

Design and Synthesis of Cobalt-Based Hollow Nanoparticles through the Liquid Metal Template

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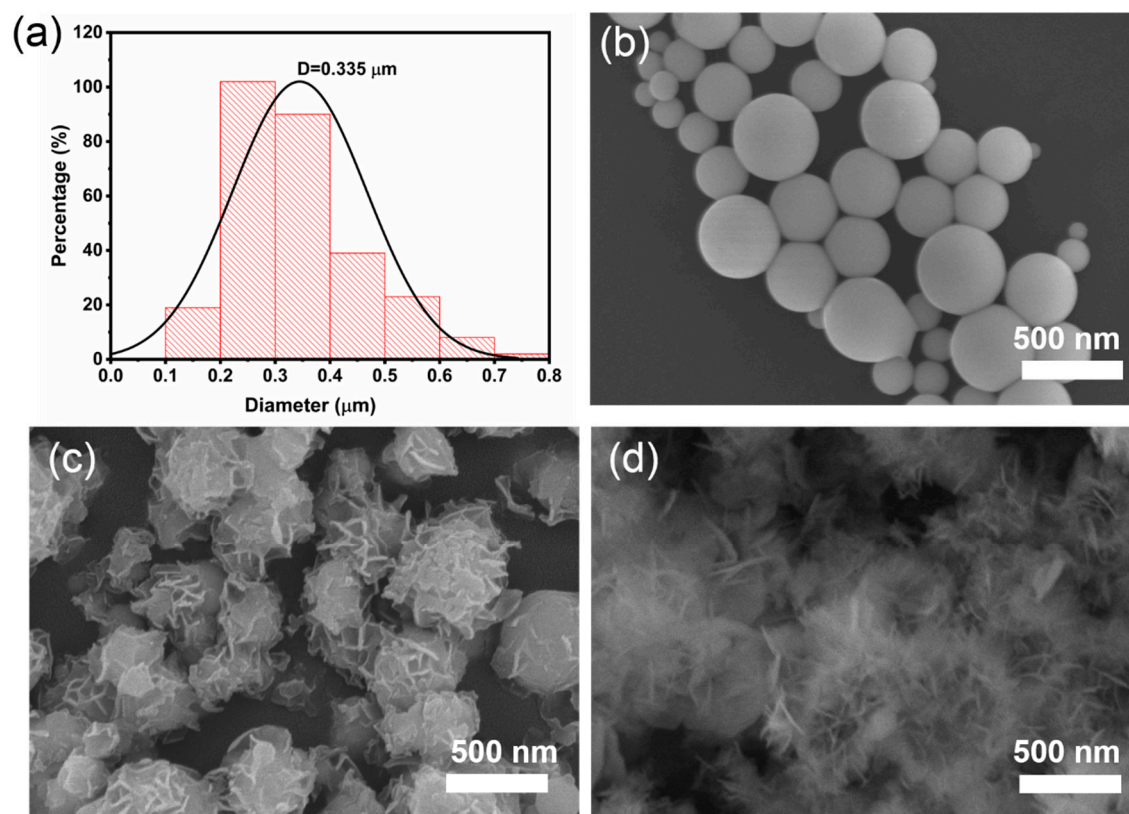


Figure S1. (a) The particle size distributions obtained from Figure 1; the larger magnification SEM images of (b) GaZn nanoparticles; (c) CoOOH/Ga; (d) Co(OH)₂.

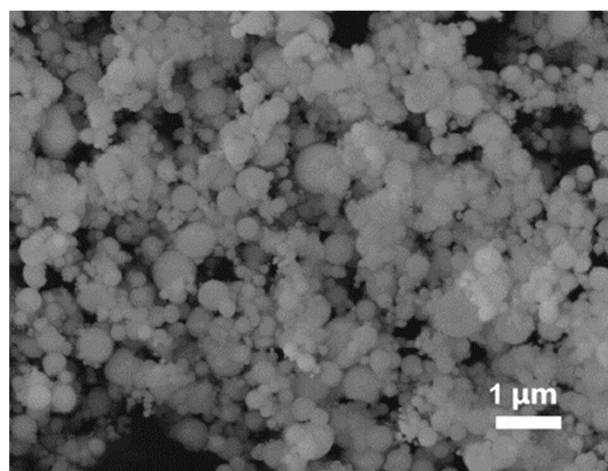


Figure S2. The SEM image of pure Ga nanoparticles reacting with Co solution.

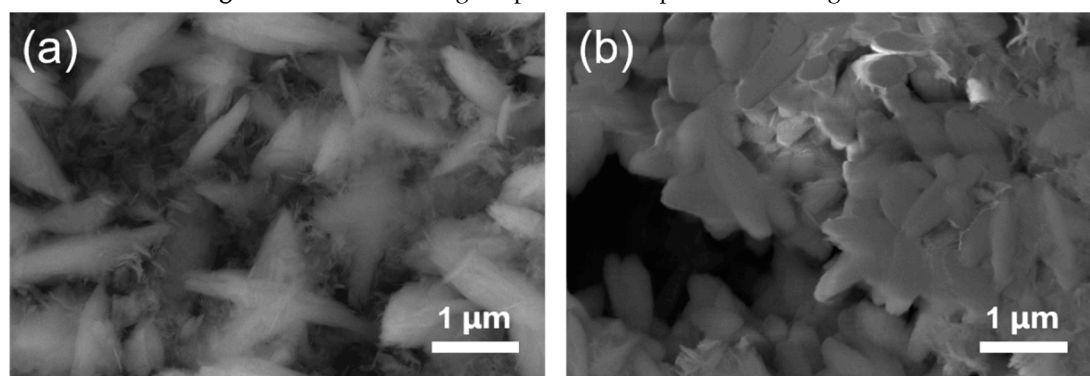


Figure S3. The SEM images of different quality CoOOH/Ga nanoparticles placed in ammonia solution with pH ~ 11.3 (a) Co(OH)₂/Ga-40; (b) Co(OH)₂/Ga-60.

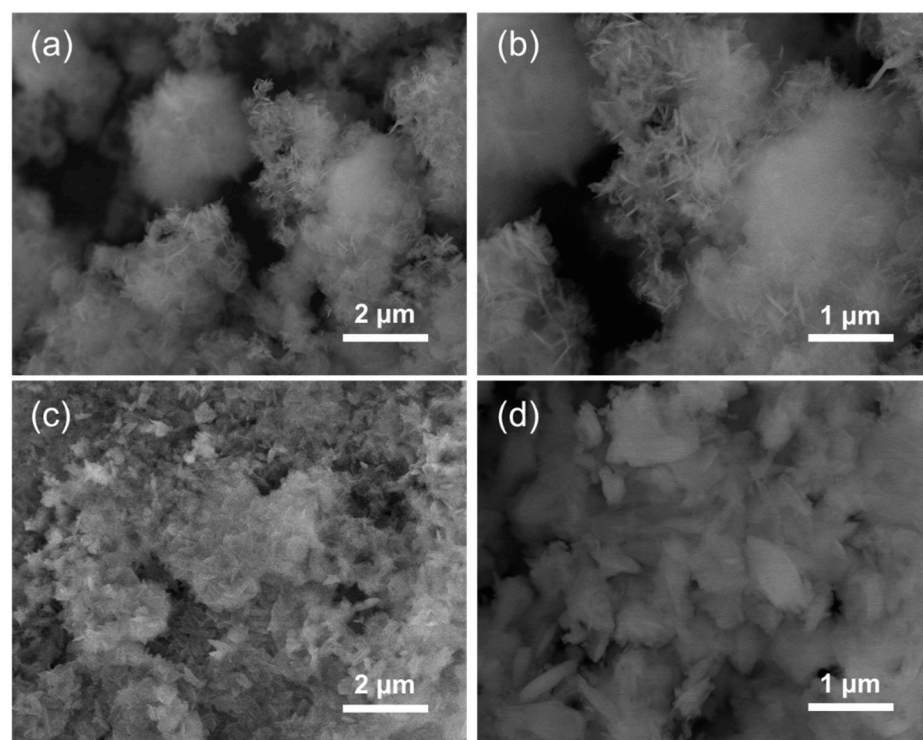


Figure S4. The SEM images of (a, b) the sample of CoOOH/Ga template was cleaned by ammonia solution with pH~12.3; (c, d) the samples of CoOOH/Ga were cleaned by NaOH solution with pH~11.3.

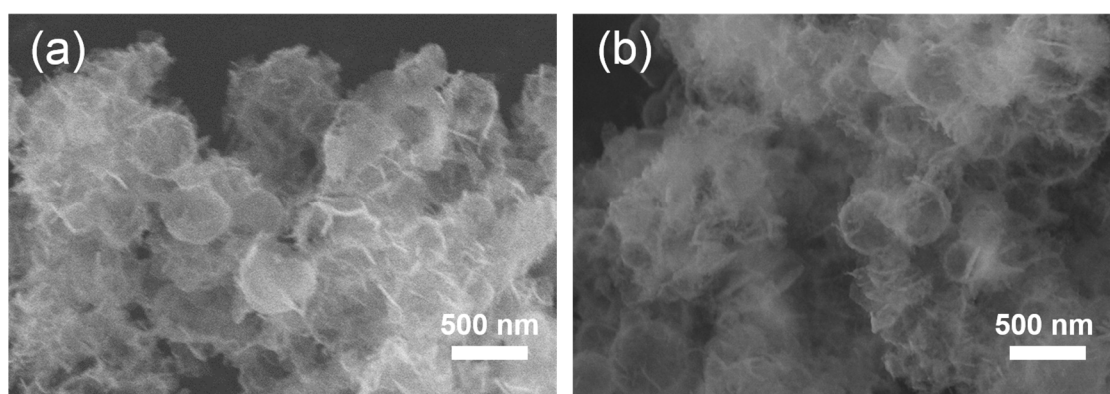


Figure S5. the larger magnification SEM images of (a) CoSe₂ and (b) CoS₂.

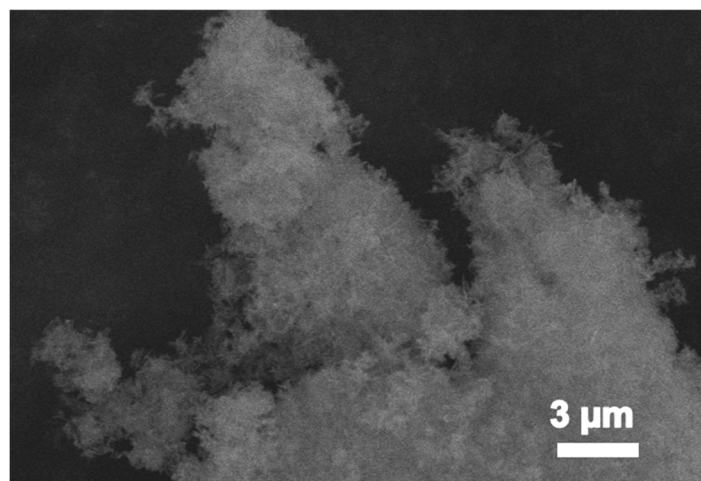


Figure S6. The SEM image of CoSe₂-450.

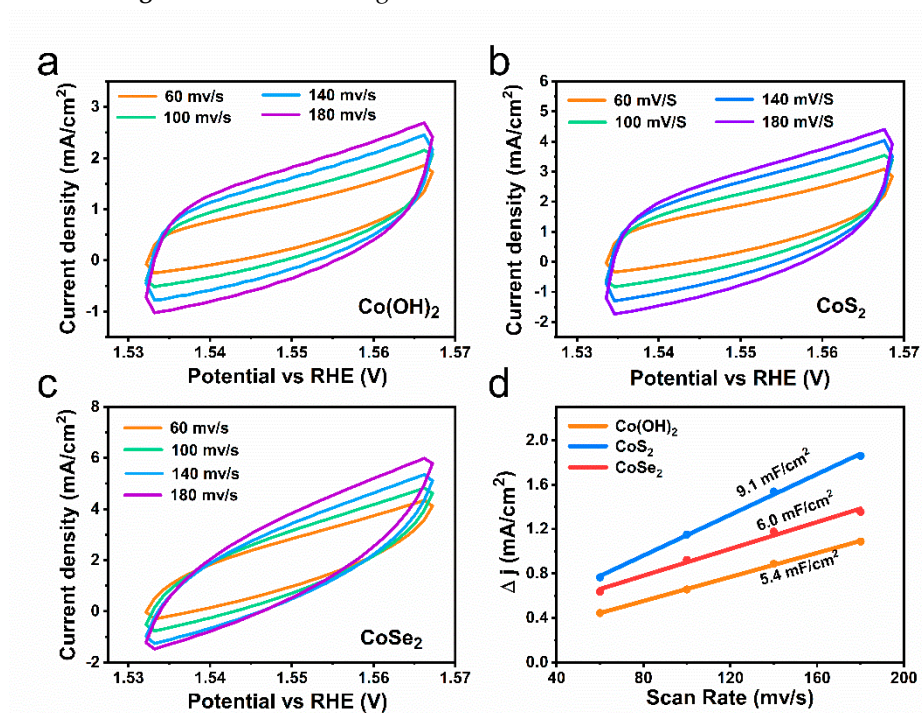


Figure S7. Electrochemical capacitance measurements with different scan rates from 60 to 180 mV/s in 1 M KOH solution of (a) Co(OH)₂; (b) CoS₂; (c) CoSe₂; (d) The double layer capacitance (C_{dl}) results for all samples.

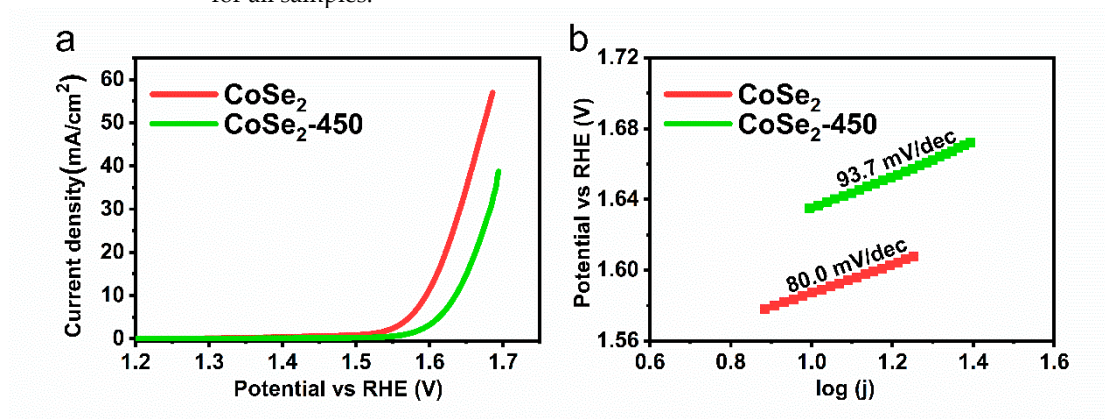


Figure S8. (a) The OER polarization curves and (b) Tafel plots of CoSe₂ and CoSe₂-450.

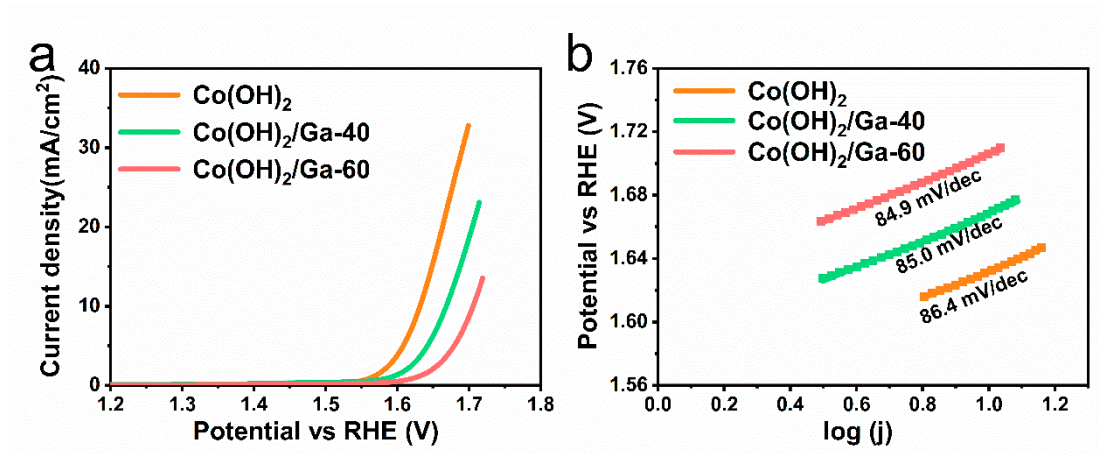


Figure S9. (a) The OER polarization curves and (b) Tafel plots of Co(OH)₂, Co(OH)₂/Ga-40 and Co(OH)₂/Ga-60.