

Electronic Supplementary Information

Pulse electrodeposited nickel with structure directing agents as electrocatalysts for oxidation of glycerol

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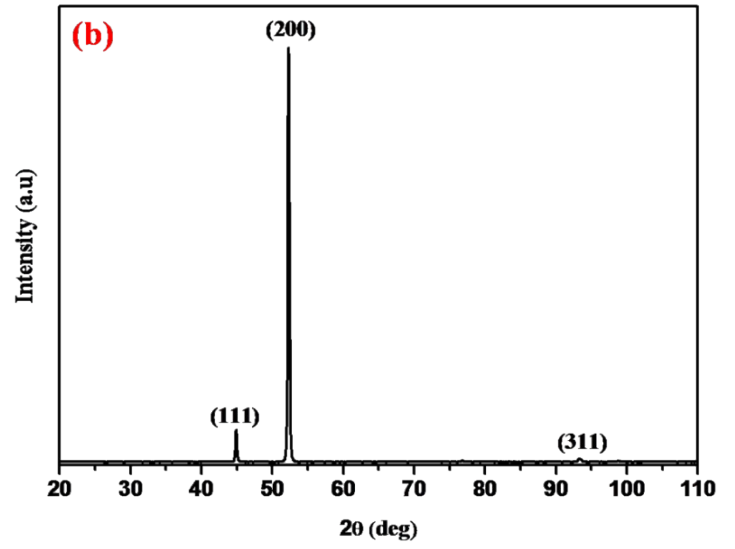
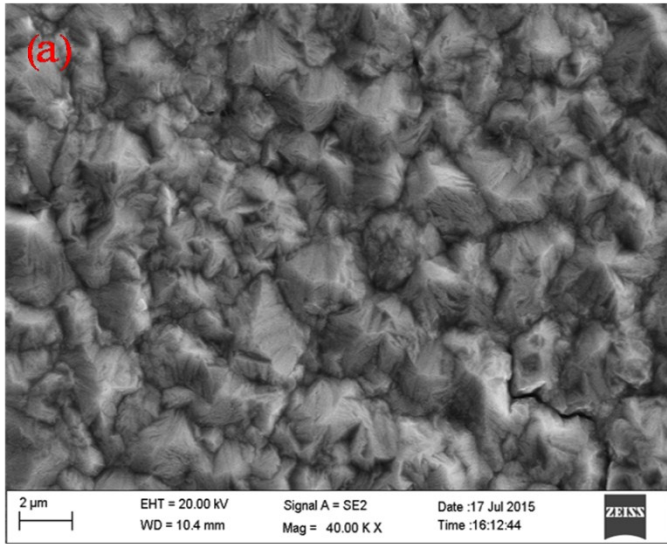


Fig. S1 (a) FESEM and (b) XRD data of Ni.

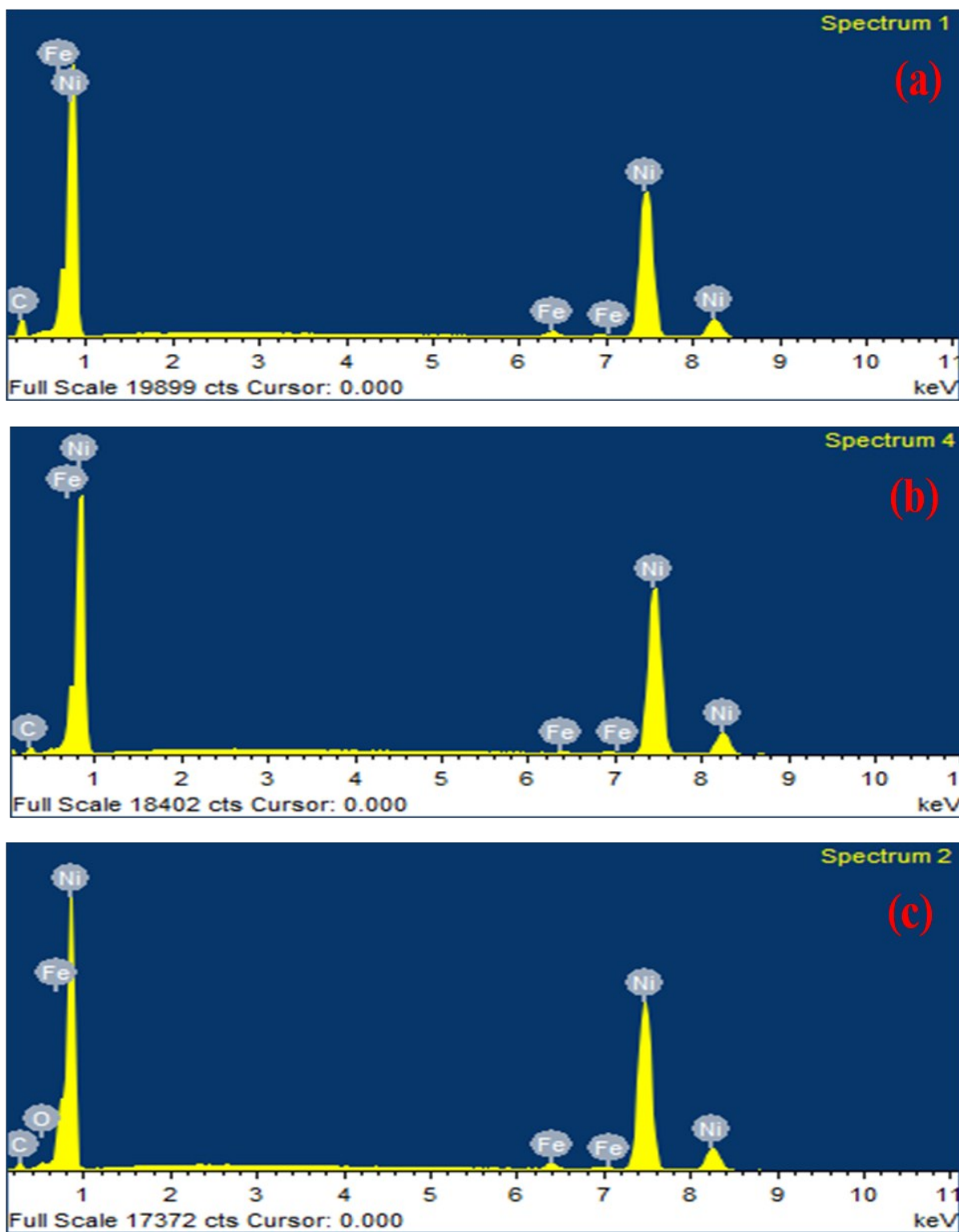


Fig. S2 EDAX analysis of (a) Ni, (b) Ni-CA and (c) Ni-TBr.

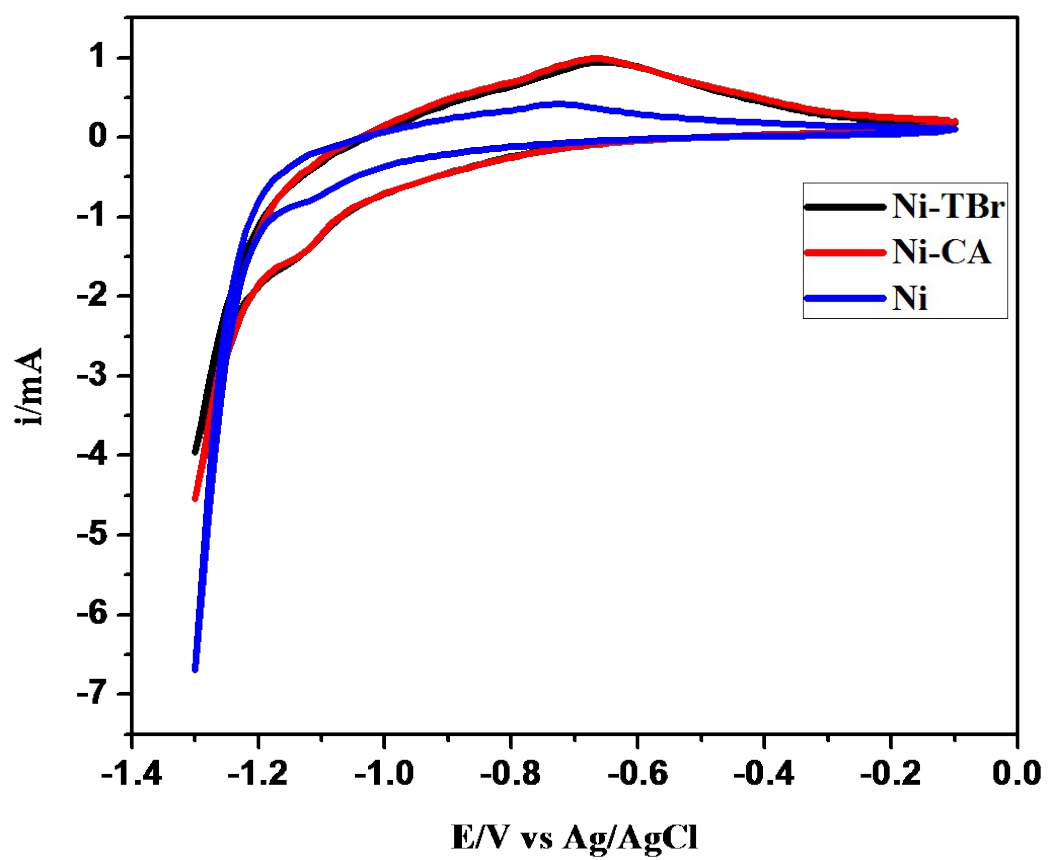


Fig. S3 Cyclic voltammograms of Ni, Ni-CA and Ni-TBr electrodes in 1 M KOH solution at 50 mVs^{-1} in the cathodic region.

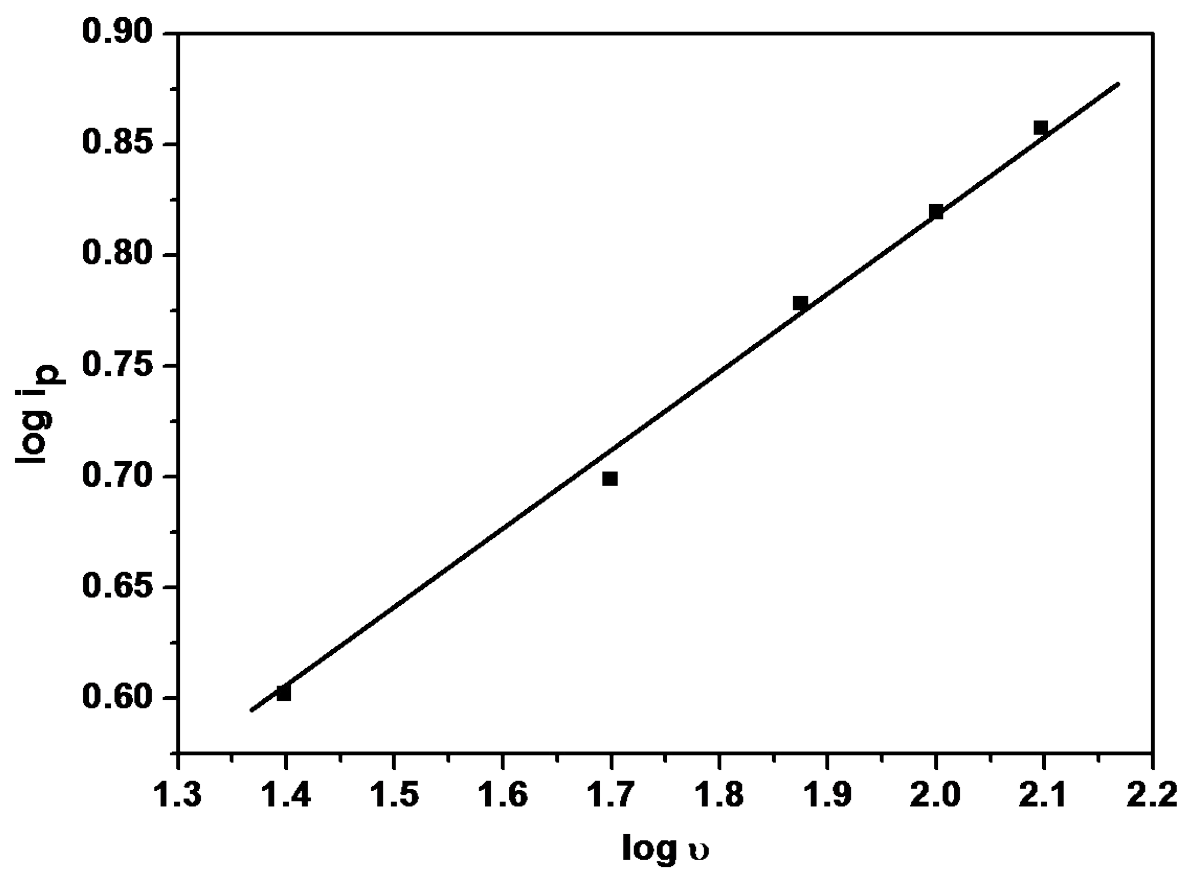


Fig. S4 Linear relation between logarithm of the peak current and logarithm of the scan rates plots from Fig. 7a.

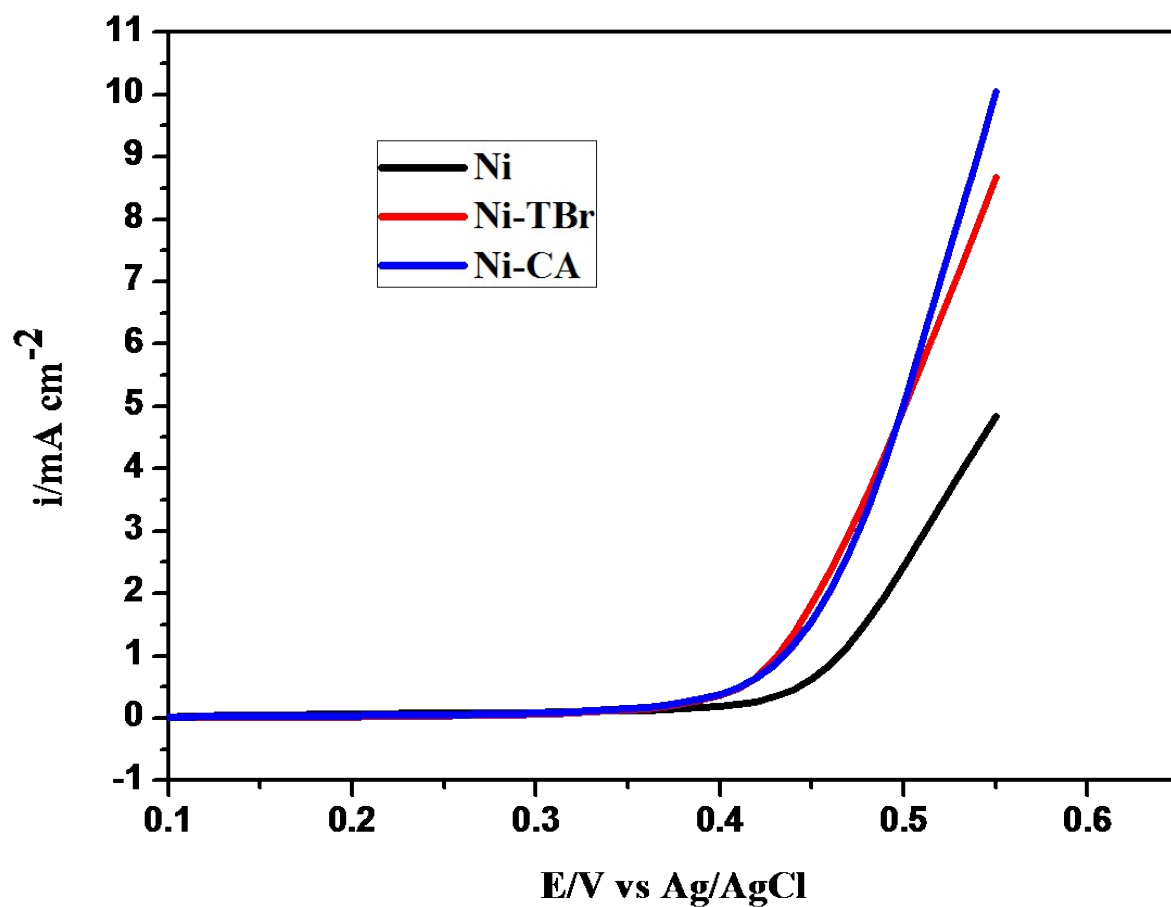


Fig. S5 Linear sweep voltammograms of Ni, Ni-CA and Ni-TBr electrodes in 1 M KOH solution in the presence of 0.1 M glycerol at a scan rate of 50 mVs^{-1} .

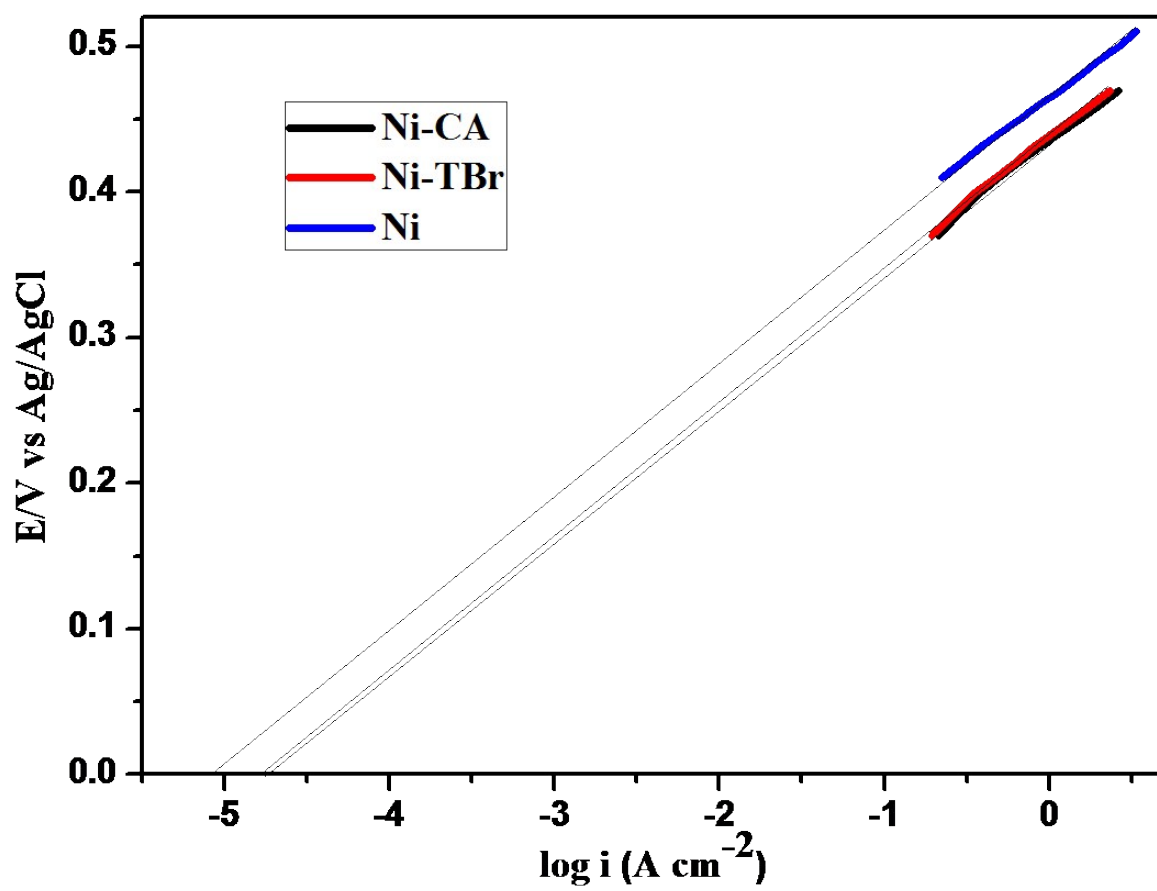


Fig. S6 Exchange current densities of Ni, Ni-CA and Ni-TBr electrodes for oxidation of glycerol.

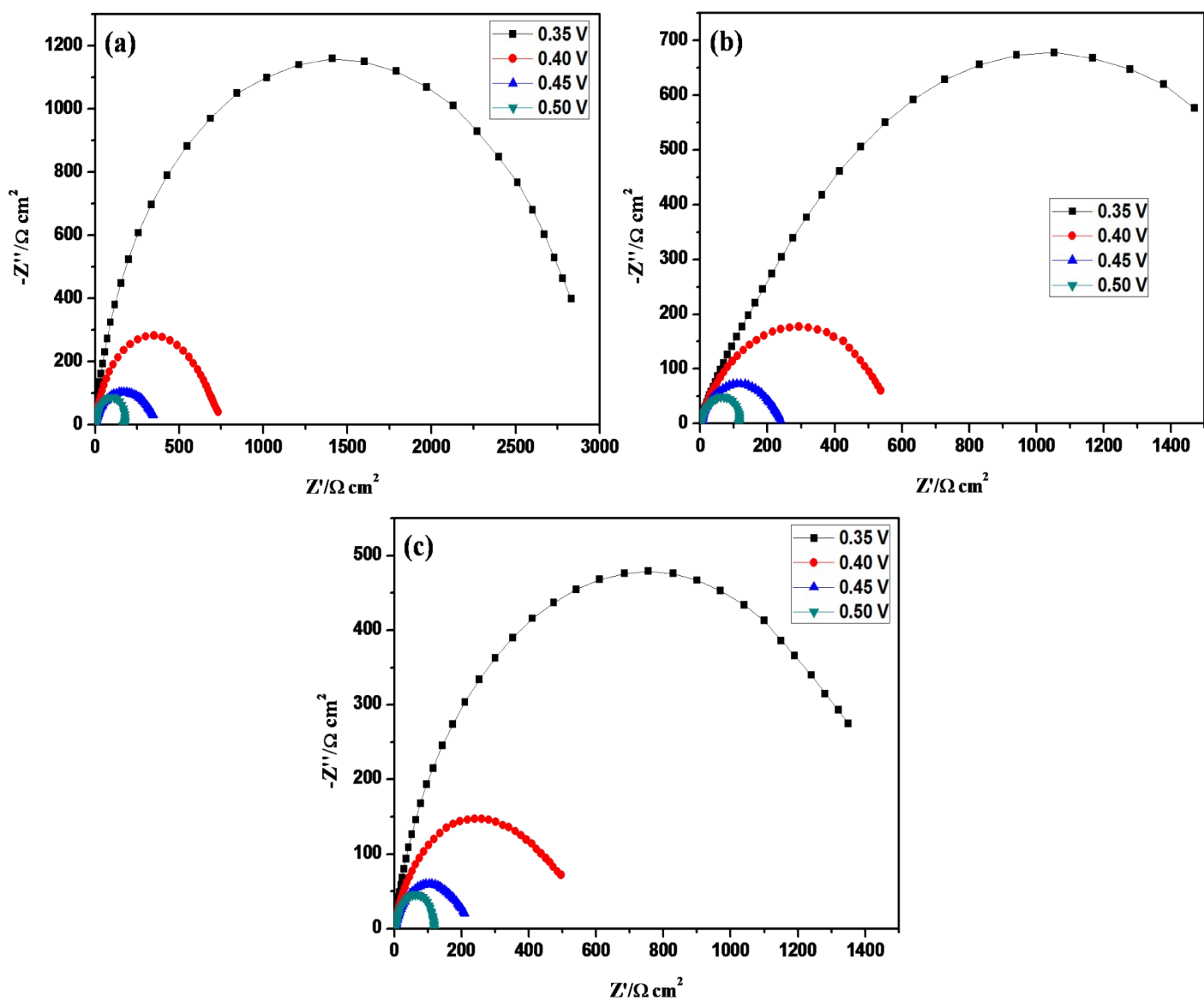


Fig. S7 Nyquist plots of (a) Ni, (b) Ni-CA and (c) Ni-TBr electrodes in 1 M KOH solution in the presence of 0.1 M glycerol with frequencies ranging from 10^5 Hz to 10^{-3} Hz at different potentials from 0.35 to 0.50 V. The circles denote the experimental data while the line indicates the fitting using the equivalent circuit shown in inset of Fig. 10a.

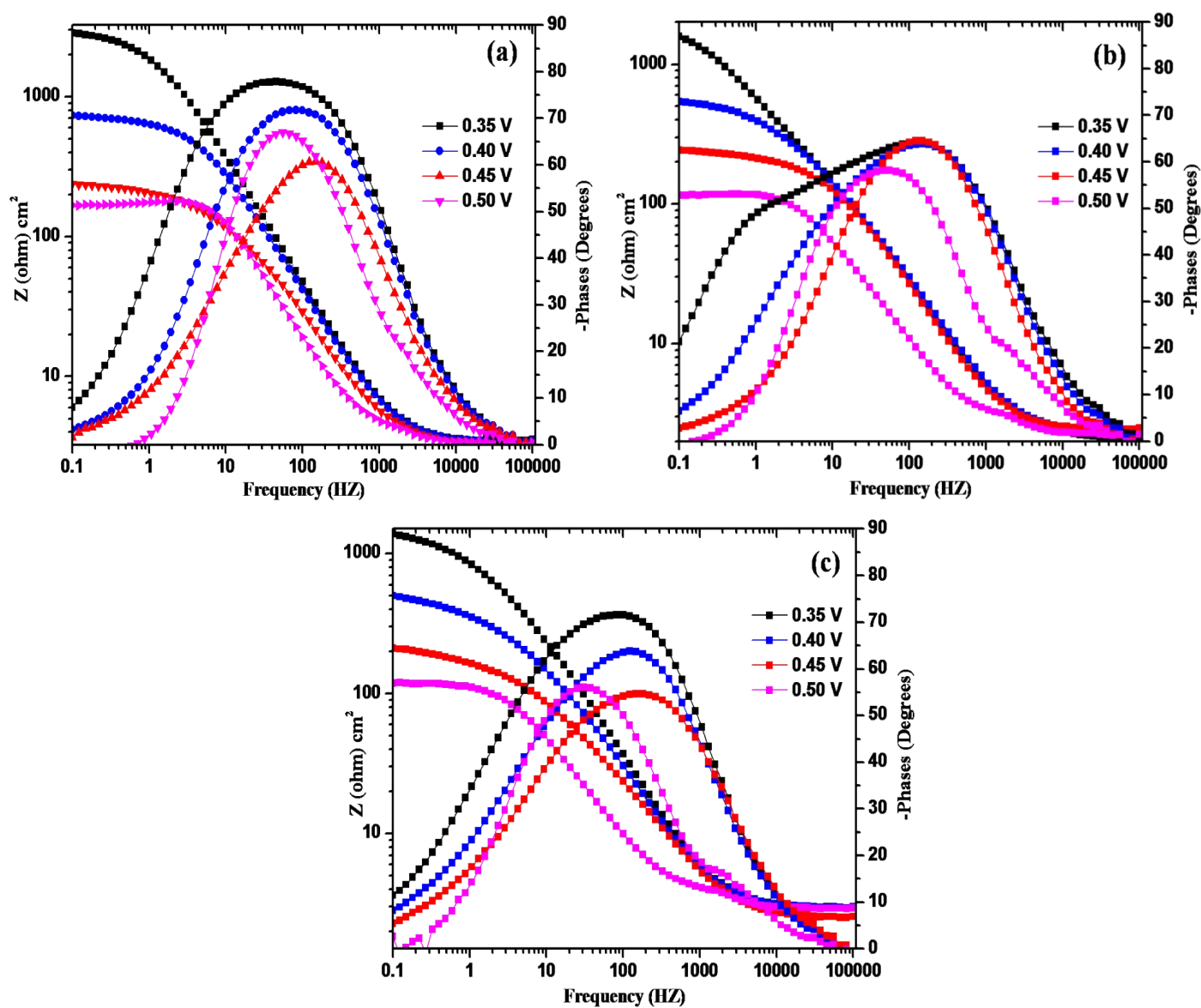


Fig. S8 Bode' plots of (a) Ni (b) Ni-CA and (c) Ni-TBr electrodes in 1 M KOH solution in the presence of 0.1 M glycerol. The circles denote the experimental data while the line indicates the fitting using the equivalent circuit. Other conditions as in Fig. S7.