

Supporting Information

Understanding the role of Tris(2-aminoethyl)amine in stabilizing mixed-cation perovskites under humid and thermal stress conditions

Priyanka Chhillar¹, Amit Kumar¹, Bhanu Pratap Dhamaniya^{1,2}, Kartiki Chandratre¹, Saurabh Pareek¹, Sandeep Kumar Pathak¹, Supravat Karak^{1}*

¹Organic and Hybrid Electronic Device Laboratory, Department of Energy Science and Engineering, Indian Institute of Technology Delhi, New Delhi 110016

²U.R.Rao Satellite Centre, Indian Space Research Organisation, Bengaluru-560017, Karnataka India

*Corresponding author email: supravat@iitd.ac.in

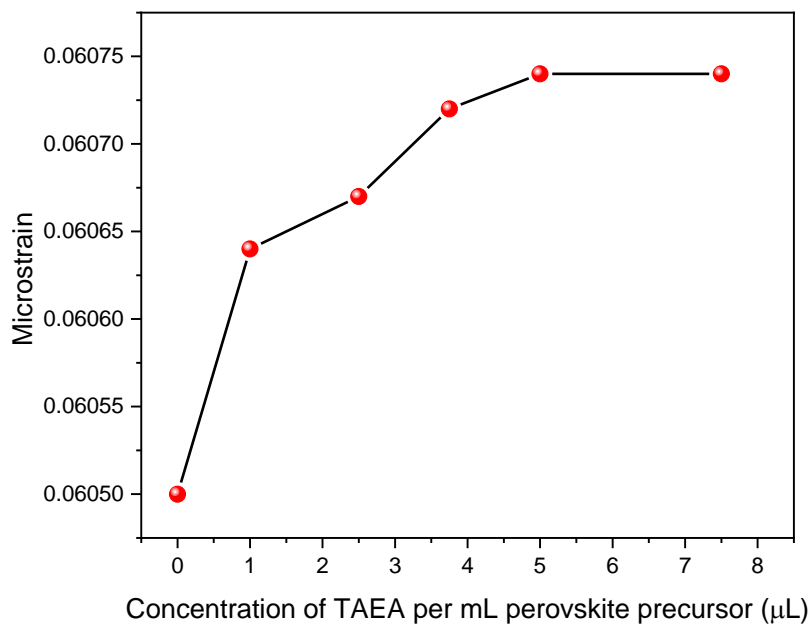


Fig. S1. Calculated microstrain of the FACs perovskite films with various concentrations of TAEA from measured XRD patterns shown in Fig. 1a of the manuscript.

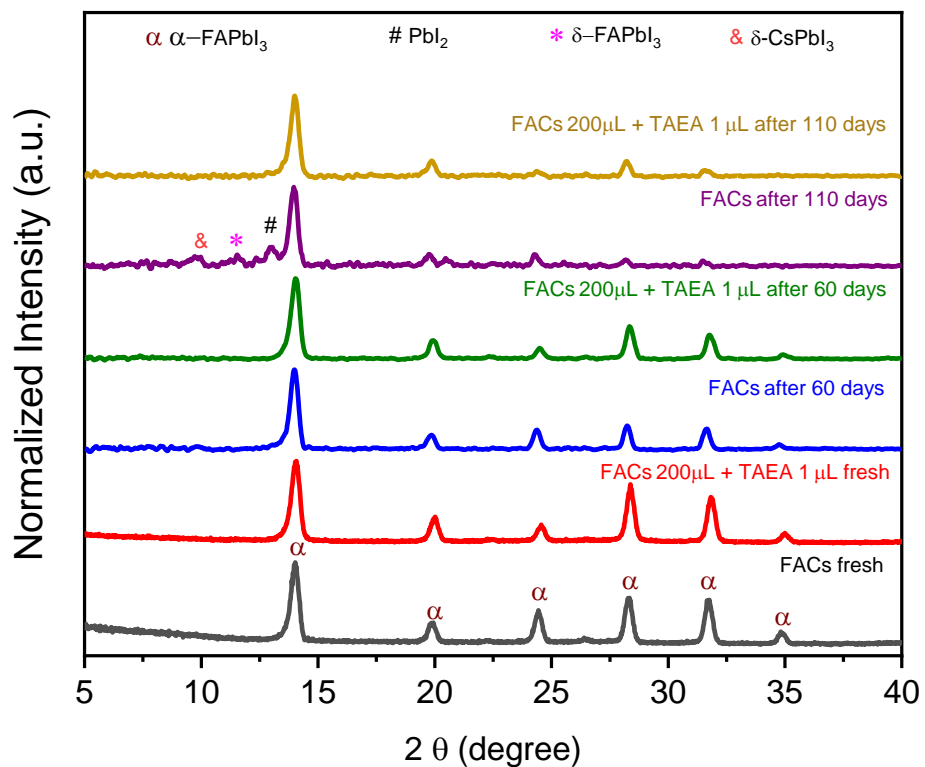


Fig. S2. XRD patterns of FACs film and FACs film containing 1 μ L of TAEA in 200 μ L of FACs precursor on exposure to ambient with RH~60-70%.

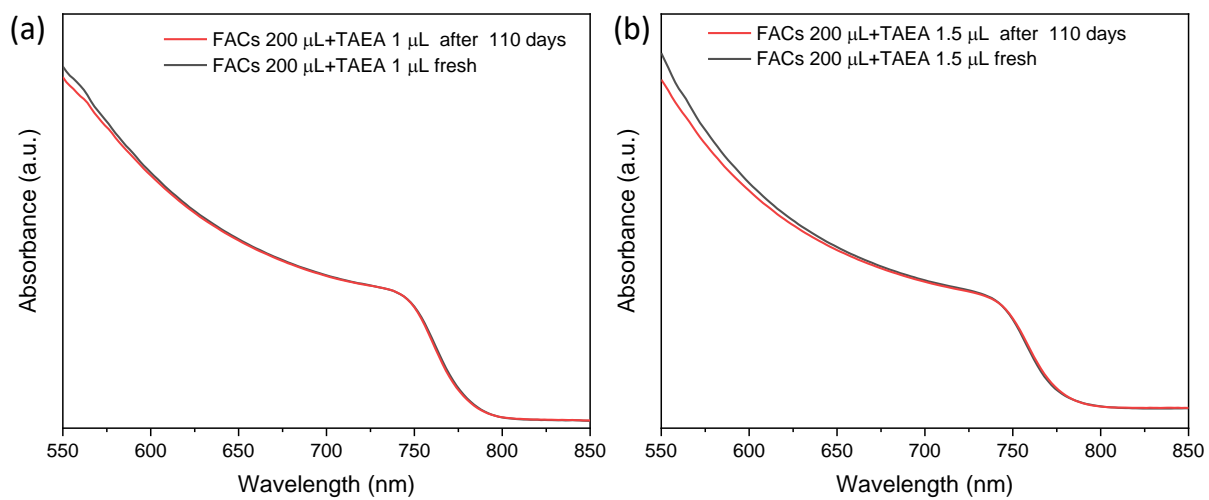


Fig. S3. UV-Vis absorption spectra of the FACs perovskite films containing (a) 1 μ L of TAEA in 200 μ L of FACs precursor, (b) 1.5 μ L of TAEA in 200 μ L of FACs precursor, showing fresh film and after 110 days of exposure to ambient.

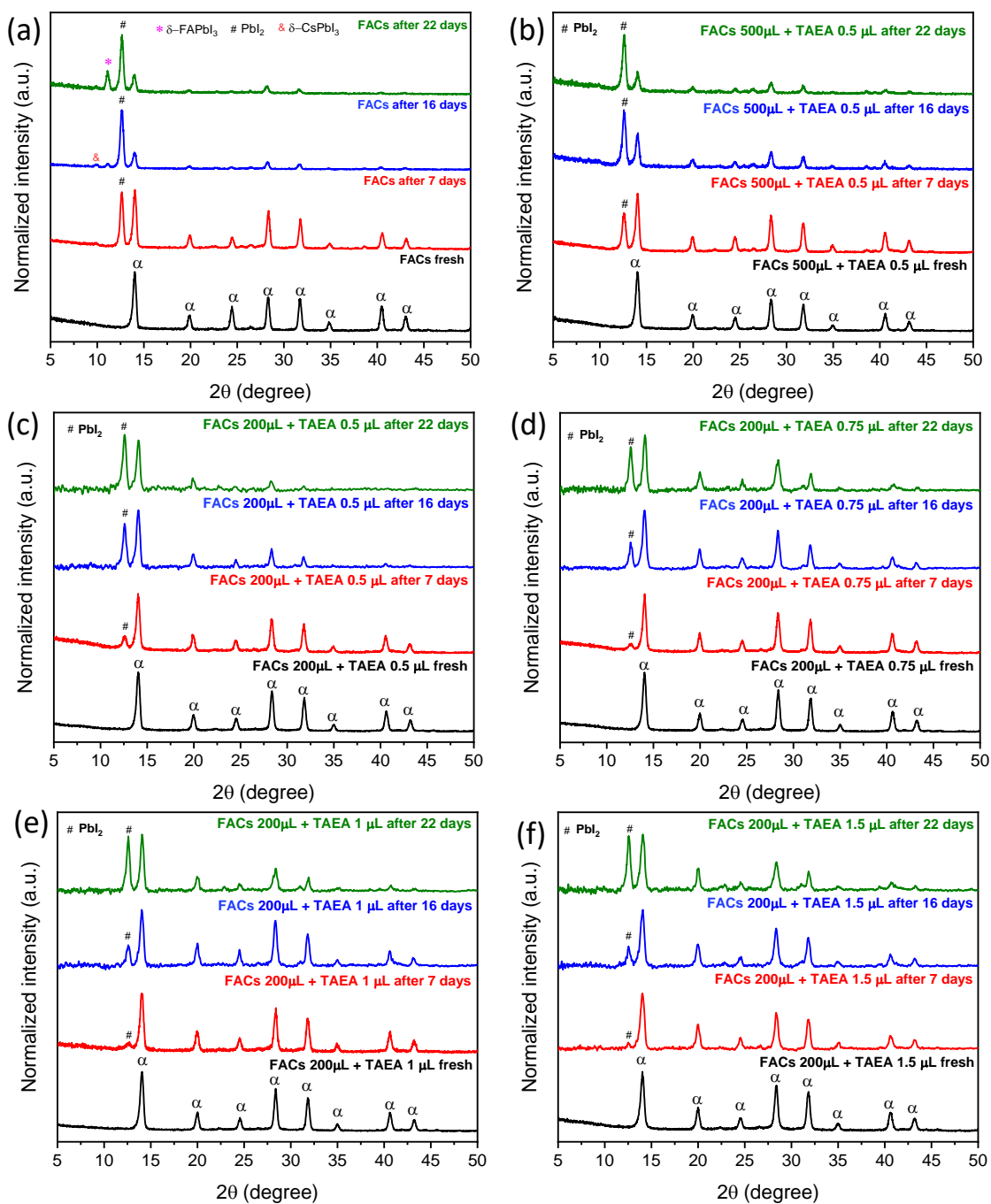


Fig. S4. XRD pattern of (a) FACs film, FACs film containing (b) 0.5 μ L of TAEA in 500 μ L of FACs precursor, (c) 0.5 μ L of TAEA in 200 μ L of FACs precursor, (d) 0.75 μ L of TAEA in 200 μ L of FACs precursor, (e) 1 μ L of TAEA in 200 μ L of FACs precursor, and (f) 1.5 μ L of TAEA in 200 μ L of FACs precursor exposed to continuous heat at 85°C.