

Supporting Information

Synthesis, Crystal Structure and White Luminescence of Zero-Dimensional Organic-Inorganic Zinc Halides

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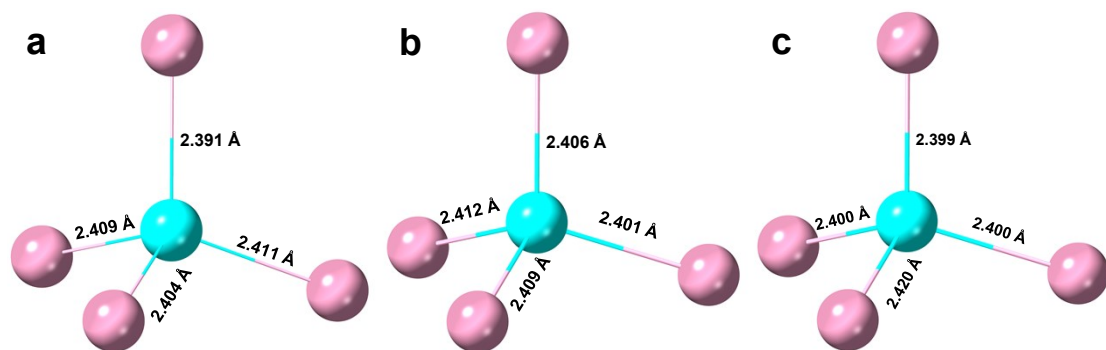


Figure S1. The Zn-Br bond length in crystals **1** (a), **2** (b), and **3** (c).

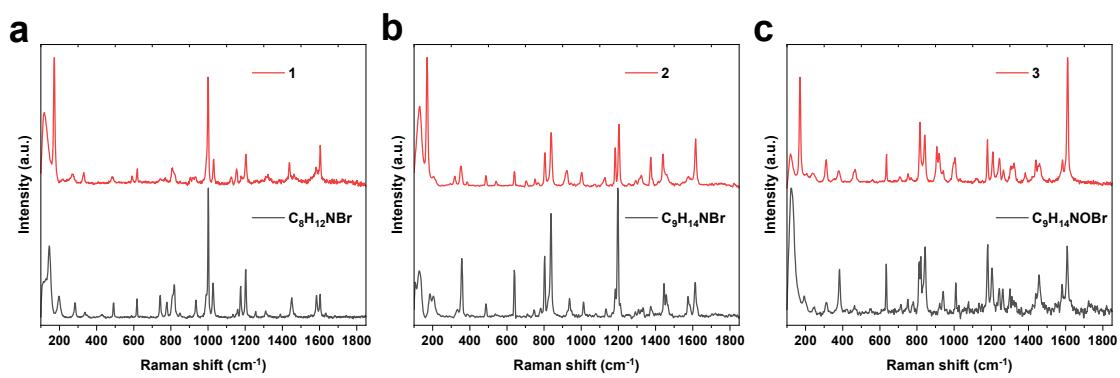


Figure S2. The Raman spectra of **1** and C₈H₁₂NBr (a), **2** and C₉H₁₄NBr (b), and **3** and C₉H₁₄NOBr (c).

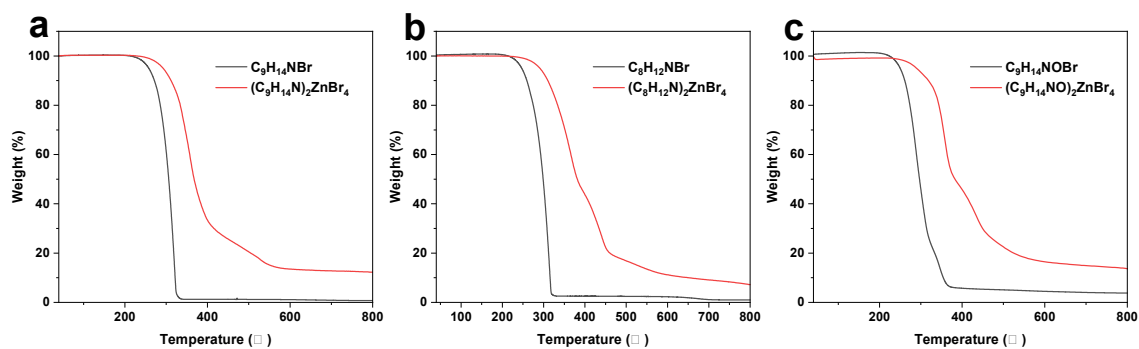


Figure S3. TG curves of compounds **1** (a), **2** (b), and **3** (c) with the corresponding organic ammonium.

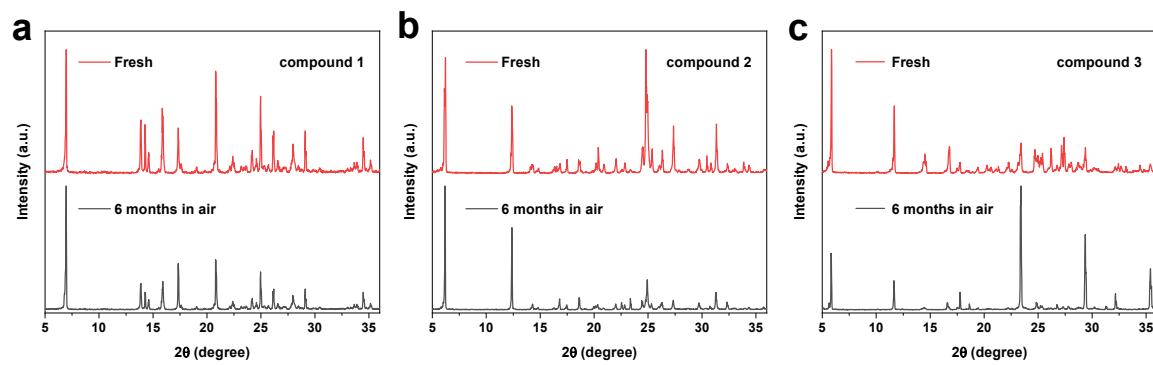


Figure S4. PXRD patterns of **1** (a), **2** (b), and **3** (c) stored 6 months in air.

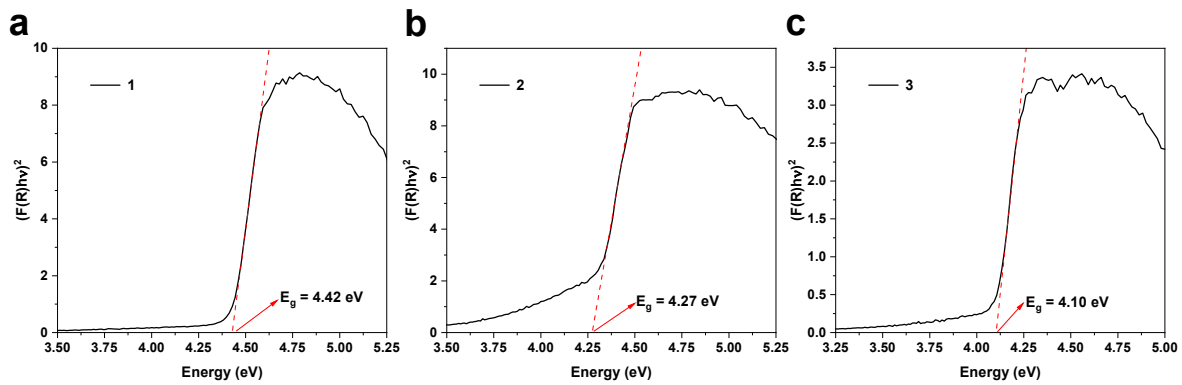


Figure S5. Tauc plots of **1** (a), **2** (b), and **3** (c) for the case of direct bandgaps.

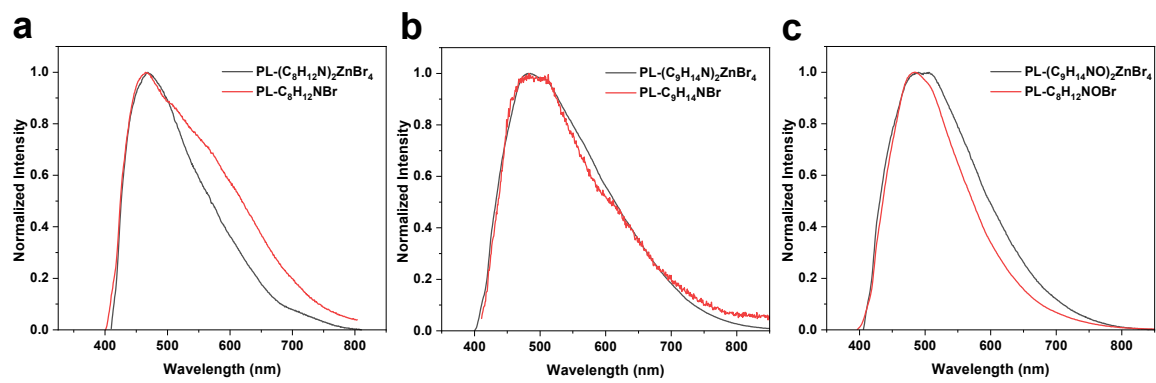


Figure S6. PL spectra of **1** and C₈H₁₂NBr (a), **2** and C₉H₁₄NBr (b), and **3** and C₉H₁₄NOBr (c).

Table S1. Fitting parameters for the PL decay curves using a two-exponential decay model of $(\text{C}_8\text{H}_{12}\text{N})_2\text{ZnBr}_4$ at different emission wavelengths.

Wavelength (nm)	τ_1 (ns)	A_1	τ_2 (ns)	A_2
440	2.90	0.34	0.31	4488.63
460	3.16	0.36	0.35	1703.58
500	3.51	0.25	0.31	5391.08

Table S2. Fitting parameters for the PL decay curves using a two-exponential decay model of $(\text{C}_9\text{H}_{14}\text{N})_2\text{ZnBr}_4$ at different emission wavelengths.

Wavelength (nm)	τ_1 (ns)	A_1	τ_2 (ns)	A_2
440	0.37	1401.98	3.16	0.32
460	0.50	180.92	3.47	0.50
500	0.39	898.32	3.54	0.36

Table S3. Fitting parameters for the PL decay curves using a two-exponential decay model of $(\text{C}_9\text{H}_{14}\text{NO})_2\text{ZnBr}_4$ at different emission wavelengths.

Wavelength (nm)	τ_1 (ns)	A_1	τ_2 (ns)	A_2
440	0.30	6888.29	3.11	0.26
460	0.33	2772.65	3.27	0.32
500	0.29	8260.31	3.34	0.28