

Article

Suppression of electric field-induced segregation in sky-blue perovskite light-emitting electrochemical cells

Tatiana G. Liashenko^{1,*†}, Anatoly P. Pushkarev^{1,*†}, Arnas Naujokaitis², Vidas Pakštas², Marius Franckevičius², Anvar A. Zakhidov^{1,3}, Sergey V. Makarov¹

¹ Department of Physics and Engineering, ITMO University, 197101 St. Petersburg, Russia;

² Center for Physical Sciences and Technology, LT-10257 Vilnius, Lithuania;

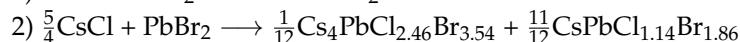
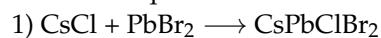
³ University of Texas at Dallas, Richardson TX 75080, USA;

* Correspondence: tatiana.liashenko@metalab.ifmo.ru (T.G.L.); anatoly.pushkarev@metalab.ifmo.ru (A.P.P.)

† These authors contributed equally to this work.

Version September 28, 2020 submitted to Journal Not Specified

¹ Chemical equations:



⁵ © 2020 by the authors. Submitted to *Journal Not Specified* for possible open access

⁶ publication under the terms and conditions of the Creative Commons Attribution (CC BY) license

⁷ (<http://creativecommons.org/licenses/by/4.0/>).

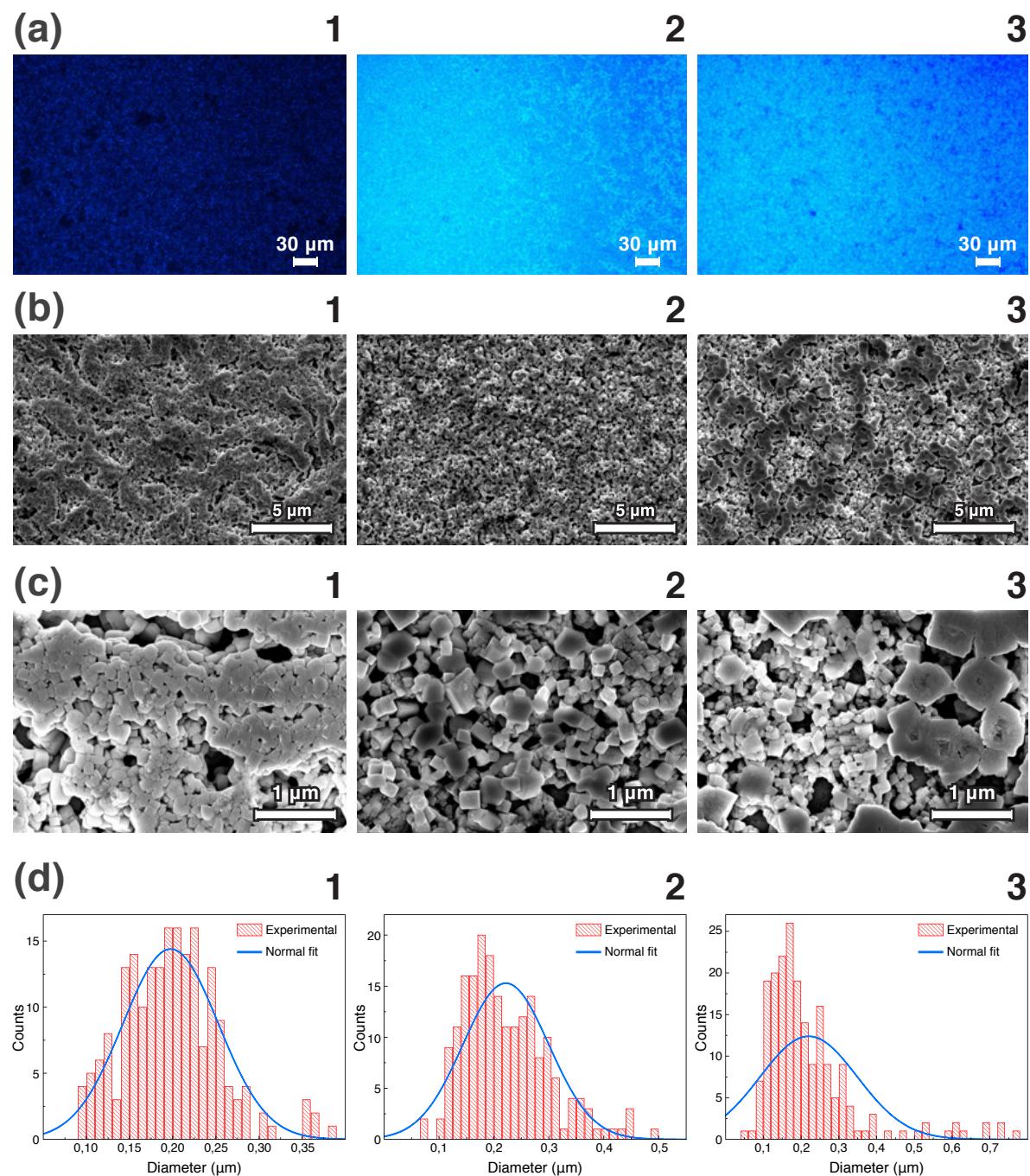


Figure S 1. (a) Fluorescent microimages of the films 1-3. (b) Large-scale SEM images of the samples. (c) High-resolution SEM images of the samples. (d) Grains size distribution derived from the high-resolution SEM images.

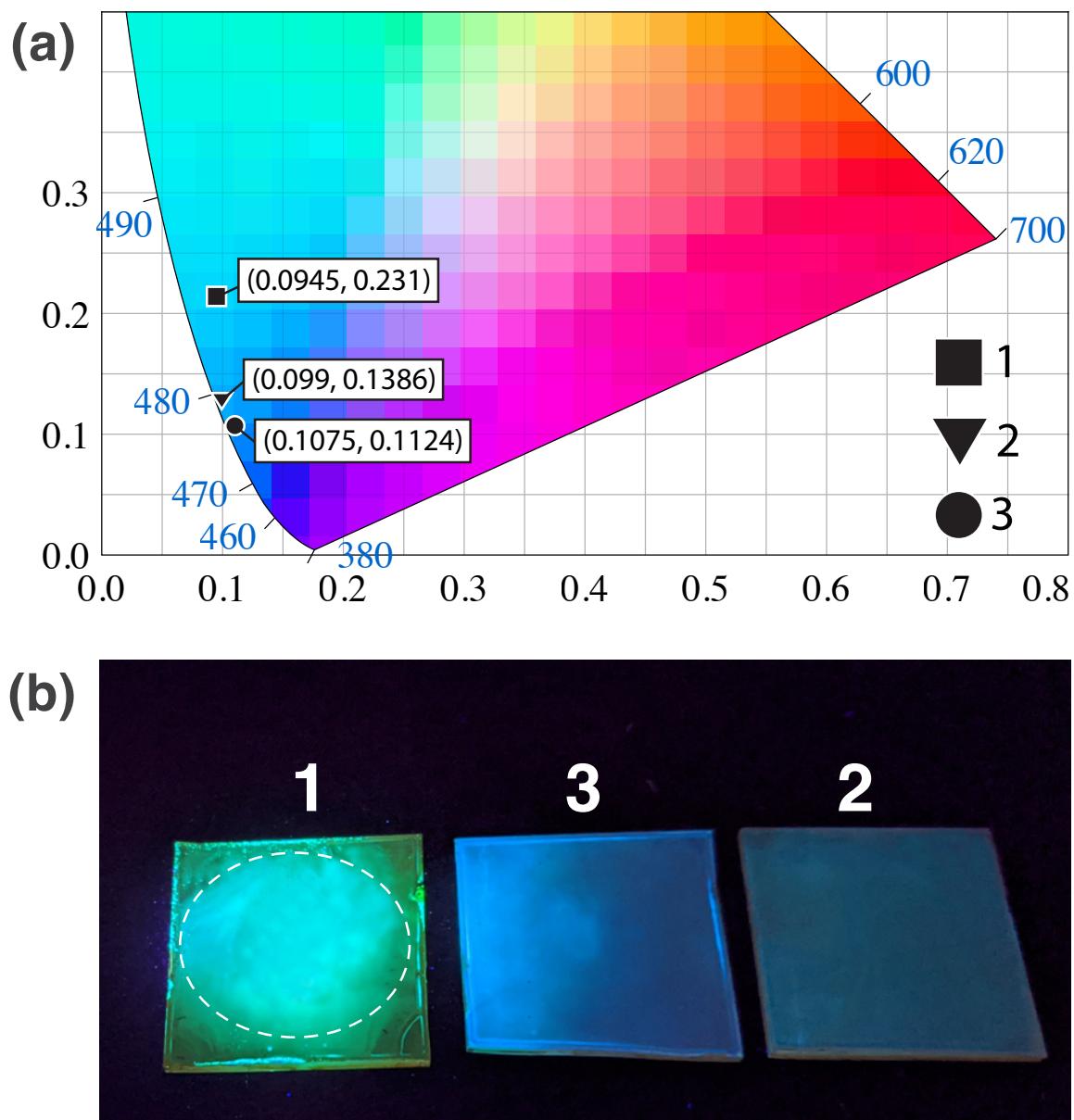


Figure S 2. (a) CIE 1931 coordinates displaying a color of photoluminescence from 1-3. (b) A photograph of the sample 1 under intense UV light of $1 \text{ W}\cdot\text{cm}^{-2}$.

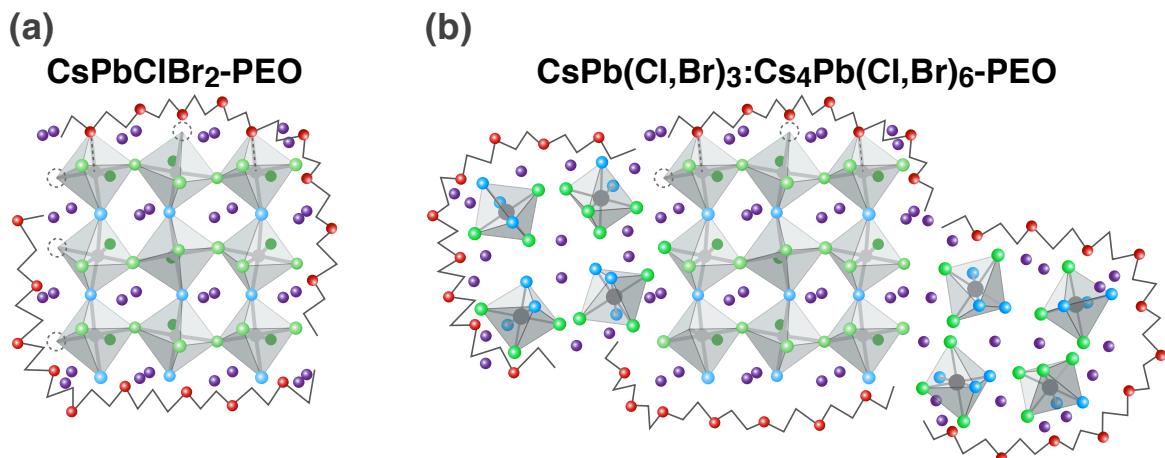


Figure S 3. (a) Partial passivation of surface halide vacancies in a perovskite grain by oxygen atoms of PEO. (b) More complete passivation of surface halide vacancies in a perovskite grain by both PEO and hexahalide crystallites.

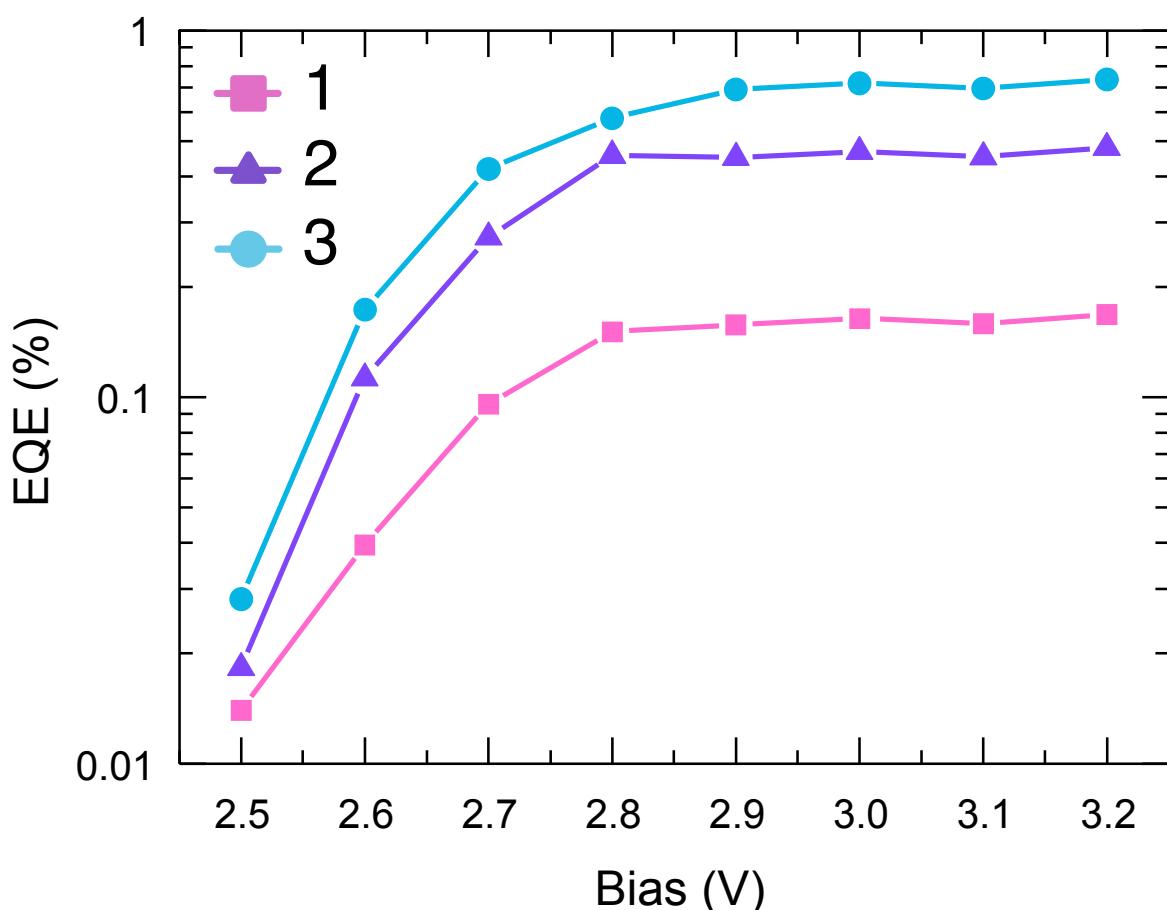


Figure S 4. Electroluminescence external quantum efficiency vs bias relations for the PeLECs 1-3.