

Supplementary Material

Effect of different seed sources on the hydrothermal crystallization of MCM-22 zeolite catalysts

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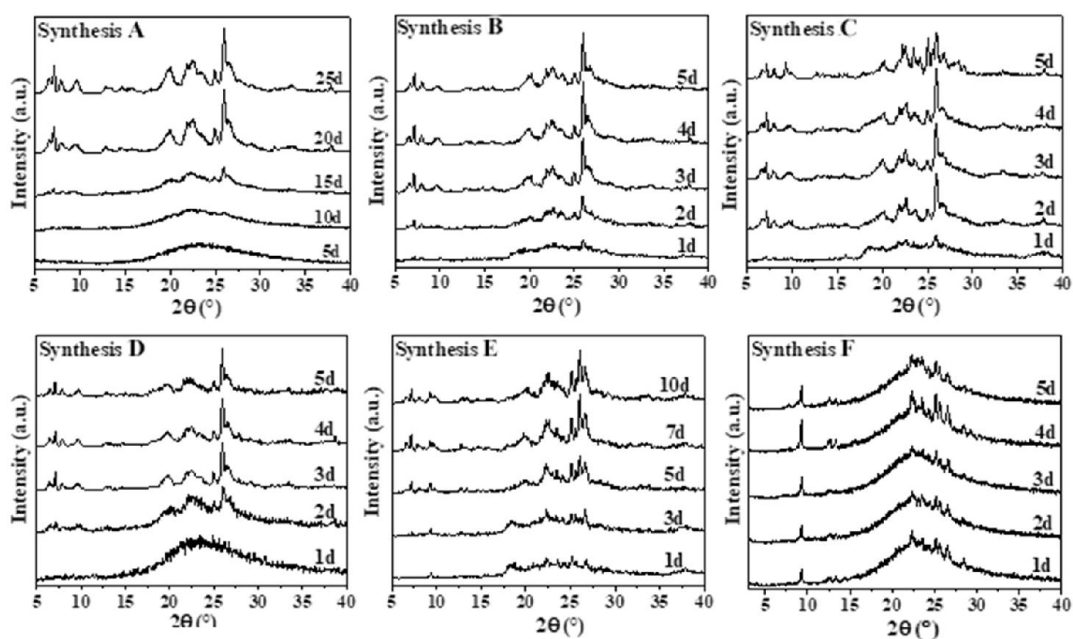


Figure S1. X-ray diffractograms for all samples during the crystallization in different times.

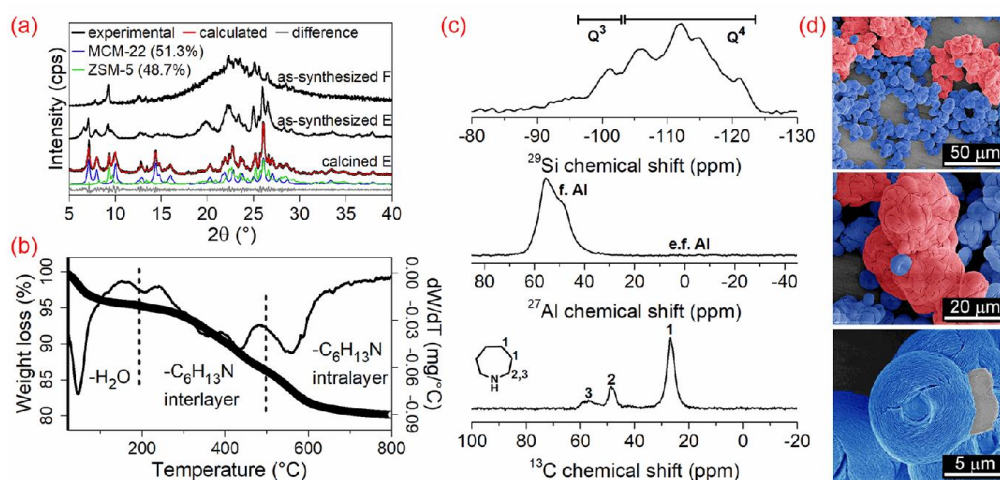


Figure S2 - (a) X-ray diffraction patterns of as-synthesized samples E (50% OSDA) and F (0% OSDA), and calcined sample E. (b) Thermogravimetric analysis of sample E, (c) ^{29}Si , ^{27}Al and ^{13}C NMR spectra and (d) scanning electron microscopy images of sample E (in red are depicted the MCM-22 seeds, in blue the formed MCM-22 zeolite and in grey the ZSM-5 zeolite).

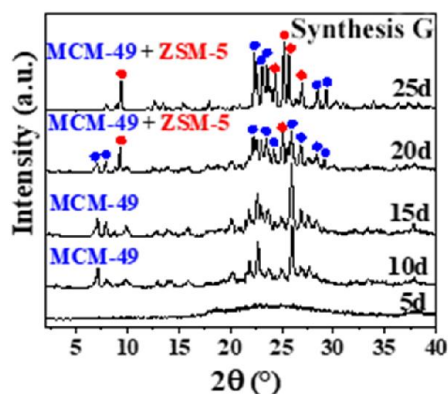


Figure S3. X-ray diffractogram for synthesis G (synthesis with 50% of template and without seeds).

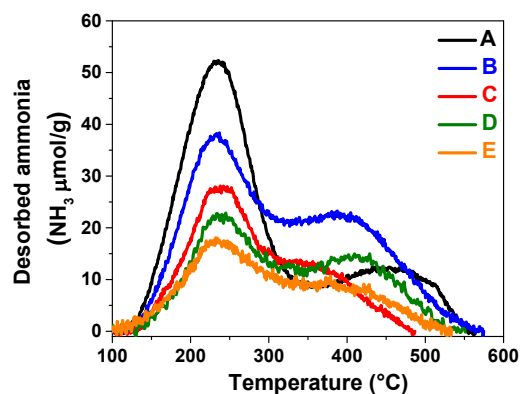


Figure S4. NH_3 -TPD curves for the zeolites synthesized without and in the presence of seeds

Table S1 - MCM-22(P) syntheses described in literature.

Ref.	Synthesis product	Hydrothermal treatment	Si/Al ratio	Pre-treatment	Crystallization time
[1]	MCM-22P	Stirred	15	-	7 days at 150 °C
[2]	MCM-22P	Stirred	11	-	12 days at 150 °C
[2]	MCM-22P	Stirred	21	-	10 days at 150 °C
[3]	MCM-22P	Stirred	15	-	7 days at 150 °C
[4]	MCM-22P	Stirred	4 to 14	Aged 1h30 min 170 °C stirring seeded	43 to 60 h at 170 °C
[5]	MCM-22P	Static	15 to 25	-	28 days at 150 °C
[6]	MCM-22P	Stirred	15	-	7 days at 150 °C
[6]	MCM-22P	Static	15	Aged 24 h at 45 °C	9 days at 150 °C
[7]	MCM-22P	Stirred	25	-	4 days at 150 °C
[8]	MCM-22P	Stirred	50	Seeded (10% wt. of Si) – Seed: delaminated ITQ-2	6 days at 150 °C
[9]	MCM-22P	Static	15	Aged 24 h at room temperature and seeded 1% wt. of gel mixture	6 days at 158 °C
[10]	MCM-22P	Stirred	21 to 30	Aged 1h30 min	43 to 60 h at 170 °C
[11]	MCM-22P	Static	15	Aged 20 h	7 days at 158 °C
[12]	MCM-22P	Stirred	14.5	-	3 to 5 days at 145 °C
[13]	MWW-type zeolite	Static	18 to 30	Aged 5 h at 120 °C Seeded 10 to 30% wt. of silica source	7 days at 160 °C
This work	MCM-22P	Static	15	Aged 30 min at 50 °C Seeded 1 % wt. of gel mixture	3 days at 150 °C

References for supplementary materials

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