



SUPPLEMENTARY INFORMATION

Incorporation of Pd catalyst at fuel electrode of thin-film-based solid oxide cell by multi-layer deposition and its impact on low-temperature co-electrolysis

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Keywords: low-temperature co-electrolysis, Pd incorporation, fuel electrode functional layer, thin film-based solid oxide cell

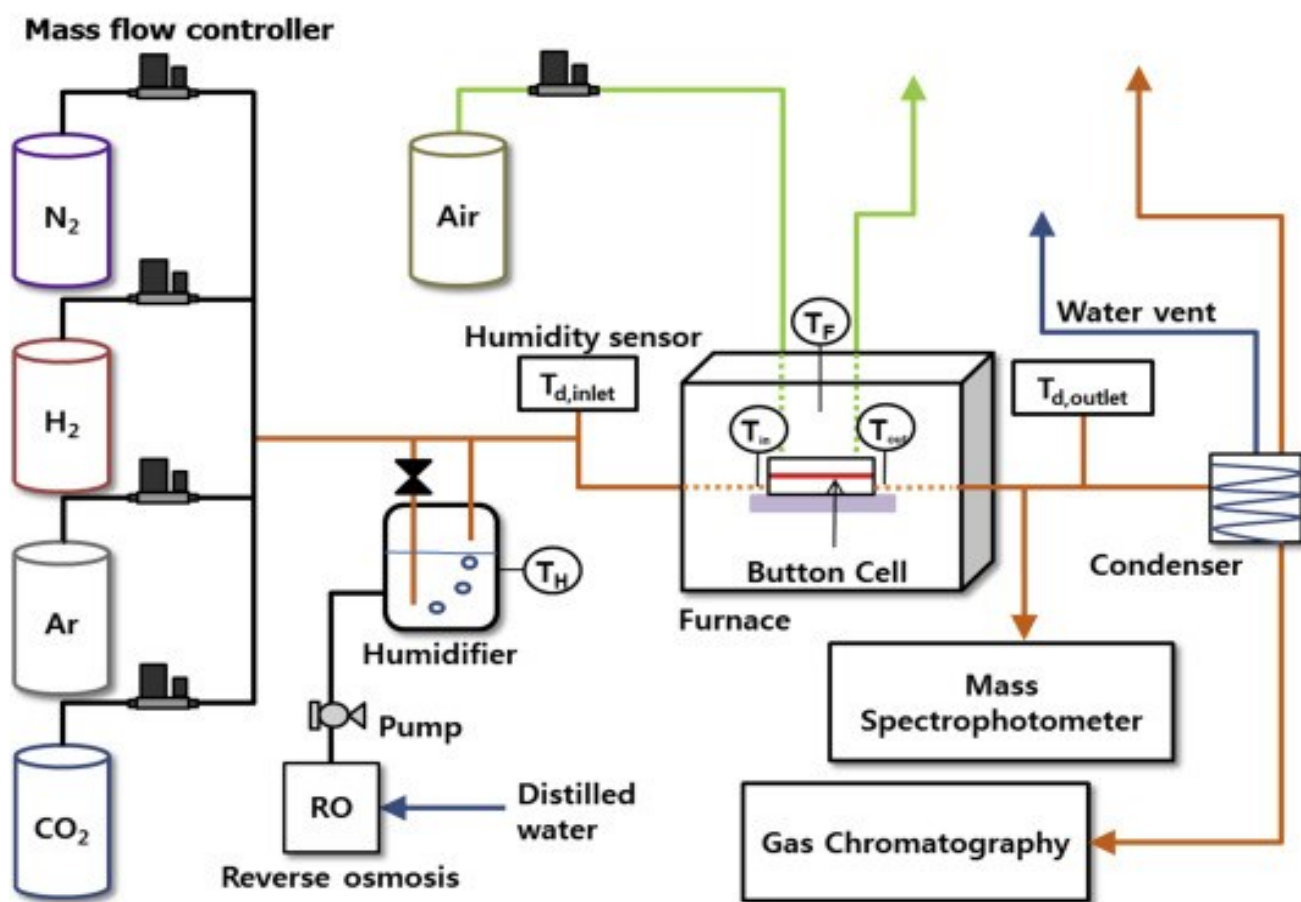


Fig. S1. Schematic of Co-EC testing system.⁴⁰ (Reprinted by permission from *J. Power Sources*, **280**, 630. Copyright (2015) Elsevier).

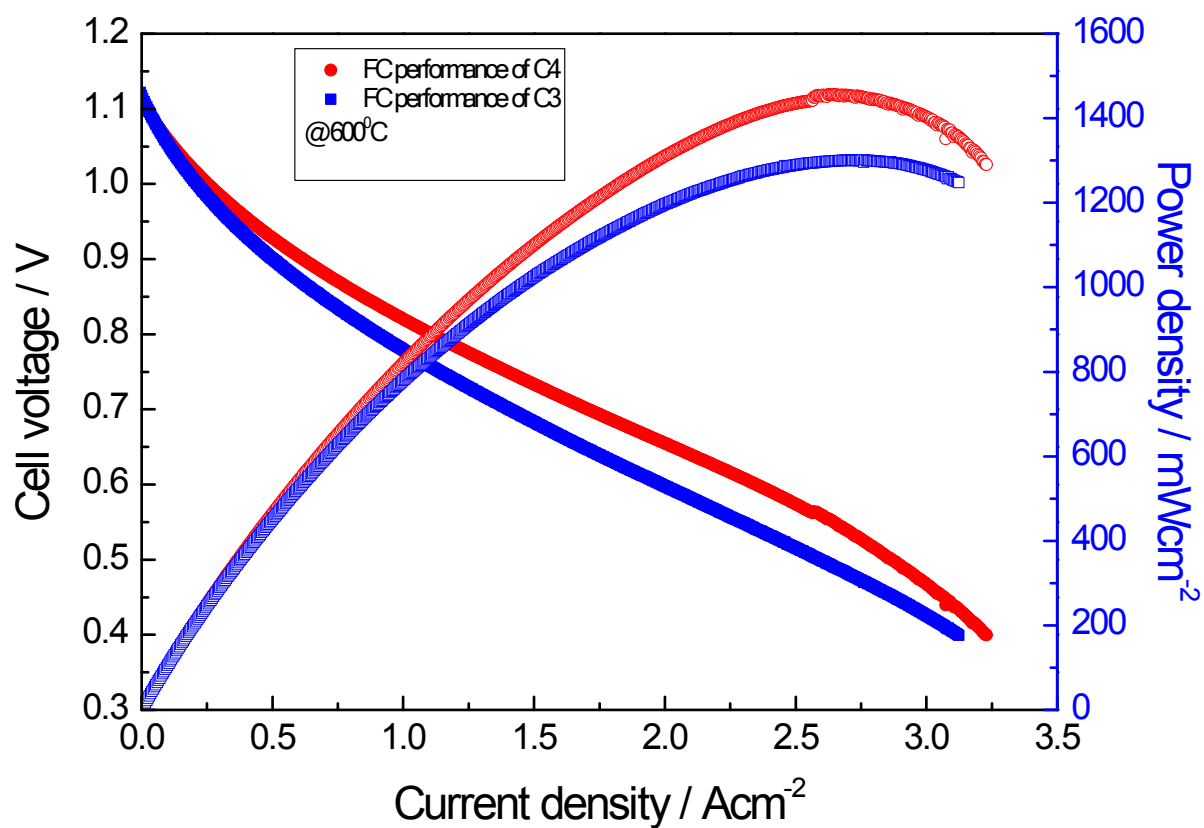


Fig. S2. I-V-P curves at 600 °C in fuel cell mode of TF-SOCs with C3 and C4 FEFL configurations

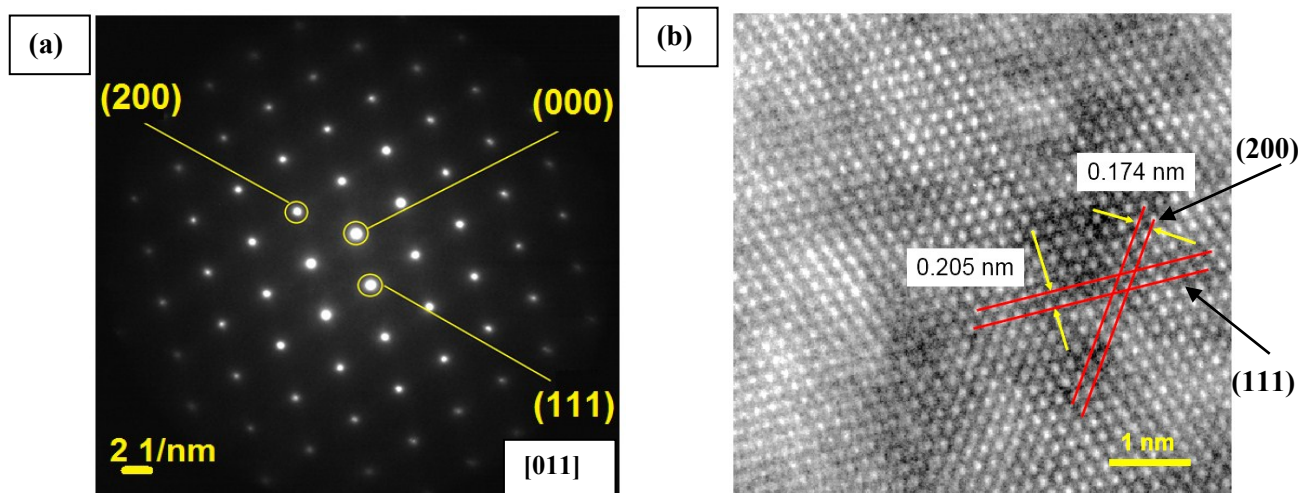


Fig. S3. (a) A SAED pattern and (b) HR-TEM image showing the lattice images of the Pd-Ni alloy

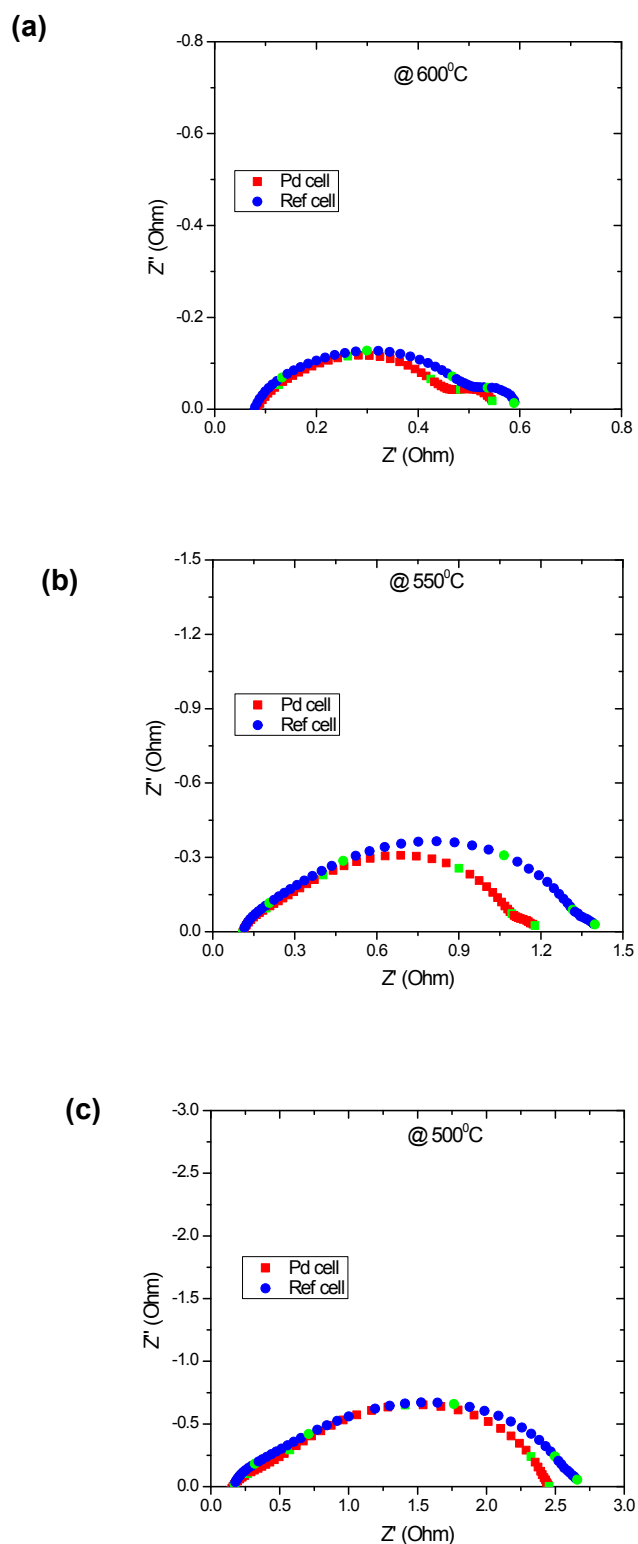


Fig. S4. Nyquist plots of 2 cells measured during LT-Co-EC testing at OCV at (a) 600 °C, (b) 550 °C and (c) 500 °C

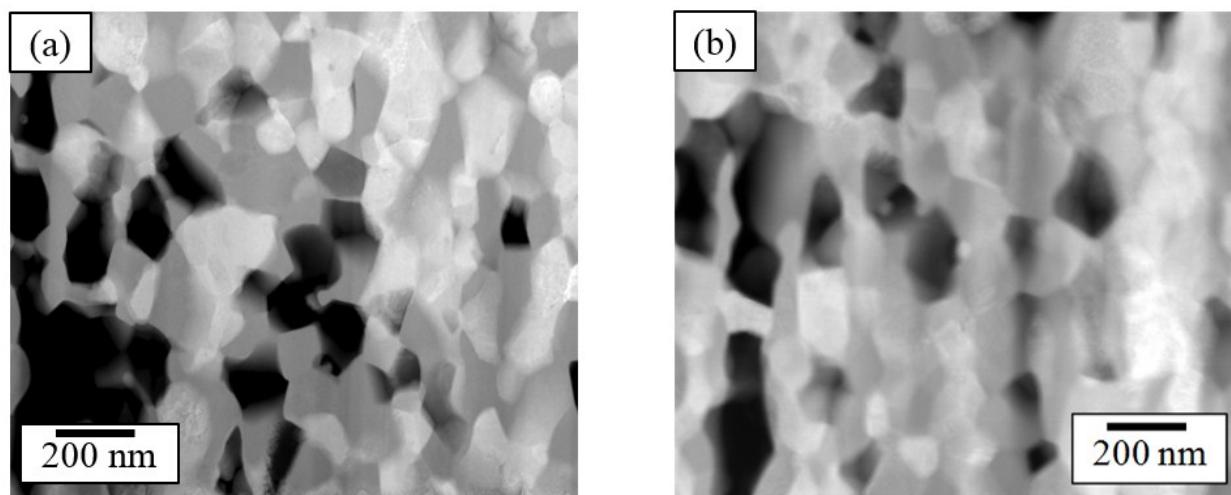


Fig. S5. Morphology of (a) Pd-cell and (b) Ref-cell in fuel electrode functional layer (FEFL).⁴⁹ (Fig. S5. (b) is reproduced from permission of *Electrochem. Solid-State Lett*, **14**, B26. Copyright (2010) The Electrochemical Society.)