

Stabilization of Cobalt Oxyhydrate Superconductor

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Electronic Supplementary Information

Powder x-ray diffraction (XRD) measurements were carried out on a RIGAKU D/Max-rA Diffractometer at room temperature and ~40% relative humidity using the Cu K α radiation and a graphite monochromator. The XRD diffractometer system was calibrated using standard Si powder. For the samples subjected to various treatments, the XRD data were collected as soon (within one minute) as the treatment had been completed. Lattice parameters were refined by a least-squares fit using at least 7 peaks. The Na-to-Co ratio for each sample was obtained by the ICP-AES (Inductively coupled plasma atomic emission spectroscopy) technique. The measurement precision was better than 2%. Thermogravimetric experiment was performed on a FRC/T-2 differential thermal balance, operating at a heating rate of 10°C /min from 25°C to 1200°C in air. The temperature dependence of dc magnetization (M_{dc}) was measured on a SQUID magnetometer (Quantum Design, MPMS) with applied magnetic field of 10 Oe.