Supplementary Material (ESI) for Journal of Materials Chemistry

Electronic Supplementary Information

Pore size control and organocatalytic properties of nanostructured silica hybrid materials containing amino and ammonium groups

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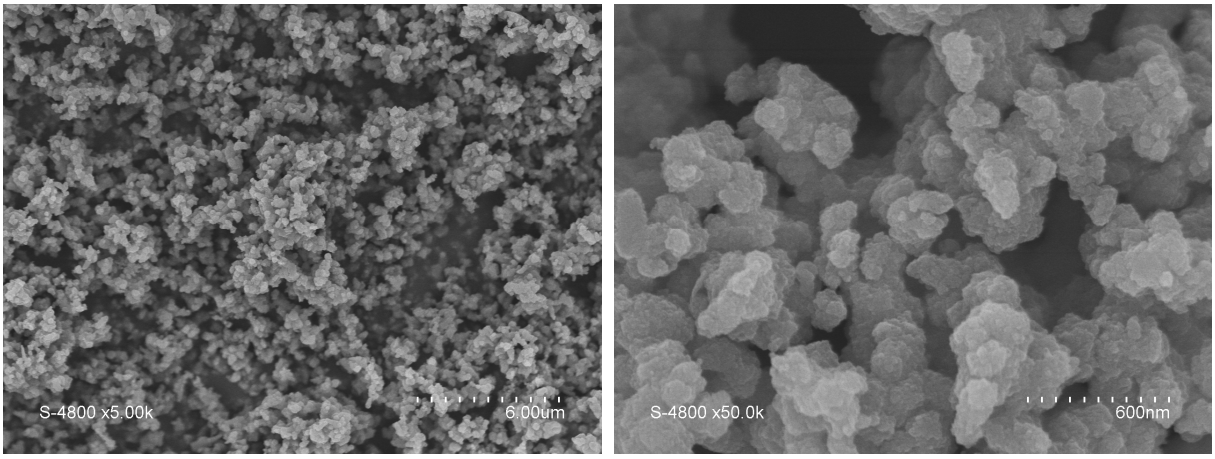
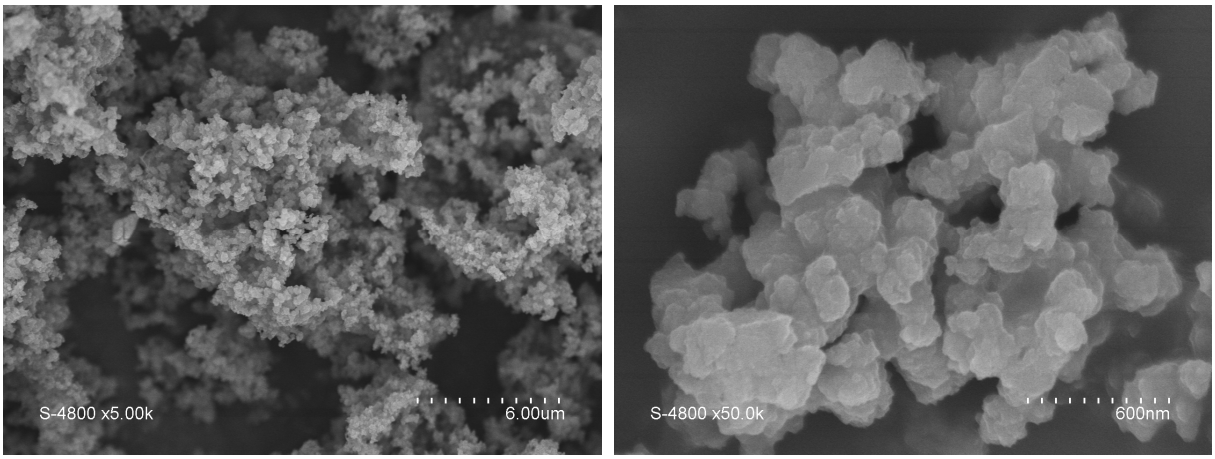
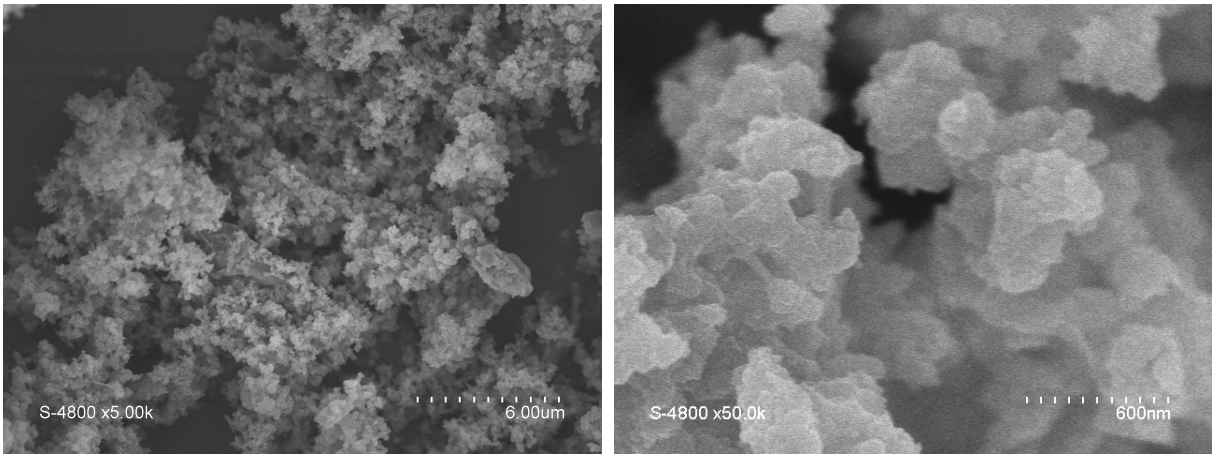
Summary



Material A16A18



Material 1/5



Material 1/10

Photos1-6: SEM-image of materials **A16A18**, **1/5** and **1/10**

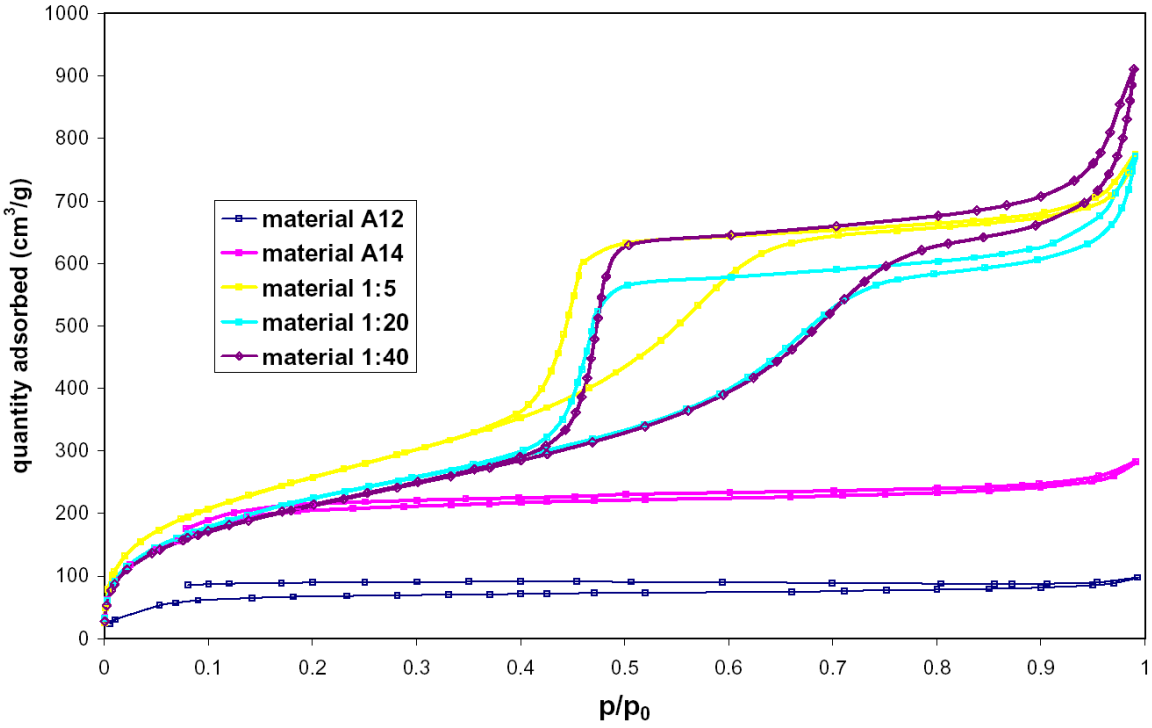


Figure 1: Nitrogen adsorption-desorption isotherms of materials **A12, A14**, **1/5, 1/20** and **1/40**.

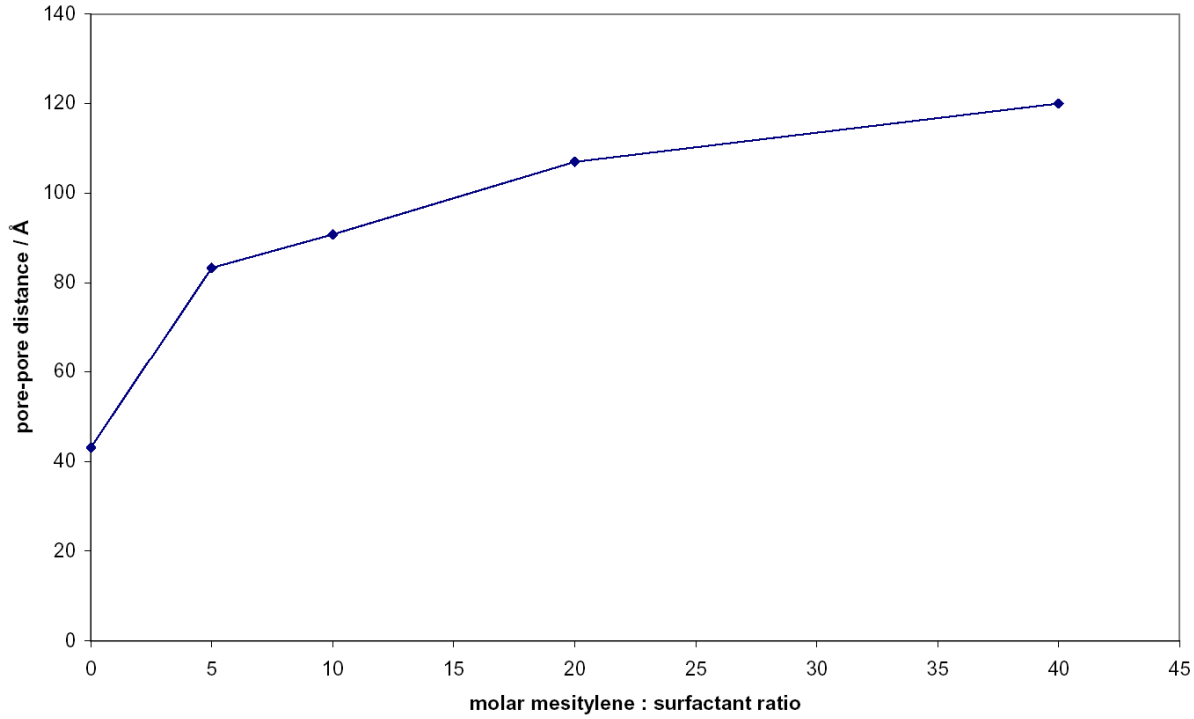


Figure 2: Pore-pore distance in the materials *vs*. molar mesitylene/precursor 1 ratio in the hydrolysis condensation mixture

Solid state NMR spectra of the materials after use in Henry reactions

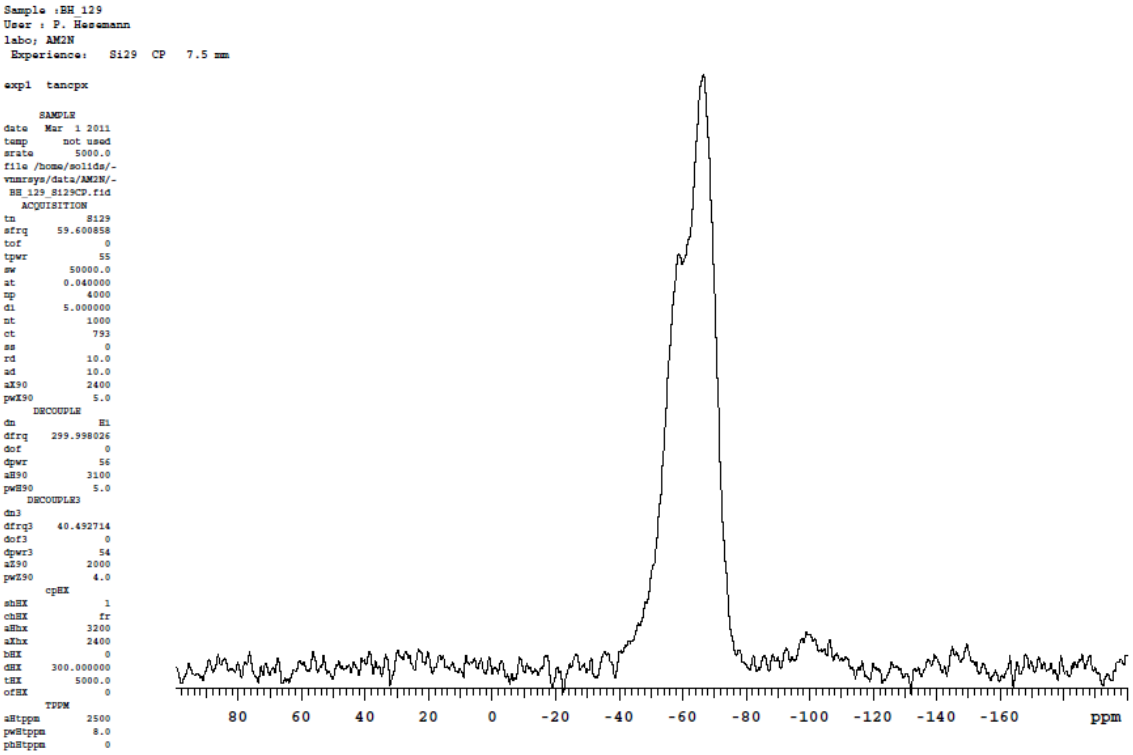


Figure 3: ^{29}Si CP-MAS solid state NMR spectrum of material **A16A18** after 5 successive Henry reaction cycles

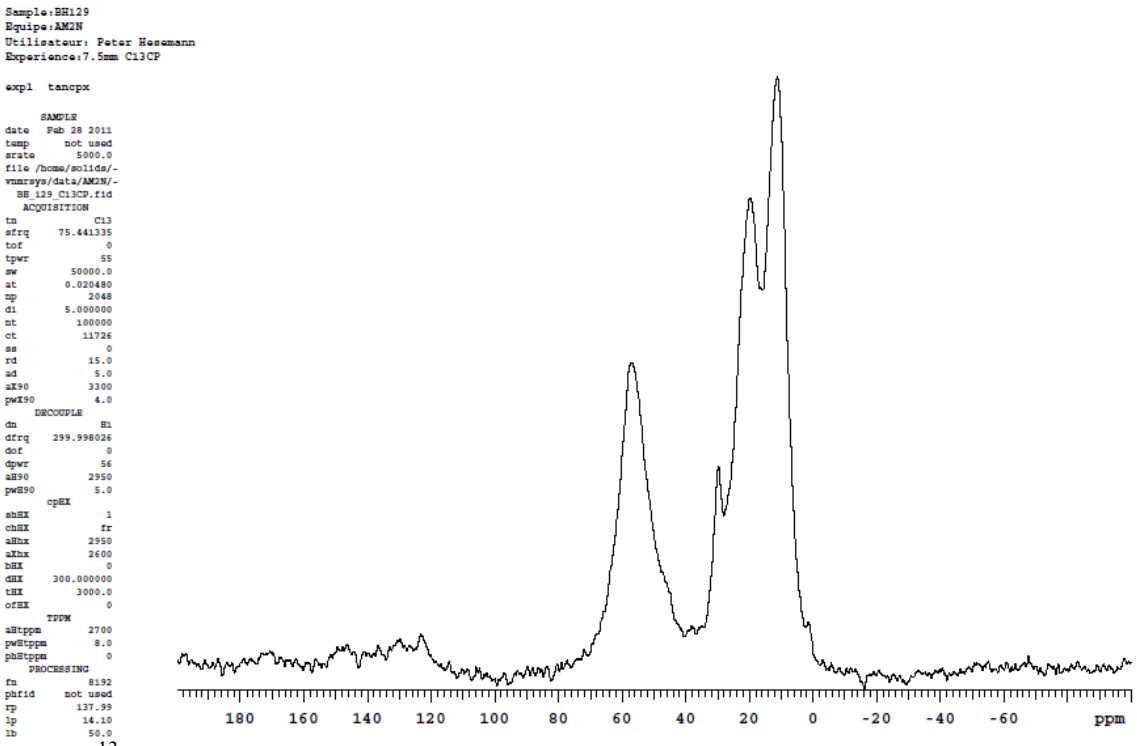


Figure 4: ^{13}C CP-MAS solid state NMR spectrum of material **A16A18** after 5 successive Henry reaction cycles

Solid state NMR spectra of the materials after use in ring opening reaction of glycidol with lauric acid

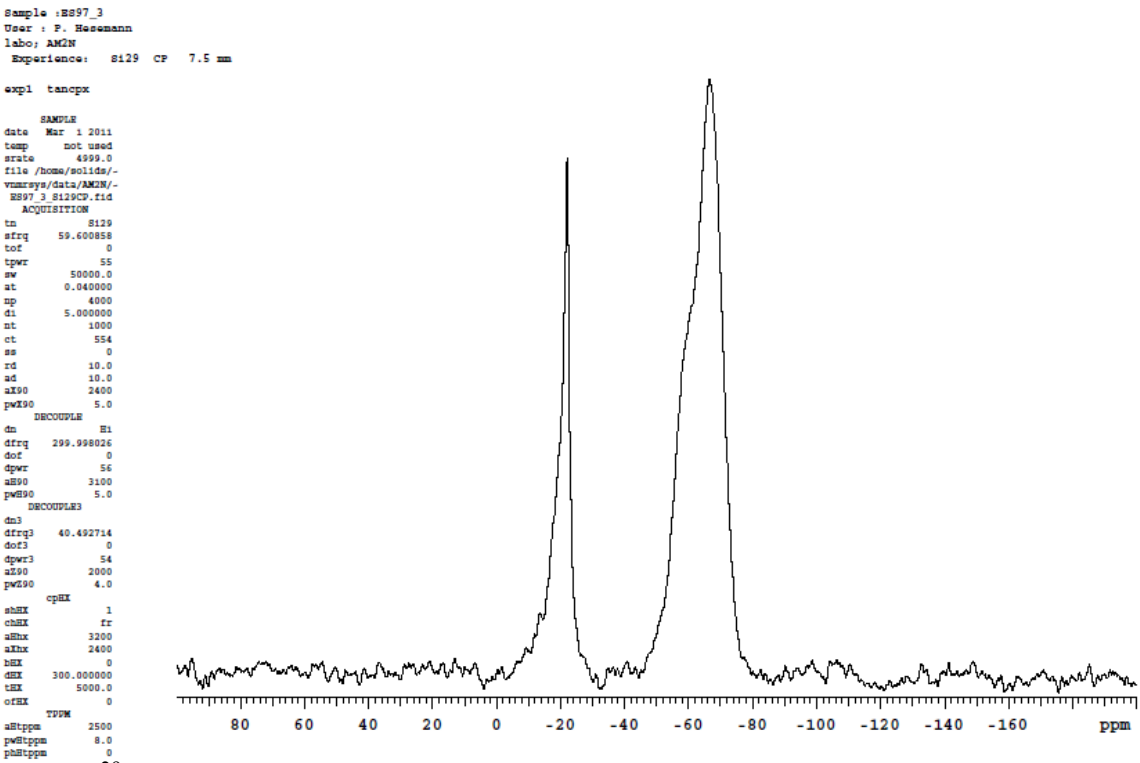


Figure 5: ^{29}Si CP-MAS solid state NMR spectrum of material **A16A18** after 5 successive ring opening reaction cycles.

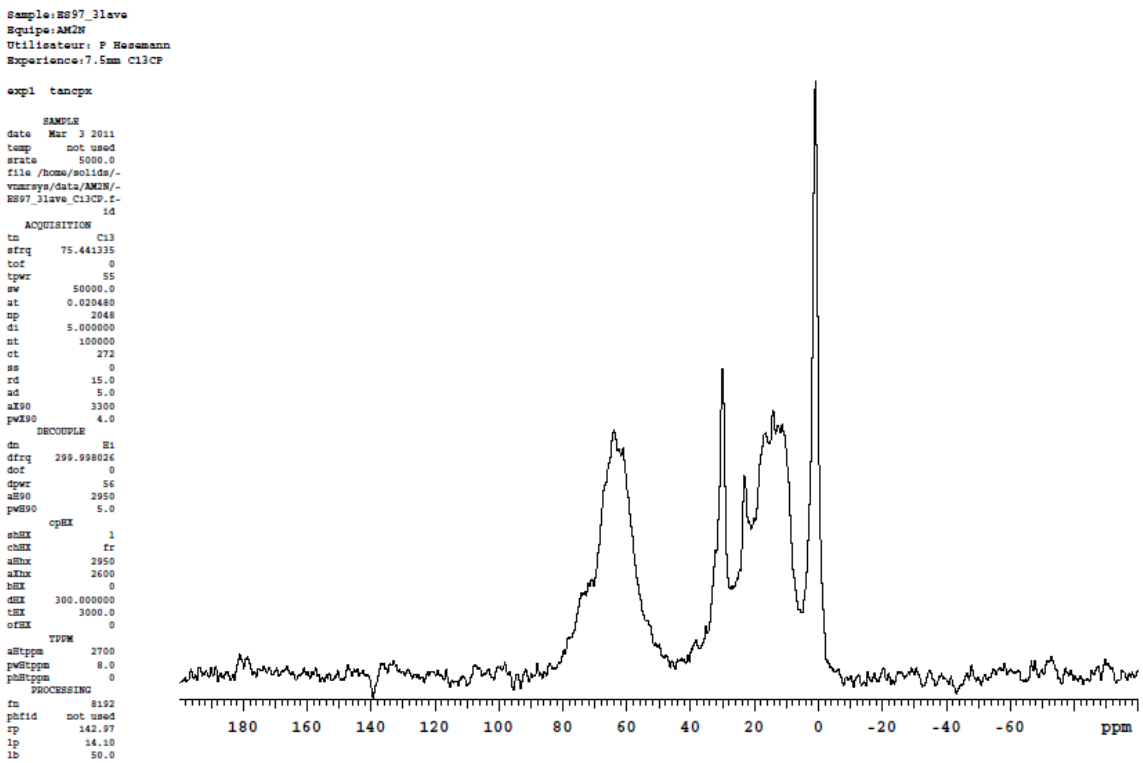


Figure 6: ^{13}C CP-MAS solid state NMR spectrum of material **A16A18** after 5 successive ring opening reaction cycles

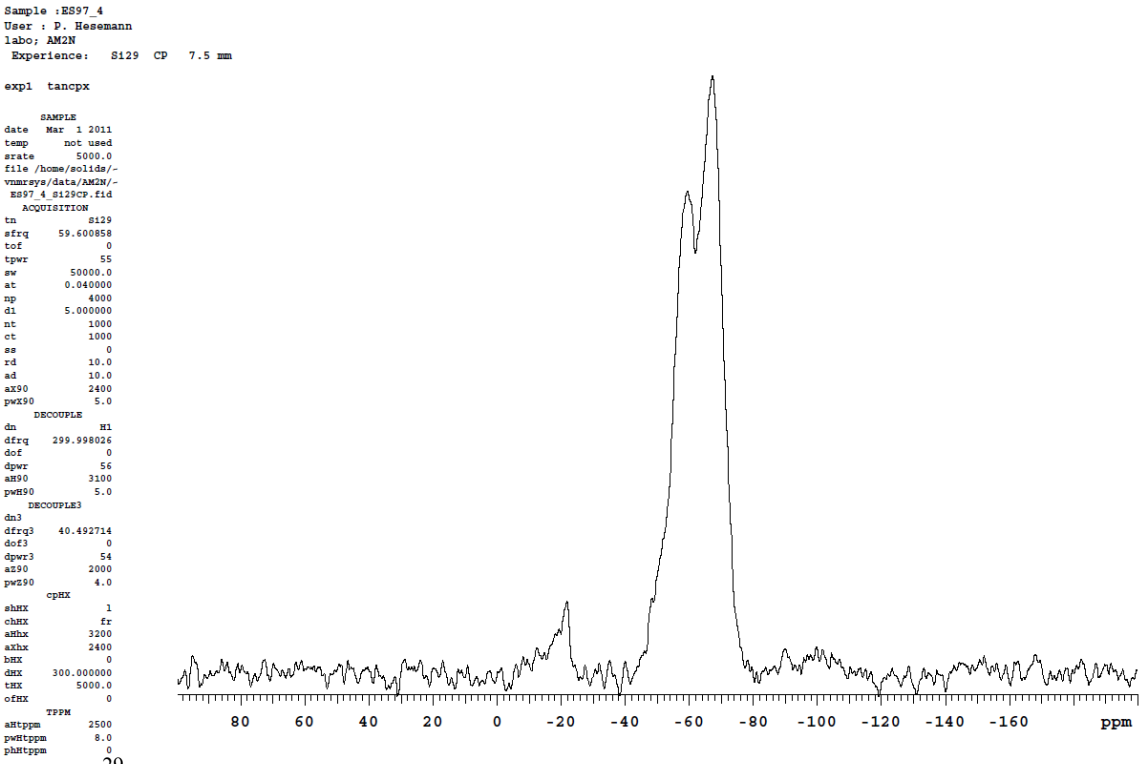


Figure 7: ^{29}Si CP-MAS solid state NMR spectrum of material **A16A18-p** after 5 successive ring opening reaction cycles

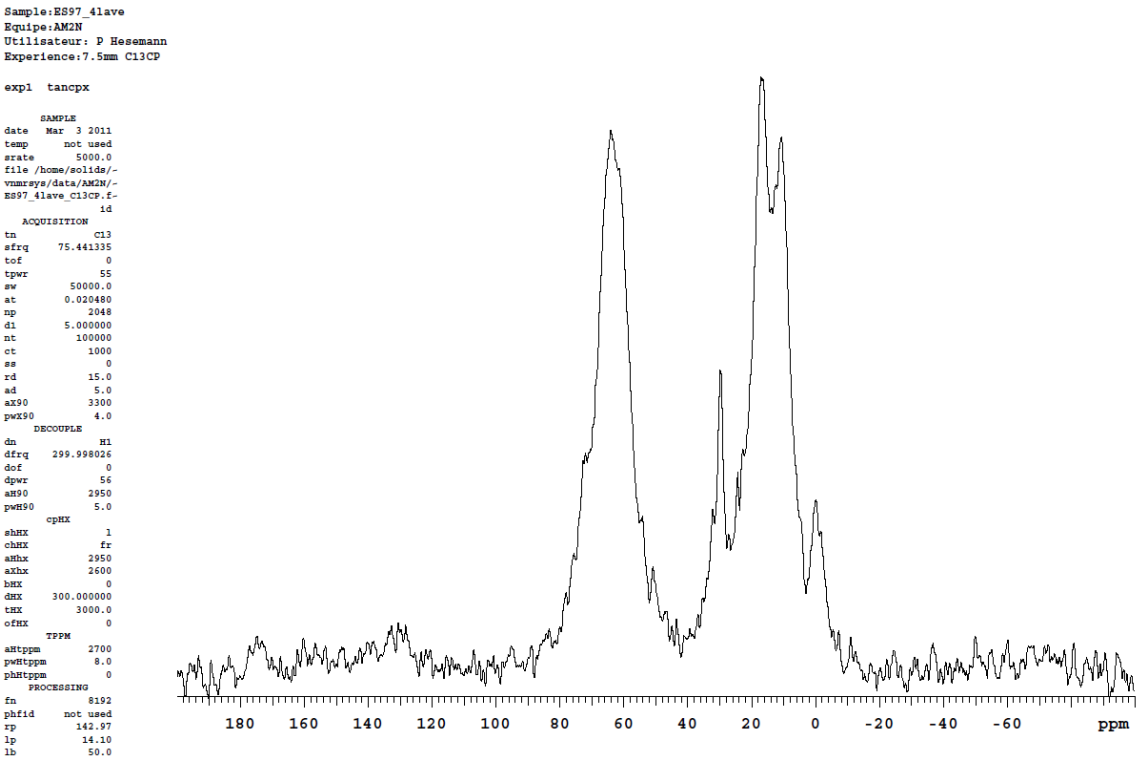


Figure 8: ^{13}C CP-MAS solid state NMR spectrum of material **A16A18-p** after 5 successive ring opening reaction cycles

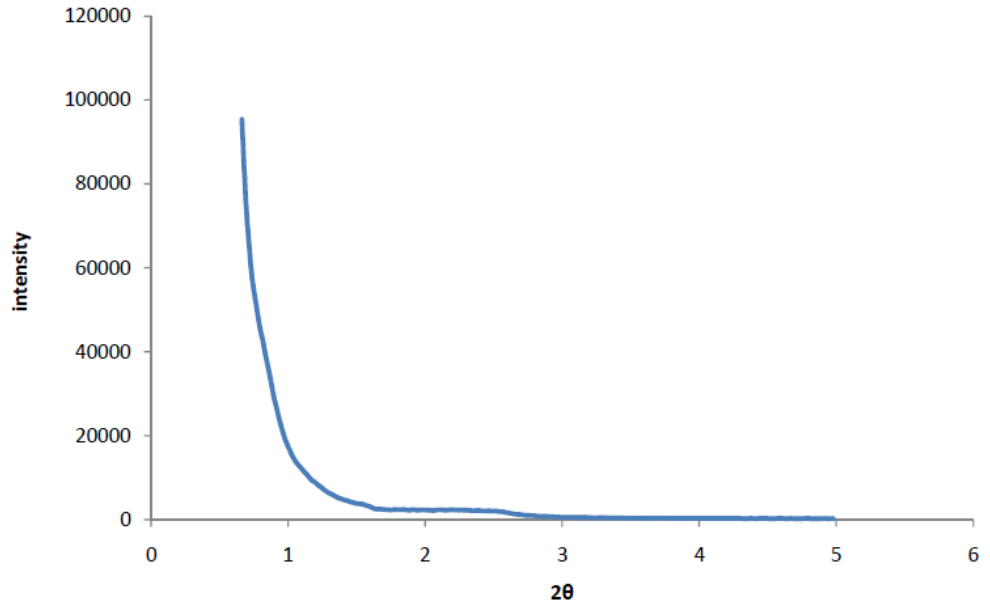


Figure 9: X-ray diffractogram of material **A16A18** after 5 successive ring opening reaction cycles

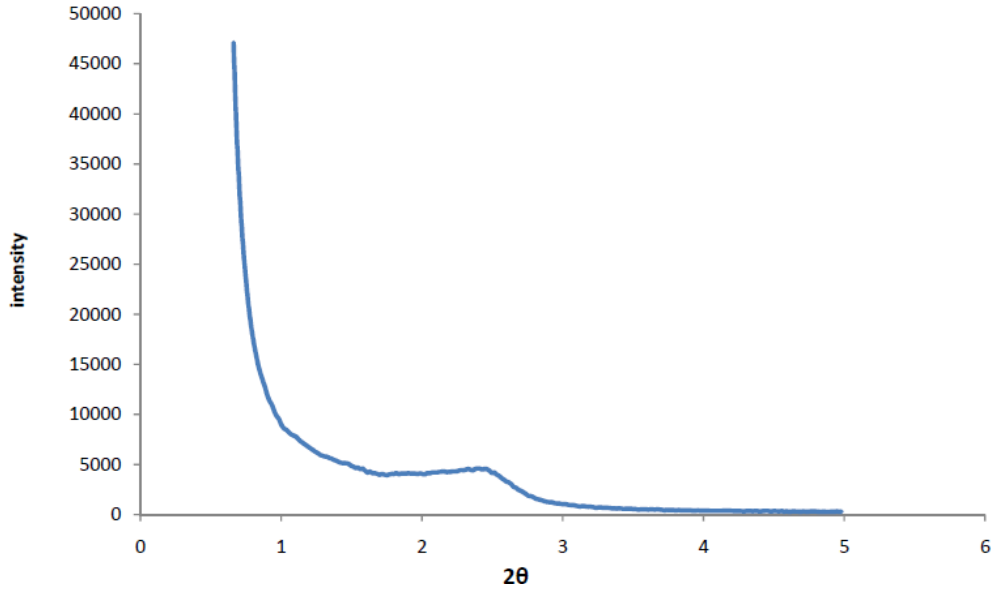


Figure 10: X-ray diffractogram of material **A16A18-p** after 5 successive ring opening reaction cycles

Table 1: Elemental analysis of material **A16A18-p** before and after use in ring opening reaction

	C	H	N
A16A18-p before catalysis	31.06	6.48	3.81
A16A18-p after catalysis	36.26	10.49	2.01

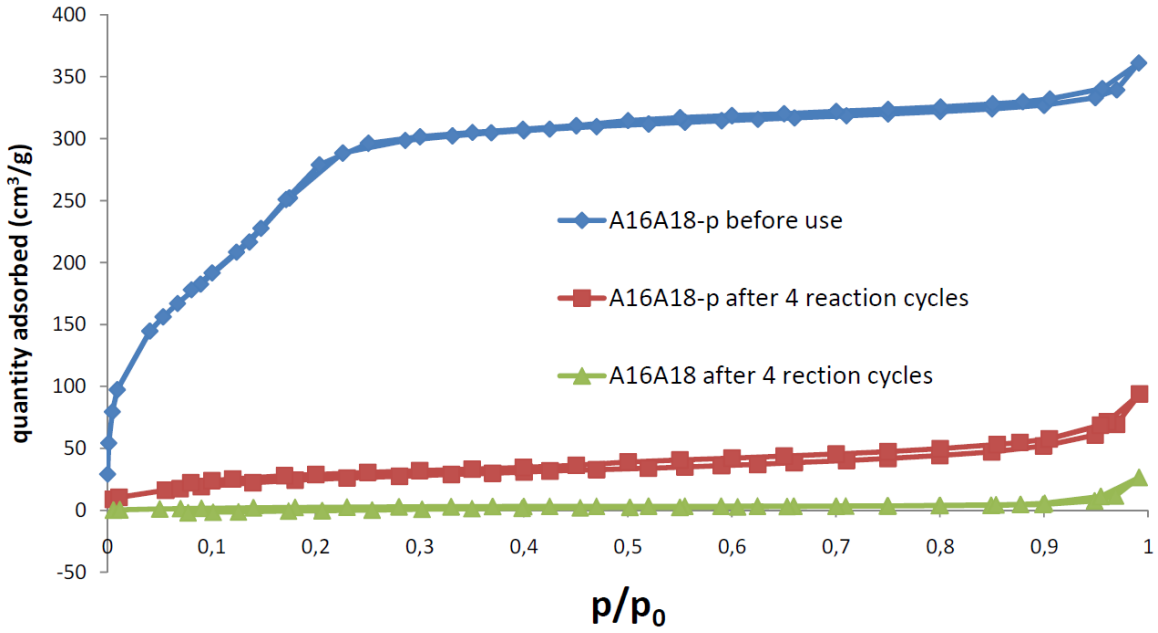


Figure 11: Nitrogen adsorption-desorption isotherms of material **A16A18-p** before and after four reaction cycles in ring opening reaction of glycidol