

Supporting information

**One-pot in situ chemical reduction graphene oxide
and recombination of sulphur as the cathode material
of Li-S battery**

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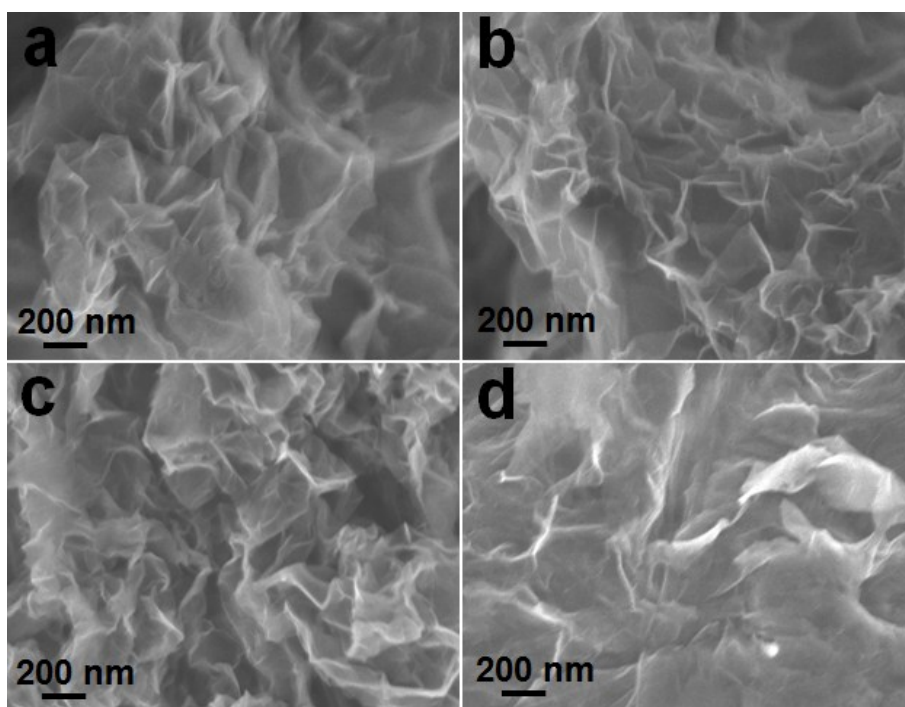


Figure S1. SEM images of rGO/S-2 (a), rGO/S-3 (b), rGO/S-7(c) and rGO/S-12 (d).

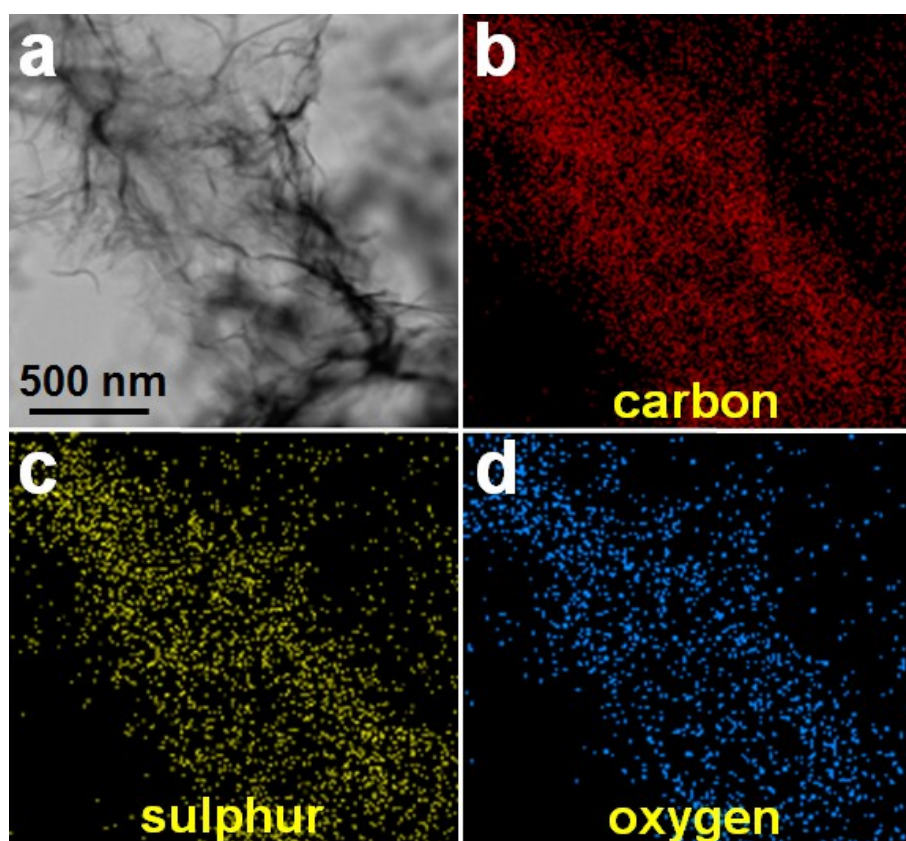


Figure S2. TEM (a) and the related EDS elemental mapping images of sulphur (b), carbon (c) and oxygen (d) micrograph of the rGO/S-3 composite.

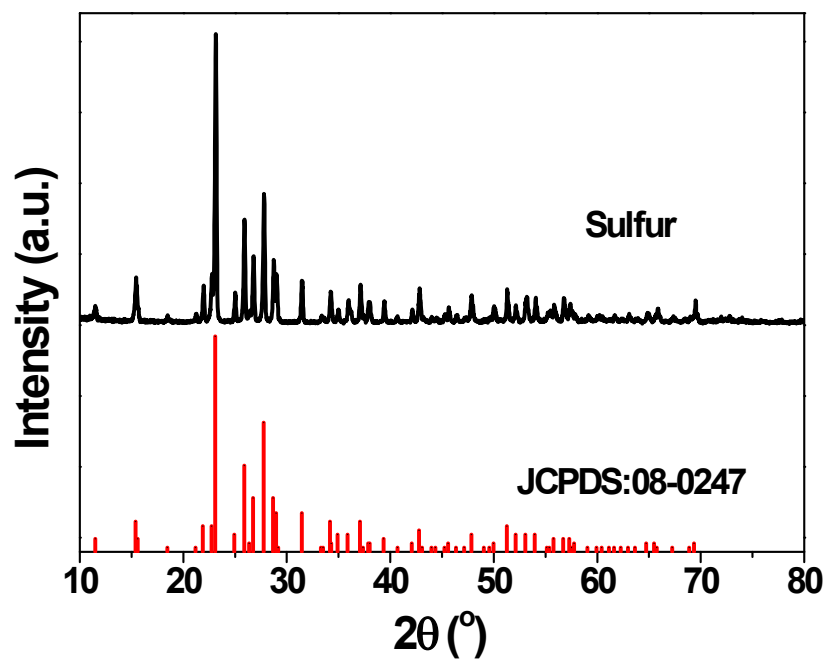


Figure S3. XRD patterns (black) of sulphur and its standard patterns (red).

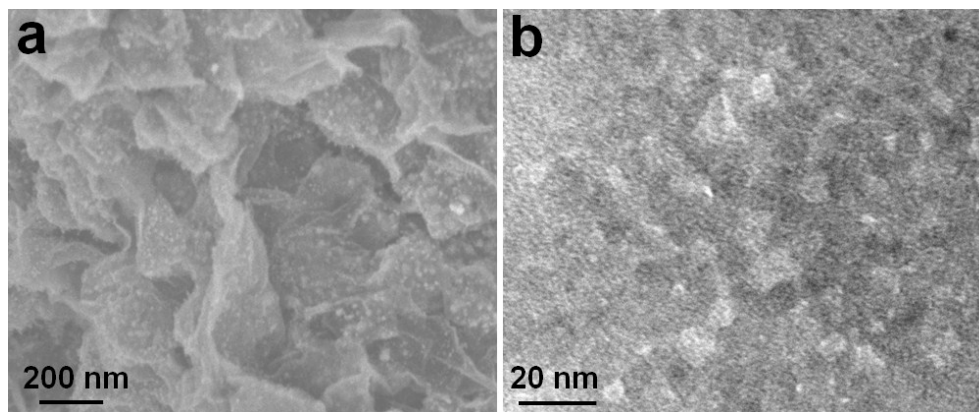


Figure S4. (a) SEM and (b) TEM images of the rGO/S-3 composite after 1200 cycles at 1 C in the Li-S battery.

Table S1. The elements content analysis of the rGO/S-xcomposite samples

Sample	C (wt.%)	S (wt.%)	O (wt.%)
rGO/S-2	18.3	72.4	9.0
rGO/S-3	22.9	73.5	3.2
rGO/S-7	22.7	73.7	3.0
rGO/S-12	22.7	75.5	1.1