**Supporting Information**

**Decoration of copper foam with Ni nanorods and copper oxide nanosheets to produce a high-stability catalyst for the reduction of CO2: Characterization of the electrosynthesis of isonicotinic acid**

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**Characterizations of Products:**

**Isonicotinic acid:** 1H NMR (CDCl3, 400 MHz): δ 7.47 (d.d, 2H, *j*=3.2), δ 7.66 (d.d, 2H, *j*=3.2), δ 7.95 (s, 1H, CO2H),13C NMR (CDCl3, 100.6 MHz): δ 128.72, 130.83, 132.41, 167.63 ppm, FT-IR: 3379 cm-1(O-H), 1714, 1665 (C=O), 1590 (C=C), 1095 (C-O).



Fig. S1. 1H NMR of isonicotinic acid



Fig. S2. 13C NMR of isonicotinic acid



Fig. S3. FTIR spectra of isonicotinic acid

**4,4'-Bipyridine:** 1H NMR (CDCl3, 400 MHz): 1H NMR: 7.48 (d, 4H, *j*= 6), 8.68 (d, 4H, *j*= 5), 13C NMR (CDCl3, 100.6 MHz): δ 121.44, 145.57, 150.67 ppm; FT-IR: 1696, 1653 cm-1(C=N), 1578, 1555 cm-1 (C=C), 1453, 1248, 1085 and 756 cm-1.



Fig. S4. 1H NMR of 4,4'-bipyridine



Fig. S5. 13C NMR of 4,4'-bipyridine



Fig. S6. FT-IR spectra of 4,4'-bipyridine