

Supporting Information

**Co-N-C supported Platinum Catalyst: Synergistic Effect on the  
Aerobic Oxidation of Glycerol**

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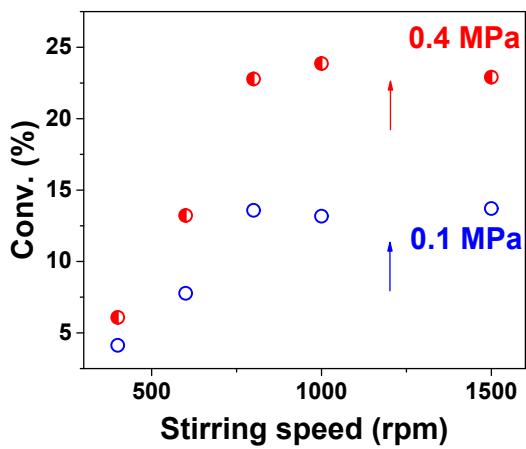
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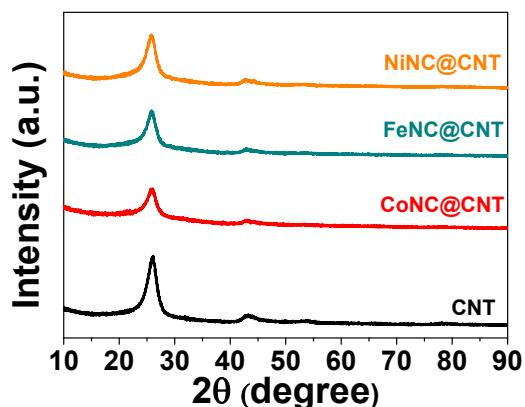
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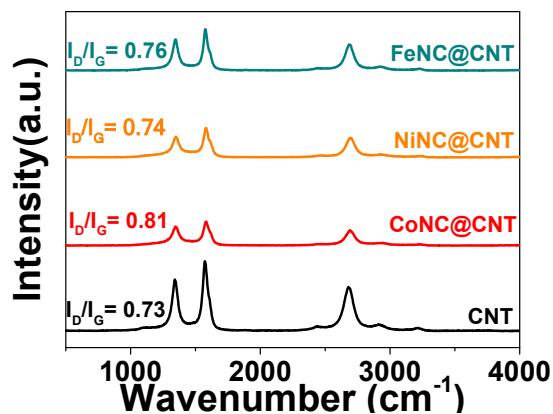
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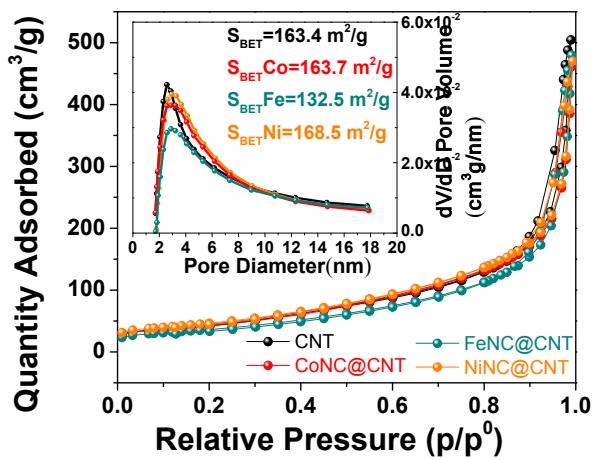
**Figure S1** The influence of stirring speed on conversion of glycerol at oxygen partial pressures of 0.4 MPa and 0.1 MPa.



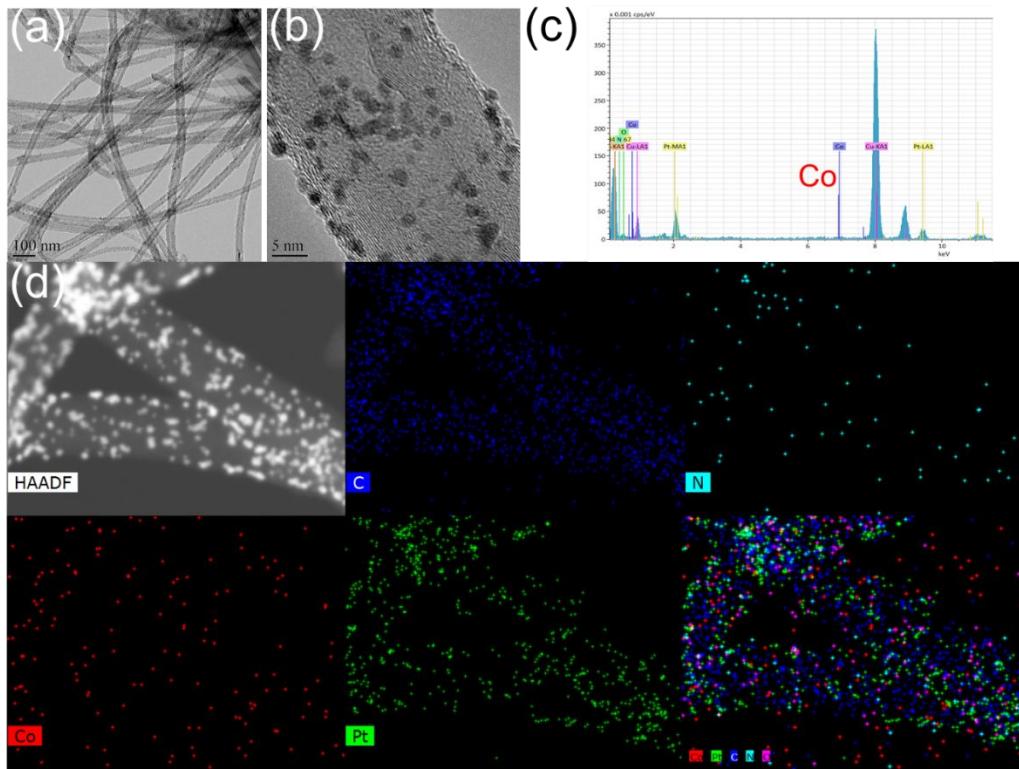
**Figure S2** XRD patterns of support CNT, CoNC@CNT, FeNC@CNT, and NiNC@CNT.



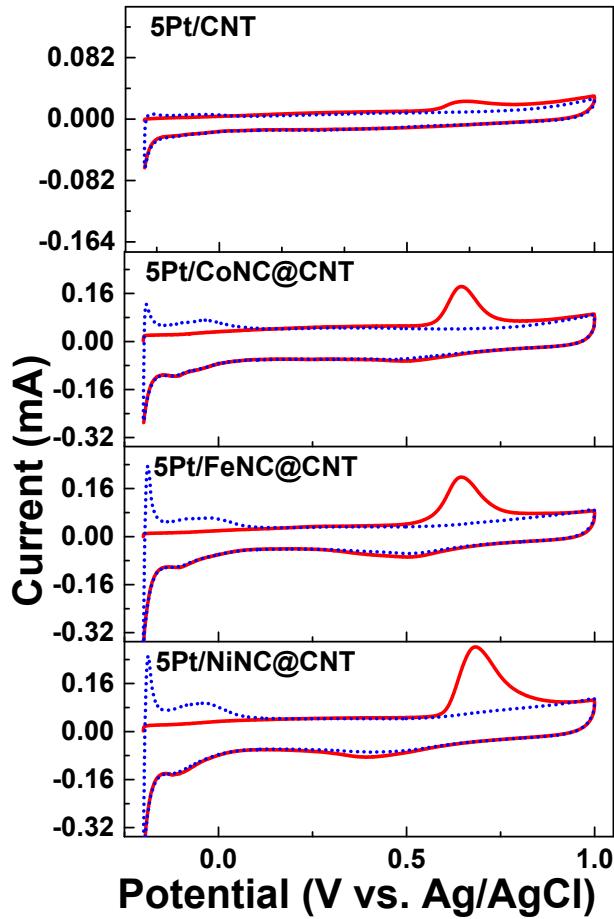
**Figure S3** Raman spectra of CNT, CoNC@CNT, FeNC@CNT, and NiNC@CNT as supports.



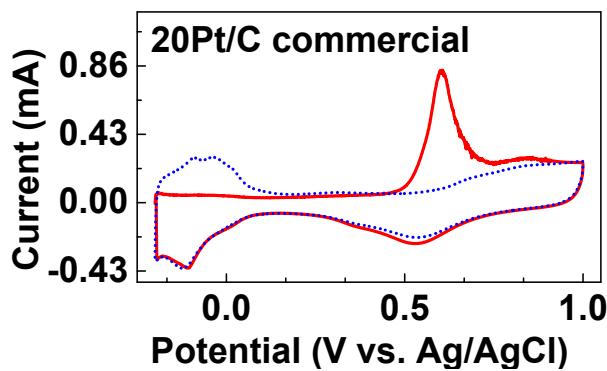
**Figure S4** The  $N_2$  adsorption-desorption isotherm of the support CNT, CoNC@CNT, FeNC@CNT, and NiNC@CNT, and the inset is the pore size distribution curve with the corresponding  $S_{\text{BET}}$ .



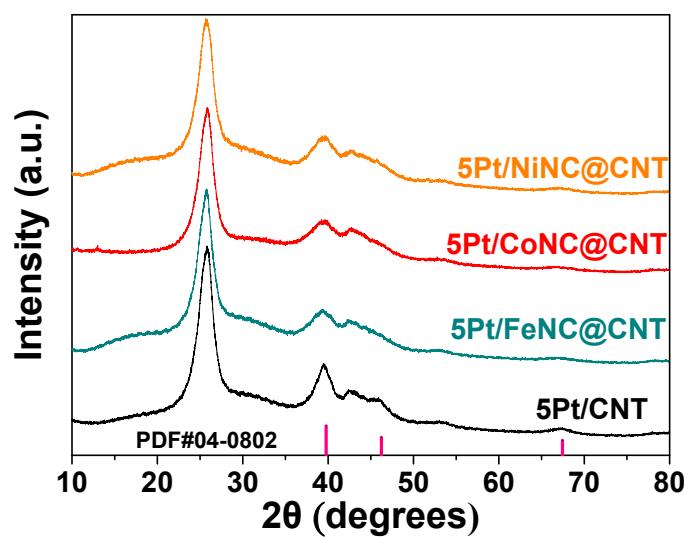
**Figure S5** (a) TEM image, (b) HADDF-STEM image, (c) EDS spectrum and (d) elemental mapping of 5Pt/CoNC@CNT.



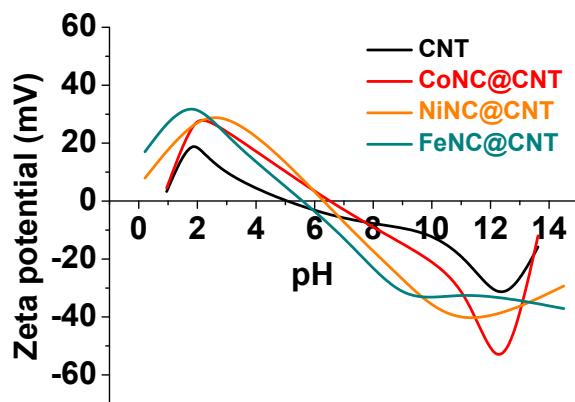
**Figure S6** Cyclic voltammetry curves of CO electro-oxidation over 5Pt/MeNC/CNT. Red solid and blue dotted lines represent the first and second cycle of sweep, respectively.



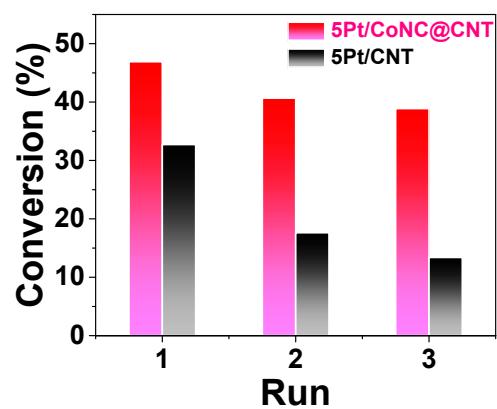
**Figure S7** Cyclic voltammetry curves of CO electro-oxidation over commercial 20Pt/C. Red solid and blue dotted lines represent the first and second cycle of sweep, respectively.



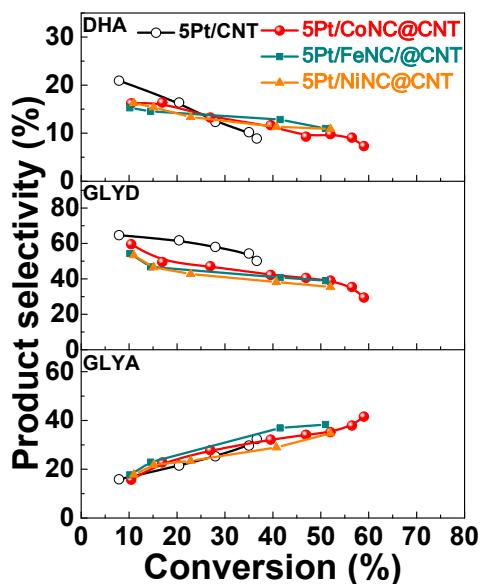
**Figure S8** XRD patterns of 5Pt/CNT, 5Pt/CoNC@CNT, 5Pt/FeNC@CNT, and 5Pt/NiNC@CNT.



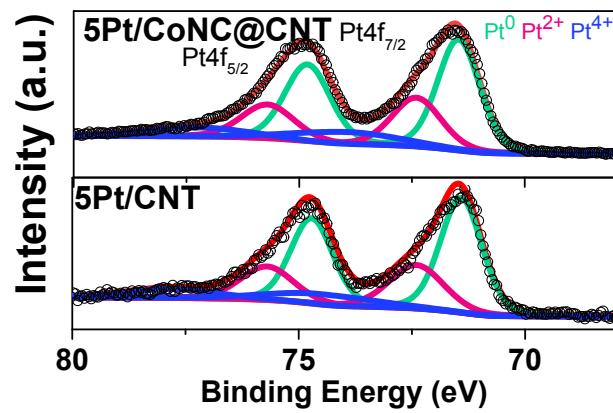
**Figure S9** Zeta potential measurements of CNT, CoNC@CNT, FeNC@CNT, and NiNC@CNT.



**Figure S10** Recycle experiments of 5Pt/CNT and 5Pt/CoNC@CNT. Reaction condition: 10 wt.%, 100 mg catalyst, 60 °C, 600 rpm.



**Figure S11** Selectivity-conversion correlation of glycerol oxidation under atmospheric pressure.



**Figure S12** Pt4f XPS of 5Pt/CNT and 5Pt/CoNC@CNT.