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**Synthesis of Nanocrystalline MFI-Zeolites Having Intracrystalline Mesopores and Their
Application in Fine Chemical Synthesis Involving Large Molecules**

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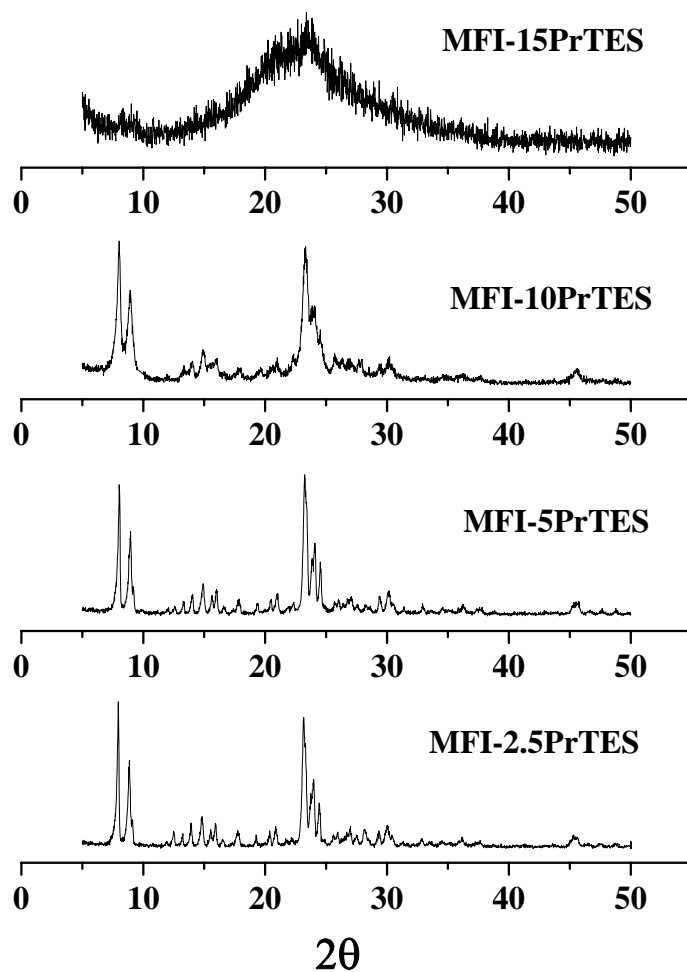


Figure 1. XRD profiles of MFI samples synthesized using different amount of propyltriethoxysilane.

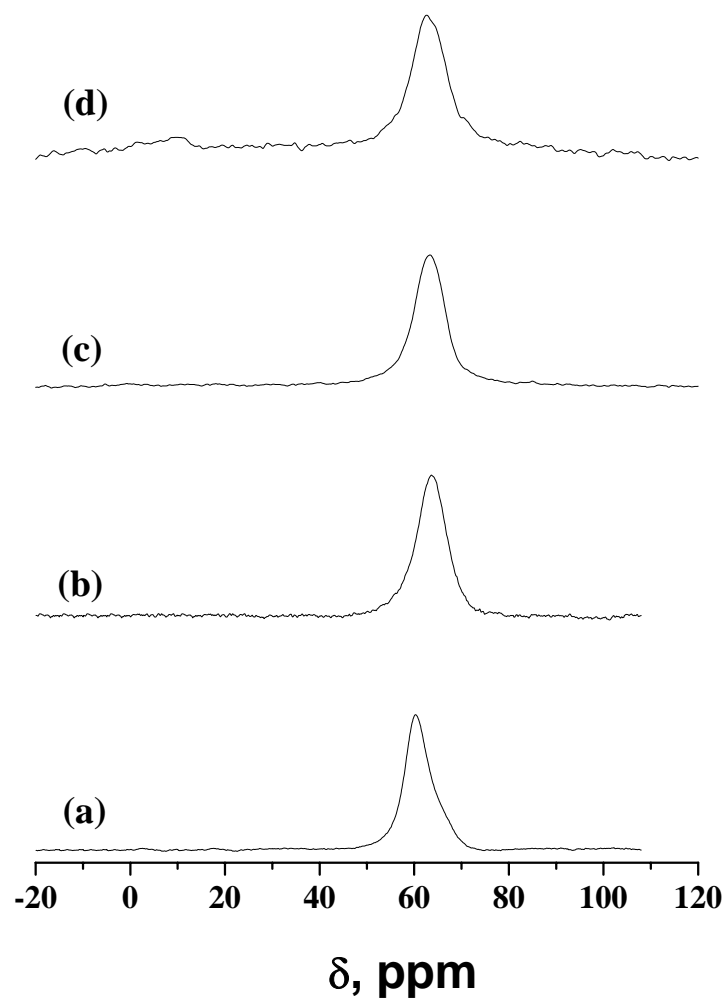


Figure 2. ^{27}Al NMR of a) conventional MFI, (b) MFI-10PrTES, (c) MFI-10MeTES and (d) MFI-10OctTES.

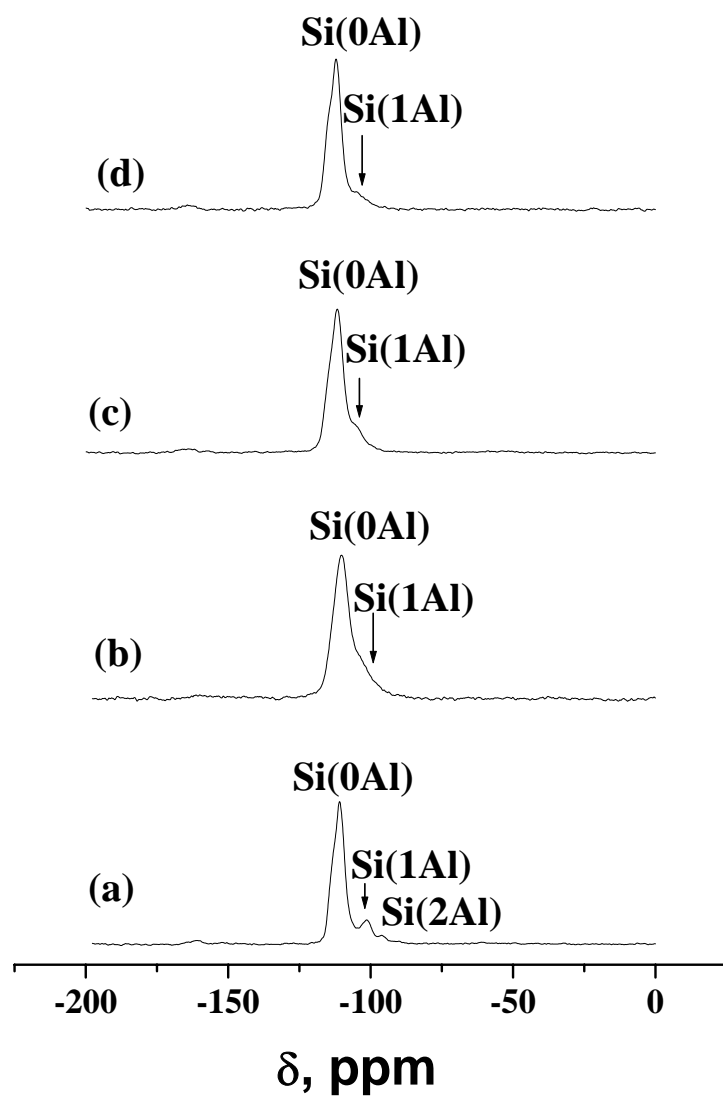


Figure 3. ^{29}Si NMR of (a) conventional MFI, (b) MFI-10PrTES, (c) MFI-10MeTES and (d) MFI-10OctTES.

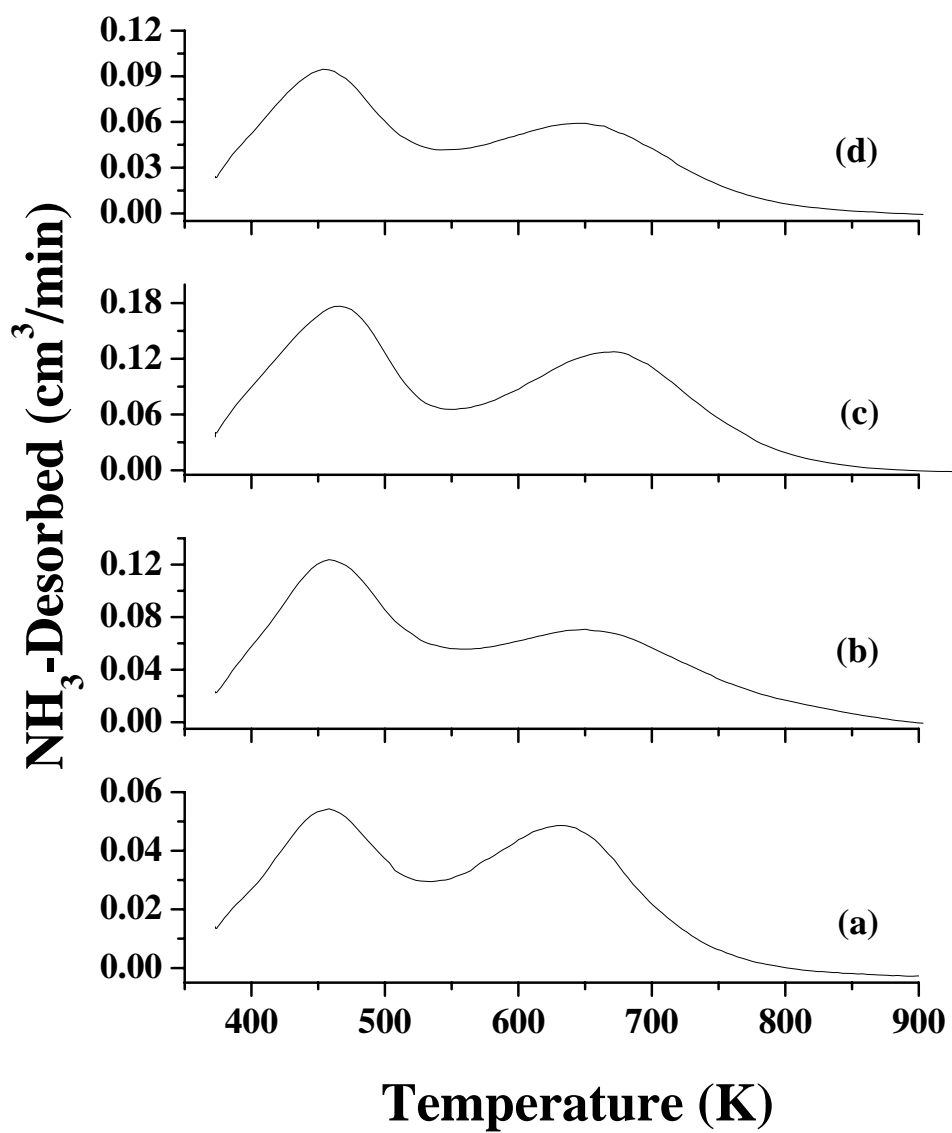


Figure 4. NH_3 -TPD profile of (a) conventional MFI, (b) MFI-10PrTES, (c) MFI-10MeTES and (d) MFI-10OctTES.

Table 1. Summary of the NH₃-TPD results of various samples investigated in this study.

Catalysts	Total acid sites NH ₃ desorbed (mmol/g)	Weak acid sites (T-maxima in K)	Strong acid sites (T-maxima in K)
MFI	0.24	0.11 (459)	0.13 (636)
MFI-10PrTES	0.48	0.26 (461)	0.22 (657)
MFI-10MeTES	0.78	0.38 (465)	0.40 (676)
MFI-10OcTES	0.37	0.19 (460)	0.18 (659)