

Fig. S1 - Resonance structures and double bond stabilization produced by a retro-donation effect.

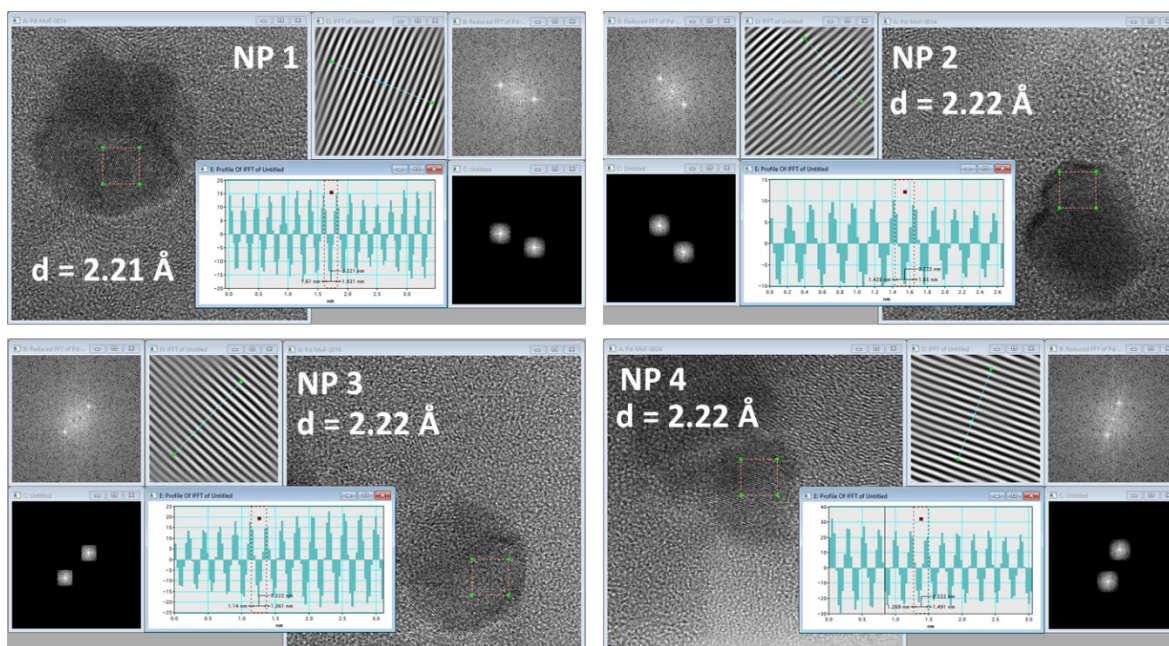


Fig. S2 – Measurement of the interplanar distance for the LEEL-037/Pd-C composite

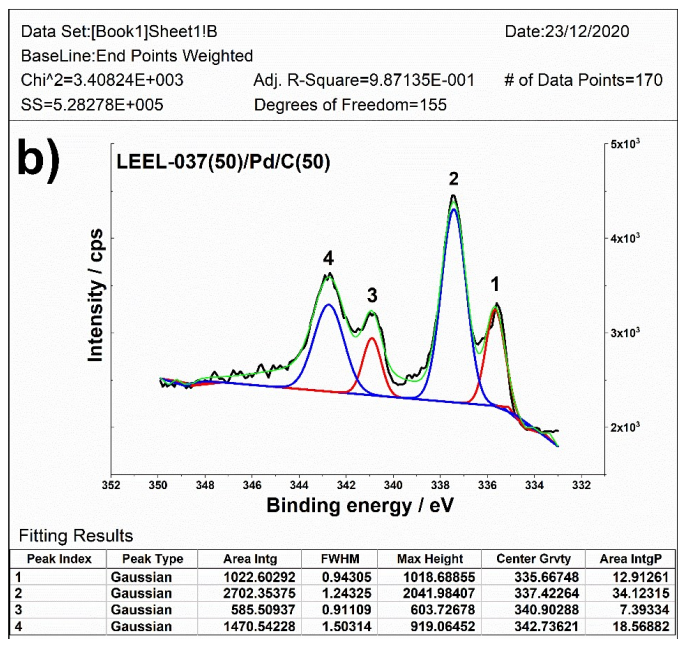
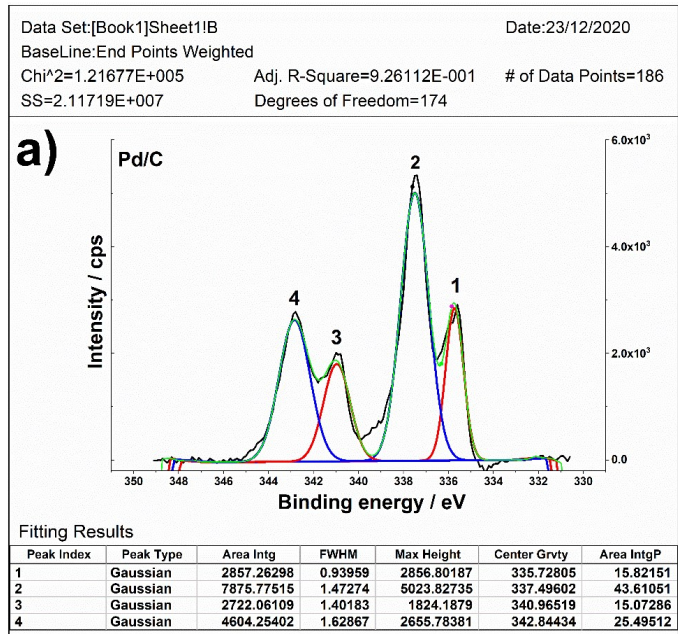


Fig. S3 – Peaks analysis to determine the Pd and PdO percentage in a) Pd/C and b) LEEL-037(50)/Pd/C(50) electrocatalysts

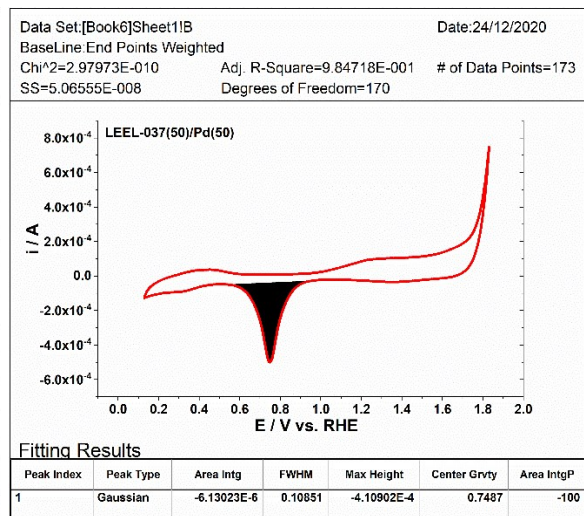
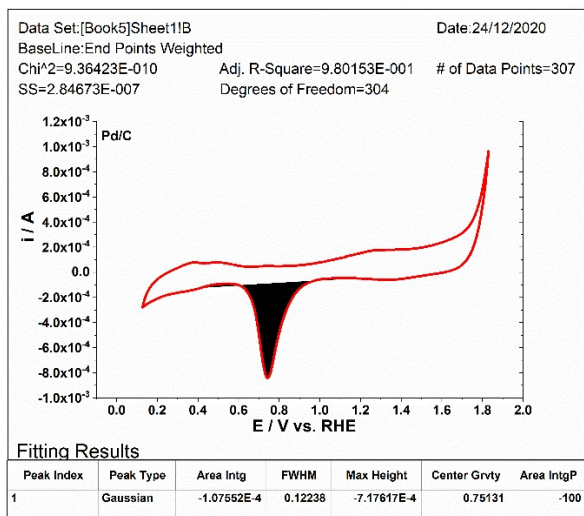


Fig. S4 – Coulombic charge determination for Pd/C (left) and LEEL-037(50)/Pd-C(50) (right)