## **Electronic Supplementary Information**

## **Sodium-Oxygen Batteries with**

## Alkyl-carbonate and Ether based Electrolytes

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Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics This journal is The Owner Societies 2013



**Fig. S1** (a) Cycleability of the sodium-oxygen battery with PC electrolyte, (b) Raman spectra, and (c) XPS of the electrode during discharging/charging



Fig. S2 (a) Cycleability of the sodium-oxygen battery with TEGDME electrolyte, (b) XPS, and (c) FTIR spectra of the electrode during discharging/charging