

Supporting information

Syntheses, Crystal Structures, and Photocatalytic Properties of Two Ammonium-Directed Ag–Sb–S Complexes

Lina Nie,^{ab} Guangfeng Liu,^b Jian Xie,^b Teik-Thye Lim,^c Gerasimos S. Armatas,^d Rong Xu^{*e}, Qichun Zhang^{*bf}

Table 1. Crystallographic data and structure refinements for compounds **1** and **2**.

	1	2
Chemical formula	NH ₆ AgSb ₄ S ₇ O	NH ₄ AgSb ₂ S ₄
Formula mass	855.35	497.65
Crystal system	Triclinic	Monoclinic
Space group	<i>P</i> -1	<i>P</i> 2 ₁ / <i>c</i>
<i>a</i> (Å)	6.874(2)	11.548(9)
<i>b</i> (Å)	9.281(3)	7.395(6)
<i>c</i> (Å)	11.747(4)	11.083(8)
<i>α</i> (deg)	75.989(3)	90
<i>β</i> (deg)	85.686(3)	116.731(8)
<i>γ</i> (deg)	80.955(3)	90
<i>V</i> (Å ³)	717.5(4)	845.3(11)
<i>T</i> /K	296(2)	296(2)
<i>Z</i>	2	4
<i>D</i> _{cal} (g/cm ³)	3.959	3.910
Theta (deg)	1.788 - 27.289	1.975 - 27.231
<i>R</i> (int)	0.0212	0.0494
<i>R</i> ₁ [<i>I</i> > 2σ(<i>I</i>)]	0.0185	0.0867
<i>wR</i> ₂ [<i>I</i> > 2σ(<i>I</i>)]	0.0521	0.2766
GOF on <i>F</i> ²	1.161	1.202

$$^a R_1 = \sum ||F_o| - |F_c|| / \sum |F_o|, ^b wR_2 = \left[\sum w(F_o^2 - F_c^2)^2 / \sum w(F_o^2)^2 \right]^{1/2}.$$

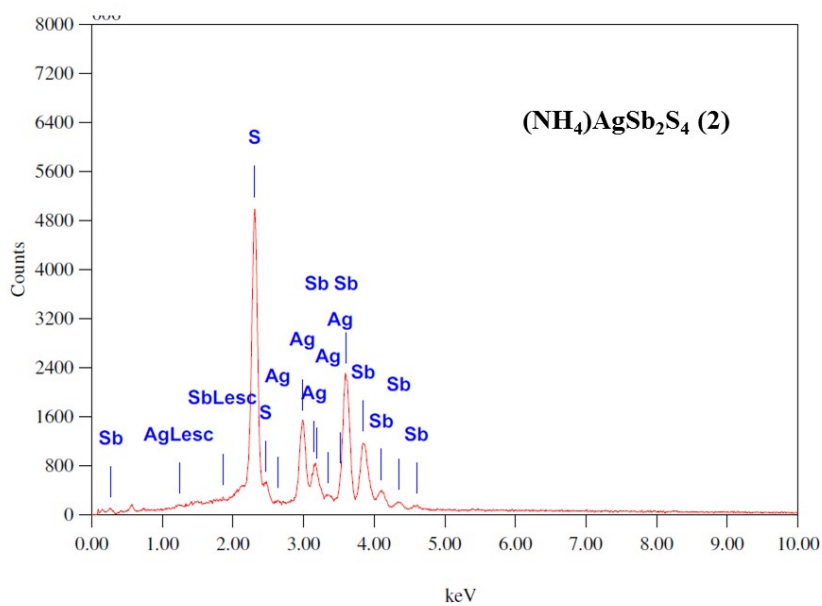
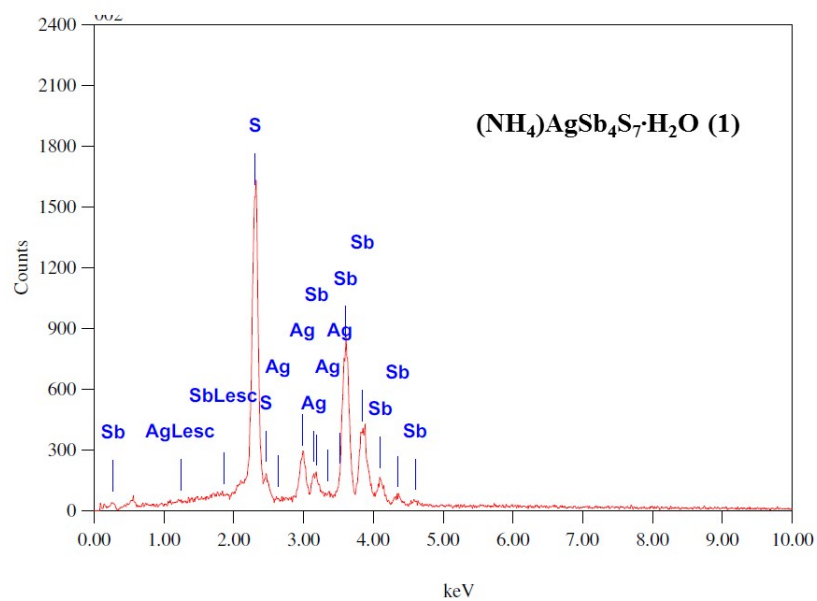


Figure S1. The energy dispersive X-ray (EDX) spectroscopy of compounds **1** and **2**.

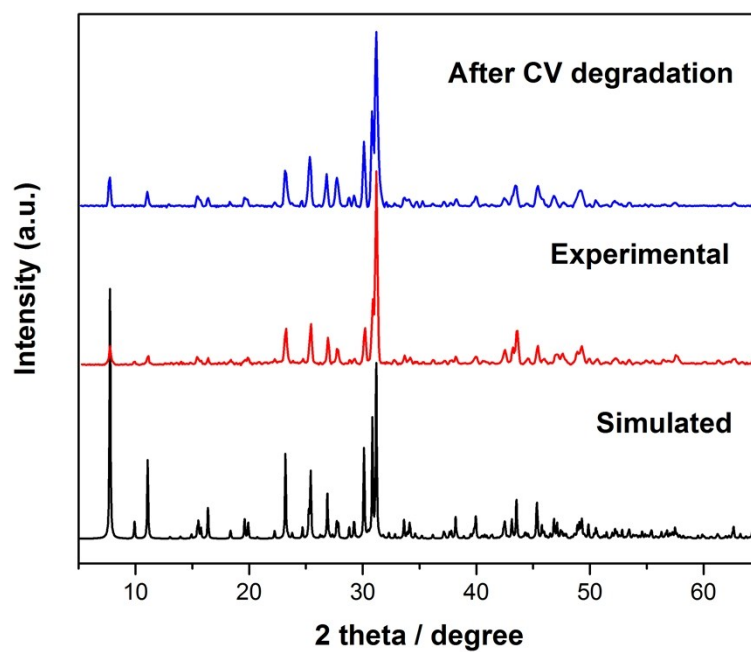


Figure S2. PXRD patterns of compound **1** before and after the CV photodegradation.

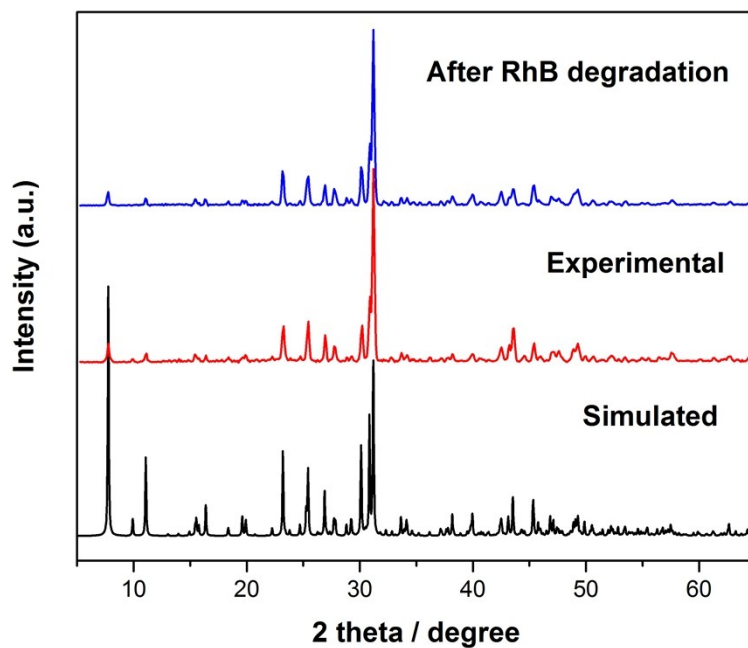


Figure S3. PXRD patterns of compound **1** before and after the RhB photodegradation.

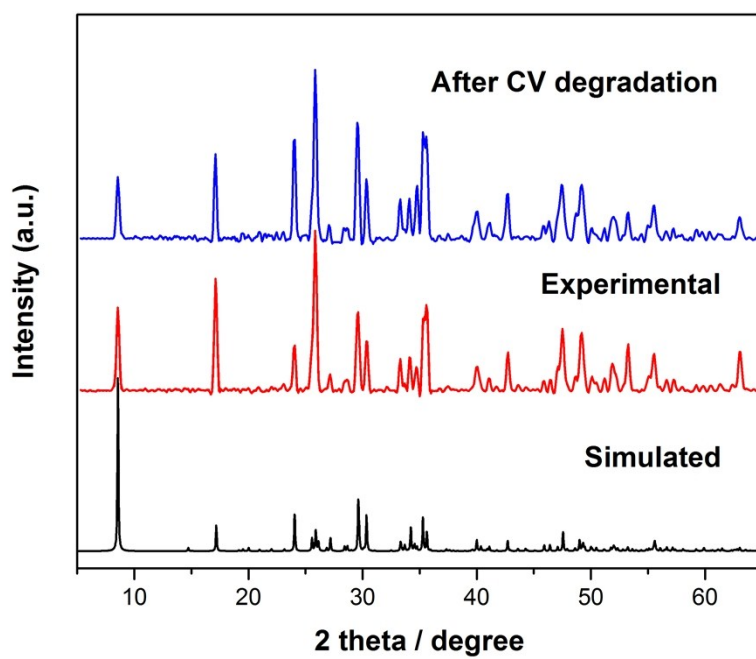


Figure S4. PXRD patterns of compound **2** before and after the CV photodegradation.

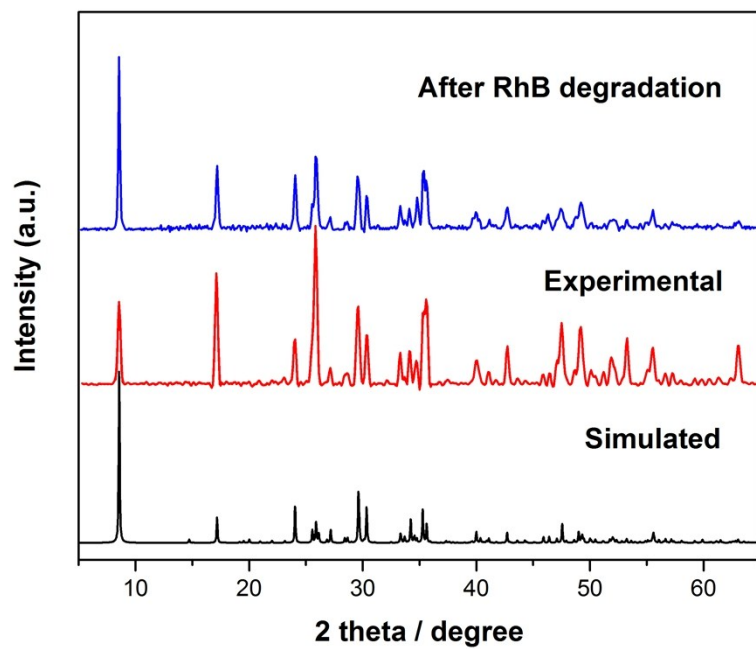


Figure S5. PXRD patterns of compound **2** before and after the RhB photodegradation.

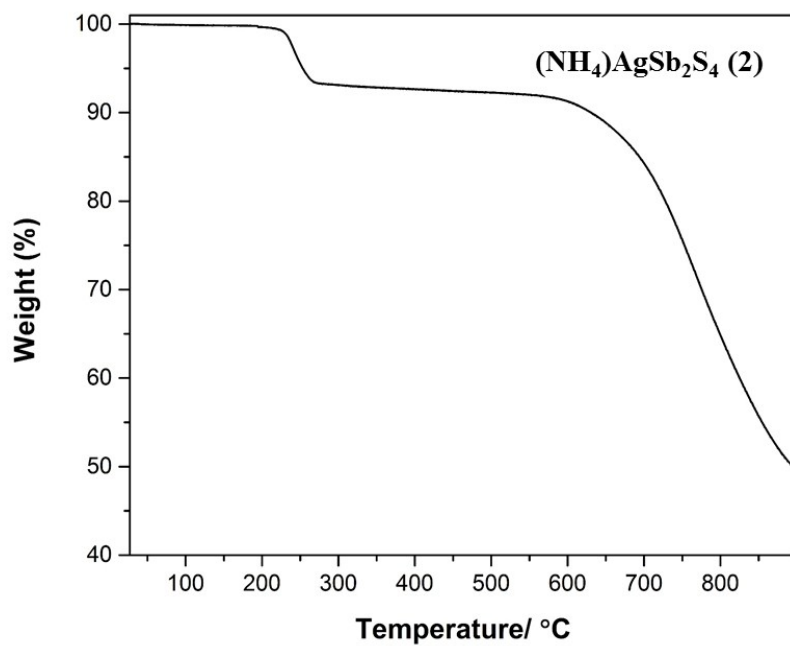
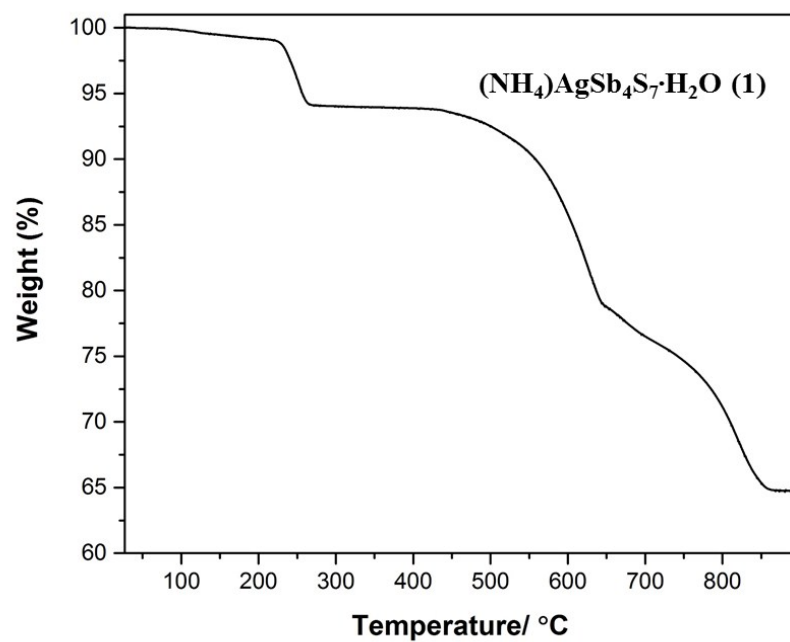


Figure S6. TGA curve for compounds **1** and **2**.