

Electronic Supplementary Information for

A simple, modular synthesis of bifunctional peptide-polynorbornenes for apoptosis induction and fluorescence imaging of cancer cells

Nan Xie,^a Ke Feng,^{*b} Jianqun Shao,^a Bin Chen,^b Chen-Ho Tung^b and Li-Zhu Wu^{*b}

^a School of Pharmaceutical Sciences, Capital Medical University, Beijing 100069, P. R. China; ^b Key Laboratory of Photochemical Conversion and Optoelectronic Materials, Technical Institute of Physics and Chemistry & School of Future Technology, University of CAS, the Chinese Academy of Sciences, Beijing 100190, P. R. China.

E-mail Address: kefeng@mail.ipc.ac.cn, lzwu@mail.ipc.ac.cn.

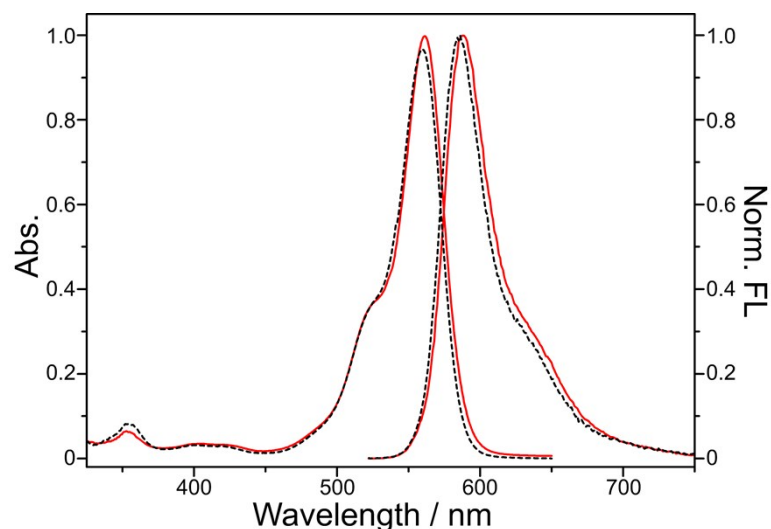


Figure S1. UV-Vis absorption and normalized fluorescence spectra of NB-RhB (black) with the concentration of 3.42 $\mu\text{g/mL}$ and PNB-KLA₁₅-*co*-TAT₁₀-*co*-RhB₅-*co*-PEG₇₀ (red) with the concentration of 0.109 mg/mL in 10 mM PBS buffer (pH 7.4).

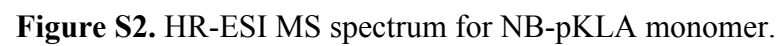
Table S1 Comparison of GPC and DLS data for PNB-KLA_m-*co*-TAT_n-*co*-RhB_o-*co*-PEG_p random copolymers.

Polymer	M_w^a /kDa	Diam. ^b /nm	MW-R ^b /kDa
PNB-KLA ₅ - <i>co</i> -TAT ₁₀ - <i>co</i> -PEG ₈₅	117.0	9.9	143
PNB-KLA ₁₀ - <i>co</i> -TAT ₁₀ - <i>co</i> -PEG ₈₀	123.9	10.1	150
PNB-KLA ₁₅ - <i>co</i> -TAT ₁₀ - <i>co</i> -PEG ₇₅	120.6	9.9	142
PNB-KLA ₂₀ - <i>co</i> -TAT ₁₀ - <i>co</i> -PEG ₇₀	133.2	10.5	162
PNB-KLA ₁₅ - <i>co</i> -PEG ₈₅	89.9	9.3	122
NB-KLA ₁₅ - <i>co</i> -TAT ₁₀ - <i>co</i> -RhB ₅ - <i>co</i> -PEG ₇₀	115.8	9.6	132
PNB-TAT ₁₀ - <i>co</i> -RhB ₅ - <i>co</i> -PEG ₈₅	102.1	9.3	121
PNB-KLA ₁₅ - <i>co</i> -RhB ₅ - <i>co</i> -PEG ₈₀	90.2	8.9	109
PNB-TAT ₁₀ - <i>co</i> -PEG ₉₀	93.4	9.1	118

^aDetermined by GPC and measured in DMF with 25 mM LiBr at 313 K.

^bDetermined by DLS and measured in 10 mM PBS buffer (pH 7.4) with the concentration of 1.0 mg mL⁻¹ at 298 K.

Analysis Name:	FK-22	Acquisition Date:	8/24/2015
Comment:	ESI Negative	Operator:	TIPC
Sample: FK-22 #11 RT: 0.11 AV: 1 NL: 6.36E6 T: FTMS - p ESI Full ms [150.00-2000.00]			



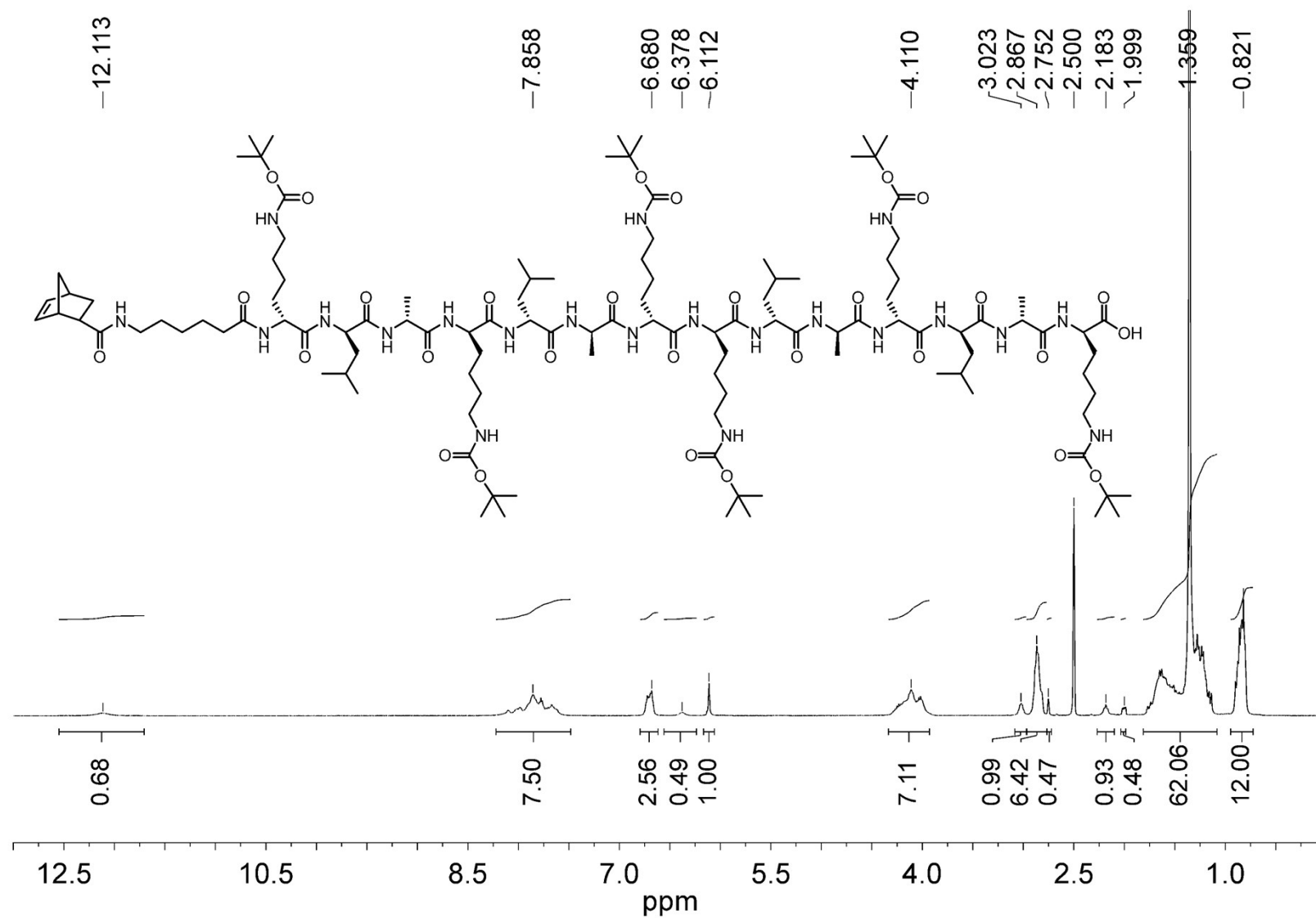


Figure S3. ¹H NMR spectrum for NB-pKLA monomer in DMSO-*d*₆.

Technical Institute of Physics and Chemistry Mass Spectrometry Sample Analysis Report

Analysis Name: FK-25(wubiao)

Acquisition Date: 10/23/2015

Comment: ESI Positive

Operator: TIPC

Sample #13 RT: 0.08 AV: 1 NL: 2.76E6

T: FTMS+pESI Full ms [133.40-2000.00]

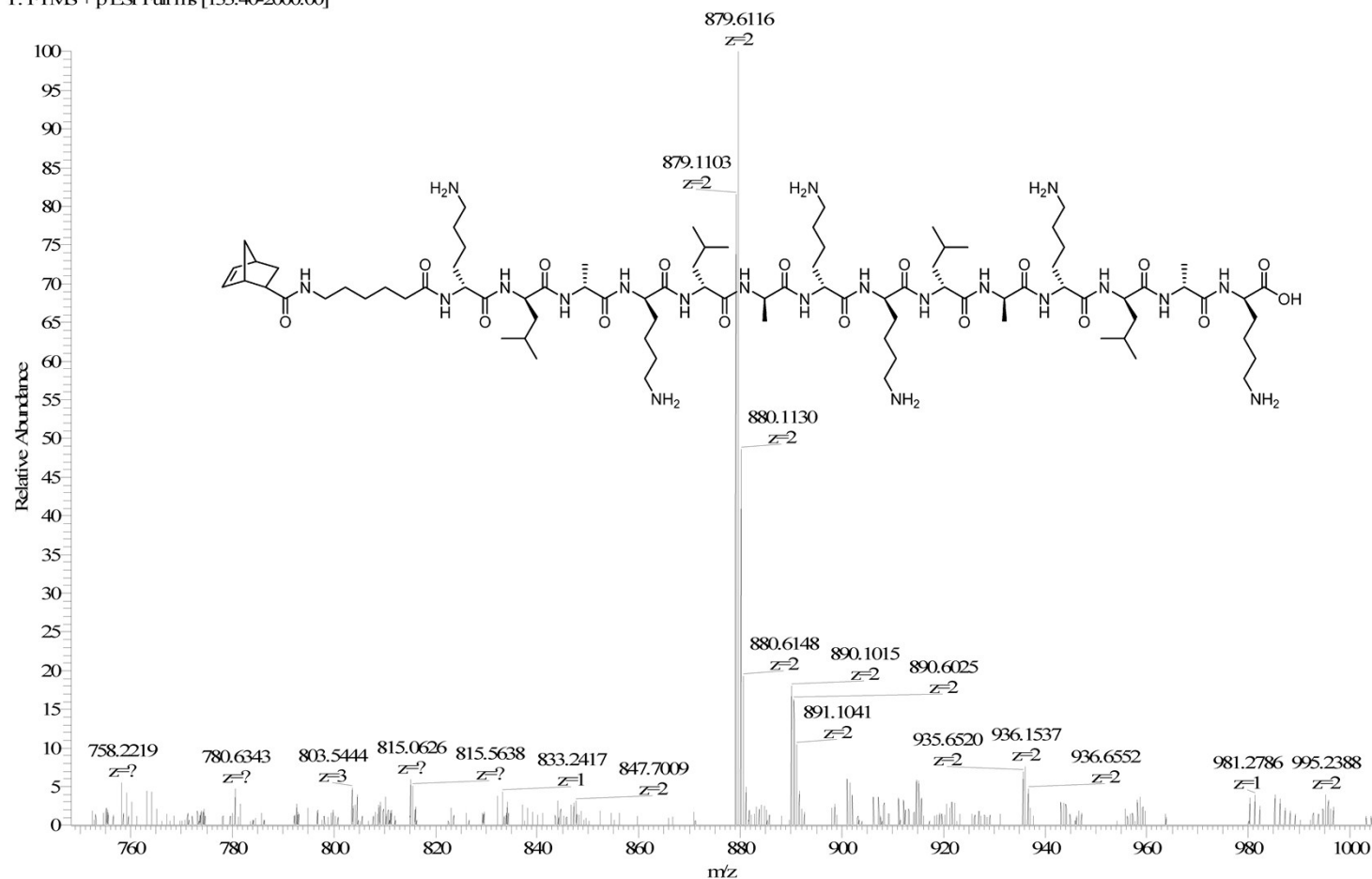


Figure S4. HR-ESI MS spectrum for activated NB-KLA.

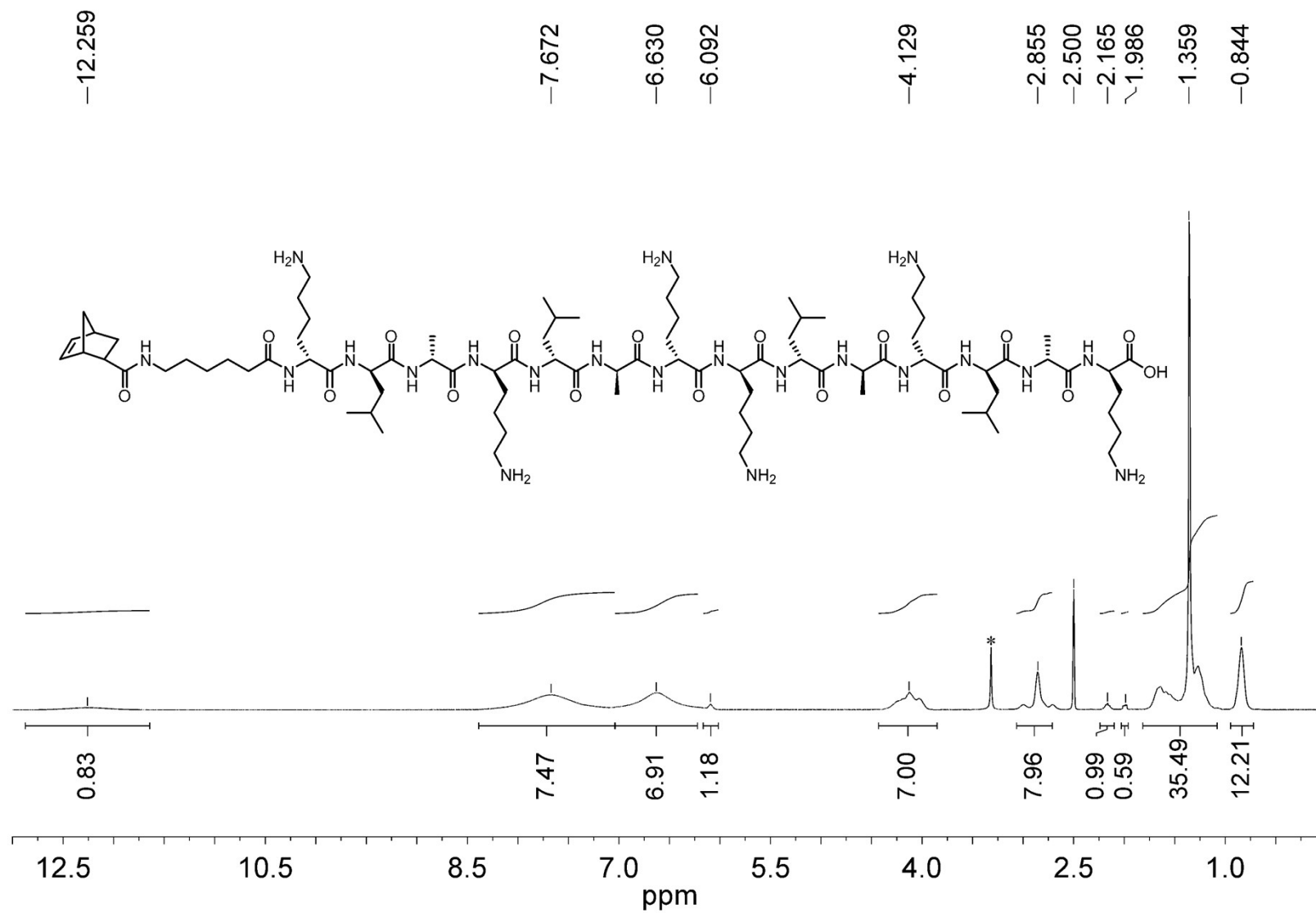


Figure S5. ¹H NMR spectrum for activated NB-KLA.

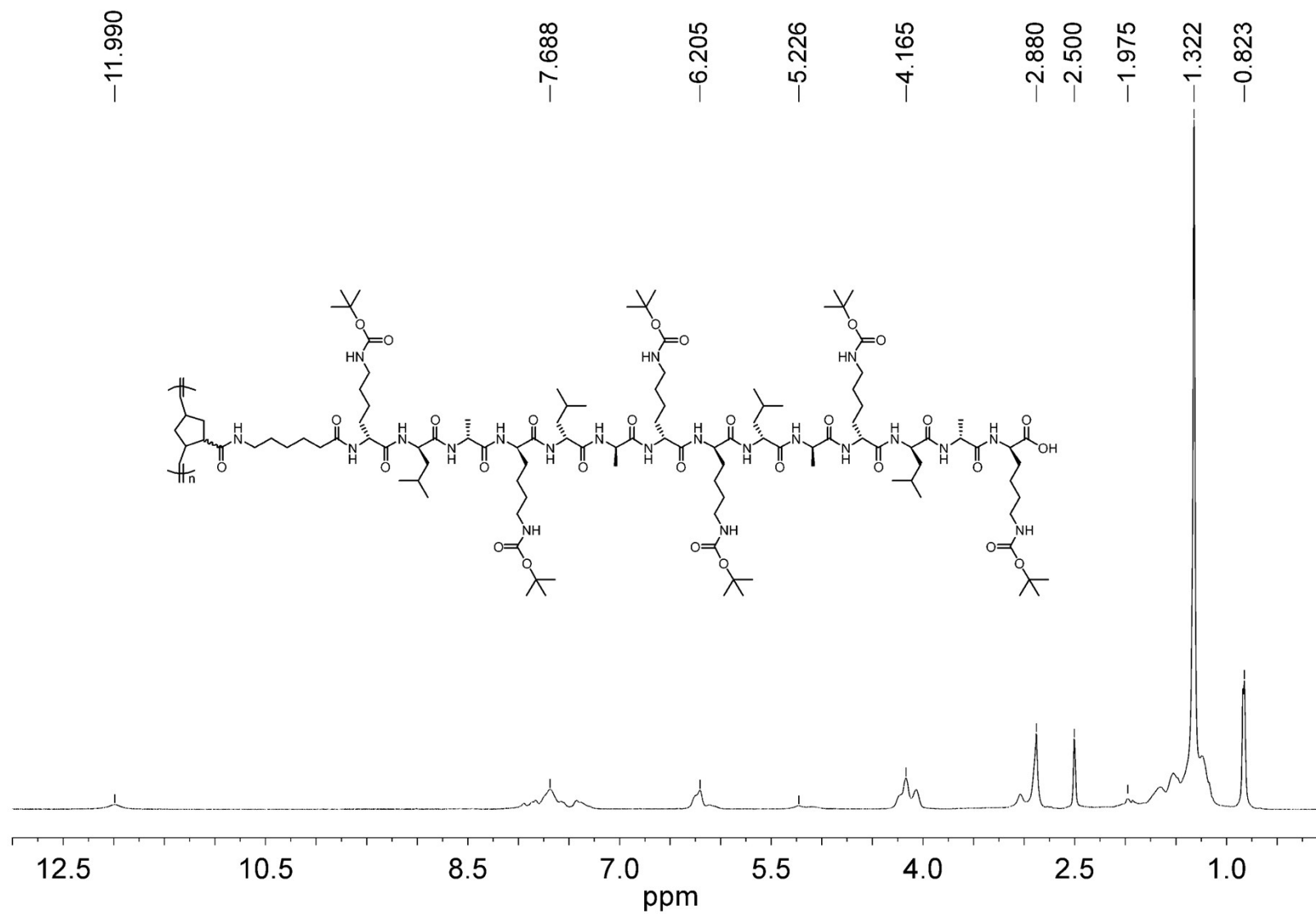


Figure S6. ¹H NMR spectrum for PNB-pKLA polymer in DMSO-*d*₆.

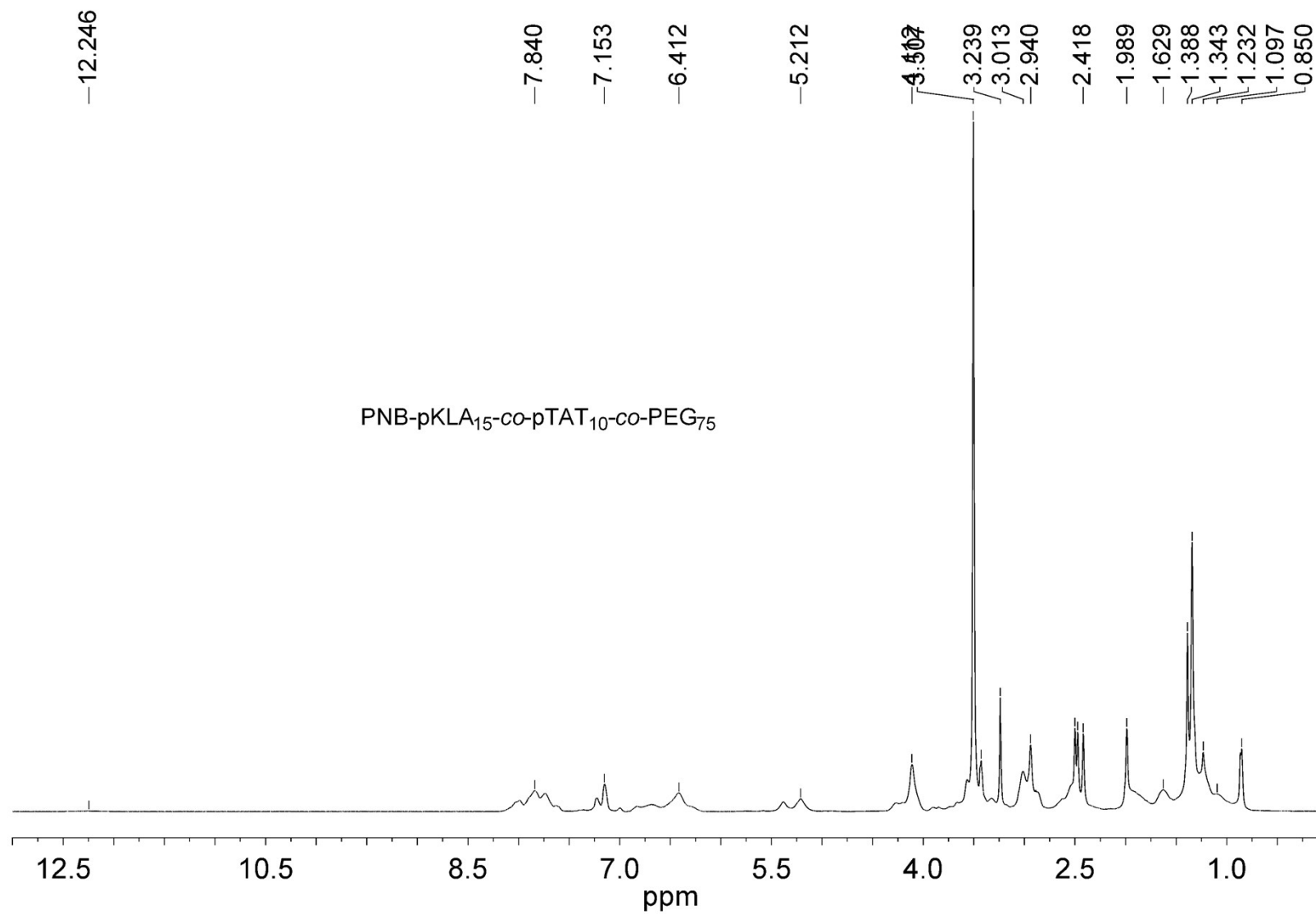


Figure S7. ¹H NMR spectrum for PNB-pKLA₁₅-co-pTAT₁₀-co-PEG₇₅ polymer in DMSO-*d*₆.

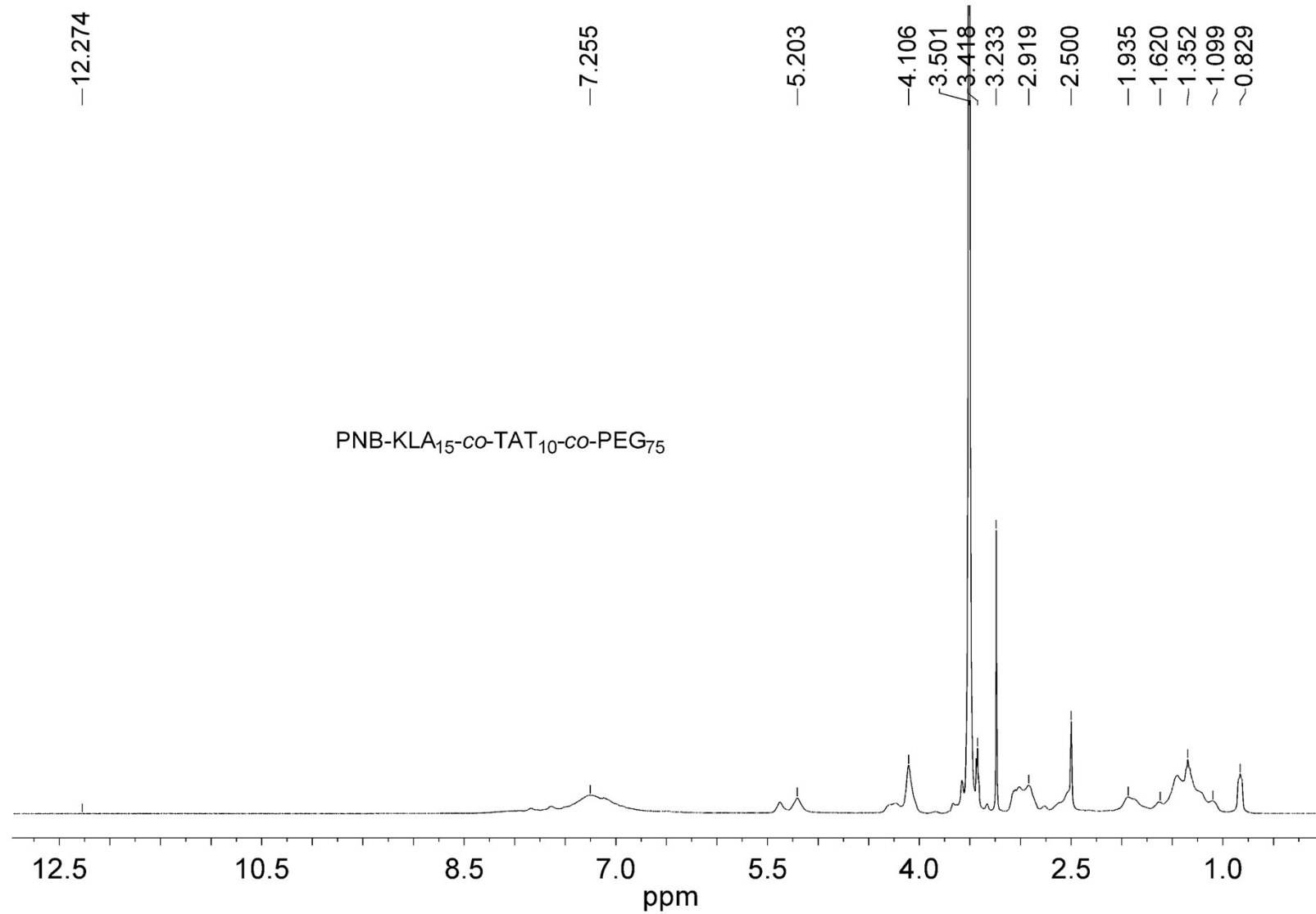


Figure S8. ^1H NMR spectrum for PNB-KLA₁₅-co-TAT₁₀-co-PEG₇₅ polymer in DMSO- d_6 .

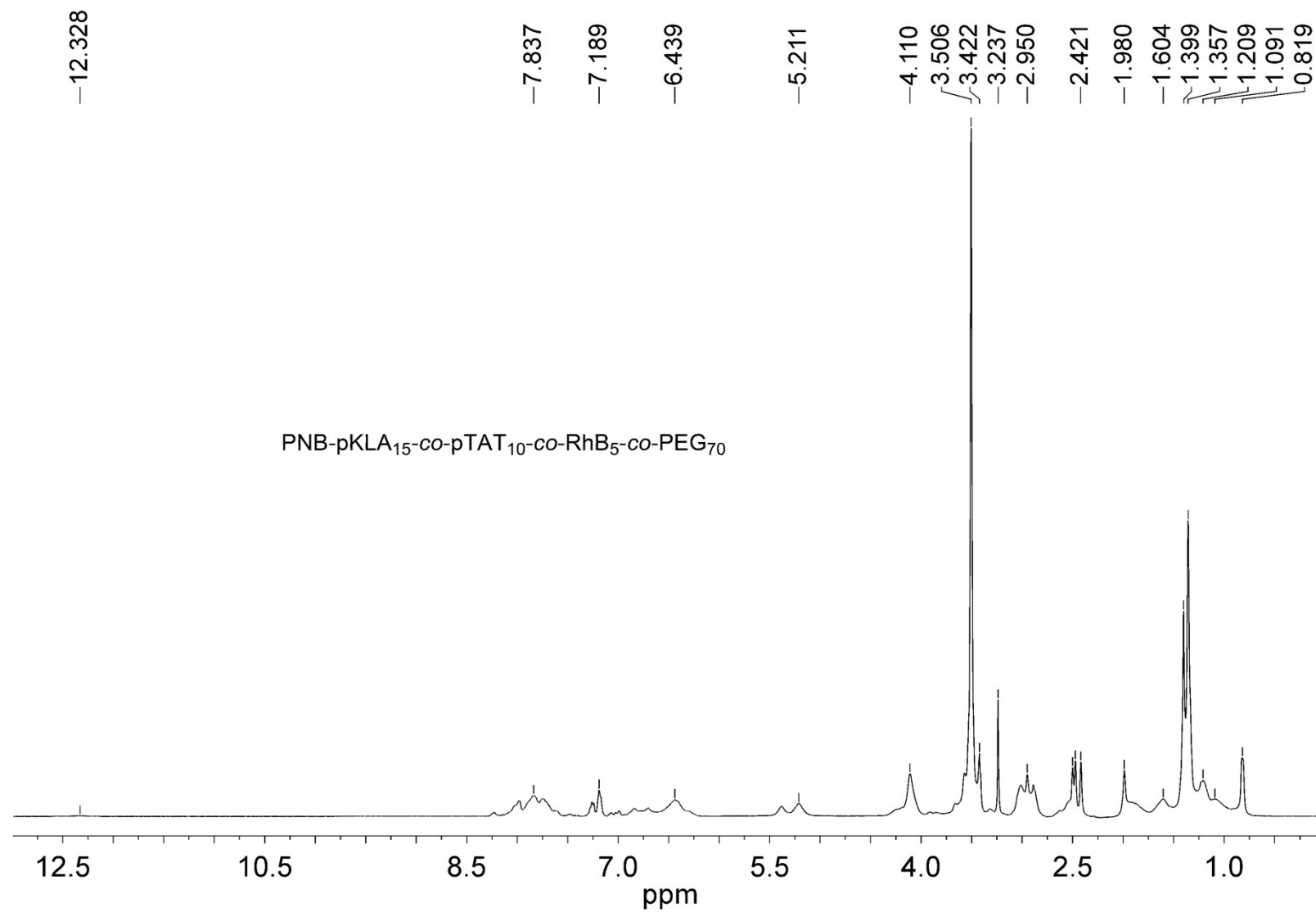


Figure S9. ^1H NMR spectrum for PNB-pKLA₁₅-co-pTAT₁₀-co-RhB₅-co-PEG₇₀ polymer in DMSO- d_6 .

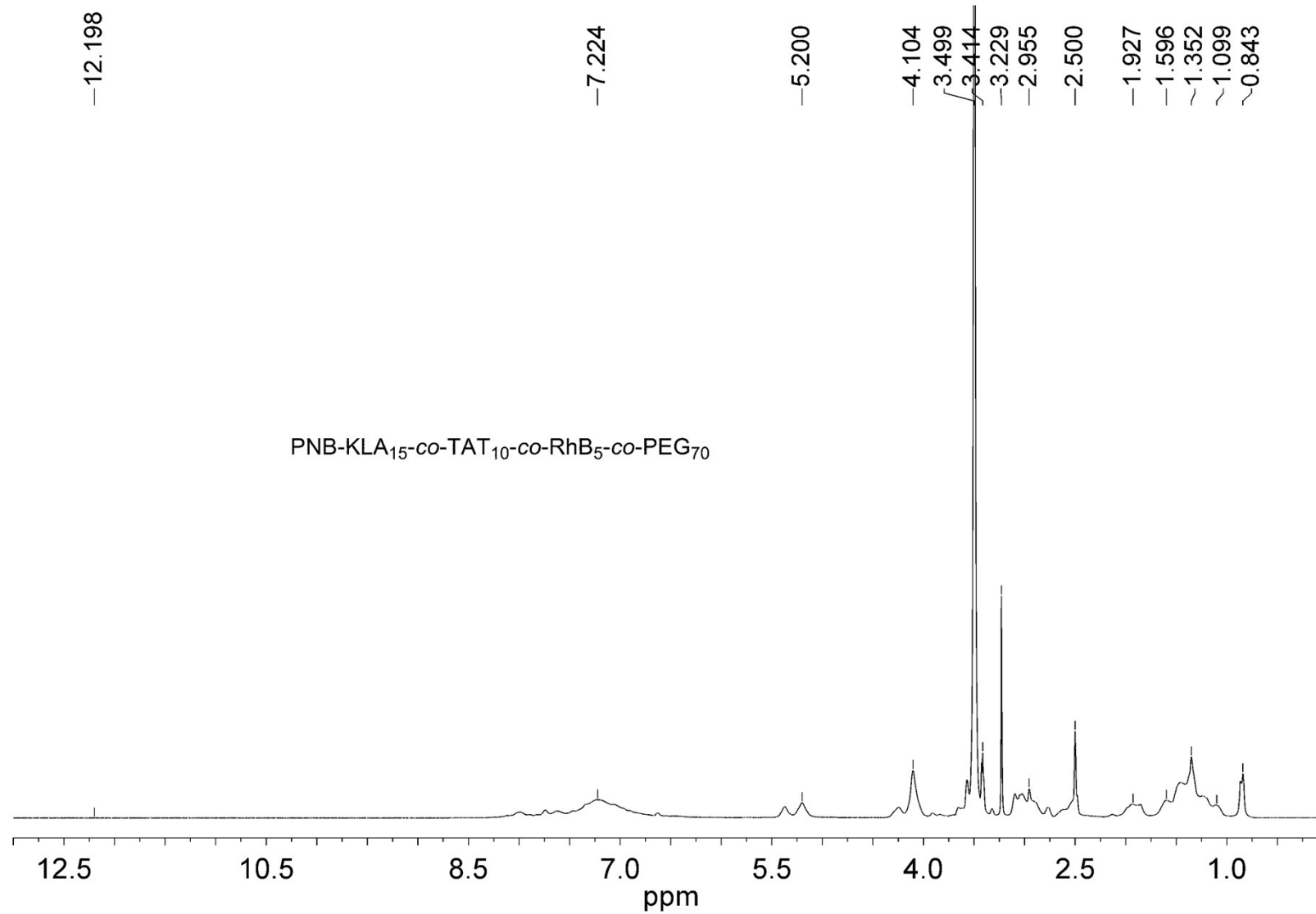


Figure S10. ^1H NMR spectrum for PNB-KLA₁₅-co-TAT₁₀-co-RhB₅-co-PEG₇₀ polymer in DMSO- d_6 .