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Supporting Information

Comparison of electrocatalytic activity of $Pt_{1-x}Pd_x/C$ catalyst for ethanol electro-oxidation in acidic and alkaline media

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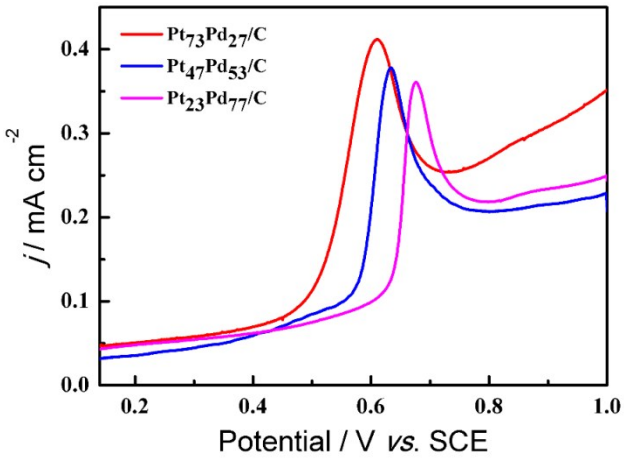

Fig. S1 CO stripping voltammograms of $Pt_{1-x}Pd_x/C$ catalysts in 0.5 M H_2SO_4 solution.

Table S1. Comparison of ethanol oxidation behavior on the $Pt_{1-x}Pd_x/C$ composites and recent state- of- the art Pt or Pd-based electrocatalysts.

Catalysts	j_f (mA mg^{-1})	Electrolyte	Reference
Pd-based electrocatalysts			
PdCoNTAs[a]/CFC [b]	1500	1.0 M C_2H_5OH + 1.0 M KOH	1
Pd PNPs [c]/VXC	1300	1.0 M C_2H_5OH + 0.5 M NaOH	2
Pd@CoPNSs[d]/CFC	1413.3	1.0 M C_2H_5OH + 1.0 M KOH	3
PdAg-HNs [e]	1615.9	1.0 M C_2H_5OH + 1.0 M KOH	4
Pd/PANI/Pd SNTAs [f]	350	1.0 M C_2H_5OH + 1.0 M KOH	5
$PdCu_2$	1630	1.0 M C_2H_5OH + 1.0 M KOH	6
Pd-Sn ANSDs [g]	576	1.0 M C_2H_5OH + 1.0 M KOH	7
PdNi/C	450	0.5 M C_2H_5OH + 0.1 M KOH	8
$Pd_{45}Pt_{55}$ nanowires/GCE[h]	~950	1.0 M C_2H_5OH + 0.5 M NaOH	9
PdAg BANWs [i]	1970	1.0 M C_2H_5OH + 1.0 M KOH	10
Pt-based electrocatalysts			
Pt/C+20 wt.%TiO_2	647.6	1.0 M C_2H_5OH + 1.0 M $HClO_4$	11
PtRu/C	1200	1.0 M C_2H_5OH + 1.0 M KOH	12
Pt/3DGF[j]	1406	1.0 M C_2H_5OH + 1.0 M KOH	13
PtCu/C	1200	0.1 M C_2H_5OH + 0.3 M KOH	14
Pt-Pd/C	100	1.0 M C_2H_5OH + 0.1 M $HClO_4$	14
$Pd_{45}Pt_{55}$	900	1.0 M C_2H_5OH + 0.5 M NaOH	15
PtCu nanocone alloy	320	0.1 M C_2H_5OH +0.5 M H_2SO_4	16
Pt-Ru/C	201.23	0.5 M C_2H_5OH + 0.1 M H_2SO_4	17
Pt_1Ru_1-RGO	1194	1.0 M C_2H_5OH + 1.0 M KOH	18
$Pt_{34}Pd_{33}Cu_{33}$	190	0.5 M C_2H_5OH + 0.1 M $HClO_4$	19
Pt-CeO_2-MWCNT	1410	1.0 M C_2H_5OH + 1.0 M KOH	20
$Pt_{23}Pd_{77}/C$	2453.7	1.0 M C_2H_5OH + 1.0 M KOH	This work

[a]NTAs: nanotube arrays; [b]CFC: carbon fiber cloth;
[c]PNPs: porous nanoparticles; [d]NSs: nanosheets;
[e]HNs: hollownanoflowers; [f]SNTAs: sandwich structured nanotube arrays;
[g]ANSDs: alloy nanosheet dendrites; [h]GCE: glass carbon electrode;
[i]BANWs: bimetallic alloy networks; [j]NPNCs: N-dopedporous carbon nanocapsules
[j]3DGF: 3D graphene framework

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