Supporting Information

Cu^{+} assisted preparation of mesoporous Pt-organic composites for highly selective and sensitive non-enzymatic glucose sensing

Jing-Fang Huang*

Department of Chemistry, National Chung Hsing University, Taichung 402, Taiwan, R.O.C.

*Corresponding Author. E-mail: jfh@dragon.nchu.edu.tw

Fig. S1 TEM images of NF(Pt_{nano}) composites with Pt loading of (a) ~15 μg cm^{-2} and (b) ~200 μg cm^{-2}.

Fig. S2 The high-resolution TEM image of the (NF(Pt_{nano})) composite with Pt loading of ~15 μg cm^{-2}

Fig. S3 XPS spectrum of NF(Pt_{nano}) composite.

Table S1 Analytical performance comparisons of various materials for the non-enzymatic glucose sensing

Table S2 Determination of glucose in blood serum samples (n = 5).

Fig. S1

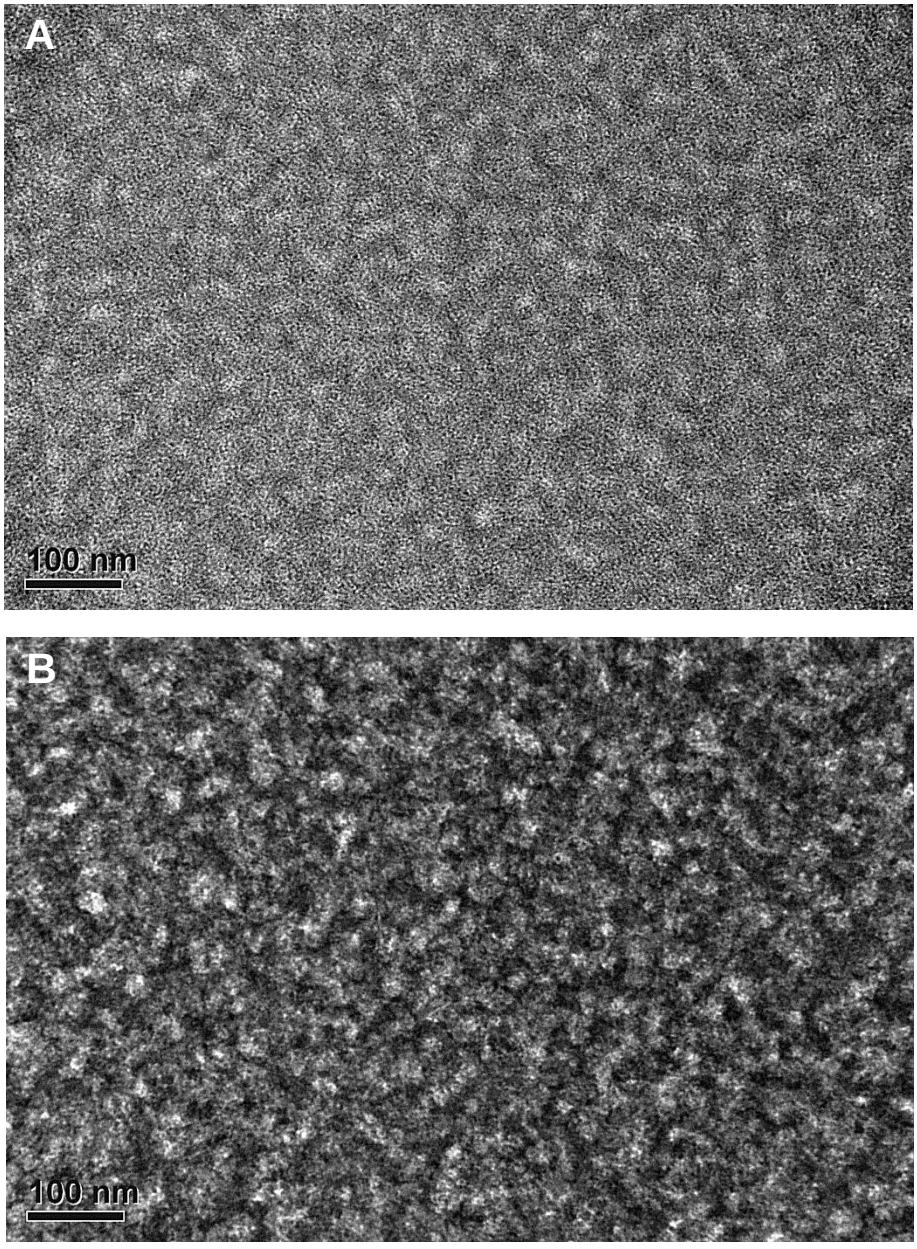

Fig. S1 TEM images of NF(Pt_{nano}) composites with Pt loading of (A) ~15 μg cm^{-2} and (B) ~200 μg cm^{-2}.

Fig. S2

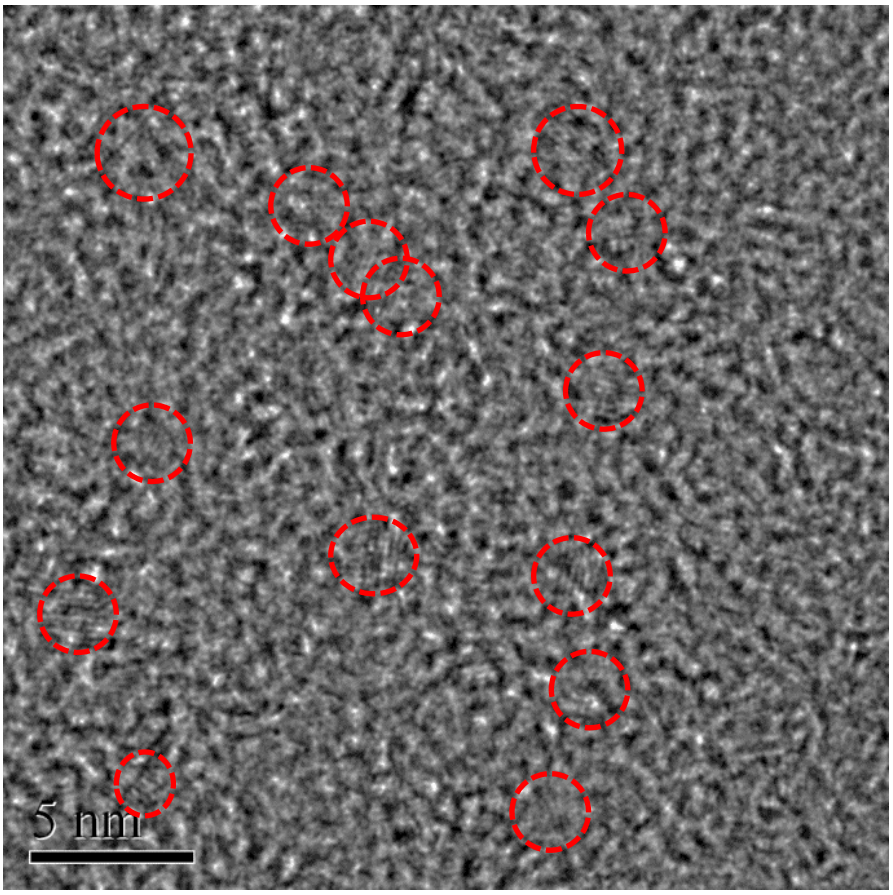

Fig. S2 The high-resolution TEM image of the (NF(Pt_{nano})) composite with Pt loading of ~15 μg cm^{-2}

Fig S3

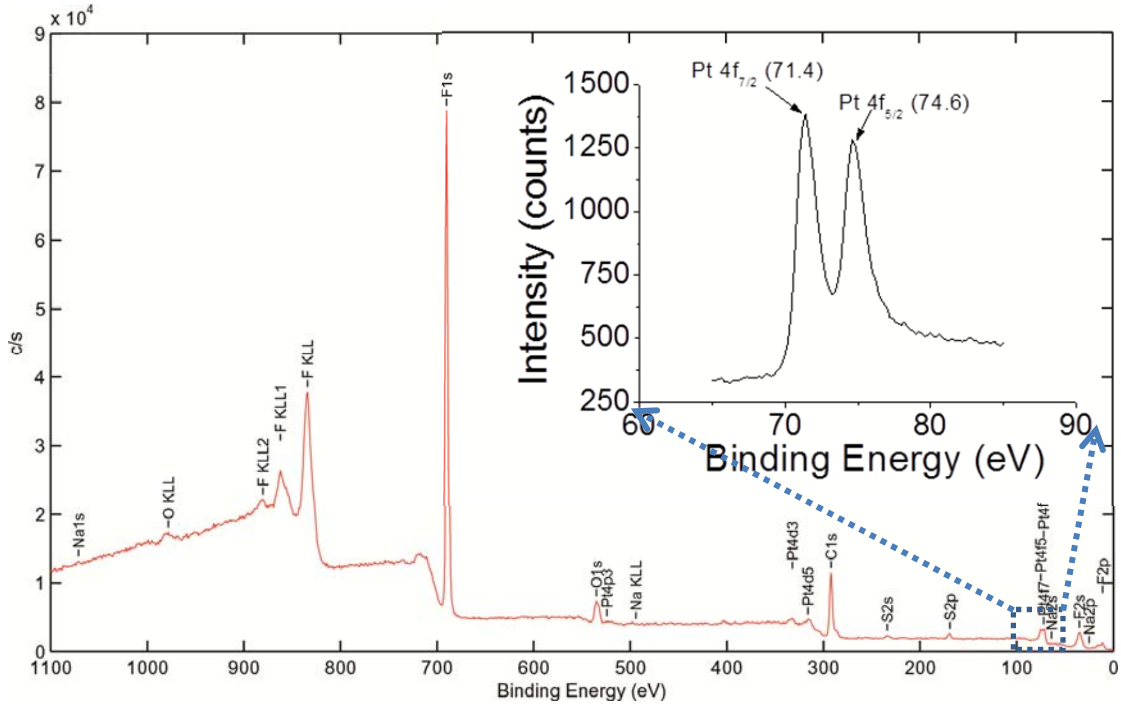

Fig. S3 XPS spectrum of NF(Pt_{nano}) composite.

Table S1 Analytical performance comparisons of various materials for the non-enzymatic glucose sensing

Materials	Sensitivity ($\mu A\ cm^{-2}\ mM^{-1}$)	Linear range (mM)	Detection limit (mM)	Applied Potential (V vs. Ag/AgCl)	Ref.
Mesoporous Pt	9.6	1-10	Not given	0.4	9
Nanoporous PtPb	10.8	1-16	Not given	0.4	10
Pt Nanotuble Arrays	0.1	2-14	0.001	0.4	40
Porous Au	11.8	2-10	0.005	0.35	51
Pt-Pb alloy nano-particles-MWCNTs	17.8	1-11	0.0018	0.3	52
Cu-BDD microelectrode array	9.2	1-5	Not given	0.6	41
Microelectrode array NF(Pt_{nano})	7.5	1-15	0.05	0.4	this work
Mesoporous NF(Pt_{nano})	12.7-39.5	0.1-20	0.005	0.4	this work

Table S2 Determination of glucose in blood serum samples (n = 5)

Serum sample	[Glucose] (mM)	Glucose added (mM)	Glucose found (mM)	Recovery (%)
#1	0.2 (±0.012)	0.1	0.30 (±0.010)	100
		0.2	0.41 (±0.013)	98.5
#2	0.6 (±0.011)	0.1	0.71 (±0.012)	98
		0.2	0.82 (±0.010)	105