Supporting Information for

## Inducing Rapid Polysulfide Transformation through Enhanced Interfacial Electronic Interaction for Lithium-Sulfur Batteries

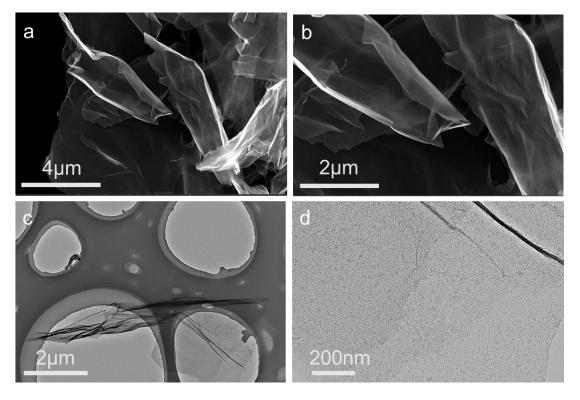


Figure S1 SEM (a) (b) and TEM (c) (d) images of graphene.

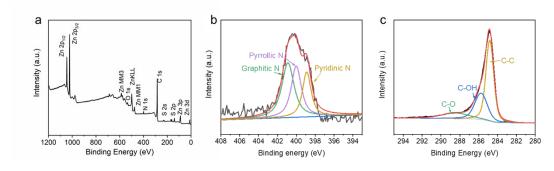


Figure S2 XPS spectra(a), C1s (b) and N1s (c) peak of ZnS QD@rGO

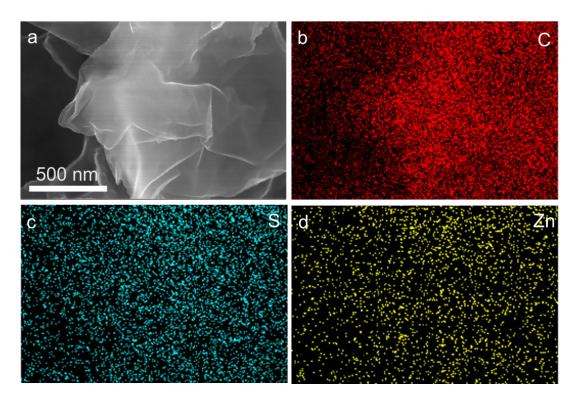
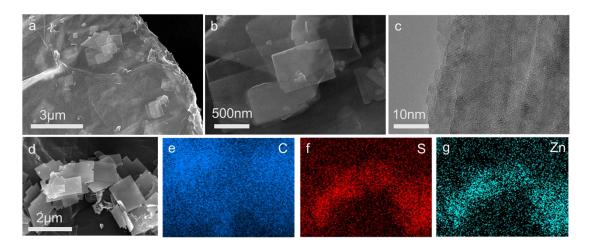


Figure S3 SEM image of ZnS QD@rGO and corresponding elemental mappings.



**Figure S4** ZnS NT@rGO samples: (a)(b) SEM images of different scale bars, (c)TEM image and (d-g) corresponding mapping patterns

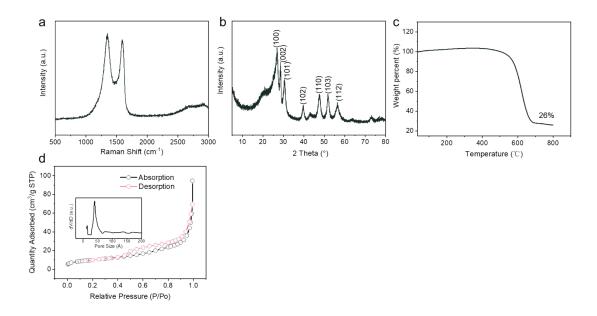
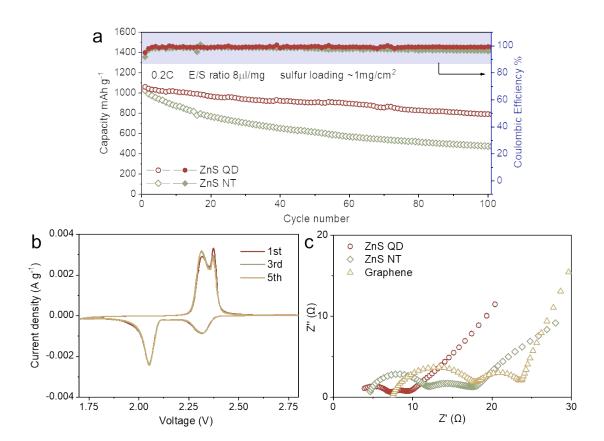


Figure S5 ZnS NT@rGO samples: Raman pattern (a), XRD pattern (b), TGA curve

(c), BET surface area (d), and pore size distribution (e).



**Figure S6** (a) cycle performance at 0.2C, (b) The 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup> CV curves of batteries based on ZnS QD@rGO samples and EIS results of battery based on ZnS QD@rGO, ZnS NT@rGO and graphene additive cathodes after cycles.