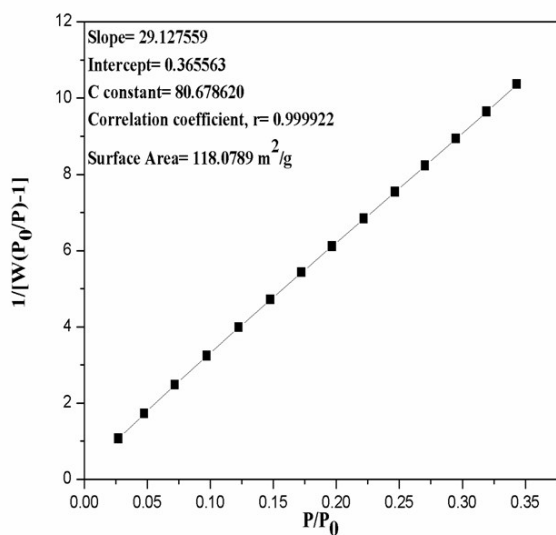
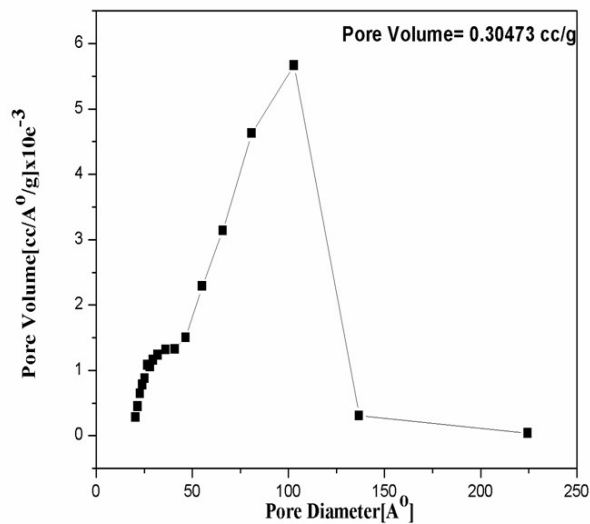


Table A. List of Abbreviations

Fe₃O₄	Iron oxide magnetic nanoparticles
SiO₂	Silicon oxide
Fe₃O₄@SiO₂	Iron oxide coated with Silica
Fe₃O₄@SiO₂-Pr-NH₂(APTMS)	Amine (3-Aminopropyltrimethoxy Silane) coated silica magnetic nanoparticles
Fe₃O₄@SiO₂-Pr-NH₂(APTES)	Amine (3-Aminopropyltriethoxy Silane) coated silica magnetic nanoparticles
Fe₃O₄@SiO₂-Pr-NH-SO₃H(AM)	Chlorosulphonic acid coating on amine (3-Aminopropyltrimethoxy Silane) coated silica magnetic nanoparticles
Fe₃O₄@SiO₂-Pr-NH-SO₃H(AE)	Chlorosulphonic acid coating on amine (3-Aminopropyltriethoxy Silane) coated silica magnetic nanoparticles
MNPs	Magnetic nanoparticles
TMSCN	Trimethylsilyl cyanide
TEOS	Tetraethylorthosilicate
CDCl₃	Deuterated chloroform
Fe₂(SO₄)₃	Iron(III) sulfate
FeSO₄	Iron(II) sulfate
NH₄OH	Ammonium hydroxide
DCM	Dichloromethane
BaCl₂	Barium dichloride
NaHCO₃	Sodium bicarbonate
FT-IR	Fourier transform infrared spectroscopy
XRD	X-ray diffraction
VSM	Vibrating sample magnetometer
TEM	Transmission electron microscopy
TGA	Thermogravimetric analysis
BET	Brunauer–Emmett–Teller
XPS	X-ray photoelectron spectroscopy
NMR	Nuclear magnetic resonance spectroscopy
TLC	<i>Thin-layer chromatography</i>
MHz	Megahertz
Ms	Saturation magnetization
ppm	<i>Parts per million</i>

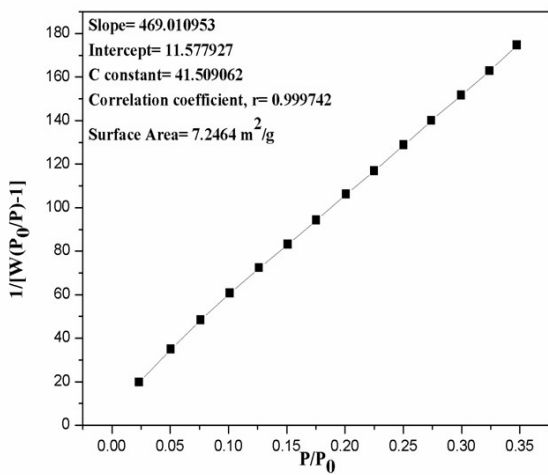


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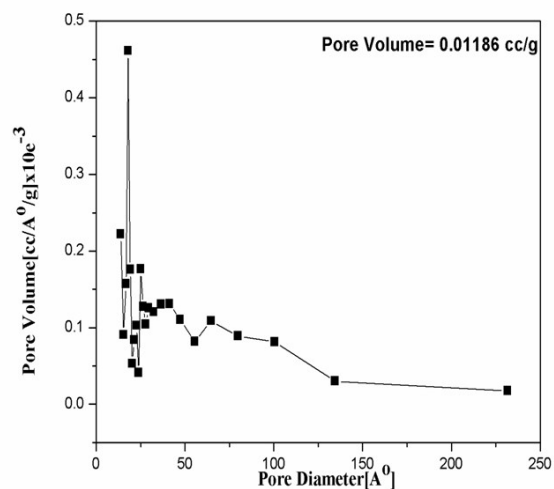


(b)

Fig. 1 (a) Surface area plot of Fe₃O₄ (b) Pore volume plot of Fe₃O₄

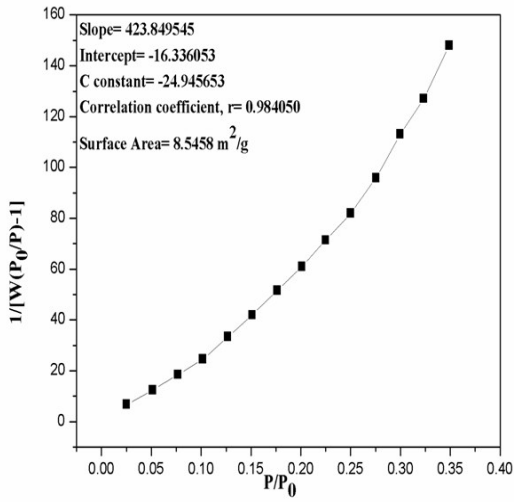


(a)

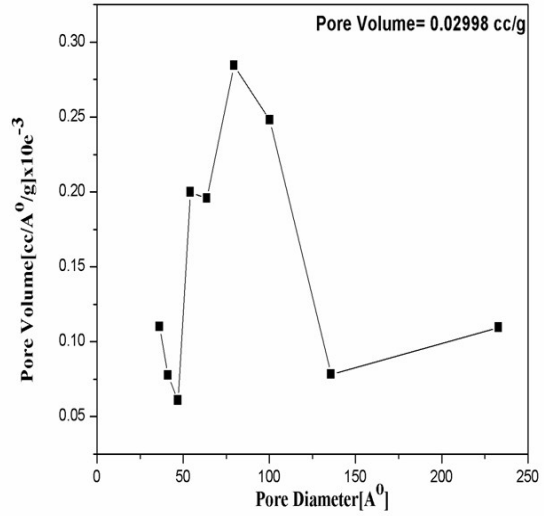


(b)

Fig. 2 (a) Surface area plot of Fe₃O₄@SiO₂ (b) Pore volume plot of Fe₃O₄@SiO₂

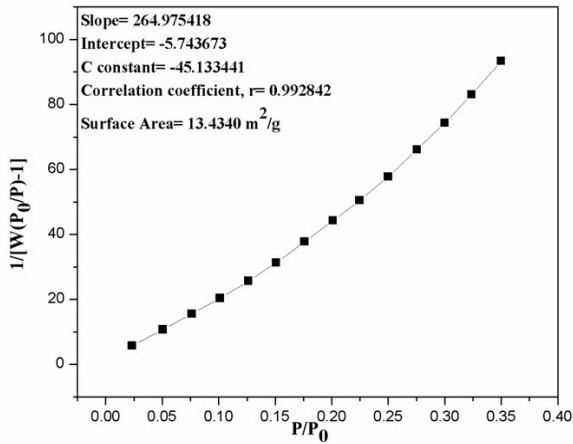


(a)

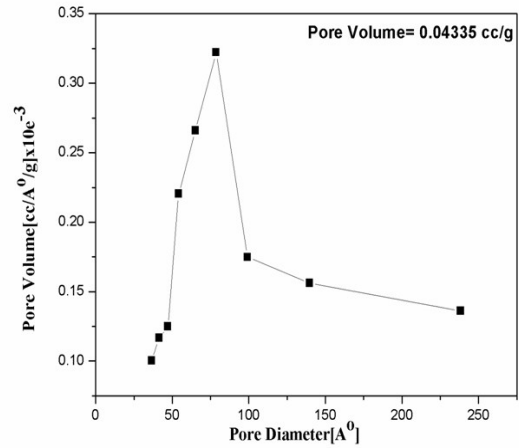


(b)

Fig. 3 (a) Surface area plot of $\text{Fe}_3\text{O}_4@\text{SiO}_2-\text{Pr}-\text{NH}_2(\text{APTMS})$ (b) Pore volume plot of $\text{Fe}_3\text{O}_4@\text{SiO}_2-\text{Pr}-\text{NH}_2(\text{APTMS})$



(a)



(b)

Fig. 3 (a) Surface area plot of $\text{Fe}_3\text{O}_4@\text{SiO}_2-\text{Pr}-\text{NH}_2(\text{APTMS})$ (b) Pore volume plot of $\text{Fe}_3\text{O}_4@\text{SiO}_2-\text{Pr}-\text{NH}_2(\text{APTMS})$