

Electronic supplementary information (ESI)

Galvanic replacement of electrodeposited nickel by palladium and investigation of the electrocatalytic activity of synthesized Pd/(Ni) for hydrogen evolution and formic acid oxidation

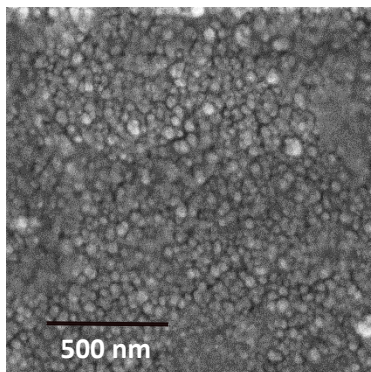


Fig. S1 FESEM images of and electrodeposited pure Pd film (mass loading: 0.015 mg cm^{-2})

Table S1 The comparison of mass activity (MA) and specific activity (SA) toward formic acid oxidation at peak potential as well as ECSA corresponding to the galvanically replaced Pd/(Ni) thin film catalyst with best results of some previous works

Electrocatalyst	Synthesis method	ECSA ($\text{m}^2 \text{g}^{-1}$)	MA (A mg^{-1})	SA (mA cm^{-2})	Ref.
Pd/(Ni) thin film	Galvanic replacement	31.9	1.39	4.36	This work
Pd/Ni ₂ P/C NPs	Microwave-assisted chemical reduction	63.6	1.43	2.24	1
Porous Pd NPs	Chemical reduction	43.8	1.15	2.63	2
Pd NWs	Chemical reduction	43.1	1.10	2.55	3
Pd-hollow/C	Galvanic replacement	15.1	0.96	6.35	4
Pd/CNT	Chemical reduction	55.3	0.75	1.36	5
Pd ₃ Au/C NPs	Chemical reduction	95.6	0.52	0.54	6
Pd-Co Nano-assemblies	Chemical reduction	20.2	0.27	1.32	7
Nano-porous Pd	Melt spinning/dealloying	23.0	0.26	1.13	8

References

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