Nanofiber Scaffold for Cathode of Solid Oxide Fuel Cell

Mingjia Zhi,^{a,b} Nicholas Mariani,^b Randall Gemmen,^a Kirk Gerdes^a and Nianqiang Wu^{a,b,*}

^a National Energy Technology Laboratory, US Department of Energy, 3610 Collins Ferry Road,

Morgantown, WV 26507, USA

^b Department of Mechanical and Aerospace Engineering, WVNano Initiative, West Virginia University,

Morgantown, WV 26506-6106, USA

* To whom correspondence should be addressed. TEL: (304)-293-3326, FAX: (304)-293-6689, E-Mail: nick.wu@mail.wvu.edu



Figure S1. The configuration of the half cell used for electrochemical testing



Figure S2. EDX analysis of the LSM50/YSZ cathode; Spot 1 is pointed on the nanofiber, and Spot 2 is obtained from the membrane between the nanofibers



Figure S3. XRD patterns of the YSZ nanofiber scaffold and the LSM50/YSZ nanofiber composite cathode



Figure S4. Polarization curves of the LSM50/YSZ cathode at different temperatures



Figure S5. Polarization resistance as a function of the LSM content in the YSZ/LSM composite cathode at different temperatures