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Supplementary Materials for

Copper Halide Anion Engineering for p-channel Electrolyte-Gated Transistors with Superior Operational Reliability

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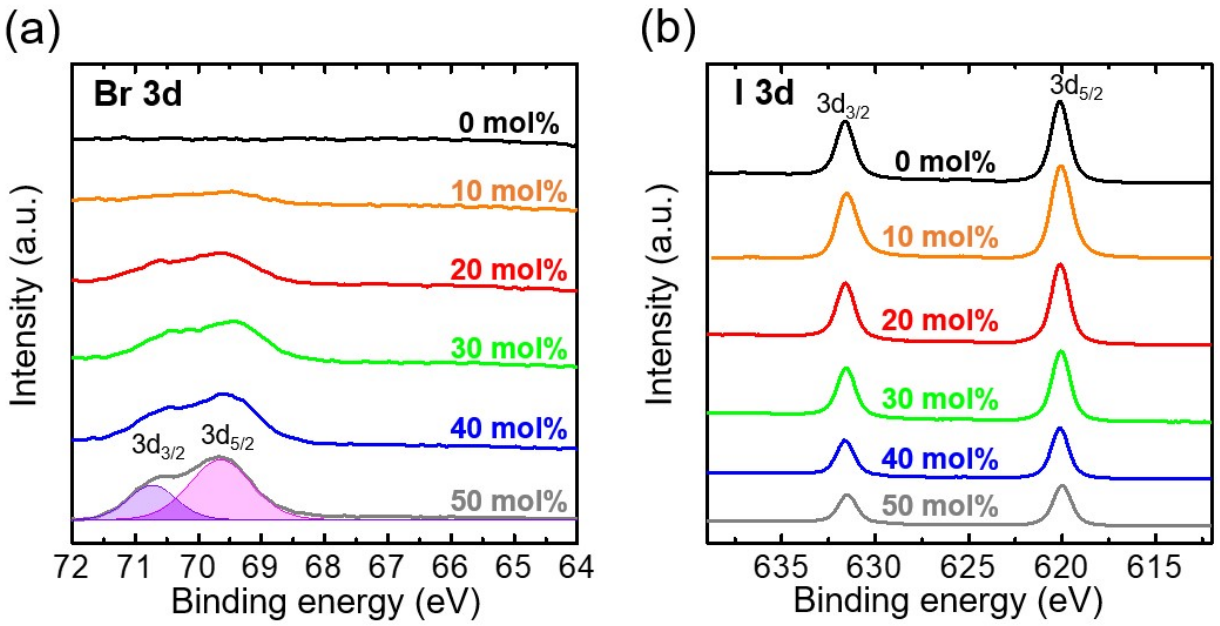

Figure S1. (a) Br 3d and (b) I 3d XPS spectra of CuI:Br composite semiconductors with Br concentrations ranging from 0 to 50 mol%.

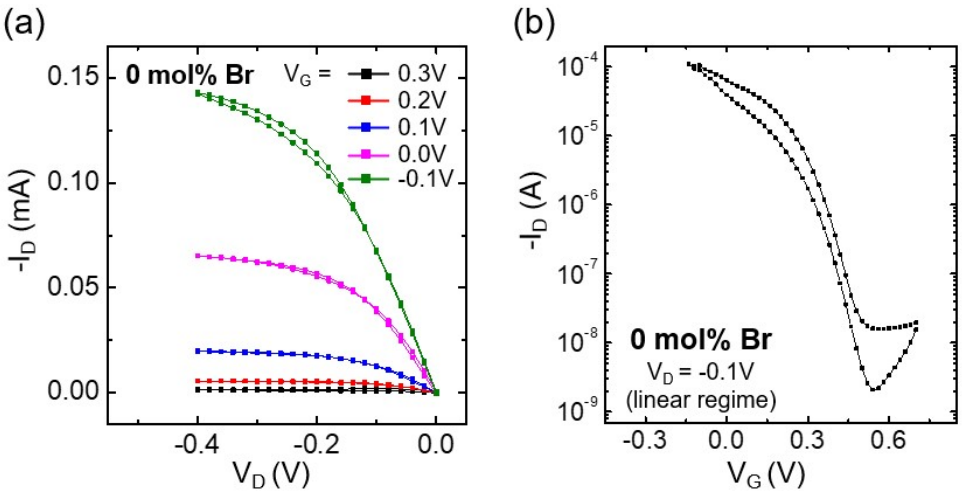

Figure S2. Representative (a) I_D-V_D output and (b) I_D-V_G transfer curves collected from the EGT using the undoped pristine CuI semiconductor.

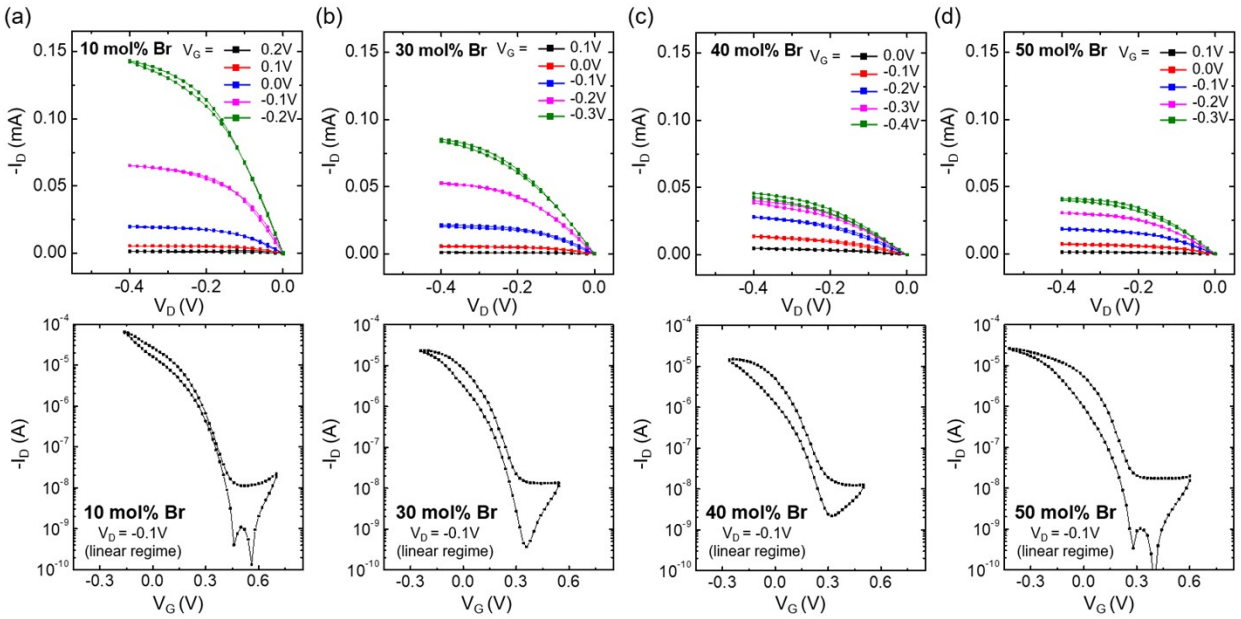

Figure S3. Representative I_D-V_D output and I_D-V_G transfer curves collected from the CuI:Br EGTs with Br doping concentrations of (a) 10 mol%, (b) 30 mol%, (c) 40 mol%, and (d) 50 mol%.

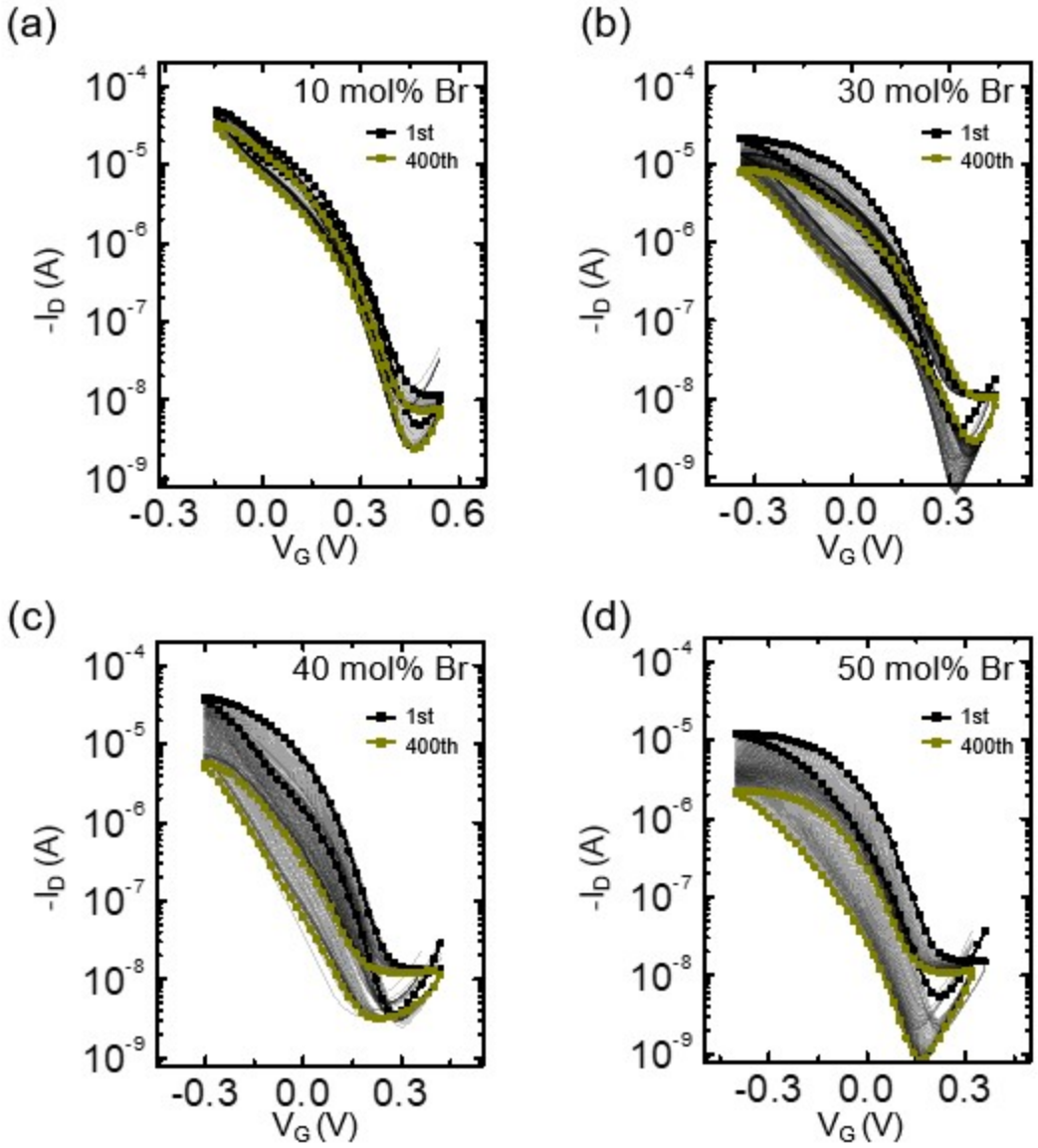

Figure S4. I_D-V_G transfer curves collected in 400 successive operation cycles at V_D=−0.1 V from the EGTs with Br doping concentrations of (a) 10 mol%, (b) 30 mol%, (c) 40 mol%, and (d) 50 mol%.

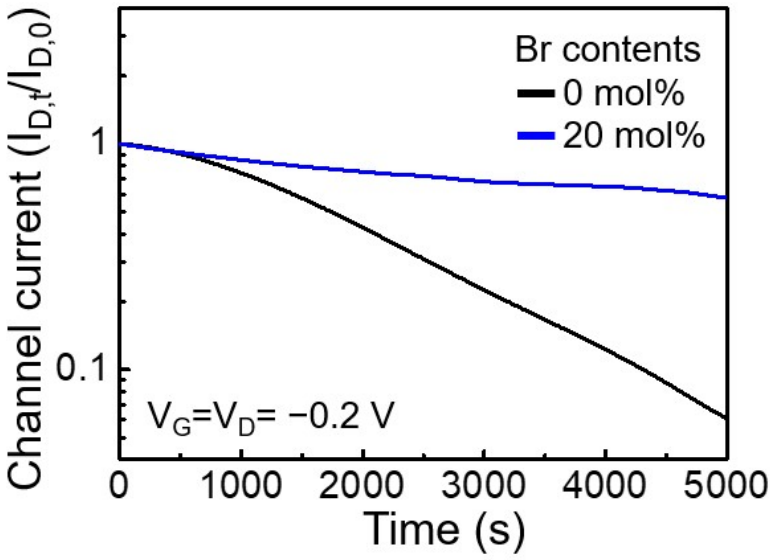

Figure S5. Normalized channel current ($I_{D,t}/I_{D,0}$) obtained from the EGTs with pristine CuI (0 mol%) and 20 mol% Br-doped CuI semiconductors over a period of 5000 s at constant $V_G = V_D = -0.2$ V in ambient air atmosphere.