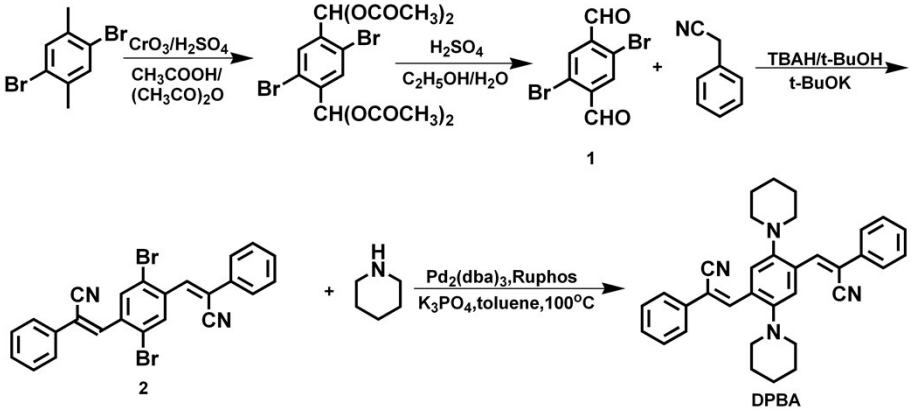
Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supplementary Information

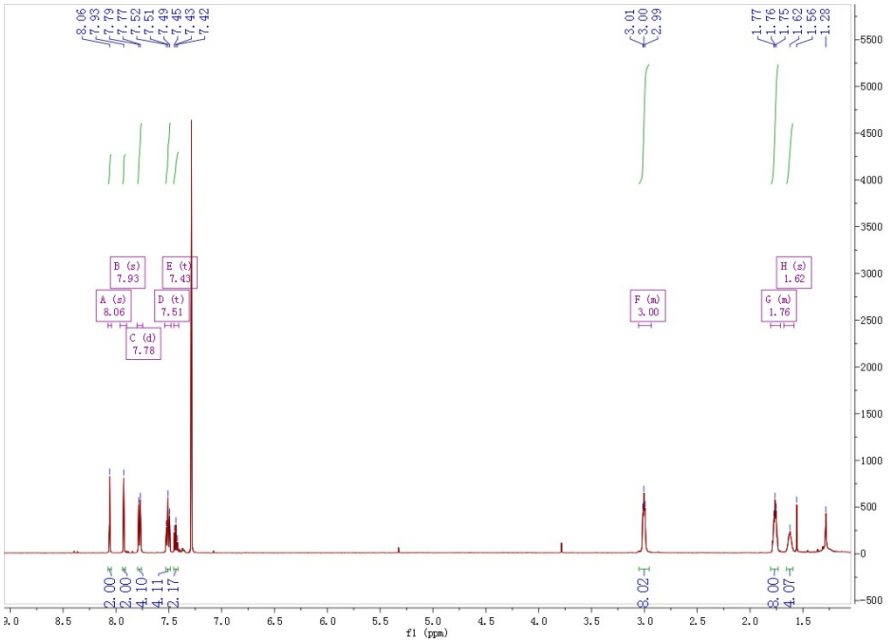
Multifuctional Polymer Nanoparitcles: Ultra Bright Near-infrared Fluorescence and Strong Magnetization and Their Biological Applications

Lulin Yan, [†a] *Yan Zhang ,* [†a] *Guang Ji,*[a] *Lian Ma,*[a] *Jinlong Chen,*[a] *Bin Xu,**[a] *Wenjing Tian*[a]
State Key Laboratory of Supramolecular Structure and Materials, Jilin University, Changchun, 130012, P. R. China.

Supporting Information



Scheme S1. Chemical structures and synthetic route of DPPBPA



Figures S1. [1]H NMR spectra of DPPBPA.

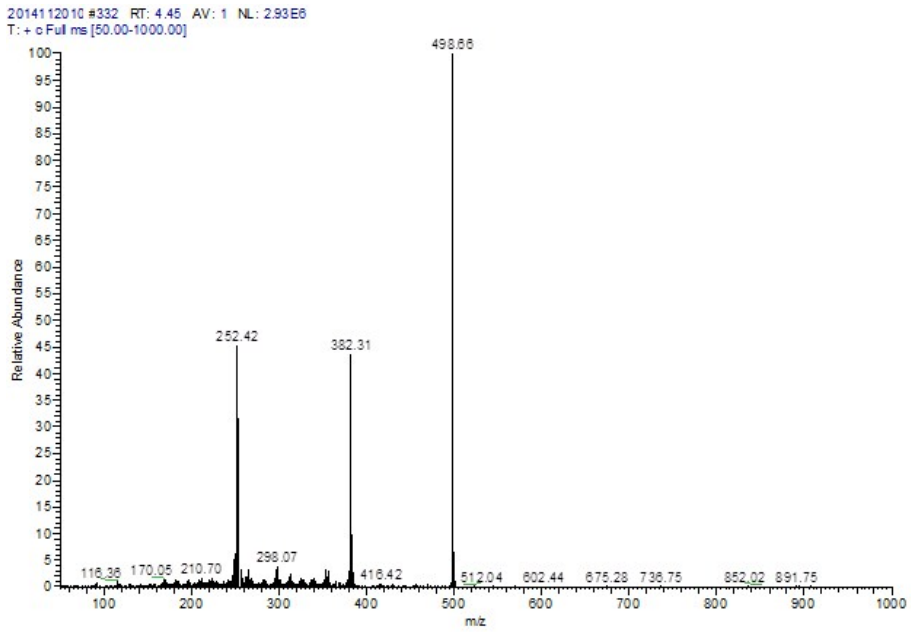


Figure S2 GC-MS of DPPBPA

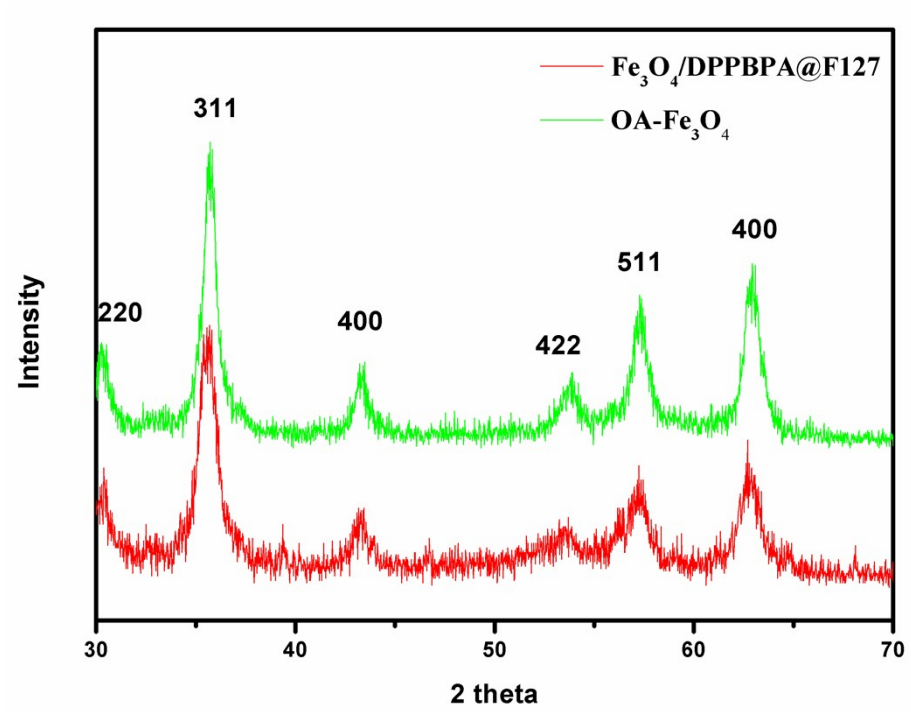


Figure S3 XRD of Fe_3O_4 and Fe_3O_4/DPPBPA@F127

Table S1. The size of Pdots with different content of F127

	DPPBPA	OA-Fe_3O_4	F127	THF	H_2O	Size
1	**1mg**	**1mg**	**6mg**	**5mL**	**15mL**	**98.99nm**
2	**1mg**	**1mg**	**8mg**	**5mL**	**15mL**	**102.0nm**
3	**1mg**	**1mg**	**10mg**	**5mL**	**15mL**	**104.9nm**
4	**1mg**	**1mg**	**12mg**	**5mL**	**15mL**	**94.03nm**

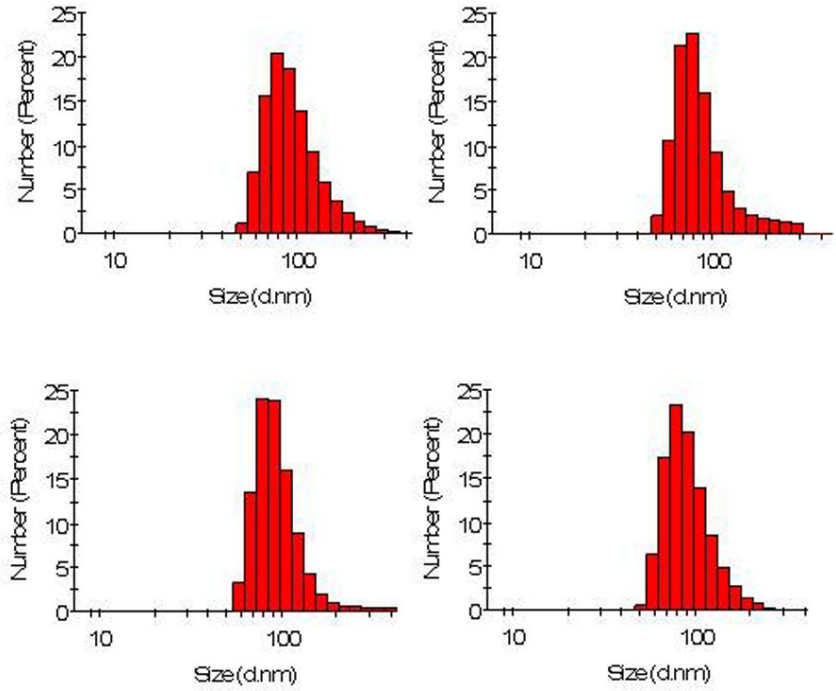


Figure S4 Particle size distribution of NPs in aqueous media

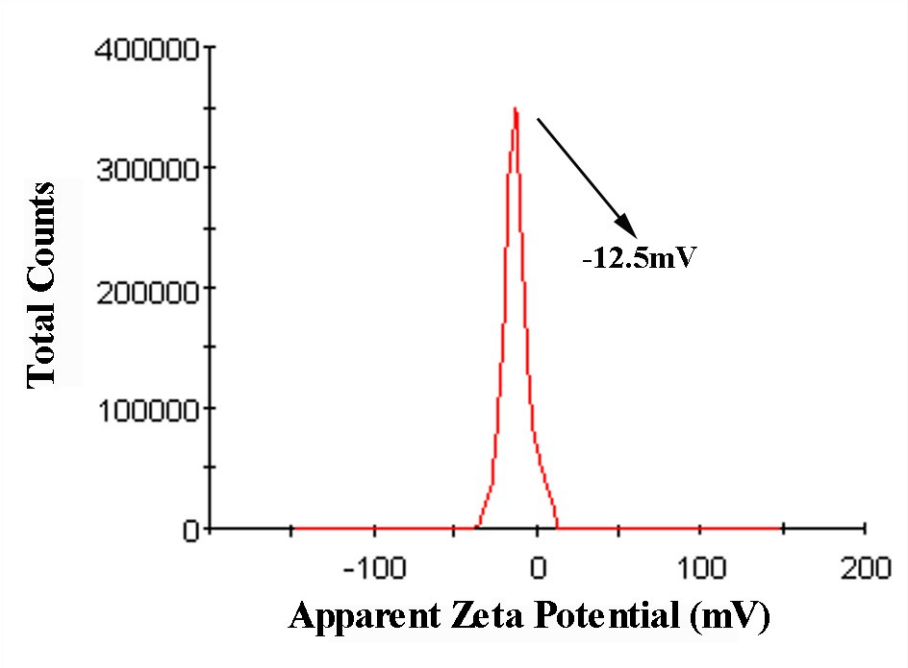


Figure S5 Zeta potential of the Fe_3O_4/DPPBPA@F127 NPs.

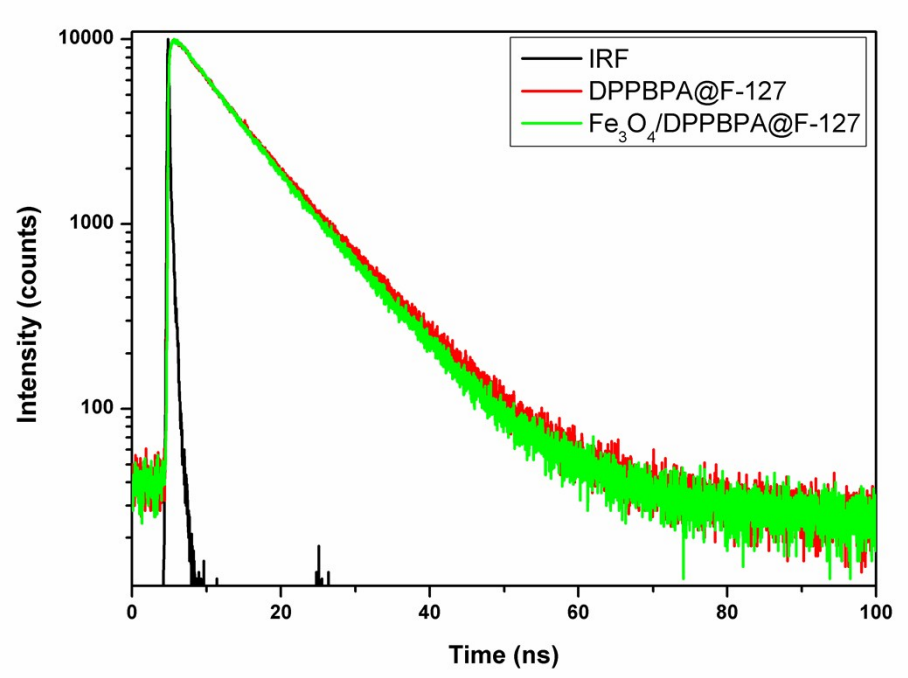


Figure S6 Fluorescence decay curves of DPPBPA@F-127 NPs (red) and Fe_3O_4/DPPBPA@F127 NPs (green). Instrument response (IRF) (black) is also indicated.

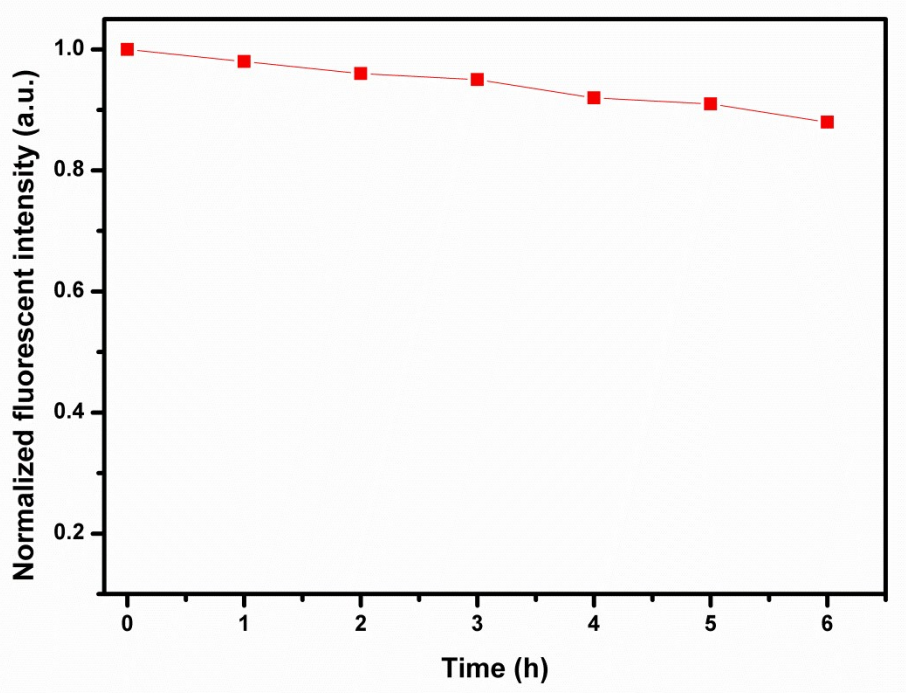


Figure S7 Flourescent intensity changing of the Fe_3O_4/DPPBPA@F-127 with continuous ultrasound in different time.

Table S2 Photophysics data of DPPBPA@F127 and Fe_3O_4/DPPBPA@F127

	Φ_f	τ_{FL}(ns)	k_r 10^7(s^{-1})	k_{nr} /10^7(s^{-1})
DPPBPA@F127	**20%**	**8.63**	**2.3**	**9.2**
Fe_3O_4/DPPBPA@F127	**18.3%**	**8.25**	**2.2**	**9.9**

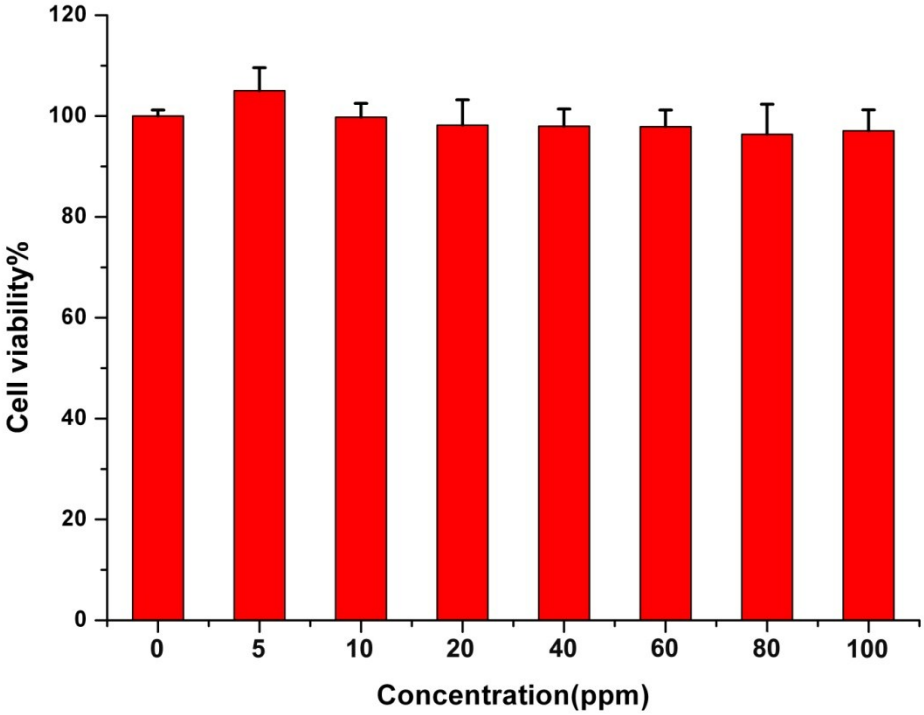


Figure S8 Cell viability of MCF-7 cells after incubation with NPs at various concentrations for 24h.