

Supporting Information

Near-infrared Cr³⁺-doped lead-free halide perovskite microcrystals for information encryption and temperature thermometry

Wei Zhao^a, Li Li^{a*}, Faling Ling^a, Yongjie Wang^{a*}, Guotao Xiang^a, Xianju Zhou^a, Sha Jiang^a, Zhiyu Yang^a, Yongbin Hua^b, Jae Su Yu^{b*}

^aSchool of Science, Chongqing University of Posts and Telecommunications, Chongqing, 400065, P. R. China

^bDepartment of Electronics and Information Convergence Engineering, Institute for Wearable Convergence Electronics, Kyung Hee University, Yongin-si, Gyeonggi-do 17104, Republic of Korea

Keywords: Lead-free double perovskite, Chromium(III) ions, Near-infrared, Information encryption

Table S1. Determined fitting parameters using 3rd-order ($y=B_0+B_1x+B_2x^2+B_3x^3$) polynomial functions for temperature measurements.

parameter	B ₀	B ₁	B ₂	B ₃	R ²
FWHM	106.21	-0.365	3.37×10^{-3}	-5.377×10^{-6}	0.998
$\lambda_{\text{centraoid}}$	950.65	-0.349	2.91×10^{-3}	-4.553×10^{-6}	0.997

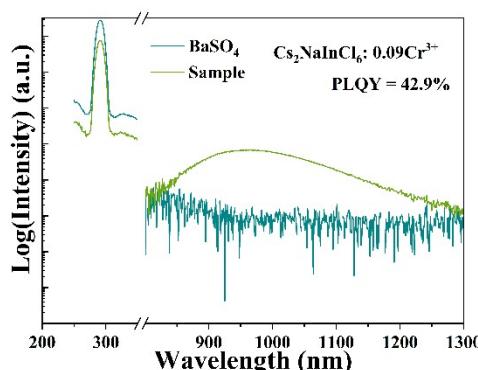


Fig. S1. PLQY analysis of the Cs₂NaInCl₆: 0.09Cr³⁺ under the excitation of 292 nm.

* Corresponding author. Li Li; E-mail: lilic@cqupt.edu.cn. Yongjie Wang, wangyj@cqupt.edu.cn; Jae Su Yu; E-mail: jsyu@khu.ac.kr.

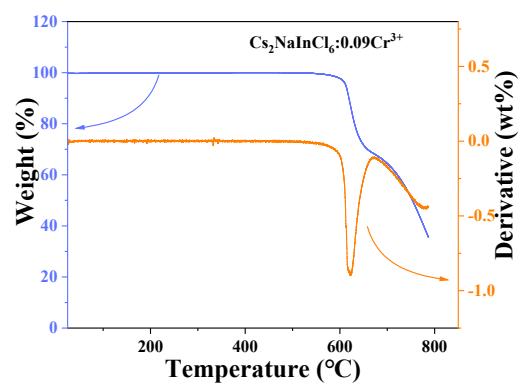


Fig. S2. TGA curve of $\text{Cs}_2\text{NaInCl}_6: 0.09\text{Cr}^{3+}$.