Electronic Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting information

Au@SiO_2 nanoparticles coupling co-sensitizers for synergic efficiency enhancement of dye sensitized solar cells

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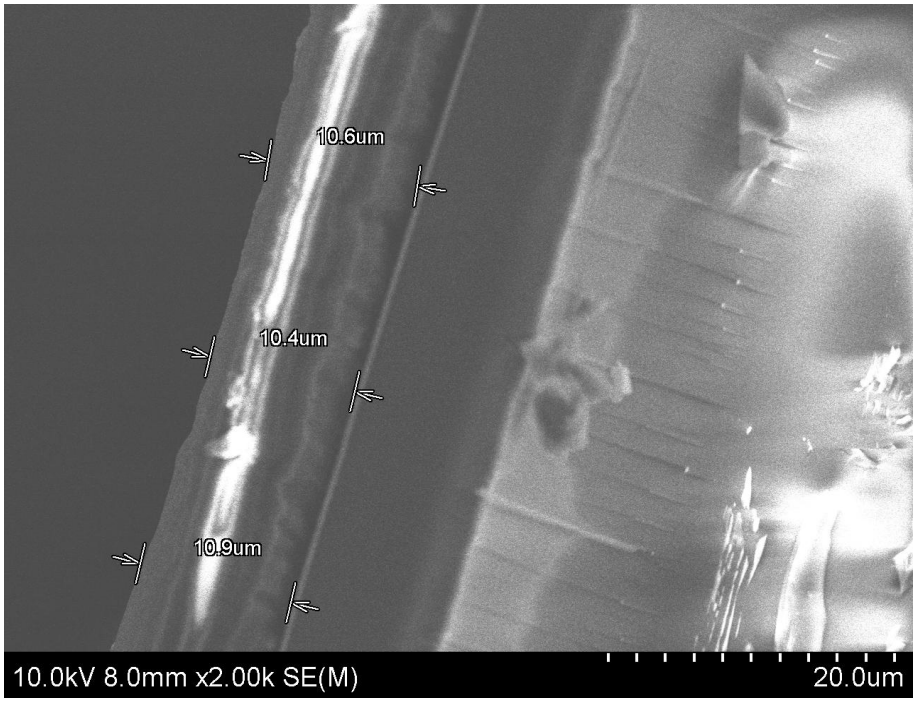


Figure S1. Side view of TiO_2 electrode. The thickness is about 10.5 μm.

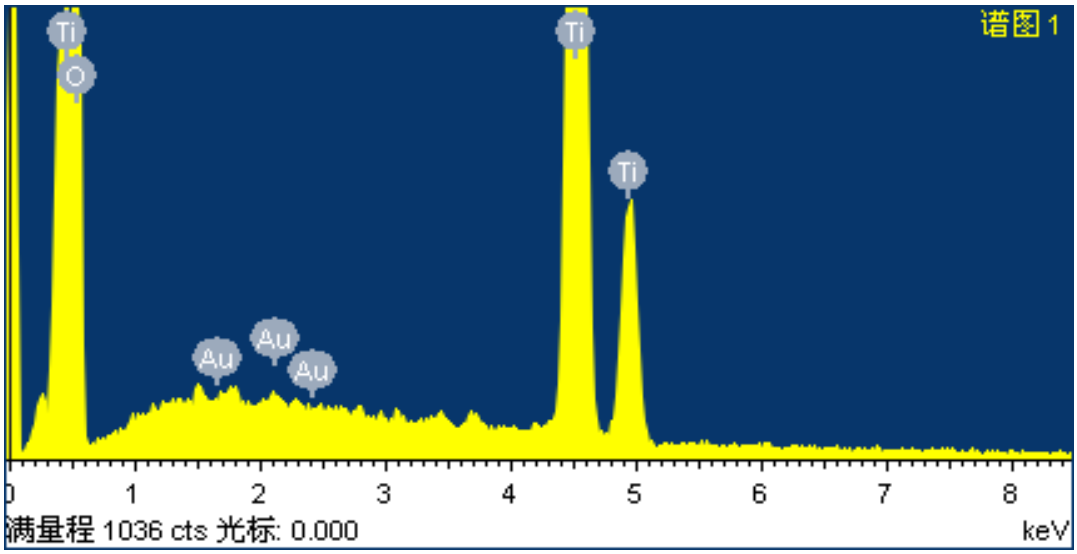
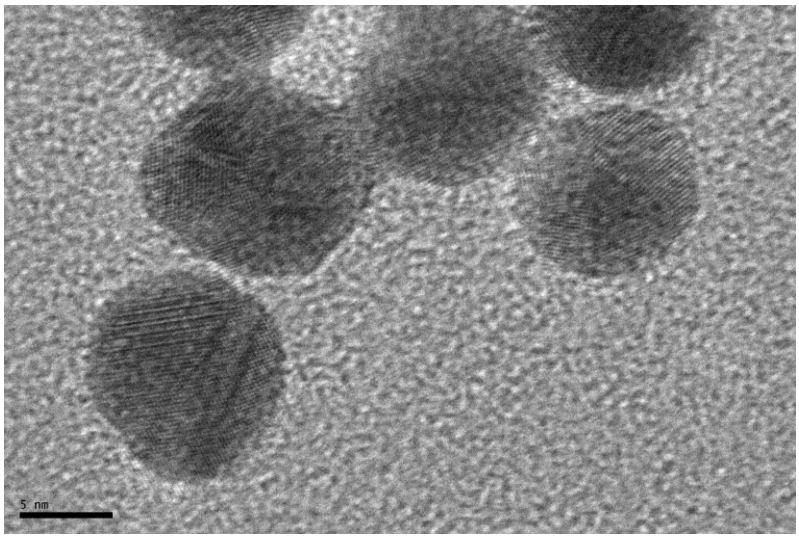


Figure S2. EDS (Energy Diffraction Spectrum) of the electrode incorporating with Au@SiO_2 nanoparticles.

Table S1. The element composition of electrode

Elements	Weight(%)	Atom Quantity (%)
O K	43.81	70.05
Ti K	56.04	29.93
Au M	0.16	0.02
total	100.00	



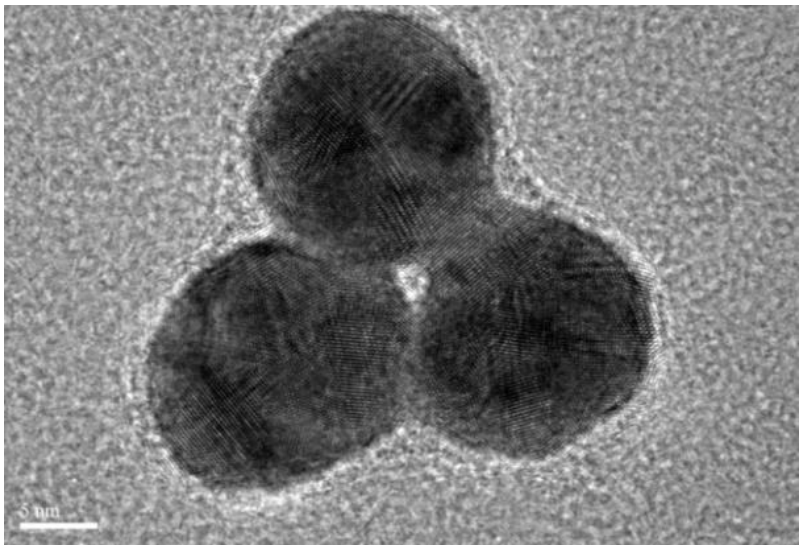


Figure S2. TEM photograph of bare Au nanoparticles (the first one) and Au@SiO_2 nanoparticles (the second one)

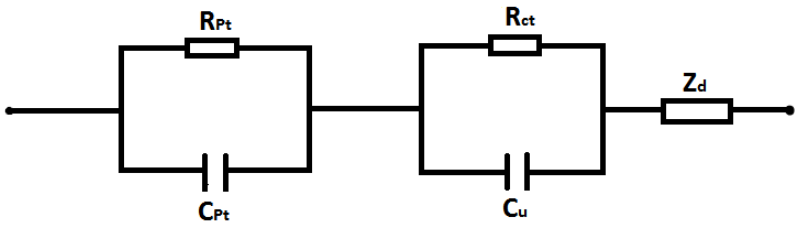


Figure S3. Simulation circuit to model the DSSC. R_{Pt} and C_{Pt} stand for the resistance and capacitance on the interface of electrolyte and Pt doped counter electrode. R_{ct} and C_u represent the resistance and capacitance on the interface of TiO_2 electrode and electrode. Z_d is the impedance of I^-/I_3^- diffusing in electrolyte.

Table S2. The values of resistances obtained from the simulation for different samples.

	TiO_2+N3	TiO_2+N3+N719	TiO_2+Au+N3+N719
R_{Pt} (Ω)	1.628	2.319	1.094
R_{ct} (Ω)	7.821	16.300	12.750