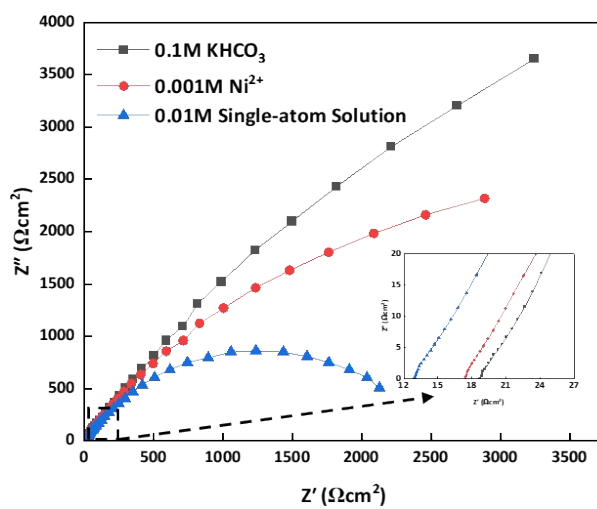
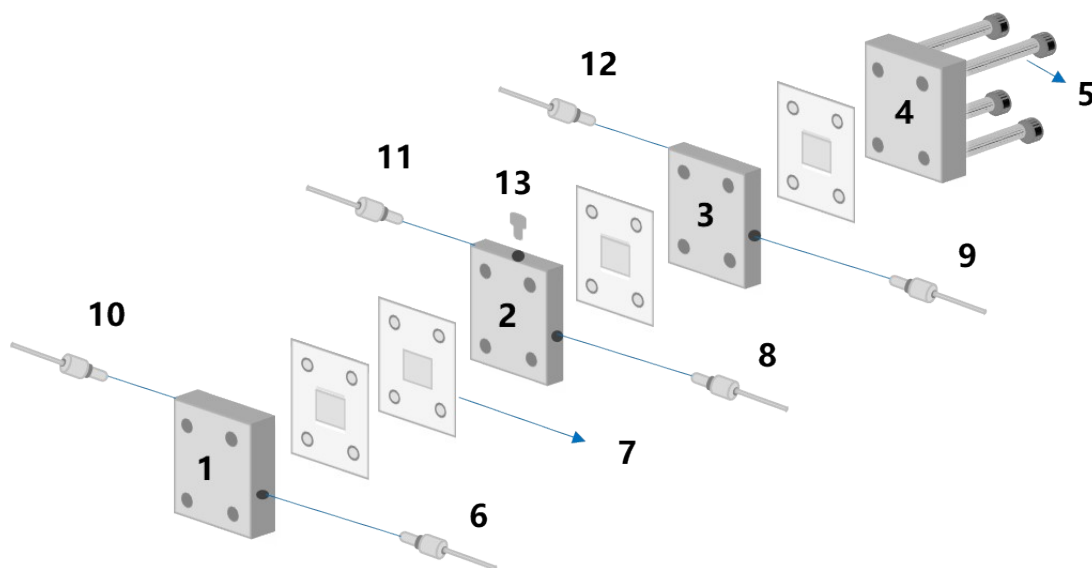


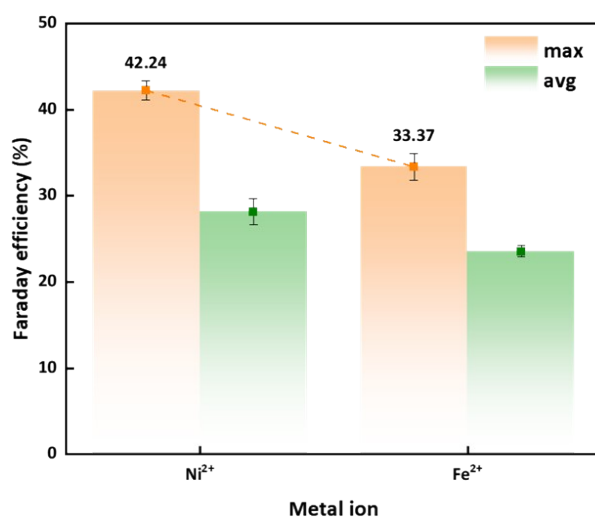
S. 1 SEM images of the Cu electrode surface at different electrolysis time intervals. (a) 0min. (b) 10min. (c) 30min. (d) 60min.



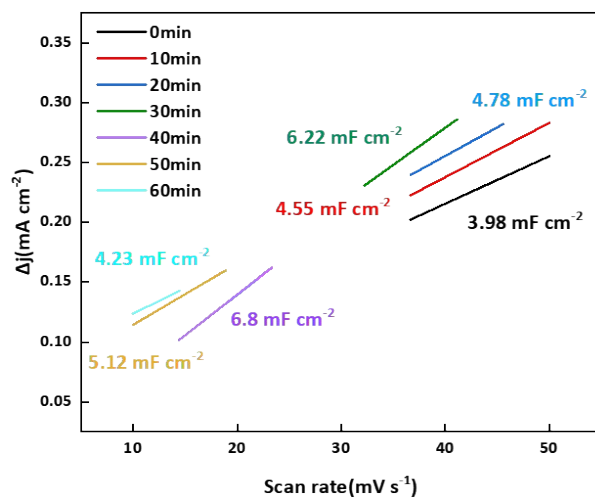
S. 2 Electrochemical impedance spectroscopy (EIS) testing under different electrolyte conditions.



S. 3 Exploded View of H-Type Exchangeable Membrane Flow Cell. 1—Gas chamber; 2—Cathode liquid chamber; 3—Anode liquid chamber; 4—Partition plate; 5—Fixing screw; 6—Gas inlet; 7—Sealing gasket; 8—Cathode liquid inlet; 9—Anode liquid inlet; 10—Gas outlet; 11—Cathode liquid outlet; 12—Anode liquid outlet; 13—Reference electrode port.



S. 4 The Effect of Different Metal Ion Modifications on CO<sub>2</sub> Conversion Performance.



S. 5 ECSA at Different Time Intervals.