

Supplementary Materials

Article

Highly Active Hydrogenation Catalysts Based on Pd Nanoparticles Dispersed along Hierarchical Porous Silica Covered with Polydopamine as Interfacial Glue

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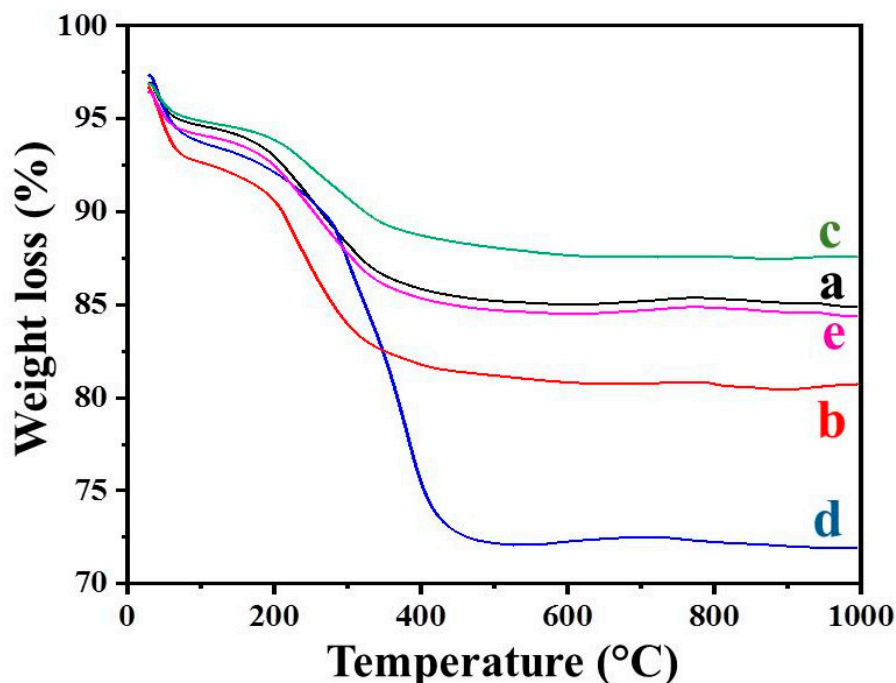


Figure S1. TGA curves of the Pd NPs-UVM-7/PDA-*n* catalysts. (a) *n*= 1, (b) *n*= 2, (c) *n*= 3, (d) *n*= 4, and (e) *n*= 5.

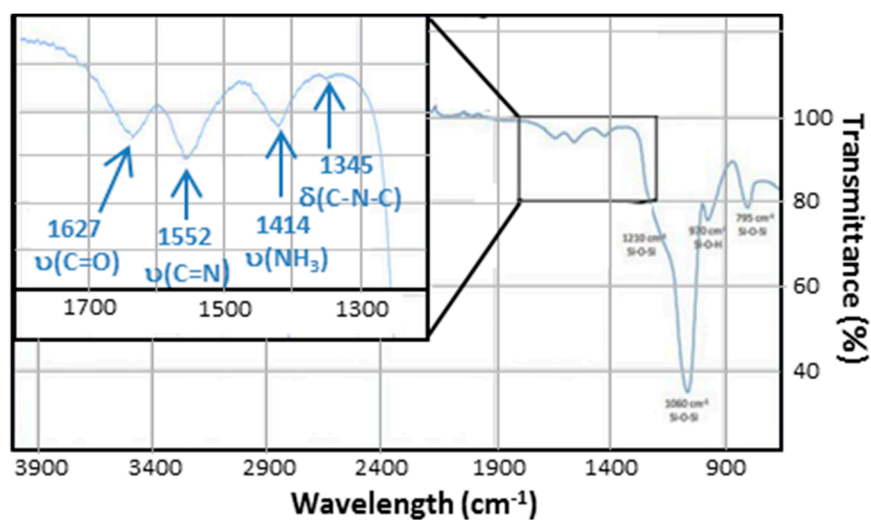


Figure S2. Representative FTIR spectrum of the Pd NPs-UVM-7/PDA-1 catalysts.

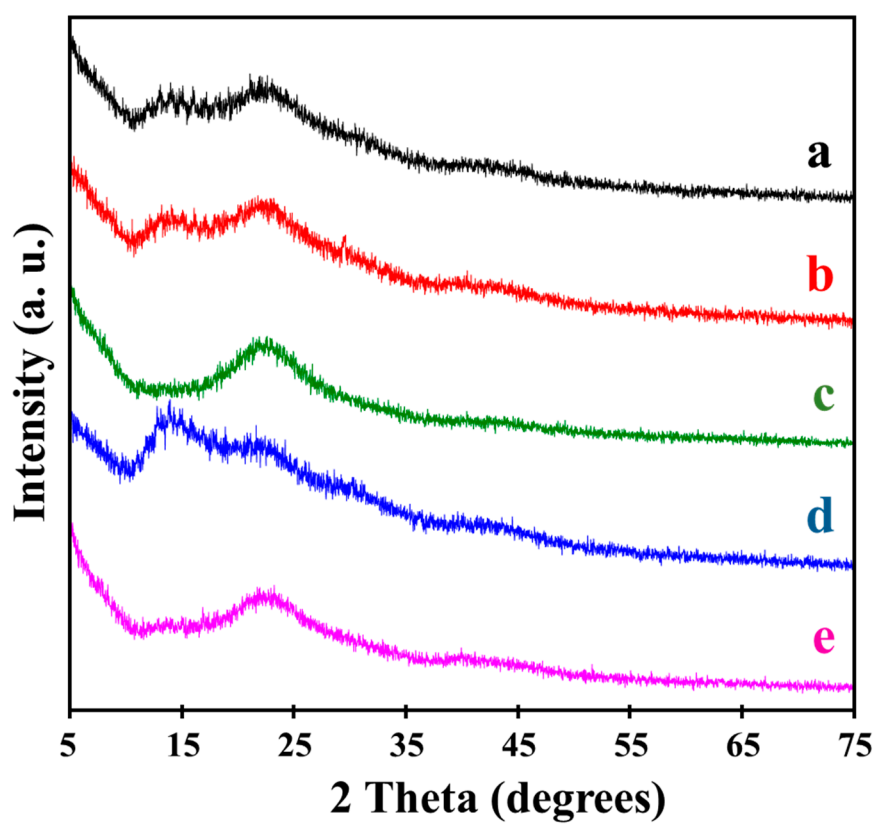


Figure S3. High-angle XRD of the Pd NPs-UVM-7/PDA-*n* catalysts. (a) *n* = 1, (b) *n* = 2, (c) *n* = 3, (d) *n* = 4 and (e) *n* = 5.

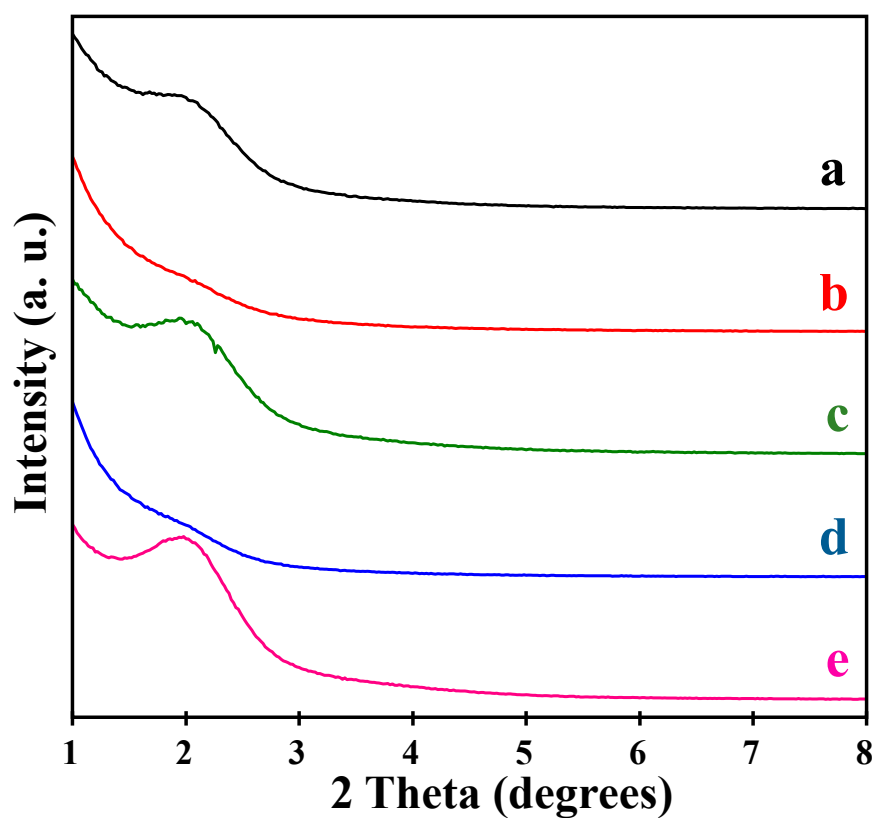


Figure S4. Low-angle XRD of the Pd NPs-UVM-7/PDA-*n* catalysts. (a) *n*=1, (b) *n*=2, (c) *n*=3, (d) *n*=4, and (e) *n*=5.

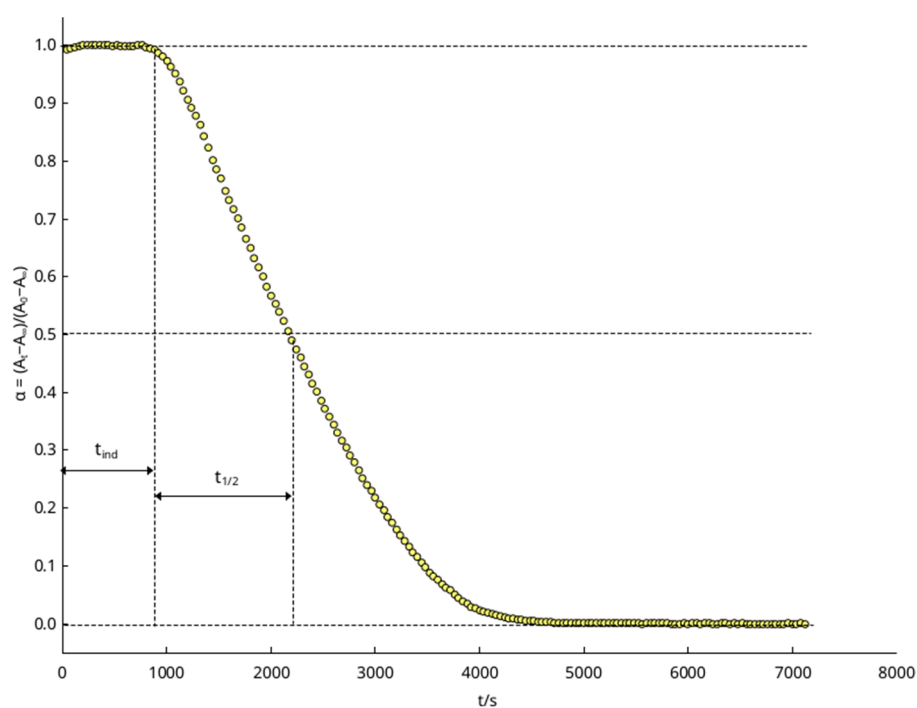


Figure S5. Graphic explanation of the meaning of the induction, (t_{ind}) and half-time ($t_{1/2}$) times cited in the text. The data correspond to the reduction of 4-nitrophenolate catalyzed by material Pd NPs-

UVM-7/PDA-4 in acetonitrile: water 1:1 v/v at room temperature. Absorbance (A) measured at 402 nm. $[\text{NO}_2\text{PhO}^-] = 5.02 \times 10^{-5} \text{ M}$; $[(\text{Et}_4\text{N})\text{BH}_4] = 2 \times 10^{-2} \text{ M}$.

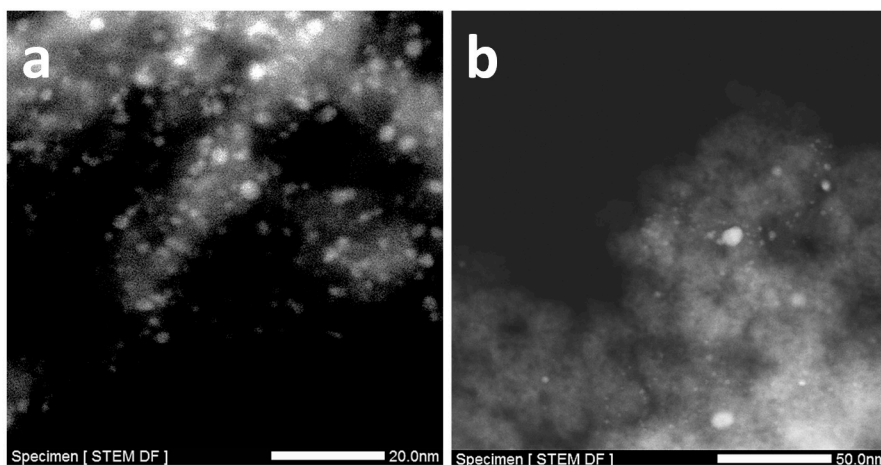


Figure S6. HAADF-STEM images of the Pd NPs-UVM-7/PDA-1 used catalyst. (a) Pd Nps-rich domain showing the presence of small and homogeneously sized particles. (b) Large domain showing the coexistence of small Pd Nps together with some large aggregates and Pd-free zones.