

## Supplementary Materials

# Temperature-Driven Structural Evolution during Preparation of MCM-41 Mesoporous Silica

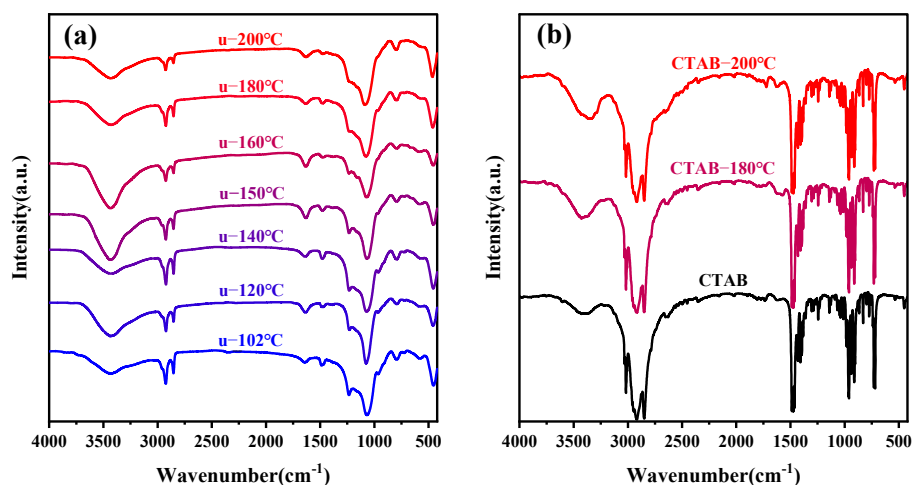
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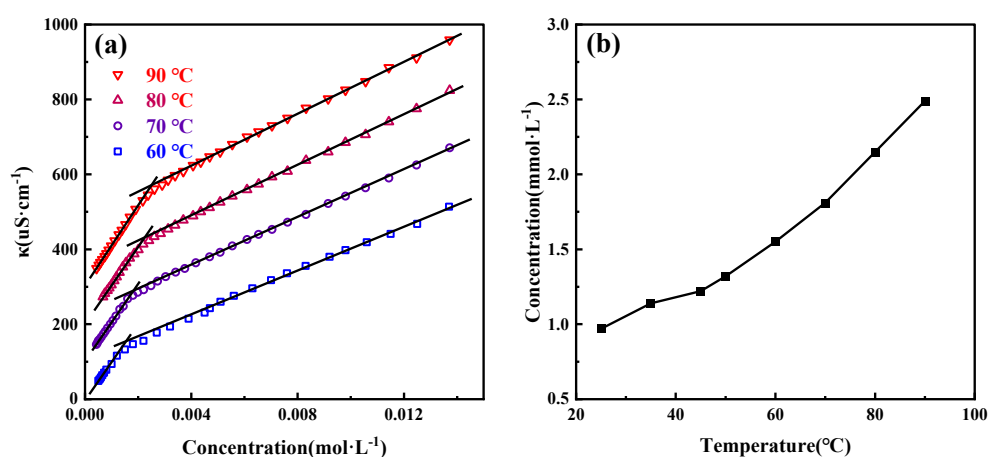
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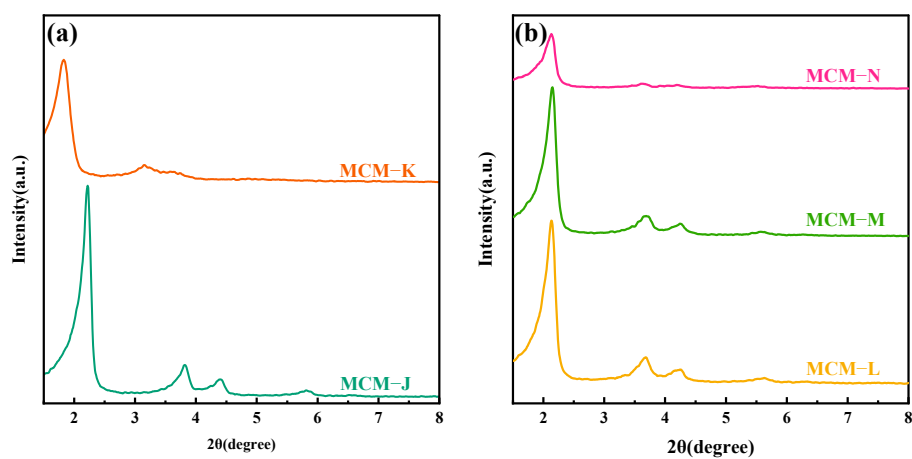
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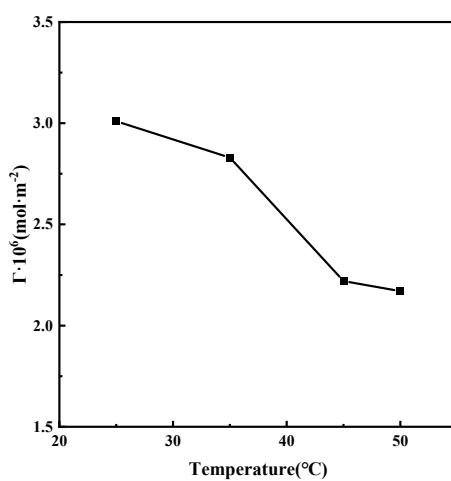
**Figure S1.** FTIR spectra of (a) MCM-41 samples after hydrothermal crystallization at various temperatures; (b) CTAB under different treatment conditions.



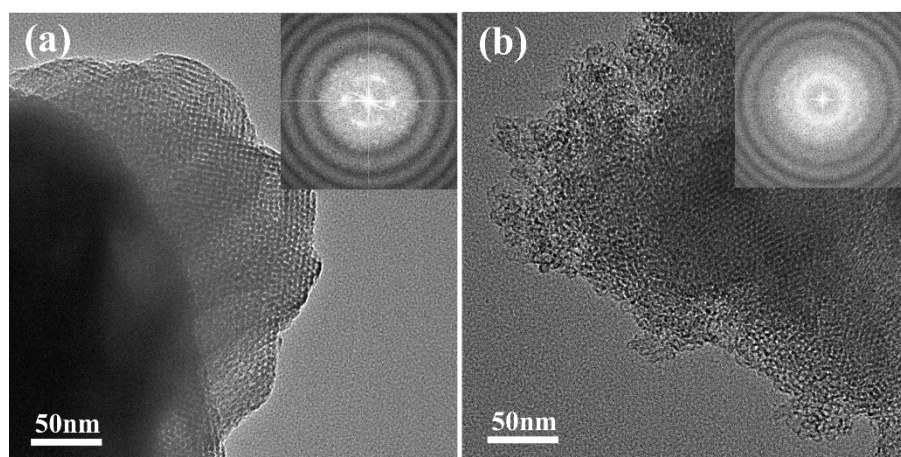
**Figure S2.** (a) Variation of the conductivity of CTAB solutions with concentration at different temperatures; (b) Changes in CMC of CTAB aqueous solutions with temperature.



**Figure S3.** SAXD spectra. (a) MCM-J and MCM-K; (b) MCM-L, MCM-M and MCM-N.



**Figure S4.** The variation of  $\Gamma_{\max}$  with temperature.



**Figure S5.** TEM image of the sample after different hydrothermal treatment. (a) 180 °C; (b) 200 °C.