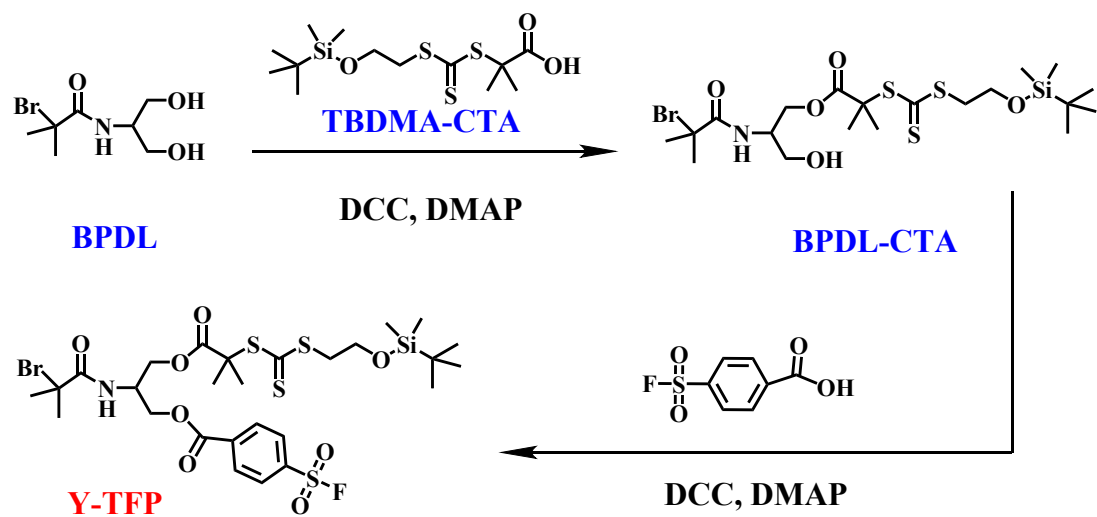


Electronic supplementary information for:
Synthesis and antifouling performance of tadpole-shaped
poly(*N*-hydroxyethylacrylamide) coatings

Yanping Cao, Shengjie Liu, Zhaoqiang Wu* and Hong Chen

College of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou
215123, P. R. China

E-mail: wzqwhu@suda.edu.cn (Z. Wu)



Scheme S1. Synthesis of Y-TFP.

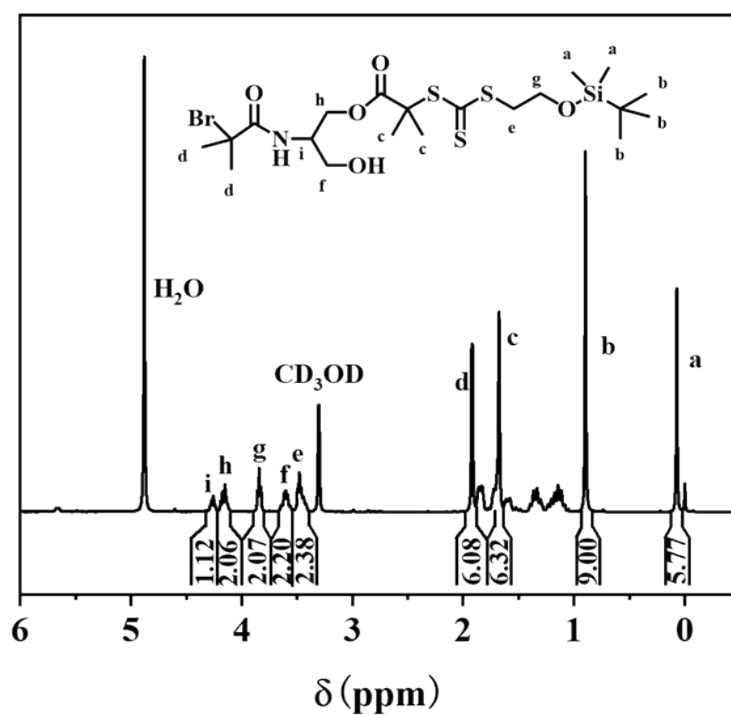


Figure S1. ^1H NMR spectrum of BPDL-CTA in CD_3OD .

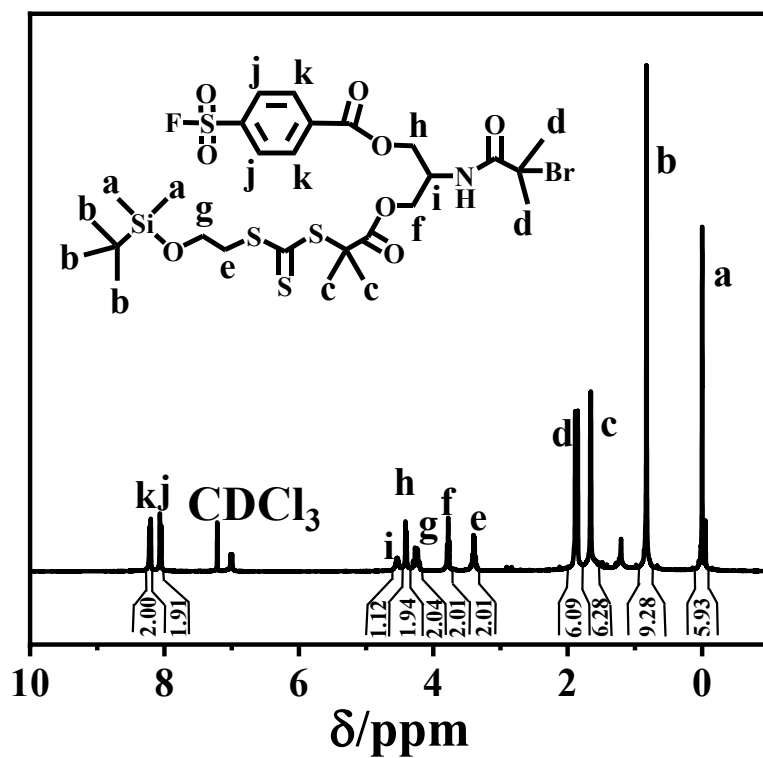


Figure S2. ¹H NMR spectrum of Y-TFP in CDCl₃.

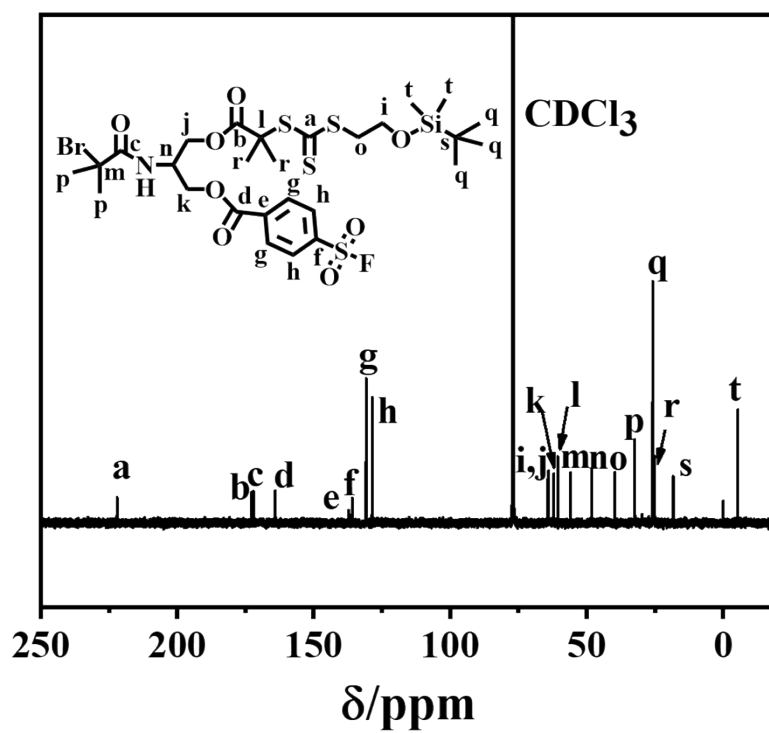


Figure S3. ¹³C NMR spectrum of Y-TFP in CDCl₃.

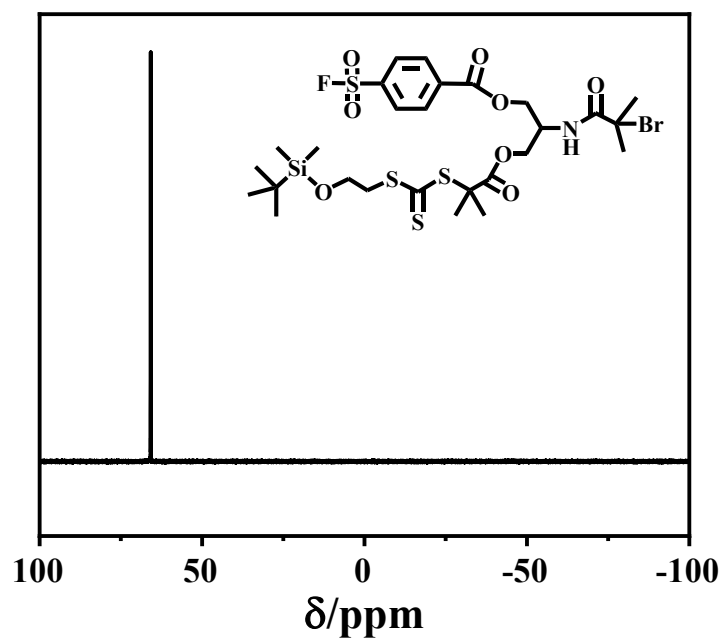


Figure S4. ^{19}F NMR spectrum of Y-TFP in CDCl_3 .

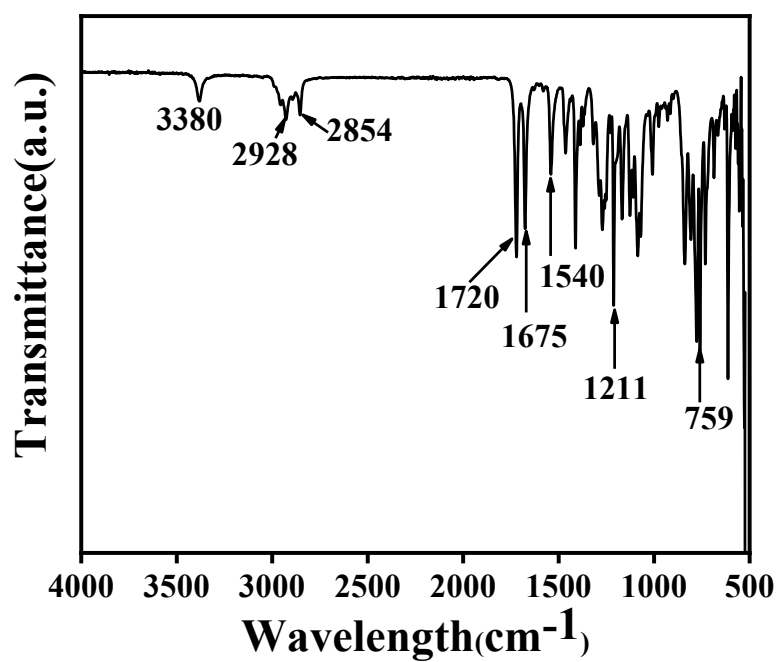


Figure S5. FT-IR spectrum of Y-TFP.

Display Report

Analysis Info

Analysis Name D:\Data\zyw\stu-sam\20180116\XZM_GD7_01_8454.d
Method 0919-MS-low-METHODS.m
Sample Name XZM
Comment

Acquisition Date 4/12/2019 3:25:27 PM

Operator bruker
Instrument micrOTOF-Q III 8228888.20487

Acquisition Parameter

Source Type	ESI	Ion Polarity	Positive	Set Nebulizer	1.0 Bar
Focus	Not active	Set Capillary	4500 V	Set Dry Heater	180 °C
Scan Begin	50 m/z	Set End Plate Offset	-500 V	Set Dry Gas	4.0 l/min
Scan End	3000 m/z	Set Collision Cell RF	200.0 Vpp	Set Divert Valve	Waste

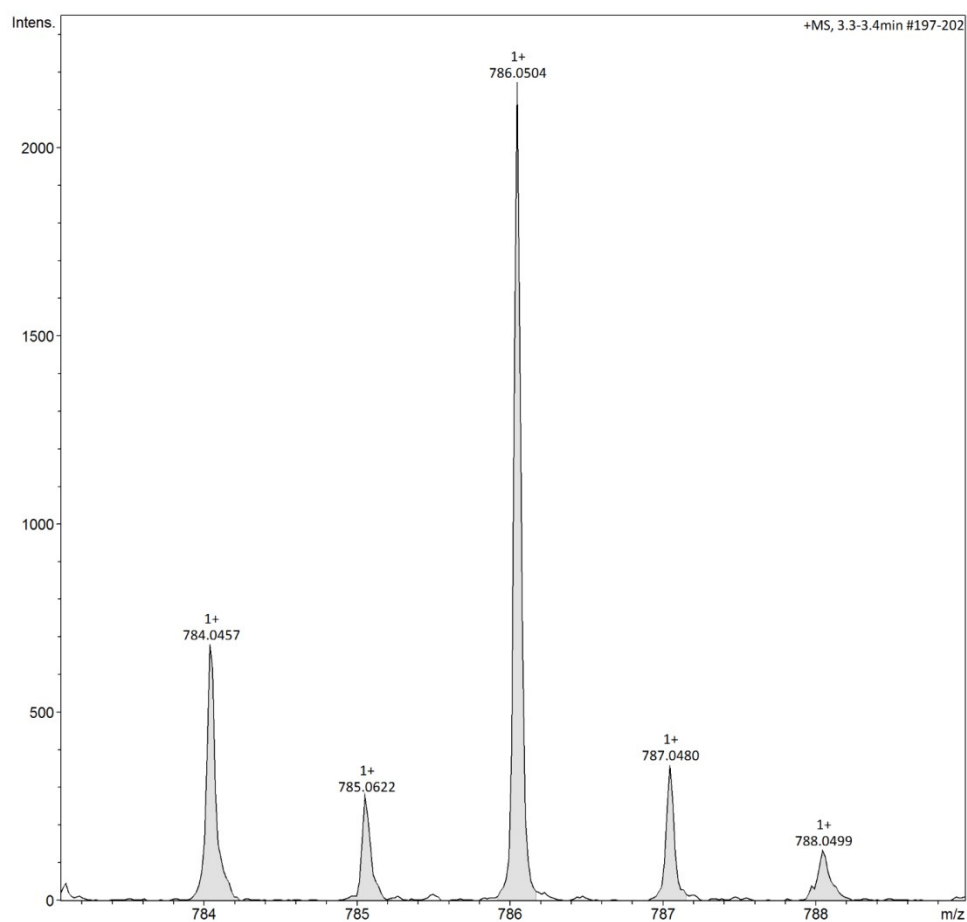


Figure S6. Mass spectrum of Y-TFP.

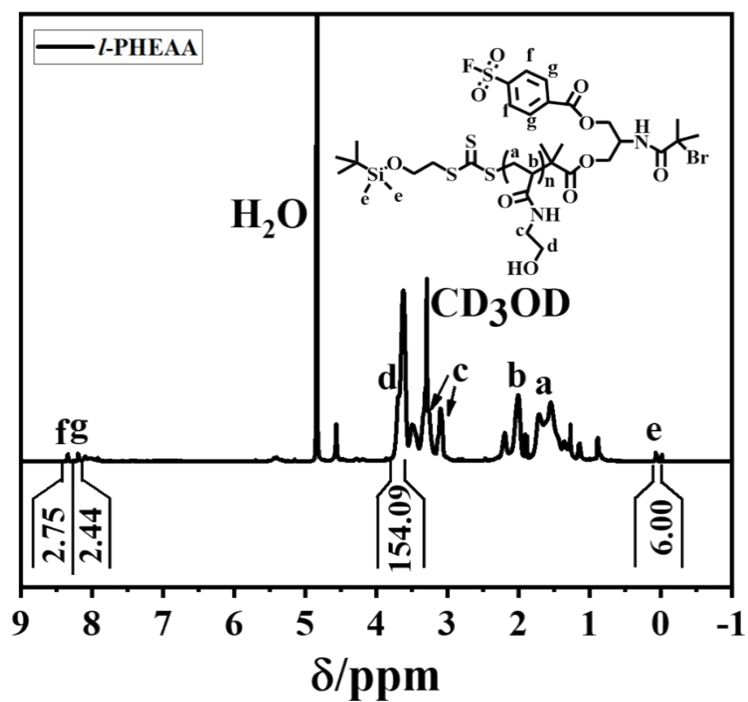


Figure S7. ^1H NMR spectrum of PHEAA in CD_3OD .

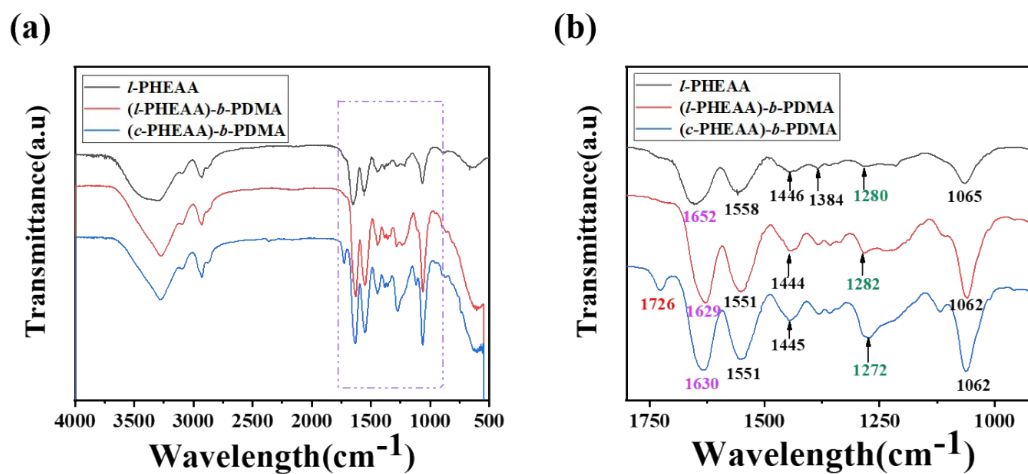


Figure S8. FT-IR spectra of (*l*-PHEAA)-*b*-PDMA and the resultant (*c*-PHEAA)-*b*-PDMA. (a) Full FT-IR spectra; (b) Expanded FT-IR spectra.

Table S1. Molecular characterizations of the synthesized polymers

polymer	$M_{n,NMR}^a$ (g/mol)	$M_{n,GPC}^b$ (g/mol)	Dispersity (\mathcal{D}) ^b
PHEAA	9600	3500	1.23
(<i>l</i> -PHEAA)- <i>b</i> -PDMA	11500	5700	1.61
(<i>c</i> -PHEAA)- <i>b</i> -PDMA	/	5400	1.47

^aThe M_n was determined *via* ¹H NMR spectroscopy in CD₃OD. ^bThe M_n and \mathcal{D} (M_w/M_n) were measured by GPC with PEG standards using H₂O as eluent.

Table S2. Surface characteristics of polymer-modified gold surfaces

Sample	Thickness[nm]	Water contact angle[°]	Surface roughness[nm]
Au	/	84 ± 2	4.14
Au-(<i>l</i> -PHEAA)- <i>b</i> -PDMA	9.4 ± 0.3	19 ± 2	4.39
Au-(<i>c</i> -PHEAA)- <i>b</i> -PDMA	2.1 ± 0.1	30 ± 2	3.82

AFM was used to measure the root-mean-square (RMS) surface roughness. For the dry thickness of coating determined by ellipsometry, all samples are tested at room temperature and the measurement angle is 70°. Each sample is tested at two different points, and the data is then analyzed by WVASE32TM data acquisition and analysis software.