Electronic Supplementary Information

A general strategy for facile synthesis of AuM (M = Pt/Pd) alloyed flowerlike-assembly nanochains for enhanced oxygen reduction reaction

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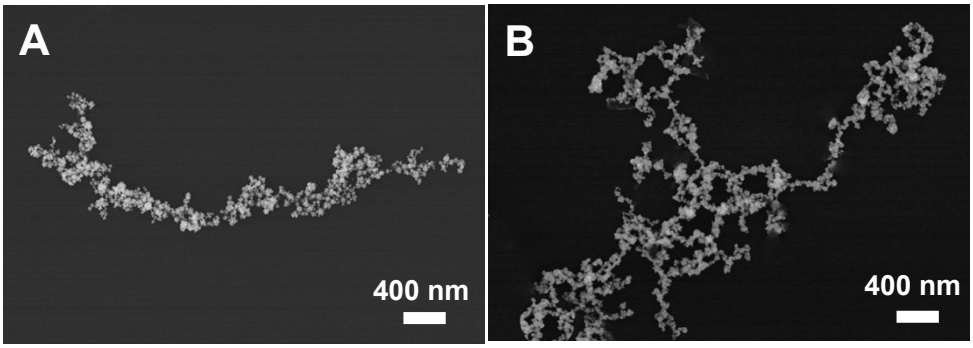

Fig. S1. FESEM images of AuPt FANs (A) and AuPd FANs (B).

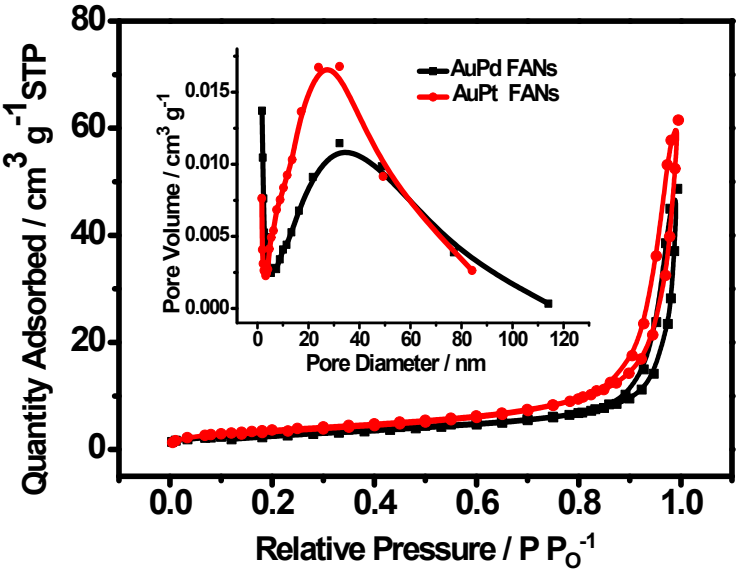

Fig. S2. N_2 adsorption-desorption isotherms of AuPt FANs (red curve) and AuPd FANs (black curve). Inset shows the corresponding pore size-distribution curves.

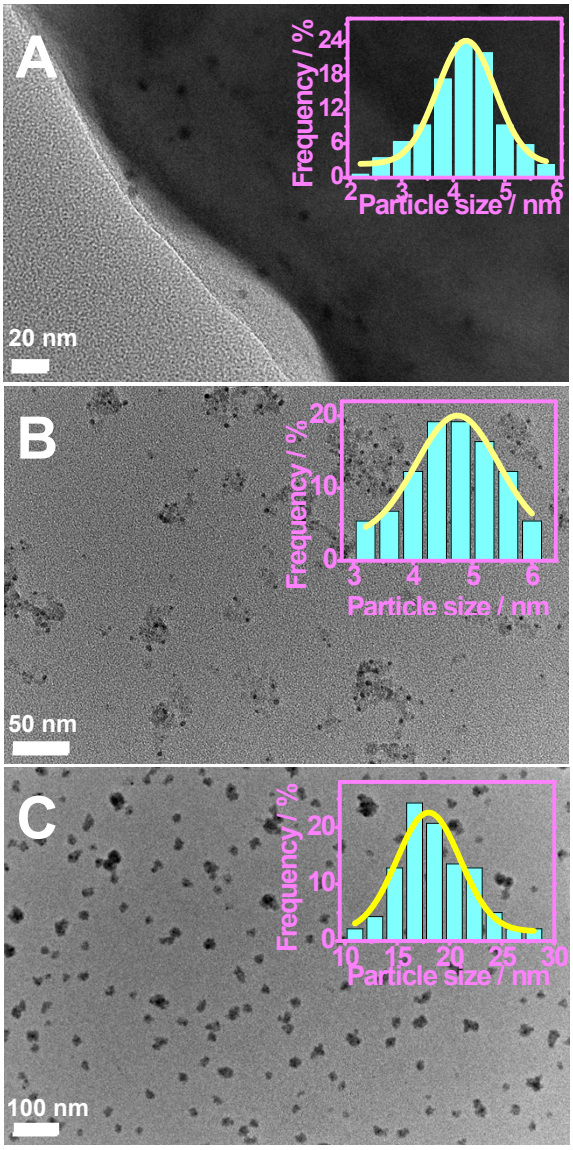

Fig. S3. TEM images of commercial Pt/C (A), Pt black (B), and Pd black (C). Insets show the corresponding size distributions.

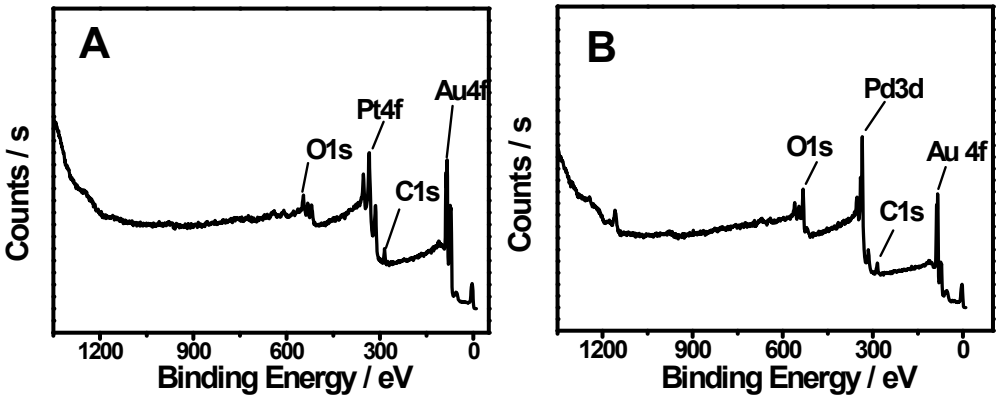

Fig. S4. Survey XPS spectra of (A) AuPt FANs and (B) AuPd FANs. O and C elements were come from the conductive adhesive, which was employed for attachment of samples in the XPS measurements.

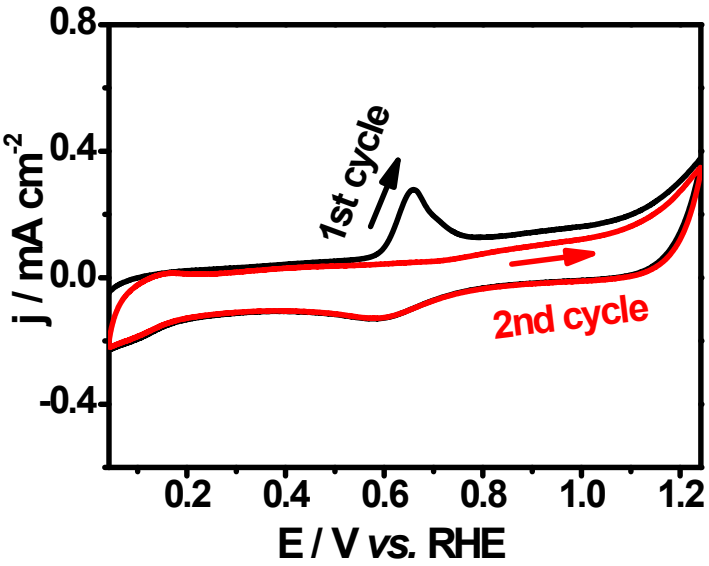

Fig. S5. CO-stripping voltammograms of E-TEK Pt/C modified electrode.

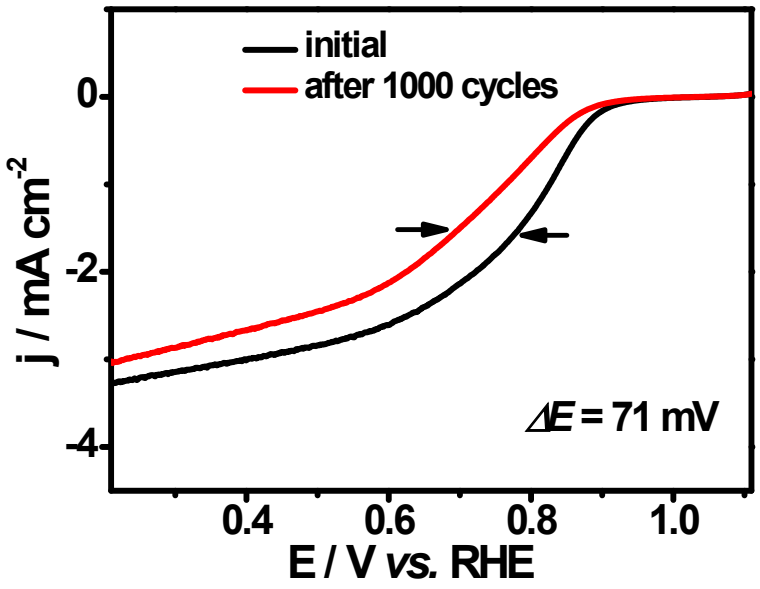

Fig. S6. ORR polarization curves of E-TEK Pt/C modified electrode before and after 1000 potential cycles at the scan rate of 5 mV s^{-1}.

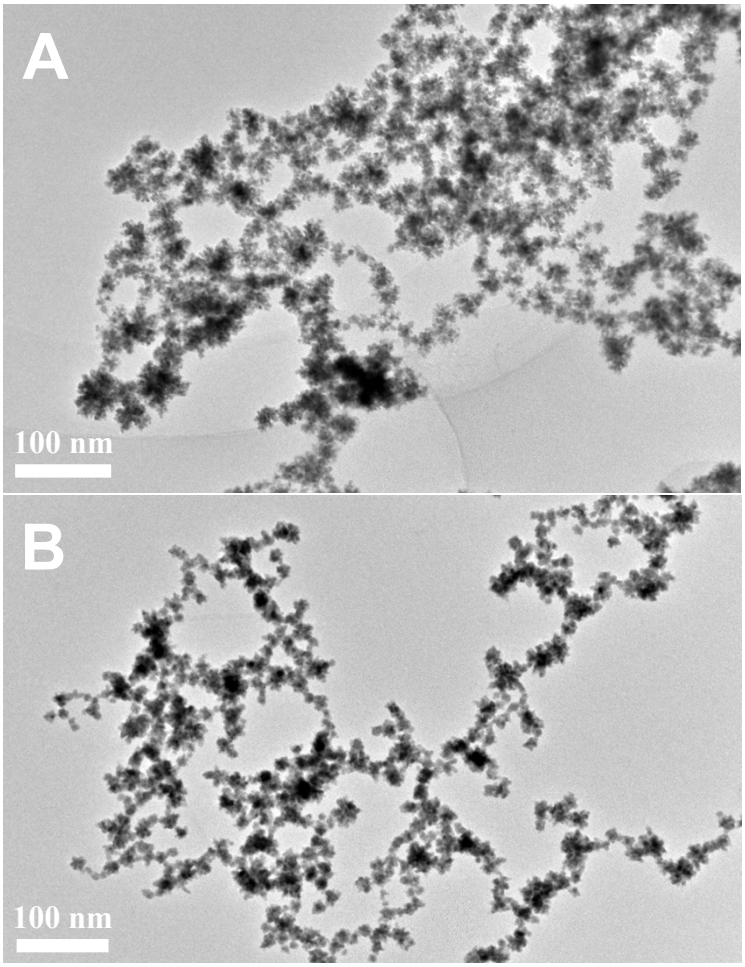

Fig. S7. TEM images of (A) AuPt FANs and (B) AuPd FANs after the catalytic processes.

Table S1. The BET specific surface areas and pore sizes of porous AuPt FANs and AuPd FANs.

Samples	**S_{BET} / m^2 g^{-1}**	**Pore Size/ nm**
AuPt FANs	13.44	1.75, 24.76
AuPd FANs	10.65	1.67, 26.43

Table S2. XPS analysis of the binding energy for the compositions in AuPt FANs and AuPd FANs.

Samples	Compositions	Binding energy / eV
AuPt FANs	Au^0	87.48, 83.83
	Au^{3+}	88.18, 84.27
	Pt^0	74.25, 70.84
	Pt^{2+}	75.61, 71.84
AuPd FANs	Au^0	87.58, 83.92
	Au^{3+}	87.98, 84.23
	Pd^0	340.57, 335.08
	Pd^{2+}	341.28, 335.78

Table S3. Comparison of the electrocatalytic performances of different catalysts.

Catalysts	ECSAs ($m^2 g^{-1}$)	Mass Activity (mA mg^{-1})	Special Activity (mA cm^{-2})	Ref.
AuPt FANs	39.01	215.245	0.5	This work
AuPd FANs	34.50	193.73	0.56	This work
Pt_3Co nanoflower	13.16	125.08	0.951	1
PtAu-rGO	75.27	300	0.40	2
PtPd nanoflower	12.21	123.60	0.60	3

References

1. J.-N. Zheng, L.-L. He, C. Chen, A.-J. Wang, K.-F. Ma and J.-J. Feng, *J. Power Sources*, 2014, **268**, 744-751.
2. J.-N. Zheng, L.-L. He, F.-Y. Chen, A.-J. Wang, M.-W. Xue and J.-J. Feng, *J. Mater. Chem. A*, 2014, **2**, 12899-12906.
3. J.-N. Zheng, L.-L. He, F.-Y. Chen, A.-J. Wang, M.-W. Xue and J.-J. Feng, *Electrochim. Acta*, 2014, **137**, 431-438.