Electronic Supplementary Material (ESI) for RSC Advances.

Stability of Zeolitic Imidazolate Frameworks: Effect of forced water intrusion and dynamics of framework flexibility

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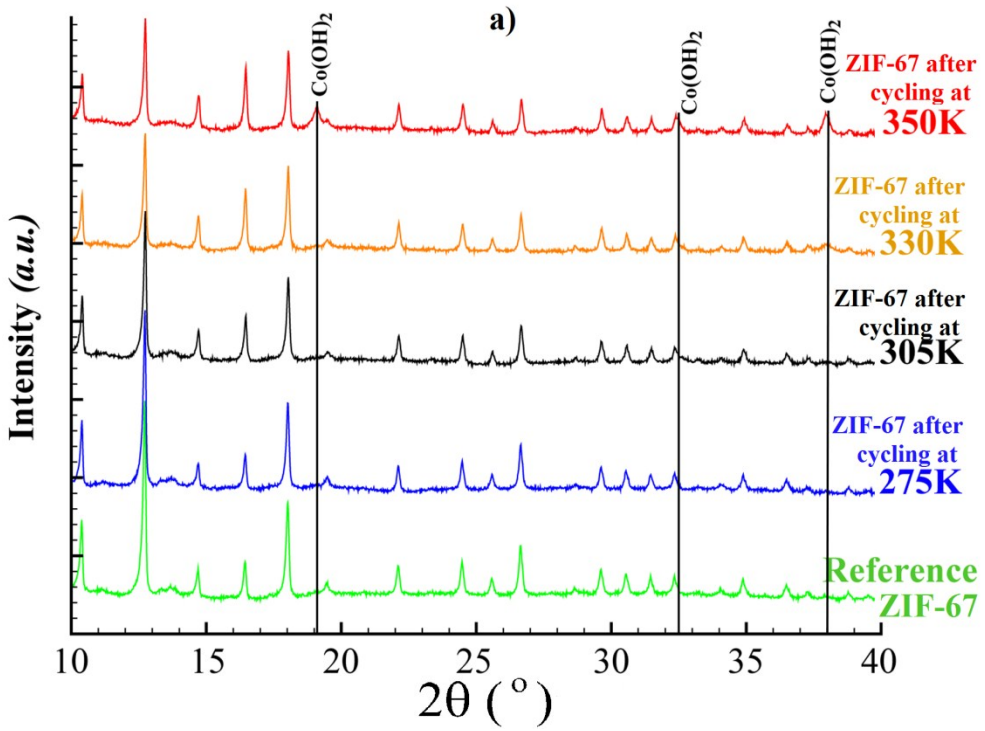
Supporting information



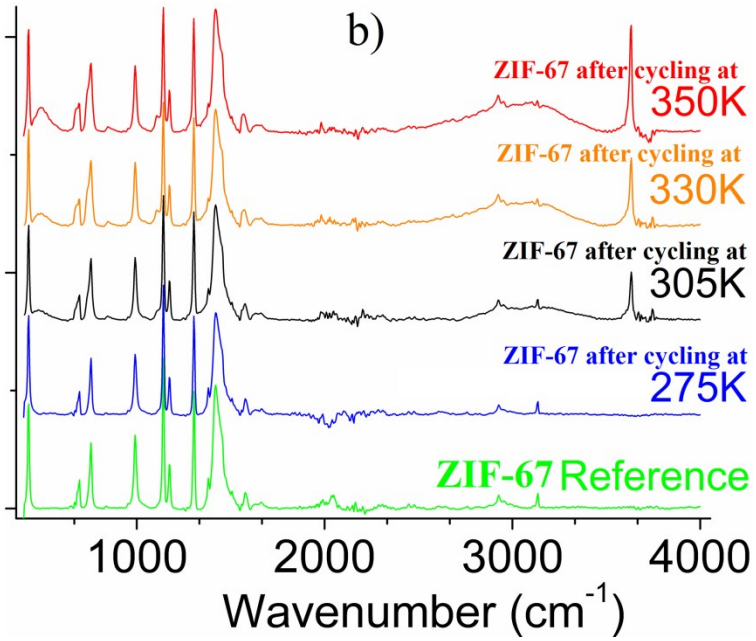


Figure.1S.a) XRD patterns and b) FTIR spectra of the reference ZIF-67 and of ZIF-67 after intrusion-extrusion cycles at different temperatures

Table 1S: Results extracted from the Rieteveld refinements of ZIF-67 after intrusion-extrusion cycles at different temperatures *T*

T,K	lattice parameter	ZIF-67 weight percent	$Co(OH)_2$ weight percent
Reference	*a* = 17.050 (1) Å	100 (-) wt %	0 (-) wt %
275K	*a* = 17.058 (1) Å	100 (-) wt %	0 (-) wt %
305K	*a* = 17.048 (1) Å	99 (1) wt %	1 (1) wt %
330K	*a* = 17.041 (1) Å	96 (1) wt %	4 (1) wt %
350K	*a* = 17.038 (1) Å	80 (2) wt %	20 (2) wt %

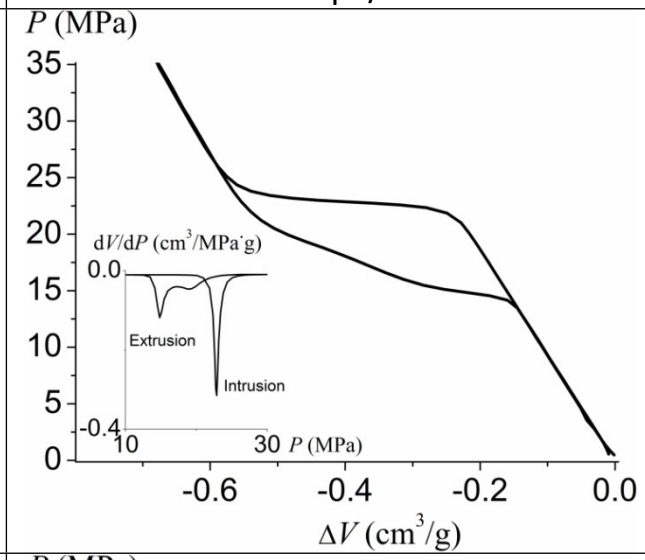
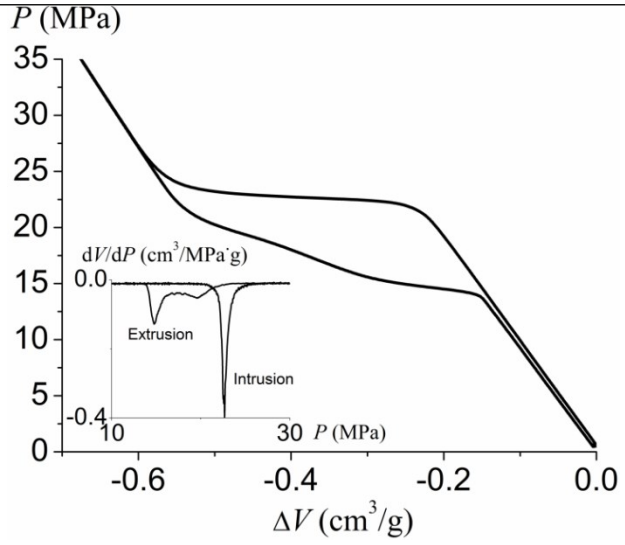
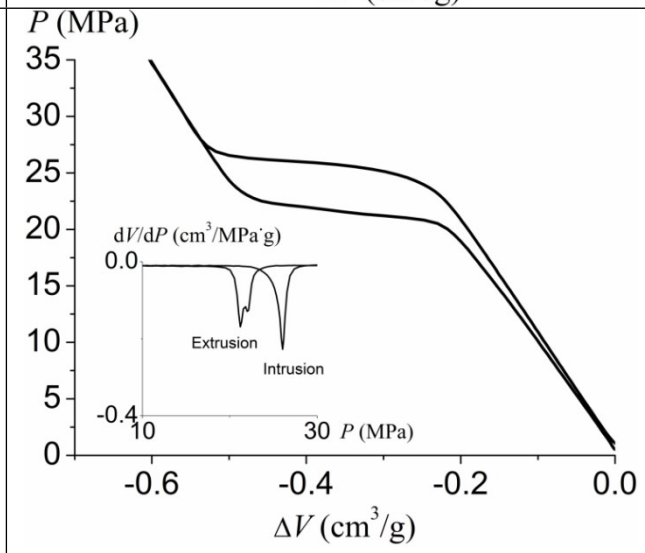
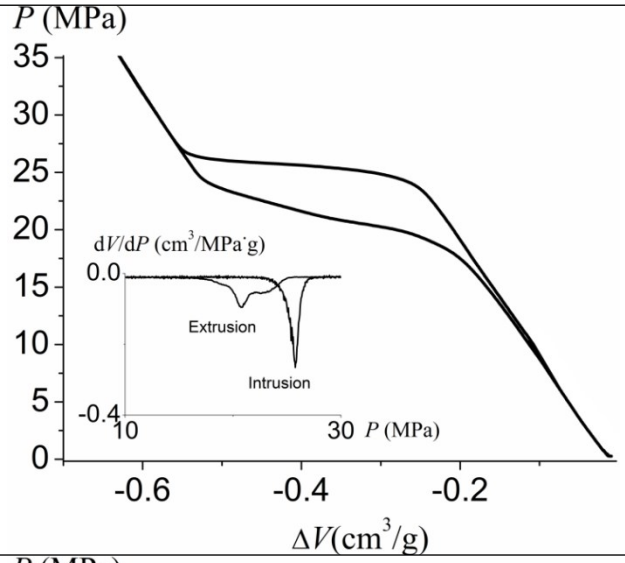
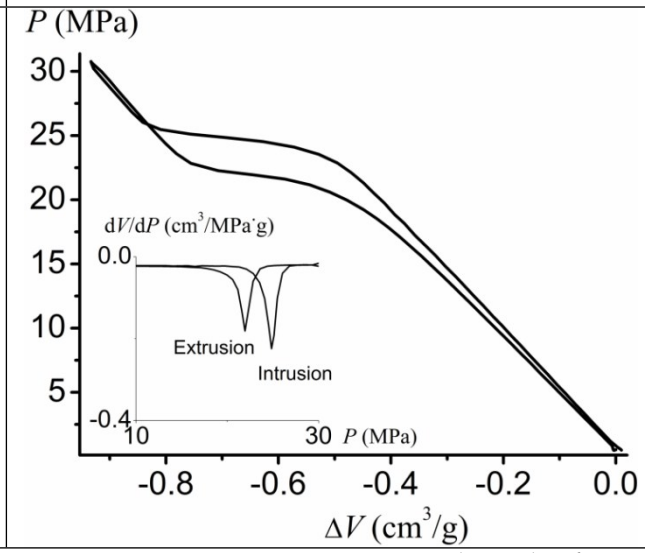
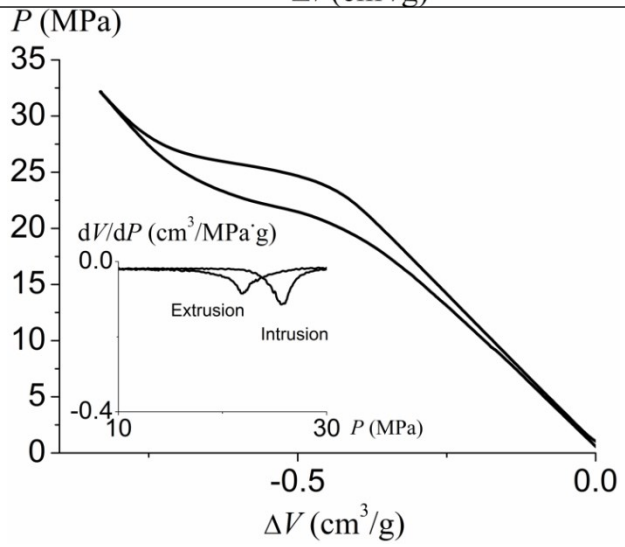
	5.5 Mpa/min	0.1 MPa/min
275K(stable)		
330K(stable)		
360K (non-stable)		

Fig.2S.*PV*-isotherms and compressibilities (inserts) of {ZIF-8 + water} system at different temperatures and compression-decompression rates.