

Dual functional inorganic CuSCN for efficient hole extraction and moisture sealing of perovskite solar cells

Battula Ramya Krishna^{1,2,3}, Ganapathy Veerappan¹, P. Bhyrappa², C. Sudakar³, Easwaramoorthi Ramasamy^{1*}

¹Centre for Solar Energy Materials, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad, India

²Department of Chemistry, Indian Institute of Technology, Madras, India

³Multifunctional Materials Lab, Department of Physics, Indian Institute of Technology, Madras, India

*Email: easwar@arci.res.in

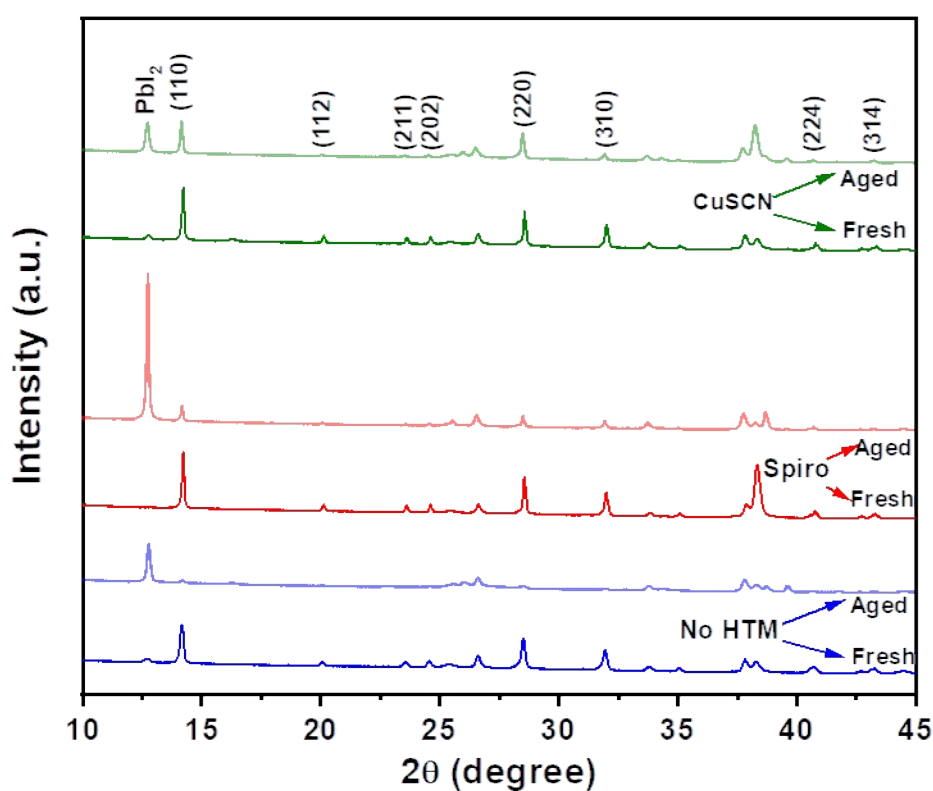


Figure S1. XRD pattern of the fresh (bottom) and aged (top) film with no HTM, film coated with organic HTM and inorganic HTM

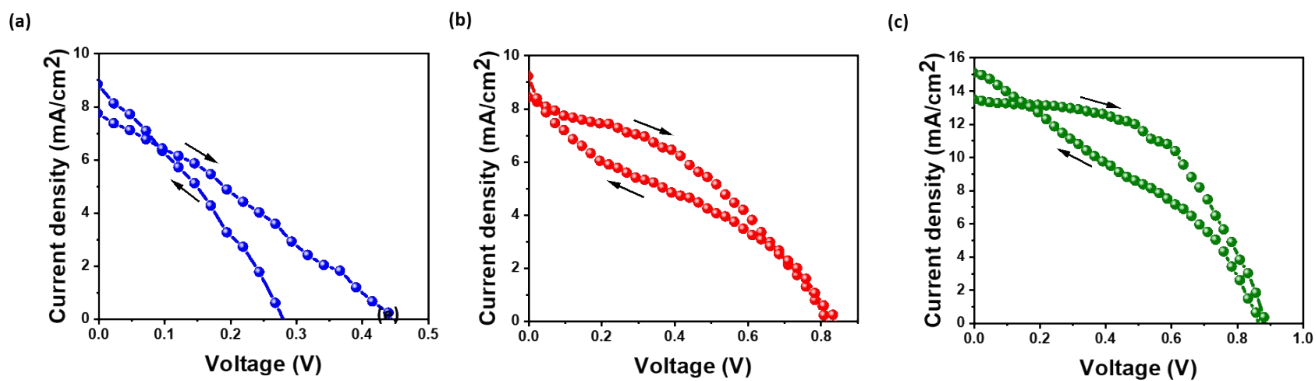


Figure S2. I-V characteristics of the aged devices (1500 h at 25 ± 3 °C and 50 ± 10 % RH) using (a) PSC-HTM free (b) PSC-Spiro (c) PSC-CuSCN.

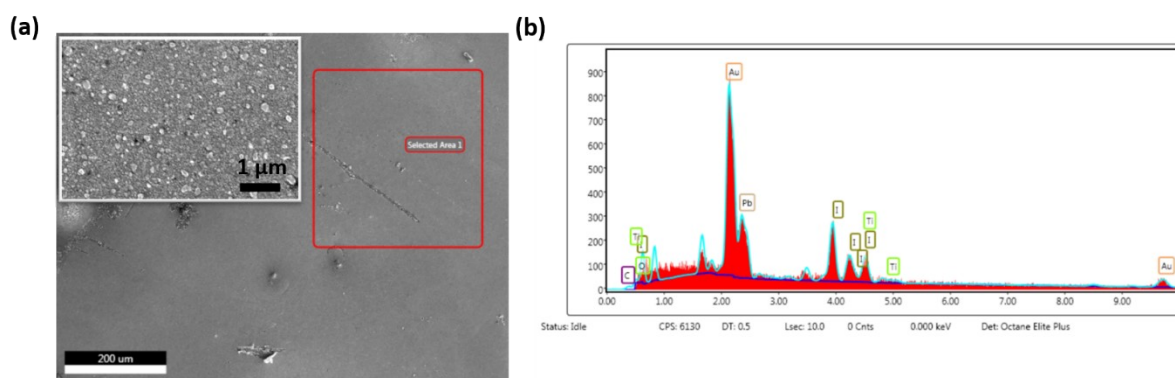


Figure S3. (a) FESEM low magnification and inset high magnification image of the Au strip of the device respectively and (b) corresponding EDX spectrum of the selected area marked in red