Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting Information

Engineering "Nanonet"-Reinforced Polymer Electrolyte for Long-Life Li-O_2 Batteries

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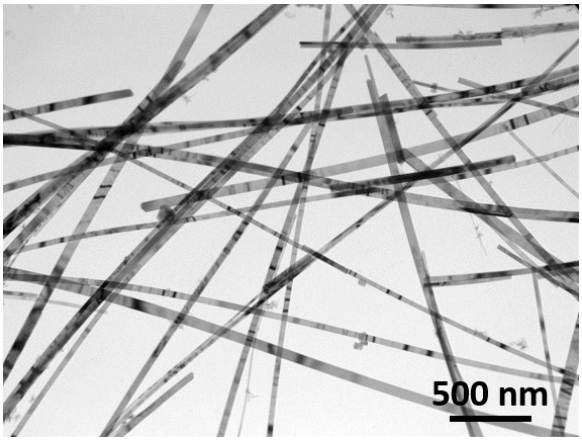

Figure S1. TEM image of MnOOH nanowires.

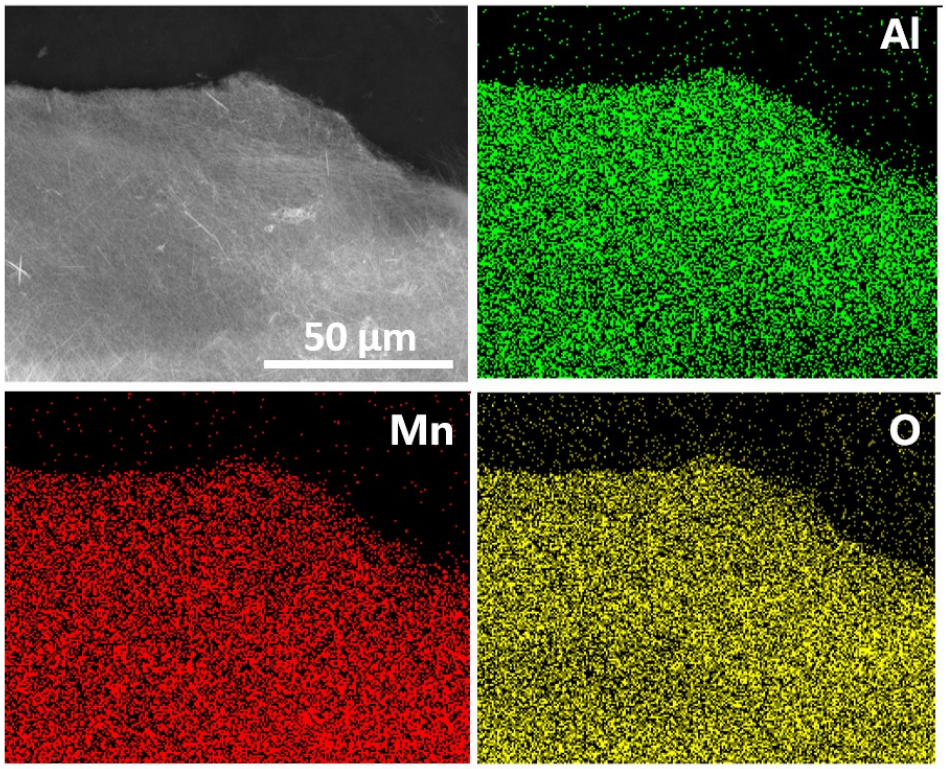

Figure S2. SEM image of the as-made MnOOH@Al_2O_3 film and the corresponding element mapping images.

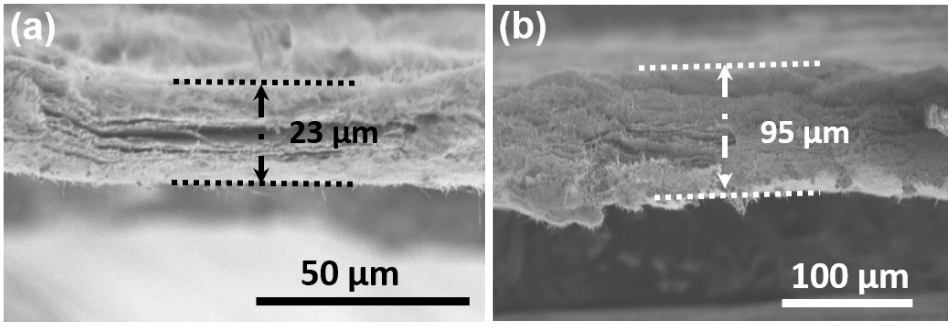

Figure S3. SEM images of MnOOH films with different thicknesses.

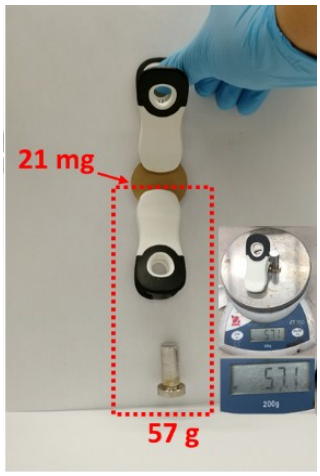

Figure S4. Digital photograph showing the mechanical property of MnOOH@Al_2O_3 film.

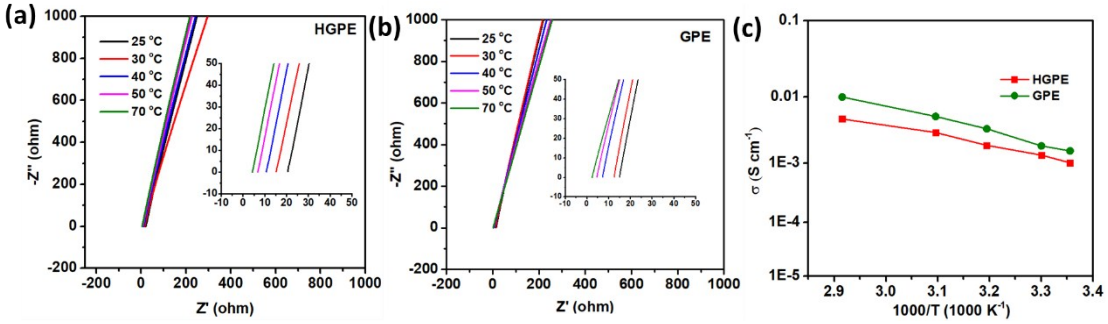

Figure S5. Nyquist plots for testing the ionic conductivity of (a) HGPE and (b) GPE, and the corresponding (c) ionic conductivity at different temperature.

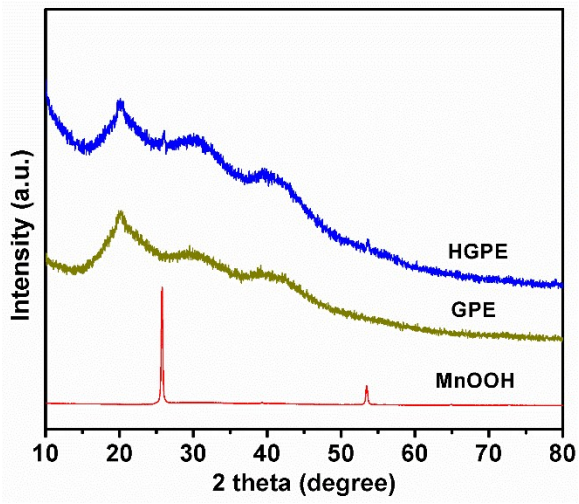

Figure S6. XRD patterns of the as-made MnOOH nanowires, GPE and HGPE.

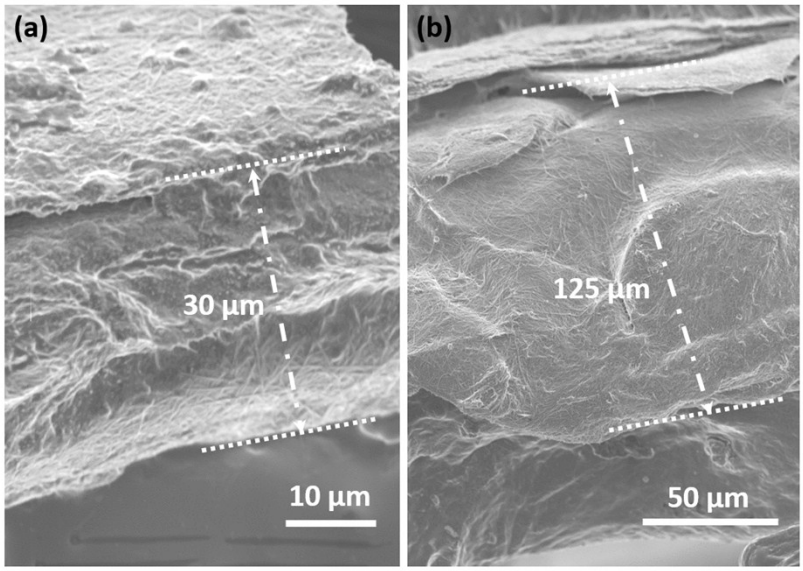

Figure S7. Cross-section SEM images of the HGPE with different thicknesses.

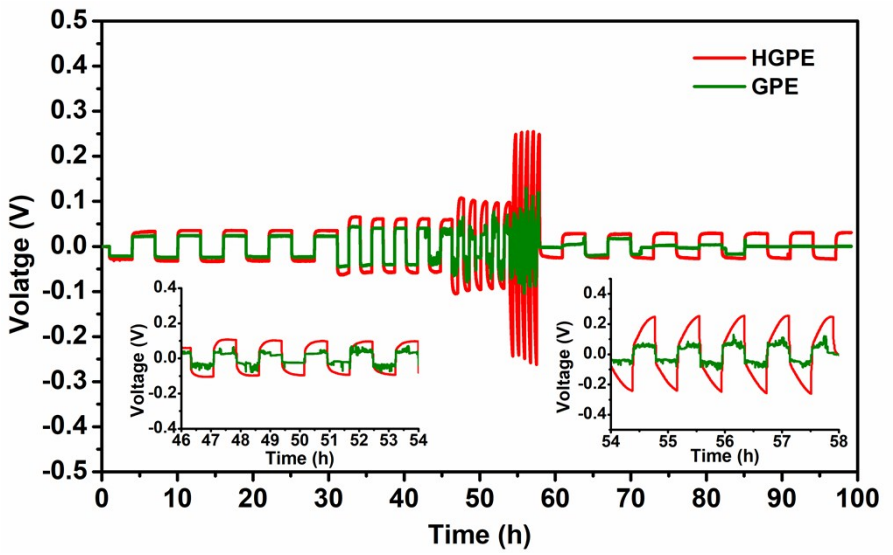

Figure S8. Discharge/charge curves of Li symmetric cells with HGPE and GPE at different current densities of 0.1, 0.2, 0.4, and 0.8 mA cm^{-2} with a limited capacity of 0.3 mA h cm^{-2}.

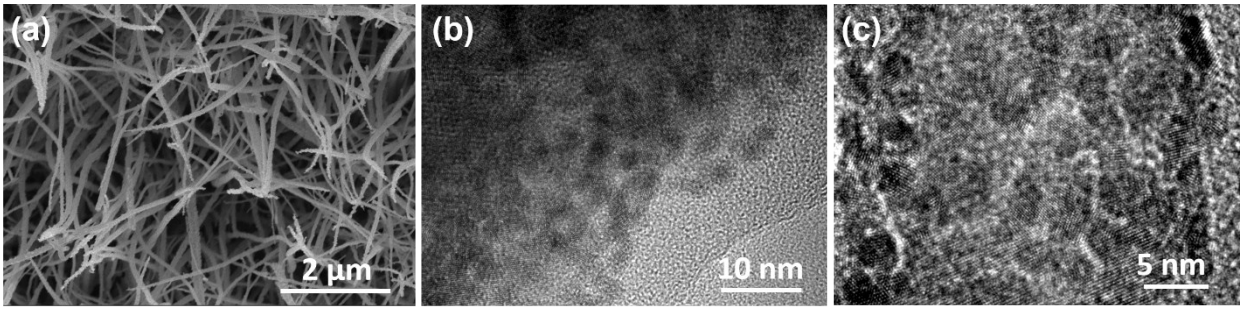

Figure S9. (a) SEM, (b) TEM and (c) HRTEM images of Ni foam@Co_3O_4-RuO_2.

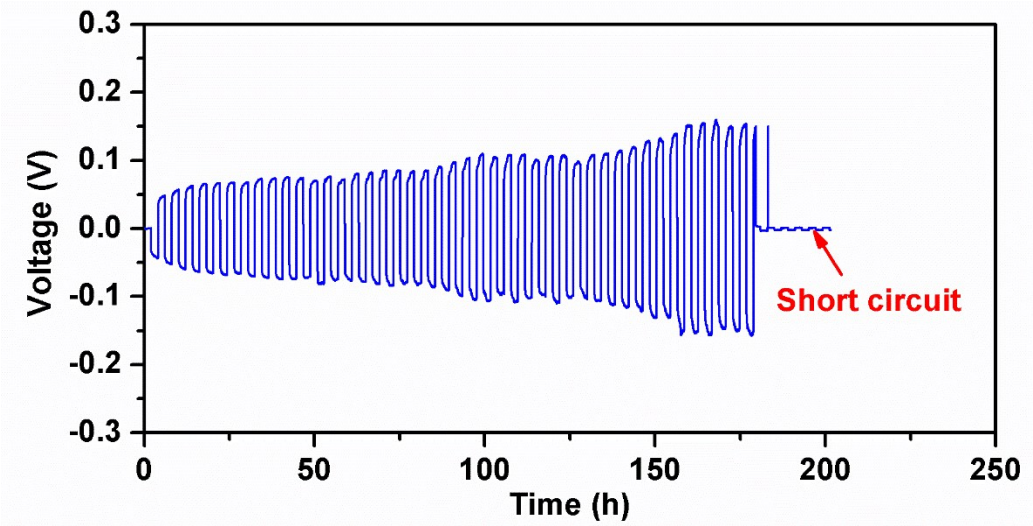

Figure S10. The cycling stability of Li metal symmetric cells with GPE without $LiNO_3$ additive at a current density of 0.1 mA cm^{-2} with a limited capacity of 0.2 mA h cm^{-2}.

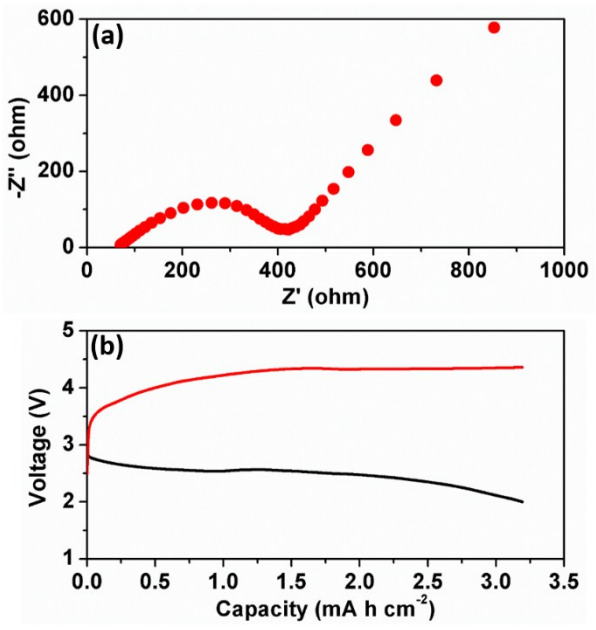

Figure S11. (a) Nyquist plot and (b) initial discharge/charge profiles of the Li-O_2 battery with HGPE and high-efficiency Ni foam@Co_3O_4-RuO_2 air electrode at a current density of 0.1 mA cm^{-2}.