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## **Supporting information**

## Large magnetic entropy change at cryogenic temperature in rare earth HoN

## nanoparticles

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## Figures





1



Figure S2: Isothermal magnetization isotherms (M-H) measured at different temperatures around  $T_C$  in the magnetic field of 0-5 T for HoN samples (a) H2 (b) H3 and (c) H4.



Figure S3: A set of typical  $M^2$  vs H/M curves obtained for HoN samples (a) H2 (b) H3 and (c) H4.