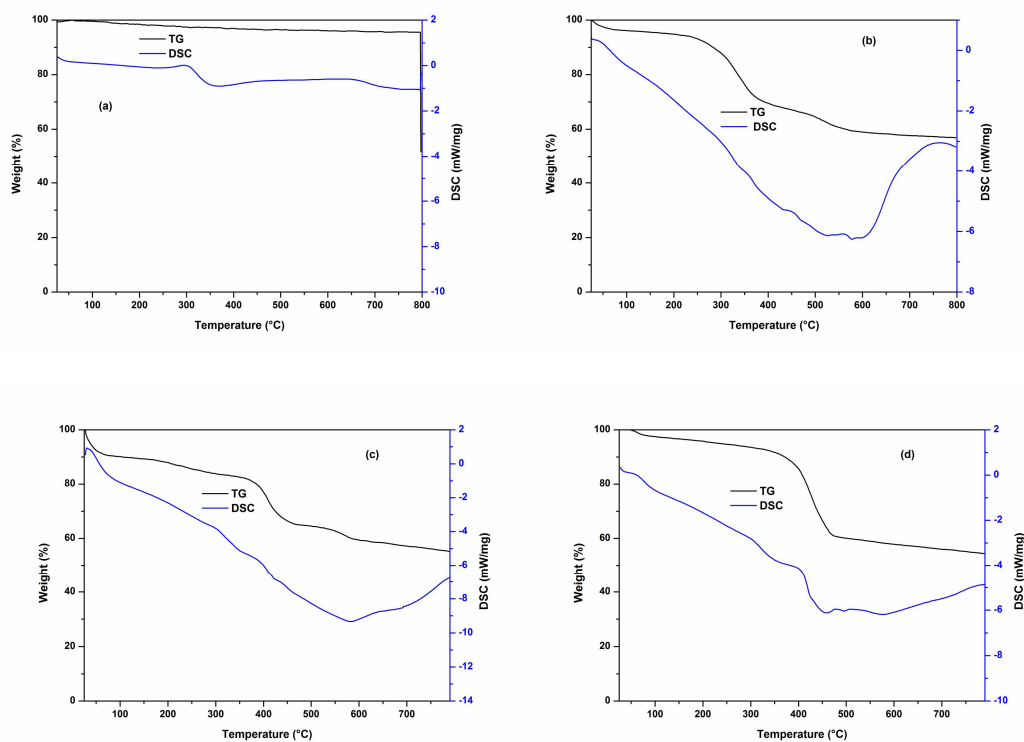
Sample	S <sub>BET</sub> (m <sup>2</sup> /g)	V (cm <sup>3</sup> /g)	D (nm)
PMO	539.26	0.82	5.80
PMO@IL-NTf <sub>2</sub> (1.0)	316.14	0.51	5.57

**Table S3** Elemental analysis of the fresh and reused PMO@IL-NTf<sub>2</sub>(1.0)

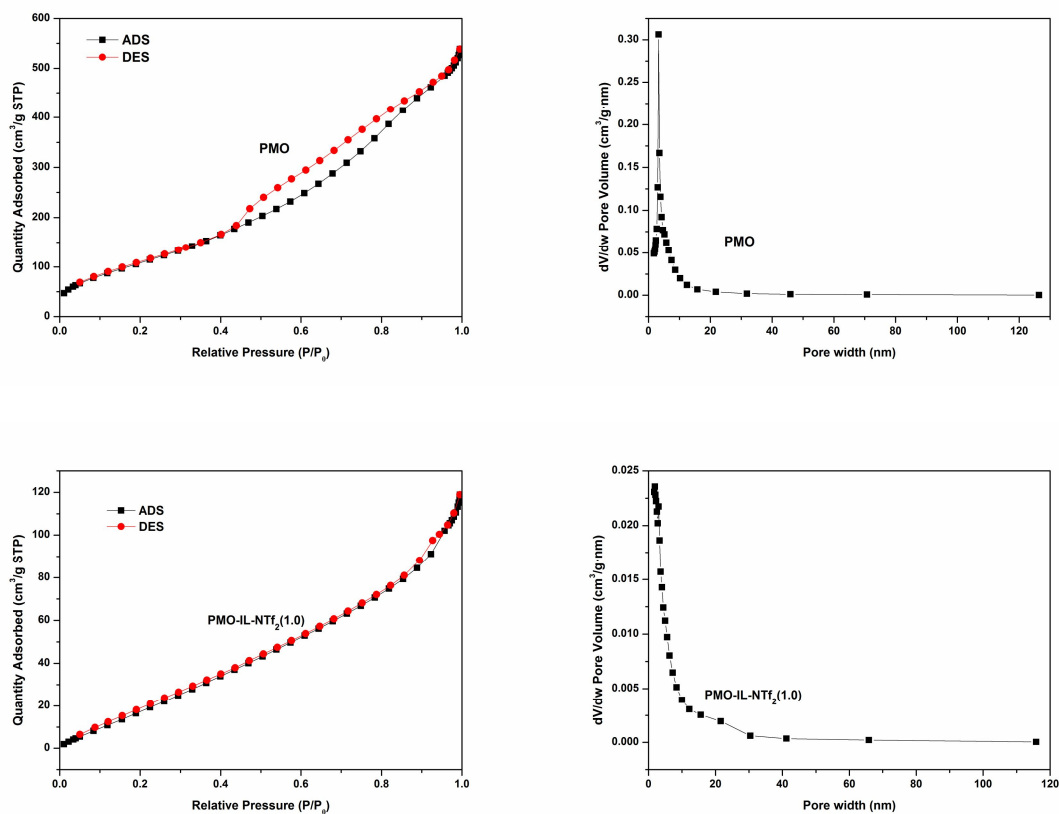
Catalyst	C (wt.%)	Si (wt.%)	F (wt.%)
Fresh catalyst	14.65	41.32	2.54
Second reused catalyst	14.58	41.22	2.49
Fourth reused catalyst	14.52	41.17	2.43
Sixth reused catalyst	14.41	41.09	2.36



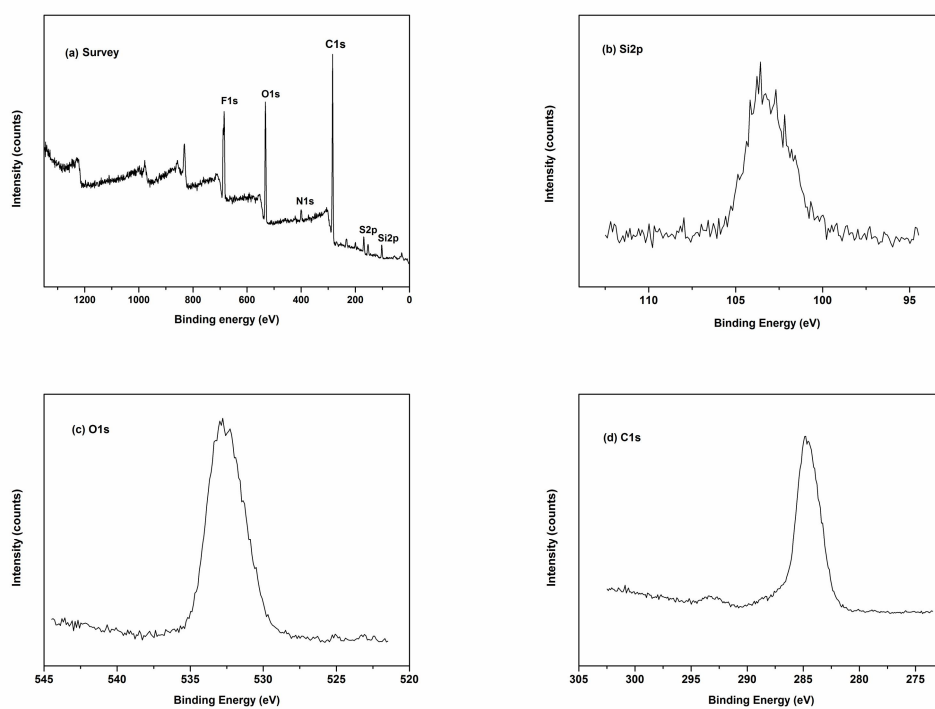
**Fig. S1** UV-Vis spectras of PMO (a), PMO@IL-NTf<sub>2</sub>(0.5) (b), PMO@IL-NTf<sub>2</sub>(1.0) (c), and PMO@IL-NTf<sub>2</sub>(1.5) (d).

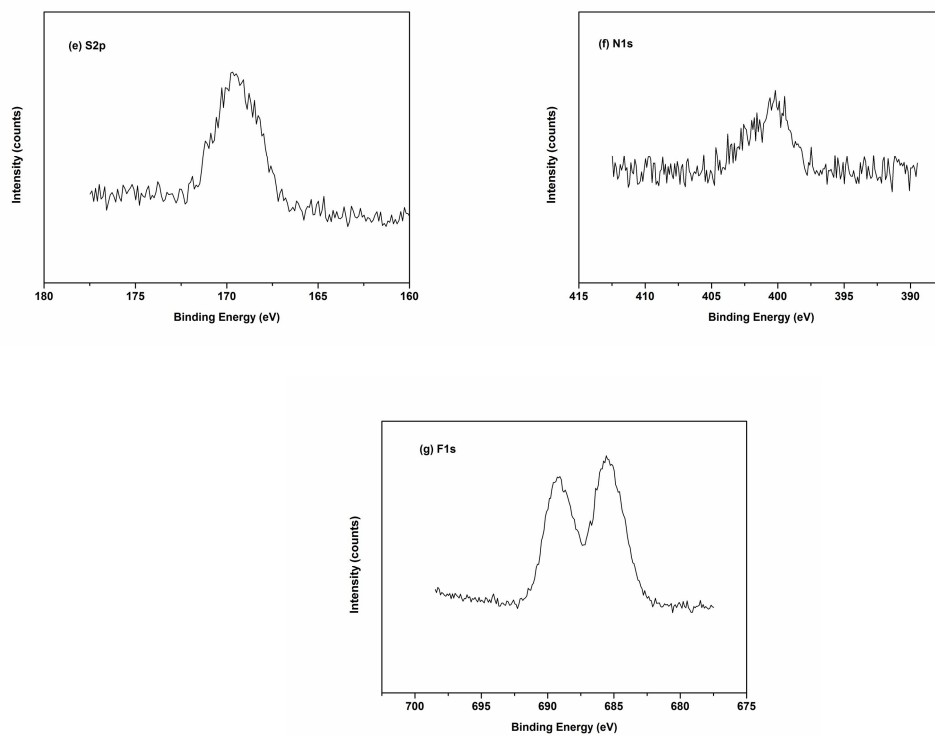


**Fig. S2** TG/DSC curves of PMO (a), PMO@IL-NTf<sub>2</sub>(0.5) (b), PMO@IL-NTf<sub>2</sub>(1.0) (c), and PMO@IL-NTf<sub>2</sub>(1.5) (d).

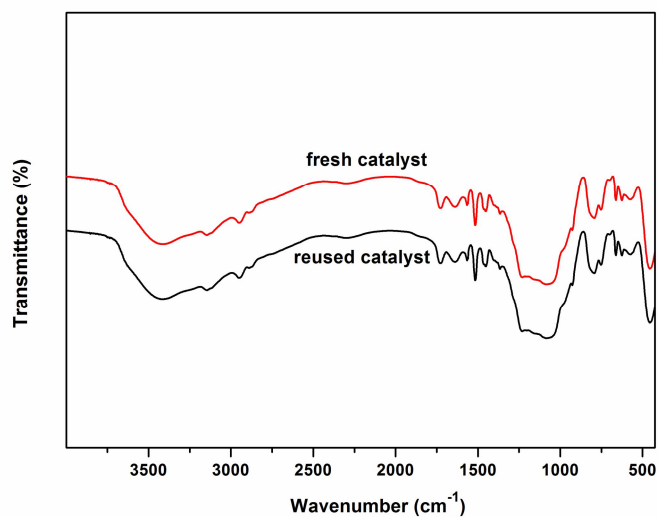


**Fig. S3** N<sub>2</sub> adsorption-desorption isotherms and pore size distribution of PMO and PMO@IL-NTf<sub>2</sub>(1.0).

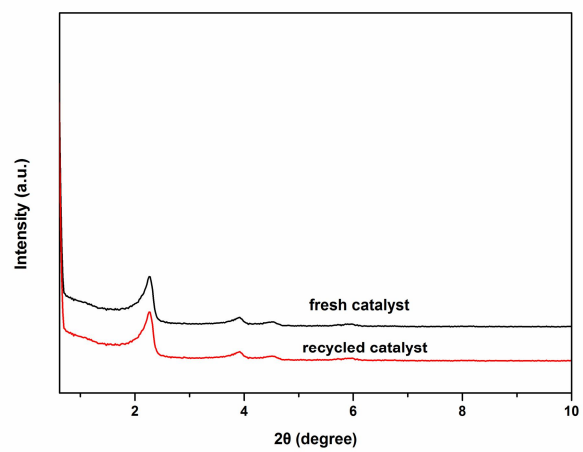




**Fig. S4** XPS spectra of PMO@IL-NTf<sub>2</sub>(1.0) (a) survey of the catalyst, (b) Si2p, (c) O1s, (d) C1s, (e) S2p, (f) N1s, (g) F1s.



**Fig. S5** FT-IR spectra of the fresh and reused PMO@IL-NTf<sub>2</sub>(1.0).



**Fig. S6.** PXRD patterns of PMO@IL-NTf<sub>2</sub>(1.0) before and after reaction.