

Supplementary Information (SI)

Soft Actuators based on MIL-88B(Fe) flexible MOF with Fast Response to Various Organic Solvent Vapor

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Table S1. Statistics of particle size from SEM data of MIL-88 series.

	MIL-88A		MIL-88B		MIL-88C		MIL-88D	
	Length	Width	Length	Width	Length	Width	Length	Width
Mean(nm)	452	290	251	117	1592	701	672	268
Std Deviation	70	32	231	91	795	471	768	212
Min (nm)	278	191	70	26	496	78	72	72
Max (nm)	703	400	844	340	4333	1979	5390	1165
Points	100	100	100	100	100	100	100	100

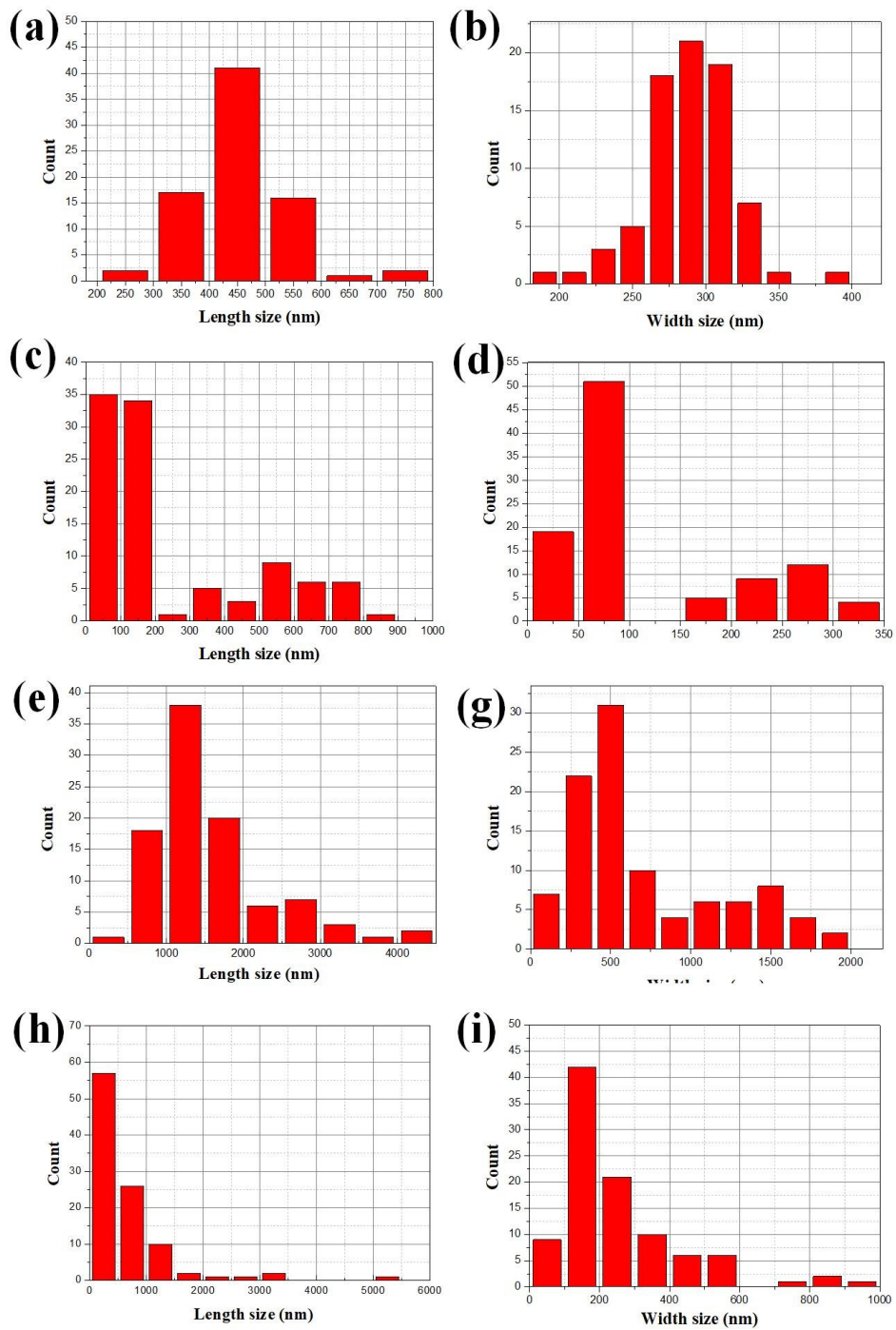


Figure S1. The distribution histogram of the MIL-88 series MOFs. (a) and (b): length and width of MIL-88A particles; (c) and (d): length and width of MIL-88B particles; (e) and (f): length and width of MIL-88C particles; (g) and (h): length and width of MIL-88D particles.

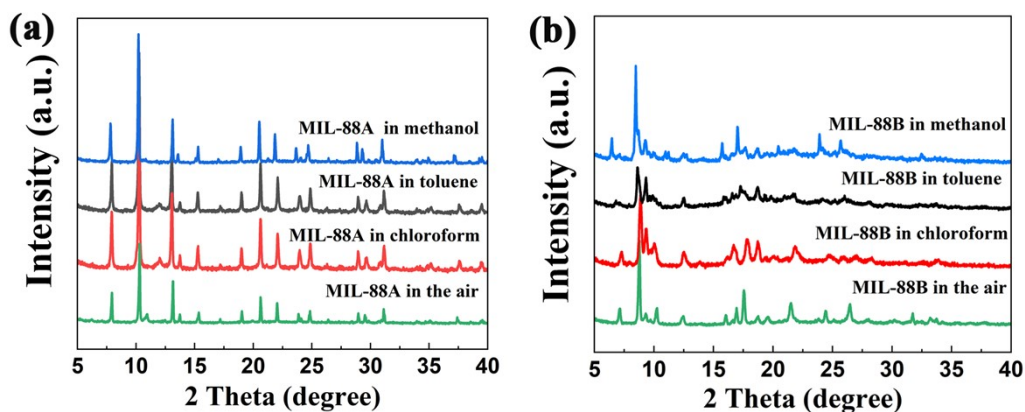


Figure S2. XRD patterns of the (a) MIL-88A/PVDF and (b) MIL-88B/PVDF in the air and several organic solvent.

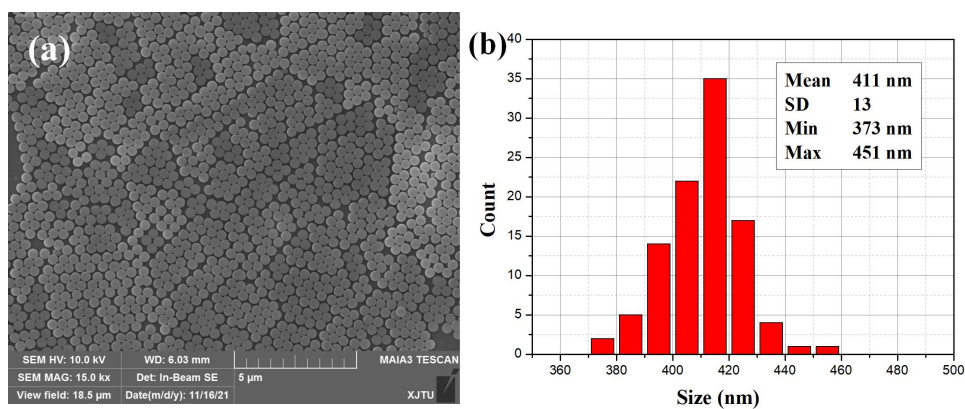


Figure S3. (a) SEM and (b) the distribution histogram of photonic crystal templates of SiO₂ with the average particle size of 411 nm.

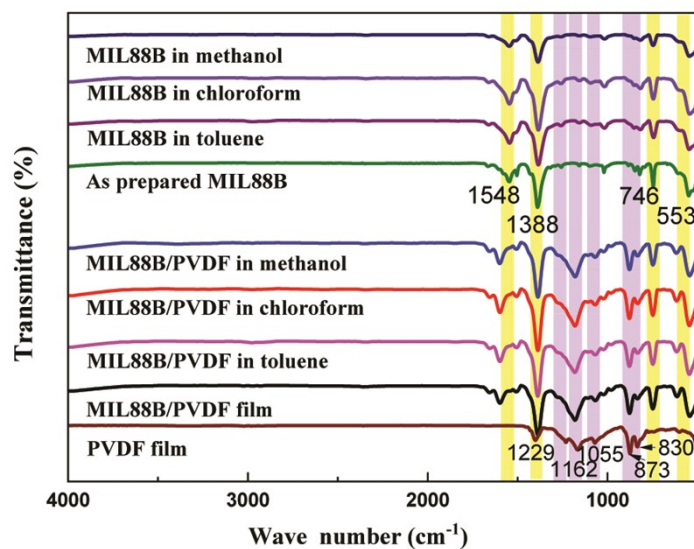


Figure S4. FTIR spectra of the as-prepared MIL88B and the MIL88B/PVDF film in the air and immersion in the methanol, chloroform and toluene, respectively. The FTIR spectra of the PVDF film was also given for comparison.

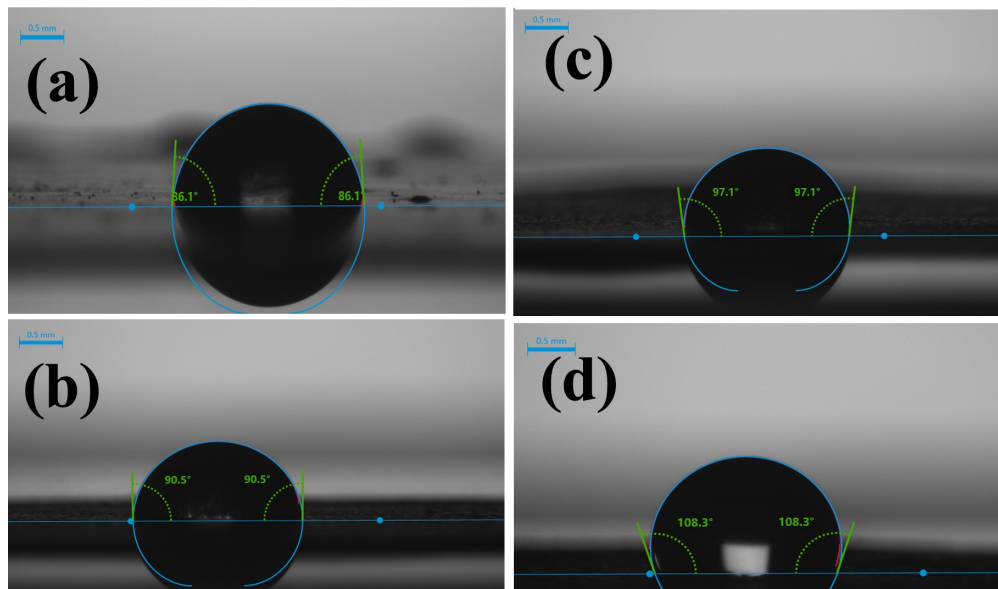


Figure S5. The film surface static contact angle of (a) MIL-88A/PVDF film; (b) MIL-88B/PVDF film; (c) MIL-88C/PVDF film and (d) MIL-88D/PVDF film.

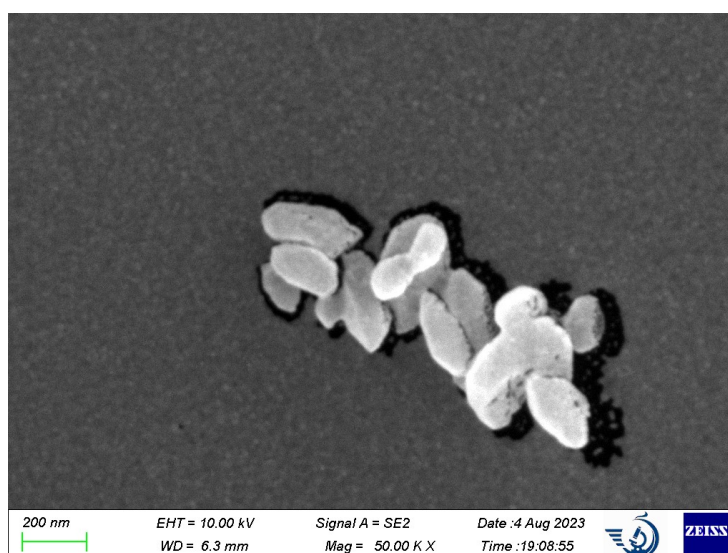


Figure S6. SEM of the crushed MIL-88B particles.