

Supplementary information

Transparent Conductive Oxide Type Material for the Anode of Solid Oxide Fuel Cells at a Reduced Temperature

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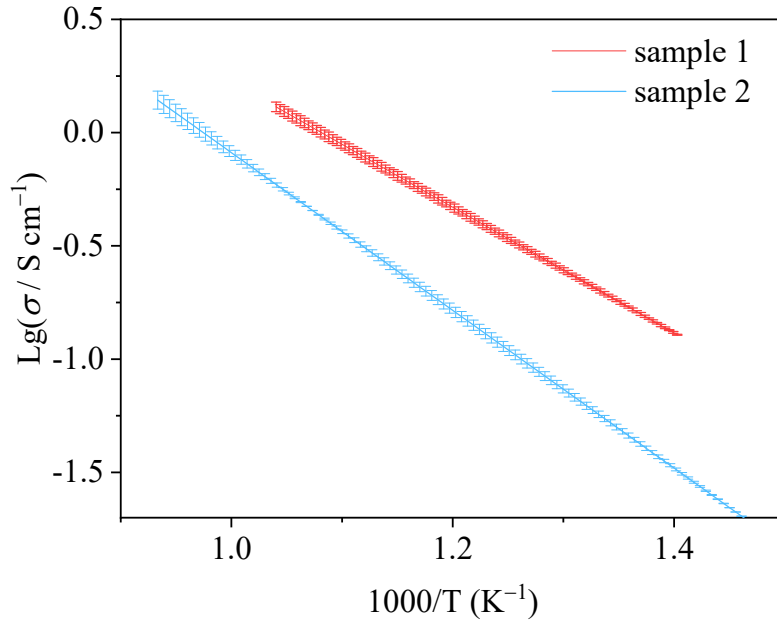


Figure S1. The fitting curves with error bars in Arrhenius plots of σ of ZGO for sample 1 (reduced at 700 °C) and sample 2 (reduced at 800 °C). The error bars were obtained by plotting the residuals obtained by linear regression fitting of σ .

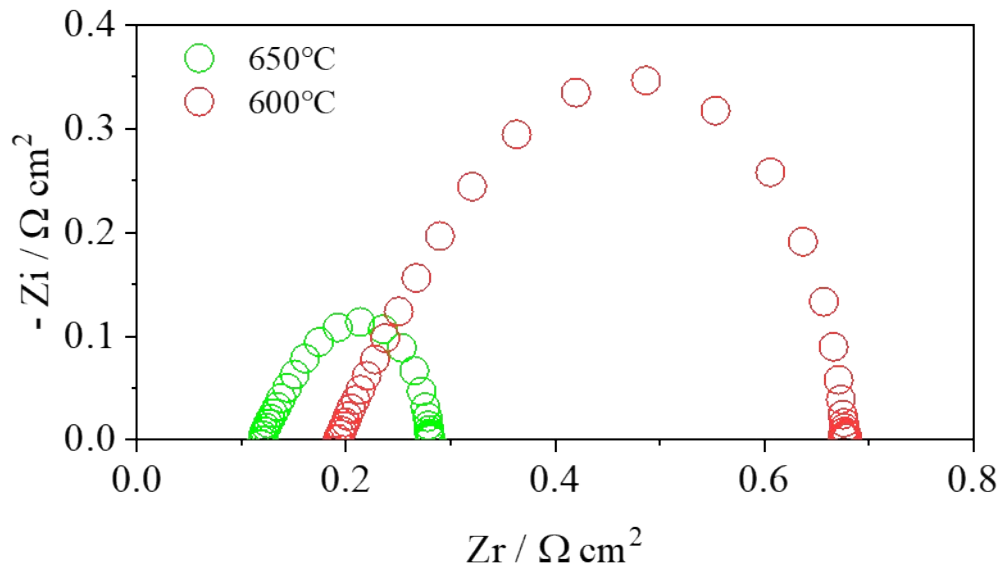


Figure S2. EIS spectra of the GDC-LSFC half-cell on a SSZ electrolyte in air at 600 °C and 650 °C.

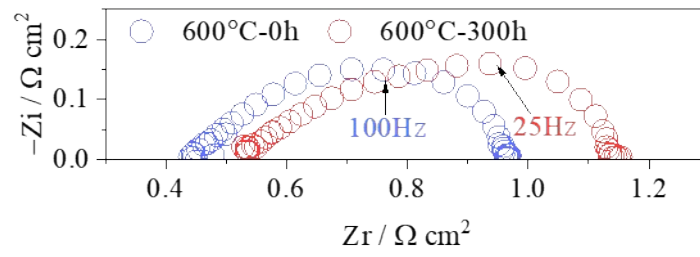


Figure S3. EIS of ZGO/GDC-1%Ni cell under H₂ after the durability under bias for 0 h and 300 h, respectively. The testing temperature was 600 °C and the voltage was at OCV.

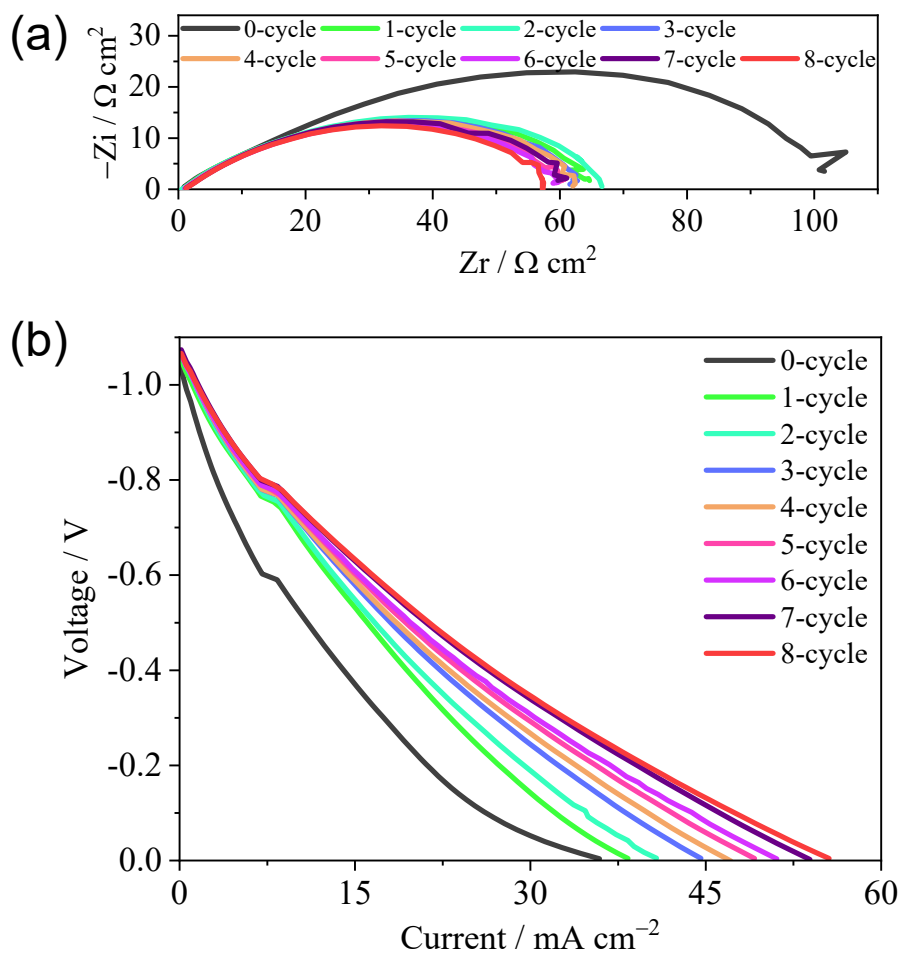


Figure S4. (a) EIS and (b) I-V curves of ZGO-1% Ni cell under H₂ fuel during the redox cycles at 600 °C.

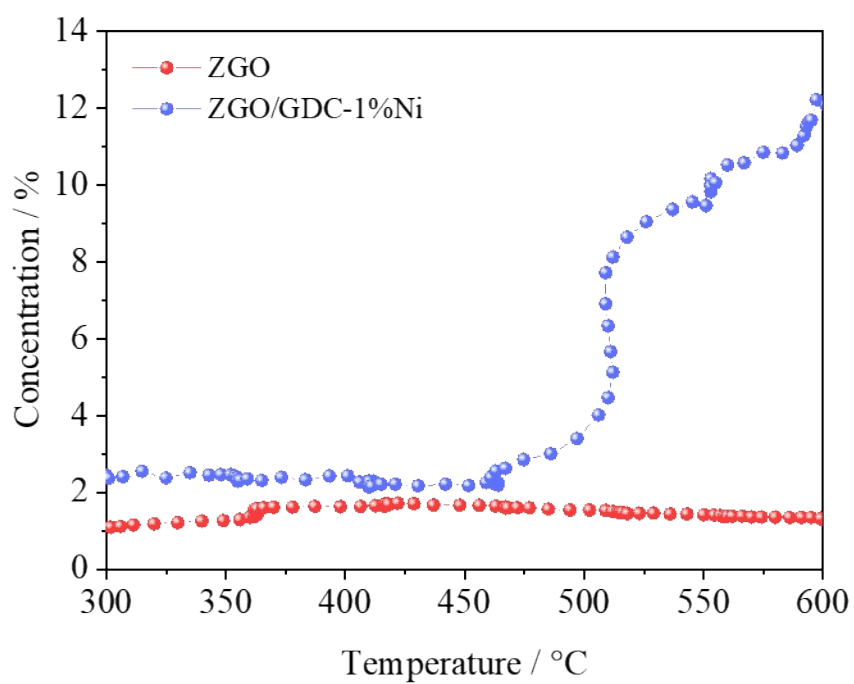


Figure S5. H₂ evolution from ethanol over ZGO and ZGO/GDC-1% Ni from 300 °C to 600 °C.

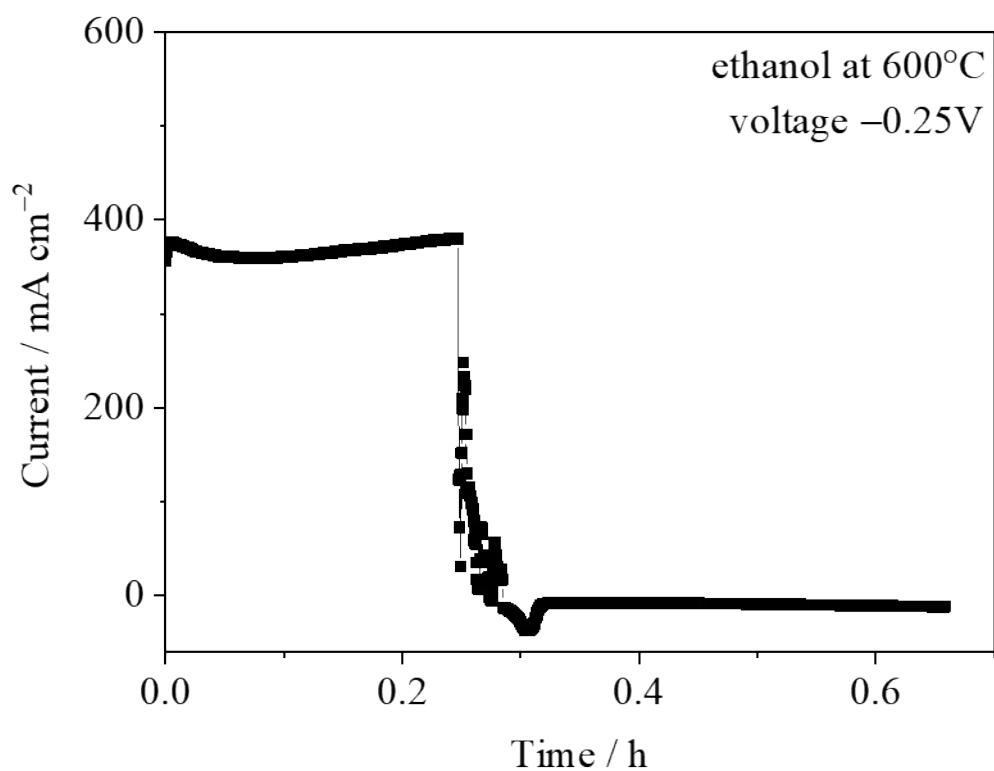


Figure S6. Chronoamperometry of the ZGO/GDC-1% Ni cell under ethanol fuel at -0.25V at $600\text{ }^{\circ}\text{C}$. The quick death of the cell could be linked to the deprotonation under bias.

