

Supplementary Information

Equipment and Methods:

Infrared spectra of the samples were measured using FTIR spectrometer. The XRD spectra are recorded by Bruker D8 Advance instrument. Raman spectra are collected on a Perkin Elmer Spectrometer. The Scanning electron microscopic images and energy-dispersive X-ray analyzer were captured using a JEOL JSM-6100 microscope. The Transmitted electron microscopic images were captured on a Jeol JEM-1010 electron microscope. High resolution transmitted electron microscopic images were recorded by using Jeol JEM 2100 Electron Microscope.

General procedure for Catalytic reaction:

To the round bottomed flask containing, 0.03 g of catalyst, 4.5 mmol of aryl halide, 10 mL of DD water, reducing agent: sodium formate (1.10 g) and potassium hydroxide (1.40 g) were added and the mixture was stirred for 5 h at 80 °C. The reaction progress was monitored by TLC till completion of the reaction. The final product was analysed by GC. The catalyst was collected by centrifugation followed by washing. [The possible product was characterized by ¹H and ¹³C NMR technique.](#)

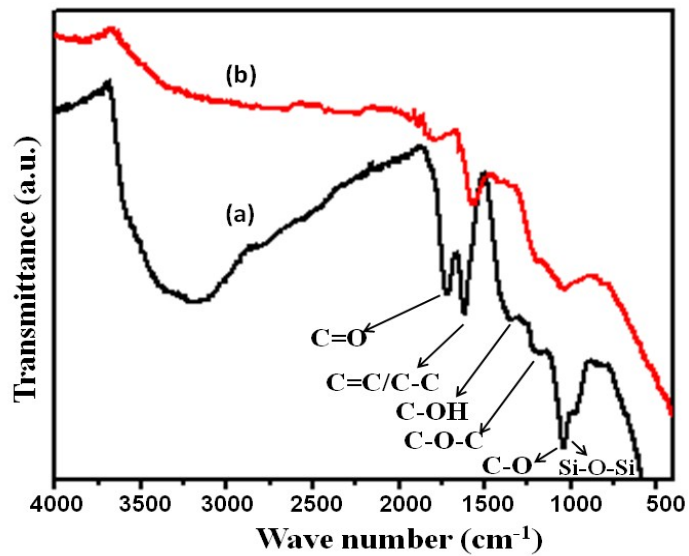


Figure S1: FT-IR spectra (4000-400) of GO (a) and Pd (0)-RGO (b) samples.

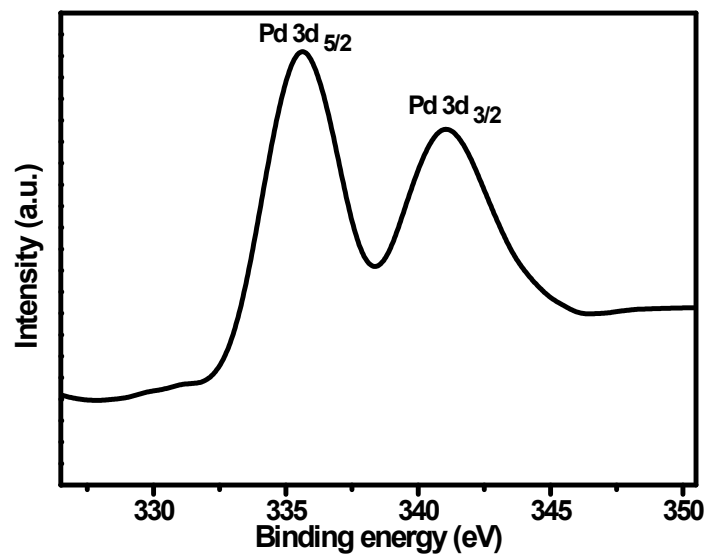


Figure S2: XPS spectra of Pd of 5-Pd(0)RGO sample.

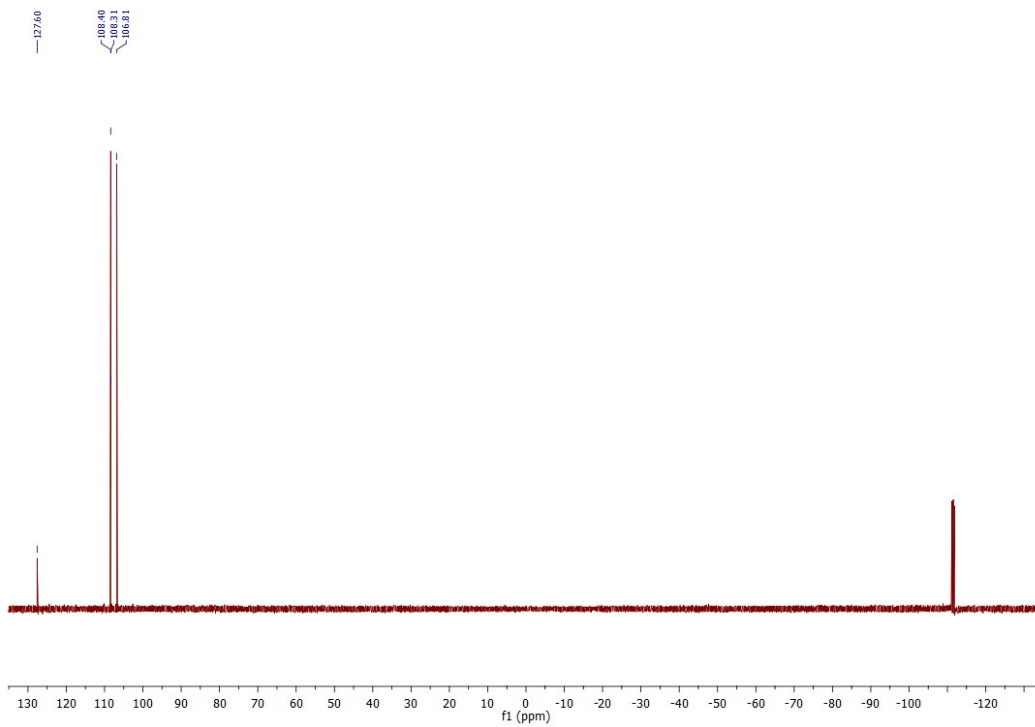


Figure S3(a): ^{13}C - NMR spectrum of the product.

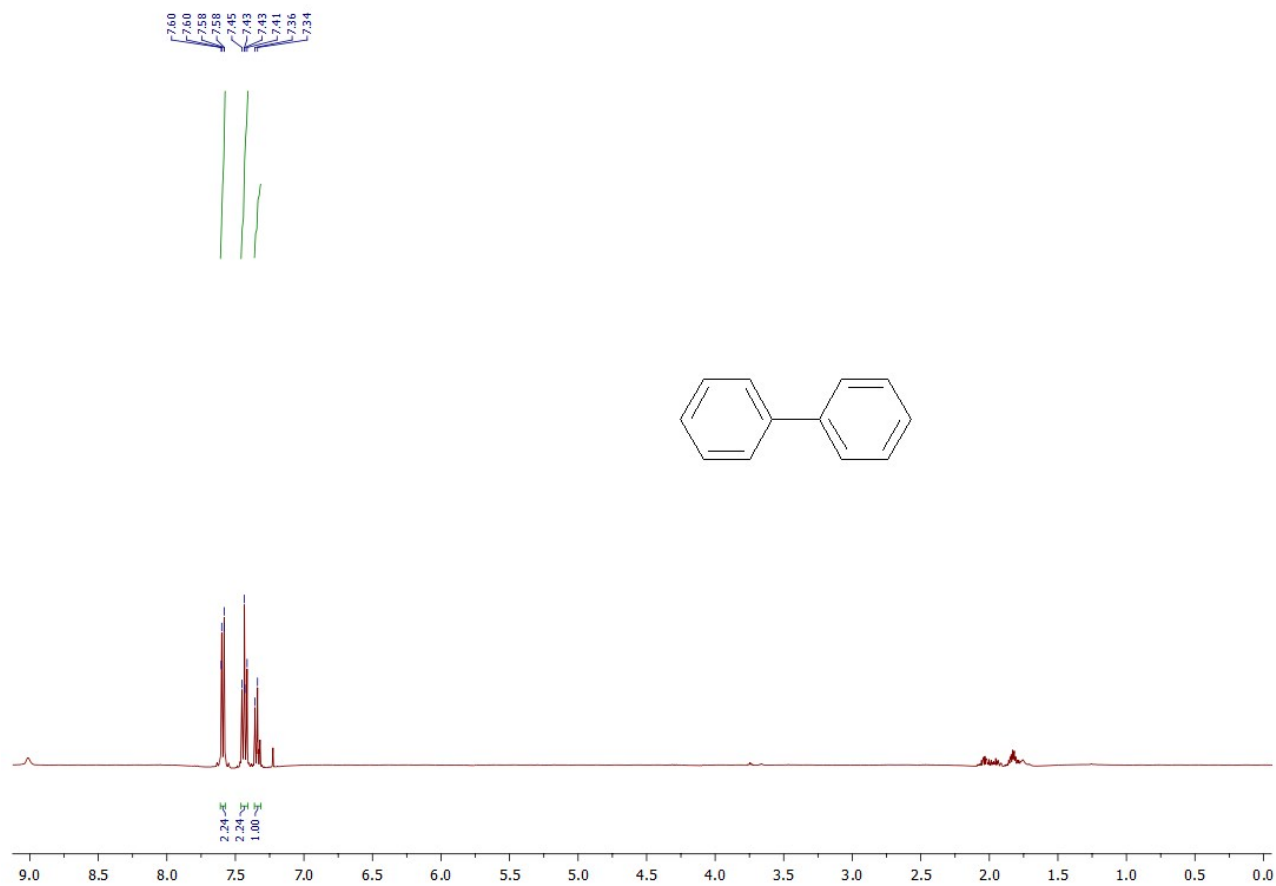


Figure S3(b): $^1\text{H-NMR}$ spectrum of the product.