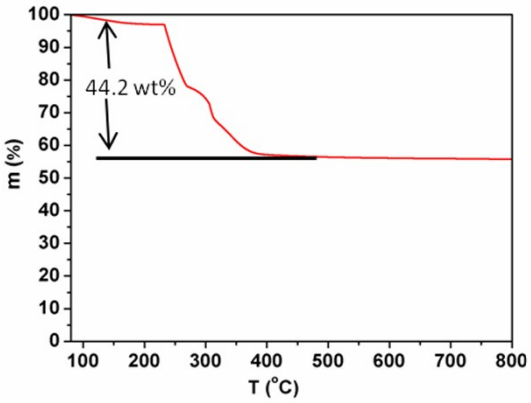
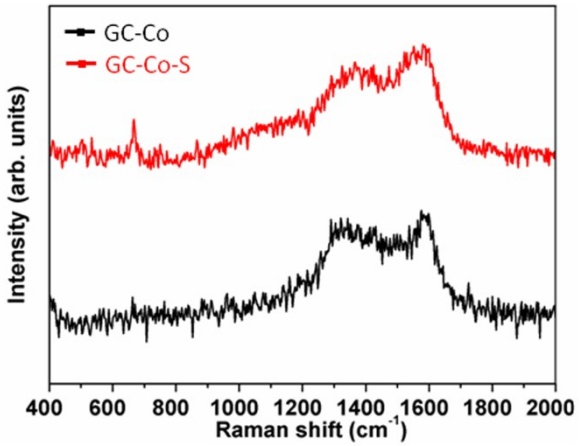
Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.



SI 1 TGA curvesof GC-Co nanocages in air.

Residual product after combustion is Co_3O_4. The content of Co in GC-Co composite = (100-44.2)%x73.4% = 40.9%.



SI 2 Raman spectra of GC-Co and GC-Co-S composites.

Host materials	Sulfur loading (wt%)	Areal sulfur loading (mg cm^{-2})	Capacity loss per cycle	
			Cycles	Loss (%)
GC-Co This work	77	2.0-2.3	500	0.015 (at 1C)
δ-MnO_2 Ref.1	72.5	1.0–1.3	200	0.23 (0.1 Ag^{-1})
Hollow Co_3S_4 Ref.2	53	2.5	450	0.079(at 1C)
Hollow TiO_2 Ref.3	70	1.5	500	0.08 (at 0.5C)
N-Doped N-HPCB Ref.4	70	1.1-1.5	400	0.1 (at 1C)
MnO_2@HCF Ref.5	71	3.5	300	0.085 (at0.5C)
hollow MnO_2 Ref.6	75.5	2.3-2.7	1500	0.028 (at 0.5C)
Hollow TiO_2 Ref. 7	53	0.4-0.6	1000	0.033 (at 0.2C)
G–NDHCS Ref.8	78	3.9	200	0.19 (at 0.5C)

SI 3 A comprehensive comparison on electrochemical performances of this work and the other similar structures.

Reference

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