Electronic Supplementary Material (ESI) for New Journal of Chemistry.


# Performances of Sodium-ion Supercapattery using $LaMnO_3$ and rGO in non-Aqueous Electrolyte

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## Supplementary data

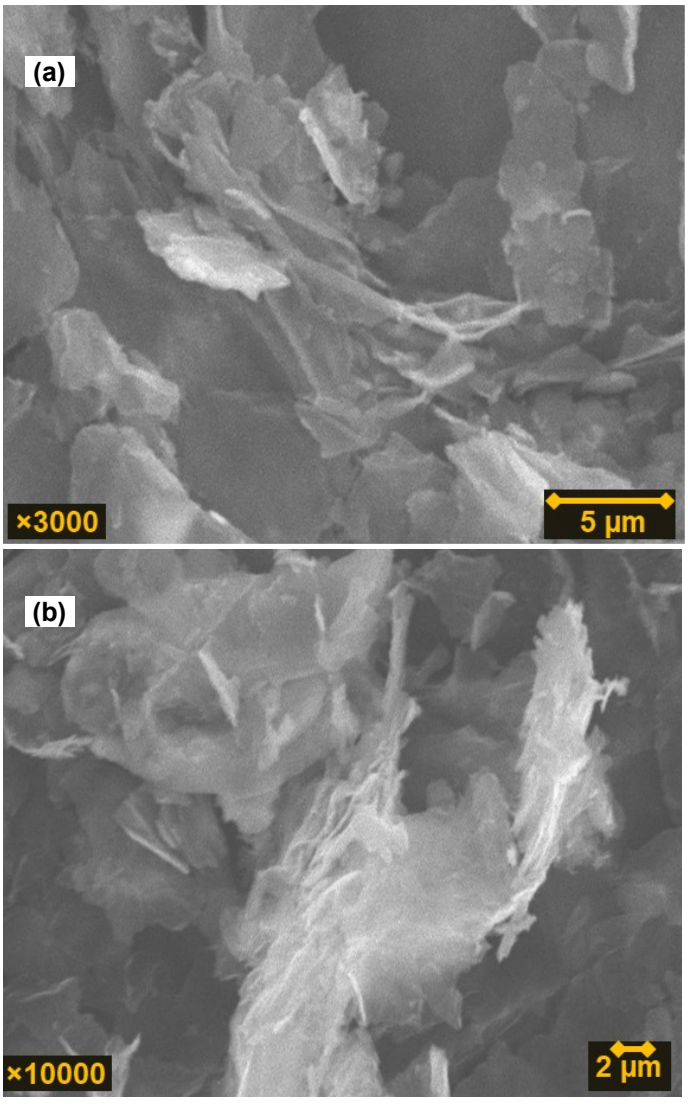


**Fig. S1 (a, b)** SEM images recorded for the rGO sample at different magnifications

The characteristic folded rGO flakes are visible in the SEM images indicating better surface area which has reflected in high specific capacitance of the rGO electrode.

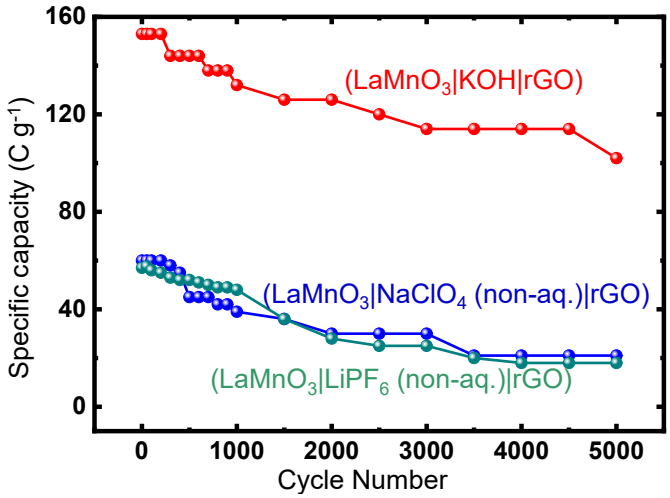


**Fig. S2** Specific capacity vs. cycle number for all the three devices including the aqueous (KOH) and non-aqueous ($NaClO_4$ and $LiPF_6$) systems.

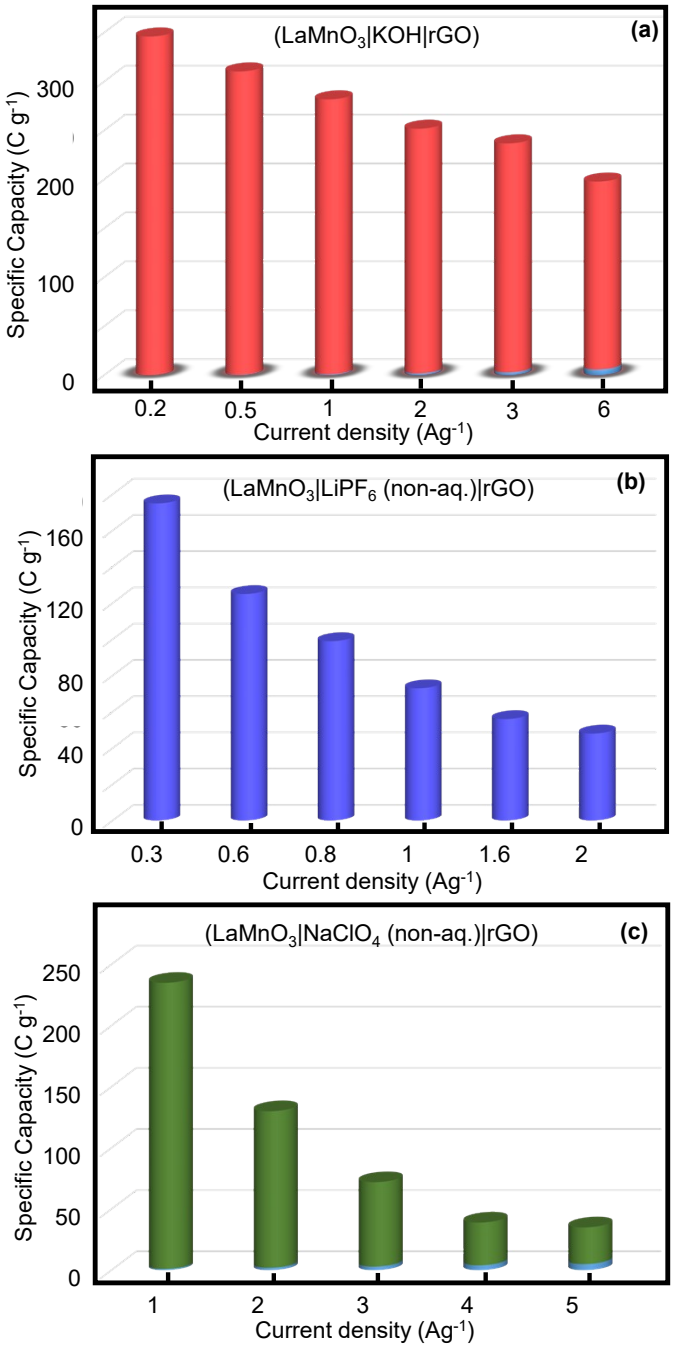


**Fig. S3**. Specific capacity vs. current density recorded for (a) aqueous supercapattery, (b) Lithium-ion supercapattery and (c) Sodium-ion supercapattery.

**Table. S1.** Mass loadings of different materials and devices fabricated.

| System | Aqueous three electrode study (mg/ $cm^2$) | Aqueous two electrode device (mg) | Non-aqueous device – LIS (mg) | Non-aqueous device – SIS (mg) |
|---|---|---|---|---|
| **Positive Electrode ($LaMnO_3$)** | 5.29 | 3.12 | 5.94 | 4.25 |
| **Negative Electrode (rGO)** | 1.64 | 3.53 | 6.87 | 3.81 |