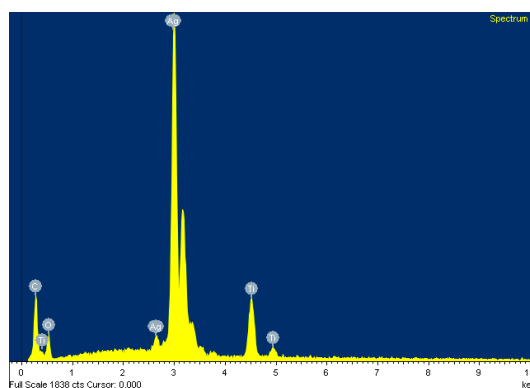


Supplementary Materials: Ag/Ag₂O as a Co-Catalyst in TiO₂ Photocatalysis: Effect of the Co-Catalyst/Photocatalyst Mass Ratio

Soukaina Akel *, Ralf Dillert, Narmina O. Balayeva, Redouan Boughaled, Julian Koch, Mohammed El Azzouzi and Detlef W. Bahnemann *

Ag/Ag₂O

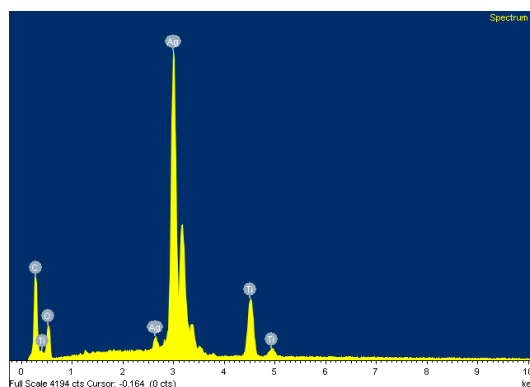
Element	App	Intensity	Weight%	Weight%	Atomic%
	Conc.	Corrn.		Sigma	
C K	4.12	1.3816	3.05	0.31	15.09
O K	2.69	0.2766	9.92	0.85	36.88
Ag L	82.86	0.9721	87.04	0.87	48.02
Totals			100.00		



Ag/Ag₂O//TiO₂ Mixtures (TM):

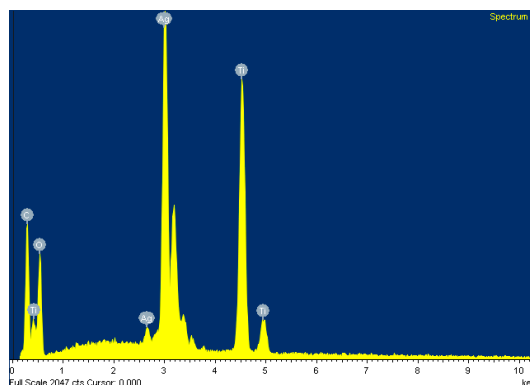
TM 41

Element	App	Intensity	Weight%	Weight%	Atomic%
	Conc.	Corrn.		Sigma	
C K	25.22	1.2513	14.45	0.39	36.34
O K	9.51	0.3007	22.70	0.75	42.84
Ti K	9.83	0.7639	9.23	0.19	5.82
Ag L	69.39	0.9279	53.62	0.61	15.01
Totals			100.00		



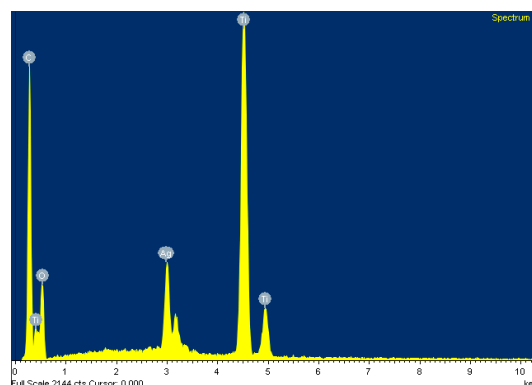
TM 11

Element	App	Intensity	Weight%	Weight%	Atomic%
	Conc.	Corrn.		Sigma	
C K	25.52	1.0672	14.39	0.43	29.89
O K	17.42	0.3139	33.40	0.78	52.08
Ti K	27.43	0.8024	20.57	0.33	10.71
Ag L	47.95	0.9123	31.63	0.48	7.32
Totals			100.00		

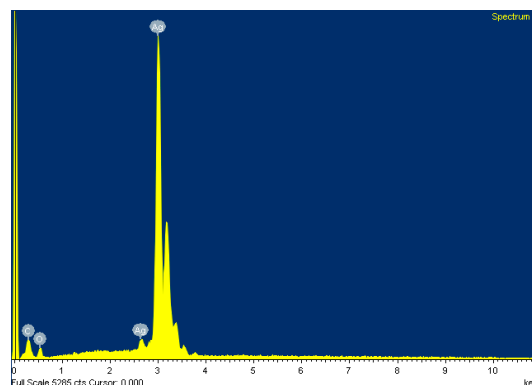


TM 14

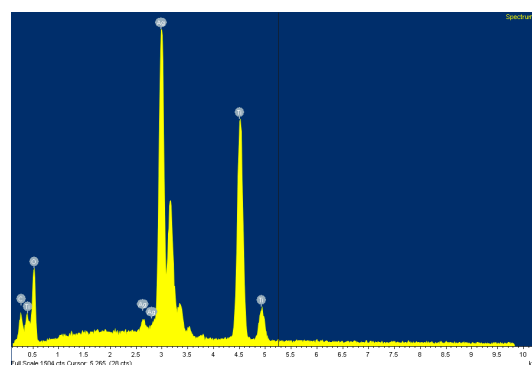
Element	App	Intensity	Weight%	Weight%	Atomic%
	Conc.	Cornn.		Sigma	
C K	81.93	1.0428	34.68	0.57	54.02
O K	18.65	0.2861	28.77	0.80	33.64
Ti K	52.56	0.8386	27.67	0.40	10.80
Ag L	18.07	0.8986	8.88	0.25	1.54
Totals			100.00		

**Ag/Ag₂O//TiO₂ Composites (TC):****TC 41**

Element	App	Intensity	Weight%	Weight%	Atomic%
	Conc.	Cornn.		Sigma	
C K	16.91	1.2750	11.03	0.56	33.55
O K	5.62	0.2828	16.53	1.21	37.75
Ti K	8.99	0.7587	9.86	0.32	7.52
Ag L	70.99	0.9439	62.57	1.04	21.19
Totals			100.00		

**TC 11**

Element	App	Intensity	Weight%	Weight%	Atomic%
	Conc.	Cornn.		Sigma	
C K	3.29	1.0249	3.28	0.31	8.36
O K	10.33	0.3084	34.19	0.88	65.50
Ti K	18.21	0.8019	23.17	0.38	14.83
Ag L	35.39	0.9264	38.98	0.60	11.08
Totals			100.00		

**TC 14**

Element	App	Intensity	Weight%	Weight%	Atomic%
	Conc.	Cornn.		Sigma	
C K	10.84	0.8727	7.10	0.28	14.81
O K	20.51	0.2994	39.16	0.57	61.30
Na K	0.42	0.5372	0.45	0.08	0.49
Ti K	56.66	0.8535	37.94	0.39	19.84
Ag L	24.65	0.9179	15.35	0.24	3.56
Totals			100.00		

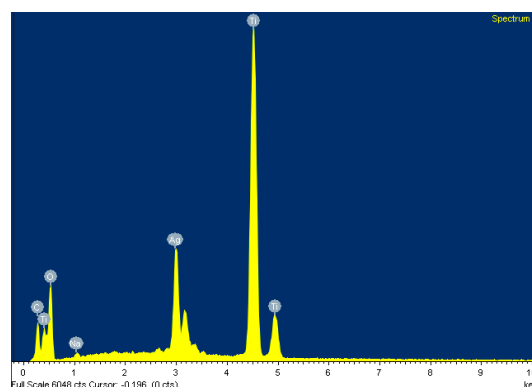


Figure S1. EDX diagrams of all prepared photocatalysts.

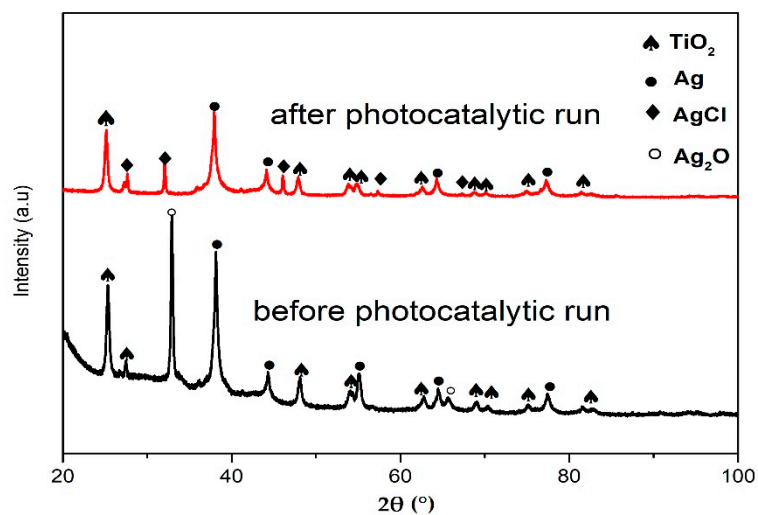
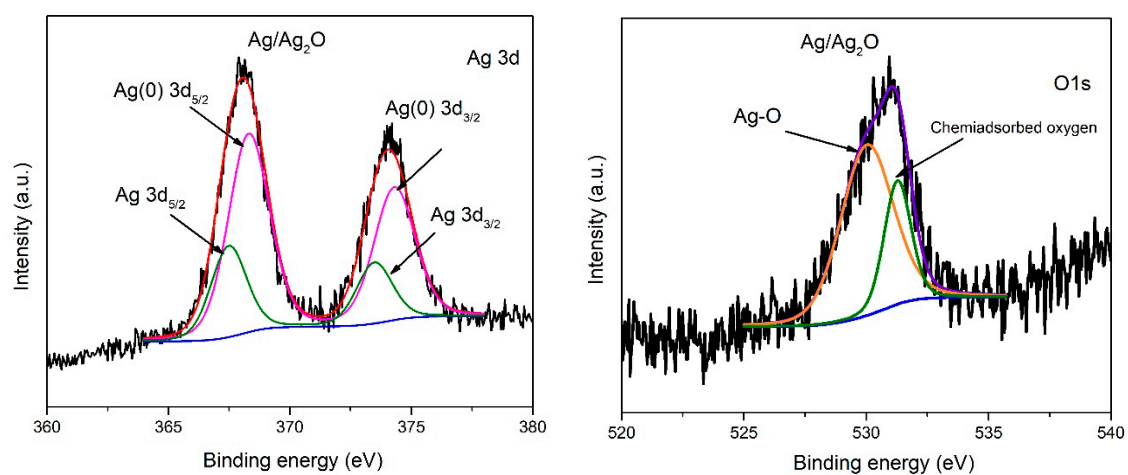
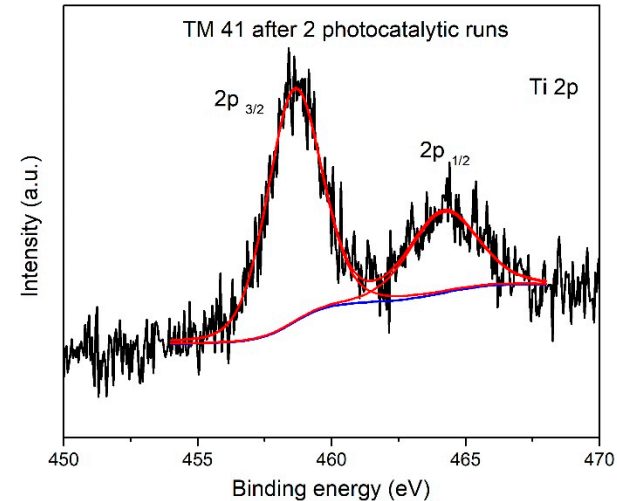
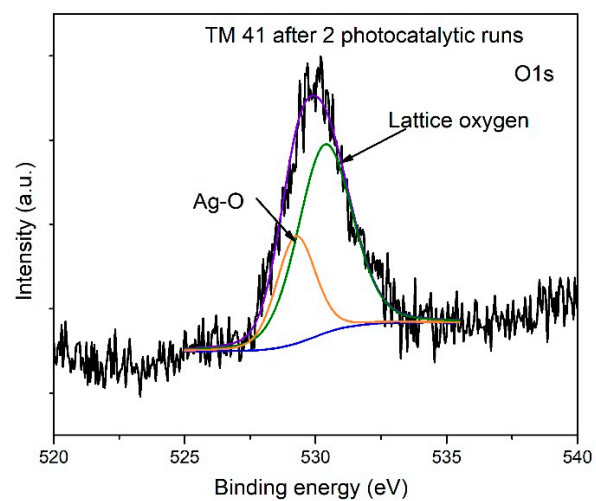
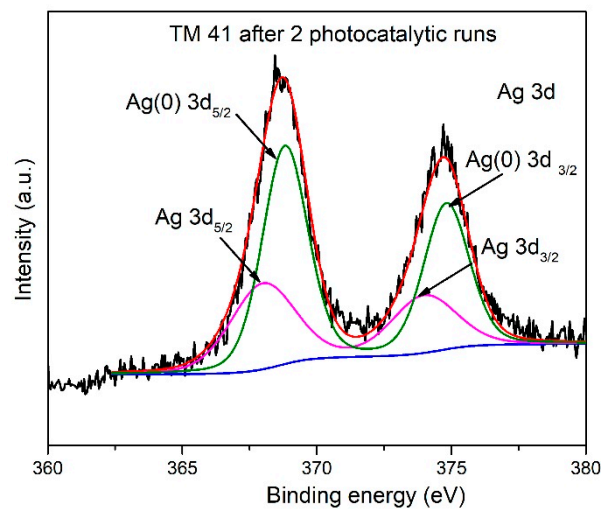
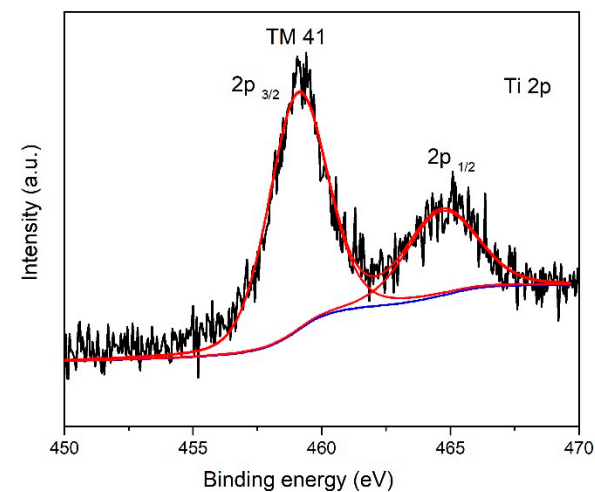
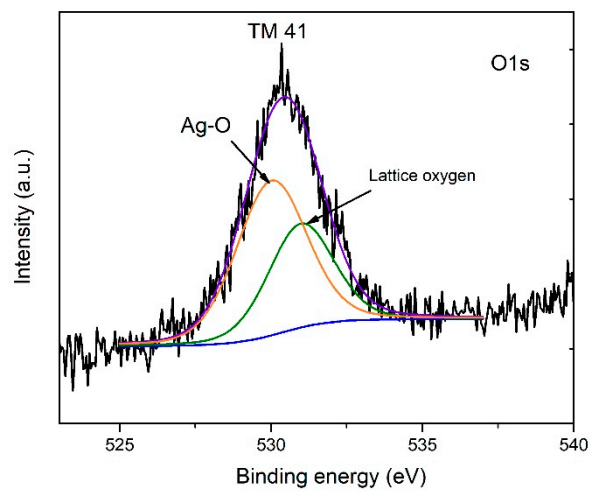
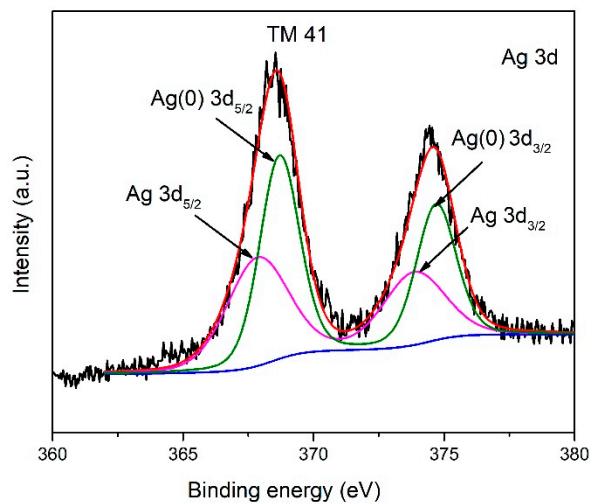
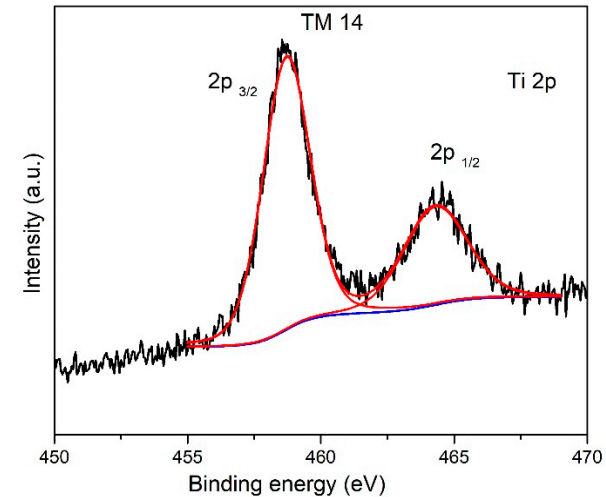
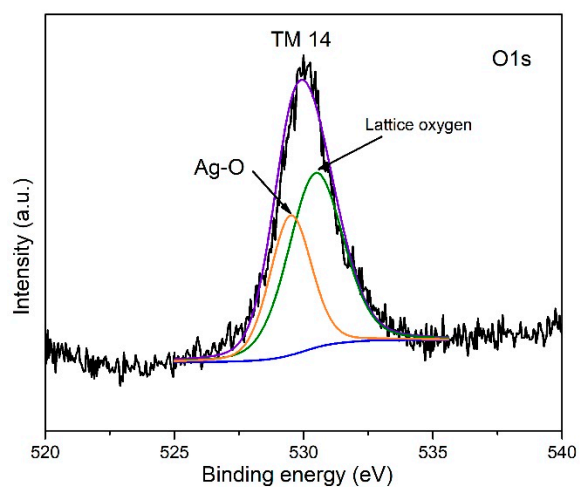
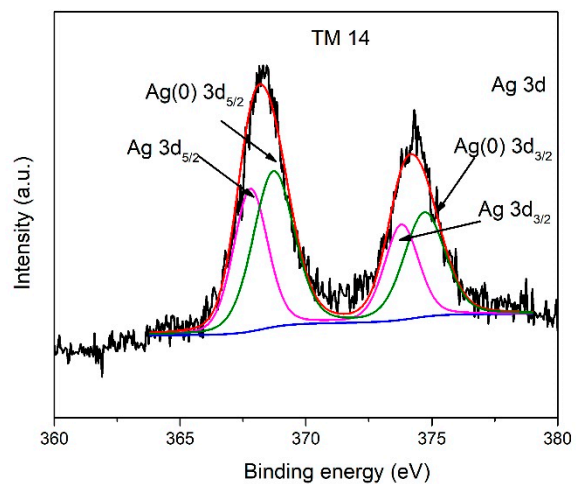
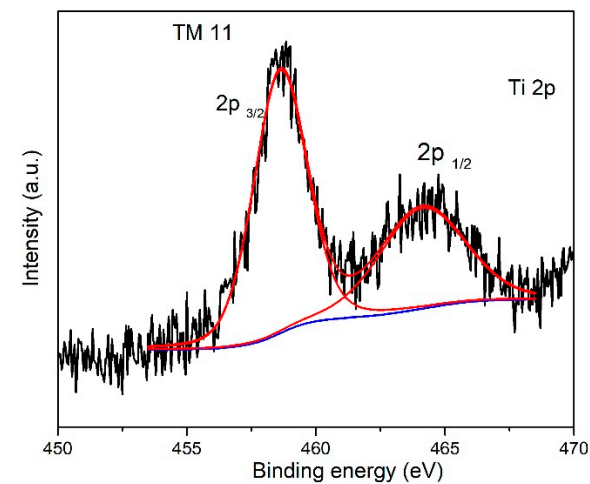
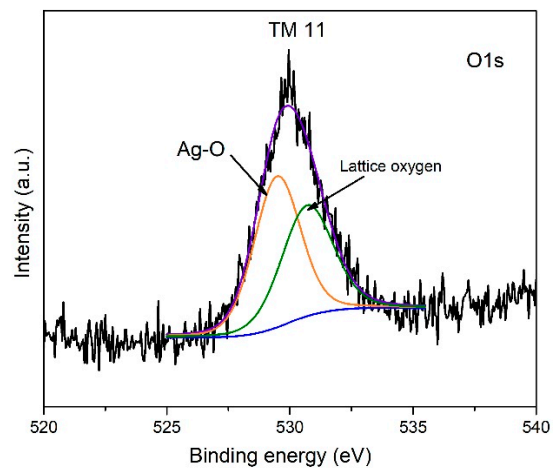
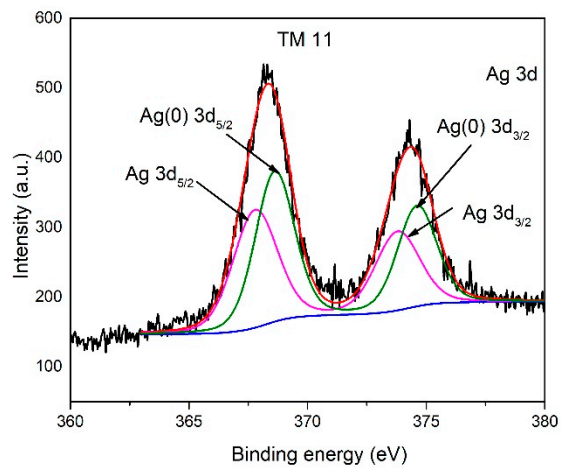
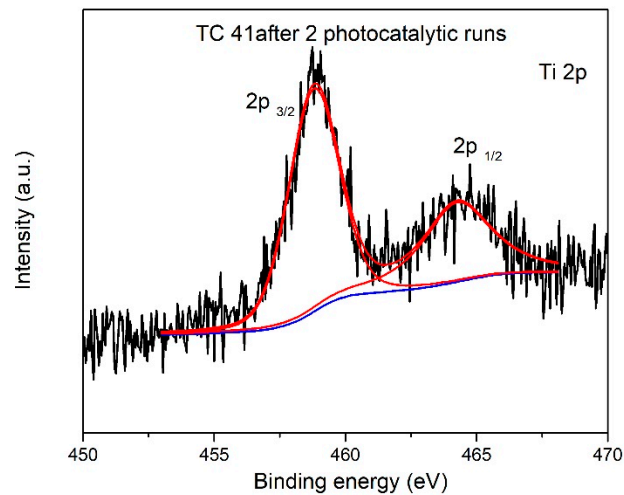
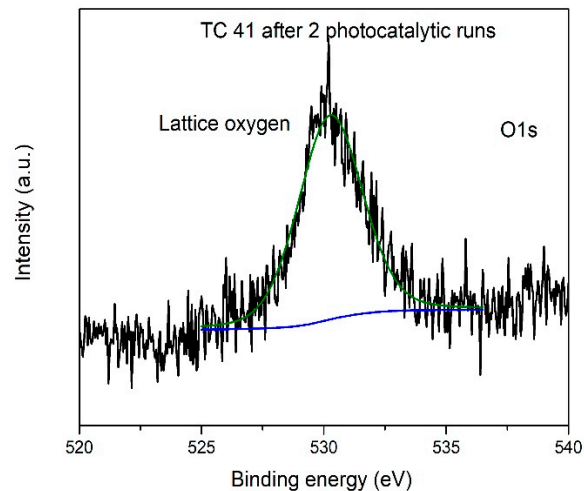
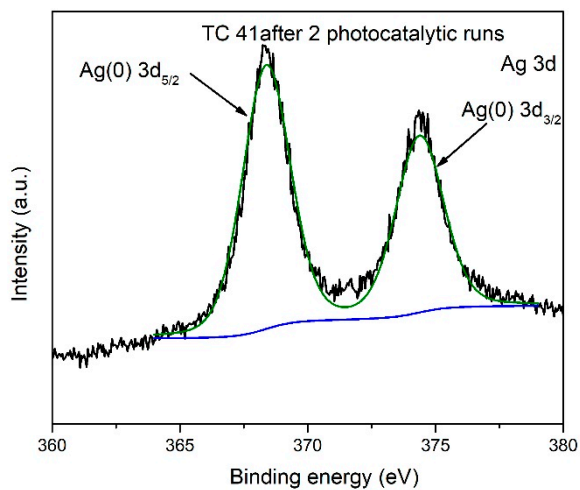
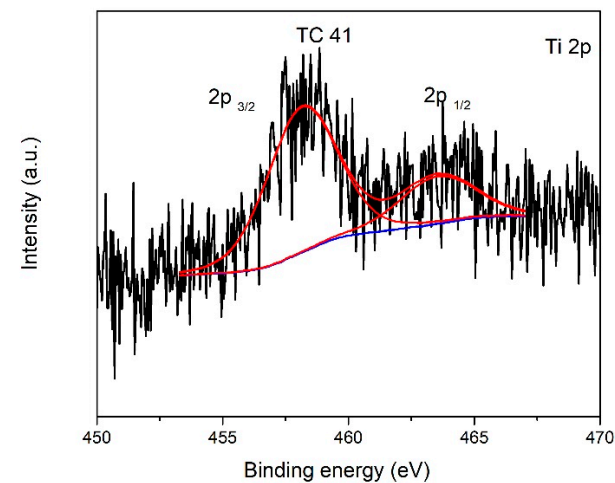
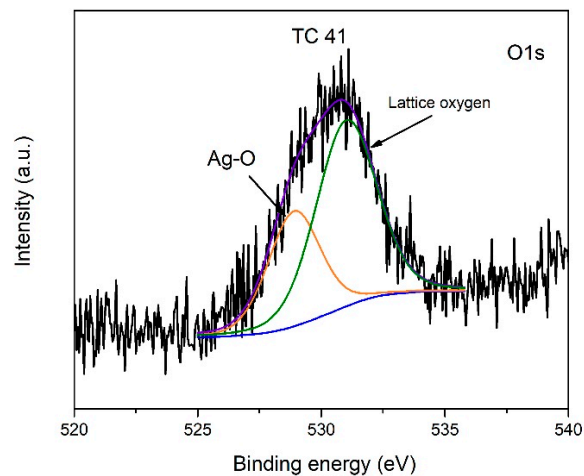
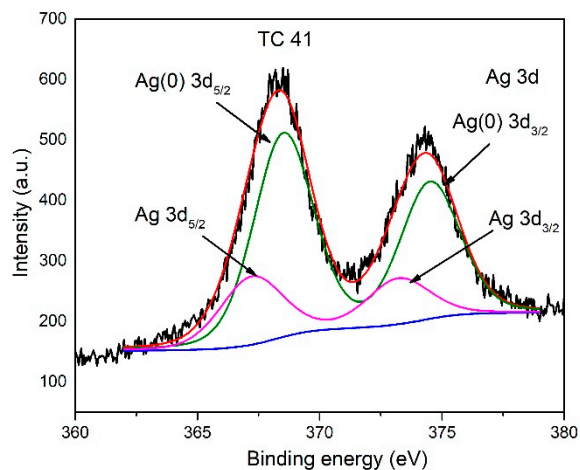


Figure S2. XRD patterns of TM 11 photocatalyst after one cycle of MB bleaching employing UV/vis light.









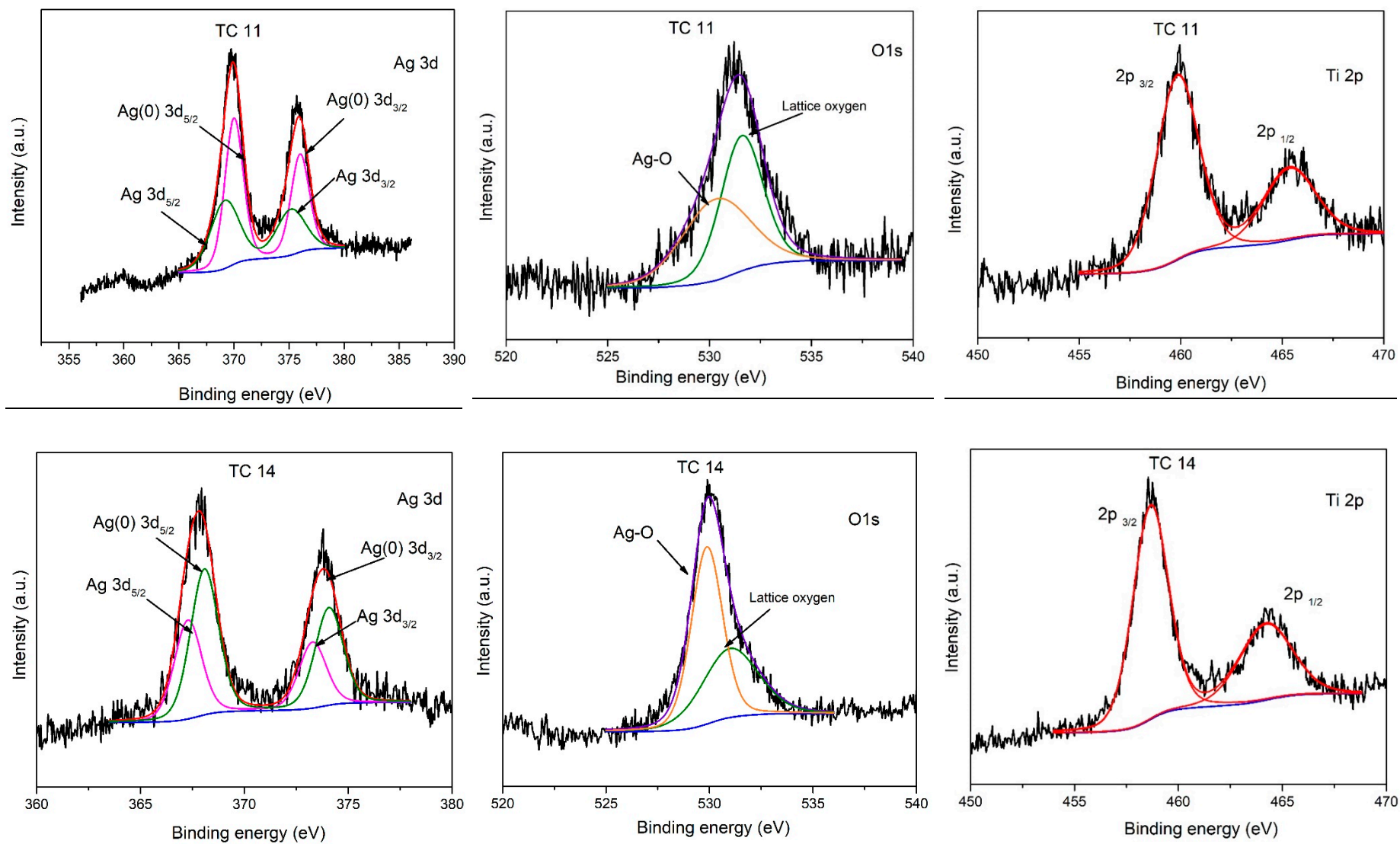


Figure S3. XPS spectra of Ag 3d, O 1s and Ti 2p in the Ag/Ag₂O, TM and TC materials.

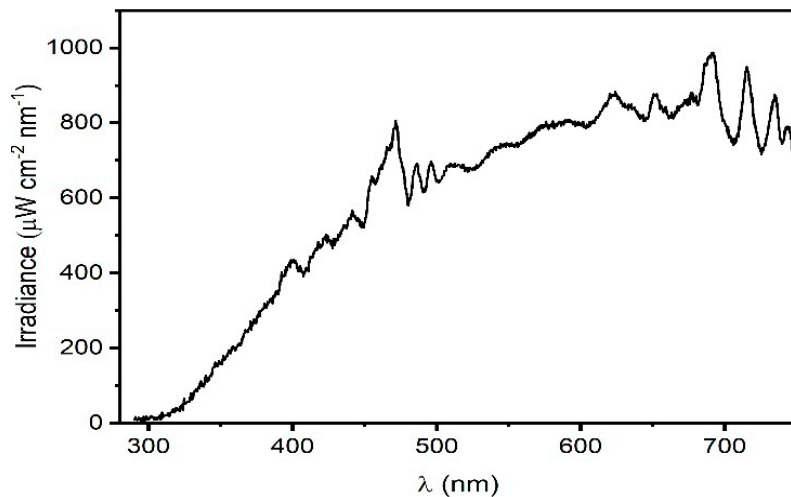


Figure S4. Emission spectrum of the used Xenon lamp.

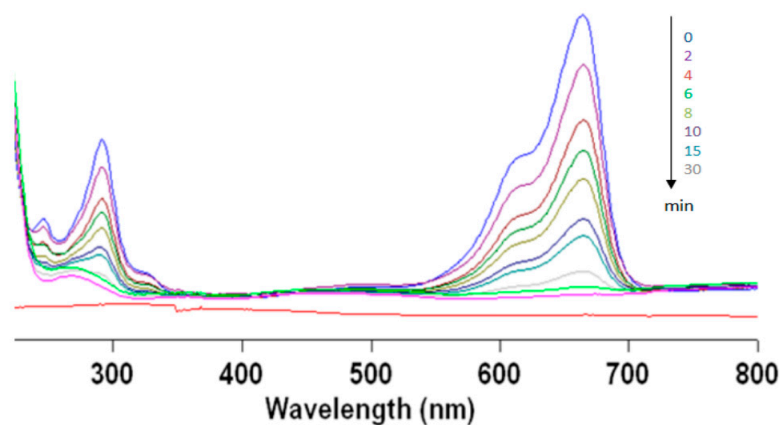


Figure S5. UV/vis spectra of aqueous methylene blue solutions obtained during illumination with visible light in the presence of Ag/Ag₂O.

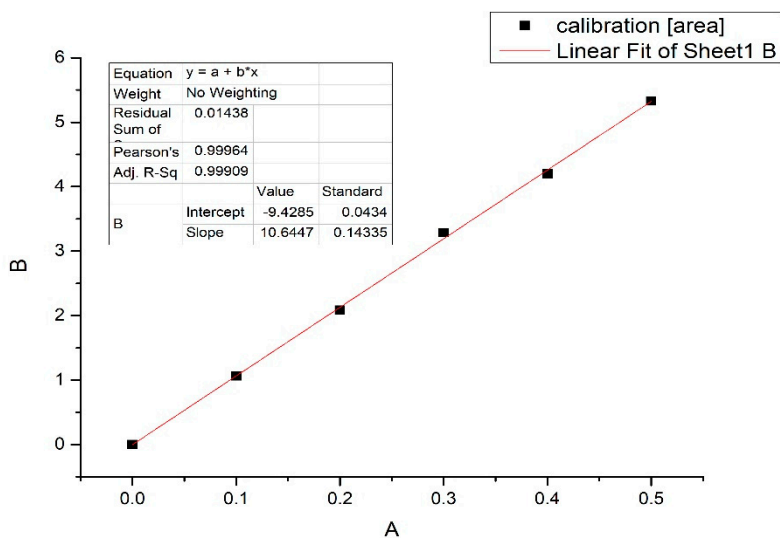


Figure S6. Calibration curve for H₂ experiment.