Supporting Information

The novel silver(I) cluster-based coordination polymers as efficient luminescent thermometer

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Table S1. Selected bond lengths (Å) and angles (°) for **1** and **2**.

Compound **1**			
Ag1—N2	2.130 (3)	Ag2—Ag1^{i}	2.9112 (4)
Ag1—N13	2.160 (3)	Ag2—Ag2^{i}	3.0037 (5)
Ag1—N14	2.608 (3)	Ag2—Ag4	2.8938 (4)
Ag1—N1	2.628 (3)	Ag3—O5W	2.174 (3)
Ag1—Ag2^{i}	2.9111 (4)	Ag3—N10	2.263 (3)
Ag2—N15^{i}	2.161 (3)	Ag3—N11	2.378 (3)
Ag2—N3	2.163 (3)	Ag4—N8	2.215 (3)
Ag2—N5	2.631 (3)	N14—Ag1—Ag2^{i}	62.82 (7)
N2—Ag1—N13	167.10 (11)	O5W—Ag3—N11	129.72 (12)
N2—Ag1—N14	121.83 (10)	N10—Ag3—N11	73.07 (11)
N13—Ag1—N14	71.03 (10)	N8—Ag4—N16	154.58 (11)
N2—Ag1—N1	70.05 (11)	N8—Ag4—N18	113.90 (11)
N13—Ag1—N1	105.82 (11)	N16—Ag4—N18	71.96 (11)
N14—Ag1—N1	110.70 (10)	N8—Ag4—N9	70.94 (11)
N2—Ag1—Ag2^{i}	93.61 (8)	N13—Ag1—Ag2^{i}	93.63 (8)
Compound **2**			
Ag1—N2	2.070 (9)	Ag2—I1^{i}	2.8672 (13)
Ag1—N7^{i}	2.085 (8)	Ag2—Ag3^{ii}	3.2554 (17)
Ag2—N6	2.411 (8)	Ag3—N9	2.319 (9)
Ag2—N5	2.465 (9)	Ag3—N8	2.333 (8)
Ag2—N3	2.475 (9)	Ag3—I1^{iii}	2.6524 (13)
Ag2—I1	2.8138 (13)	Ag3—Ag2^{ii}	3.2554 (17)
N2—Ag1—N7^{i}	170.1 (3)	N6—Ag2—I1^{i}	98.6 (2)
N6—Ag2—N5	66.6 (3)	N5—Ag2—I1^{i}	122.0 (2)
N6—Ag2—N3	132.8 (3)	N3—Ag2—I1^{i}	102.4 (2)
N5—Ag2—N3	66.4 (3)	I1—Ag2—I1^{i}	111.25 (3)
N6—Ag2—I1	117.4 (2)	N9—Ag3—N8	73.2 (3)
N5—Ag2—I1	125.64 (19)	N9—Ag3—I1^{iii}	156.6 (2)
N3—Ag2—I1	93.4 (2)	N8—Ag3—I1^{iii}	128.8 (2)
Symmetry codes for **1**: (i) 1-x, 1/2-y, z. **2**: (i) -x, 1/2+y, 1/2-z; (ii) -x, 1-y, -z; (iii) x, 1/2-y, -1/2+z.			

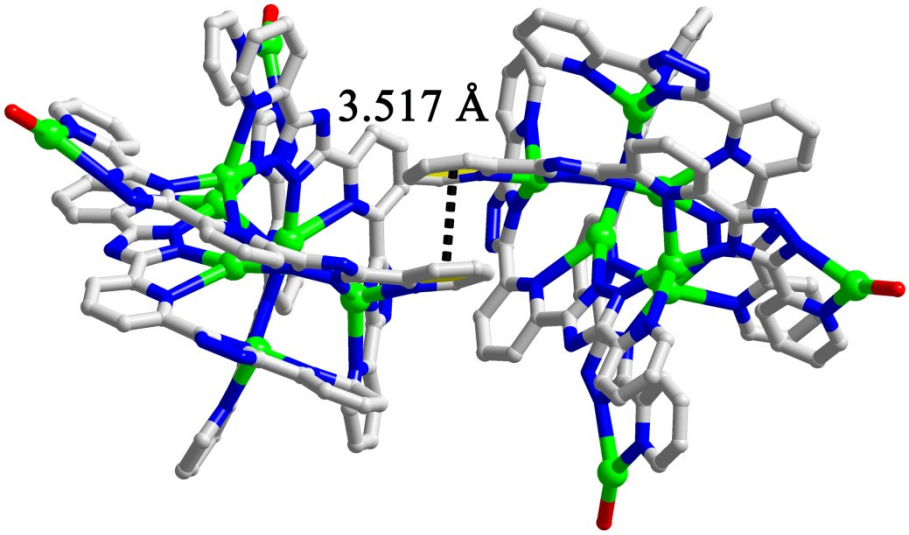

Figure S1. π···π stacking interactions in compound **1**.

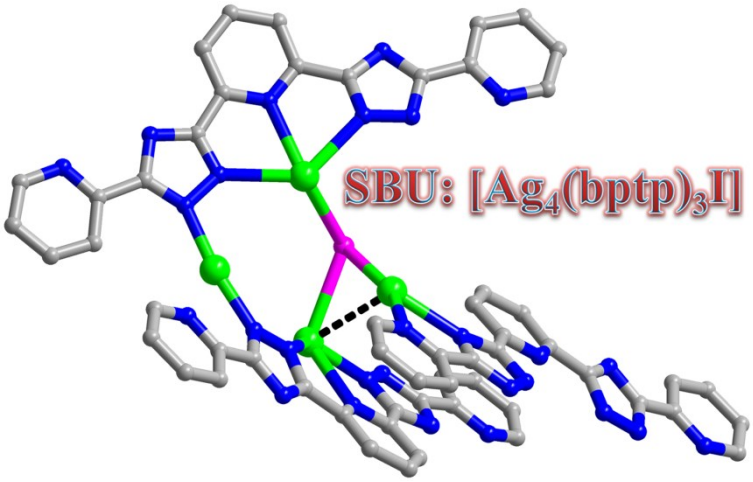

Figure S2. View of the $[Ag_4(bptp)_2(H_2O)]$ subunit in compound **2**.

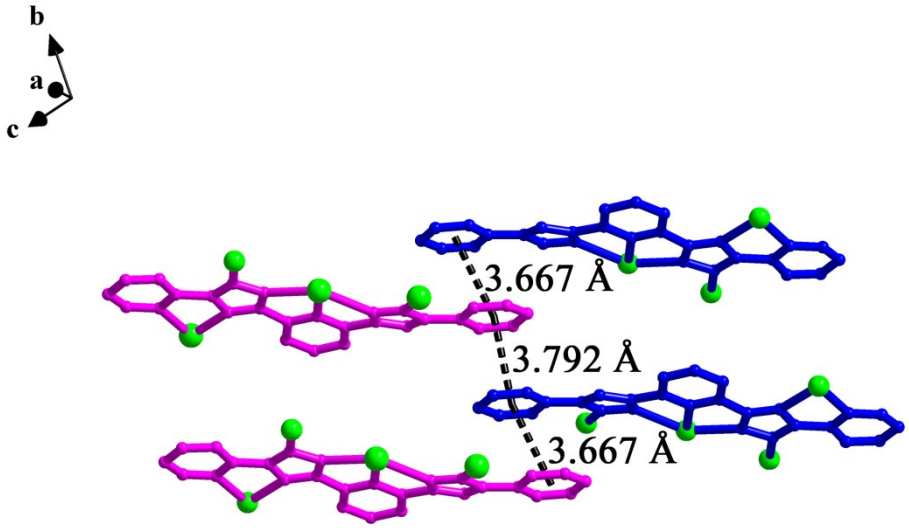

Figure S3. π···π stacking interactions in compound **2**.

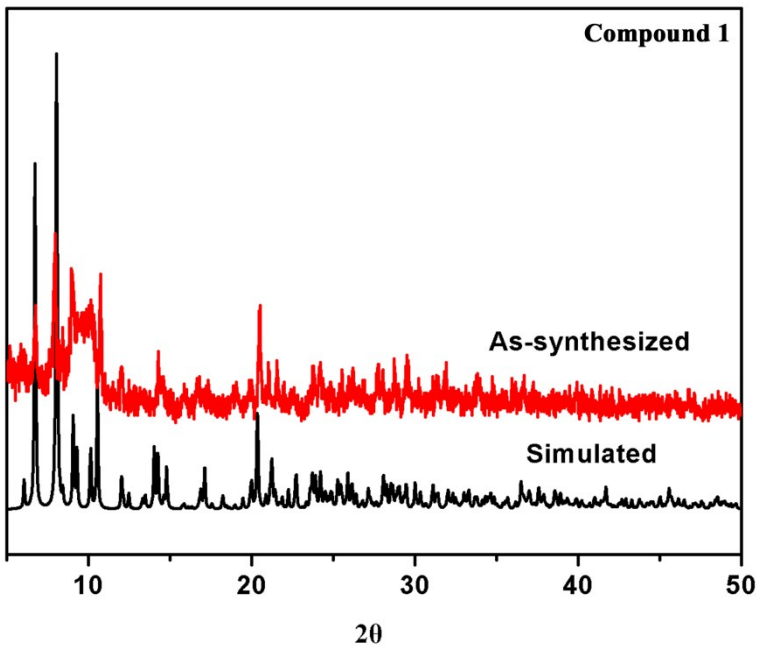

Figure S4. PXRD patterns of simulated from the single-crystal data of compound **1** (black); as-synthesized (red).

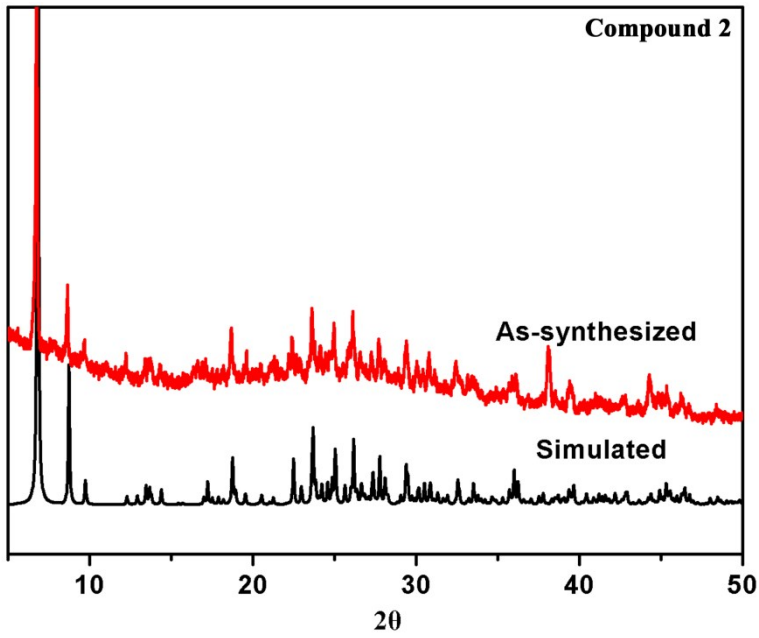

Figure S5. PXRD patterns of simulated from the single-crystal data of compound **2** (black); as-synthesized (red).

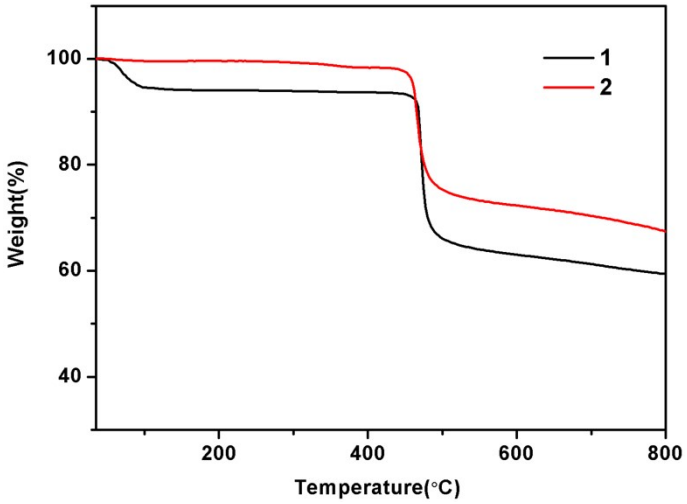

Figure S6. TG curves for compounds **1** and **2**.

Table S2. Temperature sensing range for **1** and other reported compounds.

CPs	Range (K)	Ref.
$[Ag_{0.5}(H_2O)][Ag_{1.5}(L)(H_2O)]\cdot 2H_2O$	100-300	1
$[Zn(\mu_4\text{-}p\text{-}tr_2Ph)(\mu_2\text{-}NO_3)]\cdot NO_3$	80-210	2
$[Tb_{0.98}Eu_{0.02}(bdc)_{0.5}(dstp)]\cdot 2H_2O$	125-250	3
$[Tb_{0.99}Eu_{0.01}(bdc)_{0.5}(dstp)]\cdot 2H_2O$	100-200	3
$[Ag_9S(t\text{BuC}_6H_4S)_6(dpph)_3(CF_3SO_3)]$	180-300	4
$Tb_{0.9}Eu_{0.1}$PIA	100-300	5
$\{[Ag_4(bptp)_2(H_2O)]\cdot 3.5H_2O\}$	77-300	This work

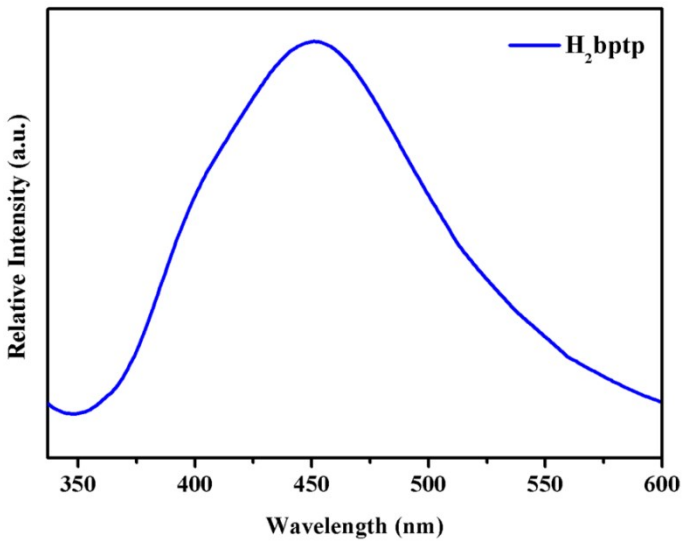

Figure S7. Emission spectra of H_2bptp ligand in the solid state.

References

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