

## Supplementary Material

### **On the Hydrothermal Stability of MCM-41 Mesoporous Silica Nanoparticles and the Preparation of Luminescent Materials.**

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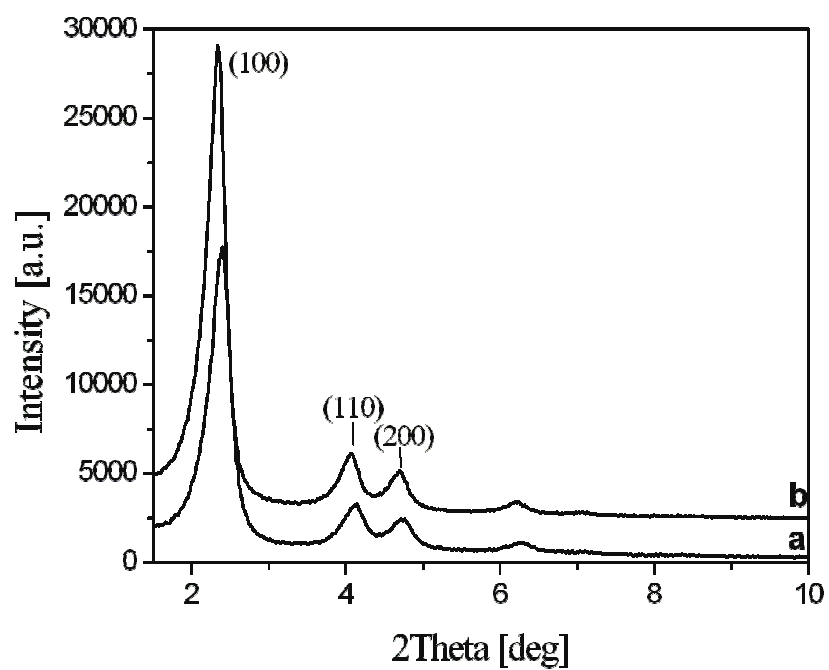


Figure S1: XRD profiles of MCM-41 (a) and MCM-41(st) (b).

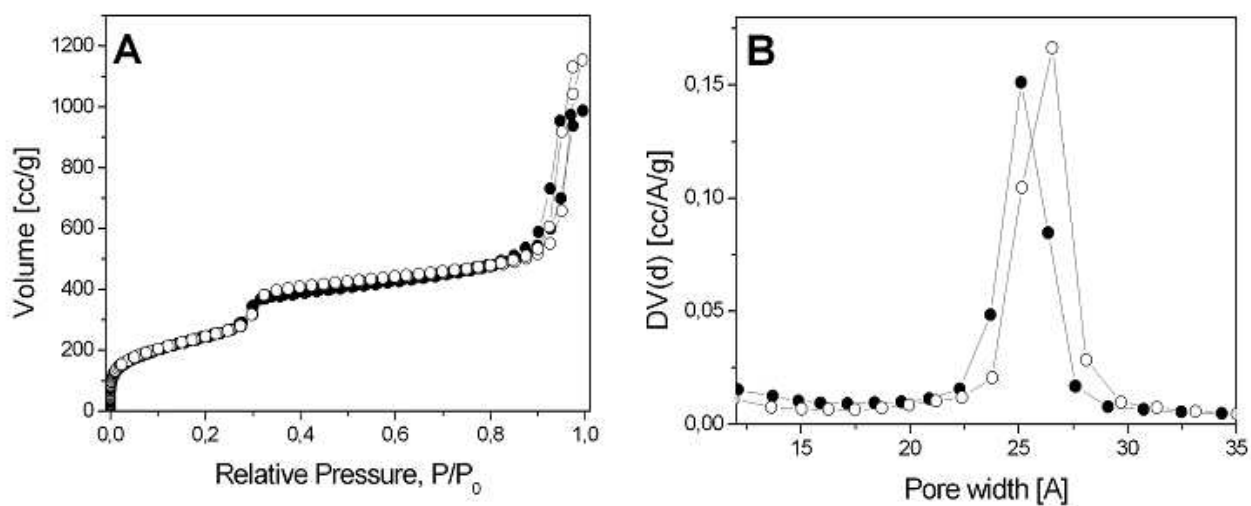


Figure S2: A) N<sub>2</sub> adsorption/desorption isotherms at 77 K of MCM-41 (-●-) and MCM-41(st) (-○-). Pores size distributions obtained by BJH are reported in B); MCM-41 (-●-) and MCM-41(st) (-○-).

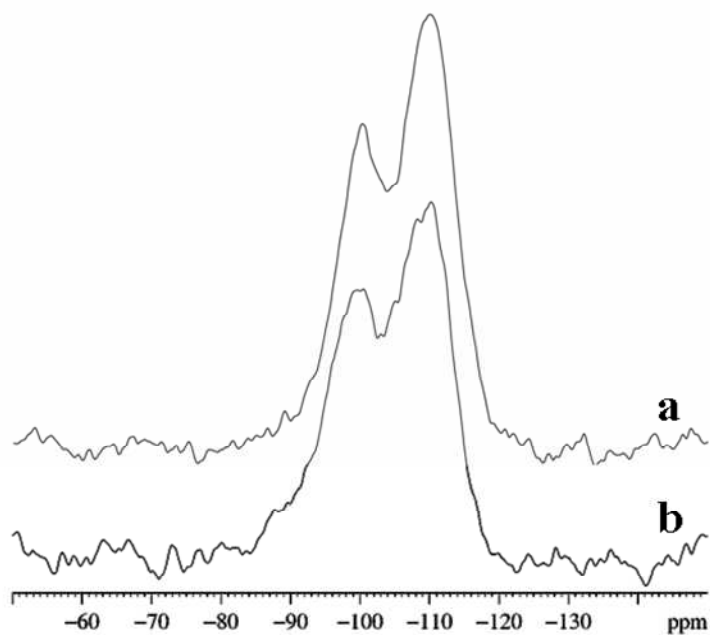


Figure S3:  $^{29}\text{Si}$  NMR spectra of MCM-41 (a) and MCM-41(st) (b) before calcination.

Table 1. Relative ratio of populations of the partially and fully condensed silicon sites  $(\text{Q}^3+\text{Q}^2)/\text{Q}^4$  for MCM-41 and MCM-41(st) before calcination.

	<b>MCM-41</b>	<b>MCM-41(st)</b>
$(\text{Q}^3+\text{Q}^2)/\text{Q}^4$	0.70	1.20

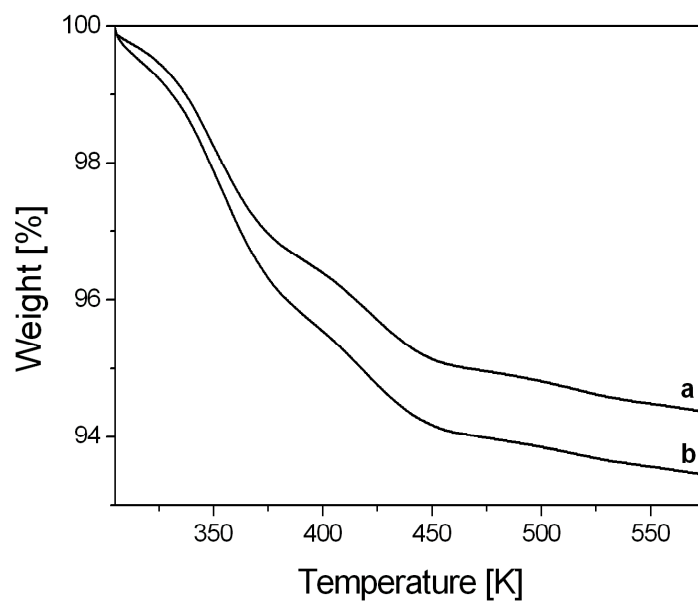


Figure S4: TGA profiles under Argon flow (rate 5 K/min) of calcined MCM-41 (curve b) and MCM-41(st) (curve a).

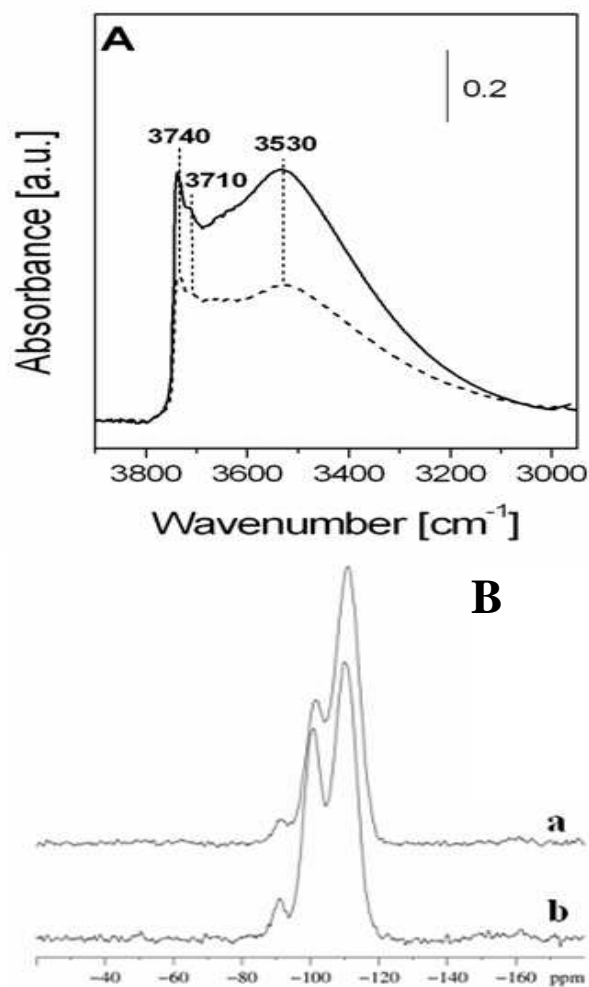


Figure S5: A) IR spectra under vacuum conditions of calcined MCM-41 (dotted line) and MCM-41(st) (solid line) after hydrothermal treatment at 323 K. B) <sup>29</sup>Si NMR spectra of MCM-41 (a) and MCM-41(st) (b) after hydrothermal treatment at 323 K for 20 h.

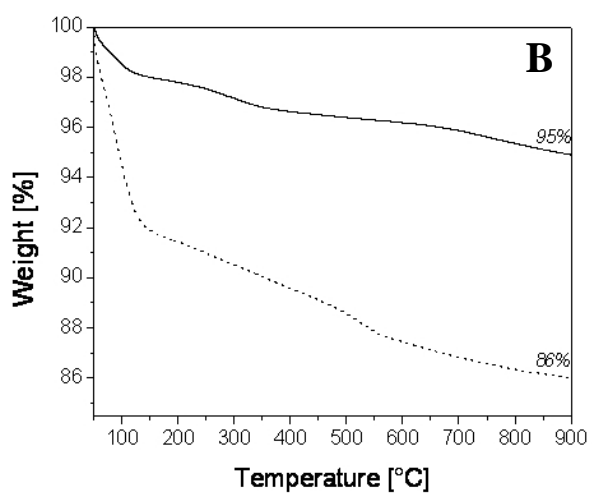
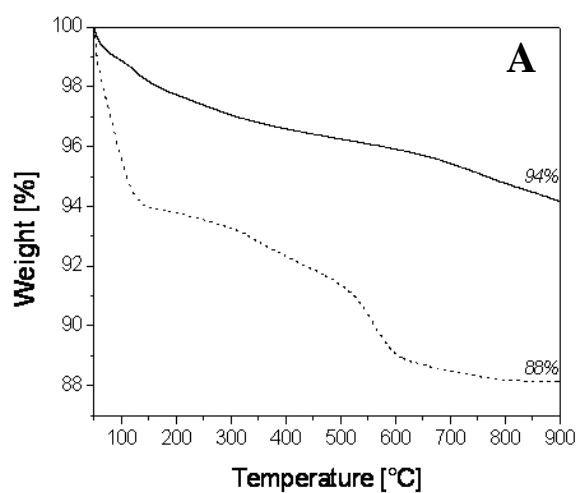


Figure S6: TGA profiles collected under oxygen flow of: A) MCM-41 (solid line) and F/MCM-41 (short dash line); B) MCM-41(st) (solid line) and F/MCM-41(st) (short dash line).

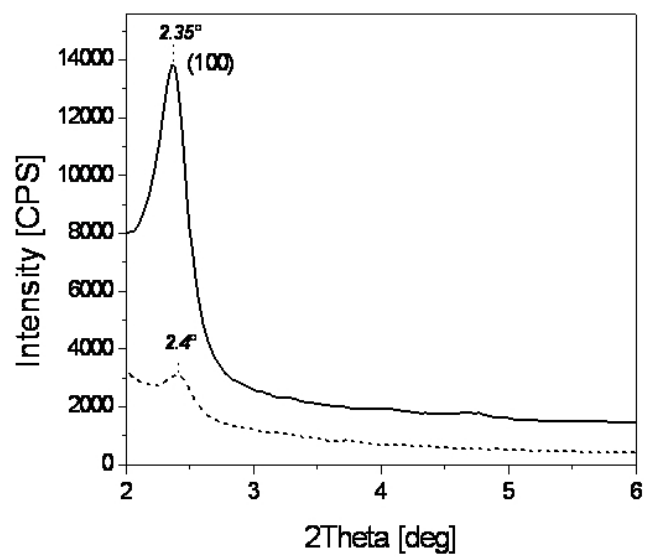


Figure S7: XRD profiles of F/MCM-41 (short dash line) and F/MCM-41(st) (solid line).