

Supporting Information

Size-Controlled Synthesis of Bifunctional Magnetic and Ultraviolet Optical Rock-Salt MnS Nanocube Superlattices

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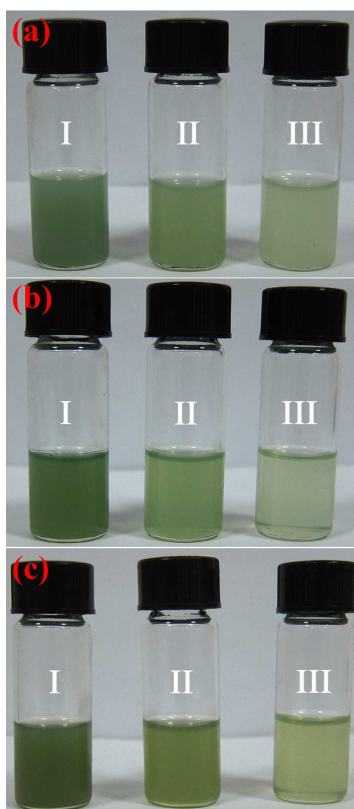


Figure S1 Digital photographs of the as-synthesized RS-MnS nanocubes dispersed in hexane (a), chloroform (b), and toluene (c) with different concentrations: (I) 4.5 M; (II) 2.2 M; (III) 0.6 M.

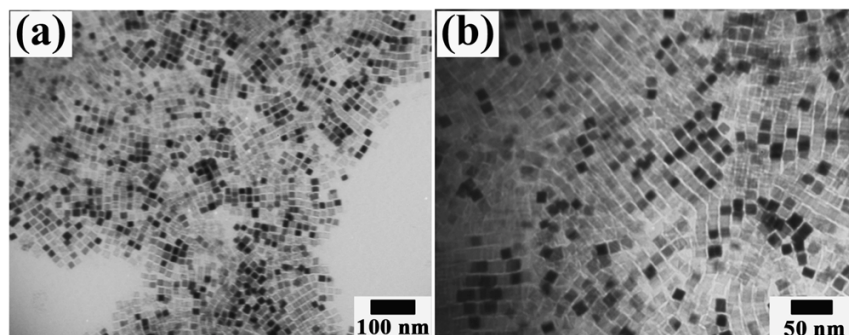


Figure S2 TEM images of RS-MnS nanocube superlattices obtained at 250 °C for 30 min: (a) the simple-cubic packing lattice, (b) the 1D shifted simple-cubic packing pattern.

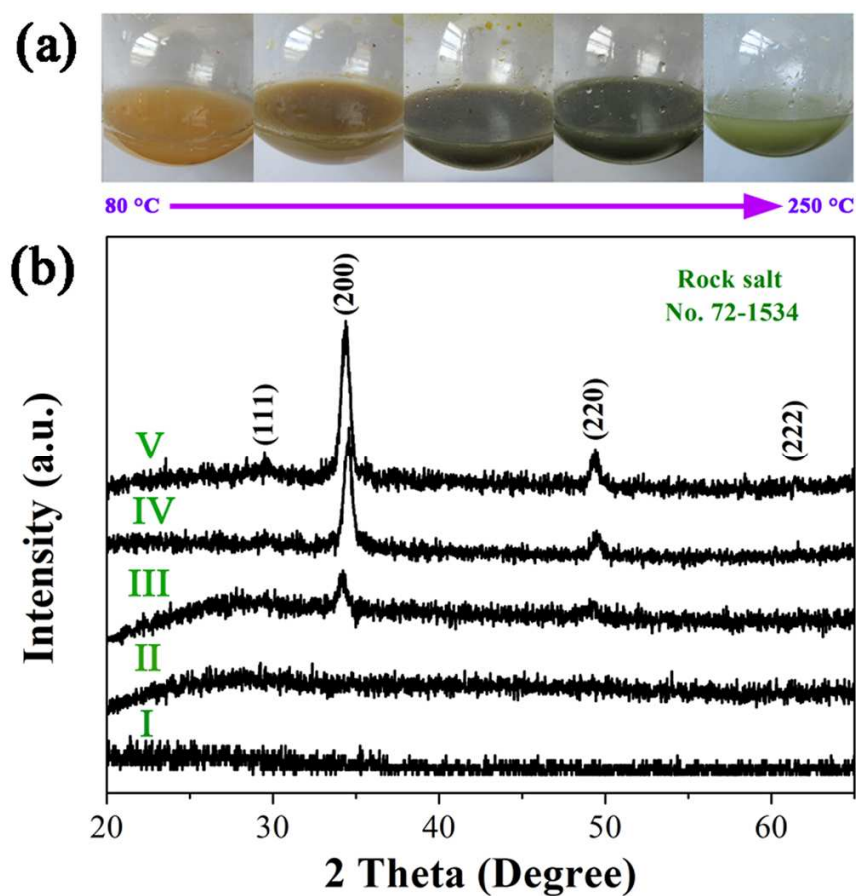


Figure S3 (a) Digital photographs of the phenomena occurring at different reaction durations. (b) XRD patterns of the sample obtained at different reaction temperatures: (I) 80 °C, (II) 90 °C, (III) 100 °C, (IV) 150 °C, (V) 200 °C.

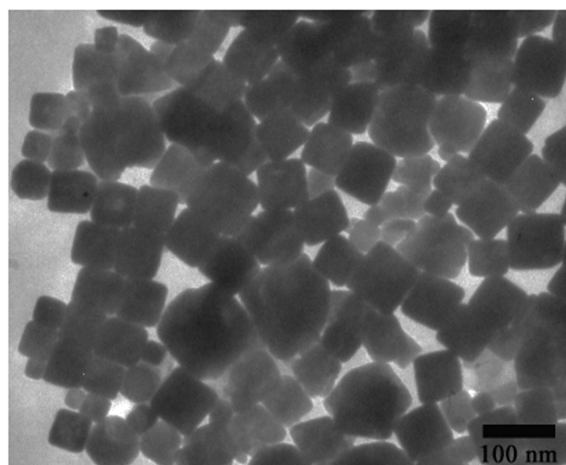


Figure S4 A TEM image of RS-MnS nanocubes obtained at 250 °C for 180 min.

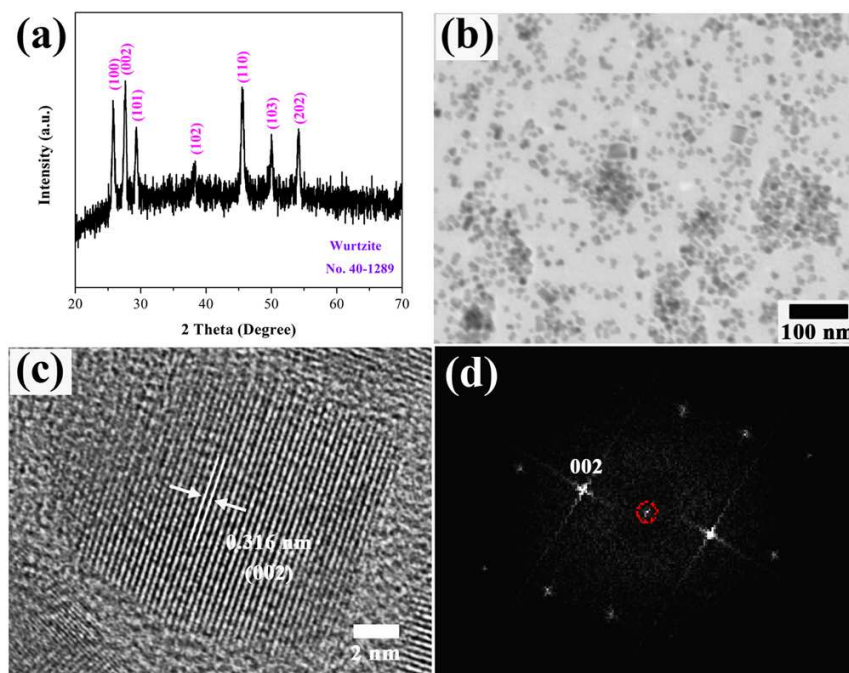


Figure S5 WZ-MnS nanorods obtained at 250 °C for 30 min (a) XRD patterns; (b) TEM images; (c) HRTEM images; (d) corresponding FFT patterns.

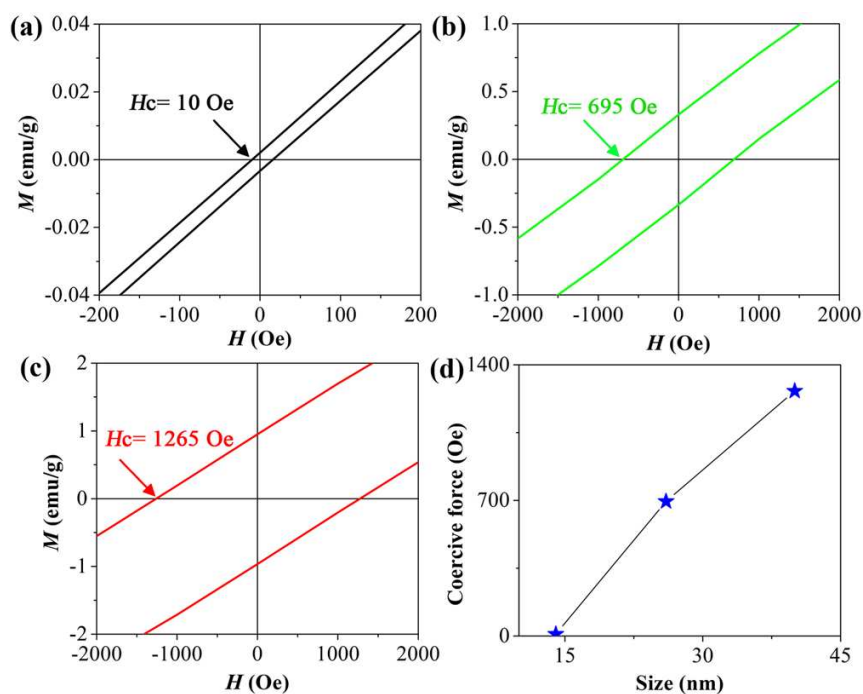


Figure S6 (a), (b) and (c) show the region around zero fields for 14, 26, 40 nm RS-MnS nanocubes measured at 5 K and 30 KOe, respectively. (d) The variation of coercive force with different edge length in the nanocubes.