

**pH-Responsive polymeric carrier encapsulated magnetic nanoparticles for  
cancer targeted imaging and delivery**

**Dongyun Chen,<sup>a</sup> Xuwei Xia,<sup>a</sup> Hongwei Gu,<sup>a</sup> Qingfeng Xu,<sup>a</sup> Jianfeng Ge,<sup>a</sup> Yonggang Li,<sup>b</sup>**

**Najun Li\*<sup>a</sup> and Jianmei Lu\*<sup>a</sup>**

<sup>a</sup> *Key Laboratory of Organic Synthesis of Jiangsu Province, College of Chemistry, Chemical Engineering and Material Science, Soochow University, Suzhou, Jiangsu, China 215123*

<sup>b</sup> *Department of Radiology, the First Affiliated Hospital of Soochow University, Soochow University, Suzhou, China, 215006.*

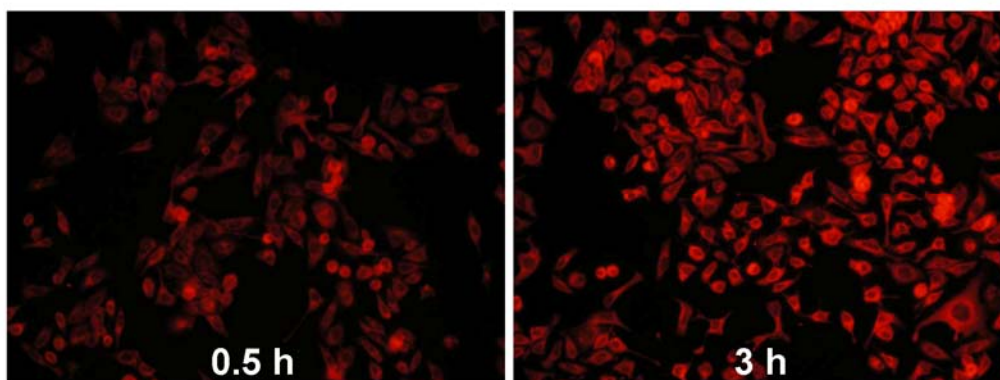
\*Correspondence to: J.M. Lu (E-mail: [lujm@suda.edu.cn](mailto:lujm@suda.edu.cn)) and N.J. Li (E-mail: [linajun@suda.edu.cn](mailto:linajun@suda.edu.cn))

**Supplementary Information**

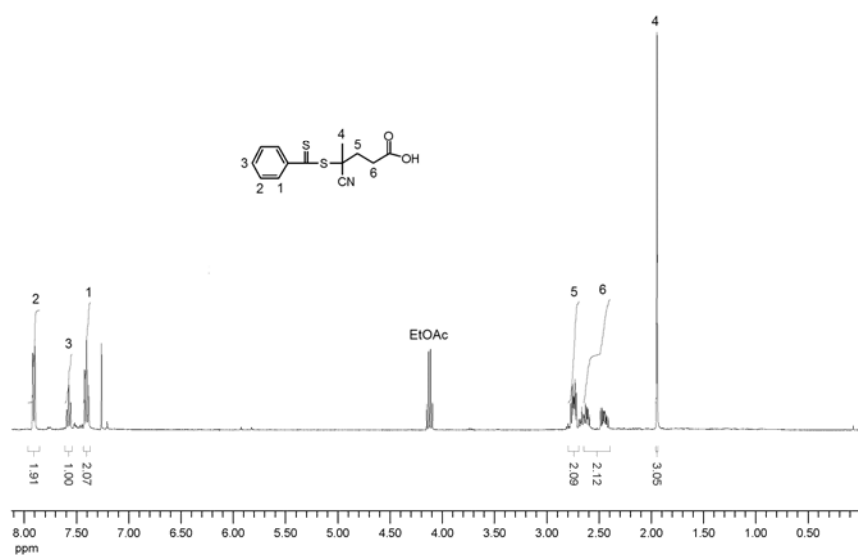
**Table S1** Properties of HAMA(x)-b-DBAM(y) with different feed ratios.

Feed ratio (x:y)	Conversion (%)	$M_n$	$M_n/M_w$	Polymer composition (x:y)	Assemble with SIONPs in PBS
12:1	95	46400	2.0	11.7:1	Clear (0.268)*
10:1	96	49190	1.4	9.9:1	Clear (0.186)
6:1	95	53200	2.0	5.8:1	Clear (0.238)
1:1	94	42400	1.9	1:0.8	Cloudy
1:4	96	23400	2.3	1:3.9	Cloudy

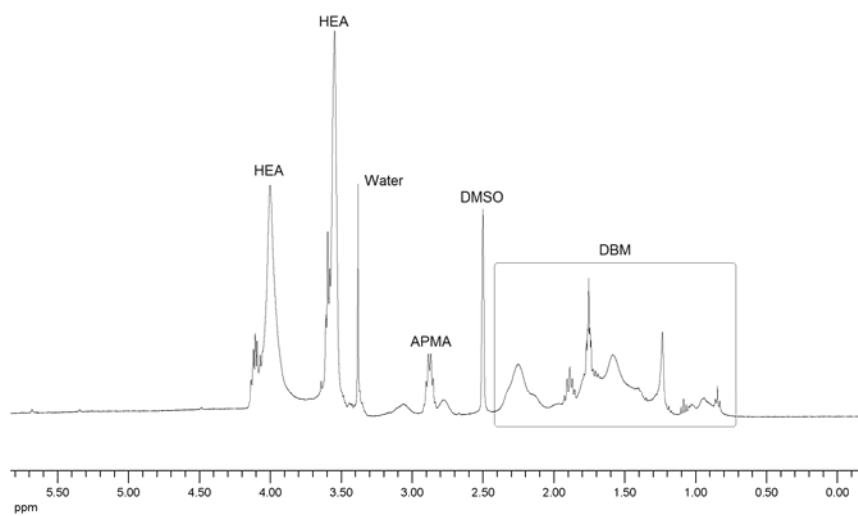
\* Colloid PDI determined by DLS.



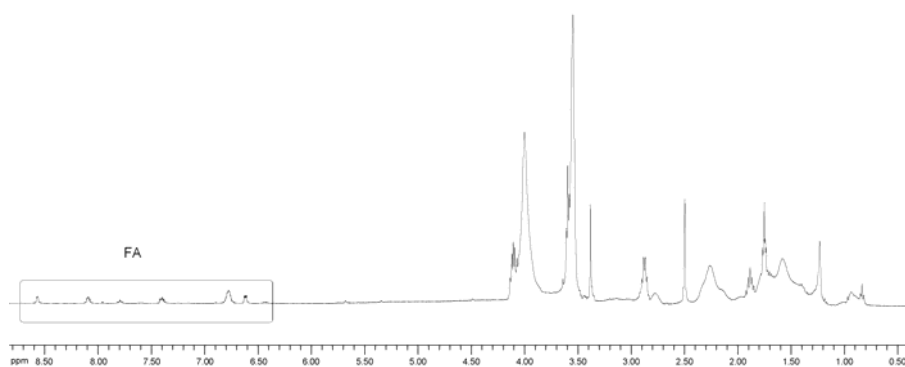
**Figure S1** Fluorescence images of 7402 cells incubated with HAMAFA-*b*-DBAM-coated SPIONPs for 0.5 h and 3 h.



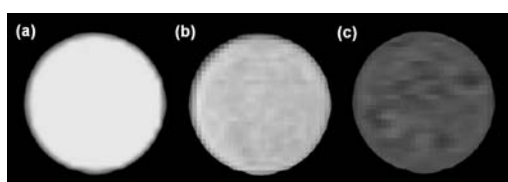
**Figure S2** <sup>1</sup>H NMR spectrum of RAFT agent CAD



**Figure S3** <sup>1</sup>H NMR spectrum HAMA-*b*-DBAM



**Figure S4** <sup>1</sup>H NMR spectrum HAMAFA-*b*-DBAM



**Figure S5** T2-weighted MR images of KB cells incubated with HAMA-*b*-DBAM-coated SPIONPs (b) and HAMAFA-*b*-DBAM-coated SPIONPs (c) for 3 h (Figure (a) as control, [Fe] =  $8.38 \times 10^{-4}$  mg/mL).