

Supplementary Materials: This data generated Figure 7. The average and standard deviation results are presented in all tables.

Adsorption

Time	Concentration			Normalized		
	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI
Initial Conc	6.768	6.768	6.768	1	1	1
t0	5.898	5.326	6.344	0.871454	0.786939	0.937352
t1	5.204	5.61	5.225	0.768913	0.828901	0.772015
t2	4.498	4.82	5.205	0.664598	0.712175	0.76906
t3	3.712	3.817	4.588	0.548463	0.563978	0.677896
t4	2.326	3.006	3.307	0.343676	0.444149	0.488623
t5	1.936	2.296	3.095	0.286052	0.339243	0.457299

Adsorption

Time	Concentration			Normalized		
	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI
Initial Conc	7.001	7.001	7.001	1	1	1
t0	6.131	6.064	6.198	0.905881	0.895981	0.91578
t1	5.593	5.74	5.714	0.826389	0.848109	0.844267
t2	4.845	5.079	5.048	0.715869	0.750443	0.745863
t3	4.374	4.461	4.451	0.646277	0.659131	0.657654
t4	3.74	4.067	3.904	0.5526	0.600916	0.576832
t5	3.023	3.779	3.218	0.446661	0.558363	0.475473

Average Adsorption

	Average Concentration			Average Normalized			Standard deviation (SD)		
Time	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI
-1 Initial Conc	6.8845	6.8845	6.8845	1	1	1	0	0	0
0 t0	6.0145	5.695	6.271	0.888667	0.84146	0.926566	0.024343	0.077105	0.015253781
1 t1	5.3985	5.675	5.4695	0.797651	0.838505	0.808141	0.040642	0.013582	0.051089719
2 t2	4.6715	4.9495	5.1265	0.690233	0.731309	0.757462	0.036254	0.02706	0.016403039
3 t3	4.043	4.139	4.5195	0.59737	0.611554	0.667775	0.069164	0.067284	0.014313479
4 t4	3.033	3.5365	3.6055	0.448138	0.522533	0.532728	0.147732	0.110851	0.062373338
5 t5	2.4795	3.0375	3.1565	0.366356	0.448803	0.466386	0.113568	0.154941	0.012850788

UV Light Photolysis

	Concentration				Normalized		
Time	Ag/AgCl	Ag/AgBr	Ag/AgI	Average	Normalized	SD	
-1	Initial Conc	6.141	6.141	6.141	6.141	1	1.09E-15
0	t0	6.321	6.382	6.667	6.456667	1.051403	0.18469
1	t1	5.356	4.511	4.459	4.775333	0.777615	0.503544
2	t2	5.296	4.3	4.618	4.738	0.771536	0.508728
3	t3	4.743	4.071	4.06	4.291333	0.6988	0.391193
4	t4	4.282	3.645	3.402	3.776333	0.614938	0.454463
5	t5	3.947	3.373	4.402	3.907333	0.63627	0.515646

Visible Light Photolysis

	Concentration				Normalized		
Time	Ag/AgCl	Ag/AgBr	Ag/AgI	Average	Normalized	SD	
-1	Initial Conc	6.423	6.423	6.423	6.423	1	1.09E-15
0	t0	6.408	6.758	7.044	6.736667	1.04883492	0.318536
1	t1	6.239	6.609	6.659	6.502333	1.01235145	0.22942
2	t2	6.207	5.314	6.08	5.867	0.91343609	0.483104
3	t3	6.194	4.55	5.642	5.462	0.85038144	0.83665
4	t4	5.155	4.132	5.164	4.817	0.74996108	0.593244
5	t5	4.794	3.592	4.915	4.433667	0.69027972	0.731411

UV Light Photocatalysis

Time	Concentration			Normalized		
	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI
Initial Conc	6.423	6.423	6.423	1	1	1
t0	3.49	5.054	7.295	0.54336	0.78686	1.135762
t1	2.692	2.541	3.643	0.419119	0.39561	0.56718
t2	1.769	1.622	2.992	0.275416	0.25253	0.465826
t3	1.434	1.288	2.279	0.22326	0.200529	0.354819
t4	1.062	1.101	1.872	0.165343	0.171415	0.291453
t5	1.955	0.866	1.373	0.304375	0.134828	0.213763

UV Light Photocatalysis

Time	Concentration			Normalized		
	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI
Initial Conc	7.966	5.625	5.625	1	1	1
t0	7.021	4.845	5.357	0.881371	0.861333	0.952356
t1	1.228	3.426	4.441	0.154155	0.609067	0.789511
t2	2.711	2.481	3.426	0.340321	0.441067	0.609067
t3	1.456	1.641	2.993	0.182777	0.291733	0.532089
t4	1.213	1.992	2.472	0.152272	0.354133	0.439467
t5	1.072	1.137	1.915	0.134572	0.202133	0.340444

Average UV Light Photocatalysis

	Average Concentration			Average Normalized			Standard Deviation (SD)		
Time	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI
-1 Initial Conc	7.1945	6.024	6.024	1	1	1	0	0	0
0 t0	5.2555	4.9495	6.326	0.730489	0.82163	1.050133	0.23901	0.052661	0.129688
1 t1	1.96	2.9835	4.042	0.27243	0.495269	0.670983	0.187358	0.150937	0.157212
2 t2	2.24	2.0515	3.209	0.311349	0.340554	0.532703	0.045895	0.133316	0.101286
3 t3	1.445	1.4645	2.636	0.200848	0.243111	0.437583	0.028626	0.064491	0.125349
4 t4	1.1375	1.5465	2.172	0.158107	0.256723	0.360558	0.009243	0.129201	0.104662
5 t5	1.5135	1.0015	1.644	0.210369	0.166252	0.272908	0.120069	0.047592	0.089577

VisiblePhotocatalysis

Time	Concentration			Normalized		
	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI
Initial Conc	6.768	6.768	6.768	1	1	1
t0	5.112	4.912	5.044	0.755319	0.725768	0.745272
t1	4.589	3.34	5.5	0.678044	0.493499	0.812648
t2	3.345	1.664	4.914	0.494238	0.245863	0.726064
t3	3.503	1.351	4.344	0.517583	0.199616	0.641844
t4	2.977	1.09	3.962	0.439864	0.161052	0.585402
t5	2.177	0	3.582	0.321661	0	0.529255

Visible Photocatalysis

Time	Concentration			Normalized		
	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI
Initial Conc	7.001	7.001	7.001	1	1	1
t0	6.201	6.384	6.359	0.885731	0.91187	0.908299
t1	5.346	3.523	6.562	0.763605	0.503214	0.937295
t2	3.909	2.636	5.798	0.558349	0.376518	0.828167
t3	3.115	2.106	5.334	0.444936	0.300814	0.761891
t4	2.326	1.584	4.865	0.332238	0.226253	0.694901
t5	1.57	1.485	4.954	0.224254	0.212113	0.707613

Average Visible Light Photocatalysis

	Average Concentration			Average Normalized			Standard Deviation (SD)		
Time	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI	Ag/AgCl	Ag/AgBr	Ag/AgI
-1 Initial Conc	6.8845	6.8845	6.8845	1	1	1	0	0	0
0 t0	5.6565	5.648	5.7015	0.820525	0.818819	0.826785	0.092215	0.131594	0.115277
1 t1	4.9675	3.4315	6.031	0.720824	0.498356	0.874971	0.060501	0.00687	0.088139
2 t2	3.627	2.15	5.356	0.526293	0.31119	0.777116	0.045333	0.092387	0.072198
3 t3	3.309	1.7285	4.839	0.48126	0.250215	0.701868	0.051369	0.071558	0.084886
4 t4	2.6515	1.337	4.4135	0.386051	0.193653	0.640151	0.076103	0.046104	0.077427
5 t5	1.8735	0.7425	4.268	0.272957	0.106056	0.618434	0.068877	0.149986	0.126118