

Supporting Information

A Route for Direct Transformation of Aryl Halides to Benzyl Alcohols via Carbon Dioxide Fixation Reaction Catalyzed By (Pd@N-GMC) Palladium Nanoparticles Encapsulated Nitrogen Doped Mesoporous Carbon Material

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Chemicals

Melamine and Brij-35 were purchased from Sigma-Aldrich. Methyl-diphenylsilane was purchased from Alfa-Aesar. All other reagents and chemicals were purchased from commercial sources and were used without further purification. Solvents were dried and distilled through standard procedure.

Physical measurements

The FT-IR spectra of the samples were recorded from 400 to 4000 cm⁻¹ on a Perkins Elmer FT-IR 783 spectrophotometer using KBr pellets. Thermogravimetric analysis (TGA) was carried out using a Mettler Toledo TGA/DTA 851e. Surface morphology of the samples was measured using a scanning electron microscope (SEM) (ZEISS EVO40, England) equipped with EDX facility. Powder X-ray diffraction (XRD) patterns of different samples were analyzed with a Bruker D8 Advance X-ray diffractometer using Ni-filtered Cu K α ($\lambda=0.15406$ nm) radiation. High resolution transmission electron microscopy (HR-TEM) images of the mesoporous polymer were obtained using a FEI TECHNAI G20 transmission electron microscope operating at 200 kV. Specific surface area of the sample was measured by adsorption of nitrogen gas at 77 K and applying the Brunauer-Emmett-Teller (BET) calculation. X-ray photoelectron spectroscopy (XPS) was performed on an Omicron nanotech operated at 15 kV and 20 mA with a

monochromatic Al K α X-ray source. The purity determination of the products and monitoring of the reaction were accomplished by TLC on silica gel plates and conversion was determined by GC.

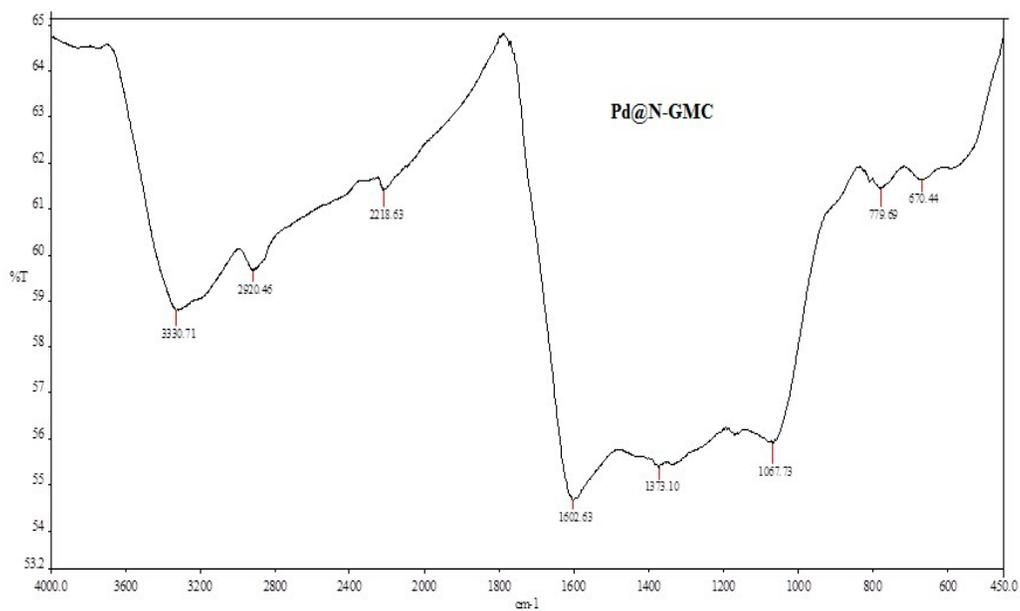


Fig. S1 FTIR spectra of the Pd@N-GMC material

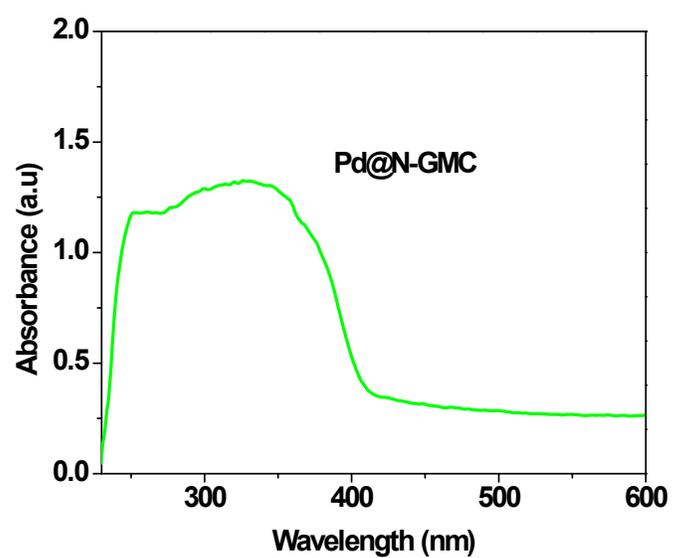


Fig. S2 Uv-Vis spectra of the Pd@N-GMC material

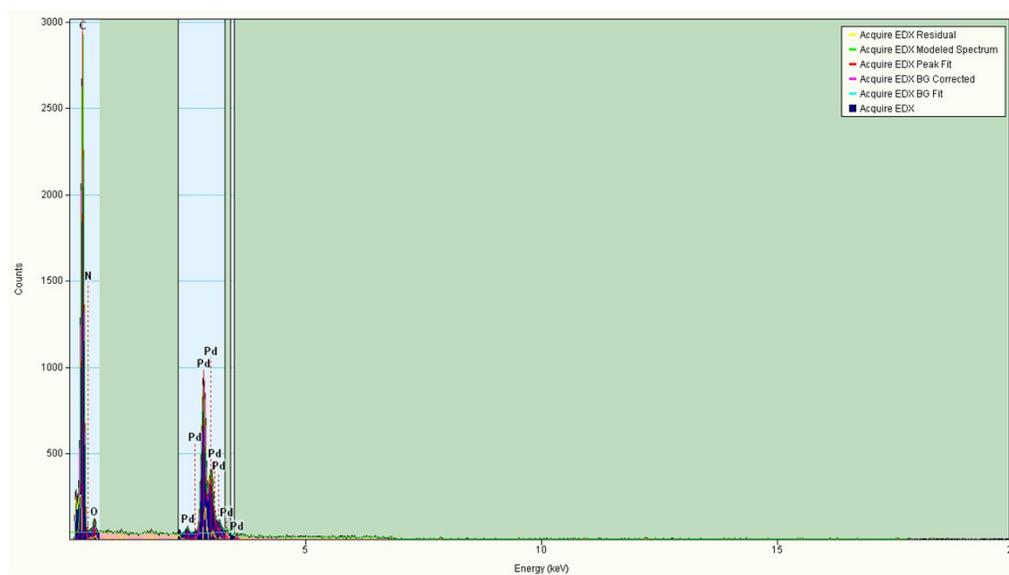


Fig. S3 EDX of the Pd@N-GMC material

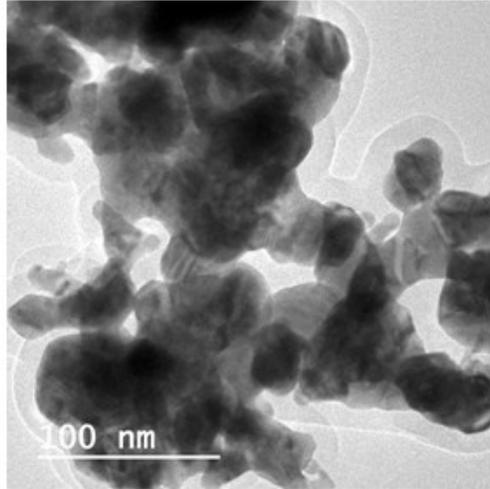


Fig. S4 Reused (after 4th run) HRTEM image of the Pd@N-GMC material