Electronic Supplementary Material (ESI) for Catalysis Science & Technology.

Electronic Supplementary Information

An efficient epoxidation of terminal aliphatic alkenes over heterogeneous catalysts: when solvent matters

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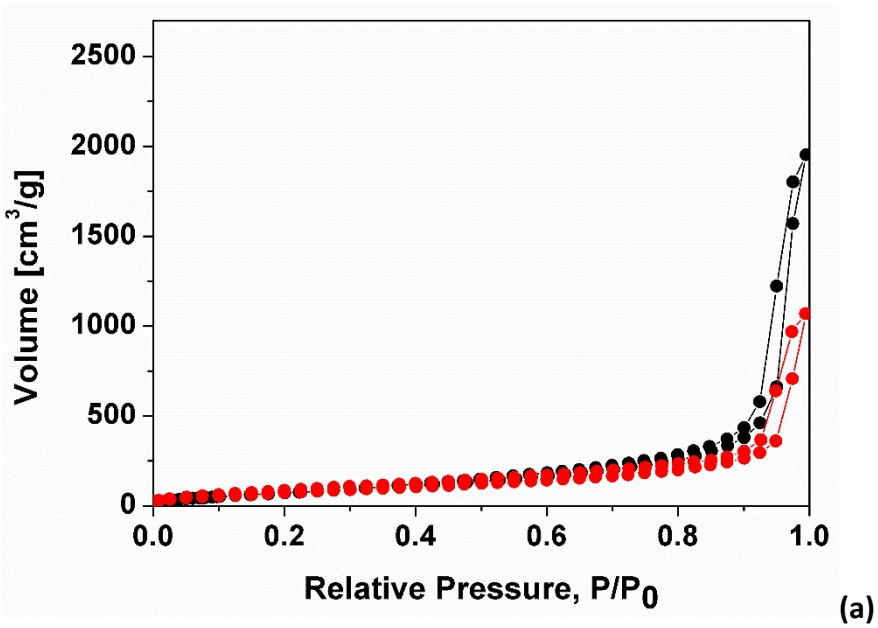


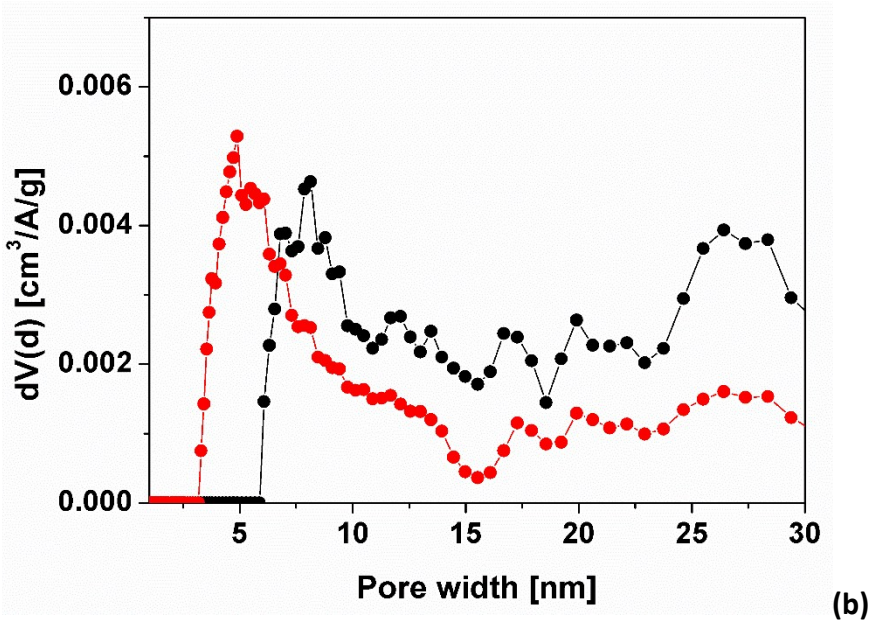
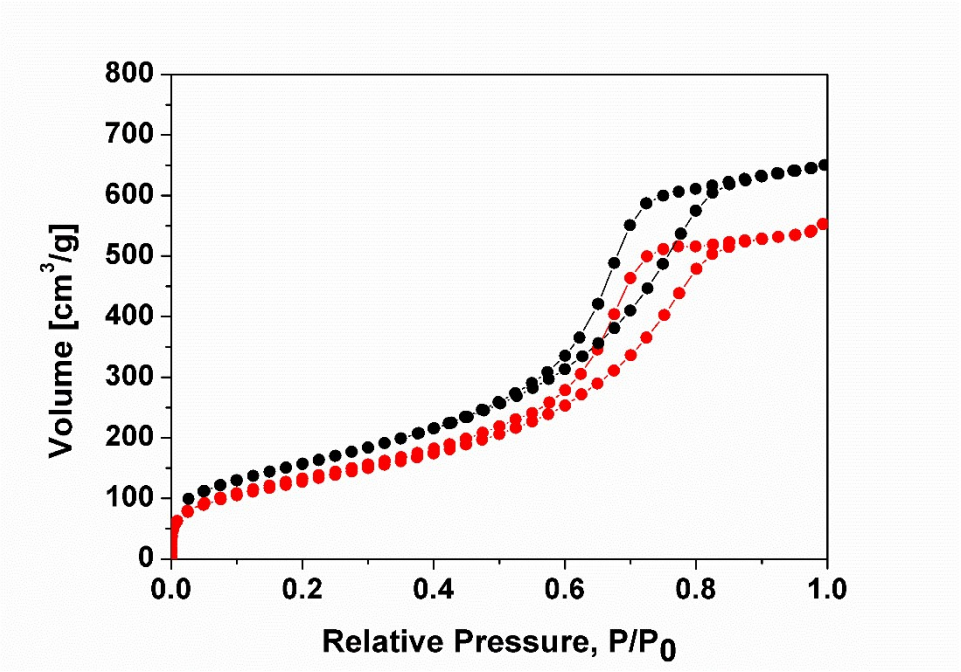
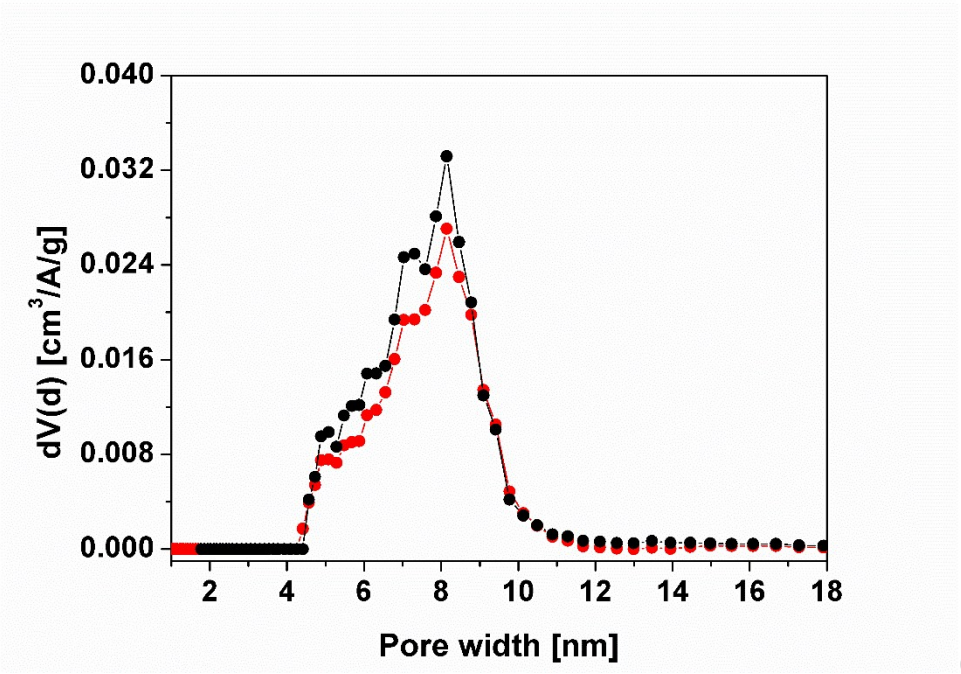


Fig. S1. (a) N_2 adsorption–desorption isotherms at 77 K, for SiO_2-Aero (black) and Ti/SiO_2-Aero (red); (b) pore size distributions obtained by NLDFT of SiO_2-Aero (black) and Ti/SiO_2-Aero (red)

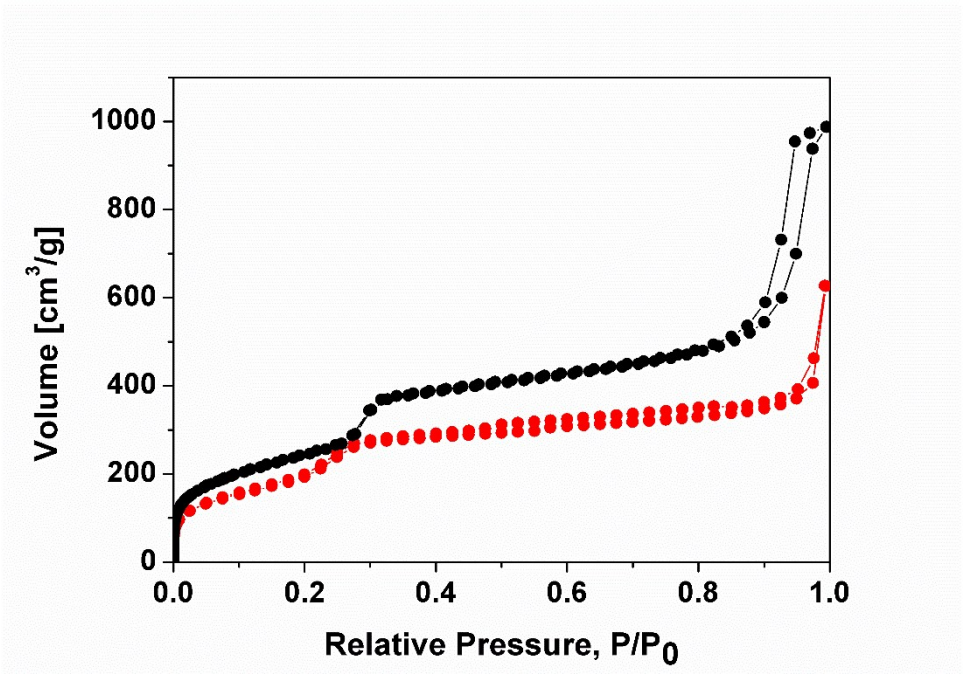


(a)

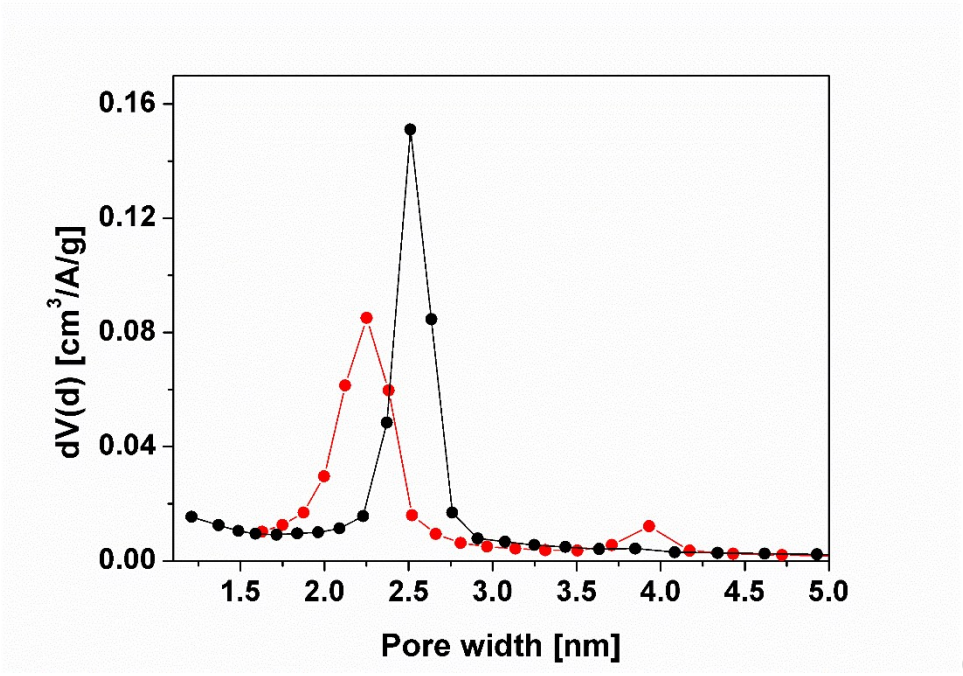


(b)

Fig. S2. (a) N_2 adsorption–desorption isotherms at 77 K, for SiO_2-Dav (black) and Ti/SiO_2-Dav (red); (b) pore size distributions obtained by NLDFT of SiO_2-Dav (black) and Ti/SiO_2-Dav (red)



(a)



(b)

Fig. S3. (a) N_2 adsorption–desorption isotherms at 77 K, for MCM-41 (black) and Ti/MCM-41 (red); (b) pore size distributions obtained by BJH method of MCM-41 (black) and Ti/MCM-41 (red)

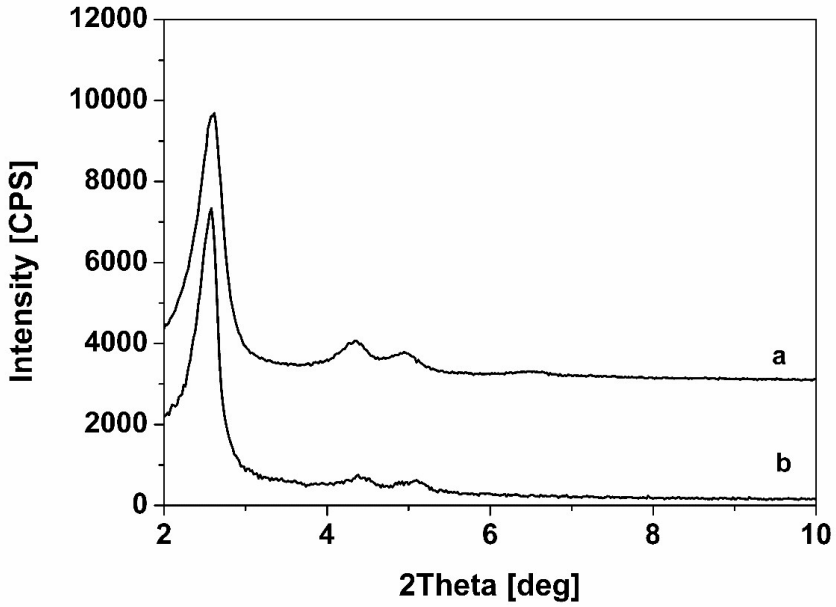


Fig. S4. X-ray diffraction patterns for MCM-41 support (curve a) and Ti/MCM-41 catalyst (curve b).

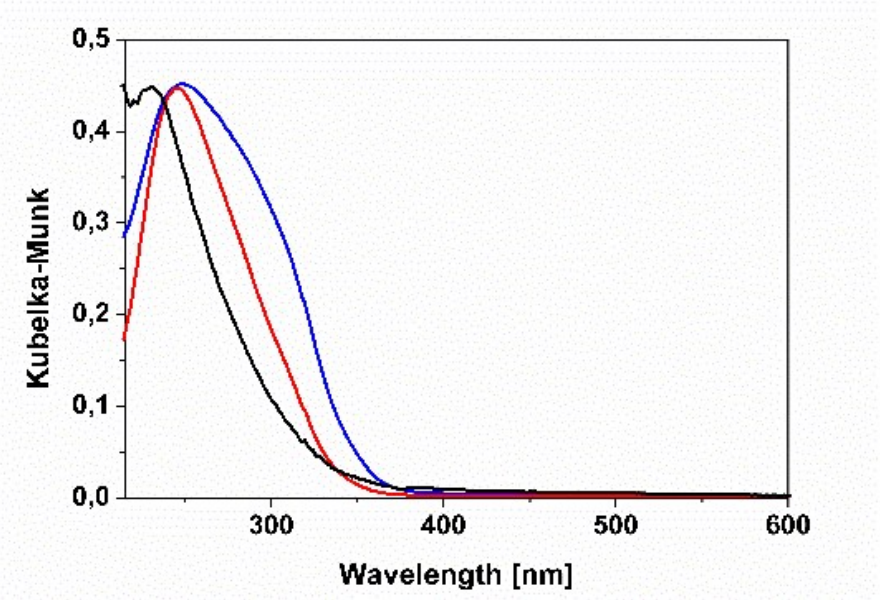


Fig. S5. Normalized DR UV-Vis spectra of Ti/MCM-41 (black curve), Ti/SiO_2-Aero (red curve) and Ti/SiO_2-Dav (blue curve). All samples were calcined at 773 K under dry air and, prior to the DRS UV-Vis analysis, dispersed in anhydrous BaSO4 (10 wt.%) and treated *in vacuo* for 1h at room temperature.

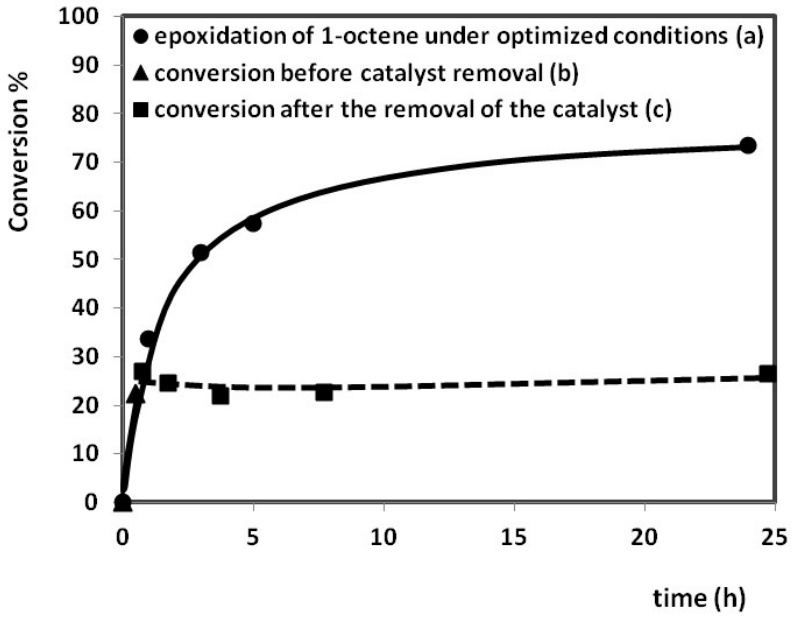


Fig. S6. Conversion profiles for the epoxidation of 1-octene over Ti/SiO_2-Dav, under optimized conditions (curve a) and in the heterogeneity test, before (curve b) and after (curve c) the removal of the solid catalyst *via* centrifugation.