

Supplementary Materials

# Trivalent Cations Detection of Magnetic-Sensitive Microcapsules by Controlled-Release Fluorescence Off-On Sensor

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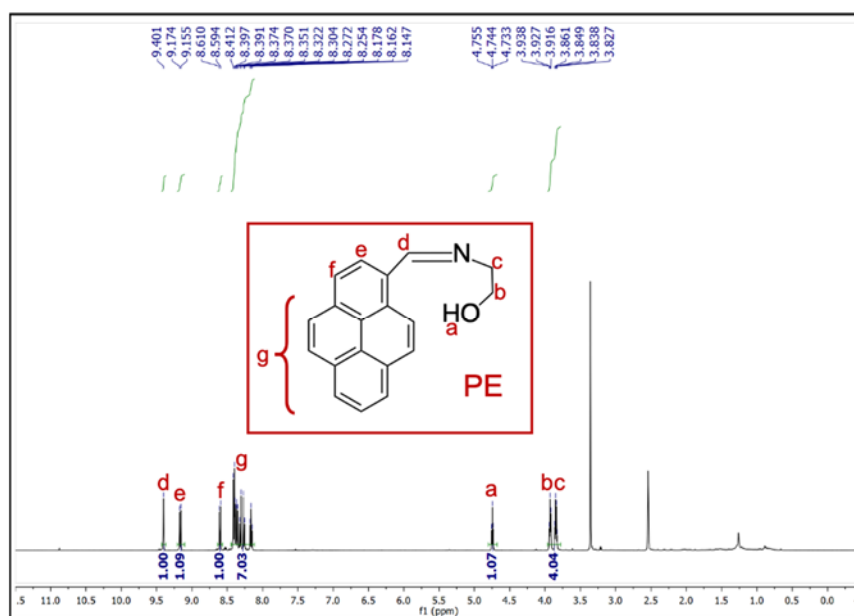
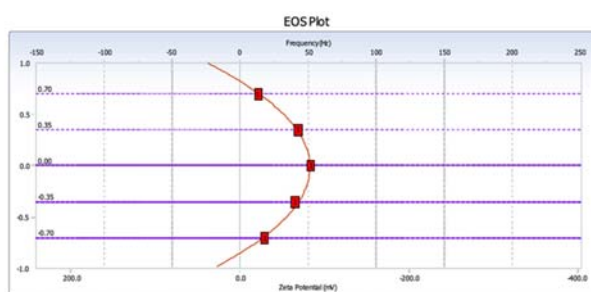


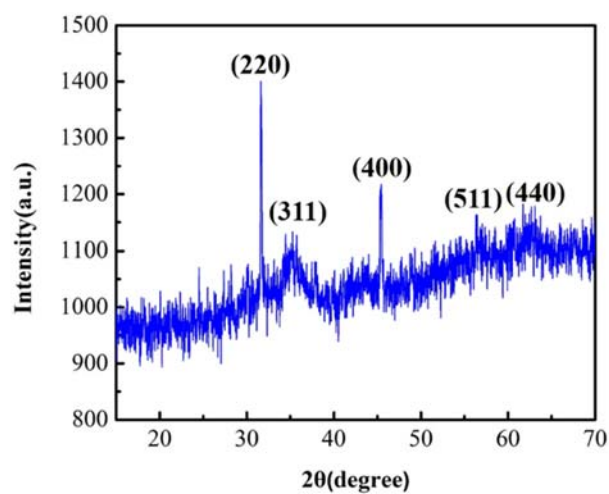
Figure S1. <sup>1</sup>H NMR spectrum of PE in DMSO.



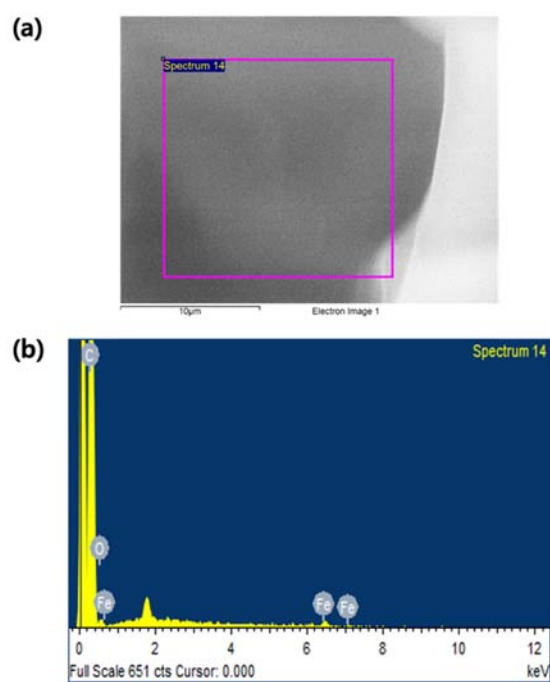
## Measurement Results

Zeta Potential	: -33.52	(mV)	Doppler shift	: 20.81	(Hz)
Mobility	: -2.614e-004	(cm <sup>2</sup> /Vs)	Base Frequency	: 125.0	(Hz)
Conductivity	: 0.0211	(mS/cm)			

Figure S2. Zeta potential measure of magnetic nanoparticles (MNPs).

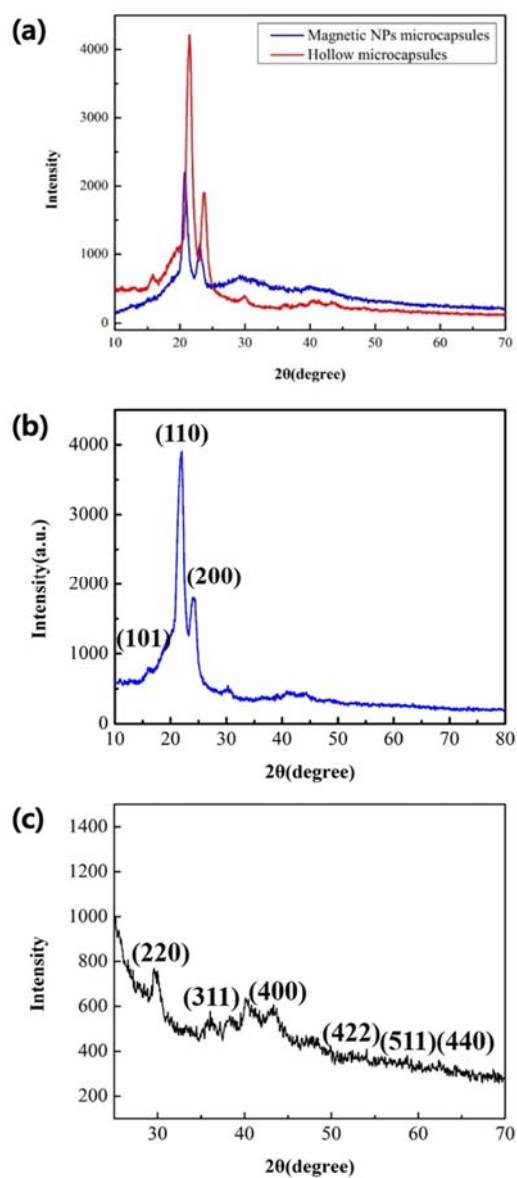


**Figure S3.** The X-ray diffraction pattern of MNPs.



Element	Weight%	Atomic%
C k	94.07	96.89
O k	3.25	2.51
Fe k	2.68	0.59
Total	100.00	99.99

**Figure S4.** (a) and (b) The EDS spectrum and elemental quantitative data of PE/MNPs microcapsules.



**Figure S5.** Characterization analysis of (a) PE/MNPs microcapsules and hollow microcapsules. (b) and (c) PE/MNPs microcapsules.