

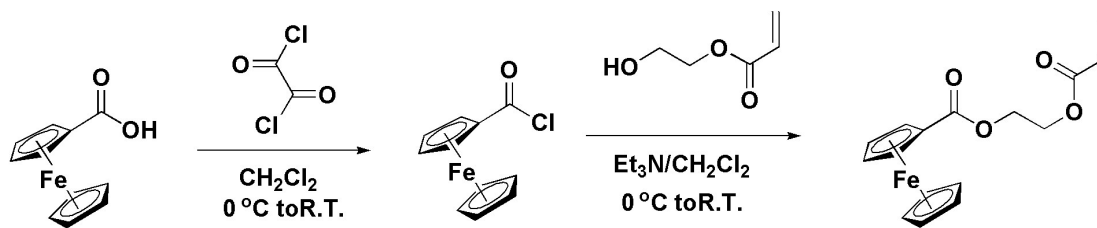
Supporting Information for

Triple-Stimuli-Responsive Ferrocene-Containing Homopolymer by RAFT Polymerization

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Scheme S1. Synthetic route of 2-acryloxyethyl ferrocenecarboxylate (AEFC).

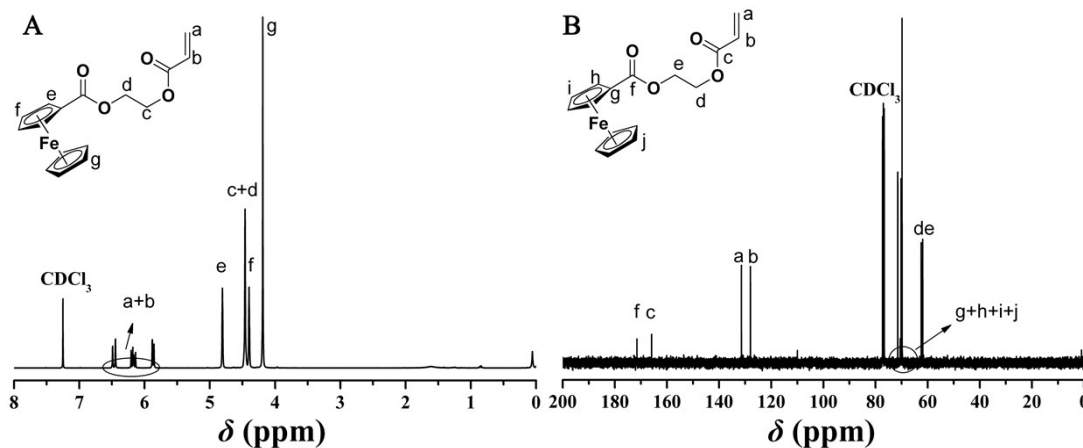


Figure S1. ¹H (A) and ¹³C (B) NMR spectra of 2-acryloxyethyl ferrocenecarboxylate in CDCl₃.

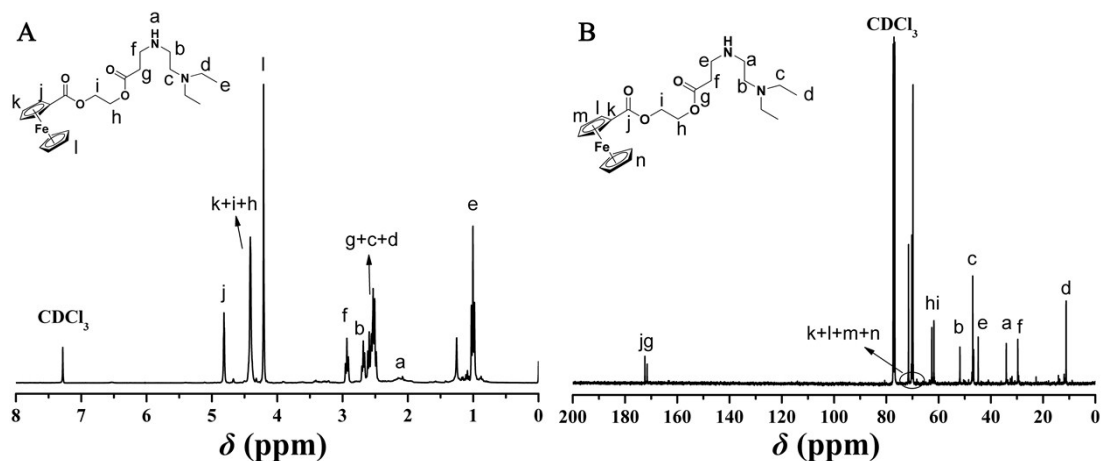


Figure S2. ^1H (A) and ^{13}C (B) NMR spectra of 2-(3-(2-(diethylamino)ethylamino)propanoyloxy)ethyl ferrocenecarboxylate in CDCl_3 .

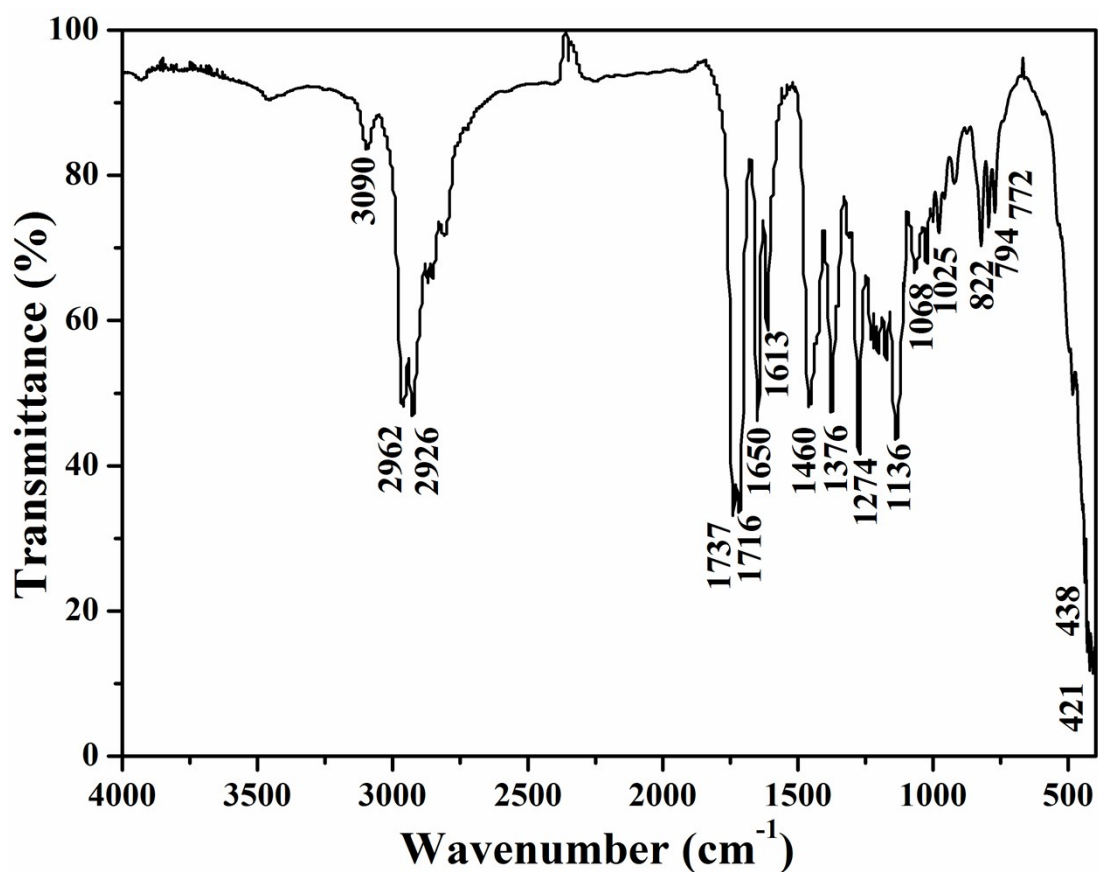


Figure S3. FT-IR spectrum of Fc-DEAE-AM 3 monomer.

Print of window 80: MS Spectrum

Injection Date : 12/5/2014 6:10:44 PM Seq. Line : 45
Sample Name : JX-6-49-P Location : P2-D-02
Acq. Operator : Agilent LC/MSD SL@SMSC, SIOC Inj : 1
Inj Volume : 0.1 μ l
Acq. Method : C:\HPCHEM\METHODS\ANAL1.M
Last changed : 12/5/2014 4:25:56 PM by Agilent LC/MSD SL@SMSC, SIOC
Analysis Method : C:\HPCHEM\METHODS\AGILENT1.M
Last changed : 12/5/2014 6:41:22 PM by Agilent LC/MSD SL@SMSC, SIOC
(modified after loading)



Test

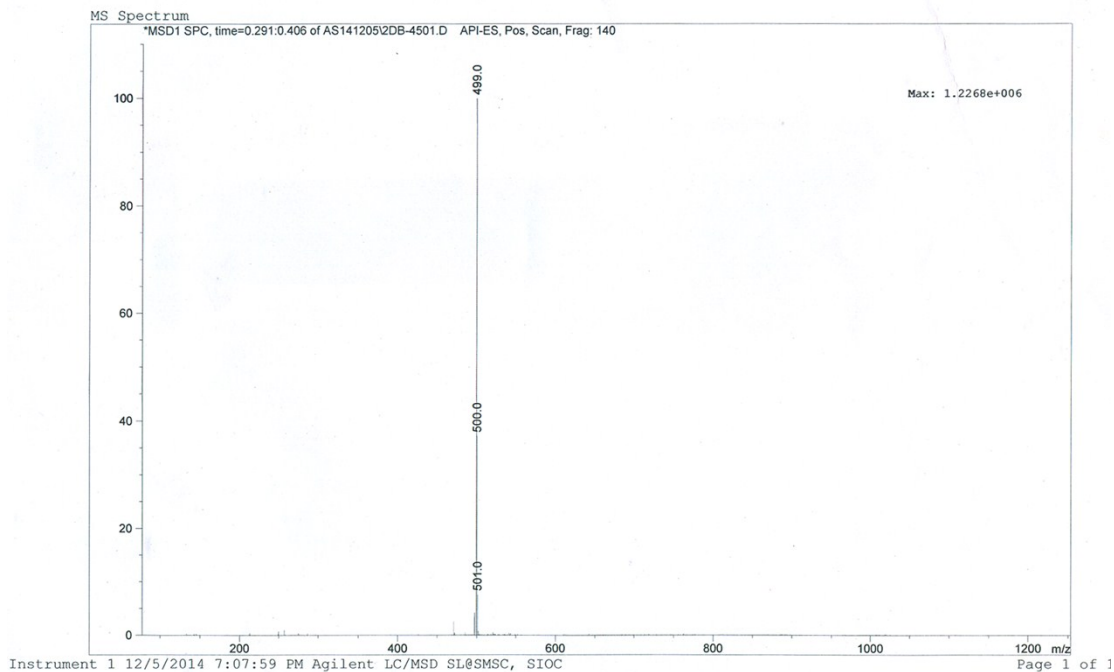


Figure S4. ESI-MS spectrum of Fc-DEAE-AM 3 monomer.

National Center for Organic Mass Spectrometry in Shanghai
Shanghai Institute of Organic Chemistry
Chinese Academic of Sciences
High Resolution MS DATA REPORT



Instrument: Thermo Fisher Scientific LTQ FT Ultra

Card Serial Number : M140928

Sample Serial Number: JX-6-49-P

Operator : HUAQIN Date: 2014/12/09

Operation Mode: DART Postive

Elemental composition search on mass 497.19

m/z= 492.19-502.19

| m/z | Theo. Mass | Delta (ppm) | RDB equiv. | Composition |
|----------|------------|-------------|------------|--|
| 497.1930 | 497.1929 | 0.24 | 10.0 | C ₂₃ H ₃₃ O ₄ N ₅ ⁵⁴ Fe |
| | 497.1942 | -2.46 | 9.5 | C ₂₅ H ₃₅ O ₅ N ₂ ⁵⁴ Fe |
| | 497.1951 | -4.19 | 18.0 | C ₂₉ H ₂₇ O ₅ N ₃ |
| | 497.1905 | 4.93 | 26.5 | C ₃₈ H ₂₅ O |

Figure S5. HR-MS data report of Fc-DEAE-AM 3 monomer.

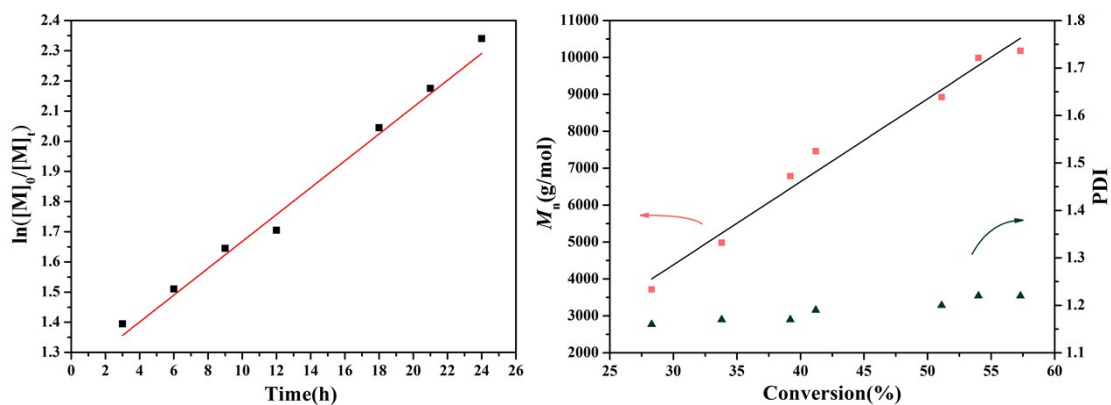


Figure S6. (A) Kinetics plot for solution RAFT homopolymerization of Fc-DEAE-AM **3** monomer. (B) Dependence of molecular weight (M_n) and molecular weight distribution (PDI) on the conversion of Fc-DEAE-AM **3** monomer.

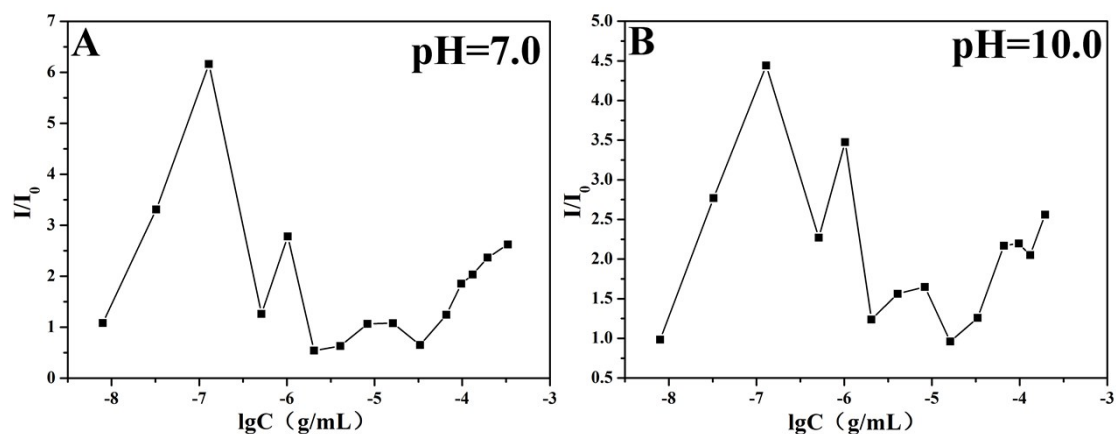


Figure S7. Dependence of fluorescence intensity ratio of PNA emission band at 418 nm on the concentration of poly(Fc-DEAE-AM) **4a** at 25°C when pH of the solution was (A) 7.0 and (B) 10.0.