

## Electronic Supplementary Information (ESI)

### Inkjet-Printed p-type $\text{CuBr}_x\text{I}_{1-x}$ : A wearable thin-film transistors

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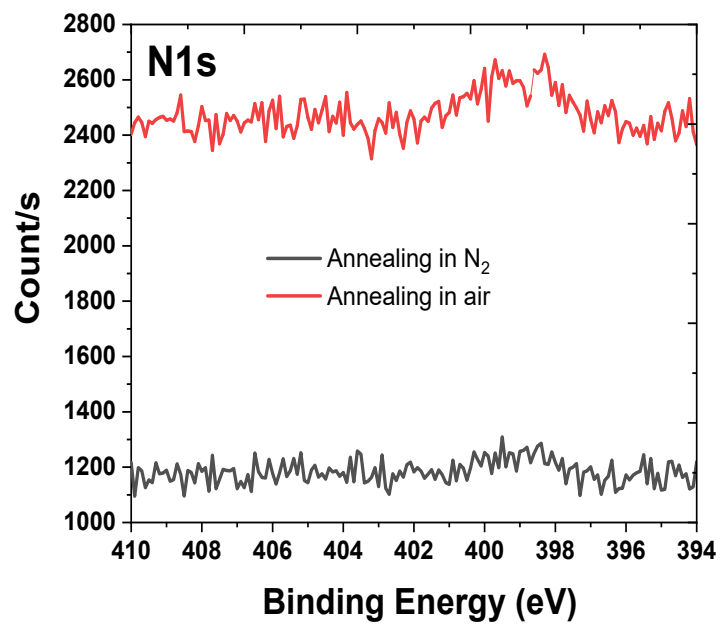


Figure S1 X-ray Photoelectron Spectroscopy (XPS) for the N1s core -level spectra.

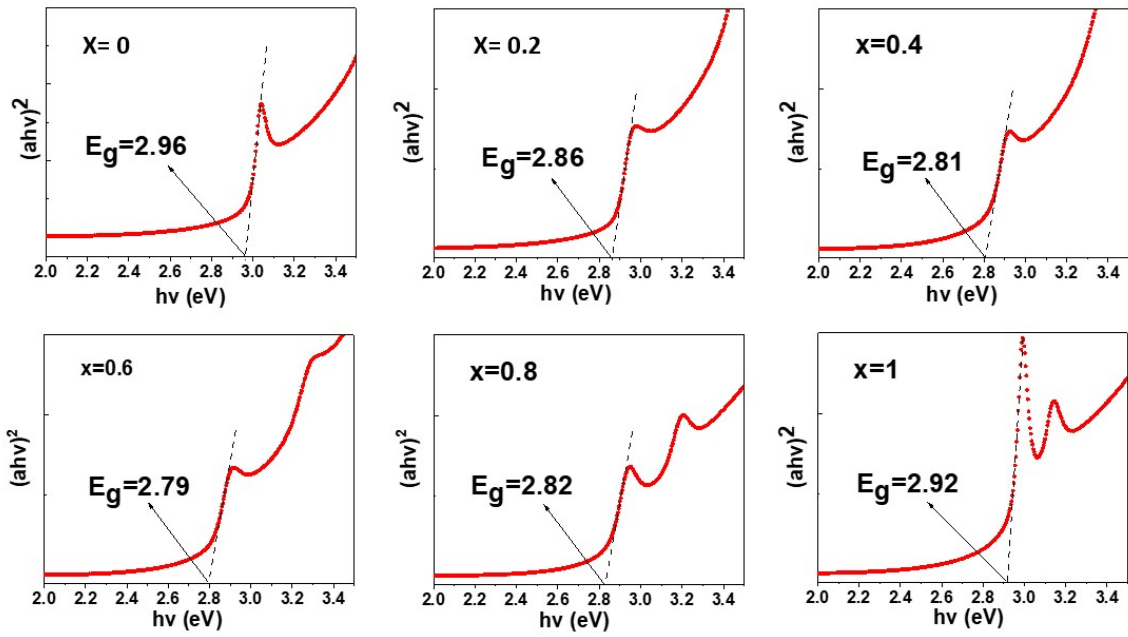


Figure S2 Band gap energy of fabricated  $\text{CuBr}_x\text{I}_{1-x}$  film by using tauc plot method.

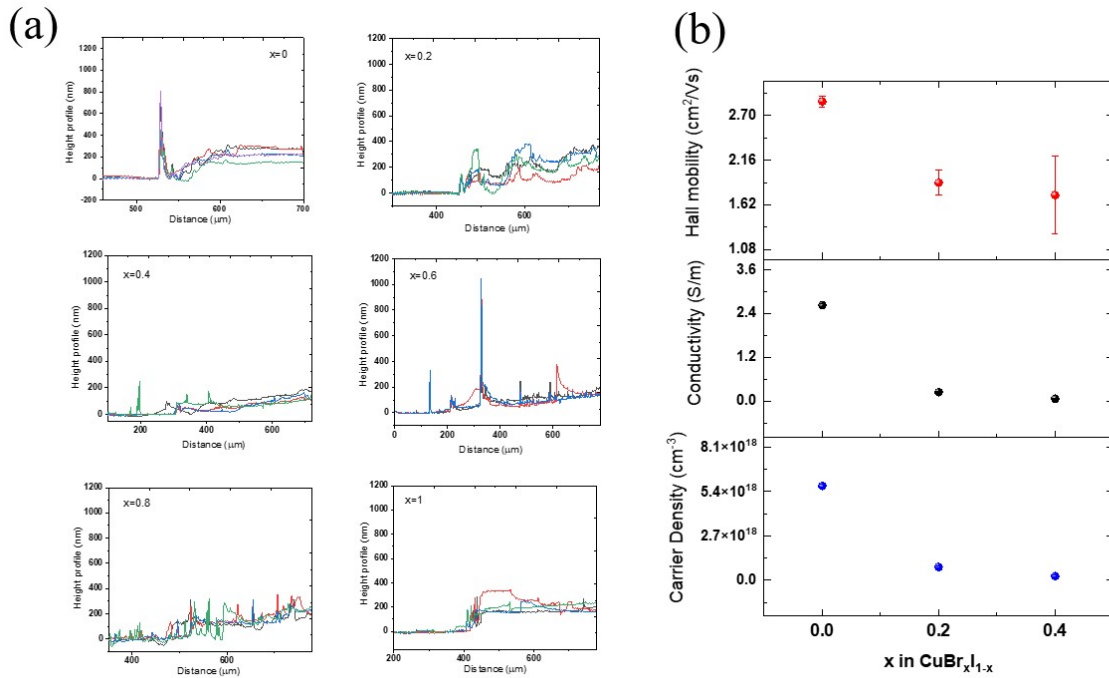


Figure S3 a) Height profile of spin-coated  $\text{CuBr}_x\text{I}_{1-x}$  at  $x$  ranging from 0 to 1. b) The corresponding Hall effect measurement for carrier density, conductivity, and Hall mobility.

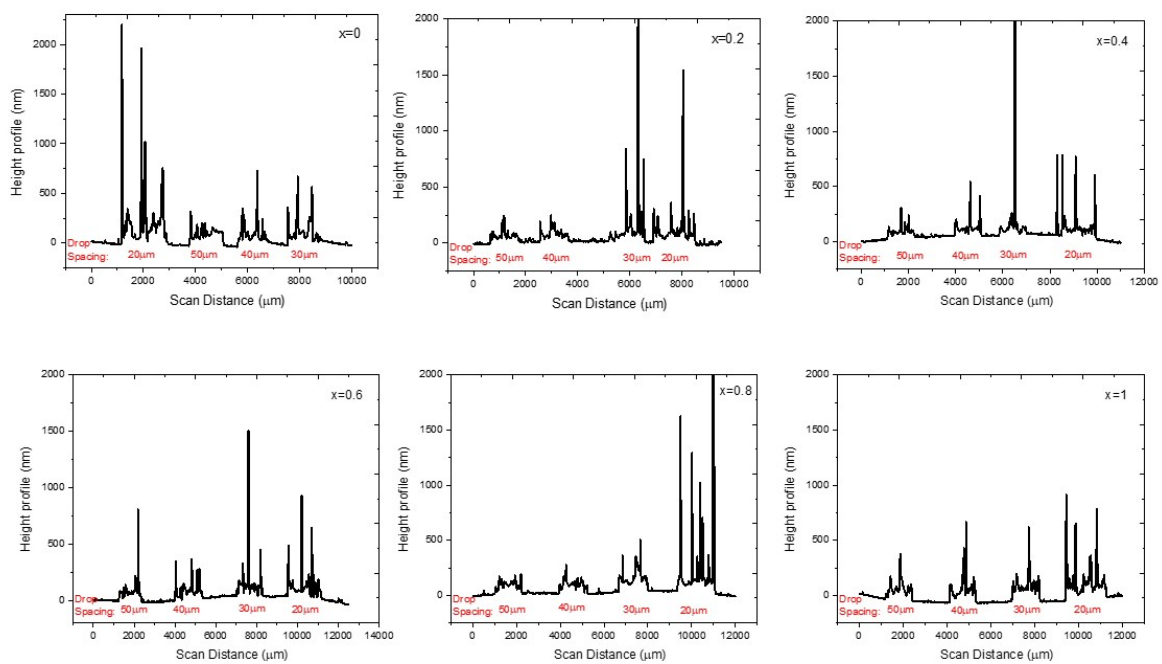


Figure S4 Height profile of printed  $\text{CuBr}_x\text{I}_{1-x}$  at various ratios of  $x$  on  $\text{SiO}_2$ . The drop spacing from 20 to 50  $\mu\text{m}$  was tested for each ratio.

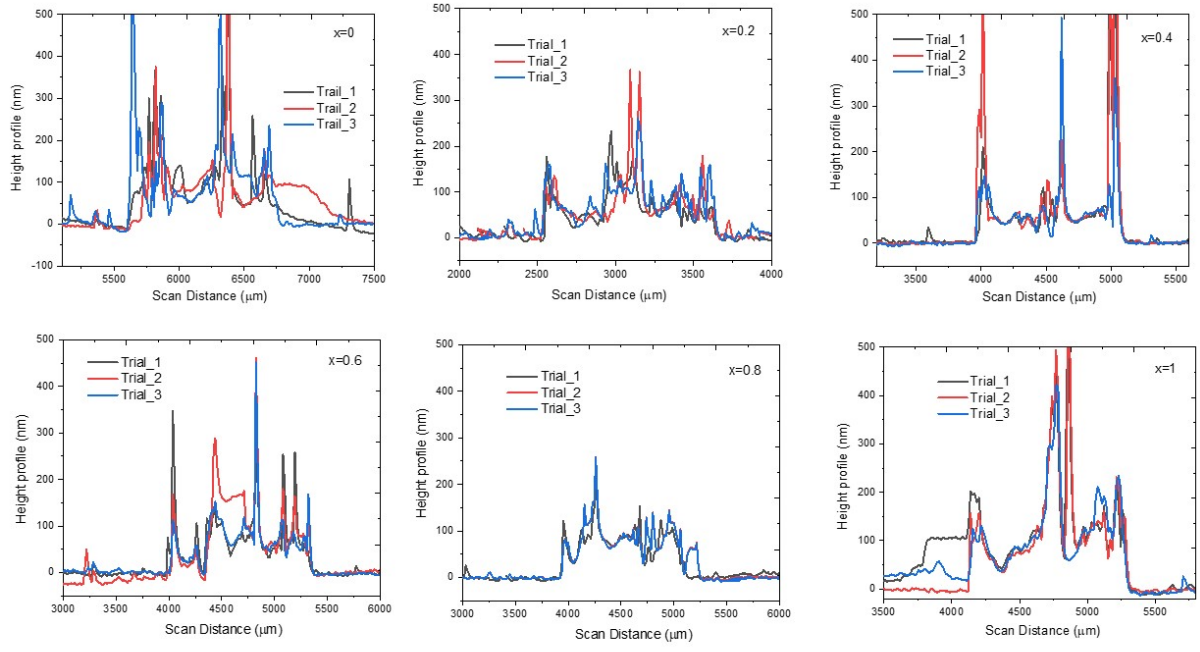


Figure S5 The average height profile of printed  $\text{CuBr}_x\text{I}_{1-x}$  at various ratios of  $x$  on  $\text{SiO}_2$  with  $40\mu\text{m}$  drop spacing.

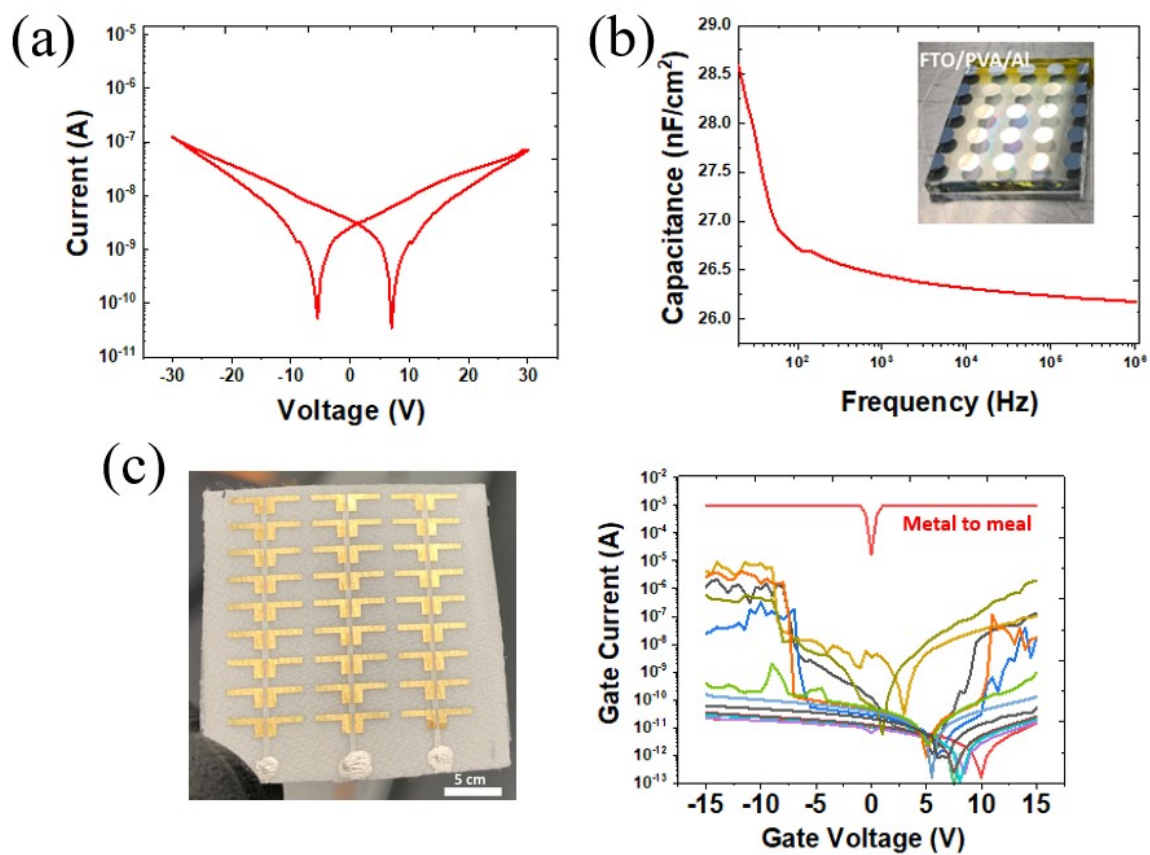


Figure S6 Vertical MIM (Aluminum-200nm thick PVA-Aluminum) for a) Current-voltage and b) Capacitance frequency curve. c) Digital image of fabricated CuBrI TFT on textile with corresponding leakage current characterization of the device with PVA as an insulator.

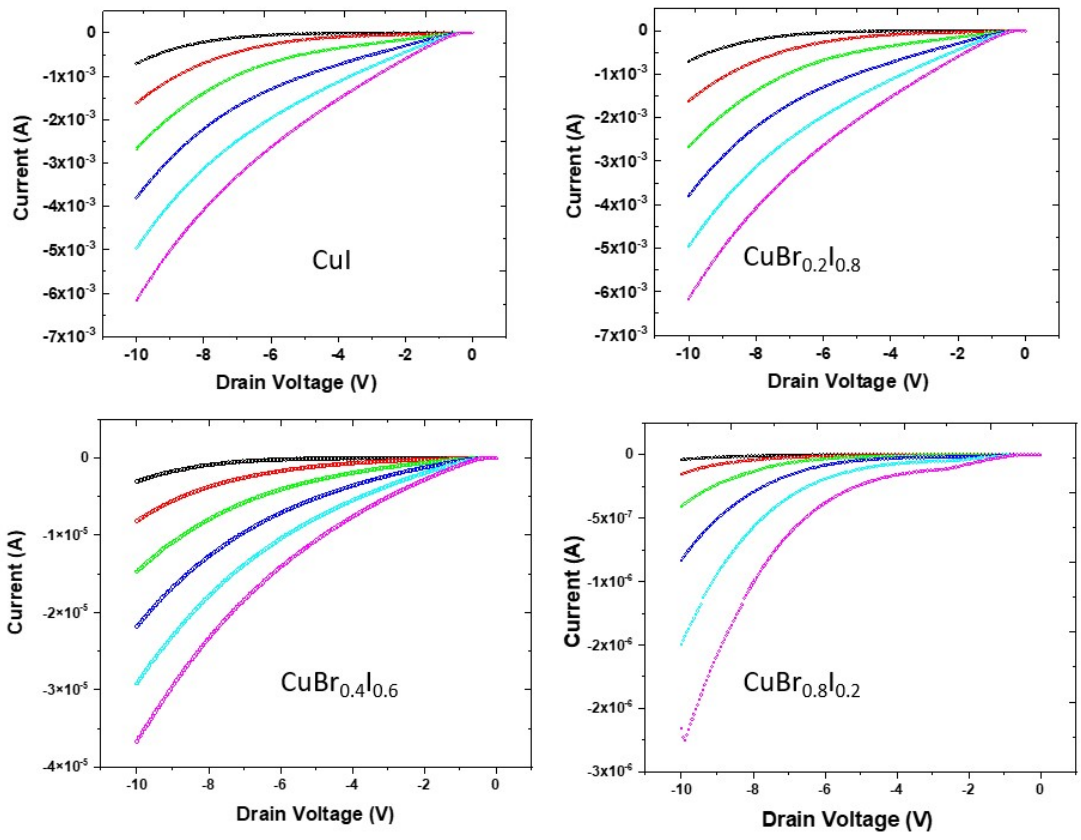


Figure S7 Output characteristic for printed CuI, CuBr<sub>0.2</sub>I<sub>0.8</sub>, CuBr<sub>0.4</sub>I<sub>0.6</sub>, CuBr<sub>0.6</sub>I<sub>0.4</sub>, and CuBr<sub>0.8</sub>I<sub>0.2</sub> TFT.



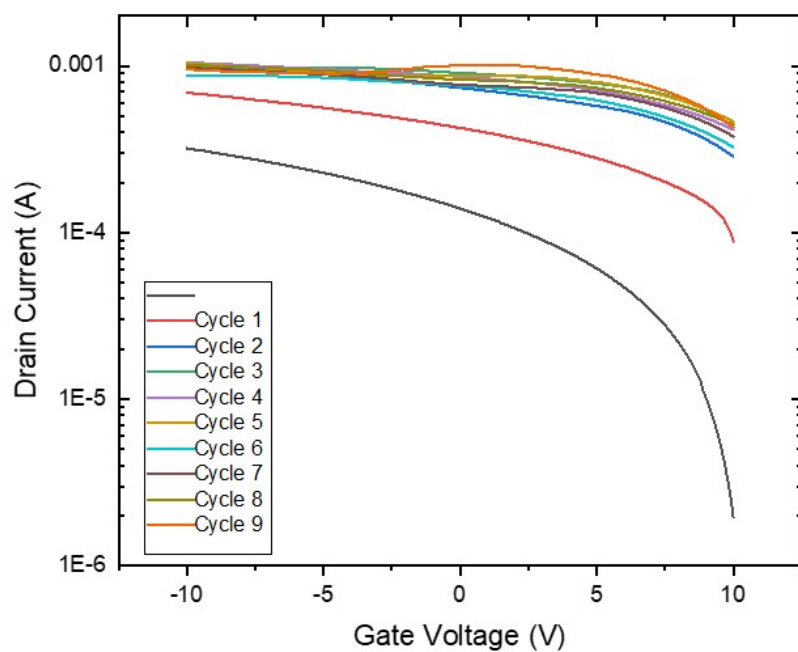


Figure S8 Transfer characteristic for printed CuBrI TFT under 10 cyclic testing at negative bias

$V_d = -10V$ .