Supplementary Materials: Ternary N, S, and P-doped Hollow Carbon Spheres Derived from Polyphosphazene as Pd Supports for Ethanol Oxidation Reaction

Ke Yu, Yan Lin, Jinchen Fan*, Qiaoxia Li, Penghui Shi, Qunjie Xu*, and Yulin Min

Table S1. The mass peak current densities of various reported EOR catalysts.

Pd-based EOR Electrocatalysts	Mass Current Density	Reference
Pd/C-N,P,S	**1686 mA mg-1**	**This work**
Pd-Pt-Ag nanosheets	1340 mA mg-1	Angew. Chem., Int. Ed. 2016, 55, 2753.
yolk-shell(OM-YS) Au@AgPd nanoparticles	1250 mA mg-1	Chem. Sci. 2015, 6, 4350.
Pd@CoP nanosheets (NSs)/ carbon fber cloth (CFC)	1413.3 mA mg-1	ACS Catal. 2016, 6, 7962.
Pd_7/Ru_1	1150 mA mg-1	Nanoscale 2015, 7, 12445.
PdCo nanotube arrays (NTAs)/CFC	1490 mA mg-1	Angew. Chem., Int. Ed. 2015, 54, 3669.
Pd/C promoted with $CaSiO_3$	1500 mA mg-1	Electrochim. Acta 2015, 158, 18.
Pd-Ag nanoparticles	1600 mA mg-1	J. Power Sources 2014, 263, 13.

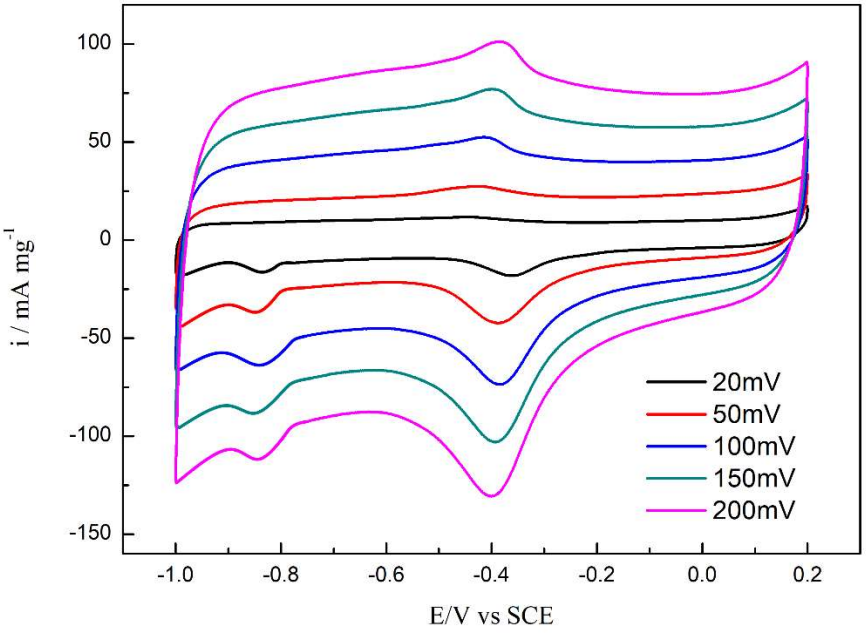

Figure S1. CVs of Pd/C-N,P,S catalysts in sodium hydroxide (1 mol/L) at different scan rates.

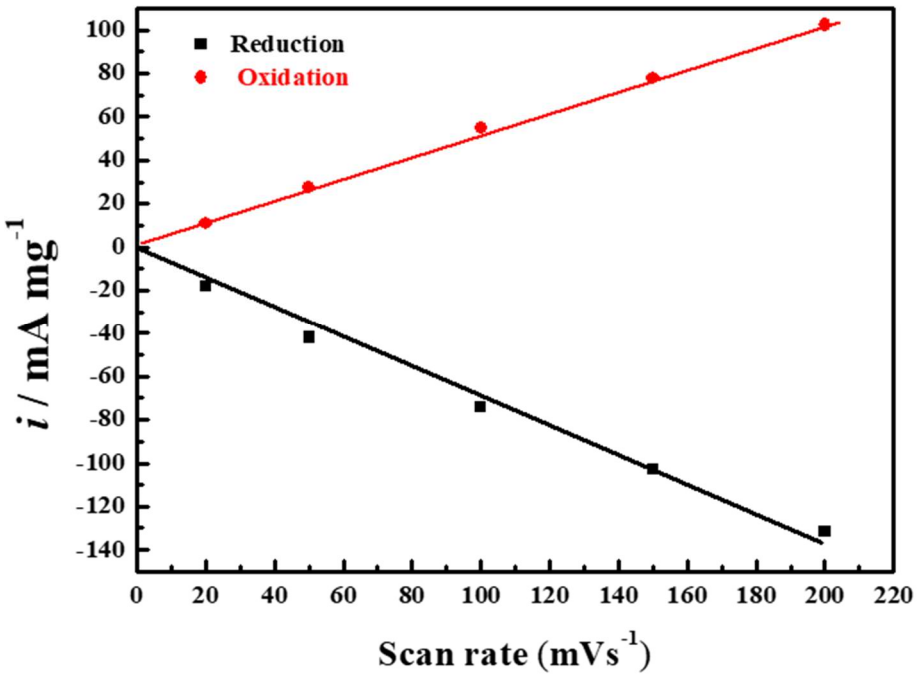

Figure S2. The calibration plot of oxidation and reduction peaks currents vs. scan rate.

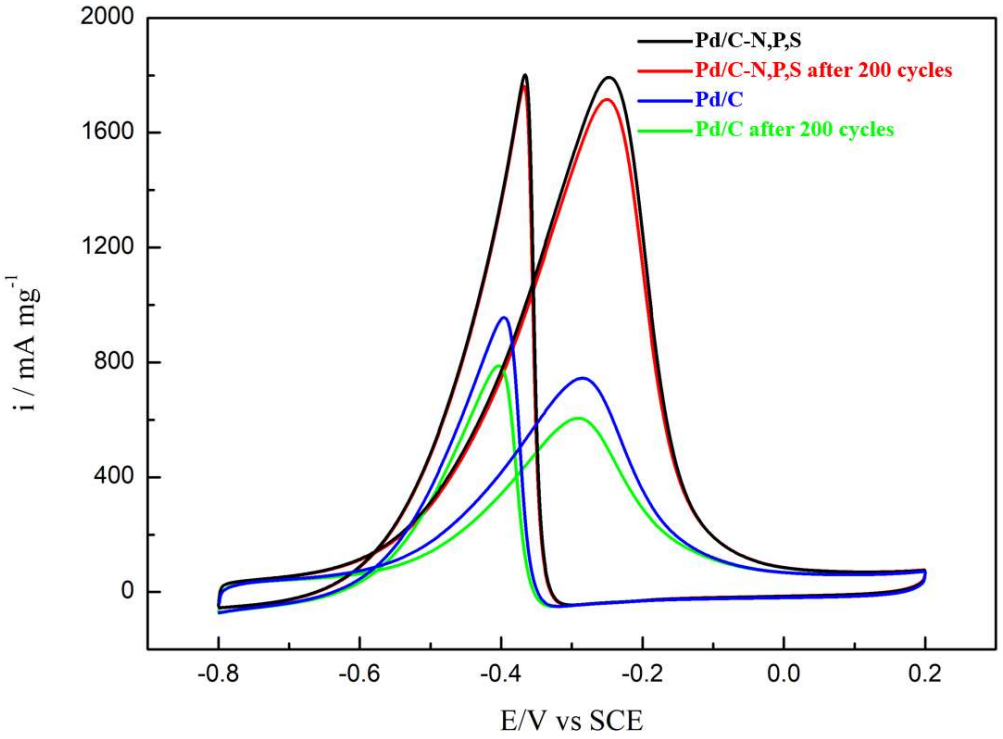

Figure S3. CVs of Pd/C-N,P,S and Pd/C after 200 repetitive potential cycling tests.

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