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Supporting Information for

Ag/AgCl Nanoparticles Embedded Porous TiO_2: Defect Formation triggered by light irradiation

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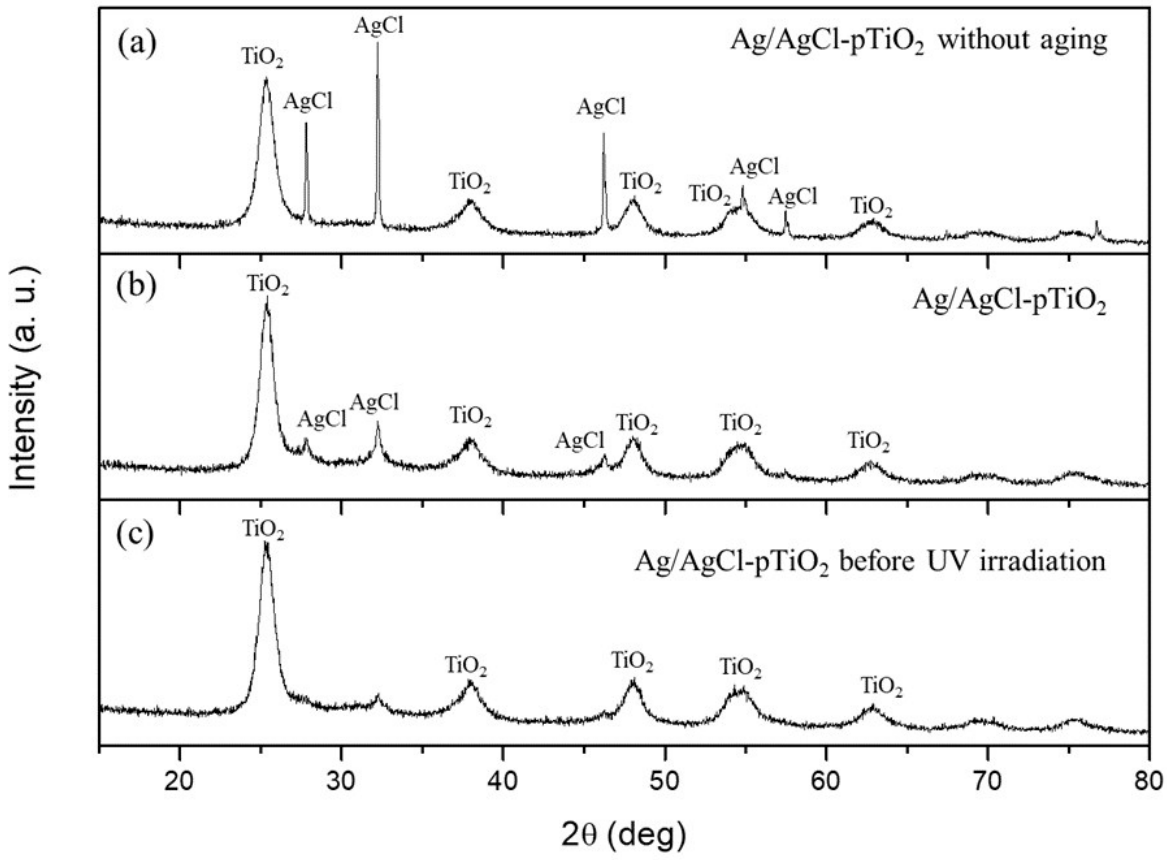


Fig. S1. XRD pattern of (a) Ag/AgCl-pTiO_2 without aging (b) Ag/AgCl-pTiO_2 (c) Ag/AgCl-pTiO_2 before UV irradiation

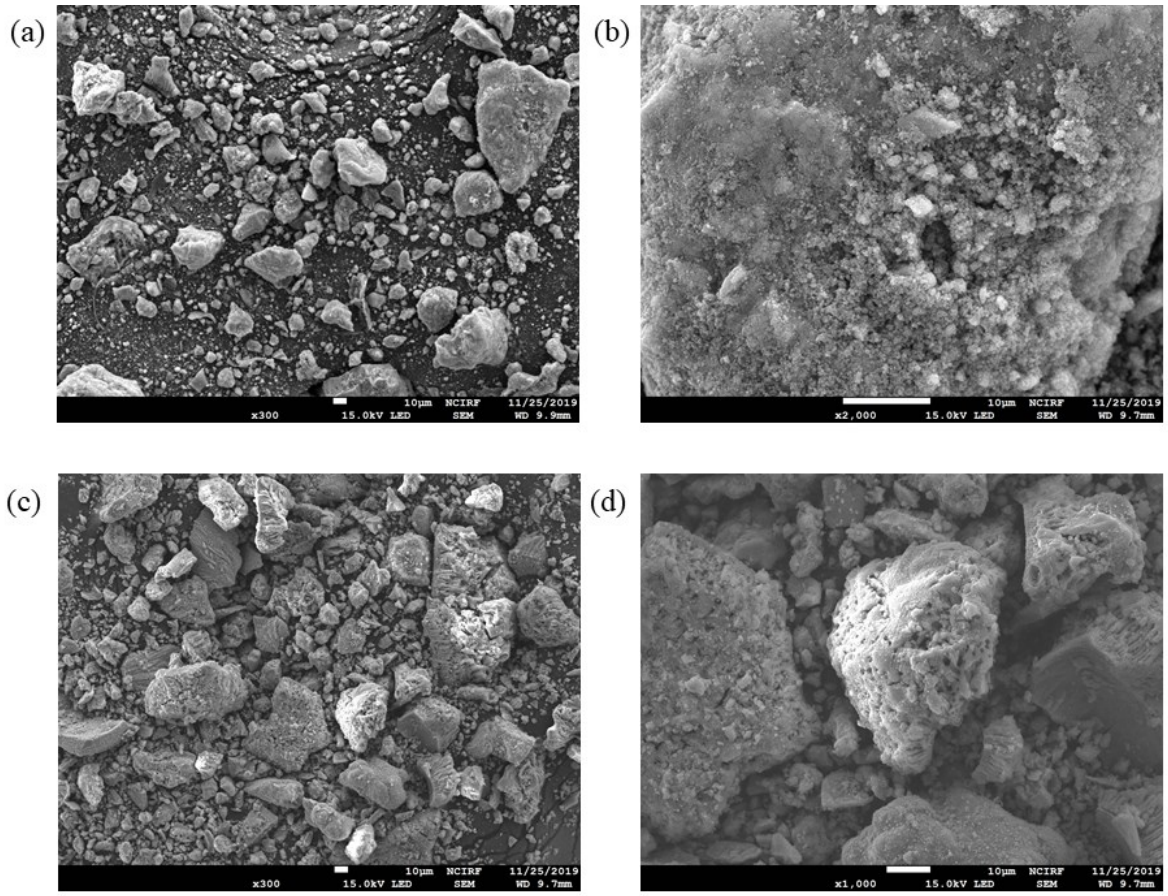


Fig. S2. SEM images of (a,b) Cl-pTiO_2 (c,d) Ag/AgCl-pTiO_2

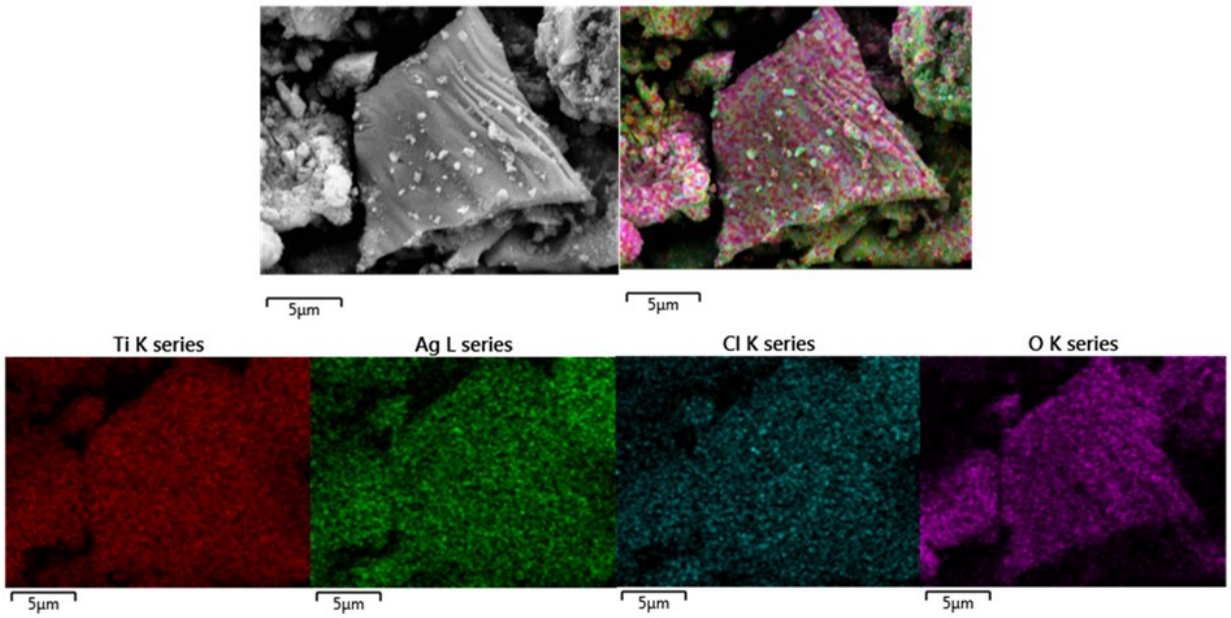
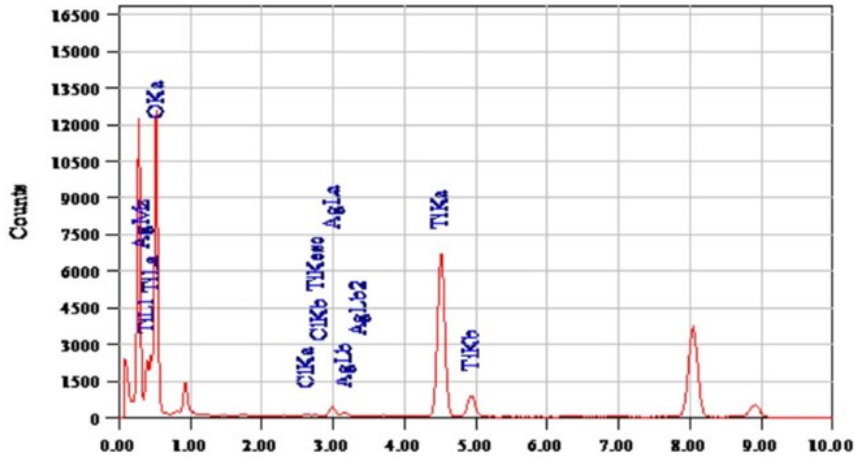
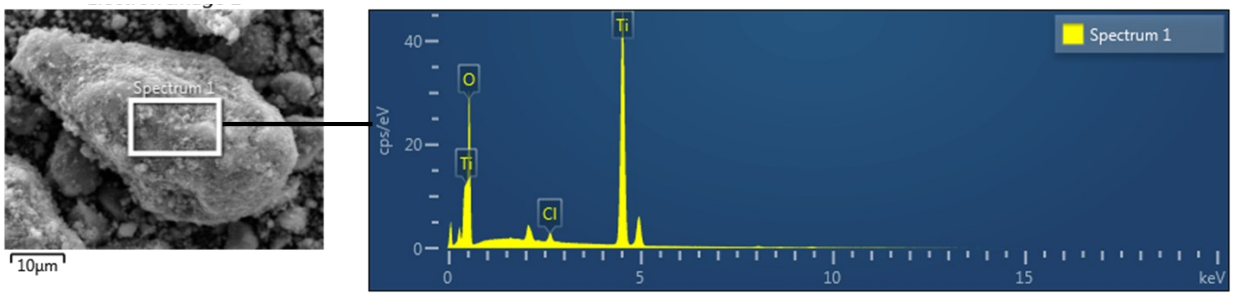


Fig. S3. SEM-EDS mapping images of Ag/AgCl-pTiO_2



Element	Atom %
O	73.9
Cl	0.4
Ti	23.7
Ag	2.0
Total	100

Fig. S4. EDS analysis of Ag/AgCl-pTiO$_2$



Element	Atomic %
O	73.84
Cl	0.50
Ti	25.65
Total:	100.00

Fig. S5. EDS analysis of Cl-pTiO$_2$

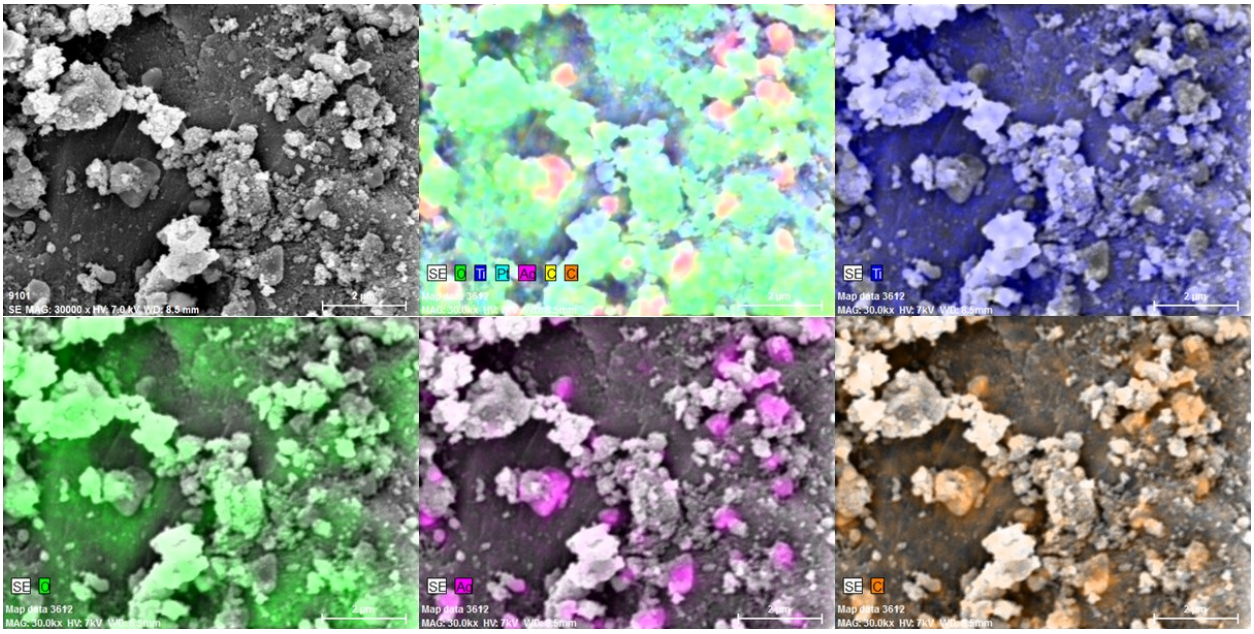


Fig. S6. SEM-EDS mapping images of Ag/AgCl-pTiO_2 without aging

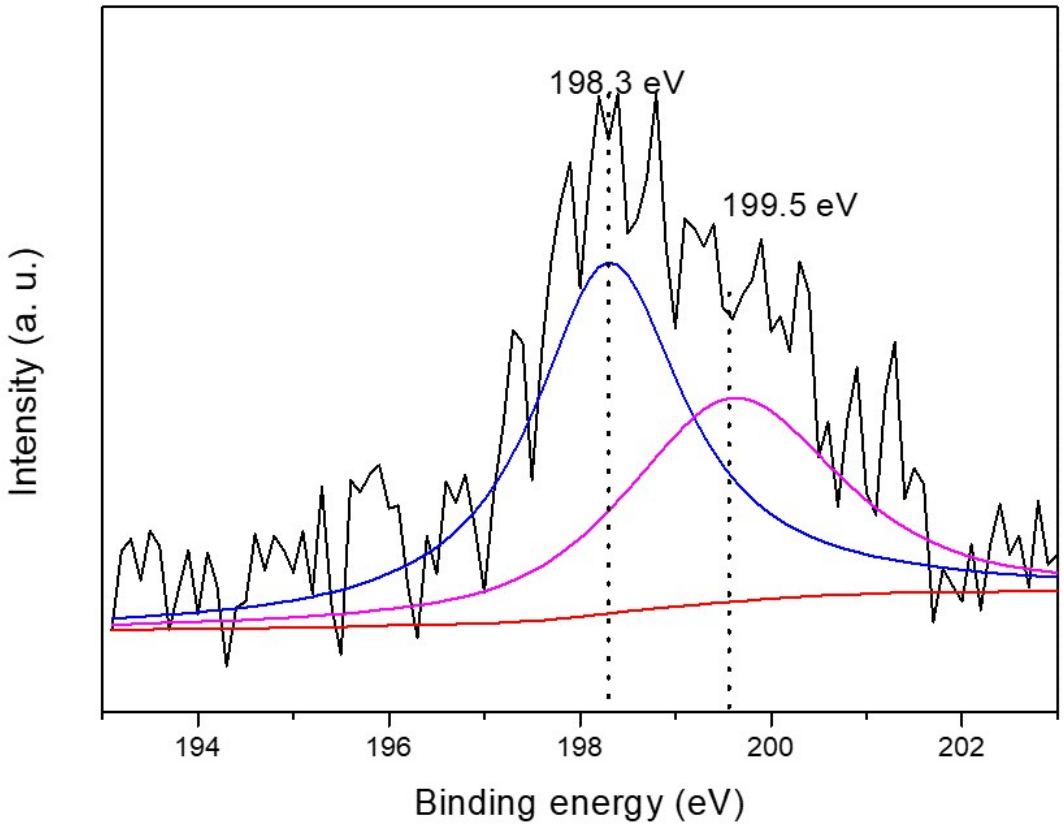


Fig. S7. Cl 2p XPS spectrum of the Cl-doped porous TiO_2

Element	Chemical composition of Ag/AgCl-pTiO_2 (Atomic %)		
	Nominal	EDS	XPS
Ti	28.9	23.7	26.7
O	57.8	73.9	66.9
Ag	5	2	4.6
Cl	1.4	0.4	1.8

Table S1. Nominal and measured chemical composition of Ag/AgCl-pTiO_2

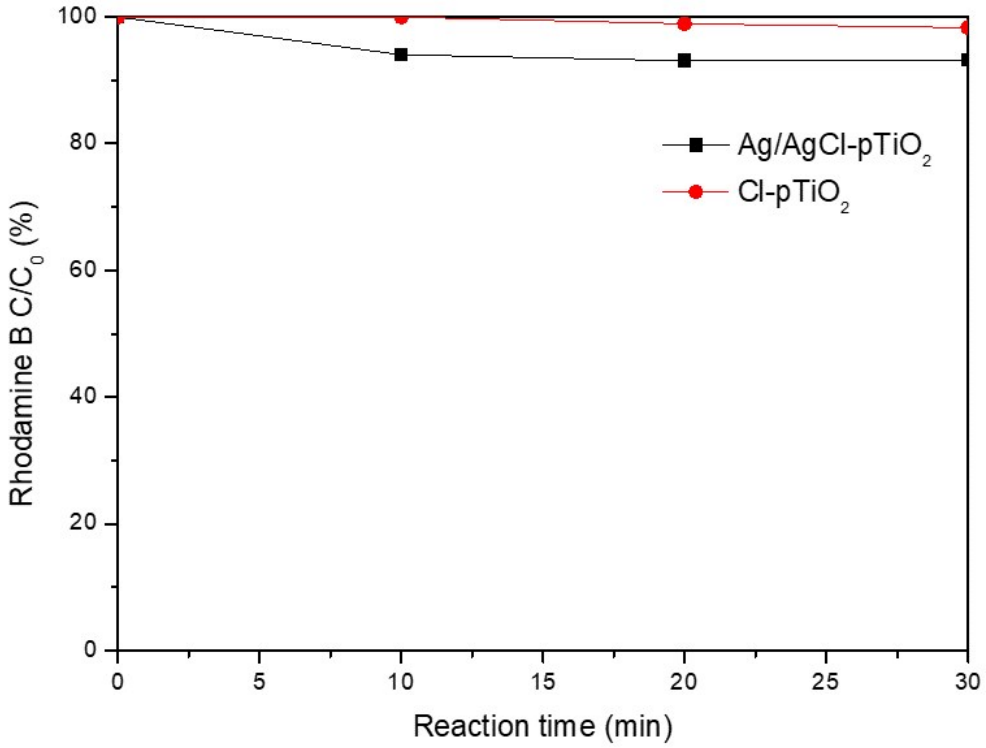


Fig. S8. Adsorption capability of Ag/AgCl-pTiO$_2$ vs Cl-pTiO$_2$ for rhodamine B

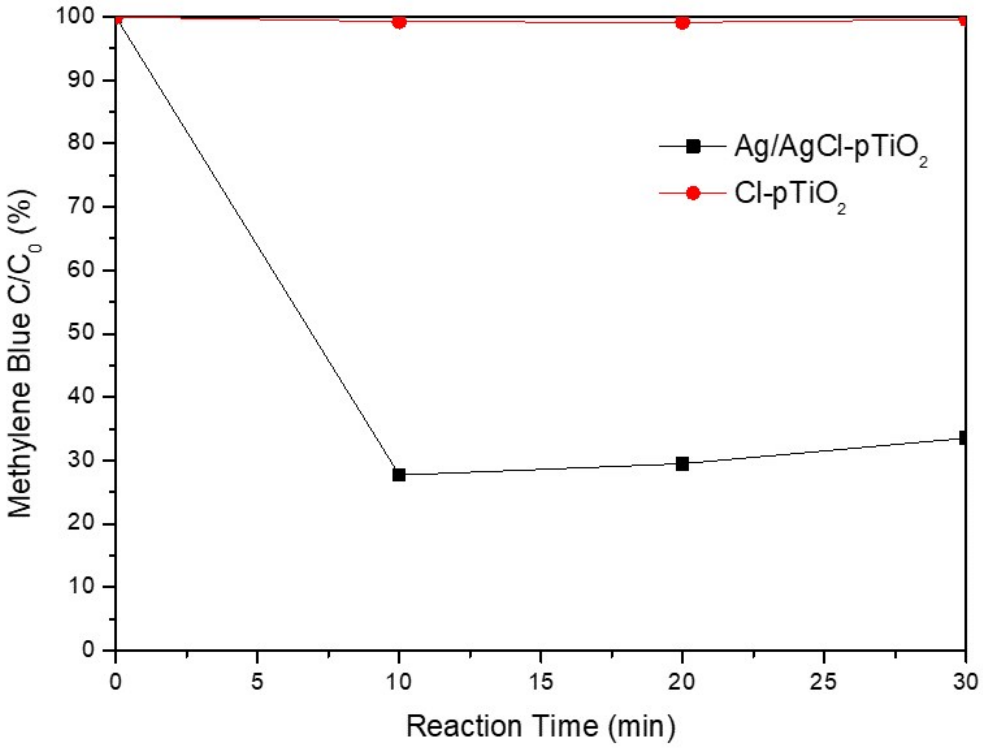


Fig. S9. Adsorption capability of $Ag/AgCl\text{-}pTiO_2$ vs $Cl\text{-}pTiO_2$ for methylene blue

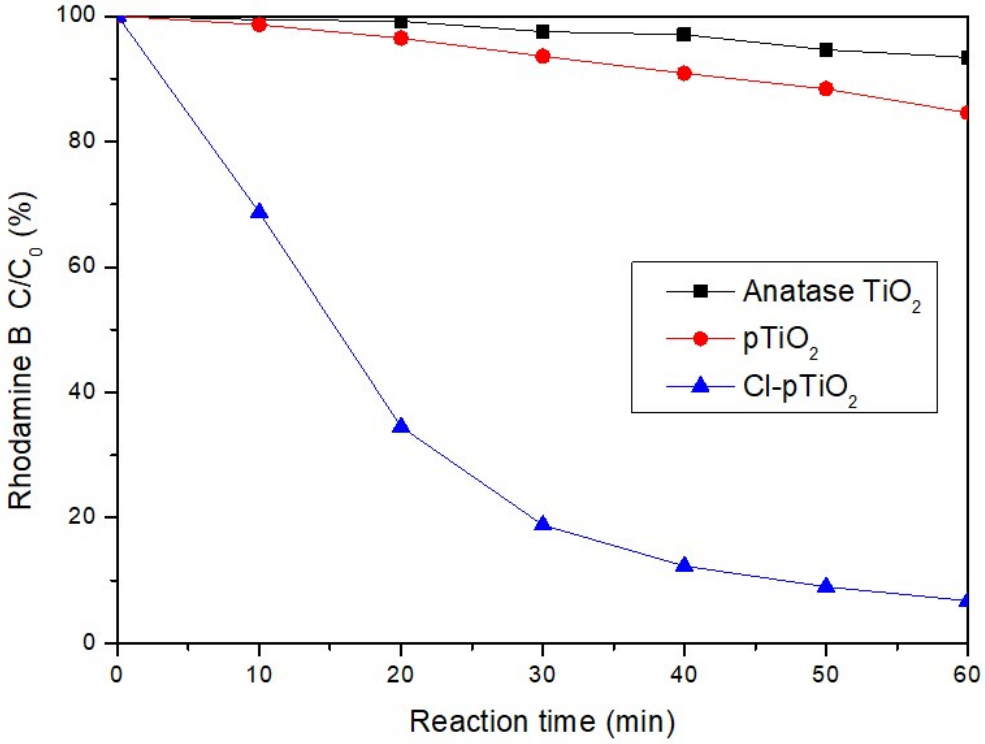


Fig. S10. Photocatalytic activity of commercial anatase TiO_2, $pTiO_2$, Cl-$pTiO_2$ for rhodamine B degradation

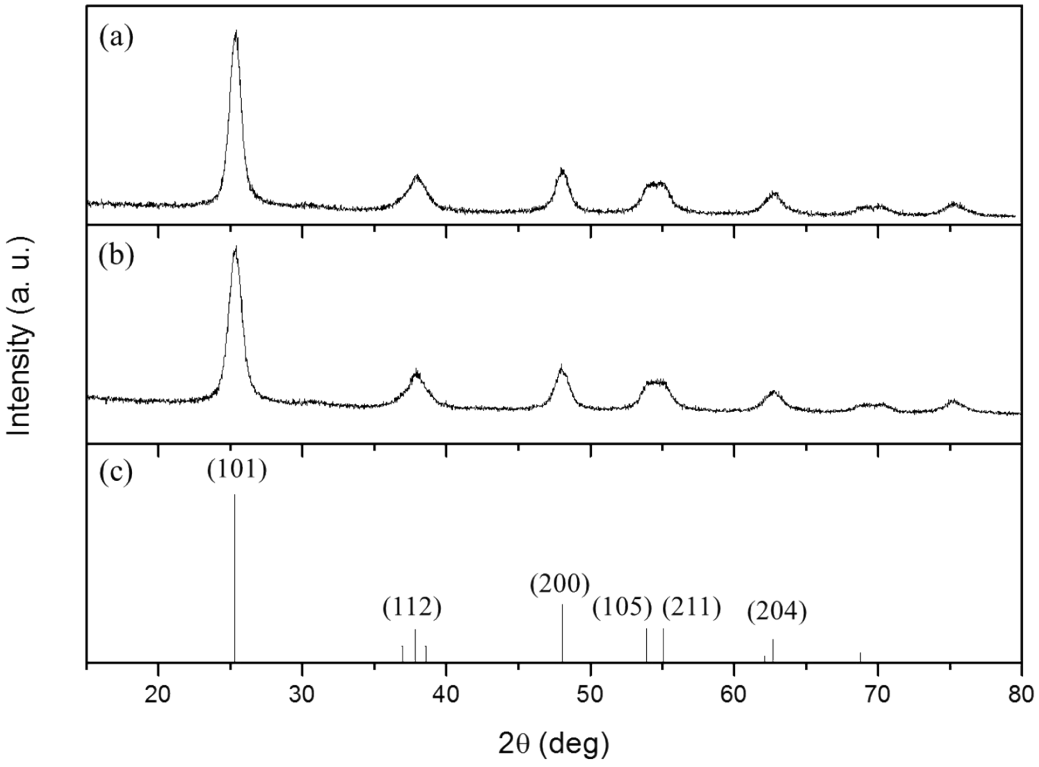


Fig. S11. XRD patterns of (a) $pTiO_2$ (b) Cl-$pTiO_2$ and (c) anatase TiO_2 (JCPDS: 00-021-1272)

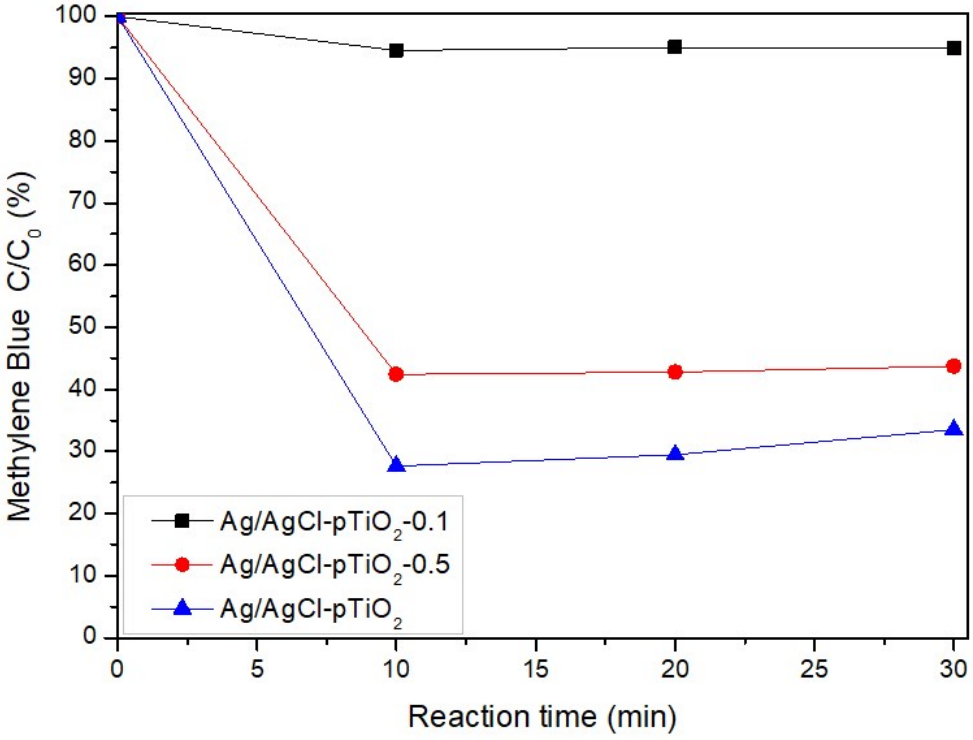


Fig. S12. Adsorption capabilities of Ag/AgCl-pTiO$_2$-0.1, Ag/AgCl-pTiO$_2$-0.5, Ag/AgCl-pTiO$_2$ for methylene blue

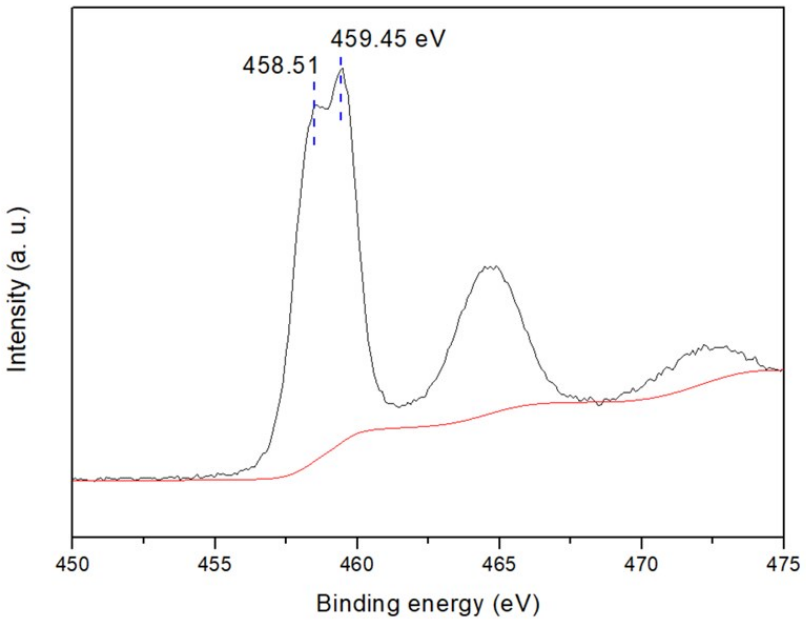


Fig. S13. XPS data Ti of Ag/AgCl-pTiO_2 after MB adsorption

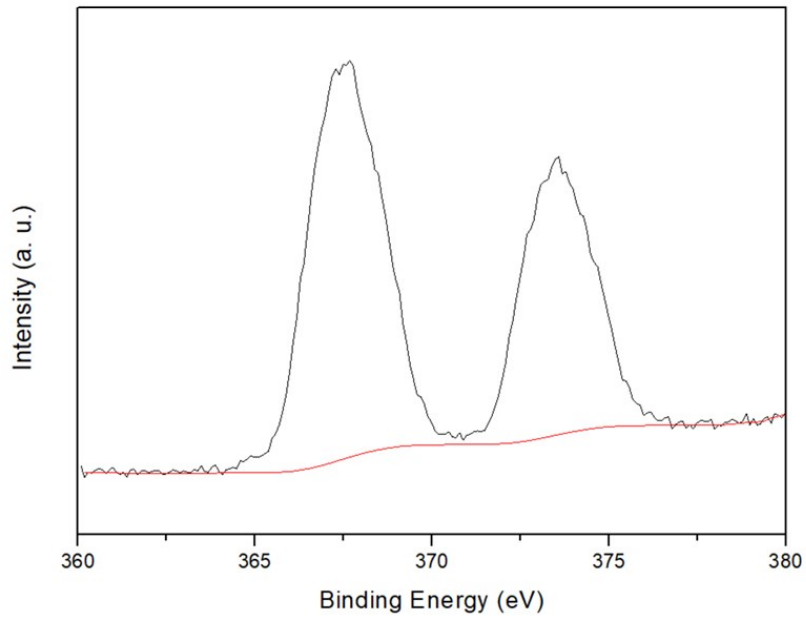


Fig. S14. XPS data Ag of Ag/AgCl-pTiO$_2$ after MB adsorption

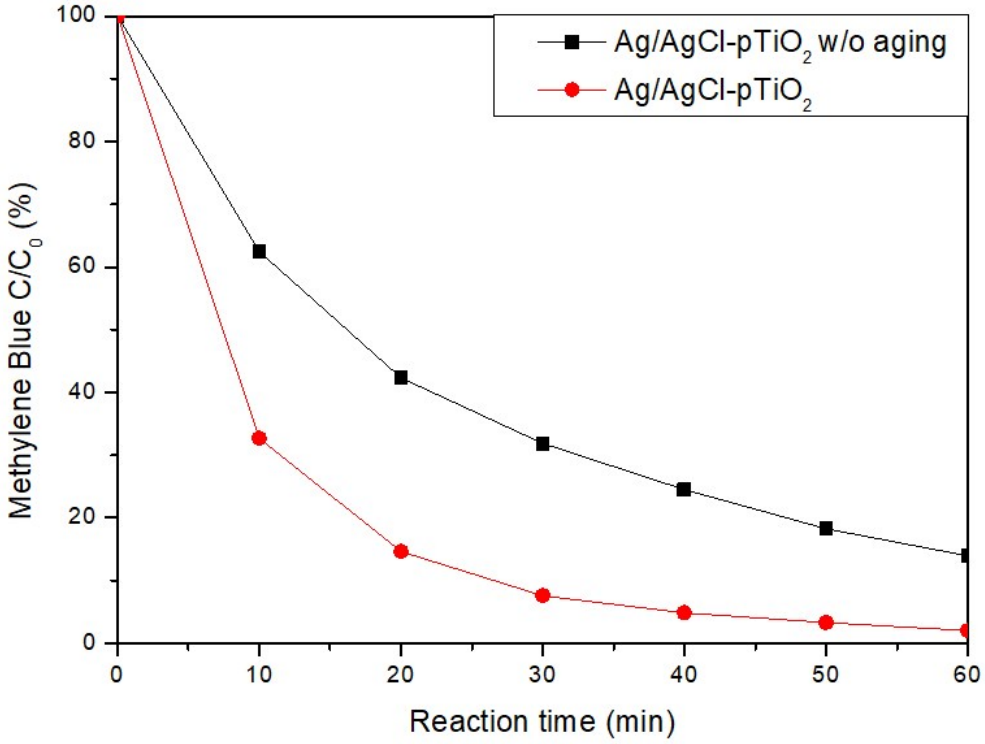


Fig. S15. Photocatalytic degradation efficiency of aged Ag/AgCl-TiO$_2$ and unaged Ag/AgCl-pTiO$_2$ for methylene blue

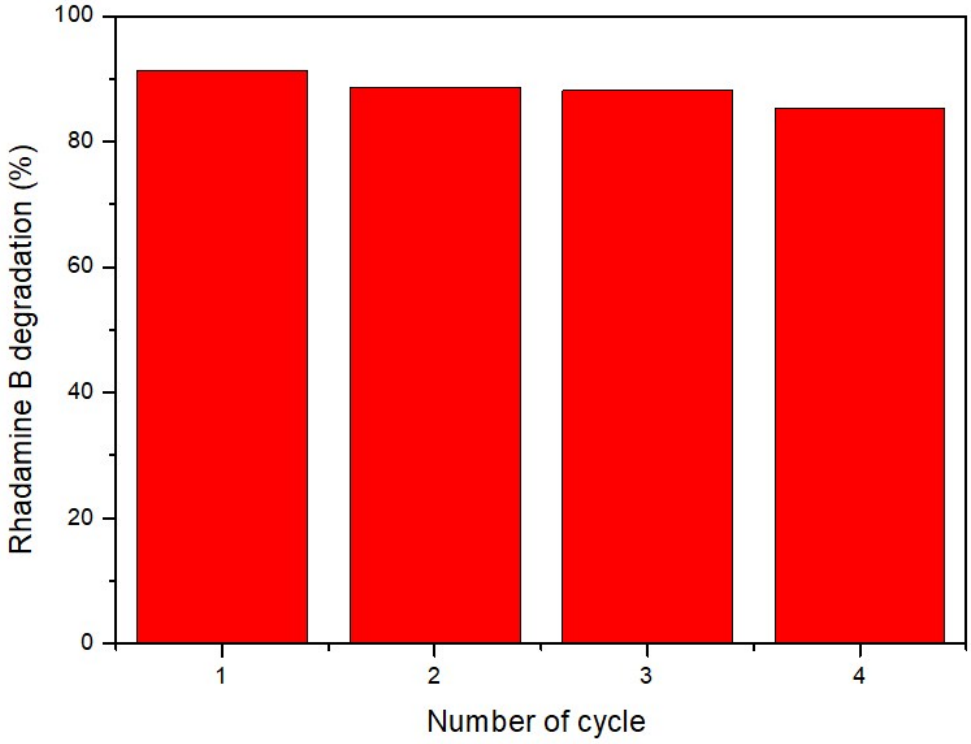


Fig. S16. Cycling photocatalytic performance for rhodamine B degradation of Ag/AgCl-pTiO_2 after light irradiation (405 nm) for 60 minutes.