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Supplementary Material

Fabrication of a 3D-Printed Porous Junction for Ag|AgCl|gel-KCl Reference Electrode

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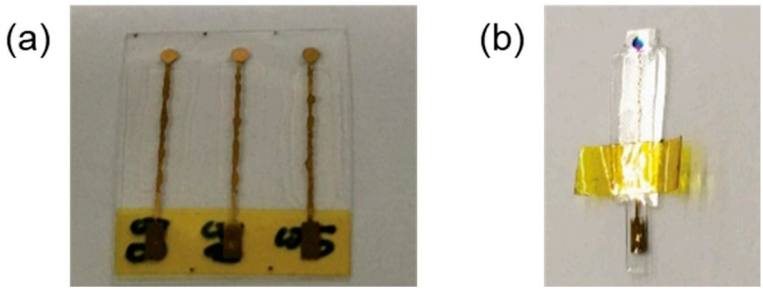

Figure S1. Photographs of inkjet-printed gold electrodes (a) before and (b) after IrO_x electrodeposition.

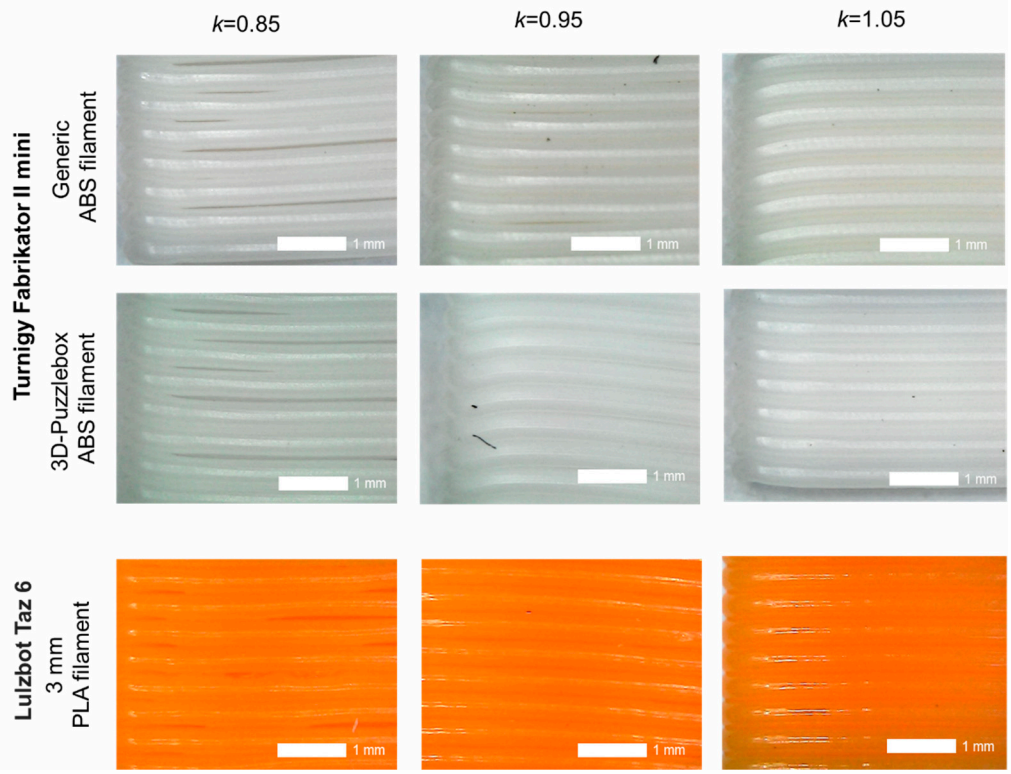

Figure S2. Optical microscope images of 3D-printed junctions fabricated with 0.40 mm layer height and extrusion ratios k=0.85, 0.95, or 1.05 using different 3D-printers and polymer filaments.

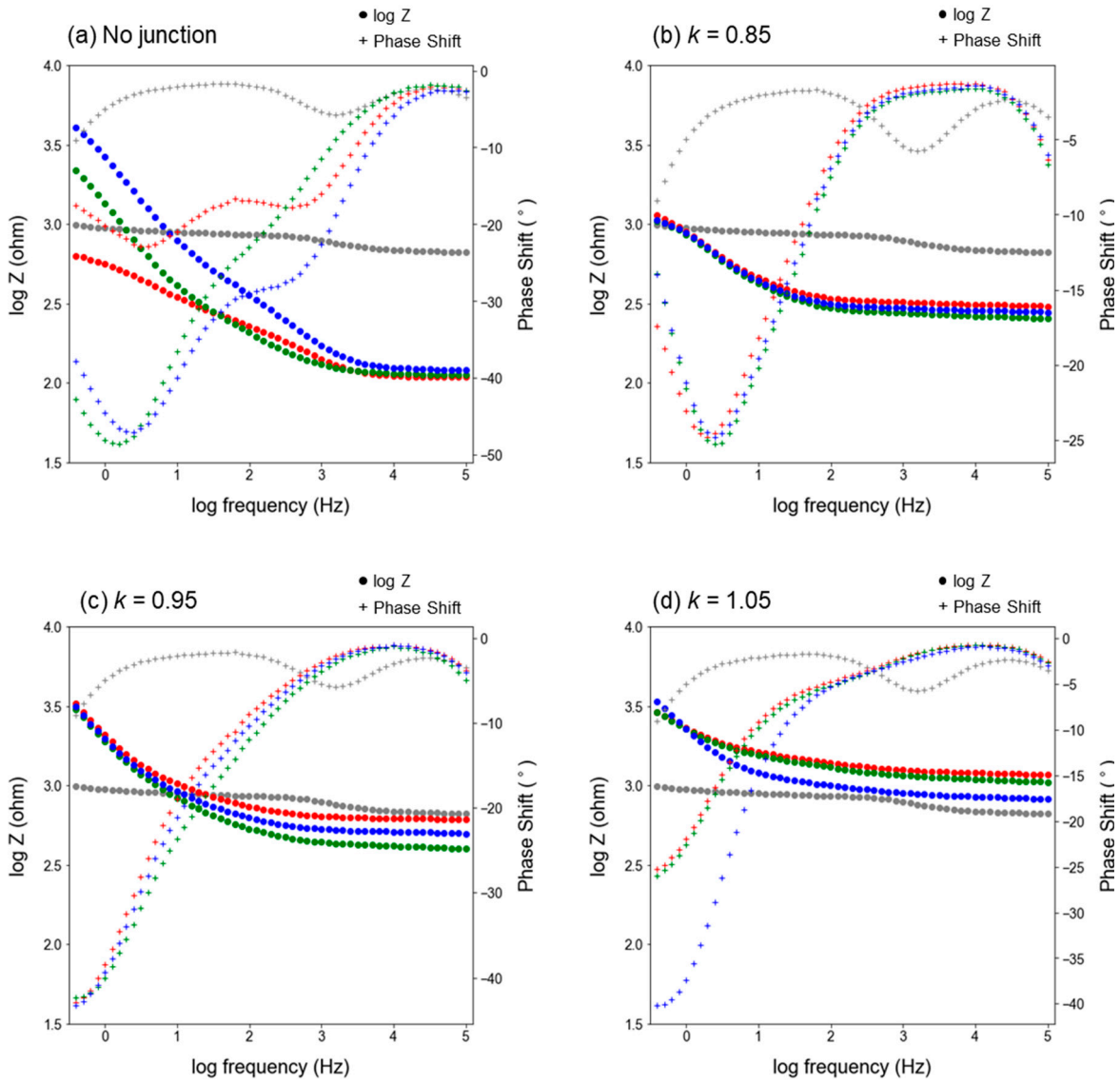

Figure S3. Bode plots of 3D-REs fabricated in three different batches (each replicate shown in either red, green, or blue) with (**a**) no junction, (**b**) 3D-printed junction with $k = 0.85$, (**c**) 3D-printed junction with $k = 0.95$, and (**d**) 3D-printed junction with $k = 1.05$. For reference, the bode plot of a commercial SCE (in grey) is also included in each plot. Impedance spectra were recorded in 0.1 M KCl.

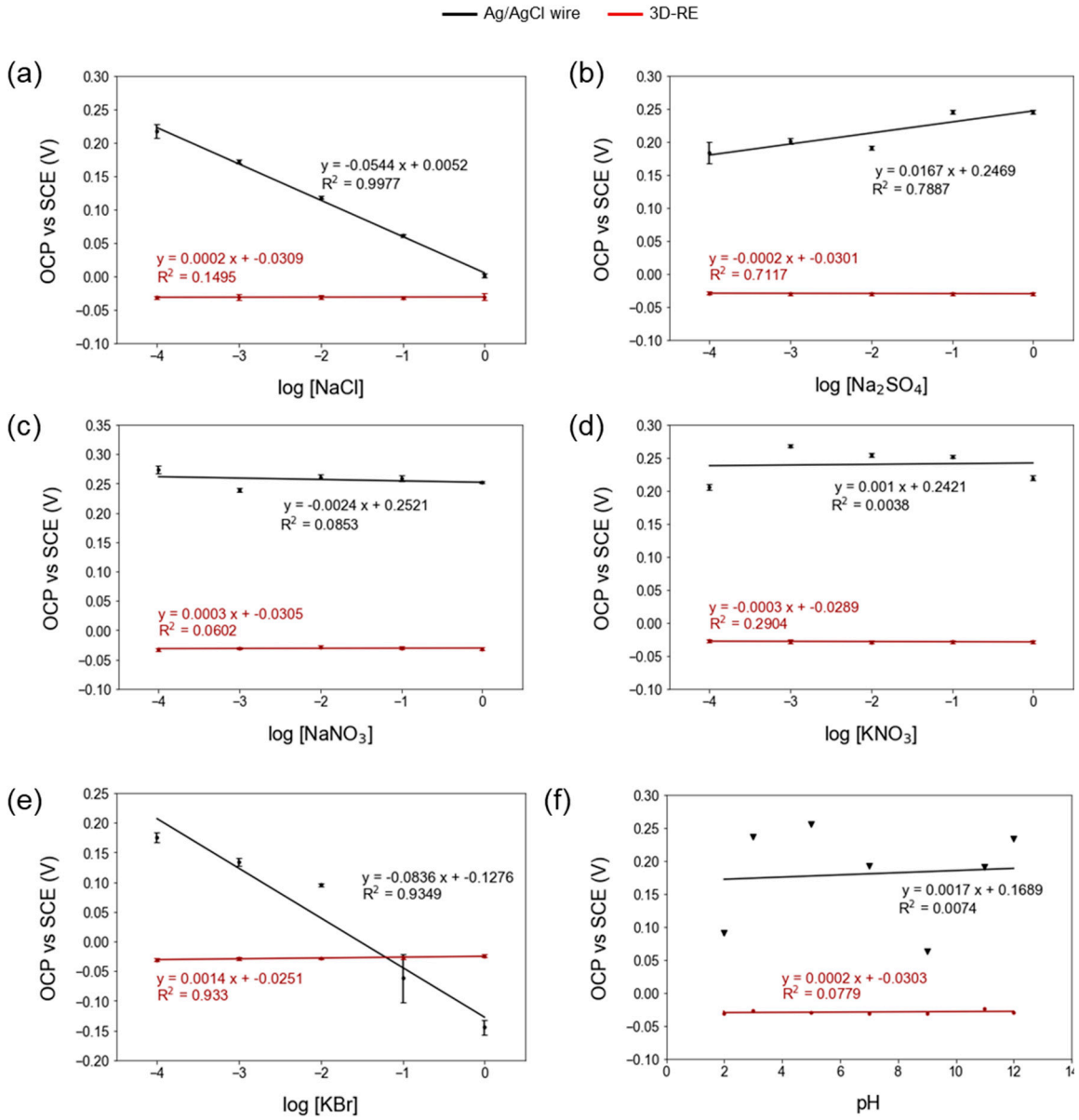

Figure S4. Nernst plots showing Ag|AgCl pseudoreference electrode and 3D-RE OCP dependence on the logarithm of concentration of different electrolytes or pH conditions. Error bars represent standard deviation.