Supplementary Information

**MnO\textsubscript{x} decorated CeO\textsubscript{2} nanorods as cathode catalyst for rechargeable lithium–air batteries**

Yongqiang Zhu\textsuperscript{a,b}, Shanhu Liu\textsuperscript{b}, Chao Jin\textsuperscript{a,c,*}, Shiyu Bie\textsuperscript{a}, Ruizhi Yang\textsuperscript{a,*} and Jiao Wu\textsuperscript{a}

\textsuperscript{a} College of Physics, Optoelectronics and Energy & Collaborative Innovation Centre of Suzhou Nano Science and Technology, Soochow University, Suzhou 215006, China.
Corresponding Author E-mail: jinchao@suda.edu.cn (C. Jin); yangrz@suda.edu.cn (R. Yang)

\textsuperscript{b} Institute of Environmental and Analytical Sciences, College of Chemistry and Chemical Engineering, Henan University, Kaifeng 475004, China.

\textsuperscript{c} Key Laboratory of Fuel Cell Technology of Guangdong Province, South China University of Technology, Guangzhou 510640, China
Figure S1†. EDS results of MnO₅@CeO₂ nanorods
Figure S2†. Electrochemical impedance spectroscopy (EIS) of MnO<sub>x</sub>@CeO<sub>2</sub> and CeO<sub>2</sub> nanorods electrocatalysts on GC electrode performed under O<sub>2</sub> saturated 0.1M KOH solution at -0.3 V (Vs. Ag/AgCl), respectively.
Figure S3†. N₂ adsorption–desorption isotherm plots of MnOₓ@CeO₂ and CeO₂ nanorods, respectively.
**Figure S4.** Initial discharged/charged curves of commercial MnO₂-based lithium-air batteries at 100 mA g⁻¹.