Supplementary Material (ESI) for Chemical Communications

Construction of *N*-1H, 1H-perfluoroalkylated peptide bonds

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1. Experimental procedure for the synthesis of **2** (n = 0)

(L)Phenylalanine methyl ester hydrochloride (4.314 g, 20.00 mmol) was suspended in CH_2Cl_2 (100 mL). Water (100 mL) and Na_2CO_3 (14.0 g) were added. The mixture was stirred for 30 min. The clear organic layer was separated. $NaHCO_3$ (2.016 g, 24.00 mmol), water (100 mL) and trifluoroethylating agent $CF_3CH_2I(C_6H_5)N(SO_2CF_3)_2$ (12.48 g, 22.00 mmol) were added with stirring at room temperature. After 4 h, the CH_2Cl_2 layer was again separated and washed with 3×100 mL of water. The organic solvent was evaporated. The obtained residue was subjected to column chromatography using 10-40% acetone in n-hexanes. After evaporation of organic solvents, the obtained ester intermediate was stirred in 80 mL of 1.0 M NaOH aqueous solution for 16 h. The aqueous solution was then cooled in an ice bath and acidified with conc. HCl to pH 4.5. The formed white precipitate was filtered and lyophilized to yield 4.390 g (17.76 mmol, 88.8 %) of compound **1** (n = 0).

Compound **1** (n = 0) (2.472 g, 10.00 mmol), (L)leucine methyl ester hydrochloride (1.854 g, 10.00 mmol), HOBt (1.486 g, 11.00 mmol), and EDAC•HCl (2.109 g, 11.00 mmol) were suspended in CH_2Cl_2 (100 mL). The reaction mixture was stirred and cooled at 0 °C. DIEA (3.48 mL, 20.0 mmol) was added in one portion through a syringe. The reaction was continued at 0 °C for 2 h and at room temperature for 14 h. The reaction mixture was then washed with 100 mL of 0.5 M HCl, 100 mL of 0.1 M $NaHCO_3$, and 100 mL of H_2O respectively. The organic layer was separated, and the solvent was evaporated. The obtained crude product was subjected to column chromatography with 10–30% acetone in n-hexanes to yield 3.418 g (9.129 mmol, 91.3%) of compound **2** (n = 0).

2. Experimental procedure for the synthesis of **3**

N^{α}-phthaloyl glycine acid chloride (2.683 g, 12.00 mmol) was dissolved in 20 mL of dry CH_3CN. Pyridine (2.5 mL) was added through a syringe. Compound **2** (n = 0) (3.744 g, 10.00 mmol) dissolved in 20 mL of dry CH_3CN was added to above solution with stirring. The reaction mixture was refluxed for 4 h. The solvent was then evaporated. The obtained residue was dissolved in ethyl acetate (40 mL) and washed with H_2O (40 mL) for 3 times. The organic layer was separated and the solvent was evaporated. The obtained residue was subjected to column chromatography with 10-40% acetone in n-hexanes. The desired product compound **3** was obtained (4.897 g, 8.720 mmol, 87.2%).

3. Experimental procedure for the synthesis of **4** (n = 0)

N^{α}-Fmoc-glycine acid chloride (1.579 g, 5.00 mmol) was dissolved in 15 mL of dry CH_3CN. Compound **2** (n = 0) (3.744 g, 10.00 mmol) dissolved in 20 mL of dry CH_3CN was added to above solution with stirring. The reaction mixture was refluxed for 4 h. The solvent was then evaporated. The obtained residue was dissolved in ethyl acetate (40 mL) and washed with 0.5 M $NaHCO_3$ (40 mL) twice and H_2O (40 mL) once. The organic layer was separated and the solvent was evaporated. The obtained residue was subjected to column chromatography with 10-40% acetone in n-hexanes. The desired product compound **4** (n = 0) was obtained (2.717 g, 4.157 mmol, 83.1%).

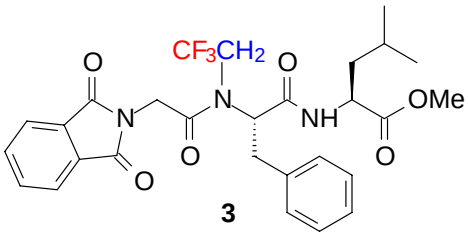
4. Experimental procedure for the synthesis of **5**

Compound **4** (n = 0) (1.550 g, 2.375 mmol) was dissolved in 20 mL of 20% 4-(aminomethyl) piperidine in $CHCl_3$. The solution was stirred at room temperature for 3 h, then washed with H_2O (20 mL) twice and extracted with a phosphate buffer of pH 5.4 (20 mL) twice. The organic layer was separated and dried using anhydrous Na_2SO_4, and the solvent was evaporated. The obtained residue was dissolved in 30 mL of dry CH_3CN. N^{α}-Fmoc-glycine acid chloride (0.750 g, 2.375 mmol) was then added. The reaction mixture was refluxed for 4 h. The solvent was then evaporated. The obtained residue was dissolved in ethyl acetate (40 mL) and washed with 0.5 M $NaHCO_3$ (40 mL) twice and H_2O (40 mL) once. The organic layer was separated and the solvent was evaporated. The obtained residue was subjected to column chromatography with 10-40%

acetone in n-hexanes. The intermediate product FmocGlyGlyCF_3CH_2(L)Phe(L)LeuOMe was obtained (0.925 g, 1.301 mmol, 54.8%).

The intermediate product FmocGlyGlyCF_3CH_2(L)Phe(L)LeuOMe (0.397 g, 0.559 mmol) was dissolved in 15 mL of 20% 4-(aminomethyl)piperidine in $CHCl_3$. The solution was stirred at room temperature for 3 h, then washed with H_2O (20 mL) twice and extracted with a phosphate buffer of pH 5.4 (20 mL) twice. The organic layer was separated and dried using anhydrous Na_2SO_4, and the solvent was evaporated. The obtained residue was dissolved in 25 mL of CH_2Cl_2. Then N^{α}-Boc-(L)tyrosine (0.157 g, 0.559 mmol), HOBt (0.080 g, 0.590 mmol), and EDC·HCl (0.113 g, 0.590 mmol) were added. The reaction mixture was stirred and cooled in an ice bath. DIEA (1.50 mL, 8.61 mmol) was added in one portion through a syringe. The reaction was continued at 0 °C for 2 h and at room temperature for 24 h. The reaction mixture was then washed with 30 mL of 0.5 M HCl, 30 mL of 0.1 M $NaHCO_3$, and 30 mL of H_2O respectively. The organic layer was separated, and the solvent was evaporated. The obtained crude product was subjected to column chromatography with 20–50% acetone in n-hexanes to yield 0.211 g (0.281 mmol, 50.3%) of compound **5**.

5. HRMS and NMR spectra of **3**



3

Single Mass Analysis

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94 formula(e) evaluated with 2 results within limits (all results (up to 1000) for each mass)
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C: 0-50 H: 0-80 N: 2-4 O: 5-7 F: 3-3 Na: 0-1

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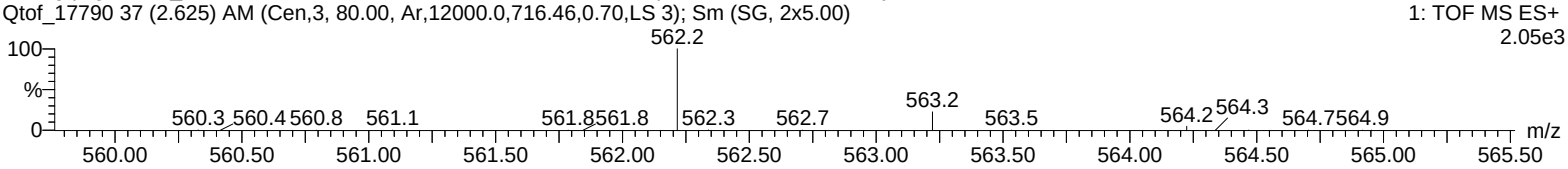

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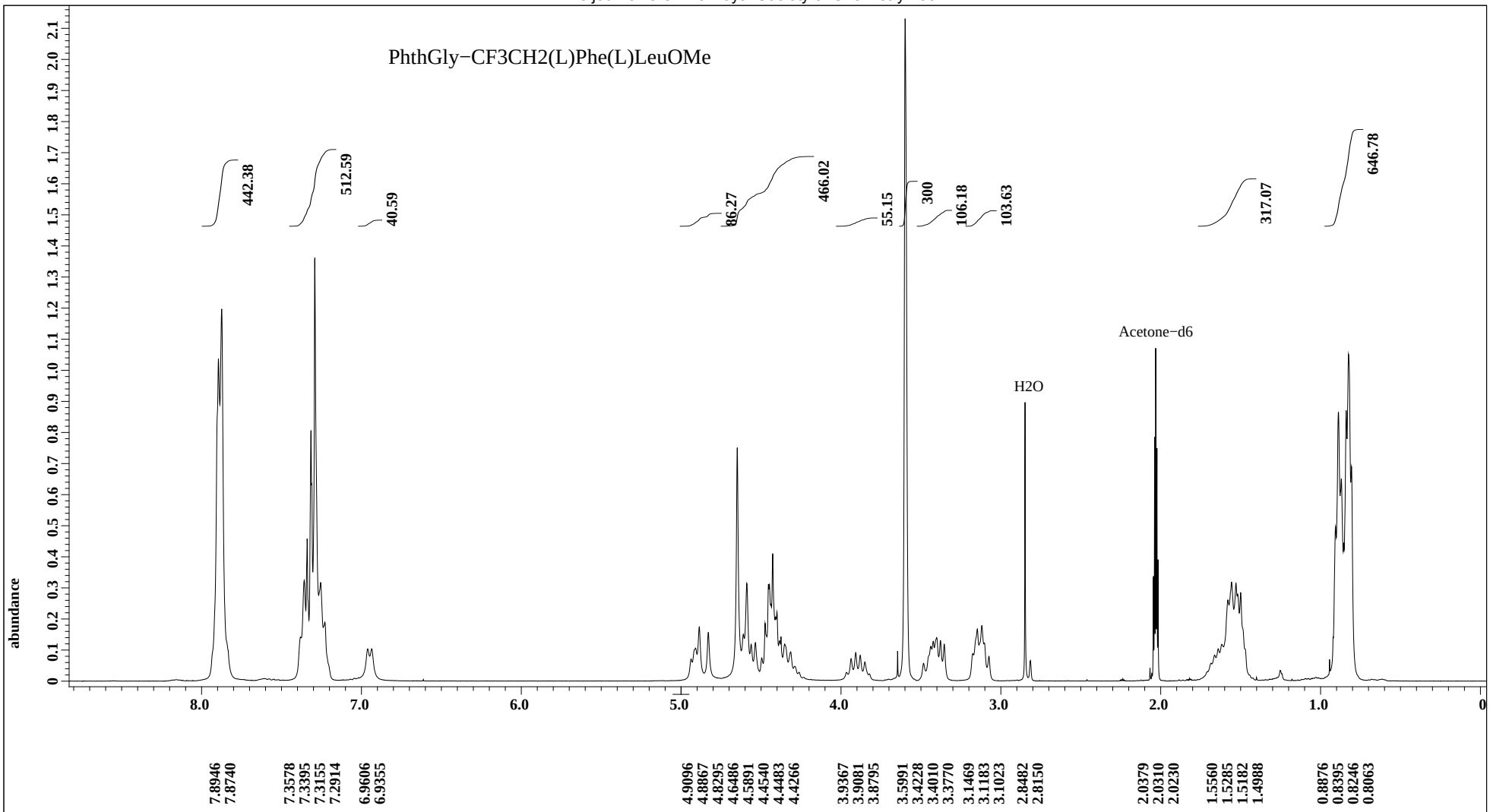

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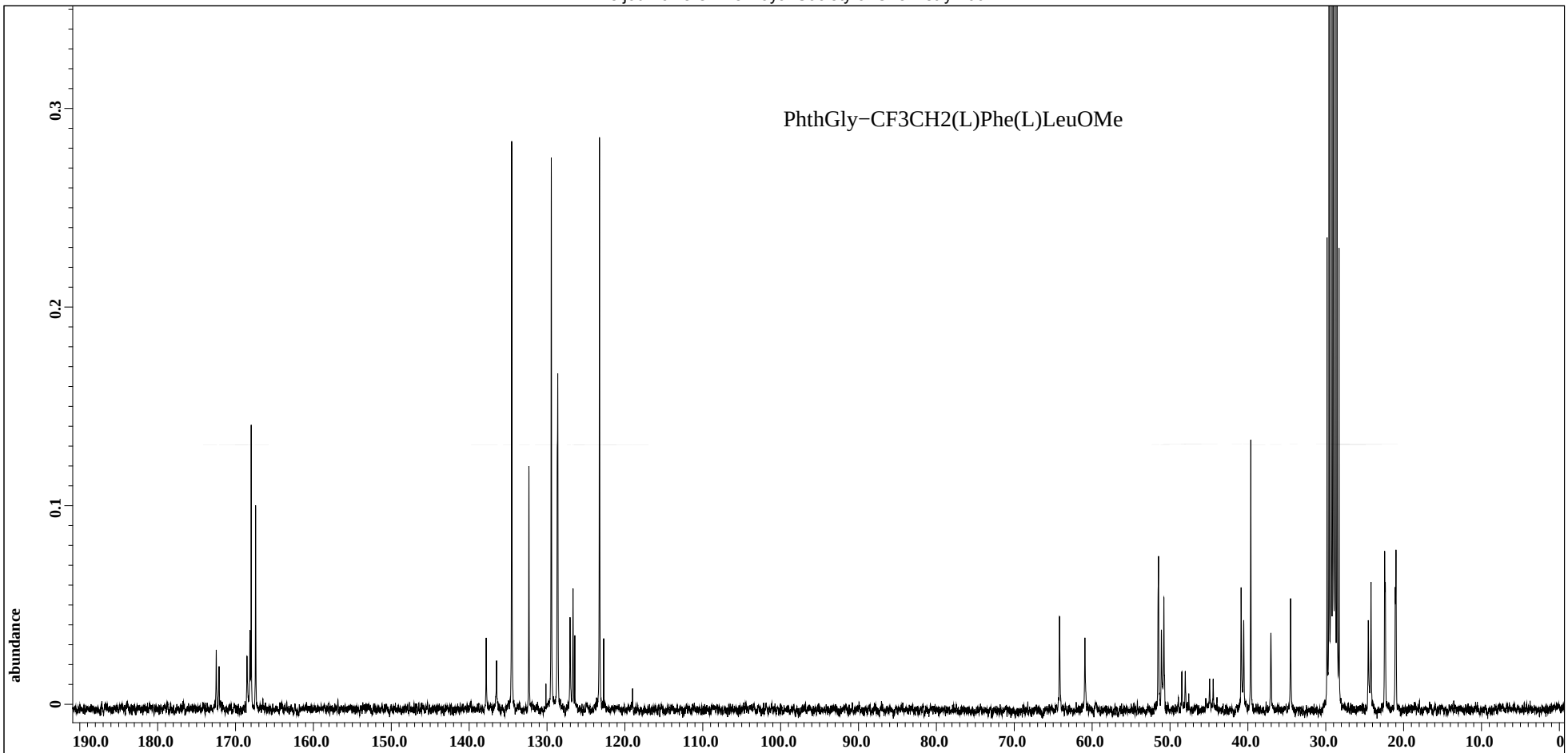

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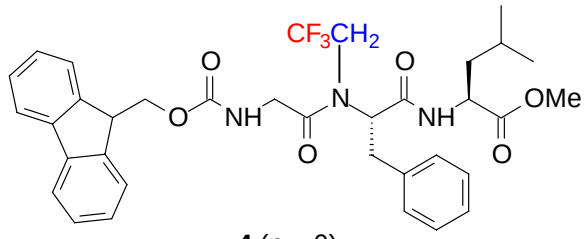
6. HRMS and NMR spectra of **4** (n = 0)



4 (n = 0)

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Monoisotopic Mass, Even Electron Ions
113 formula(e) evaluated with 2 results within limits (all results (up to 1000) for each mass)
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C: 0-50 H: 0-80 N: 2-4 O: 5-7 F: 3-3 Na: 0-1

Changqing Lu, Lu_02 Mass Spec Lab, SCS, University of Illinois Q-tof
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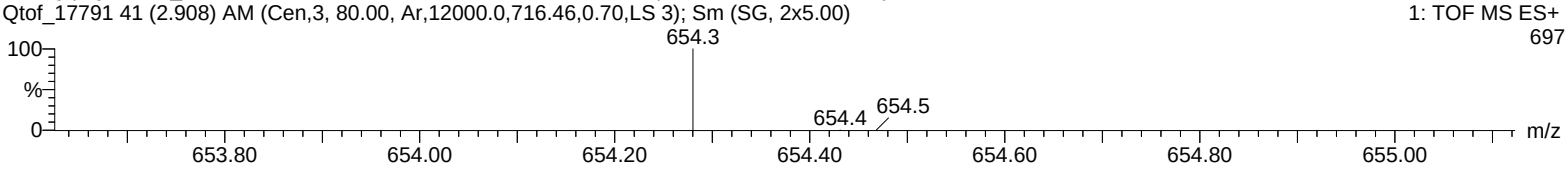

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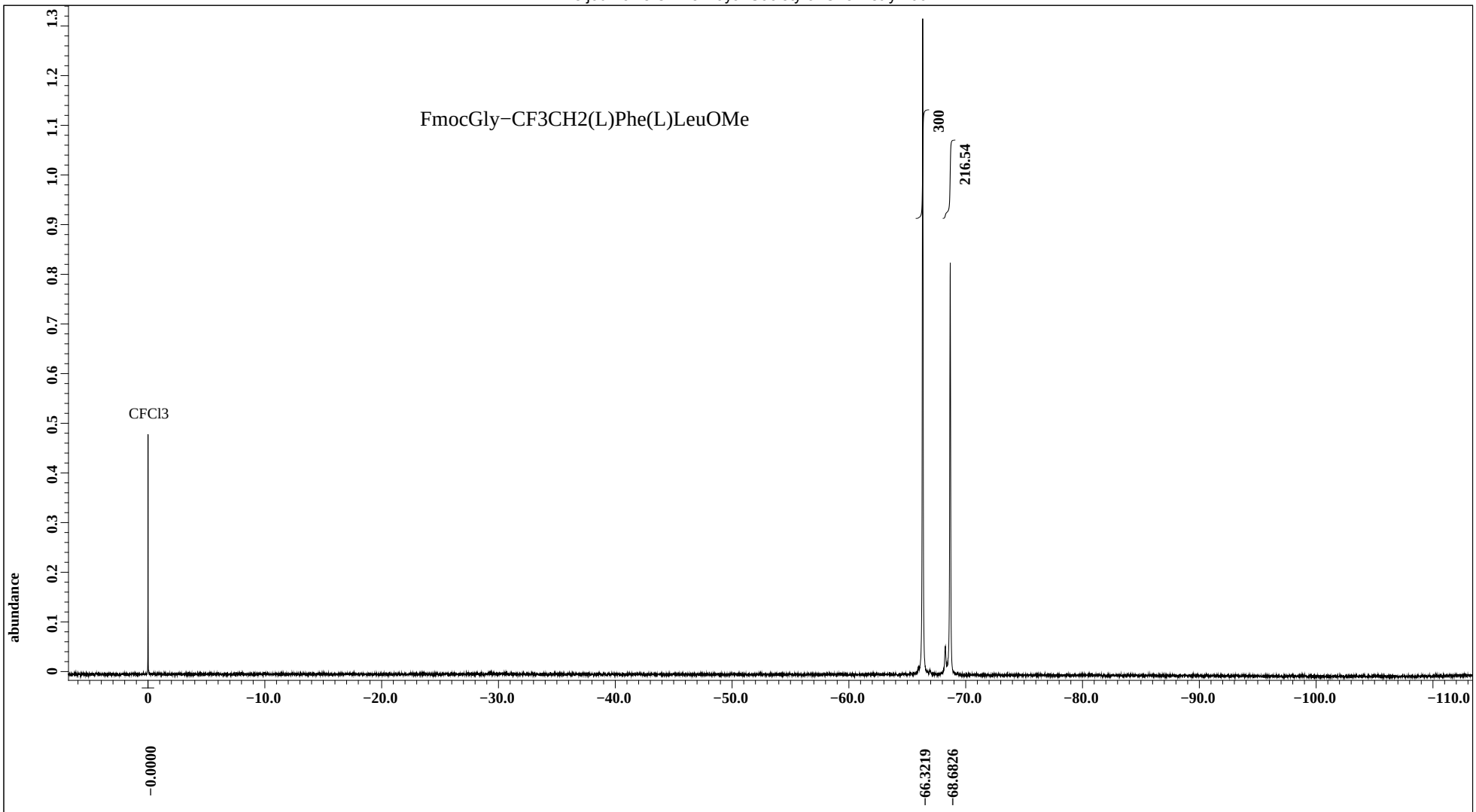

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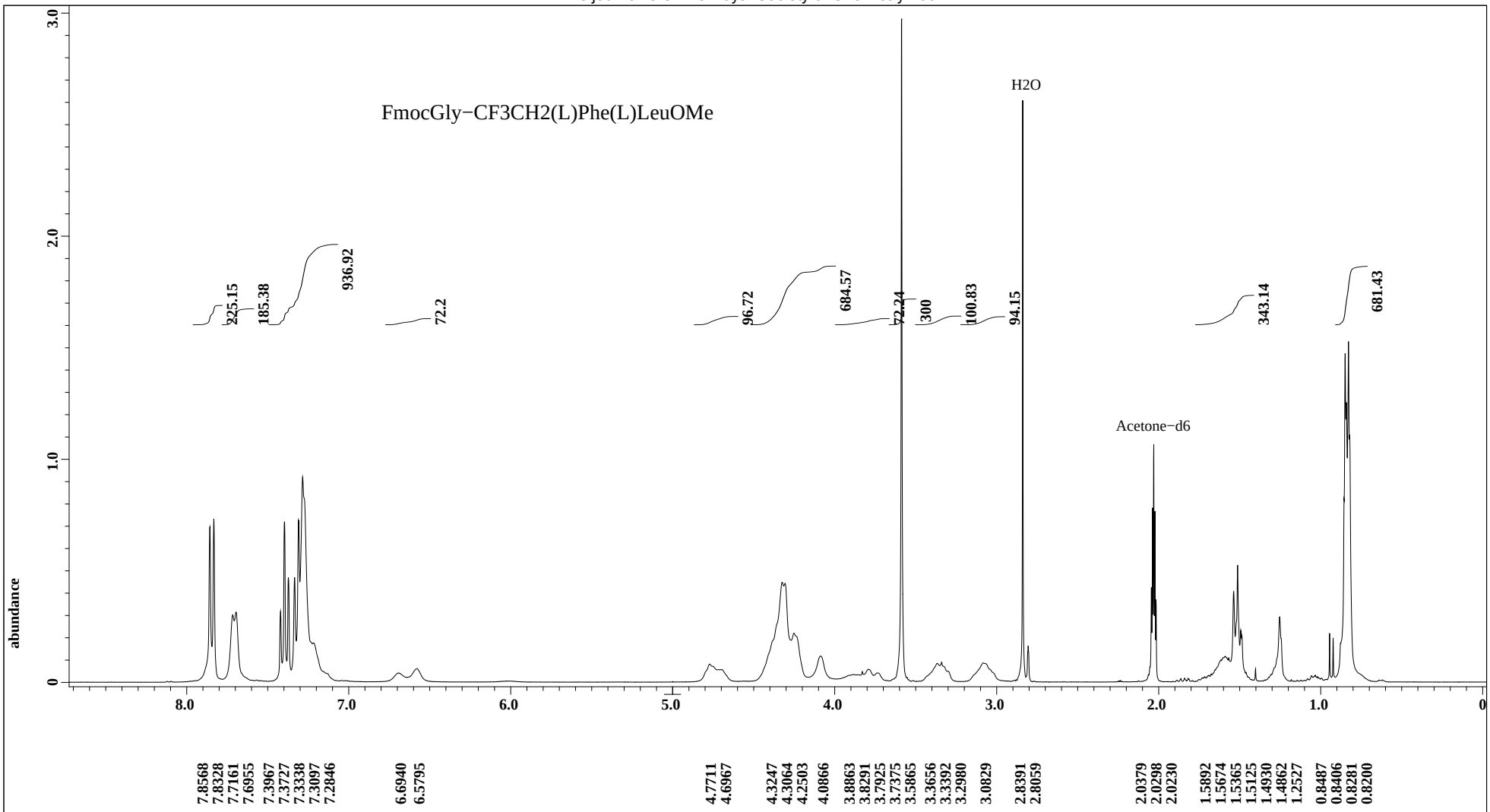

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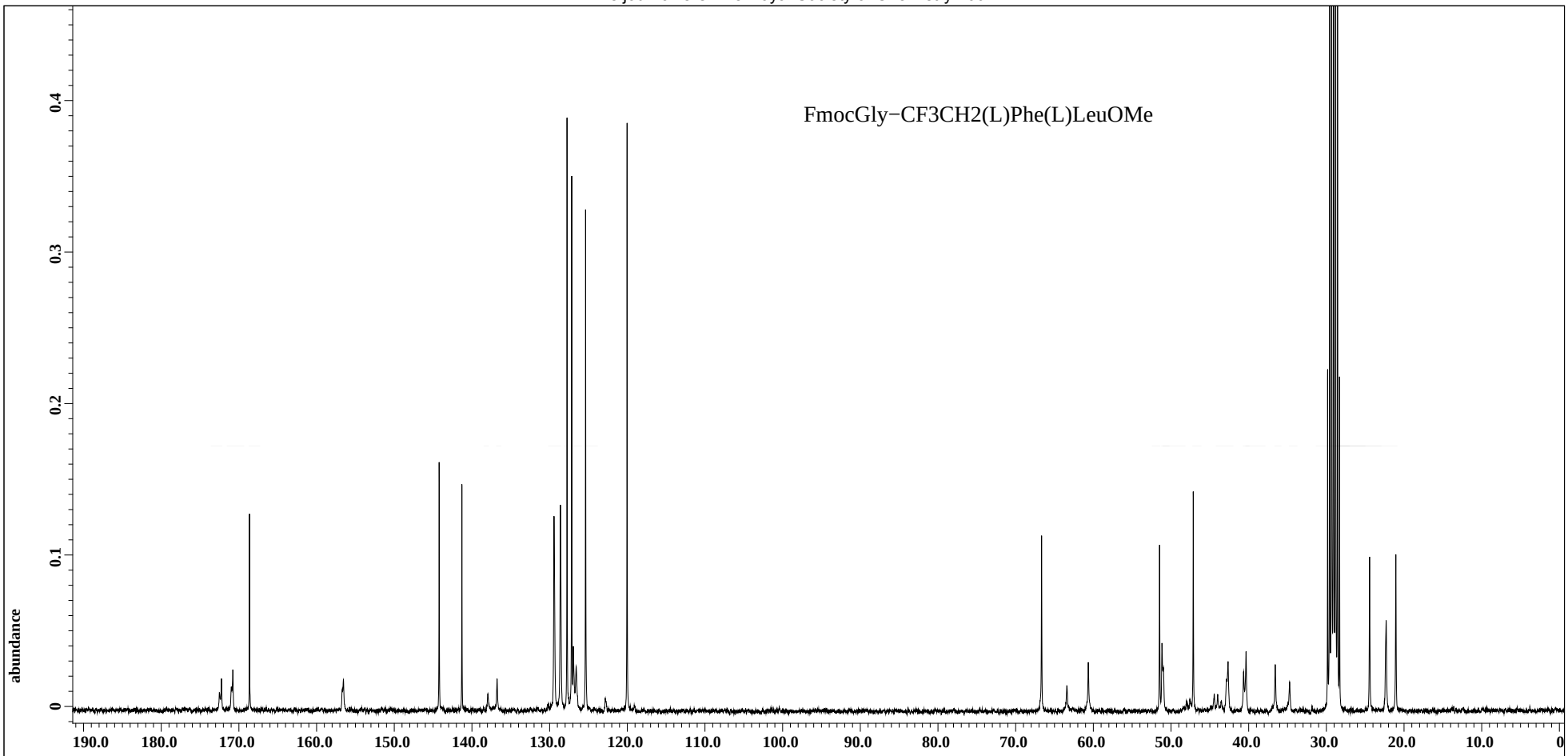

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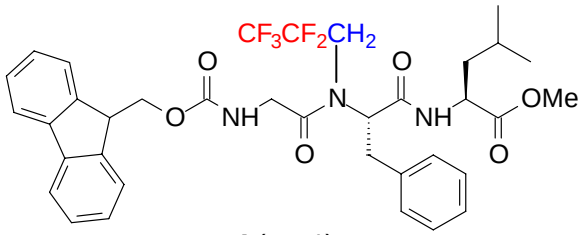
7. HRMS and NMR spectra of **4** (n = 1)



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Single Mass Analysis

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Monoisotopic Mass, Even Electron Ions
113 formula(e) evaluated with 2 results within limits (all results (up to 1000) for each mass)
Elements Used:
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Changqing Lu, Lu_03 Mass Spec Lab, SCS, University of Illinois Q-tof
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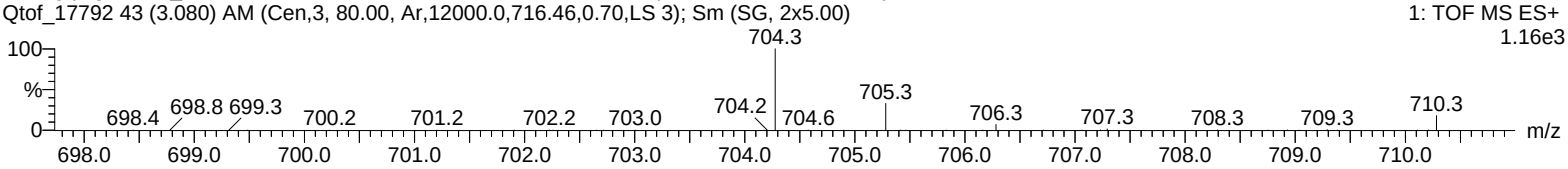

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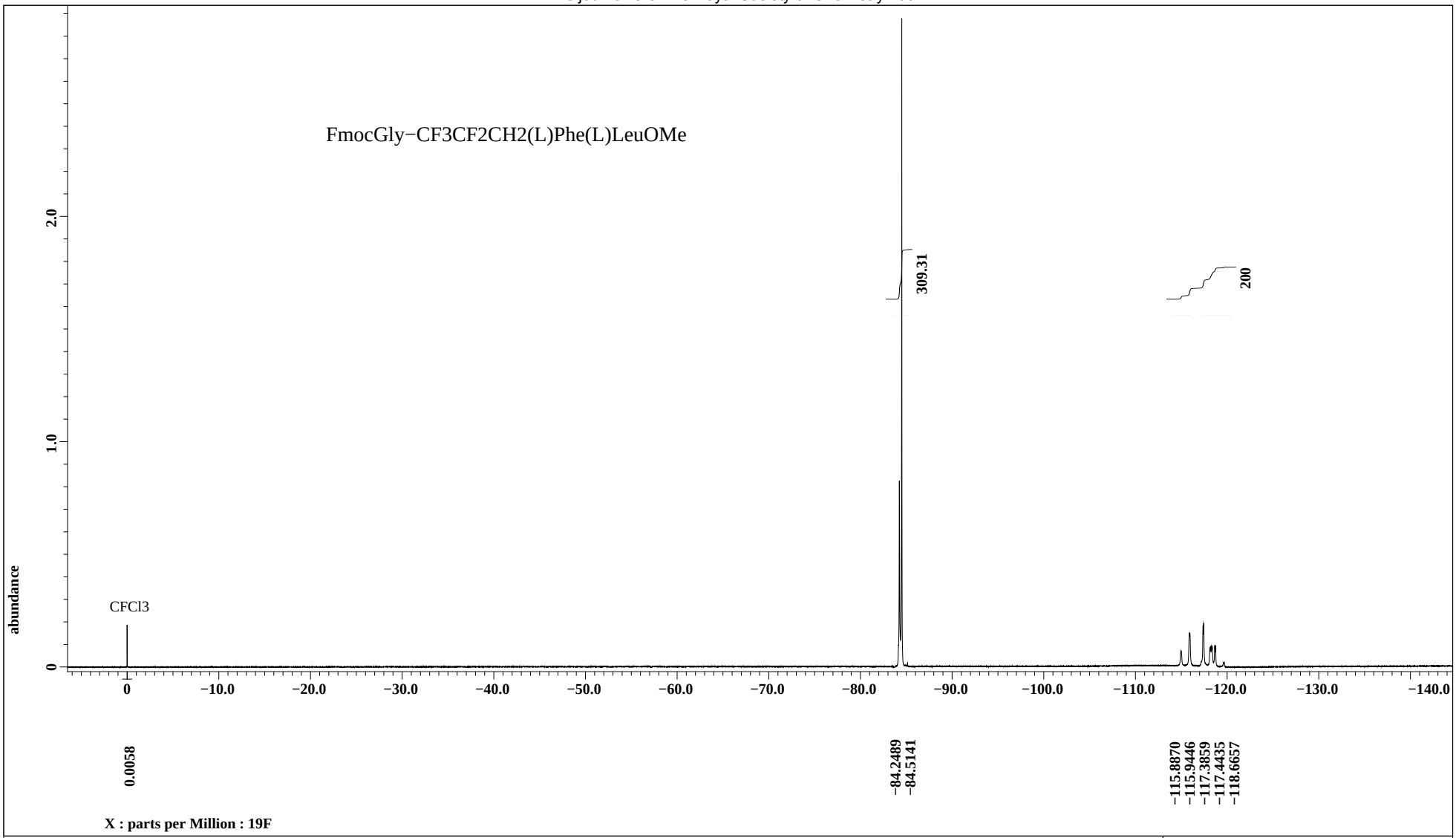

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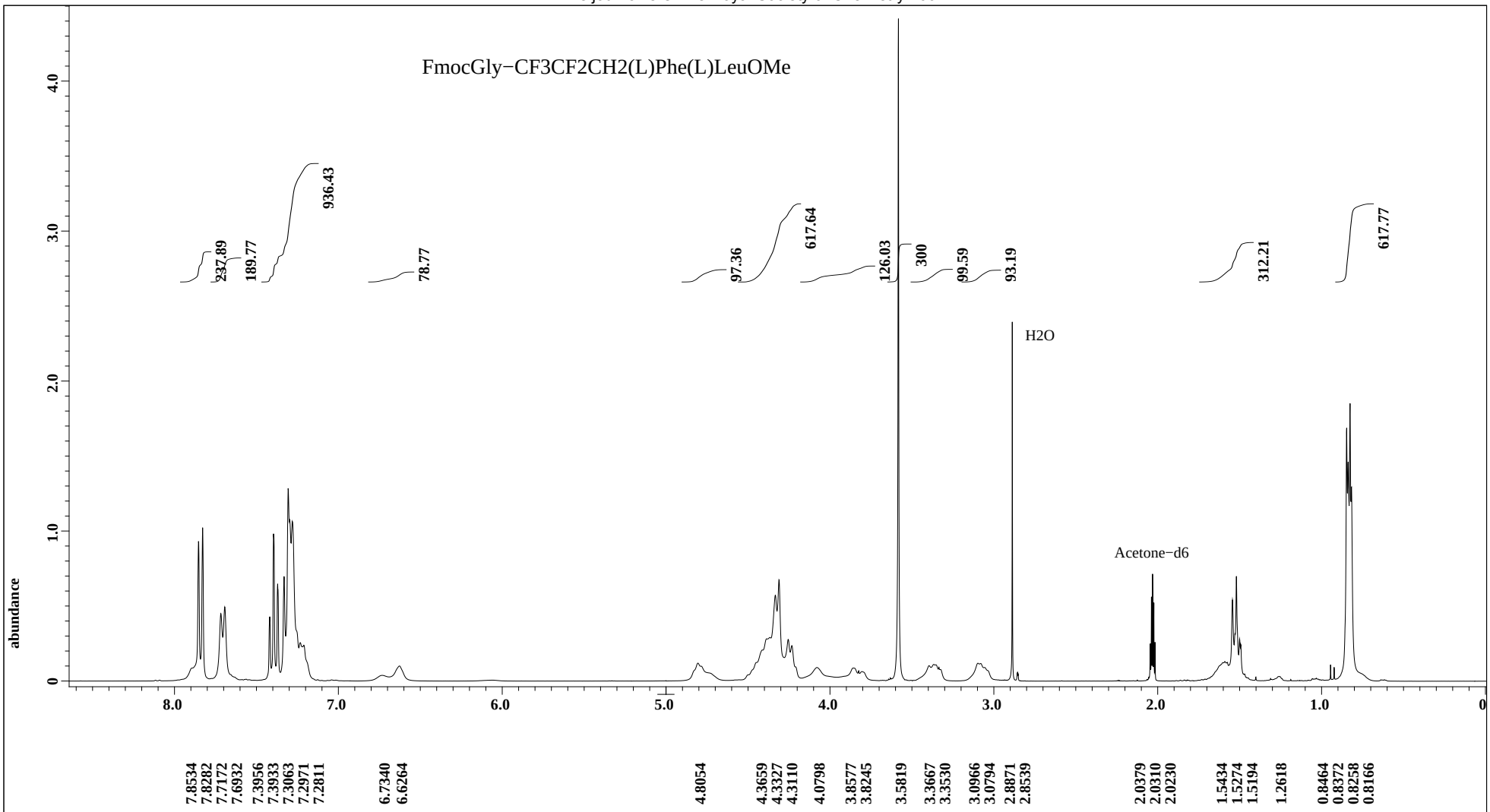

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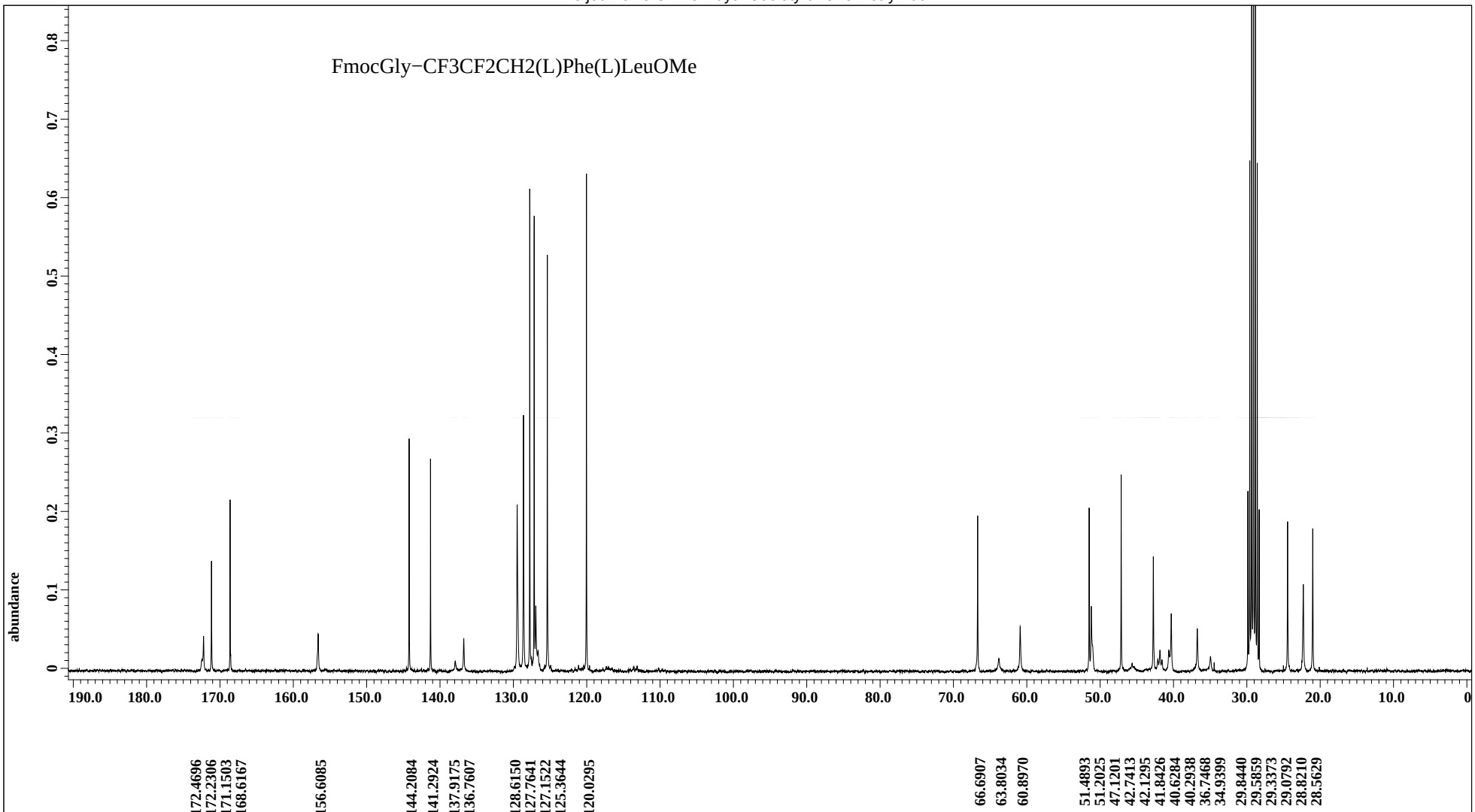
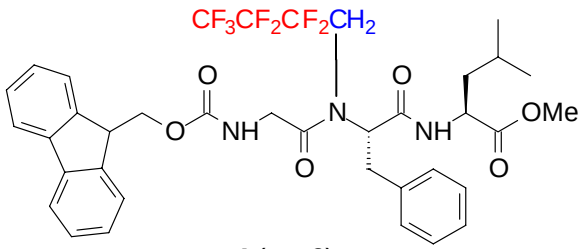
Comment	= single_pulse	Irr_domain	= 1H	Dante_presat	= FALSE
Data_format	= 1D COMPLEX	Irr_freq	= 300.52965592[MHz]	Initial_wait	= 1[s]
Dim_size	= 13107	Irr_offset	= 5[ppm]	Recvr_gain	= 34
Dim_title	= 1H	Tri_domain	= 1H	Relaxation_delay	= 2[s]
Dim_units	= [ppm]	Tri_freq	= 300.52965592[MHz]	Repetition_time	= 4.90717696[s]
Dimensions	= X	Tri_offset	= 5[ppm]	Temp_get	= 21.9[dC]
Site	= ECX 300	Clipped	= FALSE		
Spectrometer	= DELTA2_NMR	Mod_return	= 1		
		Scans	= 32		



Filename	= Lu_FmocGly-CF3CF2CH2(	Field_strength	= 7.0586013[T] (300[MHz	X_acq_time	= 1.38412032[s]
Author	= Delta	X_acq_duration	= 1.38412032[s]	X_angle	= 30[deg]
Experiment	= single_pulse_dec	X_domain	= 13C	X_atn	= 6[dB]
Sample_id	= 1	X_freq	= 75.56823426[MHz]	X_pulse	= 4.68333333[us]
Solvent	= ACETONE-D6	X_offset	= 100[ppm]	Irr_atn_dec	= 22[dB]
Creation_time	= 9-JUL-2007 08:58:23	X_points	= 32768	Irr_atn_noe	= 22[dB]
Revision_time	= 6-AUG-2007 16:47:36	X_prescans	= 4	Irr_noise	= WALTZ
Current_time	= 6-AUG-2007 16:48:11	X_resolution	= 0.72248054[Hz]	Decoupling	= TRUE
		X_sweep	= 23.67424242[kHz]	Initial_wait	= 1[s]
Comment	= single pulse decouple	Irr_domain	= 1H	Noe	= TRUE
Data_format	= 1D COMPLEX	Irr_freq	= 300.52965592[MHz]	Noe_time	= 2[s]
Dim_size	= 26214	Irr_offset	= 5[ppm]	Recvr_gain	= 60
Dim_title	= 13C	Clipped	= TRUE	Relaxation_delay	= 2[s]
Dim_units	= [ppm]	Mod_return	= 1	Repetition_time	= 3.38412032[s]
Dimensions	= X	Scans	= 8708	Temp_get	= 21.7[dC]
Site	= ECX 300	Total_scans	= 8708		
Spectrometer	= DELTA2_NMR				
		X_90_width	= 14.05[us]		

8. HRMS and NMR spectra of **4** (n = 2)



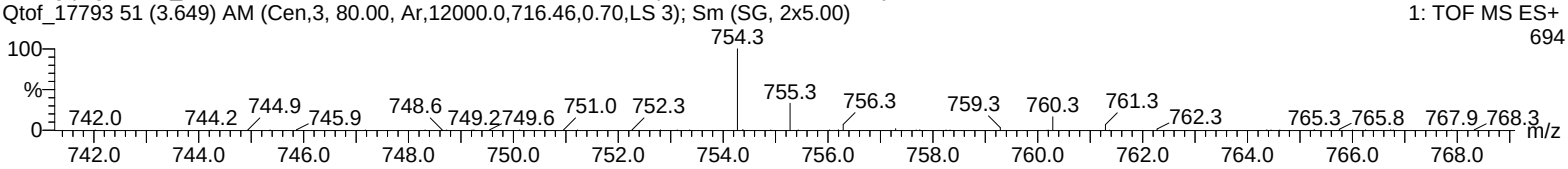
4 (n = 2)

Single Mass Analysis

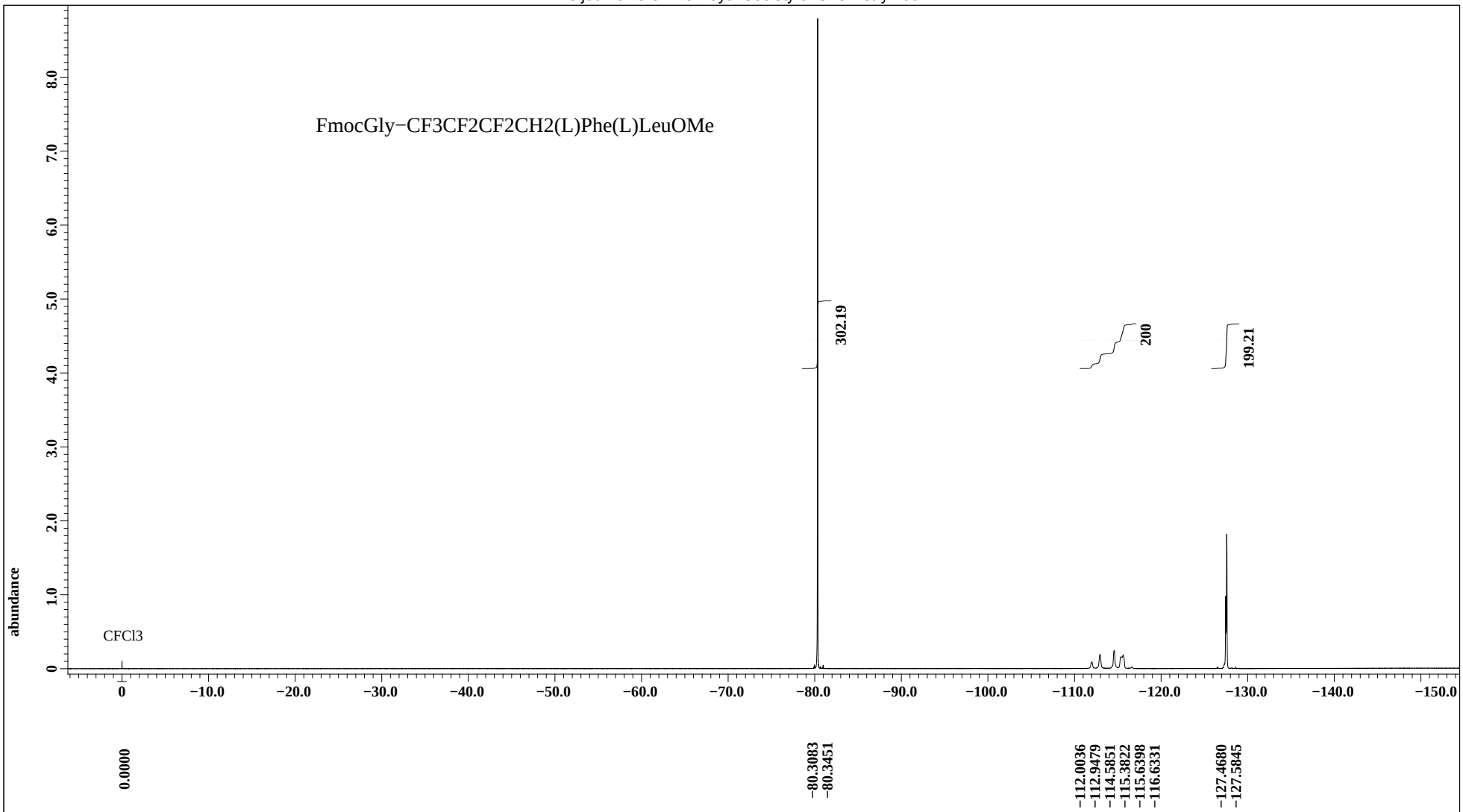
Tolerance = 10.0 PPM / DBE: min = -1.5, max = 100.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
113 formula(e) evaluated with 2 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-50 H: 0-80 N: 2-4 O: 5-7 F: 7-7 Na: 0-1

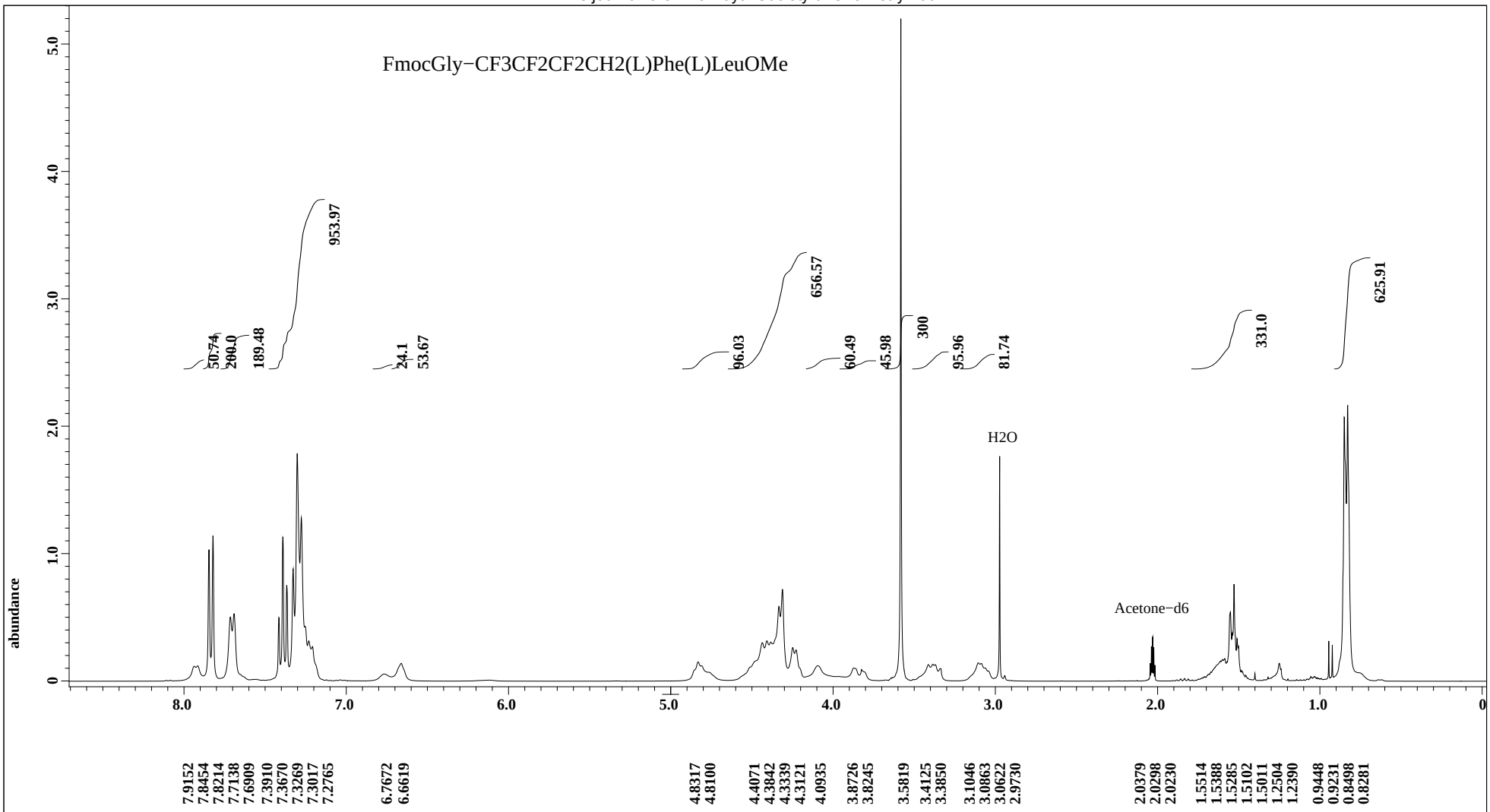
Changqing Lu, Lu_04 Mass Spec Lab, SCS, University of Illinois Q-tof
Qtof_17793 51 (3.649) AM (Cen,3, 80.00, Ar,12000.0,716.46,0.70,LS 3); Sm (SG, 2x5.00) 1: TOF MS ES+
694



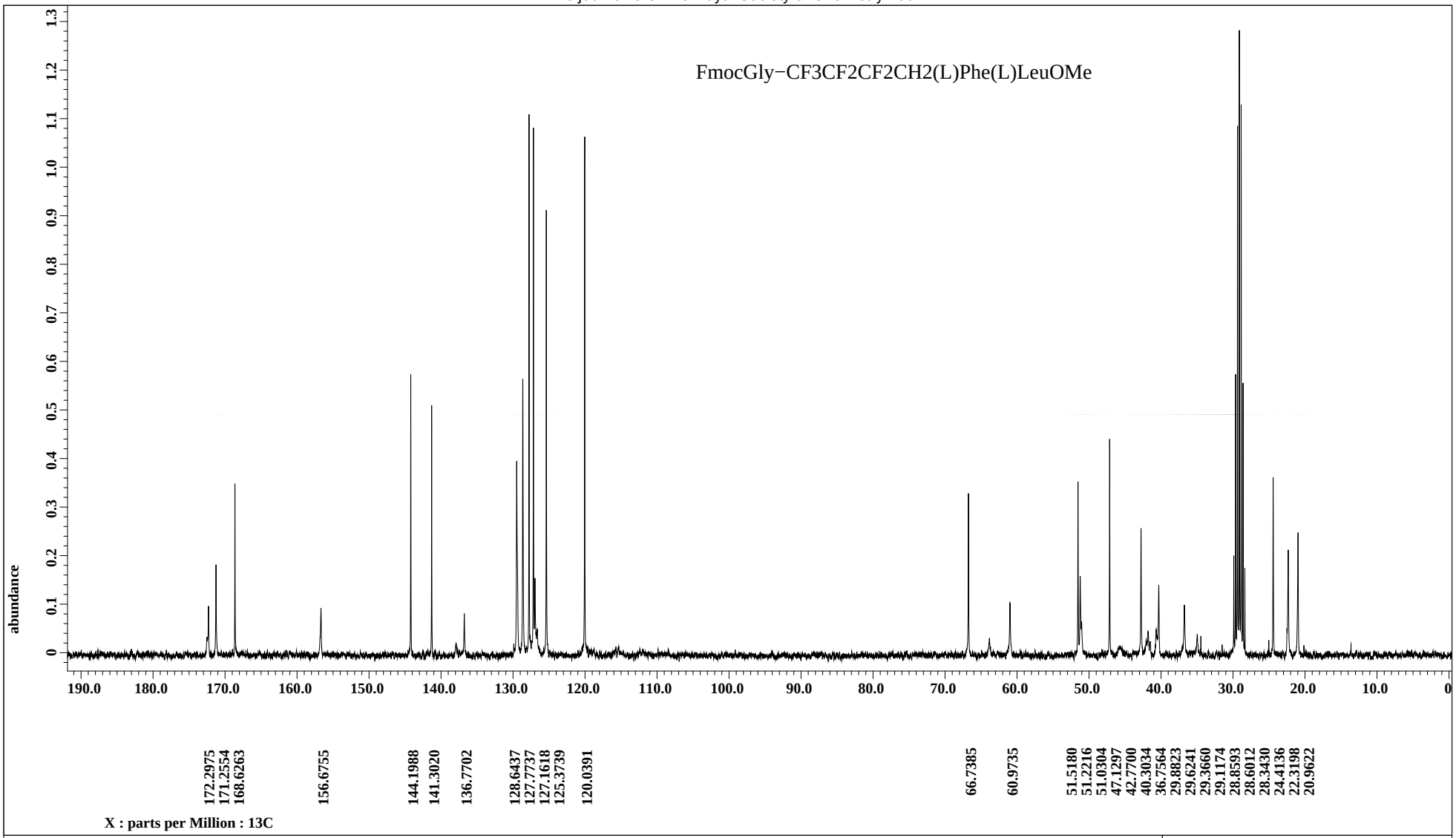
Minimum:				-1.5		
Maximum:		5.0	10.0	100.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
754.2725	754.2727	-0.2	-0.3	16.5	9.9	C37 H39 N3 O6 F7
	754.2703	2.2	2.9	13.5	6.1	C35 H40 N3 O6 F7 Na



Filename	= Lu_FmocGly-CF3CF2CF2C	Field_strength	= 7.0586013[T] (300[MHz	Total_scans	= 32
Author	= Delta	X_acq_duration	= 0.5767168[s]		
Experiment	= single_pulse.ex2	X_domain	= 19F	X_90_width	= 12.2[us]
Sample_id	= 1	X_freq	= 282.78036857[MHz]	X_acq_time	= 0.5767168[s]
Solvent	= ACETONE-D6	X_offset	= -75[ppm]	X_angle	= 45[deg]
Creation_time	= 2-JUL-2007 16:13:20	X_points	= 32768	X_atn	= 3[dB]
Revision_time	= 6-AUG-2007 16:30:50	X_prescans	= 1	X_pulse	= 6.1[us]
Current_time	= 6-AUG-2007 16:31:29	X_resolution	= 1.7339533[Hz]	Irr_mode	= Off
		X_sweep	= 56.81818182[kHz]	Tri_mode	= Off
Comment	= single_pulse	Irr_domain	= 19F	Dante_presat	= FALSE
Data_format	= 1D COMPLEX	Irr_freq	= 282.78036857[MHz]	Initial_wait	= 1[s]
Dim_size	= 26214	Irr_offset	= 5[ppm]	Recvr_gain	= 36
Dim_title	= 19F	Tri_domain	= 19F	Relaxation_delay	= 2[s]
Dim_units	= [ppm]	Tri_freq	= 282.78036857[MHz]	Repetition_time	= 2.5767168[s]
Dimensions	= X	Tri_offset	= 5[ppm]	Temp_get	= 20.9[dC]
Site	= ECX 300	Clipped	= FALSE		
Spectrometer	= DELTA2_NMR	Mod_return	= 1		
		Scans	= 32		

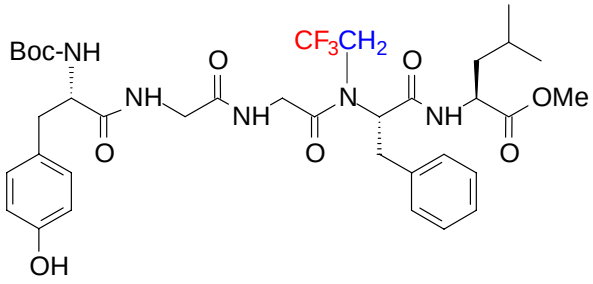


Filename	= Lu_FmocGly-CF3CF2CF2C	Field_strength	= 7.0586013[T] (300[MHz	Total_scans	= 32
Author	= Delta	X_acq_duration	= 2.90717696[s]		
Experiment	= single_pulse.ex2	X_domain	= 1H	X_90_width	= 13.3[us]
Sample_id	= 1	X_freq	= 300.52965592[MHz]	X_acq_time	= 2.90717696[s]
Solvent	= ACETONE-D6	X_offset	= 5[ppm]	X_angle	= 45[deg]
Creation_time	= 2-JUL-2007 16:18:08	X_points	= 16384	X_atn	= 3[dB]
Revision_time	= 6-AUG-2007 16:24:44	X_prescans	= 1	X_pulse	= 6.65[us]
Current_time	= 6-AUG-2007 16:25:16	X_resolution	= 0.34397631[Hz]	Irr_mode	= Off
		X_sweep	= 5.63570784[kHz]	Tri_mode	= Off
Comment	= single_pulse	Irr_domain	= 1H	Dante_presat	= FALSE
Data_format	= 1D COMPLEX	Irr_freq	= 300.52965592[MHz]	Initial_wait	= 1[s]
Dim_size	= 13107	Irr_offset	= 5[ppm]	Recvr_gain	= 30
Dim_title	= 1H	Tri_domain	= 1H	Relaxation_delay	= 2[s]
Dim_units	= [ppm]	Tri_freq	= 300.52965592[MHz]	Repetition_time	= 4.90717696[s]
Dimensions	= X	Tri_offset	= 5[ppm]	Temp_get	= 20.9[dC]
Site	= ECX 300	Clipped	= FALSE		
Spectrometer	= DELTA2_NMR	Mod_return	= 1		
		Scans	= 32		



Filename	= Lu_FmocGly-CF3CF2CF2C	Field_strength	= 7.0586013[T] (300[MHz	X_acq_time	= 1.38412032[s]
Author	= Delta	X_acq_duration	= 1.38412032[s]	X_angle	= 30[deg]
Experiment	= single_pulse_dec	X_domain	= 13C	X_atn	= 6[dB]
Sample_id	= 1	X_freq	= 75.56823426[MHz]	X_pulse	= 4.68333333[us]
Solvent	= ACETONE-D6	X_offset	= 100[ppm]	Irr_atn_dec	= 22[dB]
Creation_time	= 10-JUL-2007 18:53:52	X_points	= 32768	Irr_atn_noe	= 22[dB]
Revision_time	= 6-AUG-2007 16:51:09	X_prescans	= 4	Irr_noise	= WALTZ
Current_time	= 6-AUG-2007 16:51:38	X_resolution	= 0.72248054[Hz]	Decoupling	= TRUE
		X_sweep	= 23.67424242[kHz]	Initial_wait	= 1[s]
Comment	= single pulse decouple	Irr_domain	= 1H	Noe	= TRUE
Data_format	= 1D COMPLEX	Irr_freq	= 300.52965592[MHz]	Noe_time	= 2[s]
Dim_size	= 26214	Irr_offset	= 5[ppm]	Recvr_gain	= 60
Dim_title	= 13C	Clipped	= TRUE	Relaxation_delay	= 2[s]
Dim_units	= [ppm]	Mod_return	= 1	Repetition_time	= 3.38412032[s]
Dimensions	= X	Scans	= 454	Temp_get	= 20.9[dC]
Site	= ECX 300	Total_scans	= 454		
Spectrometer	= DELTA2_NMR				
		X_90_width	= 14.05[us]		

9. HRMS and NMR spectra of **5**



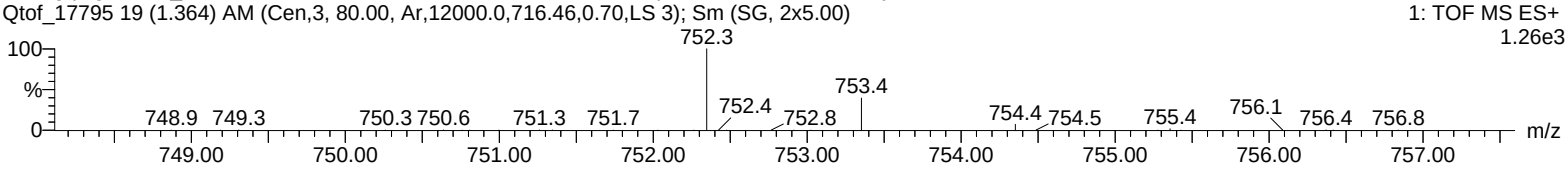
5

Single Mass Analysis

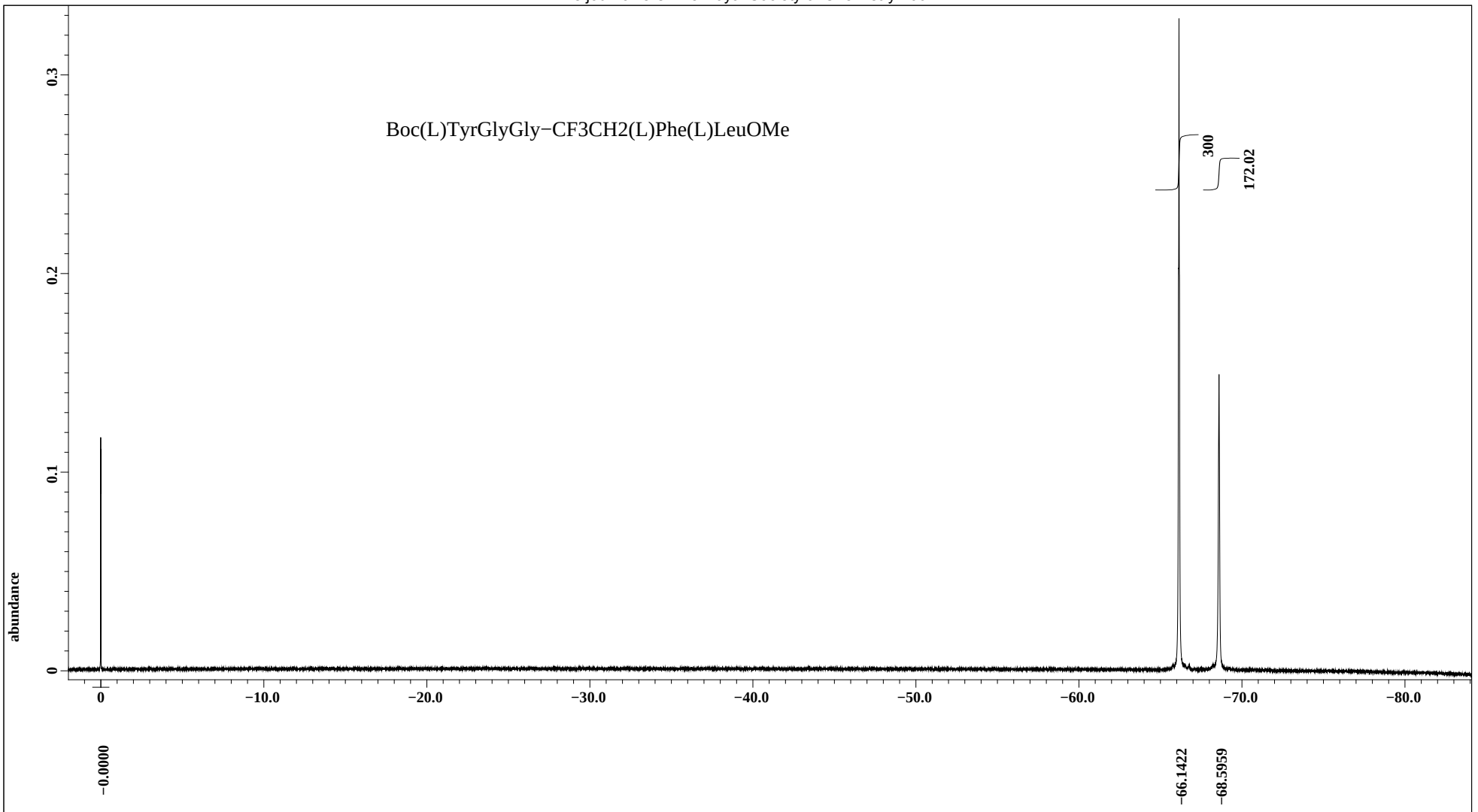
Tolerance = 10.0 PPM / DBE: min = -1.5, max = 100.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
410 formula(e) evaluated with 4 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-50 H: 0-80 N: 2-6 O: 5-10 F: 3-3 Na: 0-1

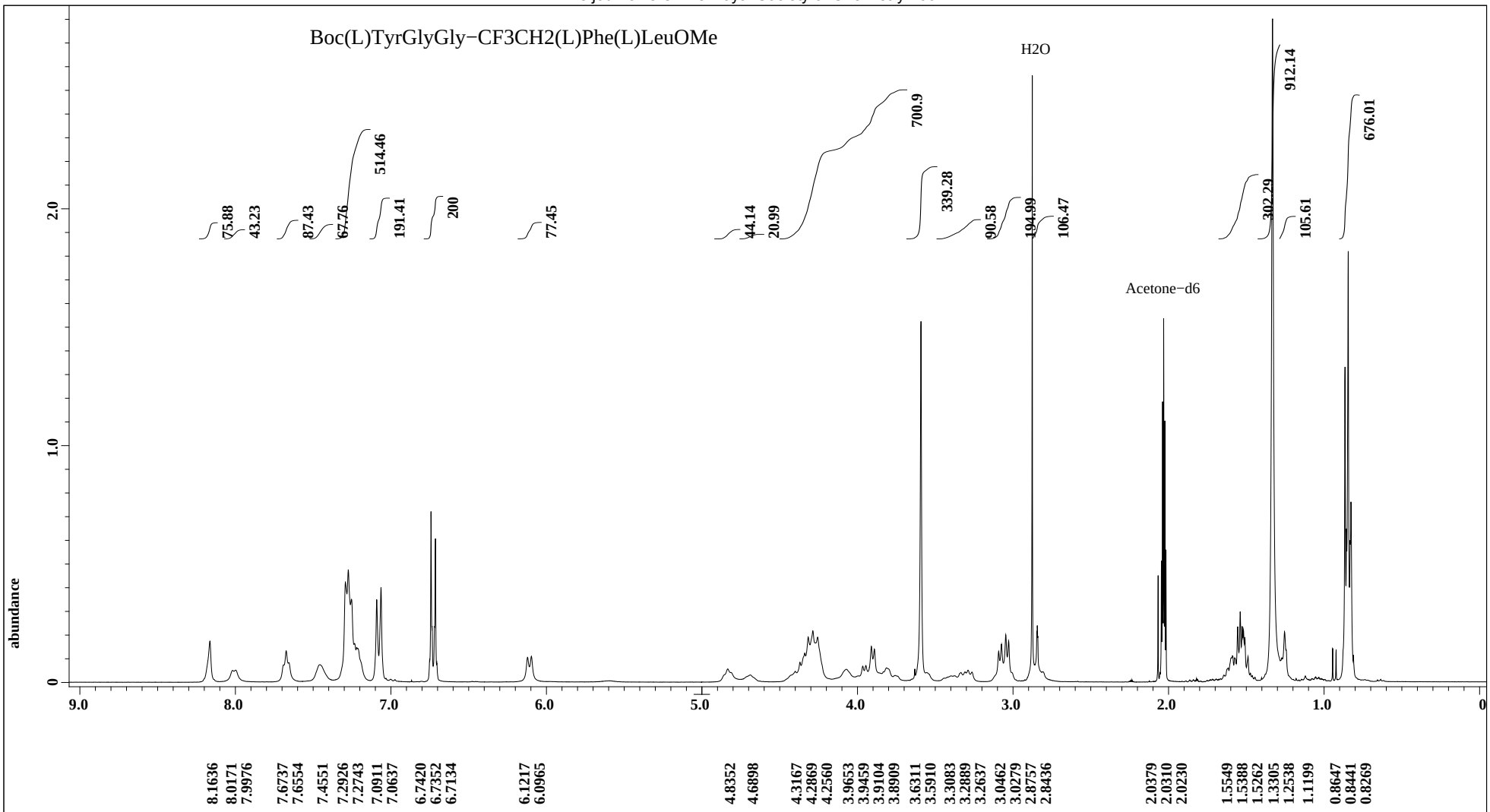
Changqing Lu, Lu_06 Mass Spec Lab, SCS, University of Illinois Q-tof
Qtof_17795 19 (1.364) AM (Cen,3, 80.00, Ar,12000.0,716.46,0.70,LS 3); Sm (SG, 2x5.00) 1: TOF MS ES+
1.26e3



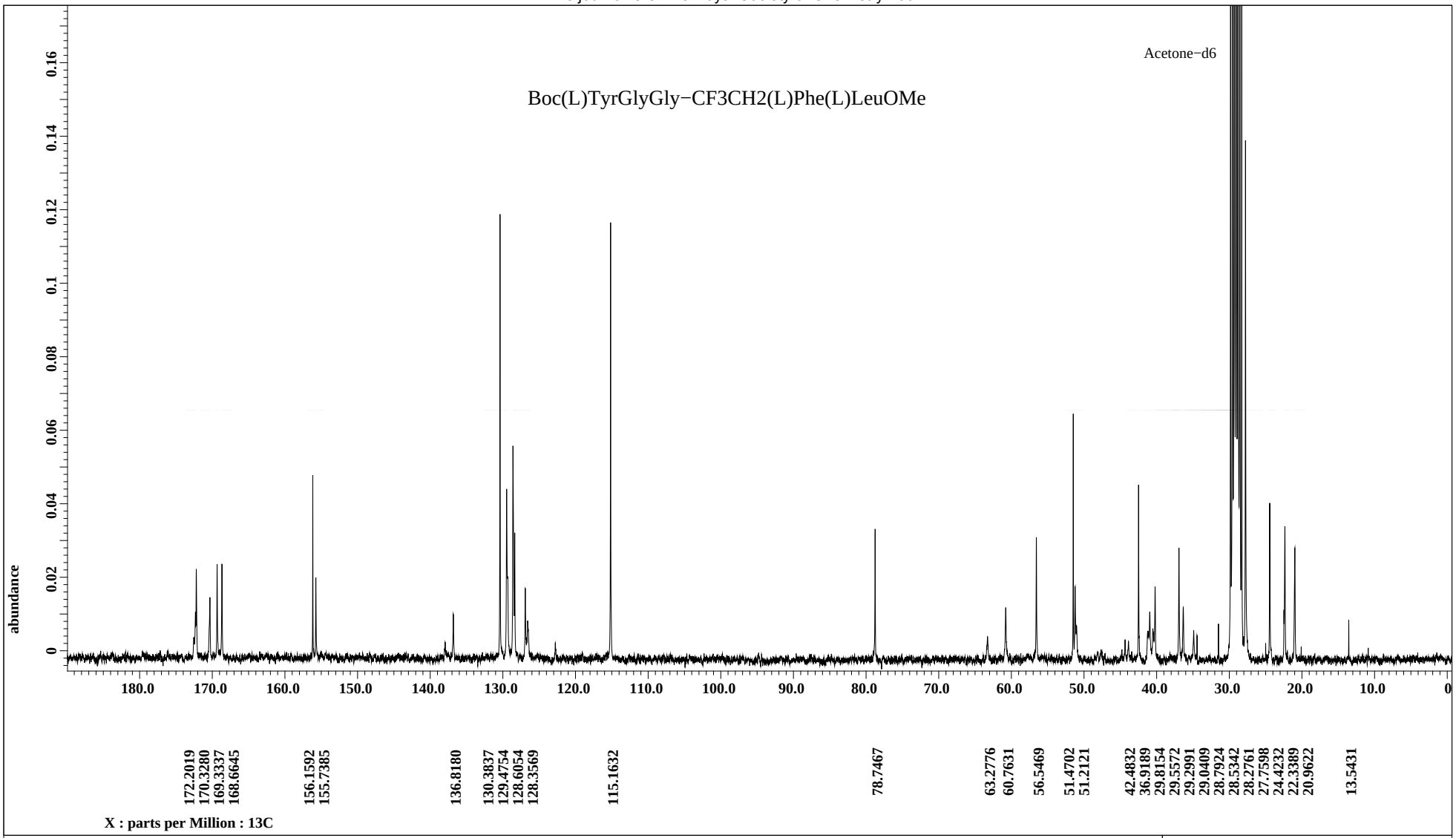
Minimum:				-1.5							
Maximum:		5.0	10.0	100.0							
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula					
752.3472	752.3482	-1.0	-1.3	13.5	10.7	C36	H49	N5	O9	F3	
	752.3458	1.4	1.9	10.5	6.1	C34	H50	N5	O9	F3	Na
	752.3499	-2.7	-3.6	14.5	15.9	C39	H50	N3	O7	F3	Na
	752.3523	-5.1	-6.8	17.5	24.0	C41	H49	N3	O7	F3	



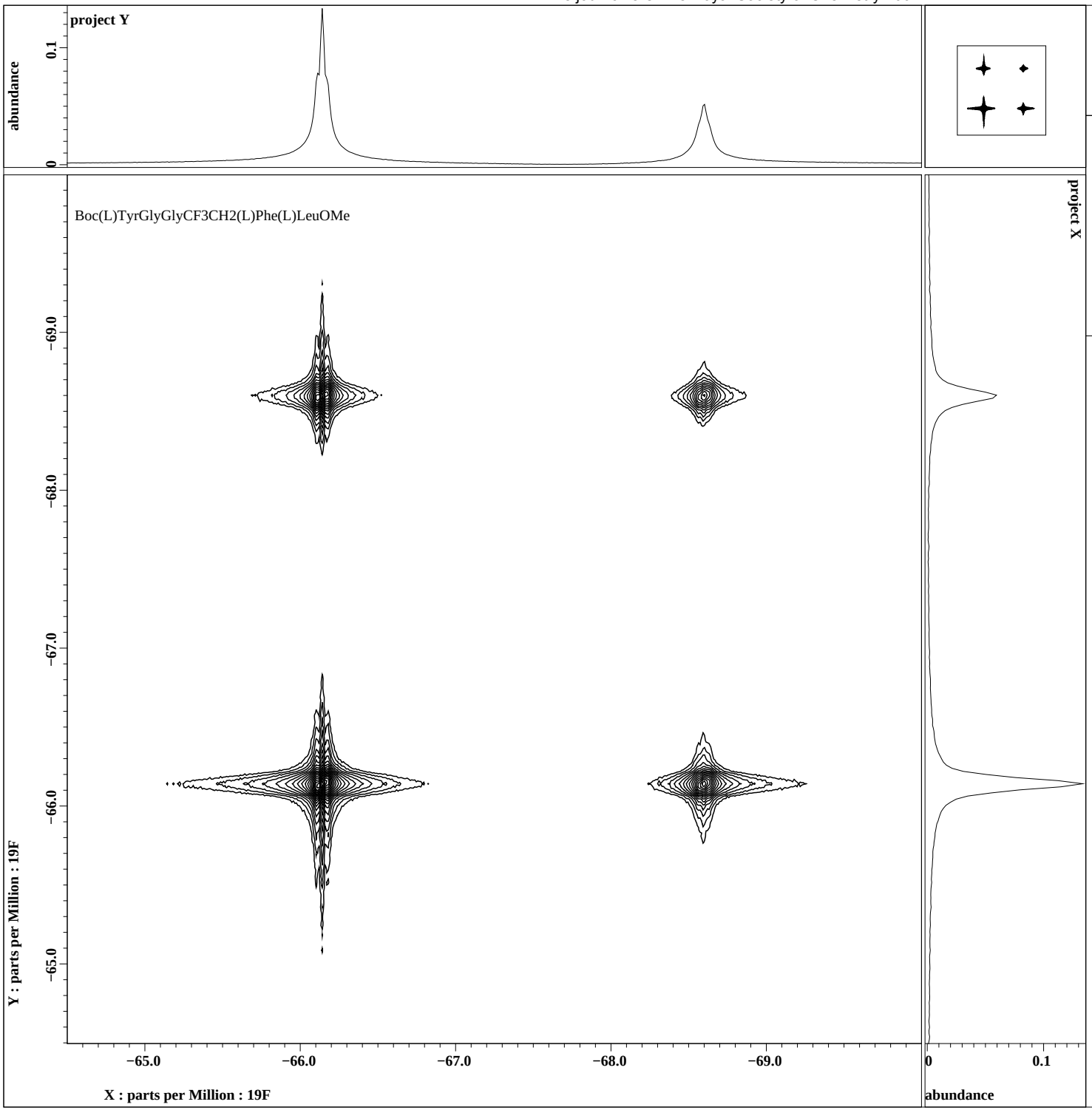
Filename	= Lu_Boc(L)TyrGlyGly-CF	Field_strength	= 7.0586013[T] (300[MHz	Total_scans	= 64
Author	= Delta	X_acq_duration	= 1.02760448[s]		
Experiment	= single_pulse.ex2	X_domain	= 19F	X_90_width	= 12.2[us]
Sample_id	= 1	X_freq	= 282.78036857[MHz]	X_acq_time	= 1.02760448[s]
Solvent	= ACETONE-D6	X_offset	= -40[ppm]	X_angle	= 45[deg]
Creation_time	= 1-JUL-2007 20:43:57	X_points	= 32768	X_atn	= 3[dB]
Revision_time	= 6-AUG-2007 14:48:22	X_prescans	= 1	X_pulse	= 6.1[us]
Current_time	= 6-AUG-2007 14:49:46	X_resolution	= 0.97313706[Hz]	Irr_mode	= Off
		X_sweep	= 31.8877551[kHz]	Tri_mode	= Off
Comment	= single_pulse	Irr_domain	= 19F	Dante_presat	= FALSE
Data_format	= 1D COMPLEX	Irr_freq	= 282.78036857[MHz]	Initial_wait	= 1[s]
Dim_size	= 26214	Irr_offset	= 5[ppm]	Recvr_gain	= 40
Dim_title	= 19F	Tri_domain	= 19F	Relaxation_delay	= 2[s]
Dim_units	= [ppm]	Tri_freq	= 282.78036857[MHz]	Repetition_time	= 3.02760448[s]
Dimensions	= X	Tri_offset	= 5[ppm]	Temp_get	= 21.3[dC]
Site	= ECX 300	Clipped	= FALSE		
Spectrometer	= DELTA2_NMR	Mod_return	= 1		
		Scans	= 64		



Filename	= Lu_Boc(L)TyrGlyGly-CF	Field_strength	= 7.0586013[T] (300[MHz	Total_scans	= 32
Author	= Delta	X_acq_duration	= 2.90717696[s]		
Experiment	= single_pulse.ex2	X_domain	= 1H	X_90_width	= 13.3[us]
Sample_id	= 1	X_freq	= 300.52965592[MHz]	X_acq_time	= 2.90717696[s]
Solvent	= ACETONE-D6	X_offset	= 5[ppm]	X_angle	= 45[deg]
Creation_time	= 1-JUL-2007 20:36:12	X_points	= 16384	X_atn	= 3[dB]
Revision_time	= 6-AUG-2007 15:02:21	X_prescans	= 1	X_pulse	= 6.65[us]
Current_time	= 6-AUG-2007 15:03:01	X_resolution	= 0.34397631[Hz]	Irr_mode	= Off
		X_sweep	= 5.63570784[kHz]	Tri_mode	= Off
Comment	= single_pulse	Irr_domain	= 1H	Dante_presat	= FALSE
Data_format	= 1D COMPLEX	Irr_freq	= 300.52965592[MHz]	Initial_wait	= 1[s]
Dim_size	= 13107	Irr_offset	= 5[ppm]	Recvr_gain	= 40
Dim_title	= 1H	Tri_domain	= 1H	Relaxation_delay	= 2[s]
Dim_units	= [ppm]	Tri_freq	= 300.52965592[MHz]	Repetition_time	= 4.90717696[s]
Dimensions	= X	Tri_offset	= 5[ppm]	Temp_get	= 21.2[dC]
Site	= ECX 300	Clipped	= FALSE		
Spectrometer	= DELTA2_NMR	Mod_return	= 1		
		Scans	= 32		



Filename	= Lu_Boc(L)TyrGlyGlyCF3	Field_strength	= 7.0586013[T] (300[MHz	X_acq_time	= 1.38412032[s]
Author	= Delta	X_acq_duration	= 1.38412032[s]	X_angle	= 30[deg]
Experiment	= single_pulse_dec	X_domain	= 13C	X_atn	= 6[dB]
Sample_id	= 1	X_freq	= 75.56823426[MHz]	X_pulse	= 4.68333333[us]
Solvent	= ACETONE-D6	X_offset	= 100[ppm]	Irr_atn_dec	= 22[dB]
Creation_time	= 7-JUL-2007 11:57:29	X_points	= 32768	Irr_atn_noe	= 22[dB]
Revision_time	= 6-AUG-2007 15:14:30	X_prescans	= 4	Irr_noise	= WALTZ
Current_time	= 6-AUG-2007 15:15:08	X_resolution	= 0.72248054[Hz]	Decoupling	= TRUE
		X_sweep	= 23.67424242[kHz]	Initial_wait	= 1[s]
Comment	= single pulse decouple	Irr_domain	= 1H	Noe	= TRUE
Data_format	= 1D COMPLEX	Irr_freq	= 300.52965592[MHz]	Noe_time	= 2[s]
Dim_size	= 26214	Irr_offset	= 5[ppm]	Recvr_gain	= 60
Dim_title	= 13C	Clipped	= TRUE	Relaxation_delay	= 2[s]
Dim_units	= [ppm]	Mod_return	= 1	Repetition_time	= 3.38412032[s]
Dimensions	= X	Scans	= 16405	Temp_get	= 21.7[dC]
Site	= ECX 300	Total_scans	= 16405		
Spectrometer	= DELTA2_NMR				
		X_90_width	= 14.05[us]		




```
---- PROCESSING PARAMETERS ----
sinbell : -25.0 : 125.0
zerofill : 1
fft : 1 : TRUE : TRUE
ppm
phase : 40 : 0 : 36.31941[%]
reference : -67.153[ppm] : -66.1422[ppm]
phase : 0 : 0 : 36.31941[%]
[transpose]
sinbell : -25.0 : 125.0
zerofill : 2
fft : 1 : TRUE : TRUE
ppm
abs
```

```
Filename          = Lu_Boc(L)TyrGlyGly-CF
Author            = Delta
Experiment        = noesy.ex2
Sample_id         = S#753038
Solvent           = ACETONE-D6
Creation_time     =  2-JUL-2007 07:49:01
Revision_time     =  8-AUG-2007 20:09:47
Current_time      =  8-AUG-2007 20:11:22

Comment           = absolute value noesy
Data_format       = 2D REAL REAL
Dim_size          = 1024, 512
Dim_title         = 19F 19F
Dim_units         = [ppm] [ppm]
Dimensions        = X Y
Site              = ECX 300
Spectrometer      = DELTA2_NMR

Field_strength    = 7.0586013[T] (300[MHz
X_acq_duration    = 0.3620864[s]
X_domain          = 19F
X_freq            = 282.78036857[MHz]
X_offset          = -68.5[ppm]
X_points          = 1280
X_prescans        = 4
X_resolution      = 2.76177178[Hz]
X_sweep           = 3.53506787[kHz]
Y_domain          = 19F
Y_freq            = 282.78036857[MHz]
Y_offset          = -68.5[ppm]
Y_points          = 256
Y_prescans        = 0
Y_resolution      = 11.0464623[Hz]
Y_sweep           = 2.82789435[kHz]
Irr_domain        = 19F
Irr_freq          = 282.78036857[MHz]
Irr_offset        = 5[ppm]
Tri_domain        = 19F
Tri_freq          = 282.78036857[MHz]
Tri_offset        = 5[ppm]
Clipped           = FALSE
Mod_return        = 1
Scans             = 64
Total_scans       = 16384

X_acq_time        = 0.3620864[s]
X_atn             = 3[dB]
X_pulse           = 12.2[us]
Y_acq_time        = 90.52672[ms]
Irr_mode          = Off
Tri_mode          = Off
Dante_presat      = FALSE
Initial_wait      = 1[s]
Mix_time          = 0.5[s]
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