

Supporting Information

Degradation of CV dye by as synthesized Fe⁰-TiO₂ supported clinoptilolite under UV and Solar irradiations†

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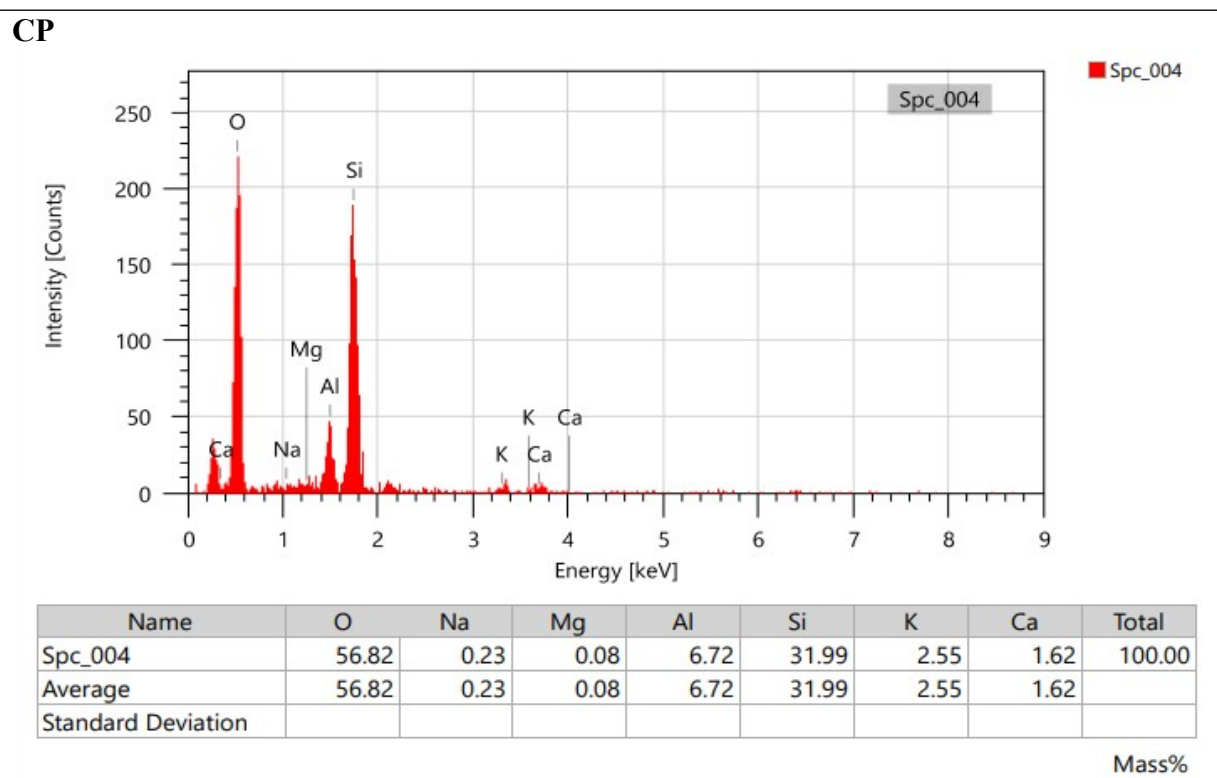
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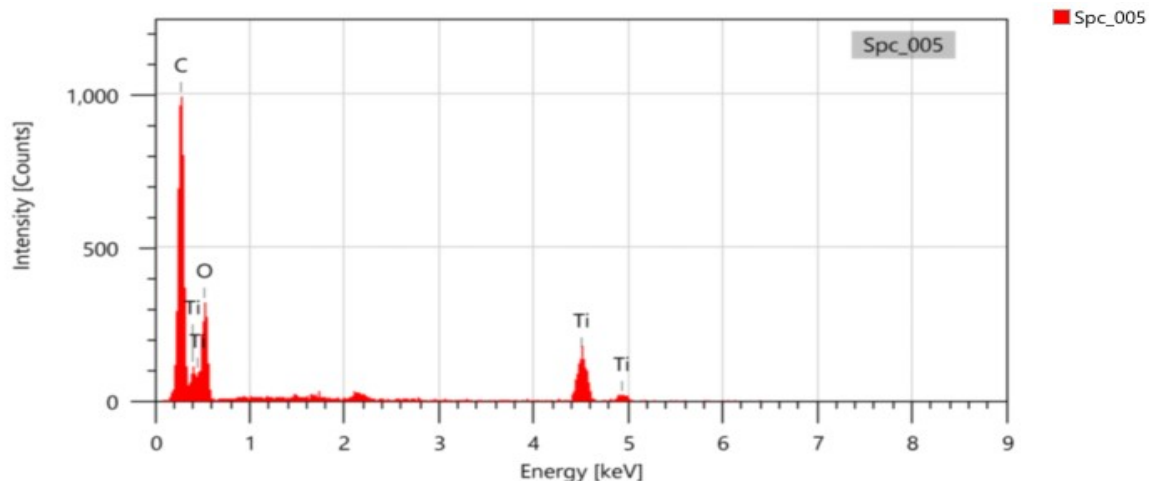
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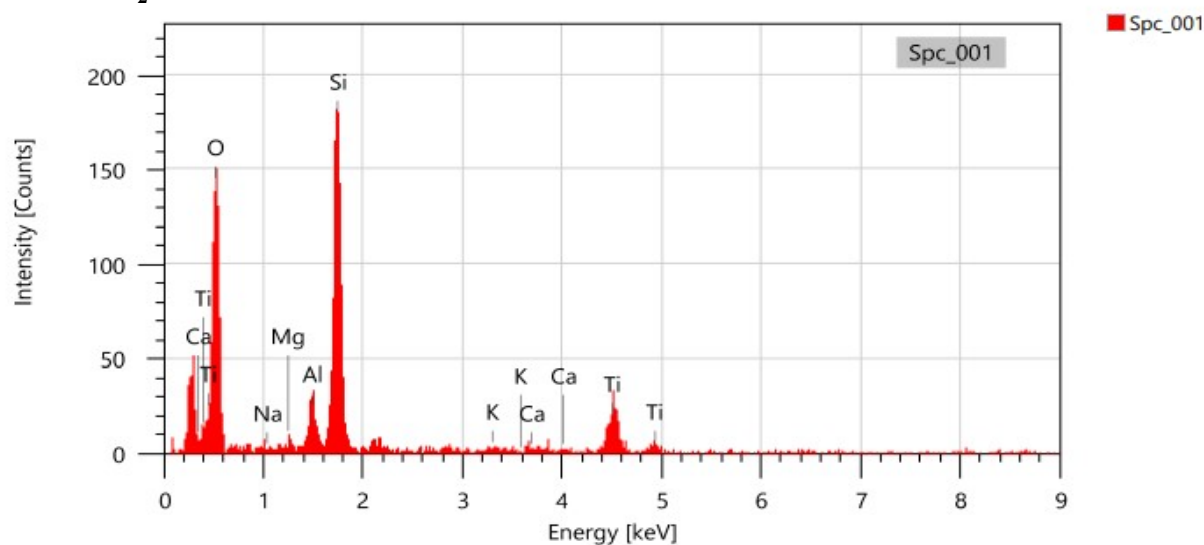
TiO₂



Name	C	O	Ti	Total
Spc_005	44.81	30.55	24.65	100.00
Average	44.81	30.55	24.65	
Standard Deviation				

Mass%

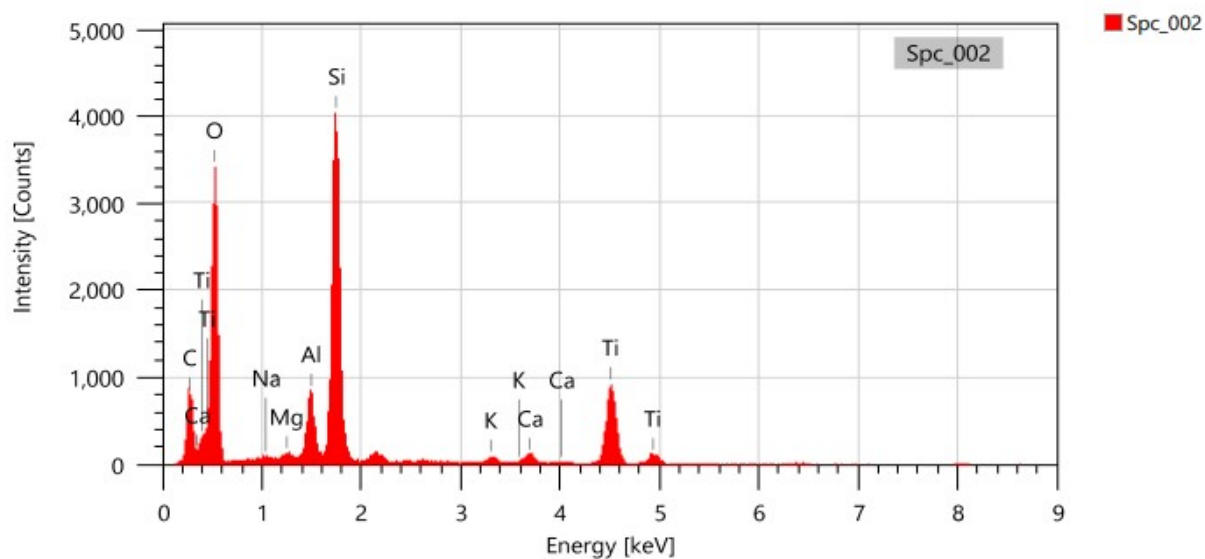
0.1M TiO₂/CP



Name	O	Na	Mg	Al	Si	K	Ca	Ti	Total
Spc_001	51.99	nd	0.86	3.98	27.59	0.47	0.97	14.14	100.00
Average	51.99	0.00	0.86	3.98	27.59	0.47	0.97	14.14	
Standard Deviation									

Mass%

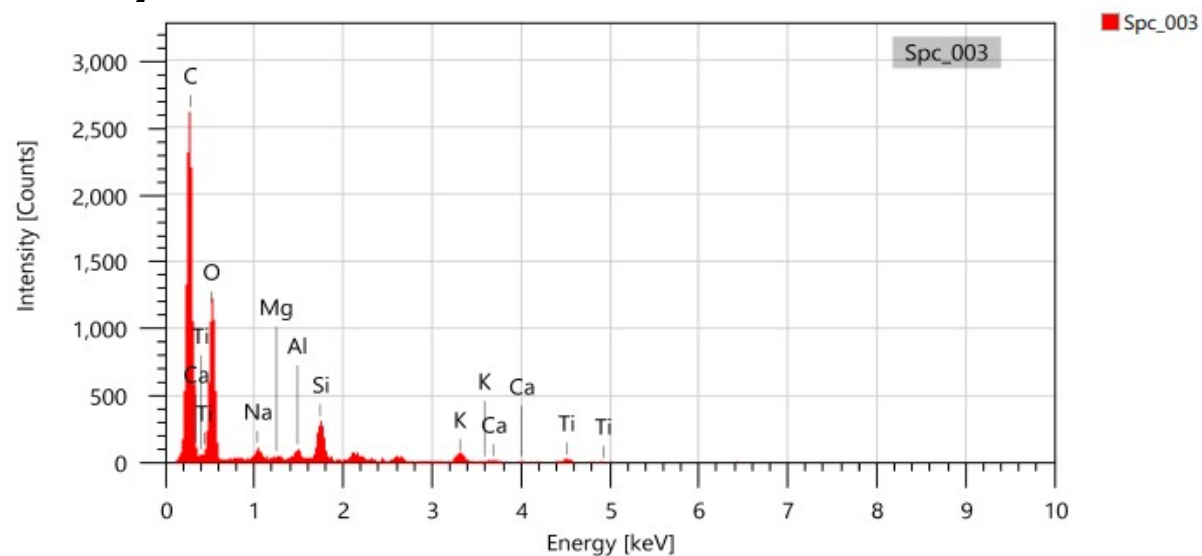
0.25M TiO₂/CP



Name	C	O	Na	Mg	Al	Si	K	Ca	Ti	Total
Spc_002	19.61	45.70	0.11	0.26	3.29	17.03	0.61	0.95	12.44	100.00
Average	19.61	45.70	0.11	0.26	3.29	17.03	0.61	0.95	12.44	
Standard Deviation										

Mass%

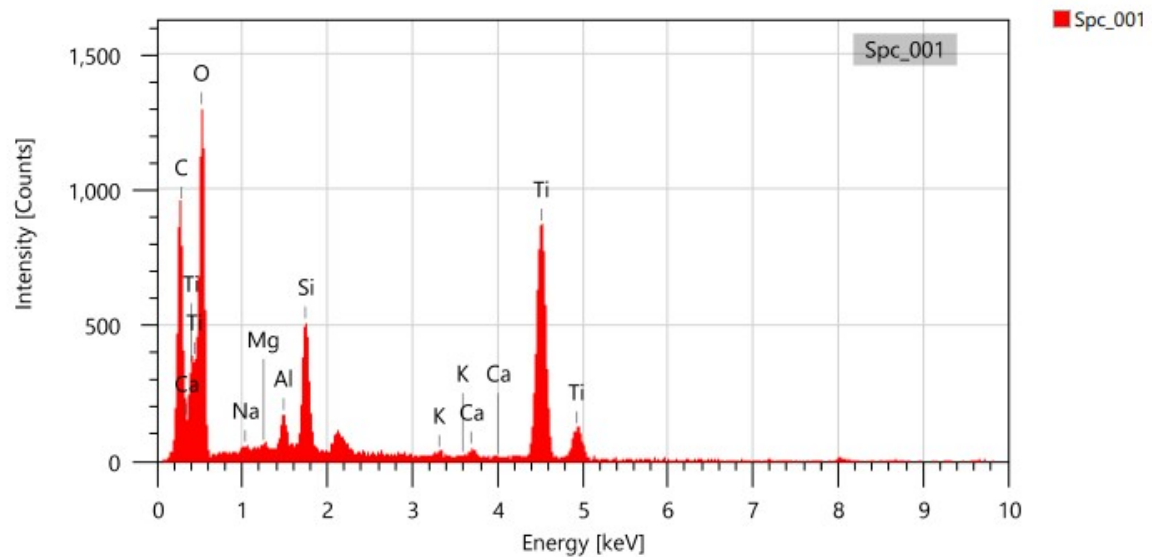
0.5M TiO₂/CP



Name	C	O	Na	Mg	Al	Si	K	Ca	Ti	Total
Spc_003	54.88	36.74	0.66	0.20	0.73	3.24	1.78	0.46	1.30	100.00
Average	54.88	36.74	0.66	0.20	0.73	3.24	1.78	0.46	1.30	
Standard Deviation										

Mass%

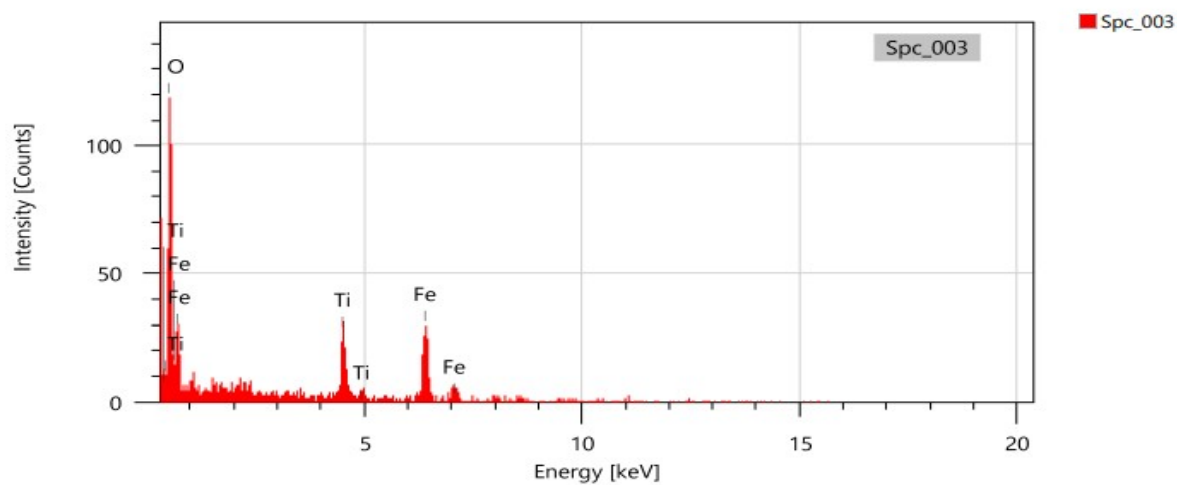
1M TiO₂/CP



Name	C	O	Na	Mg	Al	Si	K	Ca	Ti	Total
Spc_001	21.33	42.29	0.17	0.20	1.10	4.06	0.26	0.49	30.11	100.00
Average	21.33	42.29	0.17	0.20	1.10	4.06	0.26	0.49	30.11	
Standard Deviation										

Mass%

Fe⁰-TiO₂



Name	O	Ti	Fe	Total
Spc_003	49.29	15.12	35.60	100.00
Average	49.29	15.12	35.60	
Standard Deviation				

Mass%

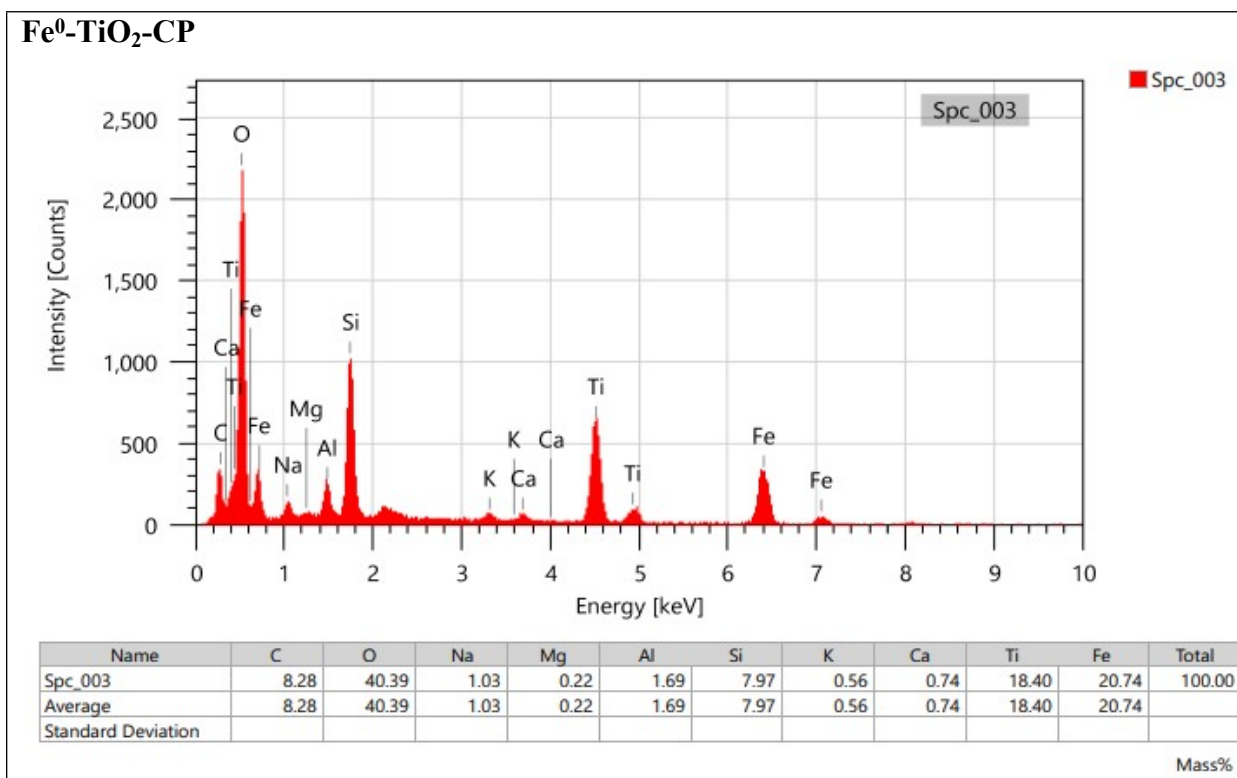


Fig. S1 EDX table of CP, TiO₂, 0.1, 0.25, 0.5 and 1.0M TiO₂/CP, Fe⁰-TiO₂ and Fe⁰-TiO₂/CP.

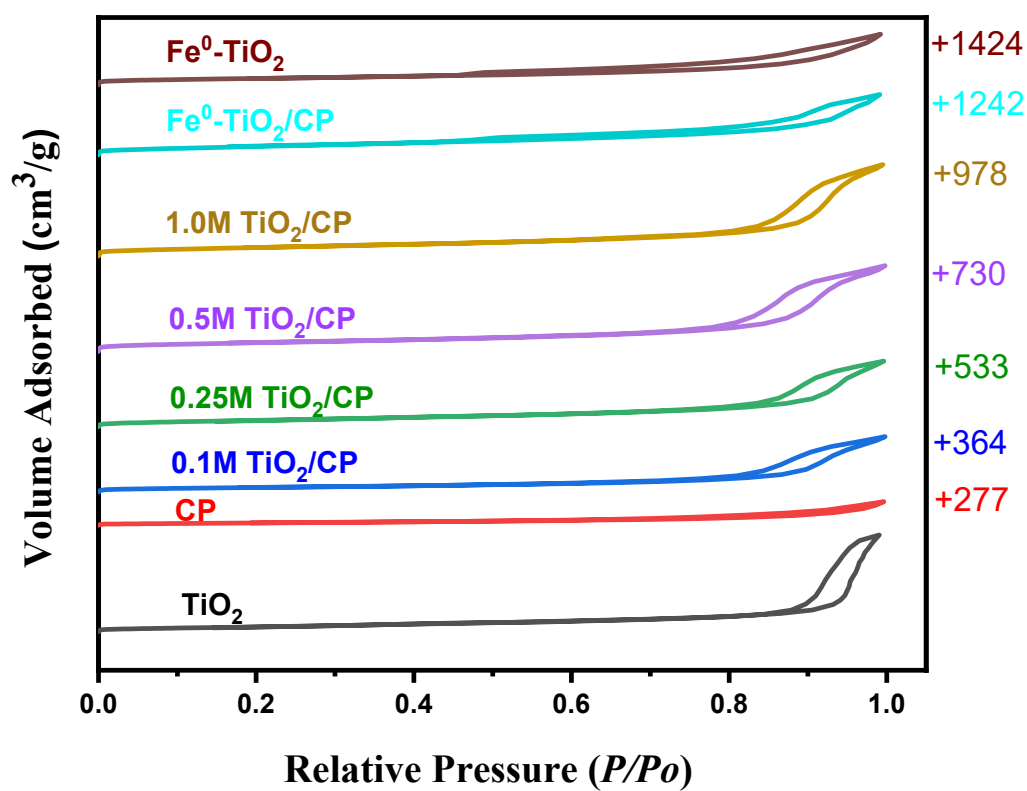
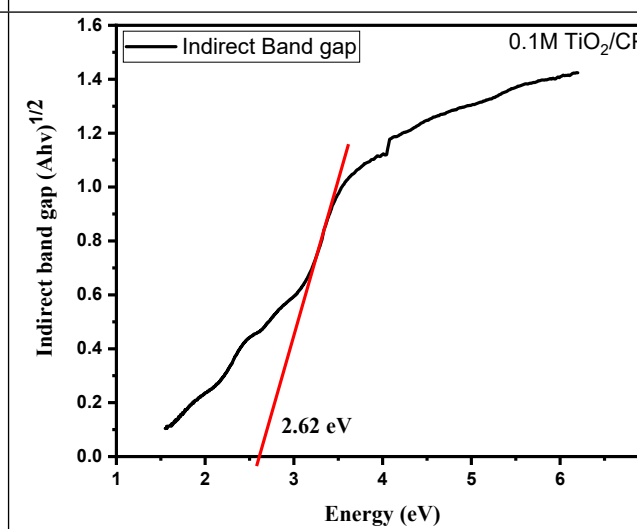
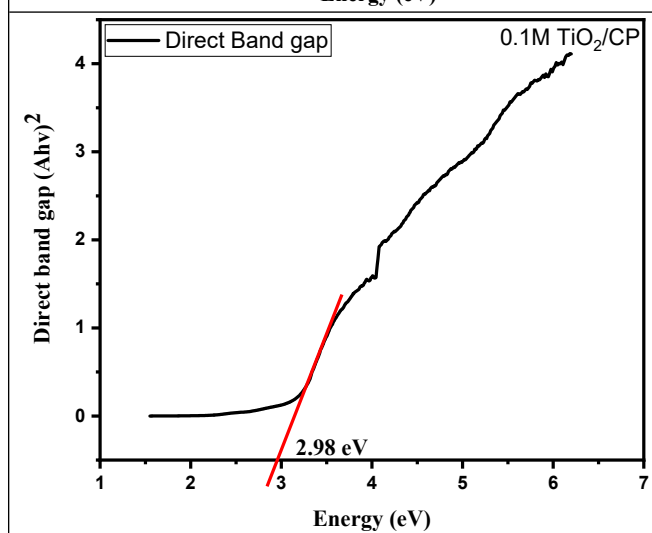
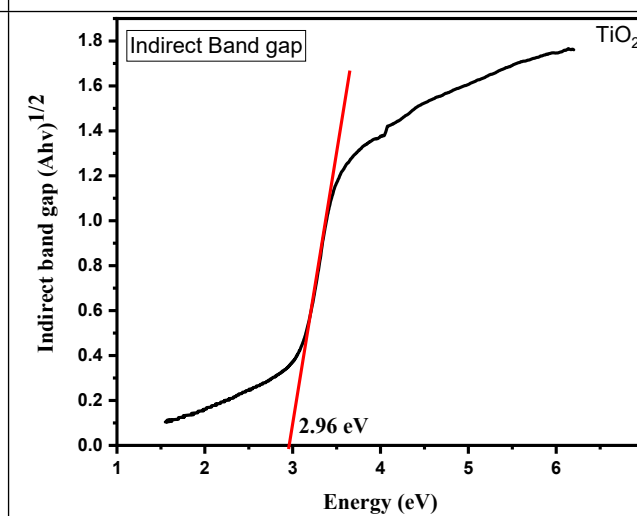
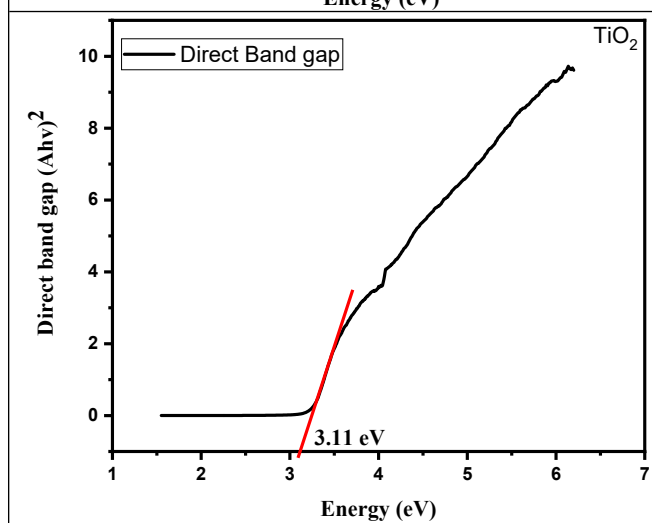
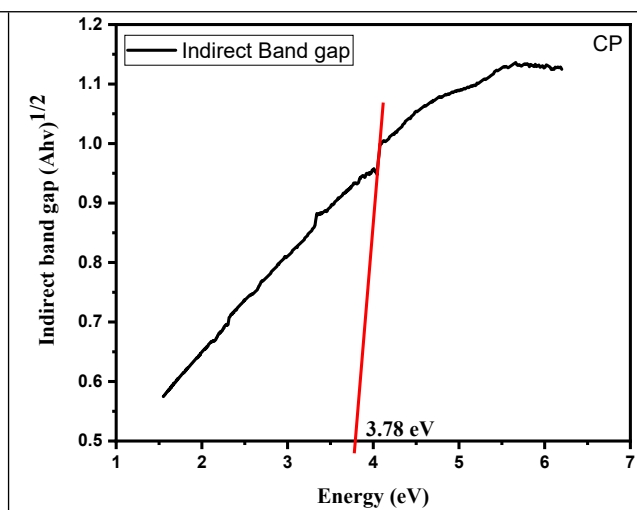
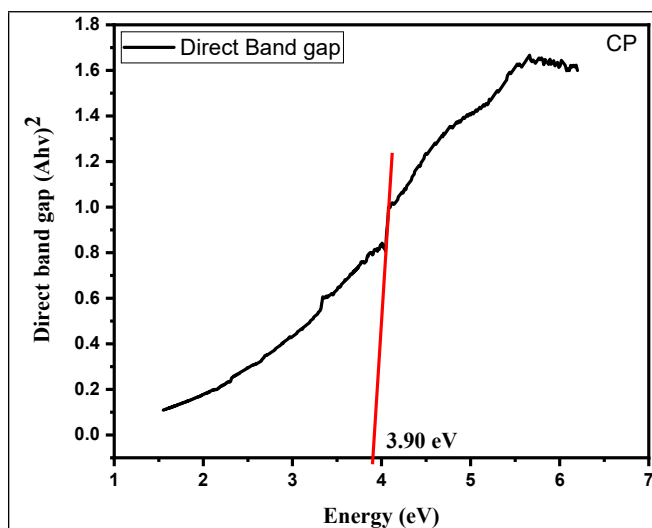
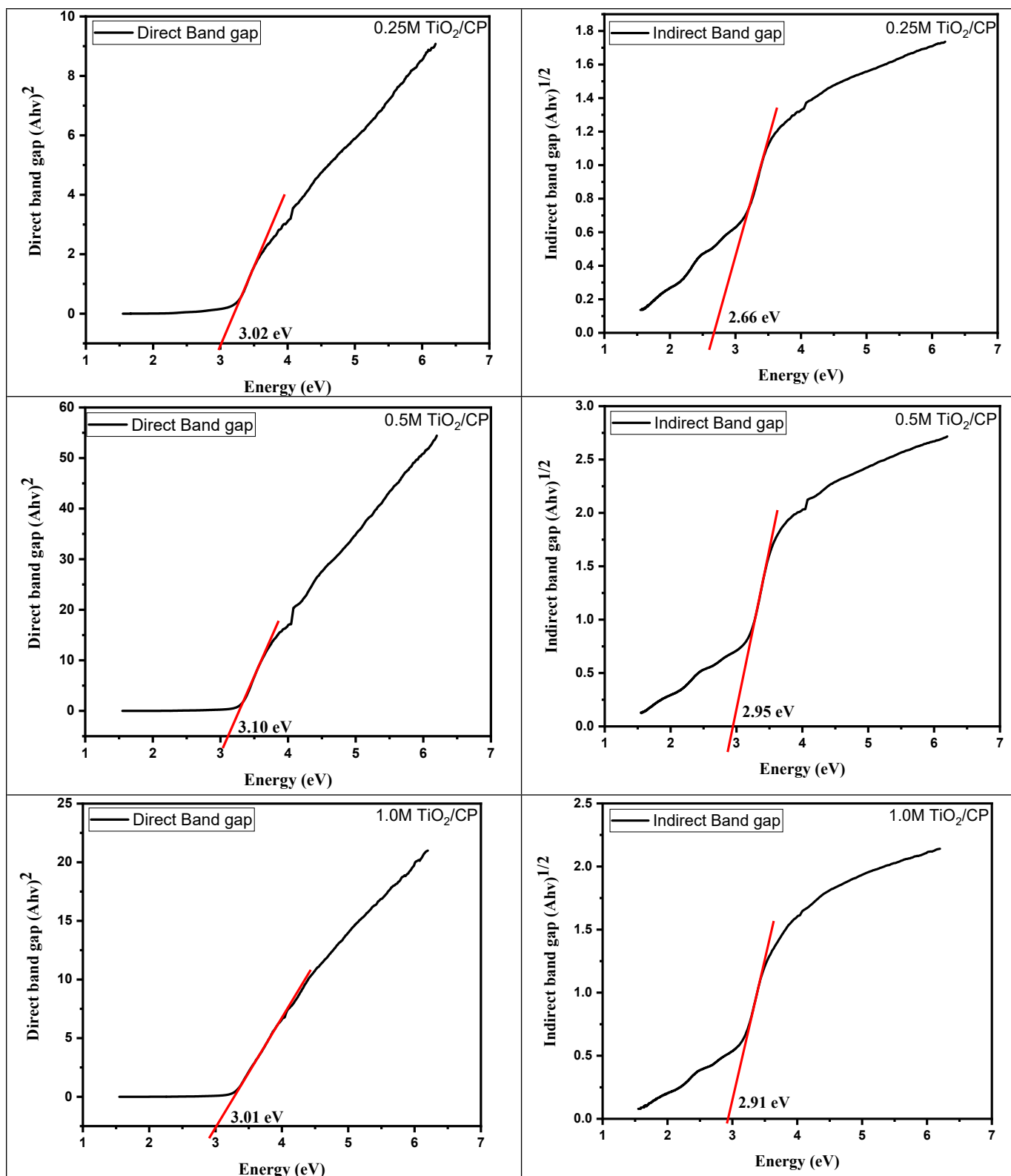


Fig. S2 BET isotherms of CP, TiO₂, 0.1, 0.25, 0.5 and 1.0 M TiO₂/CP, Fe⁰-TiO₂ and Fe⁰-TiO₂/CP.





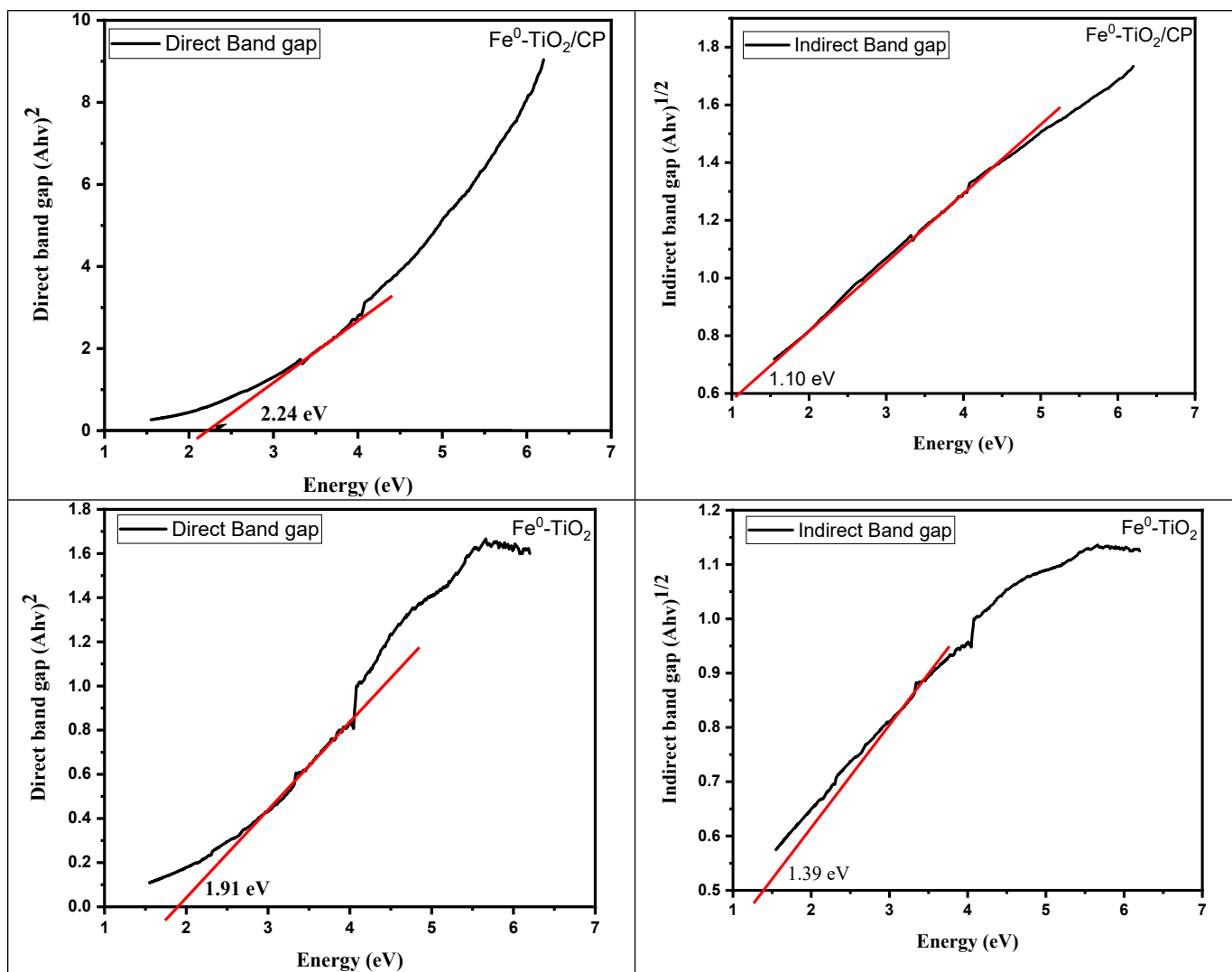


Fig. S3 Bandgap of CP, TiO_2 , 0.1, 0.25, 0.5 and 1.0 M TiO_2/CP , $\text{Fe}^0\text{-TiO}_2$ and $\text{Fe}^0\text{-TiO}_2/\text{CP}$.

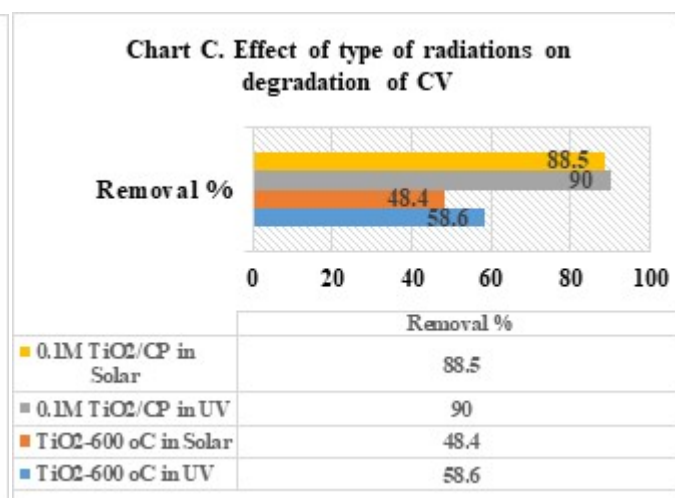
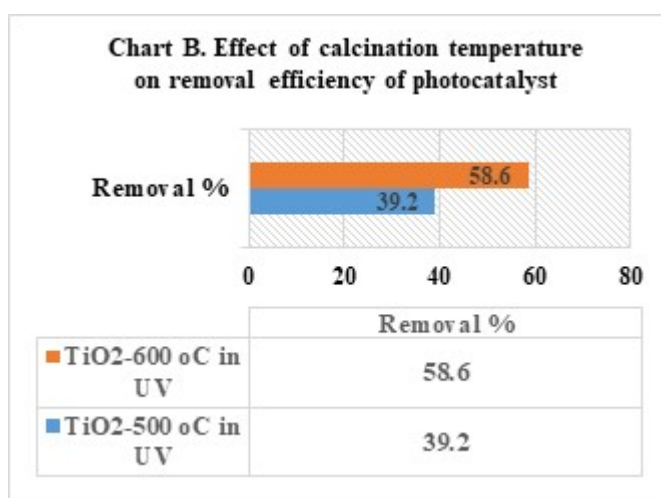
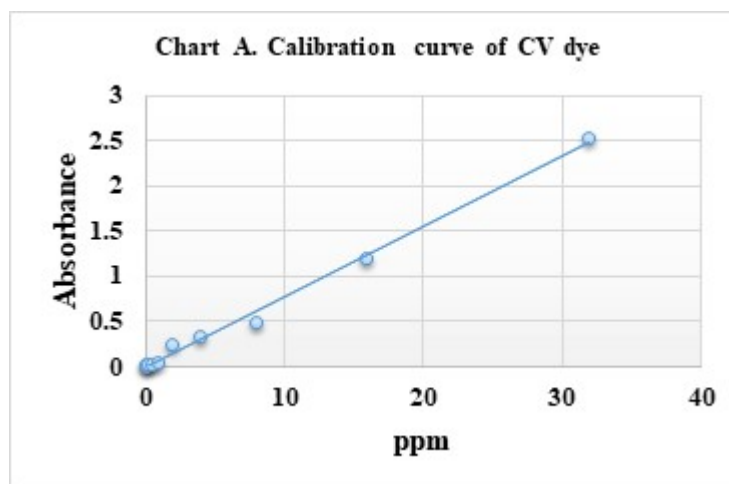
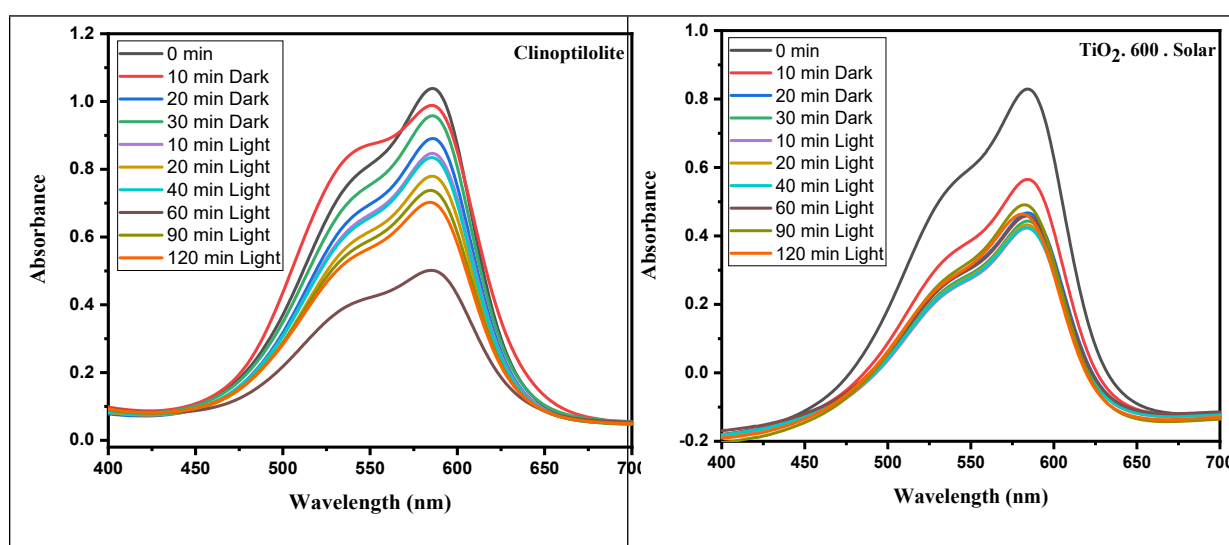
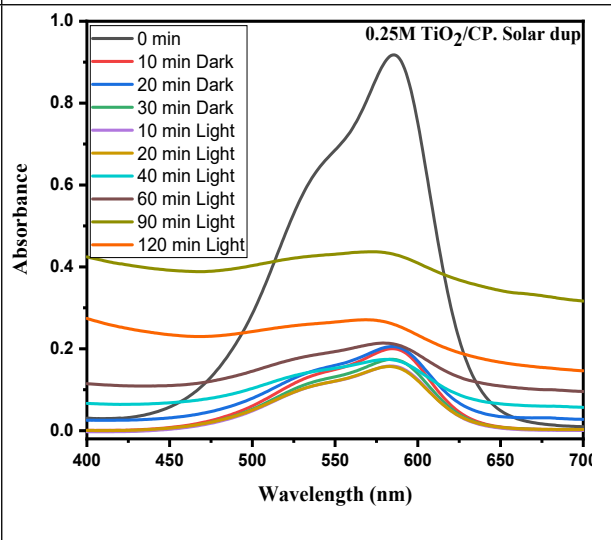
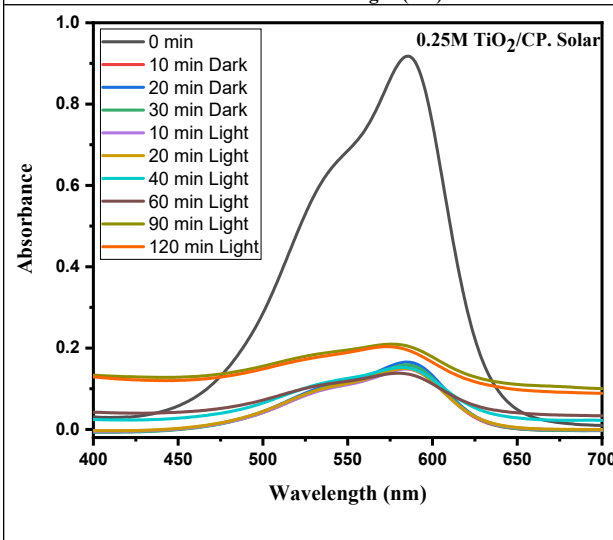
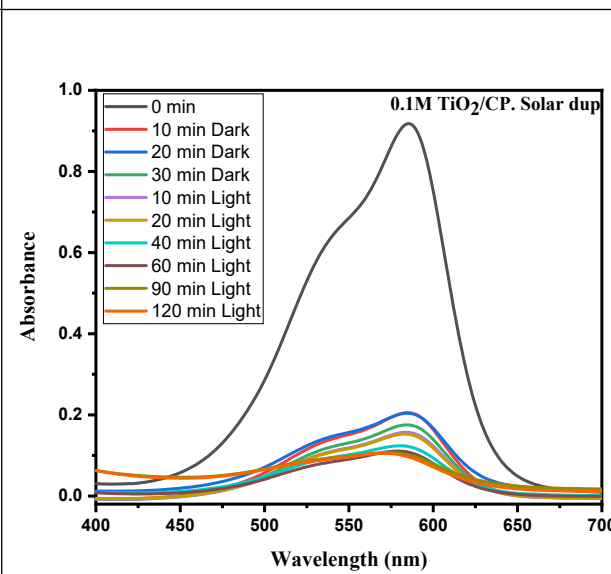
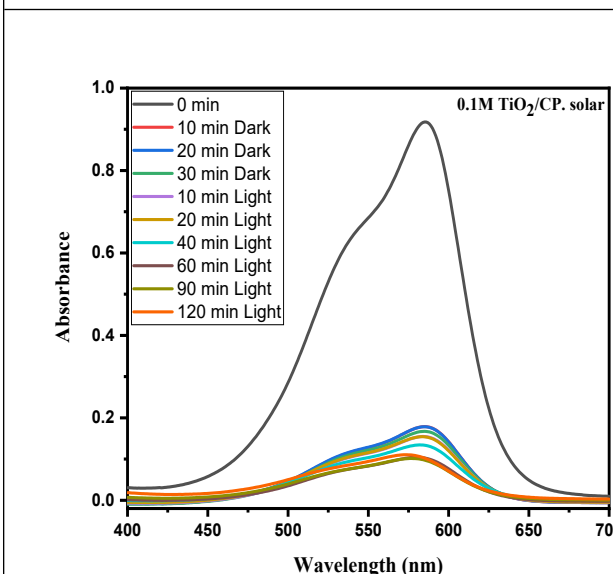
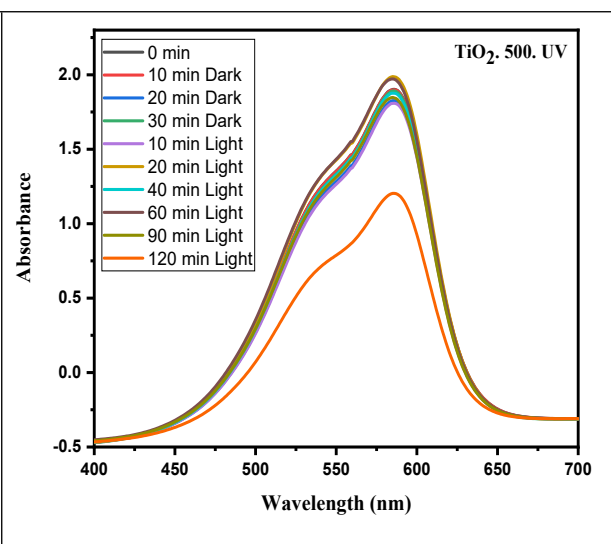
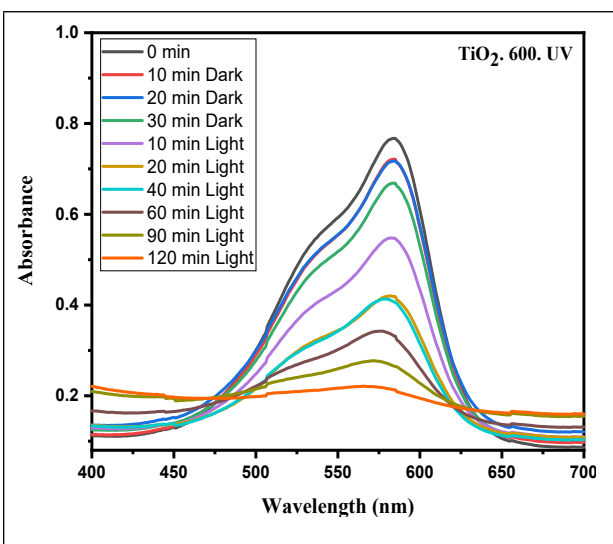
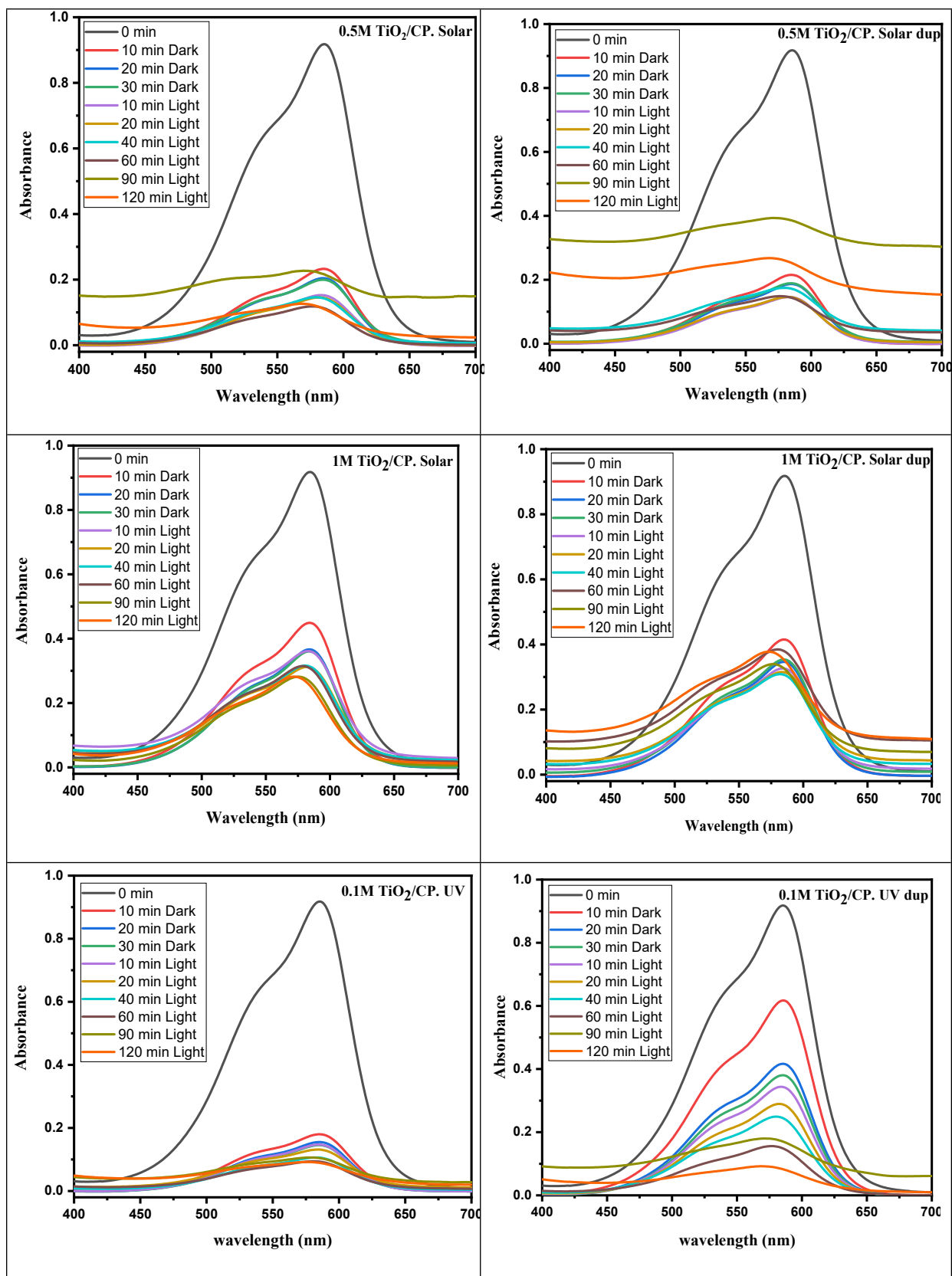


Fig. S4 Chart of Calibration curve of CV dye and comparison of various parameters on removal efficiencies of photocatalyst.







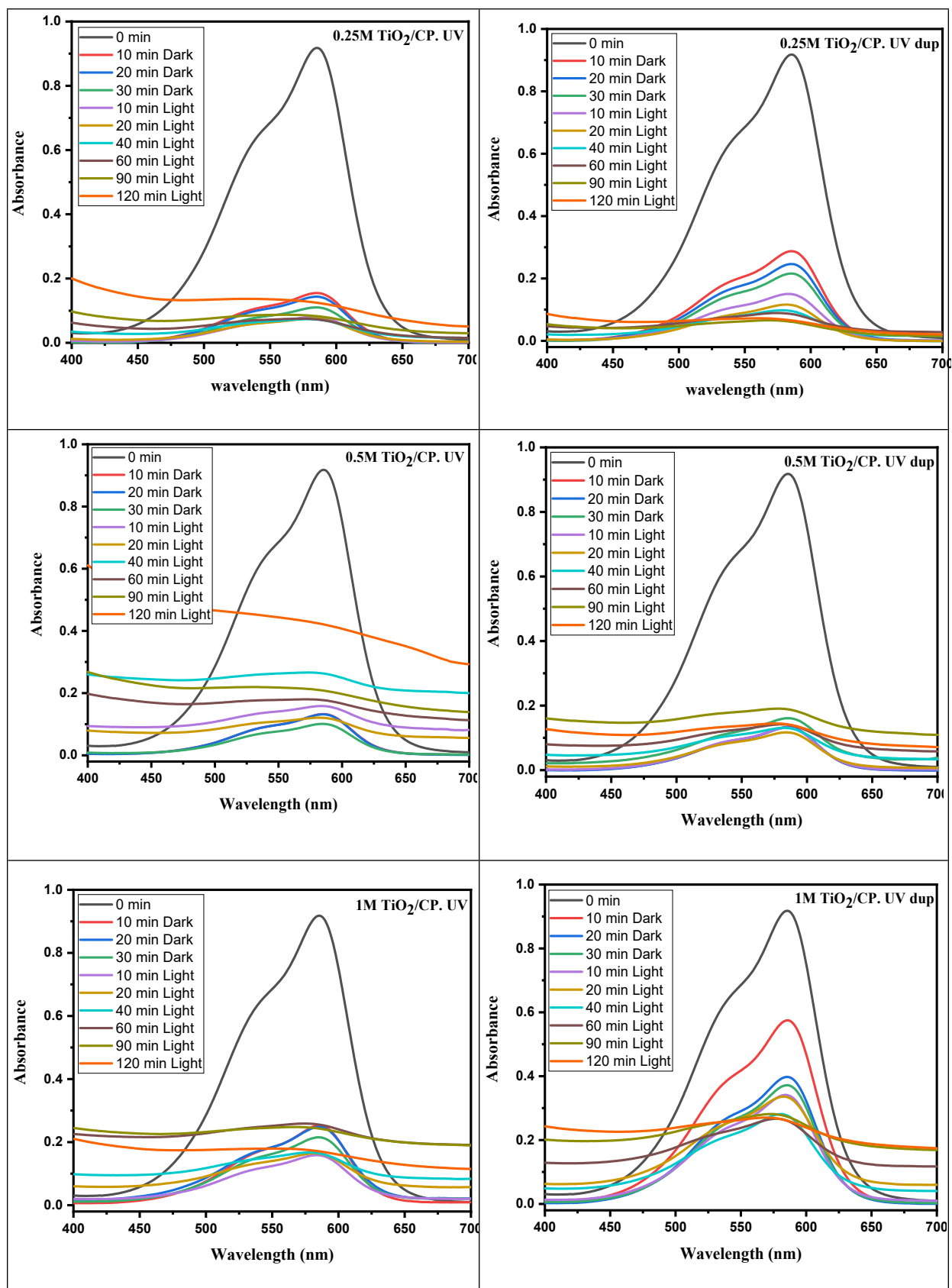


Fig. S5 Absorbance Vs wavelength of parent CP, TiO_2 , 0.1, 0.25, 0.5 and 1.0 M TiO_2/CP , $\text{Fe}^0\text{-TiO}_2$ and $\text{Fe}^0\text{-TiO}_2/\text{CP}$ under solar and UV radiations.

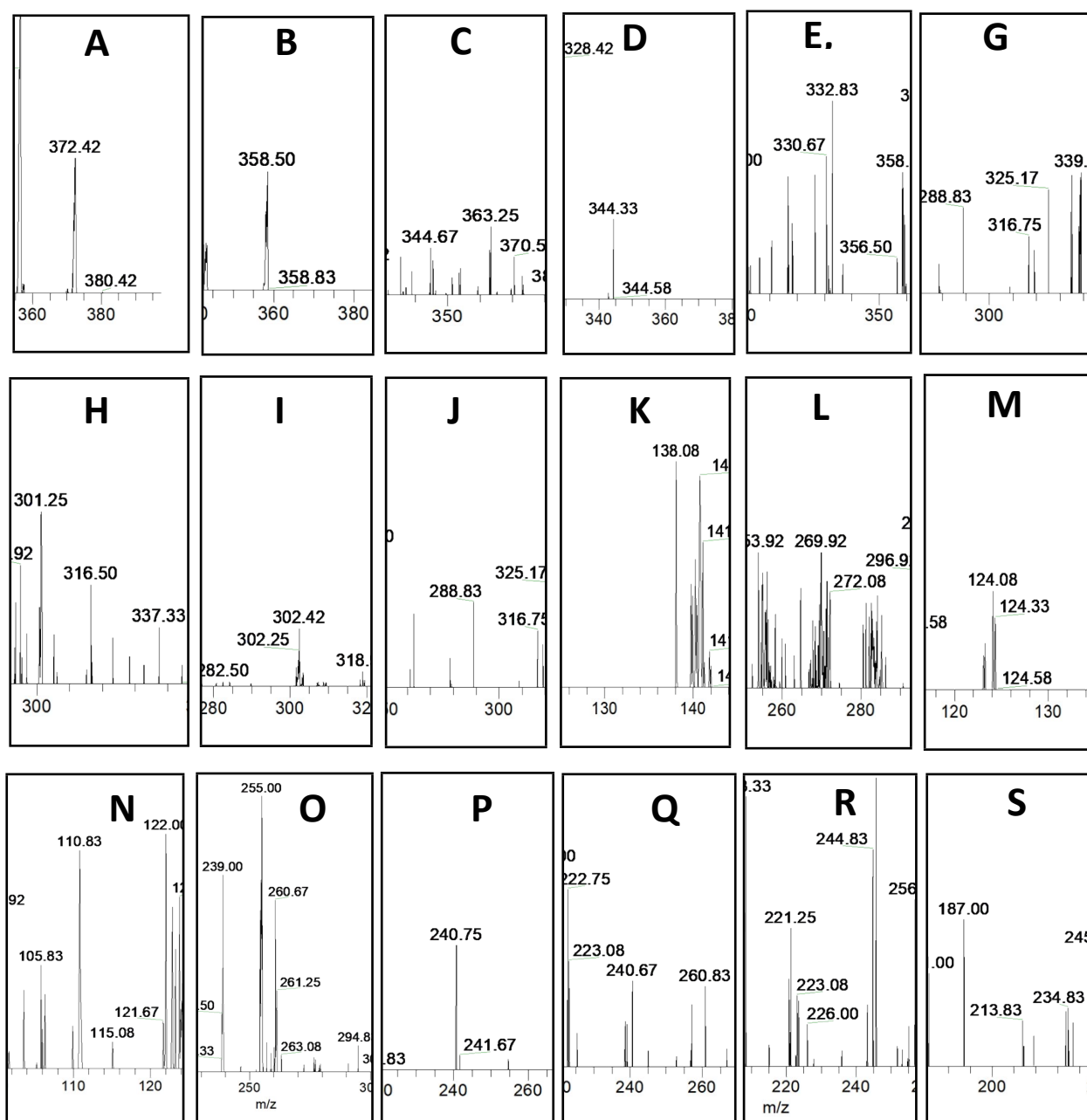


Fig. S6 H-ESI Mass Spectra of intermediated (A-S) formed during CV dye degradations

Table S1 Effect of pH on removal % of CV dye via different photocatalysts

S.No	Photo-catalyst	Removal %age at unadjusted pH	Removal %age at adjusted pH
1	0.1M TiO ₂ /CP	72.88	90.00
2	0.25 TiO ₂ /CP	85.30	92.36
3	0.5 TiO ₂ /CP	45.55	88.06
4	1.0 TiO ₂ /CP	47.88	81.87