

Supplementary Material

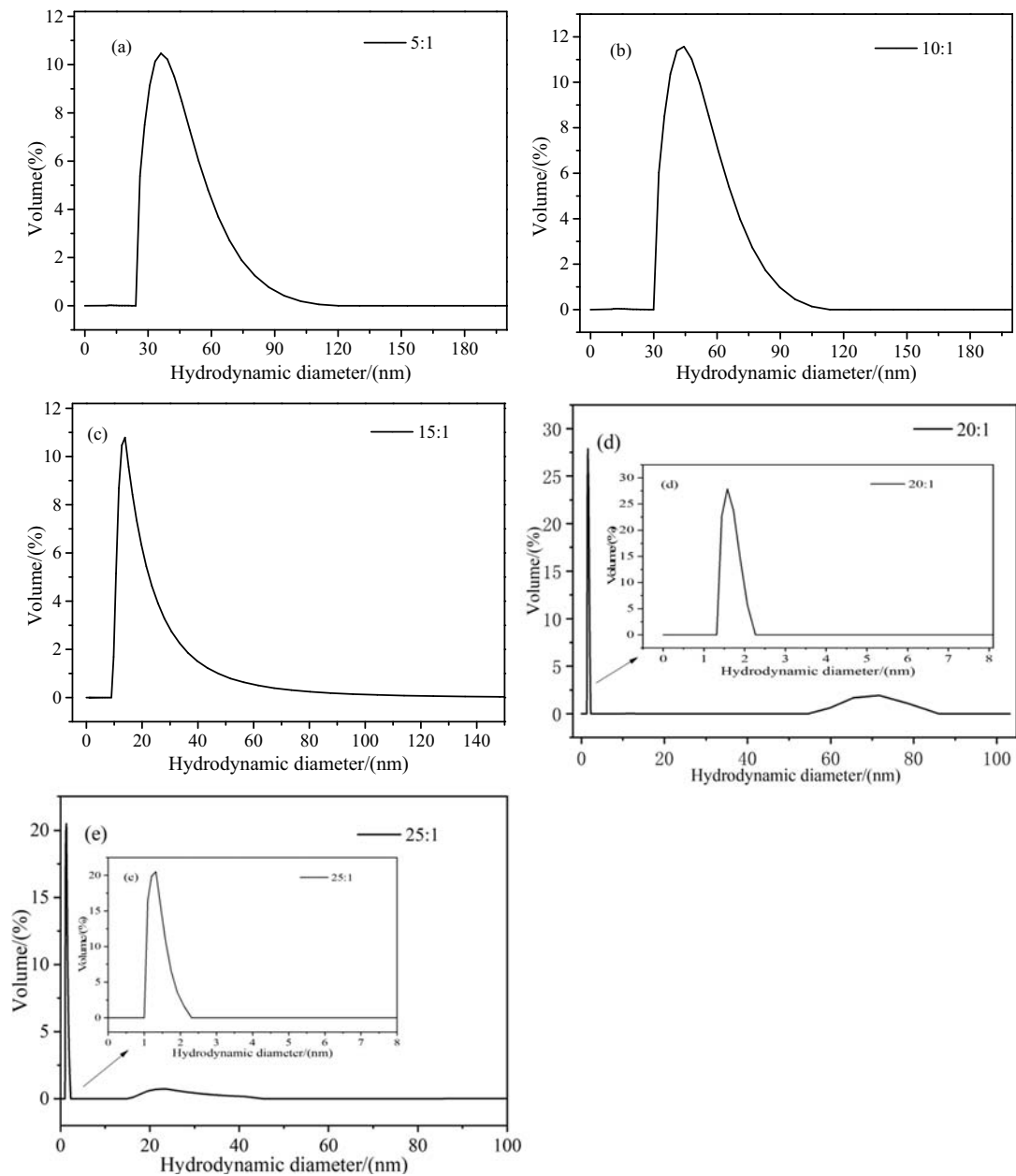


Figure S1: Hydrodynamic diameter distribution of the magnetic nanoparticles with different ratios between DDT and MAA.

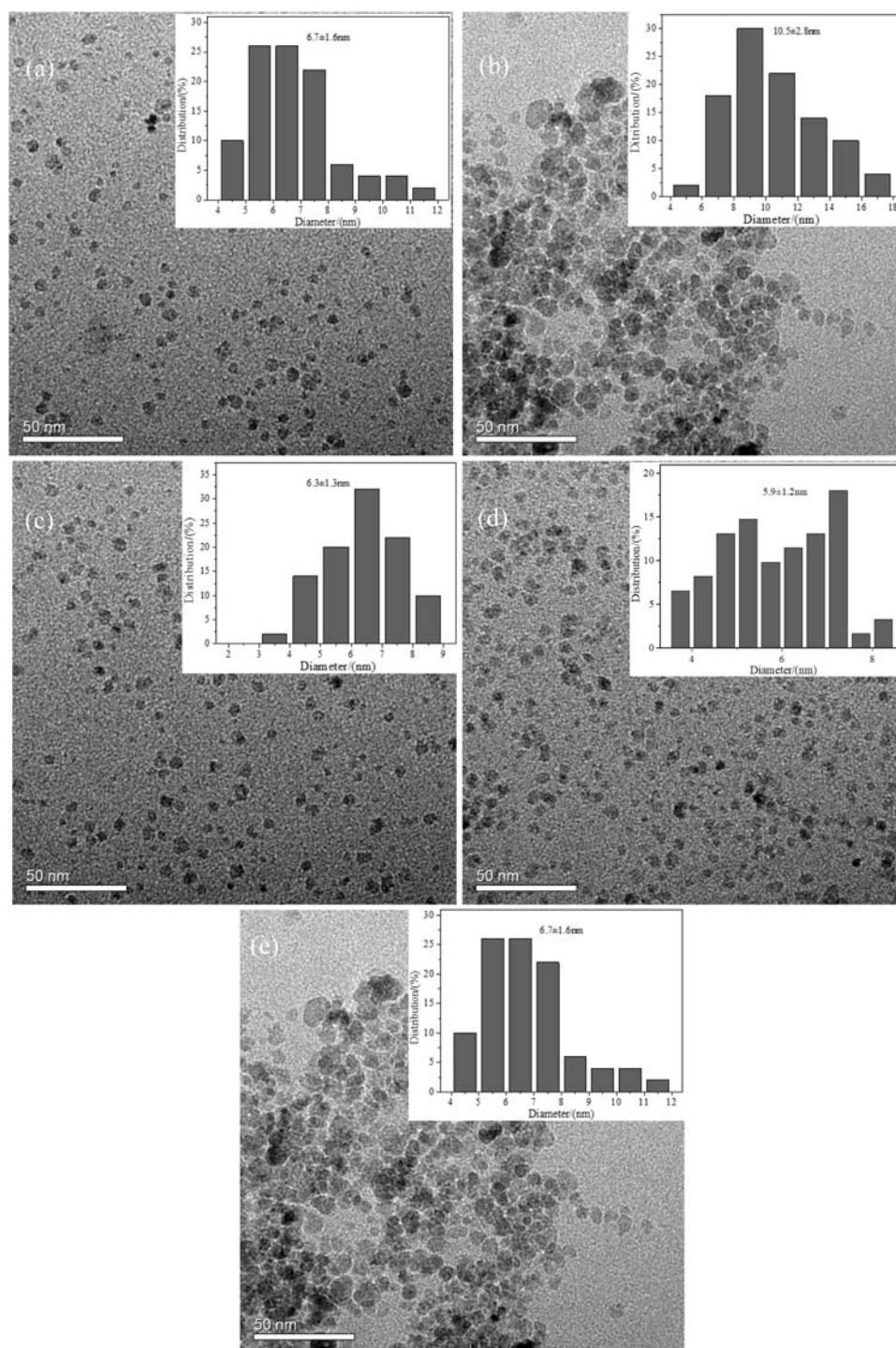


Figure S2: TEM of the Fe_3O_4 @DDT-PMAA MFs at (a) 5:1; (b) 10:1; (c) 15:1; (d) 20:1; (e) 25:1, respectively. The scale bars are all in 50 nm.

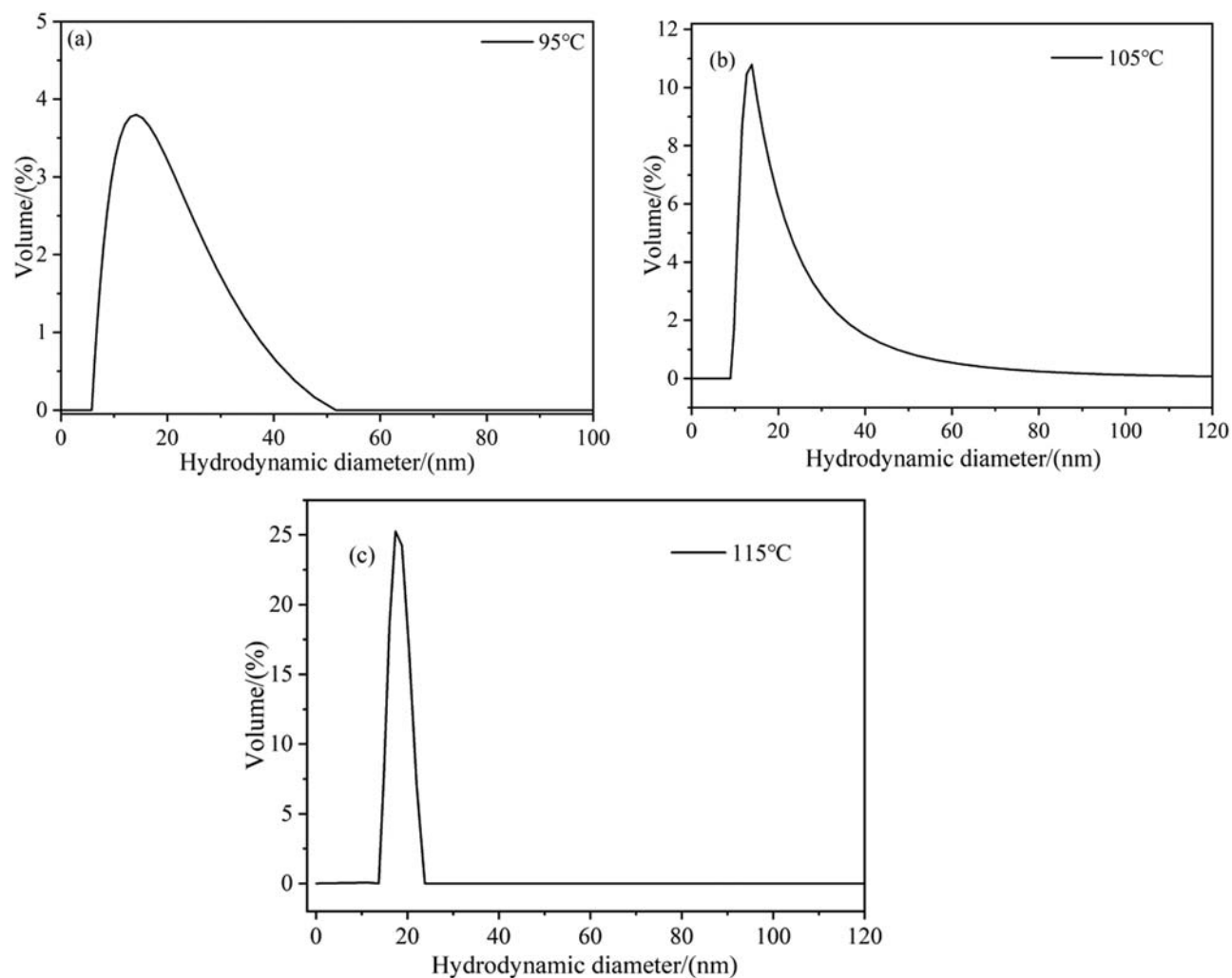


Figure S3: Hydrodynamic diameter distribution of the magnetic nanoparticles at different reaction temperature.

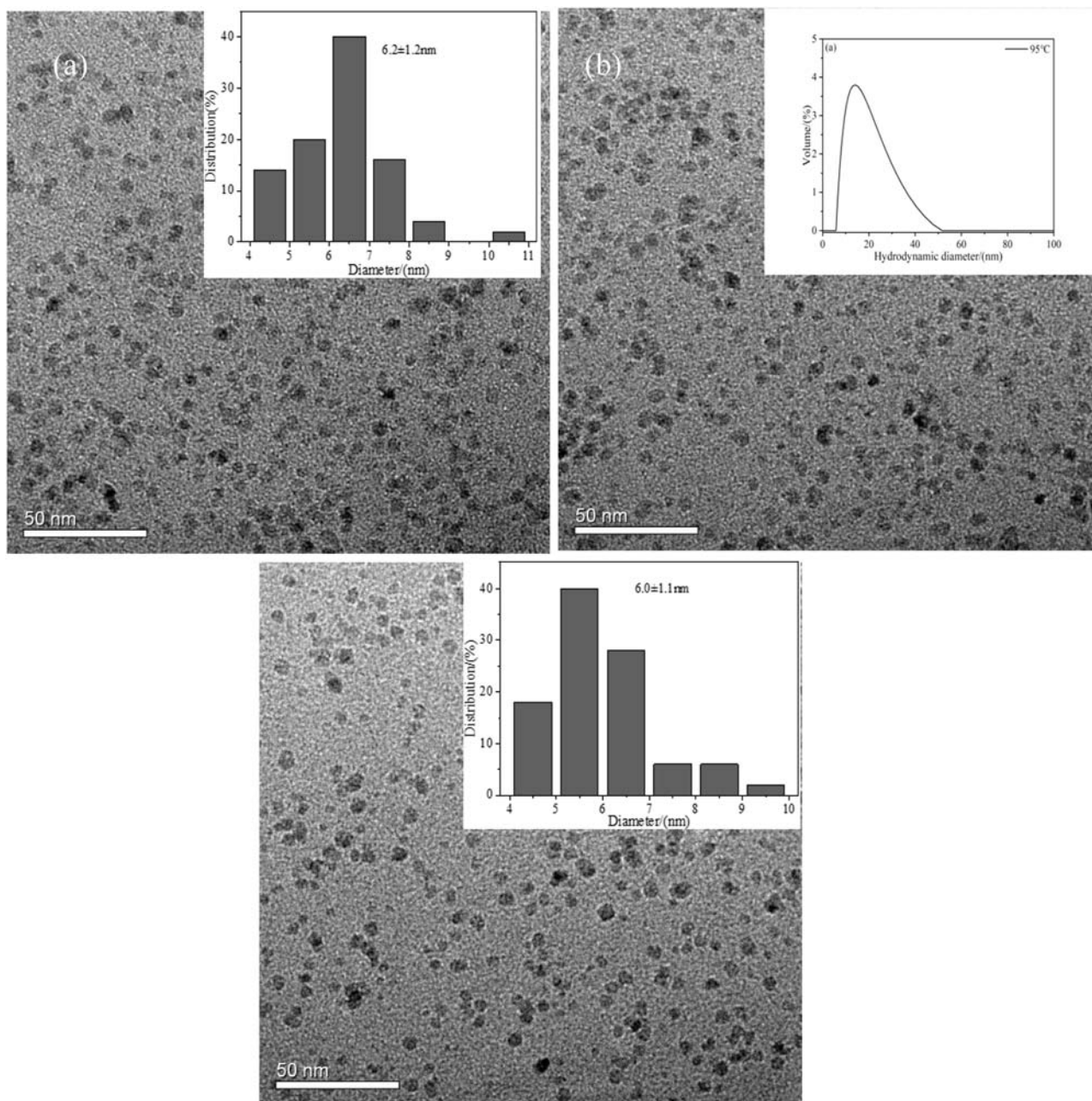


Figure S4: TEM of the $\text{Fe}_3\text{O}_4@DDT\text{-PMAA MF}$ at (a) 95°C; (b) 105°C; (c) 115°C, respectively, the scale bars are all in 50 nm.

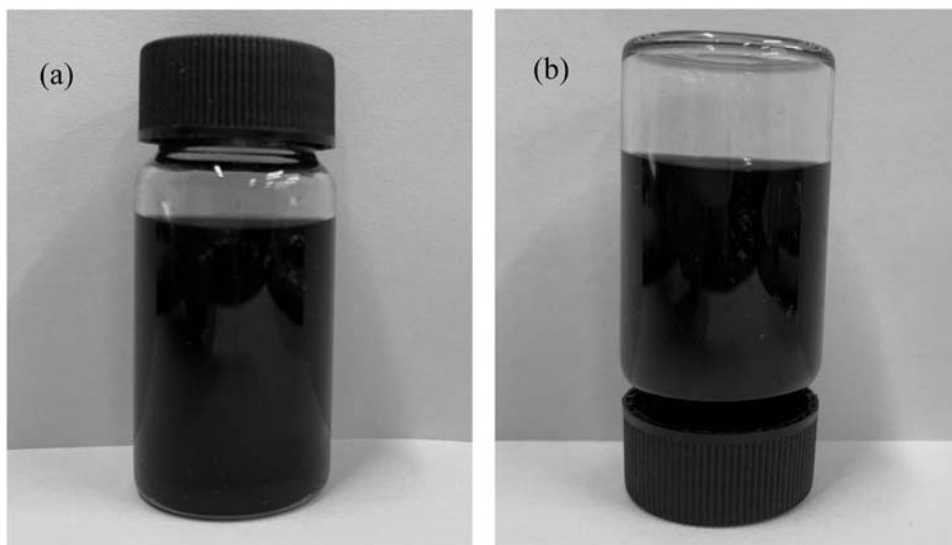


Figure S5: Photos of $\text{Fe}_3\text{O}_4@\text{DDT-PMAA}$ MF, being fresh and rested for 120 days.

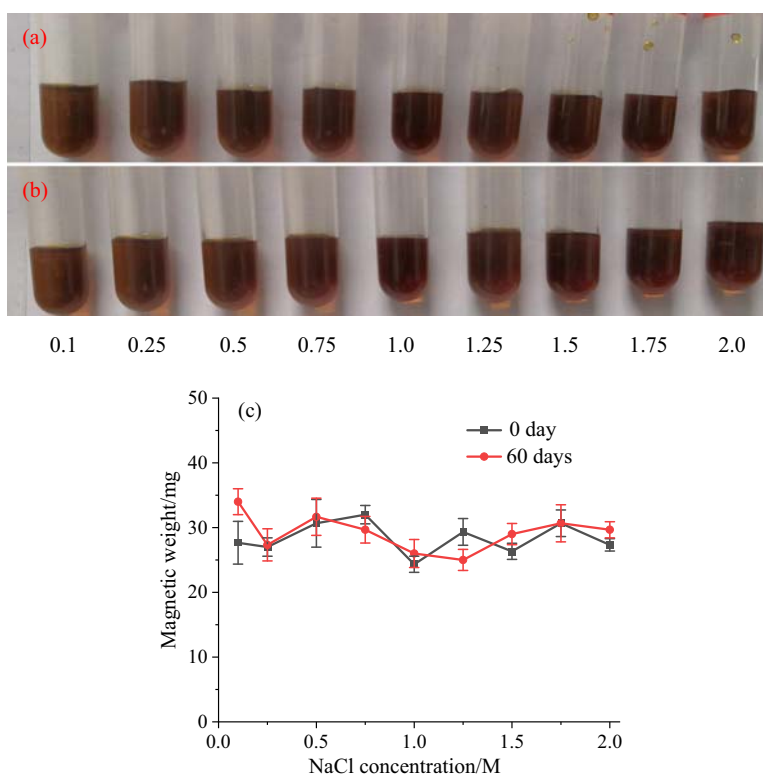


Figure S6: $\text{Fe}_3\text{O}_4@\text{DDT-PMAA}$ MF in different salt concentration with different time, (a,b) Photos for 0 day and 60 days; (c) magnetic weight with different time(200 mT).

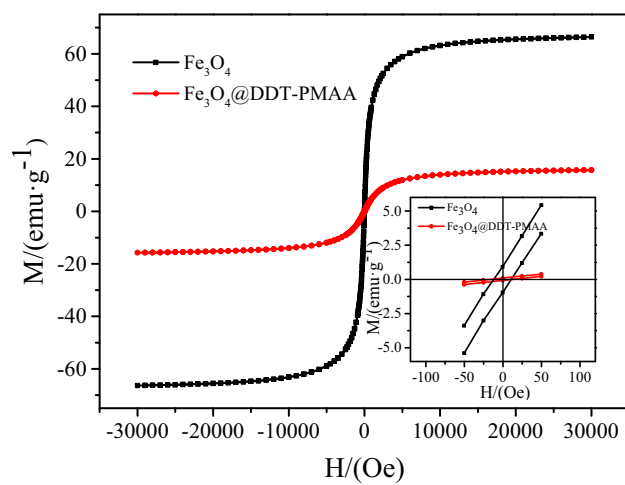


Figure S7: Hysteresis loop curves of bare Fe_3O_4 and $\text{Fe}_3\text{O}_4@\text{DDT-PMAA}$ magnetic nanoparticles inset: hysteresis loops of both samples at low external magnetic field.