

Electronic Supplementary Information

Visible light active Ag@TiO₂ nanocomposite synthesized by electrochemically active biofilm: A novel biogenic approach

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UV-vis diffuse absorption spectra of Ag@TiO₂ nanocomposites and pure TiO₂

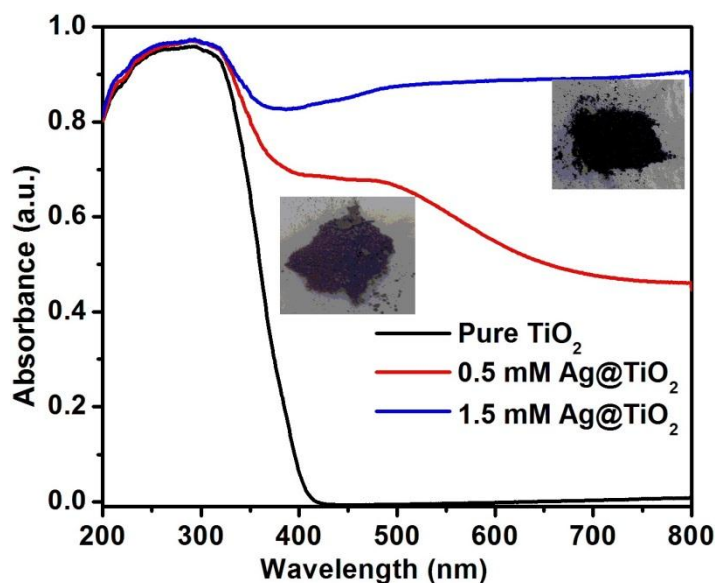


Fig. S1. UV-vis diffuse absorption spectra of Ag@TiO₂ nanocomposites and pure TiO₂

SEM image of 0.5 mM Ag@TiO₂ nanocomposites

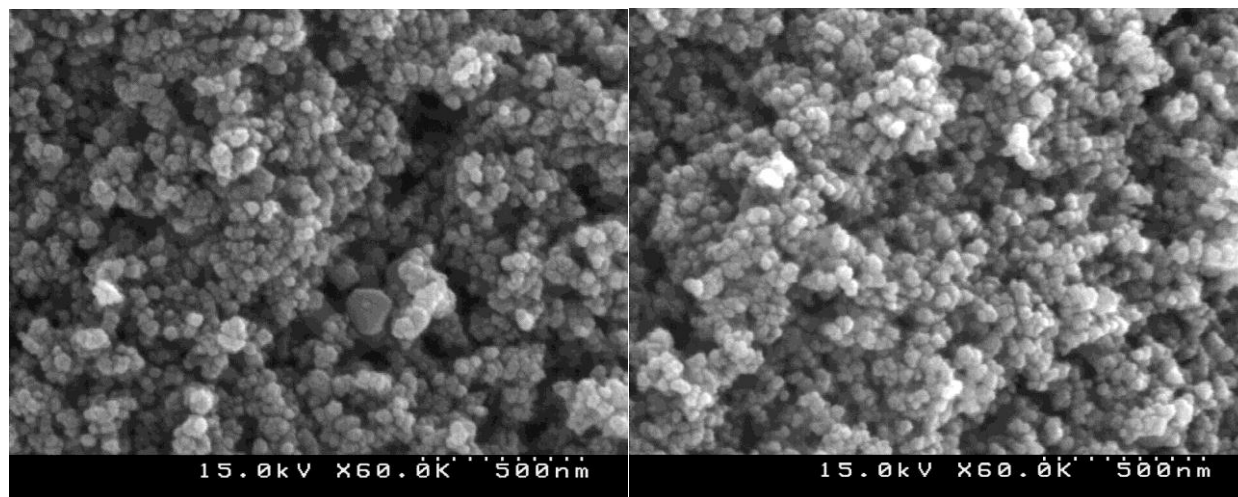


Fig. S2. SEM image of Ag@TiO₂ nanocomposites.

Acquire HAADF of 0.5 mM Ag@TiO₂ nanocomposites

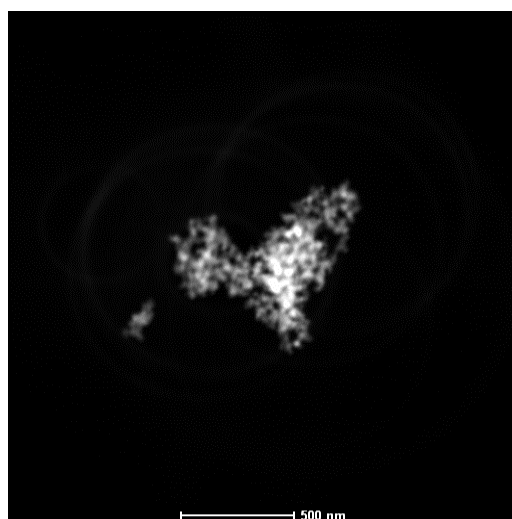


Fig. S3. Representative HAADF FE-TEM image of 0.5 mM Ag@TiO₂ nanocomposites.

EDX of 0.5 mM Ag@TiO₂ nanocomposites

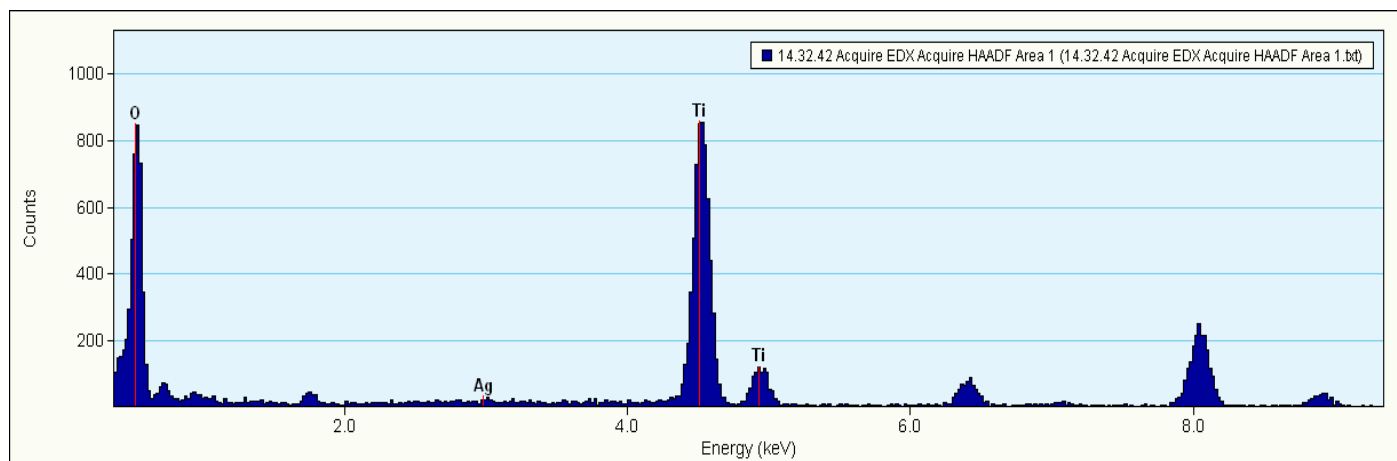


Fig. S4. EDX of 0.5 mM Ag@TiO₂ nanocomposites.

Table S1. Elemental composition of 0.5 mM Ag@TiO₂ nanocomposites

Element	Weight %	Atomic %	Uncert. %	Detector correction	k-Factor
O(K)	42.67	69.57	0.95	0.49	1.974
Ti(K)	54.68	29.78	0.72	0.98	1.229
Ag(K)	2.63	0.63	0.30	0.98	6.491

SEM image of 1.5 mM Ag@TiO₂ nanocomposites

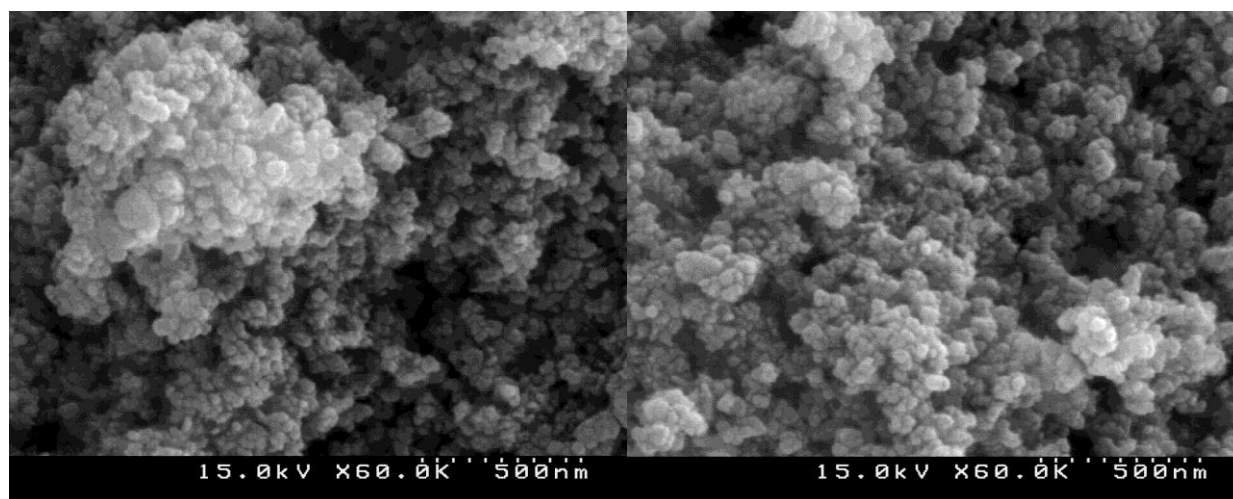


Fig. S5. SEM image of 1.5 mM Ag@TiO₂ nanocomposites.

Acquire HAADF of 1.5 mM Ag@TiO₂ nanocomposites

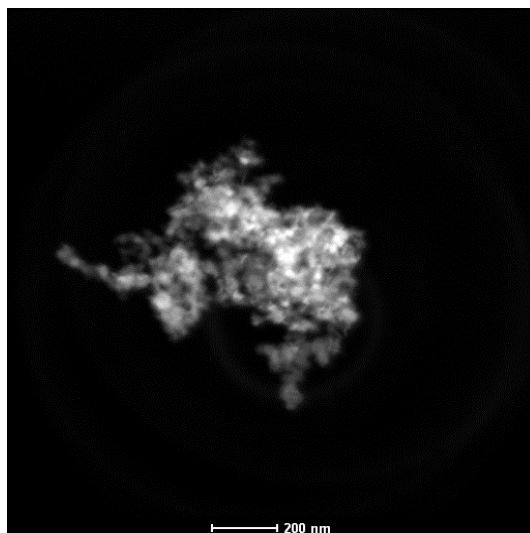


Fig. S6. Representative HAADF FE-TEM image of 1.5 mM Ag@TiO₂ nanocomposites.

EDX of 1.5 mM Ag@TiO₂ nanocomposites

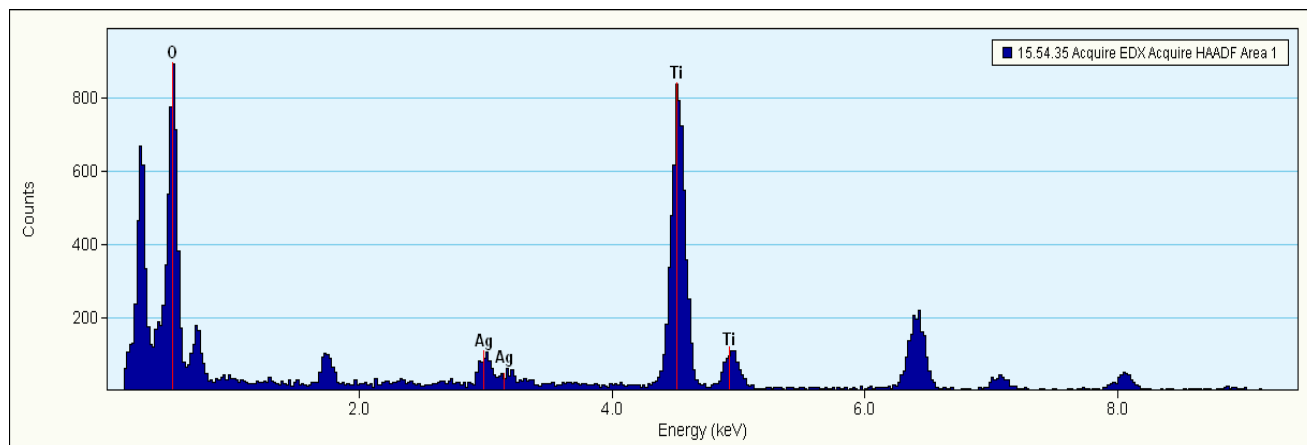


Fig. S7. EDX of 1.5 mM Ag@TiO₂ nanocomposites.

Table S2. Elemental composition of 1.5 mM Ag@TiO₂ nanocomposites

Element	Weight %	Atomic %	Uncert. %	Detector correction	k-Factor
O(K)	43.69	72.01	0.84	0.49	1.974
Ti(K)	46.45	25.57	0.60	0.98	1.229
Ag(K)	9.85	2.40	0.59	0.98	6.491

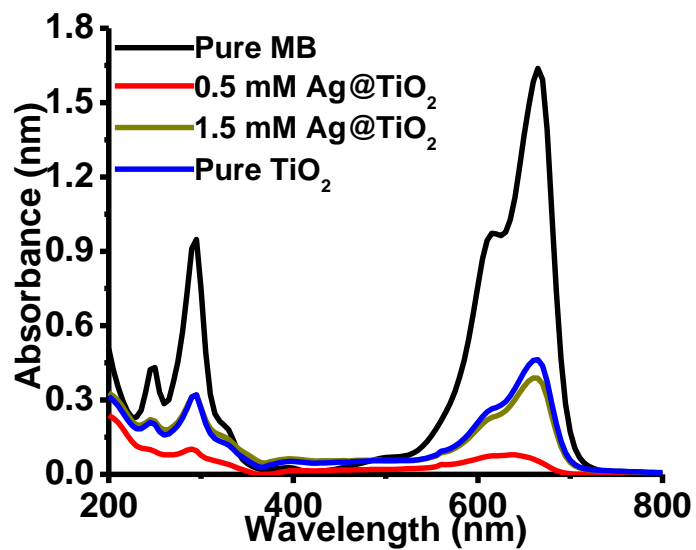


Fig. S8. UV-vis spectra show the decrease in the absorbance of MB degradation by 0.5, 1.5 mM Ag@TiO₂ nanocomposite and pure TiO₂ after 4 h of the visible light irradiation.