

Noble metal modified TiO₂ hierarchically structured microspheres with enhanced photocatalytic activity

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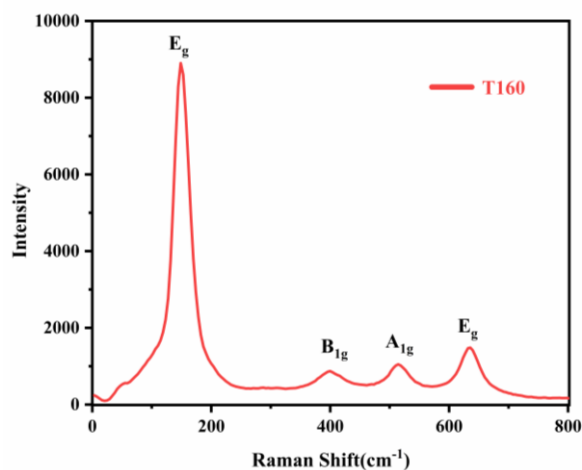


Figure S1. Raman spectroscopy of T160.

Table S1. Crystallite sizes of samples calculated from XRD by Debye-Scherrer Formula.

	T100	T120	T140	T160	T180	T200
Crystallite sizes (nm)	20.39	27.09	27.09	27.09	27.09	27.10

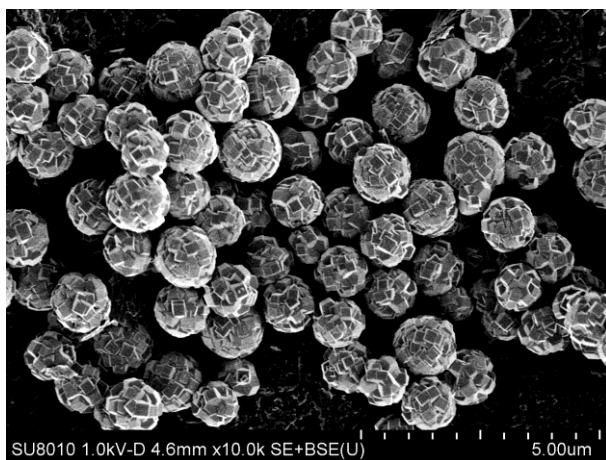


Figure S2. Low magnification SEM image of T160.

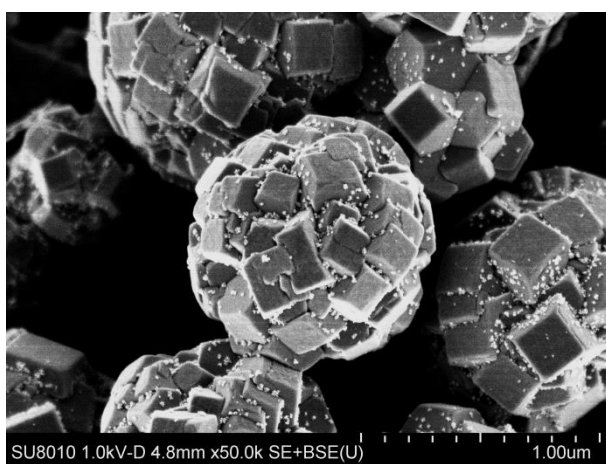


Figure S3. SEM image of TPt.

Table S2. The content of vacancy oxygen (O_v).

	T160	TCu	TPd	TAg	TPt	TAu
$O_v/O(\%)$	21.5	27.3	27.2	28.6	27.3	24.5

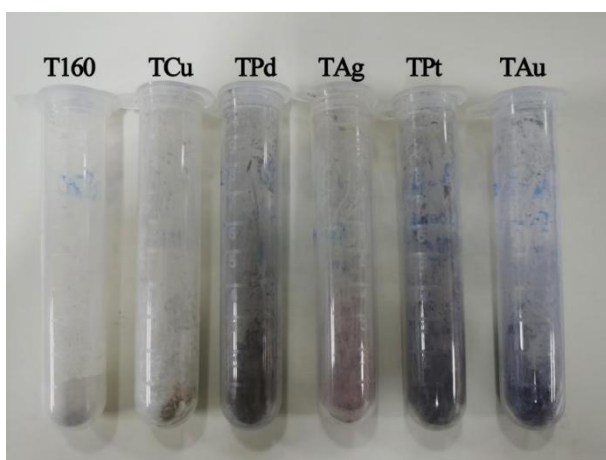


Figure S4. Macroscopic color of the samples.

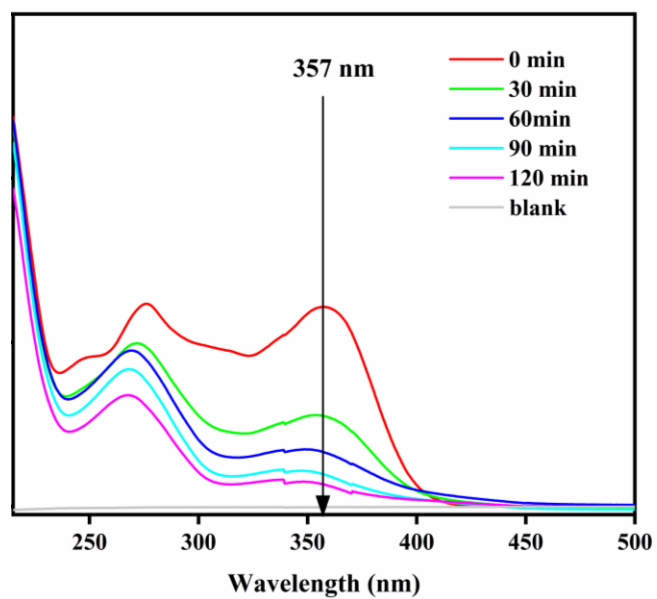


Figure S5. The change of absorption spectrum during the TC degradation (TPt).

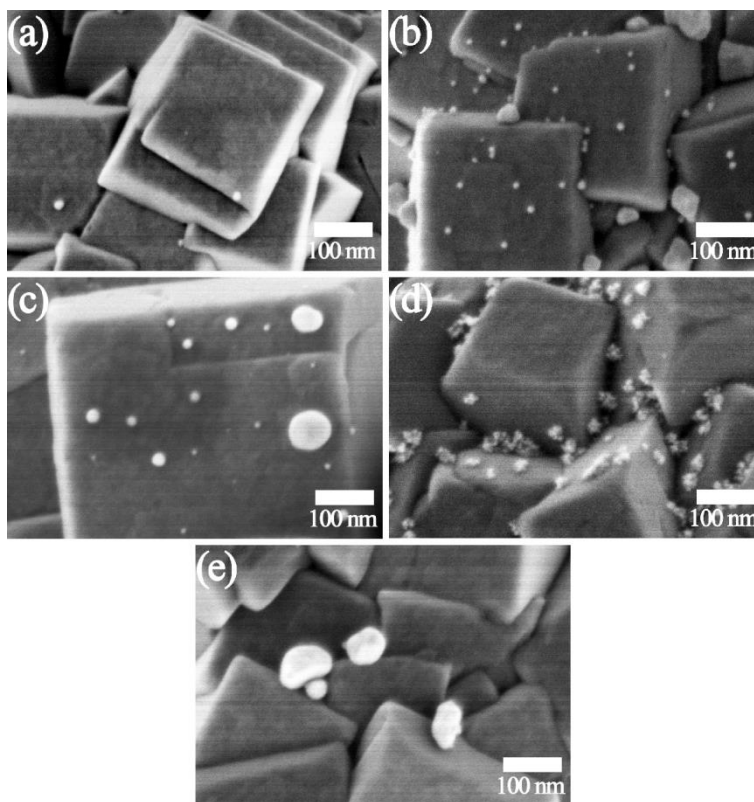


Figure S6. SEM image of deposited samples, (a) TCu, (b) TPd, (c) TAg, (d) TPt, (e) TAg.

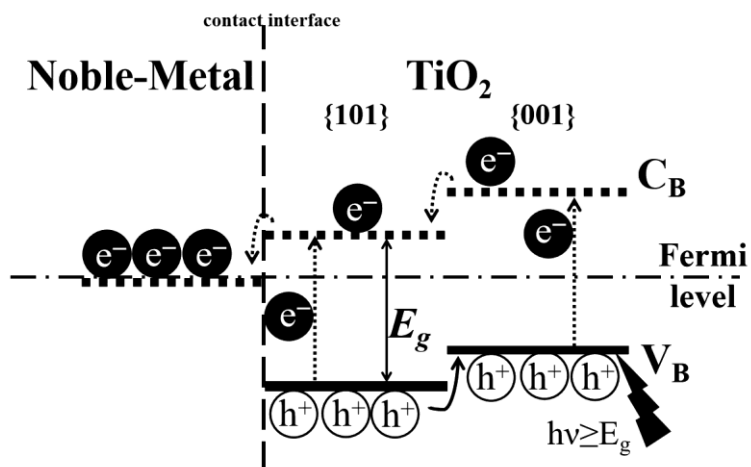


Figure S7. Schematic diagram of photogenerated electron transfer and electron trap of noble-metal.

Table S3. The Photocatalytic activity of the samples and P25 .

	P25	T160	TCu	TPd	TAg	TPt	TAu
Degradation activity (k/m ²)	1.17·10 ⁻³	1.85·10 ⁻³	3.75·10 ⁻³	2.73·10 ⁻³	2.07·10 ⁻³	4.57·10 ⁻³	2.33·10 ⁻³