Supporting Information

High-Performance Perovskite Solar Cells Enabled by Reduced MACl Additives in NMP-Based Solvents

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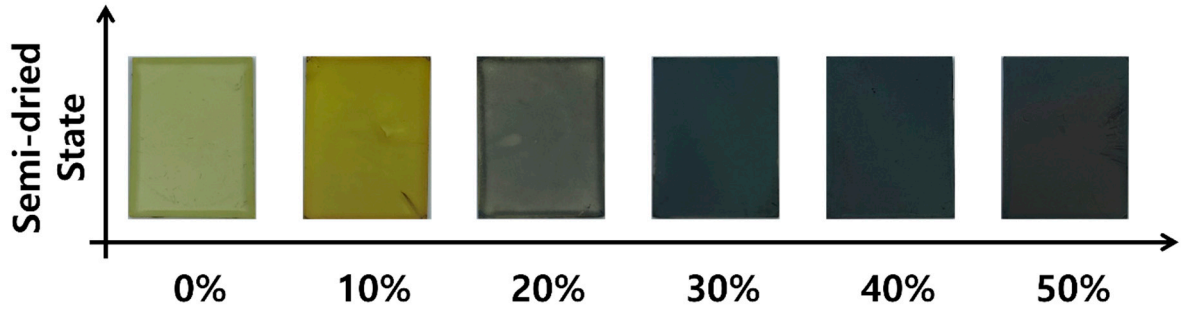


Figure S1. Optical images of perovskite films at the semi-dried state after approximately 1 hour of ambient exposure for each MACl concentration (0%, 10%, 20%, 30%, 40%, and 50%).

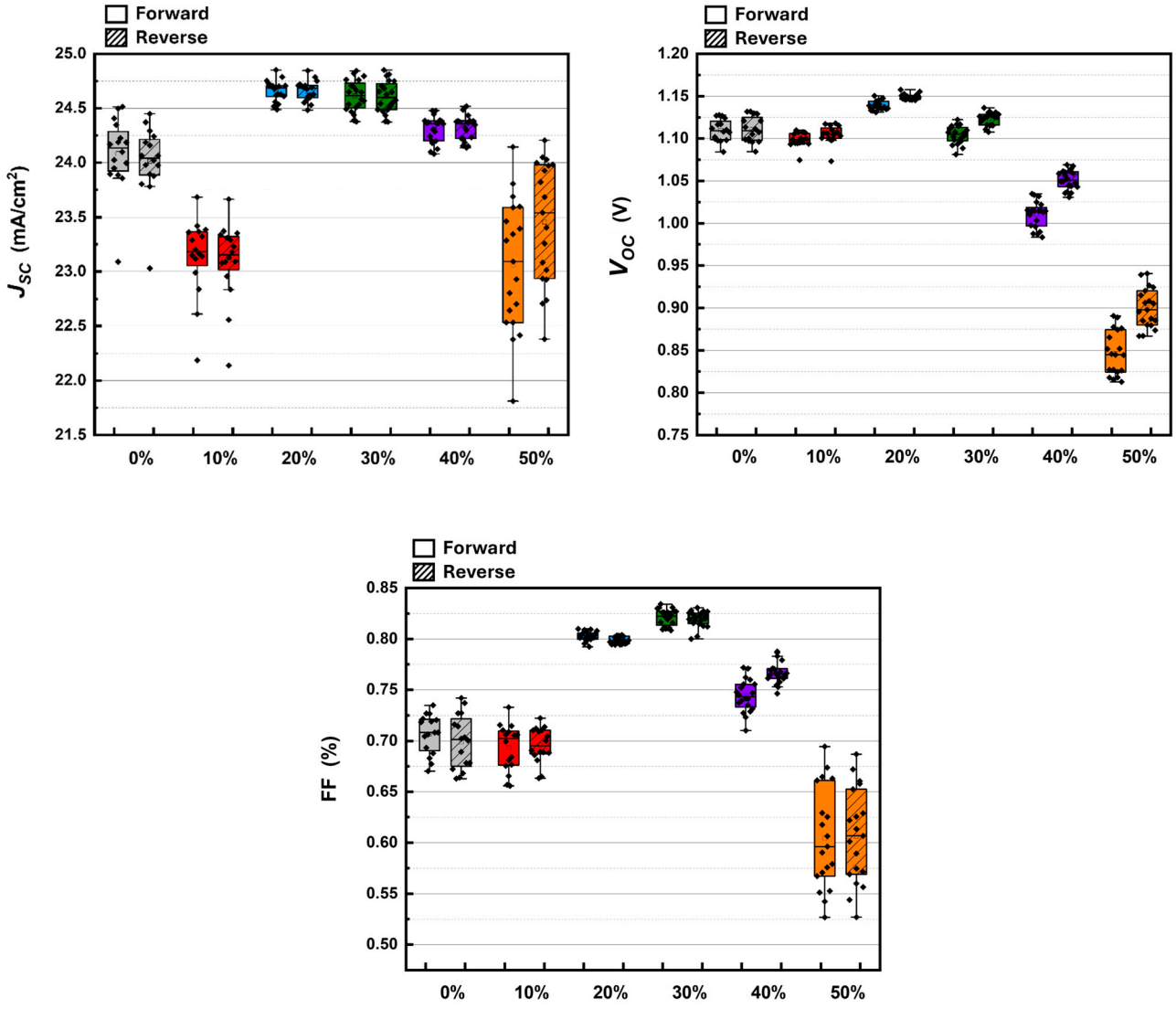


Figure S2. Statistical distribution of photovoltaic parameters—(a) short-circuit current density (J_{SC}), (b) open-circuit voltage (V_{OC}), and (c) fill factor (FF)—for perovskite solar cells fabricated with varying MACl concentrations (0%, 10%, 20%, 30%, 40%, and 50%).