

Supporting Information

for

## **From iron coordination compounds to metal oxide nanoparticles**

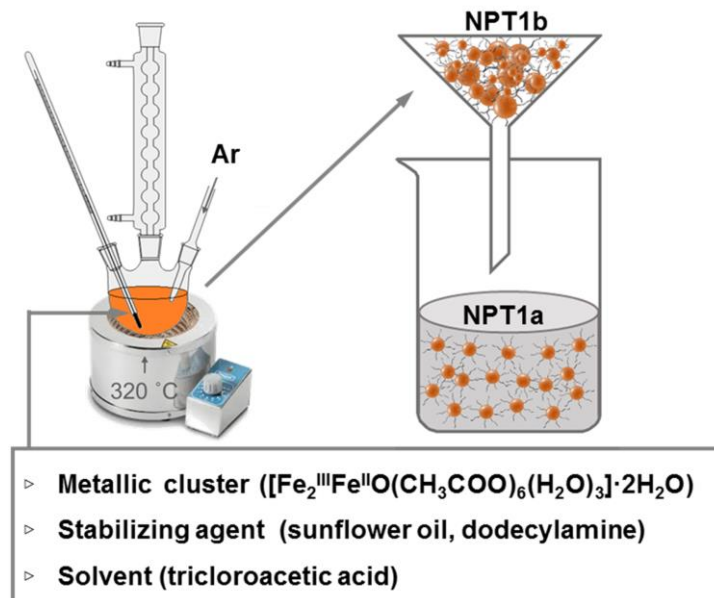
Mihail Iacob<sup>1</sup>, Carmen Racles<sup>1</sup>, Codrin Tugui<sup>1</sup>, George Stiubianu<sup>1</sup>, Adrian Bele<sup>1</sup>, Liviu Sacarescu<sup>1</sup>, Daniel Timpu<sup>1</sup> and Maria Cazacu<sup>1\*</sup>

Address: <sup>1</sup>Inorganic Polymers Department, “Petru Poni” Institute of Macromolecular Chemistry, Aleea Gr. Ghica Voda 41A, Iasi, 700487, Romania

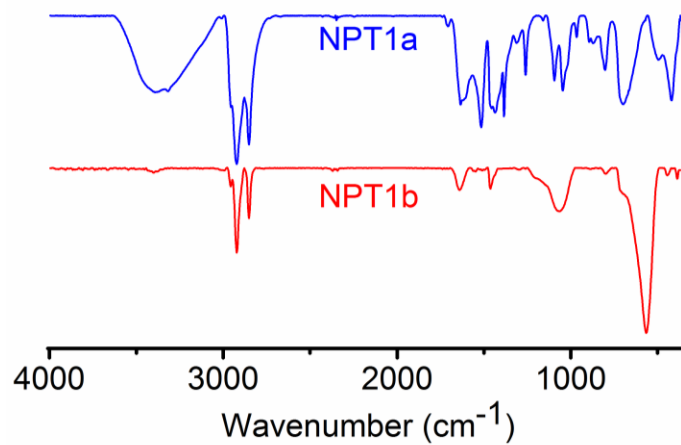
Email: Maria Cazacu - mcazacu@icmpp.ro

\* Corresponding author

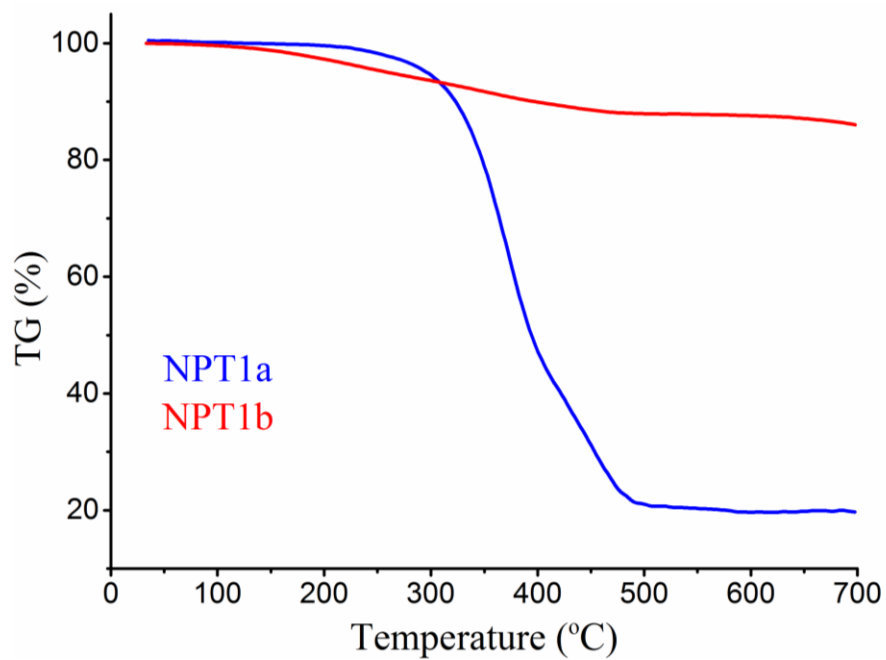
### **Additional experimental data**



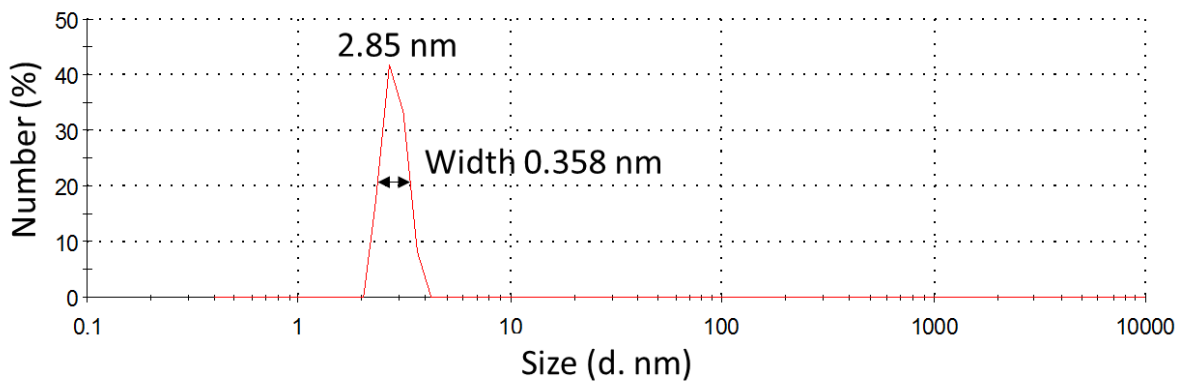
**Figure S1:** Mixed valence iron acetate conversion into iron oxide nanoparticles by thermal decomposition.



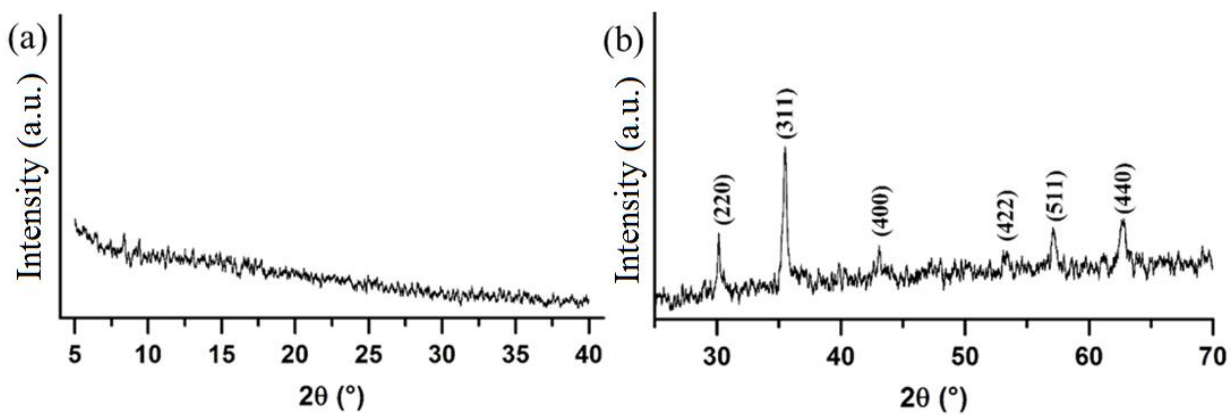
**Figure S2.** FTIR spectra of NPT1 and NPT1b.



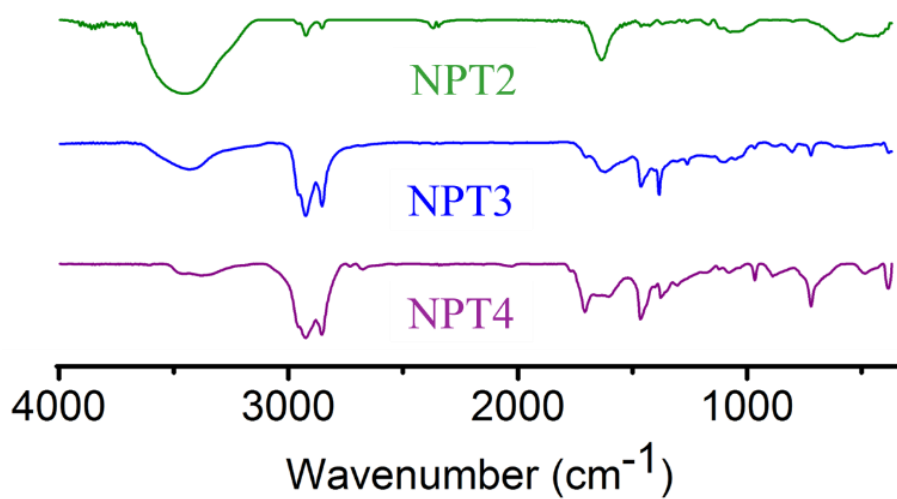
**Figure S3.** TG curves of NPT1 and NPT1b.



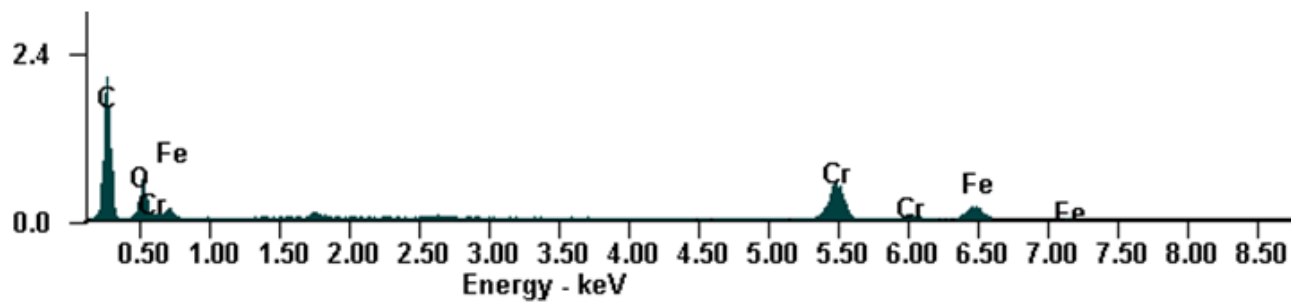
**Figure S4.** Plot of the hydrodynamic diameter distribution by number of the NPT1a.



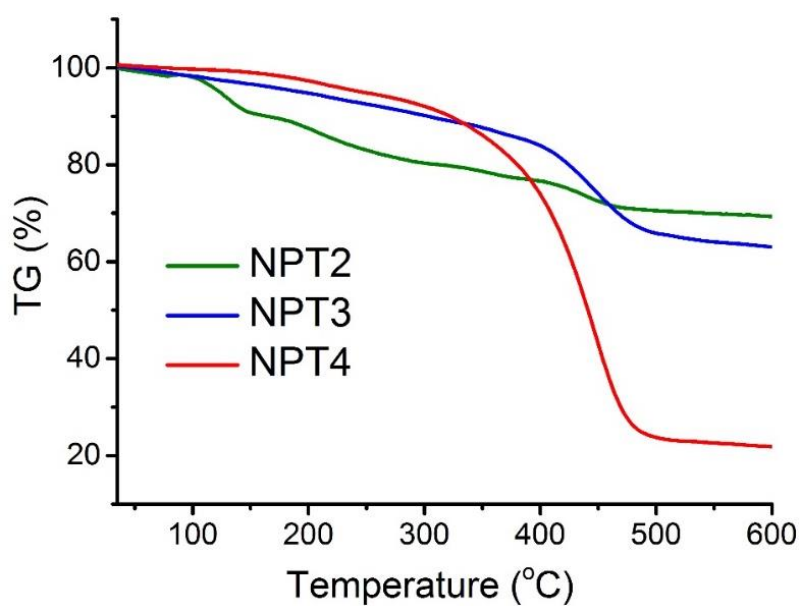
**Figure S5.** XRD pattern (Cu anode) of NPT1a (a) and NPT1b (b).



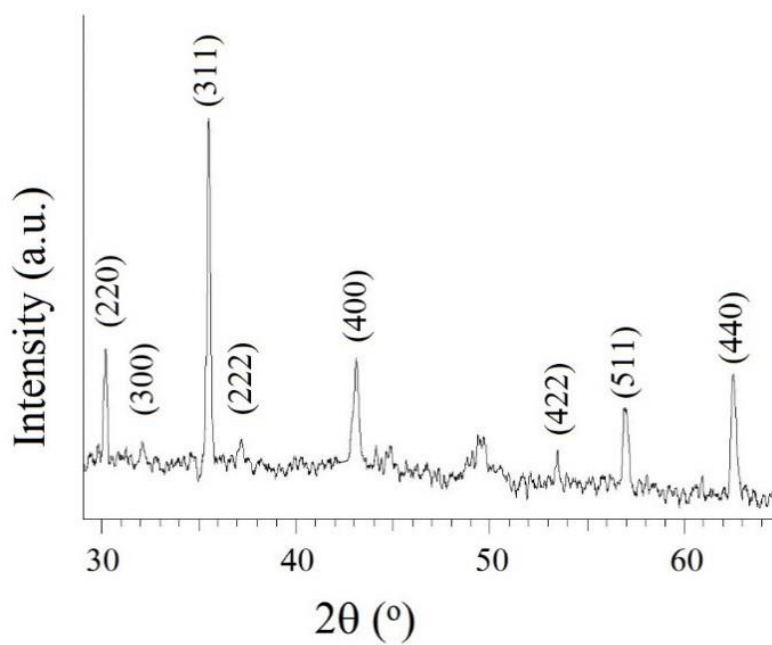
**Figure S6.** FTIR spectra of NPT2-NPT4.



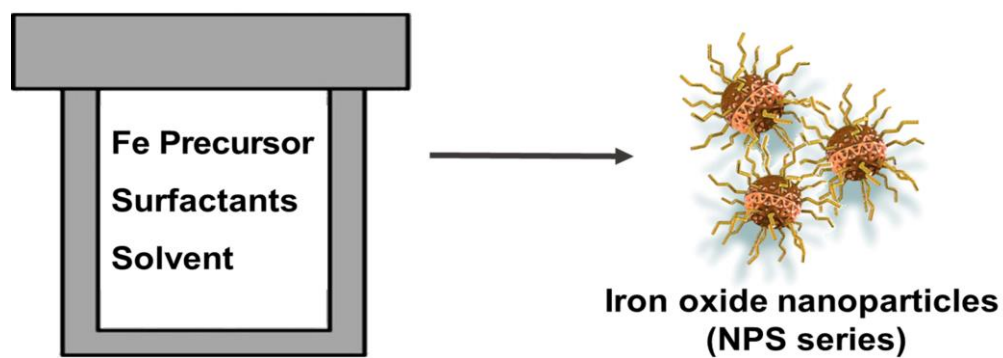
**Figure S7.** EDX spectrum of NPT4.



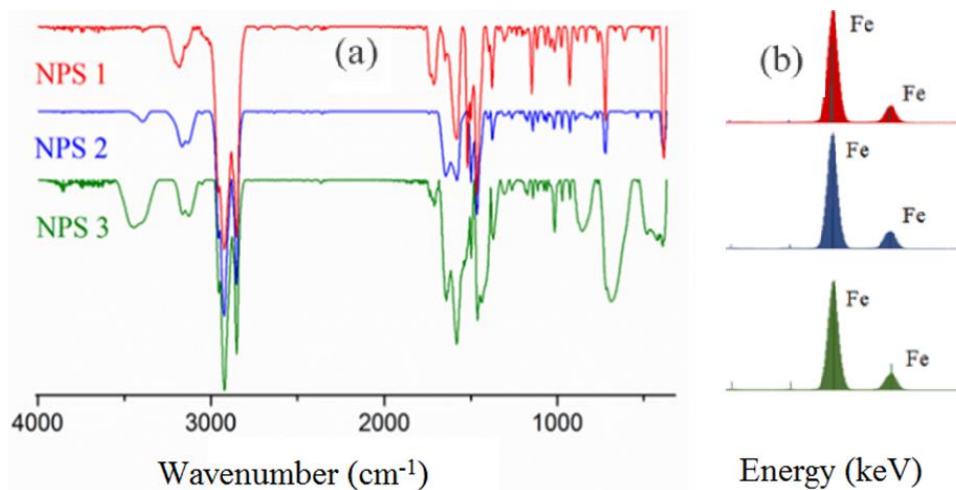
**Figure S8.** TG curves of NPT2 – NPT4.



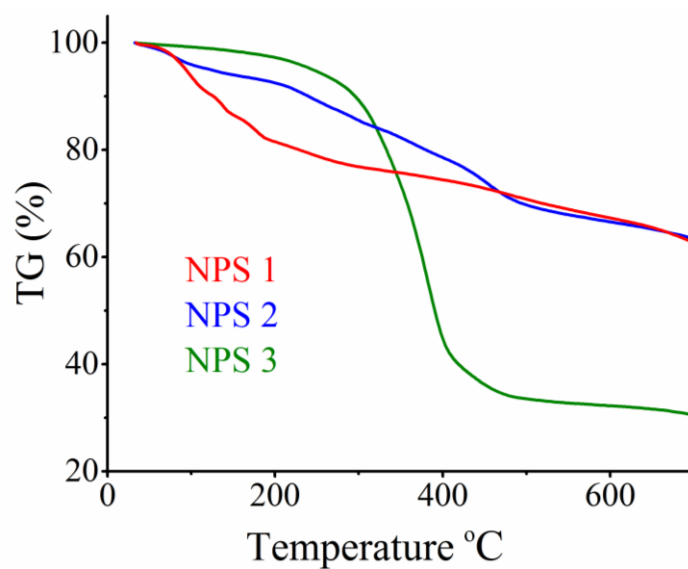
**Figure S9.** XRD pattern of NPT2.



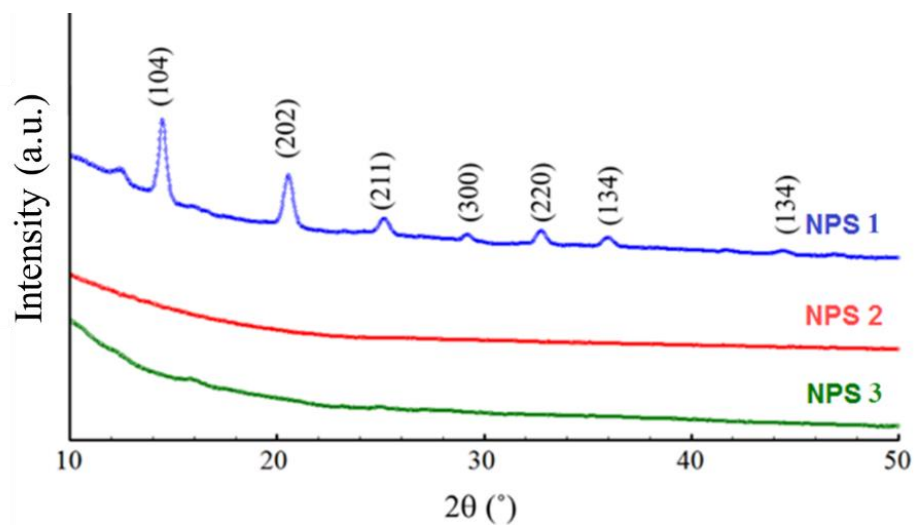
**Figure S10.** Solvothermal approach for conversion of iron clusters into metal oxides nanoparticles..



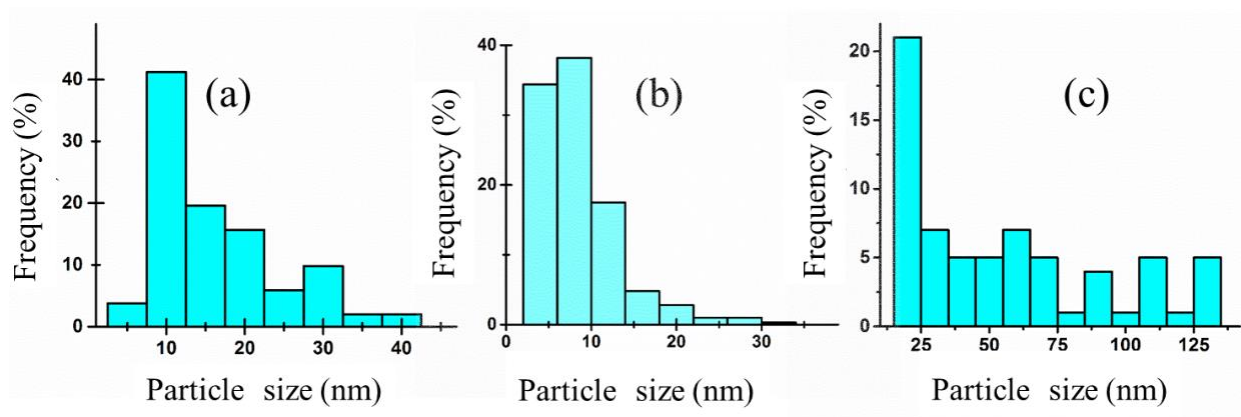
**Figure S11.** FTIR (a) and XRF spectra (b) of NPS1-3.



**Figure S12.** TG curves of samples NPS1-3.

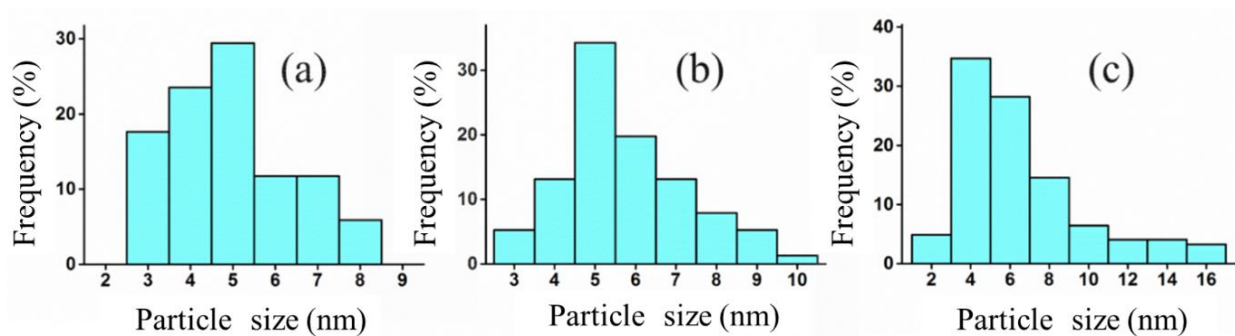


**Figure S13.** WAXD diffraction patterns of NPS1-3.

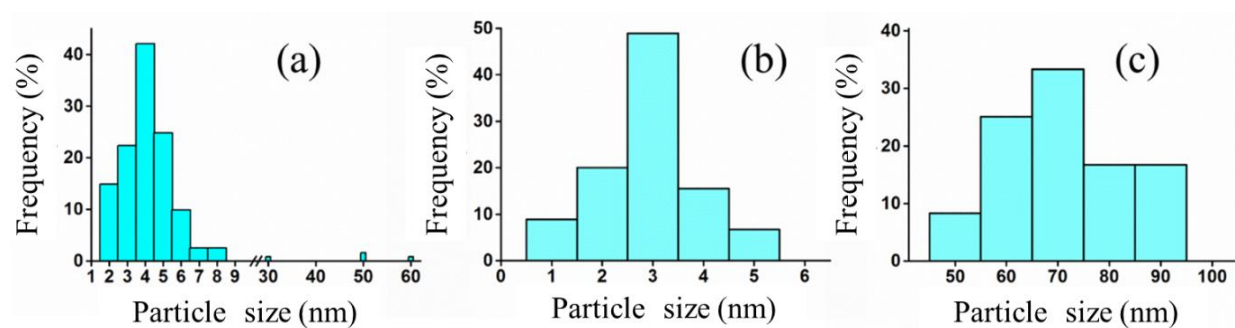


**Figure S14.** Size distribution histogram of NPS1 (a), NPS2 (b) and NPS3 (c).

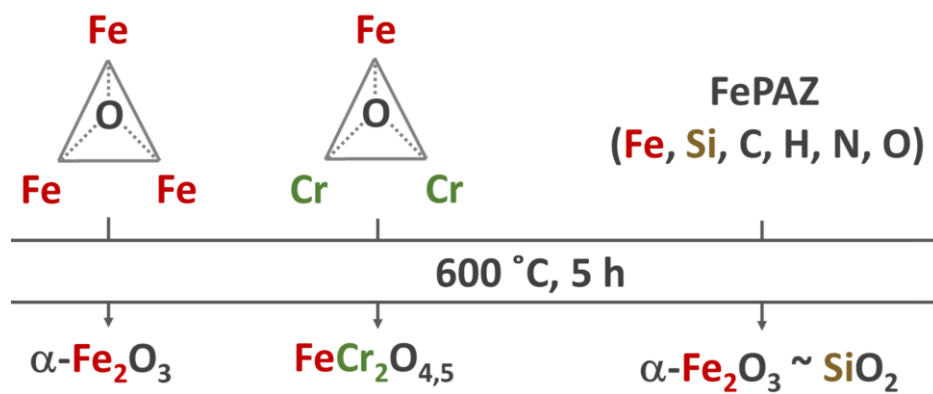




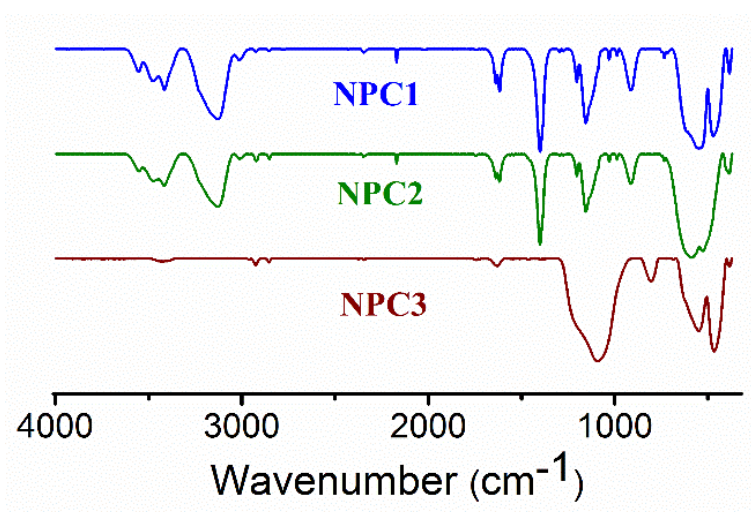
**Figure S15.** Size distribution histogram of NPS4 (a), NPS5 (b) and NPS6 (c).



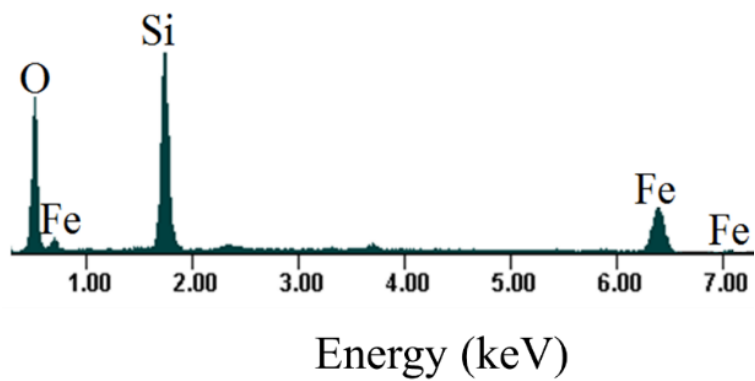
**Figure S16.** Size distribution histogram of NPS7 (a), NPS8 (b) and NPS9 (c).



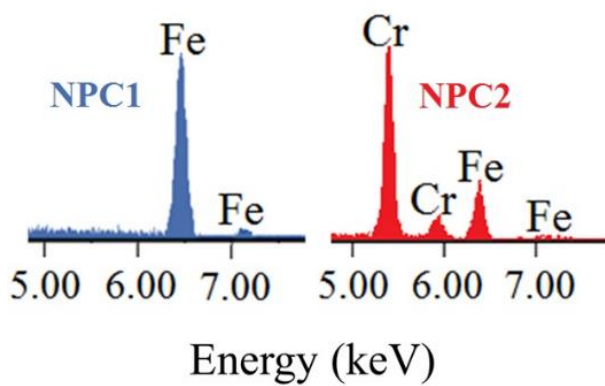
**Figure S17.** Conversion of iron clusters into iron oxides nanoparticles through calcination.



**Figure S18.** FTIR spectra of NPC1-NPC3.

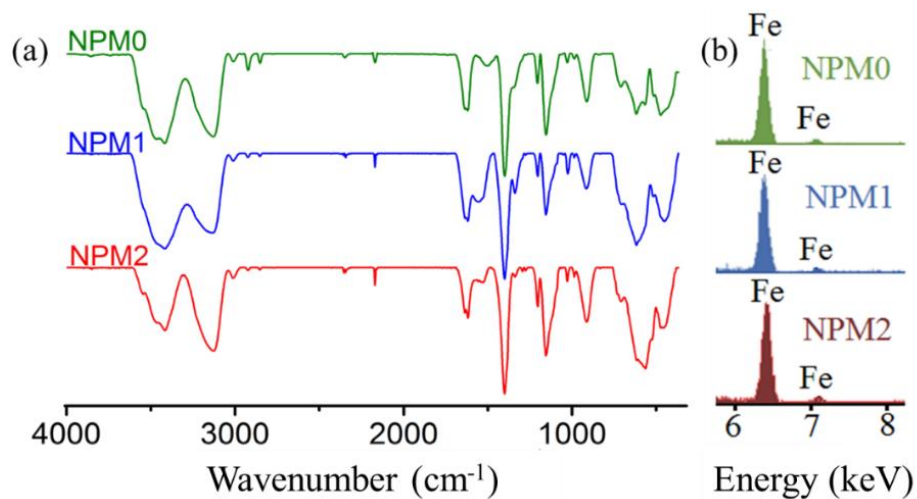


**Figure S19.** EDX spectrum of NPC3.

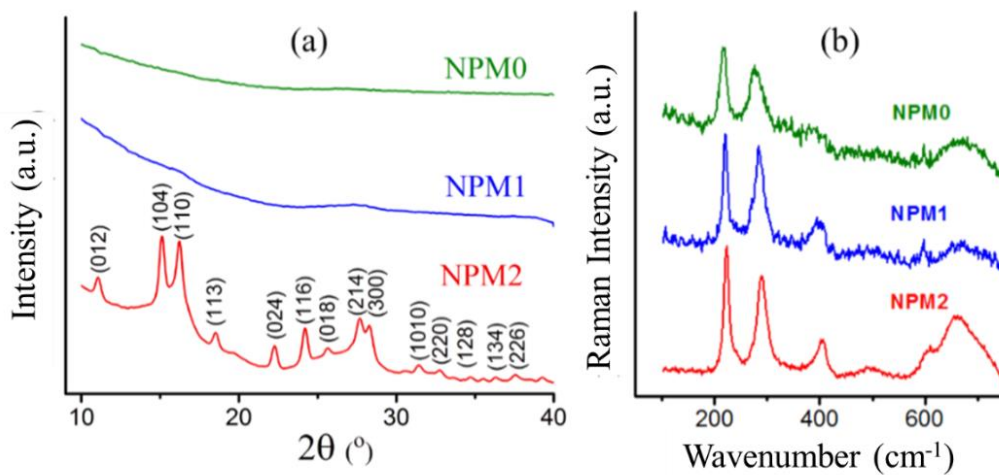


**Figure S20.** EDX spectra of NPC4 and NPC5.

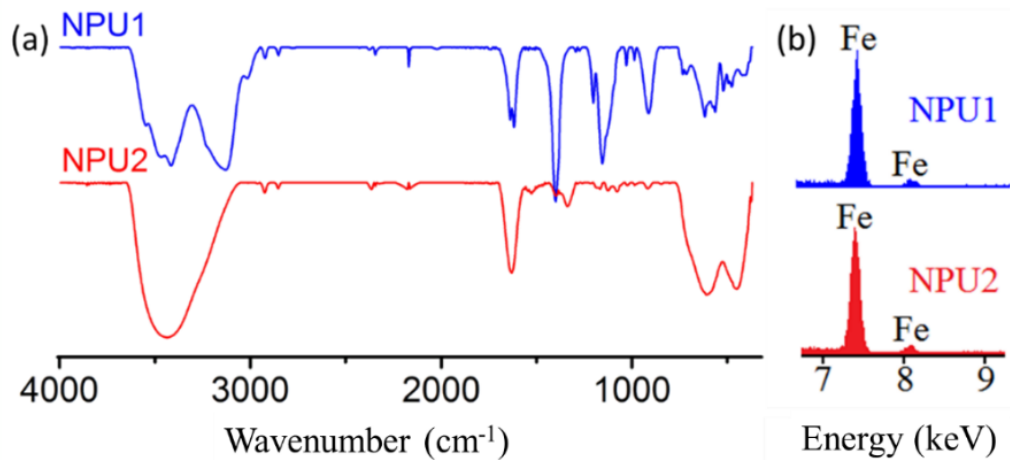




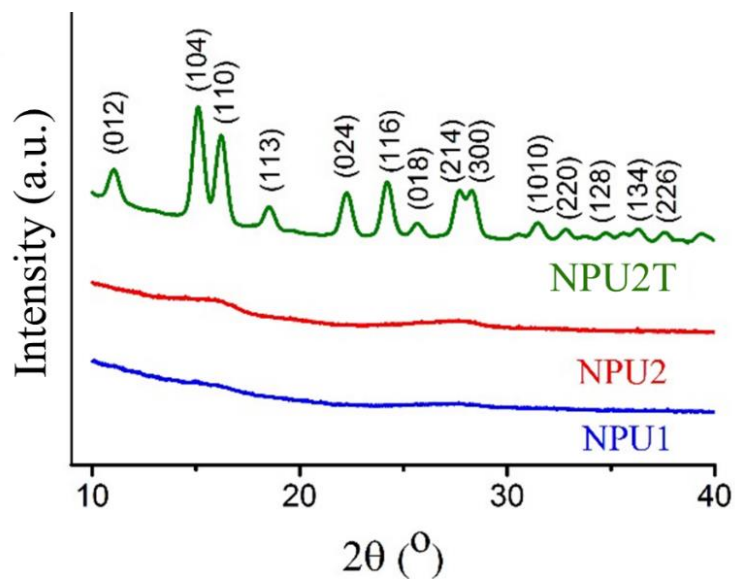
**Figure S23.** FTIR (a) and EDX (b) spectra of samples NPM0-NPM2.



**Figure S24.** WAXD diffraction patterns (a) and Raman spectra (b) of NPM0-2.



**Figure S25.** FTIR (a) and EDX spectra (b) of NPU1-2.



**Figure S26.** WAX diffraction patterns of NPU1-2 and NPU2T.