

Supporting Information (SI):

**Reduced Graphene Oxide Supported Palladium Nanoparticles for
Enhanced Electrocatalytic Activity Towards Formate
Electrooxidation in an Alkaline Medium**

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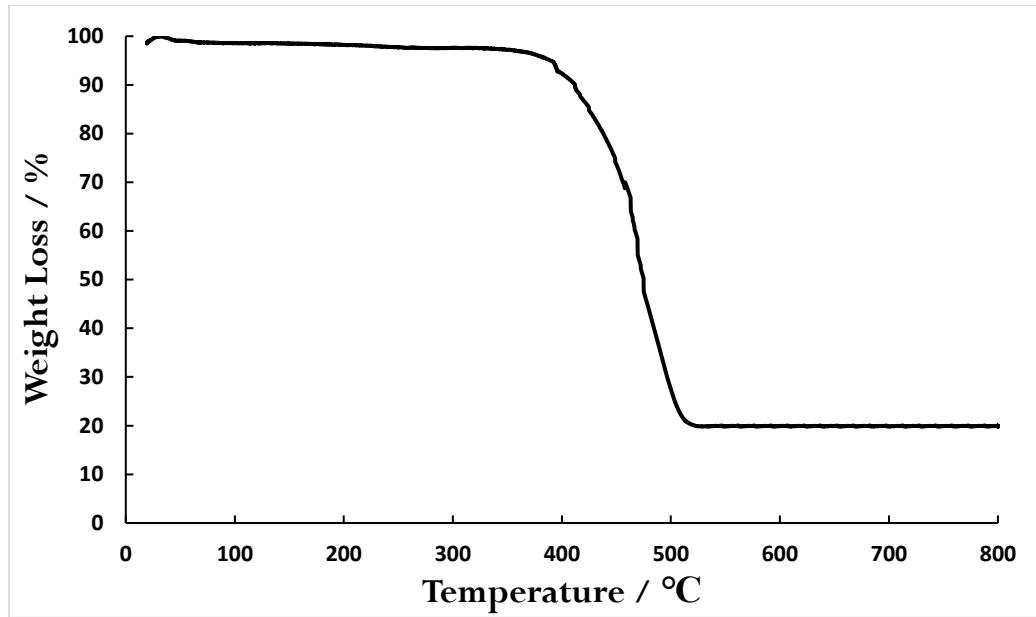
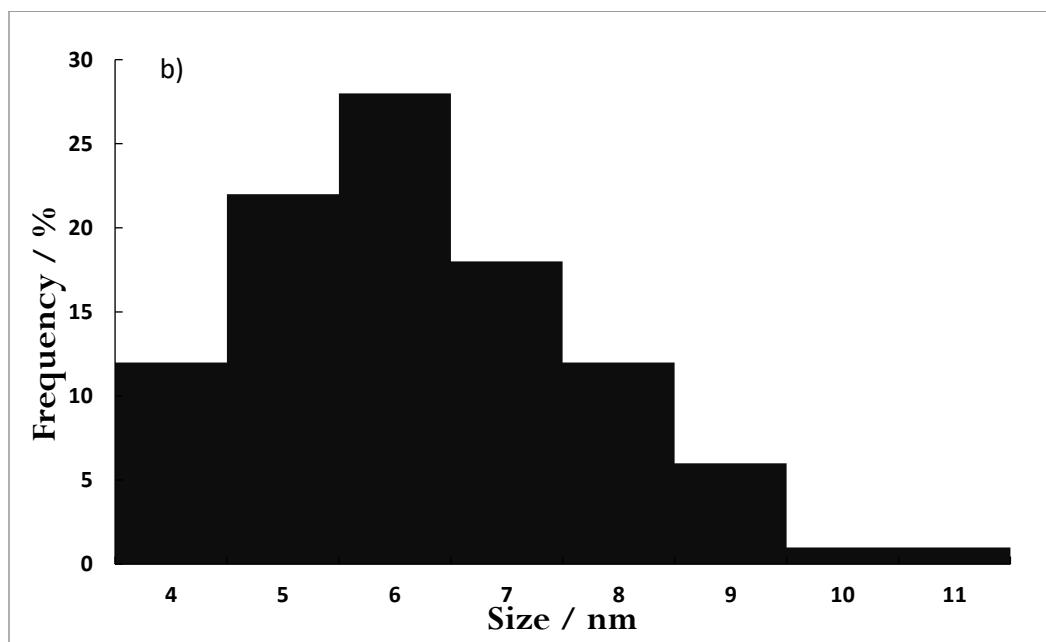
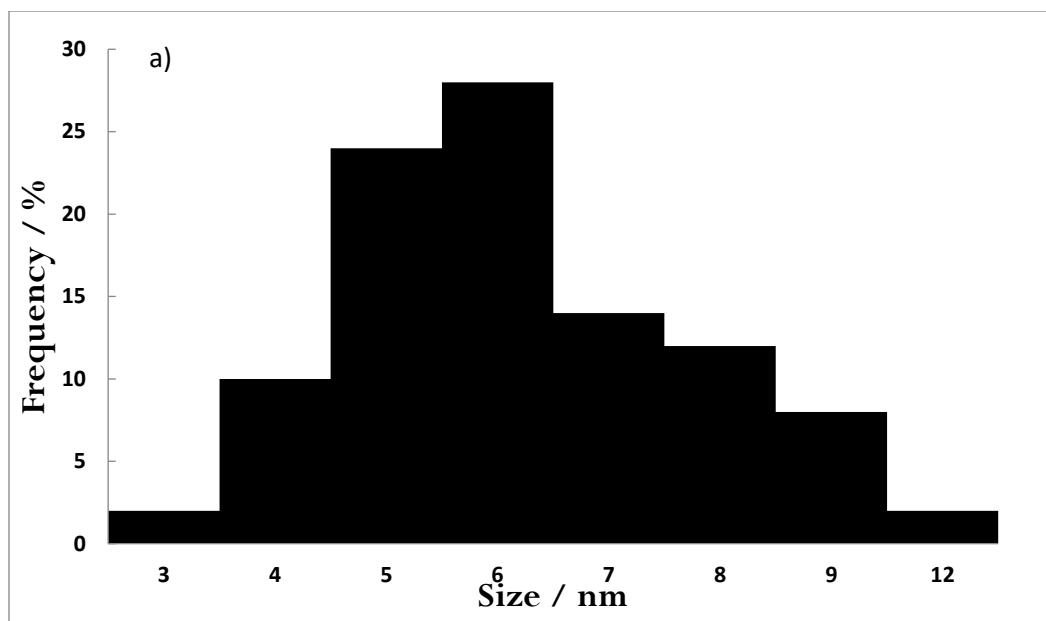


Figure S1. The TGA profile for Pd/rGO catalyst. The TGA experiments were carried out in a N₂ atmosphere with a heating rate of 10 °C/min.



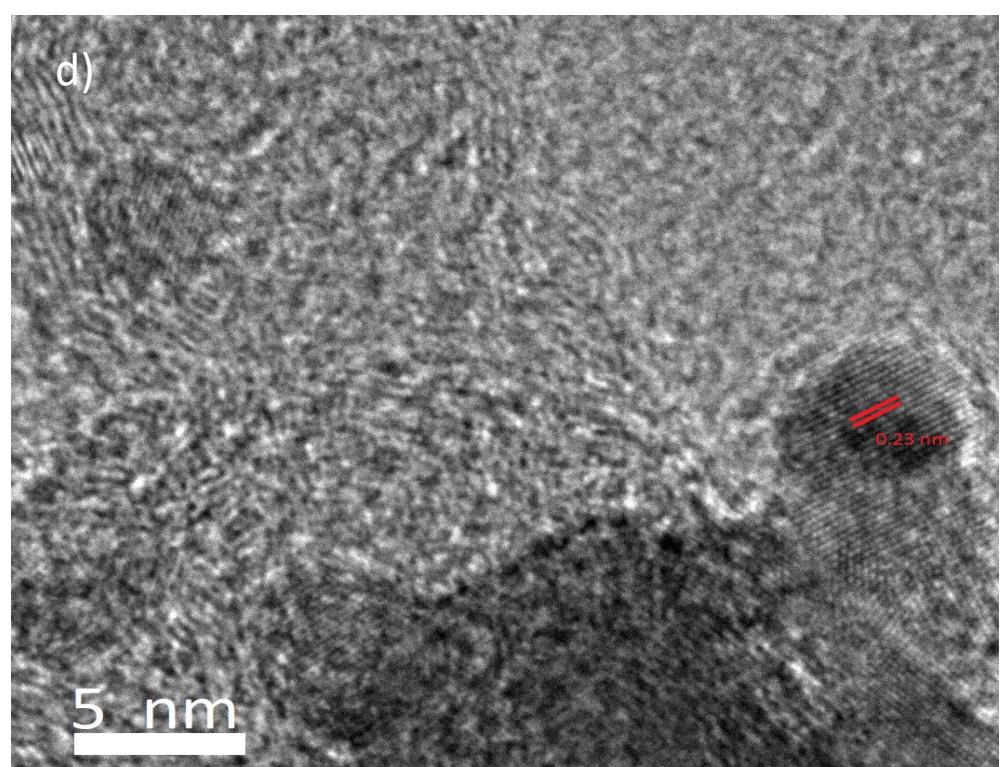
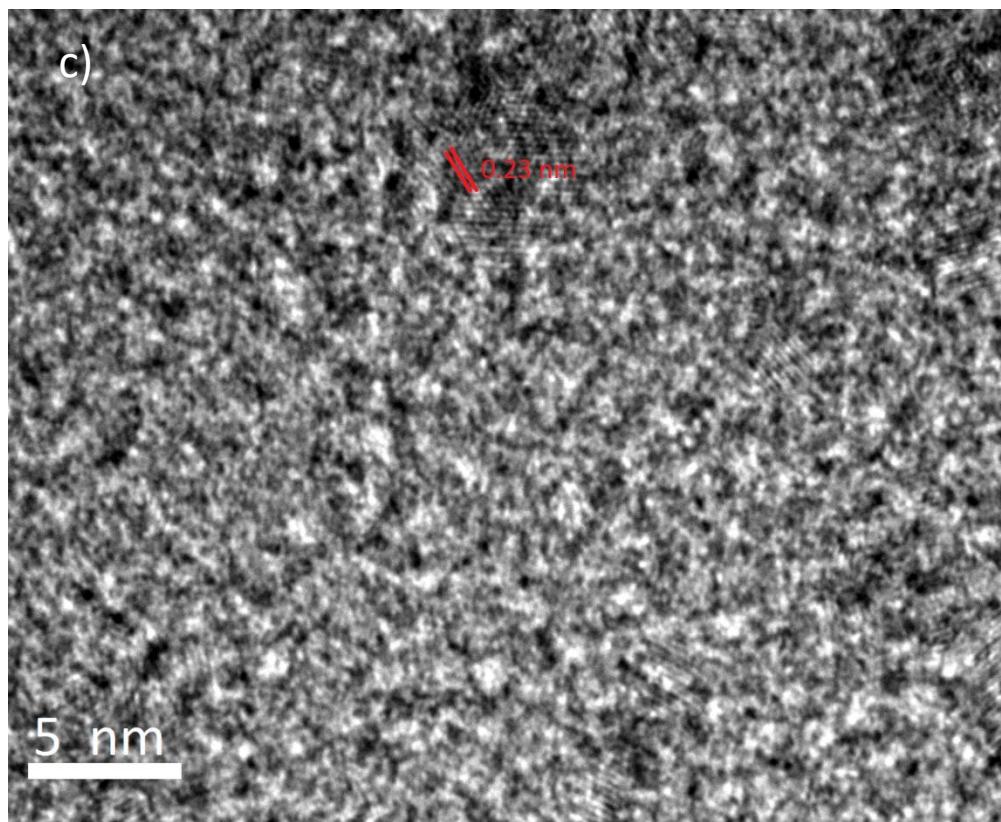


Figure S2. Histogram curves for the catalyst size a) Pd/rGO and b) Pd/C and HRTEM images for c) Pd/rGO and d) Pd/C

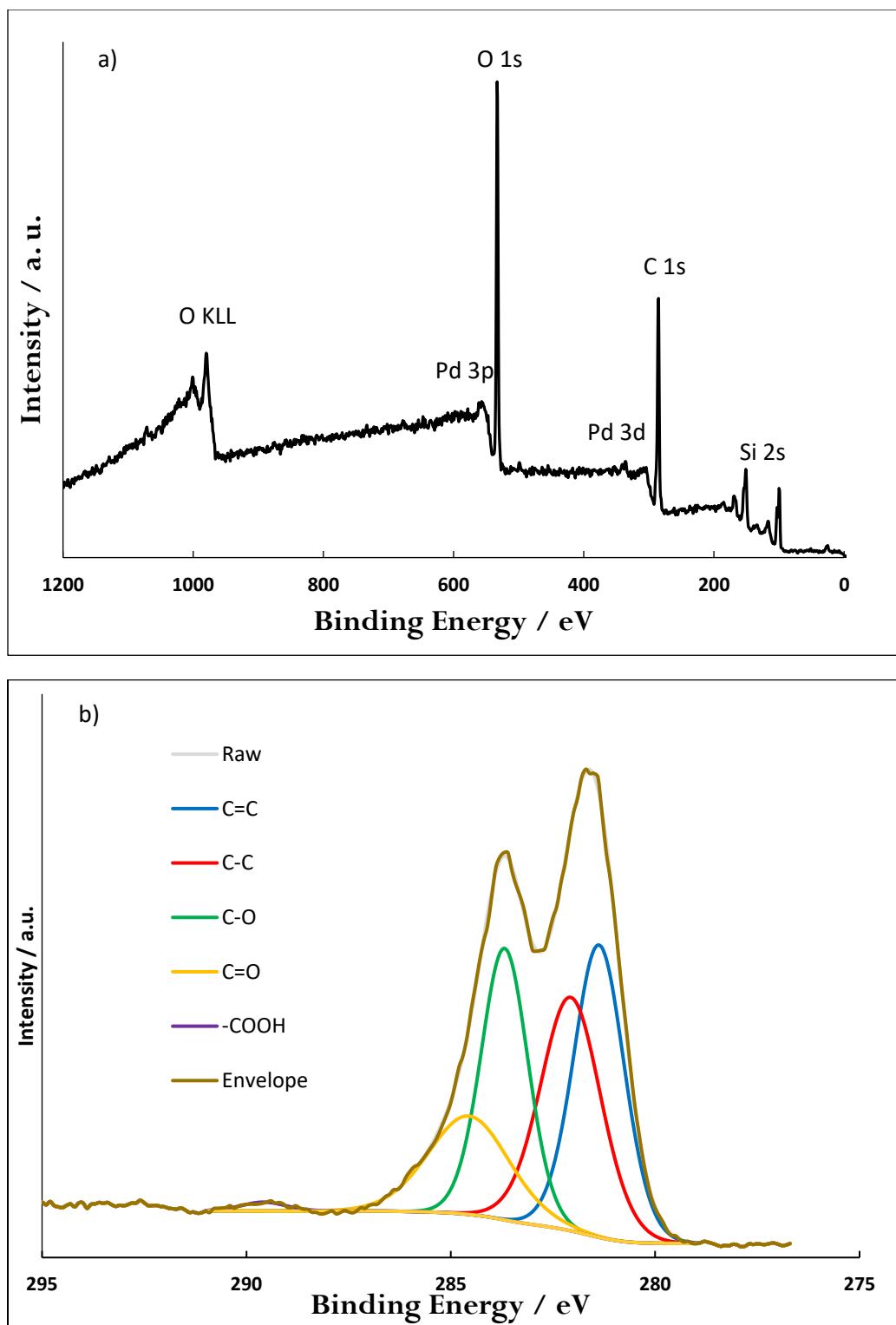


Figure S3. a) XPS survey scan for Pd/rGO and b) XPS C1s spectra of GO.

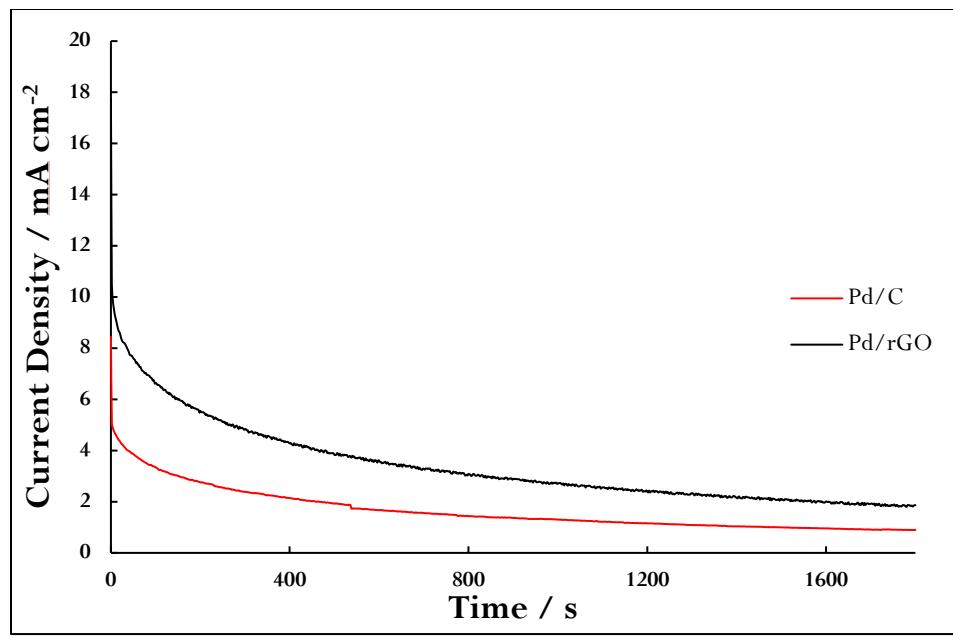


Figure S4. Chronoamperometry scans of the catalyst at -0.65 V vs Ag/AgCl at 1000 RPM in 1.0 M HCOONa and 1.0 M NaOH.

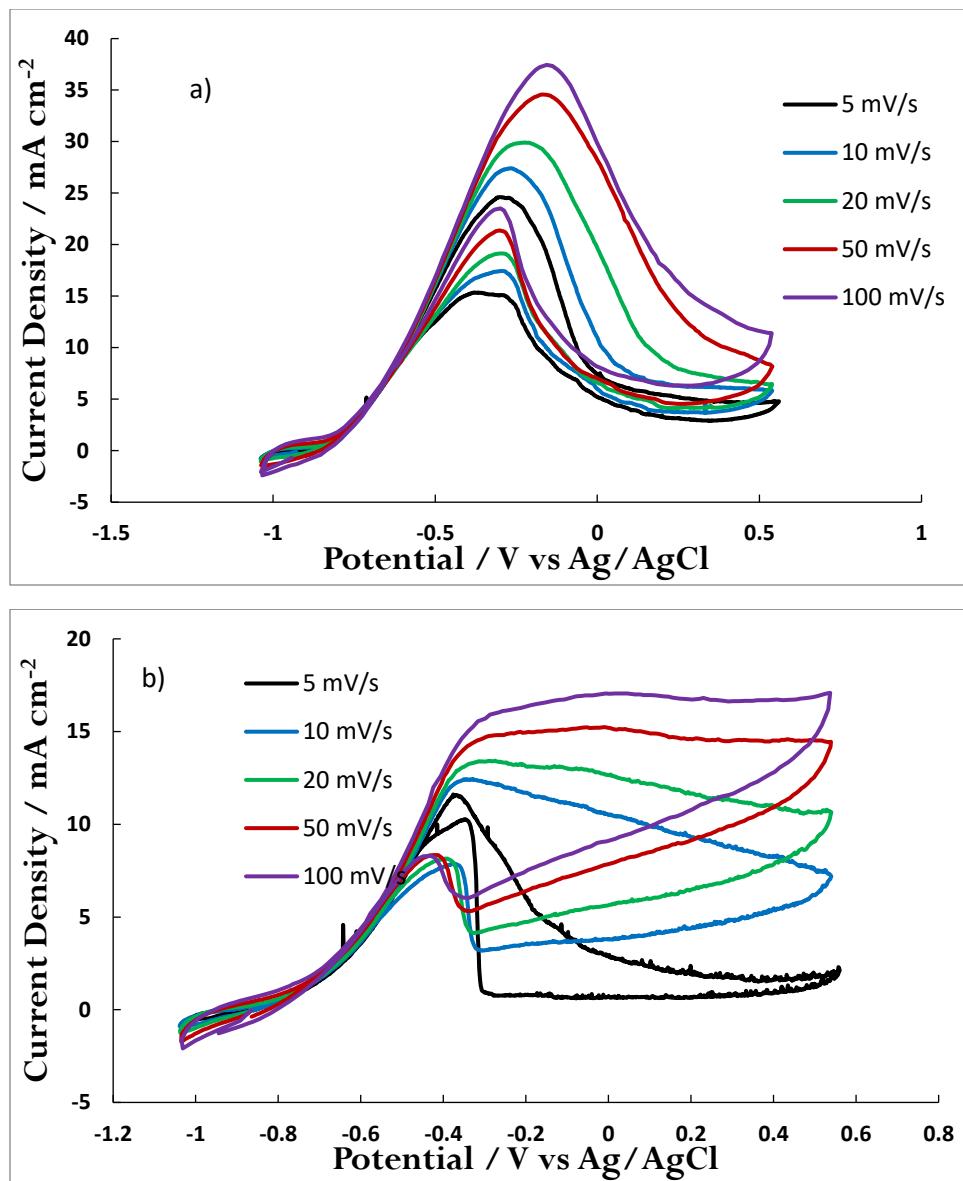


Figure S5. CV scans at different scan rates in 1.0 M HCOONa and 1.0 M NaOH for: a) Pd/rGO and; b) Pd/C.

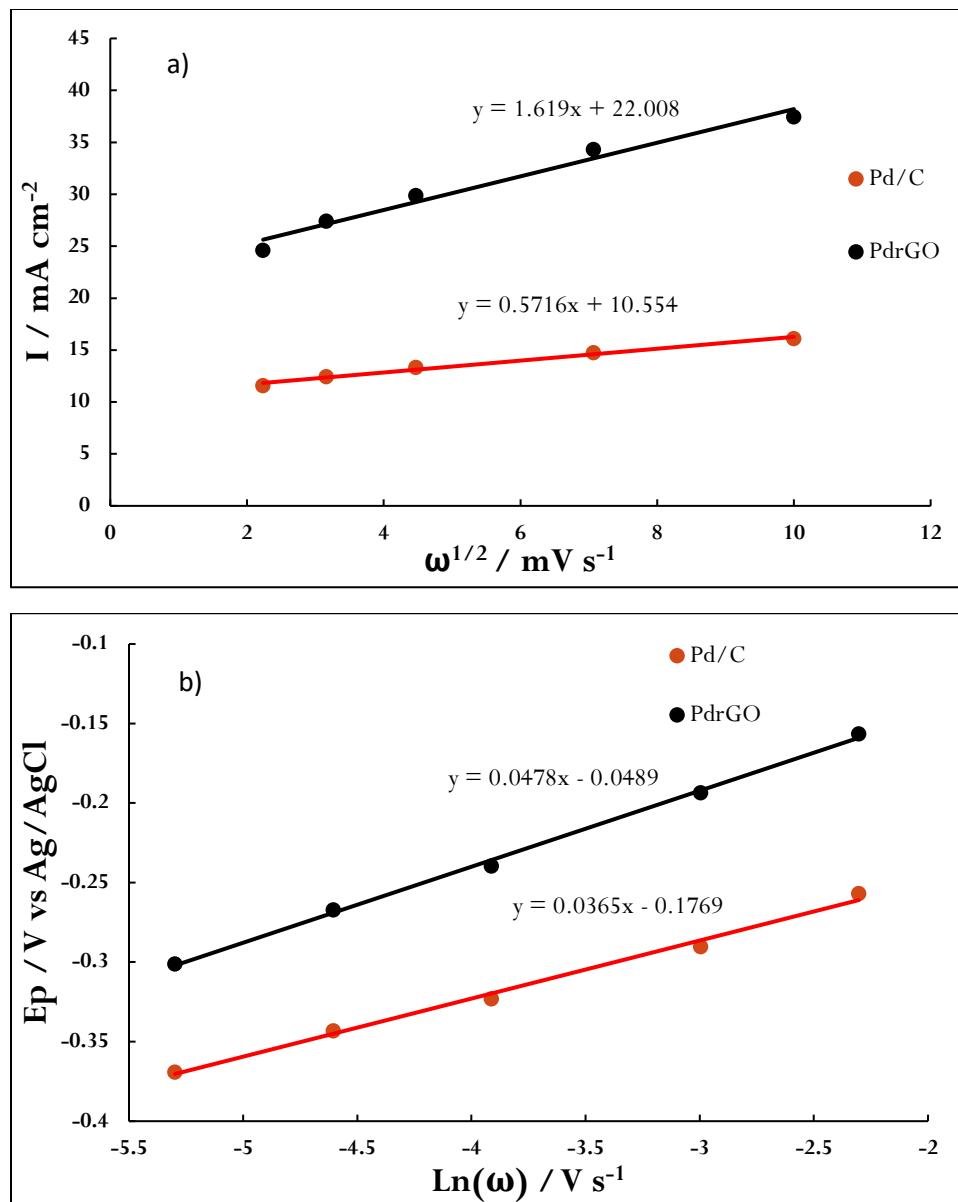


Figure S6. a) Plot of Forward peak current vs square root of scan rate and; b) plot of corresponding potential vs $\ln(\omega)$.

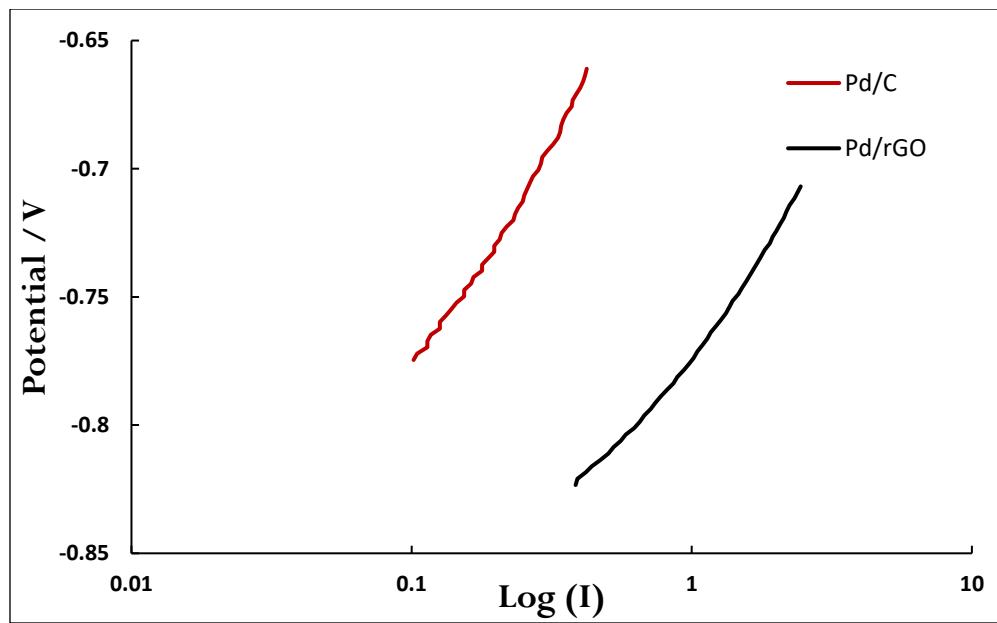
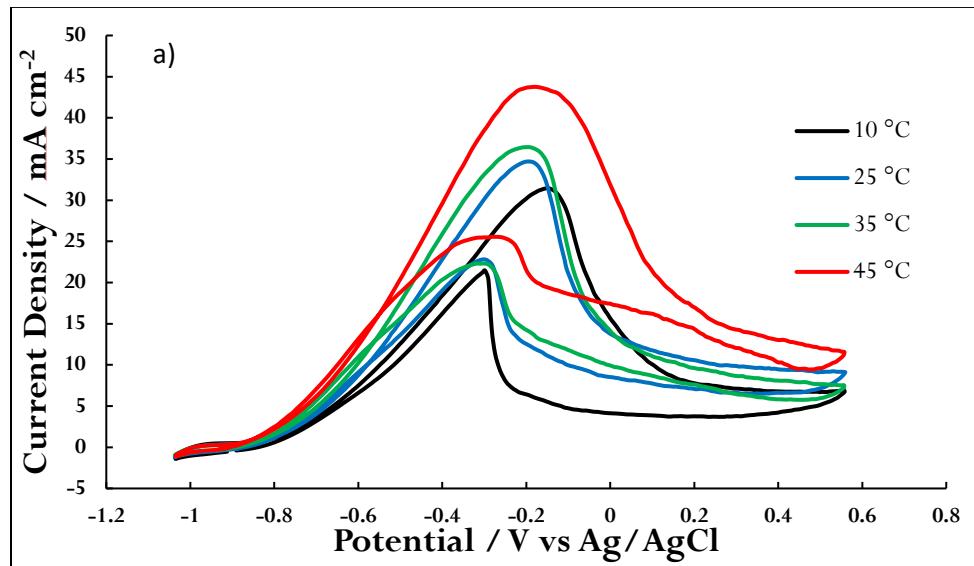


Figure S7: Tafel Plots for the catalyst in 1.0 M HCOONa and 1.0 M NaOH at 0.5 mV s⁻¹.



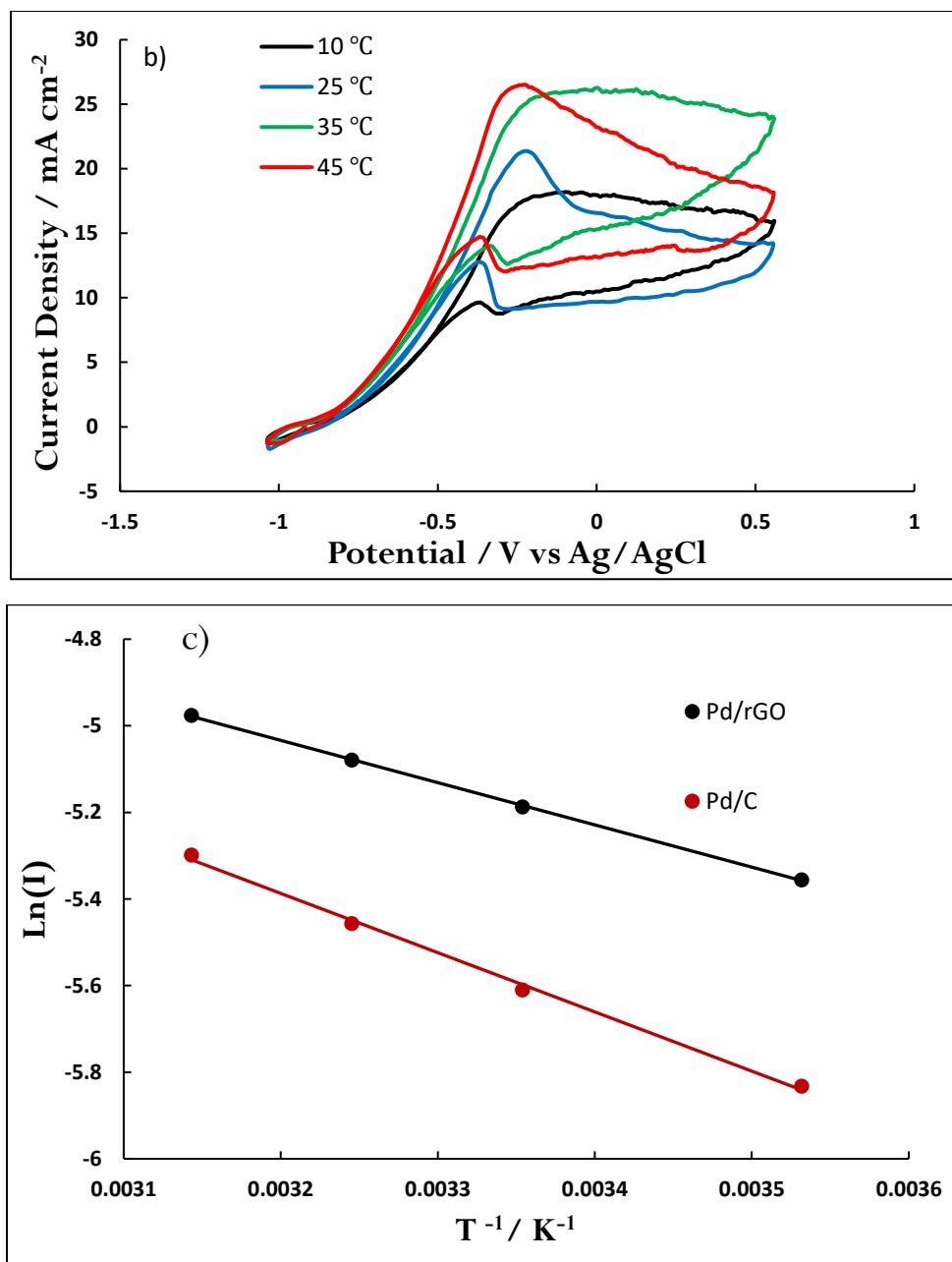


Figure S8. CV scans of the catalysts at different temperatures in 1.0 M HCOONa and 1.0 M NaOH for a)Pd/rGO and; b) Pd/C at 20 mV s⁻¹ and c) Arrhenius plots for the catalysts.