Electronic Supplementary Information

Magnetically assembled iron oxide nanoparticle coatings and their integration with pseudo-spin-valve thin films

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Fig. S1 TEM image of the synthesized iron oxide nanoparticles capped by lauric acid.



Fig. S2 SEM image of the randomly aggregated nanoparticle coating on Si fabricated without applied magnetic field (sample NC-ref).



Fig. S3 Optical micrograph of the magnetically assembled nanoparticle coating on Si fabricated with r = 2 (volume ratio of toluene to terpineol 2:1) showing obvious cracks.



Fig. S4 (a) Optical micrograph and (b) SEM image of the magnetically assembled nanoparticle coating on Si fabricated using pure toluene as the carrier solvent showing the presence of obvious defects and the absence of highly ordered structure.



Fig. S5 Optical micrograph of the magnetically assembled nanoparticle coating on Si fabricated using pure terpineol as the carrier solvent showing that the coating is thick and non-uniform.