Electronic Supplementary Material (ESI) for RSC Advances.

Exploring the redox characteristics of porous ZnCoS@rGO grown on nickel foam as a high-performance electrode for energy storage applications

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Figure S1: Diagram for preparing electrode for real device.

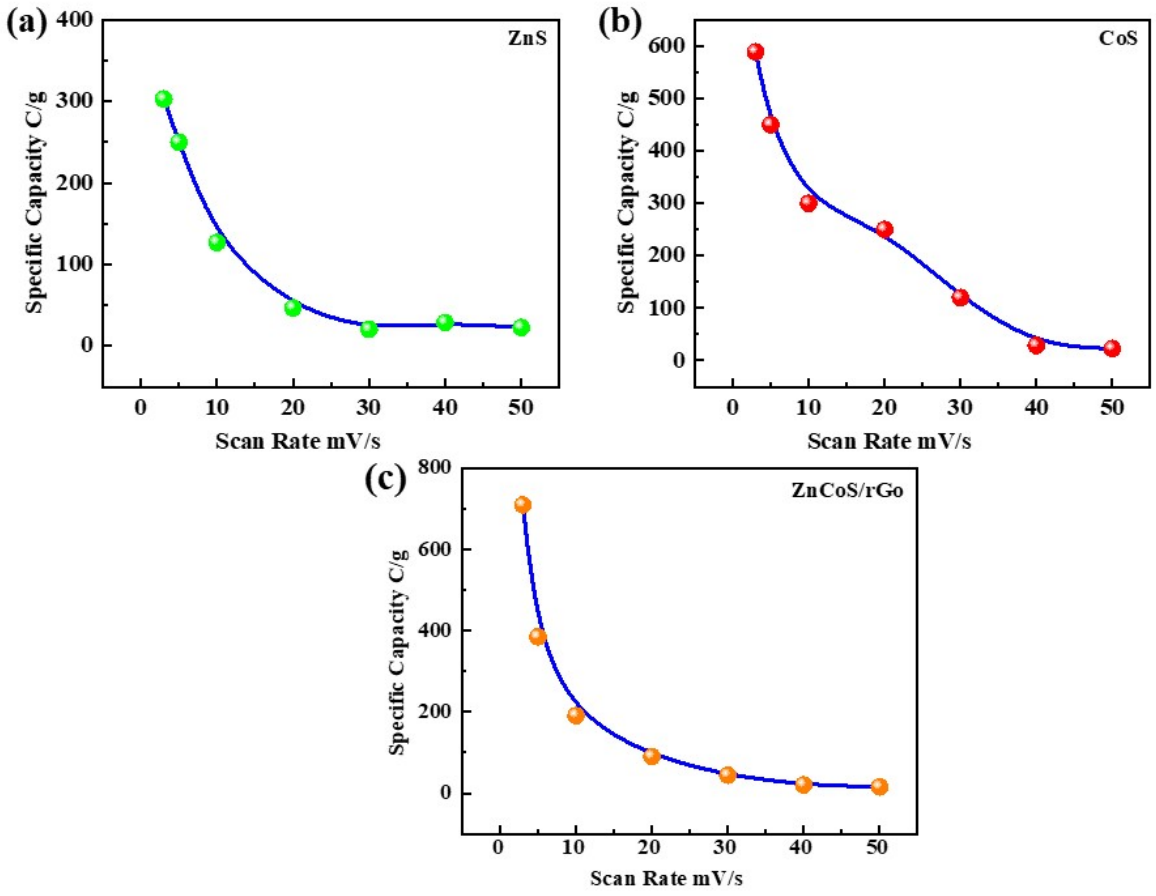

Figure S2: (a) Specific capacity analysis using the CV curves of zinc sulfide. (b) The specific capacity of cobalt sulfide was obtained from CV data at different scan rates. (c) The specific capacity of Zinc cobalt sulfide with a 50/50% ratio of rGo was obtained from CV data at different scan rates.

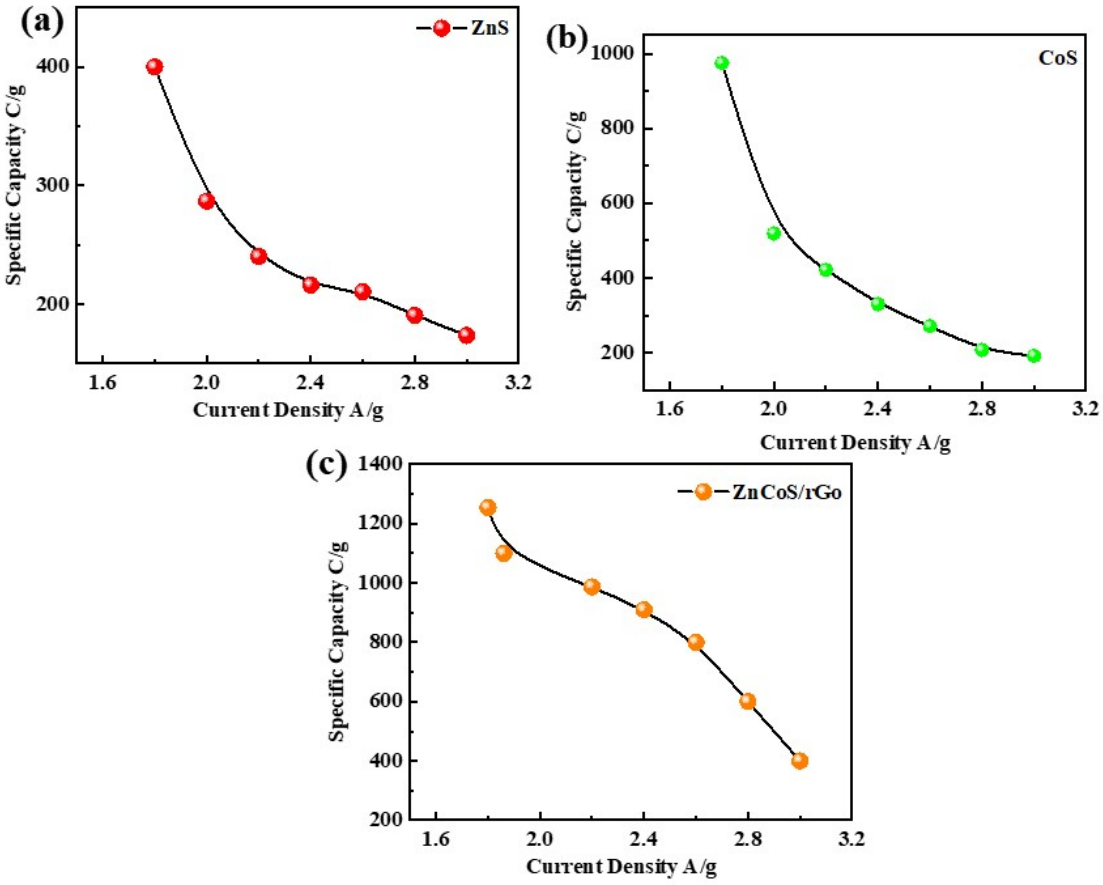

Figure S3: (a) Specific capacity analyses using the GCD curves for ZnS hybrid device at different current densities. (a) Specific capacity analyses using the GCD curves for NbS hybrid devices at different current densities. (b) The specific capacity of ZnNbS/rGo was obtained from GCD data at different current densities.

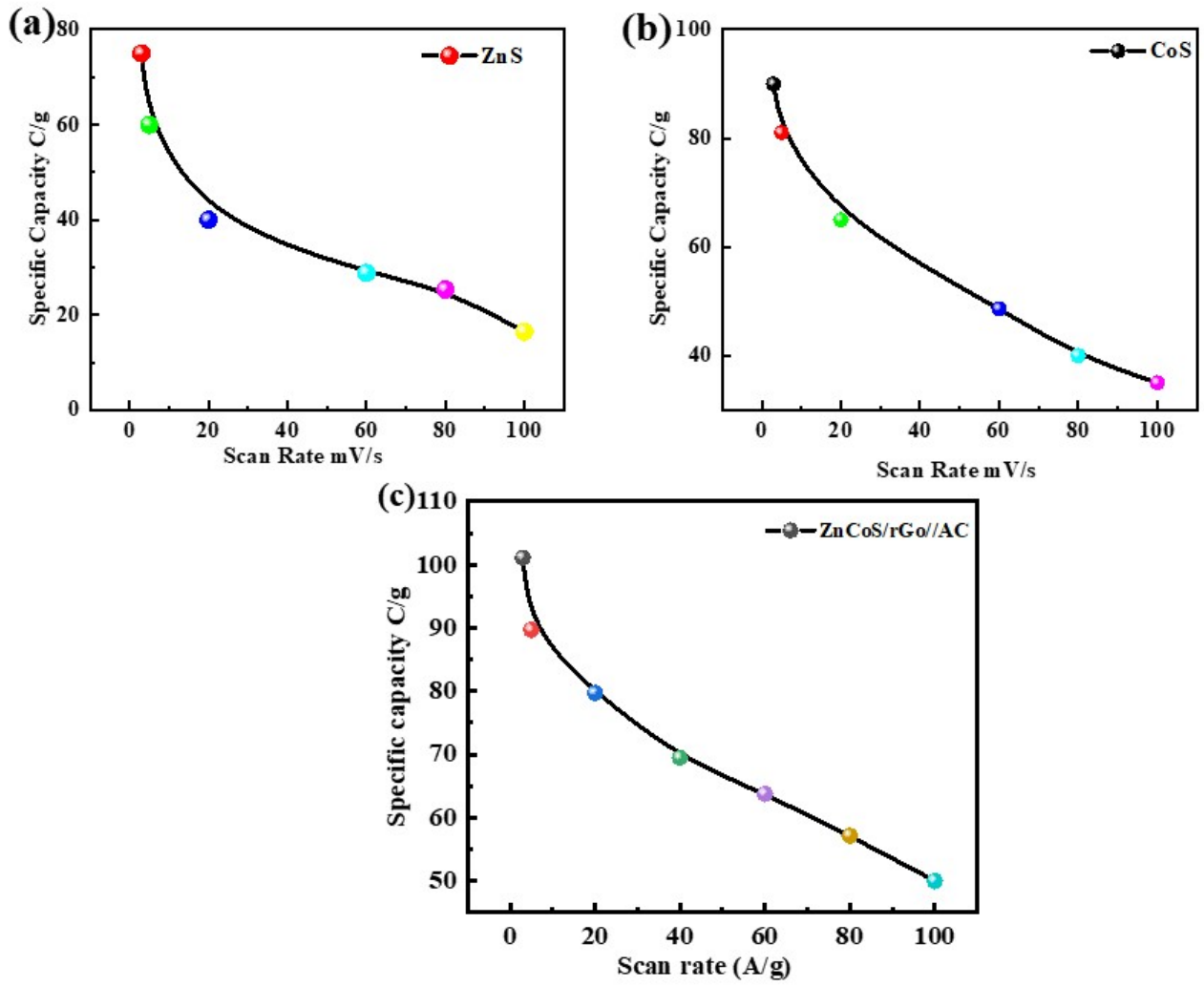

Figure S4: (a) Specific capacity analyses of zinc sulfide by using CV curves for real device application at a scan rate from 3 mV/s to 100 mV/s. (b) Specific capacity analyses by using CV curves of CoS for real device applications at a scan rate from 3 mV/s to 100 mV/s. (b) The specific capacity of ZnCo/rGo was obtained from CV data at different scan rates ranging from 3mV/s to 100 mV/s.

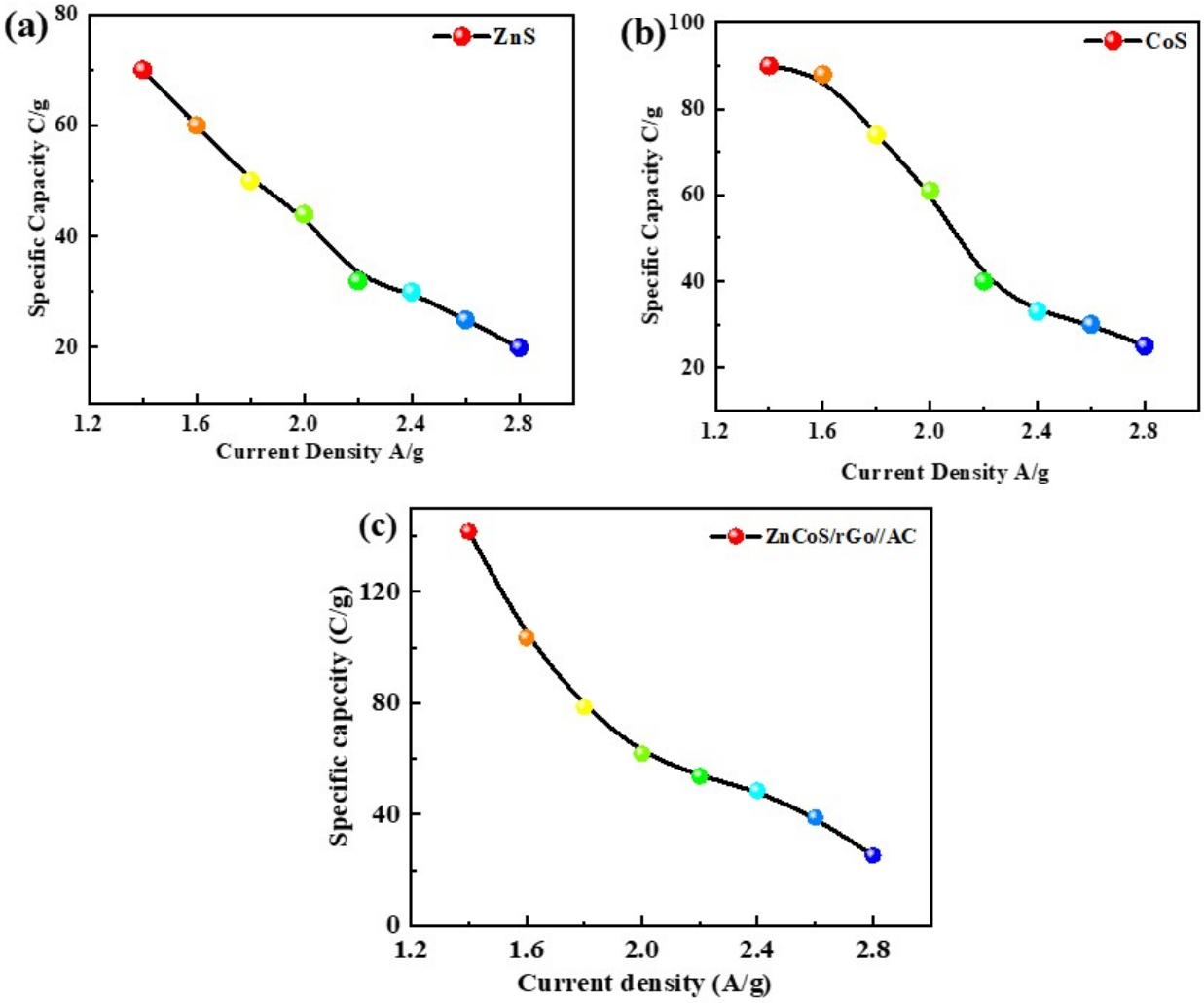
(a)
ZnS
Specific Capacity C/g
Current Density A/g
(b)
CoS
Specific Capacity C/g
Current Density A/g
(c)
ZnCoS/rGo//AC
Specific capccity (C/g)
Current density (A/g)

Figure S5: (a) Specific capacity analyses using the GCD curves for ZnS real device application at different current densities from 1.4 A/g to 2.8 A/g. (b) Specific capacity analyses for CoS using the GCD curves different current densities from 1.4 A/g to 2.8 A/g (b) Specific capacity of ZnCoS/rGo was obtained from GCD data at different current densities.

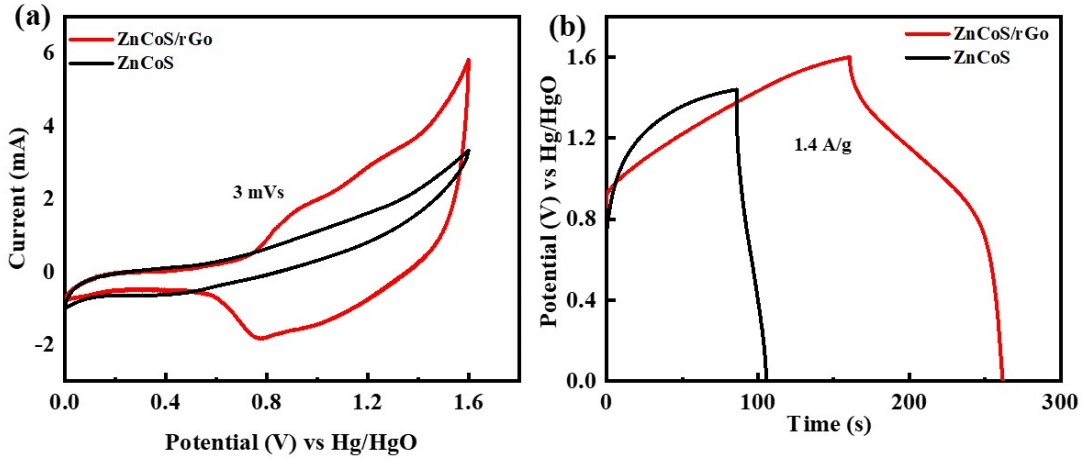

Figure S6:(a) Comparison of ZnCoS and ZnCoS@rGo for CV measurement for real device (b) GCD measurement for real device

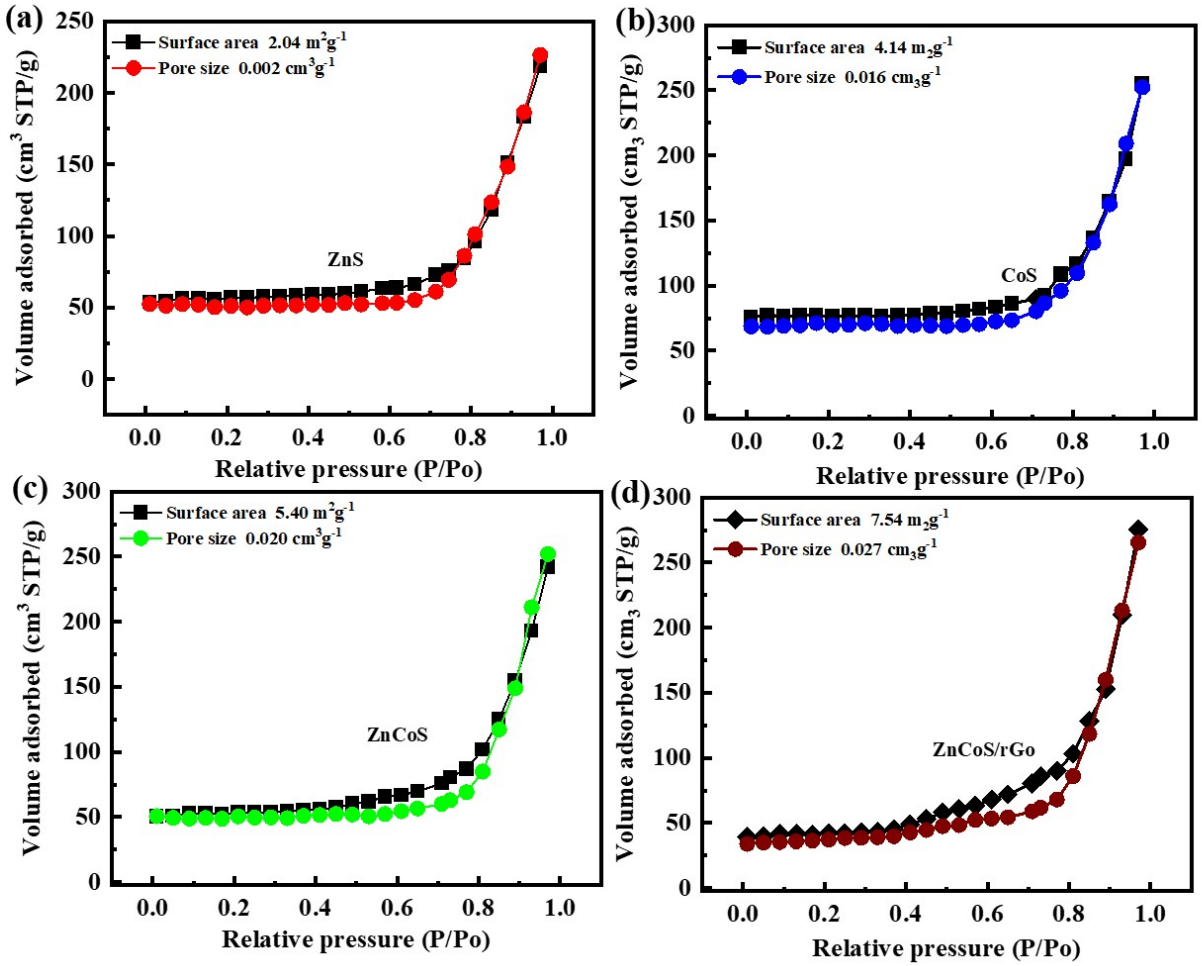

Figure S7: (a) BET graph for ZnS (b) BET graph for CoS (c) BET graph for ZnCoS (d) BET graph for ZnCoS/rGo

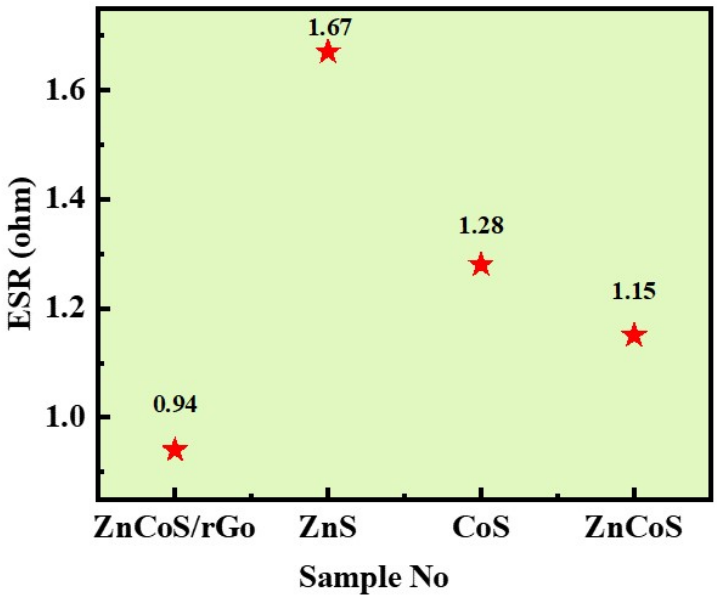

Figure S8:(a-d) ESR value for Zns, CoS, ZnCoS, and ZnCoS/rGo