

## Supporting Information

# Nanosponge-based Composite Gel Polymer Electrolyte for Safer Li-O<sub>2</sub> Batteries –

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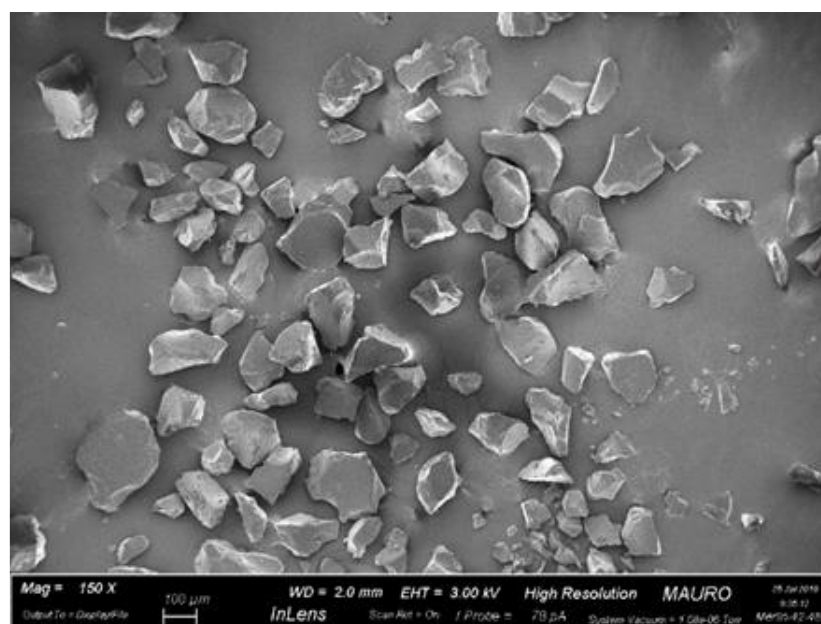
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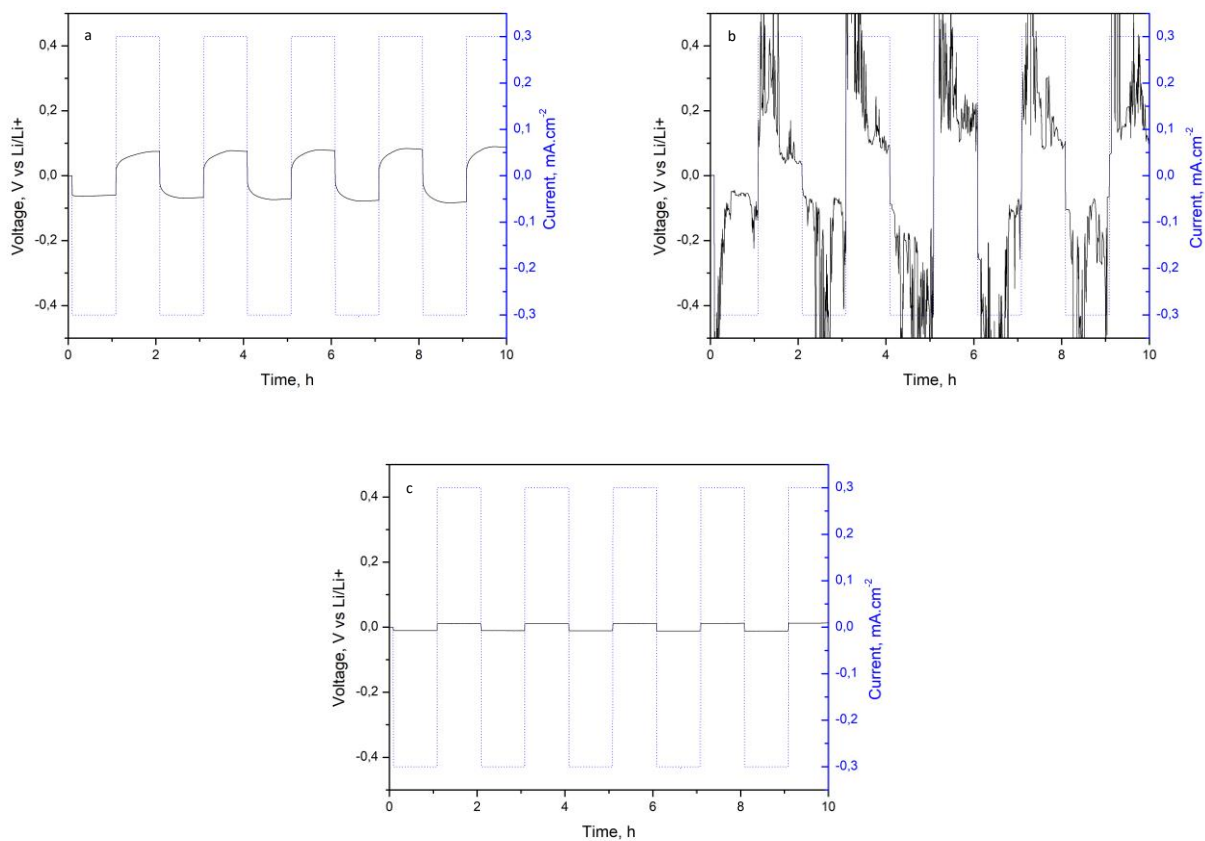
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**Table S1.** Summary of TGA analysis.

Sample	T <sub>5</sub> (°C)	T <sub>50</sub> (°C)
BMA	45	88
PEGDA 575	354	401
NS	199	315
CGPE	226	303
5 wt% NS CGPE	201	303
10 wt% NS CGPE	192	310



**Figure S1.** FESEM micrograph of raw nanosponge aggregates.



**Figure S2.** Voltage profile of the first 5 cycles of lithium plating/stripping cycling at current density of 0.3 mA·cm<sup>-2</sup> (specific capacity: 0.3 mAh·cm<sup>-2</sup>) on symmetric Li|LE|Li cell (a), Li|CGPE|Li cell (b) and Li|5 wt% NS CGPE|Li cell (c).