

## Supplementary Information

# Effect of Mass Transport on the Electrochemical Oxidation of Alcohols over Electrodeposited film and Carbon- Supported Pt electrodes

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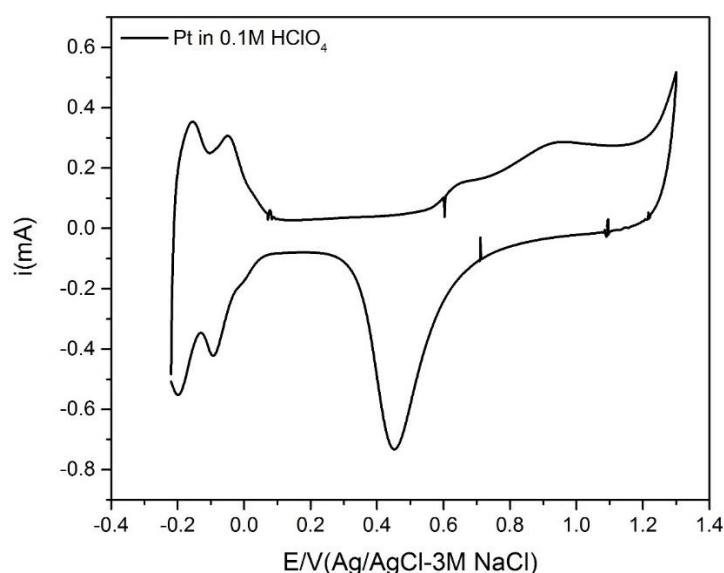


Figure S1. A typical voltammogram of electrodeposited Pt in 0.1M HClO<sub>4</sub> solution. Scan rate 50 mVs<sup>-1</sup>. Pt active area ( $A_r$ ) was calculated from the  $H_{UPD}$  desorption region.

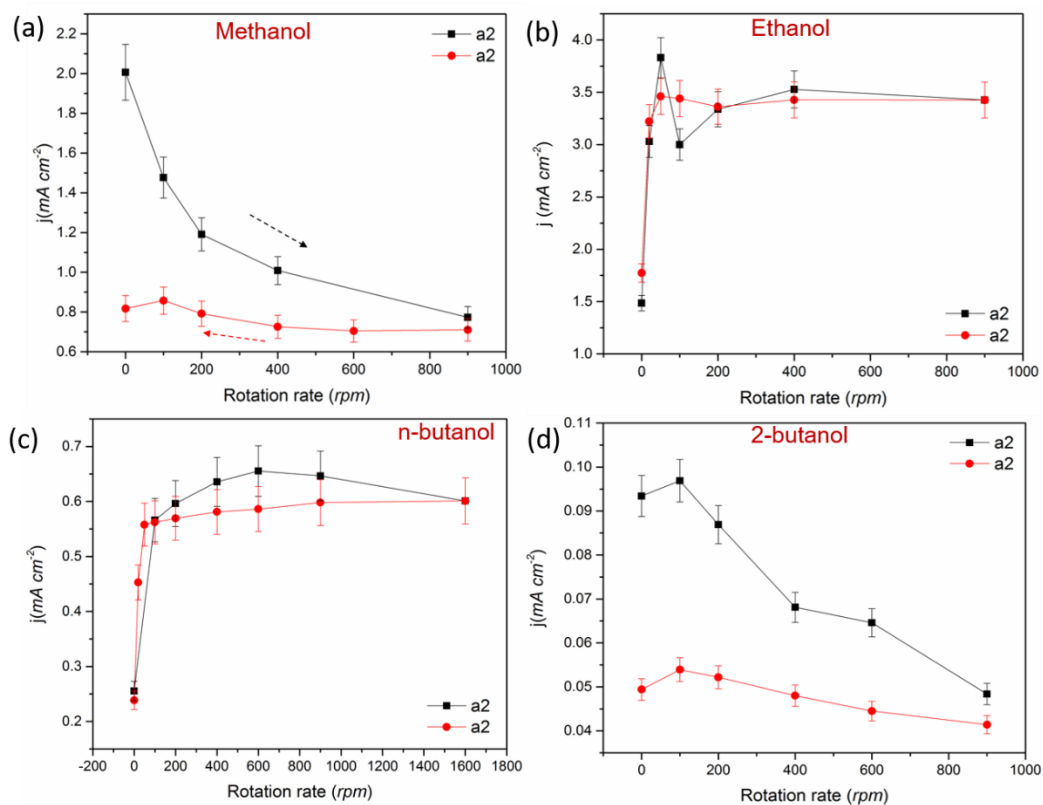


Figure S2. The effect of electrode rotation on peak  $a_2$  current for electrodeposited Pt film in solutions of (a) 0.5M methanol+0.1M HClO<sub>4</sub> (b) 0.5M ethanol+0.1M HClO<sub>4</sub> (c) 0.5M *n*-butanol+0.1M HClO<sub>4</sub> (d) 0.1M 2-butanol+0.1M HClO<sub>4</sub>. Scan rate 50 mVs<sup>-1</sup>.

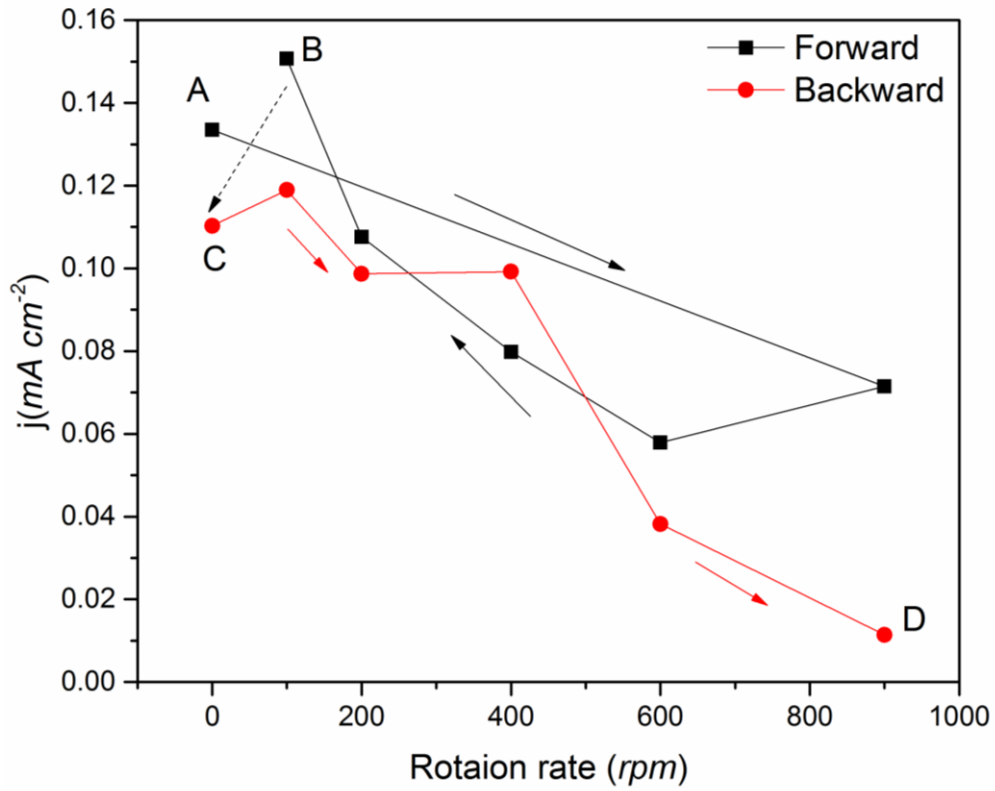


Figure S3. The effect of electrode rotation rate on peak  $a_1$  current density of electrodeposited Pt film on 0.1 M 2-butanol+0.1 M HClO<sub>4</sub> where electrode rotation changed from 0 rpm to 900 rpm directly. The rotation rate changed from A to B (increase & then decrease in  $\omega$ ) and C to D (increase in  $\omega$ ) as given in the figure.

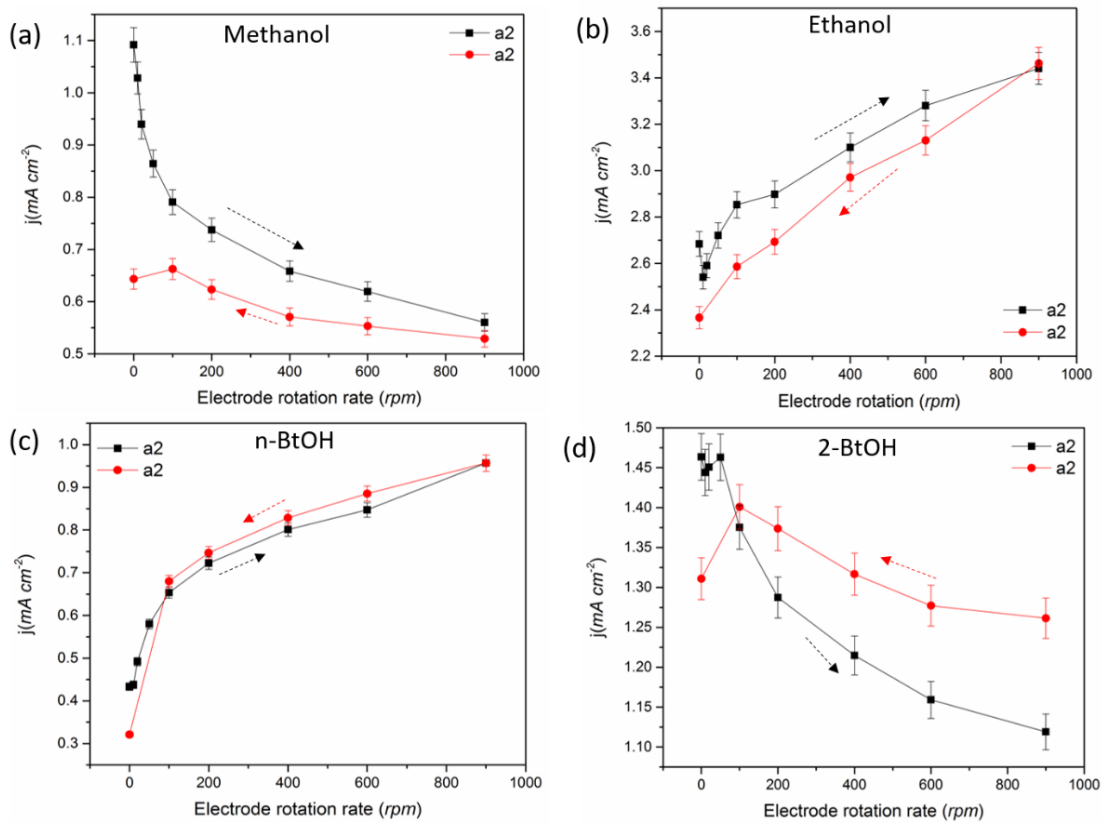


Figure S4. The effect of electrode rotation rate on peak  $a_2$  current density for Pt/C(40%) catalyst in 0.5M alcohol +0.1M  $\text{HClO}_4$  solution of (a) methanol (b) ethanol (c) *n*-butanol(d) 2-butanol. Scan rate  $50 \text{ mVs}^{-1}$ .

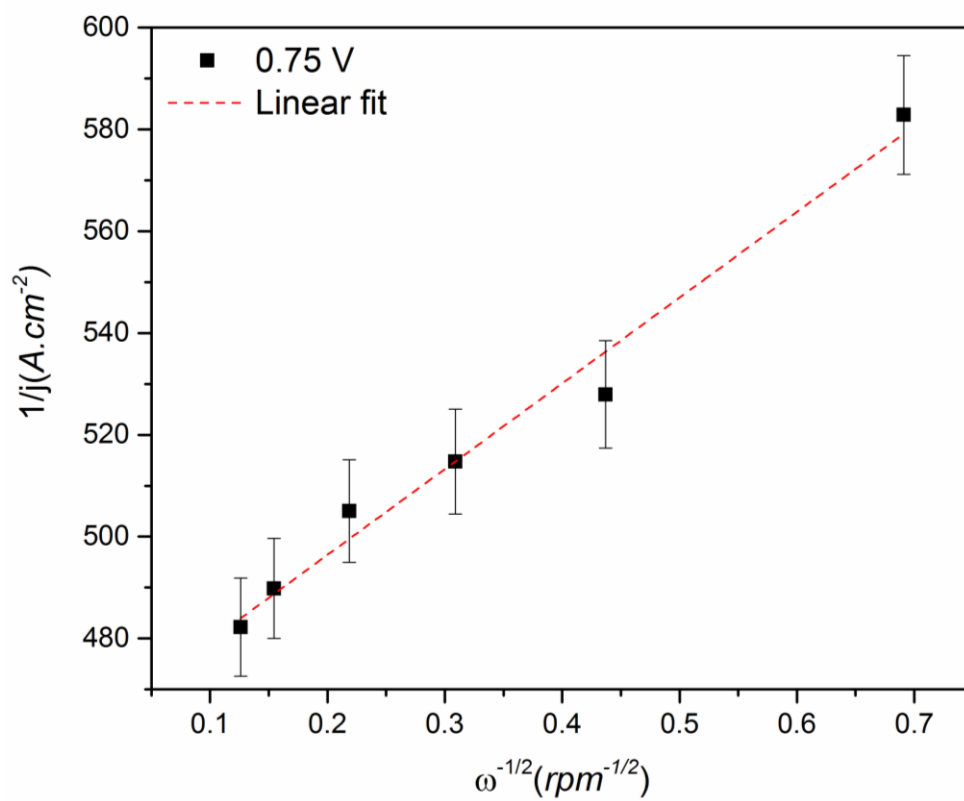


Figure S5. Koutecky-Levich plot of ethanol oxidation reaction on Pt/C at 0.75 V.