Electronic supplementary information

Interfacial Structure of Atomically Flat Polycrystalline Pt Electrodes and Modified Sauerbrey Equation

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The current density (j) and the mass change (Δm) values of cyclic-voltammetry (CV) and mass variation (MV) transients shown in Figures 4A and 4B are divided by the corresponding values of the electrode roughness factor (R). Such normalized plots, namely j/R versus E and $\Delta m/R$ versus E, are presented in Figures S1A and S1B, respectively. Figure S1A reveals that the CV profiles normalized for the roughness factor values overlap; the agreement is to ±1.9%, which is within the experimental uncertainty. Figure S1B demonstrates that the MV transients normalized for the surface roughness factor do not overlap.

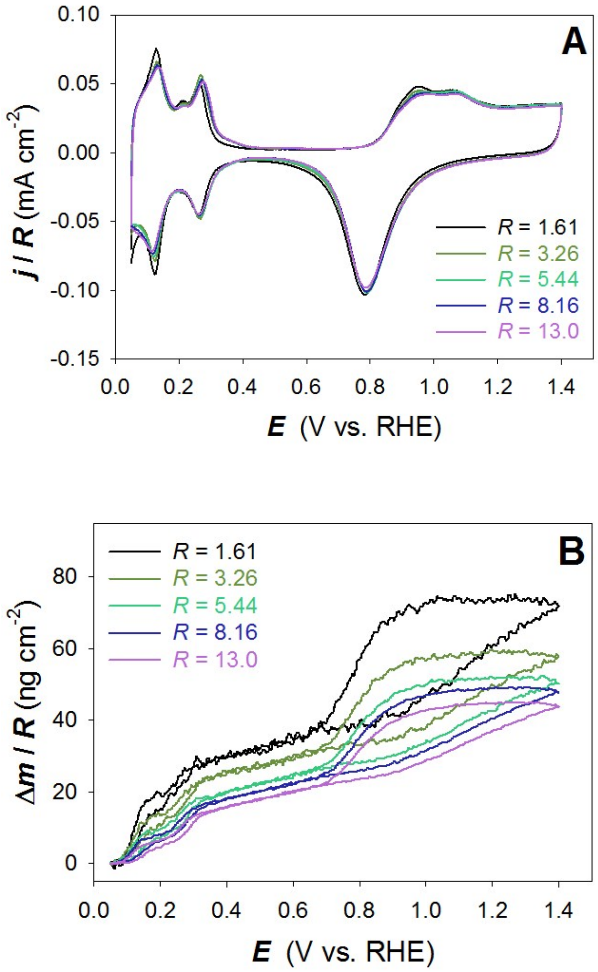

Figure S1. Series of roughness factor normalized CV profiles (**A**) and simultaneously recorded MV transients (**B**) for Pt electrodes of gradually increasing surface roughness ($1.61 \leq R \leq 13.0$) acquired in 0.50 M aqueous H_2SO_4 at a potential scan rate of $s = 50$ mV s^{-1} and $T = 298$ K.