

## Supporting information

### The particle proximity effect: from model to high surface area fuel cell catalysts

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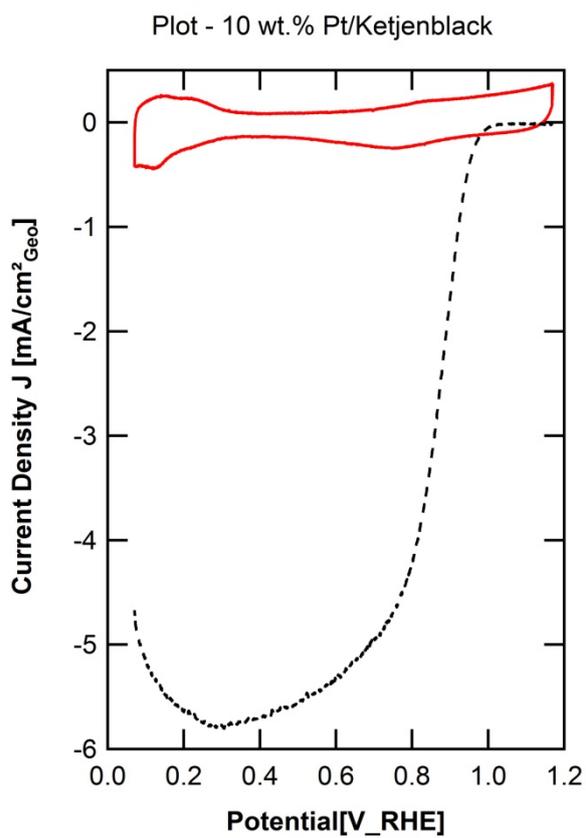


Fig. S1. Representative ORR polarization curves of the 10 wt.% Pt/Ketjenblack catalyst recorded with a scan rate of  $50 \text{ mV s}^{-1}$  in argon (solid line) and oxygen saturated (dashed line)  $0.1 \text{ M HClO}_4$  electrolyte; rotation rate was 1600 rpm.

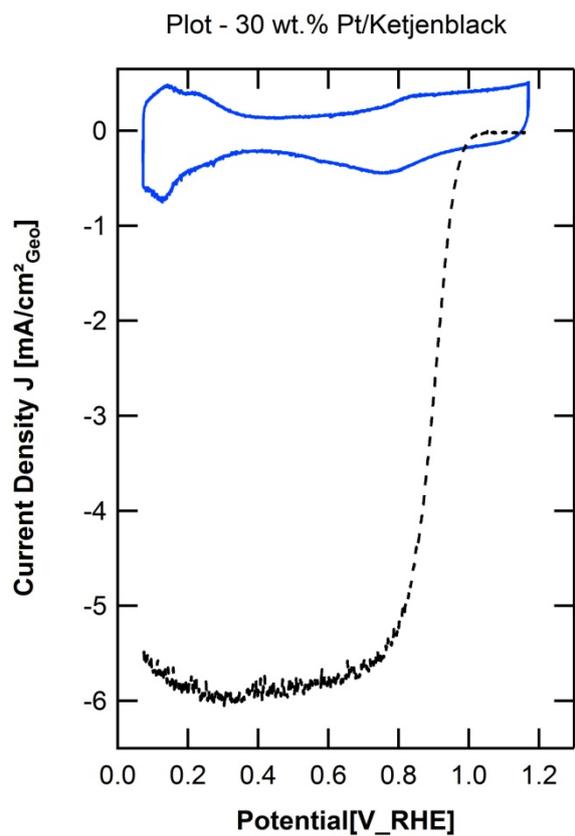


Fig. S2. Representative ORR polarization curves of the 30 wt.% Pt/Ketjenblack catalyst recorded with a scan rate of  $50 \text{ mV s}^{-1}$  in argon (solid line) and oxygen saturated (dashed line)  $0.1 \text{ M HClO}_4$  electrolyte; rotation rate was 1600 rpm.

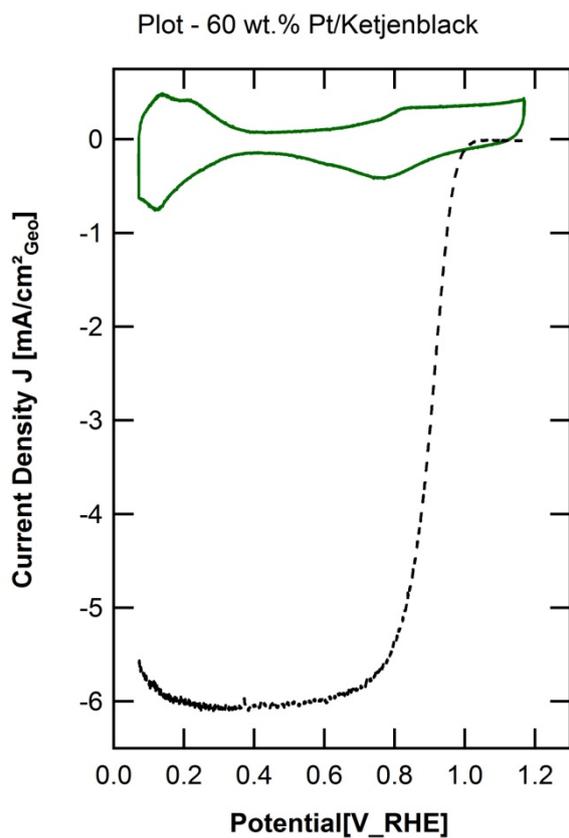


Fig. S3. Representative ORR polarization curves of the 60 wt.% Pt/Ketjenblack catalyst recorded with a scan rate of  $50 \text{ mV s}^{-1}$  in argon (solid line) and oxygen saturated (dashed line)  $0.1 \text{ M HClO}_4$  electrolyte; rotation rate was 1600 rpm.

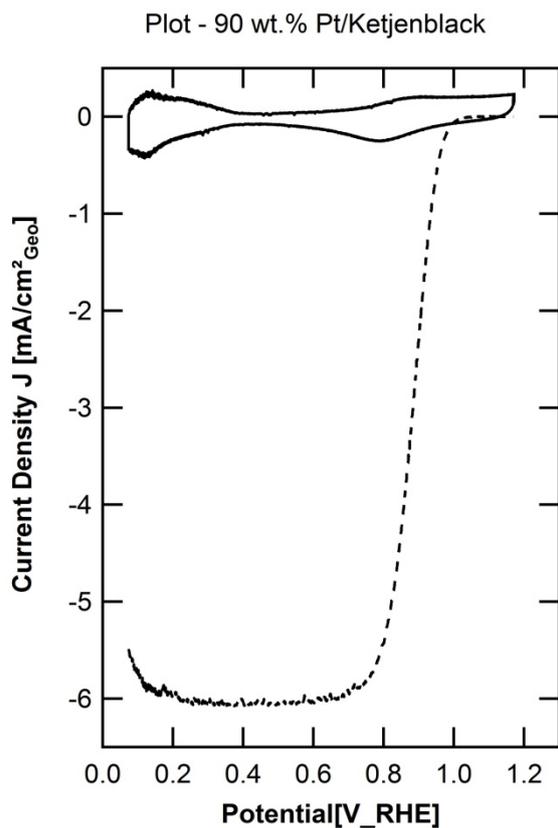


Fig. S4. Representative ORR polarization curves of the 90 wt.% Pt/Ketjenblack catalyst recorded with a scan rate of  $50 \text{ mV s}^{-1}$  in argon (solid line) and oxygen saturated (dashed line)  $0.1 \text{ M HClO}_4$  electrolyte; rotation rate was  $1600 \text{ rpm}$ .

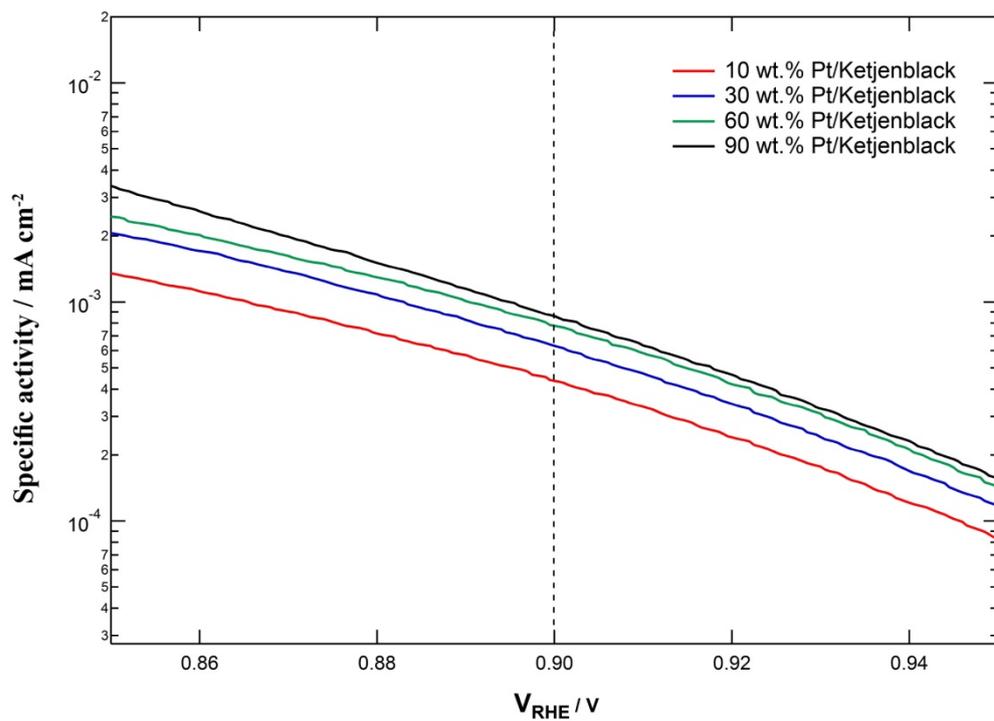


Fig. S5. Tafel plots of the ORR activity per Pt surface area extracted from Figs. S1-4.