

Electronic Supplementary Information

Substrate-free Copper Nanoclusters Exhibit Super Diamagnetism and Surface based Soft Ferromagnetism

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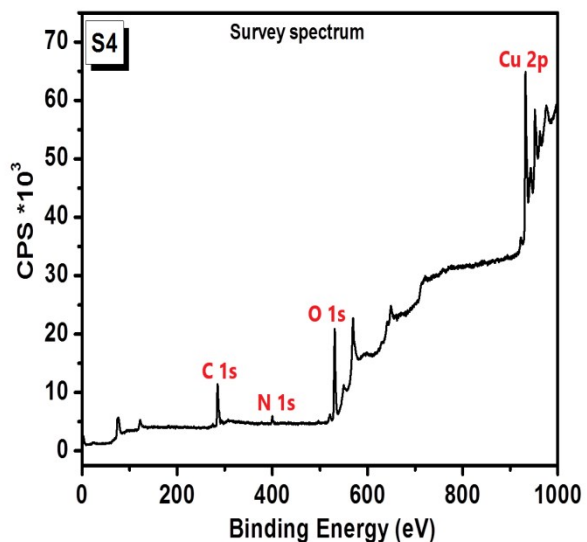
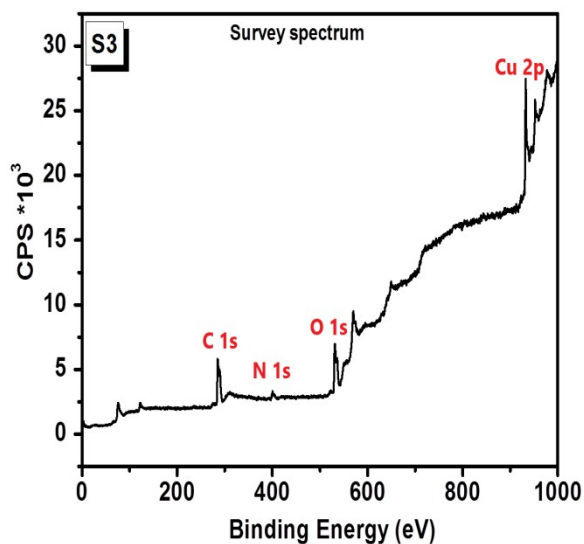
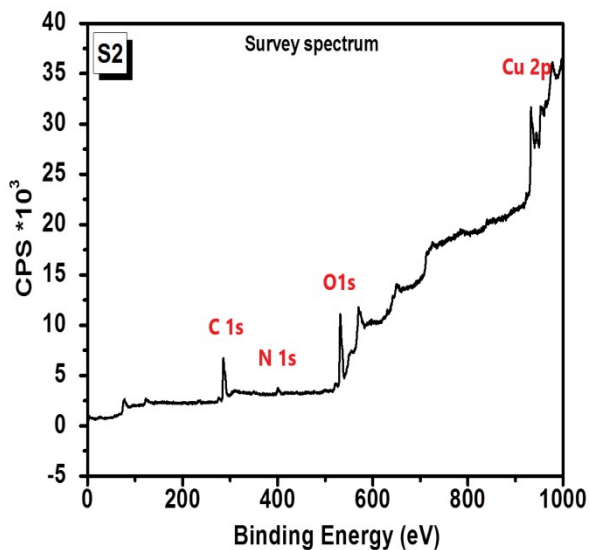


Fig. S1 XPS survey spectrum of S2, S3 and S4 samples.

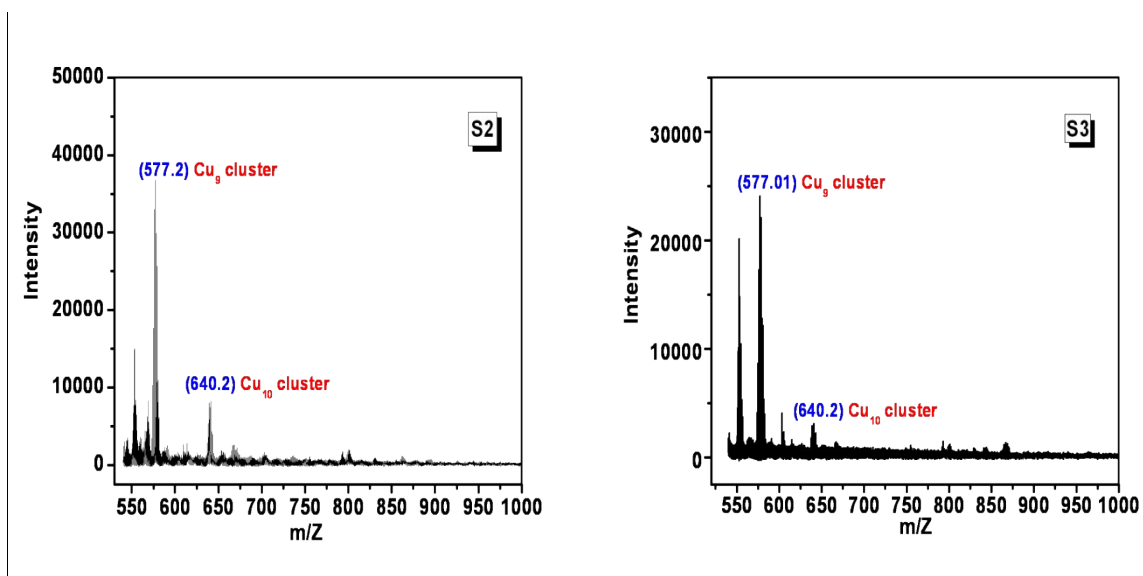


Fig. S2 MALDI-TOF survey spectrum of S2 and S3 sample.

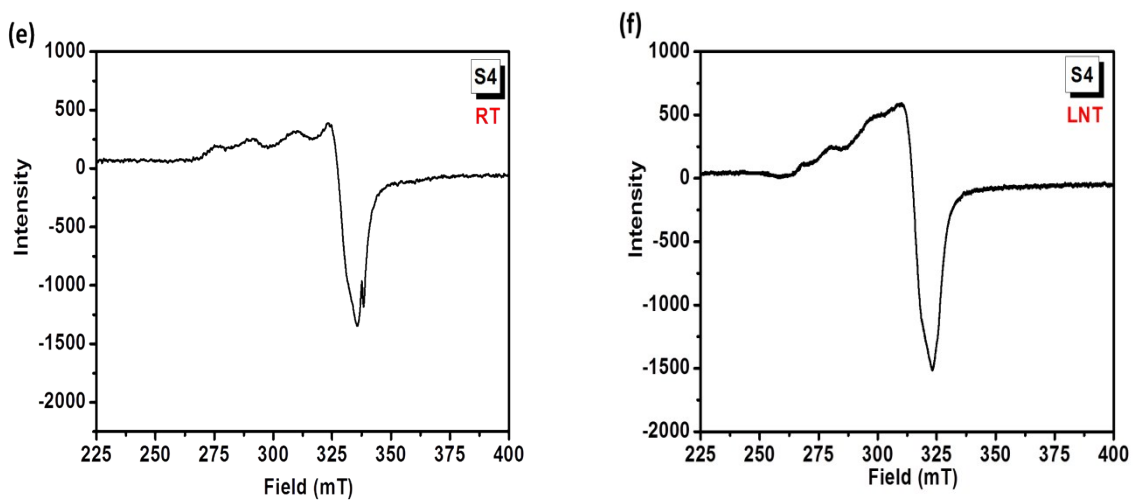


Fig. S3 ESR analysis of S4 sample at RT and LNT.

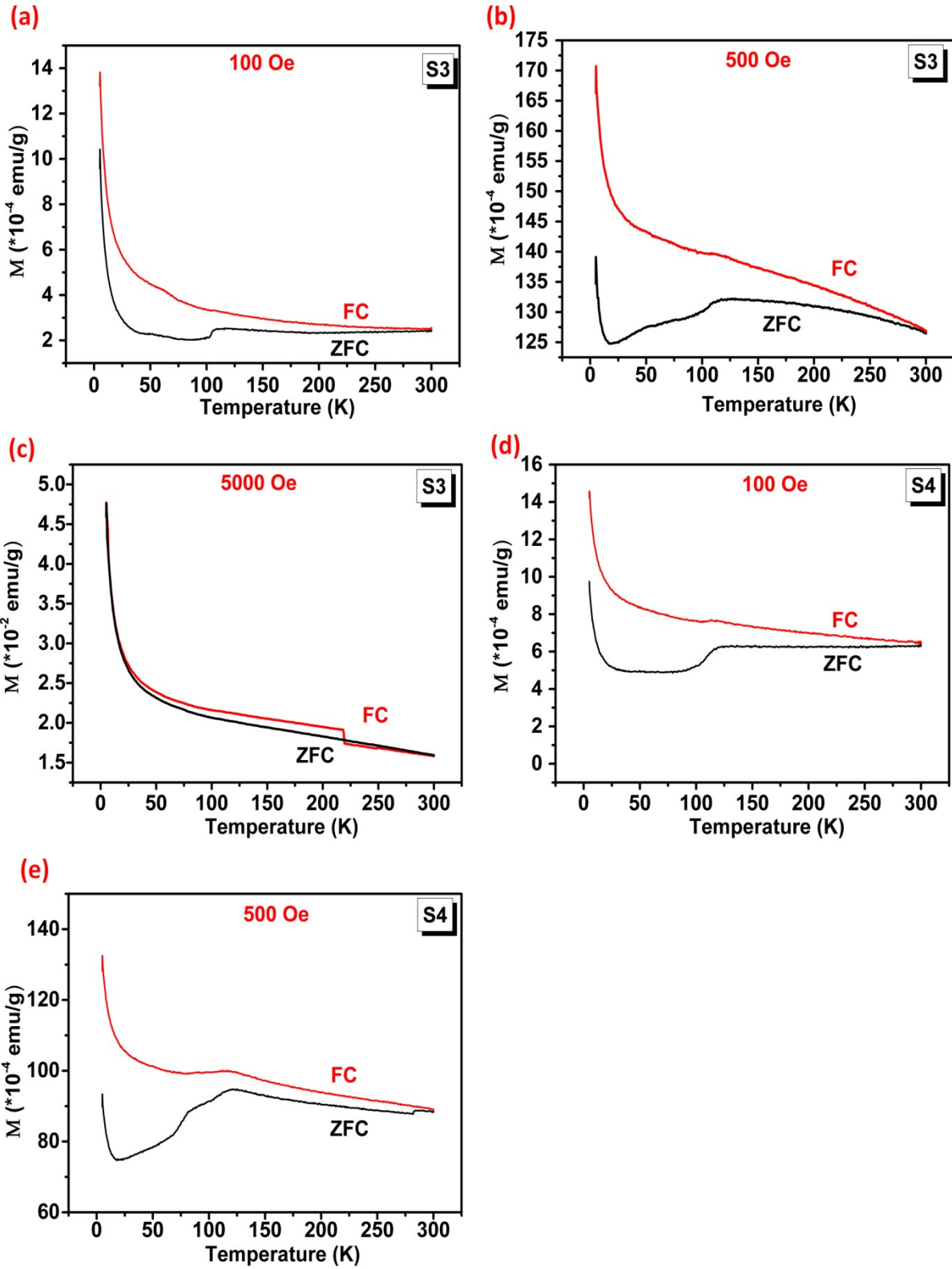


Fig. S4 Magnetic Susceptibility (χ) curves of S3 (a, b) and S4 (d,e) at 100 Oe and 500 Oe respectively and at 5000 Oe for S3 (c).

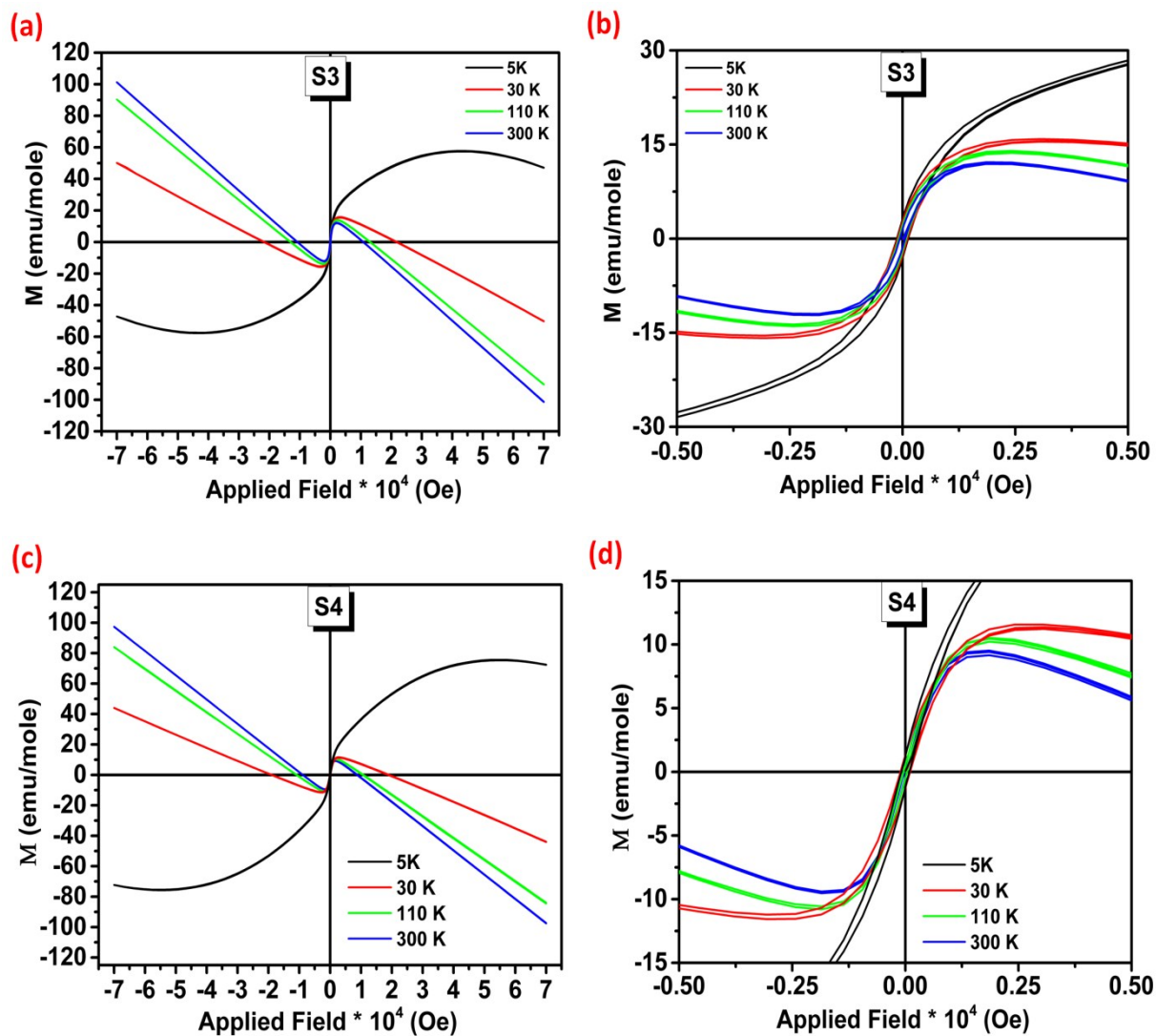


Fig. S5 Magnetization curves of S3 (a,b) and S4 (c,d) from -7 T to +7T and in the contracted field sweep of -0.5T to +0.5T. The latter is given only to emphasize the presence of both a ferromagnetic and a diamagnetic components.