**Supplementary Information**

**Zn-enriched PtZn Nanoparticle Electrocatalysts Synthesized by solution combustion for Ethanol Oxidation Reaction in an Alkaline Medium**

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Table S1. Comparison of the structural and electrochemical data of Pt/C and PtZn/C system.



Table S2. Summary of XPS analysis on Pt 4f in PtZn/C (1.75).





Figure S1. XRD patterns on ZnO synthesized by SCS technique at the ratio of Zn-precursor: fuel (1:1.75).















Figure S2. (a) STEM-HAADF image and STEM-EDS elemental maps of (b) C, (c) Pt, (d) Zn, (e) Pt+Zn, (f) O and (g) Zn+O on PtZn/C NPs.



Figure S3. CVs on Pt/C, PtZn/C (1.75) and PtZn/C (0.5) measured in an electrolyte of 1M KOH containing 2M C2H5OH at a 50 mVs-1 in a N2-environment. Normalization factors of (a) ECSAs from CVs, (b) metal in catalyst and (c) geometric surface area of the working electrode for the calculation of the current densities.