

Electronically Supplementary Information

Magnetically separable palladium nanoclusters supported iron based metal-organic frameworks (MIL-88B) catalyst in efficient hydrogenation reaction

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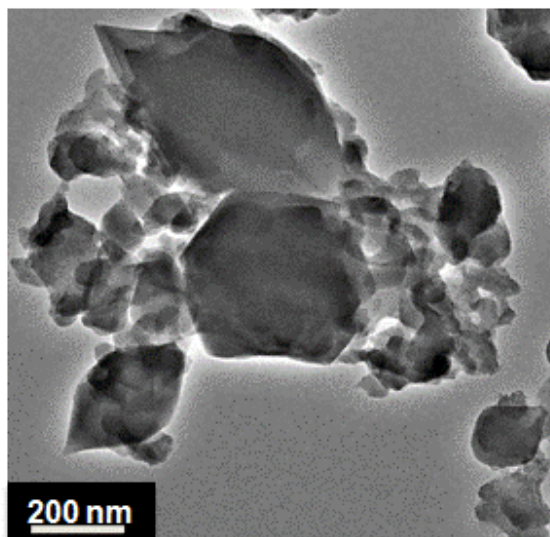


Fig.S1 TEM image of MIL-88B (Fe) with typical needle shaped crystal.

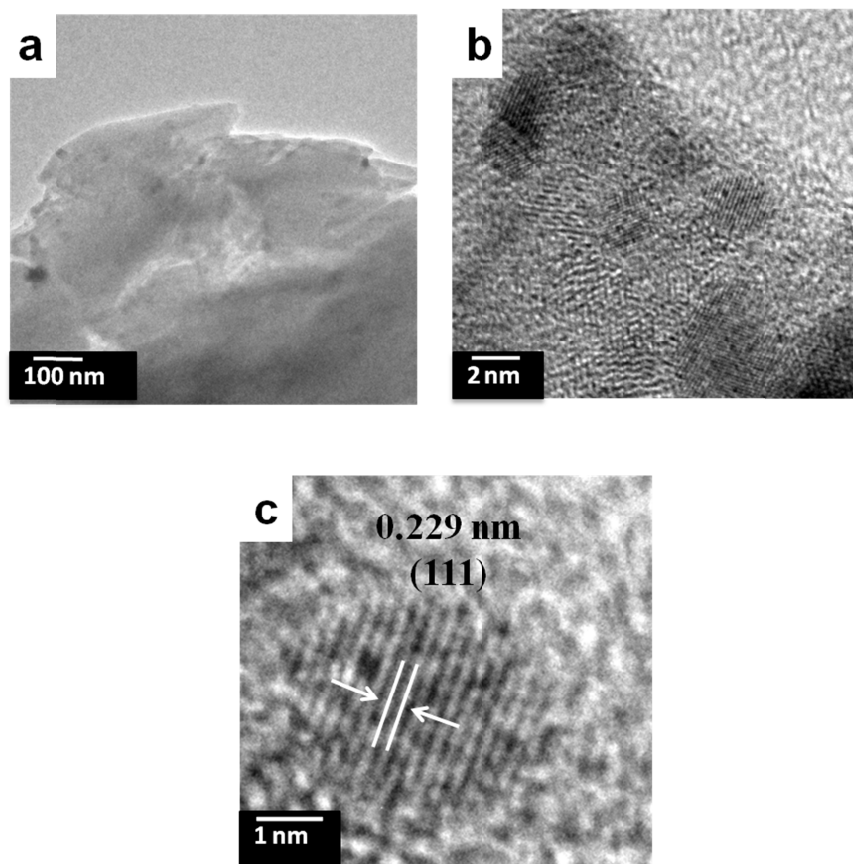


Fig.S2 TEM image of a few ~ 3 nm Pd nanoparticle formed in MIL-88B (Fe) structure.

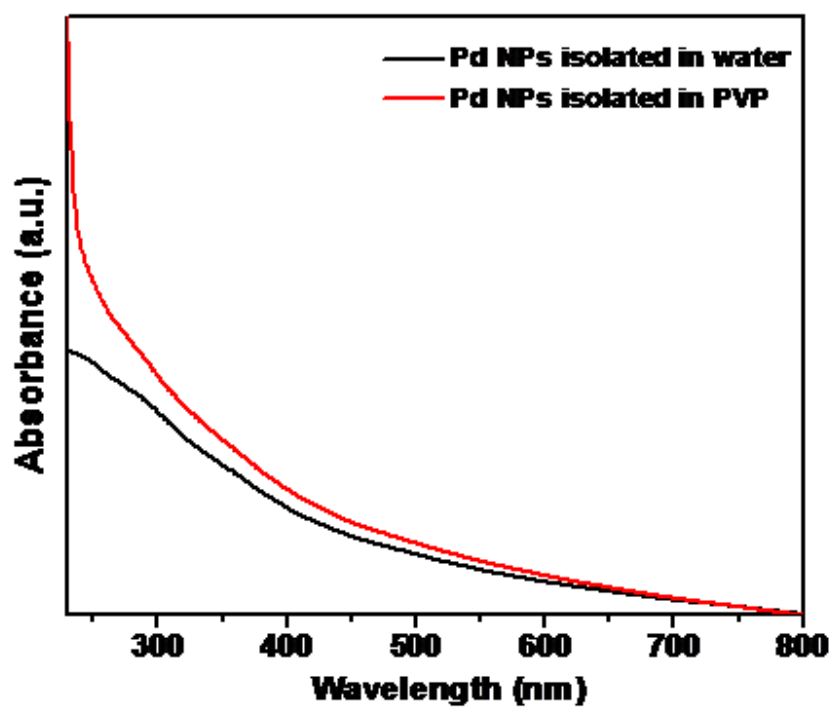


Fig. S3 UV-vis absorption spectra of Pd nanostructures isolated by complete dissolution of host MIL-88B (Fe) framework in free form as well as with PVP as stabilizing agent.

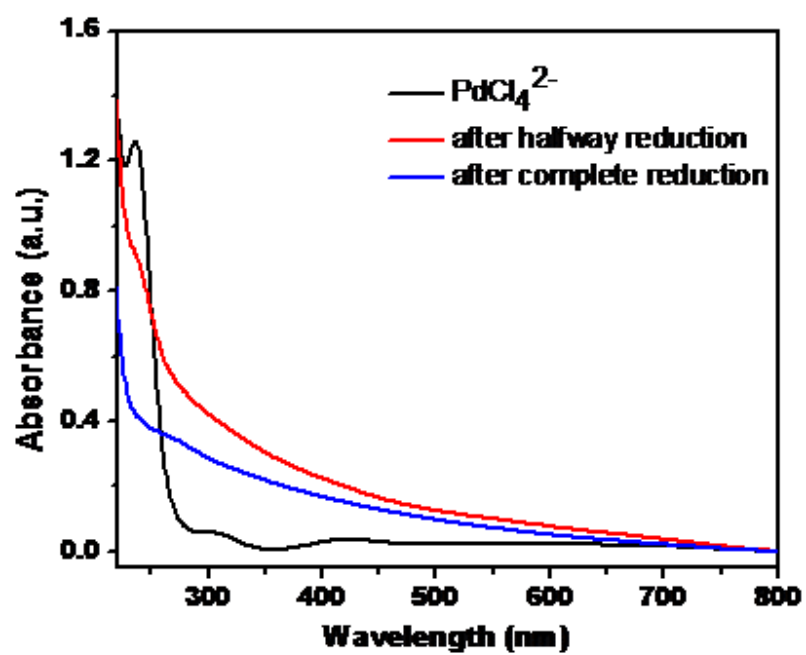


Fig. S4 UV-vis absorption spectra of Pd NPs directly synthesized from PdCl_4^{2-} after chemical reduction with NaBH_4 in PVP medium.

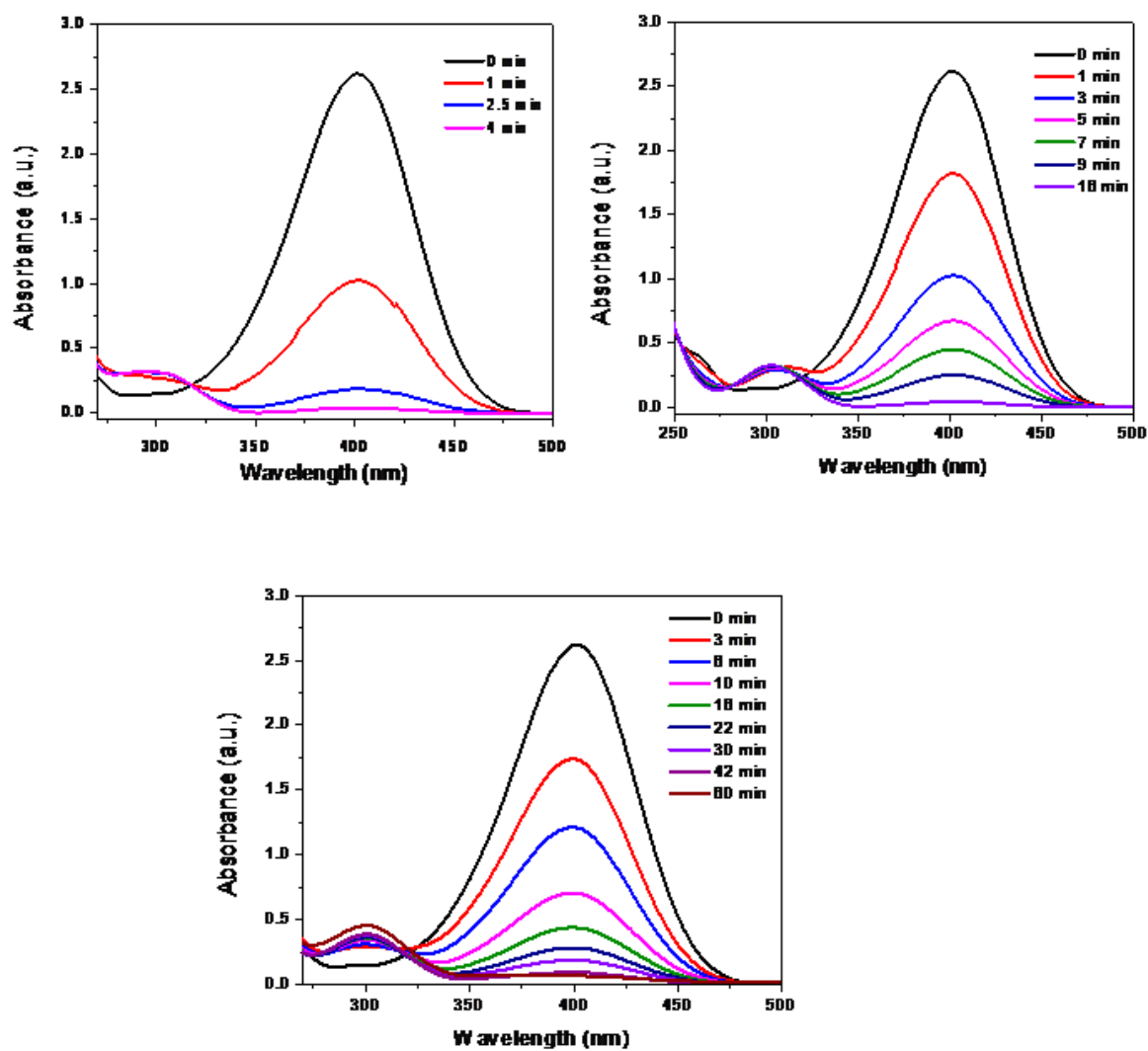


Fig. S5 UV-vis absorption spectra showing catalytic reduction of 4-NP to 4-AP by (a) Pd @MIL-88B(Fe) (b) PVP- Pd NCs isolated from host framework and (c) bare Pd nanostructures.

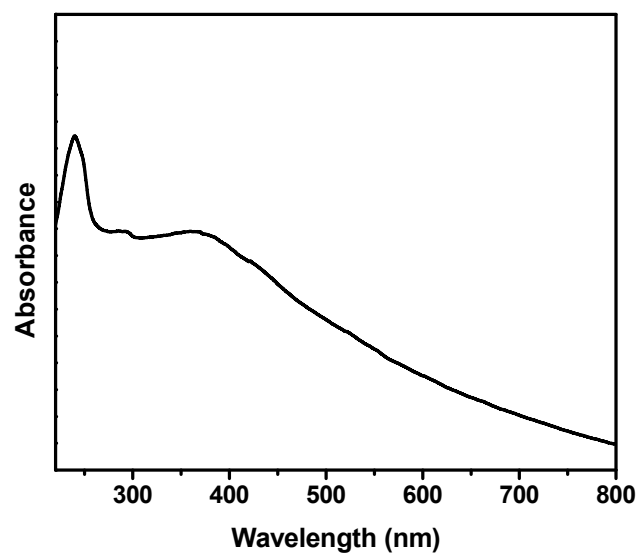


Fig. S6 UV-vis absorption spectrum of Pd@MIL-88B(Fe) after first cycle of catalytic reaction using excess borohydride solution. The absorption profile remains same to the as synthesized material.