Supporting Information:

**Pd-around-CeO$_{2-x}$ Hybrid Nanostructure Catalyst: Three-Phase-Transfer Synthesis, Electrocatalytic Property and Dual Promoting Mechanism**

Qiang Tan, Chunyu Du,* Yongrong Sun, Geping Yin and Yunzhi Gao

School of Chemical Engineering & Technology, Harbin Institute of Technology, Harbin 150001, China
E-mail: cydu@hit.edu.cn

Fig. S1. The histogram of particle size distribution of the CeO$_{2-x}$ nanoparticles.
Fig. S2. The histogram of particle size distribution of the Pd-around-CeO$_{2-x}$ hybrid nanostructure.
Fig. S3. The TEM image (A) and XRD pattern (B) of Pd-CeO$_{2-x}$/C catalyst.
Fig. S4. The onset section of the ethanol electrooxidation reaction in 1.0 M KOH + 0.5 M C₂H₅OH solution