

Supplementary Materials: Highly Efficient and Stable Eu³⁺-Doped CsPbBr₃/Cs₄PbBr₆ Perovskites for White Light-Emitting Diodes

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Citation: Wang, S.; Xu, Y.; Chen, R.; Zhu, M.; Wang, M.; Cao, M.; Liu, Y.; Ding, H.; Zhang, S.; Bai, J.; Ren, J.; Xuan, T.; Li, H. Highly Efficient and Stable Eu³⁺-Doped CsPbBr₃/Cs₄PbBr₆ Perovskites for White Light-Emitting Diodes. *Coatings* **2022**, *12*, x. <https://doi.org/10.3390/coatings12040512>

Academic Editor: Saulius Grigalevicius

Received: 8 March 2022

Accepted: 7 April 2022

Published: 10 April 2022

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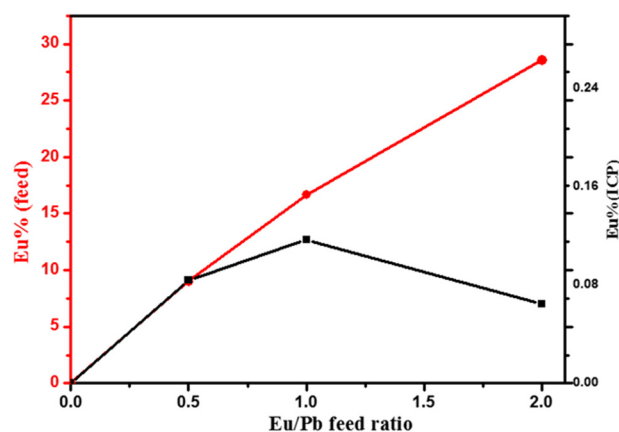


Figure S1. The ratio of the concentration of Eu³⁺ to Pb²⁺ corresponds to the actual doping concentration of Eu³⁺ ions measured by ICP-AES.

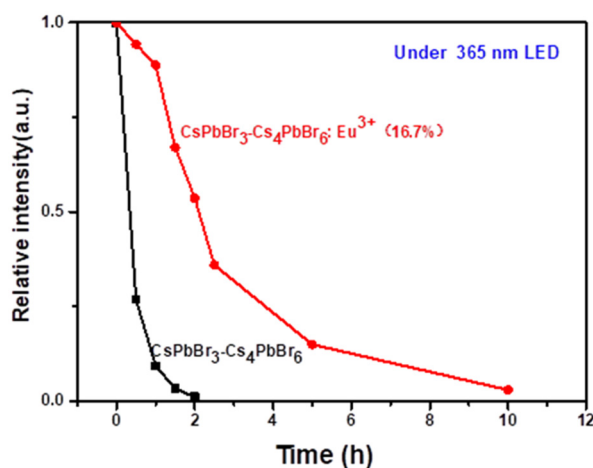


Figure S2. Photostability of the CsPbBr₃/Cs₄PbBr₆, CsPbBr₃/Cs₄PbBr₆:Eu³⁺.

Table S1. CsPbBr₃/Cs₄PbBr₆:Eu³⁺: The addition content of Eu/Pb molar ratio and Eu in precursor synthesis and actual Eu³⁺ content tested by ICP and EDS measurement.

Eu ³⁺ /Pb ²⁺	Eu ³⁺ /Pb ²⁺ (EDS)	Eu ³⁺ /Pb ²⁺ (ICP)
0%	0%	0%
9%	0.089%	0.084%
16.7%	0.12%	0.117%
28.6%	0.066%	0.065%

Table S2. Average lifetimes of CsPbBr₃/Cs₄PbBr₆ and CsPbBr₃/Cs₄PbBr₆:Eu³⁺ composites.

Eu ³⁺ Doping concentration	A ₁ (%)	τ ₁ (ns)	A ₂ (%)	τ ₂ (ns)	τ _{avg} (ns)
0%	67.9	3.73	32.1	14.02	9.49
9%	67.4	5.33	32.6	46.77	19.59
16.7%	60.1	5.02	39.9	46.92	24.31
28.6%	67.4	7.86	32.6	46.42	17.39