

Supporting Information for

Efficient photocatalysis with graphene oxide/Ag/Ag₂S-TiO₂ nanocomposites under visible light irradiation†

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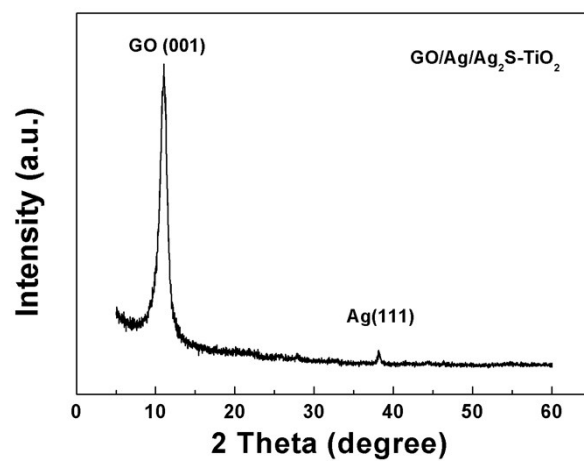


Figure S1. XRD spectrum of GO/Ag/Ag₂S-TiO₂ sample.

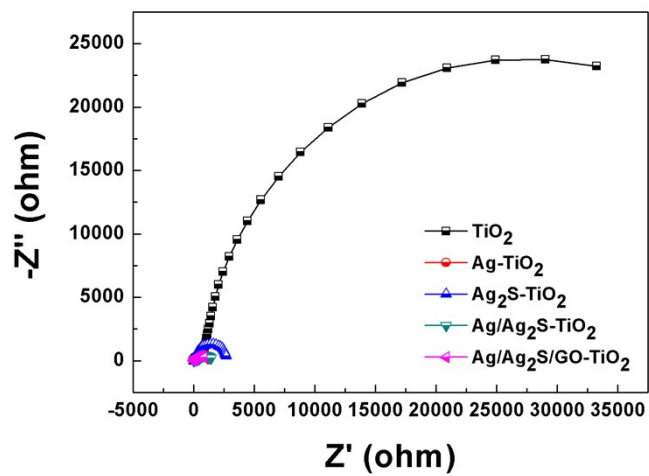


Figure S2. Full Nyquist plots under visible light at open circuit voltage of all decorated sample.

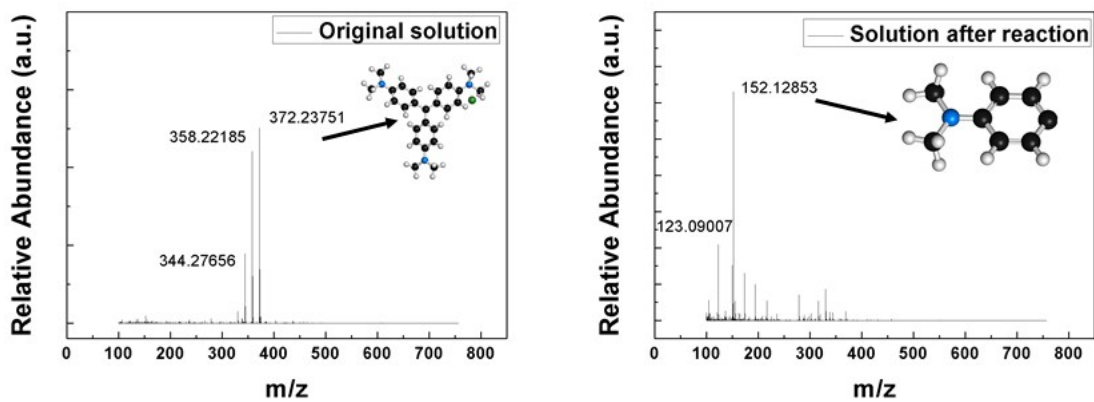


Figure S3. MS spectra of CV(aq), before and after prolonged irradiation for GO/Ag/Ag₂S-TiO₂ NRAs and related molecular structures.

Table S1 Degradation efficiency of different Ag and Ag₂S decorated cycle numbers combination (5 μM MO under visible light)

Ag ₂ S\Ag (cycles)	5	10	15	20
10	0.228	0.239	0.201	0.192
20	0.161	0.259	0.202	0.206
30	0.149	0.214	0.190	0.170
40	0.143	0.176	0.162	0.140

Table S2 The calculated values of all elements through fitting of the experimental impedance spectra based upon the proposed equivalent circuit in Figure 5(d)

Sample	R_0	Q_1		R_1	Q_2		R_2	Q_3		R_3	Q_4		R_4
		Y_1	n_1		Y_2	n_2		$CPE2-P$	Y_3		n_3	Y_4	
TiO₂	2.55	3.19×10^{-7}	0.917	15.5	2.40×10^{-6}	0.773	809	2.14×10^{-5}	0.928	5390	--	--	--
Ag- TiO₂	2.91	4.43×10^{-7}	0.853	10.8	1.18×10^{-5}	0.727	337	1.24×10^{-4}	0.948	958	--	--	--
Ag₂S-TiO₂	2.95	6.90×10^{-7}	0.825	11.8	8.54×10^{-6}	0.790	89.3	9.37×10^{-5}	0.976	2685			
Ag/Ag₂S-TiO₂	3.11	2.18×10^{-7}	0.927	9.41	2.86×10^{-5}	0.613	454.9	1.51×10^{-4}	0.919	747	2.79×10^{-3}	0.680	696
GO/Ag/Ag₂S-TiO₂	3.05	3.92×10^{-7}	0.871	21.2	1.34×10^{-4}	0.928	674	3.87×10^{-4}	0.570	18.6	1.60×10^{-3}	0.760	1011