

Supplementary materials of Ag₂O•SrO•CaO

Table S1. EDS data of Ag₂O•SrO•CaO

Element	Weight %	Atomic %
O K	50.98	79.90
Ca K	18.24	11.41
Sr L	28.51	8.16
Ag L	2.26	0.53

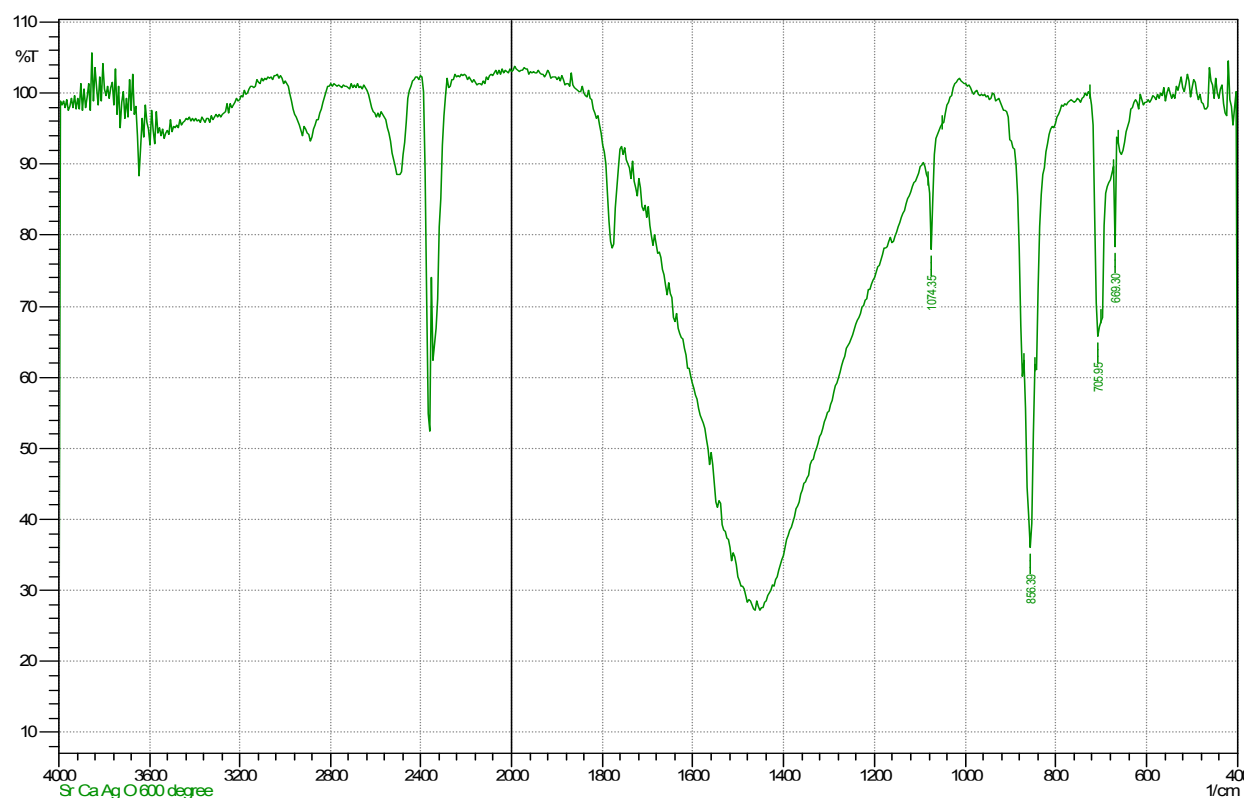


Figure S1: The FTIR spectrum of Ag₂O•SrO•CaO nanocomposite calcined at 600 °C

Table S2: Excitation wavelength dependent emissions of Ag₂O•SrO•CaO nanocomposite calcined at 600 °C

Excitation wavelength (nm)	Emissions observed (nm)
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294	368, 462
300	369, 476
330	372, 410
350	384, 430

Table S3: Monitored wavelength dependent excitations of $\text{Ag}_2\text{O}\cdot\text{SrO}\cdot\text{CaO}$ nanocomposite calcined at 600 °C

Excitation wavelength (nm)	Emissions observed (nm)
380	333
450	331, 352
480	350, 421
500	345, 435, 459

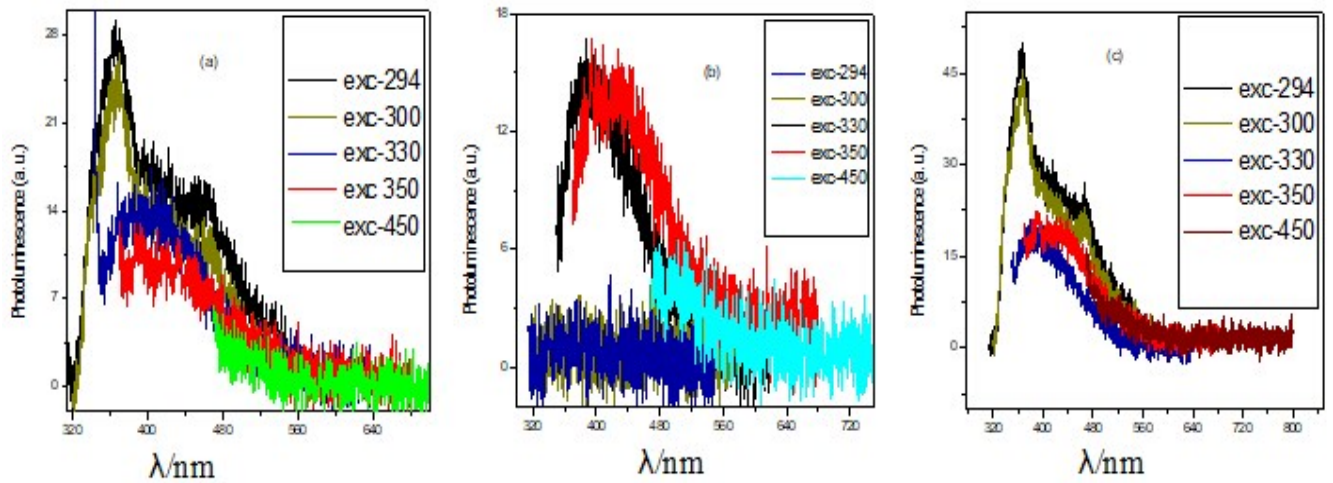


Figure S2: PL spectra of single metal oxide nanocomposites heated at 600 °C at various wavelengths of excitations (a)SrO, (b) Ag_2O and (c) CaO

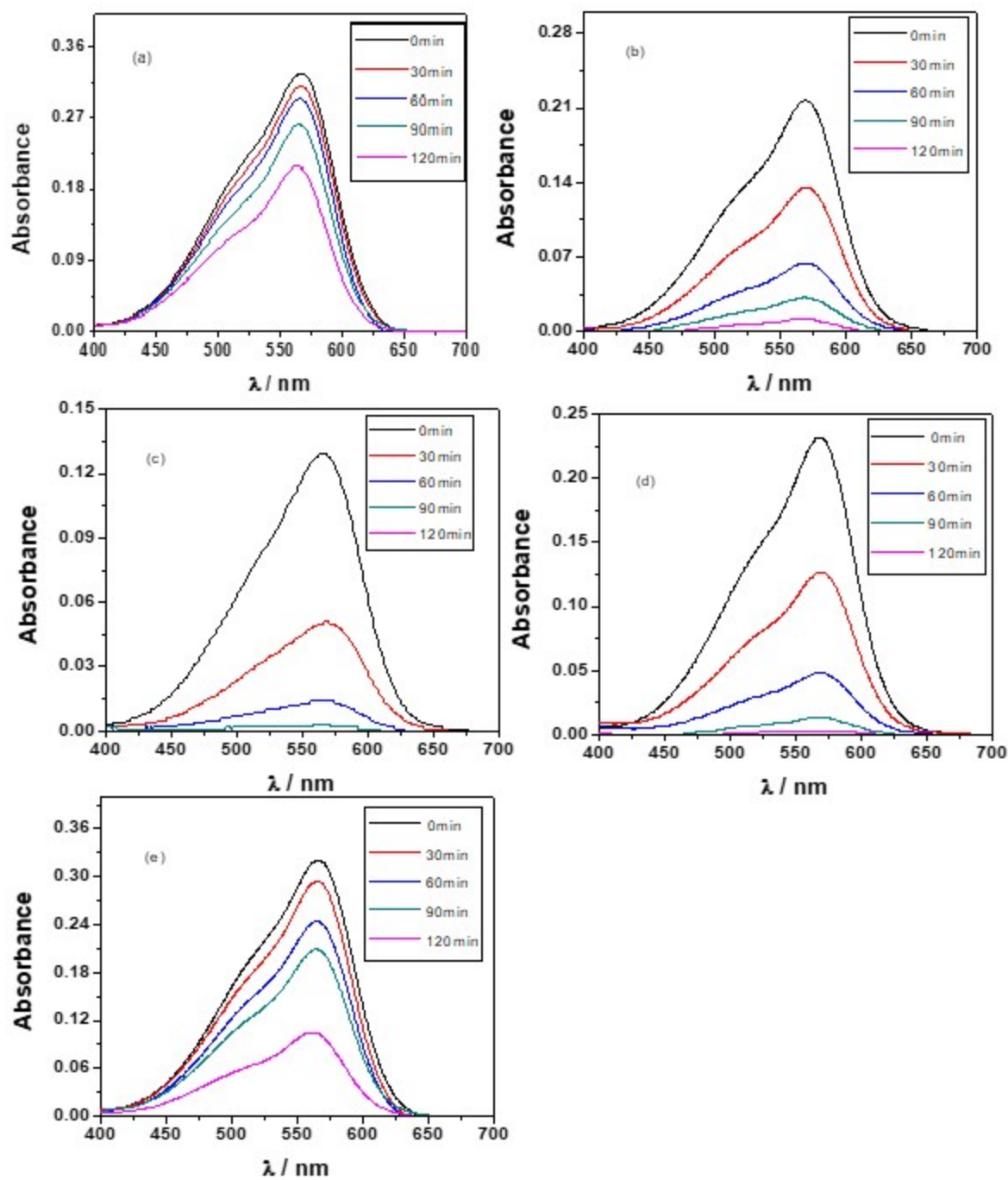


Figure S3: Determination of optimum photocatalyst amount on degradation rate constants of MV dye under visible light: (a) 0.03 gL⁻¹, (b) 0.04 gL⁻¹, (c) 0.05 gL⁻¹, (d) 0.06 gL⁻¹, (e) 0.07 gL⁻¹ degradation of MV (MV concentration: 0.0393 gL⁻¹, pH 9, irradiation time 150min);

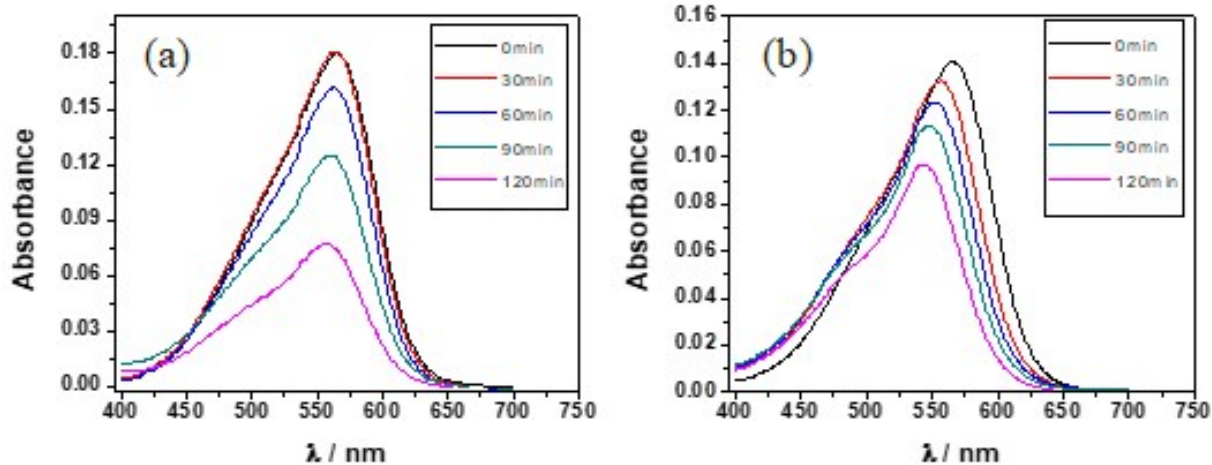


Figure S4: Variation in the absorption spectra of the photocatalytic degradation of MV dye in the presence of $\text{Ag}_2\text{O}\cdot\text{SrO}\cdot\text{CaO}$ catalyst under visible light irradiation for 120 minutes with 30 minutes time intervals: (a) at pH 7 and (b) at pH 4 (MV concentration: 0.0393 gL^{-1} , catalyst dosages: 0.05 gL^{-1})

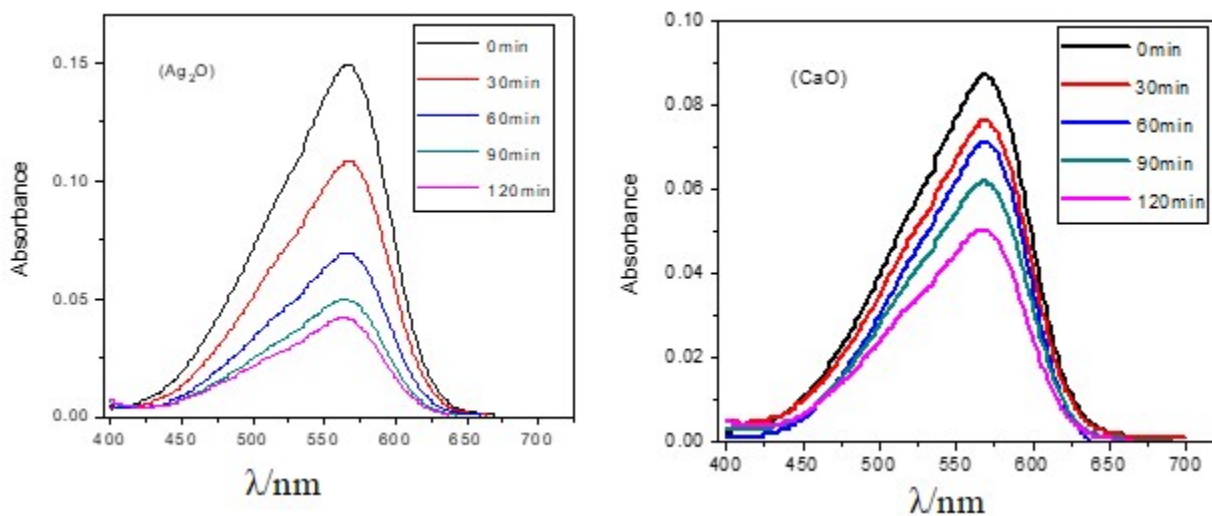


Figure S5: Photocatalytic degradation of MV dye at pH 9 under visible light irradiation for 120 minutes with 30 minutes time intervals in the presence of (a) Ag_2O catalyst, (b) CaO catalyst.

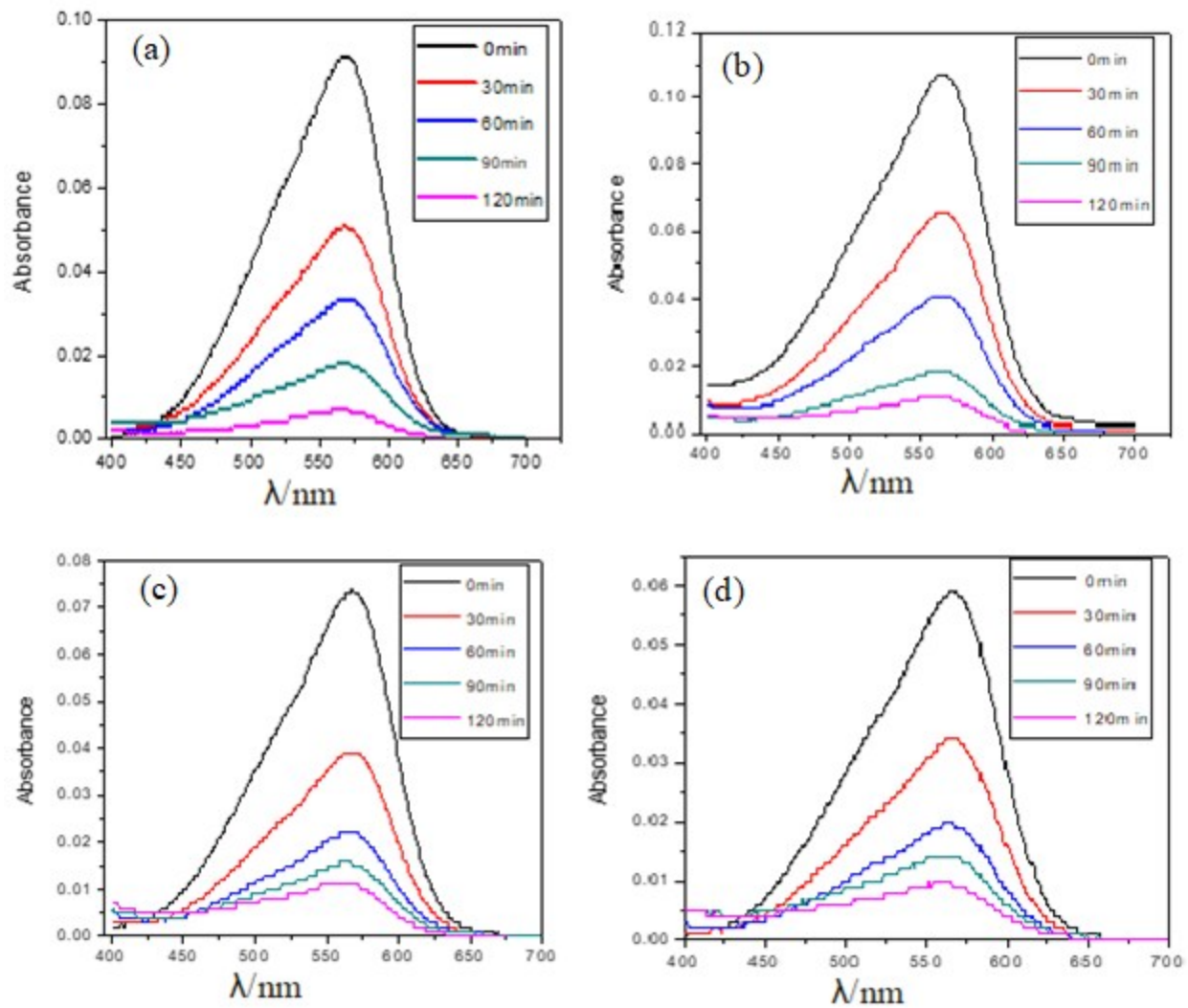


Figure S6: Recycle and reuse of $\text{Ag}_2\text{O}\cdot\text{SrO}\cdot\text{CaO}$ photocatalyst for MV dye degradation (MV concentration: 0.0393 gL^{-1} ; photocatalyst dosage: 0.05 gL^{-1} in the presence of catalyst at pH 9 (a-d) decrease in absorption from 2nd to 5th cycle.