

Supplementary materials caption:

Table S1: Elemental analysis.

Scheme 1a: Two models for building block of MIL-100(Fe)noF (a) and (b), trimeric iron moiety with trimesate (c) and supertetrahedron (d).

Scheme 1b: Representation of the structure isotype to MTN zeolite (each vertex represent a tetrahedron) (a), 6^45^{12} cavity connected together by their four hexagonal windows (b), 6^45^{12} cavity of MIL-100Fe (c), $\text{PMo}_{12}\text{O}_{40}^{3-}$ with $d_{\text{O-O}}$ in Å (d), suggestion of 5^{12} cavity of MIL-100Fe with $\text{PMo}_{12}\text{O}_{40}^{3-}$ (e), suggestion of 5^{12} cavity of MIL-100Fe with $\text{PMo}_{12}\text{O}_{40}^{3-}$ (f).

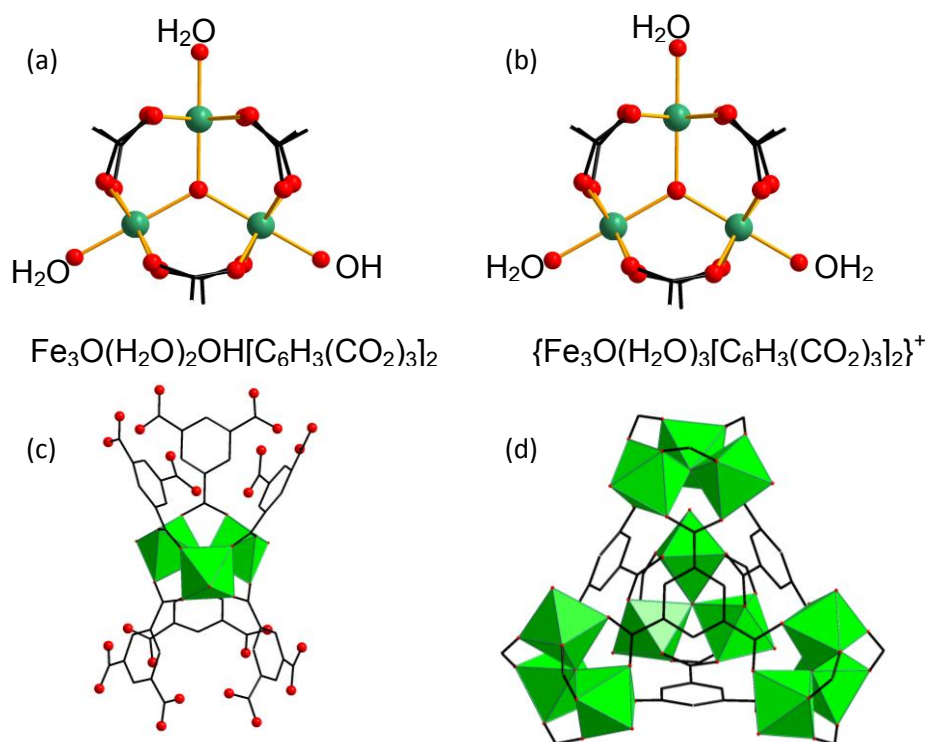
Figure S1: X-Ray thermodiffraction patterns performed each 10°C from 20°C to 430°C for MIL-100Fe noF (upper) and $\text{H}_3\text{PMo}_{12}\text{O}_{40}$ @ MIL-100Fe noF (lower).

Figure S2: X-Ray diffraction patterns of MIL-100(Fe)noF (upper), $\text{Na}_2\text{HPMo}_{12}\text{O}_{40}$ / MIL-100(Fe)noF and $\text{H}_3\text{PMo}_{12}\text{O}_{40}$ @MIL-100(Fe)noF.

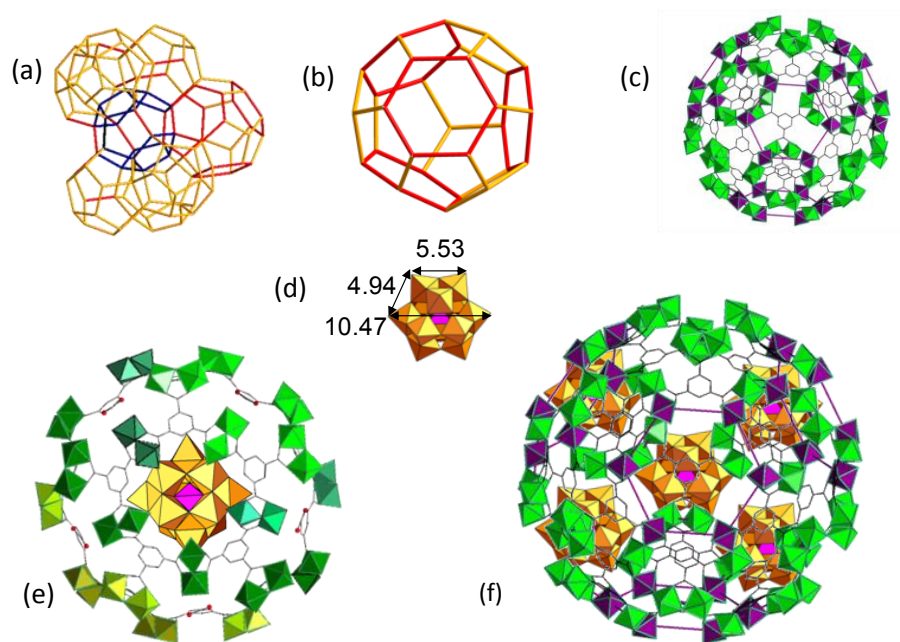
Figure S3: Nitrogen sorption-desorption isotherms at 78 K ($P_0=1$ atm.) (a) and Horvath-Kawazoe porous distribution (b) of MIL-100(Fe)noF (1), $\text{Na}_2\text{HPMo}_{12}\text{O}_{40}$ /MIL-100(Fe)noF (2) and MIL-100(Fe) synthesised in presence of $\text{H}_3\text{PMo}_{12}\text{O}_{40}$ (3).

Table S1: Elemental analysis

	MIL-100Fe noF		H ₃ PMo ₁₂ O ₄₀ @ MIL-100Fe noF		Na ₂ HPMo ₁₂ O ₄₀ / MIL-100Fe noF	
		théo		théo		théo
Fe	19,58		11,51		15,87	
C	26,39		20,00		18,80	
P	/		0,76		0,12	
Mo	/		18,85		3,76	
Na	/		/		0,14	
Cl	<200ppm		<200ppm		<200ppm	
C/Fe	6,27	6	8,09	6	5,5	6
Mo/Fe	/		0,95		0,14	
Na/HPA	/		/		1,75	



Scheme 1a: Two models for building block of MIL-100(Fe)noF (a) and (b), trimeric iron moiety with trimesate (c) and supertetrahedron (d).



Scheme 1b: Representation of the structure isotype to MTN zeolite (each vertex represents a tetrahedron) (a), $6^4 5^{12}$ cavity connected together by their four hexagonal windows (b), $6^4 5^{12}$ cavity of MIL-100Fe (c), $\text{PMo}_{12}\text{O}_{40}^{3-}$ with $d_{\text{O-O}}$ in Å (d), suggestion of 5^{12} cavity of MIL-100Fe with $\text{PMo}_{12}\text{O}_{40}^{3-}$ (e), suggestion of 5^{12} cavity of MIL-100Fe with $\text{PMo}_{12}\text{O}_{40}^{3-}$ (f).

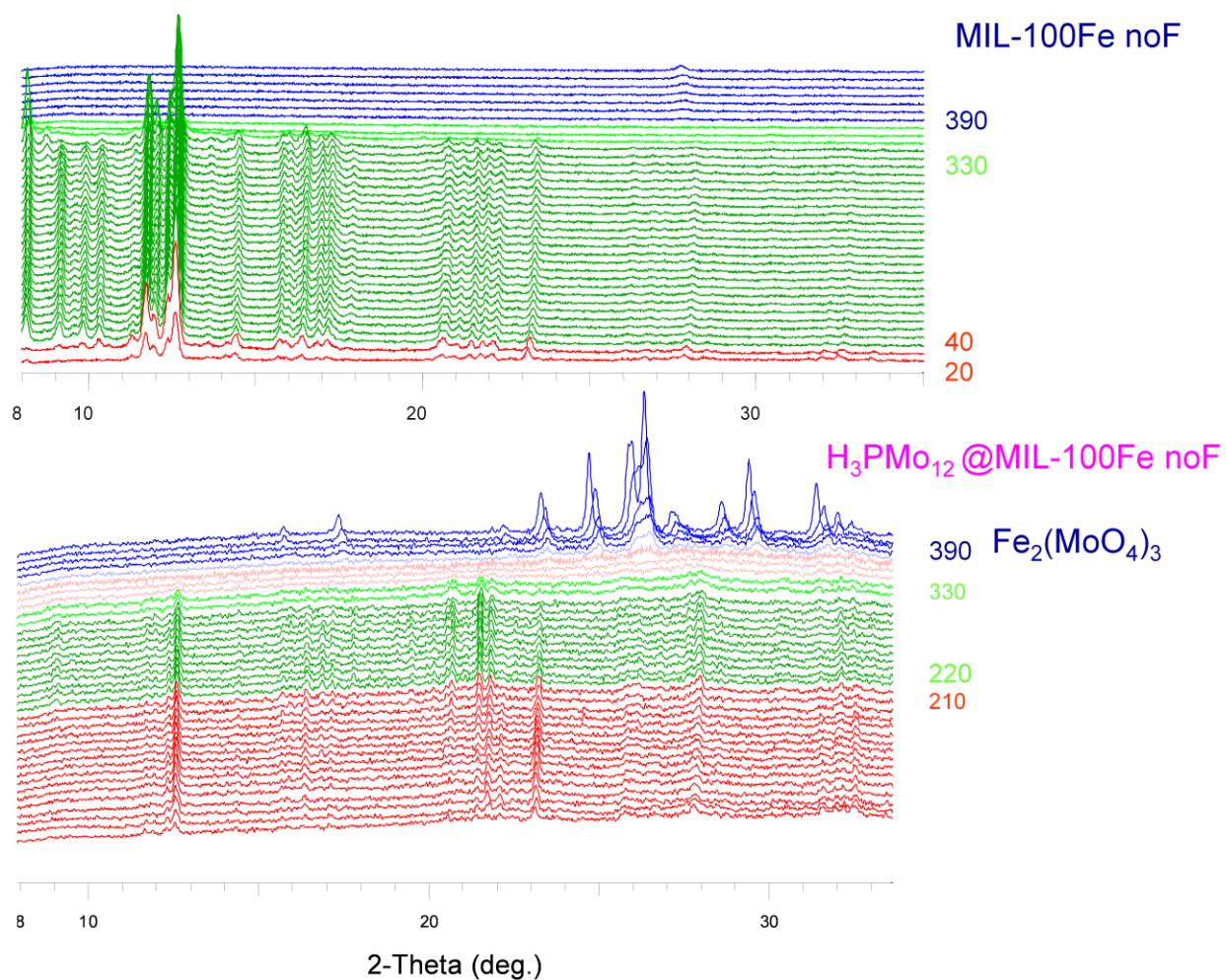


Figure S1: X-Ray thermogravimetric analysis (XRD) patterns performed each 10 °C from 20 °C to 430 °C for MIL-100Fe noF (upper) and H₃PMo₁₂@ MIL-100Fe noF (lower).

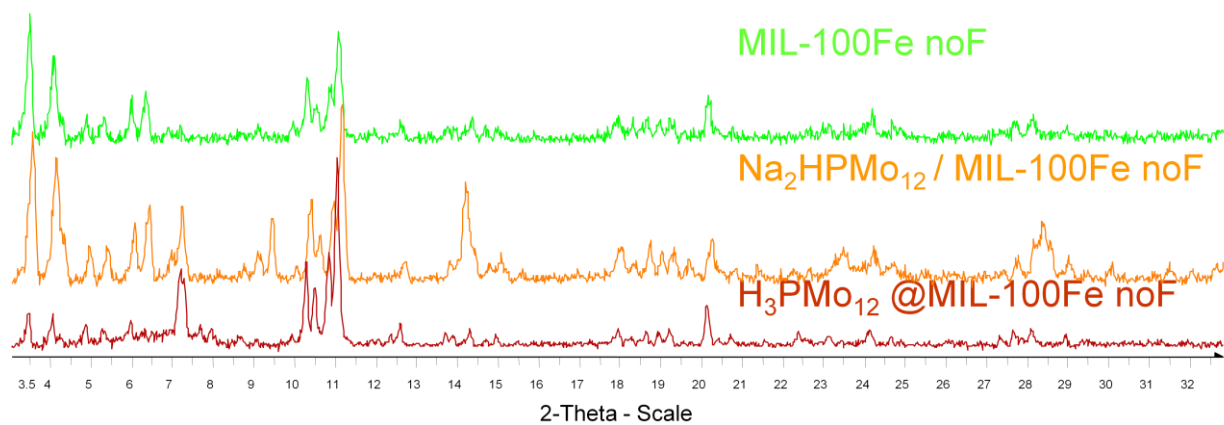


Figure S2: X-Ray diffraction patterns of MIL-100(Fe)noF(upper), Na₂HPMo₁₂O₄₀/ MIL-100(Fe)noF and H₃PMo₁₂O₄₀@MIL-100(Fe)noF.

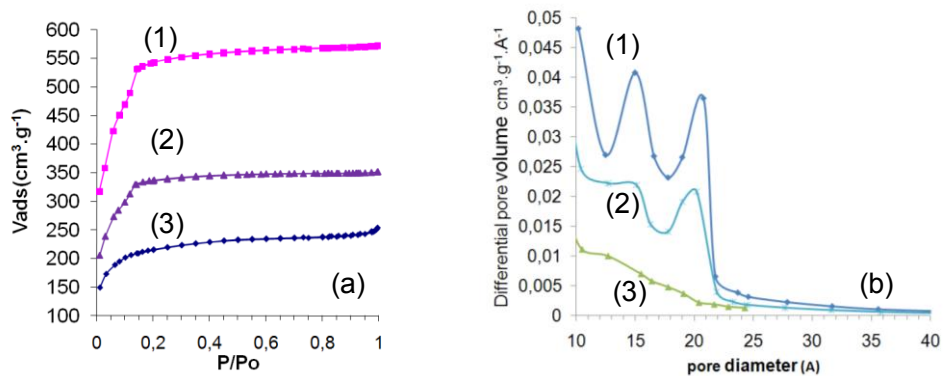


Figure S3: Nitrogen sorption-desorption isotherms at 78 K ($P_0=1$ atm.) (a) and Horvath-Kawazoe porous distribution (b) of MIL-100(Fe)noF (1) , $\text{Na}_2\text{HPMo}_{12}/\text{MIL-100(Fe)noF}$ (2) and MIL-100(Fe) synthesised in presence of $\text{H}_3\text{PMo}_{12}\text{O}_{40}$ (3).