

SUPPORTING INFORMATION

Improved dispersion of transition metals in mesoporous materials through a polymer-assisted melt infiltration method: toward the genesis of micropore-confined highly dispersed metallic particles

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TABLE OF CONTENT	PAGE
Supplementary characterization results	S3-S4
Reaction pathways for the hydrogenation of cinnamaldehyde	S4
Supplementary catalytic results	S5-S6

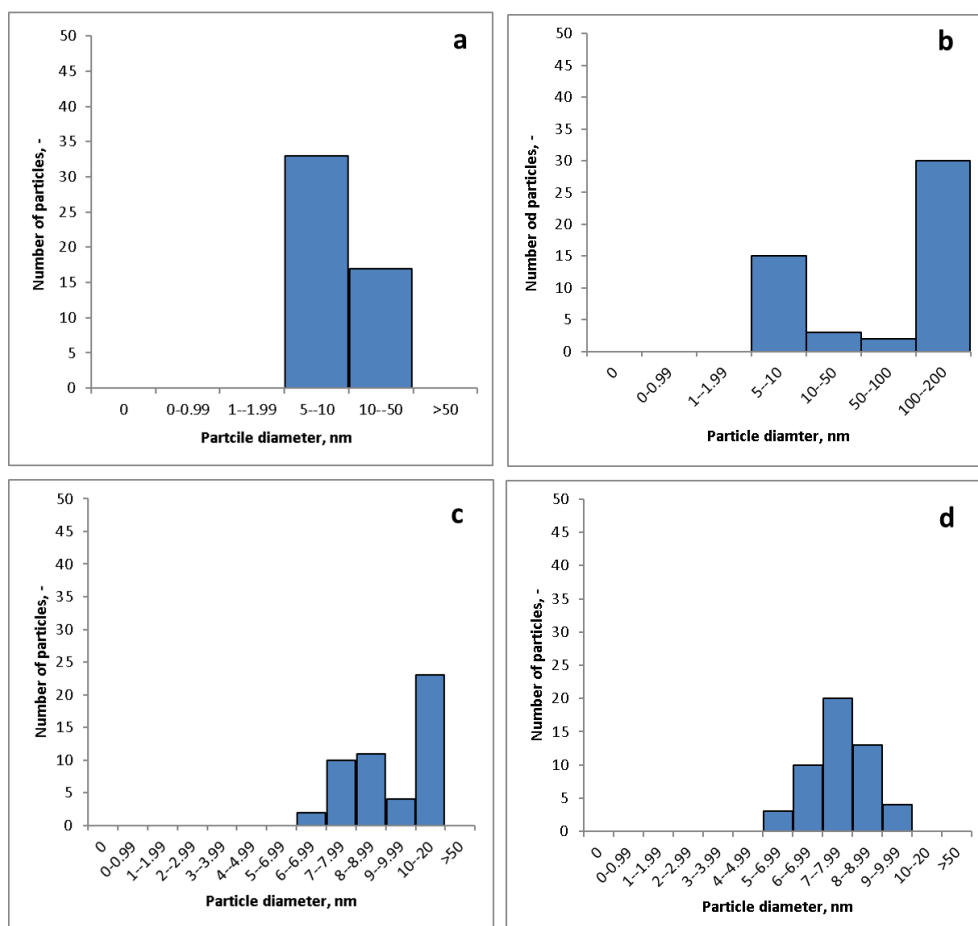


Figure S1. Evolution of the particle size distribution in samples prepared over calcined support, with infiltration time of “t” days (C-t) and in samples prepared over uncalcined support, with infiltration time of “t” days (UC-t): a) sample C-0; b) sample UC-0; c) sample C-1 and d) sample C-2. All materials were calcined at 500 °C prior to TEM analysis.

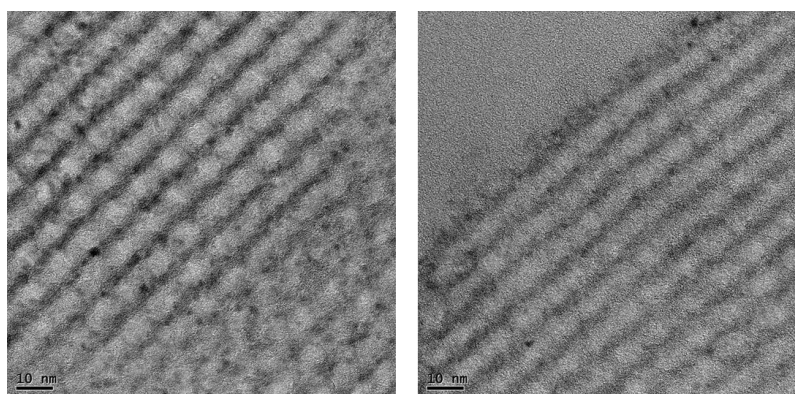


Figure S2. TEM images of sample prepared over uncalcined support, with infiltration time of 4 days (UC-4), after thermal treatment at 500°C.

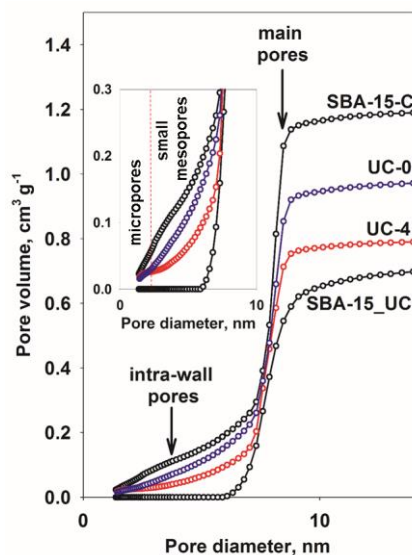
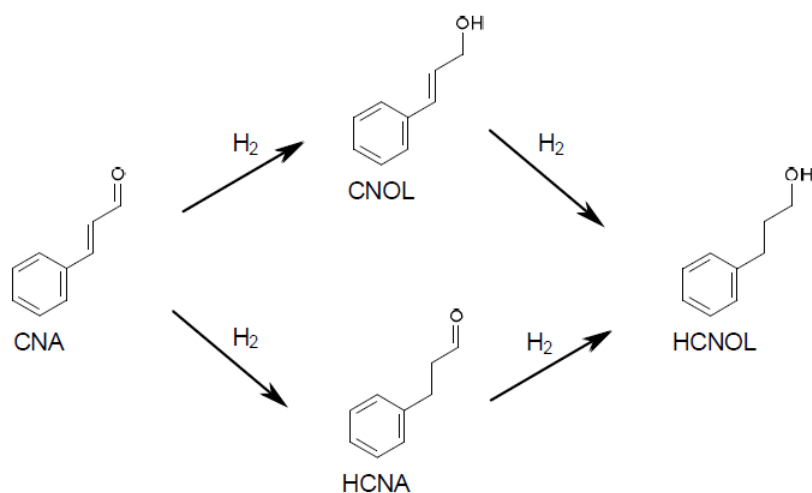


Figure S3. NL-DFT cumulative pore volume in materials prepared over calcined supports, after different infiltration times (UC-0 and UC-4 materials), and for initial silica supports (calcined SBA-15 calcined and uncalcined SBA-15).



Scheme S1. Reaction pathways for the hydrogenation of cinnamaldehyde (CNA); CNOL: cinnamyl alcohol, HCNA: hydrocinnamaldehyde, HCNOL: hydrocinnamyl alcohol.

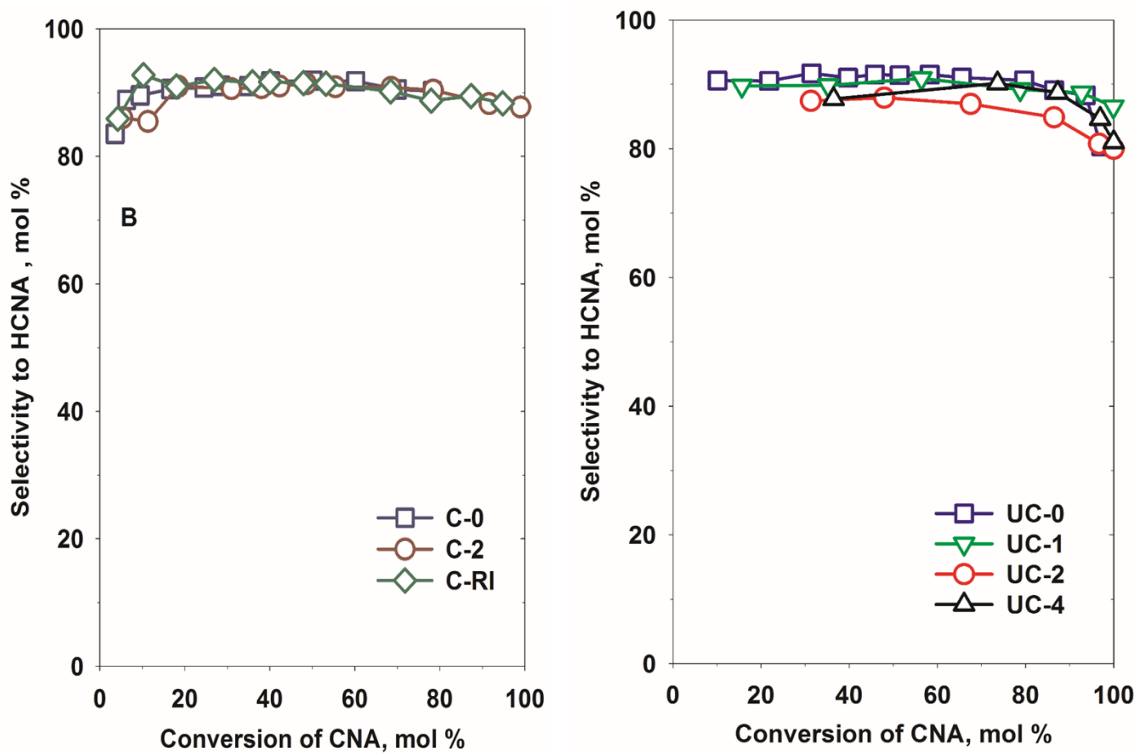


Figure S4. Selectivity to HCNA of selected MI-derived materials for the cinnamaldehyde hydrogenation. Samples prepared over calcined support, with infiltration time of “t” days (C-t); Samples prepared over uncalcined support, with infiltration time of “t” days (UC-t).

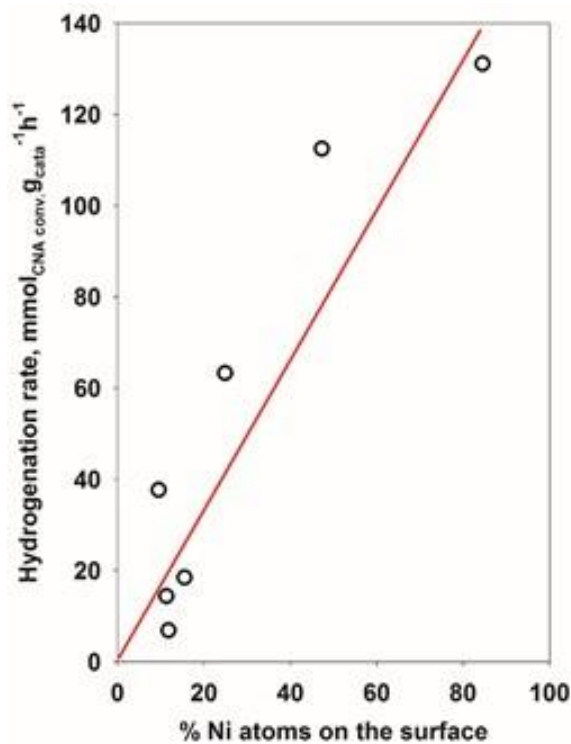


Figure S5. Evolution of hydrogenation rate in function of the percentage of surface atoms.

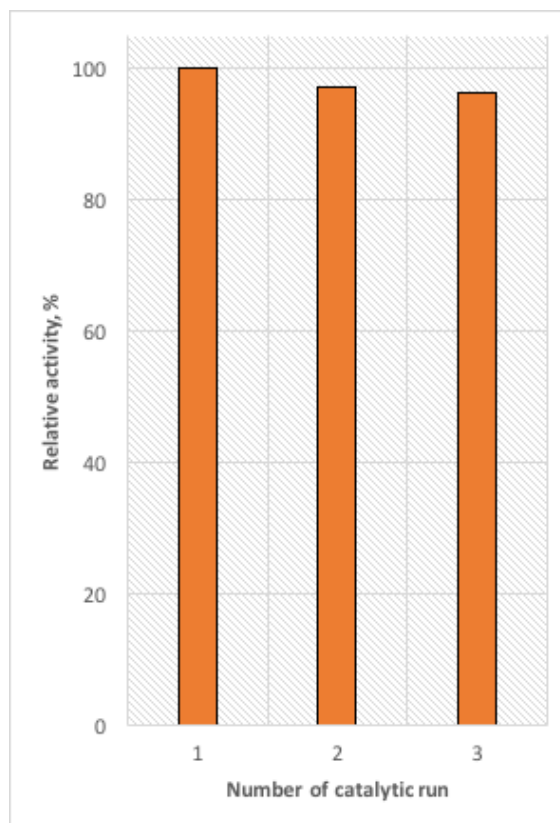


Figure S6. Evolution of the catalytic activity of UC-2 with reaction cycle.