



Figure 5: Day plot and  $M_{RS}/M_S$  and coercivity against particle size. a) The Day plot (Day et al., 1977) contains data for SD particles up to 60 nm; however, we know from the micromagnetic solutions that vortices form from 50 nm onward. Particles with size from 62 to 72 nm plot in an unexpected region. Particles larger than 74 nm plot with lower  $M_{RS}/M_S$  and higher  $B_{CR}/B_C$  values. b) Remanence (circles) and coercivity (triangles) versus particle size.