

Supporting information

Maximizing Roughness Factors in Oxide-Derived Copper Coatings through Electrodeposition Parameters for Enhanced Electrocatalytic Performance

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Figure S1. XRD data for the specimens deposited from acetate solution with pH = 5.5.

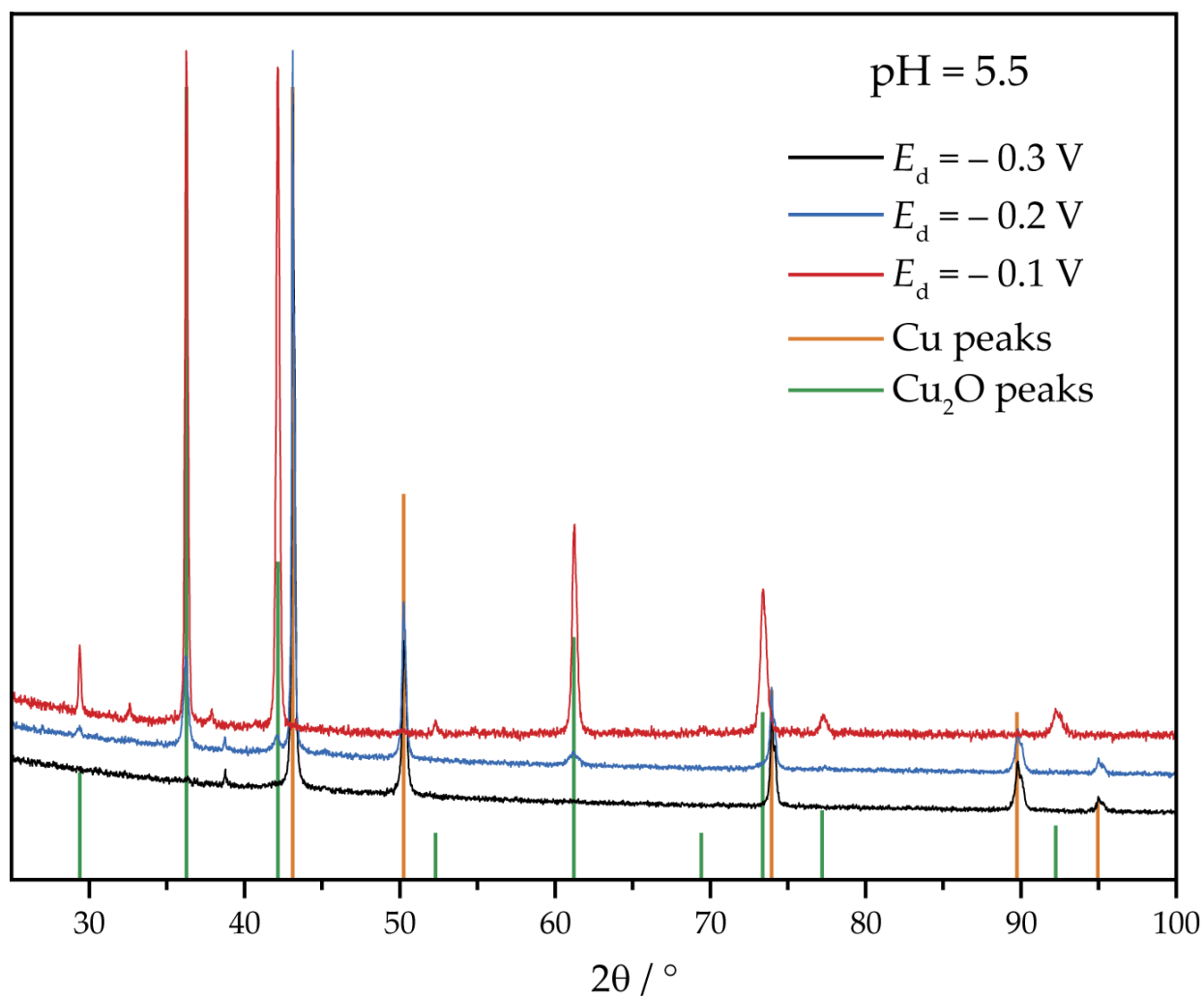


Table S1. XRD phase quantitation of acetate series specimens, pH = 5.5.

$E_d, \text{ V}$	Cu, wt. %	Cu_2O , wt. %
-0.1	–	100
-0.2	83.6 ± 1.1	16.4 ± 1.0
-0.3	100	–

Figure S2. XRD data for the specimens deposited from acetate solution with pH = 4.8.

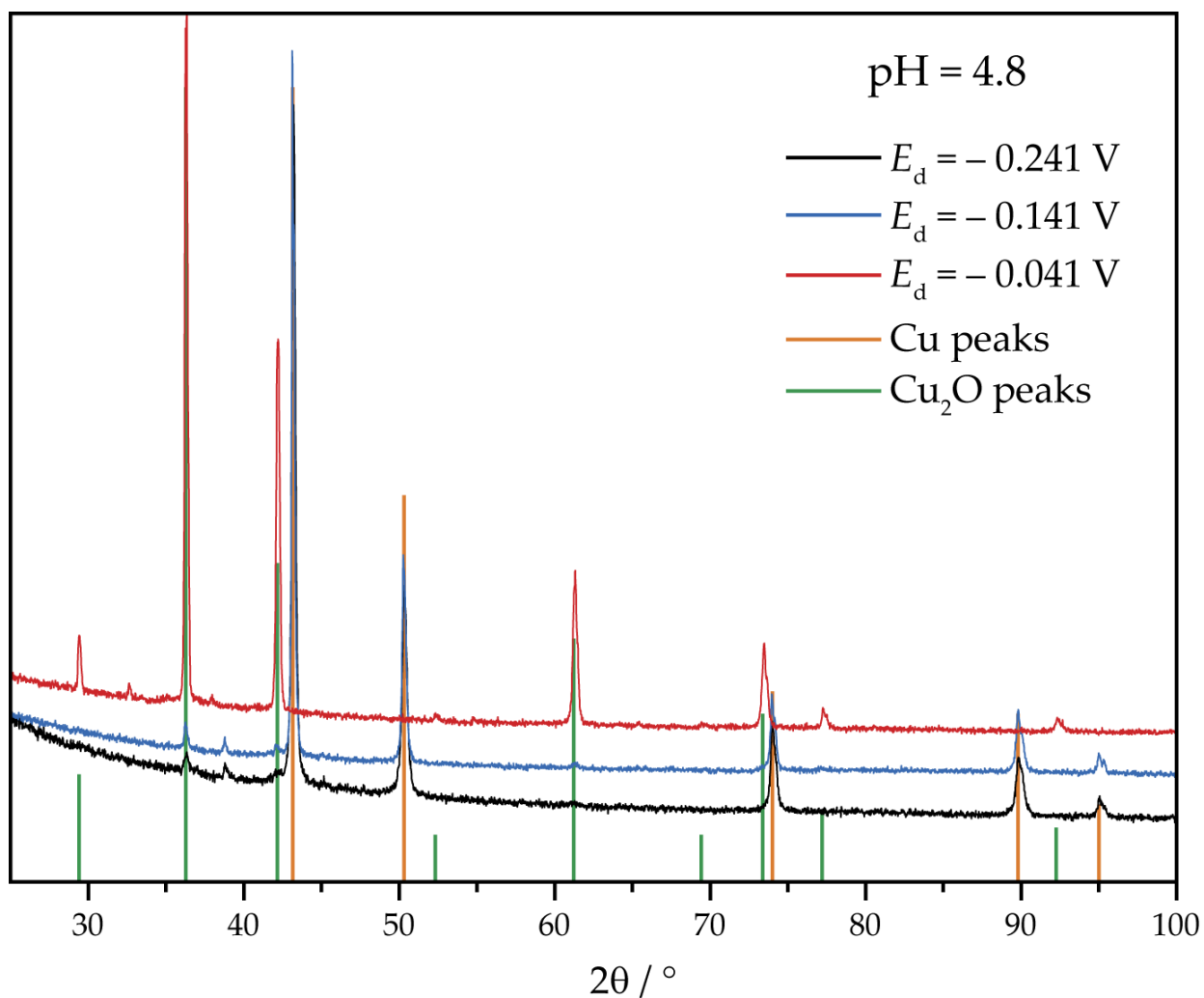


Table S2. XRD phase quantitation of acetate series specimens, pH = 4.8.

E_d , V	Cu, wt. %	Cu_2O , wt. %
-0.041	–	100
-0.141	94.7 ± 3.0	5.3 ± 0.3
-0.241	96.4 ± 2.0	3.6 ± 0.4

Figure S3. XRD data for the specimens deposited from lactate solution with pH = 7.9.

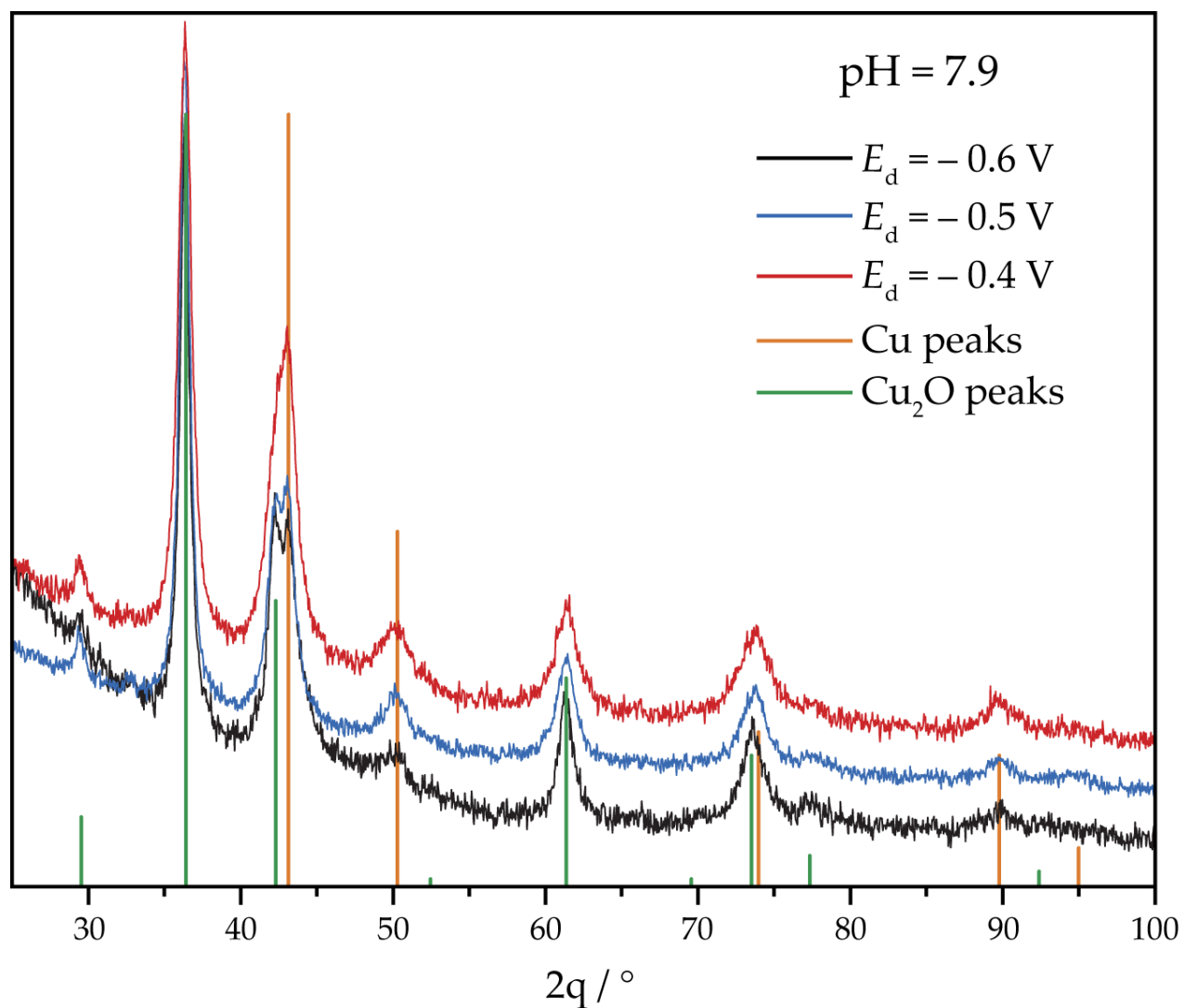


Table S3. XRD phase quantitation of lactate series specimens, pH = 7.9.

E_d , V	Cu, wt. %	Cu_2O , wt. %
-0.4	18.1 ± 1.4	81.9 ± 1.0
-0.5	16.6 ± 1.5	83.4 ± 1.0
-0.6	21.2 ± 2.0	78.8 ± 3.3

Figure S4. SEM images of the specimens deposited from acetate solution ($E_d = -0.100$ V, $Q_d = 5 \text{ C}\cdot\text{cm}^{-2}$) with pH = 5.5 after Cu_2O reduction.

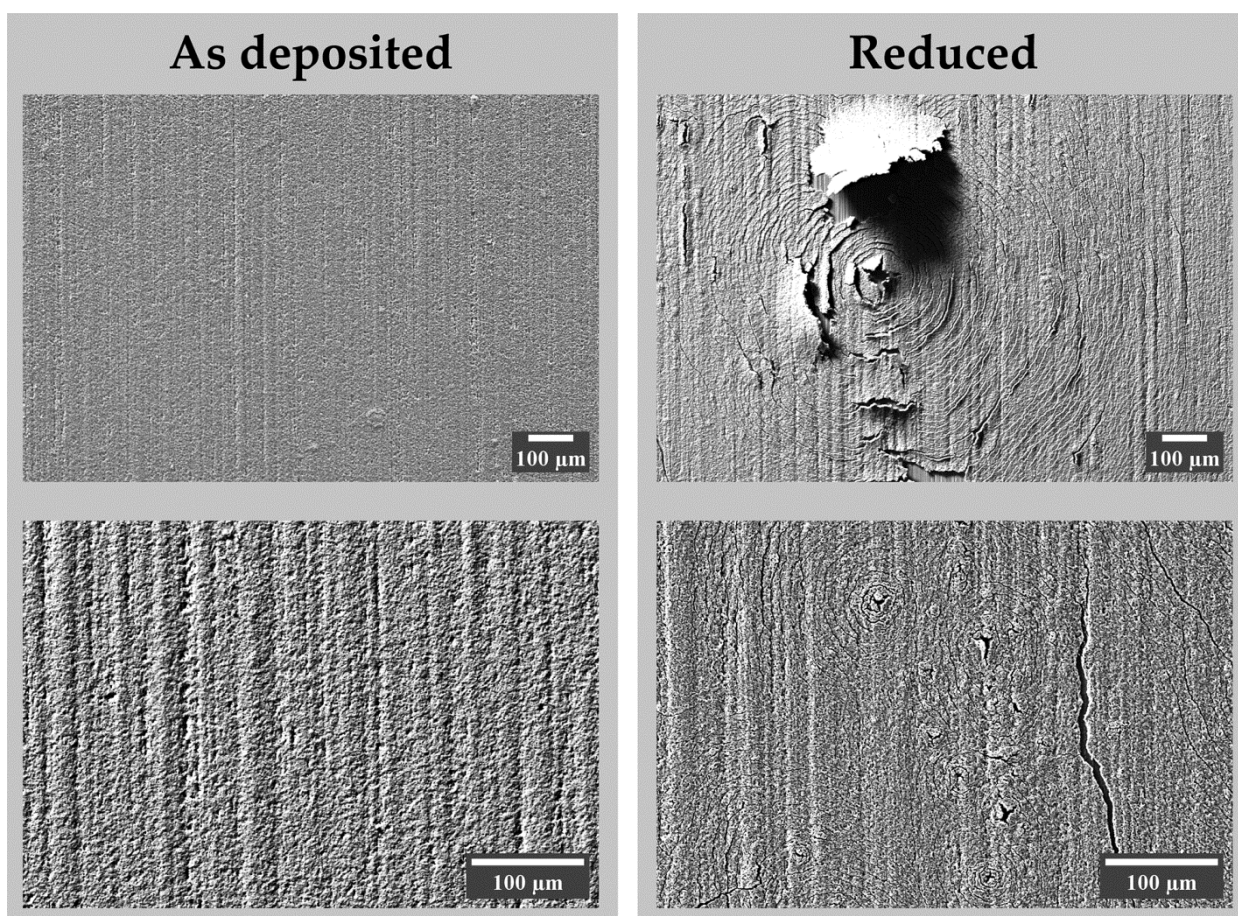


Figure S5. SEM images of the specimens deposited from acetate solution ($E_d = -0.041$ V, $Q_d = 5 \text{ C}\cdot\text{cm}^{-2}$) with pH = 4.8 after Cu_2O reduction.

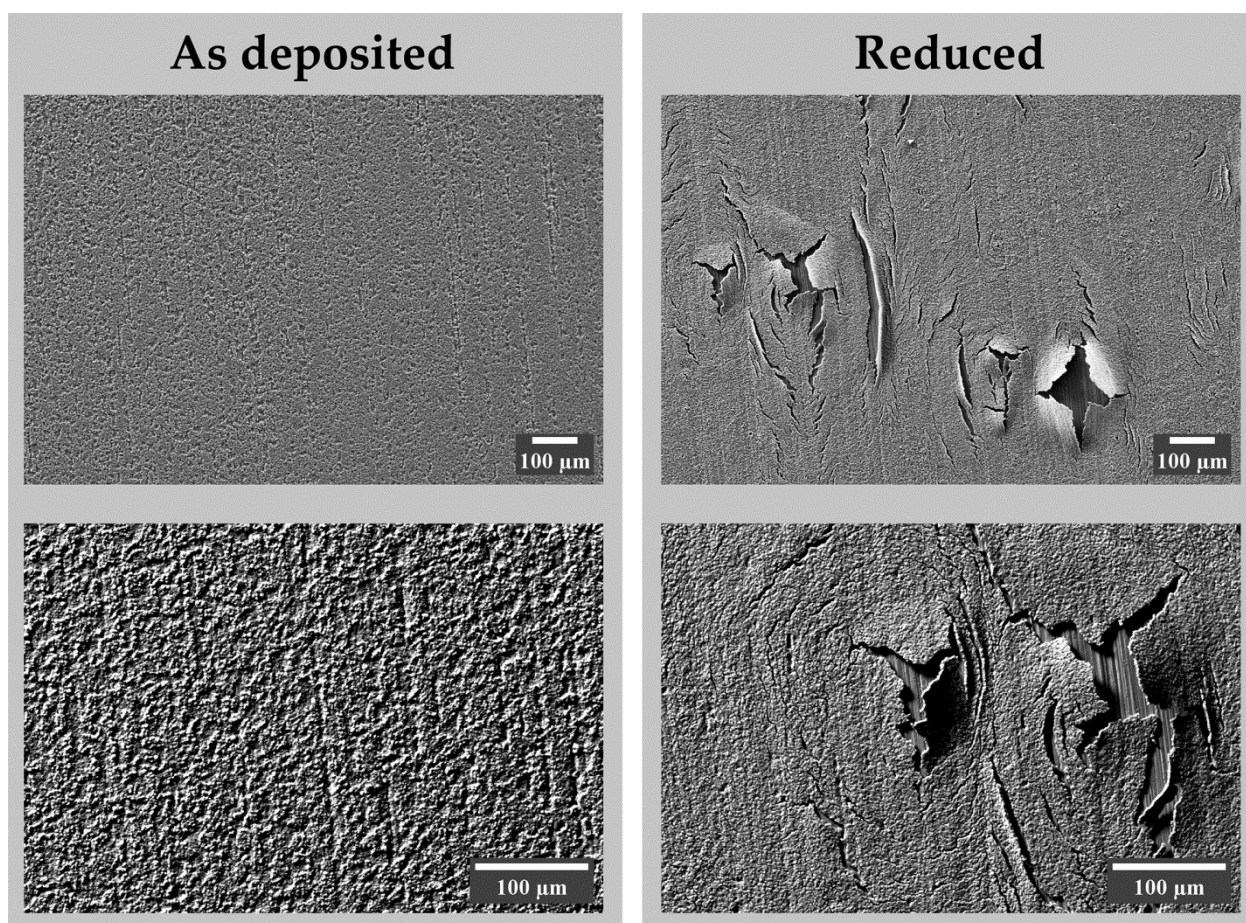


Figure S6. SEM images of the specimens deposited from lactate solution ($E_d = -0.500$ V, $Q_d = 15 \text{ C}\cdot\text{cm}^{-2}$) with pH = 7.9 after Cu_2O reduction.

