Supporting Information For

Post-Synthetic Modification of Tryptophan Containing Peptides via NIS Mediation

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General Conditions

All reactions were run under an inert atmosphere (Ar) with flame-dried glassware using standard techniques for manipulating air-sensitive compounds. 1,4-dioxane were obtained through distillation over Calciumhydride. Commercial reagents were used as supplied or purified by standard techniques where necessary. The dipeptides **1a-1g**, tripeptides **11a-11b** and triazoles **2a-2m** were prepared according to the reported procedures.[22] The tetrapeptide **13** was bought from commercial source. Column chromatography was performed using 200-300 mesh silica with the proper solvent system according to TLC analysis using $KMnO_4$ stain and UV light to visualize the reaction components. Unless otherwise noted, nuclear magnetic resonance spectra were recorded on 400 MHz spectrometer. NMR data were reported as follows: chemical shift, multiplicity (s = singlet, d = doublet, t = triplet, m = multiplet and bs = broad singlet), coupling constant in Hz and integration. Chemical shifts for ^{13}C NMR spectra were recorded in parts per million from tetramethylsilane using the central peak of deuterochloroform (77.0 ppm), hexadeuterodimethyl sulfoxide (39.5 ppm) as the internal standard. IR spectra were recorded on an FTIR spectrometer (KBr) and reported in reciprocal centimeters (cm^{-1}). HRMS data were obtained using ESI ionization. Mp data were measured with micro melting point apparatus. Electronic absorption spectra were obtained on a Shimadzu UV-3600 UV-visible spectrometer; Photoluminescent spectra were recorded with a Hitachi F-4600 luminescence spectrometer with the excitation and emission slit widths at 2.5 nm. Analytical as well as semi-preparative reversed-phase high-performance liquid chromatography (RP-HPLC) were performed on a LC3000 Binary chromatography system with a UV3000 UV-VIS Detector. The semi-preparative HPLC was performed with a Daisogel C18 10 μm 100 Å column (10 micron, 250 × 30 mm). The flow was 20 mL/min, with the mobile phase starting from 95% solvent A (0.1% TFA in water) and 5% solvent B (0.1% TFA in acetonitrile) (0–5 min) to 5% solvent A and 95% solvent B at 45 min. Analytical HPLC was performed using the same gradient system, but with a Gemini 5 μm C18 110A column (250 ×10 mm) and flow of 2 mL/min. Ultraviolet (UV) absorbance was monitored at 254 nm.

General procedure for NIS mediated coupling reaction of dipeptide 1a with phenyl *NH*-1,2,3-triazole 2a. (Condition A)

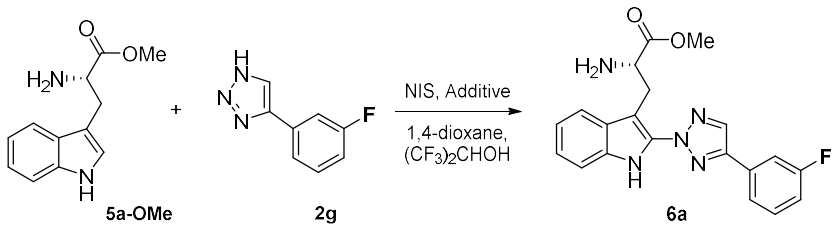
To a solution of peptide **1a** (20 mg, 0.05 mmol), 1,2,3-triazole **2a** (29 mg, 0.2 mmol) and $(CF_3)_2CHOH$ (0.3 mL) in 1,4-dioxane (1 mL), was added dropwise a solution of NIS (*N*-iodosuccinimide, 4 mol equiv) in 1,4-dioxane (1 mL) in 2 hours. 1 hour later, the reaction mixture was quenched by the addition of saturated aqeous $Na_2S_2O_3$ solution (3 mL), then diluted with EtOAc (20 mL). The organic phase was washed with distilled water (10 mL) and brine (10 mL), and dried with Na_2SO_4.

Concentration of the reaction mixture in vacuum followed by flash column chromatography over SiO_2 (CH_2Cl_2/CH_3OH = 50/1 to 10/1) afforded 24 mg **3a** as a colorless oil in 86% yield**.**

General procedure for NIS mediated coupling reaction of the esterified trptophan 5a-OMe with m-fluorophenyl *NH*-1,2,3-triazole 2g. (Condition B)

To a solution of peptide **2g** (20 mg, 0.05 mmol), 1,2,3-triazole **5a-OMe** (29 mg, 0.2 mmol), $(CF_3)_2CHOH$ (0.3 mL) and $BF_3.Et_2O$ (56.25 μL, 4.5 mol equiv) in 1,4-dioxane (1 mL), was added dropwise a solution of NIS (2.5 mol equiv) in 1,4-dioxane (0.5 mL) in 2 hours. 1.5 hour later, the reaction mixture was quenched by the addition of saturated aqeous $Na_2S_2O_3$ solution (1 mL).Concentration of the reaction mixture in vacuum followed by flash column chromatography over SiO_2 (CH_2Cl_2/CH_3OH = 100/1 to 30/1) afforded the crude product, which was then purified through semi-preparative HPLC. The collected fractions were combined and lyophilized to give a fluffy white powder **6a** (14.6 mg, yield 77%); {HPLC condition: Daisogel C-18 10 μm 100 Å column (10 micron, 250 × 30 mm), 30×250 mm, flow: 20 mL/min; linear gradient : 2.25 % CH_3CN (containing 1% CF_3COOH) increased per minute; wavelength: 300 nm}.

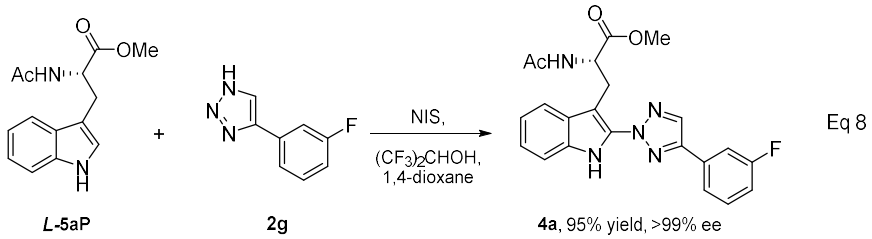
Stable1: Optimization studies of the NIS mediated Coupling reaction of peptide **5a-OMe** with triazole **2g**.[a]



Entry	Additive	Volume [mL]	Time [h]	yield [%][b]
1			1	trace
2	HCl(4M)[c]	0.25	1	<5%
3	CF_3COOH	0.25	1	trace
4	CF_3SO_3H	0.25	1	<5%
5	$BF_3.Et_2O$	0.025	1	34
6	$BF_3.Et_2O$	0.056	1	72
7	$BF_3.Et_2O$	0.056	1.5	77
8[d]	$BF_3.Et_2O$	0.056	1.5	trace

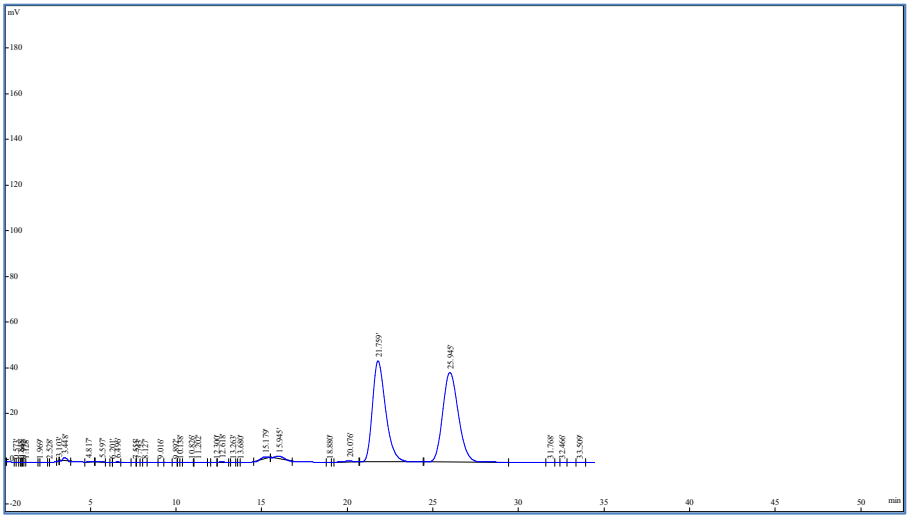
[a] Unless noted, all reactions were carried out at 0.05 mmol scale in 2 mL 1,4-dioxane at rt with the addition of 2.5 mol equiv of NIS, 0.3 mL $(CF_3)_2CHOH$ (the ratio of **5a-OMe/2** =1/4). [b] Unless noted, the reaction yields were determined by ^1H NMR spectral data of the crude products. [c] 4M HCl solution in 1,4-dioxane. [d] no $(CF_3)_2CHOH$ was added.

Racemization test experiment for the reaction of ***L*-5aP** with **2g**.

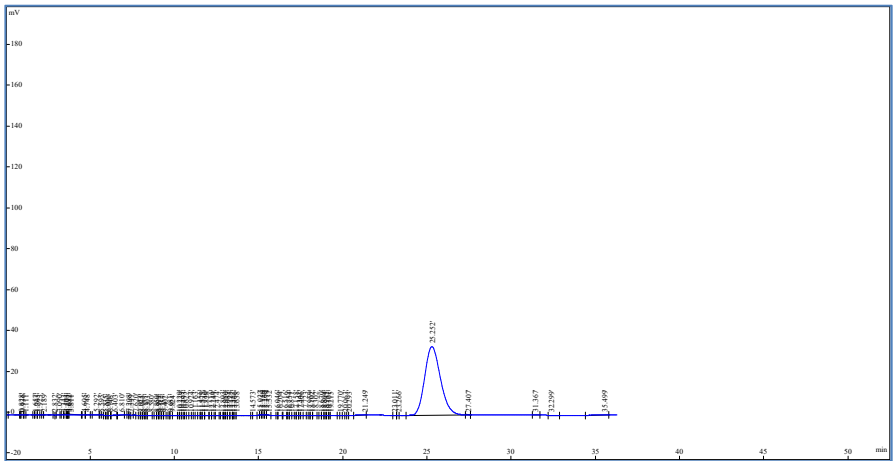


***L*-5aP** **2g** **4a**, 95% yield, >99% ee Eq 8

Racemic-4a's HPLC spectrum.



(*L*)-4a's HPLC spectrum.



HPLC condition: CHIRALPAK AD-H column; ^{i}PrOH/n-Hexane = 20/80; Flow = 1mL/min; Wavelength = 300 nm.

The absorption and emission spectra of products[1]

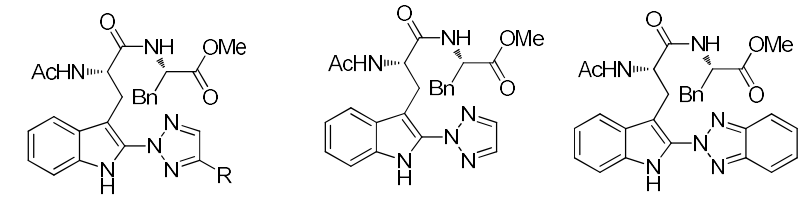
For the method to determine the fluorescence quantum yield:

Fluorescence quantum yield was determined in DMF using optically matching solutions of 9,10-Diphenylanthracene (Φf = 0.95 in cyclohexane) as standard at an excitation wavelength of 350 nm and the quantum yield was calculated using the following equation:

$$\Phi_f = \Phi_r (A_r F_s / A_s F_r) (n_s^2 / n_r^2)$$

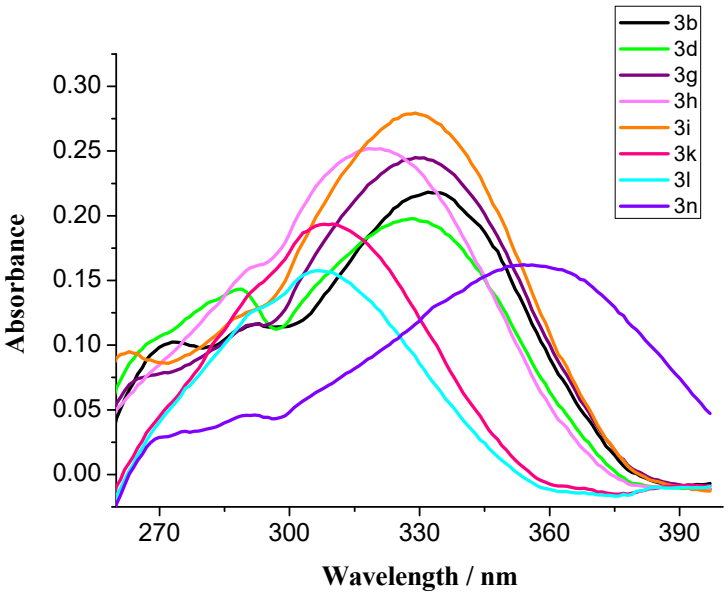
where, As and Ar are the absorbance of the sample and the reference, respectively, at the same excitation wavelength, Fs and Fr are the corresponding relative integrated fluorescence intensities, and n is the refractive index of the solvent.

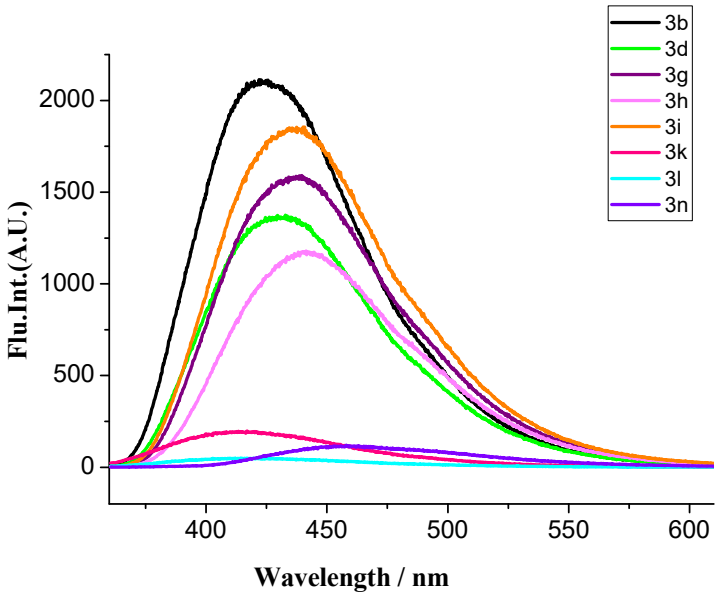
The absorption and emission spectra of products **3(b, d, g, h, I, k, l, n)**:



3b, R=^{p}MeOPh **3-3h**, R=^{o}CF$_3$Ph
3d, R=^{p}FPh **3-3i**, R=^{o,p}F$_2$Ph
3g, R=^{m}FPh **3-3k**, R=^{n}Bu

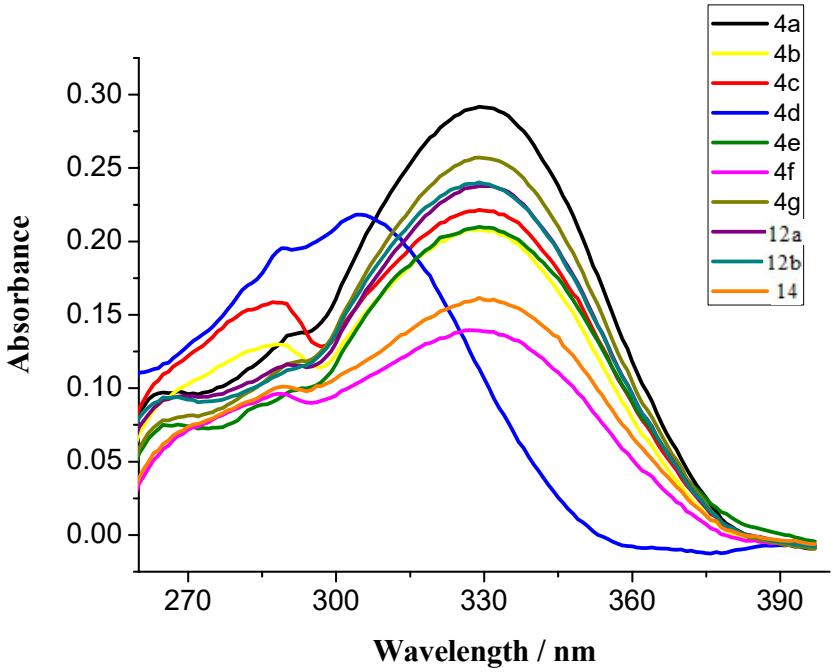
3-3l **3-3n**

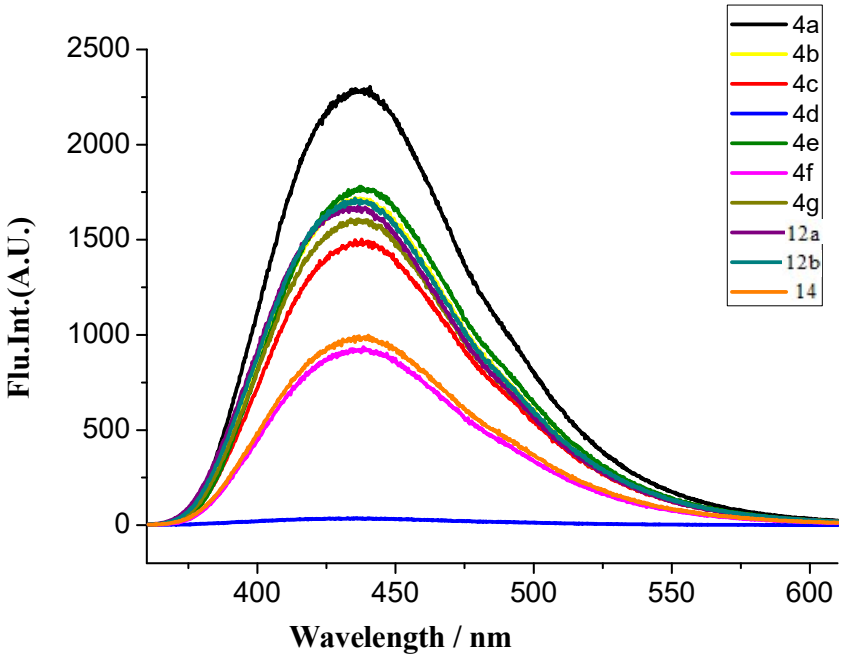




Sample preparation: 1.0 x 10^{-5} mol/L in CH_2Cl_2, with 2.5 nm slit.

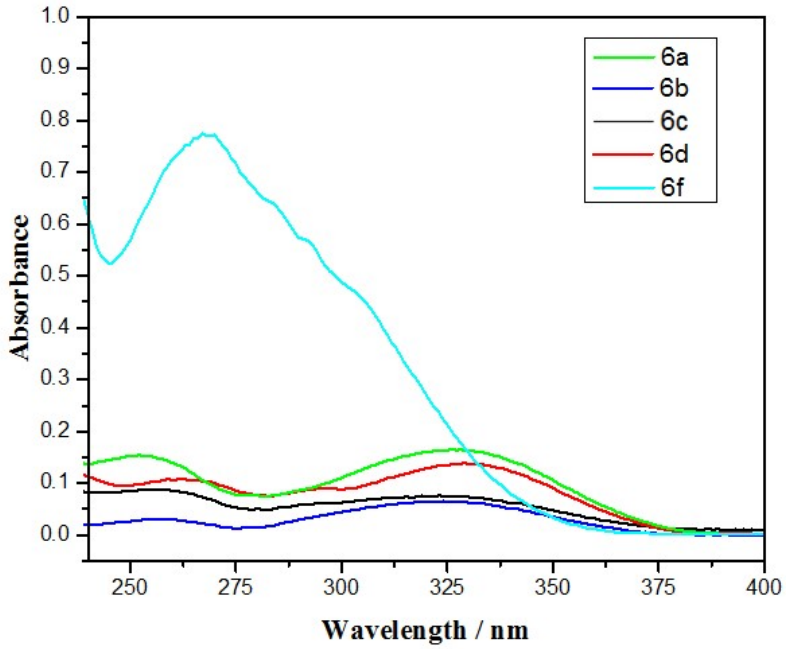
The absorption and emission spectra of products **4(a-g)**、12**(a-b)**、**14**:

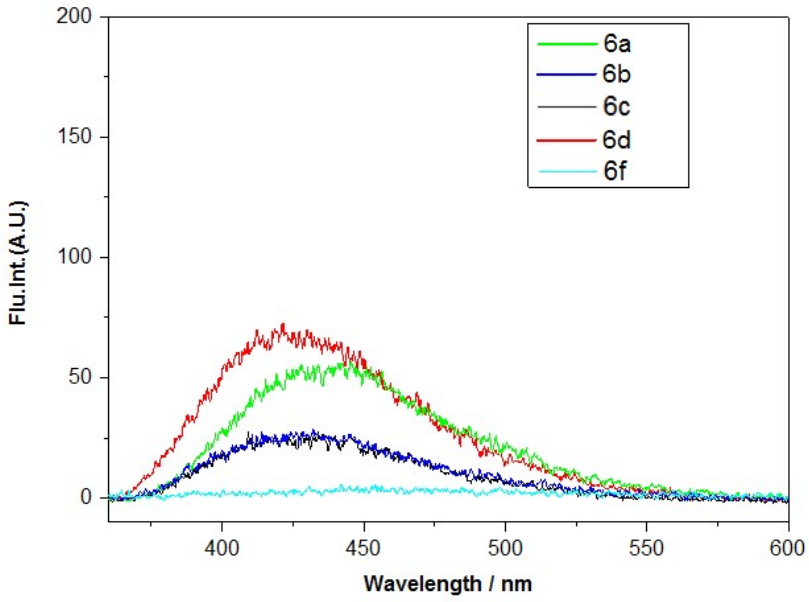




Sample preparation: 1.0 x 10^{-5} mol/L in CH_2Cl_2, with 2.5 slit.

The absorption and emission spectra of products **6a, 6b, 6c, 6d, 6f**





Sample preparation: 1.0 x 10^{-5} mol/L in CH_3OH, with 2.5 slit.

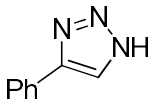
Stable 2. Fluorescence quantum yield of products (DMF as solvent)

Entry	Φ_f
3a	0.69
3b	0.78
3c	0.69
3d	0.63
3e	0.30
3f	0.47
3g	0.41
3h	0.44
3i	0.57
3j	0.58
3k	0.32
3l	0.13
3m	0.09
3n	0.03
4a	0.63
4b	0.57
4c	0.38
4d	0.10
4e	0.57
4f	0.39
4g	0.42
12a	0.57
12b	0.56
14	0.31

Stable 3. Fluorescence quantum yield of products 3b and 12a in different solvents.

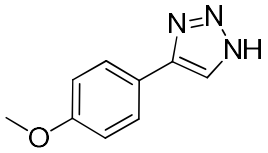
Solvent	Fluorescence quantum yield Φ_f(**3b**)	Fluorescence quantum yield Φ_f(12**a**)
H_2O	0.01	0.18
$HOCH_2CH_2OH$	0.33	0.12
Petroleum ether	0.67	0.48
THF	0.55	0.21
CH_3CH_2OH	0.38	0.13
CH_3CN	0.32	0.25
EtOAc	0.56	0.45
CH_2Cl_2	0.71	0.41
CH_3OH	0.22	0.05
$^{i}PrOH$	0.29	0.07
Acetone	0.23	0.26
Toluene	0.60	0.22
1,4-Dioxane	0.53	0.41
Cyclohexanol	0.52	0.27
Cyclohexane	0.88	0.60
DMSO	0.47	0.37

Characterization Data:



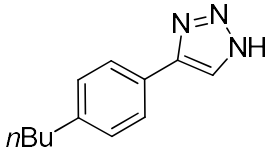
4-Phenyl-1*H*-1,2,3-triazole 2a:[2]

^{1}H NMR (400 MHz, $(CD_3)_2SO$): δ 8.34 (s, 1H), 7.89 (d, J = 7.5Hz, 2H), 7.44 (t, J = 7.5Hz, 2H), 7.34 (t, J = 7.3Hz, 1H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 146.5, 143.4, 131.1, 129.4, 128.6, 126.0.



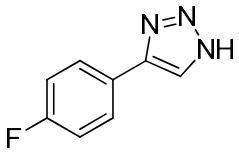
4-(4-Methoxyphenyl)-1H-1,2,3-triazole 2b: [2]

^{1}H NMR (400 MHz, CD_3OD): δ 7.99 (s, 1H), 7.69 (d, J = 7.6Hz, 2H), 6.95 (d, J = 7.8Hz, 2H), 3.77 (s, 3H); ^{13}C NMR (100 MHz, CD3OD): δ 160.1, 145.1, 144.1, 126.9, 122.1, 114.0, 54.3.



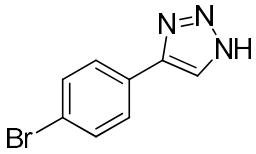
4-(4-Butylphenyl)-1H-1,2,3-triazole 2c: [2]

^{1}H NMR (400 MHz, CD_3OD): δ 8.00 (s, 1H), 7.65 (d, J = 8.0Hz, 2H), 7.13 (d, J = 8.0Hz, 2H), 2.50 (t, J = 7.6Hz, 2H), 1.52-1.45 (m, 2H), 1.29-1.20 (m, 2H), 0.83 (t, J = 7.3Hz, 3H); ^{13}C NMR (100 MHz, CD3OD): δ 145.6, 143.2, 128.7, 128.4, 127.0, 125.6, 35.0, 33.3, 22.0, 13.0.



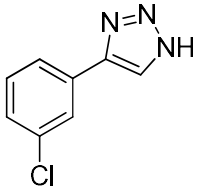
4-(4-Fluorophenyl)-1*H*-1,2,3-triazole 2d: [2]

^{1}H NMR (400 MHz, $(CD_3)_2SO$): δ 8.33(s, 1H), 7.91 (dd, J = 8.4, 5.6Hz, 2H), 7.27 (t, J = 8.8Hz, 2H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 162.4 (d, J = 243.3Hz), 145.5, 130.3, 128.0 (d, J = 7.7Hz), 127.6, 116.3 (d, J = 21.5Hz).



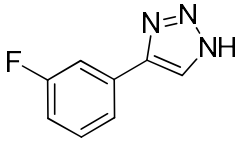
4-(4-bromophenyl)-1*H*-1,2,3-triazole 2e: [2]

^{1}H NMR (400 MHz, $(CD_3)_2SO$): δ 8.38(s, 1H), 7.82 (d, J = 8.3Hz, 2H), 7.62 (d, J = 8.3Hz, 2H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 144.9, 132.3, 130.2, 128.0, 121.6.



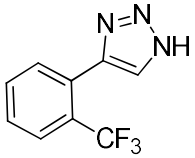
4-(3-Chlorophenyl)-1*H*-1,2,3-triazole 2f: [2]

^{1}H NMR (400 MHz, $(CD_3)_2SO$): δ 8.44(s, 1H), 7.91 (s, 1H), 7.82 (d, J = 7.7Hz, 1 H), 7.44 (t, J = 7.9Hz, 1H), 7.36 (d, J = 8.1Hz, 1H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 144.9, 134.2, 133.0, 131.3, 129.4, 128.3, 125.6, 124.5.



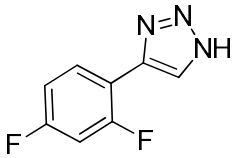
4-(3-Fluorophenyl)-1*H*-1,2,3-triazole 2g: [2]

^{1}H NMR (400 MHz, CD_3OD): δ 8.15(s, 1H), 7.61 (d, J = 7.6Hz, 1H), 7.55 (d, J = 8.8Hz, 1H), 7.42-7.37 (m, 1H), 7.05 -7.01 (m, 1H); ^{13}C NMR (100 MHz, CD_3OD): δ 163.2 (d, J = 242.9Hz), 145.2, 132.4, 130.4 (d, J = 8.4Hz), 126.7, 121.3, 114.6 (d, J = 21.3Hz), 112.2 (d, J = 21.2Hz).



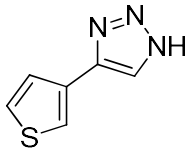
4-(2-(Trifluoromethyl)phenyl)-1*H*-1,2,3-triazole 2h: [2]

^{1}H NMR (400 MHz, CD_3OD): δ 7.92 (s, 1H), 7.78 (m, 1H), 7.66 (m, 2H), 7.56 (m, 1H); ^{13}C NMR (100 MHz, CD_3OD): δ 143.1, 131.9, 129.1, 128.7, 128.3 (d, J = 30.4 Hz), 127.7 (d, J = 30.1Hz), 125.9 (dd, J = 10.7, 5.3Hz), 124.1(d, J = 271.1Hz), 120.0;



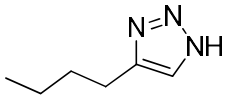
4-(2,4-Difluorophenyl)-1*H*-1,2,3-triazole 2i: [2]

^{1}H NMR (400 MHz, CD_3OD): δ 8.00(s, 1H), 7.97-7.93 (m, 1H), 6.98-6.94 (m, 2H); ^{13}C NMR (100 MHz, CD_3OD): δ 162.7 (dd, J = 247.9, 12.3Hz), 159.5 (dd, J = 249.1, 11.5Hz), 139.3, 128.9, 127.2, 114.5, 111.5 (d, J = 21.6Hz), 103.8 (t, J = 25.9Hz).



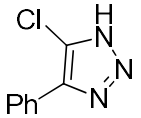
4-(Thiophen-3-yl)-1H-1,2,3-triazole 2j: [2]

^{1}H NMR (400 MHz, CD_3OD): δ 8.01 (s, 1H), 7.75-7.74 (m, 1H), 7.48 (s, 1H), 7.47 (s, 1H); ^{13}C NMR (100 MHz, CD3OD): δ 141.7, 130.8, 126.3, 125.5, 121.4.



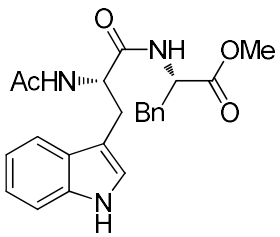
4-Butyl-1H-1,2,3-triazole 2k: [2]

^{1}H NMR (400 MHz, $CDCl_3$): δ 7.51 (s, 1H), 2.75 (t, J = 7.6Hz, 2 H), 1.71-1.64 (m, 2H), 1.42-1.36 (m, 2H), 0.94 (t, J = 7.4Hz, 3H); ^{13}C NMR (100 MHz, CD3OD): δ 144.0, 128.0, 31.1, 23.6, 21.9, 12.9.



5-Chloro-4-phenyl-1H-1,2,3-triazole 2m: [3]

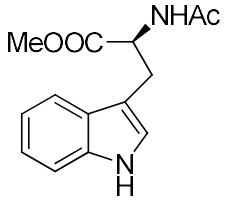
^{1}H NMR (400 MHz, CD_3OD): δ 7.84 (d, J = 7.3Hz, 2H), 7.45(t, J = 7.1Hz, 2H), 7.40 (d, J = 7.2Hz, 1H); ^{13}C NMR (100 MHz, CD_3OD): δ 139.5, 132.3 128.6, 128.4, 127.9, 126.6.



(*S*)-Methyl 2-((*S*)-2-acetamido-3-(1*H*-indol-3-yl)propanmido)-3-phenyl

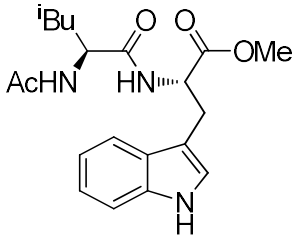
propanoate 1a:[5]

^{1}H NMR (400 MHz, $CDCl_3$): δ 8.58 (br, 1H), 7.64 (d, J =7.8Hz, 1H), 7.31 (d, J =8.0Hz, 1H), 7.17-7.14 (m, 4H), 7.08 (t, J =7.6Hz, 1H), 6.98 (s, 1H), 6.91-6.89 (m, 2H), 6.57 (d, J =7.5Hz, 1H), 6.52 (d, J =7.5Hz, 1H), 4.77 (q, J =7.4Hz, 1H), 4.69 (q, J =6.4Hz, 1H), 3.59 (s, 3H), 3.24 (dd, J =14.6Hz, 5.7Hz, 1H), 3.13 (dd, J =14.6Hz, 7.6Hz, 1H), 2.99 (dd, J =13.8Hz, 5.8Hz, 1H), 2.90(dd, J =13.8Hz, 6.5Hz, 1H), 1.89(s, 9H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 171.4, 171.2, 170.3, 136.2, 135.6, 129.2, 128.5, 127.5, 127.0, 123.5, 122.0, 119.6, 118.7, 111.4, 110.2, 53.8, 53.5, 52.3, 37.8, 28.2, 23.1.



(*S*)-Methyl 2-acetamido-3-(1*H*-indol-3-yl)propanoate 1b: [4]

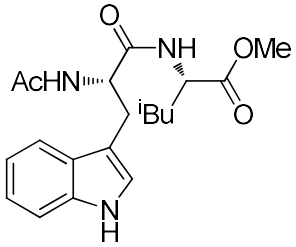
^{1}H NMR (400 MHz, $(CD_3)_2SO$): δ 10.90 (br, 1H), 8.36 (d, J =7.5Hz, 1H), 7.52 (d, J =7.8Hz, 1H), 7.37 (d, J =8.0Hz, 1H), 7.18 (br, 1H), 7.09 (t, J =7.2Hz, 1H), 7.01 (t, J =7.4Hz, 1H), 4.57-4.51 (m, 1H), 3.59 (s, 3H), 3.18 (dd, J =13.9Hz, 5.2Hz, 1H), 3.05 (dd, J =14.5Hz, 8.4Hz, 1H), 1.84 (s, 3H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 173.0, 169.9, 136.5, 127.5, 124.1, 121.4, 118.9, 118.4, 111.9, 109.9, 53.6, 52.2, 27.6, 22.7.



(S)-Methyl 2-((S)-2-acetamido-4-methylpentanamido)-3-(1H-indol-3-yl) propanoate 1c: [5]

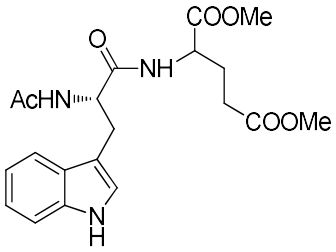
^{1}H NMR (400 MHz, CD_3OD): δ 7.51 (d, J =7.8Hz, 1H), 7.31 (d, J =8.0Hz, 1H), 7.08(t, J =7.4Hz, 1H), 7.00 (t, J =7.5Hz, 1H), 4.75-4.71 (m, 1H), 4.23 (d, J =8.0Hz, 1H), 3.62 (s, 3H), 3.27 (d, J =6.0Hz, 1H), 3.17 (dd, J =14.6Hz, 7.7Hz, 1H), 1.93 (s, 3H), 1.84-1.76 (m, 1H), 1.51-1.45 (m, 1H), 1.16-1.09 (m, 1H), 0,88 (t, J =6.6Hz, 6H); ^{13}C NMR (100 MHz, CD_3OD): δ 172.4, 172.3, 171.7, 136.5, 127.2, 123.2, 121.0,

118.4, 117.7, 110.8, 109.1, 57.7, 53.4, 51.2, 36.6, 27.0, 24.4, 21.0, 14.3, 9.9.



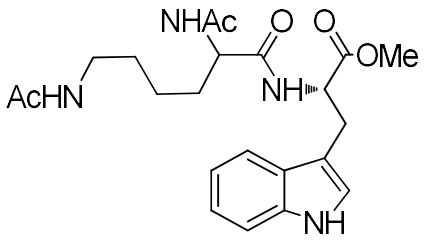
(S)-Methyl 2-((S)-2-acetamido-3-(1H-indol-3-yl)propanamido)-4-methyl pentanoate 1d: [5]

^{1}H NMR (400 MHz, $CDCl_3$): δ (major) 8.32 (br, 1H), 7.70 (d, J =7.8Hz, 1H), 7.34 (d, J =8Hz, 1H), 7.18 (t, J =7.16Hz, 1H), 7.13-7.04 (m, 2H),6.45 (d, J =7.52Hz, 1H), 6.38-6.33 (m, 1H), 4.82-4.77 (m, 1H), 4.42-4.36 (m, 1H), 3.62 (s, 3H), 3.31-3.26 (m,1H), 3.17-3.11 (m, 1H), 1.96 (s,3H), 1.75(br, 1H), 1.32-1.25 (m, 1H), 1.05-0.96 (m, 1H),0.85-0.81 (m, 2H), 0.77 (s, 3H), 0.60 (d, J =6.88Hz, 1H);^{13}C NMR (100 MHz, $CDCl_3$): δ 172.1, 171.8, 170.4, 136.3, 127.6, 123.5, 121.9, 119.5, 118.7, 111.3, 110.3, 56.8, 54.0, 52.0, 37.6, 28.5, 25.1, 23.1, 15.3, 11.6.



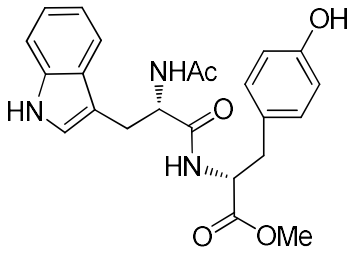
Dimethyl 2-((S)-2-acetamido-3-(1H-indol-3-yl)propanamido)pentanedioate 1e: [5]

^{1}H NMR (400 MHz, $CDCl_3$): δ (major isomer) 8.56 (br, 1H), 7.60 (d, J =7.84Hz, 1H), 7.32-7.29 (m, 1H), 7.16-7.12 (m, 1H), 7.09-7.15 (m, 2H), 6.88 (d, J =4.76Hz, 1H), 6.64 (d, J =5.16Hz, 1H), 4.82-4.71 (m, 1H), 4.46-4.41 (m, 1H), 3.61 (s, 3H), 3.59 (s, 3H), 3.27-3.22 (m, 1H), 3.19-3.14 (m, 1H), 2.32-2.16 (m, 2H), 2.12-2.03 (m, 1H), 1.94 (s, 3H), 1.91-1.82 (m, 1H); ^{13}C NMR (100 MHz,$CDCl_3$): δ 173.2, 171.6, 170.5, 136.2, 127.7, 123.4, 122.0, 119.6, 118.5, 111.3, 110.1, 54.0, 52.4, 51.8, 29.7, 28.3, 27.0, 23.0.



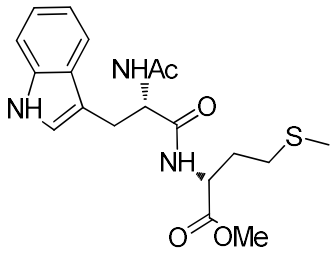
(2S)-Methyl 2-(2,6-diacetamidohexanamido)-3-(1H-indol-3-yl)propanoate 1f: [5]

^{1}H NMR (400 MHz, $CDCl_3$): δ 9.55 (br, 1H), 7.55-7.49 (m, 2H), 7.21 (d, J =7.72Hz, 1H), 7.16-7.12 (m, 2H), 7.02 (d, J =8.56Hz, 2H), 6.12 (t, J =5.52Hz, 1H), 4.85-4.81 (m, 2H), 3.71 (s, 3H), 3.39-3.35 (m, 1H), 3.28-3.23 (m, 2H), 3.10-3.07 (m, 1H), 1.95 (s, 3H), 1.86 (s, 3H), 1.76-1.69 (m, 1H), 1.62-1.53 (m, 2H), 1.42-1.37 (m, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 172.5, 171.7, 170.8, 170.5, 136.4, 127.3, 123.5, 122.0, 119.4, 118.2, 111.6, 109.4, 52.9, 52.5, 39.2, 32.2, 29.0, 27.5, 23.2, 23.0, 22.1, 21.9.



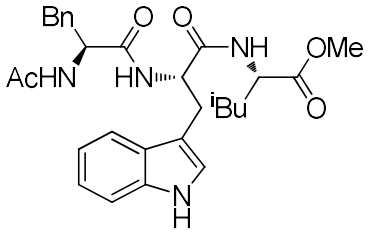
(R)-methyl 2-((S)-2-acetamido-3-(1H-indol-3-yl)propanamido)-3-(4-hydroxy phenyl)propanoate 1g: [5]

^{1}H NMR (400 MHz, $(CD_3)CO$): δ 10.07 (br, 1H), 8.35 (s, 1H), 7.62-7.58 (m, 1H), 7.45-7.39 (m, 1H), 7.37-7.32 (m, 2H), 7.16 (d, J =1.6Hz, 1H), 7.09-7.05 (m, 1H), 7.03-6.98 (m, 1H), 6.96-6.89 (m, 2H), 4.79-4.73 (m, 1H), 4.64-4.59 (m, 1H), 3.61 (s, 3H), 3.26-3.21 (m, 1H), 3.10-3.04 (m, 1H), 3.00-2.95 (m, 1H), 2.89-2.84 (m,1H), 1.85 (s, 3H); ^{13}C NMR (100 MHz, $(CD_3)CO$): δ 171.6, 171.3, 169.6, 156.2, 136.6, 130.3, 127.8, 127.2, 123.5, 121.1, 118.6, 118.4, 115.1, 111.2, 110.4, 53.9, 53.6, 51.3, 36.6, 27.5, 22.0.



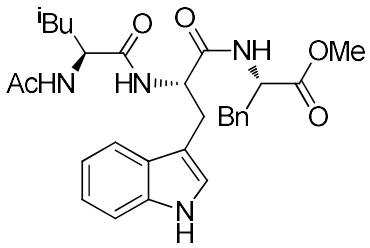
(R)-Methyl 2-((S)-2-acetamido-3-(1H-indol-3-yl)propanamido)-4-(methylthio) butanoate 1h: [5]

^{1}H NMR (400 MHz, $CDCl_3$): δ 8.66 (br, 1H), 7.59 (d, J =7.84Hz, 1H), 7.30 (d, J =8.08Hz, 1H), 7.13 (t, J =7.32Hz, 1H), 7.07-7.03 (m, 2H), 6.98 (d, J =7.52Hz, 1H), 6.72 (d, J =7.72Hz, 1H), 4.82 (q, J =6.96Hz, 1H), 4.57-4.52 (m, 1H), 3.60 (s, 3H), 3.25-3.15 (m, 2H), 3.34 (t, J =7.36Hz, 2H), 2.05-2.00 (m, 1H), 1.97 (s, 3H), 1.91 (s, 3H), 1.87-1.80 (m, 1H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 171.8, 171.7, 170.4, 136.2, 127.5, 123.5, 122.0, 119.5, 118.5, 111.3, 110.1, 54.0, 52.4, 51.6, 31.2, 29.7, 28.4, 23.1, 15.3.



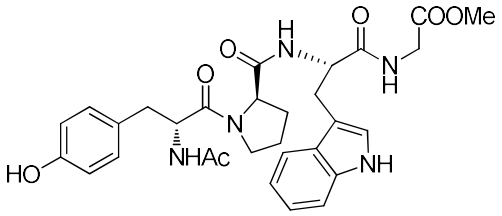
(*S*)-Methyl 2-((S)-2-((S)-2-acetamido-3-phenylpropanamido)-3-(1H-indol-3-yl) propanamido)-4-methylpentanoate 11a:

^{1}H NMR (400 MHz, CD_3OD): δ 7.52 (d, J =7.9Hz, 1H), 7.31 (d, J =8.1Hz, 1H), 7.25-7.16 (m, 5H), 7.09-7.06 (m, 2H), 6.99 (t, J =7.1Hz, 1H), 4.70 (t, J =6.9Hz, 1H), 4.58 (dd, J =9.2Hz, 5.2Hz, 1H), 4.30 (d, J =6.3Hz, 1H), 3.62 (s, 3H), 3.22 (dd, J =14.6Hz, 6.5Hz, 1H), 3.13 (dd, J =14.6Hz, 5.7Hz, 1H), 3.13 (dd, J =14.6Hz, 7.2Hz, 1H), 3.06 (dd, J =14.0Hz, 5.2Hz, 1H), 2.79(dd, J =13.9Hz, 9.2Hz, 1H), 1.78(s, 3H), 1.42-1.28 (m, 2H), 1.19-1.08 (m, 1H), 0.89-0.83 (m, 6H); ^{13}C NMR (100 MHz, CD_3OD): δ 172.3, 171.9, 171.8, 137.0, 136.6, 128.8, 128.0, 127.4, 126.3, 123.4, 120.9, 118.4, 117.9, 110.8, 109.1, 56.9, 54.6, 53.9, 50.9, 37.1, 37.0, 27.4, 24.9, 20.8, 14.4, 10.3.



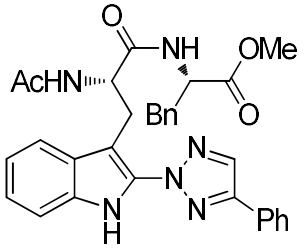
(S)-Methyl2-((S)-2-((S)-2-acetamido-4-methylpentanamido)-3-(1H-indol-3-yl)propanamido)-3-phenylpropanoate 11b:

^{1}H NMR (400 MHz, CD_3OD): δ 7.56 (d, J =7.84Hz, 1H), 7.31 (d, J =8.12Hz, 1H), 7.23-7.14 (m, 3H), 7.09-7.05 (m, 4H), 7.01-6.97 (m, 1H), 4.68 (t, J =7.04Hz, 1H), 4.58 (dd, J =7.8Hz, 6Hz, 1H), 4.14 (d, J =7.84Hz, 1H), 3.58 (s, 3H), 3.23-3.18 (m, 1H), 3.11-3.05 (m, 1H), 3.04-2.99 (m, 1H), 2.93-2.88 (m, 1H), 1.92(s, 3H), 1.75-1.68 (m, 1H), 1.44-1.35 (m, 1H), 1.12-1.01 (m, 1H), 0.82 (t, J =7.44Hz, 3H), 0.76 (d, J =6.8Hz, 3H); ^{13}C NMR (100 MHz, CD_3OD): δ 171.4, 171.3, 170.9, 135.9, 135.8, 128.2, 127.4, 126.7, 125.8, 122.7, 120.3, 117.8, 117.3, 110.2, 108.5, 57.4, 53.2, 53.1, 50.6, 36.4, 35.7, 26.9, 23.8, 20.4, 13.8, 9.3.



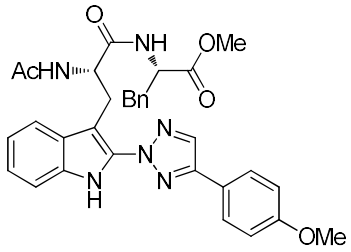
methyl 2-((S)-2-((R)-1-((R)-2-acetamido-3-(4-hydroxyphenyl)propanoyl) pyrrolidine-2-carboxamido)-3-(1H-indol-3-yl)propanamido)acetate 13:

^{1}H NMR (400 MHz, CD_3OD): δ 7.55 (d, J =7.64Hz, 1H), 7.23 (d, J =7.88Hz, 1H), 7.12 (s, 1H), 7.07 (d, J =6.44Hz, 1H), 7.02 (d, J =8.2Hz, 1H), 6.73 (d, J =8.44Hz, 1H), 4.73-4.69 (m, 1H), 4.66-4.62 (m, 1H), 4.33-4.30 (m, 1H), 3.95 (d, J =3.68Hz, 2H), 3.70 (s, 3H), 3.68-3.64 (m, 1H), 3.38-3.33 (m, 1H), 3.28-3.25 (m, 1H), 3.23-3.17 (m, 1H), 2.95-2.86 (m, 1H), 2.60-2.51 (m, 2H), 1.85 (s, 3H), 1.81-1.69 (m, 3H); ^{13}C NMR (100 MHz, CD_3OD): δ 171.2, 170.8, 170.4, 170.0, 168.5, 155.0, 154.4, 135.0, 128.6, 126.0, 124.6, 122.0, 121.8, 119.6, 117.0, 116.3, 113.6, 109.6, 108.3, 107.4, 59.3, 53.5, 52.4, 49.7, 44.6, 39.0, 35.6, 34.2, 28.8, 27.0, 25.0. HRMS (ESI) Calcd for $C_{30}H_{35}N_5O_7$ $[M+H]^+$: 578.261; Found: 578.273.



***(S)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-phenyl-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl) propanamido)-3-phenylpropanoate 3a:**

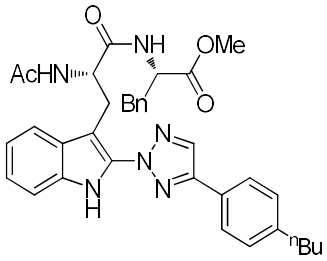
Obtained as a white solid in 87% yield (Condition A), $[\alpha]_D^{20}$ = -7.0 (*c* = 0.25, CH_3OH); M.p. 233-235 °C; ^{1}H NMR (400 MHz, $(CD_3)_2SO$): δ 11.99 (br, 1H), 8.69 (s, 1H), 8.17 (d, *J* =7.6Hz, 1H), 8.07-8.03 (m, 3H), 7.75 (d, *J* =7.9Hz, 1H), 7.53 (t, *J* =7.3Hz, 2H), 7.46 (d, *J* =7.3Hz, 1H), 7.40 (d, *J* =8.1Hz, 1H), 7.24-7.13 (m, 6H), 7.07 (t, *J* =7.3Hz, 1H), 4.73-4.67 (m, 1H), 4.47-4.41 (m, 1H), 3.47 (s, 3H), 3.35 (s, 1H), 3.19 (dd, *J* =14.1Hz, 8.8Hz, 1H), 2.96 (dd, *J* =13.7Hz, 6.1Hz, 1H), 2.87 (dd, *J* =13.7Hz, 8.1Hz, 1H), 1.64 (s, 3H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 171.9, 171.8, 169.2, 148.7, 137.4, 133.6, 131.8, 129.6, 129.5, 128.6, 128.2, 126.9, 126.5, 122.8, 120.0, 119.9, 111.9, 100.8, 53.9, 53.8, 52.2, 37.2, 26.9, 22.9; IR (KBr): *v* (cm^{-1}) 3055, 2922, 1734, 1653, 1533, 1456, 1265, 975, 740 cm^{-1}; HRMS (ESI) Calcd for $C_{31}H_{31}N_6O_4$ $[M+H]^+$: 551.2407; Found: 551.2401.



***(S)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-(4-methoxyphenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanamido)-3-phenylpropanoate 3b:**

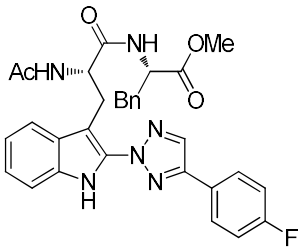
Obtained as a white solid in 69% yield (Condition A), $[\alpha]_D^{20}$ = 30.5 (*c* = 0.2, CH_3OH); M.p. 105-107 °C; ^{1}H NMR (400 MHz, $CDCl_3$): δ 9.42 (br, 1H), 8.09 (s, 1H), 7.69-7.64 (m, 3H), 7.49 (d, *J* =6.76Hz, 1H), 7.34 (d, *J* =8Hz, 1H), 7.22 (t, *J* =7.32Hz, 1H), 7.15-7.12 (m, 3H), 7.10-7.05 (m, 2H), 7.02 (d, *J* =7.08Hz, 2H), 6.89 (d, *J*

=8.52Hz, 2H), 4.89-4.84 (m, 1H), 4.82-4.79 (m, 1H), 3.84 (s, 3H), 3.63-3.61 (m, 1H), 3.57 (s, 3H), 3.54-3.47 (m, 1H), 3.08-2.94 (m, 2H), 1.91 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 171.9, 171.7, 170.4, 160.1, 148.8, 135.6, 132.9, 132.2, 131.3, 129.3, 128.3, 127.4, 126.8, 122.8, 121.5, 120.5, 118.8, 114.3, 111.5, 55.2, 54.5, 53.1, 52.3, 38.3, 27.0, 22.9; IR (KBr): ν (cm^{-1}) 3223, 3086, 2926, 1737, 1662, 1537, 1406, 1292, 1178, 974, 831, 742 cm^{-1}; HRMS (ESI) Calcd for $C_{32}H_{33}N_6O_5$ $[M+H]^+$: 581.2507; Found: 581.2516.



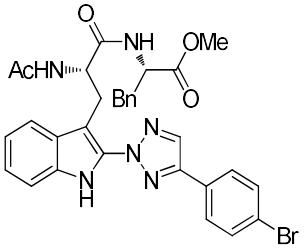
***(S)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-(4-butylphenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanamido)-3-phenylpropanoate 3c:**

Obtained as a white solid in 72% yield, $[\alpha]_D^{20}$ = 40.0 (*c* = 0.2, CH_3OH); M.p. 244-246 ^oC; ^{1}H NMR (400 MHz, $(CD_3)_2SO$): δ 11.97 (br, 1H), 8.63 (s, 1H), 8.16 (d, *J* =7.56Hz, 1H), 8.03 (d, *J* =8.36Hz, 1H),7.95 (d, *J* =8.04Hz, 2H), 7.75 (d, *J* =7.92Hz, 1H), 7.40 (d, *J* =8.08Hz, 1H), 7.34 (d, *J* =8Hz, 2H), 7.24-7.13 (m, 6H), 7.07 (t, *J* =7.6Hz, 1H), 4.72-4.67 (m, 1H), 4.48-4.42 (m, 1H), 3.47 (s, 3H), 3.45-3.43 (m, 1H), 3.21-3.16 (m, 1H), 2.99-2.94 (m, 1H), 2.91-2.85 (m, 1H), 2.64 (t,*J* =7.56Hz, 2H), 1.64 (s, 3H), 1.61-1.55 (m, 2H), 1.37-1.28 (m, 2H), 0.90 (t, *J* =7.32Hz, 3H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 171.9, 171.8, 169.2, 148.7, 143.9, 137.4, 133.6, 133.4, 131.8, 129.5, 129.4, 128.6, 128.1, 127.1, 126.9, 126.5, 122.7, 119.9, 111.9, 100.6, 53.9, 53.8, 52.1, 37.2, 35.1, 33.4, 26.8, 22.9, 22.2, 14.2; IR (KBr): ν (cm^{-1}) 3232, 3059, 2927, 1730, 1637, 1541, 1381, 1128, 975, 734, 617 cm^{-1}; HRMS (ESI) Calcd for $C_{35}H_{39}N_6O_4$ $[M+H]^+$: 607.3027; Found: 607.3021.



***(S)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-(4-fluorophenyl)-2H-1,2,3-triazol-2-yl) -1H-indol-3-yl)propanamido)-3-phenylpropanoate 3d:**

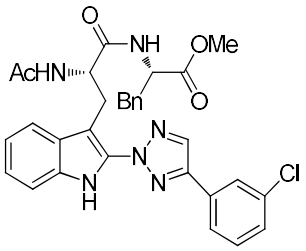
Obtained as a white solid in 54% yield (Condition A), $[\alpha]_D^{20}$ = 28.5 (*c* = 0.2, CH_3OH); M.p. 250-252 ^oC; ^1H NMR (400 MHz, $CDCl_3$): δ 9.50 (br, 1H), 8.20 (br, 1H), 7.72-7.68 (m, 2H), 7.62 (d, *J* =7.84Hz, 1H), 7.35-7.31 (m, 2H), 7.25-7.21 (m, 1H), 7.14-7.08 (m, 3H), 7.05-6.98 (m, 6H), 4.89-4.81 (m, 2H), 3.63-3.59 (m, 1H), 3.56 (s, 3H), 3.52-3.47 (m, 1H), 3.05-2.94 (m, 2H), 1.98 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 172.2, 171.8, 170.3, 163.0 (d, *J* =246.86Hz), 147.9, 135.4, 132.9, 132.5, 130.9, 129.3, 128.3, 127.8 (d, *J* =8Hz), 126.8, 125.0, 122.6, 120.4, 118.6, 115.8 (d, *J* =21.58Hz), 111.7, 99.0, 54.3, 53.0, 52.4, 38.5, 27.6, 23.0; IR (KBr): ν (cm^{-1}) 3250, 3070, 1737, 1654, 1539, 1413, 1386, 1220, 1157, 979, 742 cm^{-1}; HRMS (ESI) Calcd for $C_{31}H_{30}FN_6O_4$ $[M+H]^+$: 569.2307; Found: 569.2316.



***(S)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-(4-bromophenyl)-2H-1,2,3-triazol-2-yl) -1H-indol-3-yl)propanamido)-3-phenylpropanoate 3e:**

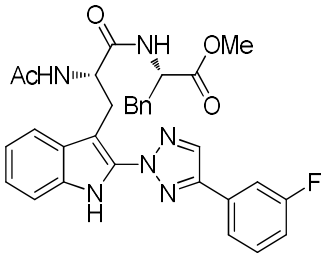
Obtained as a white solid in 81% yield (Condition A), $[\alpha]_D^{20}$ = 29.5 (*c* = 0.2, CH_3OH); M.p. 244-246 ^oC; ^1H NMR (400 MHz, $CDCl_3$): δ 9.71 (br, 1H), 8.36 (s, 1H), 7.58-7.52 (m, 3H), 7.45-7.40 (m, 3H), 7.32 (d, *J* =8.04Hz, 1H), 7.21 (t, *J* =7.28Hz, 1H), 7.15 (d, *J* =8.28Hz, 1H), 7.11-7.05 (m, 3H), 7.01-6.97 (m, 3H), 4.94-4.86 (m, 2H), 3.68-3.63 (m, 1H), 3.53 (s, 3H), 3.51-3.45 (m, 1H), 3.03-2.92 (m, 2H), 2.05 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 172.2, 171.8, 170.2, 147.8, 135.4, 132.9, 132.6,

132.6, 131.9, 130.8, 129.3, 128.3, 127.6, 127.3, 126.8, 123.1, 122.6, 120.4, 118.6, 111.8, 99.0, 54.1, 52.9, 52.4, 38.8, 27.8, 23.1; IR (KBr): ν (cm^{-1}) 3230, 3080, 3053, 1735, 1654, 1539, 1390, 1215, 975, 748 cm^{-1}; HRMS (ESI) Calcd for $C_{31}H_{30}BrN_6O_4$ $[M+H]^+$: 629.1506; Found: 629.1514.



***(S)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-(3-chlorophenyl)-2H-1,2,3-triazol-2-yl) -1H-indol-3-yl)propanamido)-3-phenylpropanoate 3f:**

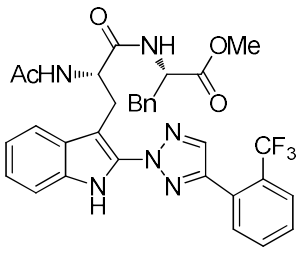
Obtained as a white solid in 73% yield (Condition A), $[\alpha]_D^{20}$ = 46.5 (*c* = 0.2, CH_3OH); M.p. 223-224 °C; ^1H NMR (400 MHz, $CDCl_3$): δ 8.41 (br, 1H), 7.67 (s, 1H), 7.57 (d, *J* =7.56Hz, 2H), 7.32 (d, *J* =8.04Hz, 1H), 7.24 (s, 1H), 7.22-7.20 (m, 2H), 7.11 (d, *J* =7.6Hz,, 1H), 7.08-7.04 (m, 2H), 6.98 (d, *J* =7.12Hz, 3H), 4.91-4.88 (m, 1H), 4.86-4.82 (m, 1H), 3.64-3.59 (m, 1H), 3.54 (s, 3H), 3.50-3.44 (m, 1H), 3.04-2.94 (m, 2H), 2.08 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 172.7, 171.9, 170.6, 147.6, 135.4, 134.7, 133.2, 133.0, 130.7, 130.5, 130.0, 129.4, 128.8, 128.6, 128.4, 126.8, 125.6, 124.2, 122.5, 120.4, 118.6, 111.9, 99.0, 54.4, 53.0, 52.5, 38.8, 28.0, 23.1; IR (KBr): ν (cm^{-1}) 3236, 3051, 2991, 1735, 1651, 1537, 1456, 1396, 1274, 1012, 744 cm^{-1}; HRMS (ESI) Calcd for $C_{31}H_{30}ClN_6O_4$ $[M+H]^+$: 585.2012; Found: 585.2013.



***(S)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-(3-fluorophenyl)-2H-1,2,3-triazol-2-yl) -1H-indol-3-yl)propanamido)-3-phenylpropanoate 3g:**

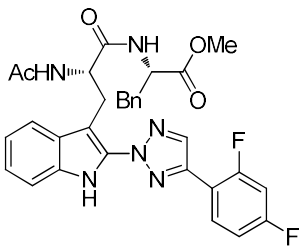
Obtained as a white solid in 90% yield (Condition A), $[\alpha]_D^{20}$ = 44.5 (*c* = 0.2, CH_3OH); M.p. 247-249 °C; ^1H NMR (400 MHz, $CDCl_3$): δ 9.58 (br, 1H), 8.35 (br, 1H), 7.59 (d,

J =7.72Hz, 1H), 7.47-7.41 (m, 2H), 7.33 (d, *J* =8.04Hz, 1H), 7.24-7.21 (m, 3H), 7.13-7.06 (m, 4H), 7.02-6.96 (m, 4H), 4.90-4.83 (m, 2H), 3.64-3.59 (m, 1H), 3.54 (s, 3H), 3.50-3.46 (m, 1H), 3.05-2.94 (m, 2H), 2.04 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 172.0, 171.7, 170.3, 162.9 (d, *J* =244.29Hz), 147.7, 135.4, 132.9, 130.7 (d, *J* =6.74Hz), 130.3 (d, *J* =8.12Hz), 129.3, 128.2, 126.7, 122.7, 121.6, 120.4, 115.7 (d, *J* =20.85Hz), 112.7 (d, *J* =23.33Hz), 111.7, 99.2, 54.2, 52.9, 52.3, 38.5, 27.5, 22.9; IR (KBr): ν (cm^{-1}) 3217, 3084, 2924, 1737, 1654, 1539, 1454, 1409, 1269, 972, 742 cm^{-1}; HRMS (ESI) Calcd for $C_{31}H_{30}FN_6O_4$ $[M+H]^+$: 569.2307; Found: 569.2324.



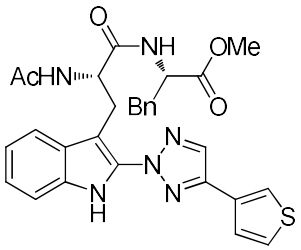
***(S)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-(2-(trifluoromethyl)phenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanamido)-3-phenylpropanoate 3h:**

Obtained as a white solid in 78% yield (Condition A), $[\alpha]_D^{20}$ = 24.5 (*c* = 0.2, CH_3OH); M.p. 215-216 ^oC; ^{1}H NMR (400 MHz, $CDCl_3$): δ 9.51 (br, 1H), 8.05 (br, 1H), 7.79 (d, *J* =7.56Hz, 1H), 7.72-7.67 (m, 2H), 7.58-7.46 (m, 3H), 7.34 (d, *J* =8.04Hz, 1H), 7.22 (t, *J* =7.32Hz, 1H), 7.15-7.10 (m, 4H), 7.02-6.96 (m, 3H), 4.85-4.81 (m, 1H), 4.81-4.78 (m, 1H), 3.60 (s, 3H), 3.55 (d, *J* =7.32Hz, 1H), 3.08-3.04 (m, 1H), 3.00-2.95 (m, 1H), 1.78 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 171.5, 170.7, 146.4, 135.7, 135.3, 133.0, 132.1, 131.8, 131.0, 129.3, 128.3, 127.9 (d, *J* =4.35Hz), 126.9, 126.5(d, *J* =4.35Hz), 122.1(d, *J* =271.36Hz), 119.3, 111.4, 100.4, 54.6, 53.3, 52.2, 38.0, 26.3, 22.7; IR (KBr): ν (cm^{-1}) 3244, 3070, 1739, 1637, 1525, 1415, 1386, 1267, 977, 744 cm^{-1}; HRMS (ESI) Calcd for $C_{32}H_{30}F_3N_6O_4$ $[M+H]^+$: 619.2275; Found: 619.2271.



***(S)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-(2,4-difluorophenyl)-2H-1,2,3-triazol-2-yl) -1H-indol-3-yl)propanamido)-3-phenylpropanoate 3i:**

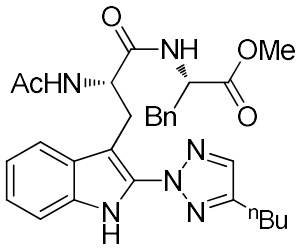
Obtained as a white solid in 75% yield (Condition A), $[\alpha]_D^{20}$ = 15.0 (*c* = 0.2, CH_3OH); M.p. 281-282 ^oC; ^1H NMR (400 MHz, $(CD_3)_2SO$): δ 12.04 (br, 1H), 8.45 (d, *J* =3.44Hz, 1H), 8.26-8.20 (m, 1H), 8.17 (d, *J* =7.64Hz, 1H), 8.02 (d, *J* =8.48Hz, 1H), 7.76 (d, *J* =7.92Hz, 1H), 7.54-7.48 (m, 1H), 7.40 (d, *J* =8.08Hz, 1H), 7.31-7.27 (m, 1H), 7.24-7.15 (m, 4H), 7.12 (d, *J* =7Hz, 2H), 7.07 (t, *J* =7.6Hz, 1H), 4.73-4.67 (m, 1H), 4.45-4.40 (m, 1H), 3.49-3.48 (m, 1H), 3.45 (s, 3H), 3.22-3.16 (m, 1H), 2.97-2.92 (m, 1H), 2.88-2.83 (m, 1H), 1.64 (s, 3H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 171.9, 171.7, 162.9 (d, *J* =248.32Hz), 160.1 (d, *J* =250.41Hz), 142.5, 137.4, 135.0 (d, *J* =9.96Hz), 133.6, 131.5, 130.6 (d, *J* =3.89Hz), 130.5 (d, *J* =4.39Hz), 129.5, 128.6, 128.1, 126.9, 122.9, 120.0, 114.3 (d, *J* =12.91Hz), 113.1, 112.9, 112.0, 105.5, 105.3, 105.0, 101.1, 53.9, 53.7, 52.1, 37.2, 26.9, 22.9; IR (KBr): *v* (cm^{-1}) 3228, 3082, 1757, 1645, 1544, 1411, 1388, 1267, 1082, 985, 740 cm^{-1}; HRMS (ESI) Calcd for $C_{31}H_{29}F_2N_6O_4$ $[M+H]^+$: 587.2213; Found: 587.2227.



***(S)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-(thiophen-3-yl)-2H-1,2,3-triazol-2-yl) -1H-indol-3-yl)propanamido)-3-phenylpropanoate 3j:**

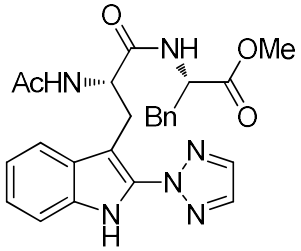
Obtained as a white solid in 87% yield (Condition A), $[\alpha]_D^{20}$ = 32.0 (*c* = 0.2, CH_3OH); M.p. 251-253 ^oC; ^1H NMR (400 MHz, $CDCl_3$): δ 9.49 (br, 1H), 8.05 (br, 1H), 7.67-7.63 (m, 2H), 7.46-7.41(m, 2H), 7.35-7.33 (m, 2H), 7.22 (t, *J* =7.36Hz, 1H), 7.15-7.08 (m, 4H), 7.04-7.00 (m, 3H), 4.88-4.83 (m, 2H), 3.61-3.59 (m, 1H), 3.56 (s, 3H), 3.52-3.47 (m, 1H), 3.07-3.02 (m, 1H), 3.00-2.95 (m, 1H), 1.93 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 171.7, 171.6, 170.4, 145.0, 135.6, 132.9, 132.8, 131.2, 130.2, 129.3, 128.3, 128.2, 126.8, 126.7, 125.7, 122.9, 120.6, 119.0, 111.4, 99.4, 54.3, 53.1, 52.3, 38.3, 26.9, 23.0; IR (KBr): ν (cm^{-1}) 3221, 3086, 1739, 1653, 1521, 1411, 1390,

1215, 970, 742 cm^{-1}; HRMS (ESI) Calcd for $C_{29}H_{29}N_6O_4S$ $[M+H]^+$: 557.1966; Found: 557.1969.



***(S)*-Methyl 2-((*S*)-2-acetamido-3-(2-(4-butyl-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl) propanamido)-3-phenylpropanoate 3k:**

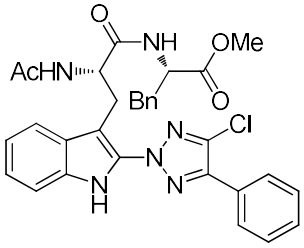
Obtained as a white solid in 46% yield (Condition A), $[\alpha]_D^{20}$ = 24.0 (*c* = 0.2, CH_3OH); M.p. 74-77 °C; ^1H NMR (400 MHz, $CDCl_3$): δ 8.98 (br, 1H), 7.68-7.64 (m, 2H), 7.57 (s, 1H), 7.33 (d, *J* =8Hz, 1H), 7.24-7.19 (m, 4H), 7.18-7.14 (m, 1H), 7.06-7.02 (m, 3H), 4.84-4.79 (m, 1H), 4.71-4.66 (m, 1H), 3.66 (s, 3H), 3.49-3.41 (m, 2H), 3.12-3.07 (m, 1H), 3.04-2.99 (m, 1H), 2.76 (t, *J* =7.6Hz, 2H), 1.80 (s, 3H), 1.74-1.67 (m, 2H), 1.47-1.38 (m, 2H), 0.97 (t, *J* =7.32Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 171.5, 171.3, 170.8, 150.3 135.9, 134.4, 132.7, 131.6, 129.3, 128.4, 127.9, 126.9, 123.4, 120.8, 119.2, 111.0, 99.8, 54.5, 53.3 52.2, 38.0, 31.0, 25.6, 25.0, 22.8, 22.3, 13.8; IR (KBr): ν (cm^{-1}) 3209, 3089, 2922, 1734, 1647, 1521, 1456, 1274, 970, 750 cm^{-1}; HRMS (ESI) Calcd for $C_{29}H_{35}N_6O_4$ $[M+H]^+$: 531.2714; Found: 531.2721.



***(S)*-Methyl 2-((*S*)-3-(2-(2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)-2-acetamido propanamido)-3-phenylpropanoate 3m:**

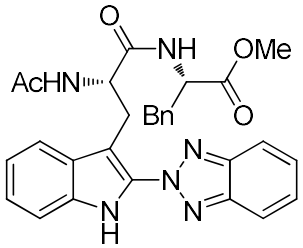
Obtained as a white solid in 76% yield (Condition A), $[\alpha]_D^{20}$ = 23.0 (*c* = 0.2, CH_3OH); M.p. 104-106 °C; ^1H NMR (400 MHz, $CDCl_3$): δ 9.27 (br, 1H), 7.79 (s, 2H), 7.65 (d, *J* =7.92Hz, 1H), 7.40 (d, *J* =7.28Hz, 1H), 7.33 (d, *J* =8.08Hz, 1H), 7.23-7.19 (m, 2H), 7.17-7.13 (m, 3H), 7.05-7.01 (m, 3H), 4.86-4.81 (m, 1H), 4.77-4.72 (m, 1H), 3.63 (s,

3H), 3.47 (d, J =7.28Hz, 2H), 3.09-3.04 (m, 1H), 3.03-2.99 (m, 1H), 1.85 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 171.6, 171.4, 170.7, 135.7, 135.5, 132.8, 131.3, 129.3, 128.4, 127.9, 126.9, 123.4, 120.7, 119.2, 111.3, 100.2, 54.4, 53.3, 52.3, 38.1, 26.4, 22.9; IR (KBr): ν (cm^{-1}) 3215, 3086, 3005, 1739, 1653, 1521, 1415, 1386, 1259, 952, 748 cm^{-1}; HRMS (ESI) Calcd for $C_{25}H_{26}N_6O_4Na$ $[M+Na]^+$: 497.1908; Found: 497.1912.



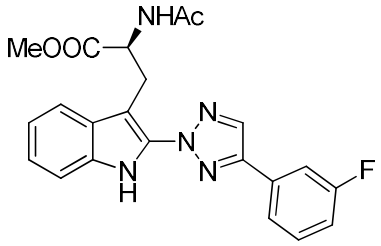
***(S)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-chloro-5-phenyl-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanamido)-3-phenylpropanoate 3n:**

Obtained as a white solid in 88% yield (Condition A), $[\alpha]_D^{20}$ = 74.0 (c = 0.2, CH_3OH); M.p. 205-207 °C; ^{1}H NMR (400 MHz, $CDCl_3$): δ 9.04 (br, 1H), 7.99 (d, J =6.96Hz, 2H), 7.75 (d, J =7.8Hz, 1H), 7.53-7.47 (m, 3H), 7.35 (d, J =8Hz, 1H), 7.27-7.23 (m, 2H), 7.20-7.15 (m, 4H), 6.99 (d, J =6.72Hz, 2H), 6.63 (d, J =7.48Hz, 1H), 4.77-4.74 (m, 2H), 3.58 (s, 3H), 3.57-3.55 (m, 1H), 3.50-3.44 (m, 1H), 3.09-3.04 (m, 1H), 2.98-2.94 (m, 1H), 1.84 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 171.3, 170.9, 170.6, 144.2, 135.7, 132.8, 130.8, 129.7, 129.2, 129.0, 128.4, 127.8, 127.5, 127.1, 127.0, 123.9, 121.1, 119.6, 111.2, 100.6, 54.2, 53.3, 52.2, 38.0, 26.4, 23.0; IR (KBr): ν (cm^{-1}) 3203, 3095, 2926, 1726, 1649, 1539, 1454, 1409, 1392, 1273, 948, 738 cm^{-1}; HRMS (ESI) Calcd for $C_{31}H_{29}N_6O_4NaCl$ $[M+Na]^+$: 607.1837; Found: 607.1841.



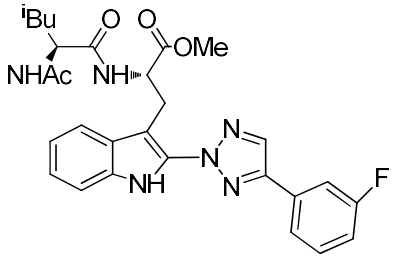
***(S)*-Methyl 2-(*(S)*-3-(2-(2H-benzo[d][1,2,3]triazol-2-yl)-1H-indol-3-yl)-2-acetamidopropanamido)-3-phenylpropanoate 3o:**

Obtained as a light-green solid in 77% yield (Condition A), $[\alpha]_D^{20}$ = -45.0 (*c* = 0.2, CH_3OH); M.p. 169-171 °C; ^1H NMR (400 MHz, $CDCl_3$): δ 9.50 (br, 1H), 7.83-7.81 (m, 2H), 7.76 (d, *J* =7.92Hz, 1H), 7.65 (d, *J* =6.6Hz, 1H), 7.46-7.43 (m, 2H), 7.38 (d, *J* =8.08Hz, 1H), 7.29-7.24 (m, 1H), 7.22-7.17 (m, 4H), 7.07-7.03 (m, 3H), 4.89-4.81 (m, 2H), 3.66-3.61 (m, 2H), 3.58 (s, 3H), 3.11-3.07 (m, 1H), 3.04-2.99 (m, 1H), 1.80 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 171.5, 171.2, 170.7, 144.4, 135.8, 133.4, 131.5, 129.3, 128.4, 128.0, 127.8, 127.0, 124.4, 121.1, 119.7, 117.8, 111.4, 103.3, 54.5, 53.3, 52.2, 38.1, 26.6, 22.9; IR (KBr): ν (cm^{-1}) 3223, 3084, 2926, 1743, 1651, 1546, 1411, 1390, 1180, 946, 746 cm^{-1}; HRMS (ESI) Calcd for $C_{29}H_{28}N_6O_4Na$ $[M+Na]^+$: 547.2070; Found: 547.2072.



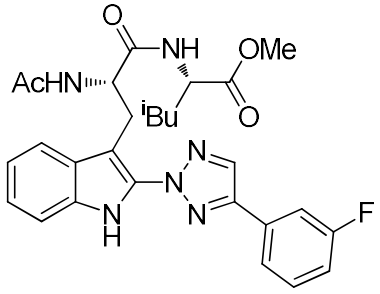
***(S)*-Methyl 2-acetamido-3-(2-(4-(3-fluorophenyl)-2H-1,2,3-triazol-2-yl)-1H–indol -3-yl)propanoate 4a:**

Obtained as a white solid in 98% yield (Condition A), $[\alpha]_D^{20}$ = 42.5 (*c* = 0.2, CH_3OH); M.p. 212-214 °C; ^1H NMR (400 MHz, $(CD_3)_2SO$): δ 12.09 (br, 1H), 8.78 (s, 1H), 8.45 (d, *J* =7.76Hz, 1H), 7.90-7.86 (m, 2H), 7.63-7.57 (m, 2H), 7.41 (d, *J* =8.04Hz, 1H), 7.33-7.28 (m, 1H), 7.18 (t, *J* =7.32Hz, 1H), 7.09 (t, *J* =7.44Hz, 1H), 4.69-4.63 (m, 1H), 3.60 (dd, *J* =13.92Hz, 7.28Hz, 1H), 3.42 (s, 3H), 3.32 (dd, *J* =13.92Hz, 7.48Hz, 1H), 1.72 (s, 3H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 172.2, 169.1, 162.6 (d, *J* =242.26Hz), 147.2, 133.5, 133.1, 131.4 (d, *J* =8.74Hz), 131.1 (d, *J* =9.62Hz), 128.6, 127.6, 122.5, 122.0, 119.7, 118.8, 115.8 (d, *J* =20.89Hz), 112.6 (d, *J* =23.01Hz), 111.6, 99.8, 52.7, 51.5, 26.1, 22.2; IR (KBr): ν (cm^{-1}) 3217, 3080, 1718, 1658, 1552, 1411, 1388, 1292, 1176, 972, 862, 738 cm^{-1}; HRMS (ESI) Calcd for $C_{22}H_{20}N_5O_3FNa$ $[M+Na]^+$: 444.1448; Found: 444.1443.



***(S)*-Methyl 2-((*S*)-2-acetamido-4-methylpentanamido)-3-(2-(4-(3-fluorophenyl) -2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanoate 4b:**

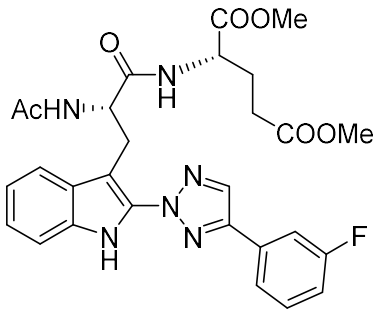
Obtained as a white solid in 91% yield (Condition A), $[\alpha]_D^{20}$ = -38.5 (*c* = 0.2, CH_3OH); M.p. 108-112 ^oC; ^1H NMR (400 MHz, $(CD_3)_2SO$): δ 12.10 (br, 1H), 8.79 (s, 1H), 8.55 (d, *J* =6.84Hz, 1H), 7.87 (d, *J* =8.12Hz, 2H), 7.76 (d, *J* =8.96Hz, 1H), 7.62-7.56 (m, 2H), 7.41 (d, *J* =8Hz, 1H), 7.31 (t, *J* =7.92Hz, 1H), 7.18 (t, *J* =7.36Hz, 1H), 7.08 (t, *J* =7.48Hz, 1H), 4.67-4.61 (m, 1H), 4.22-4.17 (m, 1H), 3.60-3.54 (m, 1H), 3.40-3.35 (m, 1H), 3.33 (s, 3H), 1.79 (s, 3H), 1.66-1.59 (m, 1H), 1.34-1.30 (m, 1H), 1.03-0.95 (m, 1H), 0.77-0.74 (m, 6H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 172.4, 171.7, 169.4, 163.0 (d, *J* =242.12Hz), 147.7, 134.1, 133.6, 131.8 (d, *J* =9.44Hz), 131.7 (d, *J* =9.59Hz), 127.8, 123.0, 122.5, 120.3, 119.2, 116.3 (d, *J* =21.3Hz), 113.1 (d, *J* =22.53Hz), 112.1, 99.7, 56.9, 53.3, 51.9, 37.2, 26.4, 24.6, 22.9, 15.5, 11.4; IR (KBr): ν (cm^{-1}) 3223, 3103, 2929, 1728, 1641, 1541, 1454, 1286, 1122, 977, 740 cm^{-1}; HRMS (ESI) Calcd for $C_{28}H_{31}N_6O_4NaF$ $[M+Na]^+$: 557.2289; Found: 557.2288.



***(S)*-Methyl 2-((*S*)-2-acetamido-3-(2-(4-(3-fluorophenyl)-2H-1,2,3-triazol-2-yl) -1H-indol-3-yl)propanamido)-4-methylpentanoate 4c:**

Obtained as a white solid in 82% yield (Condition A) (mixture of conformational isomers, Major/Minor=66/34), $[\alpha]_D^{20}$ = -18.5 (*c* = 0.2, CH_3OH); M.p. 197-199 ^oC; ^1H NMR (400 MHz, $(CD_3)_2SO$): δ (major isomer) 11.99 (br, 1H), 8.76 (s, 1H), 8.10 (t, *J* =8.6Hz, 2H), 7.91 (d, *J* =8.28Hz, 3H), 7.60-7.55 (m, 1H), 7.41-7.37 (m, 1H),

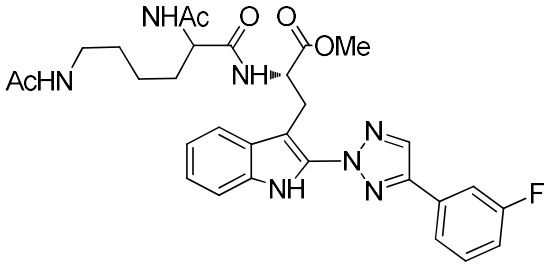
7.31-7.26 (m, 1H), 7.19-7.13 (m, 1H), 7.08-7.05 (m, 1H), 4.75-4.70 (m, 1H), 4.23-4.17 (m, 1H), 3.54-3.49 (m, 1H), 3.45 (s, 3H), 3.28-3.23 (m, 1H), 1.69 (s, 3H), 1.66-1.63 (m, 1H), 1.39-1.30 (m, 1H), 1.11-1.04 (m, 1H), 0.79-0.73 (m, 6H); (minor isomer) 11.97 (br, 1H), 8.75 (s, 1H), 7.95 (t, *J* =8.24Hz, 2H), 7.78-7.66 (m, 3H), 7.60-7.55 (m, 1H), 7.41-7.37 (m, 1H), 7.31-7.26 (m, 1H), 7.19-7.13 (m, 1H), 7.08-7.05 (m, 1H), 4.84-4.78 (m, 1H), 4.23-4.17 (m, 1H), 3.56 (s, 3H), 3.41-3.39 (m, 1H), 3.28-3.23 (m, 1H), 1.76 (s, 3H), 1.66-1.63 (m, 1H), 1.39-1.30 (m, 1H), 0.99-0.95 (m, 1H), 0.62-0.58 (m, 3H), 0.51 (d, *J* =6.72Hz, 3H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): *δ* 172.3, 172.0, 171.8, 169.3, 169.1, 163.1 (d, *J* =242.04Hz), 147.6, 133.8, 133.7, 133.6, 132.1, 132.0 (d, *J* =11.21Hz), 131.7, 131.6 (d, *J* =8.65Hz), 129.1, 128.2, 123.0, 122.8, 122.6, 119.9, 116.2 (d, *J* =20.96Hz), 113.2 (d, *J* =23.09Hz), 111.9, 100.7, 100.3, 65.4, 56.9, 56.5, 53.8, 53.3, 51.9, 37.1, 36.4, 30.4, 27.1, 25.2, 22.9, 19.1, 15.6, 15.2, 14.0, 11.5, 11.4; IR (KBr): ν (cm^{-1}) 3172, 3055, 2960, 1732, 1658, 1539, 1456, 1406, 1269, 975, 862, 740 cm^{-1}; HRMS (ESI) Calcd for $C_{28}H_{31}N_6O_4FNa$ $[M+Na]^+$: 557.2289; Found: 557.2287.



Dimethyl 2-((*S*)-2-acetamido-3-(2-(4-(3-fluorophenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanamido)pentanedioate 4d:

Obtained as a white solid in 73% yield (Condition A) (mixture of conformational isomers, Major/Minor=78/22), $[\alpha]_D^{20}$ = -26.0 (*c* = 0.2, CH_3OH); M.p. 116-118 ^oC; ^{1}H NMR (400 MHz, $CDCl_3$): *δ* (major isomer) 10.12 (br, 1H), 8.66 (br, 1H), 7.88 (s, 1H), 7.50 (d, *J* =7.84Hz, 1H), 7.42-7.30 (m, 5H), 7.21-7.13 (m, 3H), 4.93-4.90 (m, 1H), 4.76-4.75 (m, 1H), 3.66 (s, 2H), 3.54-3.53 (m, 6H), 2.40-2.3 (m, 2H), 2.15 (s, 3H), 1.89-1.85 (m, 2H); (minor isomer) 9.71 (br, 1H), 8.10 (br, 1H), 7.67 (d, *J* =7.72Hz, 1H), 7.50 (d, *J* =7.84Hz, 1H), 7.05-7.01 (m, 5H), 6.86-6.83 (m, 3H), 4.93-4.90 (m,

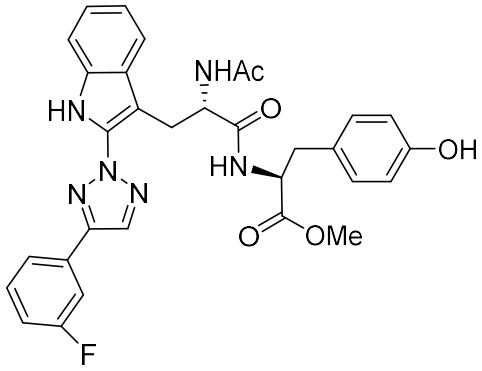
1H), 4.54-4.52 (m, 1H), 3.61 (s, 2H), 3.54-3.49 (m, 6H), 2.26-2.21 (m, 2H), 2.10-2.07 (m, 3H), 1.89-1.85 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 173.2, 172.9, 172.3, 171.9, 171.7, 170.8, 162.8 (d, J =244.52Hz), 148.0, 147.8, 133.0, 132.8, 131.2, 130.7 (d, J =8.44Hz), 130.6, 130.2 (d, J =7.78Hz), 128.4, 123.6, 122.6, 121.6, 120.8, 120.4, 119.3, 118.4, 115.6 (d, J =21.14Hz), 112.6 (d, J =24.4Hz), 111.9, 111.3, 100.5, 99.1, 54.7, 54.6, 52.6, 52.4, 51.7, 51.6, 50.9, 29.7, 29.5, 28.2, 27.7, 26.9, 26.4, 22.9, 22.8; IR (KBr): ν (cm^{-1}) 3228, 3082, 2924, 1732, 1645, 1537, 1413, 1386, 1267, 1209, 972, 862, 746 cm^{-1}; HRMS (ESI) Calcd for $C_{28}H_{29}N_6O_6FNa$ $[M+Na]^+$: 587.2030; Found: 587.2034.



(2S)-Methyl 2-(2,6-diacetamidohexanamido)-3-(2-(4-(3-fluorophenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanoate 4e:

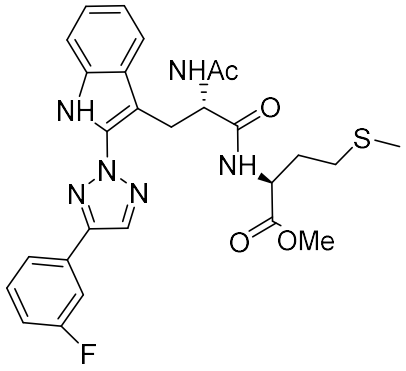
Obtained as a white solid in 87% yield (Condition A) (mixture of conformational isomers, ratio = 50/50), $[\alpha]_D^{20}$ = -6.2 (c = 0.2, CH_3OH); M.p. 240-242 °C; ^{1}H NMR (400 MHz, $(CD_3)_2SO$): δ (one isomer) 12.09 (br, 1H), 8.78 (s, 1H), 8.45 (d, J =7.68Hz, 1H), 7.90-7.84 (m, 2H), 7.82-7.73 (m, 2H), 7.68-7.59 (m, 2H), 7.41 (t, J =7.32Hz, 1H), 7.30 (t, J =8.4Hz, 1H), 7.20-7.15 (m, 1H), 7.10-7.07 (m, 1H), 4.84-4.79 (m, 1H), 4.23-4.16 (m, 1H), 3.64-3.55 (m, 1H), 3.52 (s, 3H), 2.97-2.92 (m, 2H), 1.77 (s, 6H), 1.61-1.49 (m, 1H), 1.38-1.28 (m, 2H), 1.16-1.07 (m, 3H), 0.97-0.95 (m, 1H); (another isomer) 12.08 (br, 1H), 8.78 (s, 1H), 8.45 (d, J =7.68Hz, 1H), 7.90-7.84 (m, 2H), 7.82-7.73 (m, 2H), 7.68-7.59 (m, 2H), 7.41 (t, J =7.32Hz, 1H), 7.30 (t, J =8.4Hz, 1H), 7.20-7.15 (m, 1H), 7.10-7.07 (m, 1H), 4.68-4.63 (m, 1H), 4.23-4.16 (m, 1H), 3.64-3.55 (m, 1H), 3.36 (s, 3H), 2.87-2.84 (m, 2H), 1.77 (s, 3H), 1.73 (s, 3H), 1.61-1.49 (m, 1H), 1.38-1.28 (m, 2H), 1.16-1.07 (m, 3H), 0.97-0.95 (m, 1H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 172.6, 172.5, 172.3, 172.2, 169.5, 169.4, 163.1 (d, J =242.37Hz), 147.7, 134.1, 134.0, 133.6 (d, J =5.99Hz), 131.9, 131.7 (d, J =7.12Hz),

131.5, 128.2, 127.9, 123.0, 122.5, 120.3, 120.2, 119.4, 119.2, 116.3 (d, *J* =21Hz), 113.1 (d, *J* =22.43Hz), 113.0, 112.1, 112.0, 99.9, 99.7, 53.2, 52.8, 52.6, 52.4, 52.2, 52.0, 38.8, 32.2, 32.1, 29.3, 29.2, 26.7, 26.5, 23.1, 23.0, 22.9, 22.8; IR (KBr): ν (cm^{-1}) 3267, 3053, 1749, 1662, 1541, 1425, 1398, 1373, 974, 862, 736 cm^{-1}; HRMS (ESI) Calcd for $C_{30}H_{35}FN_7O_5$ $[M+H]^+$: 592.2678; Found: 592.2676.



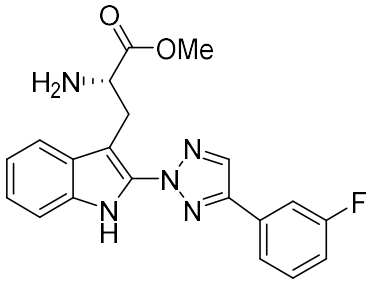
(*R*)-Methyl 2-((*S*)-2-acetamido-3-(2-(4-(3-fluorophenyl)-2H-1,2,3-triazol-2-yl) -1H-indol-3-yl)propanamido)-3-(4-hydroxyphenyl)propanoate 4f:

Obtained as a white solid in 59% yield (Condition A), $[\alpha]_D^{20}$ = -7.5 (*c* = 0.2, CH_3OH); M.p. 271-273 °C; ^1H NMR (400 MHz, $(CD_3)_2SO$): δ 11.99 (br, 1H), 9.36 (s, 1H), 8.74 (s, 1H), 8.22 (d, *J* =7.56Hz, 1H), 8.00 (d, *J* =8.52Hz, 1H), 7.91 (d, *J* =8.32Hz, 2H), 7.76 (d, *J* =7.84Hz, 1H), 7.34-7.67 (m, 1H), 7.60-7.56 (m, 1H), 7.53 (s, 2H), 7.39 (d, *J* =8.08Hz, 1H), 7.30-7.26 (m, 1H), 7.18-7.16 (m, 1H), 7.09-7.05 (m, 1H), 4.71-4.66 (m, 1H), 4.38-4.33 (m, 1H), 3.51-3.49 (m, 1H), 3.46 (s, 3H), 3.22-3.16 (m, 1H), 2.86-2.81 (m, 1H), 2.74-2.69 (m, 1H), 1.65 (s, 3H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 179.8, 171.8, 169.2, 163.1 (d, *J* =273.48Hz), 154.4, 147.6, 140.0, 133.9, 133.6, 132.0 (d, *J* =7.71Hz), 131.6 (d, *J* =7.45Hz), 129.1, 128.2, 122.9, 122.6, 119.9, 116.2 (d, *J* =22.24Hz), 113.3 (d, *J* =17.84Hz), 111.9, 100.9, 87.3, 53.9, 52.1, 35.1, 29.9, 27.3, 23.1; IR (KBr): ν (cm^{-1}) 3259, 3089, 2929, 1728, 1643, 1541, 1431, 1409, 1392, 1286, 1120, 948, 864, 744 cm^{-1}; HRMS (ESI) Calcd for $C_{31}H_{28}FN_6O_4$ $[M-H]^-$: 583.2111; Found: 583.2115.



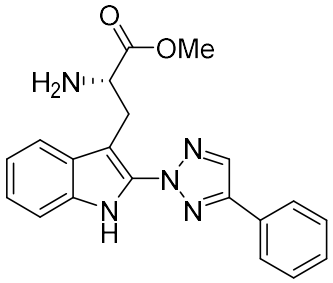
***(R)*-Methyl 2-(*(S)*-2-acetamido-3-(2-(4-(3-fluorophenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanamido)-4-(methylthio)butanoate 4g:**

Obtained as a white solid in 80% yield (Condition A) (mixture of conformational isomers, ratio = 50/50), $[\alpha]_D^{20}$ = -73.0 (*c* = 0.2, CH_3OH); M.p. 233-234 °C; ^{1}H NMR (400 MHz, $CDCl_3$): δ (one isomer) 9.81 (br, 1H), 8.41 (br, 1H), 7.57 (t, *J* =6.84Hz, 1H), 7.43 (t, *J* =7.08Hz, 1H), 7.39-7.34 (m, 2H), 7.28-7.27 (m, 1H), 7.24-7.22 (m, 3H), 7.12 (t, *J* =7.56Hz, 1H), 6.94-6.91 (m, 1H), 4.79-4.66 (m, 2H), 3.59 (s, 3H), 3.56-3.55 (m, 1H), 3.49-3.41 (m, 1H), 2.84-2.75 (m, 1H), 2.70-2.66 (m, 1H), 2.51 (s, 3H), 2.34-2.26 (m, 1H), 2.06 (s, 3H), 2.01-1.92 (m, 1H); (another isomer) 9.77 (br, 1H), 8.39 (br, 1H), 7.57 (t, *J* =6.84Hz, 1H), 7.43 (t, *J* =7.08Hz, 1H), 7.39-7.34 (m, 2H), 7.28-7.27 (m, 1H), 7.24-7.22 (m, 3H), 7.12 (t, *J* =7.56Hz, 1H), 6.94-6.91 (m, 1H), 4.79-4.66 (m, 2H), 3.59 (s, 3H), 3.56-3.55 (m, 1H), 3.49-3.41 (m, 1H), 2.70-2.66 (m, 1H), 2.63-2.56 (m, 1H), 2.51 (s, 3H), 2.34-2.26 (m, 1H), 2.06 (s, 3H), 2.01-1.92 (m, 1H); ^{13}C NMR (100 MHz, CD_3OD): δ 173.0, 172.9, 171.8, 171.7, 170.8, 163.2 (d, *J* =243.25Hz), 147.7, 133.6, 133.5, 132.6, 131.7 (d, *J* =8.59Hz), 131.5, 130.6 (d, *J* =8.33Hz), 127.9, 122.5, 121.7, 119.7, 118.6, 115.3 (d, *J* =21.27Hz), 112.4 (d, *J* =23.42Hz), 111.1, 99.1, 54.8, 54.7, 51.5, 51.3, 50.7, 49.3, 36.7, 36.6, 26.0, 25.0, 24.8, 21.1; IR (KBr): ν (cm^{-1}) 3190, 3097, 2926, 1747, 1633, 1539, 1456, 1409, 1392, 1369, 1004, 970, 864, 742 cm^{-1}; HRMS (ESI) Calcd for $C_{27}H_{29}FN_6O_4SK$ $[M+K]^+$: 591.1587; Found: 591.1795.



Methyl *(S)*-2-amino-3-(2-(4-(3-fluorophenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl) propanoate 6a:

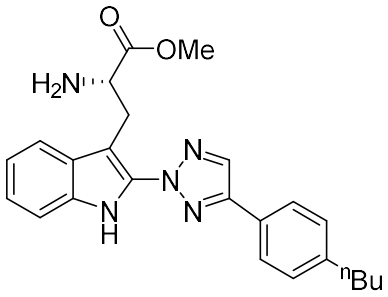
Obtained as a fluffy white powder in 77% yield (Condition B), $[\alpha]_D^{20}$ = -50(*c* = 0.2, CH_3OH); M.p. 107 –127 °C; ^{1}H NMR (400 MHz, CD_3OD): δ 8.46 (s, 1H), 7.81-7.86 (m, 2H), 7.73 (d, *J* =6.5Hz, 1H), 7.63 (d, *J* =7.9Hz, 1H), 7.53-7.56 (m, 1H), 7.49 (d, *J* =8.2Hz, 1H), 7.26 (t, *J* =7.6Hz, 1H), 7.19-7.21 (m, 1H), 4.50 (t, *J* =7.4Hz, 1H), 3.89-3.94 (m, 1H), 3.65 (s, 3H), 3.60-3.63 (m,1H); ^{13}C NMR (150 MHz, CD_3OD): δ 171.1, 164.2 (d, *J* =237Hz), 138.4, 134.7, 134.4, 133.1, 132.2, 130.9, 124.4, 123.3, 121.7, 119.2, 117.0 (d, *J* =21Hz), 113.9 (d, *J* =24Hz), 112.8, 54.6, 53.5, 26.7. ^{19}F NMR (565 MHz, CD_3OD, CF_3COOH as external standard): -114.5. IR (KBr): ν (cm^{-1}) 3363, 3192, 2922, 2851, 1739, 1650,1620, 1589, 1423, 1207, 1135，863, 722, 686, 523 cm^{-1}; HRMS (ESI) Calcd for $C_{20}H_{18}FN_5O_2Na$ $[M+ Na]^+$: 402.1337; Found: 402.1322.



Methyl (*S*)-2-amino-3-(2-(4-phenyl-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl) propanoate 6b:

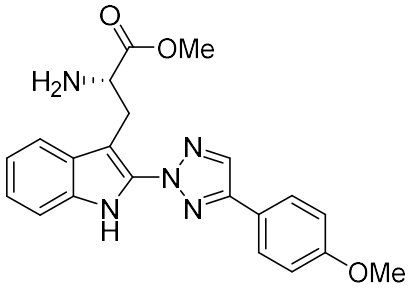
Obtained as a fluffy white powder in 71% yield (Condition B), $[\alpha]_D^{20}$ = 25 (*c* = 0.2, CH_3OH); M.p. 130-150 °C; ^{1}H NMR (400 MHz, CD_3OD): δ 8.42 (s, 1H), 8.04 (d, *J* =8.6Hz, 2H), 7.62 (d, *J* =8.2Hz, 1H), 7.42-7.56 (m, 4H), 7.26 (t, *J* =7.4Hz, 1H), 7.18 (t, *J* =7.4Hz, 1H), 4.51 (t, *J* =7.1Hz, 1H), 3.88-3.94 (m, 1H), 3.63 (s, 3H), 3.59-3.62 (m, 1H); ^{13}C NMR (150 MHz, CD3OD): δ 169.5, 148.5, 146.6, 138.6, 132.9, 129.5,

129.3, 129.0, 128.8, 126.0, 122.9, 120.3, 117.8, 111.4, 53.2, 52.2, 29.3. IR (KBr): ν (cm^{-1}) 3355, 3187, 2922, 2852, 1749, 1689, 1660, 1634, 1469, 1251, 1073,978,721,528 cm^{-1}; HRMS (ESI) Calcd for $C_{20}H_{19}N_5O_2Na$ $[M+Na]^+$: 384.1431; Found: 384.1425.



Methyl (*S*)-2-amino-3-(2-(4-(4-butylphenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl) propanoate 6c:

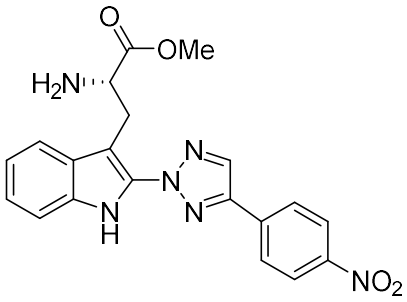
Obtained as a white solid in 42% yield (Condition B), $[\alpha]_D^{20}$ = 125.5 (*c* = 0.2, CH_3OH); M.p. 109-112 °C;^{1}H NMR (400 MHz, CD_3OD): δ 8.38 (s, 1H), 7.93 (d, *J* =8.1Hz, 2H), 7.61 (d, *J* =8.0Hz, 1H), 7.48 (d, *J* =8.0Hz, 1H), 7.34 (d, *J* =8.1Hz, 2H), 7.25 (t, *J* =7.5Hz, 1H), 7.18 (t, *J* =7.5Hz, 1H), 4.50 (t, *J* =7.2Hz, 1H), 3.86-3.94 (m, 2H), 3.63 (s, 3H), 2.67-2.72 (m, 2H), 1.63-1.70 (m, 2H), 1.38-1.44 (m, 2H), 0.97 (t, *J* =7.3Hz, 3H); ^{13}C NMR (150 MHz, CD_3OD): δ 169.5, 167.9, 164.4, 133.6, 132.4, 130.8, 130.2, 129.8, 127.4, 119.7, 118.1, 117.6, 117.2, 69.3, 49.9, 40.3, 31.7, 30.7, 28.1, 25.1. IR (KBr): ν (cm^{-1}) 3441, 3381, 3253, 2991, 2881，2777, 1792, 1732, 1624, 1436, 1087, 844, 766, 612, 569 cm^{-1}; HRMS (ESI) Calcd for $C_{24}H_{27}N_5O_2Na$ $[M+Na]^+$: 440.2057; Found: 440.2045.



Methyl *(S)*-2-amino-3-(2-(4-(4-methoxyphenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanoate 6d:

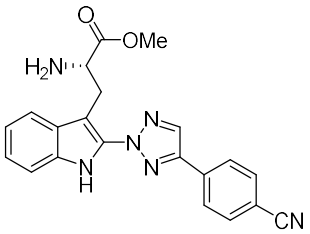
Obtained as a fluffy white powder in 55% yield (Condition B), $[\alpha]_D^{20}$ = 200 (*c* = 0.2, CH_3OH); M.p. 138.0-140.5 °C; ^{1}H NMR (400 MHz, CD_3OD): δ 8.33 (s, 1H), 7.96 (d,

J = 8.7Hz, 2H), 7.61 (d, *J* = 8.1Hz, 1H), 7.48 (d, *J* = 8.1Hz, 1H), 7.25 (t, *J* = 7.5Hz, 1H), 7.17 (t, *J* = 7.5Hz, 1H), 7.07 (d, *J* = 8.7Hz, 2H), 4.49 (t, *J* = 7.4Hz, 1H), 3.87 (s, 3H), 3.63 (s, 3H), 3.46-3.52 (m, 2H); ^{13}C NMR (150 MHz, CD_3OD): δ 169.7, 160.7, 149.3, 140.8, 133.5, 132.4, 129.4, 127.5, 122.7, 125.4, 120.2, 117.7, 114.3, 111.3, 65.5, 54.5, 53.4, 26.7. IR (KBr): ν (cm^{-1}) 3357, 3188, 3004, 2021, 2851, 1742, 1704，1661, 1634, 1504, 1488, 1209, 1140, 695, 634 cm^{-1}; HRMS (ESI) Calcd for $C_{21}H_{21}N_5O_3Na$ $[M+Na]^+$: 414.1537; Found: 414.1538.



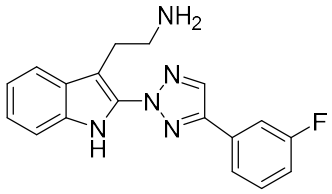
Methyl *(S)*-2-amino-3-(2-(4-(4-nitrophenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl) propanoate 6e:

Obtained as a fluffy white powder in 83% yield (Condition B), $[\alpha]_D^{20}$ = -40 (*c* = 0.2, CH_3OH); M.p. 128.4-130.3 ^oC; ^{1}H NMR (400 MHz, CD_3OD): δ 8.99 (s, 1H), 8.37 (d, *J* = 9.0Hz, 2H), 8.21 (d, *J* = 9.0Hz, 2H), 7.65 (d, *J* = 8.1Hz, 1H), 7.49 (d, *J* = 8.1Hz, 1H), 7.32 (t, *J* = 7.7Hz, 1H), 7.22 (t, *J* = 7.7Hz, 1H), 4.42 (t, *J* = 7.2Hz, 1H), 3.63 (s, 3H), 3.58-3.61 (m, 1H), 3.47-3.53 (m, 1H); ^{13}C NMR (100 MHz, CD_3OD): δ 179.0, 145.7, 143.3, 142.6, 139.5, 134.2, 126.5, 124.0, 123.7, 122.7, 120.6, 118.4, 111.9, 53.4, 52.3, 25.0. IR (KBr): ν (cm^{-1}) 3351, 3183, 3004, 1827, 1691, 1659, 1648, 1521, 1470, 1027, 934, 721cm^{-1}; HRMS (ESI) Calcd for $C_{20}H_{18}N_6O_4Na$ $[M+Na]^+$: 429.1282; Found: 429.1285.



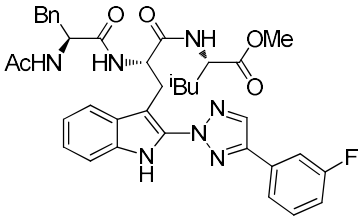
Methyl *(S)*-2-amino-3-(2-(4-(4-cyanophenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl) propanoate 6f:

Obtained a fluffy white powder in 82% yield (Condition B), $[\alpha]_D^{20}$ = 125.5 (*c* = 0.2, CH_3OH); M.p. 127.6-135 ^oC; ^1H NMR (400 MHz, CD_3OD): δ 8.96 (s, 1H), 8.16 (d, *J* =8.5Hz, 2H), 8.02 (d, *J* =8.5Hz, 1H), 7.88 (d, *J* =8.5Hz, 2H), 7.50 (d, *J* =8.5Hz, 1H), 7.33 (t, *J* =7.6Hz, 1H), 7.24 (t, *J* =7.6Hz, 1H), 4.43 (t, *J* =7.2Hz, 1H), 3.64 (s, 3H), 3.58-3.62 (m, 1H), 3.47-3.52 (m, 1H); ^{13}C NMR (150 MHz, CD_3OD): δ 169.1, 146.0, 134.4, 134.2, 132.7, 132.5, 129.4, 126.8, 126.1, 123.7, 122.3, 120.6, 118.3, 118.1, 111.8, 111.7, 54.6, 53.7, 28.1. IR (KBr): ν (cm^{-1}) 3305, 3187, 2921, 2850, 1747, 1704, 1648, 1634, 1470, 1422, 1245, 1024, 803, 721, 551 cm^{-1}; HRMS (ESI) Calcd for $C_{21}H_{18}N_6O_2Na$ $[M+Na]^+$:409.1383; Found: 409.1383.



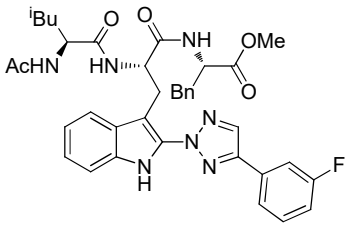
2-(2-(4-(3-fluorophenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)ethan-1-amine 8:

Obtained as a fluffy white powder in 87% yield (Condition B), M.p. 110 –120^{o}C; ^1H NMR (400 MHz, CD_3OD): δ 8.38 (s, 1H), 7.82 (d, *J* =7.8Hz, 1H), 7.73-7.78 (m, 1H), 7.64 (d, *J* =7.8Hz, 1H), 7.48-7.55 (m, 1H), 7.42 (d, *J* =8.1Hz, 1H), 7.09-7.23 (m, 3H), 3.56 (t, *J* =7.0Hz, 2H), 3.34 (t, *J* =7.0Hz, 2H); ^{13}C NMR (150 MHz, CD_3OD): δ 163.0 (d, *J* =245Hz), 133.6, 132.6, 132.0, 131.1, 130.7, 128.0, 122.5, 121.7, 119.6, 118.6, 115.3 (d, *J* =21Hz), 112.6 (d, *J* =22Hz), 111.0, 101.9, 39.7, 23.2. ^{19}F NMR (565 MHz, CD_3OD, CF_3COOH as external standard): -114.5. IR (KBr): ν (cm-1) 3698, 3669, 2921, 2851, 2526, 2355, 2071, 1681, 1632, 1589, 1207, 1063, 804, 786, 647, 534 cm-1; HRMS (ESI) Calcd. for $C_{18}H_{16}FN_5Na$ $[M+ Na]^+$: 344.1282; Found: 344.1280.



***(S)*-Methyl 2-(*(S)*-2-(*(S)*-2-acetamido-3-phenylpropanamido)-3-(2-(4-(3-fluoro phenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanamido)-4-methylpentanoate 12a:**

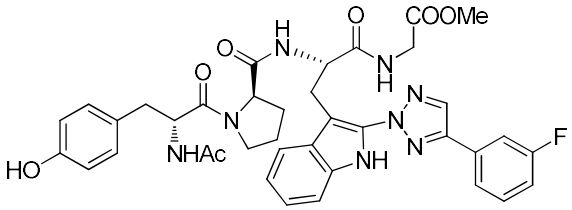
Obtained as a white solid in 71% yield (Condition A) (mixture of conformational isomers, ratio = 50/50), $[\alpha]_D^{20}$ = -7.5 (*c* = 0.2, CH_3OH); M.p. 217-218 °C; ^1H NMR (400 MHz, $(CD_3)_2SO$): δ (one isomer) 12.01 (br, 1H), 8.75 (s, 1H), 8.20 (dd, *J* =15.32Hz, 7.72Hz, 1H), 8.06 (d, *J* =7.56Hz, 1H), 7.99 (d, *J* =7.96Hz, 1H), 7.94-7.90 (m, 2H), 7.80-7.76 (m, 1H), 7.57-7.50 (m, 3H), 7.17-7.10 (m, 4H), 7.09-7.02 (m, 3H), 4.76-4.70 (m, 1H), 4.37-4.32 (m, 1H), 4.22-4.18 (m, 1H), 3.60-3.36 (m, 2H), 3.44 (s, 3H), 2.82-2.75 (m, 1H), 2.60-2.54 (m, 1H), 1.69-1.64 (m, 1H), 1.62 (s, 3H), 1.34-1.31 (m, 1H), 1.15-1.11 (m, 1H), 0.83-0.75 (m, 6H); (another isomer) 12.00 (br, 1H), 8.69 (s, 1H), 8.20 (dd, *J* =15.32Hz, 7.72Hz, 1H), 8.06 (d, *J* =7.56Hz, 1H), 7.99 (d, *J* =7.96Hz, 1H), 7.94-7.90 (m, 2H), 7.80-7.76 (m, 1H), 7.46-7.40 (m, 3H), 7.17-7.10 (m, 4H), 7.09-7.02 (m, 3H), 4.76-4.70 (m, 1H), 4.37-4.32 (m, 1H), 4.22-4.18 (m, 1H), 3.60-3.36 (m, 2H), 3.43 (s, 3H), 2.82-2.75 (m, 1H), 2.60-2.54 (m, 1H), 1.69-1.64 (m, 1H), 1.62 (s, 3H), 1.34-1.31 (m, 1H), 1.15-1.11 (m, 1H), 0.83-0.75 (m, 6H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 171.7, 171.6, 171.4, 169.5, 163.1 (d, *J* =242.88Hz), 148.6, 147.6, 138.3, 133.9, 133.7, 133.5, 132.1 (d, *J* =6.84Hz), 132.0, 131.8, 131.6 (d, *J* =8.77Hz), 129.6, 129.5, 129.4, 129.1, 128.3, 128.2, 126.5, 122.8, 122.7, 122.6, 120.0, 116.2 (d, *J* =23.22Hz), 113.3 (d, *J* =22.73Hz), 111.9, 100.2, 100.0, 56.6, 54.4, 54.0, 51.9, 37.6, 37.1, 30.4, 25.2, 22.7, 15.6, 11.5; IR (KBr): ν (cm^{-1}) 3221, 3086, 2927, 1741, 1639, 1541, 1454, 1409, 1269, 970, 864, 740 cm^{-1}; HRMS (ESI) Calcd for $C_{37}H_{41}FN_7O_5$ $[M+H]^+$: 682.3148; Found: 682.3164.



***(S)*-Methyl 2-(*(S)*-2-(*(S)*-2-acetamido-4-methylpentanamido)-3-(2-(4-(3-fluoro phenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanamido)-3-phenylpropanoate 12b:**

Obtained as a white solid in 65% yield (Condition A) (mixture of conformational isomers, Major/Minor=72/28), $[\alpha]_D^{20}$ = -1.2 (*c* = 0.2, CH_3OH); M.p. 276-278 °C; ^1H NMR (400 MHz, $(CD_3)_2SO$): δ (major isomer) 11.99 (br, 1H), 8.75 (s, 1H), 8.16-8.13

(m, 1H), 8.06 (d, *J* =7Hz, 1H), 7.93-7.91 (m, 2H), 7.75 (d, *J* =7.2Hz, 2H), 7.61-7.51 (m, 2H), 7.39 (d, *J* =7.96Hz, 1H), 7.24-7.21 (m, 3H), 7.18-7.12 (m, 4H), 4.75-4.71 (m, 1H), 4.44-4.41 (m, 1H), 4.23-4.20 (m, 1H), 3.99-3.95 (m, 1H), 3.50 (d, *J* =5.2Hz, 1H), 3.41 (s, 3H), 3.30-3.20 (m, 1H), 2.96-2.87 (m, 2H), 2.02-1.98 (m, 1H), 1.74 (s, 3H), 1.65-1.61 (m, 1H), 0.67-0.63 (m, 3H), 0.69 (d, *J* =6.28Hz, 3H); (minor isomer) 11.99 (br, 1H), 8.69 (s, 1H), 8.37-8.36 (m, 1H), 8.27-8.22 (m, 1H), 8.01-7.97 (m, 2H), 7.72 (d, *J* =7.2Hz, 2H), 7.67-7.65 (m, 2H), 7.46 (d, *J* =7.96Hz, 1H), 7.31-7.27 (m, 3H), 7.08-7.05 (m, 4H), 5.40-5.31 (m, 1H), 4.82-4.78 (m, 1H), 4.50-4.48 (m, 1H), 4.06-4.01 (m, 1H), 3.50 (d, *J* =5.2Hz, 1H), 3.41 (s, 3H), 3.30-3.20 (m, 1H), 3.02-3.01 (m, 2H), 2.02-1.98 (m, 1H), 1.74 (s, 3H), 1.65-1.61 (m, 1H), 1.52-1.45 (m, 3H), 1.41-1.34 (m, 3H); ^{13}C NMR (100 MHz, $(CD_3)_2SO$): δ 171.3, 171.2, 171.0, 169.1, 162.6 (d, *J* =240.81Hz), 148.2, 147.1, 137.9, 133.4, 133.2, 133.1, 131.5, 131.4, 131.2 (d, *J* =9.12Hz), 129.2, 129.0, 128.6, 127.9, 127.8, 126.1, 122.3, 119.5, 112.8 (d, *J* =22.74Hz), 111.5, 99.8, 99.6, 56.2, 54.0, 53.5, 51.4, 37.1, 36.7, 30.0, 24.7, 22.3, 15.2, 13.5, 11.1; IR (KBr): ν (cm^{-1}) 3244, 3062, 2924, 1732, 1635, 1473, 1456, 1363, 1338, 972, 862, 744 cm^{-1}; HRMS (ESI) Calcd for $C_{37}H_{41}FN_7O_5$ $[M+H]^+$: 682.3148; Found: 682.3164.



Methyl 2-((*S*)-2-((*R*)-1-((*R*)-2-acetamido-3-(4-hydroxyphenyl)propanoyl) pyrrolidine-2-carboxamido)-3-(2-(4-(3-fluorophenyl)-2H-1,2,3-triazol-2-yl)-1H-indol-3-yl)propanamido)acetate 14:

Obtained as a white solid in 79% yield (Condition A) (mixture of conformational isomers, Major/Minor=75/25), $[\alpha]_D^{20}$ = -10.0 (*c* = 0.2, CH_3OH); M.p. 170-172 °C; ^{1}H NMR (400 MHz, $CDCl_3$): δ (major isomer) 9.21 (br, 1H), 8.07 (s, 1H), 7.66-7.57 (m, 3H), 7.47-7.42 (m, 2H), 7.38 (s, 2H), 7.26-7.24 (m, 3H), 7.17-7.09 (m, 3H), 6.41 (s, 1H), 5.77 (s, 1H), 4.94-4.90 (m, 1H), 4.78-4.72 (m, 1H), 4.30-4.28 (m, 1H), 4.15 (d, *J* =5.96Hz, 1H), 3.89-3.84 (m, 1H), 3.71-3.69 (m, 2H), 3.67 (s, 3H), 3.58-3.56 (m, 1H),

3.14-3.12 (m, 1H), 2.53-2.50 (m, 1H), 2.44-2.39 (m, 1H), 1.85-1.81 (m, 6H); (minor isomer) 9.15 (br, 1H), 8.17 (s, 1H), 7.75-7.68 (m, 3H), 7.47-7.42 (m, 2H), 7.34 (s, 2H), 7.26-7.24 (m, 3H), 7.01-6.98 (m, 3H), 6.76 (s, 1H), 5.86 (s, 1H), 4.94-4.85 (m, 1H), 4.47-4.45 (m, 1H), 4.19 (d, J =5.96Hz, 1H), 4.07-4.01 (m, 1H), 3.73 (s, 3H), 3.71-3.69 (m, 2H), 3.58-3.56 (m, 1H), 3.23-3.20 (m, 1H), 2.94-2.89 (m, 1H), 2.73-2.67 (m, 1H), 2.01-1.90 (m, 6H); ^{13}C NMR (100 MHz, $CDCl_3$): δ 171.6, 171.2, 170.8, 170.3, 169.9, 163.1 (d, J =246.25Hz), 152.6, 147.9, 147.7, 140.2, 132.9, 132.7 (d, J =8.72Hz), 132.0, 131.4, 130.8 (d, J =7.62Hz), 128.0, 123.7, 121.8, 120.8, 119.5, 116.3 (d, J =19.97Hz), 115.9, 113.1 (d, J =23.05Hz), 111.5, 100.0, 82.3, 60.7, 54.3, 52.3, 51.6, 47.4, 41.2, 35.5, 28.7, 25.9, 25.0, 22.8; IR (KBr): ν (cm^{-1}) 3257, 3045, 2924, 1747, 1635, 1591, 1417, 1384, 1228, 1047, 879, 748 cm^{-1}; HRMS (ESI) Calcd for $C_{39}H_{40}FN_8O_9$ [M+FORMATE]$^-$: 783.2908; Found: 783.2912.

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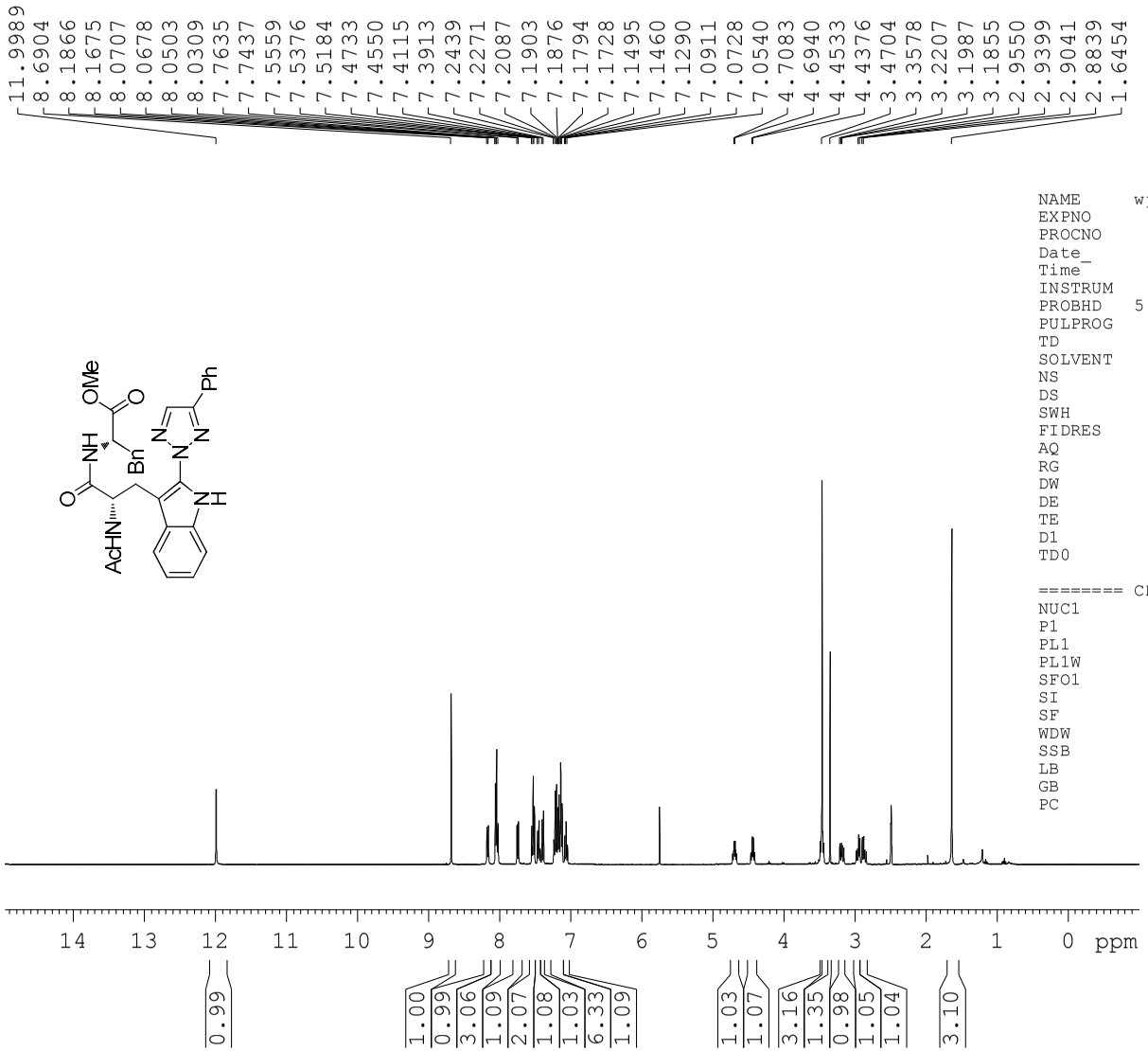
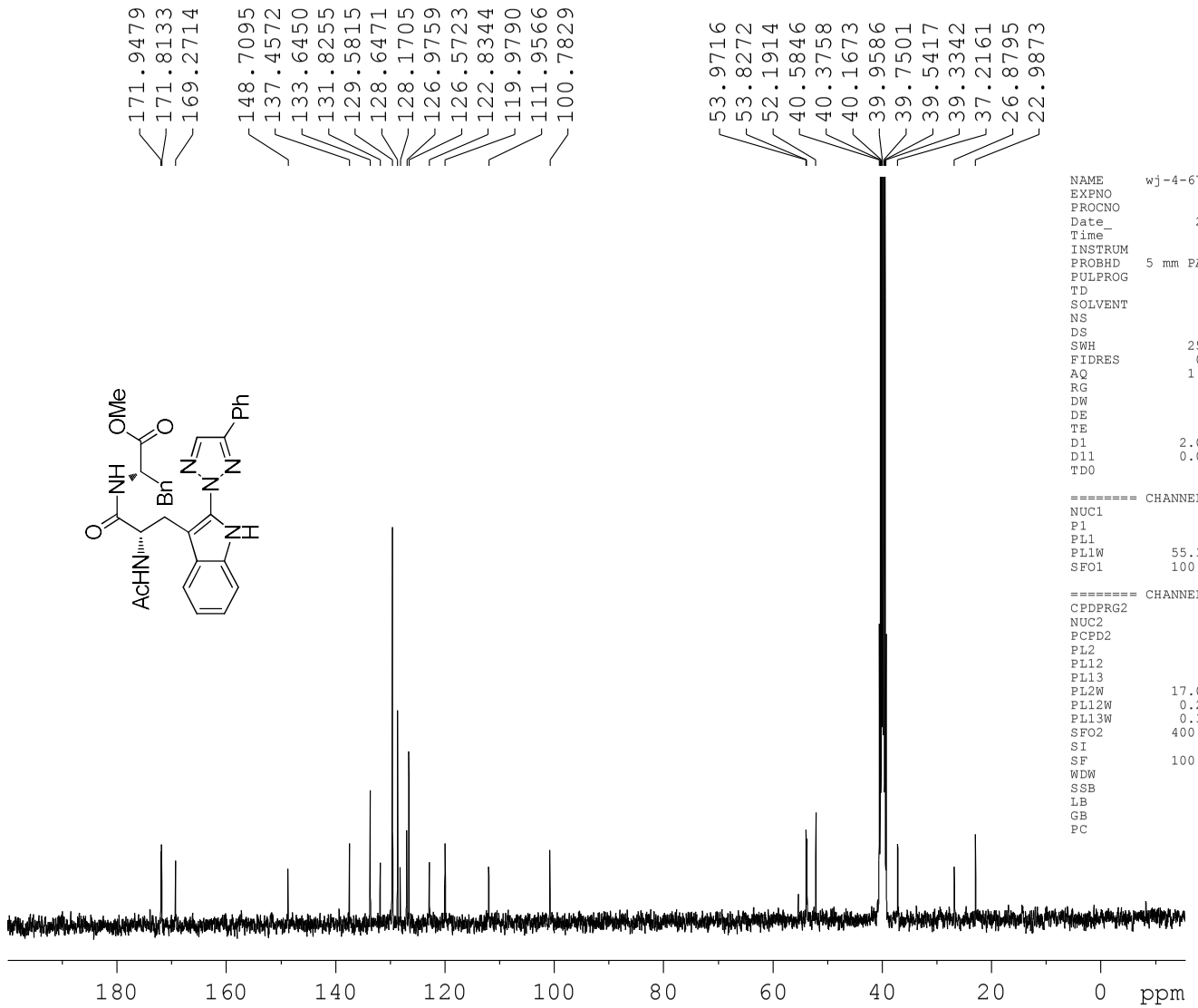
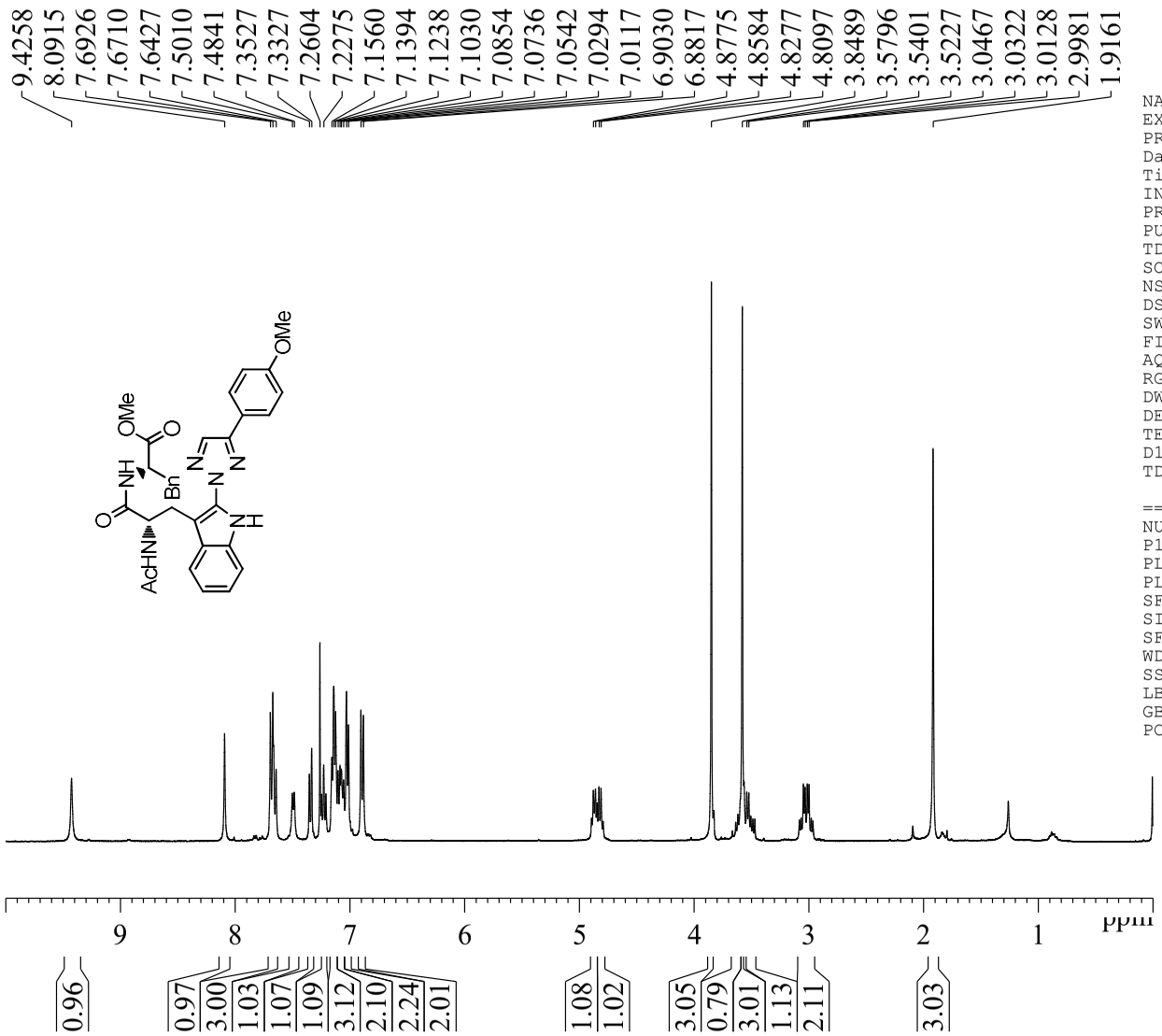
^{1}H NMR and ^{13}C NMR spectra



NAME	wj-4-67h-20130410
EXPNO	1
PROCNO	1
Date_	20130410
Time	15.57
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zg30
TD	32768
SOLVENT	DMSO
NS	8
DS	0
SWH	6393.862 Hz
FIDRES	0.195125 Hz
AQ	2.5625076 sec
RG	101
DW	78.200 usec
DE	6.50 usec
TE	293.3 K
D1	1.00000000 sec
TD0	1
======== CHANNEL f1 ========	
NUC1	1H
P1	10.40 usec
PL1	-1.00 dB
PL1W	17.01305389 W
SFO1	400.1328009 MHz
SI	16384
SF	400.1300037 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00



NAME	wj-4-67h-20130410
EXPNO	2
PROCNO	1
Date_	20130410
Time	15.59
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	DMSO
NS	200
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	294.0 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40




```
NAME              b-3-49
EXPNO                  1
PROCNO                 1
Date_           20140103
Time               10.31
INSTRUM            spect
PROBHD    5 mm PABBO BB-
PULPROG             zg30
TD                 32768
SOLVENT            CDCl3
NS                     8
DS                     0
SWH             6393.862 Hz
FIDRES          0.195125 Hz
AQ             2.5625076 sec
RG                   161
DW                78.200 usec
DE                 6.50 usec
TE                295.7 K
D1           1.00000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                  1H
P1                10.40 usec
PL1               -1.00 dB
PL1W         17.01305389 W
SFO1        400.1328009 MHz
SI                 16384
SF          400.1300093 MHz
WDW                   EM
SSB                    0
LB                 0.30 Hz
GB                     0
PC                  1.00
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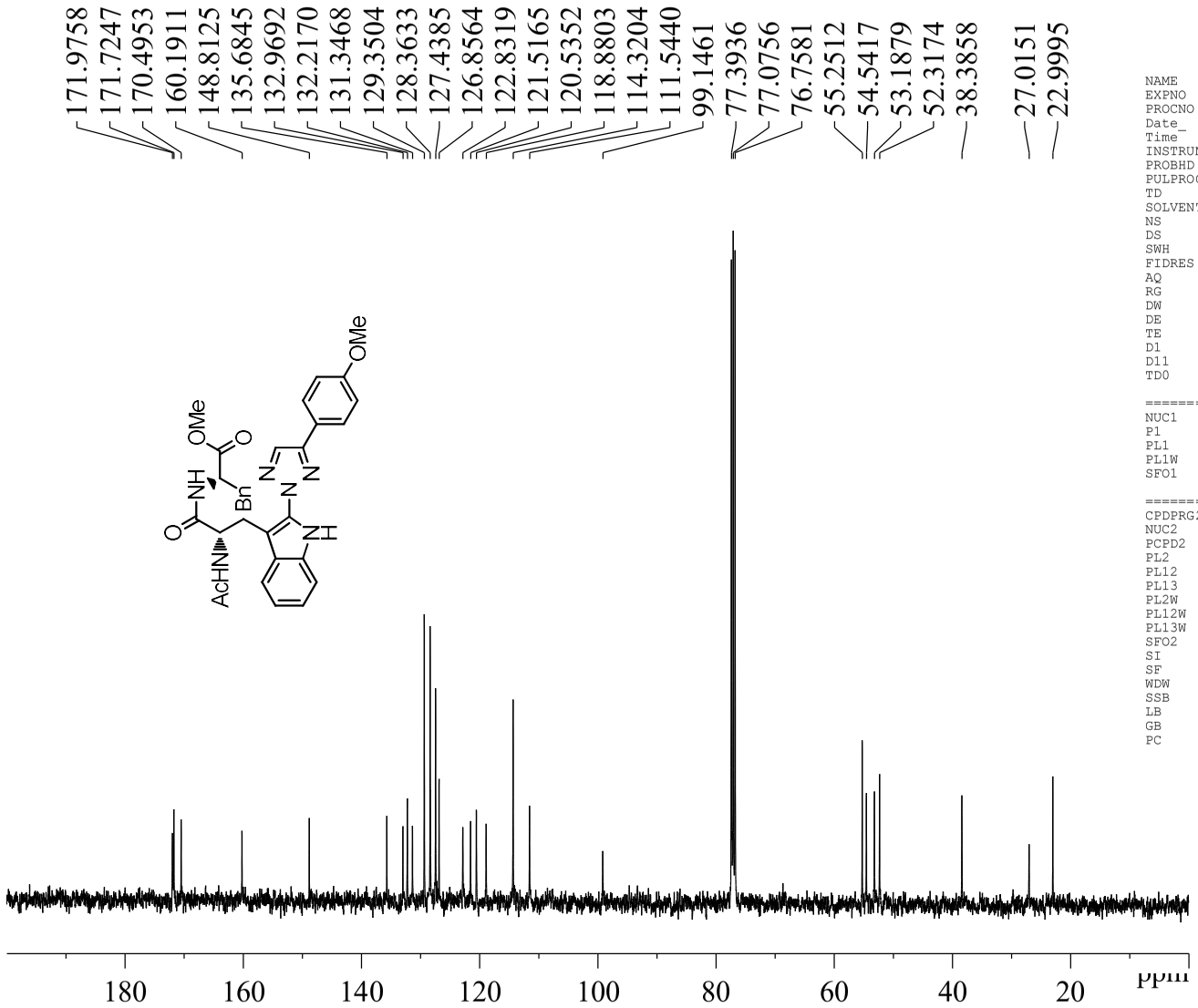
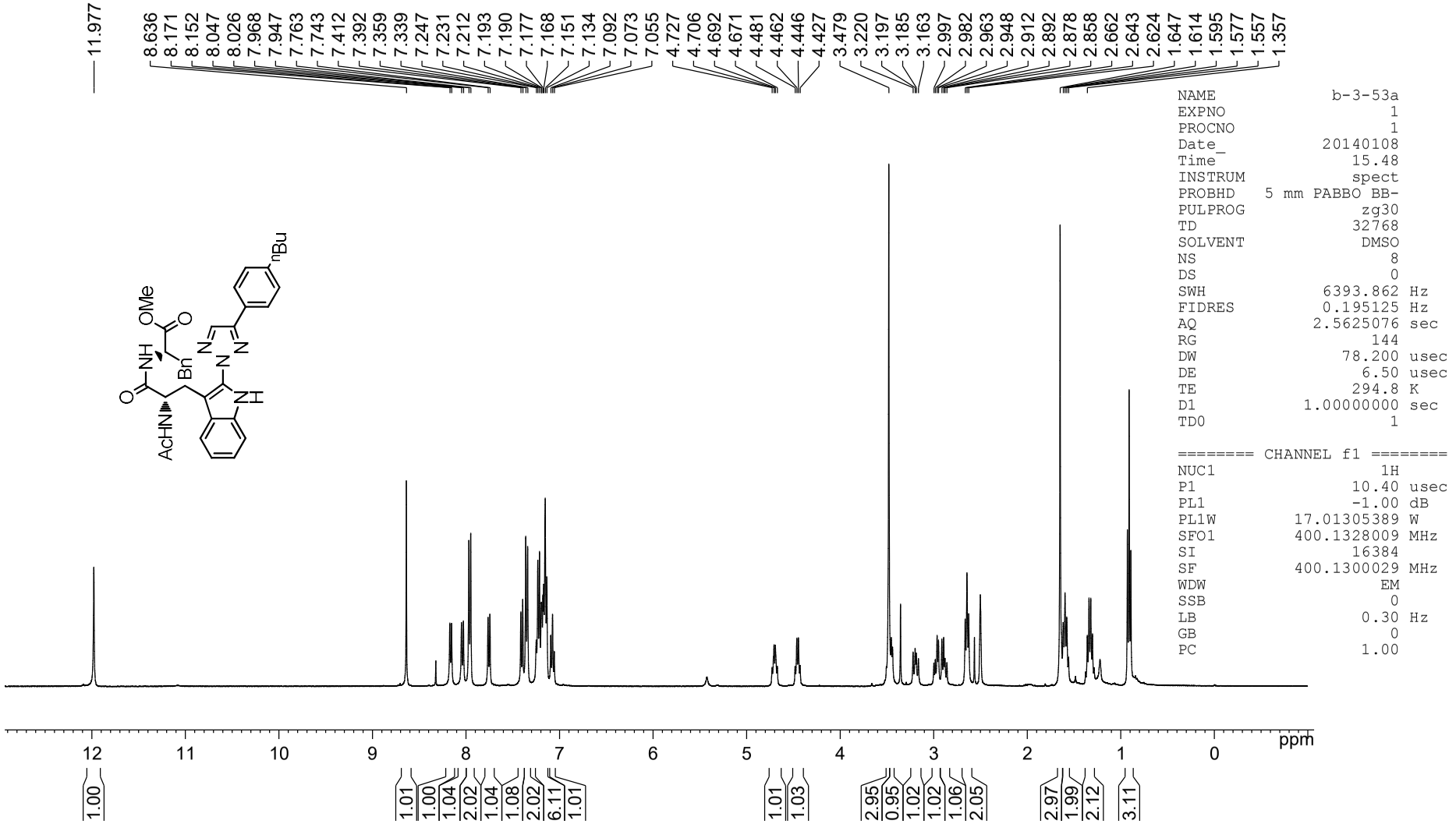


NAME	b-3-49-2
EXPNO	2
PROCNO	1
Date_	20140103
Time	15.33
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	104
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	297.0 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40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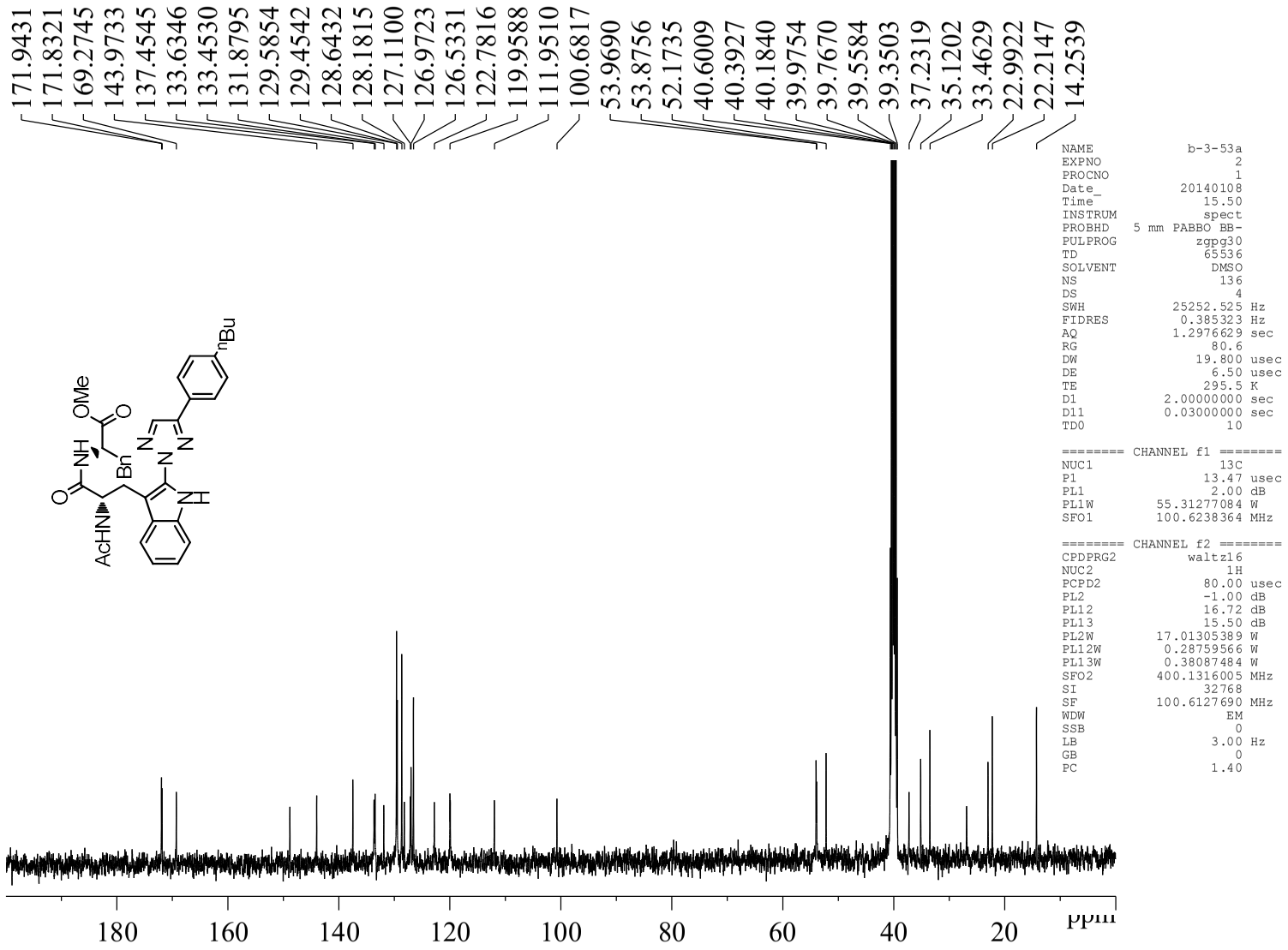
8.636
8.171
8.152
8.047
8.026
7.968
7.947
7.763
7.743
7.412
7.392
7.359
7.339
7.247
7.231
7.212
7.193
7.190
7.177
7.168
7.151
7.134
7.092
7.073
7.055
4.727
4.706
4.692
4.671
4.481
4.462
4.446
4.427
3.479
3.220
3.197
3.185
3.163
2.997
2.982
2.963
2.948
2.912
2.892
2.878
2.858
2.662
2.643
2.624
1.647
1.614
1.595
1.577
1.557
1.357
nBu
OMe
NH
Bn
AcHN
N
N
N
H
NAME b-3-53a
EXPNO 1
PROCNO 1
Date_ 20140108
Time 15.48
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT DMSO
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 144
DW 78.200 usec
DE 6.50 usec
TE 294.8 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300029 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
12
11
10
9
8
7
6
5
4
3
2
1
0
ppm
1.00
1.01
1.00
1.04
2.02
1.04
1.08
2.02
6.11
1.01
1.01
1.03
2.95
0.95
1.02
1.02
1.06
2.05
2.97
1.99
2.12
3.11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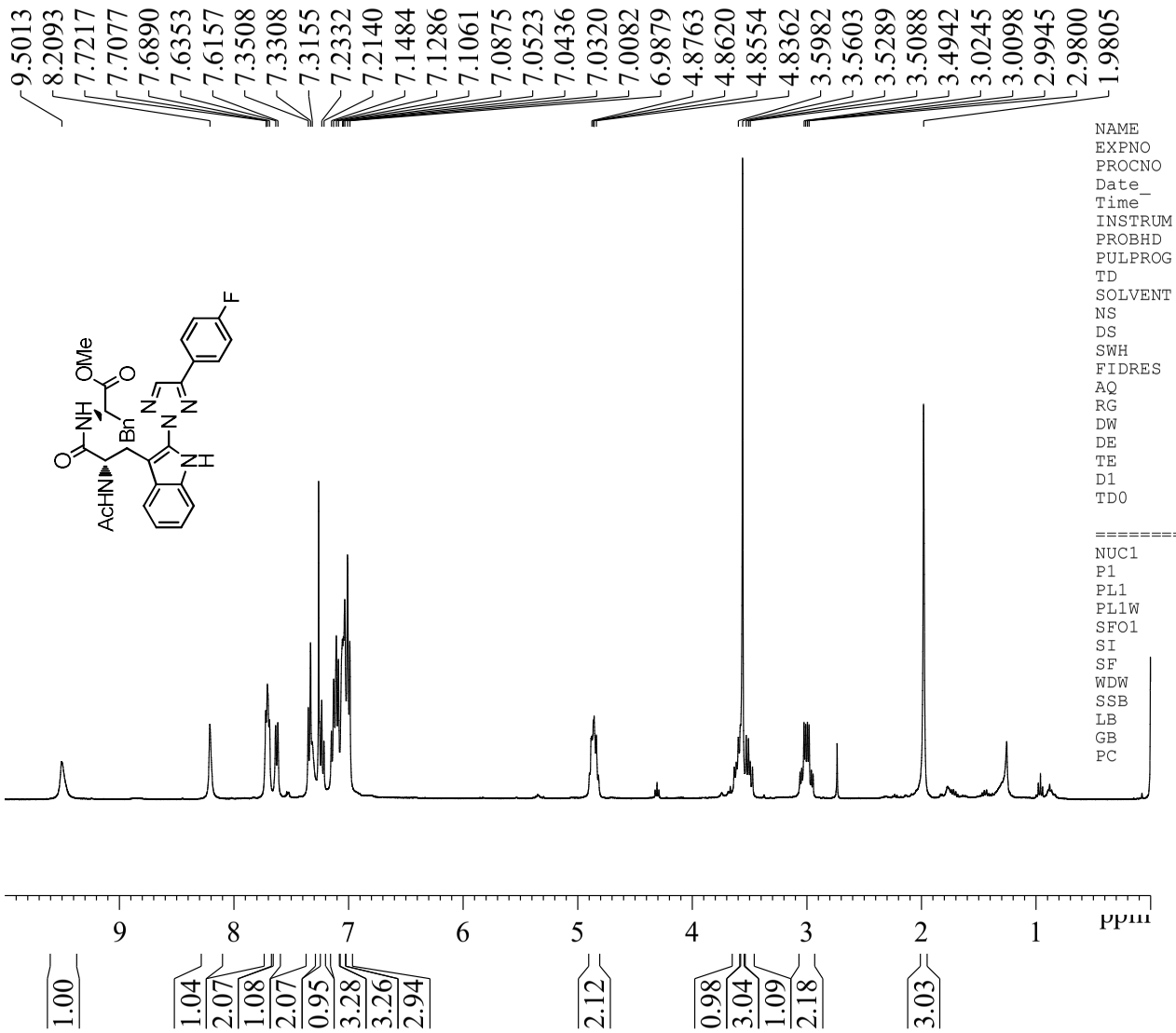
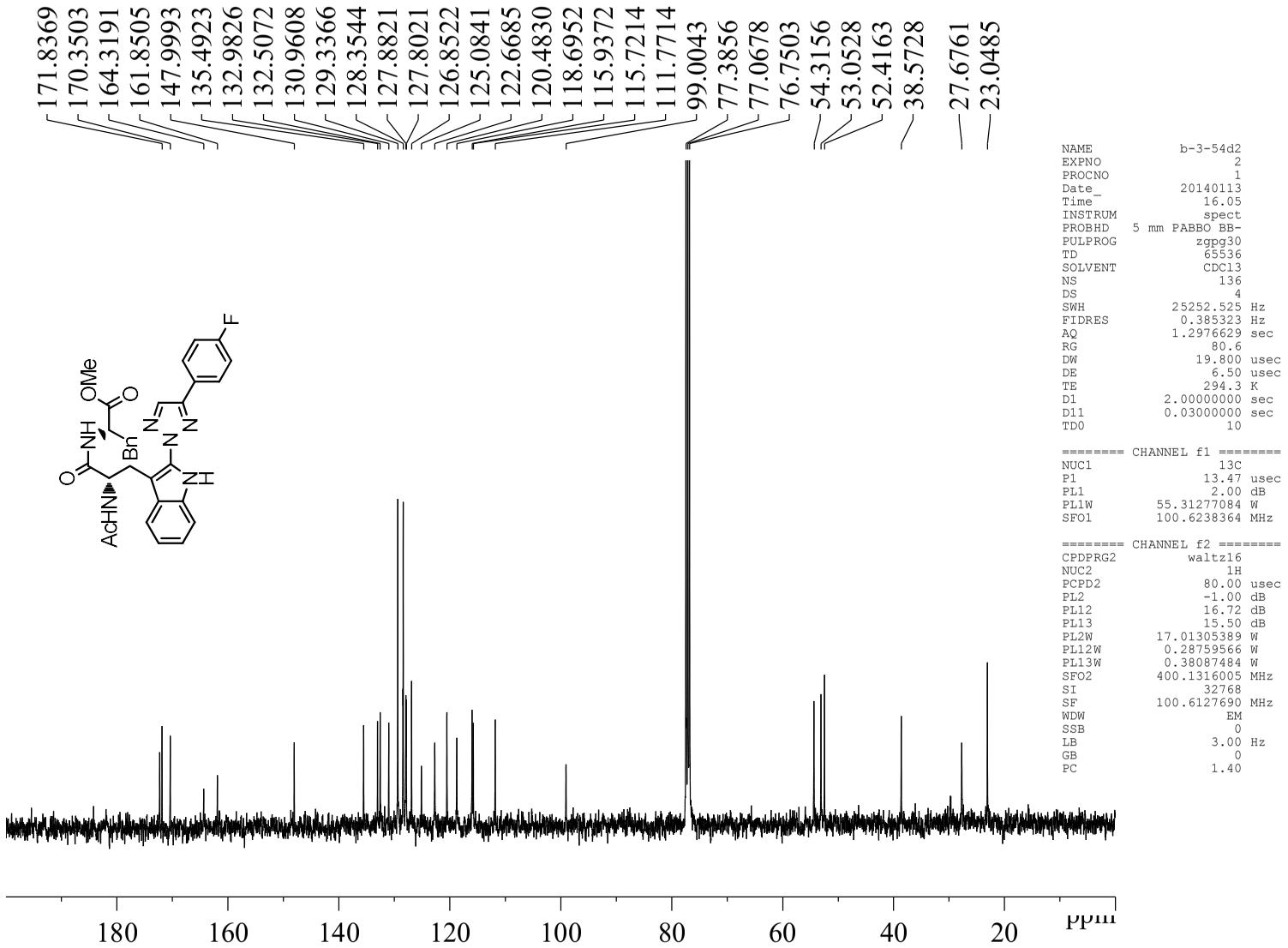
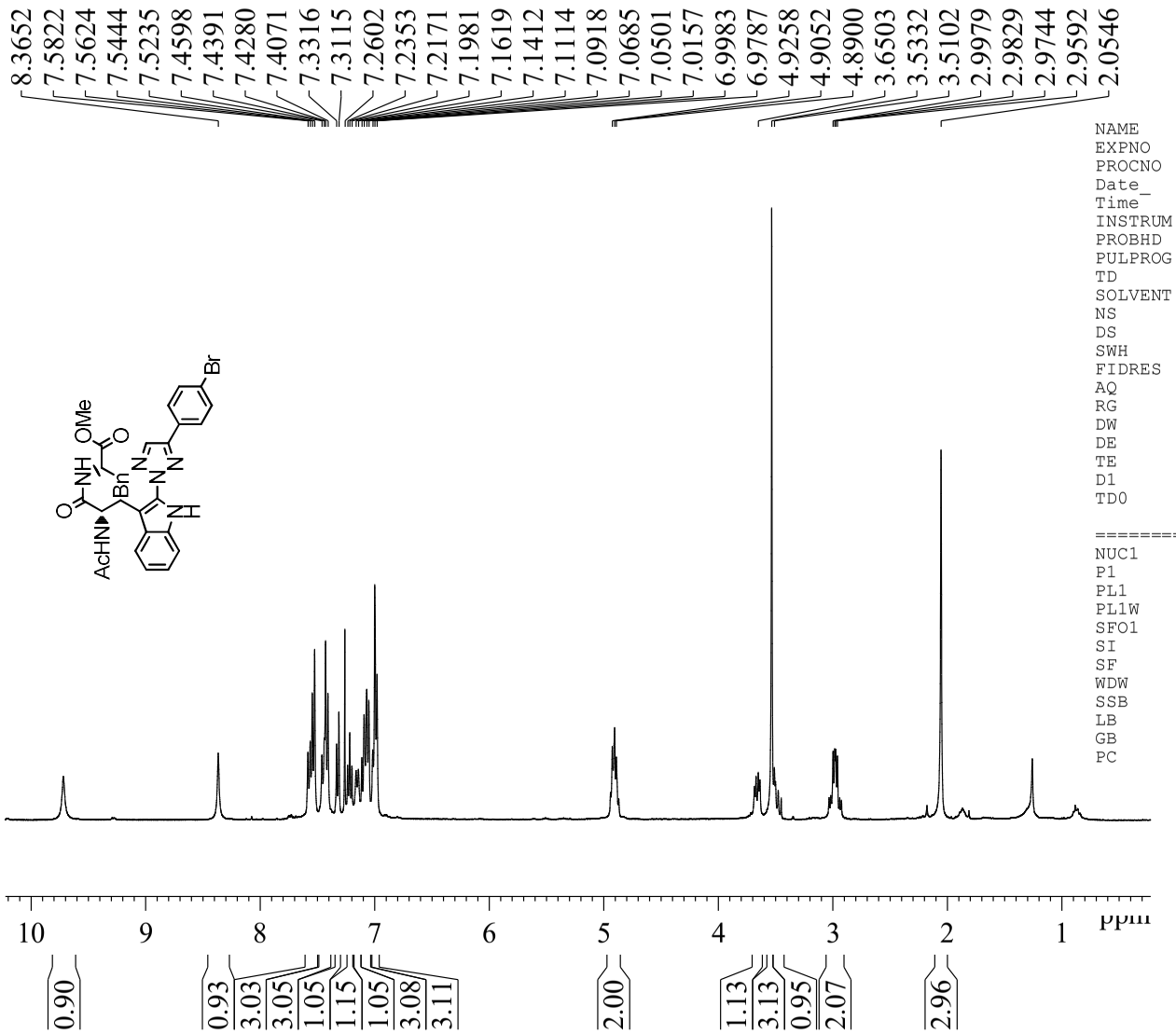
171.8321
169.2745
143.9733
137.4545
133.6346
133.4530
131.8795
129.5854
129.4542
128.6432
128.1815
127.1100
126.9723
126.5331
122.7816
119.9588
111.9510
100.6817
53.9690
53.8756
52.1735
40.6009
40.3927
40.1840
39.9754
39.7670
39.5584
39.3503
37.2319
35.1202
33.4629
22.9922
22.2147
14.2539
NAME b-3-53a
EXPNO 2
PROCNO 1
Date_ 20140108
Time 15.50
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 136
DS 4
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 80.6
DW 19.800 usec
DE 6.50 usec
TE 295.5 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 10
======== CHANNEL f1 ========
NUC1 13C
P1 13.47 usec
PL1 2.00 dB
PL1W 55.31277084 W
SFO1 100.6238364 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -1.00 dB
PL12 16.72 dB
PL13 15.50 dB
PL2W 17.01305389 W
PL12W 0.28759566 W
PL13W 0.38087484 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 1.40
OMe
O
NH
Bn
AcHN
nBu
N
H
180
160
140
120
100
80
60
40
20
ppm



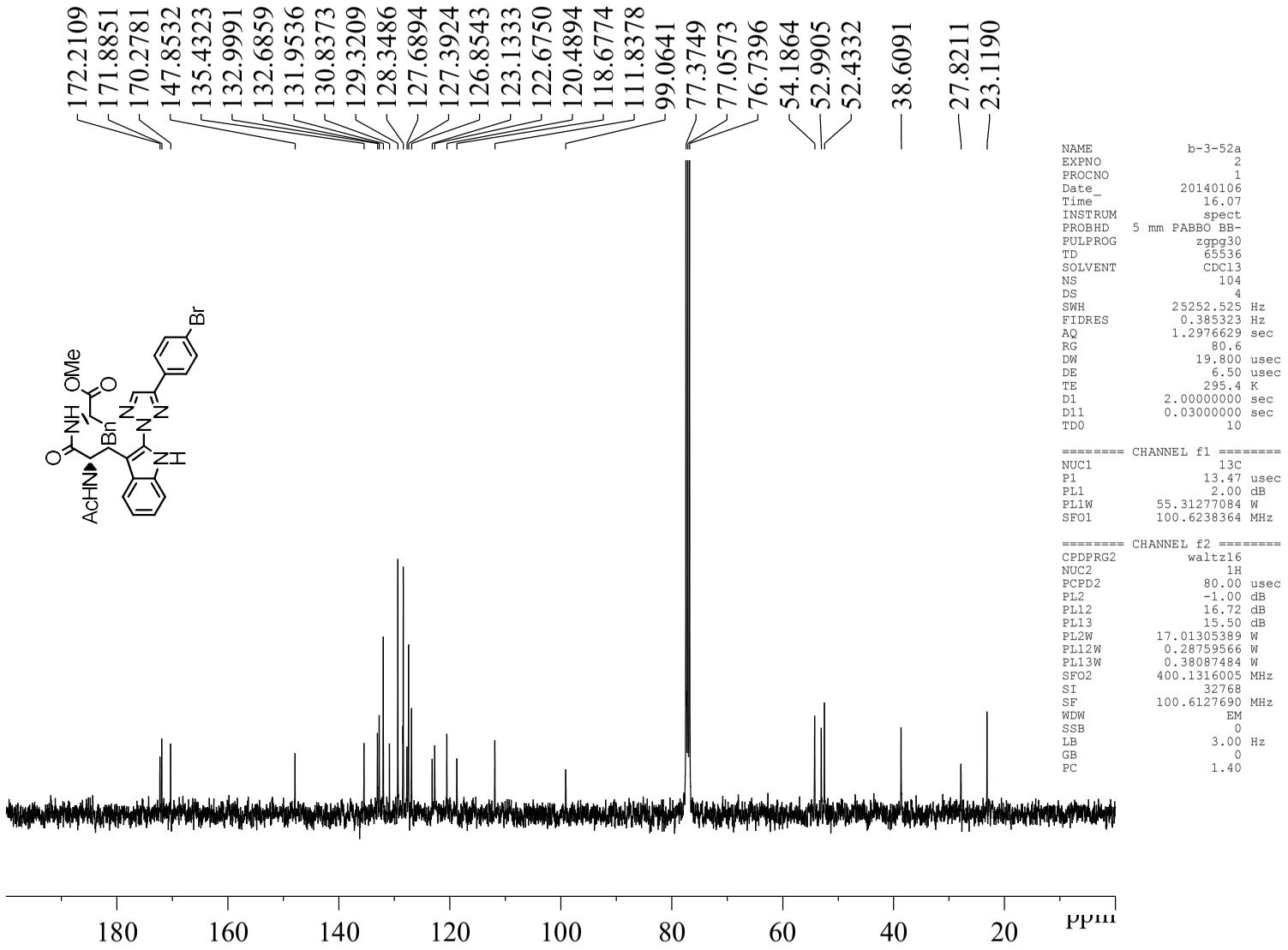
NAME	b-3-54d
EXPNO	1
PROCNO	1
Date_	20140113
Time	10.26
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	8
DS	0
SWH	6393.862 Hz
FIDRES	0.195125 Hz
AQ	2.5625076 sec
RG	181
DW	78.200 usec
DE	6.50 usec
TE	293.2 K
D1	1.00000000 sec
TD0	1
======== CHANNEL f1 ========	
NUC1	1H
P1	10.40 usec
PL1	-1.00 dB
PL1W	17.01305389 W
SFO1	400.1328009 MHz
SI	16384
SF	400.1300093 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00



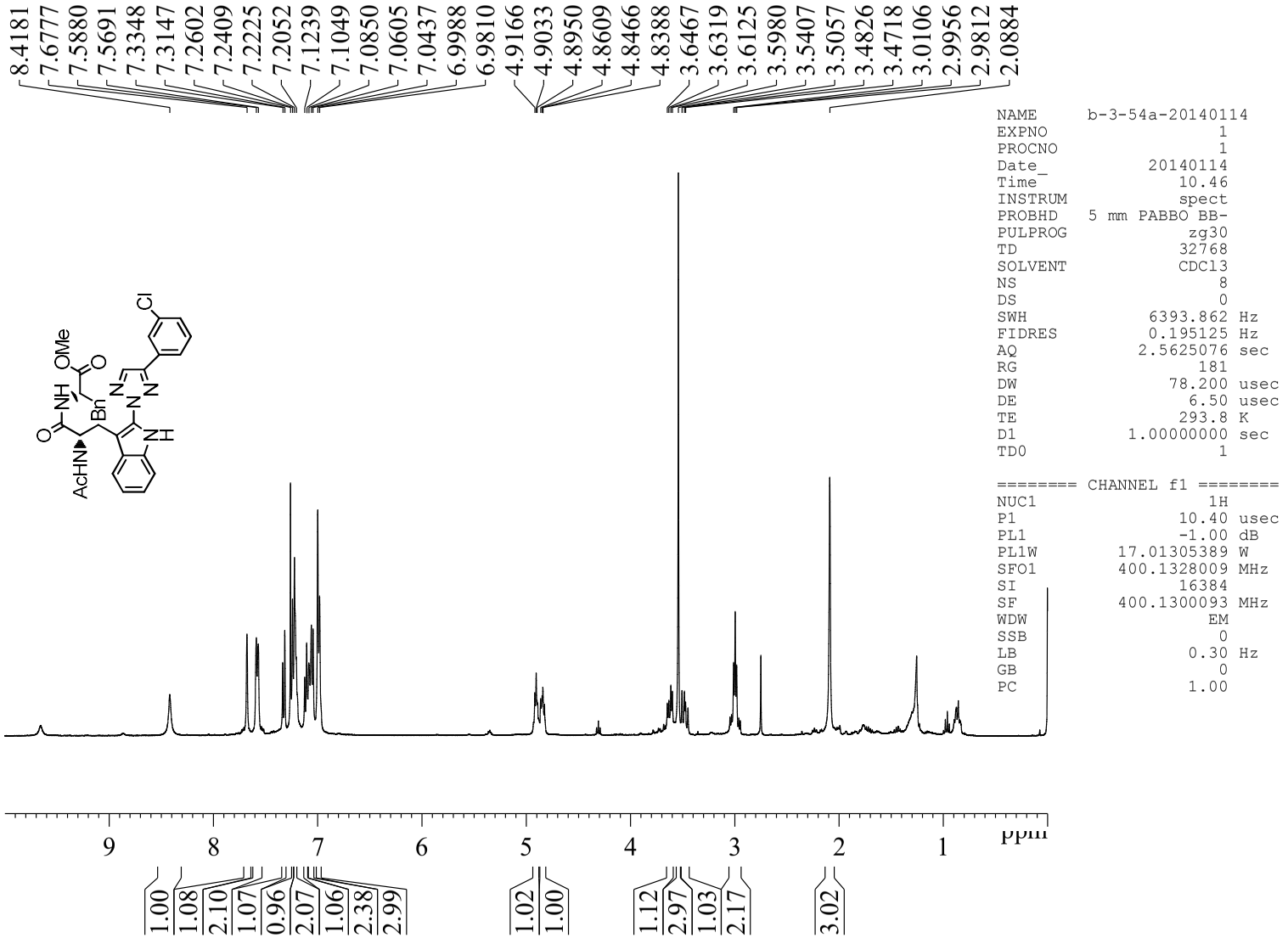
NAME	b-3-54d2
EXPNO	2
PROCNO	1
Date_	20140113
Time	16.05
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	136
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	294.3 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40



NAME	b-3-52a
EXPNO	1
PROCNO	1
Date_	20140106
Time	16.04
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zg30
TD	32768
SOLVENT	CDCl3
NS	8
DS	0
SWH	6393.862 Hz
FIDRES	0.195125 Hz
AQ	2.5625076 sec
RG	90.5
DW	78.200 usec
DE	6.50 usec
TE	294.5 K
D1	1.00000000 sec
TD0	1
======== CHANNEL f1 ========	
NUC1	1H
P1	10.40 usec
PL1	-1.00 dB
PL1W	17.01305389 W
SFO1	400.1328009 MHz
SI	16384
SF	400.1300093 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00



NAME	b-3-52a
EXPNO	2
PROCNO	1
Date_	20140106
Time	16.07
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	104
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	295.4 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40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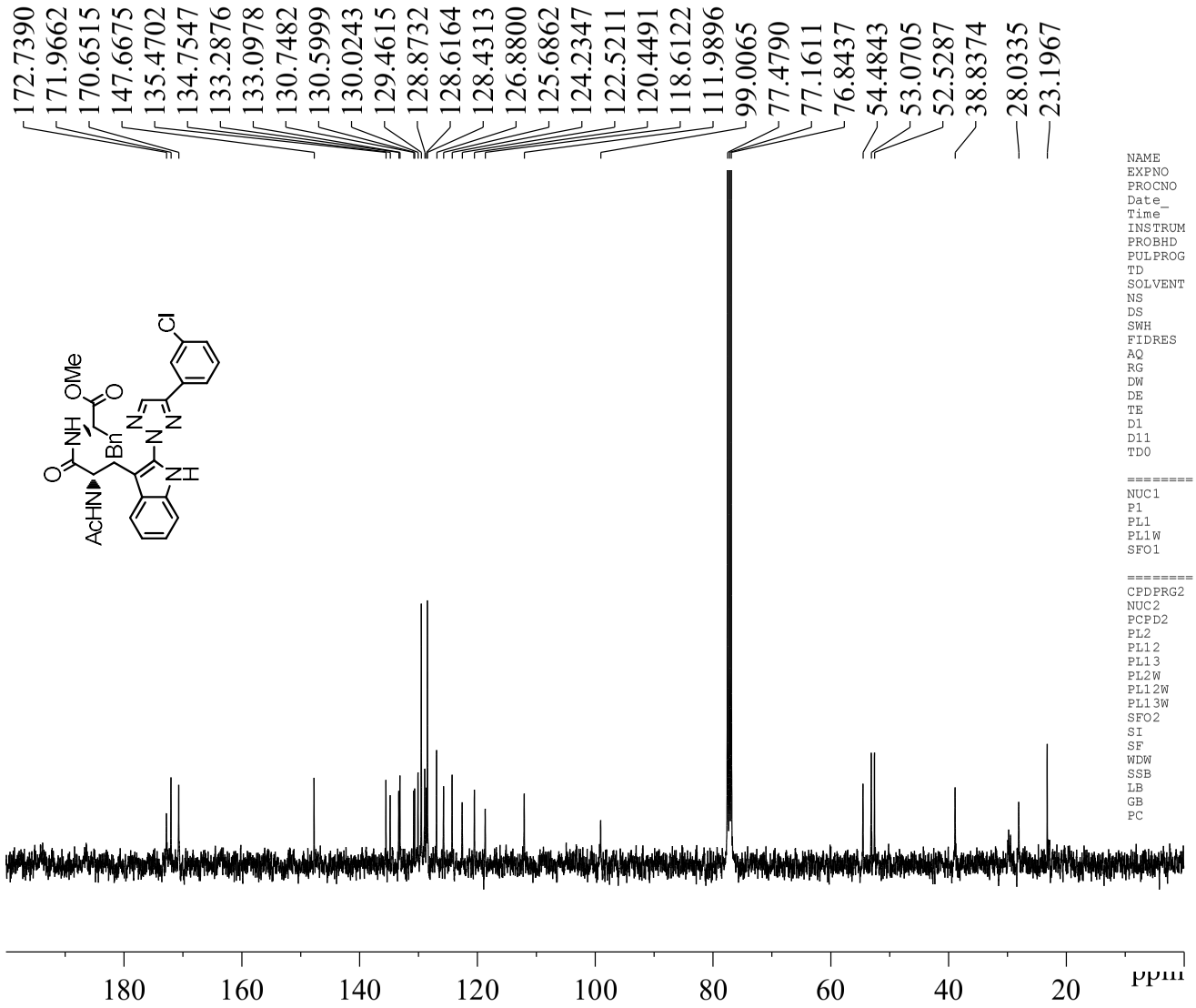
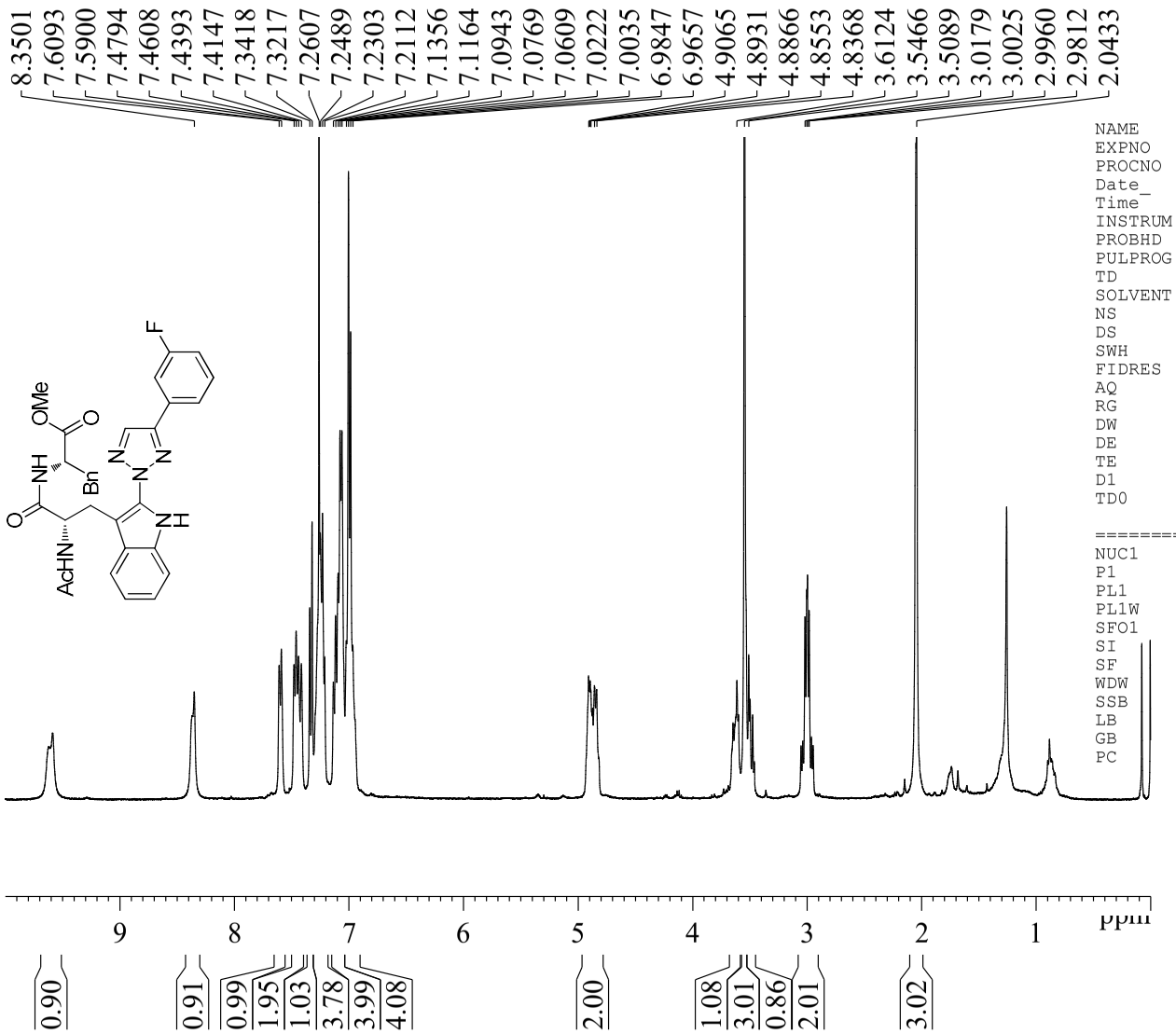
7.5880
7.5691
7.3348
7.3147
7.2602
7.2409
7.2225
7.2052
7.1239
7.1049
7.0850
7.0605
7.0437
6.9988
6.9810
4.9166
4.9033
4.8950
4.8609
4.8466
4.8388
3.6467
3.6319
3.6125
3.5980
3.5407
3.5057
3.4826
3.4718
3.0106
2.9956
2.9812
2.0884
Cl
OMe
O
NH
O
Bn
N
N
N
H
O
AcHN
NAME b-3-54a-20140114
EXPNO 1
PROCNO 1
Date_ 20140114
Time 10.46
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 181
DW 78.200 usec
DE 6.50 usec
TE 293.8 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300093 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
9
8
7
6
5
4
3
2
1
ppm
1.00
1.08
2.10
1.07
0.96
2.07
1.06
2.38
2.99
1.02
1.00
1.12
2.97
1.03
2.17
3.02

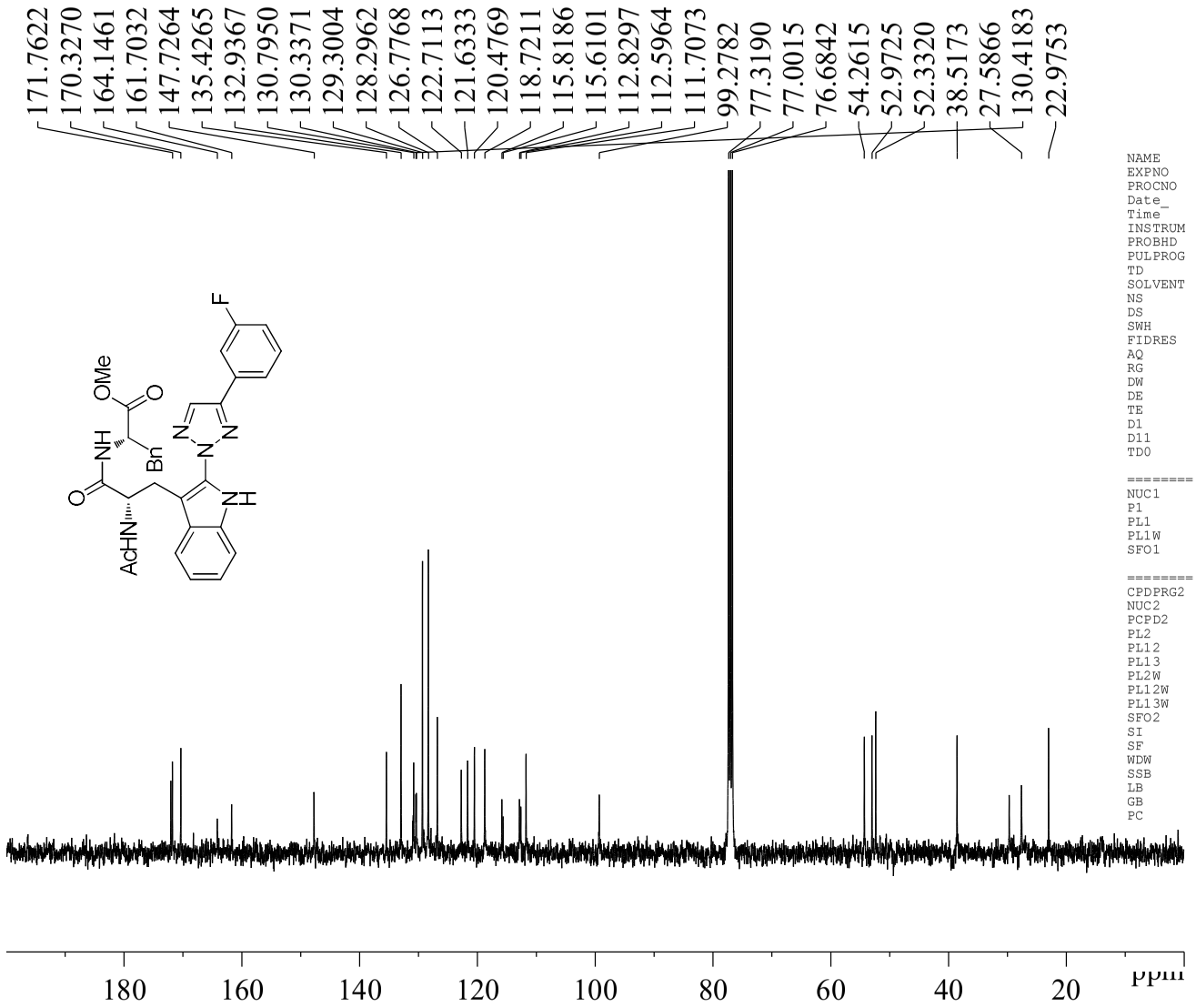


NAME	b-3-54a1
EXPNO	2
PROCNO	1
Date_	20140110
Time	15.45
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	64
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	294.4 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127605 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40




```
NAME          B-3-36A-pure
EXPNO                    1
PROCNO                   1
Date_             20131127
Time                 16.07
INSTRUM              spect
PROBHD    5 mm PABBO BB-
PULPROG               zg30
TD                   32768
SOLVENT              CDCl3
NS                       8
DS                       0
SWH               6393.862 Hz
FIDRES           0.195125 Hz
AQ               2.5625076 sec
RG                     203
DW                  78.200 usec
DE                   6.50 usec
TE                  295.1 K
D1             1.00000000 sec
TD0                      1

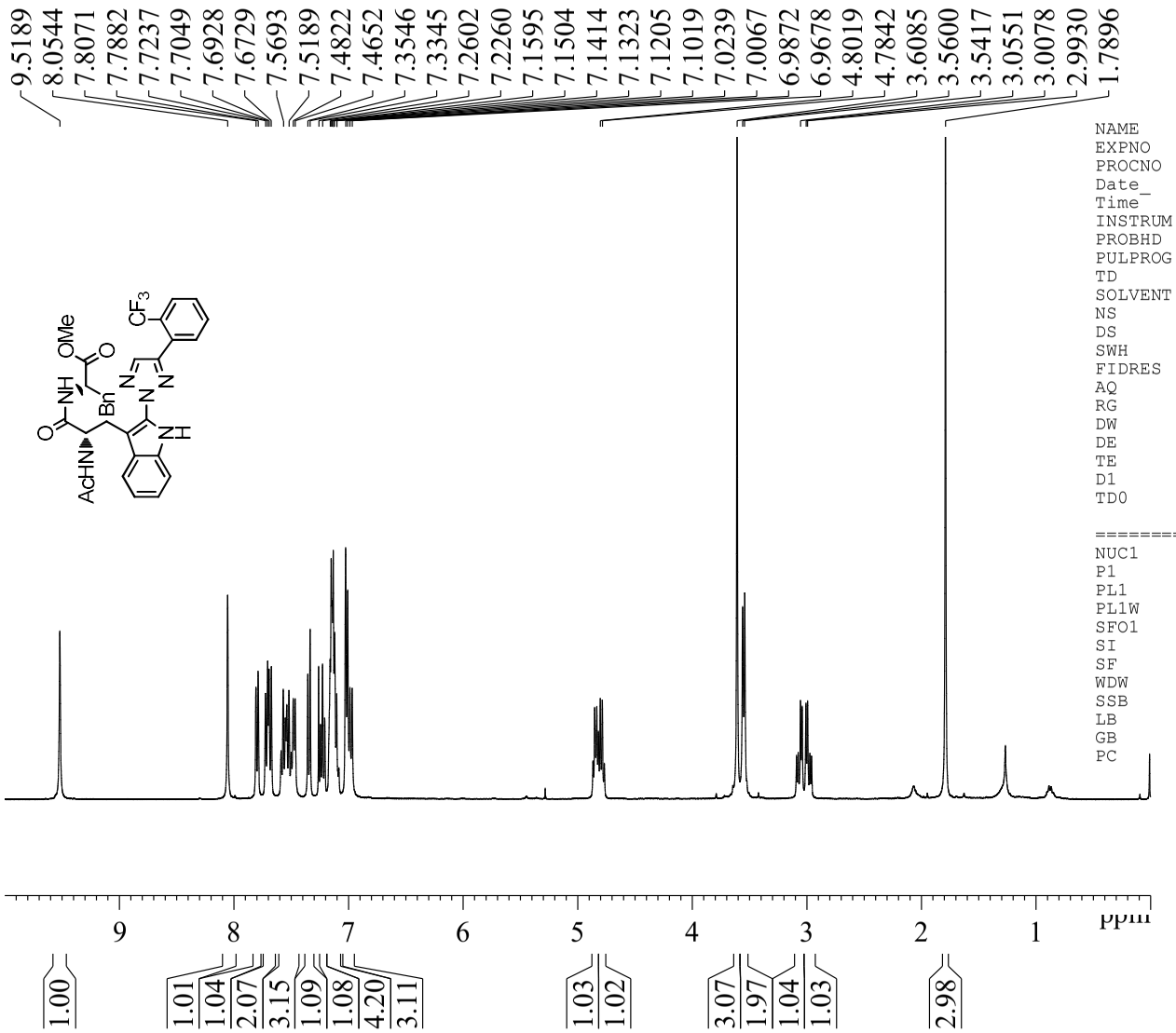
======== CHANNEL f1 ========
NUC1                    1H
P1                   10.40 usec
PL1                  -1.00 dB
PL1W          17.01305389 W
SFO1          400.1328009 MHz
SI                   16384
SF            400.1300093 MHz
WDW                     EM
SSB                      0
LB                    0.30 Hz
GB                       0
PC                    1.00
```




```
NAME      B-3-36A-20131212
EXPNO                    2
PROCNO                   1
Date_             20131212
Time                 15.36
INSTRUM              spect
PROBHD   5 mm PABBO BB-
PULPROG             zgpg30
TD                   65536
SOLVENT              CDCl3
NS                     300
DS                       4
SWH              25252.525 Hz
FIDRES           0.385323 Hz
AQ               1.2976629 sec
RG                     181
DW                19.800 usec
DE                 6.50 usec
TE                 295.6 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                     10

======== CHANNEL f1 ========
NUC1                   13C
P1                  13.47 usec
PL1                  2.00 dB
PL1W          55.31277084 W
SFO1         100.6238364 MHz

======== CHANNEL f2 ========
CPDPRG2            waltz16
NUC2                    1H
PCPD2               80.00 usec
PL2                 -1.00 dB
PL12                16.72 dB
PL13                15.50 dB
PL2W          17.01305389 W
PL12W          0.28759566 W
PL13W          0.38087484 W
SFO2         400.1316005 MHz
SI                   32768
SF           100.6127734 MHz
WDW                     EM
SSB                      0
LB                    3.00 Hz
GB                       0
PC                    1.40
```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7.7237
7.7049
7.6928
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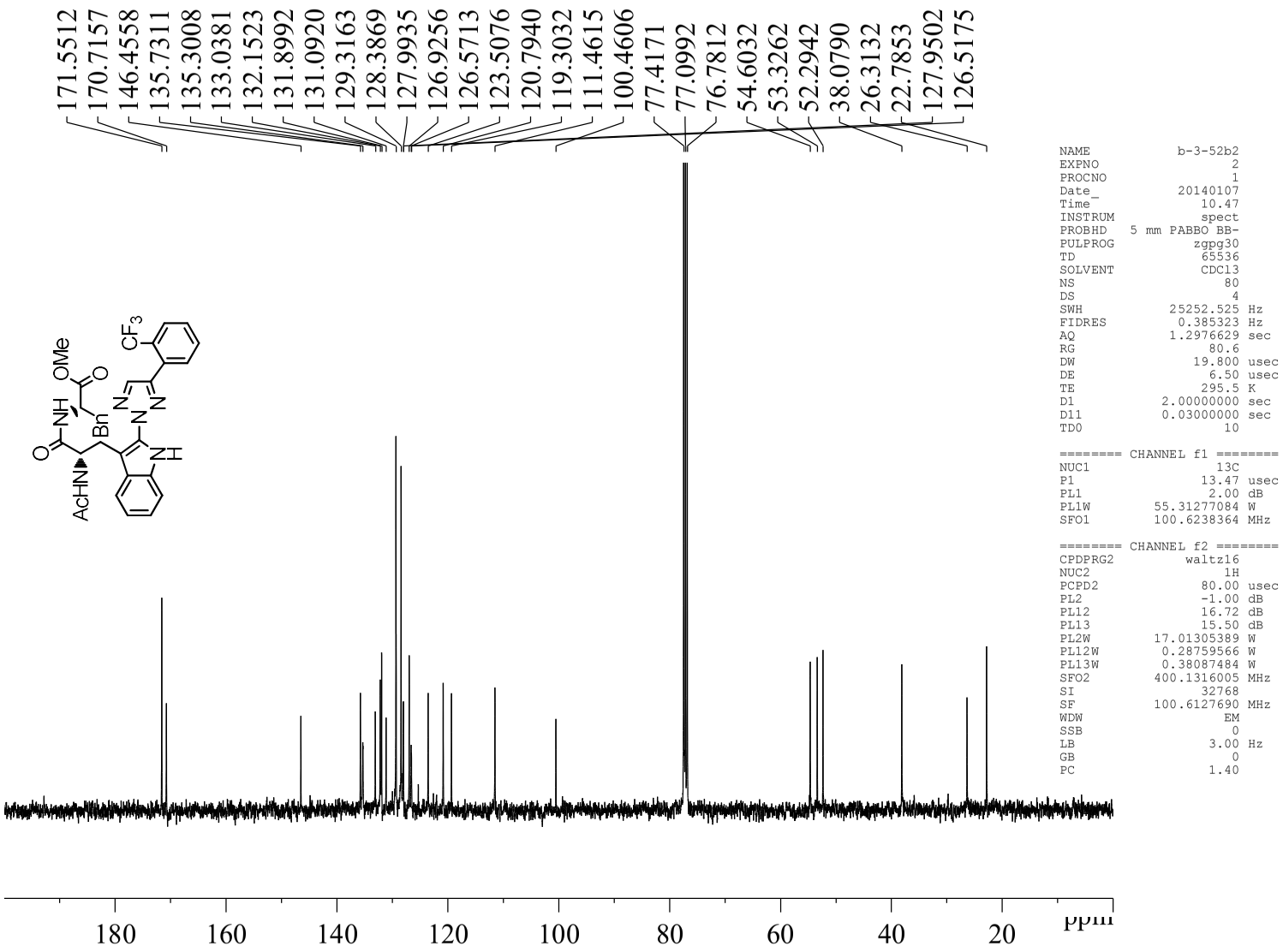
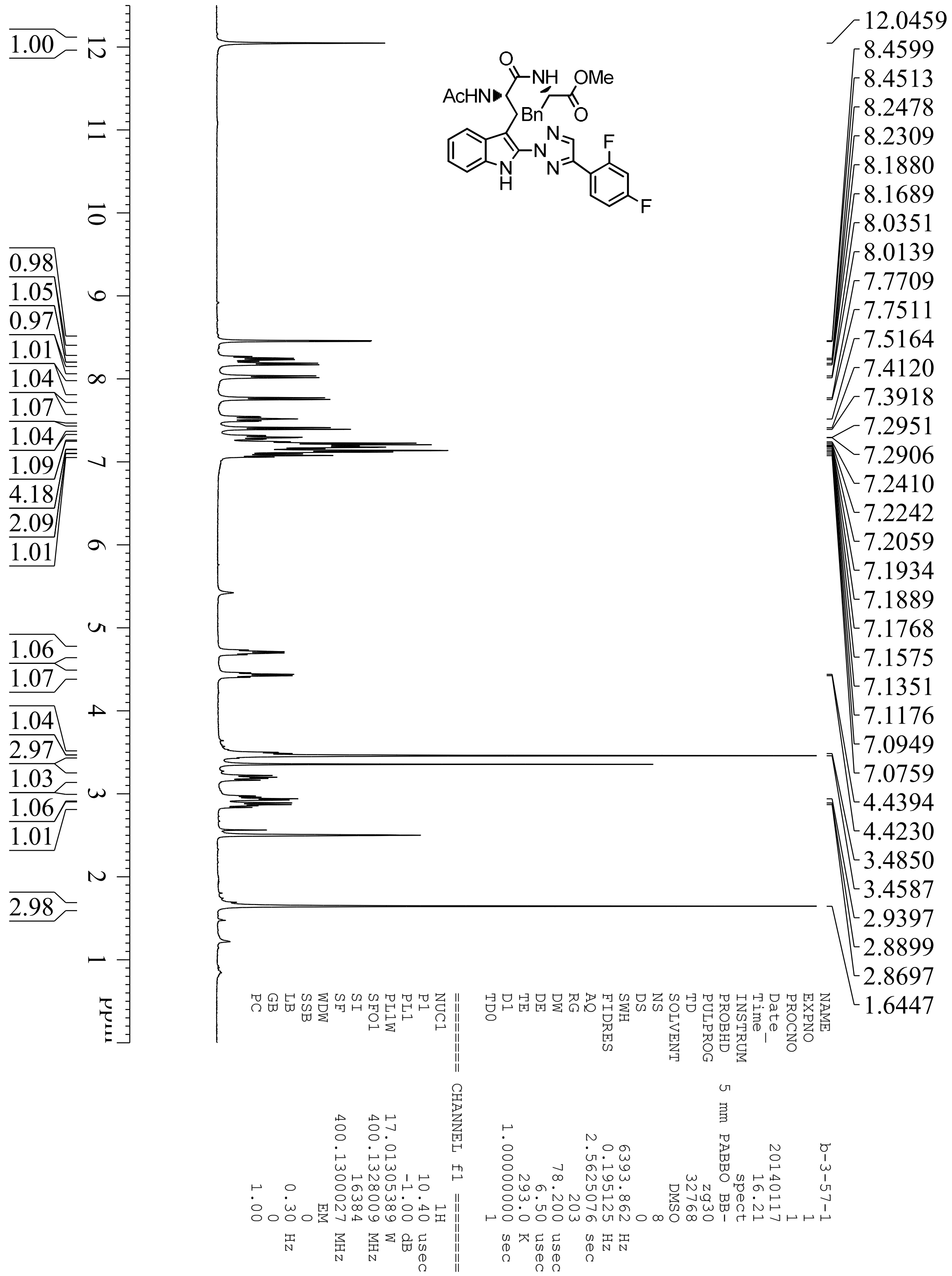
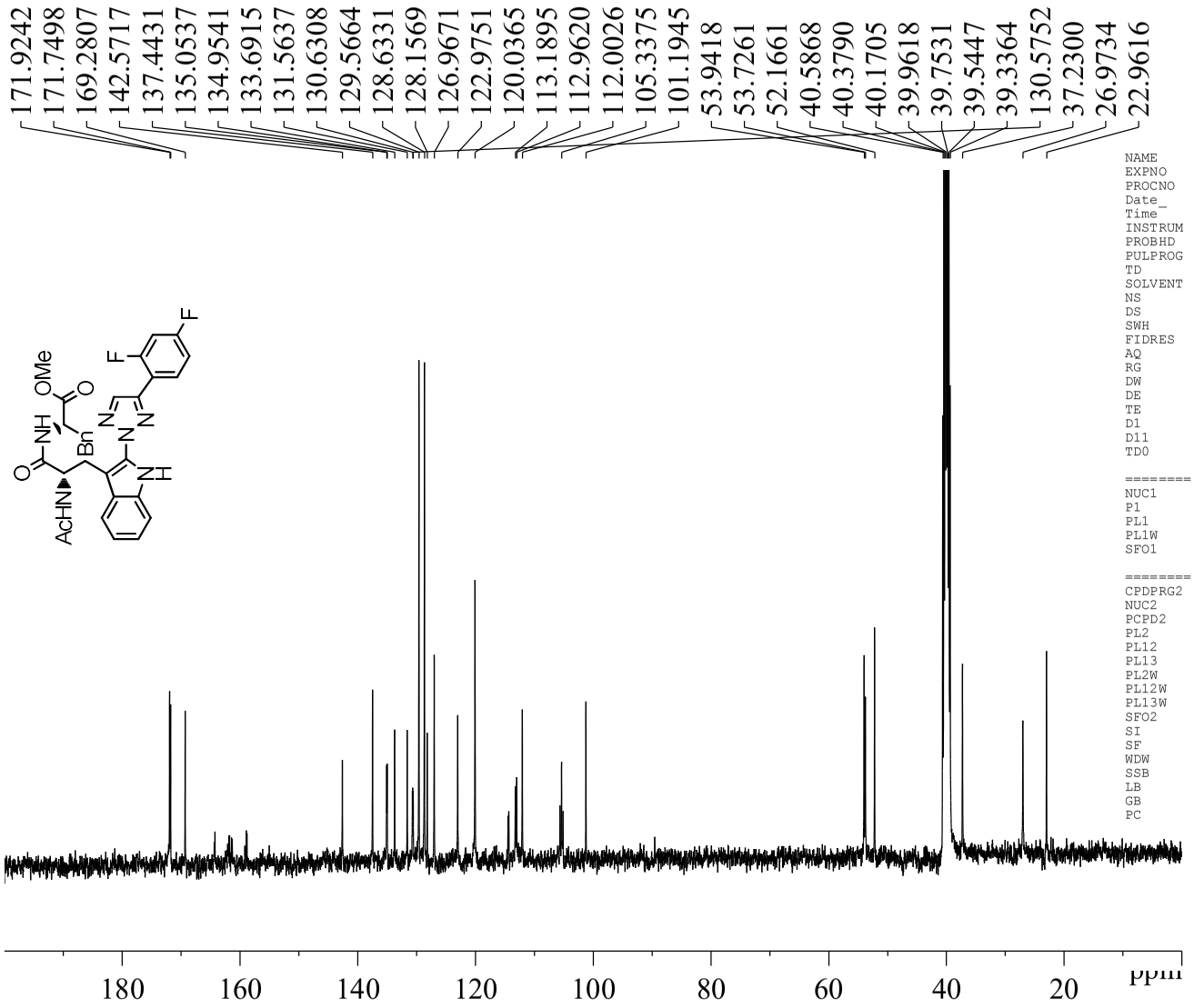
7.5693
7.5189
7.4822
7.4652
7.3546
7.3345
7.2602
7.2260
7.1595
7.1504
7.1414
7.1323
7.1205
7.1019
7.0239
7.0067
6.9872
6.9678
4.8019
4.7842
3.6085
3.5600
3.5417
3.0551
3.0078
2.9930
1.7896
NAME b-3-52b
EXPNO 1
PROCNO 1
Date_ 20140106
Time 16.24
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 64
DW 78.200 usec
DE 6.50 usec
TE 294.6 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300093 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
OMe
NH
O
Bn
AcHN
CF3
N
H
9
8
7
6
5
4
3
2
1
ppm
1.00
1.01
1.04
2.07
3.15
1.09
1.08
4.20
3.11
1.03
1.02
3.07
1.97
1.04
1.03
2.98

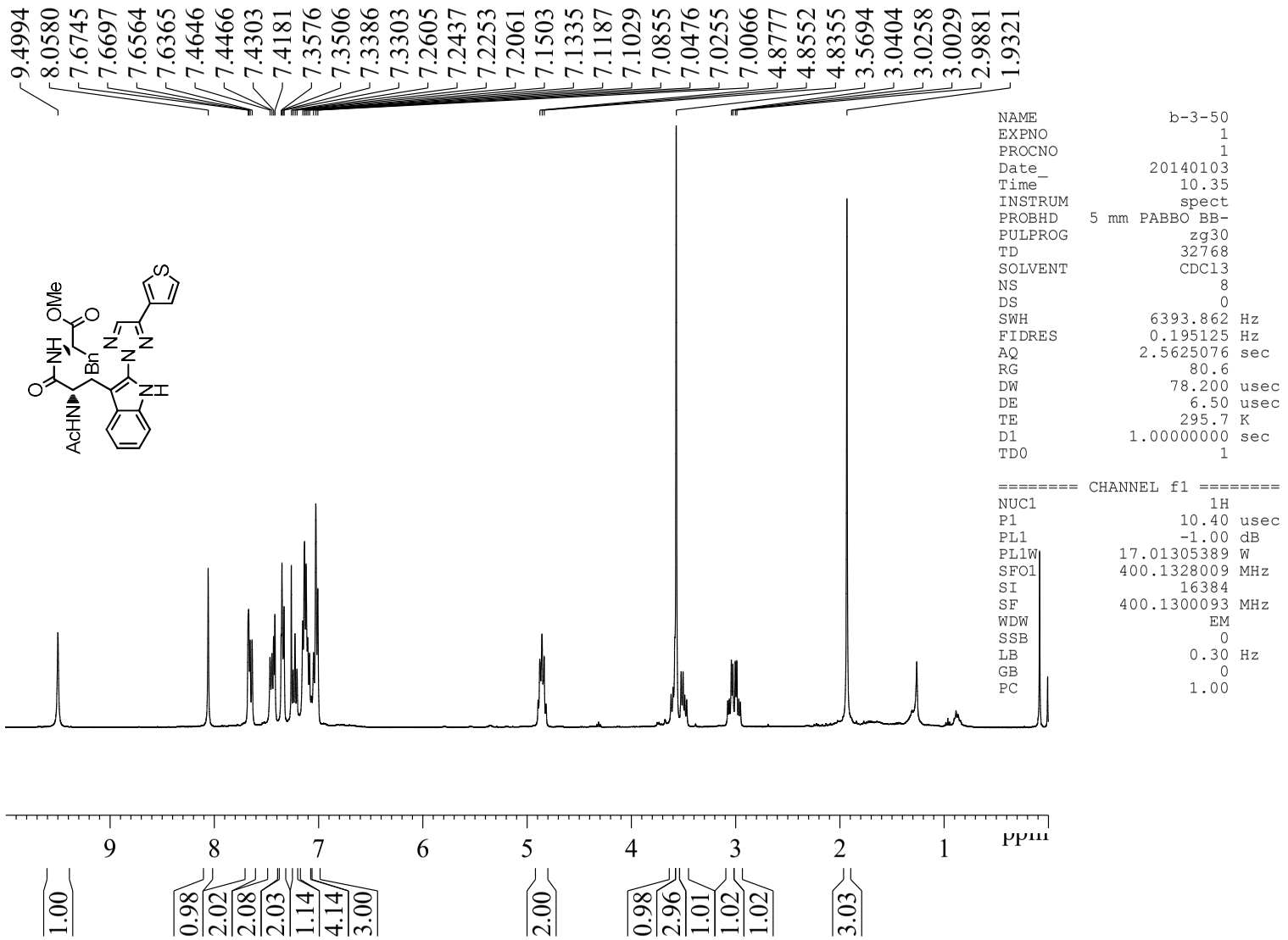


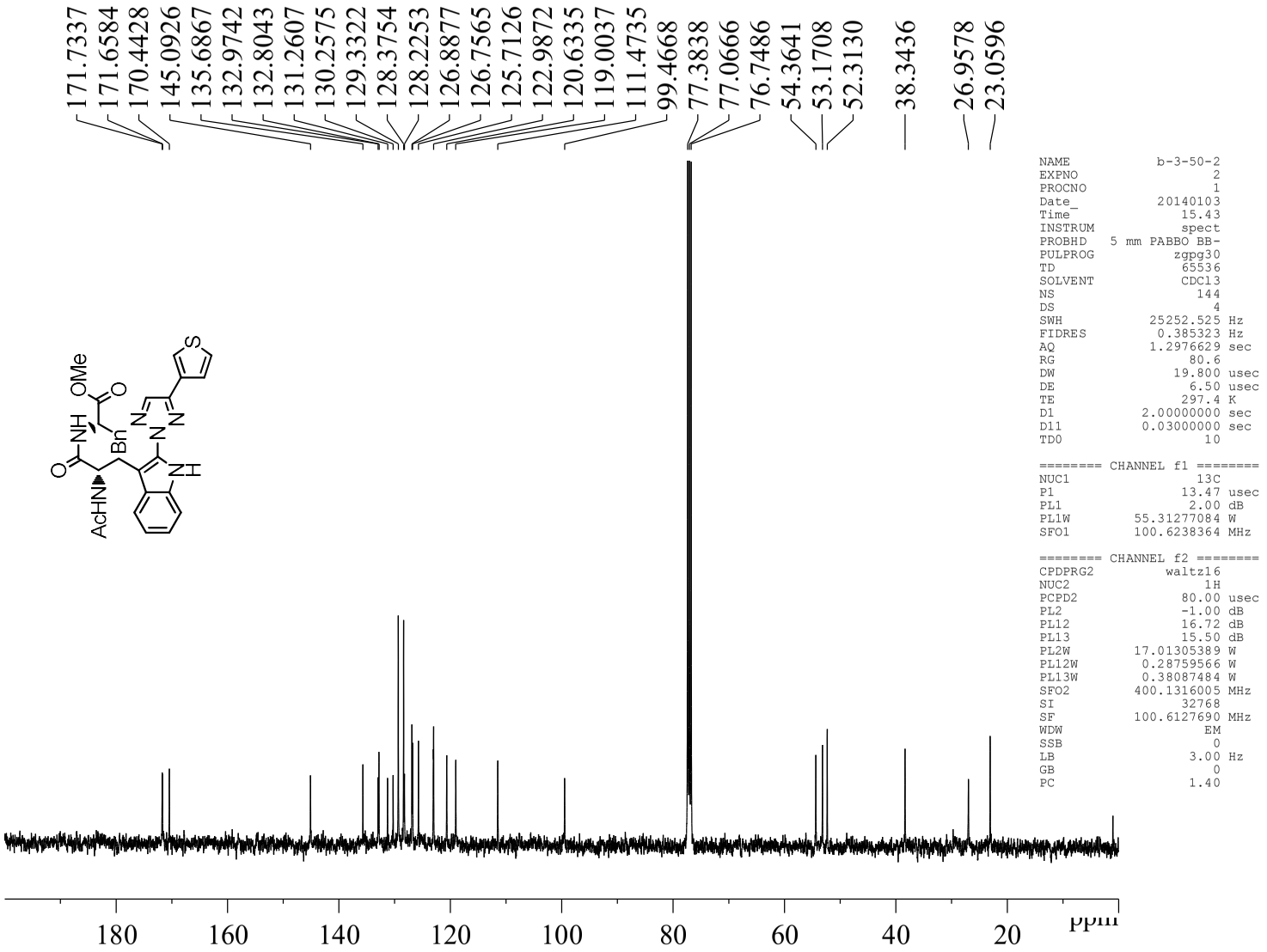
NAME	b-3-52b2
EXPNO	2
PROCNO	1
Date_	20140107
Time	10.47
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	80
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	295.5 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40

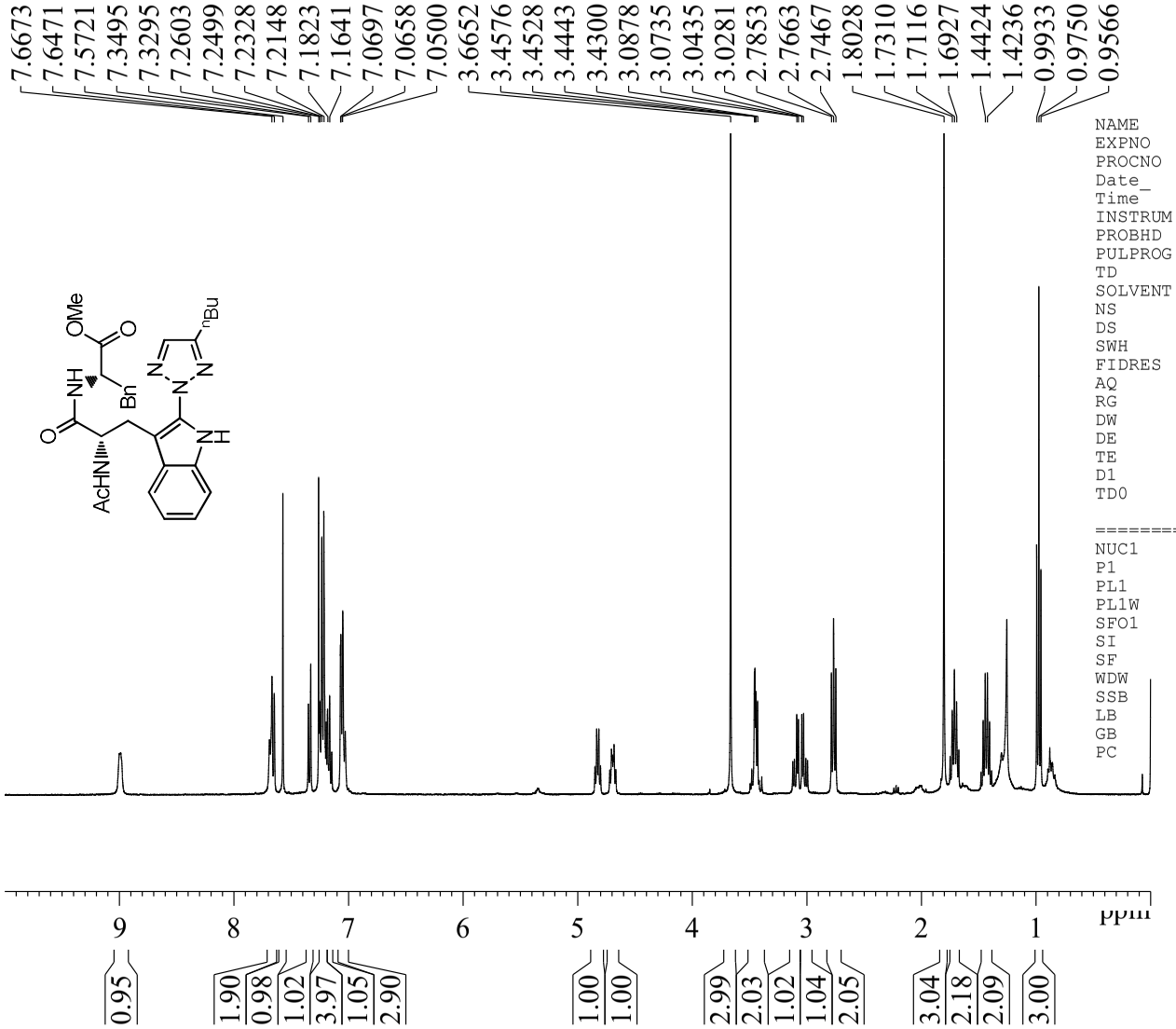

AcHN
O
NH
OMe
O
Bn
N
N
N
F
F
N
H
12.0459
8.4599
8.4513
8.2478
8.2309
8.1880
8.1689
8.0351
8.0139
7.7709
7.7511
7.5164
7.4120
7.3918
7.2951
7.2906
7.2410
7.2242
7.2059
7.1934
7.1889
7.1768
7.1575
7.1351
7.1176
7.0949
7.0759
4.4394
4.4230
3.4850
3.4587
2.9397
2.8899
2.8697
1.6447
1.00
0.98
1.05
0.97
1.01
1.04
1.07
1.04
1.09
4.18
2.09
1.01
1.06
1.07
1.04
2.97
1.03
1.06
1.01
2.98
ppm
NAME b-3-57-1
EXPNO 1
PROCNO 1
Date_ 20140117
Time 16.21
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT DMSO
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 203
DW 78.200 usec
DE 6.50 usec
TE 293.0 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300027 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

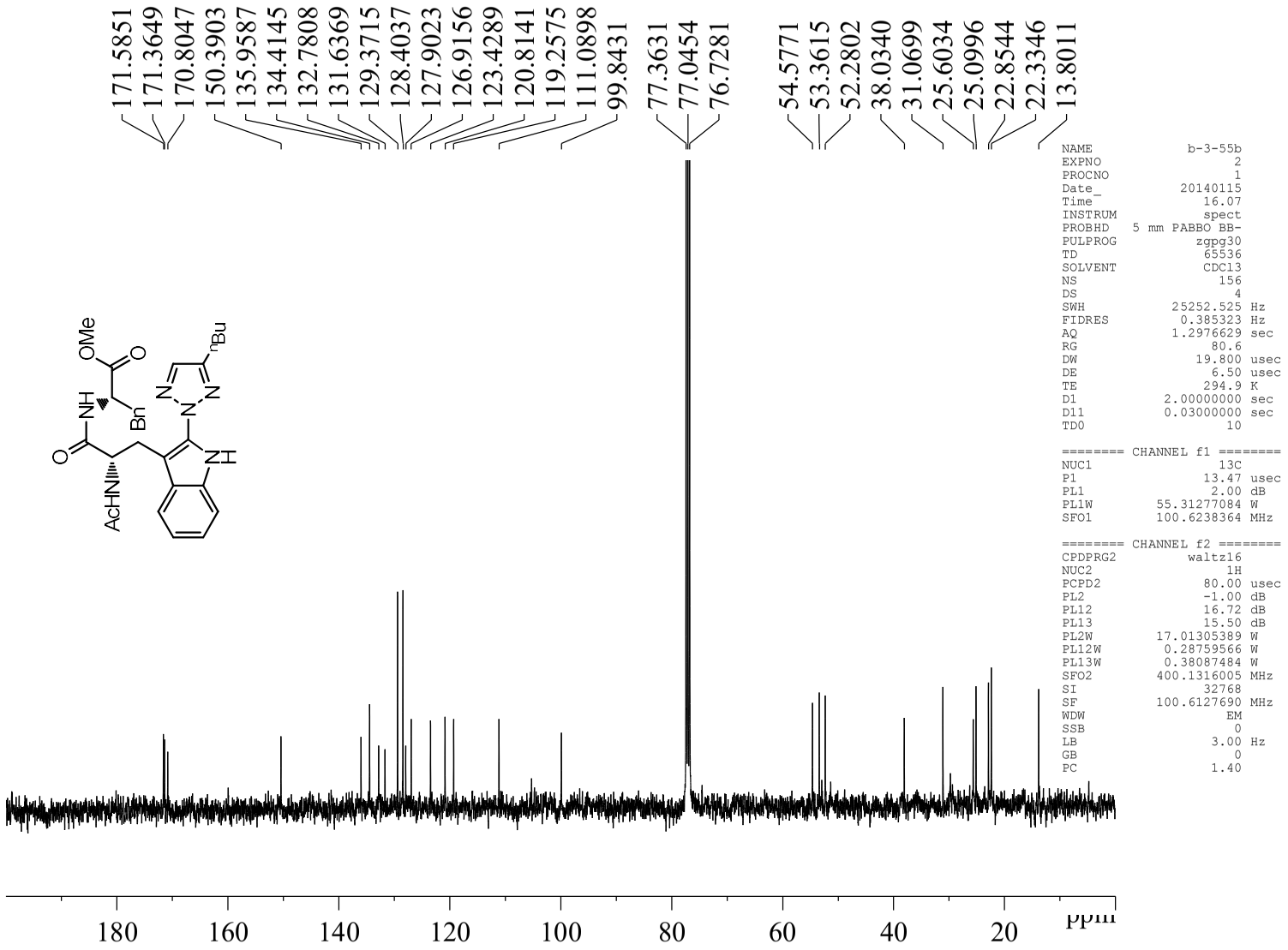


NAME	b-3-57-1-20140120
EXPNO	2
PROCNO	1
Date_	20140120
Time	15.56
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	DMSO
NS	496
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	294.4 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40

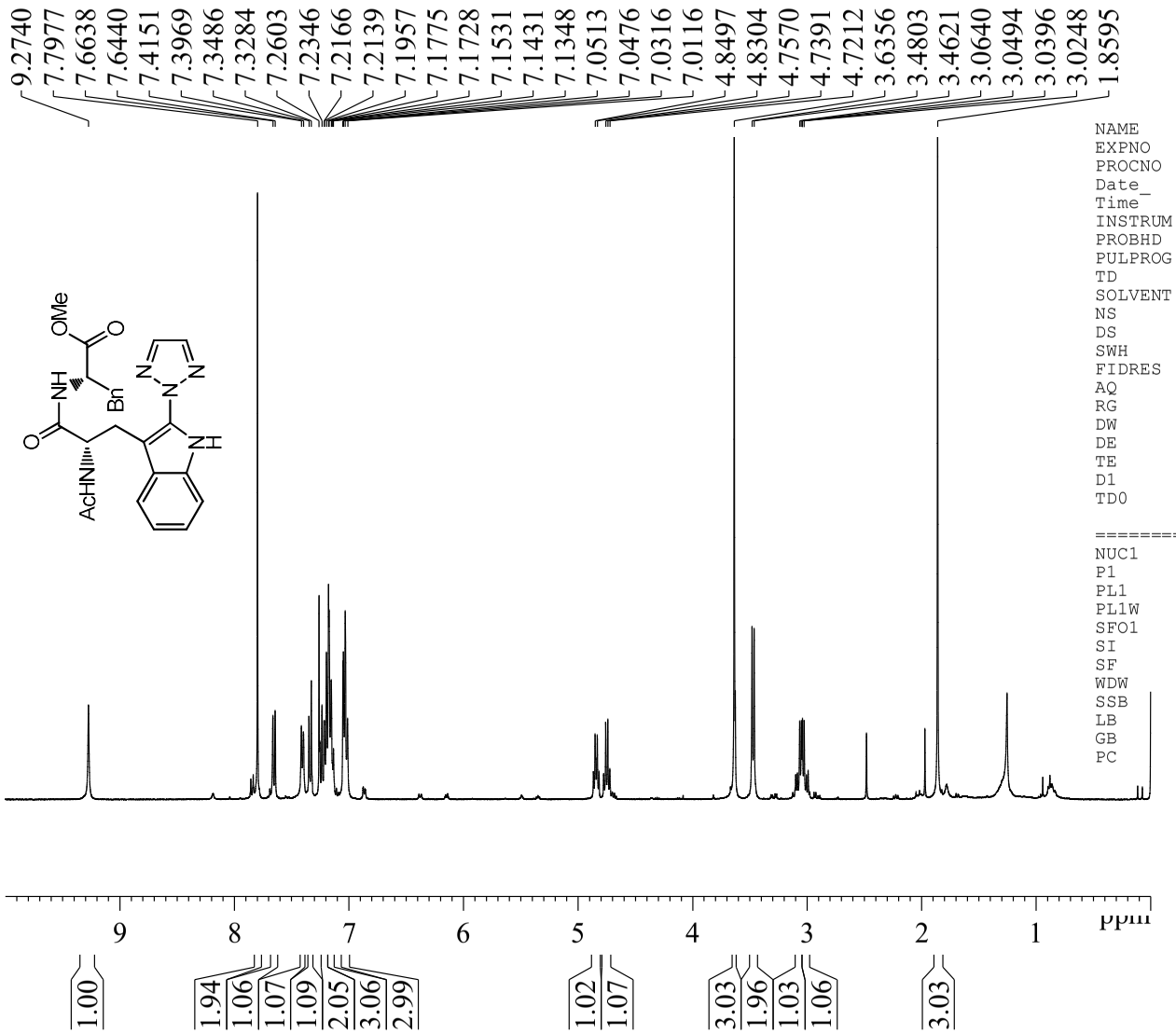

9.4994
8.0580
7.6745
7.6697
7.6564
7.6365
7.4646
7.4466
7.4303
7.4181
7.3576
7.3506
7.3386
7.3303
7.2605
7.2437
7.2253
7.2061
7.1503
7.1335
7.1187
7.1029
7.0855
7.0476
7.0255
7.0066
4.8777
4.8552
4.8355
3.5694
3.0404
3.0258
3.0029
2.9881
1.9321
OMe
NH
O
Bn
AcHN
S
N
N
N
H
NAME b-3-50
EXPNO 1
PROCNO 1
Date_ 20140103
Time 10.35
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 80.6
DW 78.200 usec
DE 6.50 usec
TE 295.7 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300093 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
9
8
7
6
5
4
3
2
1
ppm
1.00
0.98
2.02
2.08
2.03
1.14
4.14
3.00
2.00
0.98
2.96
1.01
1.02
1.02
3.03

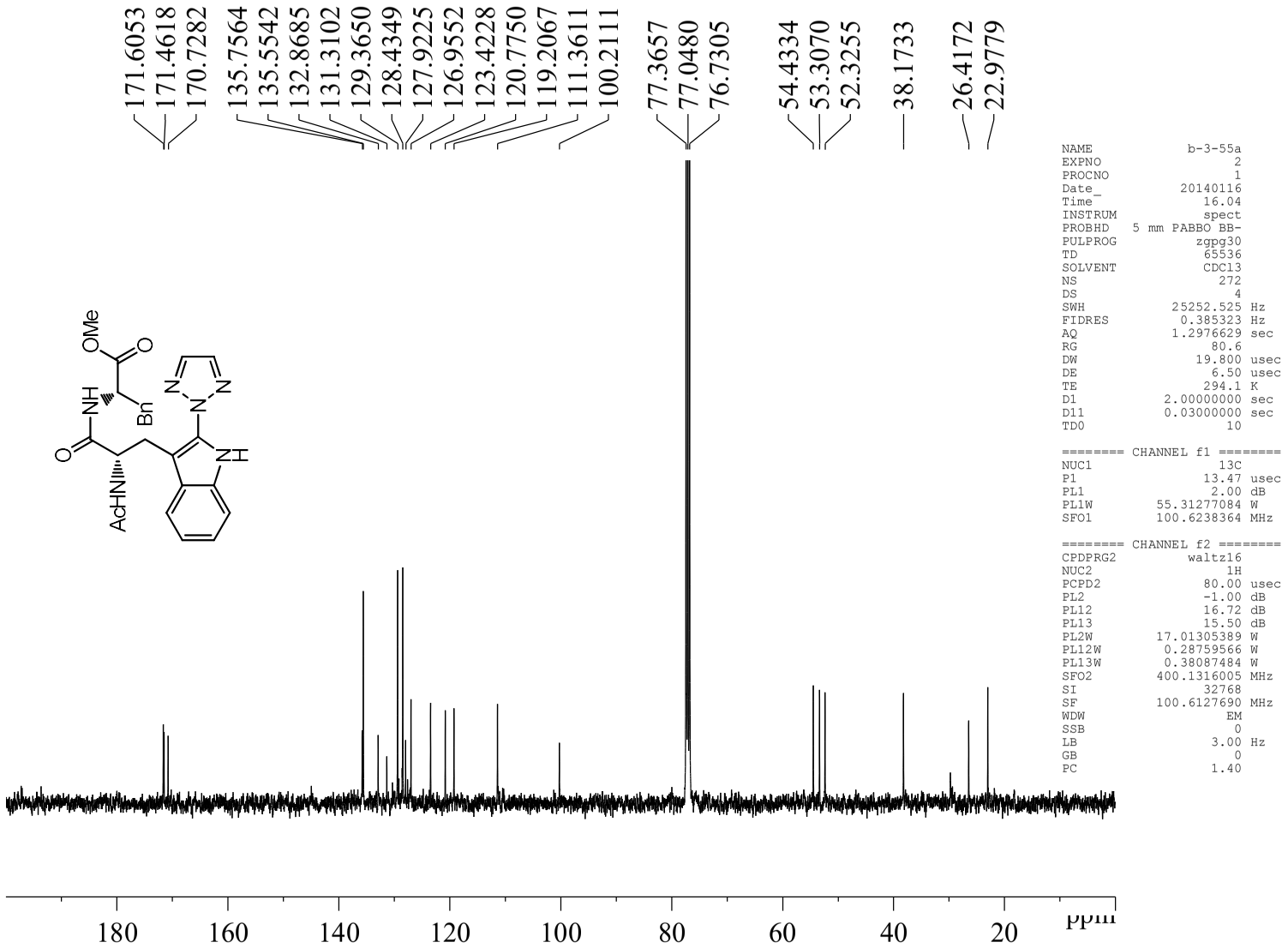

171.7337
171.6584
170.4428
145.0926
135.6867
132.9742
132.8043
131.2607
130.2575
129.3322
128.3754
128.2253
126.8877
126.7565
125.7126
122.9872
120.6335
119.0037
111.4735
99.4668
77.3838
77.0666
76.7486
54.3641
53.1708
52.3130
38.3436
26.9578
23.0596
OMe
NH
O
Bn
AcHN
N
N
N
H
S
NAME b-3-50-2
EXPNO 2
PROCNO 1
Date_ 20140103
Time 15.43
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 144
DS 4
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 80.6
DW 19.800 usec
DE 6.50 usec
TE 297.4 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 10
======== CHANNEL f1 ========
NUC1 13C
P1 13.47 usec
PL1 2.00 dB
PL1W 55.31277084 W
SFO1 100.6238364 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -1.00 dB
PL12 16.72 dB
PL13 15.50 dB
PL2W 17.01305389 W
PL12W 0.28759566 W
PL13W 0.38087484 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 1.40
180
160
140
120
100
80
60
40
20
ppm


7.6673
7.6471
7.5721
7.3495
7.3295
7.2603
7.2499
7.2328
7.2148
7.1823
7.1641
7.0697
7.0658
7.0500
3.6652
3.4576
3.4528
3.4443
3.4300
3.0878
3.0735
3.0435
3.0281
2.7853
2.7663
2.7467
1.8028
1.7310
1.7116
1.6927
1.4424
1.4236
0.9933
0.9750
0.9566
OMe
NH
Bn
AcHN
nBu
N
N
N
H
O
O
O
NAME b-3-55b
EXPNO 1
PROCNO 1
Date_ 20140115
Time 16.04
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 181
DW 78.200 usec
DE 6.50 usec
TE 294.1 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300093 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
9
8
7
6
5
4
3
2
1
ppm
0.95
1.90
0.98
1.02
3.97
1.05
2.90
1.00
1.00
2.99
2.03
1.02
1.04
2.05
3.04
2.18
2.09
3.00

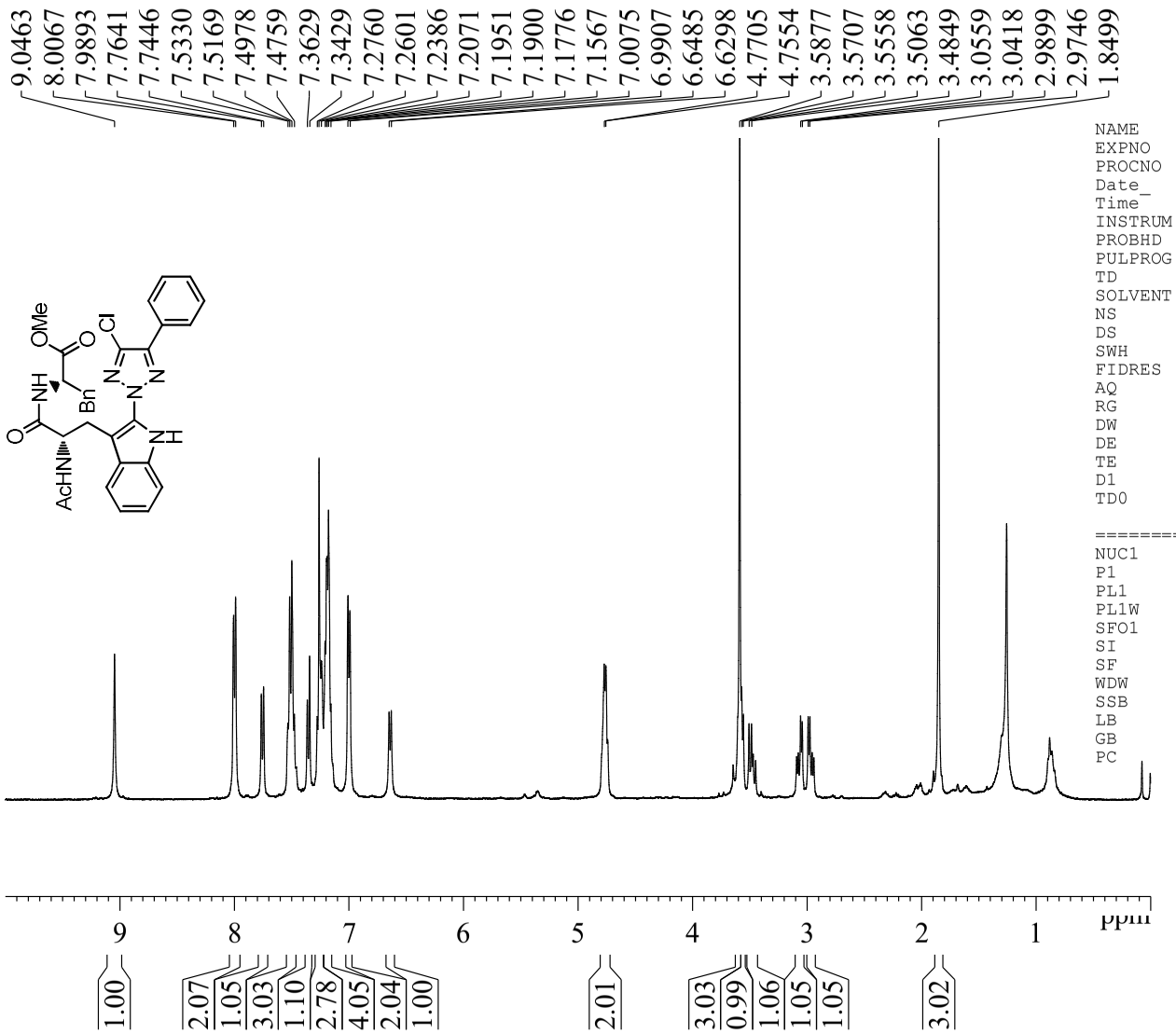


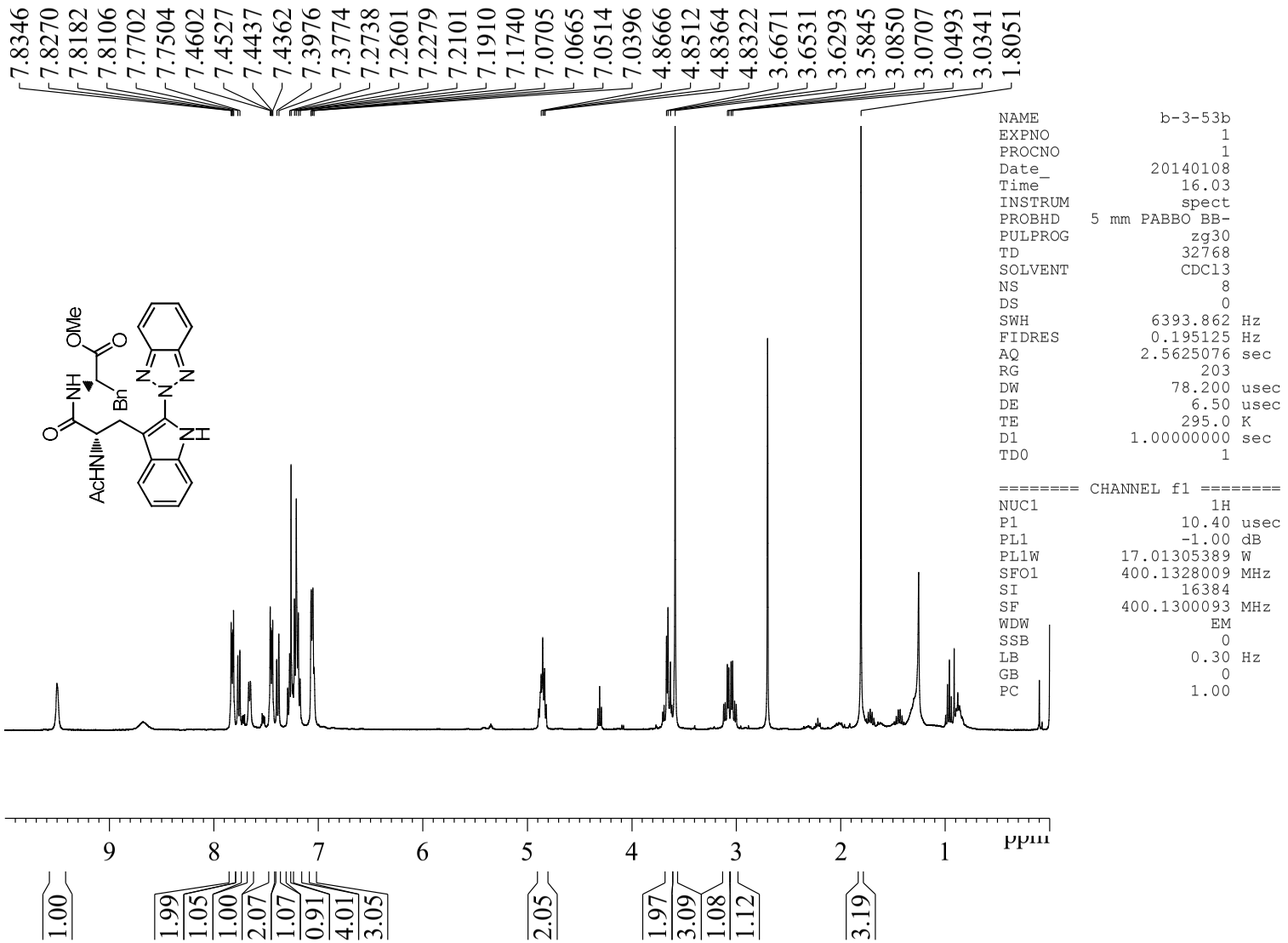
NAME	b-3-55b
EXPNO	2
PROCNO	1
Date_	20140115
Time	16.07
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	156
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	294.9 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40

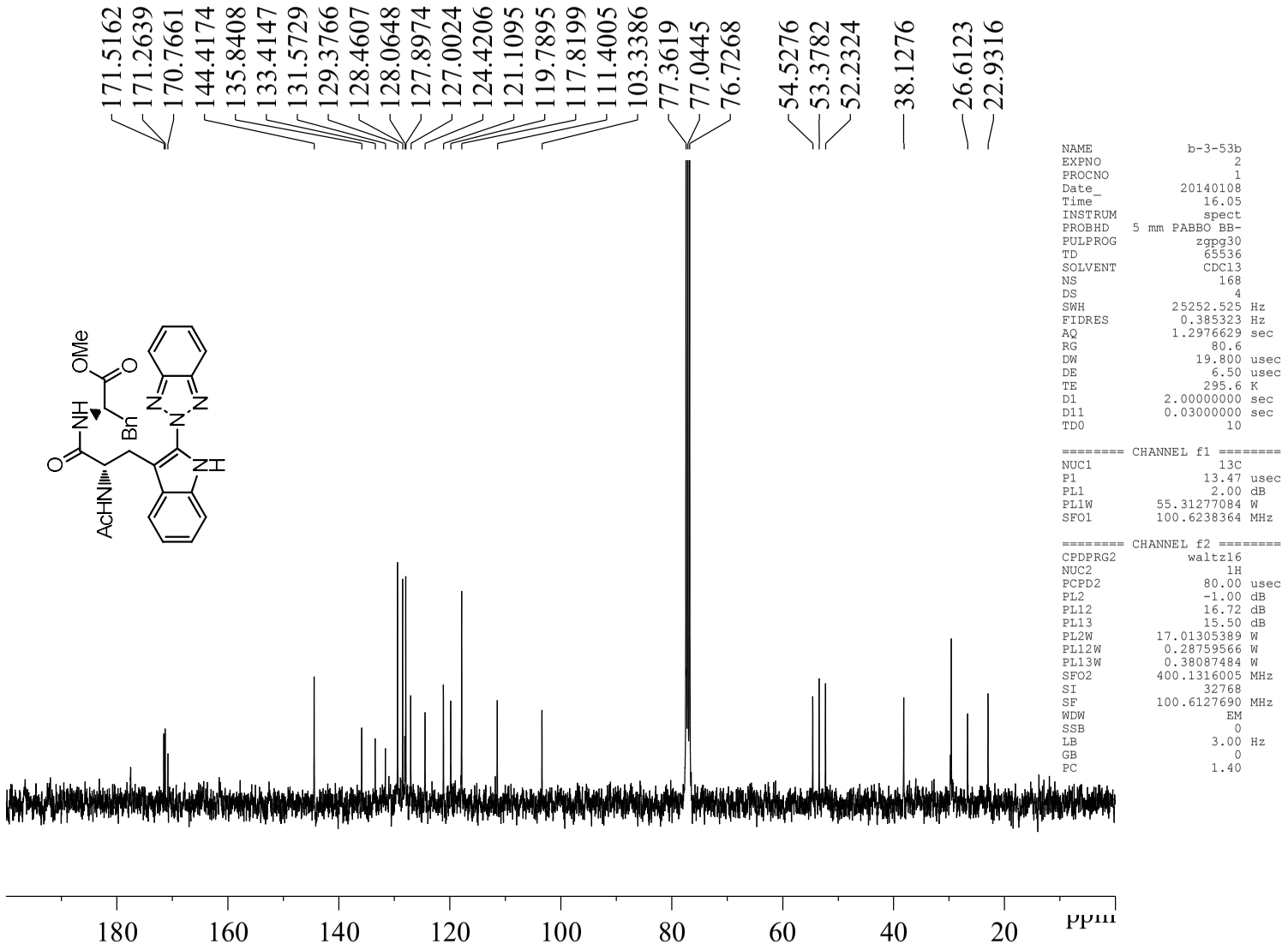

9.2740
7.7977
7.6638
7.6440
7.4151
7.3969
7.3486
7.3284
7.2603
7.2346
7.2166
7.2139
7.1957
7.1775
7.1728
7.1531
7.1431
7.1348
7.0513
7.0476
7.0316
7.0116
4.8497
4.8304
4.7570
4.7391
4.7212
3.6356
3.4803
3.4621
3.0640
3.0494
3.0396
3.0248
1.8595
OMe
NH
Bn
AcHN
N
N
N
H
NAME b-3-55a
EXPNO 1
PROCNO 1
Date_ 20140116
Time 16.02
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 203
DW 78.200 usec
DE 6.50 usec
TE 293.4 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300093 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
9
8
7
6
5
4
3
2
1
ppm
1.00
1.94
1.06
1.07
1.09
2.05
3.06
2.99
1.02
1.07
3.03
1.96
1.03
1.06
3.03



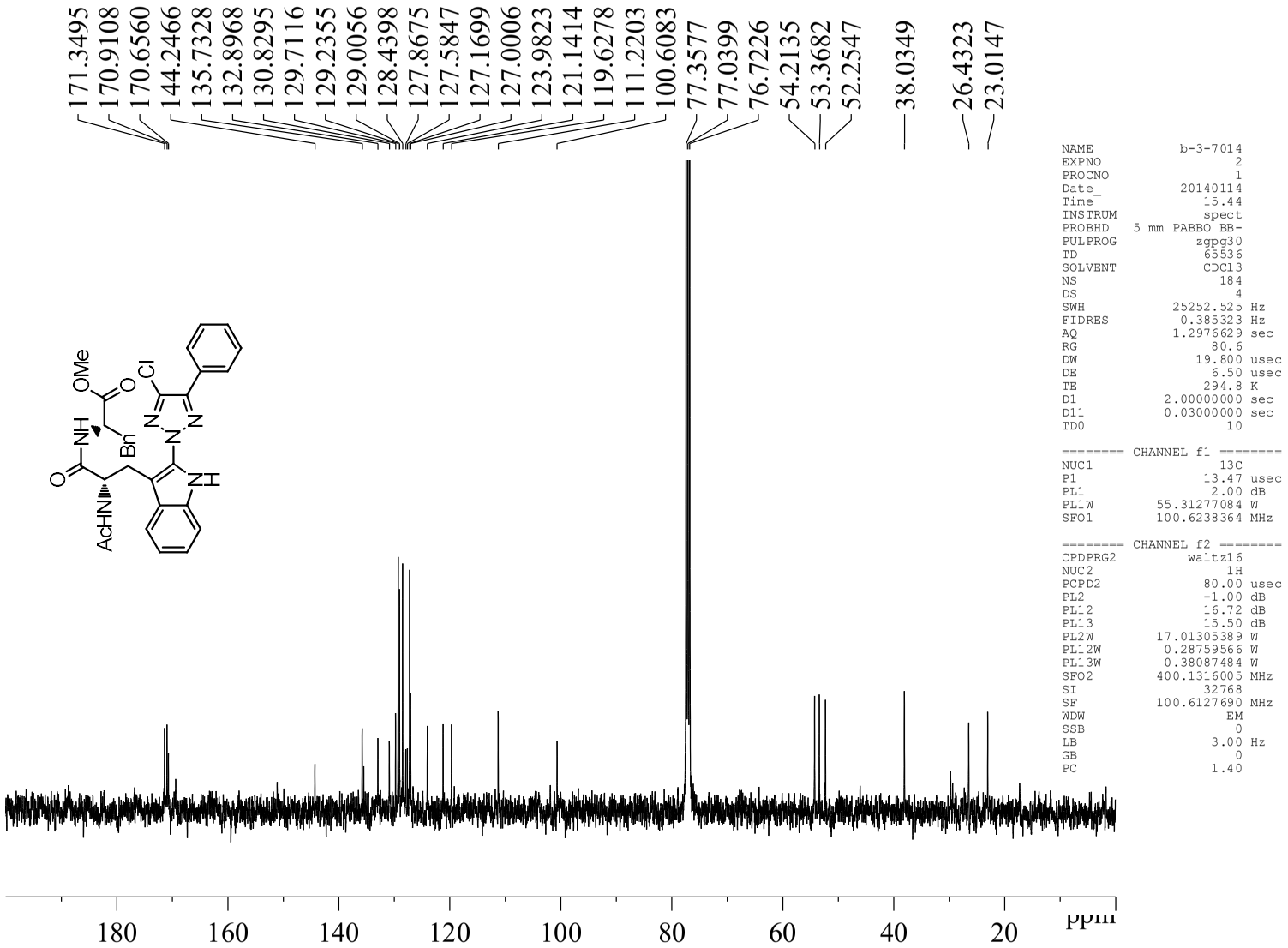
NAME	b-3-55a
EXPNO	2
PROCNO	1
Date_	20140116
Time	16.04
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	272
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	294.1 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40


9.0463
8.0067
7.9893
7.7641
7.7446
7.5330
7.5169
7.4978
7.4759
7.3629
7.3429
7.2760
7.2601
7.2386
7.2071
7.1951
7.1900
7.1776
7.1567
7.0075
6.9907
6.6485
6.6298
4.7705
4.7554
3.5877
3.5707
3.5558
3.5063
3.4849
3.0559
3.0418
2.9899
2.9746
1.8499
OMe
O
NH
Cl
N
N
Bn
N
H
O
AcHN
NAME b-3-7014
EXPNO 1
PROCNO 1
Date_ 20140114
Time 15.42
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 181
DW 78.200 usec
DE 6.50 usec
TE 294.1 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300094 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
9
8
7
6
5
4
3
2
1
ppm
1.00
2.07
1.05
3.03
1.10
2.78
4.05
2.04
1.00
2.01
3.03
0.99
1.06
1.05
1.05
3.02

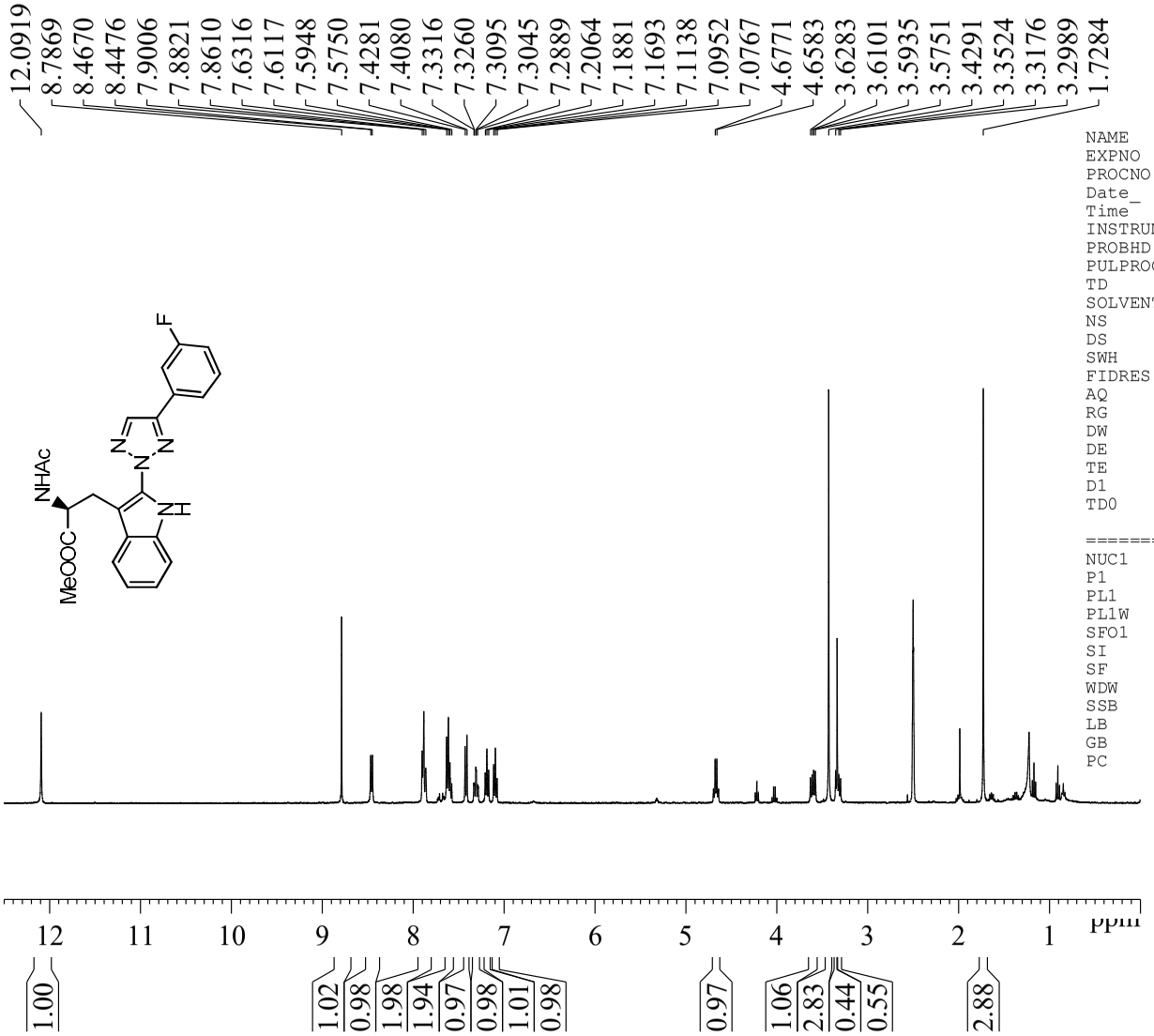

7.8346
7.8270
7.8182
7.8106
7.7702
7.7504
7.4602
7.4527
7.4437
7.4362
7.3976
7.3774
7.2738
7.2601
7.2279
7.2101
7.1910
7.1740
7.0705
7.0665
7.0514
7.0396
4.8666
4.8512
4.8364
4.8322
3.6671
3.6531
3.6293
3.5845
3.0850
3.0707
3.0493
3.0341
1.8051
OMe
NH
Bn
AcHN
NH
NAME b-3-53b
EXPNO 1
PROCNO 1
Date_ 20140108
Time 16.03
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 203
DW 78.200 usec
DE 6.50 usec
TE 295.0 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300093 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
9
8
7
6
5
4
3
2
1
ppm
1.00
1.99
1.05
1.00
2.07
1.07
0.91
4.01
3.05
2.05
1.97
3.09
1.08
1.12
3.19



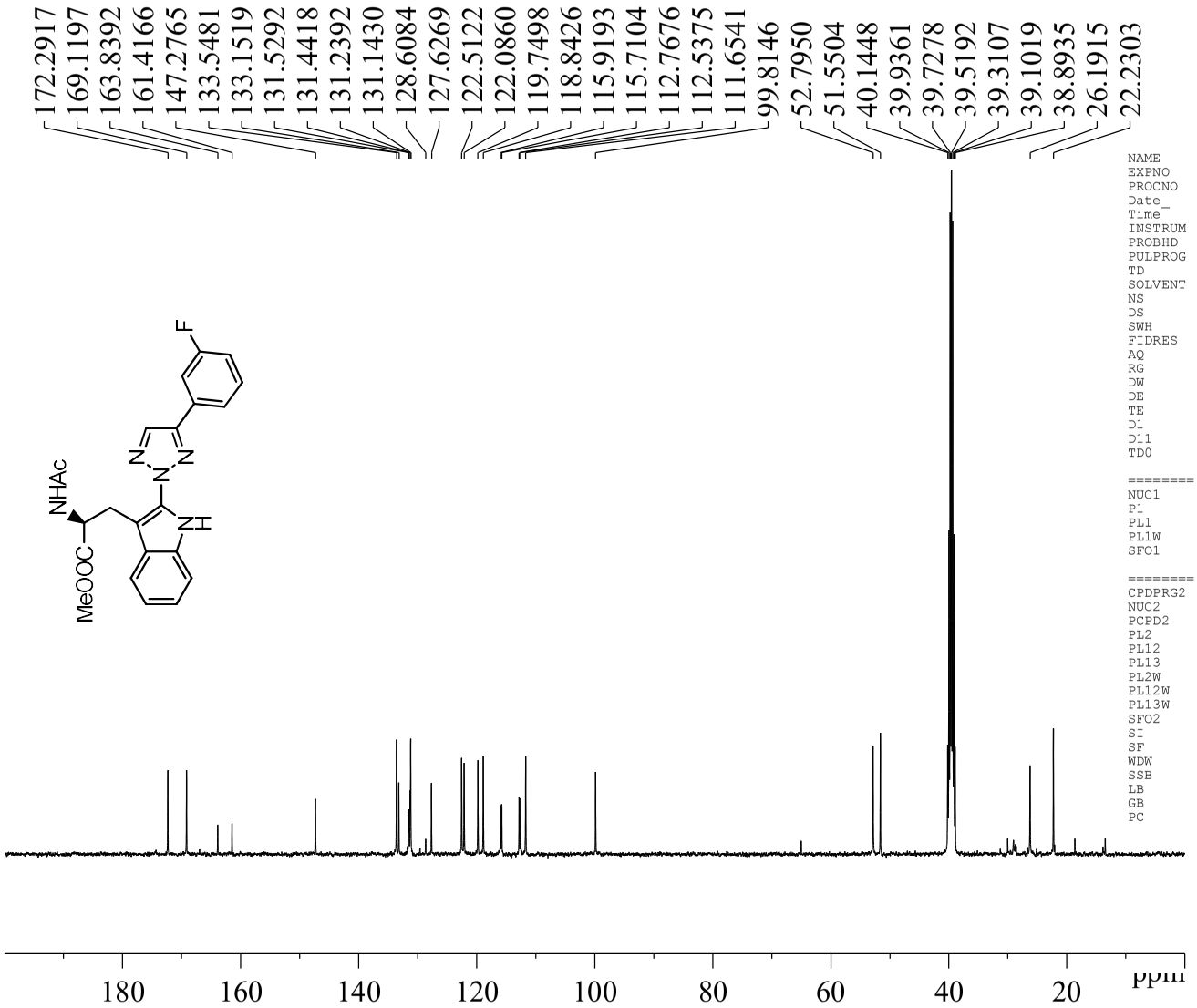
NAME	b-3-53b
EXPNO	2
PROCNO	1
Date_	20140108
Time	16.05
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	168
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	295.6 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40



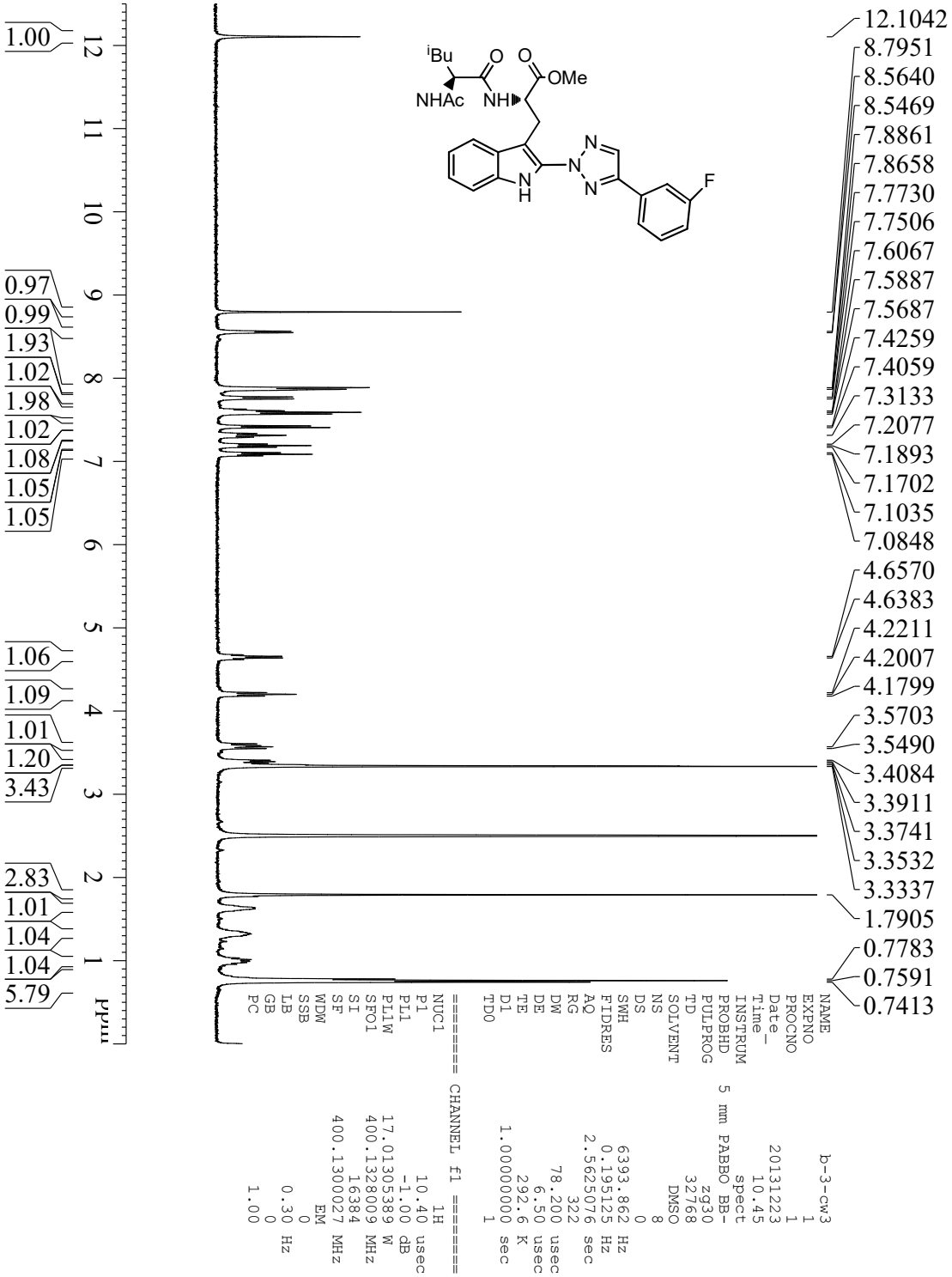
NAME	b-3-7014
EXPNO	2
PROCNO	1
Date_	20140114
Time	15.44
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	184
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	294.8 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40



NAME	b-3-39A-20131212
EXPNO	1
PROCNO	1
Date_	20131212
Time	15.22
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zg30
TD	32768
SOLVENT	DMSO
NS	8
DS	0
SWH	6393.862 Hz
FIDRES	0.195125 Hz
AQ	2.5625076 sec
RG	322
DW	78.200 usec
DE	6.50 usec
TE	294.8 K
D1	1.00000000 sec
TD0	1
======== CHANNEL f1 ========	
NUC1	1H
P1	10.40 usec
PL1	-1.00 dB
PL1W	17.01305389 W
SFO1	400.1328009 MHz
SI	16384
SF	400.1300029 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00



NAME	b-3-39a-20131213
EXPNO	2
PROCNO	1
Date_	20131213
Time	12.09
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	DMSO
NS	1104
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	181
DW	19.800 usec
DE	6.50 usec
TE	297.6 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6128191 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40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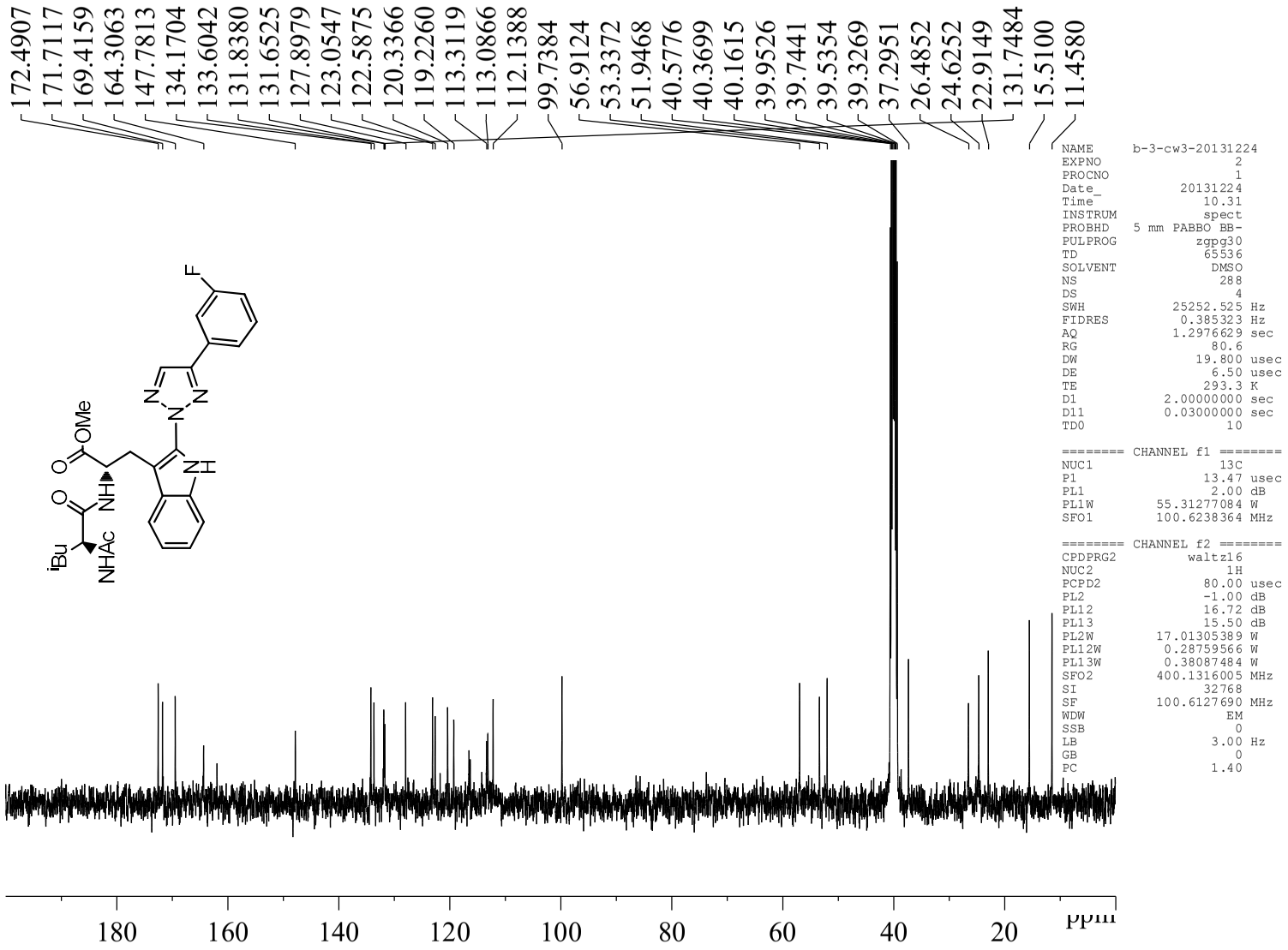
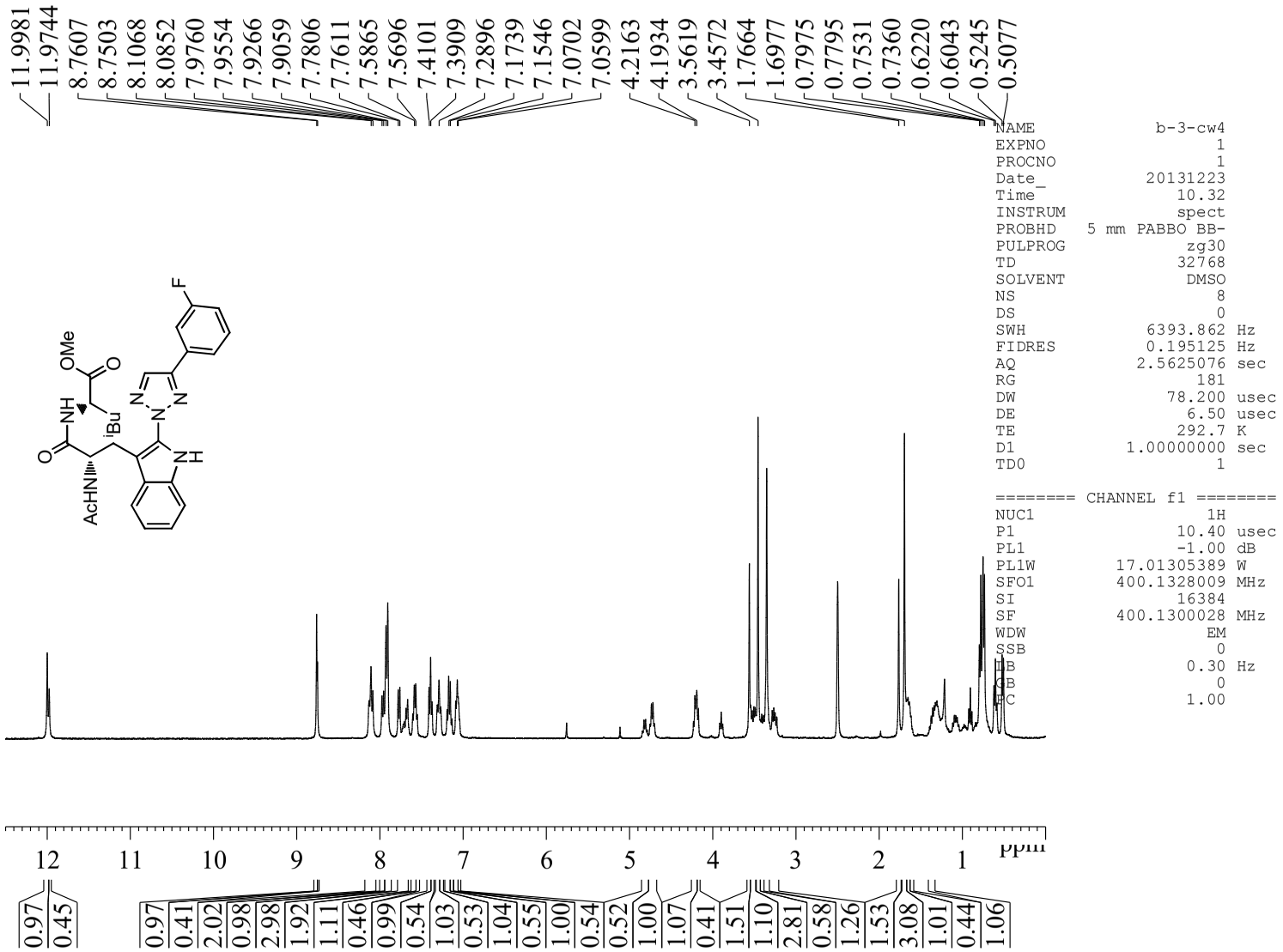
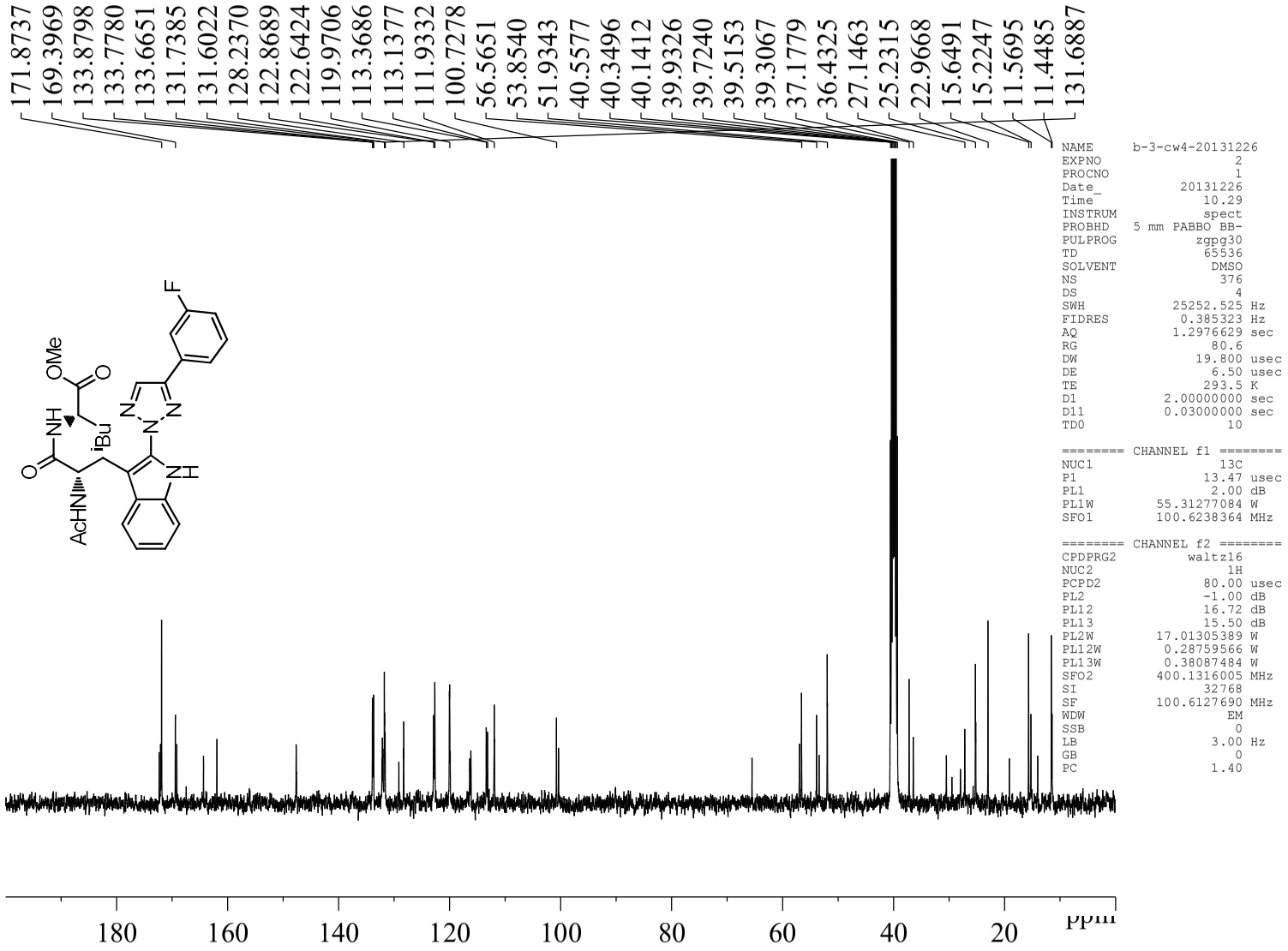
8.7951
8.5640
8.5469
7.8861
7.8658
7.7730
7.7506
7.6067
7.5887
7.5687
7.4259
7.4059
7.3133
7.2077
7.1893
7.1702
7.1035
7.0848
4.6570
4.6383
4.2211
4.2007
4.1799
3.5703
3.5490
3.4084
3.3911
3.3741
3.3532
3.3337
1.7905
0.7783
0.7591
0.7413
1.00
0.97
0.99
1.93
1.02
1.98
1.02
1.08
1.05
1.05
1.06
1.09
1.01
1.20
3.43
2.83
1.01
1.04
1.04
5.79
ppm
NAME b-3-cw3
EXPNO 1
PROCNO 1
Date_ 20131223
Time_ 10.45
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT DMSO
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 322
DW 78.200 usec
DE 6.50 usec
TE 292.6 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300027 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00


172.4907
171.7117
169.4159
164.3063
147.7813
134.1704
133.6042
131.8380
131.6525
127.8979
123.0547
122.5875
120.3366
119.2260
113.3119
113.0866
112.1388
99.7384
56.9124
53.3372
51.9468
40.5776
40.3699
40.1615
39.9526
39.7441
39.5354
39.3269
37.2951
26.4852
24.6252
22.9149
131.7484
15.5100
11.4580
F
N
N
N
H
O
OMe
NH
O
iBu
NHAc
NAME b-3-cw3-20131224
EXPNO 2
PROCNO 1
Date_ 20131224
Time 10.31
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 288
DS 4
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 80.6
DW 19.800 usec
DE 6.50 usec
TE 293.3 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 10
======== CHANNEL f1 ========
NUC1 13C
P1 13.47 usec
PL1 2.00 dB
PL1W 55.31277084 W
SFO1 100.6238364 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -1.00 dB
PL12 16.72 dB
PL13 15.50 dB
PL2W 17.01305389 W
PL12W 0.28759566 W
PL13W 0.38087484 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 1.40
180
160
140
120
100
80
60
40
20
ppm

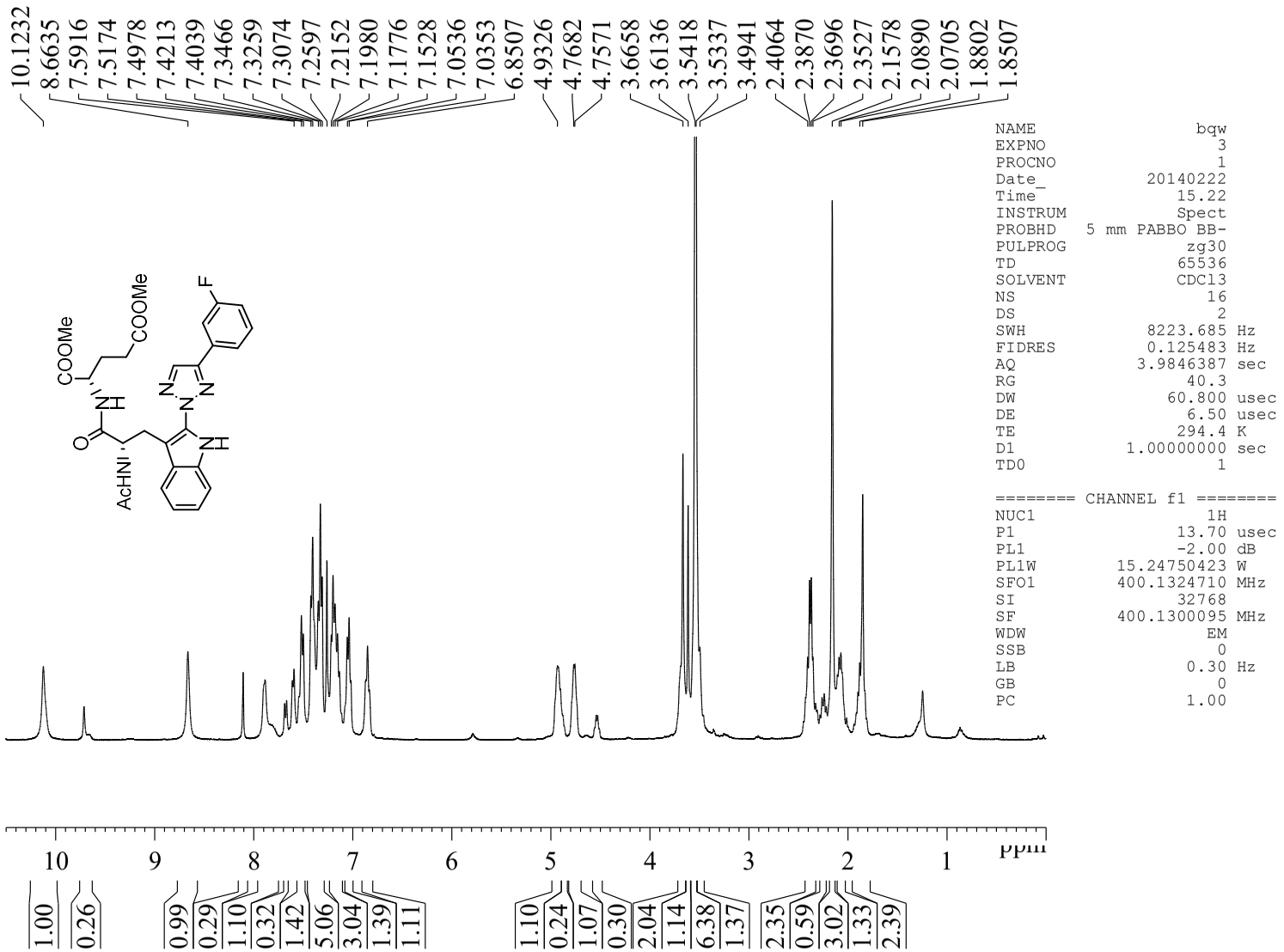

11.9981
11.9744
8.7607
8.7503
8.1068
8.0852
7.9760
7.9554
7.9266
7.9059
7.7806
7.7611
7.5865
7.5696
7.4101
7.3909
7.2896
7.1739
7.1546
7.0702
7.0599
4.2163
4.1934
3.5619
3.4572
1.7664
1.6977
0.7975
0.7795
0.7531
0.7360
0.6220
0.6043
0.5245
0.5077
F
OMe
O
NH
O
iBu
AcHN
N
N
N
H
NAME b-3-cw4
EXPNO 1
PROCNO 1
Date_ 20131223
Time 10.32
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT DMSO
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 181
DW 78.200 usec
DE 6.50 usec
TE 292.7 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300028 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
12
11
10
9
8
7
6
5
4
3
2
1
ppm
0.97
0.45
0.97
0.41
2.02
0.98
2.98
1.92
1.11
0.46
0.99
0.54
1.03
0.53
1.04
0.55
1.00
0.54
0.52
1.00
1.07
0.41
1.51
1.10
2.81
0.58
1.26
1.53
3.08
1.01
0.44
1.06




```
NAME      b-3-cw4-20131226
EXPNO                    2
PROCNO                   1
Date_             20131226
Time                 10.29
INSTRUM              spect
PROBHD   5 mm PABBO BB-
PULPROG           zgpg30
TD                 65536
SOLVENT              DMSO
NS                     376
DS                       4
SWH              25252.525 Hz
FIDRES           0.385323 Hz
AQ               1.2976629 sec
RG                    80.6
DW                  19.800 usec
DE                   6.50 usec
TE                  293.5 K
D1             2.00000000 sec
D11            0.03000000 sec
TD0                     10

======== CHANNEL f1 ========
NUC1                   13C
P1                   13.47 usec
PL1                   2.00 dB
PL1W          55.31277084 W
SFO1         100.6238364 MHz

======== CHANNEL f2 ========
CPDPRG2            waltz16
NUC2                    1H
PCPD2                80.00 usec
PL2                  -1.00 dB
PL12                 16.72 dB
PL13                 15.50 dB
PL2W          17.01305389 W
PL12W          0.28759566 W
PL13W          0.38087484 W
SFO2         400.1316005 MHz
SI                   32768
SF           100.6127690 MHz
WDW                     EM
SSB                      0
LB                    3.00 Hz
GB                       0
PC                    1.40
```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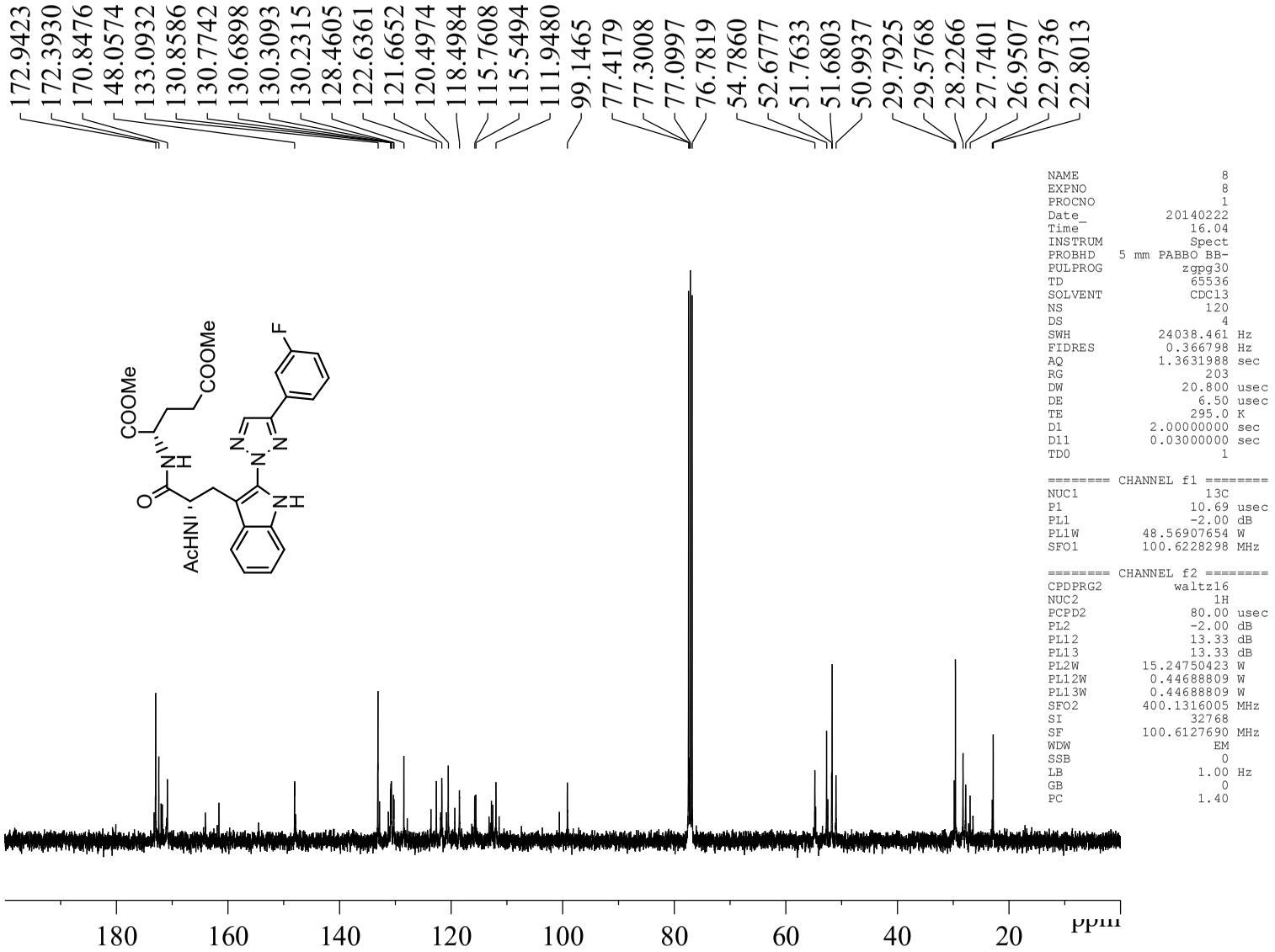
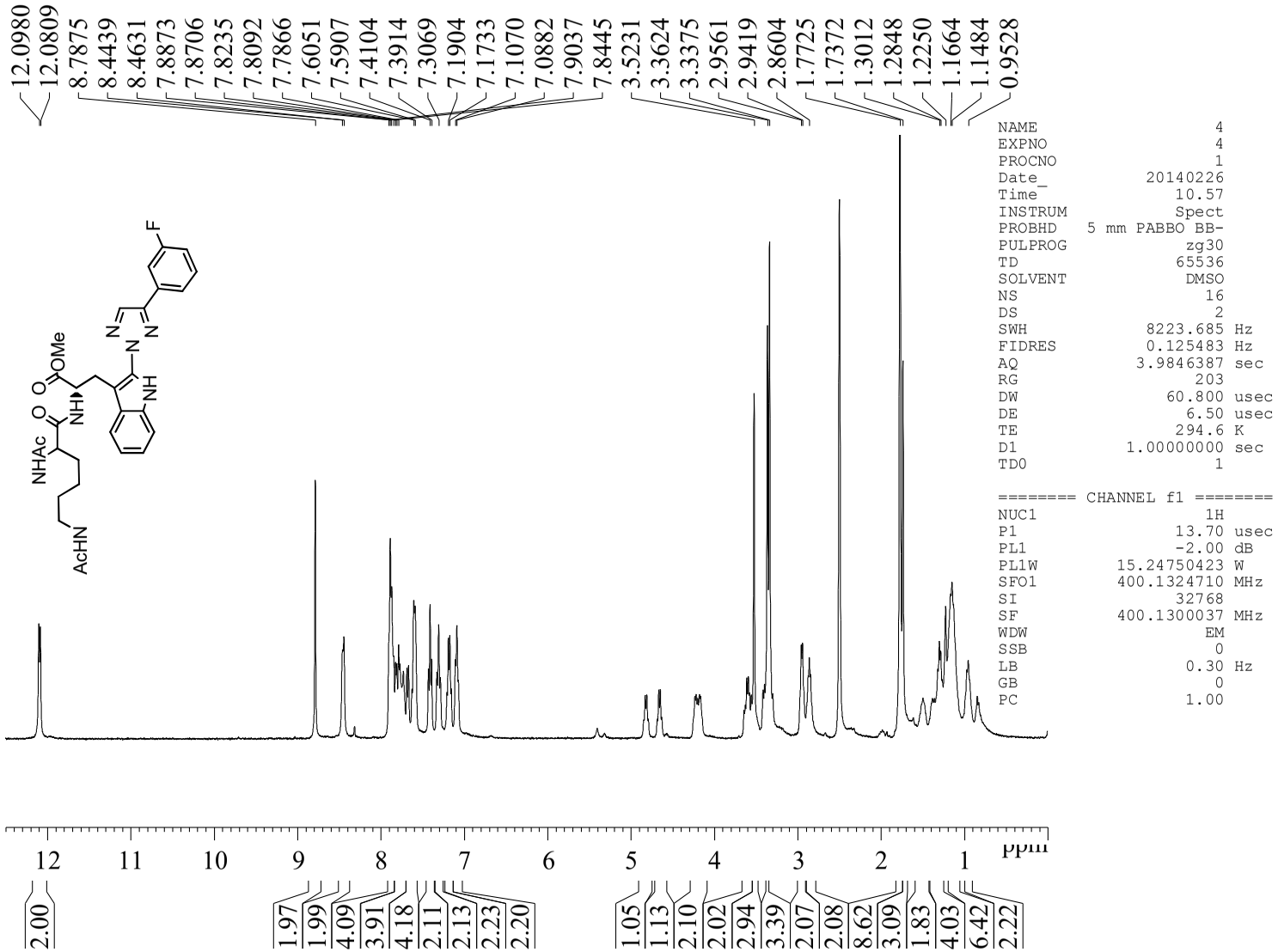
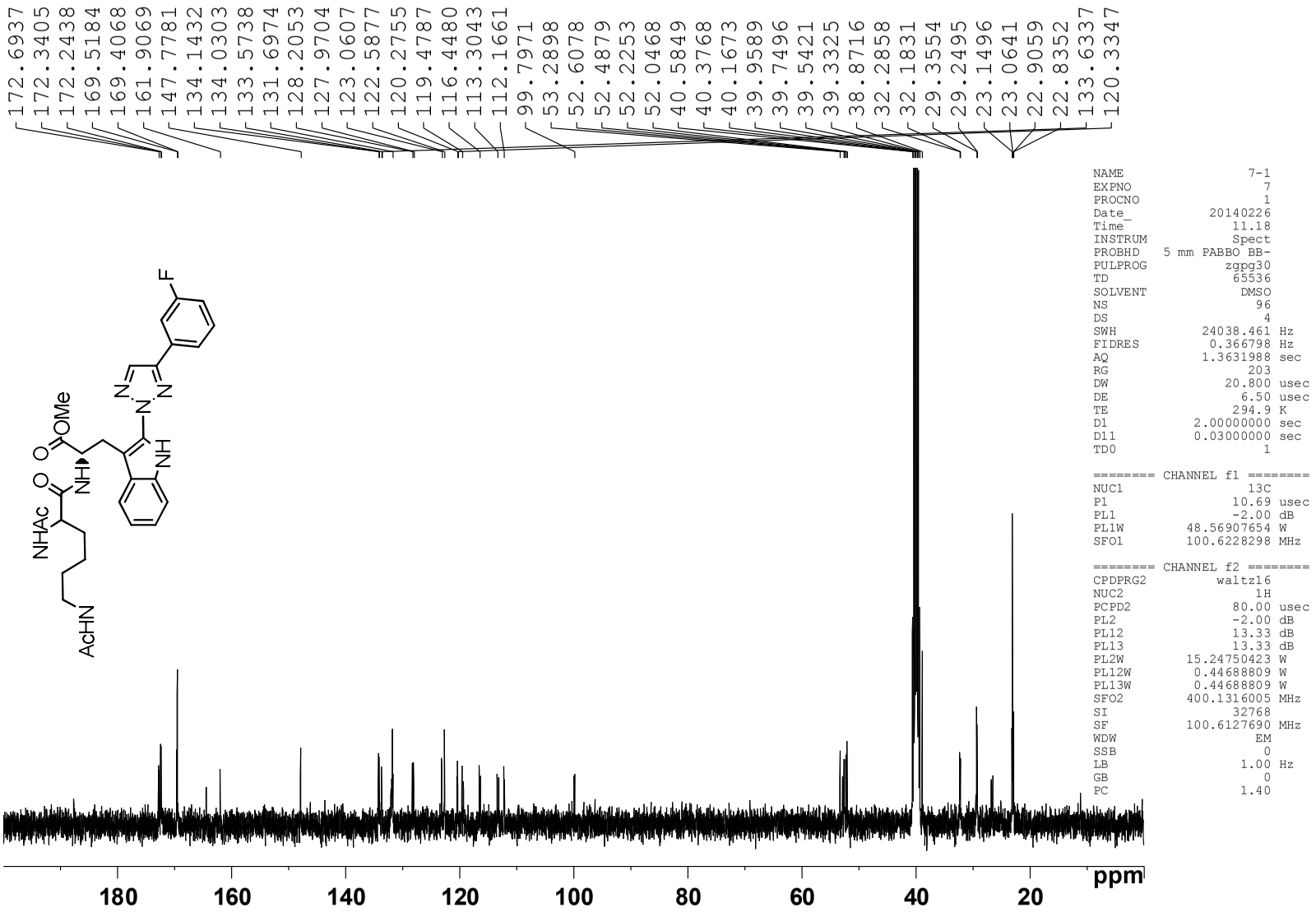
8.6635
7.5916
7.5174
7.4978
7.4213
7.4039
7.3466
7.3259
7.3074
7.2597
7.2152
7.1980
7.1776
7.1528
7.0536
7.0353
6.8507
4.9326
4.7682
4.7571
3.6658
3.6136
3.5418
3.5337
3.4941
2.4064
2.3870
2.3696
2.3527
2.1578
2.0890
2.0705
1.8802
1.8507
COOMe
COOMe
AcHN
F
NAME bqw
EXPNO 3
PROCNO 1
Date_ 20140222
Time 15.22
INSTRUM Spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 40.3
DW 60.800 usec
DE 6.50 usec
TE 294.4 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 13.70 usec
PL1 -2.00 dB
PL1W 15.24750423 W
SFO1 400.1324710 MHz
SI 32768
SF 400.1300095 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
10
9
8
7
6
5
4
3
2
1
ppm
1.00
0.26
0.99
0.29
1.10
0.32
1.42
5.06
3.04
1.39
1.11
1.10
0.24
1.07
0.30
2.04
1.14
6.38
1.37
2.35
0.59
3.02
1.33
2.39

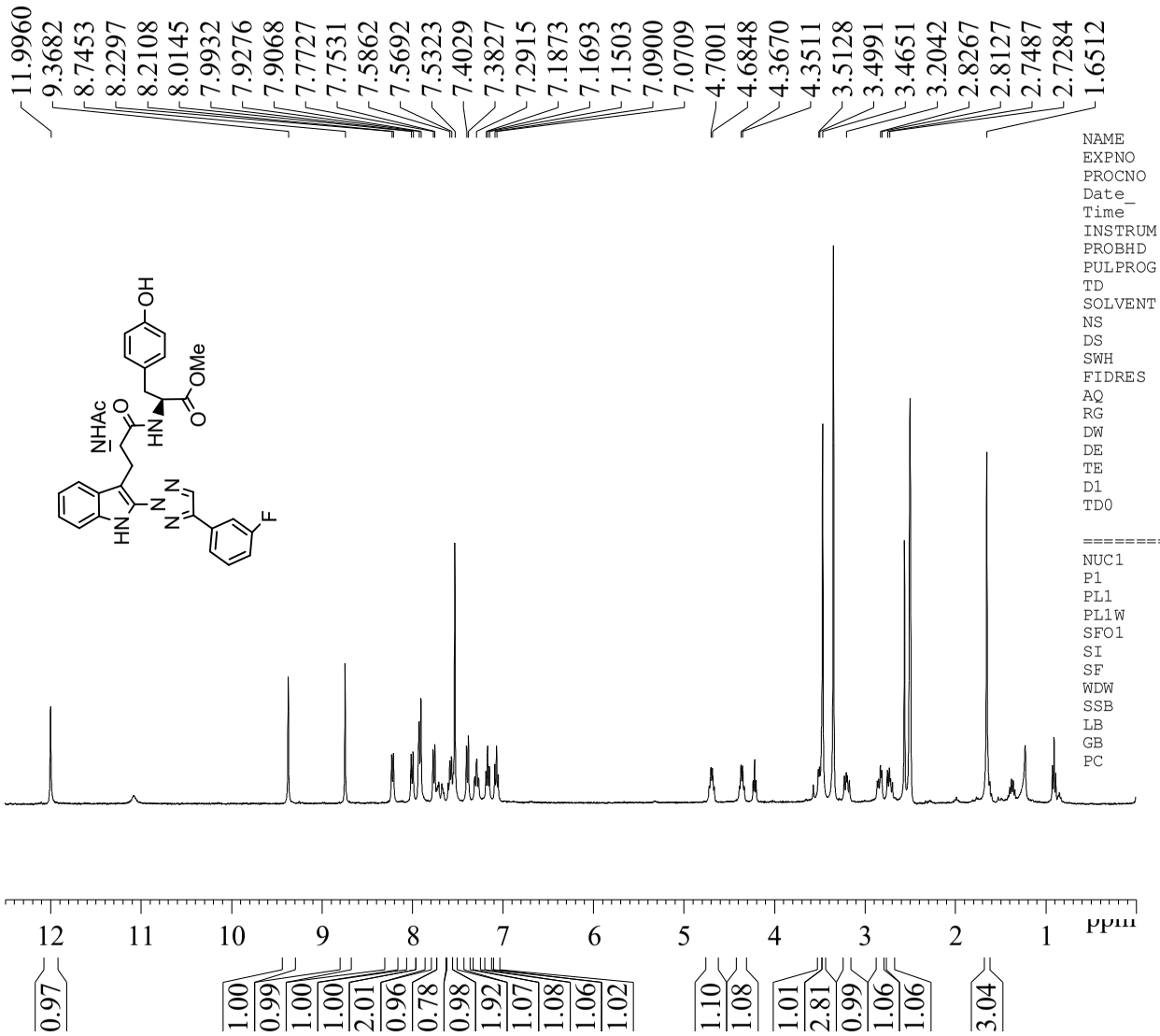


NAME	8
EXPNO	8
PROCNO	1
Date_	20140222
Time	16.04
INSTRUM	Spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	120
DS	4
SWH	24038.461 Hz
FIDRES	0.366798 Hz
AQ	1.3631988 sec
RG	203
DW	20.800 usec
DE	6.50 usec
TE	295.0 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	1
======== CHANNEL f1 ========	
NUC1	13C
P1	10.69 usec
PL1	-2.00 dB
PL1W	48.56907654 W
SFO1	100.6228298 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-2.00 dB
PL12	13.33 dB
PL13	13.33 dB
PL2W	15.24750423 W
PL12W	0.44688809 W
PL13W	0.44688809 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40

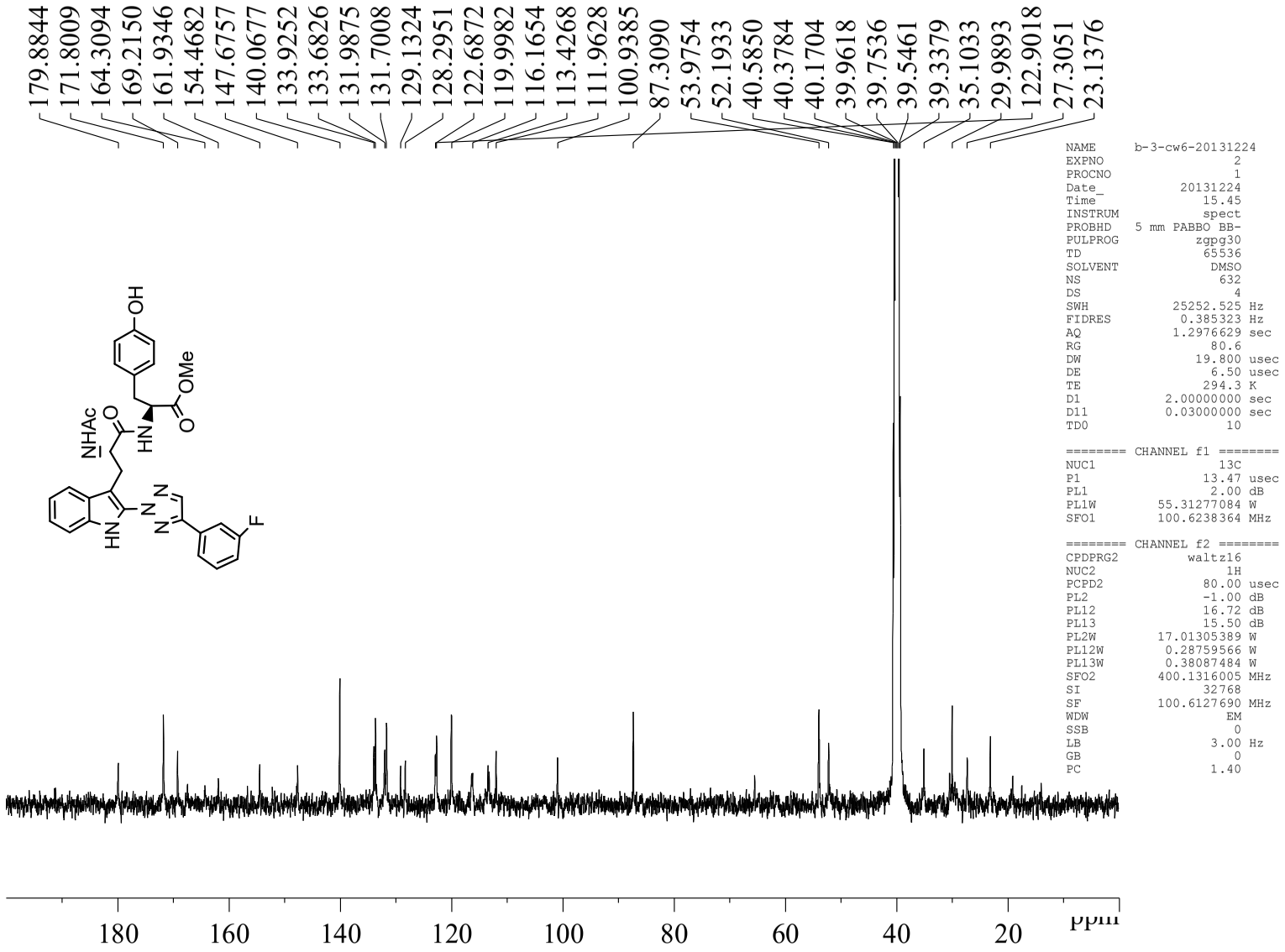

12.0980
12.0809
8.7875
8.4439
8.4631
7.8873
7.8706
7.8235
7.8092
7.7866
7.6051
7.5907
7.4104
7.3914
7.3069
7.1904
7.1733
7.1070
7.0882
7.9037
7.8445
3.5231
3.3624
3.3375
2.9561
2.9419
2.8604
1.7725
1.7372
1.3012
1.2848
1.2250
1.1664
1.1484
0.9528
F
N
N
N
NH
NH
O
OMe
O
NHAc
AcHN
NAME 4
EXPNO 4
PROCNO 1
Date_ 20140226
Time 10.57
INSTRUM Spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 203
DW 60.800 usec
DE 6.50 usec
TE 294.6 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 13.70 usec
PL1 -2.00 dB
PL1W 15.24750423 W
SFO1 400.1324710 MHz
SI 32768
SF 400.1300037 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
12
11
10
9
8
7
6
5
4
3
2
1
ppm
2.00
1.97
1.99
4.09
3.91
4.18
2.11
2.13
2.23
2.20
1.05
1.13
2.10
2.02
2.94
3.39
2.07
2.08
8.62
3.09
1.83
4.03
6.42
2.22



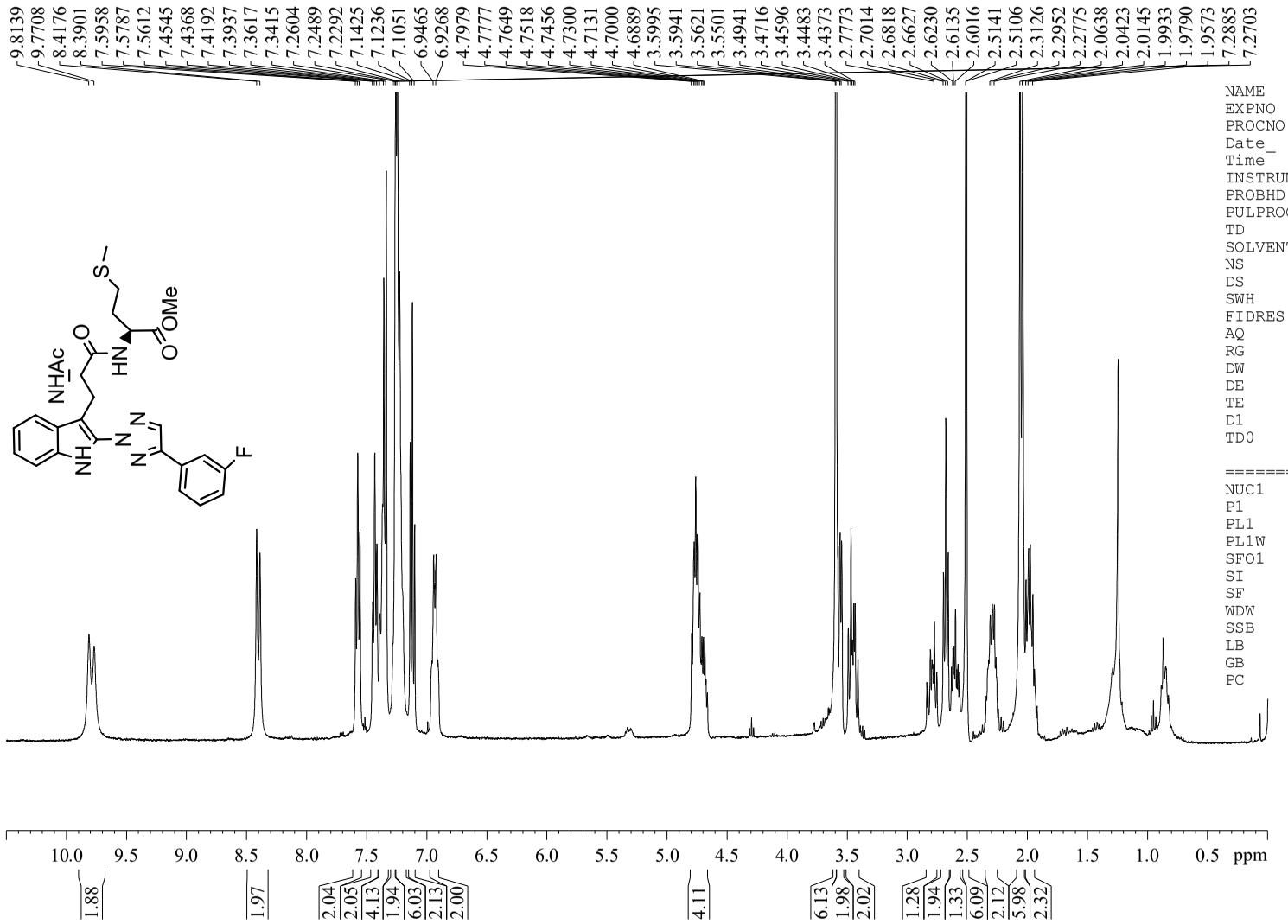
NAME	7-1
EXPNO	7
PROCNO	1
Date_	20140226
Time	11.18
INSTRUM	Spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	DMSO
NS	96
DS	4
SWH	24038.461 Hz
FIDRES	0.366798 Hz
AQ	1.3631988 sec
RG	203
DW	20.800 usec
DE	6.50 usec
TE	294.9 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	1
======== CHANNEL f1 ========	
NUC1	13C
P1	10.69 usec
PL1	-2.00 dB
PL1W	48.56907654 W
SFO1	100.6228298 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-2.00 dB
PL12	13.33 dB
PL13	13.33 dB
PL2W	15.24750423 W
PL12W	0.44688809 W
PL13W	0.44688809 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40



NAME	b-3-cw6
EXPNO	1
PROCNO	1
Date_	20131223
Time	10.40
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zg30
TD	32768
SOLVENT	DMSO
NS	8
DS	0
SWH	6393.862 Hz
FIDRES	0.195125 Hz
AQ	2.5625076 sec
RG	322
DW	78.200 usec
DE	6.50 usec
TE	292.6 K
D1	1.00000000 sec
TD0	1
======== CHANNEL f1 ========	
NUC1	1H
P1	10.40 usec
PL1	-1.00 dB
PL1W	17.01305389 W
SFO1	400.1328009 MHz
SI	16384
SF	400.1300030 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00



NAME	b-3-cw6-20131224
EXPNO	2
PROCNO	1
Date_	20131224
Time	15.45
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	DMSO
NS	632
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	294.3 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40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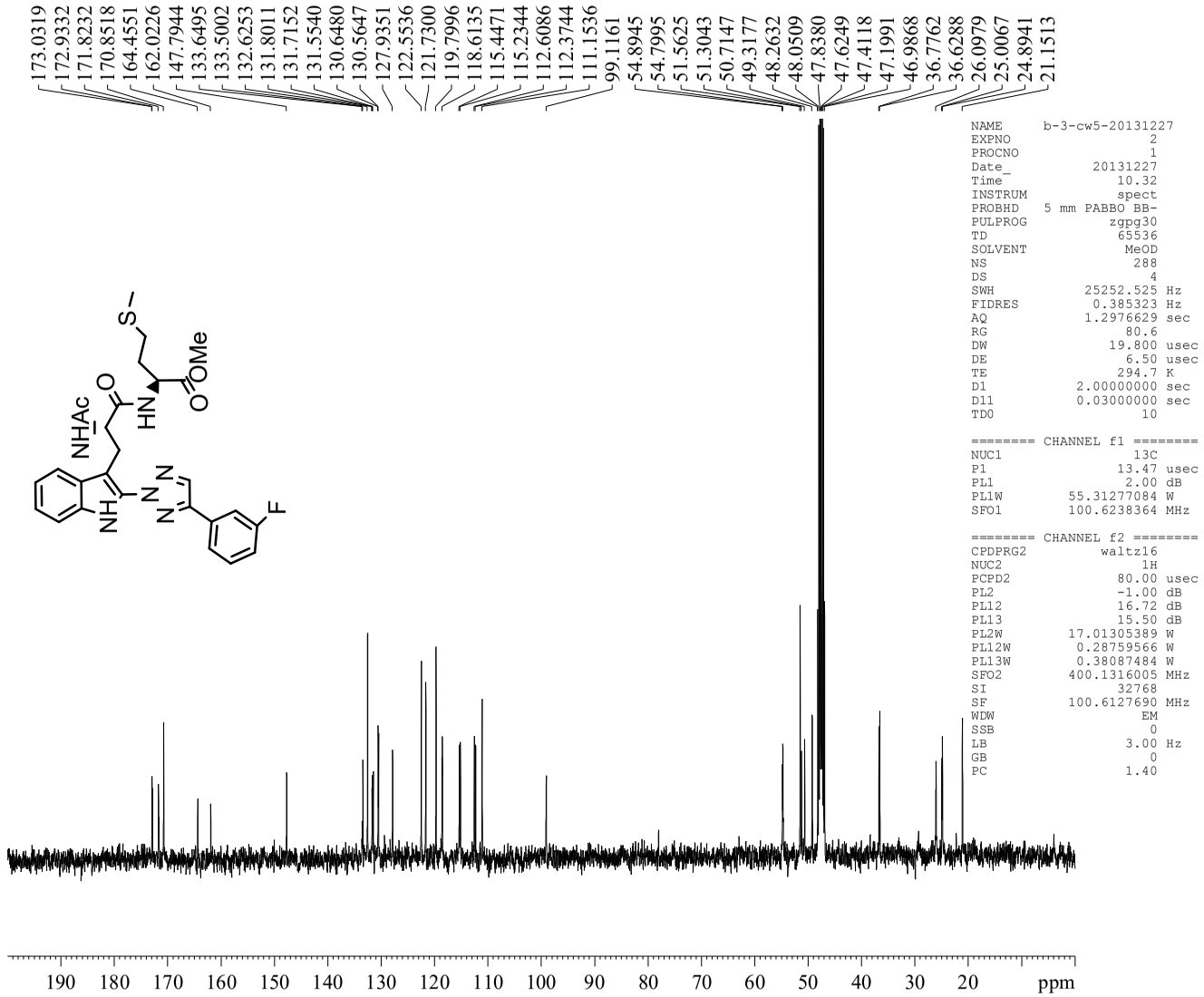
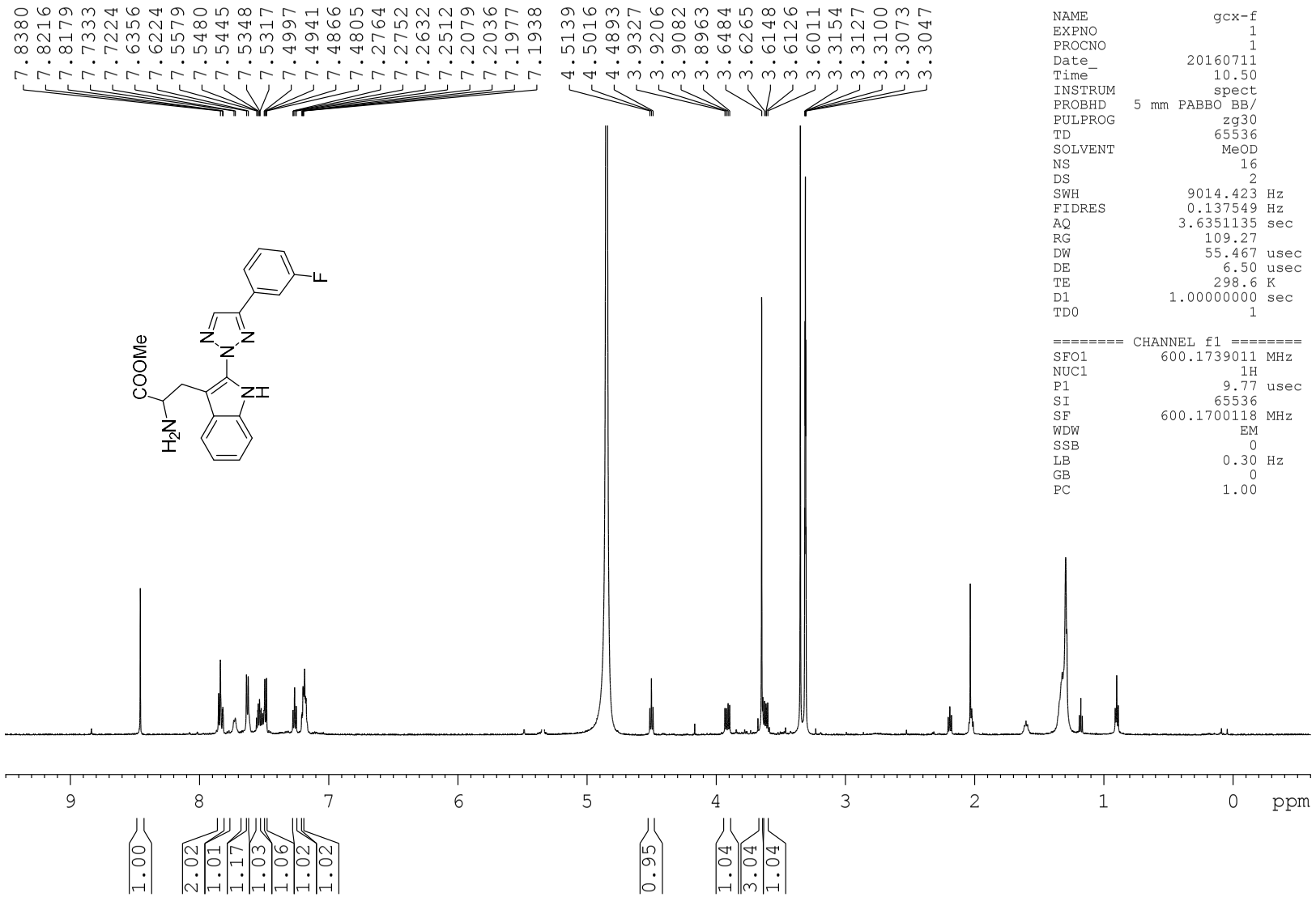
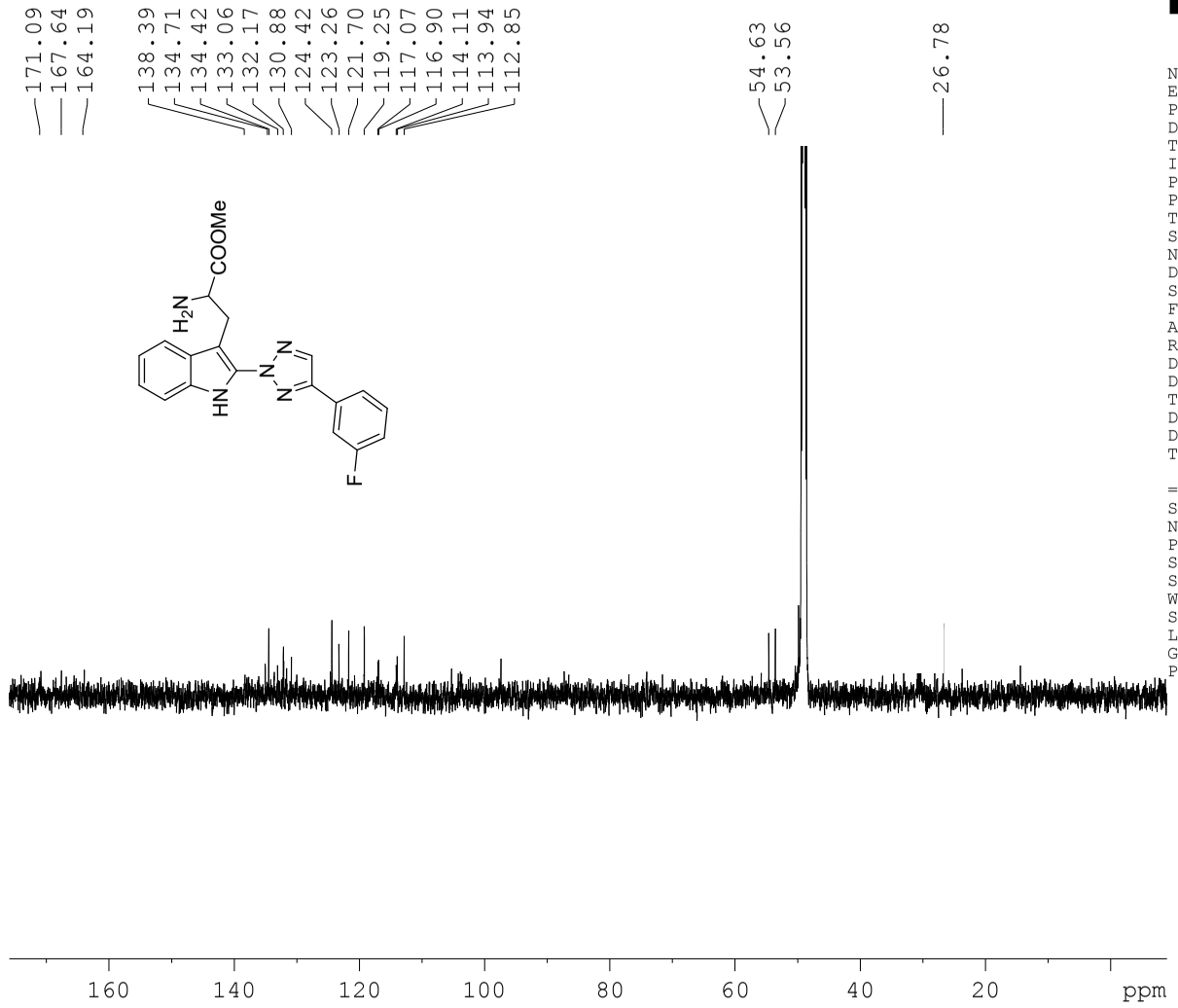
8.4176
8.3901
7.5958
7.5787
7.5612
7.4545
7.4368
7.4192
7.3937
7.3617
7.3415
7.2604
7.2489
7.2292
7.1425
7.1236
7.1051
6.9465
6.9268
4.7979
4.7777
4.7649
4.7518
4.7456
4.7300
4.7131
4.7000
4.6889
3.5995
3.5941
3.5621
3.5501
3.4941
3.4716
3.4596
3.4483
3.4373
2.7773
2.7014
2.6818
2.6627
2.6230
2.6135
2.6016
2.5141
2.5106
2.3126
2.2952
2.2775
2.0638
2.0423
2.0145
1.9933
1.9790
1.9573
7.2885
7.2703
NAME b-3-cw5
EXPNO 1
PROCNO 1
Date_ 20131223
Time 10.37
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 181
DW 78.200 usec
DE 6.50 usec
TE 292.6 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300093 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
NHAc
O
HN
O
OMe
S
NH
N
N
N
F
10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 ppm
1.88
1.97
2.04
2.05
4.13
1.94
6.03
2.13
2.00
4.11
6.13
1.98
2.02
1.28
1.94
1.33
6.09
2.12
5.98
2.32



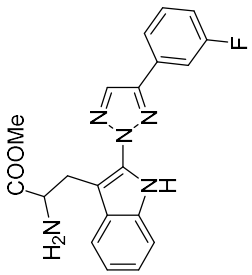
NAME	b-3-cw5-20131227
EXPNO	2
PROCNO	1
Date_	20131227
Time	10.32
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	MeOD
NS	288
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	294.7 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40


7.8380
7.8216
7.8179
7.7333
7.7224
7.6356
7.6224
7.5579
7.5480
7.5445
7.5348
7.5317
7.4997
7.4941
7.4866
7.4805
7.2764
7.2752
7.2632
7.2512
7.2079
7.2036
7.1977
7.1938
4.5139
4.5016
4.4893
3.9327
3.9206
3.9082
3.8963
3.6484
3.6265
3.6148
3.6126
3.6011
3.3154
3.3127
3.3100
3.3073
3.3047
F
N
N
N
NH
COOMe
H2N
NAME gcx-f
EXPNO 1
PROCNO 1
Date_ 20160711
Time 10.50
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 16
DS 2
SWH 9014.423 Hz
FIDRES 0.137549 Hz
AQ 3.6351135 sec
RG 109.27
DW 55.467 usec
DE 6.50 usec
TE 298.6 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
SFO1 600.1739011 MHz
NUC1 1H
P1 9.77 usec
SI 65536
SF 600.1700118 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
9
8
7
6
5
4
3
2
1
0
ppm
1.00
2.02
1.01
1.17
1.03
1.06
1.02
1.02
0.95
1.04
3.04
1.04



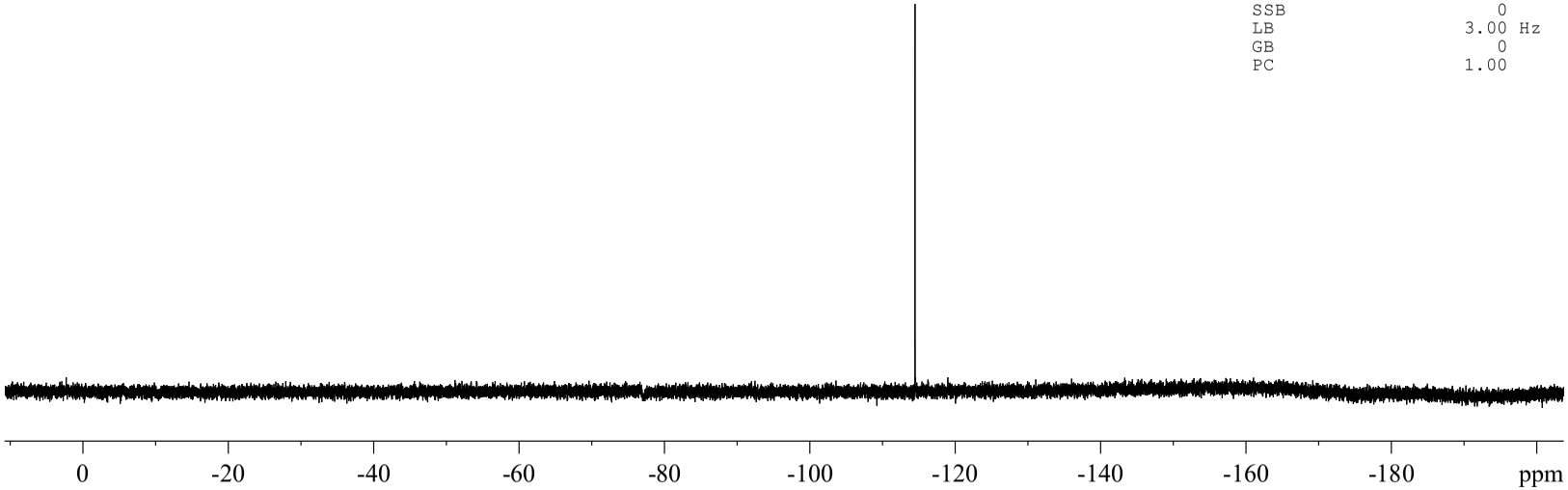
BRUKER

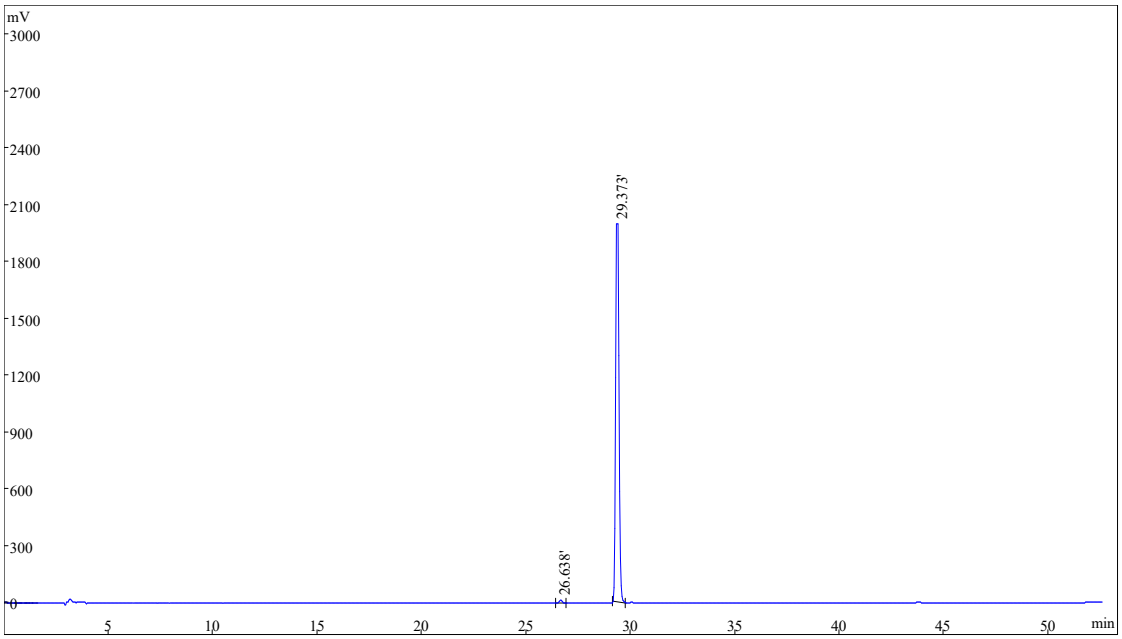
NAME	f
EXPNO	2
PROCNO	1
Date_	20160712
Time	10.03
INSTRUM	spect
PROBHD	5 mm PABBO BB/
PULPROG	zgpg30
TD	65536
SOLVENT	MeOD
NS	1024
DS	4
SWH	37878.789 Hz
FIDRES	0.577984 Hz
AQ	0.8651252 sec
RG	190.02
DW	13.200 usec
DE	6.50 usec
TE	298.8 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	20
======== CHANNEL f1 ========	
SFO1	150.9294669 MHz
NUC1	13C
P1	11.90 usec
SI	32768
SF	150.9126553 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40



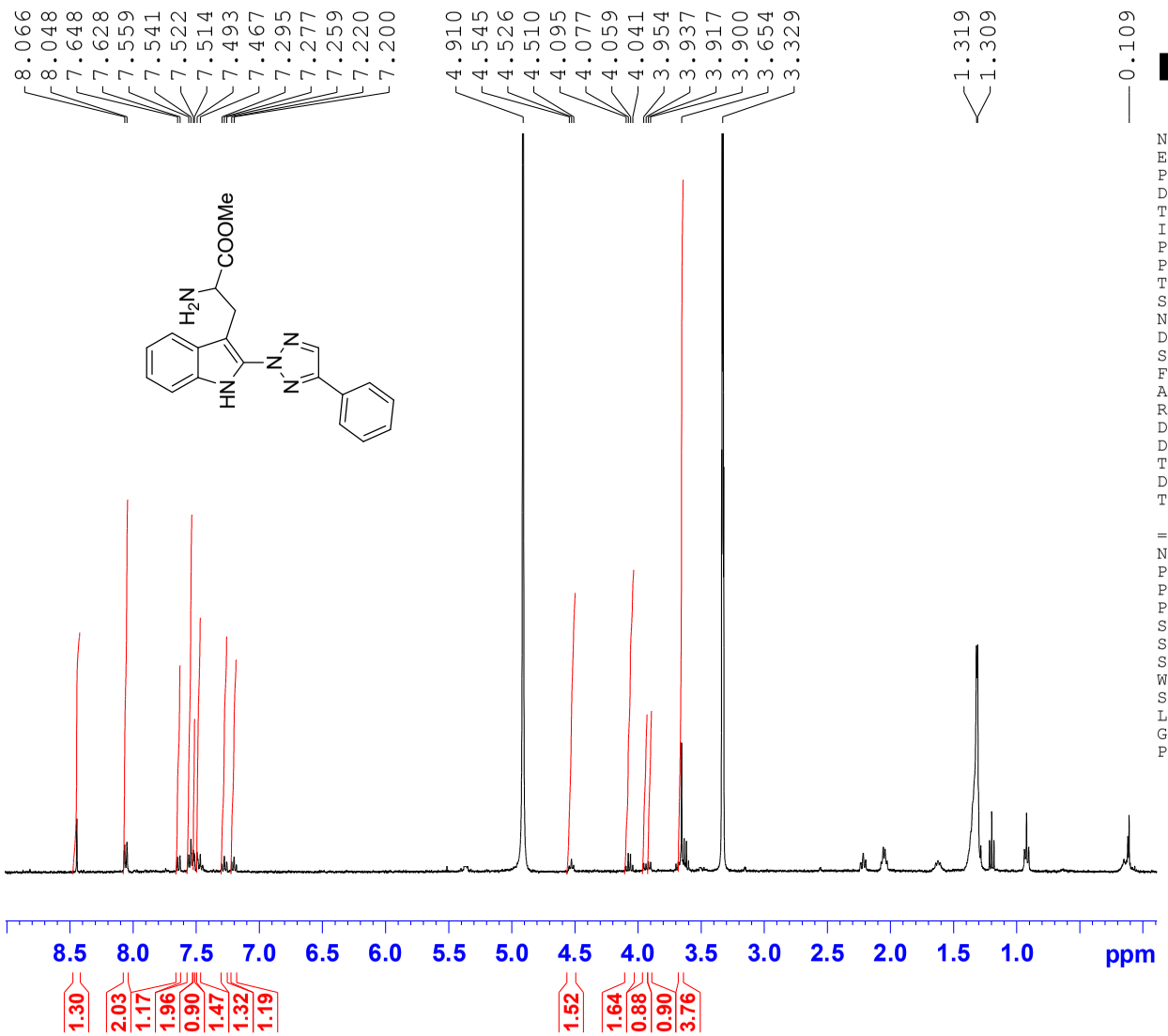
-114.4771

NAME	gcx-20170308
EXPNO	4
PROCNO	1
Date_	20170306
Time	10.30
INSTRUM	spect
PROBHD	5 mm PABBO BB/
PULPROG	zgfhigqn.2
TD	131072
SOLVENT	MeOD
NS	64
DS	4
SWH	133928.578 Hz
FIDRES	1.021794 Hz
AQ	0.4893855 sec
RG	15.49
DW	3.733 usec
DE	6.50 usec
TE	301.6 K
D1	1.00000000 sec
D11	0.03000000 sec
D12	0.00002000 sec
TD0	1
======== CHANNEL f1 ========	
SFO1	564.6675534 MHz
NUC1	19F
P1	11.90 usec
SI	65536
SF	564.7240258 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.00





No	Retention Time	Content	Peak Area	Peak Separation
1	26.638	0.6207	114100	12.07
2	29.373	99.38	181896545	4.65
Total		100	18382857	

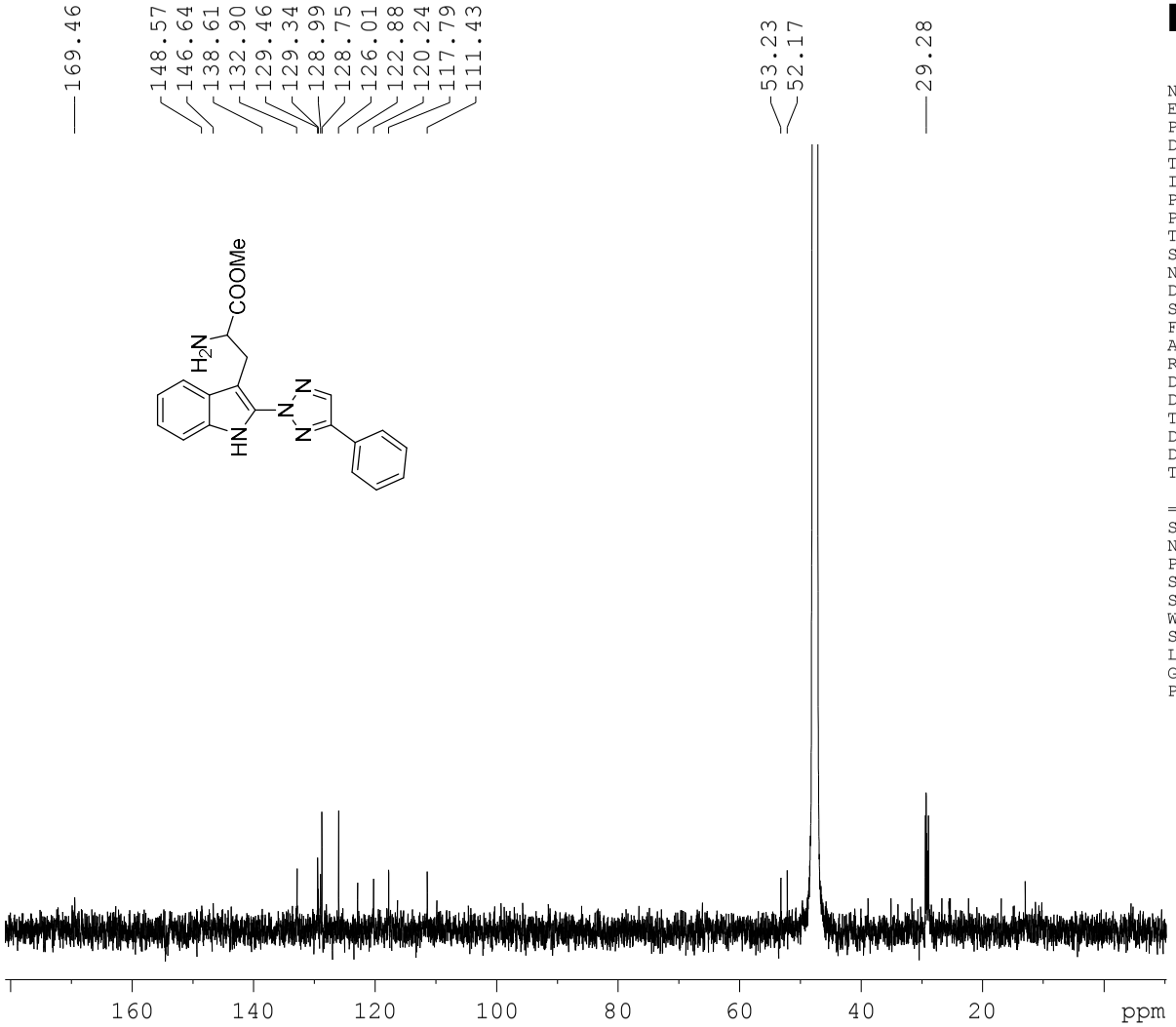


BRUKER

NAME	ph
EXPNO	1
PROCNO	1
Date_	20161201
Time	16.22
INSTRUM	spect
PROBHD	5 mm PADUL 13C
PULPROG	zg30
TD	65536
SOLVENT	MeOD
NS	8
DS	0
SWH	6009.615 Hz
FIDRES	0.091699 Hz
AQ	5.4526453 sec
RG	575
DW	83.200 usec
DE	8.00 usec
TE	294.6 K
D1	1.00000000 sec
TD0	1

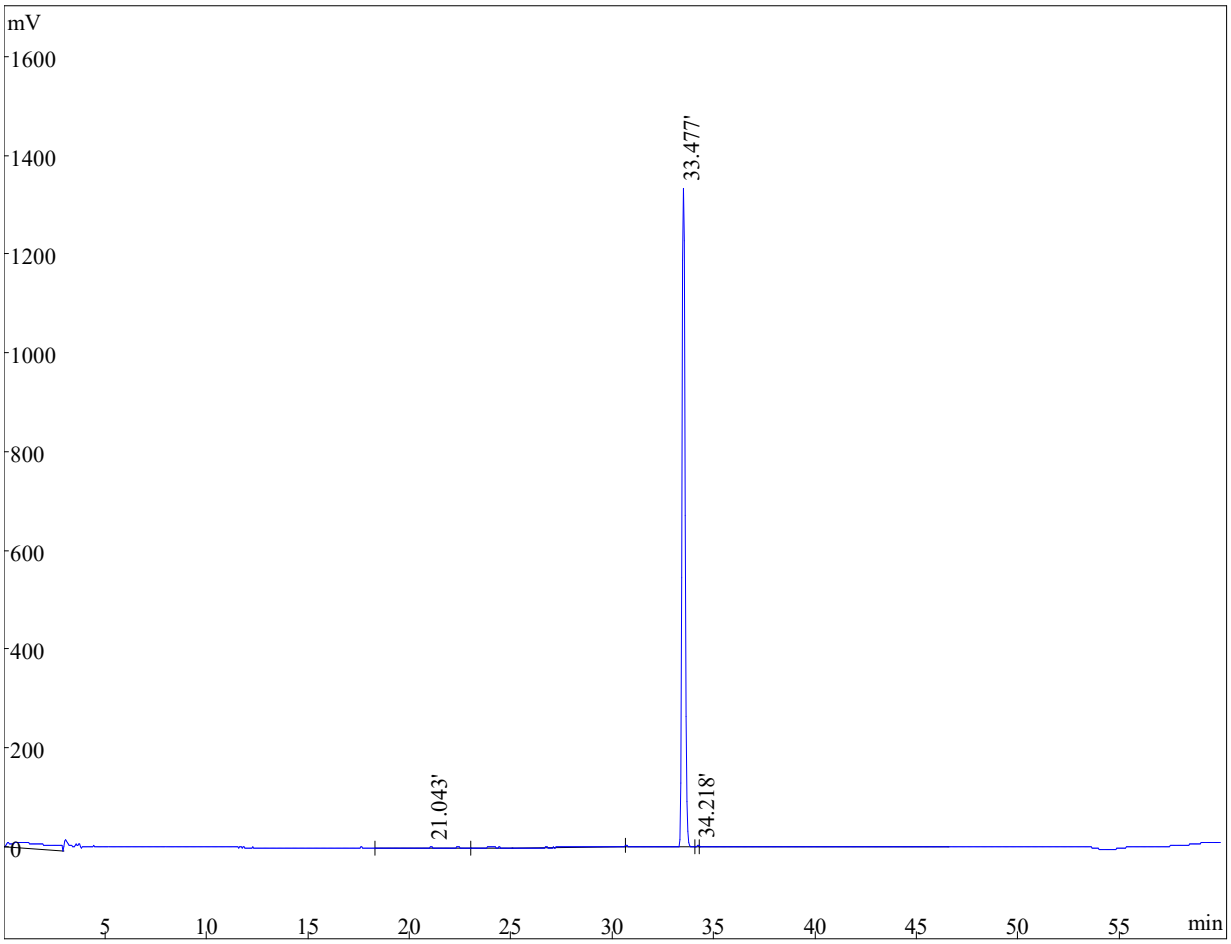
======== CHANNEL f1 ========

NUC1	1H
P1	13.10 usec
PL1	1.80 dB
PL1W	8.92857742 W
SFO1	400.1326008 MHz
SI	32768
SF	400.1300000 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00

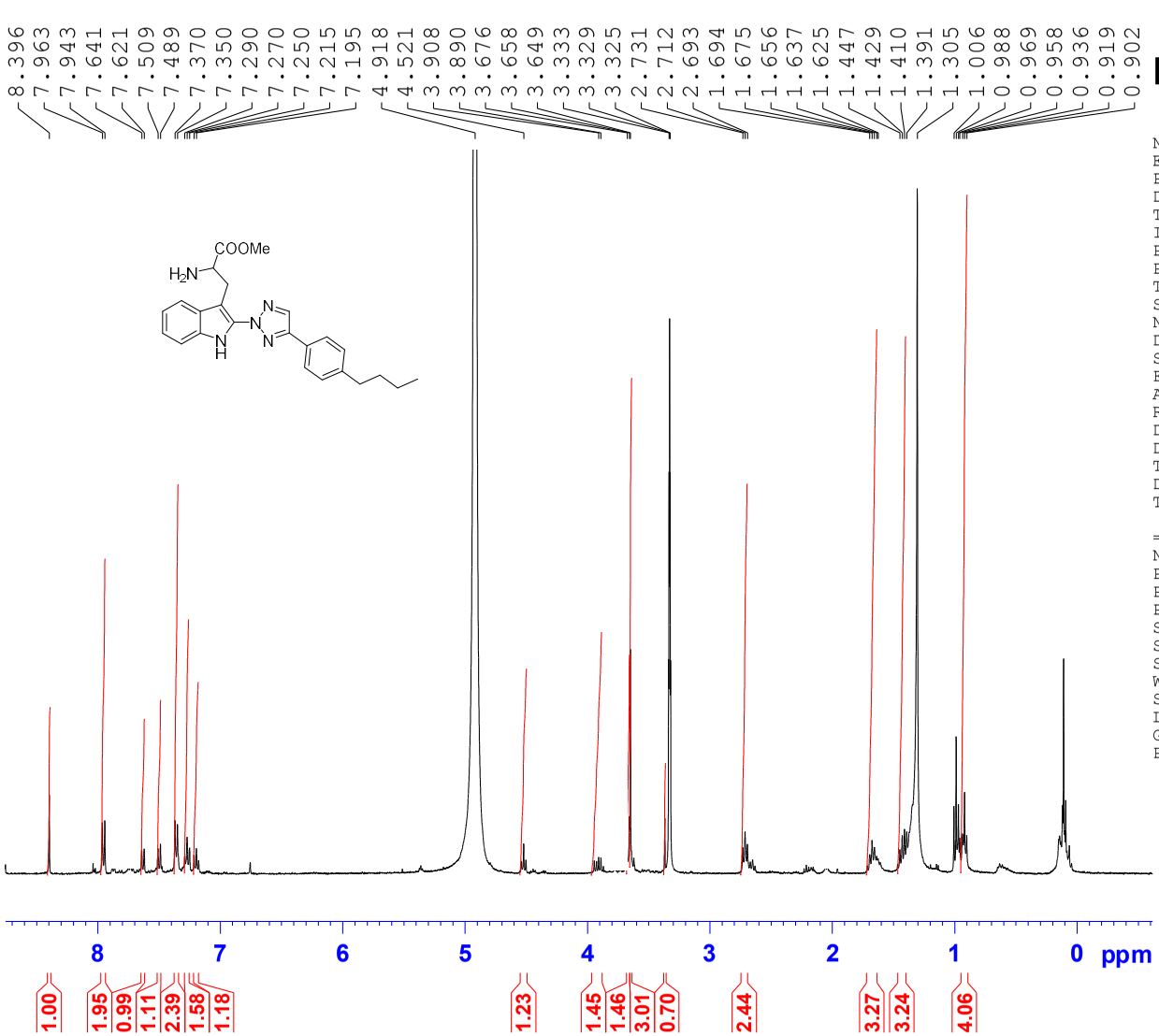


BRUKER

NAME	ph
EXPNO	2
PROCNO	1
Date_	20161212
Time	10.07
INSTRUM	spect
PROBHD	5 mm PABBO BB/
PULPROG	zgpg30
TD	65536
SOLVENT	MeOD
NS	10240
DS	4
SWH	37878.789 Hz
FIDRES	0.577984 Hz
AQ	0.8651252 sec
RG	190.02
DW	13.200 usec
DE	6.50 usec
TE	298.9 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
SFO1	150.9294669 MHz
NUC1	13C
P1	11.90 usec
SI	32768
SF	150.9128665 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40



No	Retention Time	Content	Peak Area	Peak Separation
1	30.642	0.1823	20337	19.43
2	33.477	99.29	11075029	3.40
3	34.218	0.5316	59296	0.00
Total		100	11154662	

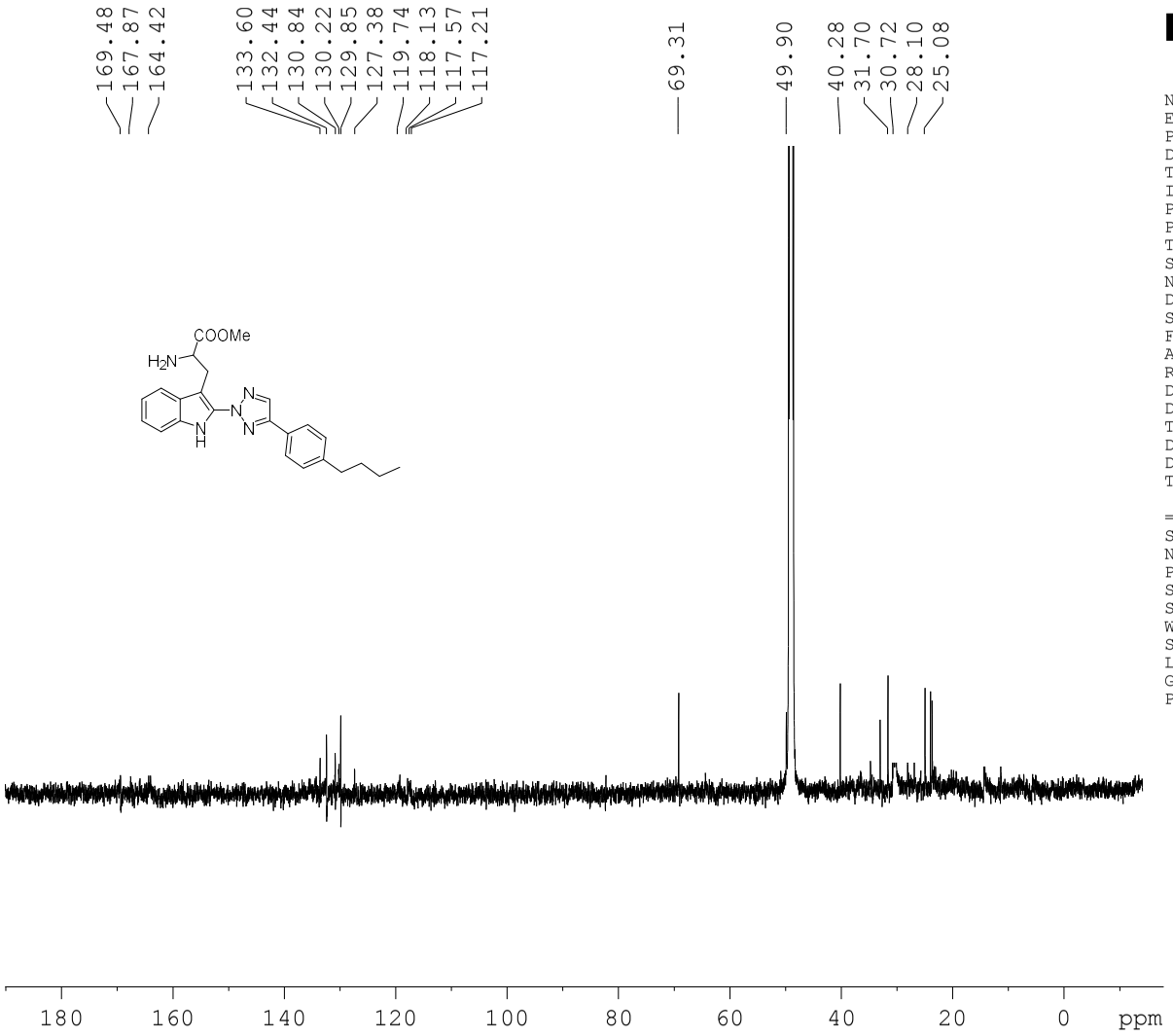


BRUKER

NAME	bu
EXPNO	1
PROCNO	1
Date_	20161010
Time	16.05
INSTRUM	spect
PROBHD	5 mm PADUL 13C
PULPROG	zg30
TD	65536
SOLVENT	MeOD
NS	8
DS	0
SWH	6009.615 Hz
FIDRES	0.091699 Hz
AQ	5.4526453 sec
RG	256
DW	83.200 usec
DE	8.00 usec
TE	293.5 K
D1	1.00000000 sec
TD0	1

======== CHANNEL f1 ========

NUC1	1H
P1	13.10 usec
PL1	1.80 dB
PL1W	8.92857742 W
SFO1	400.1326008 MHz
SI	32768
SF	400.1300000 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00

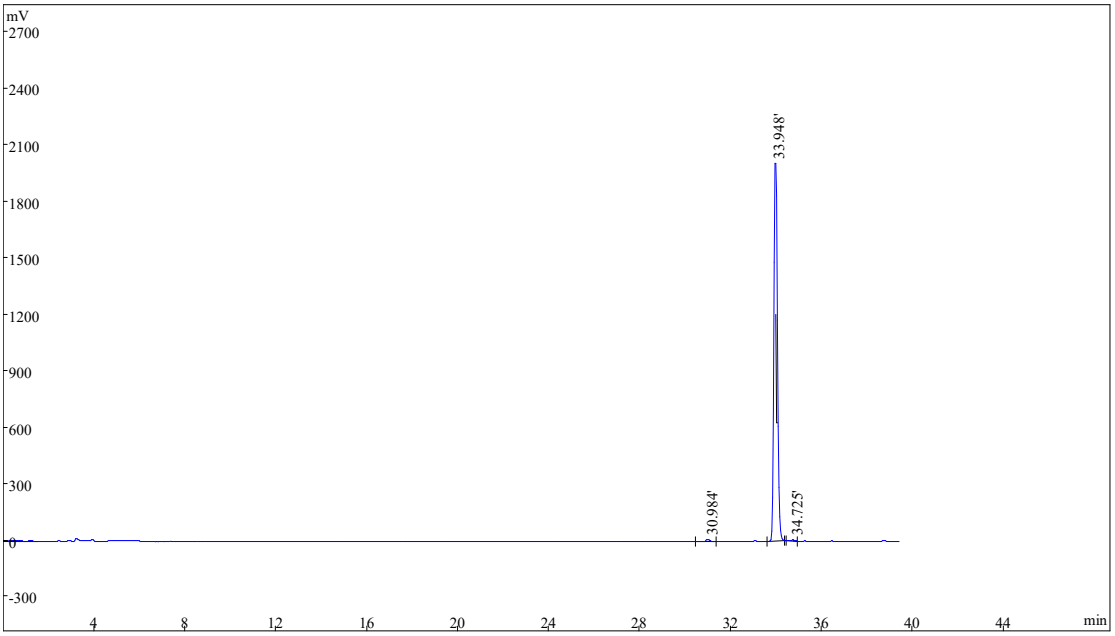


BRUKER

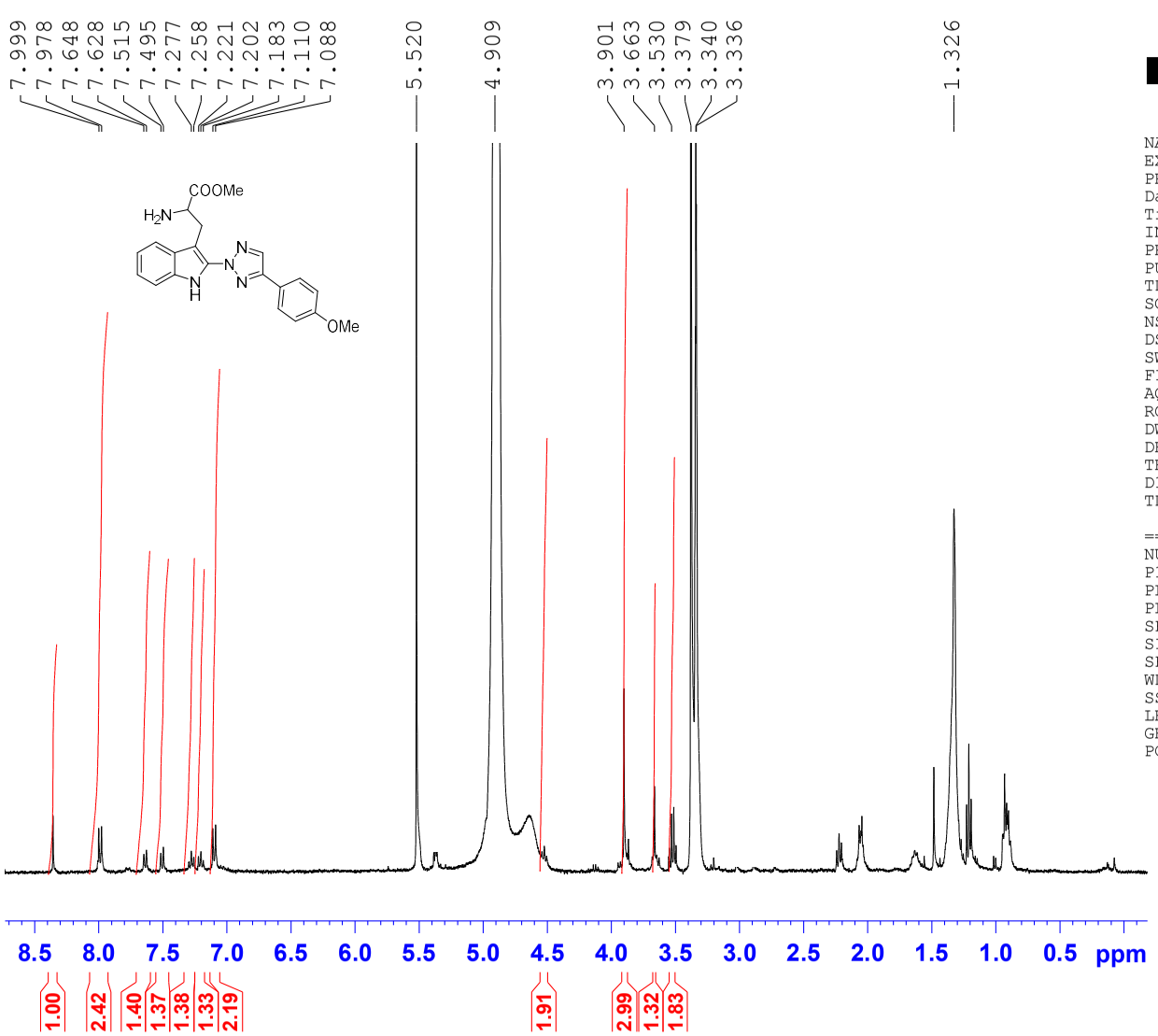
NAME	gcx-20160914
EXPNO	2
PROCNO	1
Date_	20160914
Time	10.54
INSTRUM	spect
PROBHD	5 mm PABBO BB/
PULPROG	zgpg30
TD	65536
SOLVENT	MeOD
NS	2048
DS	4
SWH	37878.789 Hz
FIDRES	0.577984 Hz
AQ	0.8651252 sec
RG	190.02
DW	13.200 usec
DE	6.50 usec
TE	298.5 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	2

======== CHANNEL f1 ========

SFO1	150.9294669 MHz
NUC1	13C
P1	11.90 usec
SI	32768
SF	150.9126587 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40

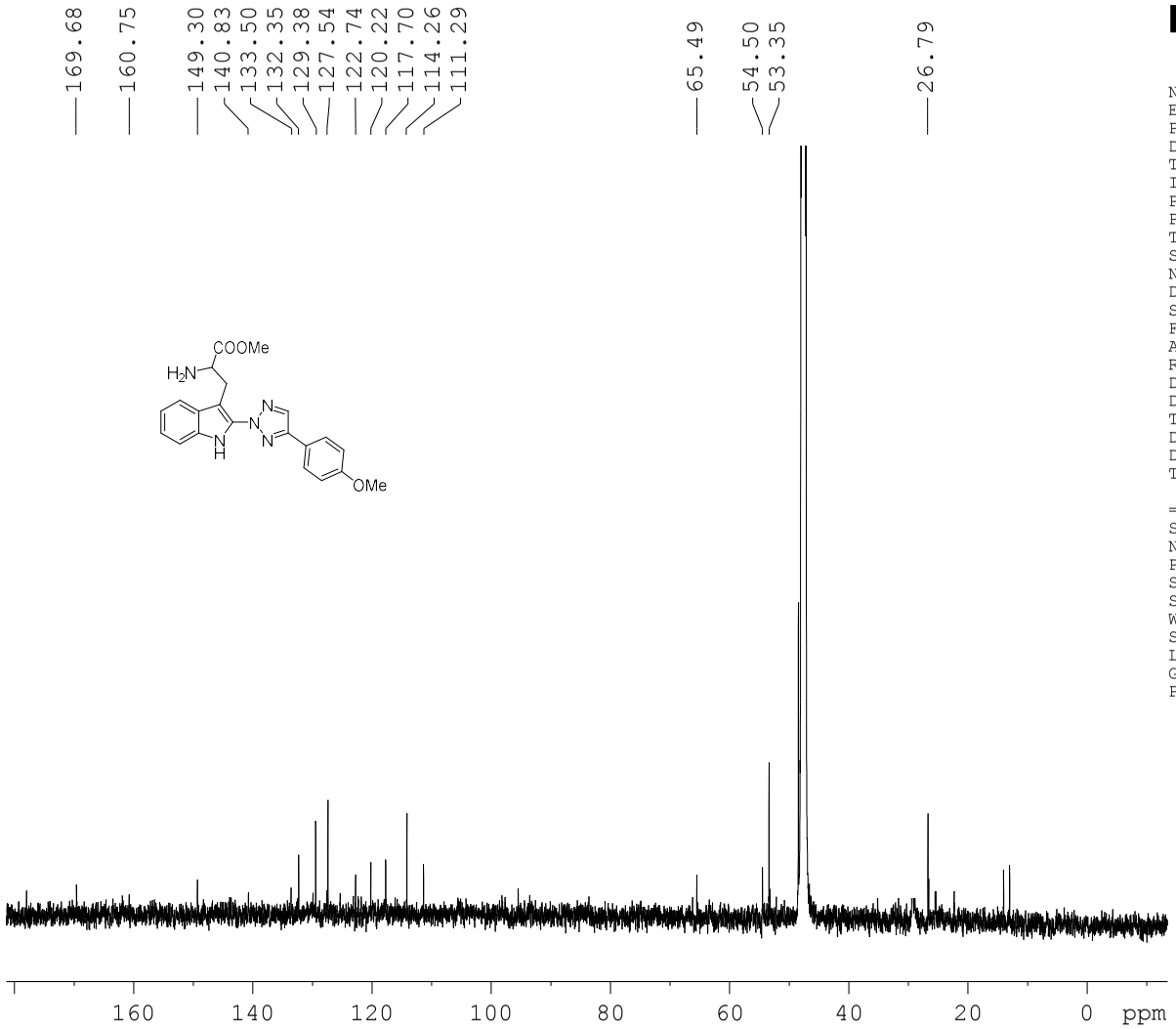


No	Retention Time	Content	Peak Area	Peak Separation
1	30.984	0.6038	110649	12.16
2	33.948	99.18	18176365	3.65
3	34.725	0.213	39041	0.00
Total		100	18326055	



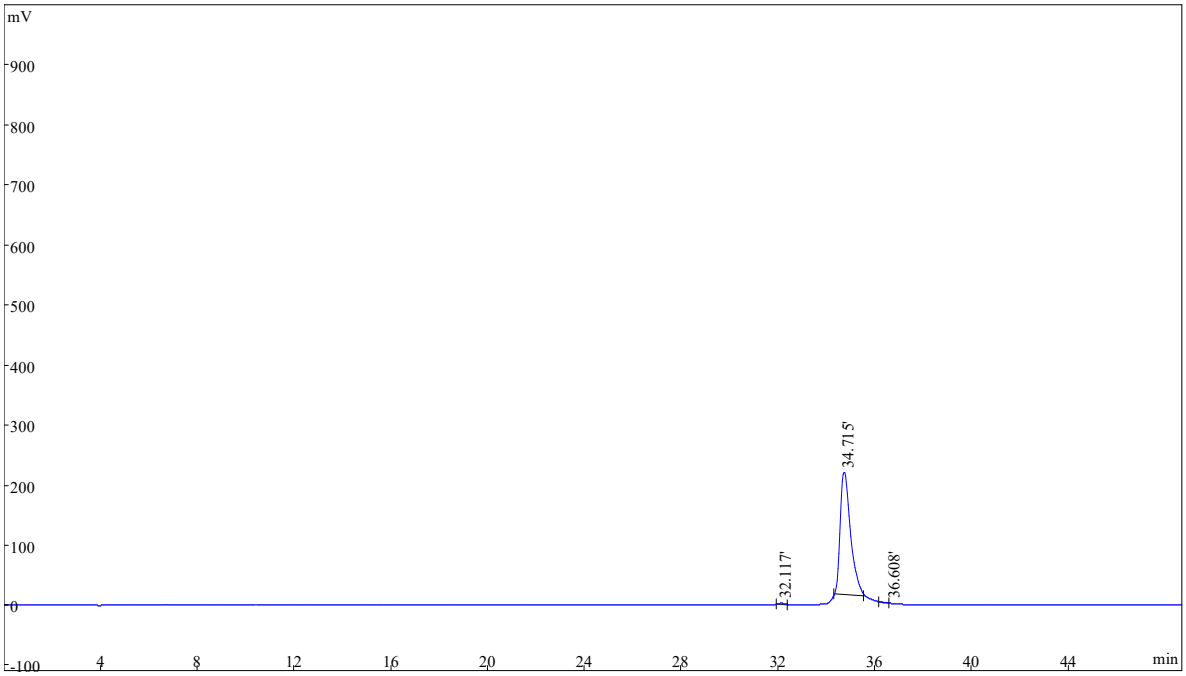
BRUKER

NAME	ome
EXPNO	1
PROCNO	1
Date_	20160913
Time	15.58
INSTRUM	spect
PROBHD	5 mm PADUL 13C
PULPROG	zg30
TD	65536
SOLVENT	CDCl3
NS	8
DS	0
SWH	6009.615 Hz
FIDRES	0.091699 Hz
AQ	5.4526453 sec
RG	287
DW	83.200 usec
DE	8.00 usec
TE	296.4 K
D1	1.00000000 sec
TD0	1
======== CHANNEL f1 ========	
NUC1	1H
P1	13.10 usec
PL1	1.80 dB
PL1W	8.92857742 W
SFO1	400.1326008 MHz
SI	32768
SF	400.1315723 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00

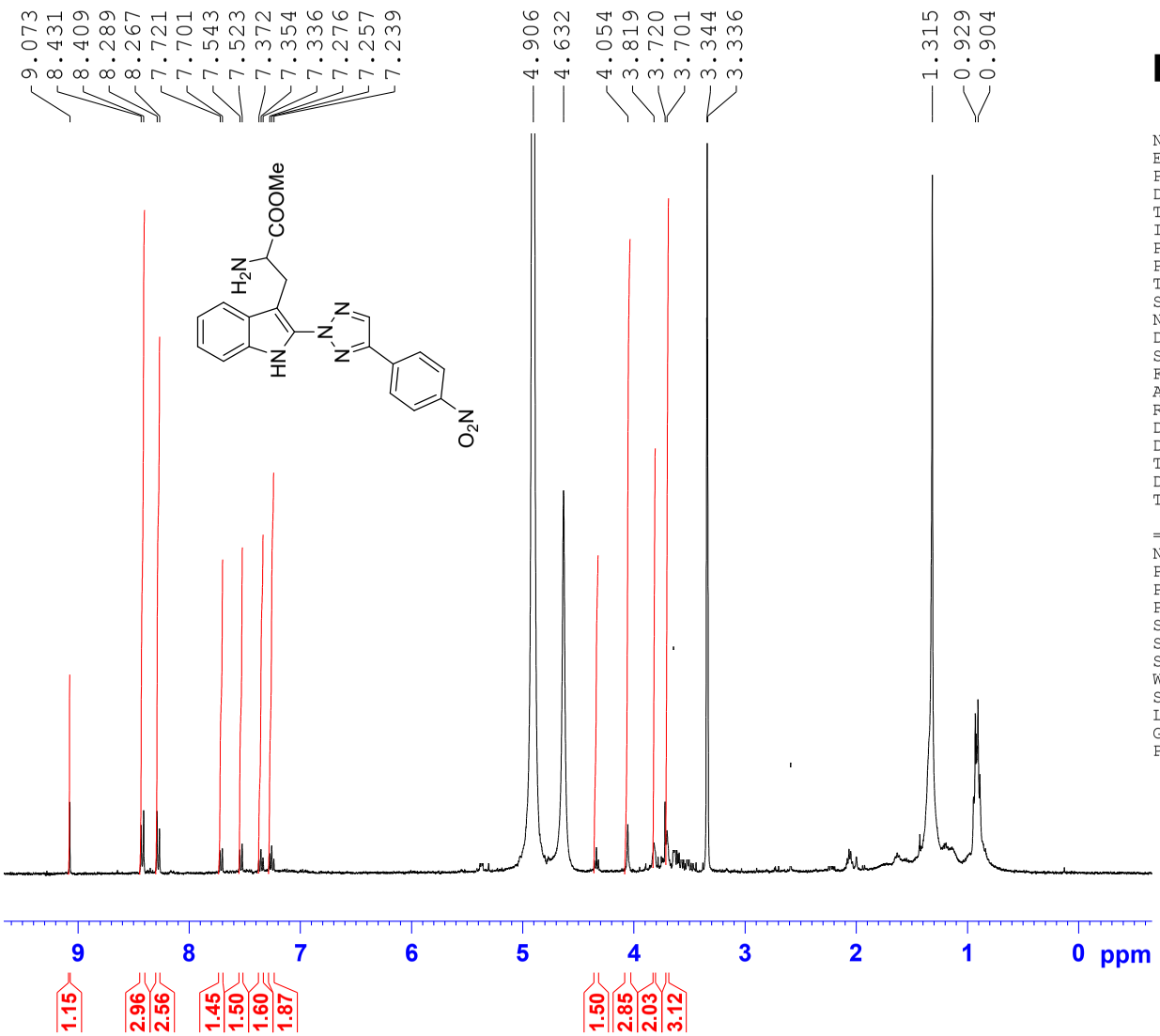


BRUKER

NAME	ome	
EXPNO	2	
PROCNO	1	
Date_	20160919	
Time	9.26	
INSTRUM	spect	
PROBHD	5 mm PABBO BB/	
PULPROG	zgpg30	
TD	65536	
SOLVENT	MeOD	
NS	8000	
DS	4	
SWH	37878.789	Hz
FIDRES	0.577984	Hz
AQ	0.8651252	sec
RG	190.02	
DW	13.200	usec
DE	6.50	usec
TE	296.4	K
D1	2.00000000	sec
D11	0.03000000	sec
TD0	10	
======== CHANNEL f1 ========		
SFO1	150.9294669	MHz
NUC1	13C	
P1	11.90	usec
SI	32768	
SF	150.9128665	MHz
WDW	EM	
SSB	0	
LB	3.00	Hz
GB	0	
PC	1.40	



No	Retention Time	Content	Peak Area
1	32.117	0.4096	23120
2	34.715	99.59	5622034
3	36.608	0	-3508
Total		100	5641646

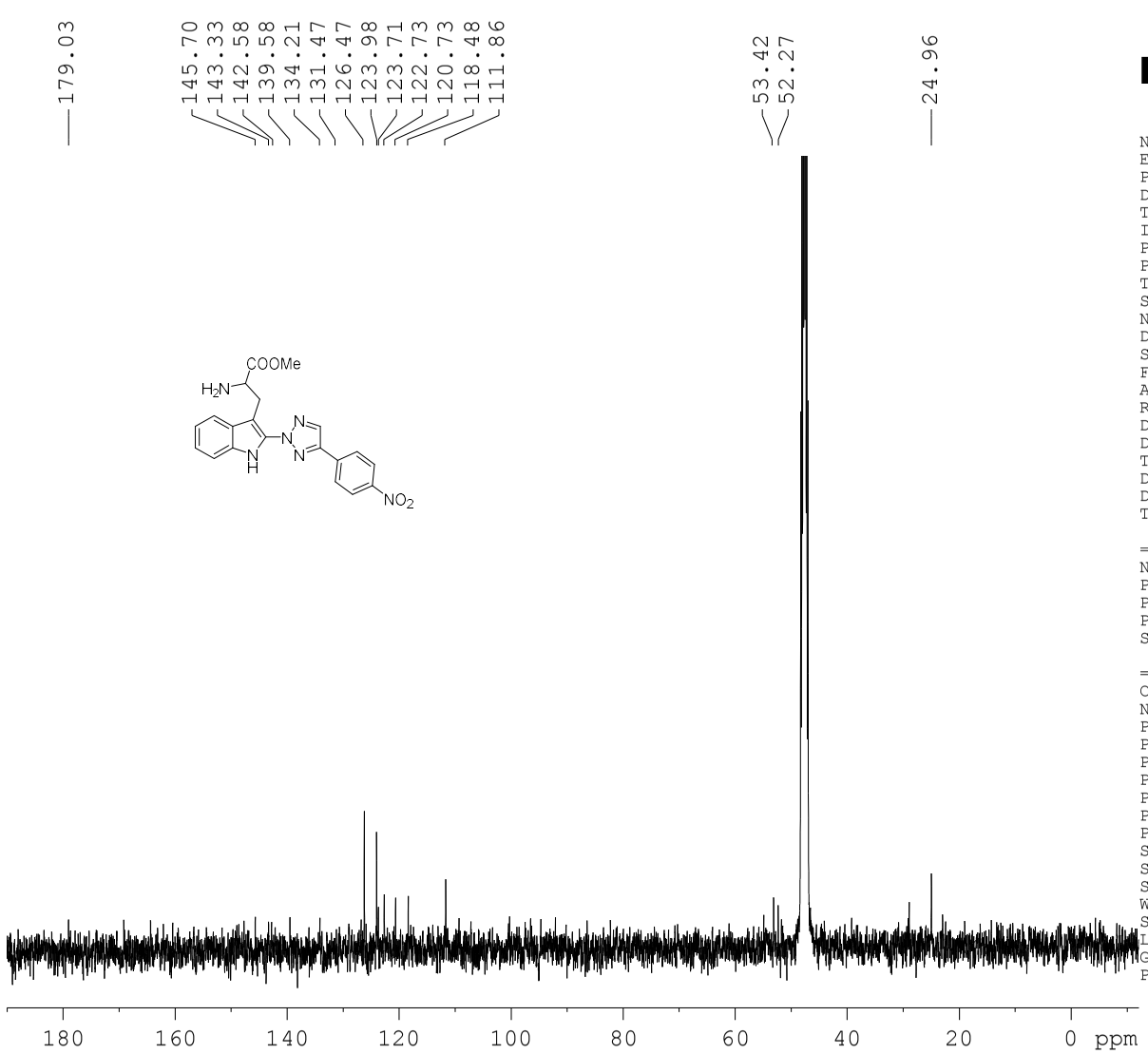


BRUKER

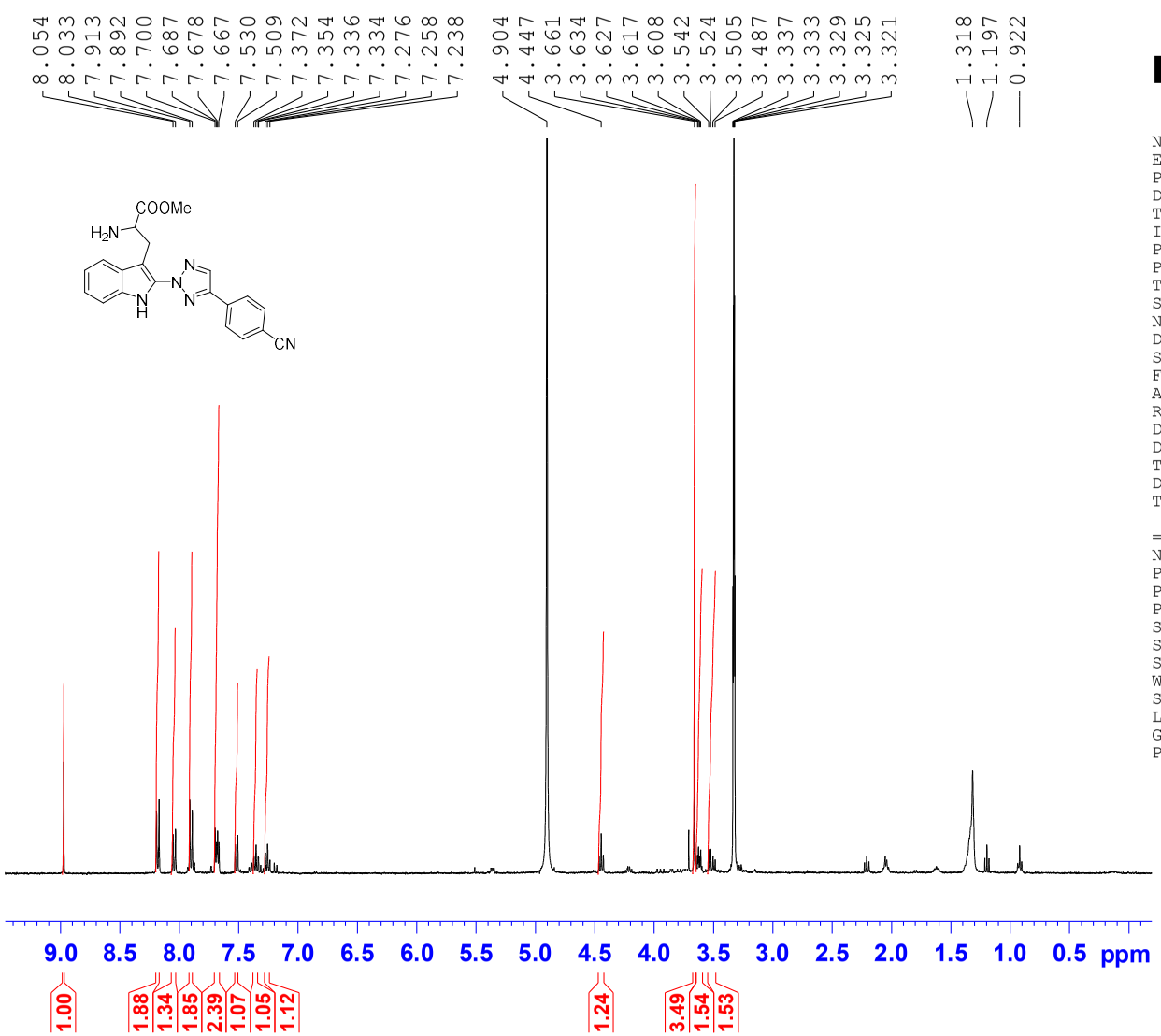
NAME	no2
EXPNO	1
PROCNO	1
Date_	20160929
Time	15.40
INSTRUM	spect
PROBHD	5 mm PADUL 13C
PULPROG	zg30
TD	65536
SOLVENT	MeOD
NS	8
DS	0
SWH	6009.615 Hz
FIDRES	0.091699 Hz
AQ	5.4526453 sec
RG	256
DW	83.200 usec
DE	8.00 usec
TE	294.7 K
D1	1.00000000 sec
TD0	1

======== CHANNEL f1 ========

NUC1	1H
P1	13.10 usec
PL1	1.80 dB
PL1W	8.92857742 W
SFO1	400.1326008 MHz
SI	32768
SF	400.1299956 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00



NAME	no2	
EXPNO	2	
PROCNO	1	
Date_	20160603	
Time	16.01	
INSTRUM	spect	
PROBHD	5 mm PADUL 13C	
PULPROG	zgpg30	
TD	65536	
SOLVENT	MeOD	
NS	216	
DS	4	
SWH	25252.525	Hz
FIDRES	0.385323	Hz
AQ	1.2976629	sec
RG	181	
DW	19.800	usec
DE	8.00	usec
TE	298.6	K
D1	2.00000000	sec
D11	0.03000000	sec
TD0	1	
======== CHANNEL f1 ========		
NUC1	13C	
P1	13.50	usec
PL1	3.00	dB
PL1W	43.93649673	W
SFO1	100.6238364	MHz
======== CHANNEL f2 ========		
CPDPRG2	waltz16	
NUC2	1H	
PCPD2	80.00	usec
PL2	1.80	dB
PL12	17.19	dB
PL13	18.46	dB
PL2W	8.92857742	W
PL12W	0.25809658	W
PL13W	0.19265592	W
SFO2	400.1316005	MHz
SI	32768	
SF	100.6127690	MHz
WDW	EM	
SSB	0	
LB	3.00	Hz
GB	0	
PC	1.40	

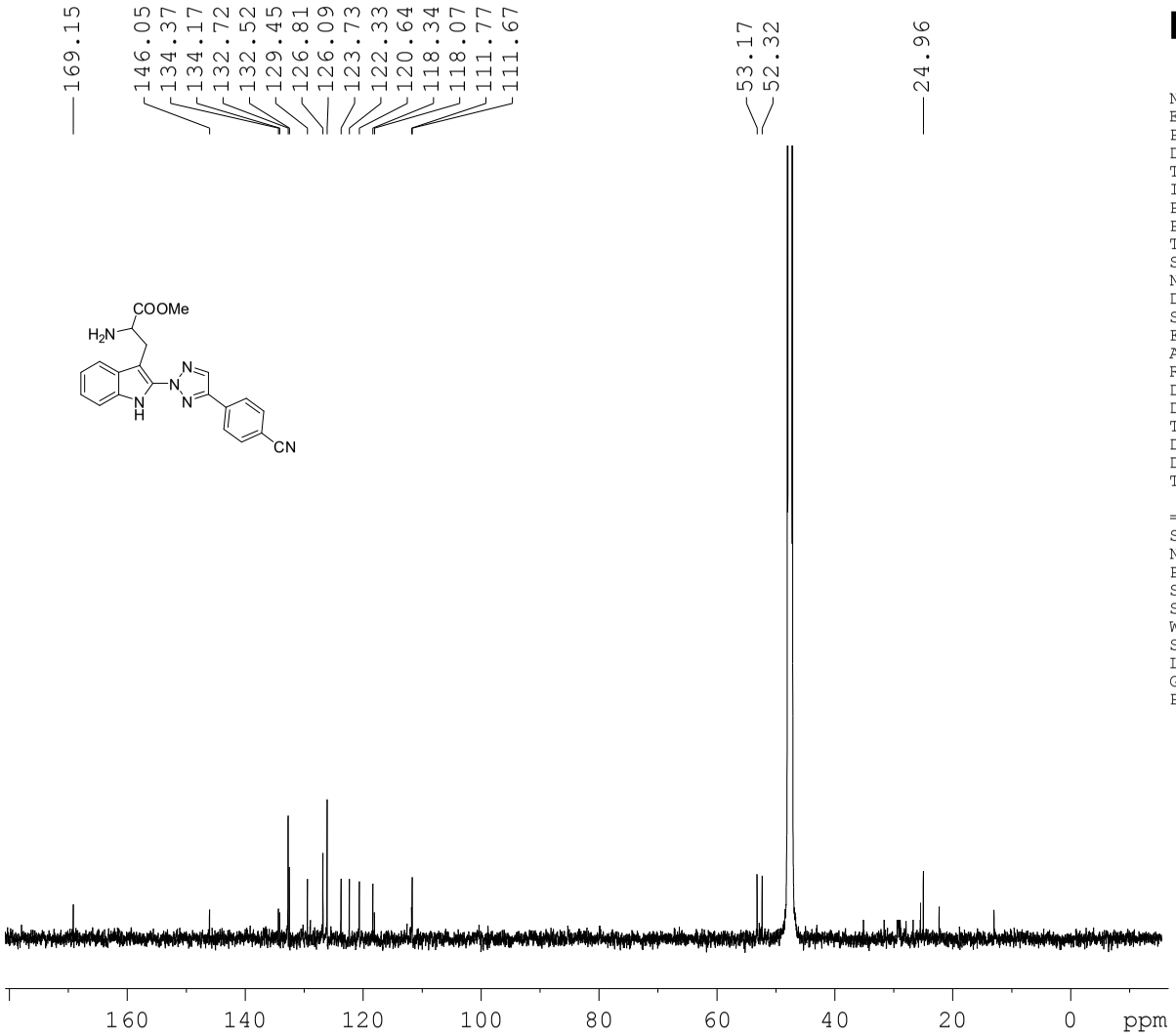


BRUKER

NAME	cn
EXPNO	1
PROCNO	1
Date_	20161202
Time	16.12
INSTRUM	spect
PROBHD	5 mm PADUL 13C
PULPROG	zg30
TD	65536
SOLVENT	MeOD
NS	8
DS	0
SWH	6009.615 Hz
FIDRES	0.091699 Hz
AQ	5.4526453 sec
RG	362
DW	83.200 usec
DE	8.00 usec
TE	295.0 K
D1	1.00000000 sec
TD0	1

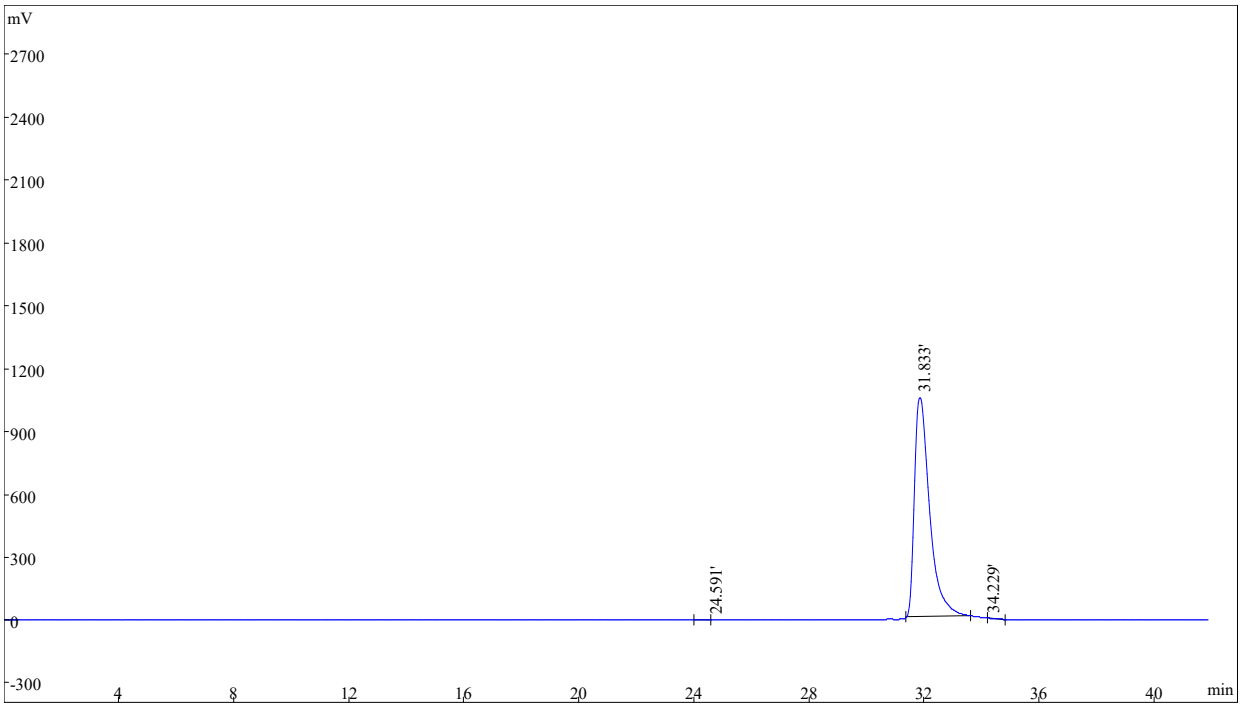
======== CHANNEL f1 ========

NUC1	1H
P1	13.10 usec
PL1	1.80 dB
PL1W	8.92857742 W
SFO1	400.1326008 MHz
SI	32768
SF	400.1300000 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00

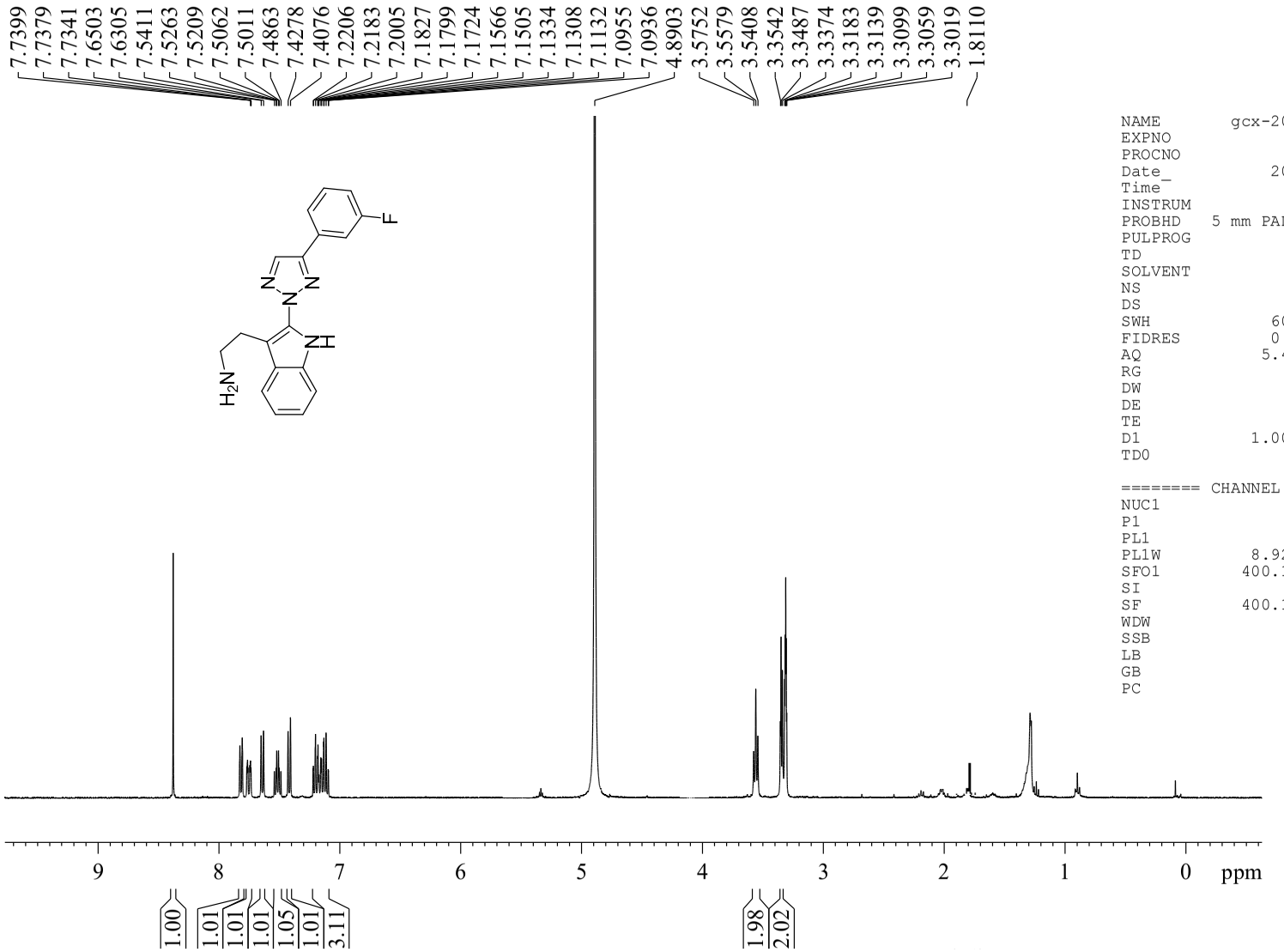


BRUKER

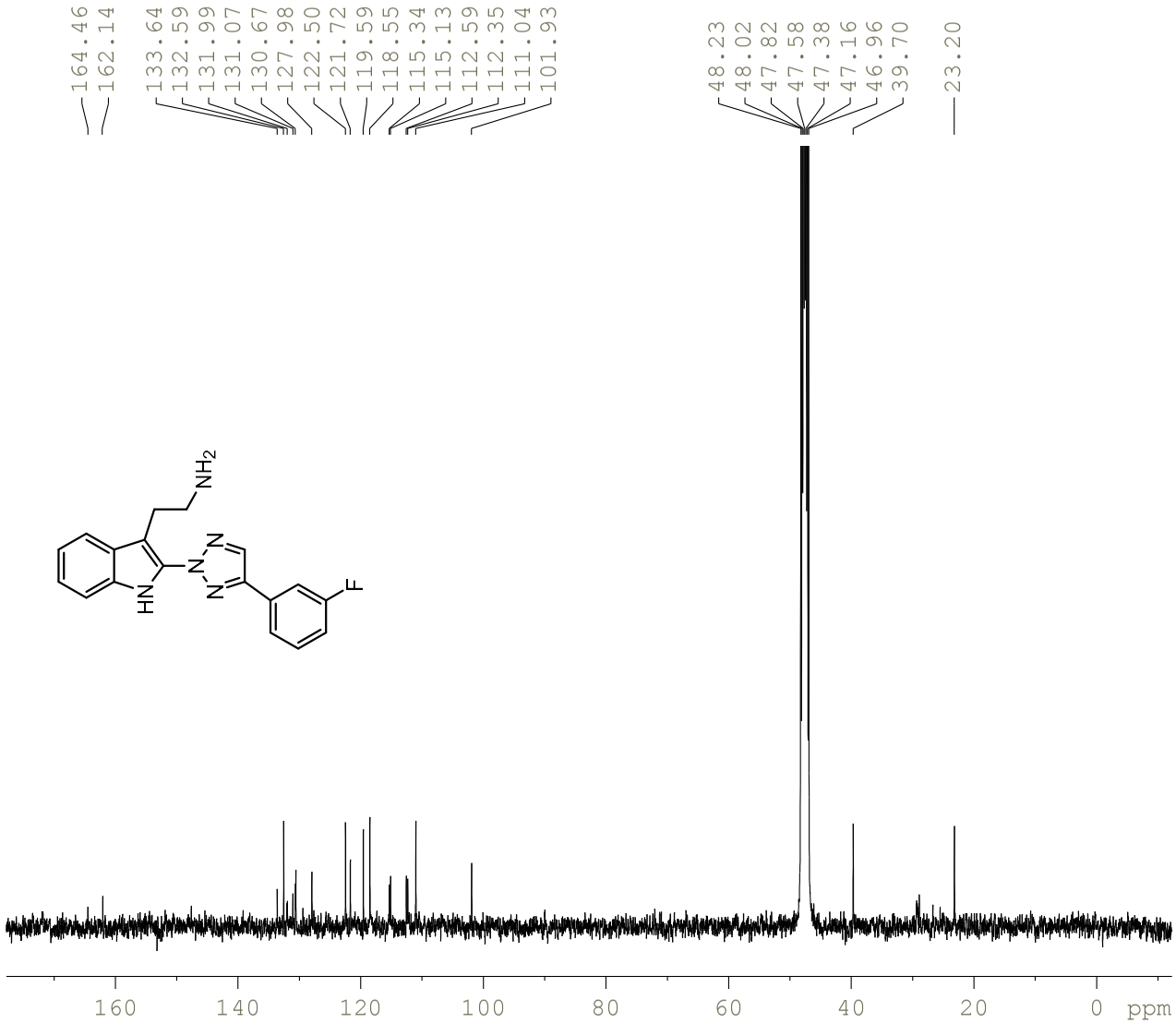
NAME	cn
EXPNO	2
PROCNO	1
Date_	20161212
Time	19.04
INSTRUM	spect
PROBHD	5 mm PABBO BB/
PULPROG	zgpg30
TD	65536
SOLVENT	MeOD
NS	10240
DS	4
SWH	37878.789 Hz
FIDRES	0.577984 Hz
AQ	0.8651252 sec
RG	190.02
DW	13.200 usec
DE	6.50 usec
TE	300.4 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
SFO1	150.9294669 MHz
NUC1	13C
P1	11.90 usec
SI	32768
SF	150.9128665 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40



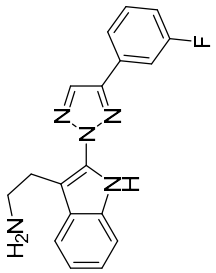
No	Retention Time	Content	Peak Area
1	24.591	0	-364
2	31.833	100	36568595
3	34.229	0	-14991
Total		100	36553240



NAME	gcx-20170308
EXPNO	1
PROCNO	1
Date_	20170306
Time	16.13
INSTRUM	spect
PROBHD	5 mm PADUL 13C
PULPROG	zg30
TD	65536
SOLVENT	MeOD
NS	8
DS	0
SWH	6009.615 Hz
FIDRES	0.091699 Hz
AQ	5.4526453 sec
RG	322
DW	83.200 usec
DE	8.00 usec
TE	294.6 K
D1	1.00000000 sec
TD0	1
======== CHANNEL f1 ========	
NUC1	1H
P1	13.10 usec
PL1	1.80 dB
PL1W	8.92857742 W
SFO1	400.1326008 MHz
SI	32768
SF	400.1300074 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00

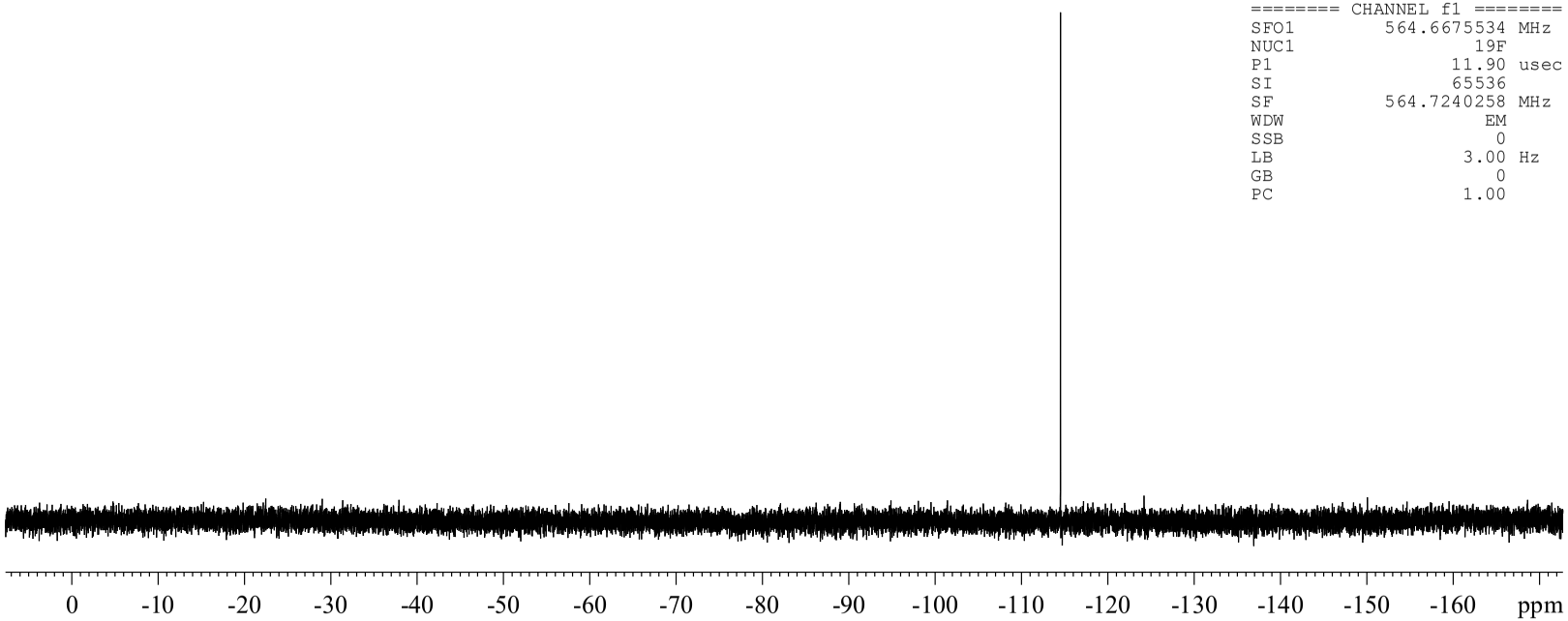


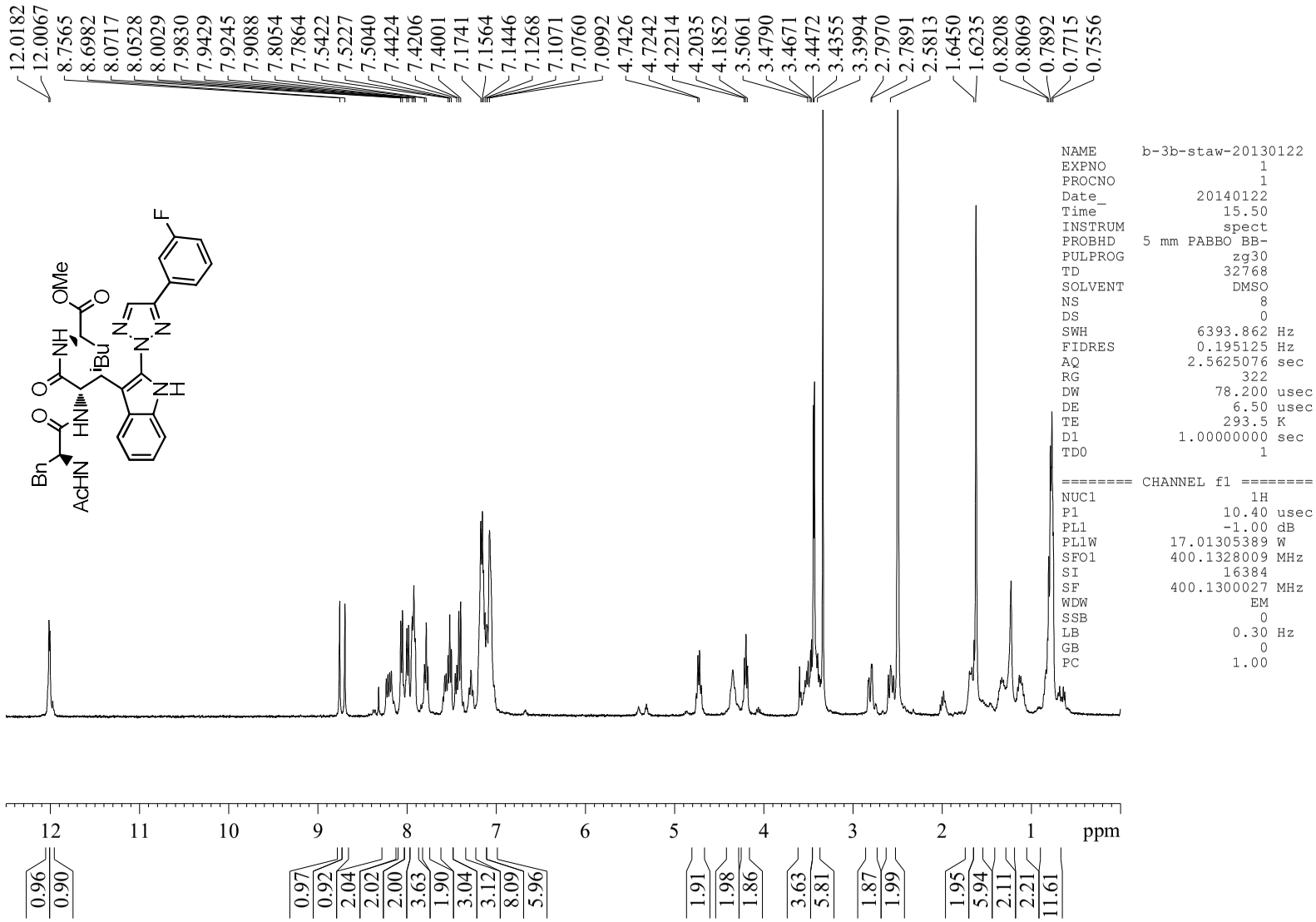
NAME	gcx-20170310	
EXPNO	2	
PROCNO	1	
Date_	20170310	
Time	11.00	
INSTRUM	spect	
PROBHD	5 mm PADUL 13C	
PULPROG	zgpg30	
TD	65536	
SOLVENT	MeOD	
NS	3128	
DS	4	
SWH	25252.525	Hz
FIDRES	0.385323	Hz
AQ	1.2976629	sec
RG	181	
DW	19.800	usec
DE	8.00	usec
TE	295.4	K
D1	2.00000000	sec
D11	0.03000000	sec
TD0	10	
======== CHANNEL f1 ========		
NUC1	13C	
P1	13.50	usec
PL1	3.00	dB
PL1W	43.93649673	W
SFO1	100.6238364	MHz
======== CHANNEL f2 ========		
CPDPRG2	waltz16	
NUC2	1H	
PCPD2	80.00	usec
PL2	1.80	dB
PL12	17.19	dB
PL13	18.46	dB
PL2W	8.92857742	W
PL12W	0.25809658	W
PL13W	0.19265592	W
SFO2	400.1316005	MHz
SI	32768	
SF	100.6127690	MHz
WDW	EM	
SSB	0	
LB	3.00	Hz
GB	0	
PC	1.40	

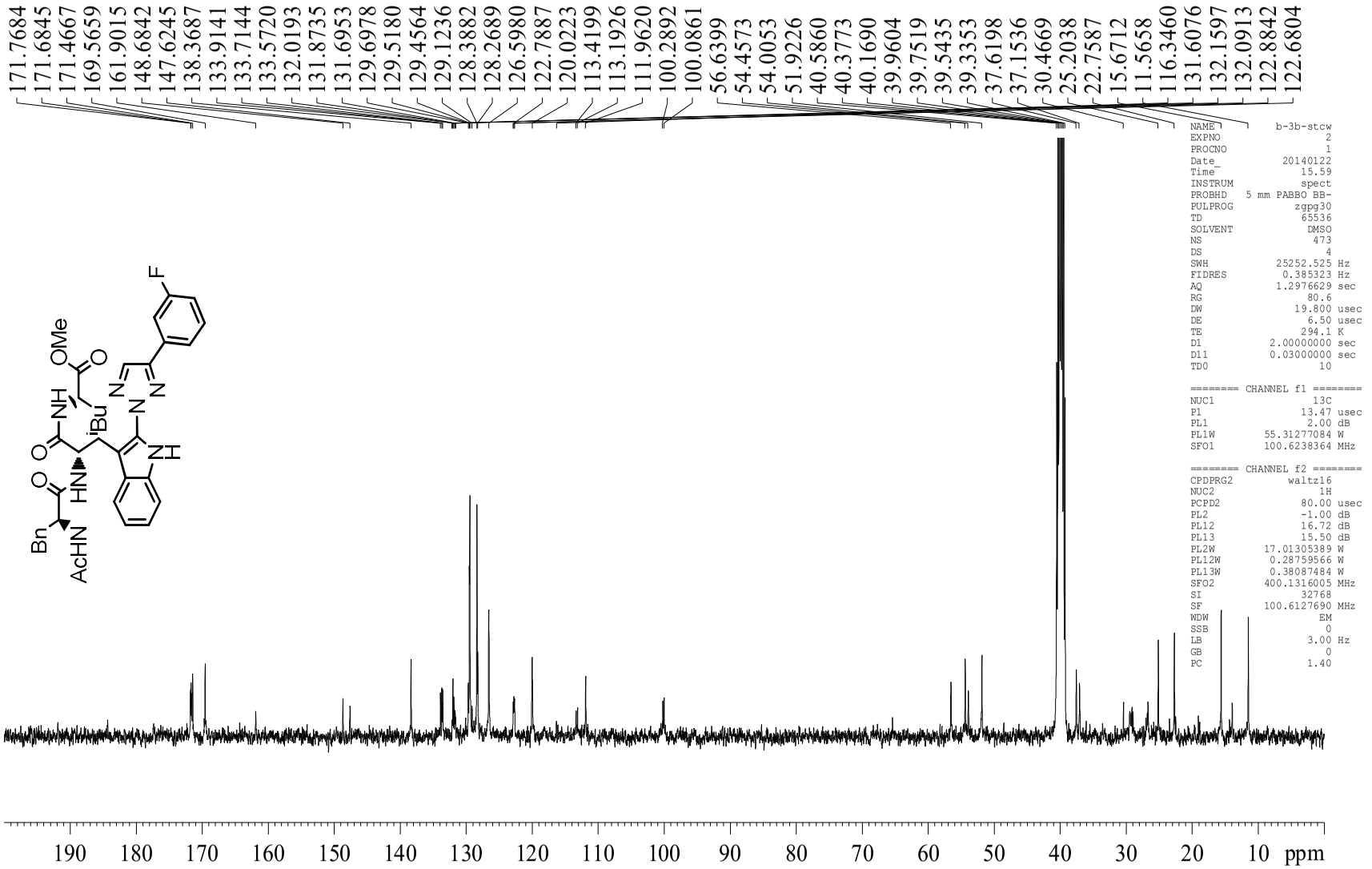


-114.5213

NAME	gcx-20170308	
EXPNO	3	
PROCNO	1	
Date_	20170306	
Time	10.42	
INSTRUM	spect	
PROBHD	5 mm PABBO BB/	
PULPROG	zgfhigqn.2	
TD	131072	
SOLVENT	MeOD	
NS	16	
DS	4	
SWH	133928.578	Hz
FIDRES	1.021794	Hz
AQ	0.4893855	sec
RG	15.49	
DW	3.733	usec
DE	6.50	usec
TE	301.5	K
D1	1.00000000	sec
D11	0.03000000	sec
D12	0.00002000	sec
TD0	1	
======== CHANNEL f1 ========		
SFO1	564.6675534	MHz
NUC1	19F	
P1	11.90	usec
SI	65536	
SF	564.7240258	MHz
WDW	EM	
SSB	0	
LB	3.00	Hz
GB	0	
PC	1.00	




12.0182
12.0067
8.7565
8.6982
8.0717
8.0528
8.0029
7.9830
7.9429
7.9245
7.9088
7.8054
7.7864
7.5422
7.5227
7.5040
7.4424
7.4206
7.4001
7.1741
7.1564
7.1446
7.1268
7.1071
7.0760
7.0992
4.7426
4.7242
4.2214
4.2035
4.1852
3.5061
3.4790
3.4671
3.4472
3.4355
3.3994
2.7970
2.7891
2.5813
1.6450
1.6235
0.8208
0.8069
0.7892
0.7715
0.7556
F
OMe
O
NH
O
iBu
N
N
N
O
HN
NH
O
Bn
AcHN
NAME b-3b-staw-20130122
EXPNO 1
PROCNO 1
Date_ 20140122
Time 15.50
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT DMSO
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 322
DW 78.200 usec
DE 6.50 usec
TE 293.5 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300027 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
12
11
10
9
8
7
6
5
4
3
2
1
ppm
0.96
0.90
0.97
0.92
2.04
2.02
2.00
3.63
1.90
3.04
3.12
8.09
5.96
1.91
1.98
1.86
3.63
5.81
1.87
1.99
1.95
5.94
2.11
2.21
11.61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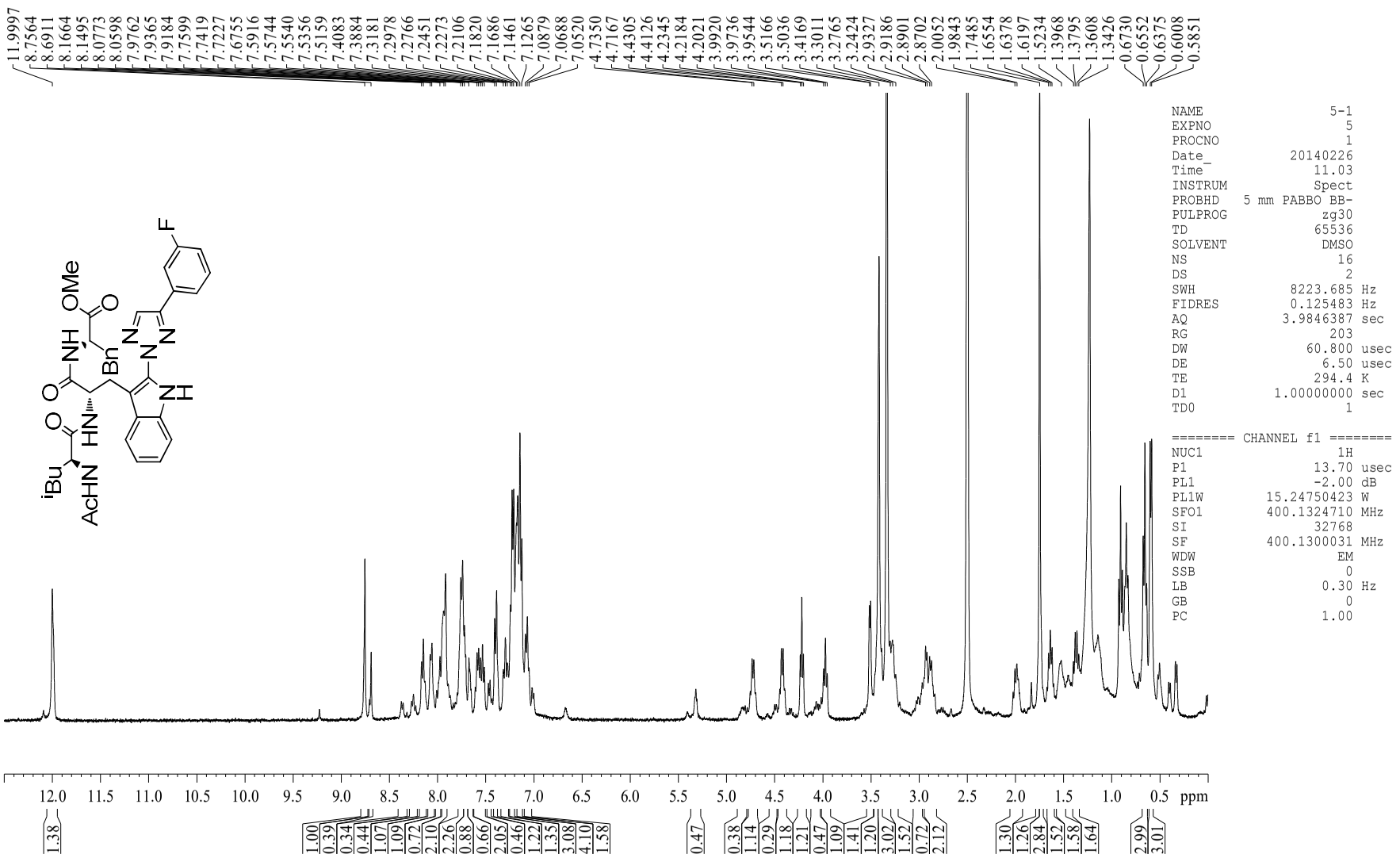
171.4667
169.5659
161.9015
148.6842
147.6245
138.3687
133.9141
133.7144
133.5720
132.0193
131.8735
131.6953
129.6978
129.5180
129.4564
129.1236
128.3882
128.2689
126.5980
122.7887
120.0223
113.4199
113.1926
111.9620
100.2892
100.0861
56.6399
54.4573
54.0053
51.9226
40.5860
40.3773
40.1690
39.9604
39.7519
39.5435
39.3353
37.6198
37.1536
30.4669
25.2038
22.7587
15.6712
11.5658
116.3460
131.6076
132.1597
132.0913
122.8842
122.6804
F
OMe
NH
O
iBu
N
N
N
H
HN
O
Bn
AcHN
NAME b-3b-stcw
EXPNO 2
PROCNO 1
Date_ 20140122
Time 15.59
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 473
DS 4
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976629 sec
RG 80.6
DW 19.800 usec
DE 6.50 usec
TE 294.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 10
======== CHANNEL f1 ========
NUC1 13C
P1 13.47 usec
PL1 2.00 dB
PL1W 55.31277084 W
SFO1 100.6238364 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -1.00 dB
PL12 16.72 dB
PL13 15.50 dB
PL2W 17.01305389 W
PL12W 0.28759566 W
PL13W 0.38087484 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 1.40
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
ppm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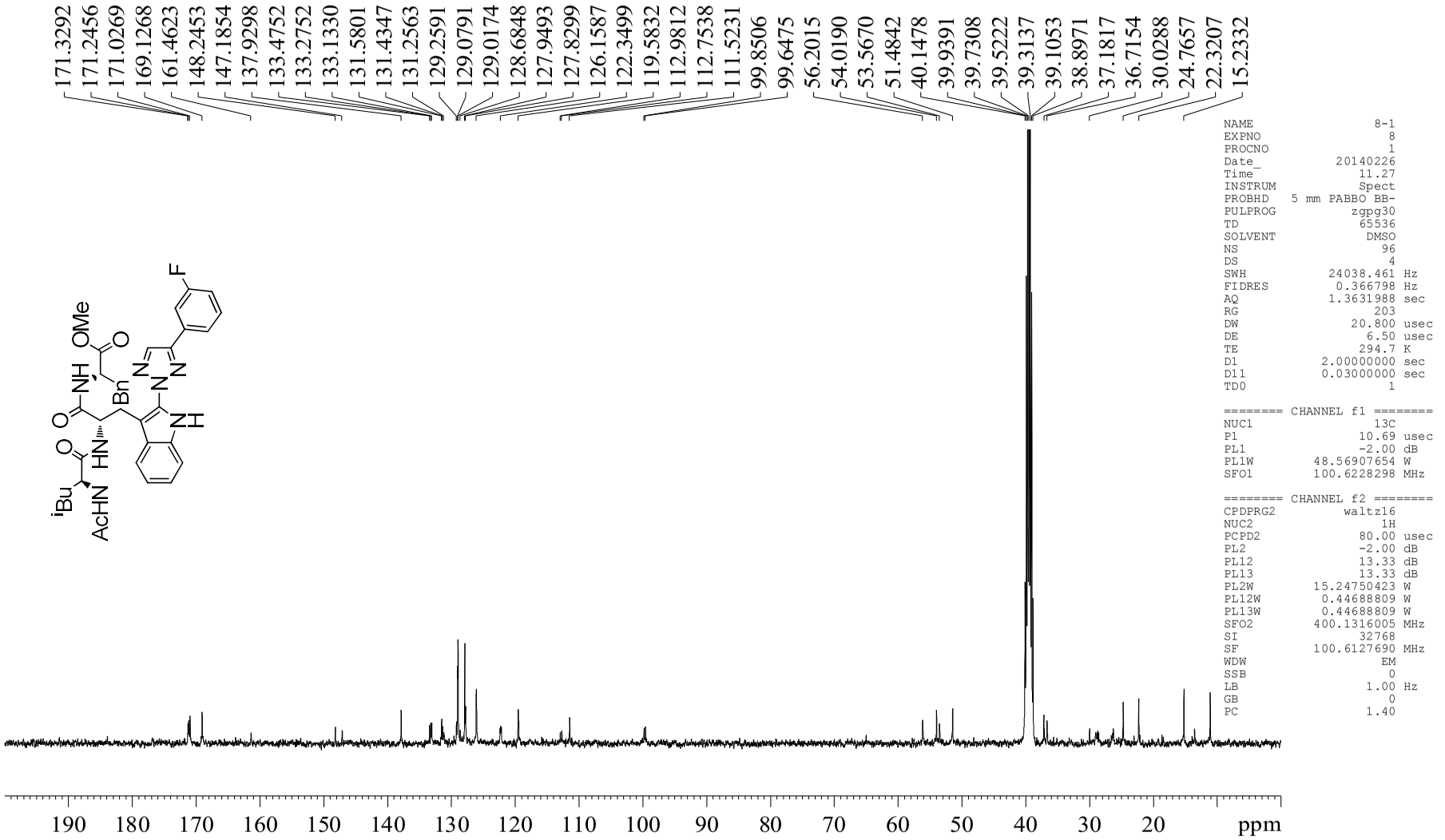
8.6911
8.1664
8.1495
8.0773
8.0598
7.9762
7.9365
7.9184
7.7599
7.7419
7.7227
7.6755
7.5916
7.5744
7.5540
7.5356
7.5159
7.4083
7.3884
7.3181
7.2978
7.2766
7.2451
7.2273
7.2106
7.1820
7.1686
7.1461
7.1265
7.0879
7.0688
7.0520
4.7350
4.7167
4.4305
4.4126
4.2345
4.2184
4.2021
3.9920
3.9736
3.9544
3.5166
3.5036
3.4169
3.3011
3.2765
3.2424
2.9327
2.9186
2.8901
2.8702
2.0052
1.9843
1.7485
1.6554
1.6378
1.6197
1.5234
1.3968
1.3795
1.3608
1.3426
0.6730
0.6552
0.6375
0.6008
0.5851
F
OMe
NH
O
Bn
N
N
N
H
O
HN
O
iBu
AcHN
NAME 5-1
EXPNO 5
PROCNO 1
Date_ 20140226
Time 11.03
INSTRUM Spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 16
DS 2
SWH 8223.685 Hz
FIDRES 0.125483 Hz
AQ 3.9846387 sec
RG 203
DW 60.800 usec
DE 6.50 usec
TE 294.4 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 13.70 usec
PL1 -2.00 dB
PL1W 15.24750423 W
SFO1 400.1324710 MHz
SI 32768
SF 400.1300031 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
12.0 11.5 11.0 10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 ppm
1.38
1.00 0.39 0.34 0.44 1.07 1.09 0.72 2.10 2.26 0.88 0.66 2.05 0.46 1.22 1.35 3.08 4.10 1.58
0.47
0.38 1.14 0.29 1.18 1.21 0.47 1.09 1.41 1.20 3.02 1.52 0.72 2.12
1.30 1.26 2.84 1.52 1.58 1.64
2.99 3.01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171.0269
169.1268
161.4623
148.2453
147.1854
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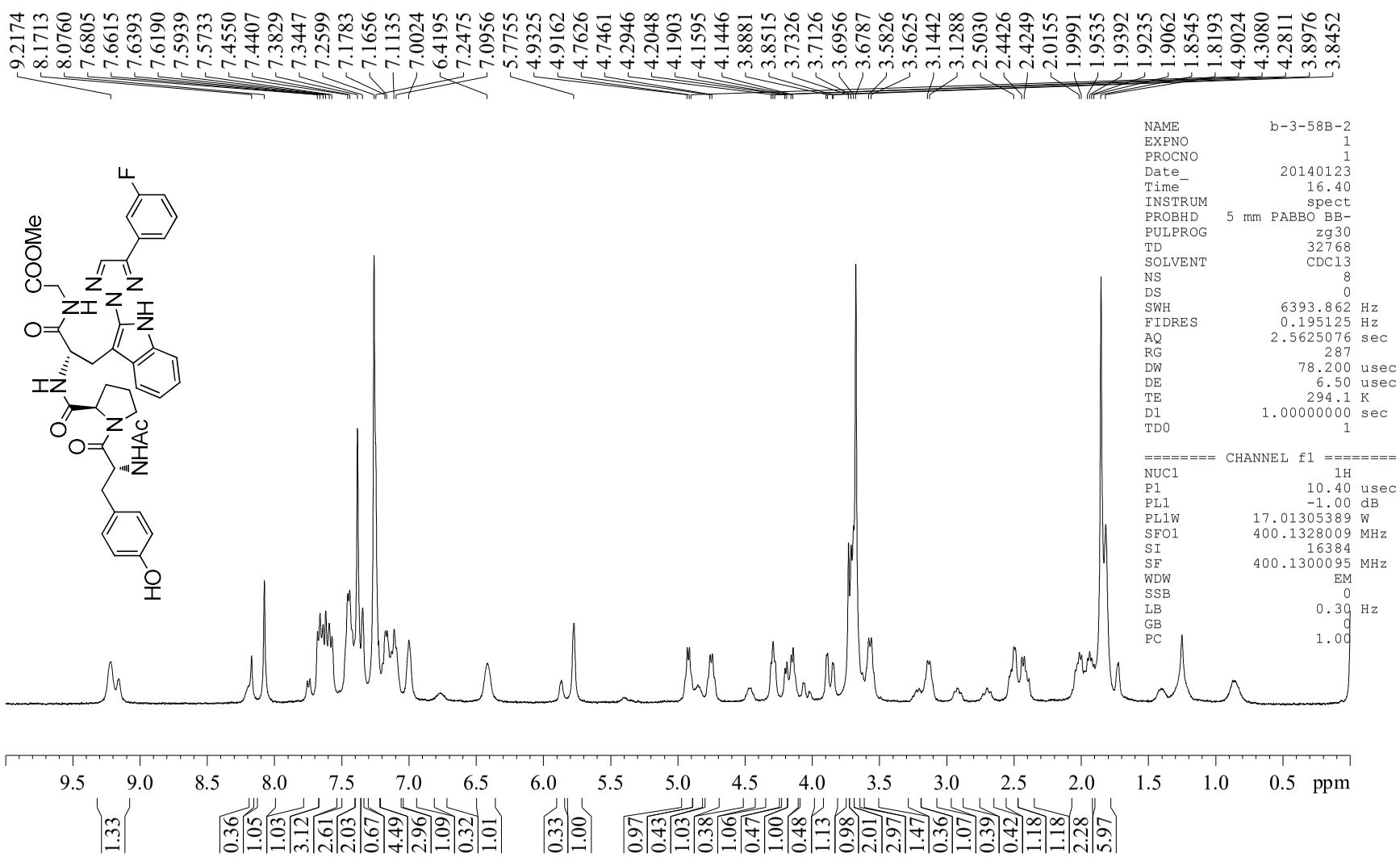
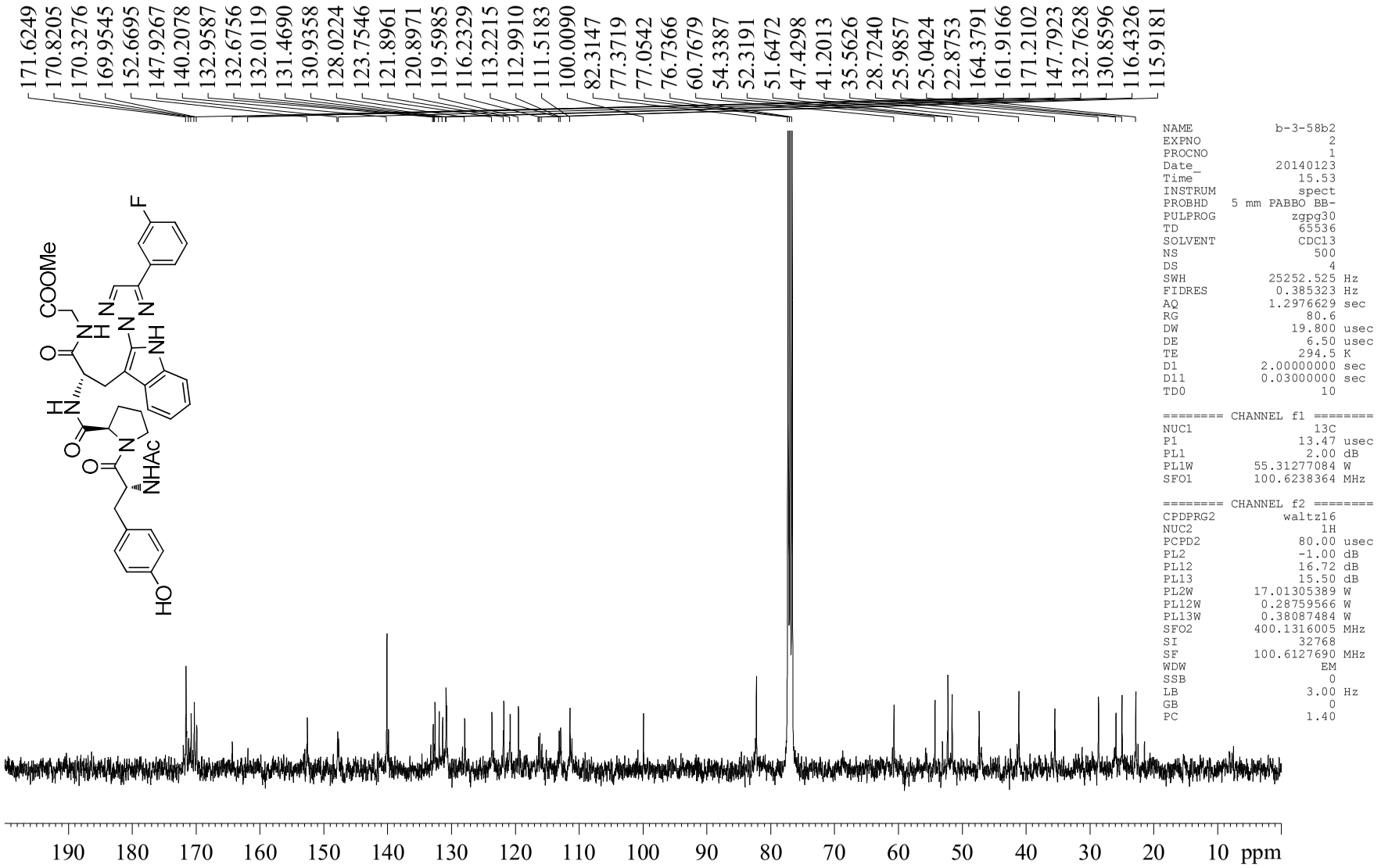
133.4752
133.2752
133.1330
131.5801
131.4347
131.2563
129.2591
129.0791
129.0174
128.6848
127.9493
127.8299
126.1587
122.3499
119.5832
112.9812
112.7538
111.5231
99.8506
99.6475
56.2015
54.0190
53.5670
51.4842
40.1478
39.9391
39.7308
39.5222
39.3137
39.1053
38.8971
37.1817
36.7154
30.0288
24.7657
22.3207
15.2332
NAME 8-1
EXPNO 8
PROCNO 1
Date_ 20140226
Time 11.27
INSTRUM Spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 96
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631988 sec
RG 203
DW 20.800 usec
DE 6.50 usec
TE 294.7 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 10.69 usec
PL1 -2.00 dB
PL1W 48.56907654 W
SFO1 100.6228298 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -2.00 dB
PL12 13.33 dB
PL13 13.33 dB
PL2W 15.24750423 W
PL12W 0.44688809 W
PL13W 0.44688809 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127690 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm


9.2174 8.1713 8.0760 7.6805 7.6615 7.6393 7.6190 7.5939 7.5733 7.4550 7.4407 7.3829 7.3447 7.2599 7.1783 7.1656 7.1135 7.0024 6.4195 7.2475 7.0956 5.7755 4.9325 4.9162 4.7626 4.7461 4.2946 4.2048 4.1903 4.1595 4.1446 3.8881 3.8515 3.7326 3.7126 3.6956 3.6787 3.5826 3.5625 3.1442 3.1288 2.5030 2.4426 2.4249 2.0155 1.9991 1.9535 1.9392 1.9235 1.9062 1.8545 1.8193 4.9024 4.3080 4.2811 3.8976 3.8452
COOMe
F
HO
NHAc
NAME b-3-58B-2
EXPNO 1
PROCNO 1
Date_ 20140123
Time 16.40
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 0
SWH 6393.862 Hz
FIDRES 0.195125 Hz
AQ 2.5625076 sec
RG 287
DW 78.200 usec
DE 6.50 usec
TE 294.1 K
D1 1.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.40 usec
PL1 -1.00 dB
PL1W 17.01305389 W
SFO1 400.1328009 MHz
SI 16384
SF 400.1300095 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 ppm
1.33 0.36 1.05 1.03 3.12 2.61 2.03 0.67 4.49 2.96 1.09 0.32 1.01 0.33 1.00 0.97 0.43 1.03 0.38 1.06 0.47 1.00 0.48 1.13 0.98 2.01 2.97 1.47 0.36 1.07 0.39 0.42 1.18 1.18 2.28 5.97



NAME	b-3-58b2
EXPNO	2
PROCNO	1
Date_	20140123
Time	15.53
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	500
DS	4
SWH	25252.525 Hz
FIDRES	0.385323 Hz
AQ	1.2976629 sec
RG	80.6
DW	19.800 usec
DE	6.50 usec
TE	294.5 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	10
======== CHANNEL f1 ========	
NUC1	13C
P1	13.47 usec
PL1	2.00 dB
PL1W	55.31277084 W
SFO1	100.6238364 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-1.00 dB
PL12	16.72 dB
PL13	15.50 dB
PL2W	17.01305389 W
PL12W	0.28759566 W
PL13W	0.38087484 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6127690 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40