

Supplementary Materials for

Selective photocatalytic aerobic oxidation of methane into carbon monoxide over Ag/AgCl@SiO₂

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- Table S1. ICP - OES analysis of Ag/AgCl@SiO₂-x.

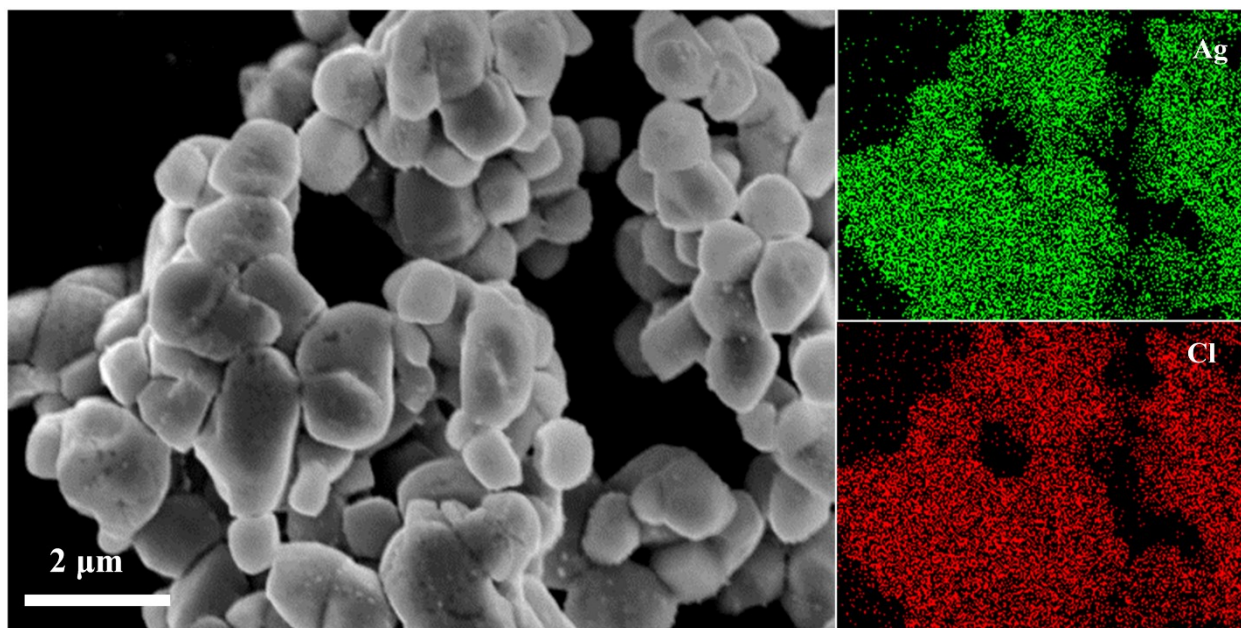


Fig. S1. The elemental mapping of Ag/AgCl.

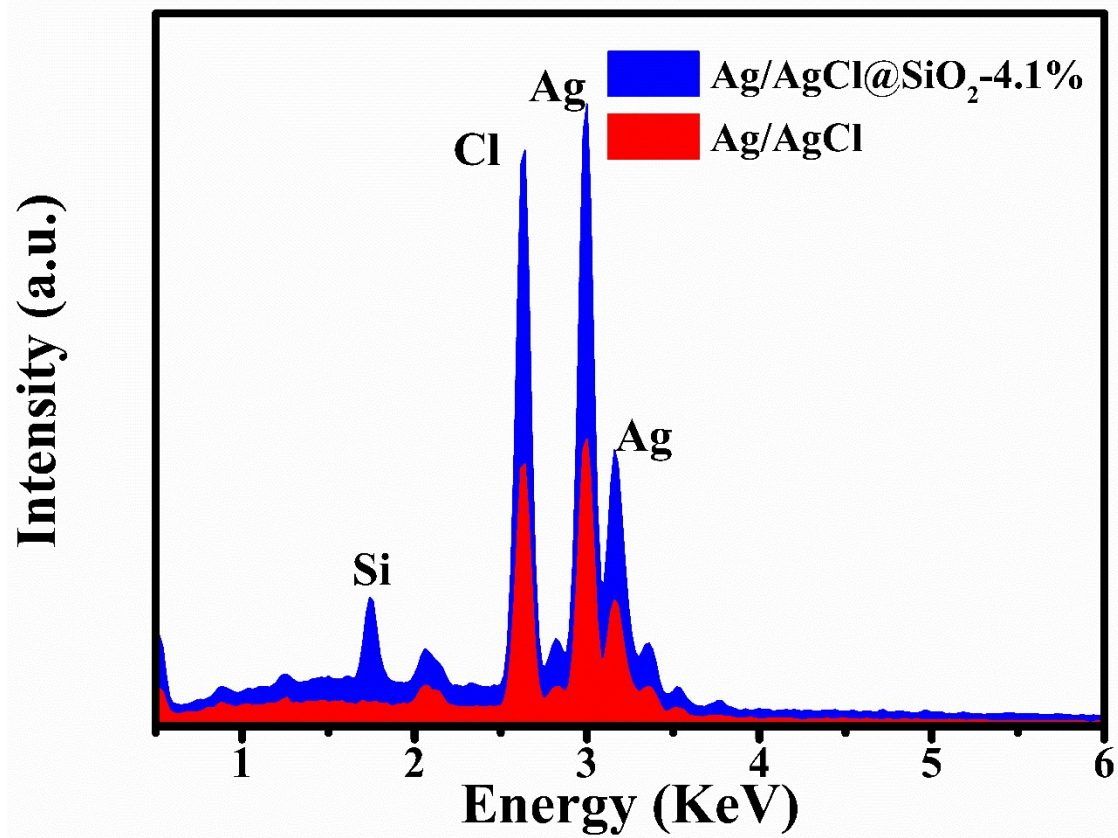


Fig. S2. EDS analysis of Ag/AgCl and Ag/AgCl@SiO₂-4.1%.

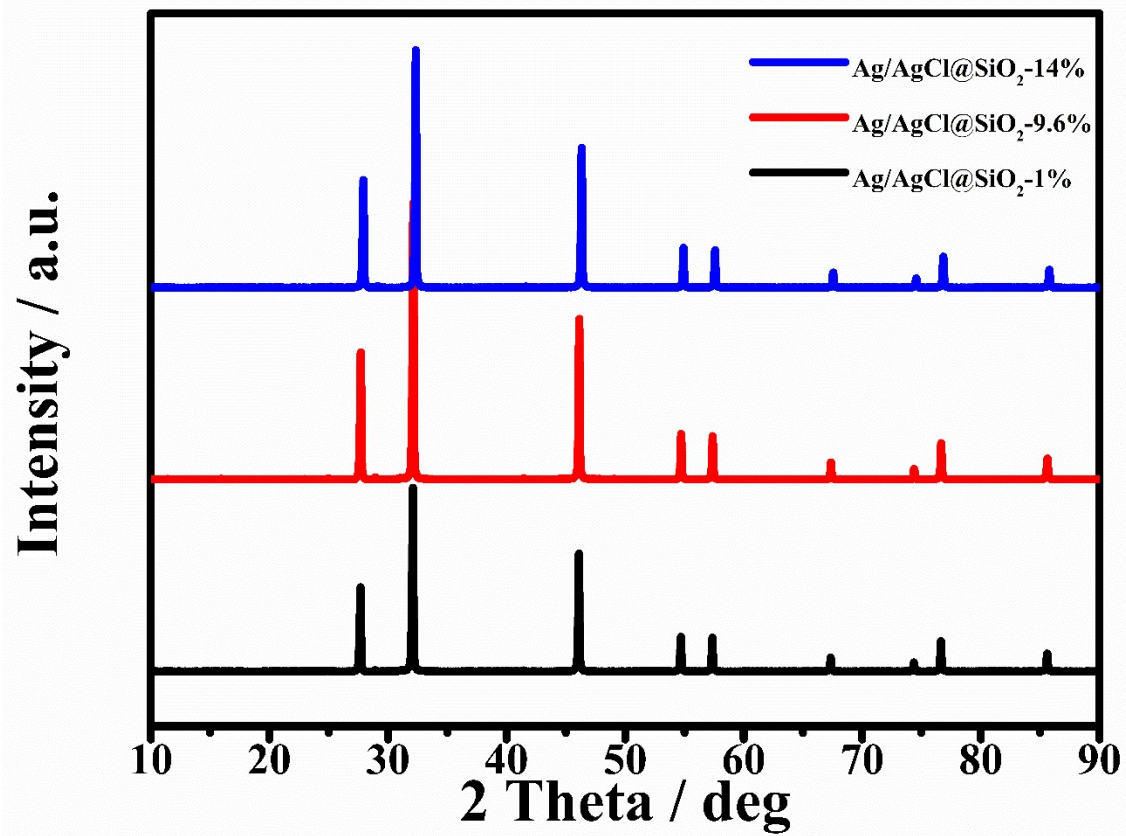


Fig. S3. XRD patterns for Ag/AgCl@SiO₂-x.

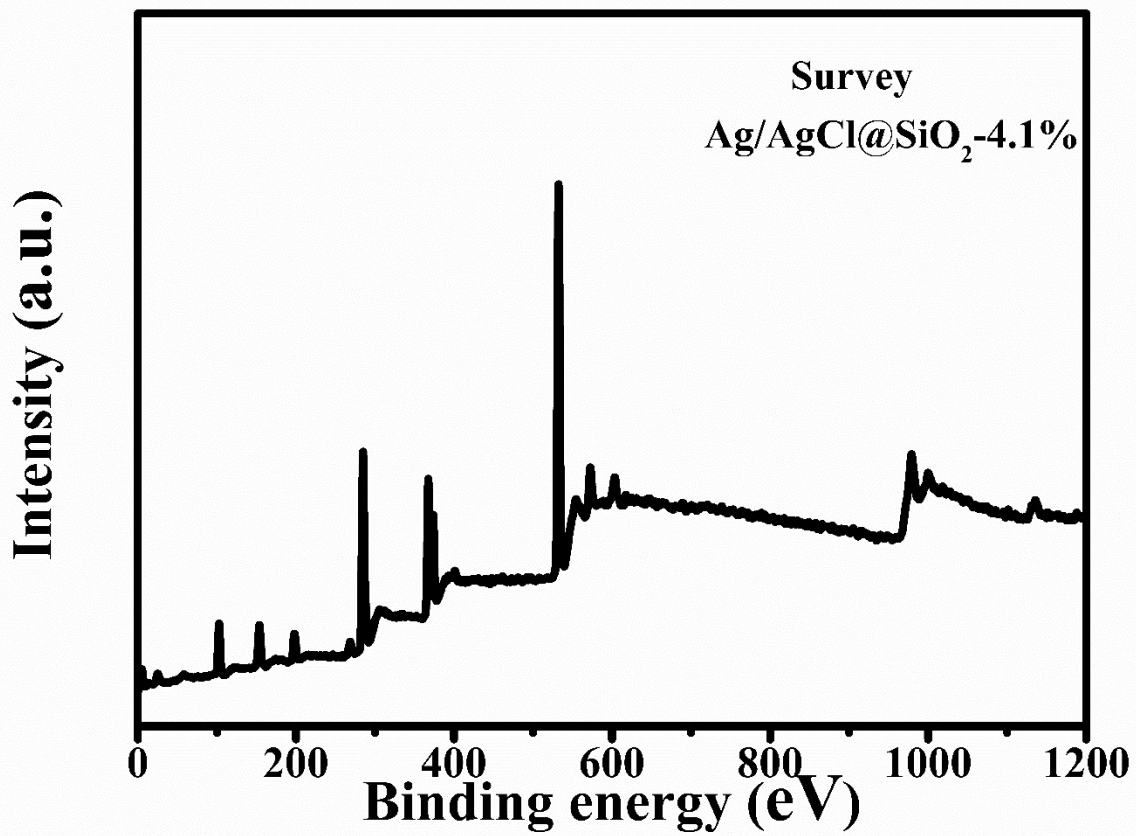


Fig. S4. XPS survey spectrum of Ag/AgCl@SiO₂-4.1%.

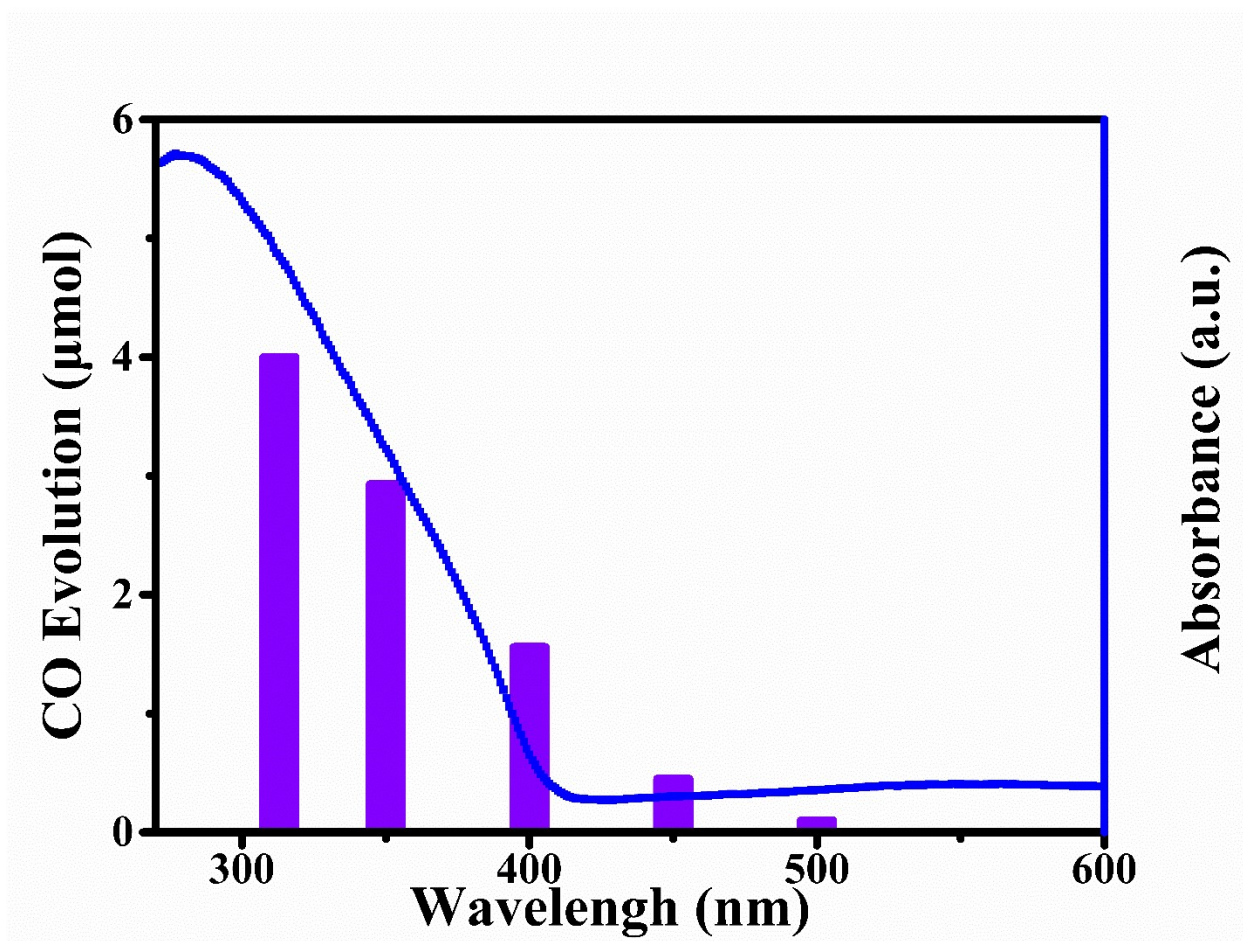


Fig. S5. Light wavelength dependence of yields of CO on the light absorption spectrum of Ag/AgCl@SiO₂-4.1% photocatalyst.

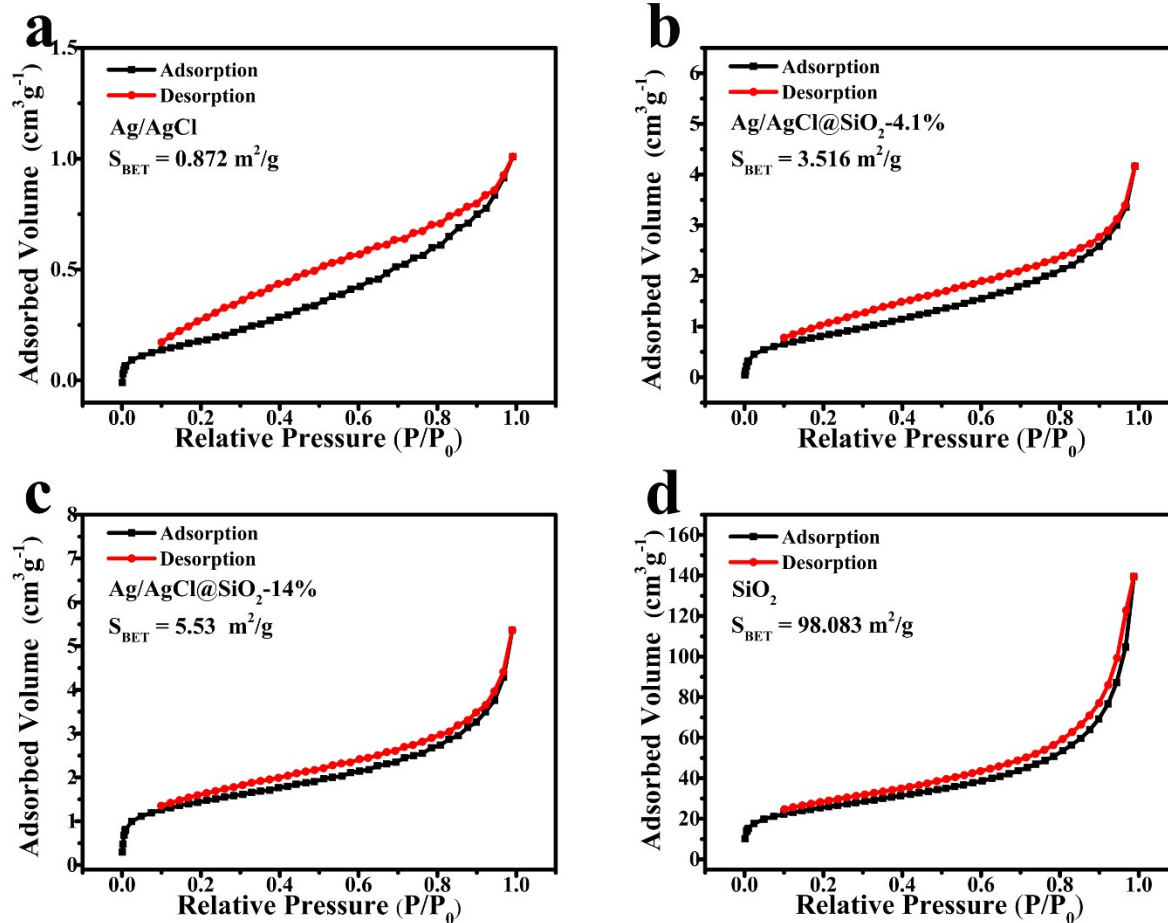


Fig. S6. N₂ adsorption-desorption isotherms of Ag/AgCl@SiO₂-x.

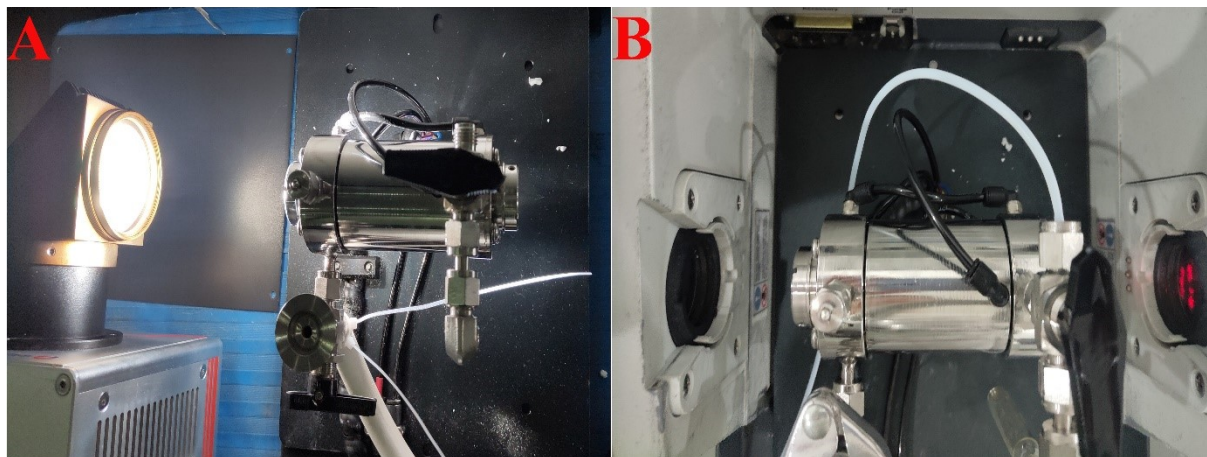


Fig. S7. Photograph of the semi in-situ IR analysis apparatus.

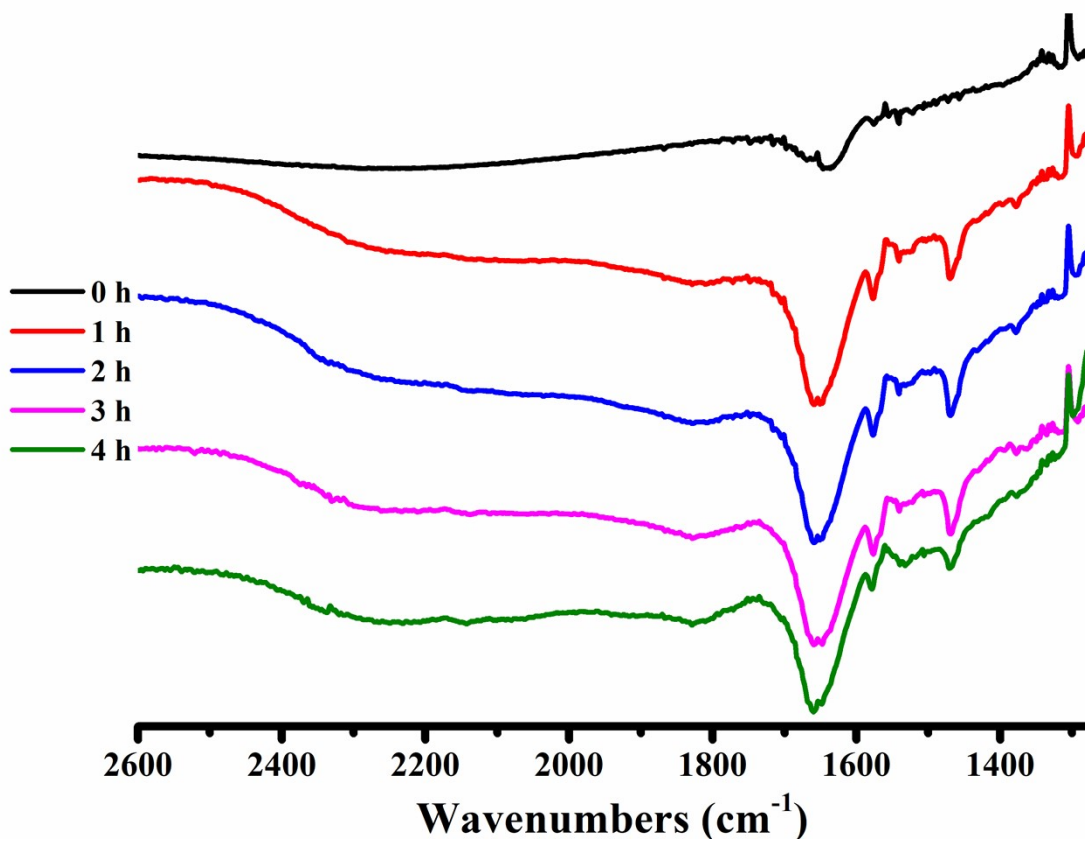


Fig. S8. FTIR spectra of gaseous phase during methane photocatalytic oxidation over the Ag/AgCl@SiO₂-4.1% catalyst as a function of reaction time.

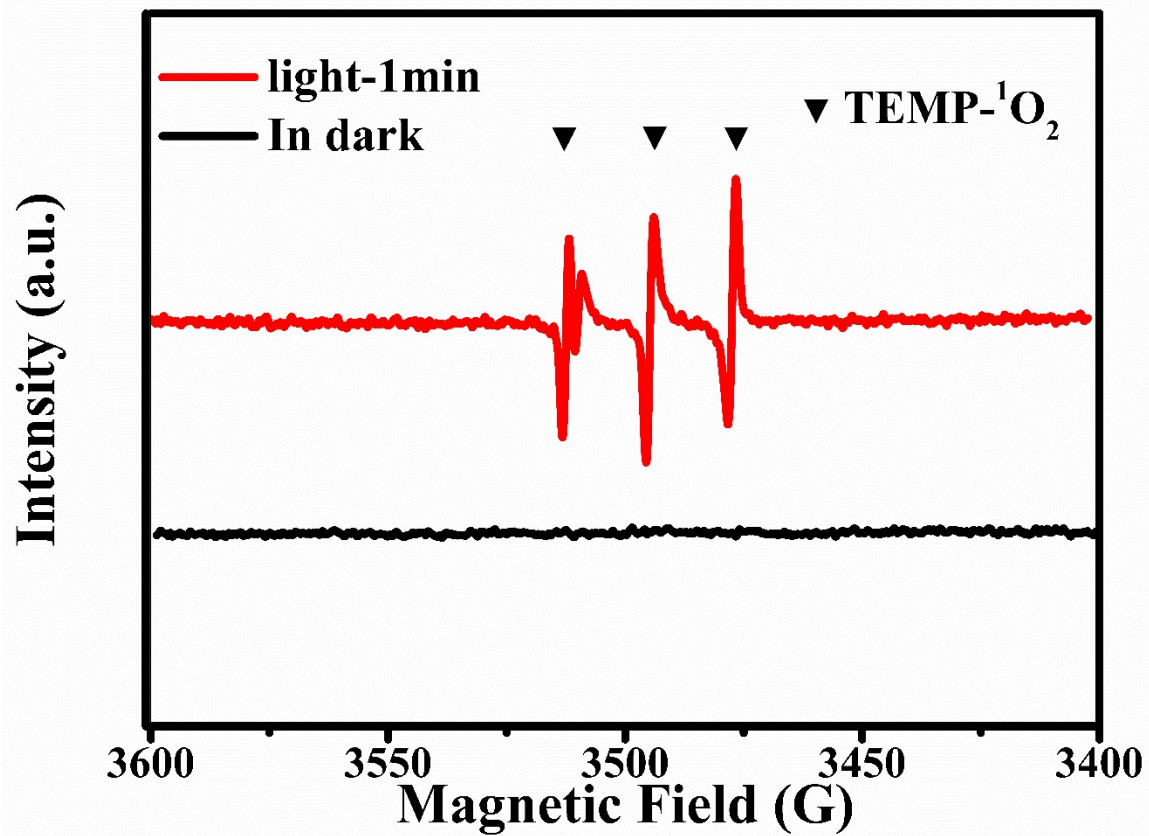


Fig. S9. In situ ESR spectra of Ag/AgCl@SiO₂-4.1% in the presence of TEMP

Table S1. ICP - OES analysis of Ag/AgCl@SiO₂-x.

Catalyst	The volume of TEOS addition (mL)	Si (wt%)
Ag/AgCl@SiO ₂ -1%	0.05	0.5
Ag/AgCl@SiO ₂ -4.1%	0.1	1.6
Ag/AgCl@SiO ₂ -9.6%	0.15	4.2
Ag/AgCl@SiO ₂ -14%	0.2	5.5