Electronic Supplementary Information for

Switchable Two-Photon Imaging of RGD-Functionalized Polynorbornenes with Enhanced Cellular Uptake in Living Cells

Nan Xie,[a] Ke Feng,*[b] Bin Chen,[b] Chen-Ho Tung[b] and Li-Zhu Wu*[b]

[a]*Beijing Area Major Laboratory of Peptide and Small Molecular Drugs, Engineering Research Center of Endogenous Prophylactic of Ministry of Education of China, Beijing Laboratory of Biomedical Materials, School of Chemical Biology and 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, The Chinese Academy of Sciences, Beijing 100190, P. R. China.*

Email: kefeng@mail.ipc.ac.cn; lzwu@mail.ipc.ac.cn.

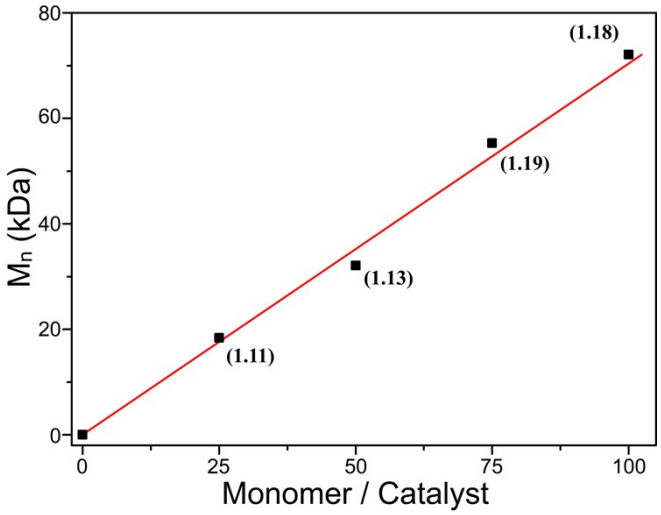

Fig. S1 Plot of M_n *vs* the monomer-to-initiator ratios for the ROMP of NB-mPEG monomer.

Table S1 GPC data for NB-mPEG homopolymers.

Polymer[a]	[M]/[C]	M_n /kDa	M_w /kDa	PDI
PNB-mPEG$_{25}$	25	18.4	20.4	1.11
PNB-mPEG$_{50}$	50	32.1	36.2	1.13
PNB-mPEG$_{75}$	75	55.3	65.7	1.19
PNB-mPEG$_{100}$	100	72.1	85.3	1.18

[a]Measured in THF at 298 K.

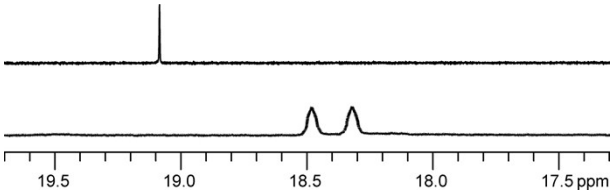

Fig. S2 Carbene ^{1}H NMR signals for Grubbs' third-generation initiator (top), and during the polymerizations of NB-mPEG monomer (bottom) in $CDCl_3$.

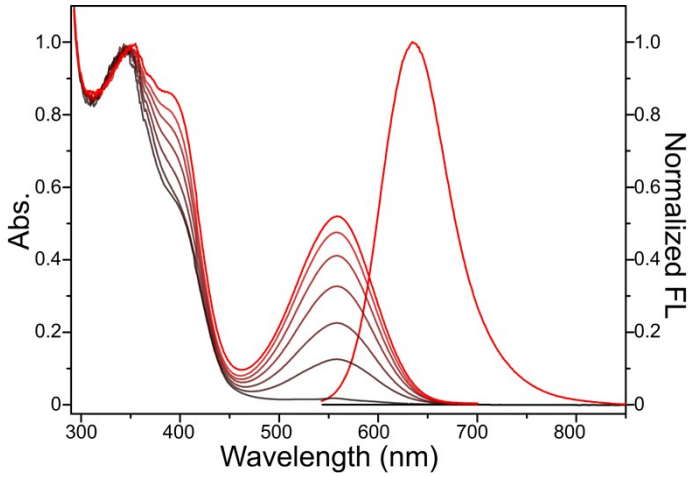

Fig. S3 UV-Vis absorption spectra upon UV @ 365 nm irradiation and normalized fluorescence spectra of nonfluorescent SP form (black) and fluorescent MC form (red) for PNB-RGDS$_{10}$-*co*-SP$_{10}$-*co*-mPEG$_{80}$ with the concentration of 0.082 mg·mL^{-1} in 10 mM PBS buffer.

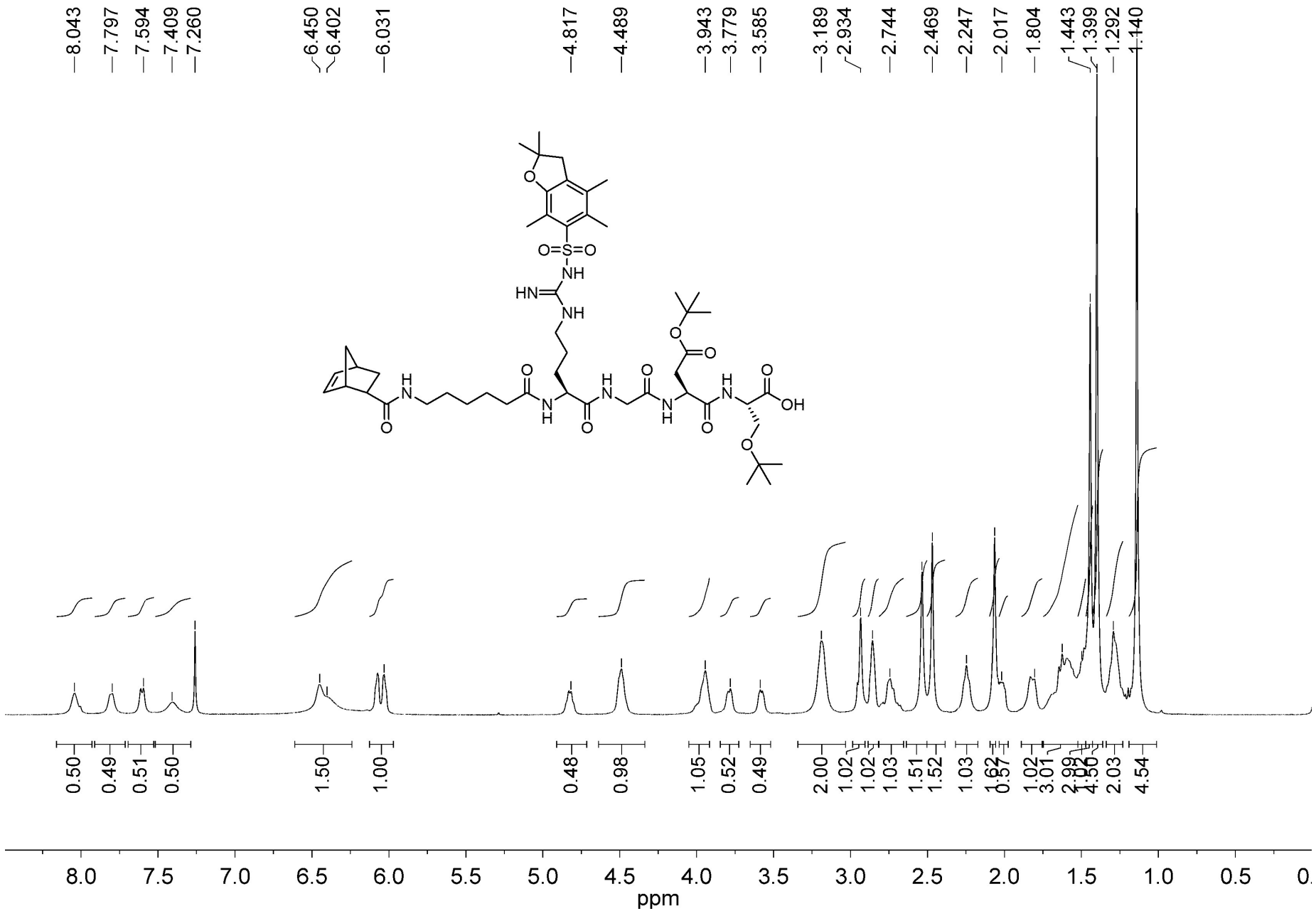

Fig. S4 ^{1}H NMR spectrum for *N*-(Acp-Arg(Pbf)-Gly-Asp(O^{t}Bu)-Ser(^{t}Bu))-*exo*-bicyclo[2.2.1]-hept-5-ene-2-carboxamide in $CDCl_3$.

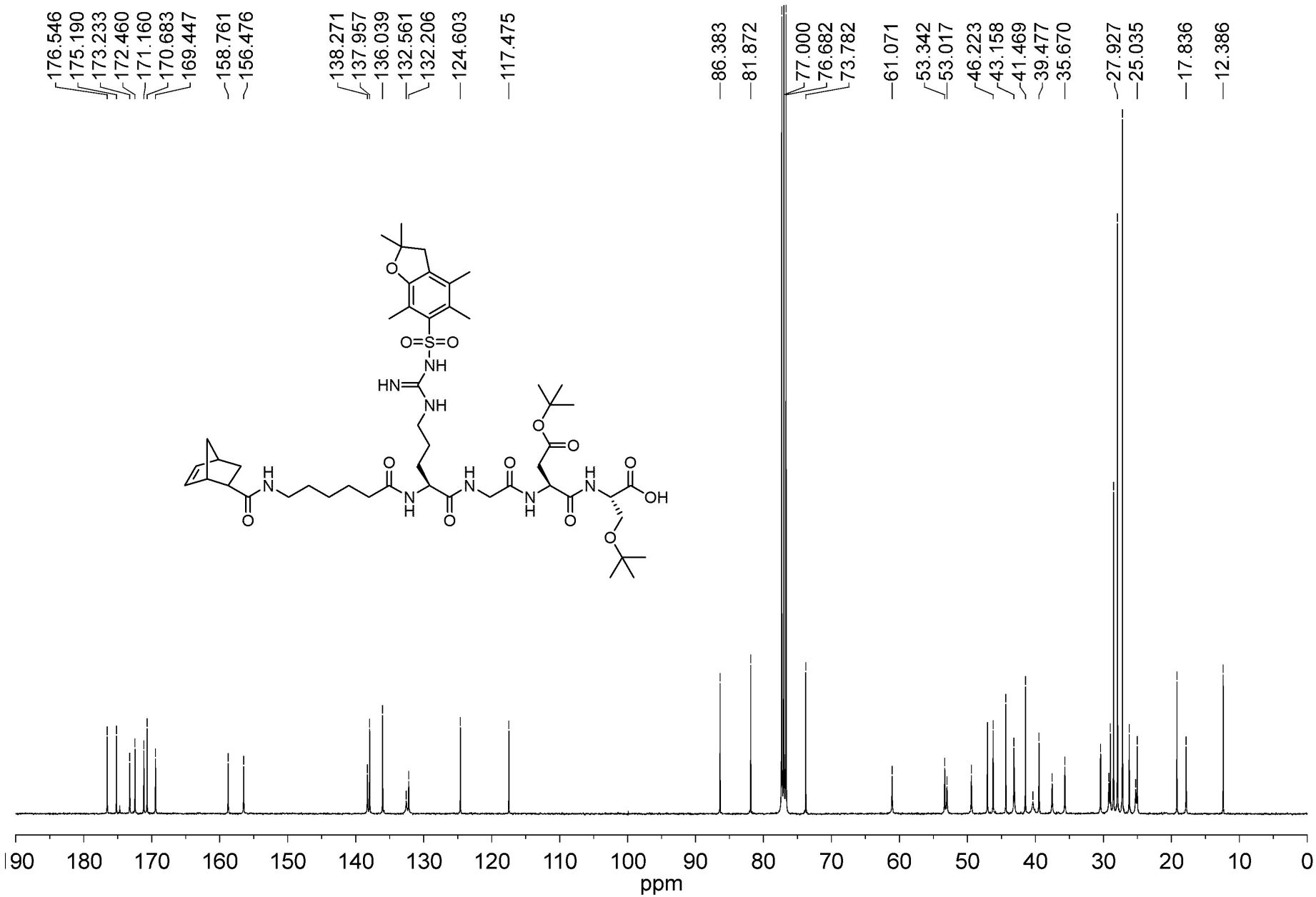

Fig. S5 ^{13}C NMR spectrum for *N*-(Acp-Arg(Pbf)-Gly-Asp(O^{t}Bu)-Ser(^{t}Bu))-*exo*-bicyclo[2.2.1]-hept-5-ene-2-carboxamide in $CDCl_3$.

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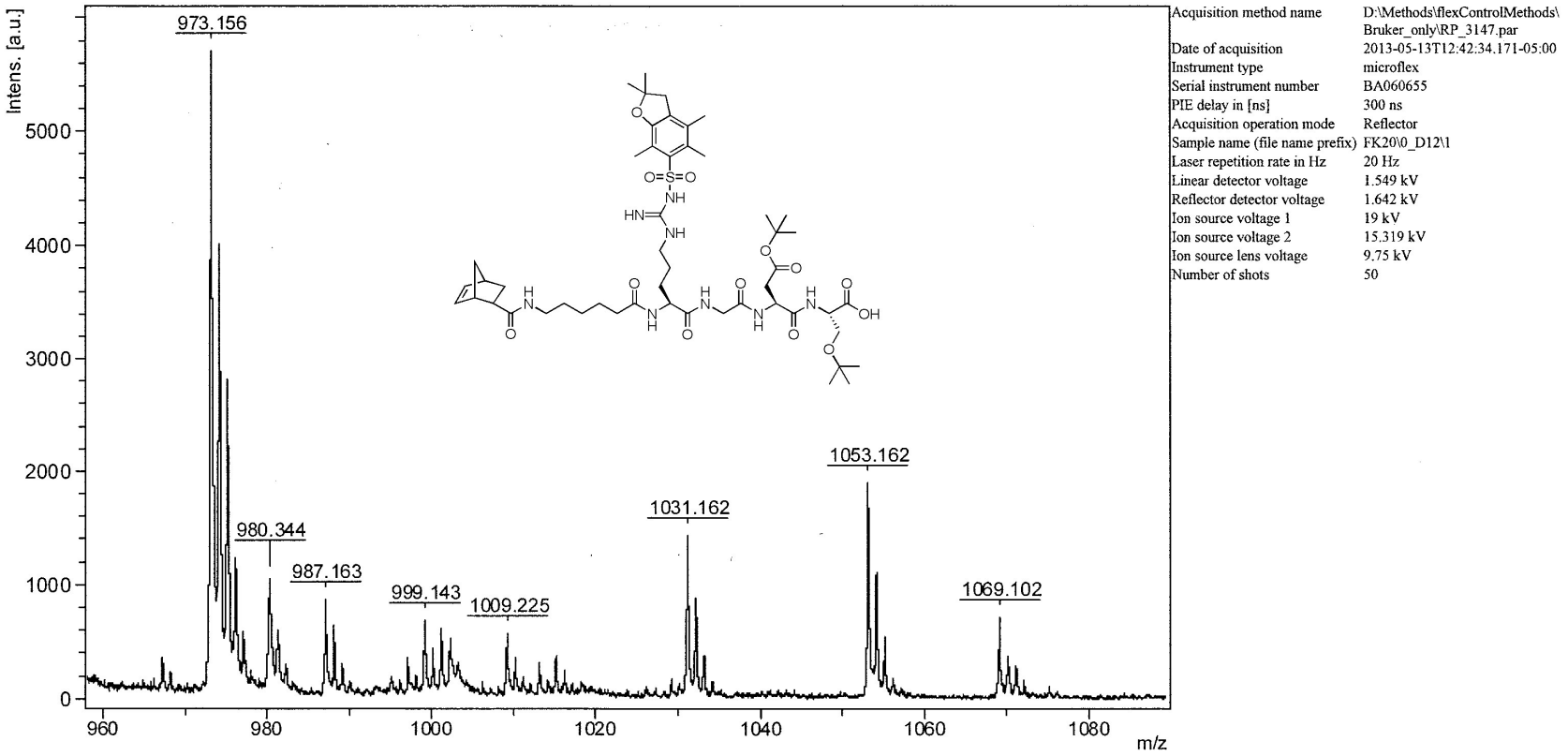

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Fig. S6 MALDI-TOF MS spectrum for *N*-(Acp-Arg(Pbf)-Gly-Asp(O^{t}Bu)-Ser(^{t}Bu))-*exo*-bicyclo[2.2.1]-hept-5-ene-2-carboxamide.

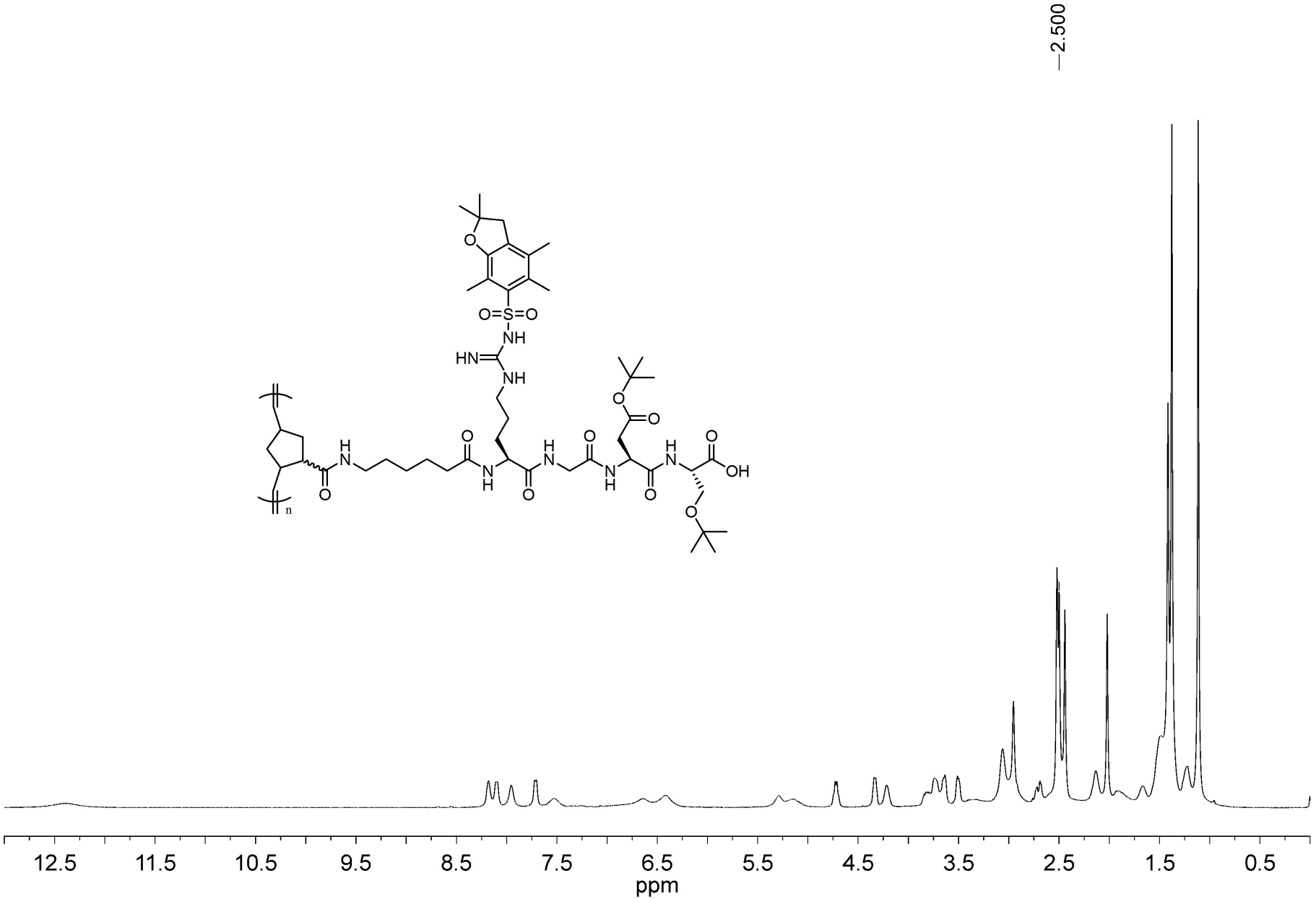

Fig. S7 ^{1}H NMR spectrum for PNB-pRGDS polymer in DMSO-d_6.

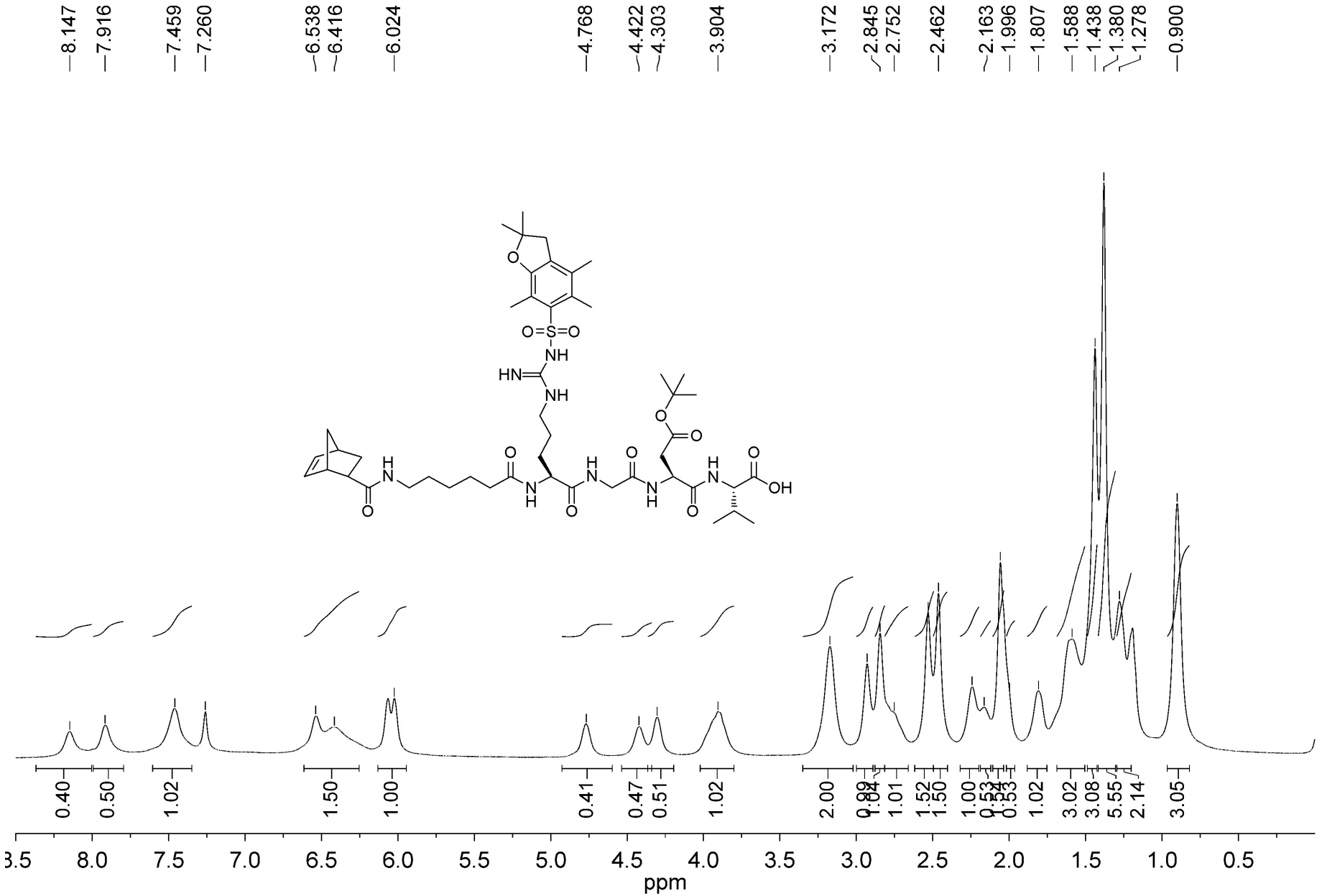

Fig. S8 ^{1}H NMR spectrum for *N*-(Acp-Arg(Pbf)-Gly-Asp(O^{t}Bu)-Val)-*exo*-bicyclo[2.2.1]-hept-5-ene-2-carboxamide in $CDCl_3$.

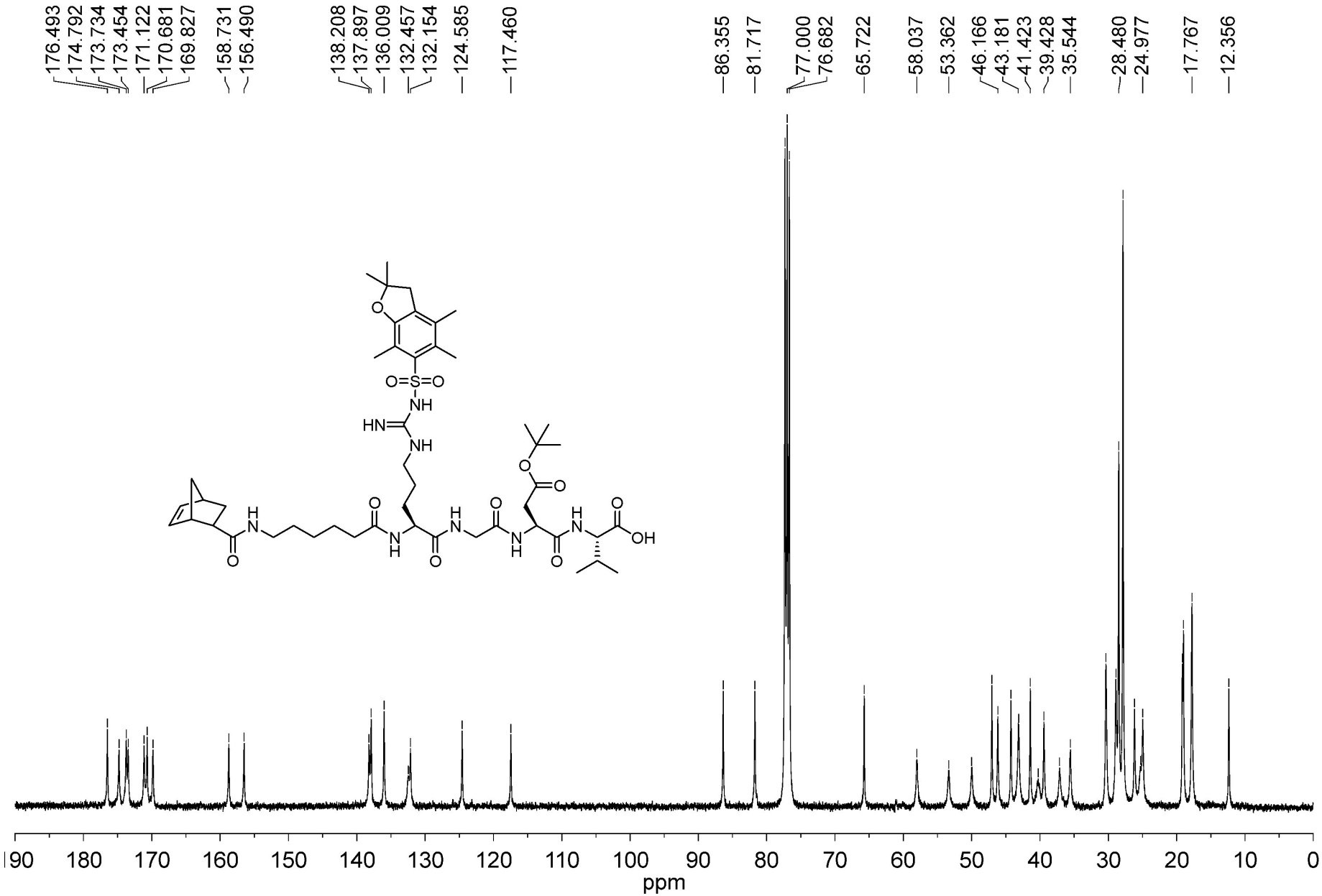

Fig. S9 ^{13}C NMR spectrum for *N*-(Acp-Arg(Pbf)-Gly-Asp(O^{t}Bu)-Val)-*exo*-bicyclo[2.2.1]-hept-5-ene-2-carboxamide in $CDCl_3$.

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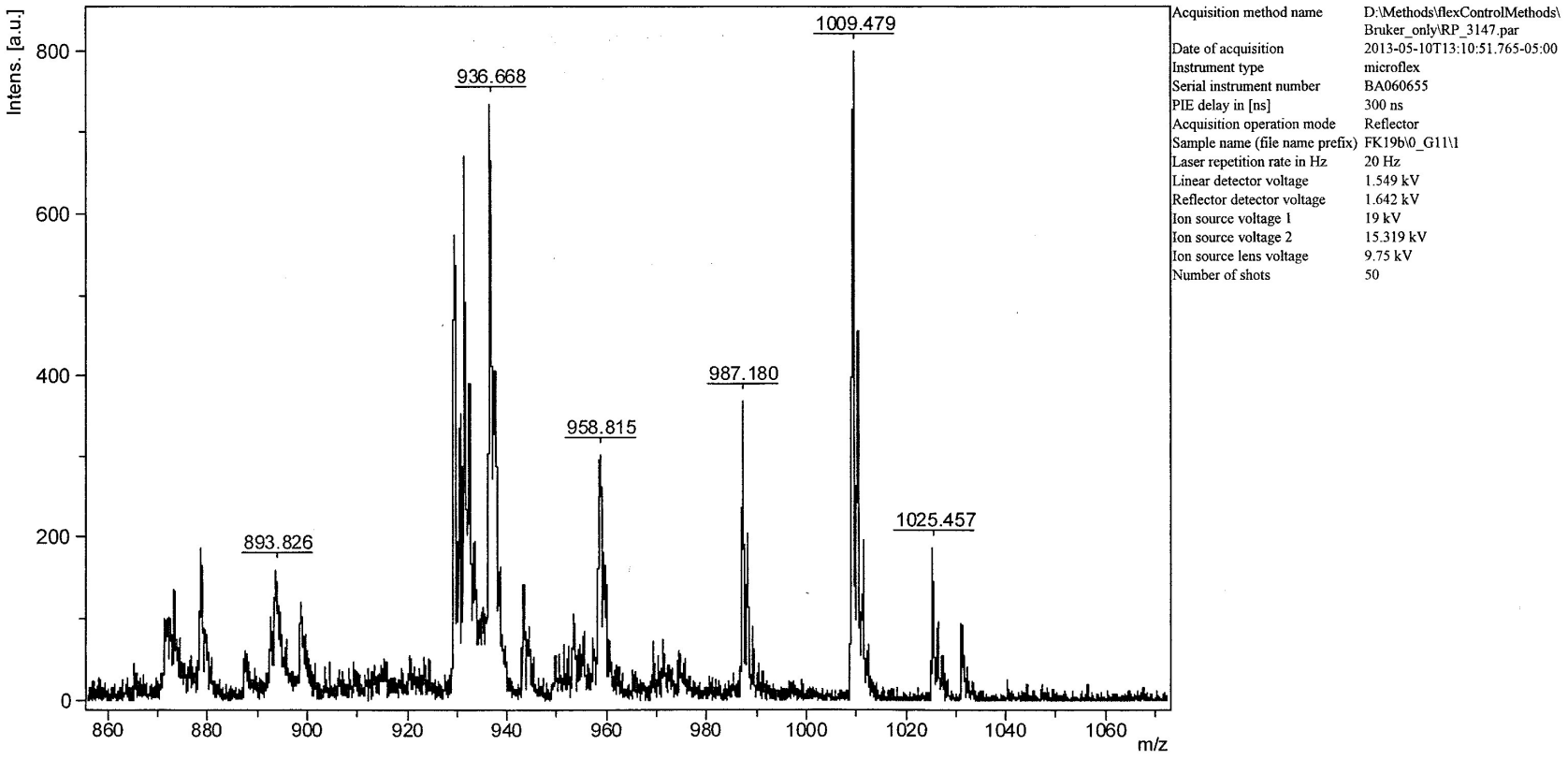

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Fig. S10 MALDI-TOF MS spectrum for *N*-(Acp-Arg(Pbf)-Gly-Asp(O^{t}Bu)-Val)-*exo*-bicyclo[2.2.1]-hept-5-ene-2-carboxamide.

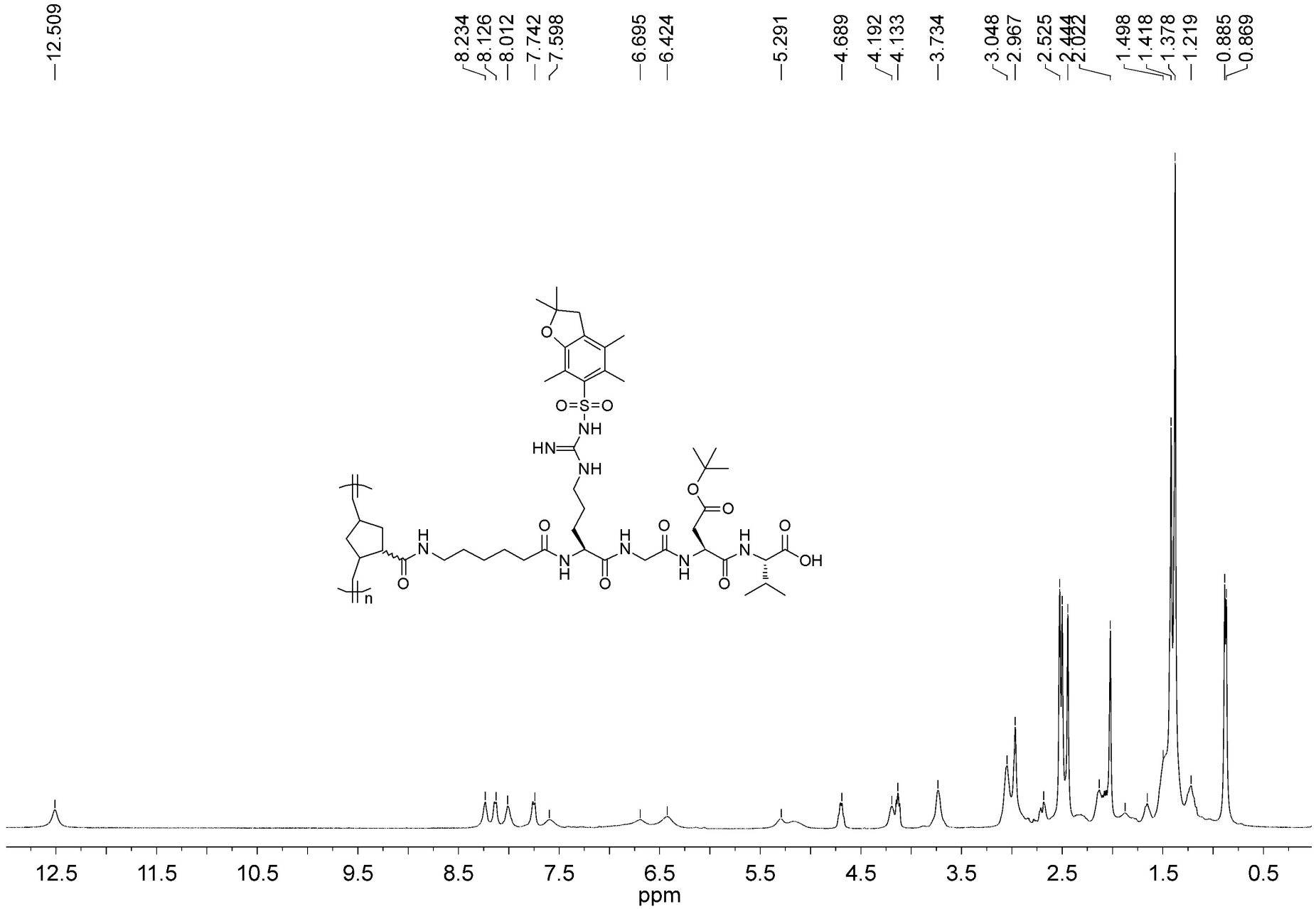

Fig. S11 ^{1}H NMR spectrum for PNB-pRGDV polymer in DMSO-d_6.

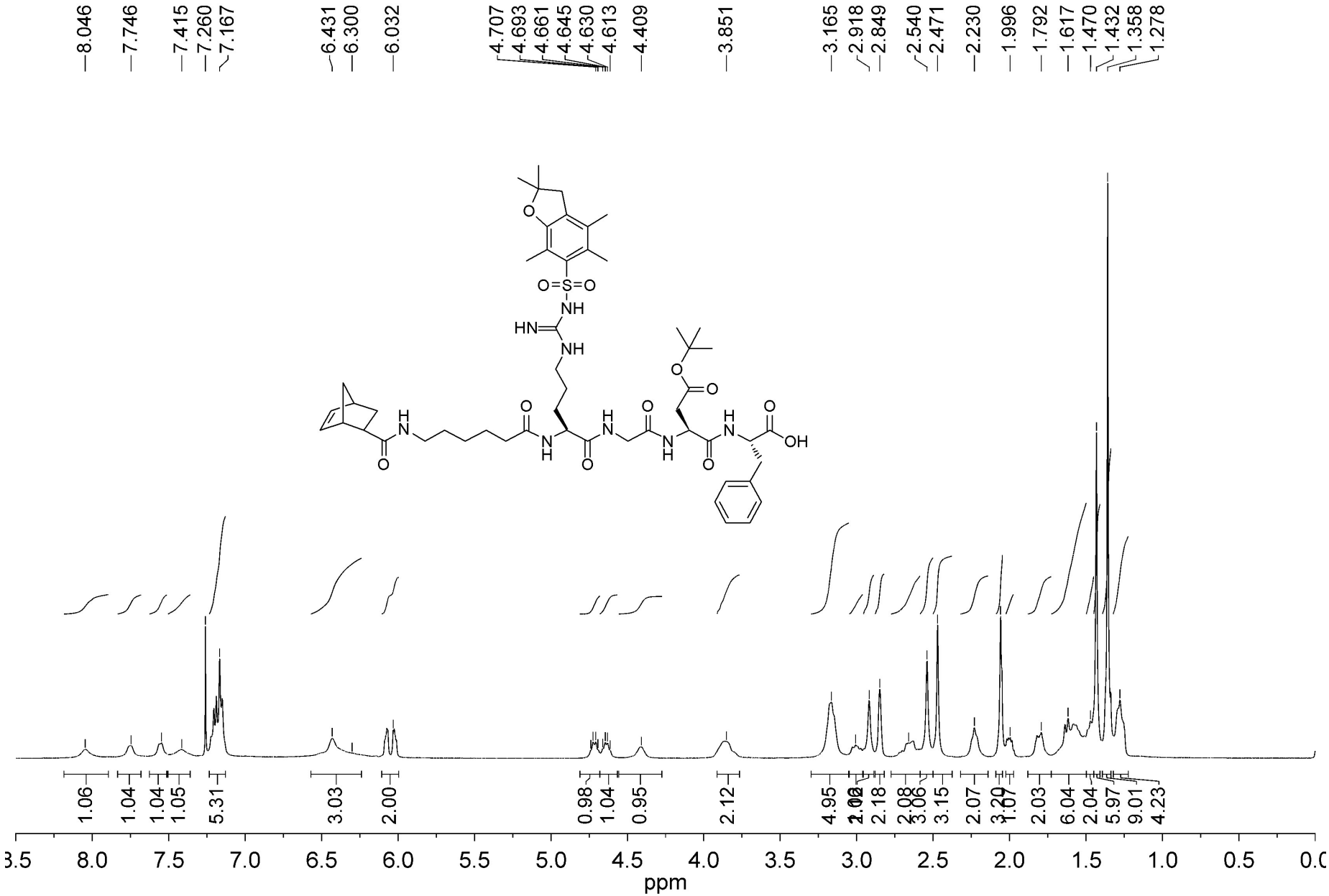

Fig. S12 ^{1}H NMR spectrum for *N*-(Acp-Arg(Pbf)-Gly-Asp(O^{t}Bu)-Phe)-*exo*-bicyclo[2.2.1]-hept-5-ene-2-carboxamide in $CDCl_3$.

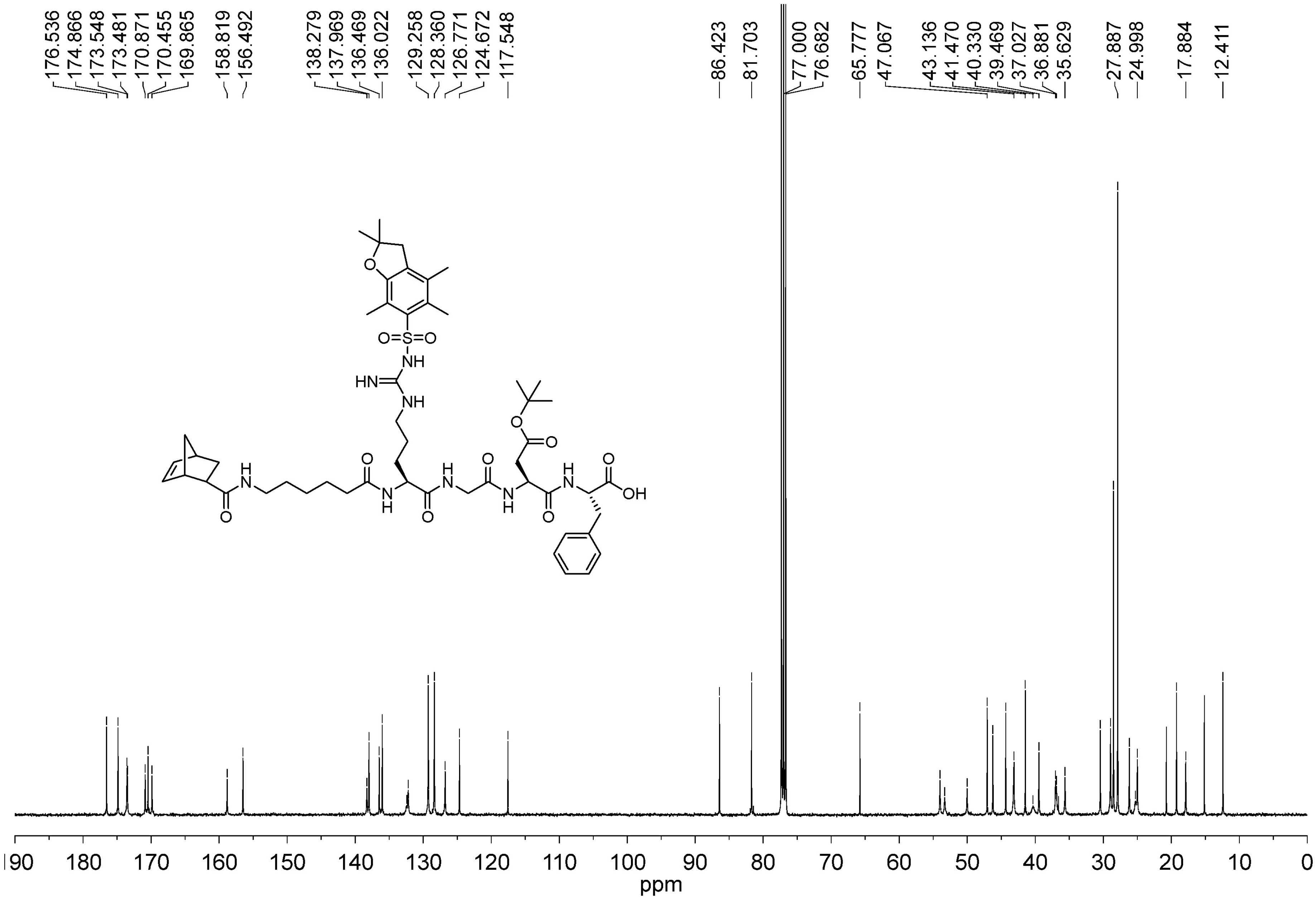

Fig. S13 ^{13}C NMR spectrum for *N*-(Acp-Arg(Pbf)-Gly-Asp(O^{t}Bu)-Phe)-*exo*-bicyclo[2.2.1]-hept-5-ene-2-carboxamide in $CDCl_3$.

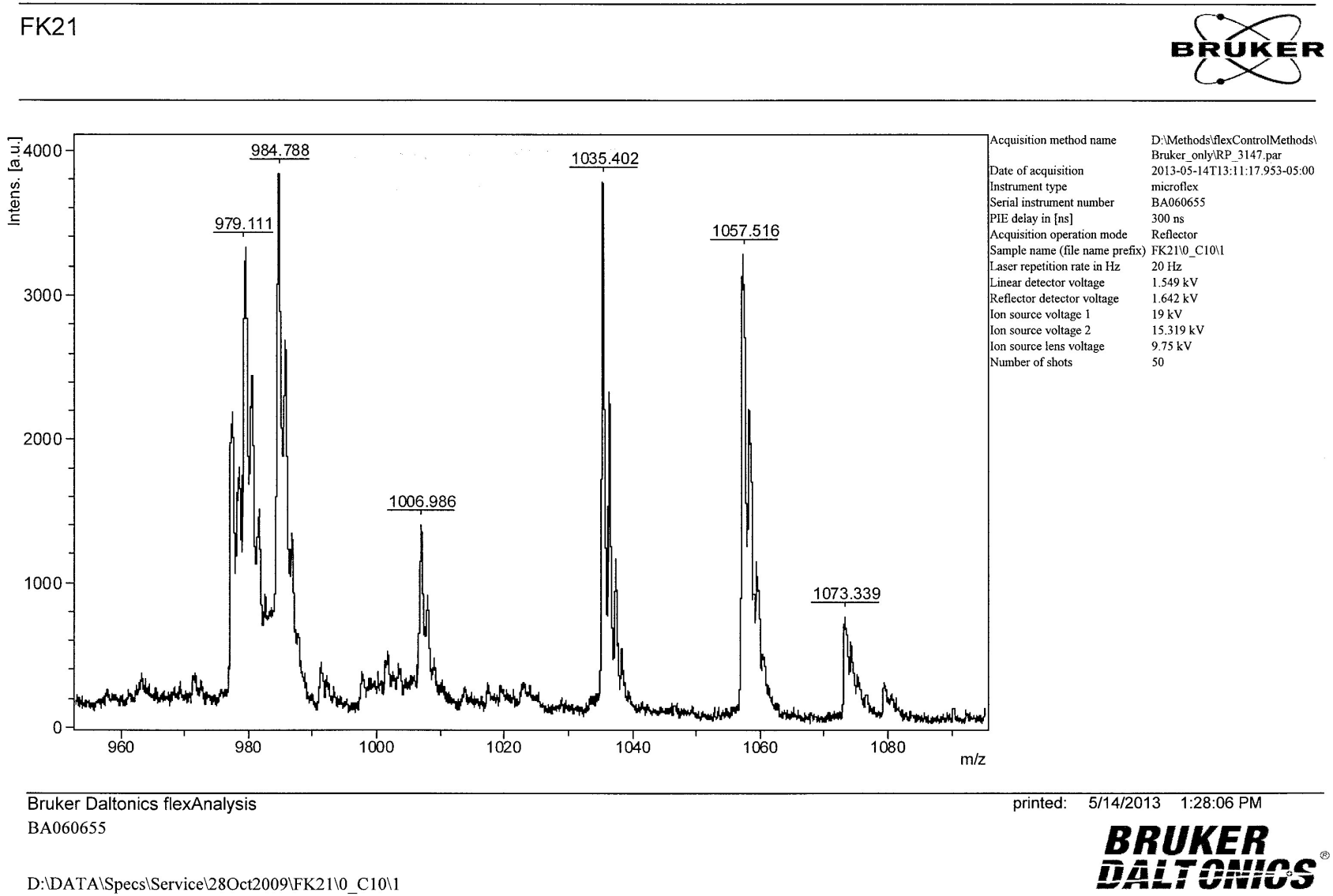

Fig. S14 MALDI-TOF MS spectrum for *N*-(Acp-Arg(Pbf)-Gly-Asp(O^{t}Bu)-Phe)-*exo*-bicyclo[2.2.1]-hept-5-ene-2-carboxamide.

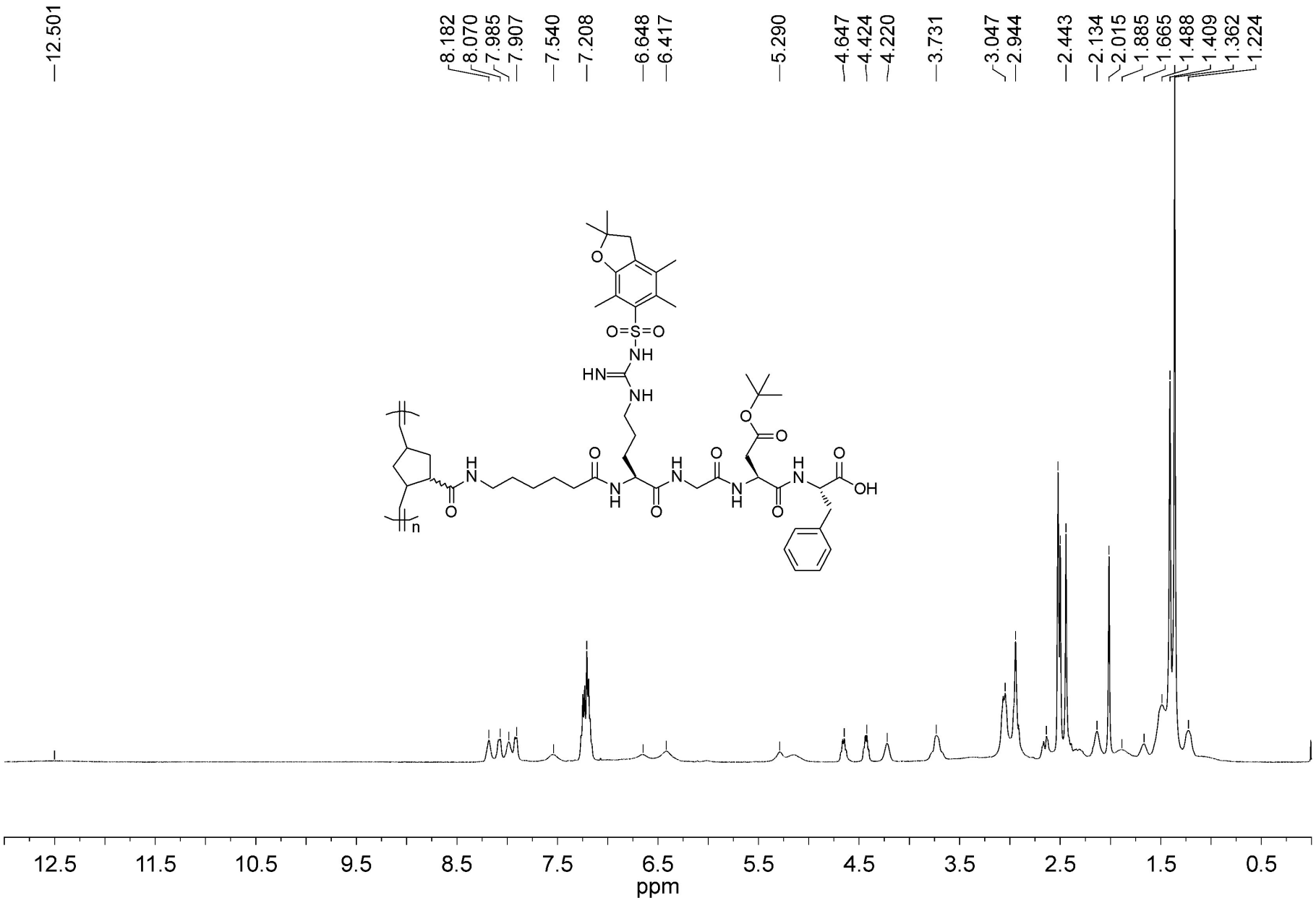

Fig. S15 ^{1}H NMR spectrum for PNB-pRGDF polymer in DMSO-d_6.

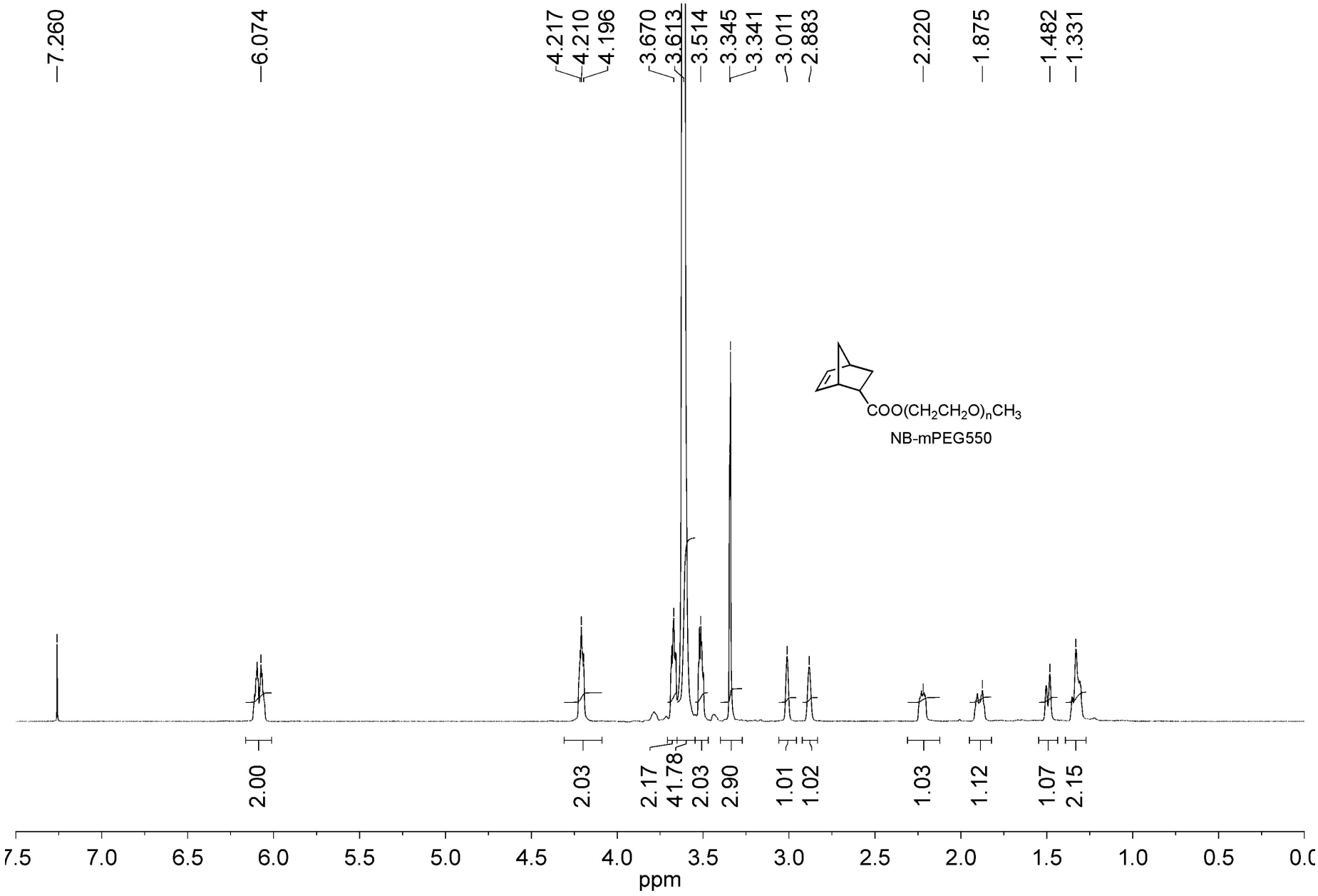

Fig. S16 ^{1}H NMR spectrum for methoxypolyethylene-glycol-550-*exo*-bicyclo[2.2.1]-hept-5-ene-2-carboxylate in $CDCl_3$.

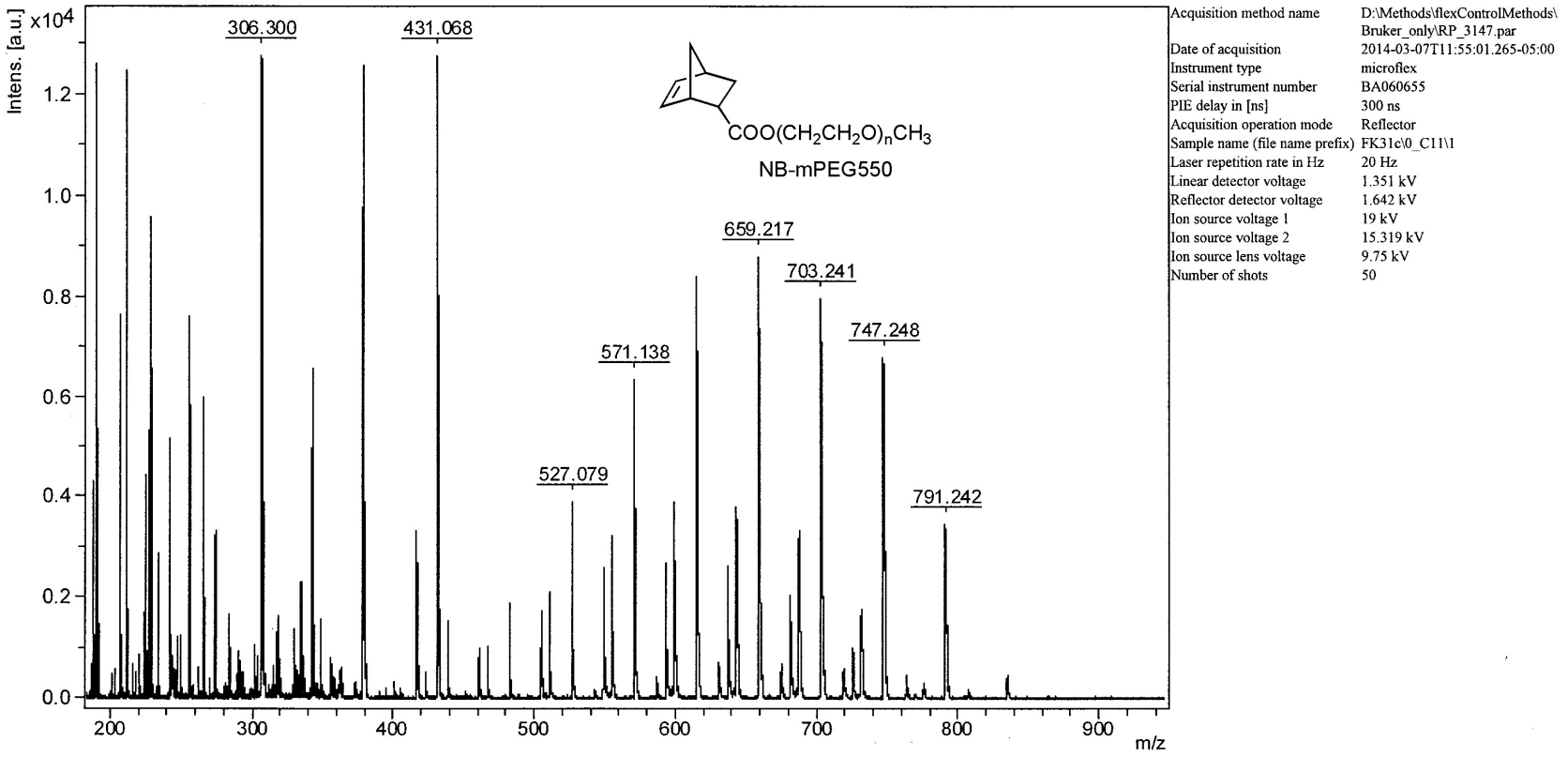

Fig. S17 MALDI-TOF MS spectrum for methoxypolyethylene-glycol-550-*exo*-bicyclo[2.2.1]-hept-5-ene-2-carboxylate.

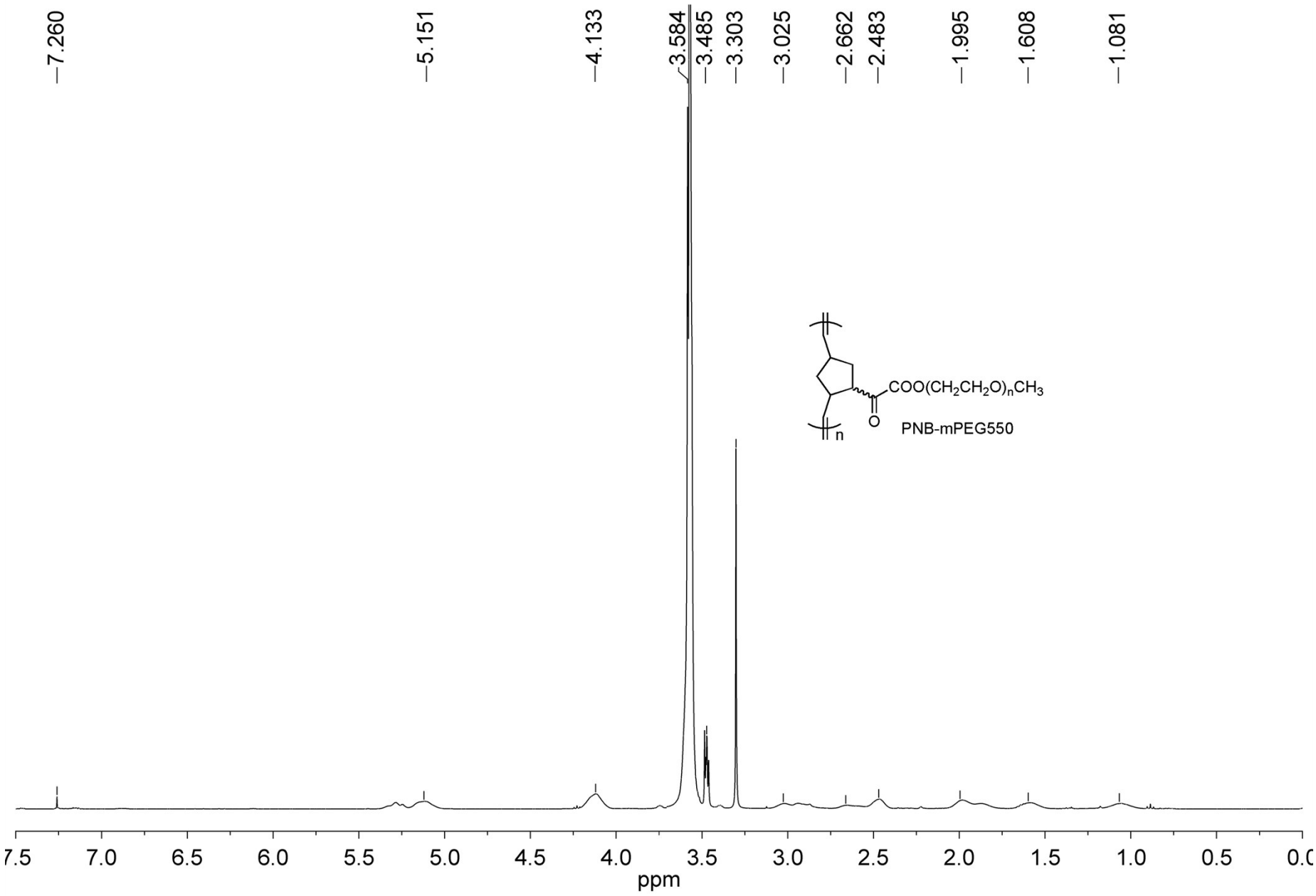

Fig. S18 ^{1}H NMR spectrum for PNB-mPEG550 in $CDCl_3$.

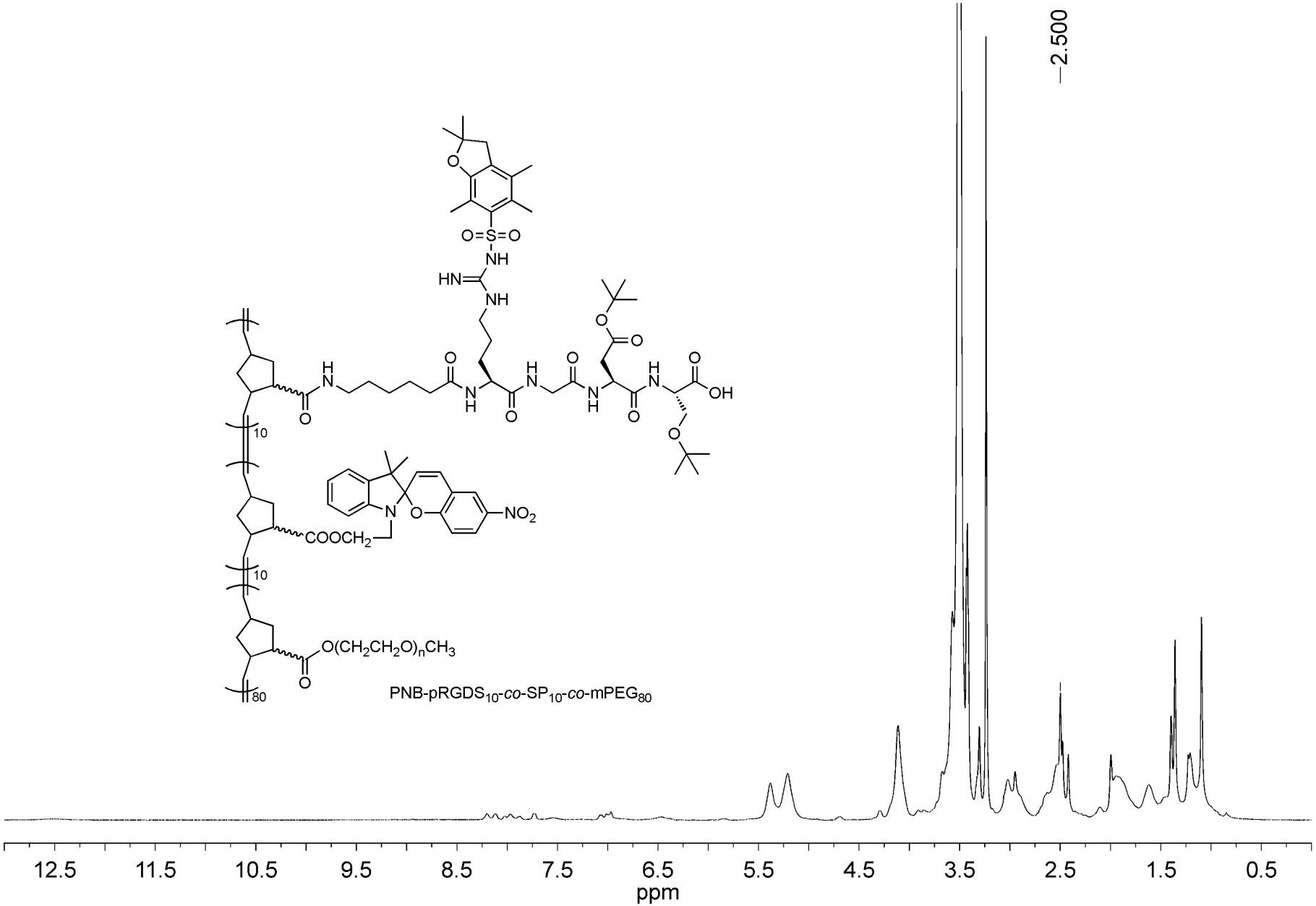

Fig. S19 ^{1}H NMR spectrum for PNB-pRGDS$_{10}$-*co*-SP$_{10}$-*co*-mPEG$_{80}$ in DMSO-d_6.

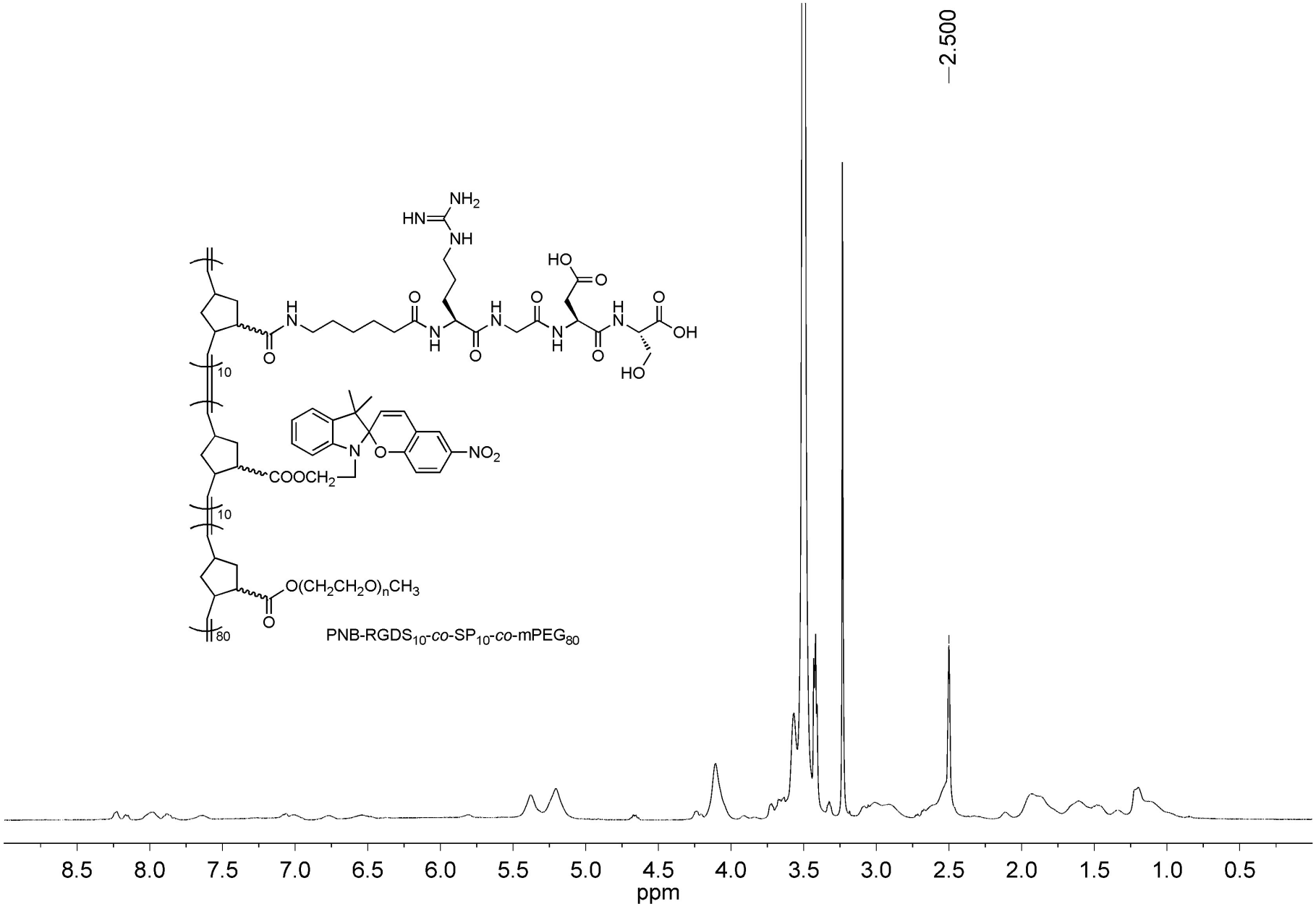

Fig. S20 ^{1}H NMR spectrum for PNB-RGDS$_{10}$-*co*-SP$_{10}$-*co*-mPEG$_{80}$ in DMSO-d_6.

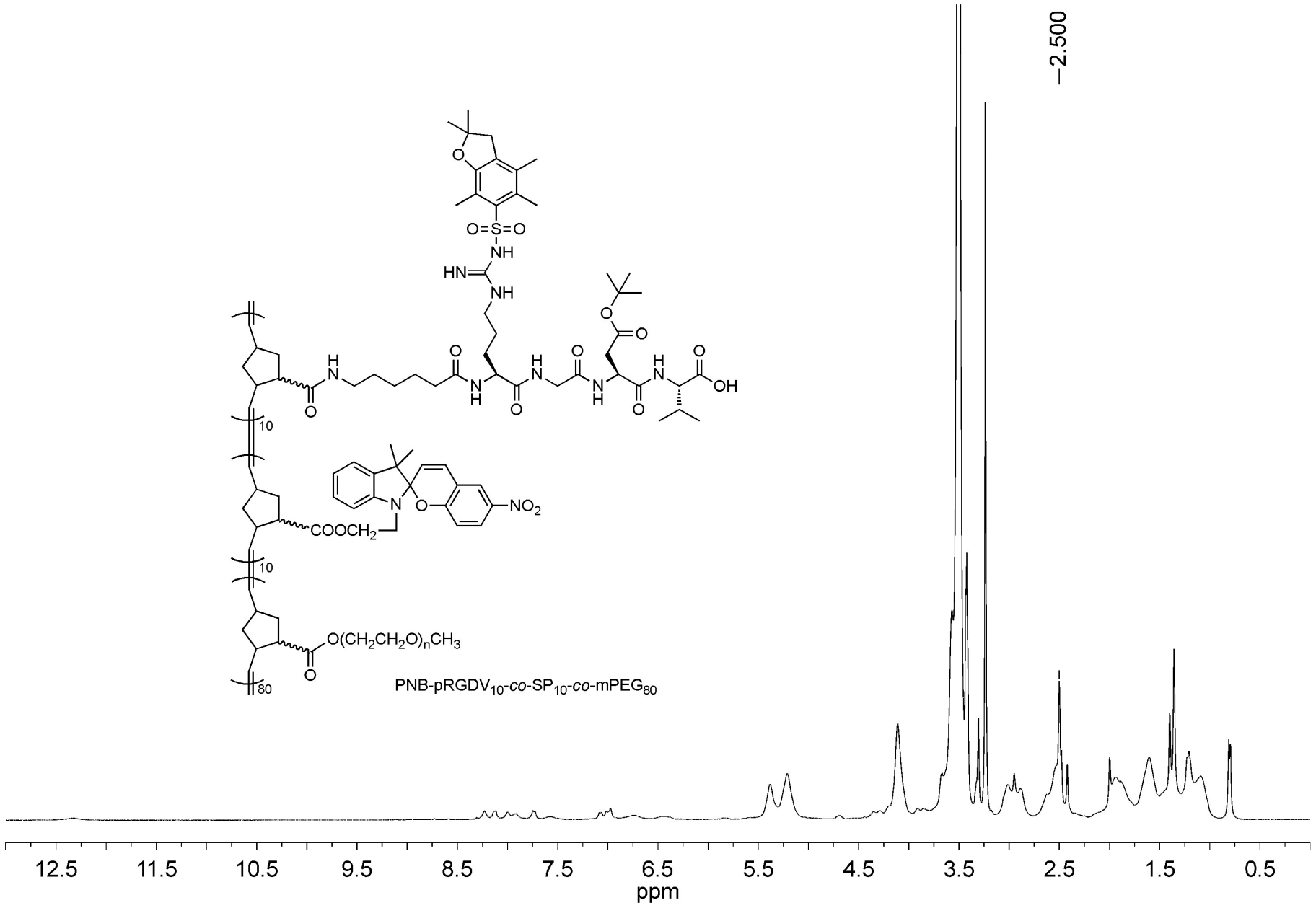

Fig. S21 ^{1}H NMR spectrum for PNB-pRGDV$_{10}$-*co*-SP$_{10}$-*co*-mPEG$_{80}$ in DMSO-d_6.

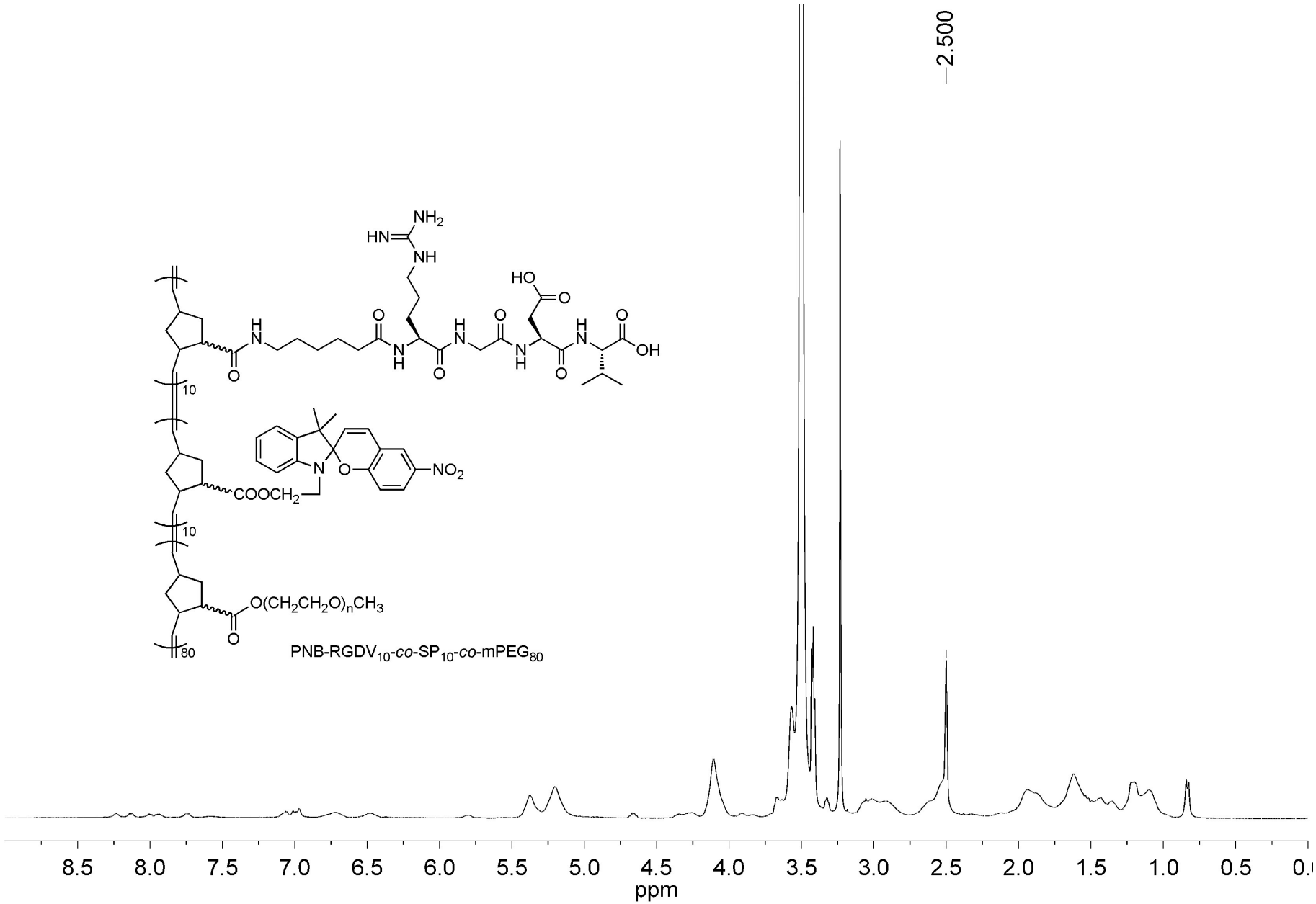

Fig. S22 ^{1}H NMR spectrum for PNB-RGDV$_{10}$-*co*-SP$_{10}$-*co*-mPEG$_{80}$ in DMSO-d_6.

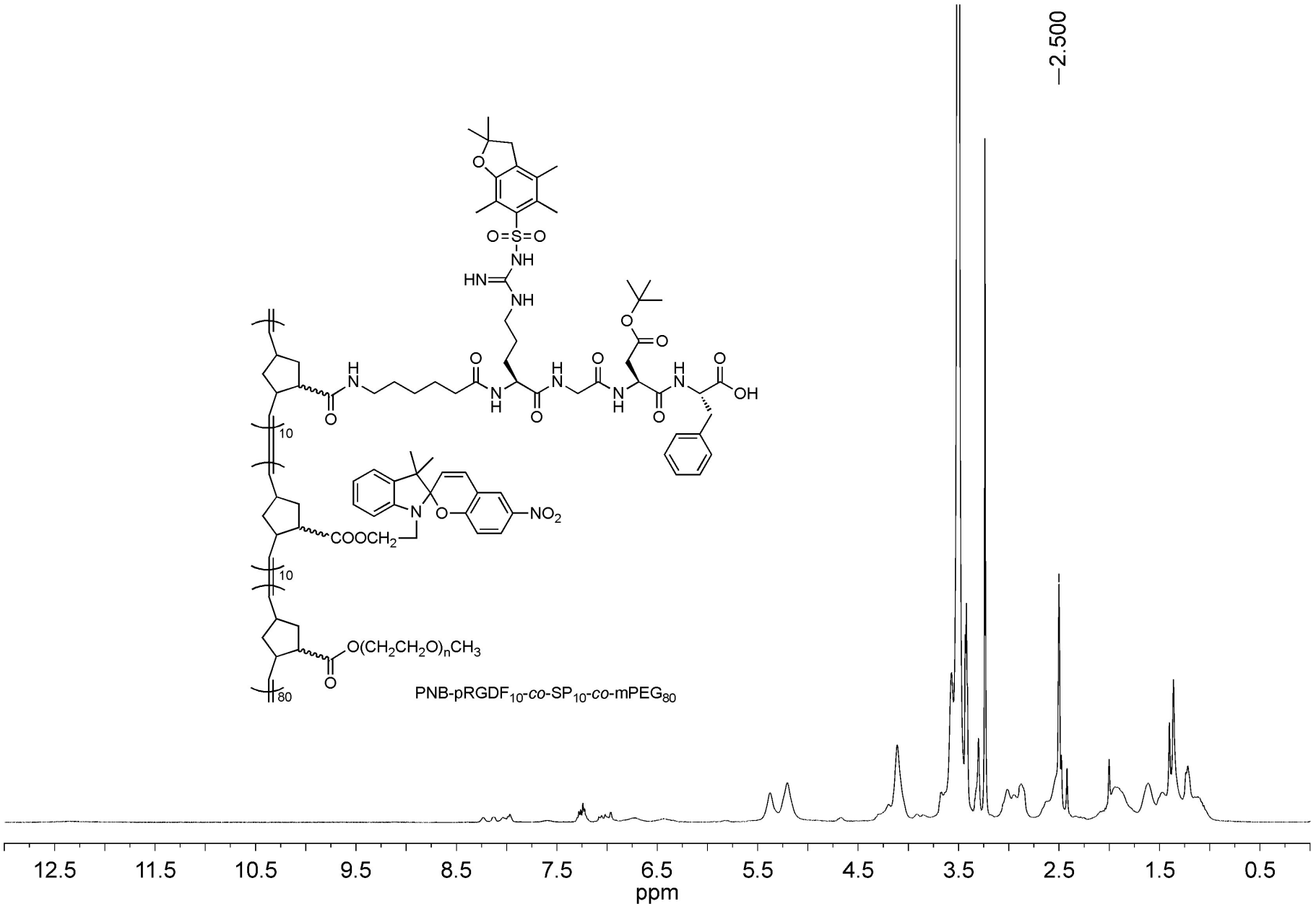

Fig. S23 ^{1}H NMR spectrum for PNB-pRGDF$_{10}$-*co*-SP$_{10}$-*co*-mPEG$_{80}$ in DMSO-d_6.

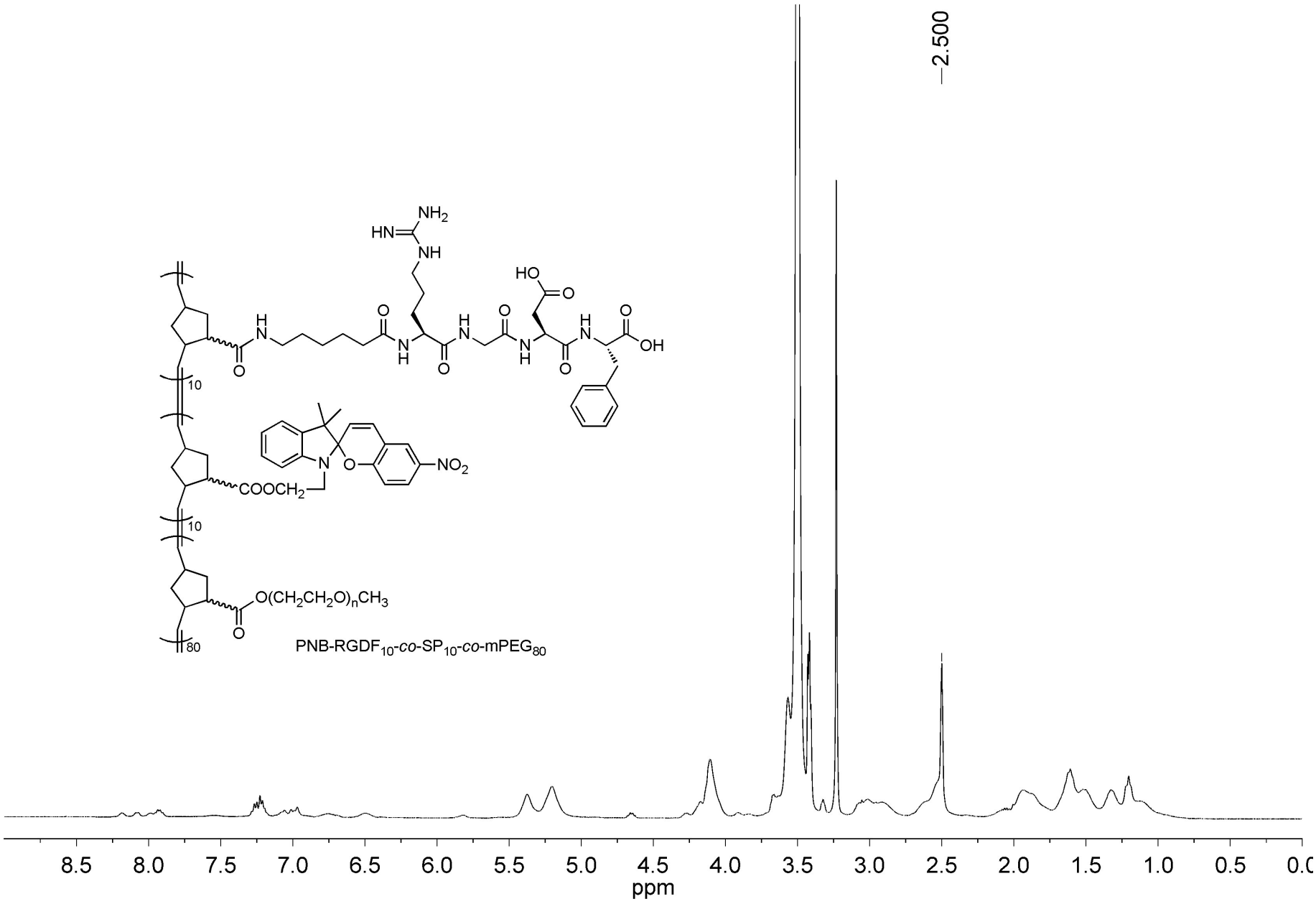

Fig. S24 ^{1}H NMR spectrum for PNB-RGDF$_{10}$-*co*-SP$_{10}$-*co*-mPEG$_{80}$ in DMSO-d_6.

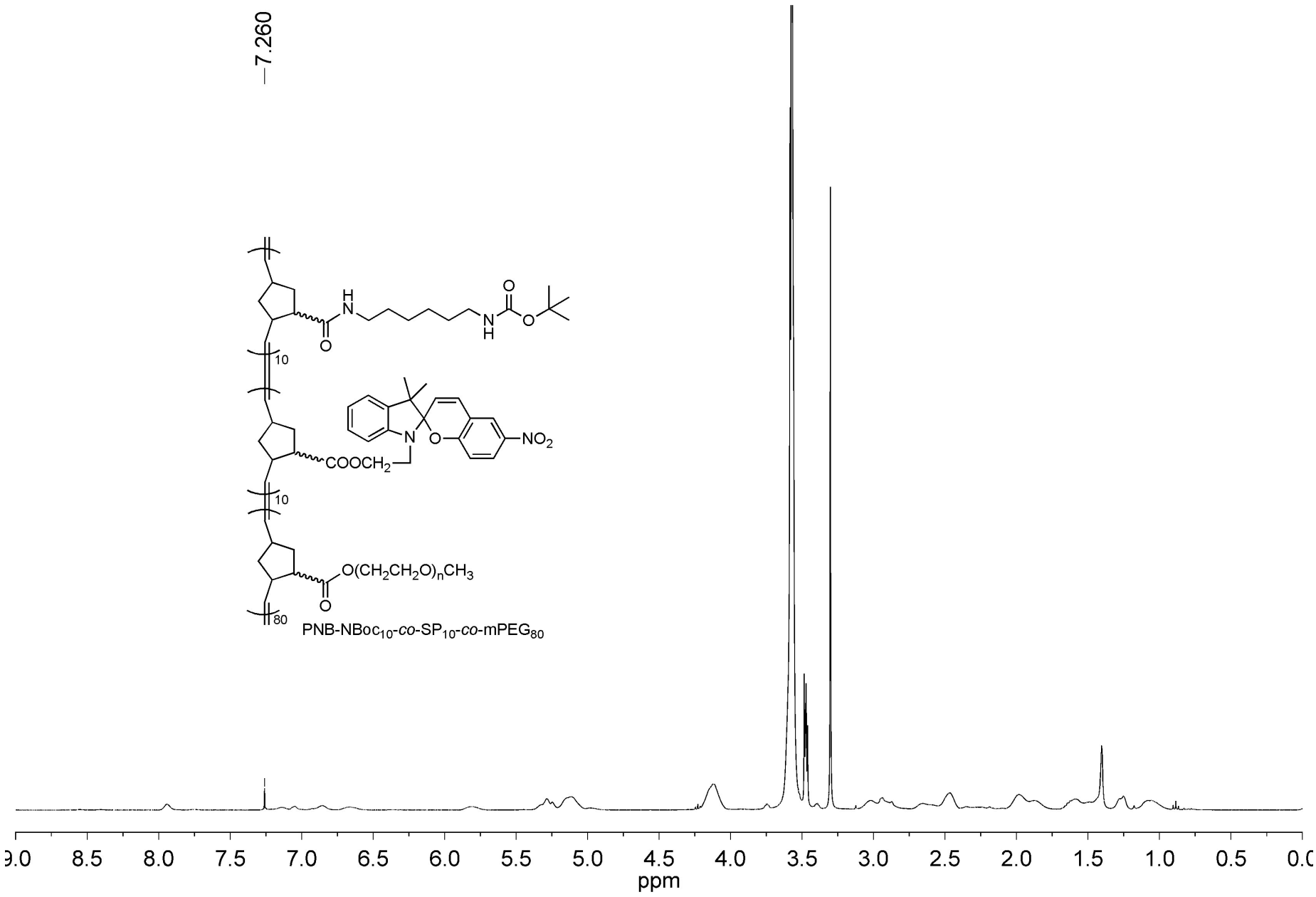

Fig. S25 ^{1}H NMR spectrum for PNB-NBoc$_{10}$-*co*-SP$_{10}$-*co*-mPEG$_{80}$ in $CDCl_3$.

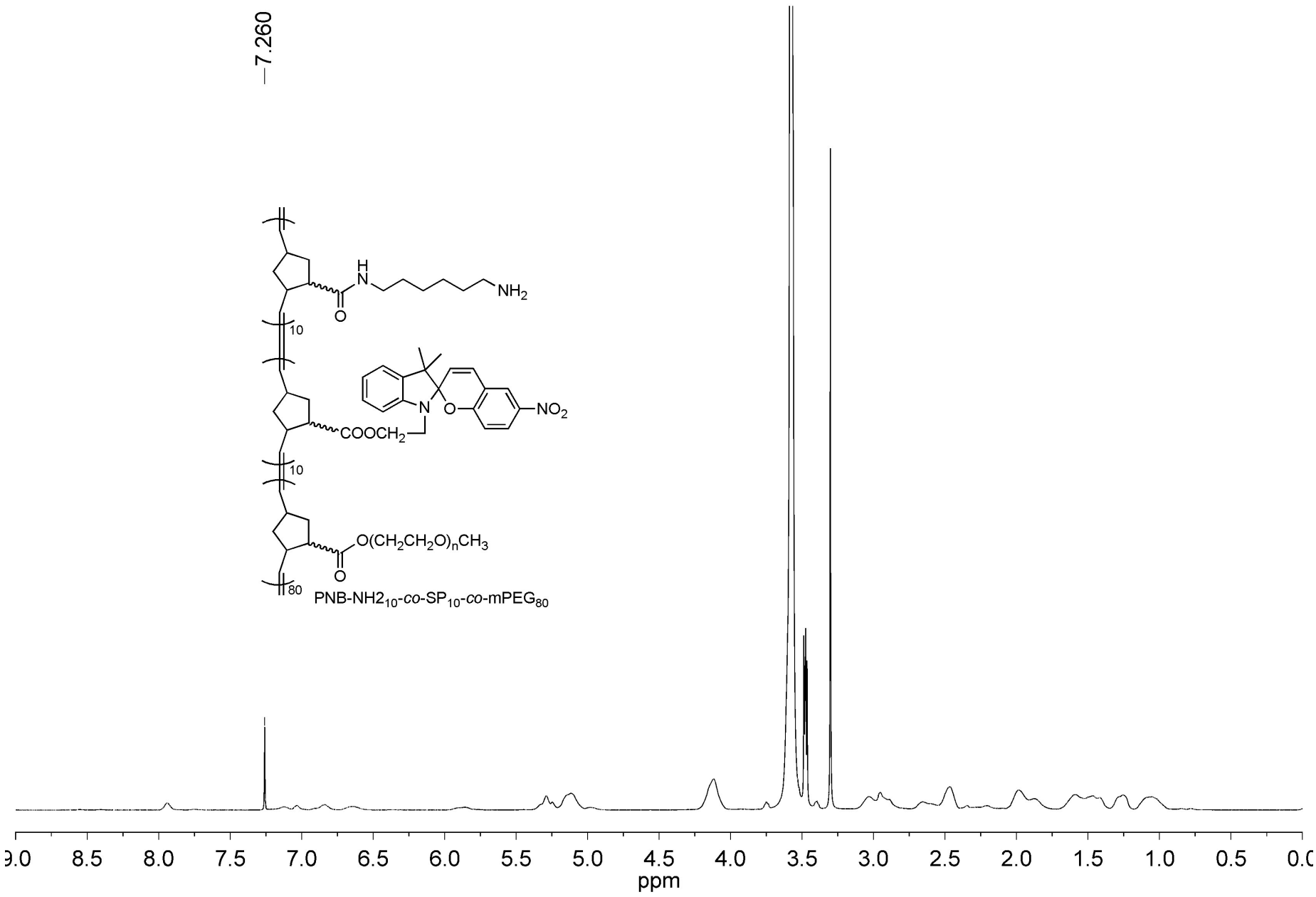

Fig. S26 ^{1}H NMR spectrum for PNB-NH2$_{10}$-*co*-SP$_{10}$-*co*-mPEG$_{80}$ in $CDCl_3$.