

Supporting information

Direct Nanoscale Visualization of the Electric-Field-Induced Aging Dynamics of MAPbI₃ thin films

Nikita A. Emelianov¹, Victoria V. Ozerova¹, Yuri S. Fedotov², Mikhail V. Zhidkov¹, Rasim R. Saifutyarov³, Maria S. Malozovskaya³, Mikhail S. Leshchev¹, Eugeny V. Golosov¹, Lyubov A. Frolova¹, Pavel A. Troshin^{4,5,1*}

1 Federal Research Center of Problems of Chemical Physics and Medicinal Chemistry, Russian Academy of Sciences, Academician Semenov Ave. 1, Chernogolovka 142432, Russia

2 Institute of Solid State Physics, Russian Academy of Sciences, Academician Osipyan Str. 2, 142432 Chernogolovka, Russia

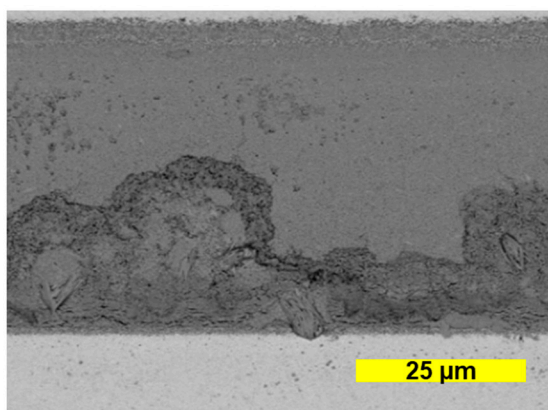
3 National Research Centre "Kurchatov Institute," Moscow, 123182 Russia

4 Harbin Institute of Technology, 92 West Dazhi Street, Nan Gang District, Harbin 150001, China

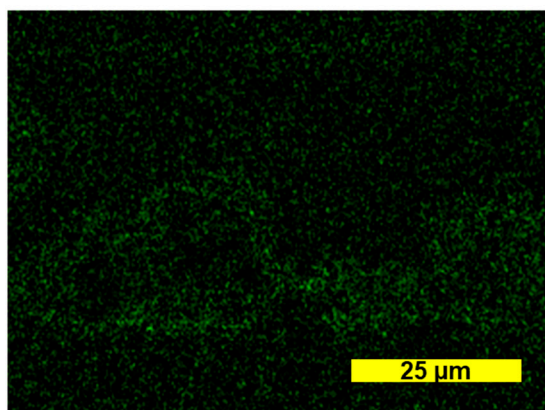
5 Zhengzhou Research Institute of HIT, 26 Longyuan East 7th, Jinshui District, Zhengzhou 450000, China

* Correspondence: troshin2003@inbox.ru (P.A.T.)

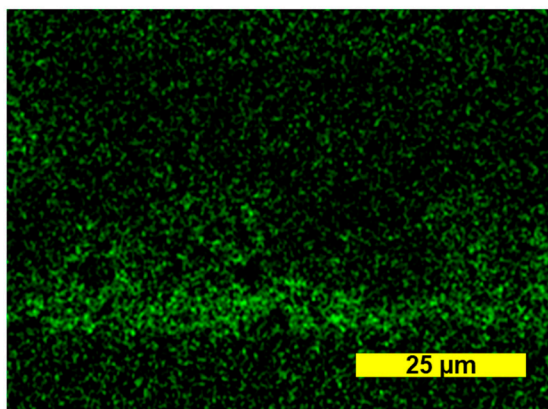
Figure S1. SEM microscopy (a) and EDX mapping Si (b), Na (c), O (d) of MAPbI₃ channel after bias exposure for 16 days



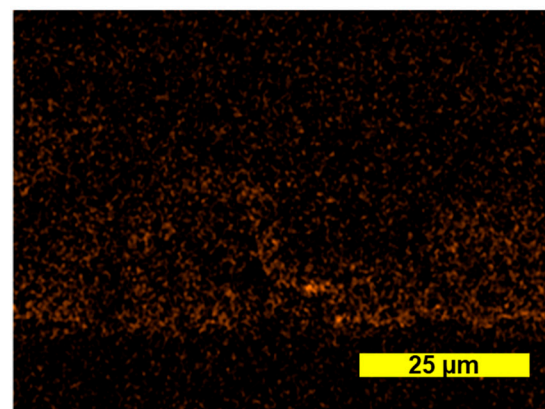
a)



b)



c)



d)