Supporting Information for

White-light emission in a chiral one-dimensional organic-inorganic hybrid perovskite

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Figure S1. Powder X-ray diffraction patterns of 1.



Figure S2. IR spectrum for 1.



Figure S3. TG curve of compound 1.



Figure S4. The N–H…Cl hydrogen-bonding interactions between organic cations and inorganic double chain in compound **1**. (In order to clearly express the hydrogen bond, some hydrogen atoms were removed.)



Figure S5. Photoluminescence spectra of 1 before and after irradiated for 48 hours.



Figure S6. Photoluminescence spectra of 1 before and after exposed to ambient condition for two weeks.



Figure S7. (a) Emission spectrum of $(C_5H_{14}N_2)Cl_2$. (b) Photoluminescence decay and fitting curve of $(C_5H_{14}N_2)Cl_2$ at 412 nm.



Figure S8. Photoluminescence decay and fitting curves of 1 at 412 nm.



Figure S9. Emission spectrum of PbCl₂.



Figure S10. Emission spectra of the bulk crystals and microscale crystals of **1** upon excitation at 344 nm at room temperature.



Figure S11. Excitation spectra for the 412 and 617 nm emissions of 1.



Figure S12. Temperature dependence of the emission from 1.



Figure S13. CD spectrum of (R)-3-aminopiperidine in KBr pellet.

Formula	CrH42N2PbCl4H2O		
Formula weight (g/mol)	467 1883		
Temperature (K)	173		
Crystal system	orthorhombic		
Snace group	P2.2.2.		
	F 414141 5 91/7(2)		
с (л) h (Å)	5.9147(2)		
σ (Å)	14.3130(4) 15 7370(Λ)		
د (م) « (deg)	20 20		
B (dog)	90 90		
v (dog)	90		
γ (ueg)	20 1222 22/7)		
	1332.32(/)		
	4		
\mathcal{D}_{calcd} (g/cm3)	2.329		
F(UUU)	864		
limiting indices	-7≤ h ≤3, -17≤ k ≤17, -13≤ l ≤19		
refins collected / unique	4442 / 2356		
completeness (%)	96.3		
data / restraints / param	2356 / 0 / 79		
final R indices $[I>2\sigma(I)]$	$R_1 = 0.0409, wR_2 = 0.0982$		
R indices (all data)	$R_1 = 0.0468, wR_2 = 0.1033$		
${}^{a}R_{1} = \sum F_{o} - F_{c} / \sum F_{o} ; wR_{2} = \{\sum [w(F_{o}^{2} - F_{c}^{2})^{2}] / \sum w[(F_{o})^{2}]^{2} \}^{1/2}$			

Table S1. Crystal Data and Structure Refinement for Compound 1

 Table S2. The Pb–Cl bond lengths of 1.

Bond	(Å)	Bond	(Å)
Pb1-Cl1	2.8447(31)	Pb1–Cl 3b	3.1245(29)
Pb1–Cl2	2.8659(29)	Pb1–Cl 3c	2.9456(30)
Pb1-Cl 3a	2.9839(30)	Pb1–Cl4	2.6997(44)