

Supporting Information

C-Glycosidation of Unprotected Aldopentoses with Ketones Using Proline-Triethylamine as Catalyst

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General

For thin layer chromatography (TLC), Merck Silica gel 60 F254 aluminum sheets were used and compounds were visualized by treatment with a solution of *p*-anisaldehyde (3.7 mL), CH₃COOH (1.5 mL), and conc H₂SO₄ (5.0 mL) in EtOH (135 mL). Flash column chromatography was performed using Merck silica gel 60 (230-400 mesh). ¹H NMR and ¹³C NMR were recorded on a Bruker Avance 400. Proton chemical shifts are given in ppm relative to tetramethylsilane (δ 0.00 ppm) in CDCl₃ or to the residual proton signals of the deuterated solvent in CDCl₃ (δ 7.26 ppm), in CD₃OD (δ 3.31 ppm), or in D₂O (δ 4.79 ppm). Carbon chemical shifts were internally referenced to the deuterated solvent signals in CDCl₃ (δ 77.0 ppm) or in CD₃OD (δ 49.0 ppm). High-resolution mass spectra were recorded on a Thermo Scientific LTQ Orbitrap ESI ion trap mass spectrometer.

1. Evaluations of Catalysts and Conditions for the Reactions to Afford **2**

General procedure for evaluations of catalysts and conditions

To a mixture of carbohydrate (1.0 mmol) and acetone (20 mmol) in solvent (1.0 mL) was added catalyst (0.5 mmol) and additive (0.5 mmol) at room temperature (25 °C) and the mixture was stirred at the same temperature. Formation of the products was monitored by TLC analyses. The mixture was purified by flash column chromatography (CH₂Cl₂/MeOH) to afford **2**. Selected results are shown in Tables S1-S5.

Table S1. Reaction of 2-deoxy-D-ribose (**1a**) with acetone to afford **2a**

entry	catalyst	additive	solvent	time (h)	yield (%)	
					2a-1	2a-2
1	L-proline	-	DMF	48	70	8
2	D-proline	-	DMSO	48	65	9
3	L-proline	-	DMSO	48	60	8
4	L-proline	-	MeOH	24	65	10
5	pyrrolidine	-	MeOH	24	40	5
6	pyrrolidine	H ₃ BO ₃ ^a	2-PrOH	24	- ^b	- ^b
7	L-proline	Et₃N	2-PrOH	24	78	10

^a H₃BO₃ (1.0 mmol) was used. ^b Product **2** was not obtained and **1a** was consumed.

Table S2. Reaction of D-ribose (**1b**) with acetone to afford **2b**

entry	catalyst	additive	solvent	time (h)	yield (%)
					2b-1 and 2b-2
1	L-proline	-	DMSO	48	30
2	L-proline	Et₃N	2-PrOH	24	67

Table S3. Reaction of D-arabinose (**1c**) with acetone to afford **2c**

entry	catalyst	additive	solvent	time (h)	yield (%)
					2c-1, 2c-2, and 2c-3
1	L-proline	-	DMF	48	15
2	L-proline	-	DMSO	72	70
3	D-proline	-	DMSO	72	66
4	pyrrolidine	CH ₃ COOH	MeOH	20	75
5	pyrrolidine	H ₃ BO ₃ ^a	2-PrOH	120	35
6	pyrrolidine	H ₃ BO ₃ ^a	DMSO	120	36
7	L-proline	Et₃N	2-PrOH	24	79

^a H₃BO₃ (1.0 mmol) was used.

Table S4. Reaction of D-xylose (**1d**) with acetone to afford **2d**

entry	catalyst	additive	solvent	time (h)	yield (%)
					2d-1 and 2d-2
1	L-proline	-	DMSO	48	50
2	L-proline	Et₃N	2-PrOH	24	80

Table S5. Reaction of D-lyxose (**1e**) with acetone to afford **2e**

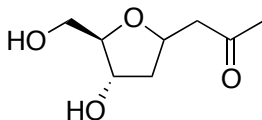
entry	catalyst	additive	solvent	time (h)	yield (%)
					2e
1	L-proline	-	DMSO	48	32
2	L-proline	Et₃N	2-PrOH	24	74

2. Reactions of **1** with Acetone to Afford **2** (Scheme 1)

General Procedure

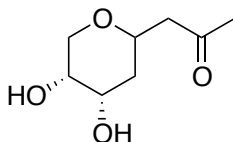
To a mixture of carbohydrate (1.0 mmol) and acetone (20 mmol) in 2-PrOH (1.0 mL) was added L-proline (0.5 mmol) and Et₃N (0.5 mmol) at room temperature (25 °C) and the mixture was stirred at the same temperature. Formation of the products was monitored by TLC analyses. The mixture was purified by flash column chromatography (CH₂Cl₂/MeOH) to afford **2**.

Compound **2a-1**



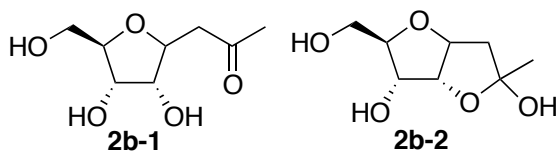
Synthesized from 2-deoxy-D-ribose (1.11 mmol), flash column chromatography (CH₂Cl₂/MeOH = 93:7), 152 mg, 78% (dr 3:2). R_f 0.60 (CH₂Cl₂/MeOH = 9:1). Pale yellow viscous oil. ¹H NMR (400 MHz, CD₃OD): δ 4.53-4.41 (m, 1H), 4.25-4.16 (m, 1H), 3.83-3.72 (m, 1H), 3.60-3.47 (m, 2H), 2.90 (dd, *J* = 16.4 Hz, 8.0 Hz, 1H x 2/5), 2.76 (dd, *J* = 16.4 Hz, 7.6 Hz, 1H x 3/5), 2.75-2.68 (m, 1H x 2/5), 2.66 (dd, *J* = 16.4 Hz, 5.2 Hz, 1H x 3/5), 2.42-2.32 (m, 1H x 2/5), 2.17 (s, 3H), 2.03-1.95 (m, 1H x 3/5), 1.75-1.58 (m, 1H). ¹³C NMR (100 MHz, CD₃OD): δ 210.0, 209.9, 88.9, 87.3, 75.8, 75.7, 74.1, 73.5, 64.0, 63.4, 51.0, 50.1, 42.0, 41.4, 30.7, 30.6. ESI-HRMS: *m/z* calcd for C₈H₁₅O₄ [M+H]⁺ 175.0965, found 175.0965.

Compound **2a-2**



Obtained with **2a-1**, 19.5 mg, 10%. R_f 0.64 (CH₂Cl₂/MeOH 9:1). Pale yellow viscous oil. ¹H NMR (400 MHz, CD₃OD): δ 4.19-4.10 (m, 1H), 4.01 (brs, 1H), 3.68-3.46 (m, 3H), 2.57 (dd, *J* = 15.6 Hz, 8.6 Hz, 1H), 2.47 (dd, *J* = 15.6 Hz, 4.4 Hz, 1H), 2.15 (s, 3H), 1.87-1.80 (m, 1H), 1.58-1.49 (m, 1H). ¹³C NMR (100 MHz, CD₃OD): δ 209.99, 209.91, 69.15, 69.14, 68.6, 68.0, 67.1, 50.0, 49.9, 38.86, 38.84, 30.6, 30.5. ESI-HRMS: *m/z* calcd for C₈H₁₅O₄ [M+H]⁺ 175.0965, found 175.0964.

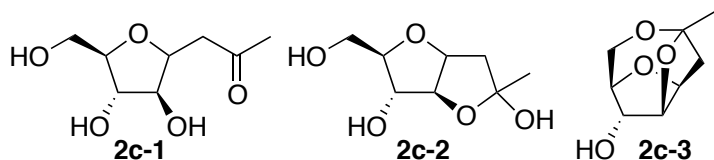
Compound 2b (2b-1 and 2b-2)^{1,2,3}



Synthesized from D-ribose, flash column chromatography (CH₂Cl₂/MeOH = 92:8), 173 mg, 67% (**2b-1:2b-2** = 7:3). R_f 0.51 (CH₂Cl₂/MeOH = 9:1). Pale yellow viscous oil. ¹H NMR (400 MHz, CD₃OD): peaks of **2b-1**

major isomer extracted from the spectrum: δ 4.83-4.79 (m, 1H), 4.15-4.08 (m, 1H), 3.97-3.93 (m, 1H), 3.82-3.77 (m, 1H), 3.72-3.68 (m, 1H), 3.58 (dd, *J* = 4.6 Hz, 11.2 Hz, 1H), 2.84 (d, *J* = 6.4 Hz, 1H), 2.79-2.64 (m, 1H), 2.19 (s, 3H). ¹³C NMR (100 MHz, CD₃OD): peaks of **2b-1** major isomer extracted from the spectrum: δ 210.0, 86.4, 79.9, 76.3, 72.6, 63.5, 48.2, 30.6. ESI-HRMS: *m/z* calcd for C₈H₁₄O₅Na [M+Na]⁺ 213.0733, found 213.0735.

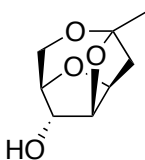
Compound 2c (2c-1, 2c-2, and 2c-3)¹



Synthesized from D-arabinose, flash column chromatography (CH₂Cl₂/MeOH = 9:1), 200 mg, 79% (**2c-1:2c-2:2c-3** = 5:3:2). R_f 0.50 (CH₂Cl₂/MeOH = 9:1). Pale

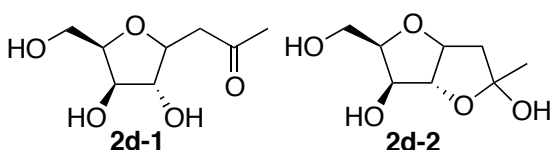
yellow viscous oil. ¹H NMR (400 MHz, CD₃OD): peaks of **2c-1** major isomer extracted from the spectrum: δ 4.51-4.45 (m, 1H), 3.98-3.94 (m, 1H), 3.84-3.79 (m, 1H), 3.75-3.71 (m, 1H), 3.66-3.63 (m, 1H), 3.61-3.55 (m, 1H), 2.82 (dd, *J* = 6.8 Hz, 1.6 Hz, 1H), 2.79 (dd, *J* = 7.6 Hz, 2.4 Hz, 1H), 2.19 (s, 3H). ¹³C NMR (100 MHz, CD₃OD): peaks of **2c-1** major isomer extracted from the spectrum: δ 209.9, 87.3, 84.8, 80.4, 78.8, 63.6, 43.8, 30.5. ESI-HRMS: *m/z* calcd for C₈H₁₄O₅Na [M+Na]⁺ 213.0733, found 213.0736.

Compound 2c-3¹



Purified from the mixture of **2c-1**, **2c-2**, and **2c-3**, flash column chromatography (CH₂Cl₂/MeOH = 95:5). R_f 0.65 (CH₂Cl₂/MeOH = 95:5). Colorless solid. ¹H NMR (400 MHz, CDCl₃): δ 4.88 (dd, *J* = 6.4 Hz, 5.2 Hz, 1H), 4.56 (dd, *J* = 5.0 Hz, 1.0 Hz, 1H), 4.31 (d, *J* = 7.2 Hz, 1H), 4.14-4.10 (m, 1H), 3.90-3.82 (m, 2H), 2.22 (d, *J* = 14.4 Hz, 1H), 2.21 (d, *J* = 9.2 Hz, 1H), 1.93 (dd, *J* = 14.4 Hz, 6.8 Hz, 1H), 1.48 (s, 3H). ¹³C NMR (100 MHz, CDCl₃): δ 107.9, 87.0, 83.4, 80.1, 78.6, 68.5, 43.1, 24.6. ¹H NMR (400 MHz, CD₃OD): δ 4.86 (dd, *J* = 6.4 Hz, 5.2 Hz, 1H), 4.48 (dd, *J* = 5.2 Hz, 1.2 Hz, 1H), 4.18 (s, 1H), 4.08-4.05 (m, 1H), 3.85-3.77 (m, 2H), 2.18 (d, *J* = 14.0 Hz, 1H), 1.94 (dd, *J* = 14.0 Hz, 6.4 Hz, 1H), 1.42 (s, 3H). ¹³C NMR (100 MHz, CD₃OD): δ 109.4, 88.6, 84.7, 81.6, 79.6, 70.0, 44.3, 25.0. ESI-HRMS: *m/z* calcd for C₈H₁₃O₄ [M+H]⁺ 173.0808, found 173.0808.

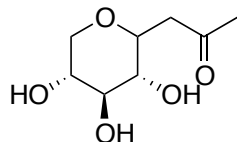
Compound 2d (2d-1 and 2d-2)¹



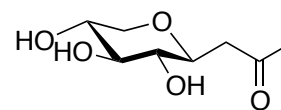
Synthesized from D-xylose, flash column chromatography (CH₂Cl₂/MeOH = 92:8), 207 mg, 80% (**2d-1:2d-2** = 2:3). R_f 0.51 (CH₂Cl₂/MeOH = 9:1). Pale yellow viscous oil. ¹H NMR (400 MHz, CD₃OD): peaks of **2d-2**

major isomer (α -isomer) extracted from the spectrum: δ 4.98-4.94 (m, 1H), 4.49 (d, $J = 4.2$ Hz, 1H), 4.10 (d, $J = 3.2$ Hz, 1H), 3.94 (ddd, $J = 6.4$ Hz, 4.8 Hz, 3.2 Hz, 1H), 3.81 (dd, $J = 11.2$ Hz, 4.8 Hz, 1H), 3.72 (dd, $J = 11.2$ Hz, 6.4 Hz, 1H), 2.30 (dd, $J = 14.0$ Hz, 7.6 Hz, 1H), 1.89 (dd, $J = 14.0$ Hz, 3.4 Hz, 1H), 1.48 (s, 3H). ^{13}C NMR (100 MHz, CD_3OD): peaks of **2d-2** major isomer (α -isomer) extracted from the spectrum: δ 107.7, 89.2, 83.8, 83.1, 82.1, 76.3, 61.3, 46.9, 26.9. ESI-HRMS: m/z calcd for $\text{C}_8\text{H}_{15}\text{O}_5$ $[\text{M}+\text{H}]^+$ 191.0914, found 191.0917.

Compound 2d-3

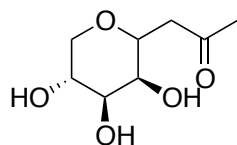


Purified from stored **2d**, column chromatography ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 92:8$). R_f 0.51 ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 9:1$). Colorless viscous oil. ^1H NMR (400 MHz, CD_3OD): peaks of **2d-3** major isomer (β -isomer) extracted from the spectrum: δ 3.81 (dd, $J = 10.8$ Hz, 5.6 Hz, 1H), 3.57 (td, $J = 9.4$ Hz, 2.8 Hz, 1H), 3.44 (ddd, $J = 10.8$ Hz, 9.4 Hz, 5.6 Hz, 1H), 3.27 (t, $J = 9.4$ Hz, 1H), 3.15 (t, $J = 10.8$ Hz, 1H), 3.05 (t, $J = 9.4$ Hz, 1H), 2.88 (dd, $J = 16.0$ Hz, 2.8 Hz, 1H), 2.54 (dd, $J = 16.0$ Hz, 9.4 Hz, 1H), 2.17 (s, 3H). ^{13}C NMR (100 MHz, CD_3OD): peaks of **2d-3** major isomer (β -isomer) extracted from the spectrum: δ 210.1, 79.8, 78.3, 75.2, 71.6, 71.1, 47.3, 30.7. ESI-HRMS: m/z calcd for $\text{C}_8\text{H}_{15}\text{O}_5$ $[\text{M}+\text{H}]^+$ 191.0914, found 191.0900.



2d-3 major isomer (β -isomer)

Compound 2e



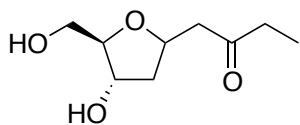
Synthesized from D-lyxose, flash column chromatography ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 92:8$), 192 mg, 74% (dr 2:1). R_f 0.52 ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 9:1$). Pale yellow viscous oil. ^1H NMR (400 MHz, CD_3OD): δ 3.97 (td, $J = 9.6$ Hz, 3.2 Hz, 1H x 2/3), 3.88-3.79 (m, 2H), 3.78-3.70 (m, 1H x 2/3), 3.69-3.66 (m, 1H x 2/3), 3.60-3.58 (m, 1H x 1/3), 3.57-3.55 (m, 1H x 1/3), 3.54 (dd, $J = 10.0$ Hz, 3.2 Hz, 1H x 2/3), 3.41 (dd, $J = 9.6$ Hz, 3.2 Hz, 1H x 1/3), 3.08 (t, $J = 10.6$ Hz, 1H x 1/3), 2.86 (dd, $J = 16.8$ Hz, 8.0 Hz, 1H x 1/3), 2.84 (dd, $J = 15.8$ Hz, 3.2 Hz, 1H x 2/3), 2.66 (dd, $J = 16.8$ Hz, 4.8 Hz, 1H x 1/3), 2.56 (dd, $J = 15.8$ Hz, 9.4 Hz, 1H x 2/3), 2.18 (s, 3H x 2/3), 2.16 (s, 3H x 1/3). ^{13}C NMR (100 MHz, CD_3OD): δ 210.8, 209.5, 76.6, 76.5, 73.8, 72.3, 71.8, 71.5, 71.3, 69.8, 68.2, 68.1, 47.6, 45.8, 30.7, 30.6. ESI-HRMS: m/z calcd for $\text{C}_8\text{H}_{15}\text{O}_5$ $[\text{M}+\text{H}]^+$ 191.0914, found 191.0916.

3. Reactions of 1 with Ketones to Afford C-Glycosides 3-10 (Table 1)

General Procedure

To a mixture of carbohydrate (1.0 mmol) and ketone (20 mmol) in 2-PrOH (1.0 mL) was added L-proline (0.5 mmol) and Et_3N (0.5 mmol) at room temperature (25 °C) and the mixture was stirred at the same temperature. Formation of the products was monitored by TLC analyses. The mixture was purified by flash column chromatography ($\text{CH}_2\text{Cl}_2/\text{MeOH}$) to afford the C-glycosidation product.

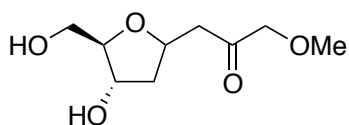
Compound 3²



Synthesized from 2-deoxy-D-ribose, flash column chromatography (CH₂Cl₂/MeOH = 94:6), 128 mg, 61% (dr 3:2). R_f 0.61 (CH₂Cl₂/MeOH = 9:1). Pale yellow viscous oil. ¹H NMR (400 MHz, CD₃OD): δ 4.54-4.42 (m, 1H), 4.26-4.13 (m, 1H), 3.83-3.70 (m, 1H), 3.60-3.46 (m, 2H), 2.89 (dd, *J* = 16.2 Hz, 7.8 Hz, 1H x 2/5), 2.75 (dd,

J = 16.2 Hz, 7.4 Hz, 1H x 3/5), 2.70-2.65 (m, 1H x 2/5), 2.65 (dd, *J* = 16.0 Hz, 5.2 Hz, 1H x 3/5), 2.52 (q, *J* = 7.2 Hz, 2H), 2.37 (dt, *J* = 12.8 Hz, 6.4 Hz, 1H x 2/5), 1.99 (dd, *J* = 12.8 Hz, 5.2 Hz, 1H x 3/5), 1.75-1.57 (m, 1H), 1.01 (t, *J* = 7.2 Hz, 3H). ¹³C NMR (100 MHz, CD₃OD): δ 212.7, 212.3, 88.9, 87.3, 75.9, 75.8, 74.1, 73.5, 64.0, 63.4, 49.8, 49.0, 42.0, 41.5, 37.5, 37.3, 7.9. ESI-HRMS: *m/z* calcd for C₉H₁₇O₄ [M+H]⁺ 189.1121, found 189.1121.

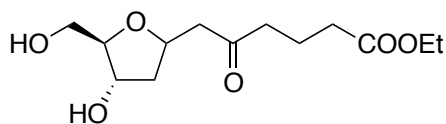
Compound 4²



Synthesized from 2-deoxy-D-ribose, flash column chromatography (CH₂Cl₂/MeOH = 94:6), 93.5 mg, 48% (dr 3:2). R_f 0.62 (CH₂Cl₂/MeOH = 9:1). Pale yellow viscous oil. ¹H NMR (400 MHz, CD₃OD): δ 4.53-4.42 (m, 1H), 4.26-4.17 (m, 1H), 4.14 (s, 2H), 3.85-3.72 (m, 1H), 3.60-3.47 (m, 2H), 3.39 (s,

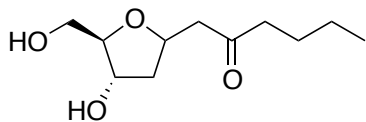
3H), 2.89 (dd, *J* = 16.0 Hz, 7.6 Hz, 1H x 2/5), 2.74 (dd, *J* = 16.0 Hz, 7.6 Hz, 1H x 3/5), 2.68-2.52 (m, 1H), 2.43-2.33 (m, 1H x 2/5), 2.00 (dd, *J* = 12.8 Hz, 5.2 Hz, 1H x 3/5), 1.78-1.61 (m, 1H). ¹³C NMR (100 MHz, CD₃OD): δ 209.1, 208.8, 88.9, 87.4, 78.89, 78.83, 75.6, 74.1, 73.5, 63.9, 63.4, 59.5, 46.5, 45.5, 42.0, 41.4. ESI-HRMS: *m/z* calcd for C₉H₁₇O₅ [M+H]⁺ 205.1071, found 205.1075.

Compound 5



Synthesized from 2-deoxy-D-ribose, flash column chromatography (CH₂Cl₂/MeOH = 94:6), 150 mg, 49% (dr 3:2). R_f 0.63 (CH₂Cl₂/MeOH = 9:1). Pale yellow viscous oil. ¹H NMR (400 MHz, CD₃OD): δ 4.52-4.41 (m, 1H), 4.26-4.16 (m, 1H), 4.11 (q, *J* = 7.2 Hz, 2H), 3.83-3.71 (m, 1H), 3.60-3.46 (m, 2H), 2.88 (dd, *J* = 16.0 Hz, 7.6 Hz, 1H x 1/3), 2.74 (dd, *J* = 16.0 Hz, 7.6 Hz, 1H x 2/3), 2.67 (dd, *J* = 16.0 Hz, 5.2 Hz, 1H x 1/3), 2.63 (dd, *J* = 16.0 Hz, 5.2 Hz, 1H x 2/3), 2.60-2.52 (m, 2H), 2.41-2.33 (m, 1H x 1/3), 2.32 (t, *J* = 7.4 Hz, 2H), 2.02-1.94 (m, 1H x 2/3), 1.83 (quintet, *J* = 7.2 Hz, 2H), 1.75-1.58 (m, 1H), 1.24 (t, *J* = 7.2 Hz, 3H). ¹³C NMR (100 MHz, CD₃OD): δ 211.3, 210.9, 175.2, 88.9, 87.3, 75.9, 75.8, 74.1, 73.5, 64.0, 63.4, 61.6, 50.2, 43.2, 43.1, 42.0, 41.5, 34.2, 19.9, 14.6. ESI-HRMS: *m/z* calcd for C₁₃H₂₃O₆ [M+H]⁺ 275.1489, found 275.1498.

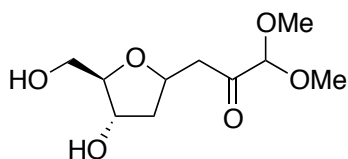
Compound 6



Synthesized from 2-deoxy-D-ribose, flash column chromatography (CH₂Cl₂/MeOH = 94:6), 75 mg, 31% (dr 3:2). R_f 0.64 (CH₂Cl₂/MeOH = 9:1). Pale yellow viscous oil. ¹H NMR (400 MHz, CD₃OD): δ 4.53-4.41 (m, 1H), 4.25-4.14 (m,

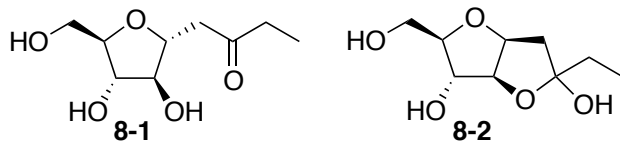
1H), 3.83-3.71 (m, 1H), 3.60-3.47 (m, 2H), 2.89 (dd, $J = 16.4$ Hz, 7.6 Hz, 1H x 1/3), 2.75 (dd, $J = 16.0$ Hz, 7.6 Hz, 1H x 2/3), 2.68 (dd, $J = 16.4$ Hz, 5.6 Hz, 1H x 1/3), 2.63 (dd, $J = 16.0$ Hz, 5.2 Hz, 1H x 2/3), 2.54-2.46 (m, 2H), 2.37 (dt, $J = 12.8$ Hz, 7.8 Hz, 1H x 1/3), 2.03-1.94 (m, 1H x 2/3), 1.74-1.58 (m, 1H), 1.53 (quin, $J = 7.6$ Hz, 2H), 1.32 (sextet, $J = 7.6$ Hz, 2H), 0.91 (t, $J = 7.6$ Hz, 3H). ^{13}C NMR (100 MHz, CD_3OD): δ 212.3, 212.0, 88.9, 87.3, 75.9, 75.8, 74.1, 73.5, 64.0, 63.4, 50.1, 44.1, 43.9, 42.0, 41.5, 26.9, 26.8, 23.4, 14.3. ESI-HRMS: m/z calcd for $\text{C}_{11}\text{H}_{21}\text{O}_4$ $[\text{M}+\text{H}]^+$ 217.1434, found 217.1436.

Compound 7



Synthesized from 2-deoxy-D-ribose, flash column chromatography ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 94:6$), 140 mg, 40% (dr 3:2). R_f 0.62 ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 9:1$). Pale yellow viscous oil. ^1H NMR (400 MHz, CD_3OD): δ 4.566 (s, 1H x 3/5), 4.562 (s, 1H x 2/5), 4.54-4.51 (m, 1H), 4.24-4.17 (m, 1H), 3.80 (dt, $J = 4.8$ Hz, 4.4 Hz, 1H x 2/5), 3.74 (td, $J = 4.8$ Hz, 2.8 Hz, 1H x 3/5), 3.60-3.46 (m, 2H), 3.40 (s, 6H), 3.06 (dd, $J = 17.2$ Hz, 7.2 Hz, 1H x 2/5), 2.93 (dd, $J = 17.2$ Hz, 7.2 Hz, 1H x 3/5), 2.78 (dd, $J = 17.2$ Hz, 5.6 Hz, 1H x 2/5), 2.74 (dd, $J = 17.2$ Hz, 6.0 Hz, 1H x 3/5), 2.42-2.33 (m, 1H x 2/5), 2.01 (ddd, $J = 13.2$ Hz, 5.4 Hz, 2.0 Hz, 1H x 3/5), 1.74-1.59 (m, 1H). ^{13}C NMR (100 MHz, CD_3OD): δ 205.8, 205.4, 105.29, 105.27, 88.8, 87.2, 75.36, 75.32, 74.1, 73.6, 64.0, 63.4, 55.3, 55.2, 45.5, 44.6, 42.0, 41.4. ESI-HRMS: m/z calcd for $\text{C}_{10}\text{H}_{18}\text{O}_6\text{Na}$ $[\text{M}+\text{Na}]^+$ 257.0996, found 257.0995.

Compound 8 (8-1 and 8-2)²

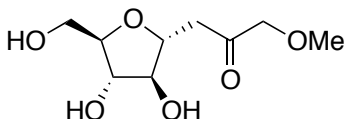


Synthesized from D-arabinose, flash column chromatography ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 9:1$), 143 mg, 70% (**8-1**:**8-2** = 2:3). R_f 0.52 ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 9:1$). Pale yellow viscous oil. ^1H NMR (400 MHz, CD_3OD): δ 4.90-4.80 (m, 1H x 3/5), 4.48 (d, $J = 4.8$ Hz, 1H x 3/5), 4.20-4.14 (m, 2H x 2/5), 4.10-4.06 (m, 1H x 3/5), 3.99-3.93 (m, 1H x 2/5), 3.87 (dd, $J = 13.4$ Hz, 3.0 Hz, 1H x 3/5), 3.83-3.76 (m, 3H x 2/5), 3.66 (dd, $J = 12.0$ Hz, 3.4 Hz, 1H x 2/5), 3.60 (dd, $J = 12.0$ Hz, 5.2 Hz, 1H x 2/5), 2.85-2.70 (m, 2H x 2/5), 2.59-2.47 (m, 2H x 2/5), 2.11 (d, $J = 14.4$ Hz, 1H x 3/5), 1.91 (dd, $J = 14.4$ Hz, 6.6 Hz, 1H x 3/5), 1.80-1.59 (m, 2H x 3/5), 1.01 (t, $J = 7.2$ Hz, 3H x 2/5), 0.91 (t, $J = 7.4$ Hz, 3H x 3/5). ^{13}C NMR (100 MHz, CD_3OD): δ 212.5, 111.6, 88.4, 85.4, 84.7, 82.3, 81.1, 80.7, 79.7, 78.7, 70.1, 63.4, 47.1, 42.0, 37.5, 32.1, 9.2, 7.9. ESI-HRMS: m/z calcd for $\text{C}_9\text{H}_{17}\text{O}_5$ $[\text{M}+\text{H}]^+$ 205.1071, found 205.1073.

Compound 9 (9-1 and 9-2)²

Synthesized from D-arabinose, flash column chromatography ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 9:1$); **9-1**, 50 mg, 17%, R_f 0.48 ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 9:1$); **9-2**, 141 mg, 48%, R_f 0.57 ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 9:1$).

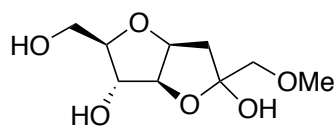
Compound 9-1²



R_f 0.48 ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 9:1$). Pale yellow viscous oil. ^1H NMR (400 MHz, CD_3OD): δ 4.20-4.15 (m, 1H), 4.15 (s, 2H),

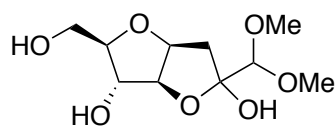
3.96 (t, $J = 5.4$ Hz, 1H), 3.84-3.80 (m, 2H), 3.67 (dd, $J = 12.0$ Hz, 3.6 Hz, 1H), 3.59 (dd, $J = 12.0$ Hz, 5.2 Hz, 1H), 3.39 (s, 3H), 2.80 (dd, $J = 15.8$ Hz, 8.4 Hz, 1H), 2.71 (dd, $J = 15.8$ Hz, 4.4 Hz, 1H). ^{13}C NMR (100 MHz, CD_3OD): δ 209.0, 85.4, 82.3, 80.5, 78.9, 78.6, 63.3, 59.6, 43.7. ESI-HRMS: m/z calcd for $\text{C}_9\text{H}_{16}\text{O}_6\text{Na}$ $[\text{M}+\text{Na}]^+$ 243.0839, found 243.0844.

Compound 9-2²



R_f 0.57 ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 9:1$). Pale yellow viscous oil. ^1H NMR (400 MHz, CD_3OD): δ 4.77 (ddd, $J = 5.6$ Hz, 4.2 Hz, 1.6 Hz, 1H x 1/2), 4.71 (dd, $J = 5.0$ Hz, 4.4 Hz, 1H x 1/2), 4.52 (dd, $J = 4.2$ Hz, 0.8 Hz, 1H x 1/2), 4.45 (dd, $J = 4.4$ Hz, 0.8 Hz, 1H x 1/2), 4.22 (d, $J = 4.8$ Hz, 1H x 1/2), 4.06 (d, $J = 4.4$ Hz, 1H x 1/2), 3.84-3.74 (m, 3H x 1/2), 3.72-3.65 (m, 1H), 3.60 (dd, $J = 11.6$ Hz, 6.0 Hz, 1H x 1/2), 3.42 (d, $J = 8.0$ Hz, 2H x 1/2), 3.39 (s, 3H x 1/2), 3.38 (s, 3H x 1/2), 3.36 (d, $J = 0.8$ Hz, 2H x 1/2), 2.27 (dd, $J = 14.4$ Hz, 1.6 Hz, 1H x 1/2), 2.24 (dd, $J = 14.4$ Hz, 5.0 Hz, 1H x 1/2), 2.11 (dd, $J = 14.4$ Hz, 5.6 Hz, 1H x 1/2), 2.09 (d, $J = 14.4$ Hz, 1H). ^{13}C NMR (100 MHz, CD_3OD): δ 108.3, 108.1, 94.3, 91.6, 90.0, 89.1, 84.3, 84.1, 79.1, 77.9, 77.6, 77.1, 63.5, 62.4, 59.84, 59.81, 43.2, 41.7. ESI-HRMS: m/z calcd for $\text{C}_9\text{H}_{16}\text{O}_6\text{Na}$ $[\text{M}+\text{Na}]^+$ 243.0839, found 243.0843.

Compound 10



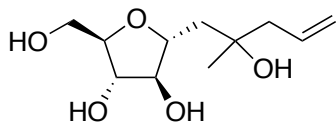
Synthesized from D-arabinose, flash column chromatography ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 93:7$), 100 mg, 30%. R_f 0.57 ($\text{CH}_2\text{Cl}_2/\text{MeOH} = 9:1$). Pale yellow viscous oil. ^1H NMR (400 MHz, CD_3OD): δ 4.77 (ddd, $J = 6.4$ Hz, 4.4 Hz, 2.0 Hz, 1H x 2/5), 4.66 (dd, $J = 5.6$ Hz, 4.0 Hz, 1H x 3/5), 4.52 (dd, $J = 4.4$ Hz, 0.8 Hz, 1H x 2/5), 4.39 (dd, $J = 4.0$ Hz, 0.8 Hz, 1H x 3/5), 4.23 (s, 1H x 2/5), 4.19 (d, $J = 5.2$ Hz, 1H x 3/5), 4.12 (s, 1H x 3/5), 4.08 (d, $J = 4.4$ Hz, 1H x 2/5), 3.84-3.75 (m, 3H x 2/5), 3.73-3.64 (m, 2H x 3/5), 3.61 (dd, $J = 11.6$ Hz, 6.0 Hz, 1H x 3/5), 3.50 (s, 3H x 2/5), 3.49 (s, 3H x 3/5), 3.47 (s, 3H x 2/5), 3.46 (s, 3H x 3/5), 3.40 (d, $J = 0.8$ Hz, 1H x 3/5), 2.30 (dd, $J = 14.4$ Hz, 5.6 Hz, 1H x 3/5), 2.27 (dd, $J = 14.4$ Hz, 2.0 Hz, 1H x 2/5), 2.06 (dd, $J = 14.4$ Hz, 6.4 Hz, 1H x 2/5), 2.00 (d, $J = 14.4$ Hz, 1H x 3/5). ^{13}C NMR (100 MHz, CD_3OD): δ 109.4, 109.3, 108.4, 107.7, 94.2, 91.8, 90.1, 89.5, 83.9, 83.8, 78.9, 77.7, 63.5, 62.8, 57.88, 57.81, 57.3, 57.0, 42.2, 40.0. ESI-HRMS: m/z calcd for $\text{C}_{10}\text{H}_{18}\text{O}_7\text{Na}$ $[\text{M}+\text{Na}]^+$ 273.0945, found 273.0943.

4. Transformation of 2c to 11 (Scheme 2)

Procedure of Allylation

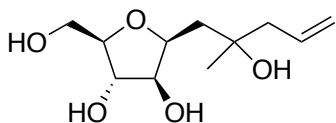
To a solution of **2c** (a mixture of **2c-1**, **2c-2**, and **2c-3** obtained C-glycosidation reaction of D-arabinose, 200 mg, 1.05 mmol) in DMF (1.8 mL)- H_2O (0.2 mL), allyl bromide (1.00 g, 8.42 mmol) and In (484 mg, 4.21 mmol) were added at room temperature (25 °C), and the mixture was stirred at the same temperature for 24 h.⁴ The mixture was purified by flash column chromatography ($\text{CH}_2\text{Cl}_2/\text{MeOH}$ 9:1) to give **11-1**, R_f 0.54 ($\text{CH}_2\text{Cl}_2/\text{MeOH}$ 9:1), 117 mg, 48% and **11-2**, R_f 0.50 ($\text{CH}_2\text{Cl}_2/\text{MeOH}$ 9:1), 97.7 mg, 40%.

Compound 11-1



R_f 0.54 ($\text{CH}_2\text{Cl}_2/\text{MeOH}$ 9:1). Colorless oil. ^1H NMR (400 MHz, CD_3OD): δ 5.95-5.80 (m, 1H), 5.12-5.04 (m, 2H), 4.25-4.17 (m, 1H), 3.97-3.93 (m, 1H), 3.88-3.84 (m, 1H), 3.79-3.73 (m, 1H), 3.69 (dd, $J = 3.6$ Hz, 11.6 Hz, 1H), 3.63 (dd, $J = 5.2$ Hz, 11.6 Hz, 1H), 2.35-2.23 (m, 2H), 1.89-1.75 (m, 2H), 1.21 (s, 3H x 1/2), 1.20 (s, 3H x 1/2). ^{13}C NMR (100 MHz, CD_3OD): δ 135.44, 135.41, 118.38, 118.34, 87.1, 87.0, 80.0, 79.95, 79.93, 79.4, 72.7, 72.6, 63.5, 48.3, 47.9, 40.2, 40.0, 27.3, 26.9. ESI-HRMS: m/z calcd for $\text{C}_{11}\text{H}_{20}\text{O}_5\text{Na}$ $[\text{M}+\text{Na}]^+$ 255.1203, found 255.1201.

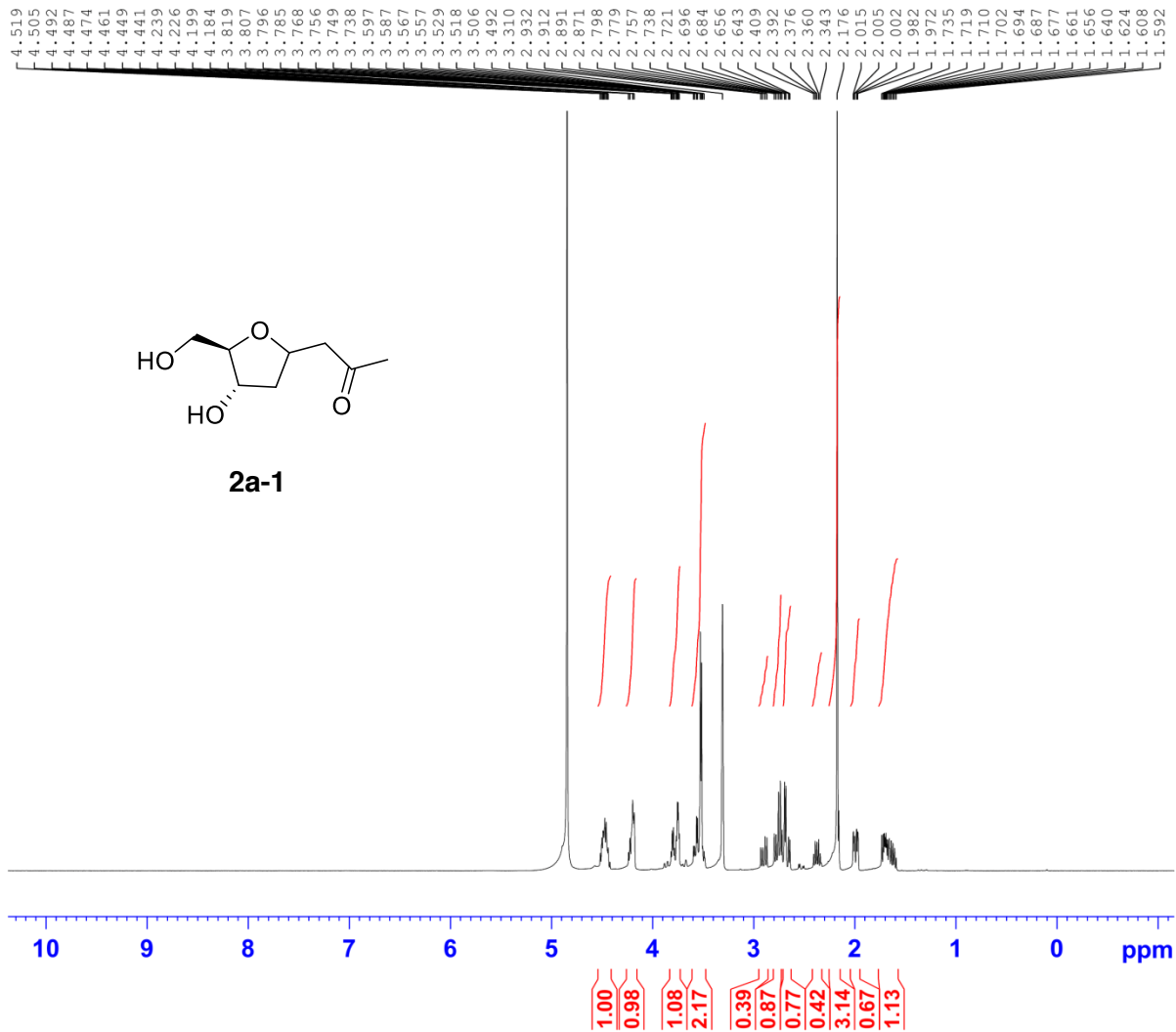
Compound 11-2



R_f 0.50 ($\text{CH}_2\text{Cl}_2/\text{MeOH}$ 9:1). Colorless oil. ^1H NMR (400 MHz, CD_3OD): δ 5.95-5.78 (m, 1H), 5.11-5.02 (m, 2H), 4.04-3.97 (m, 1H), 3.96-3.88 (m, 1H), 3.88-3.76 (m, 1H), 3.76-3.49 (m, 3H), 2.35-2.22 (m, 2H), 1.86-1.72 (m, 2H), 1.25-1.13 (m, 3H). ^{13}C NMR (100 MHz, CD_3OD): δ (major isomer of **11-2**) 135.8, 118.3, 84.7, 83.6, 80.7, 78.5, 73.1, 63.5, 48.1, 45.8, 27.2. ESI-HRMS: m/z calcd for $\text{C}_{11}\text{H}_{20}\text{O}_5\text{Na}$ $[\text{M}+\text{Na}]^+$ 255.1203, found 255.1203.

5. References

- (1) Wang, J.; Li, Q.; Ge, Z.; Li, R. *Tetrahedron* **2012**, *68*, 1315.
- (2) Witte, S. N. R.; Voigt, B.; Mahrwald, R. *Synthesis* **2015**, *47*, 2249.
- (3) Riemann, I.; Papadopoulos, M. A.; Knorst, M.; Fessner, W.-D. *Aust. J. Chem.* **2002**, *55*, 147.
- (4) Chan, T. H.; Yang, Y. *J. Am. Chem. Soc.*, **1999**, *121*, 3228.



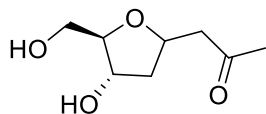
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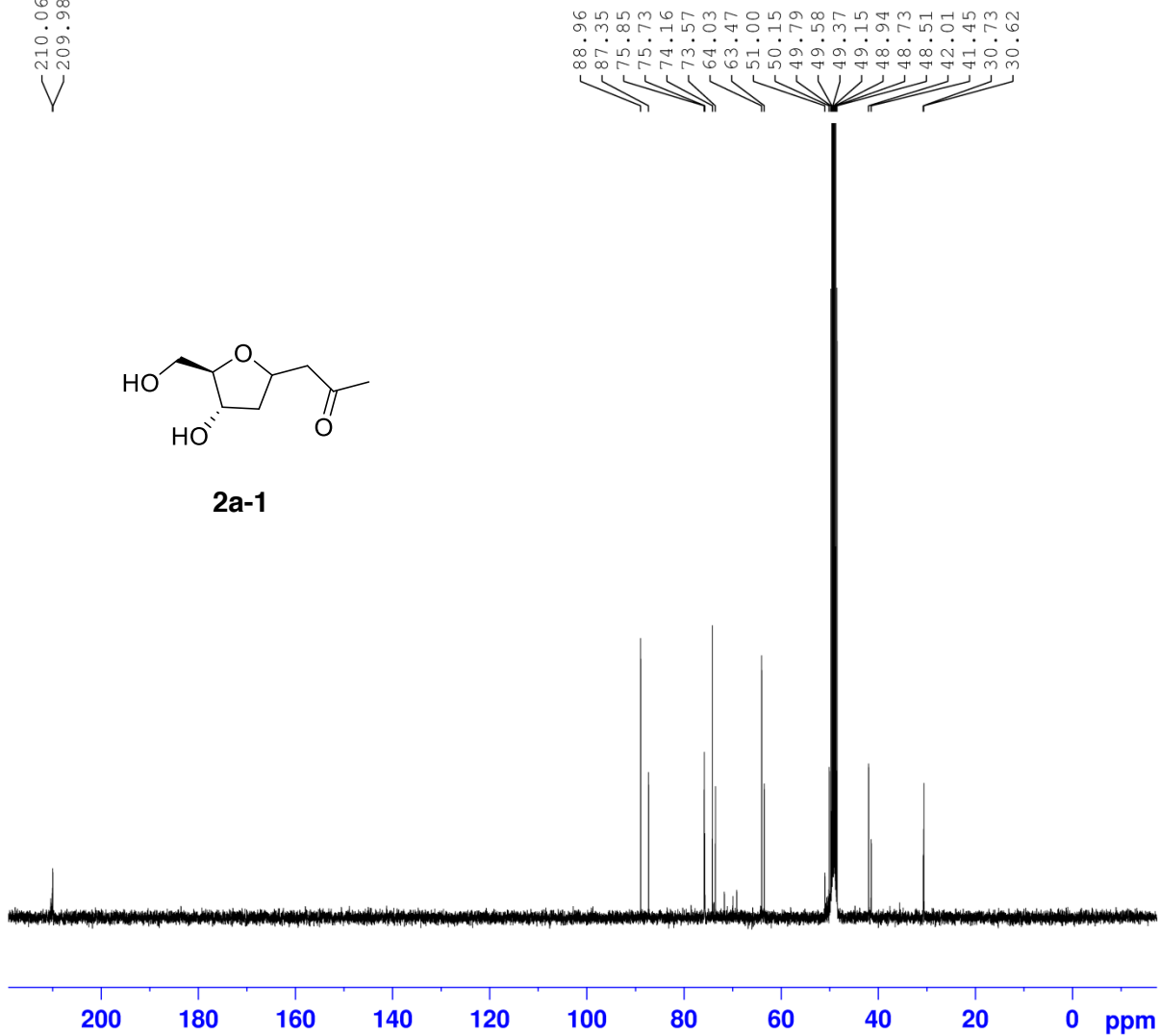
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2a-1



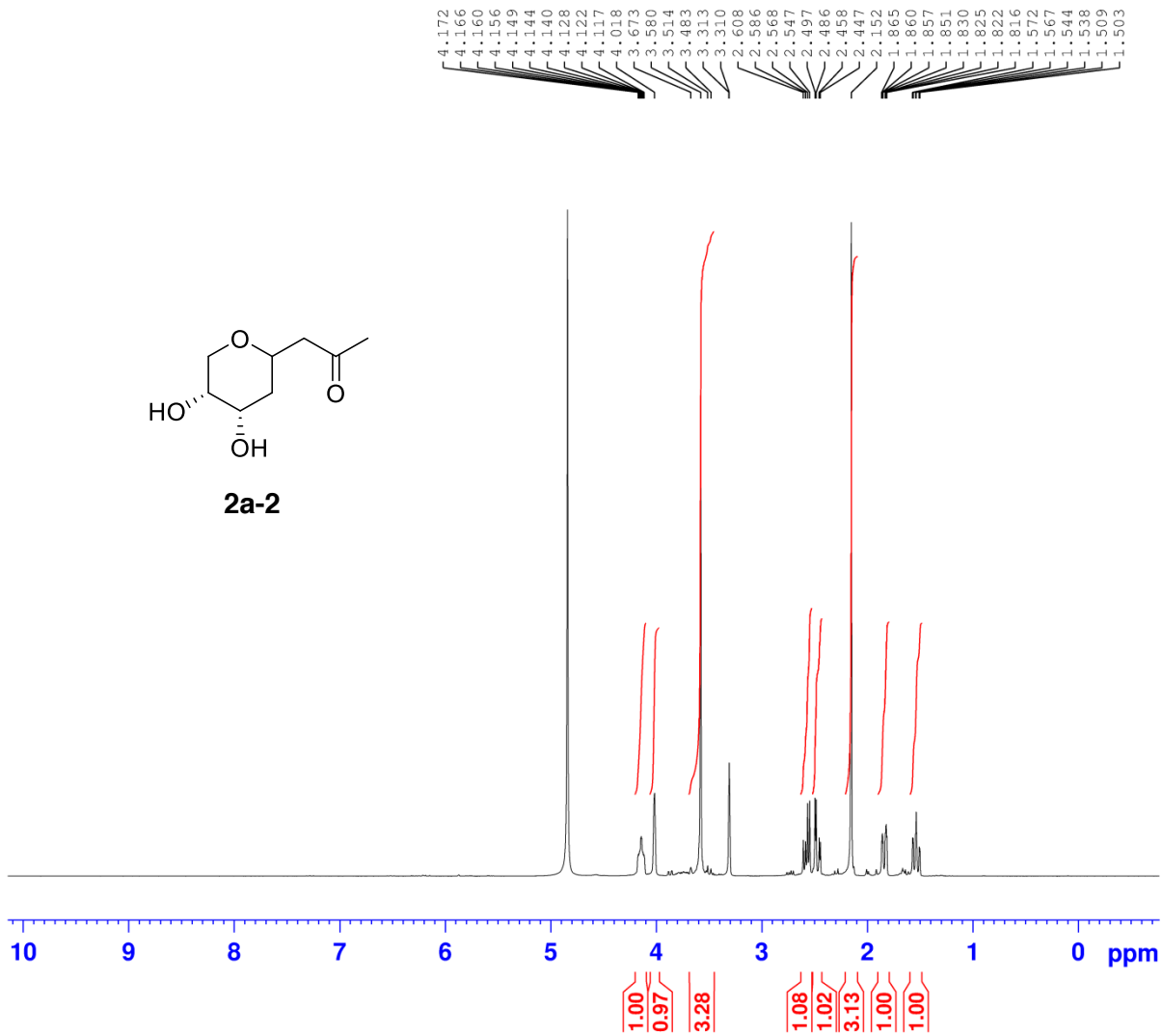
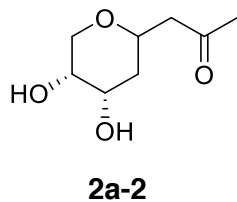
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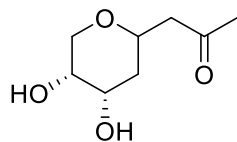
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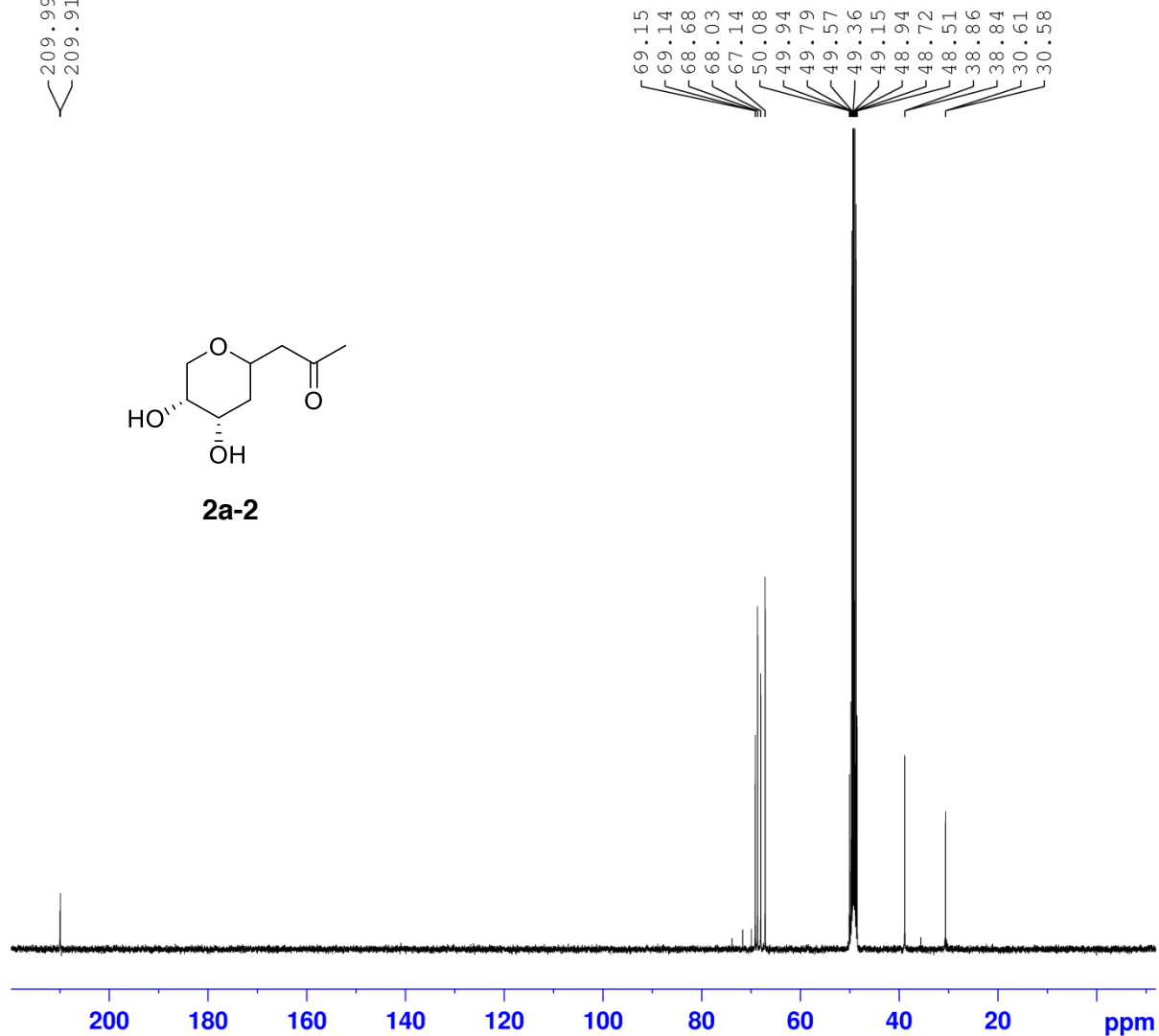
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2a-2



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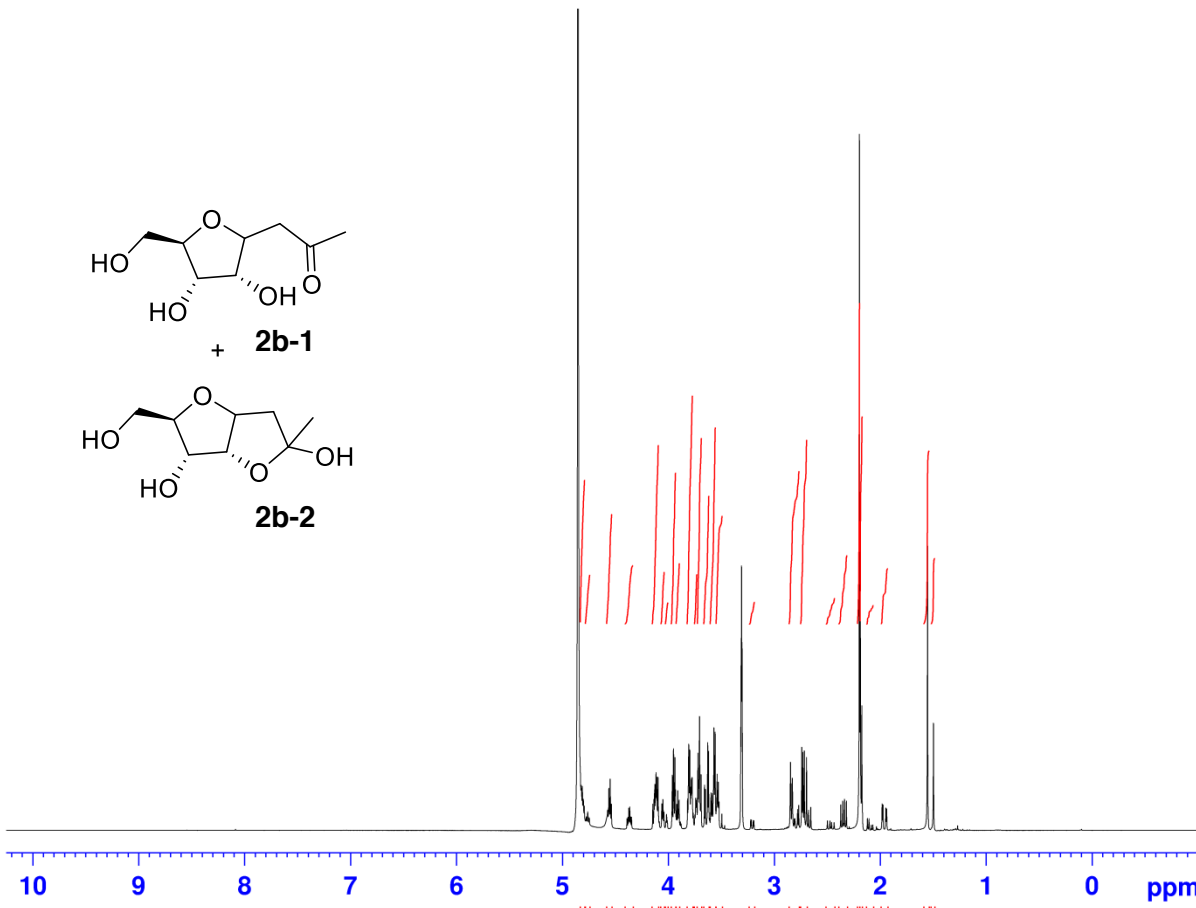
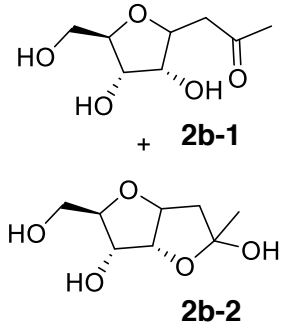
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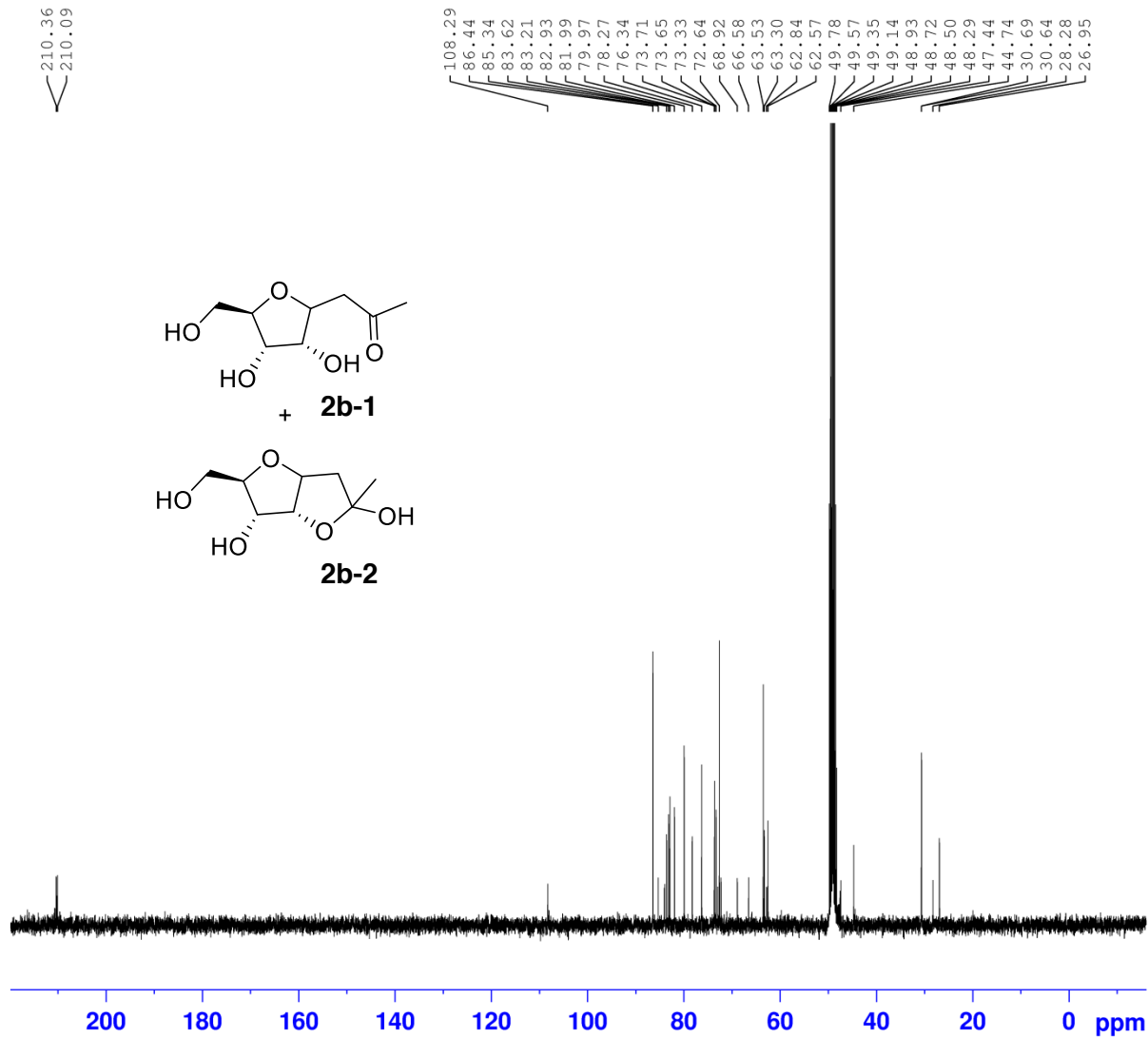
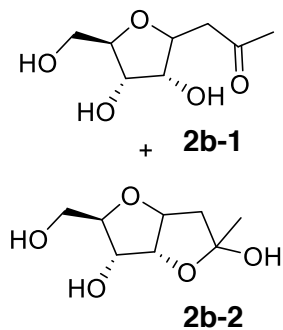
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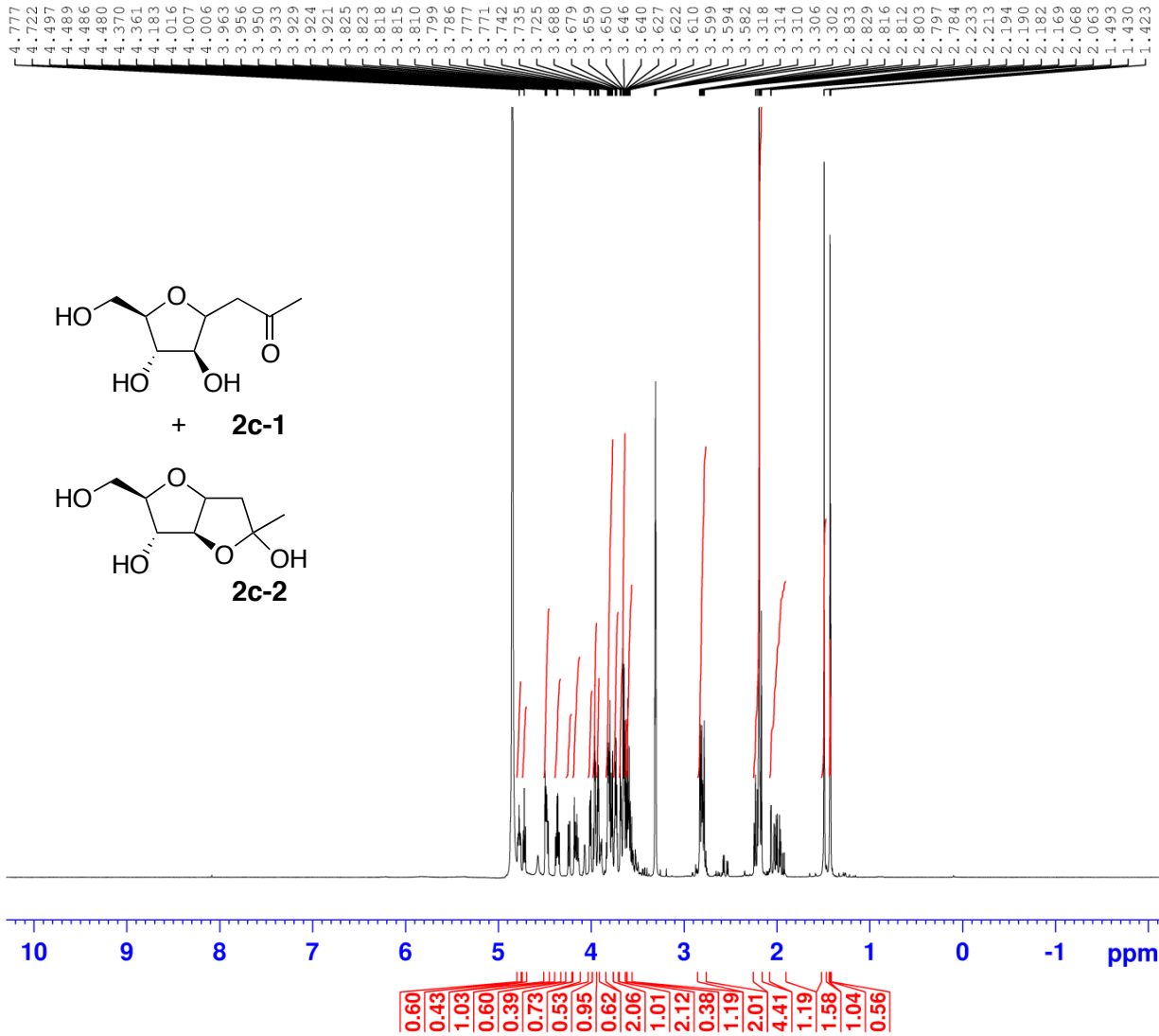
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 AQ 1.3631488 sec
 RG 195.88
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 SFO1 100.6228293 MHz
 NUC1 13C
 P1 10.00 usec
 PLW1 70.00000000 W

==== CHANNEL f2 =====
 SFO2 400.1316005 MHz
 NUC2 1H
 CPDPRG[2] waltz16
 PCPD2 80.00 usec
 PLW2 8.00000000 W
 PLW12 0.28125000 W
 PLW13 0.28125000 W

F2 - Processing parameters
 SI 32768
 SF 100.6126138 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40



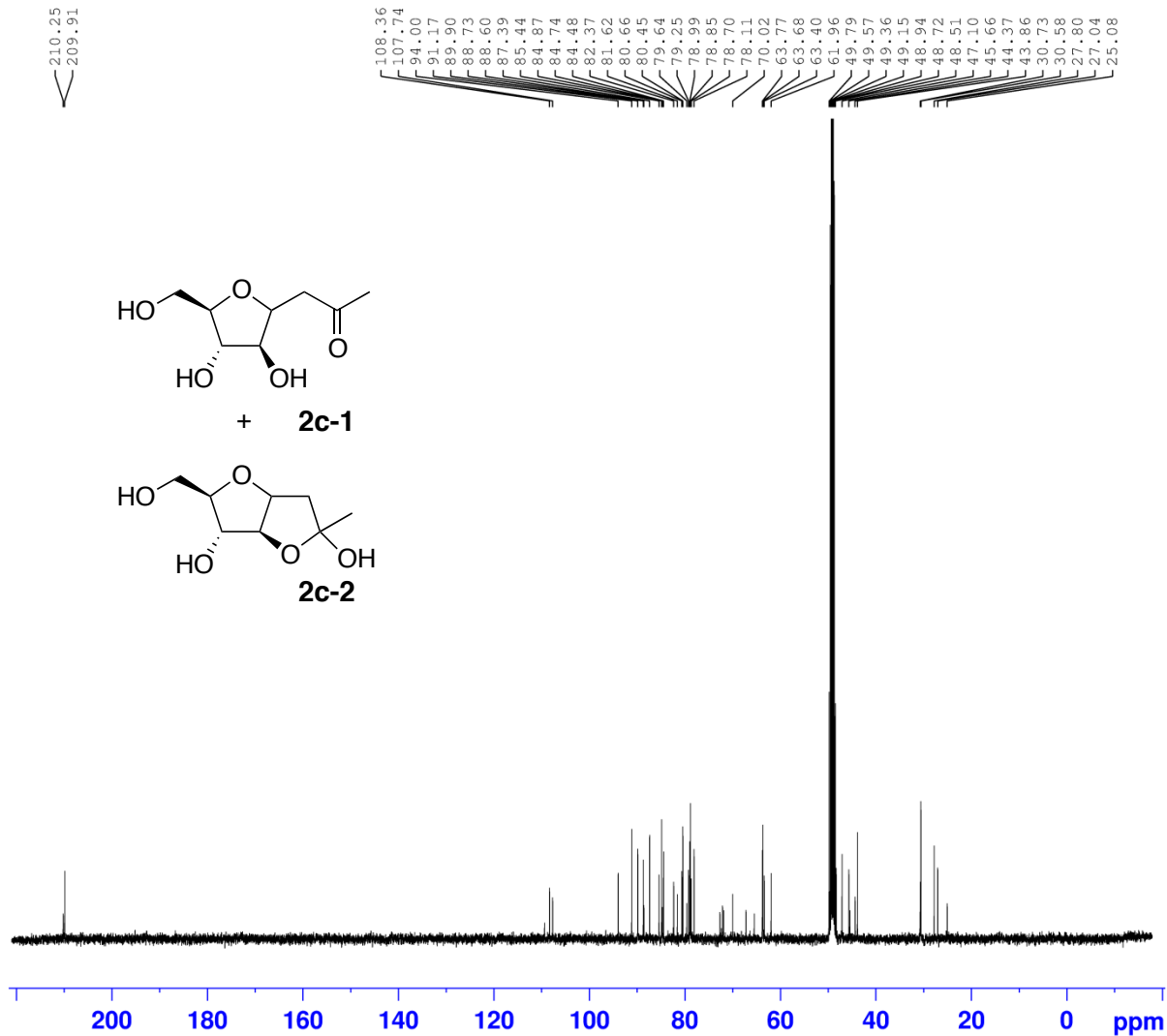
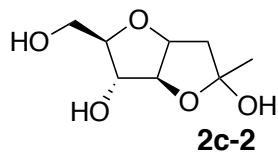
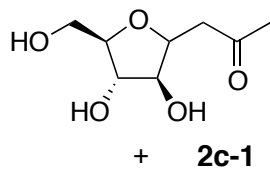
Current Data Parameters
 NAME EJ2015-06-29
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150629
 Time 15.32
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 31.13
 DW 62.400 usec
 DE 6.50 usec
 TE 0 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 SF01 400.1324710 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 8.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300078 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

210.25
209.91



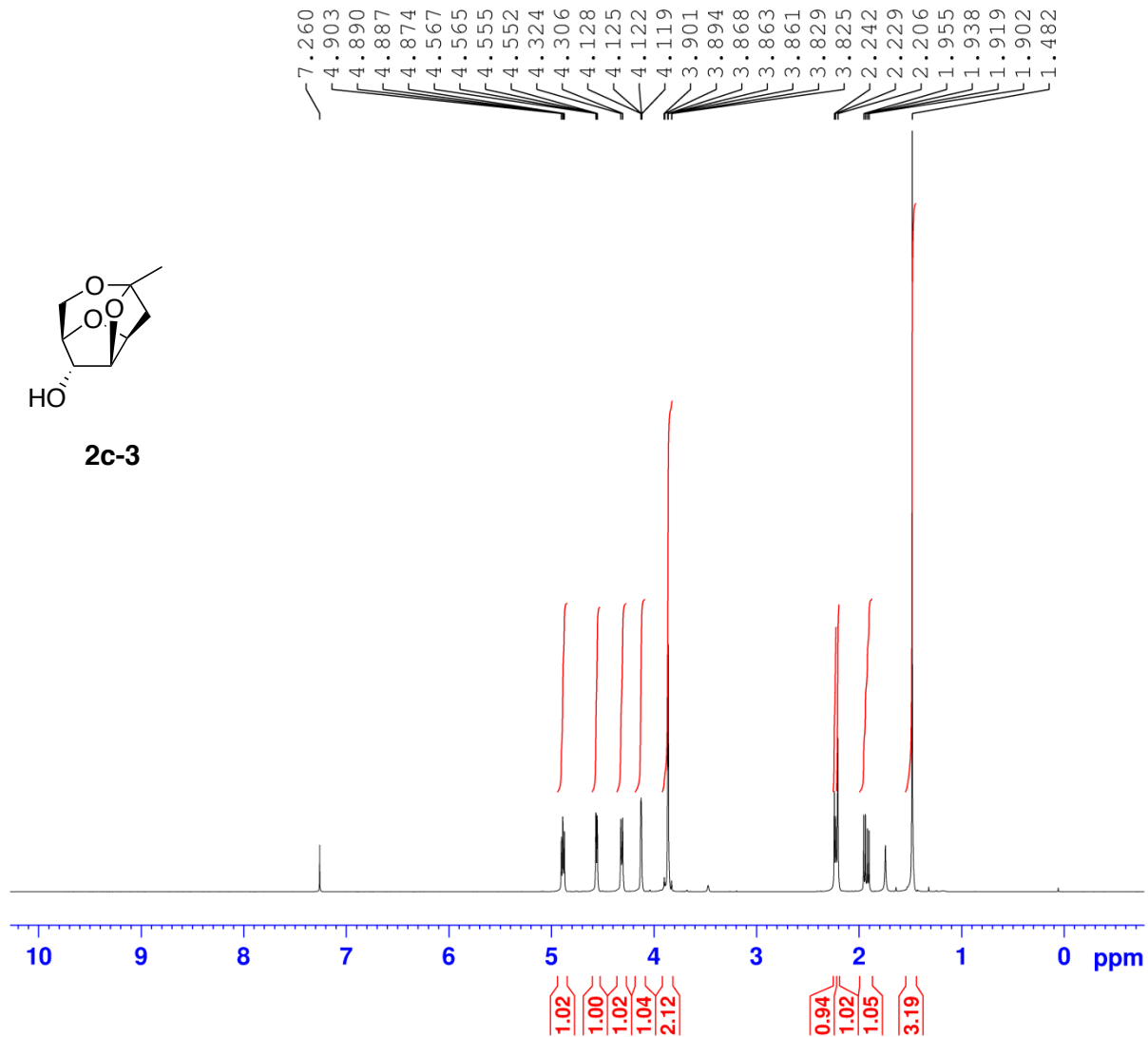
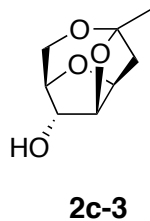
Current Data Parameters
NAME EJ2015-06-29
EXPNO 21
PROCNO 1

F2 - Acquisition Parameters
Date_ 20150701
Time 10.18
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 1024
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 195.88
DW 20.800 usec
DE 6.50 usec
TE 0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 100.6228293 MHz
NUC1 13C
P1 10.00 usec
PLW1 70.00000000 W

==== CHANNEL f2 =====
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 8.00000000 W
PLW12 0.28125000 W
PLW13 0.28125000 W

F2 - Processing parameters
SI 32768
SF 100.6126133 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

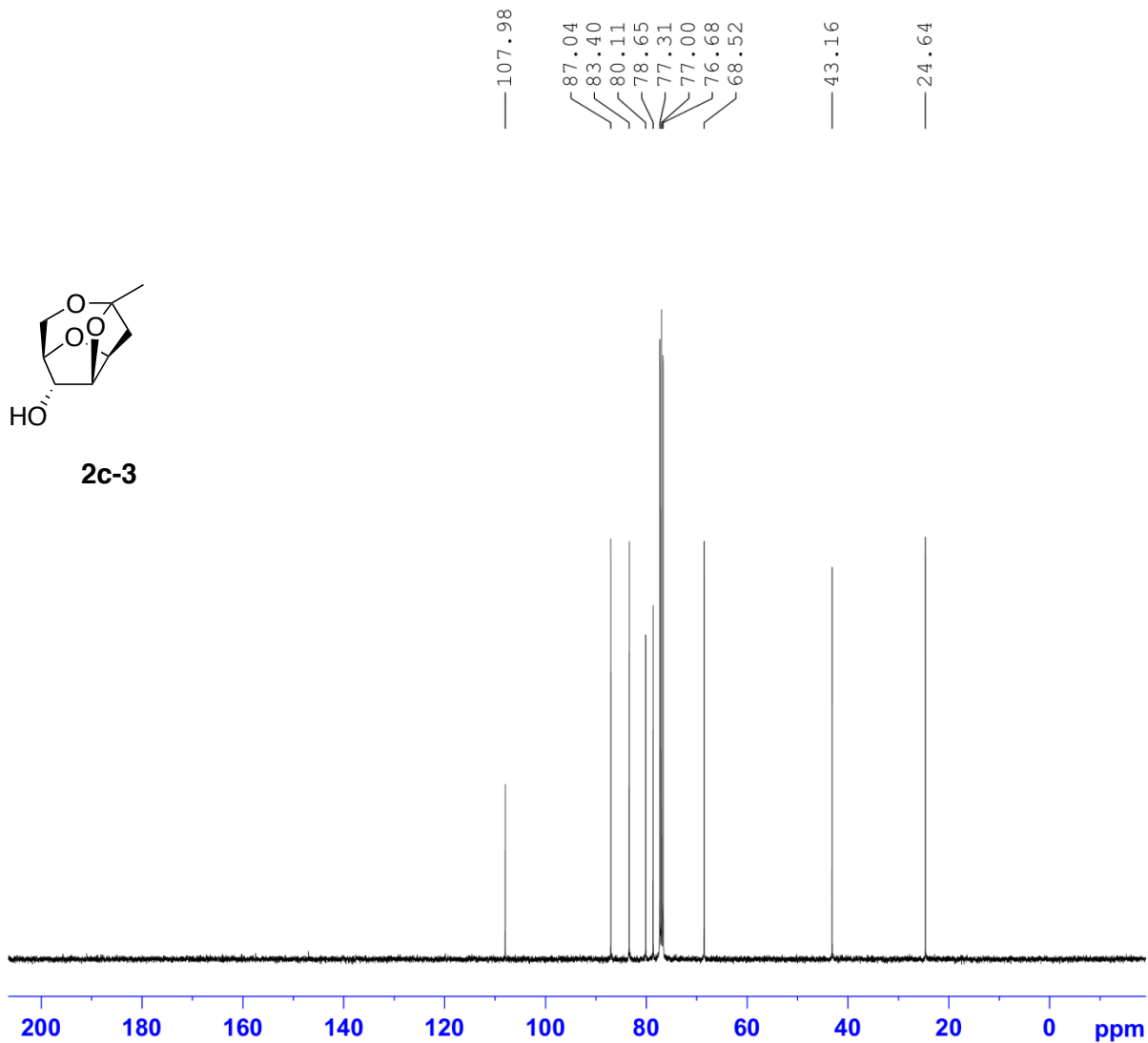
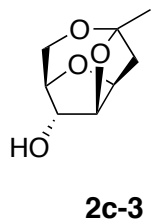


Current Data Parameters
 NAME 2015-01-27
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150128
 Time 16.13
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 49.09
 DW 62.400 usec
 DE 6.50 usec
 TE 298.5 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 SFO1 400.1324710 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 8.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300098 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



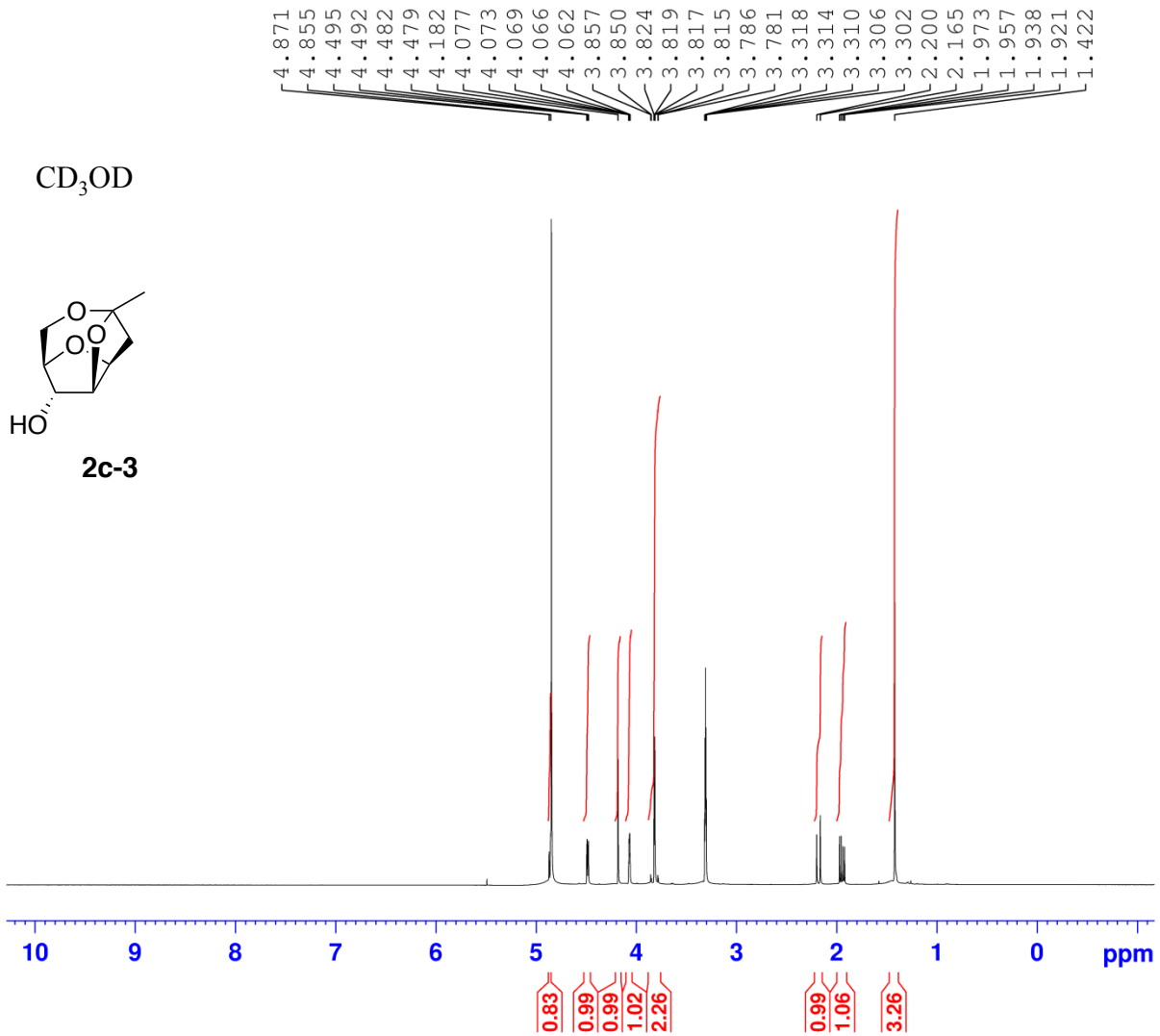
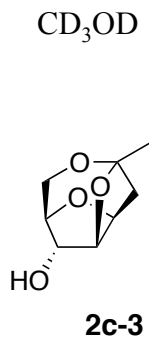
Current Data Parameters
 NAME EJ2015-07-09
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150709
 Time_ 12.07
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zgpg30
 TD 65536
 SOLVENT CDC13
 NS 1024
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631488 sec
 RG 195.88
 DW 20.800 usec
 DE 6.50 usec
 TE 299.5 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TD0 1

==== CHANNEL f1 =====
 SFO1 100.6228293 MHz
 NUC1 13C
 P1 10.00 usec
 PLW1 70.00000000 W

==== CHANNEL f2 =====
 SFO2 400.1316005 MHz
 NUC2 1H
 CPDPRG[2] waltz16
 PCPD2 80.00 usec
 PLW2 8.00000000 W
 PLW12 0.28125000 W
 PLW13 0.28125000 W

F2 - Processing parameters
 SI 32768
 SF 100.6127721 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40



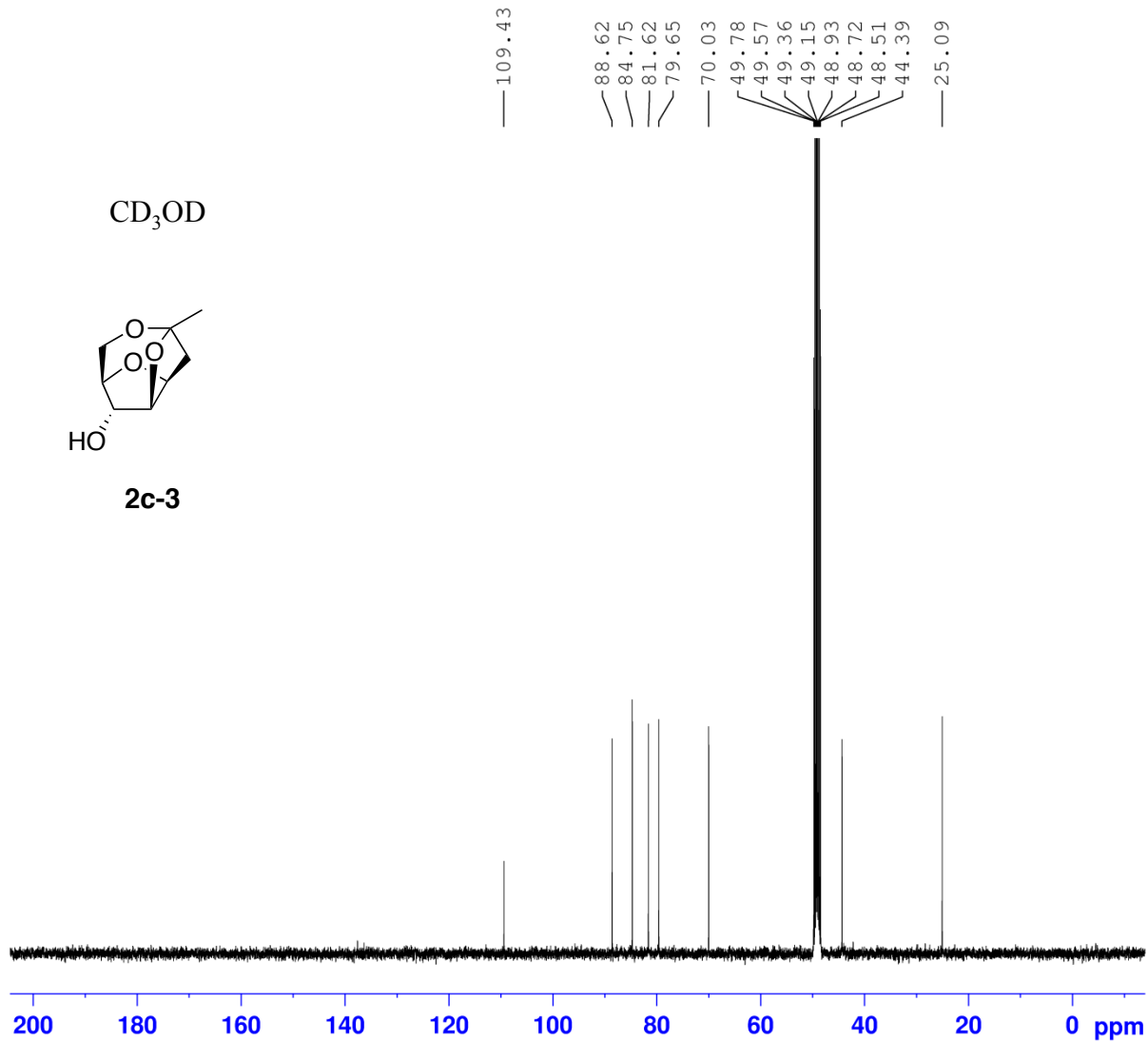
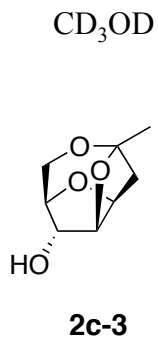
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Current Data Parameters
NAME      2014-12-12
EXPNO    10
PROCNO   1

F2 - Acquisition Parameters
Date_    20141212
Time     9.17
INSTRUM  spect
PROBHD   5 mm PABBO BB/
PULPROG  zg30
TD       65536
SOLVENT  MeOD
NS       50
DS       2
SWH      8012.820 Hz
FIDRES   0.122266 Hz
AQ       4.0894465 sec
RG       71.01
DW       62.400 usec
DE       6.50 usec
TE       298.4 K
D1       1.00000000 sec
TD0      1

===== CHANNEL f1 =====
SFO1    400.1324710 MHz
NUC1    1H
P1      15.00 usec
PLW1    8.00000000 W

F2 - Processing parameters
SI      65536
SF      400.1300078 MHz
WDW     EM
SSB     0
LB      0.30 Hz
GB      0
PC      1.00
  
```



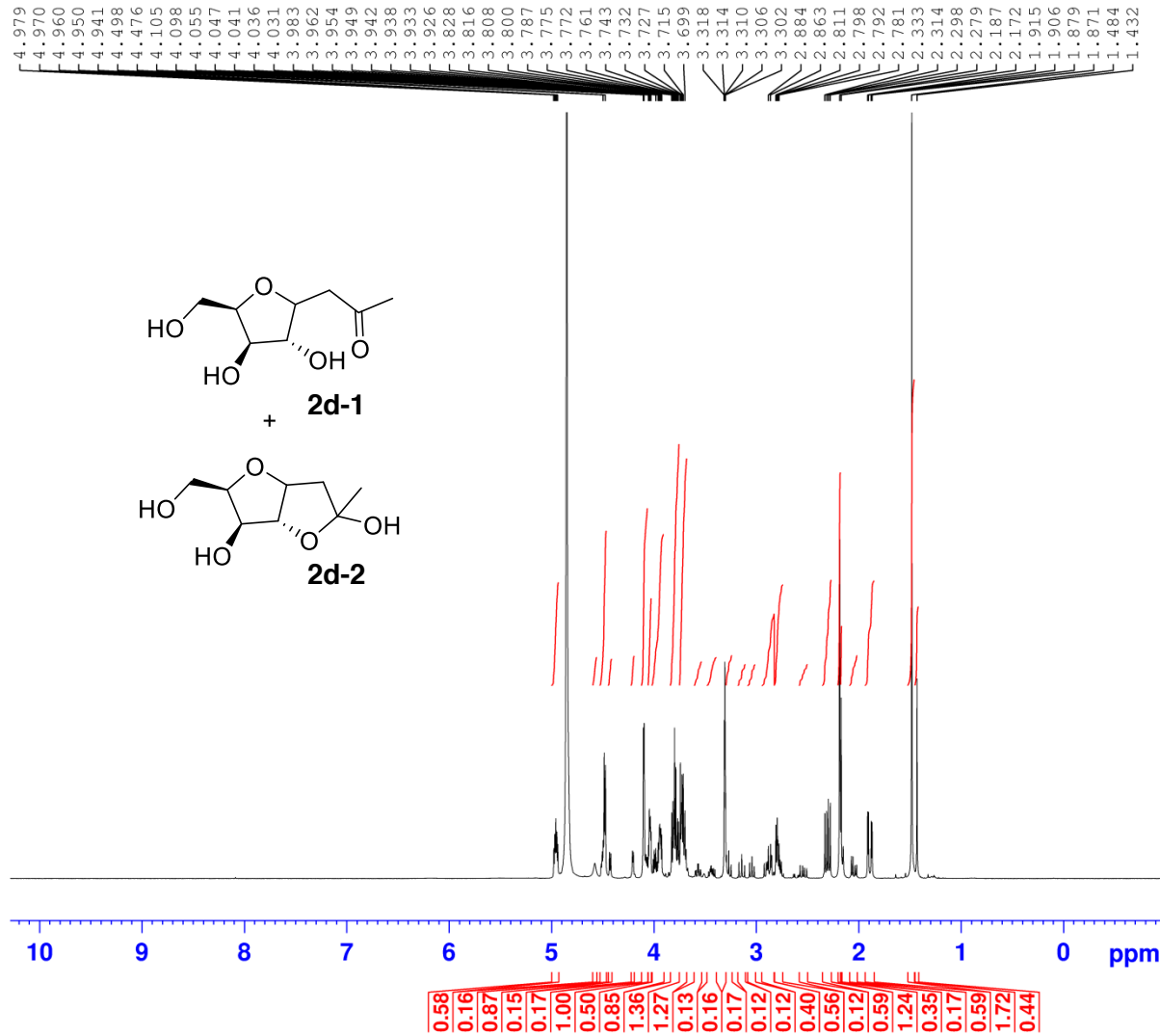
Current Data Parameters
 NAME 2014-12-12
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20141214
 Time 10.49
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zgpg30
 TD 65536
 SOLVENT MeOD
 NS 1024
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631488 sec
 RG 195.88
 DW 20.800 usec
 DE 6.50 usec
 TE 299.4 K
 D1 2.0000000 sec
 D11 0.0300000 sec
 TD0 1

===== CHANNEL f1 =====
 SFO1 100.6228293 MHz
 NUC1 13C
 P1 10.00 usec
 PLW1 70.0000000 W

===== CHANNEL f2 =====
 SFO2 400.1316005 MHz
 NUC2 1H
 CPDPRG[2] waltz16
 PCPD2 80.00 usec
 PLW2 8.0000000 W
 PLW12 0.28125000 W
 PLW13 0.28125000 W

F2 - Processing parameters
 SI 32768
 SF 100.6126125 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40



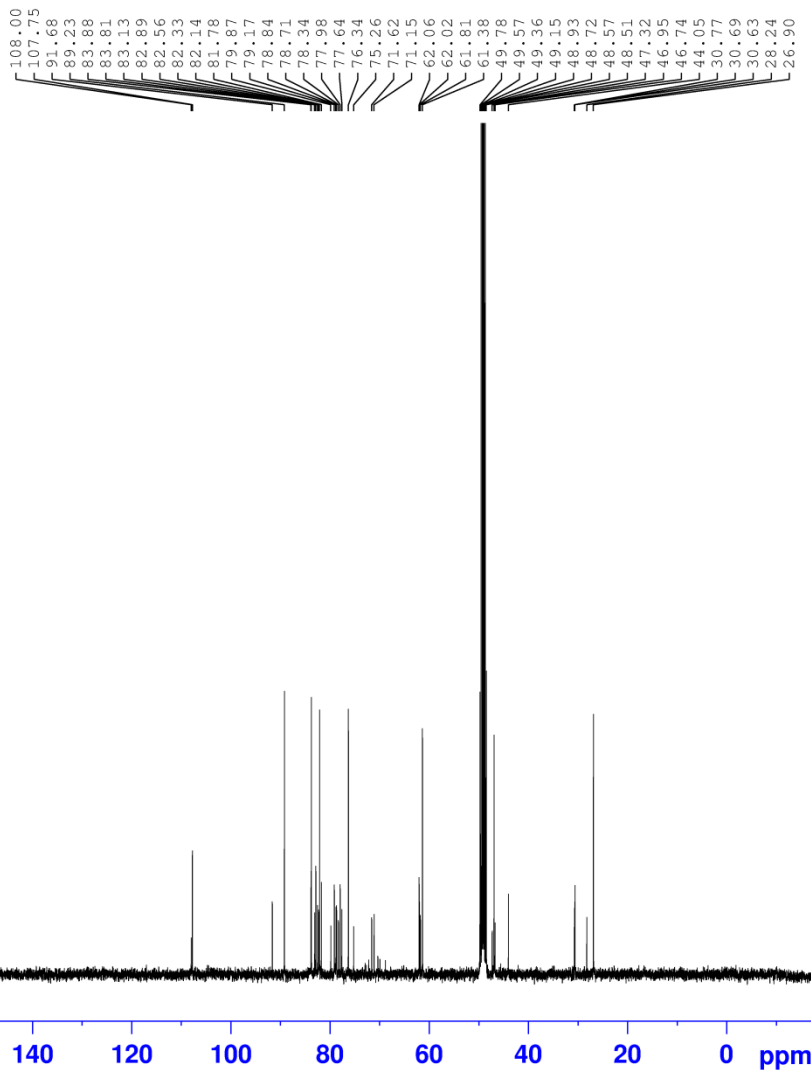
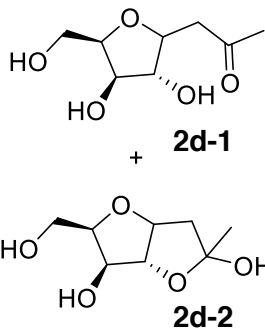
Current Data Parameters
 NAME EJ2015-06-29
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150629
 Time 15.48
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 31.13
 DW 62.400 usec
 DE 6.50 usec
 TE 0 K
 D1 1.00000000 sec
 TDO 1

===== CHANNEL f1 =====
 SFO1 400.1324710 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 8.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300078 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

210.35
210.26
210.19
210.11



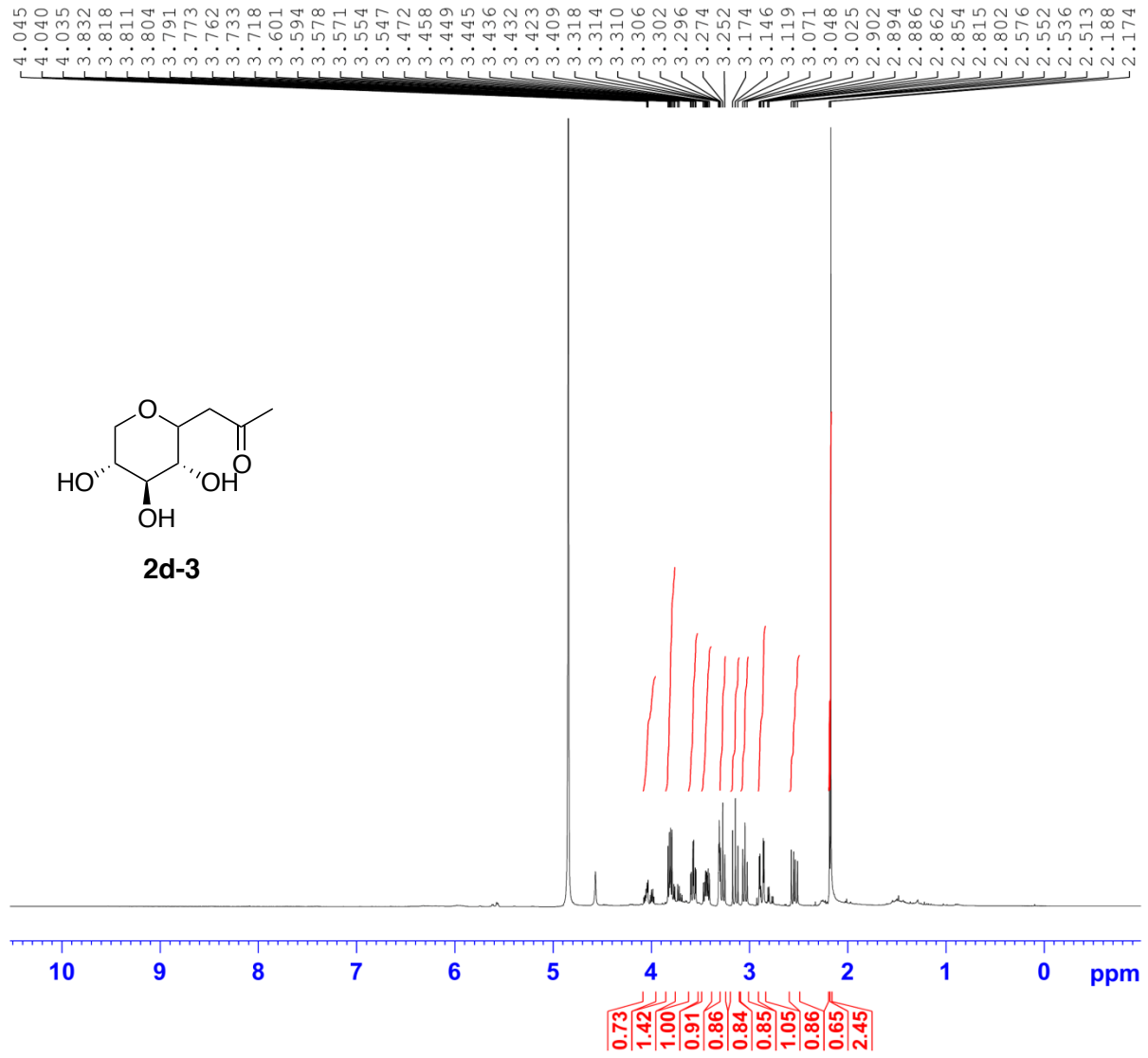
Current Data Parameters
 NAME EJ2015-06-29
 EXPNO 23
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150702
 Time 11.03
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zgpg30
 TD 65536
 SOLVENT MeOD
 NS 1024
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631488 sec
 RG 195.88
 DW 20.800 usec
 DE 6.50 usec
 TE 0 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TD0 1

===== CHANNEL f1 =====
 SFO1 100.6228293 MHz
 NUC1 13C
 P1 10.00 usec
 PLW1 70.00000000 W

===== CHANNEL f2 =====
 SFO2 400.1316005 MHz
 NUC2 1H
 CPDPRG[2] waltz16
 PCPD2 80.00 usec
 PLW2 8.00000000 W
 PLW12 0.28125000 W
 PLW13 0.28125000 W

F2 - Processing parameters
 SI 32768
 SF 100.6126138 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40



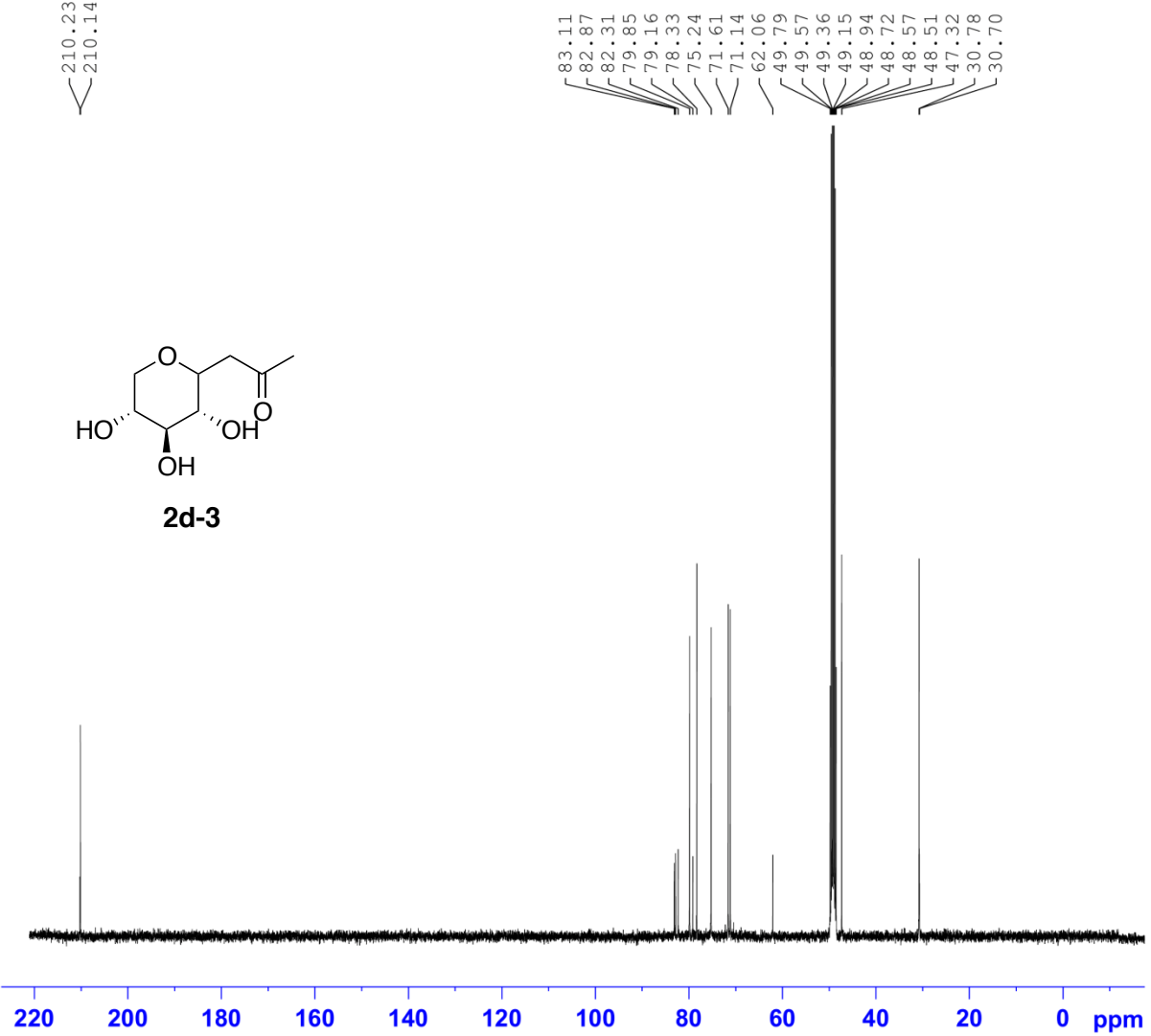
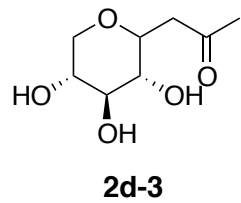
Current Data Parameters
NAME EJ2016-06-08
EXPNO 8
PROCNO 1

F2 - Acquisition Parameters
Date 20160608
Time 10.41
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 16
DS 2
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894465 sec
RG 31.13
DW 62.400 usec
DE 6.50 usec
TE 298.6 K
D1 1.00000000 sec
TDO 1

==== CHANNEL f1 =====
SFO1 400.1324710 MHz
NUC1 1H
P1 15.00 usec
PLW1 8.00000000 W

F2 - Processing parameters
SI 65536
SF 400.1300073 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

< 210.23
< 210.14



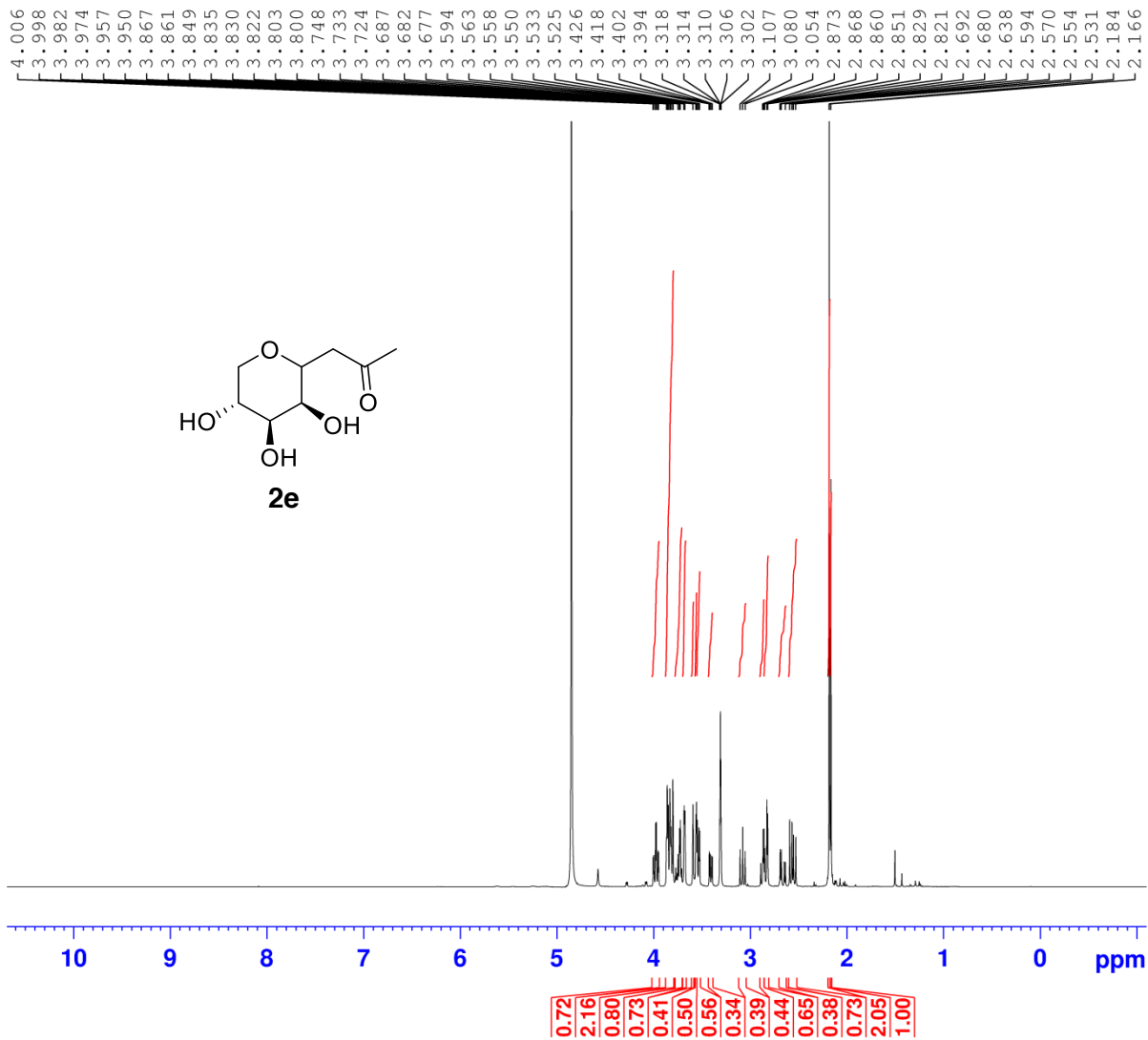
Current Data Parameters
NAME EJ2016-06-08
EXPNO 10
PROCNO 1

F2 - Acquisition Parameters
Date_ 20160608
Time 15.12
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 1024
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 195.88
DW 20.800 usec
DE 6.50 usec
TE 299.6 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 100.6228293 MHz
NUC1 13C
P1 10.00 usec
PLW1 70.00000000 W

==== CHANNEL f2 =====
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 8.00000000 W
PLW12 0.28125000 W
PLW13 0.28125000 W

F2 - Processing parameters
SI 32768
SF 100.6126144 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



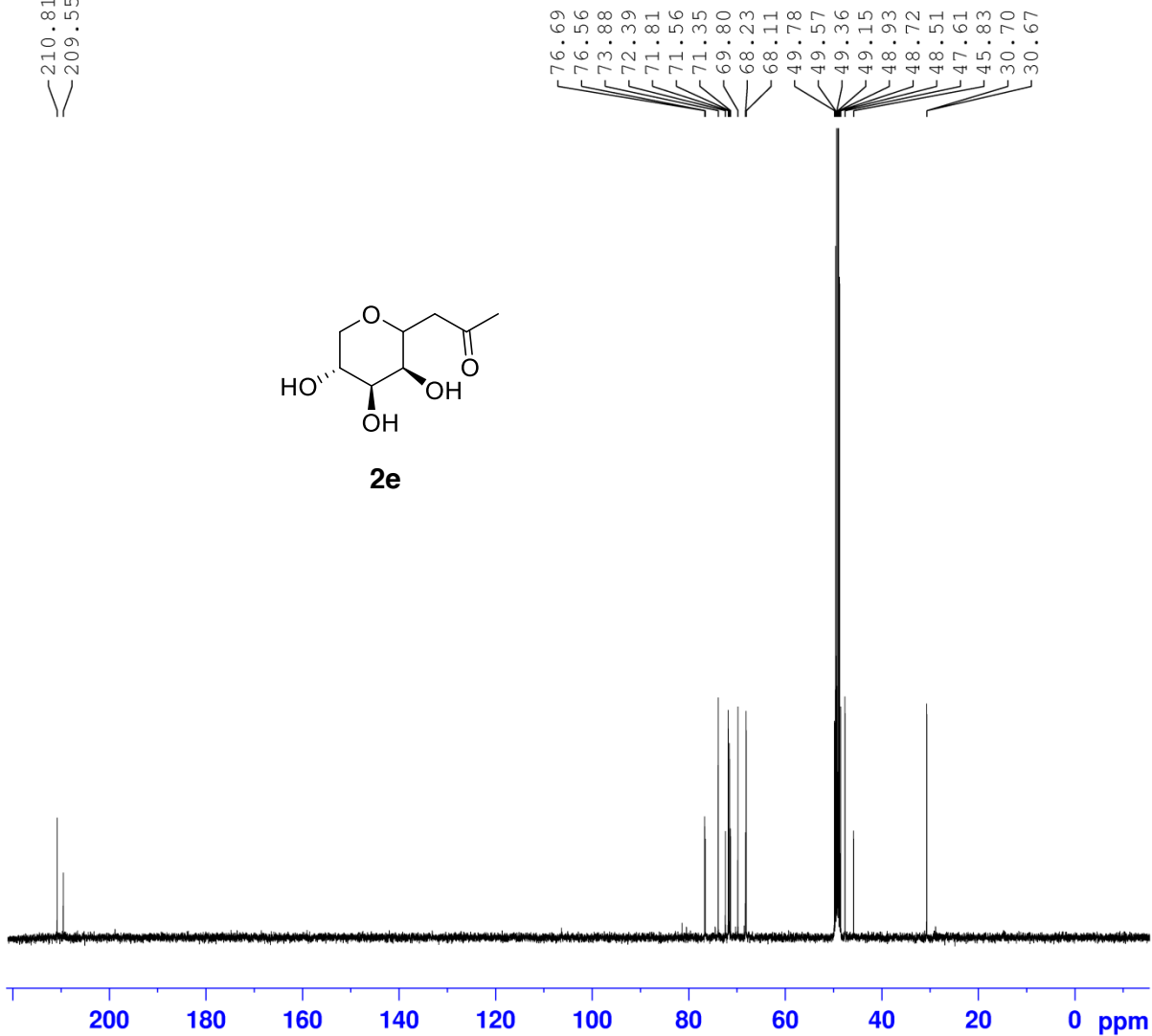
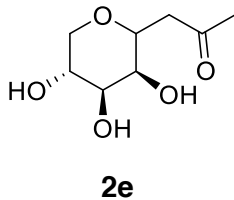
Current Data Parameters
 NAME EJ2015-06-29
 EXPNO 9
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150629
 Time 16.04
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 31.13
 DW 62.400 usec
 DE 6.50 usec
 TE 0 K
 D1 1.0000000 sec
 TDO 1

===== CHANNEL f1 =====
 SF01 400.1324710 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 8.0000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300077 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

210.81
209.55



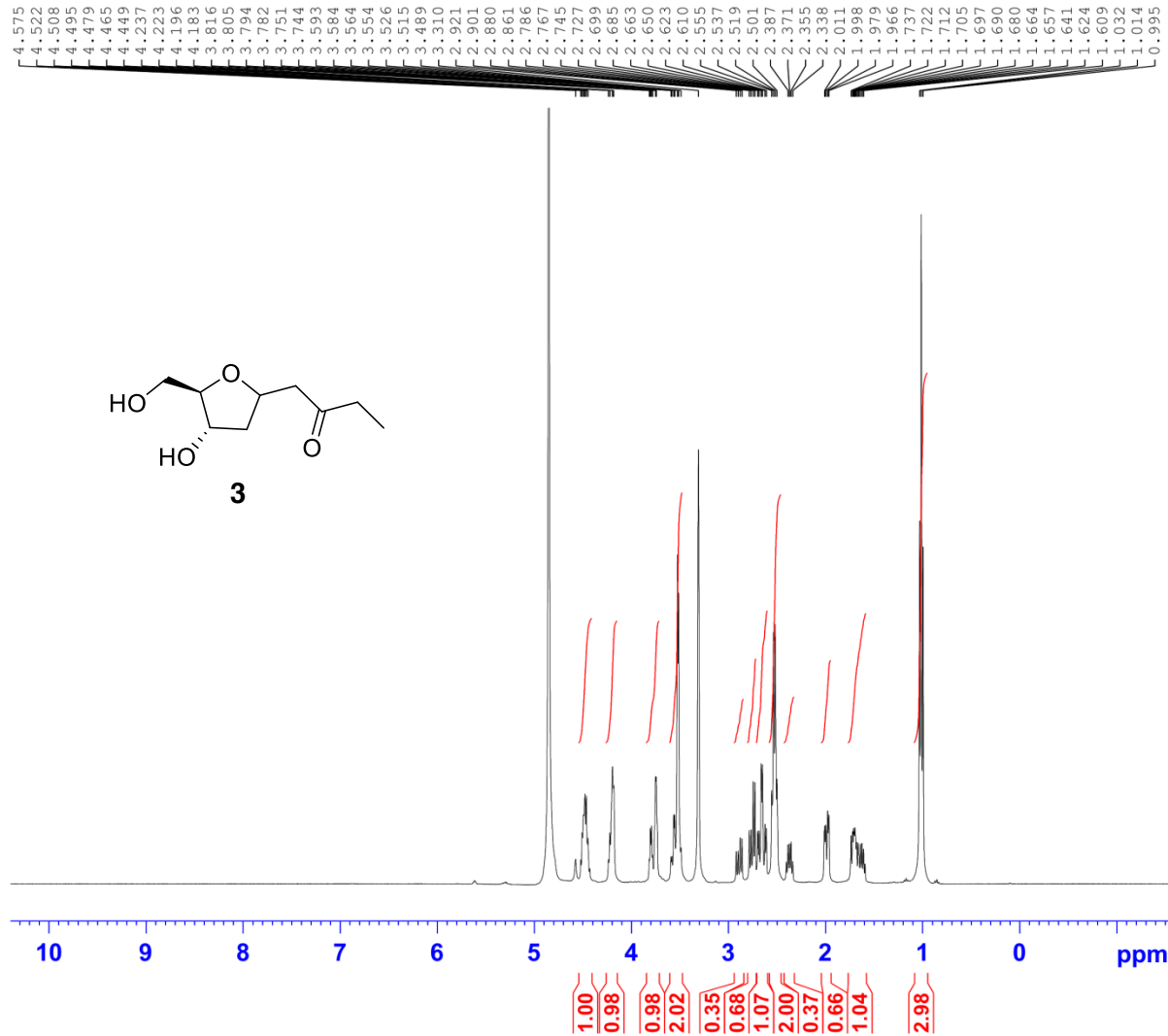
Current Data Parameters
NAME EJ2015-06-29
EXPNO 27
PROCNO 1

F2 - Acquisition Parameters
Date_ 20150703
Time 15.12
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 1024
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 195.88
DW 20.800 usec
DE 6.50 usec
TE 299.4 K
D1 2.0000000 sec
D11 0.0300000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 100.6228293 MHz
NUC1 13C
P1 10.00 usec
PLW1 70.0000000 W

===== CHANNEL f2 =====
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 8.0000000 W
PLW12 0.28125000 W
PLW13 0.28125000 W

F2 - Processing parameters
SI 32768
SF 100.6126134 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



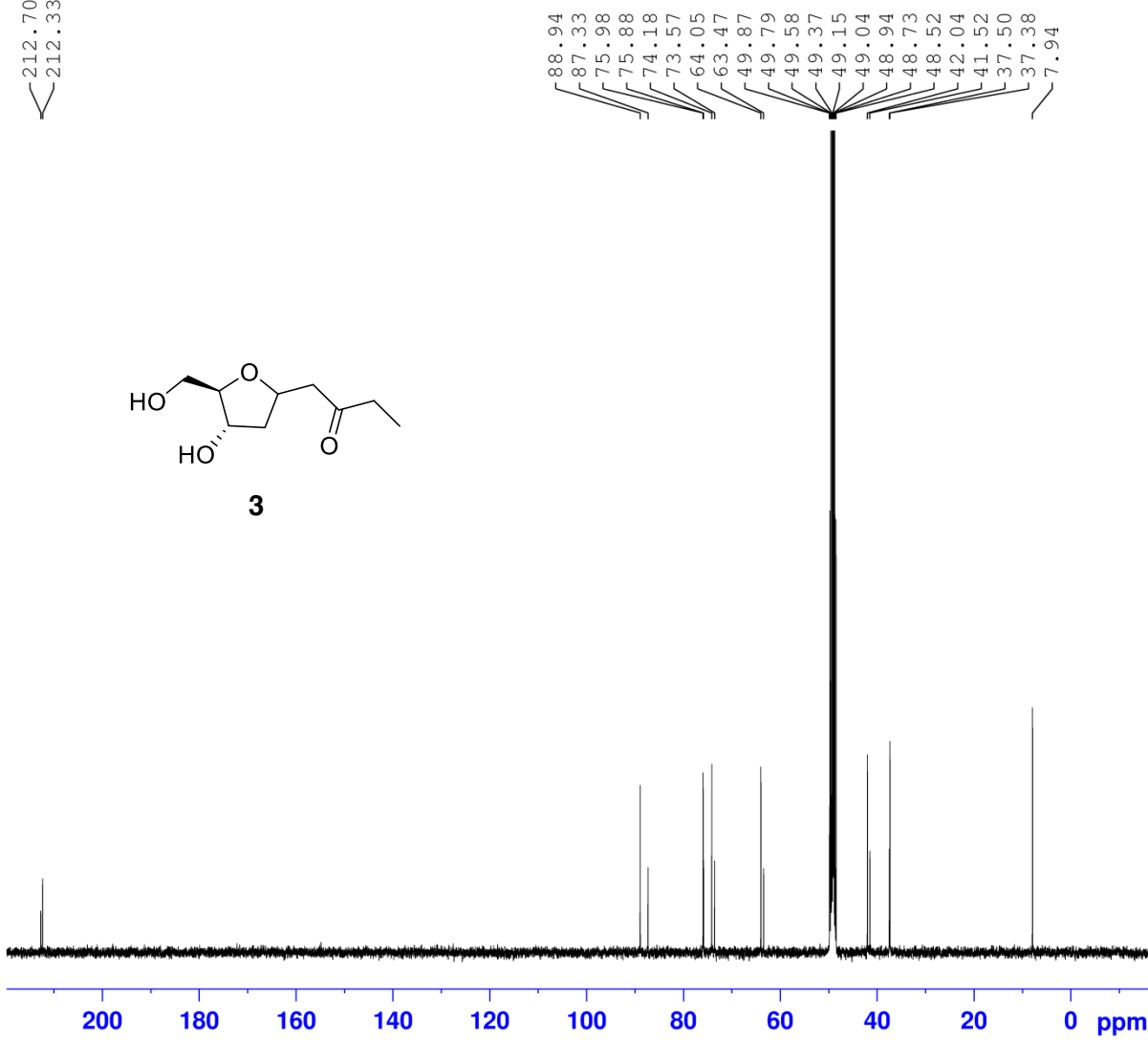
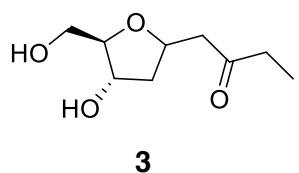
Current Data Parameters
NAME EJ2015-05-01
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20150501
Time_ 8.59
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 30
DS 2
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894465 sec
RG 31.13
DW 62.400 usec
DE 6.50 usec
TE 298.3 K
D1 1.00000000 sec
TDO 1

===== CHANNEL f1 =====
SFO1 400.1324710 MHz
NUC1 1H
P1 15.00 usec
PLW1 8.00000000 W

F2 - Processing parameters
SI 65536
SF 400.1300078 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

212.70
212.33



```

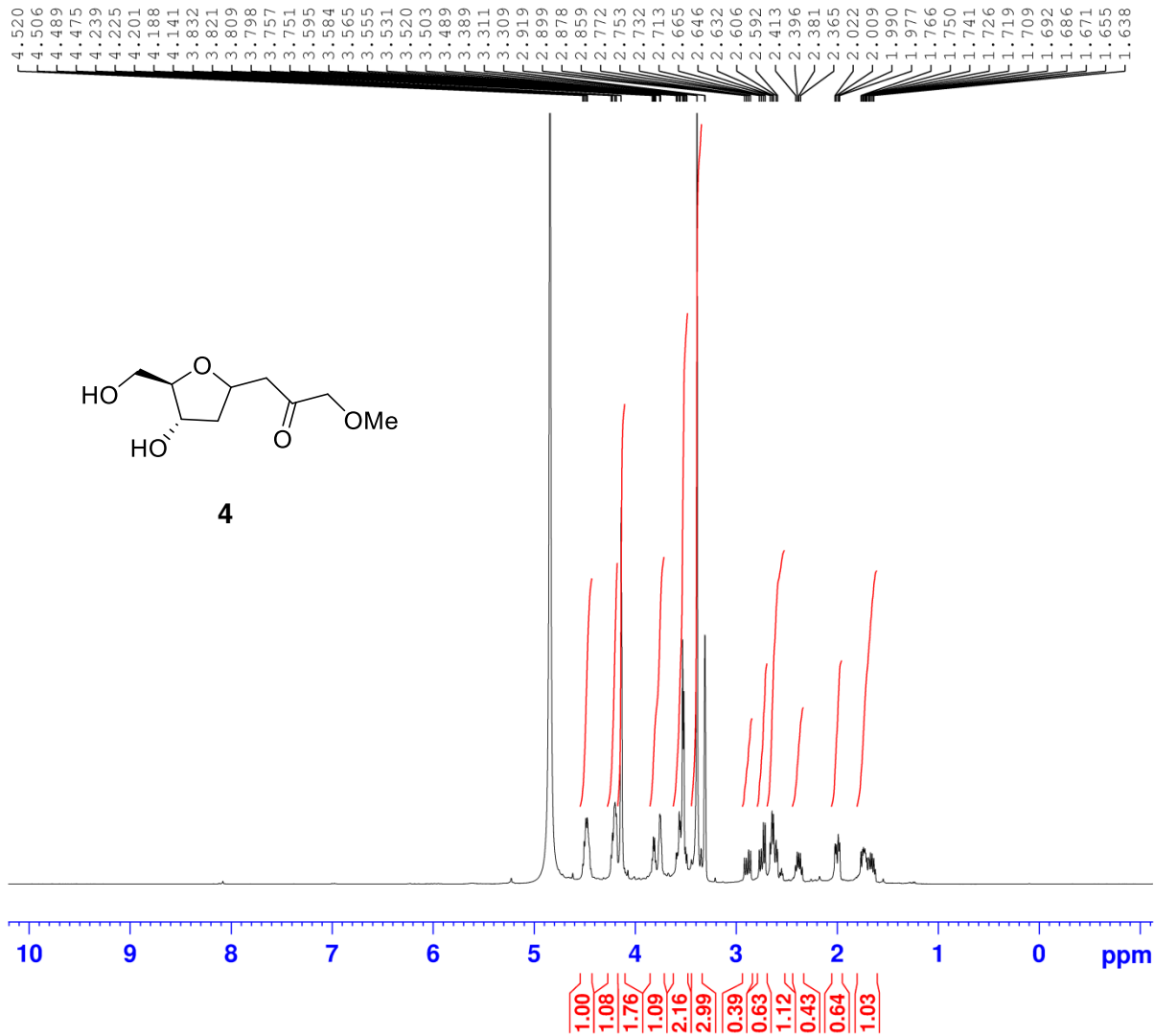
Current Data Parameters
NAME      EJ2015-05-01
EXPNO     2
PROCNO    1

F2 - Acquisition Parameters
Date_     20150501
Time      9.59
INSTRUM   spect
PROBHD    5 mm PABBO BB/
PULPROG   zgpg30
TD         65536
SOLVENT   MeOD
NS         1024
DS         4
SWH        24038.461 Hz
FIDRES     0.366798 Hz
AQ         1.3631488 sec
RG         195.88
DW         20.800 usec
DE         6.50 usec
TE         299.3 K
D1         2.00000000 sec
D11        0.03000000 sec
TD0        1

===== CHANNEL f1 =====
SFO1      100.6228293 MHz
NUC1       13C
P1         10.00 usec
PLW1      70.00000000 W

===== CHANNEL f2 =====
SFO2      400.1316005 MHz
NUC2       1H
CPDPRG[2] waltz16
PCPD2     80.00 usec
PLW2      8.00000000 W
PLW12     0.28125000 W
PLW13     0.28125000 W

F2 - Processing parameters
SI         32768
SF         100.6126122 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40
  
```



```

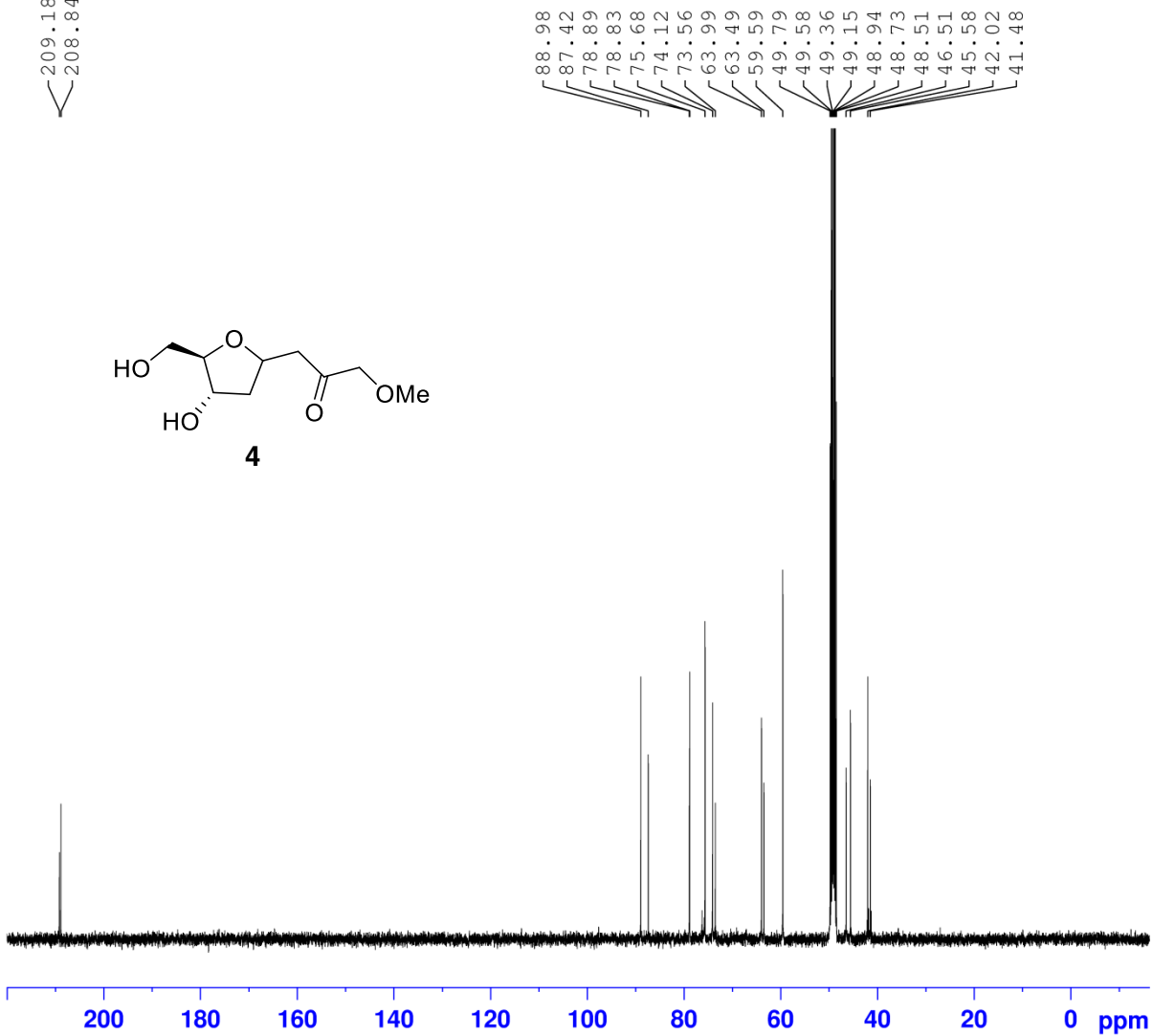
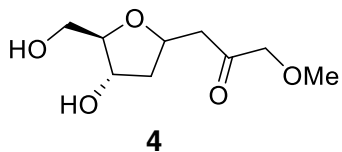
Current Data Parameters
NAME      EJ2015-05-01
EXPNO    3
PROCNO   1

F2 - Acquisition Parameters
Date_    20150501
Time     10.17
INSTRUM  spect
PROBHD   5 mm PABBO BB/
PULPROG  zg30
TD       65536
SOLVENT  MeOD
NS       30
DS       2
SWH      8012.820 Hz
FIDRES   0.122266 Hz
AQ       4.0894465 sec
RG       31.13
DW       62.400 usec
DE       6.50 usec
TE       298.5 K
D1       1.00000000 sec
TD0      1

===== CHANNEL f1 =====
SFO1    400.1324710 MHz
NUC1     1H
P1       15.00 usec
PLW1     8.00000000 W

F2 - Processing parameters
SI       65536
SF       400.1300079 MHz
WDW      EM
SSB      0
LB       0.30 Hz
GB       0
PC       1.00
  
```

< 209.18
< 208.84



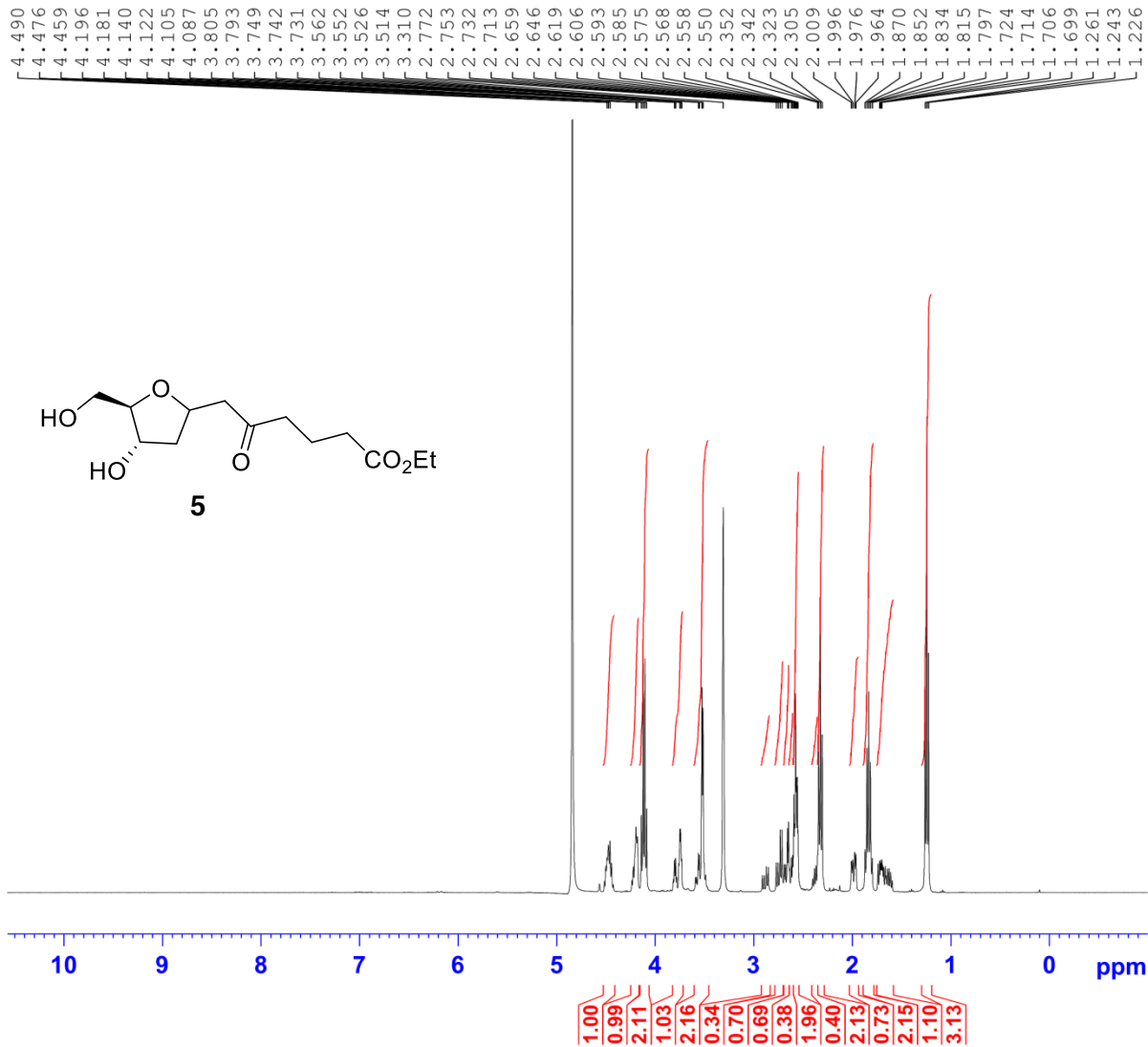
Current Data Parameters
NAME EJ2015-05-01
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20150501
Time 11.17
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 1024
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 195.88
DW 20.800 usec
DE 6.50 usec
TE 299.3 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 100.6228293 MHz
NUC1 13C
P1 10.00 usec
PLW1 70.00000000 W

==== CHANNEL f2 =====
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 8.00000000 W
PLW12 0.28125000 W
PLW13 0.28125000 W

F2 - Processing parameters
SI 32768
SF 100.6126134 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

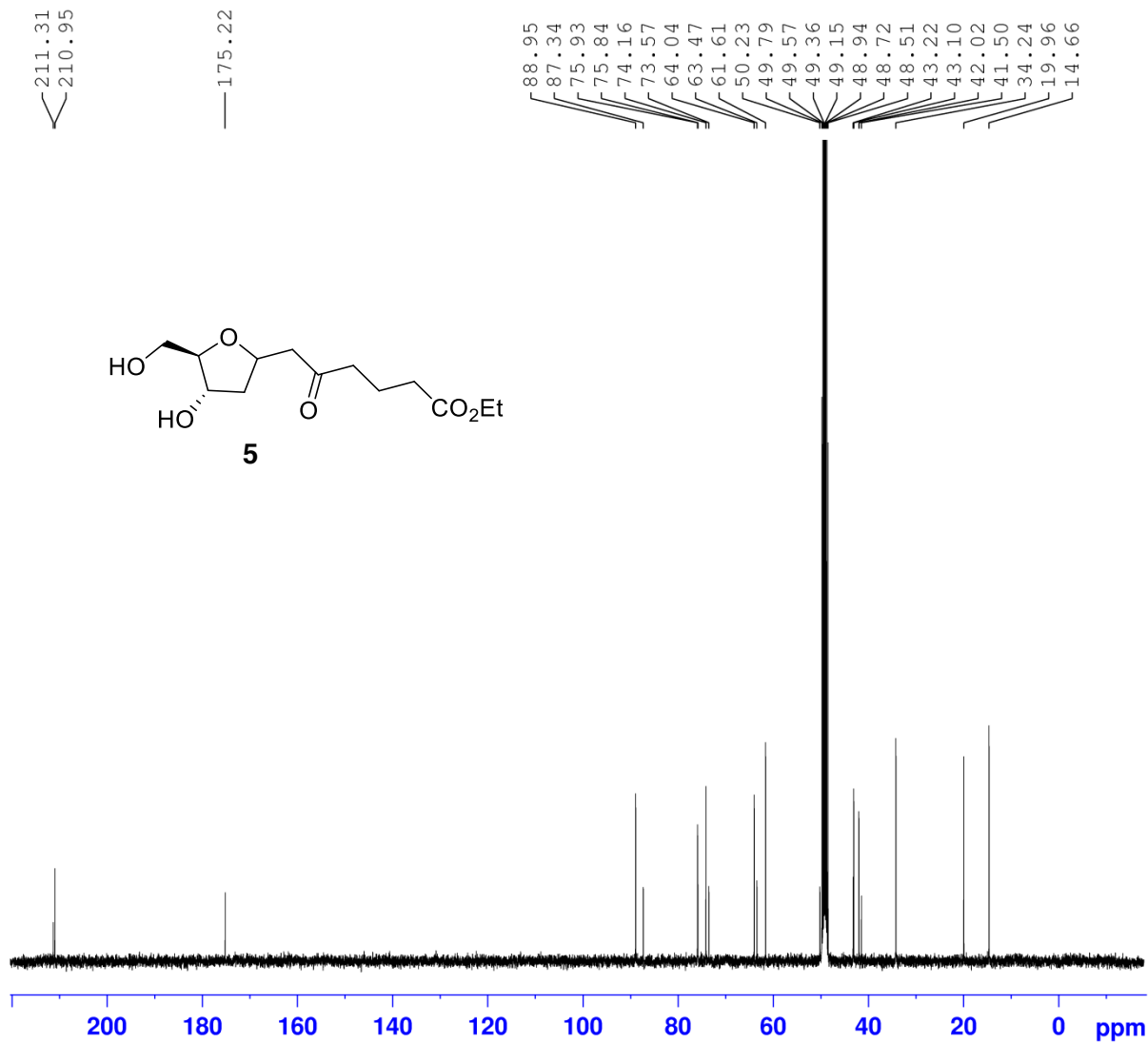


Current Data Parameters
NAME EJZ015-03-09
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20150309
Time_ 10.06
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 16
DS 2
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894465 sec
RG 54.59
DW 62.400 usec
DE 6.50 usec
TE 298.7 K
D1 1.00000000 sec
TD0 1

==== CHANNEL f1 =====
SF01 400.1324710 MHz
NUC1 1H
P1 15.00 usec
PLW1 8.00000000 W

F2 - Processing parameters
SI 65536
SF 400.1300080 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



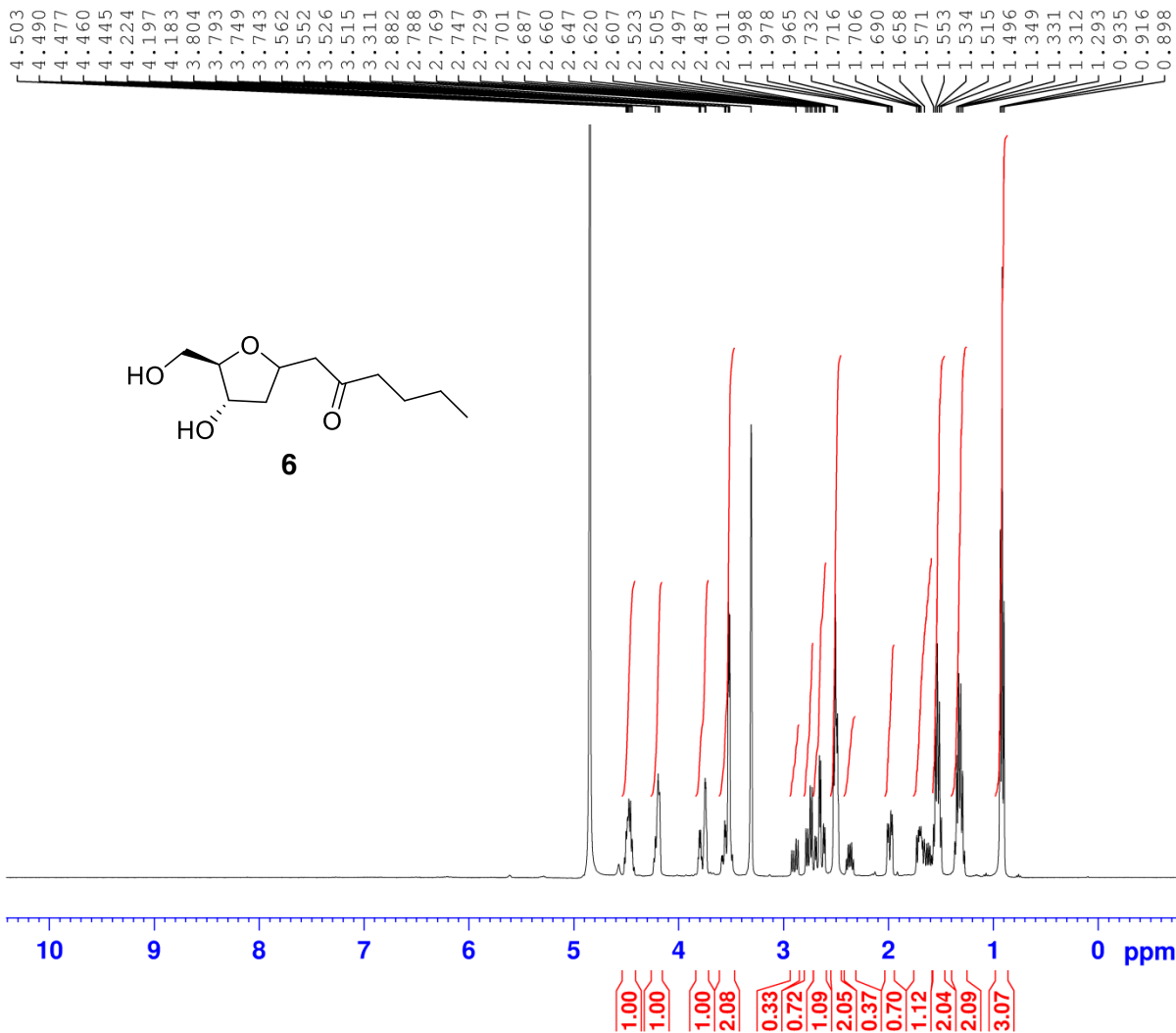
Current Data Parameters
 NAME EJ2015-03-09
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150309
 Time 10.04
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zgpg30
 TD 65536
 SOLVENT MeOD
 NS 1024
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631488 sec
 RG 195.88
 DW 20.800 usec
 DE 6.50 usec
 TE 299.3 K
 D1 2.0000000 sec
 D11 0.03000000 sec
 TD0 1

===== CHANNEL f1 =====
 SFO1 100.6228293 MHz
 NUC1 13C
 P1 10.00 usec
 PLW1 70.00000000 W

===== CHANNEL f2 =====
 SFO2 400.1316005 MHz
 NUC2 1H
 CPDPRG[2] waltz16
 PCPD2 80.00 usec
 PLW2 8.00000000 W
 PLW12 0.28125000 W
 PLW13 0.28125000 W

F2 - Processing parameters
 SI 32768
 SF 100.6126126 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40



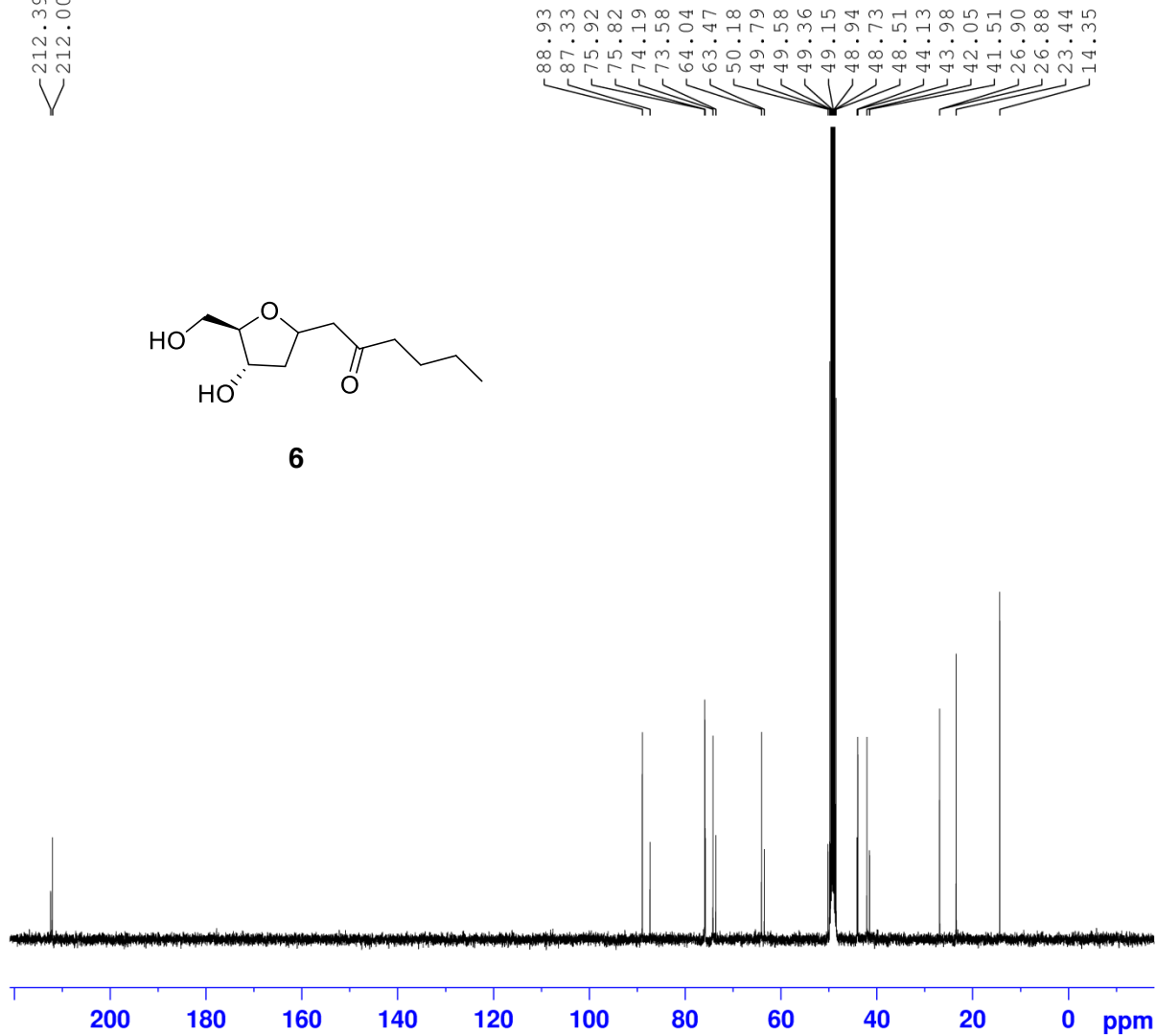
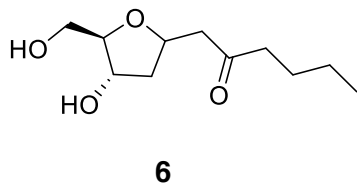
Current Data Parameters
 NAME EJ2015-05-01
 EXPNO 5
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150501
 Time 11.22
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 30
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 31.13
 DW 62.400 usec
 DE 6.50 usec
 TE 298.6 K
 D1 1.0000000 sec
 TD0 1

==== CHANNEL f1 =====
 SFO1 400.1324710 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 8.0000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300078 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

212.39
212.00



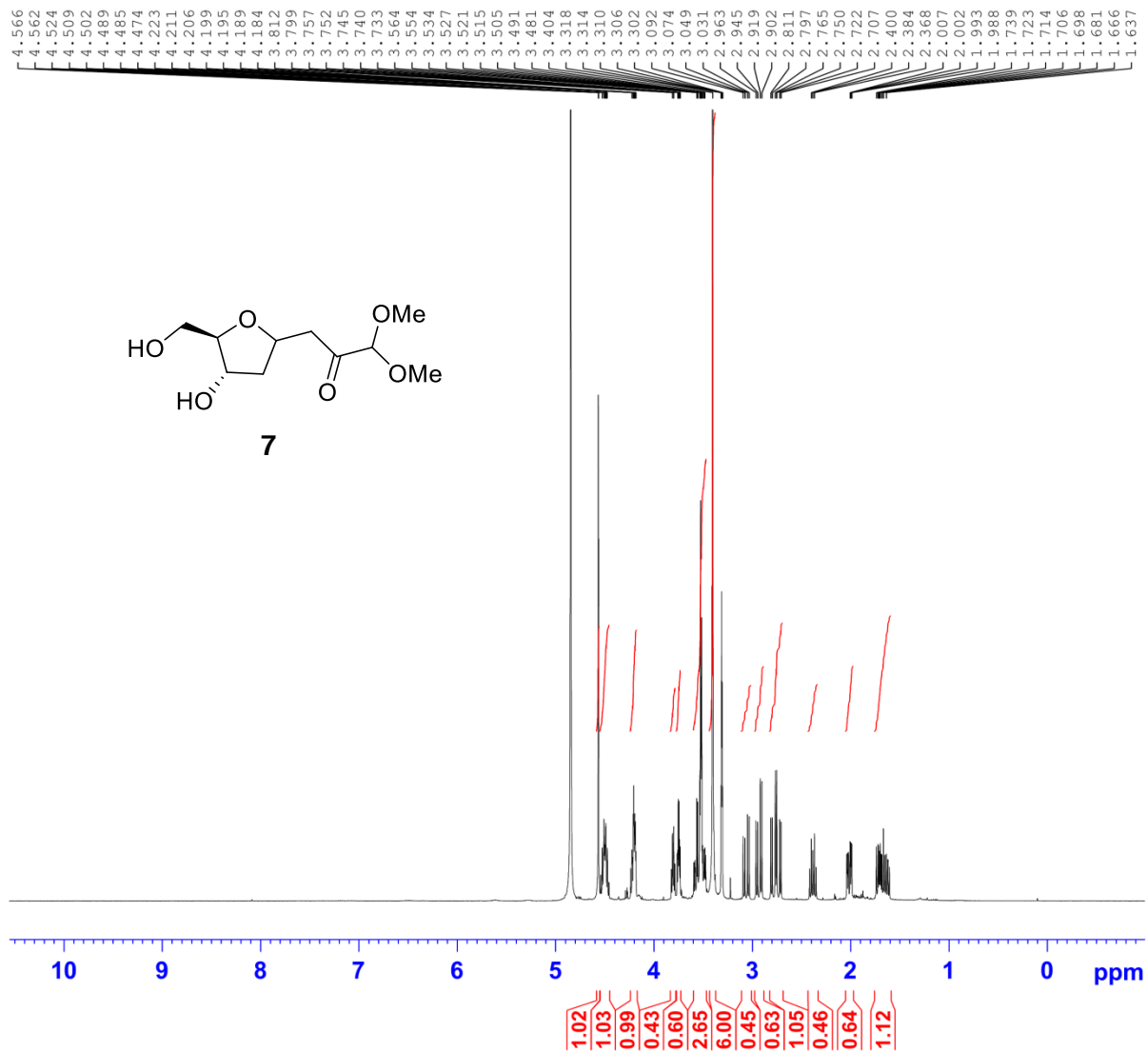
Current Data Parameters
NAME EJ2015-05-01
EXPNO 6
PROCNO 1

F2 - Acquisition Parameters
Date_ 20150501
Time 12.22
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 1024
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 195.88
DW 20.800 usec
DE 6.50 usec
TE 299.3 K
D1 2.00000000 sec
D11 0.03000000 sec
TDO 1

===== CHANNEL f1 =====
SFO1 100.6228293 MHz
NUC1 13C
P1 10.00 usec
PLW1 70.00000000 W

===== CHANNEL f2 =====
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 8.00000000 W
PLW12 0.28125000 W
PLW13 0.28125000 W

F2 - Processing parameters
SI 32768
SF 100.6126122 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



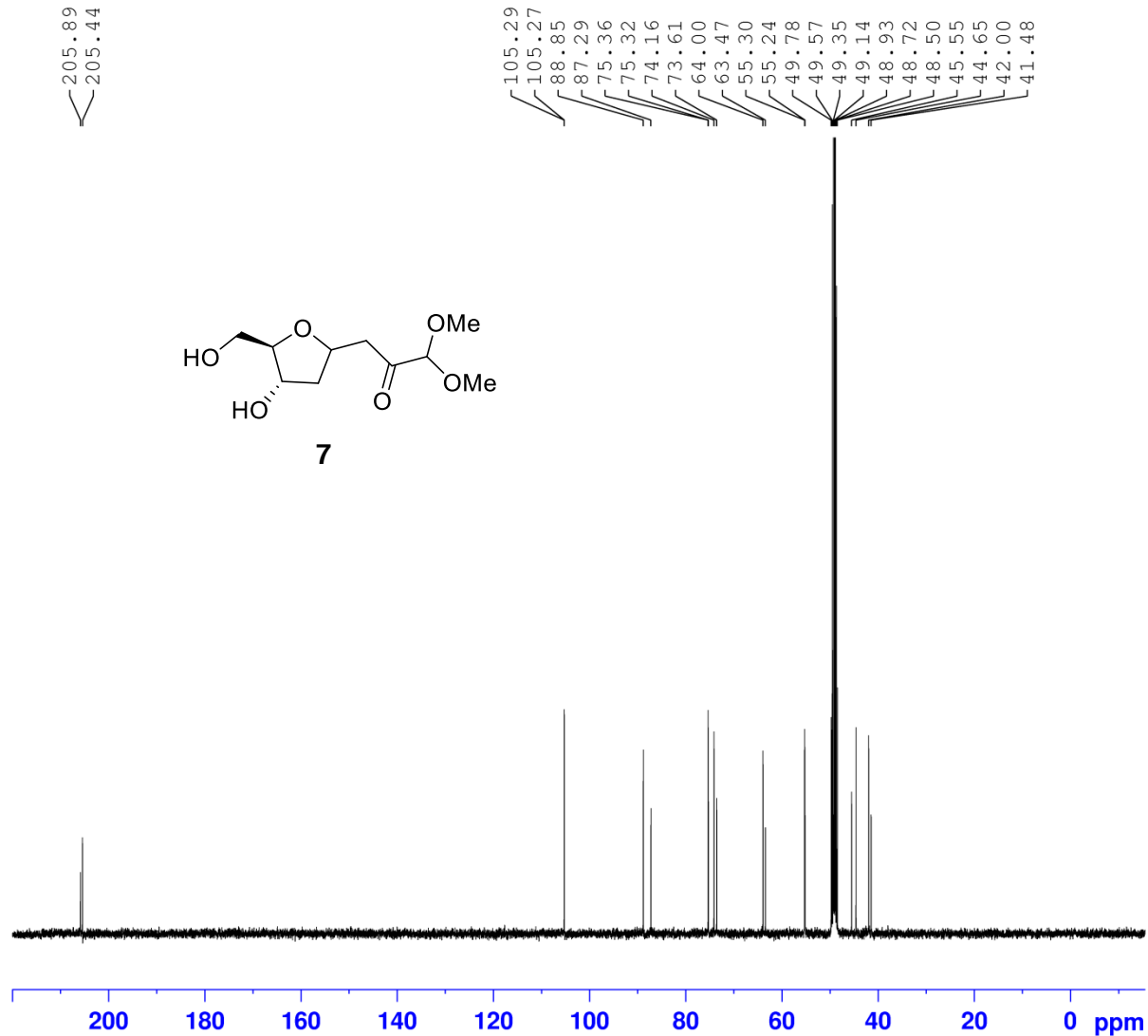
Current Data Parameters
 NAME EJ2015-07-17
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150717
 Time_ 10.41
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 31.13
 DW 62.400 usec
 DE 6.50 usec
 TE 298.4 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 SFO1 400.1324710 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 8.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300075 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

205.89
205.44



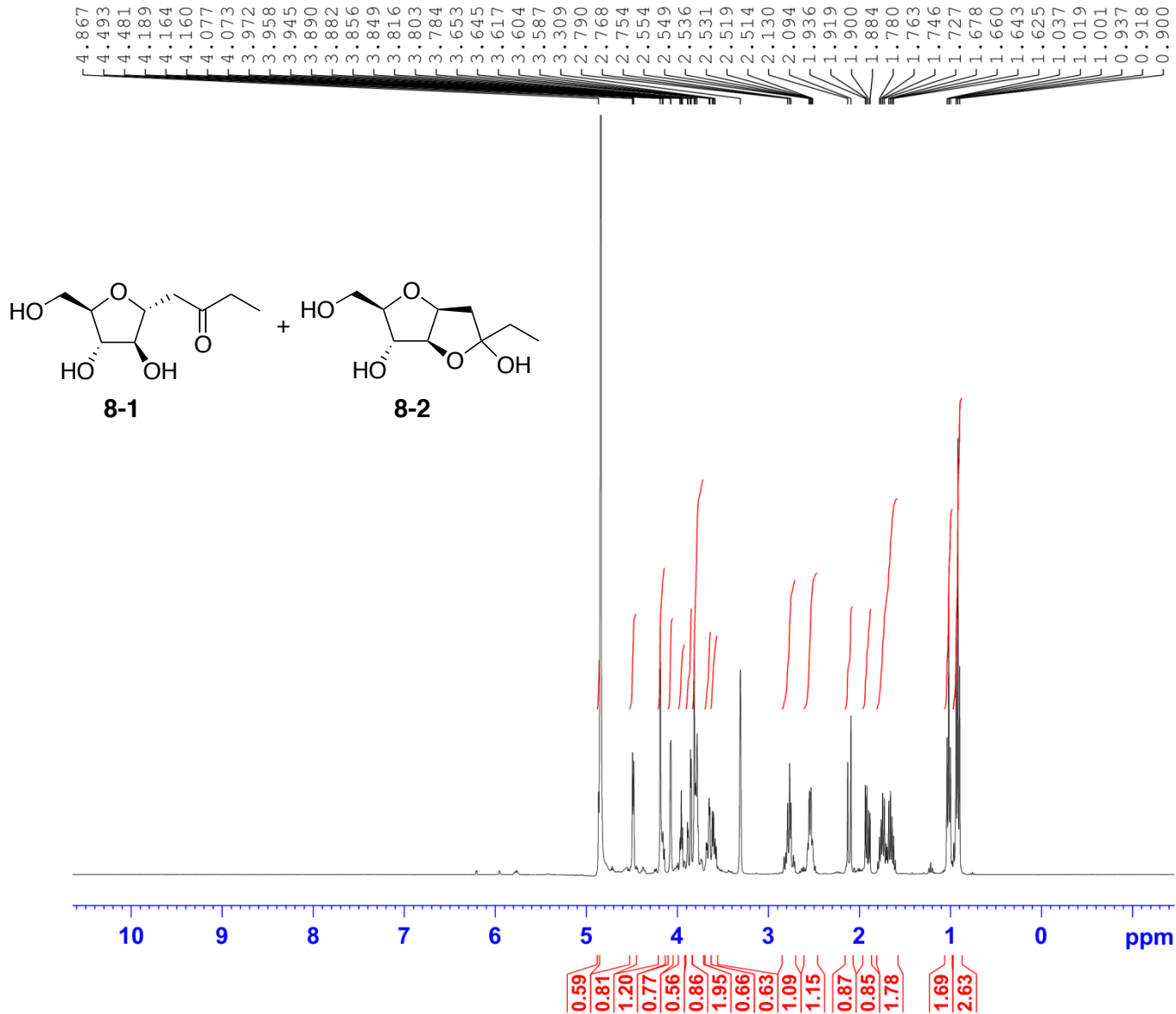
Current Data Parameters
NAME EJ2015-07-17
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20150717
Time 15.26
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 1024
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 195.88
DW 20.800 usec
DE 6.50 usec
TE 299.4 K
D1 2.0000000 sec
D11 0.0300000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 100.6228293 MHz
NUC1 13C
P1 10.00 usec
PLW1 70.00000000 W

==== CHANNEL f2 =====
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 8.00000000 W
PLW12 0.28125000 W
PLW13 0.28125000 W

F2 - Processing parameters
SI 32768
SF 100.6126137 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



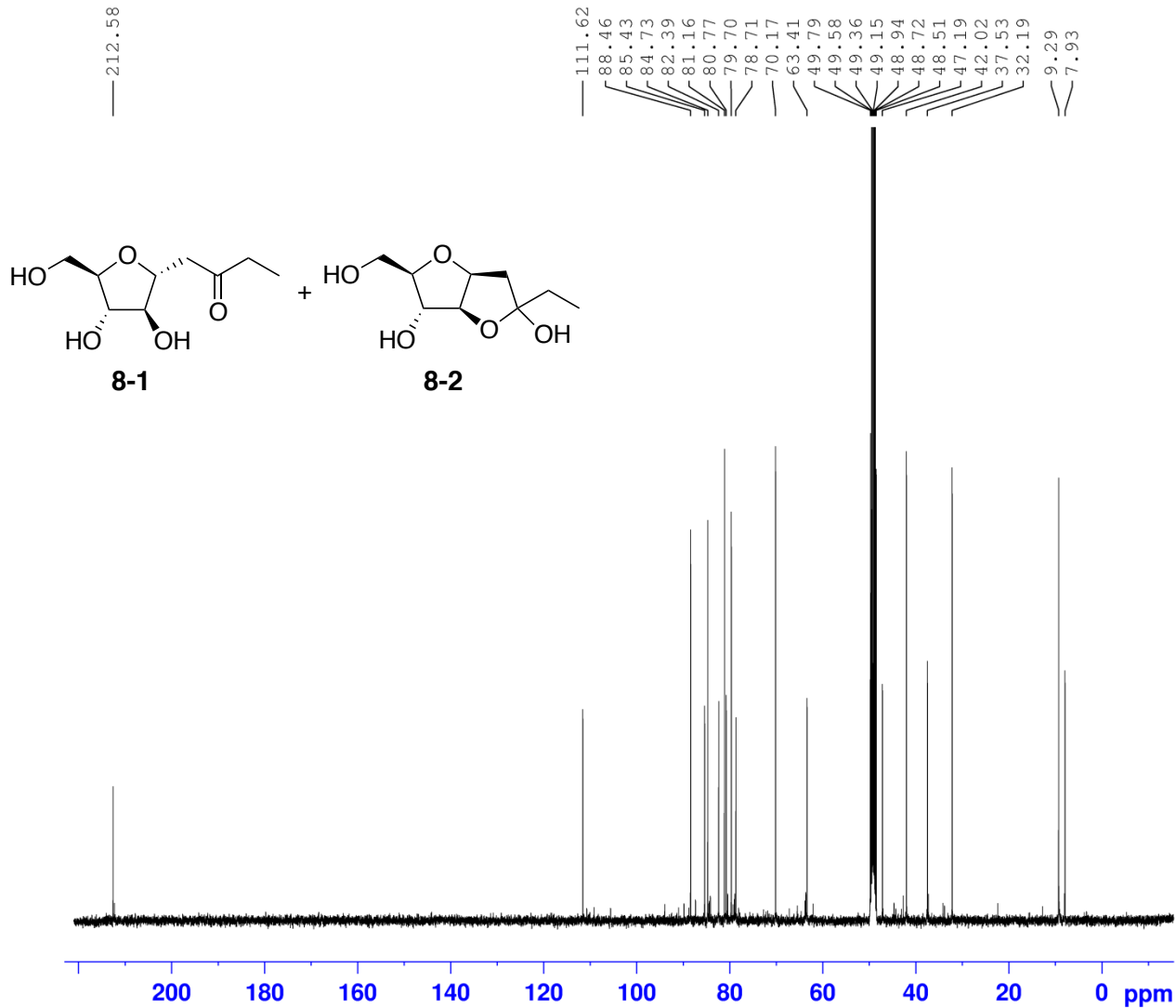
4.867
4.493
4.481
4.189
4.164
4.160
4.077
4.073
3.972
3.958
3.945
3.890
3.882
3.856
3.849
3.816
3.803
3.784
3.653
3.645
3.617
3.604
3.587
3.309
2.790
2.768
2.754
2.554
2.549
2.536
2.531
2.519
2.514
2.130
2.094
1.936
1.919
1.900
1.884
1.780
1.763
1.746
1.727
1.678
1.660
1.643
1.625
1.037
1.019
1.001
0.937
0.918
0.900

Current Data Parameters
NAME EJ2015-04-12
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20150412
Time_ 18.43
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 16
DS 2
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894465 sec
RG 31.13
DW 62.400 usec
DE 6.50 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 400.1324710 MHz
NUC1 1H
P1 15.00 usec
PLW1 8.00000000 W

F2 - Processing parameters
SI 65536
SF 400.1300082 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



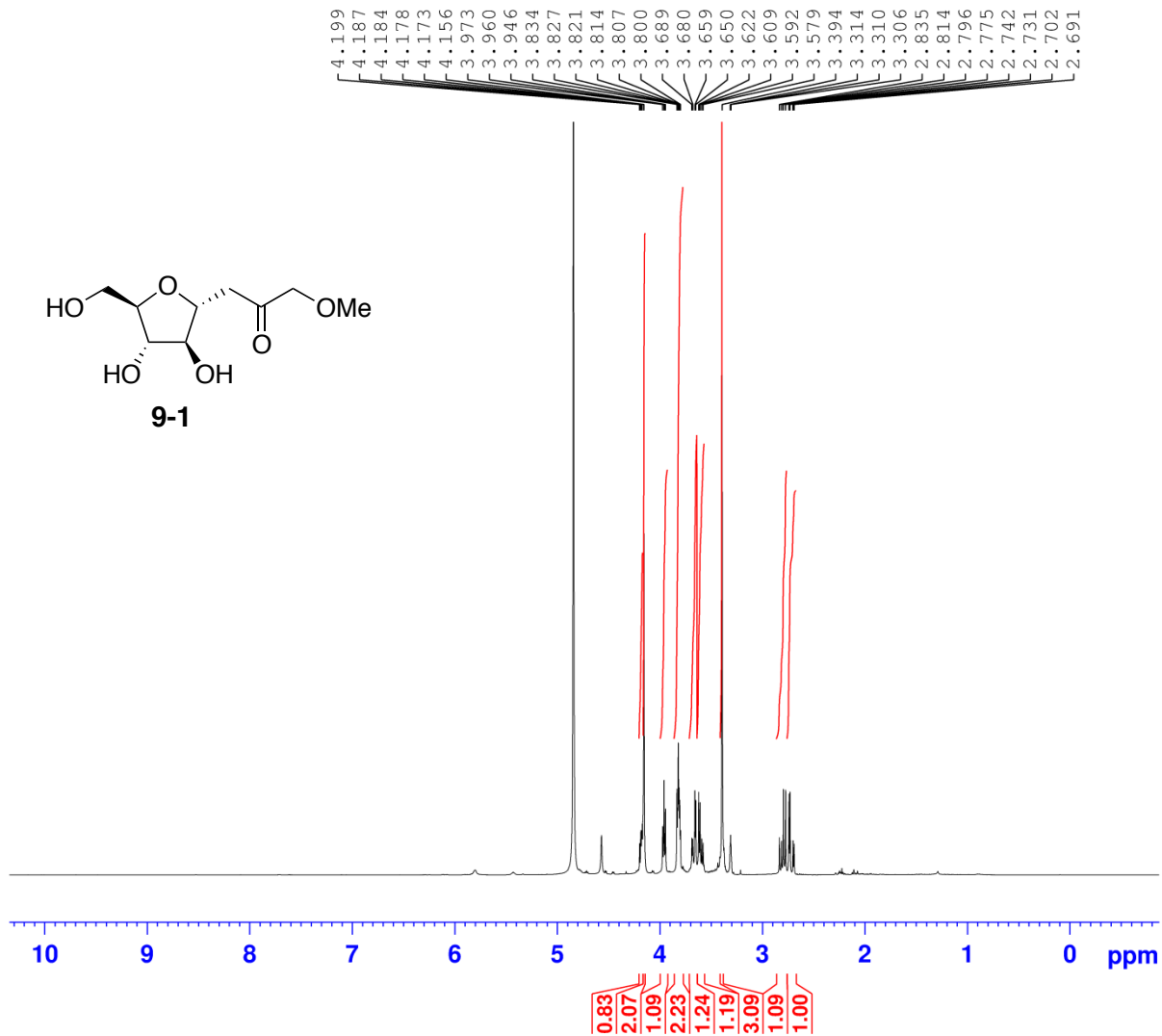
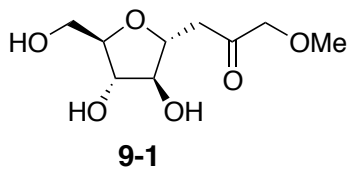
Current Data Parameters
 NAME EJ2015-04-12
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150412
 Time 19.42
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zgpg30
 TD 65536
 SOLVENT MeOD
 NS 1024
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631488 sec
 RG 195.88
 DW 20.800 usec
 DE 6.50 usec
 TE 299.2 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TD0 1

==== CHANNEL f1 =====
 SFO1 100.6228293 MHz
 NUC1 13C
 P1 10.00 usec
 PLW1 70.00000000 W

==== CHANNEL f2 =====
 SFO2 400.1316005 MHz
 NUC2 1H
 CPDPRG[2] waltz16
 PCPD2 80.00 usec
 PLW2 8.00000000 W
 PLW12 0.28125000 W
 PLW13 0.28125000 W

F2 - Processing parameters
 SI 32768
 SF 100.6126139 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40



```

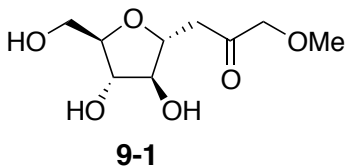
Current Data Parameters
NAME      EJ2015-06-29
EXPNO     3
PROCNO    1

F2 - Acquisition Parameters
Date_     20150629
Time      15.40
INSTRUM   spect
PROBHD    5 mm PABBO BB/
PULPROG   zg30
TD         65536
SOLVENT   MeOD
NS         16
DS         2
SWH        8012.820 Hz
FIDRES     0.122266 Hz
AQ         4.0894465 sec
RG         27.4
DW         62.400 usec
DE         6.50 usec
TE         0 K
D1         1.00000000 sec
TD0        1

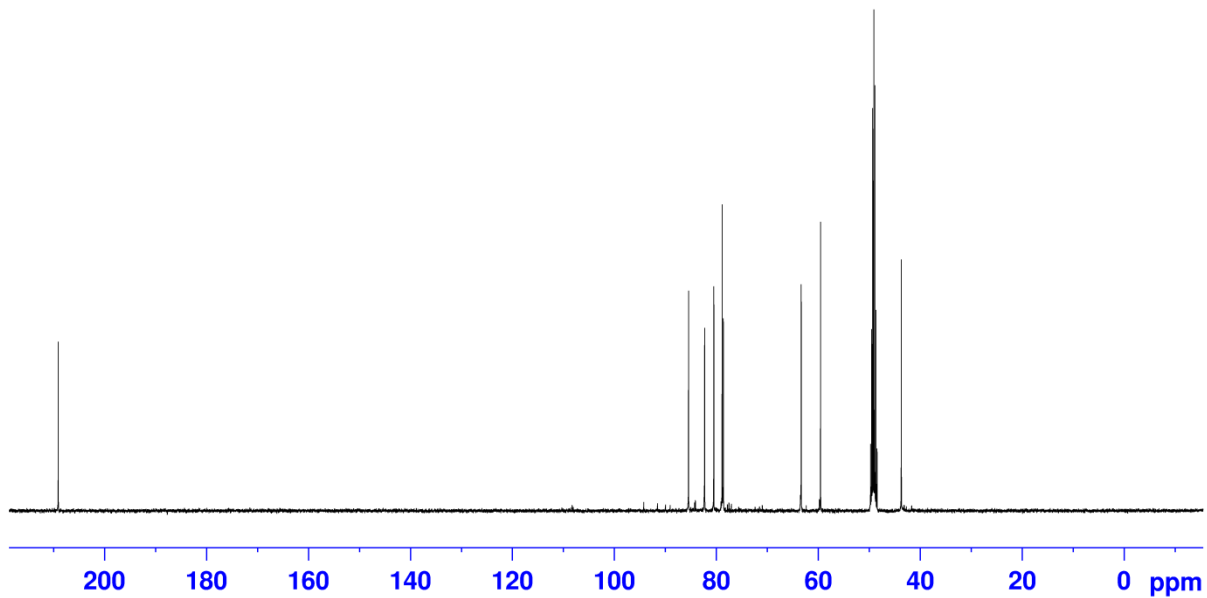
===== CHANNEL f1 =====
SFO1      400.1324710 MHz
NUC1       1H
P1         15.00 usec
PLW1       8.00000000 W

F2 - Processing parameters
SI         65536
SF         400.1300075 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00

```

85.49
82.33
80.54
78.90
78.66
63.39
59.60
49.79
49.57
49.36
49.15
48.94
48.72
48.51
43.75



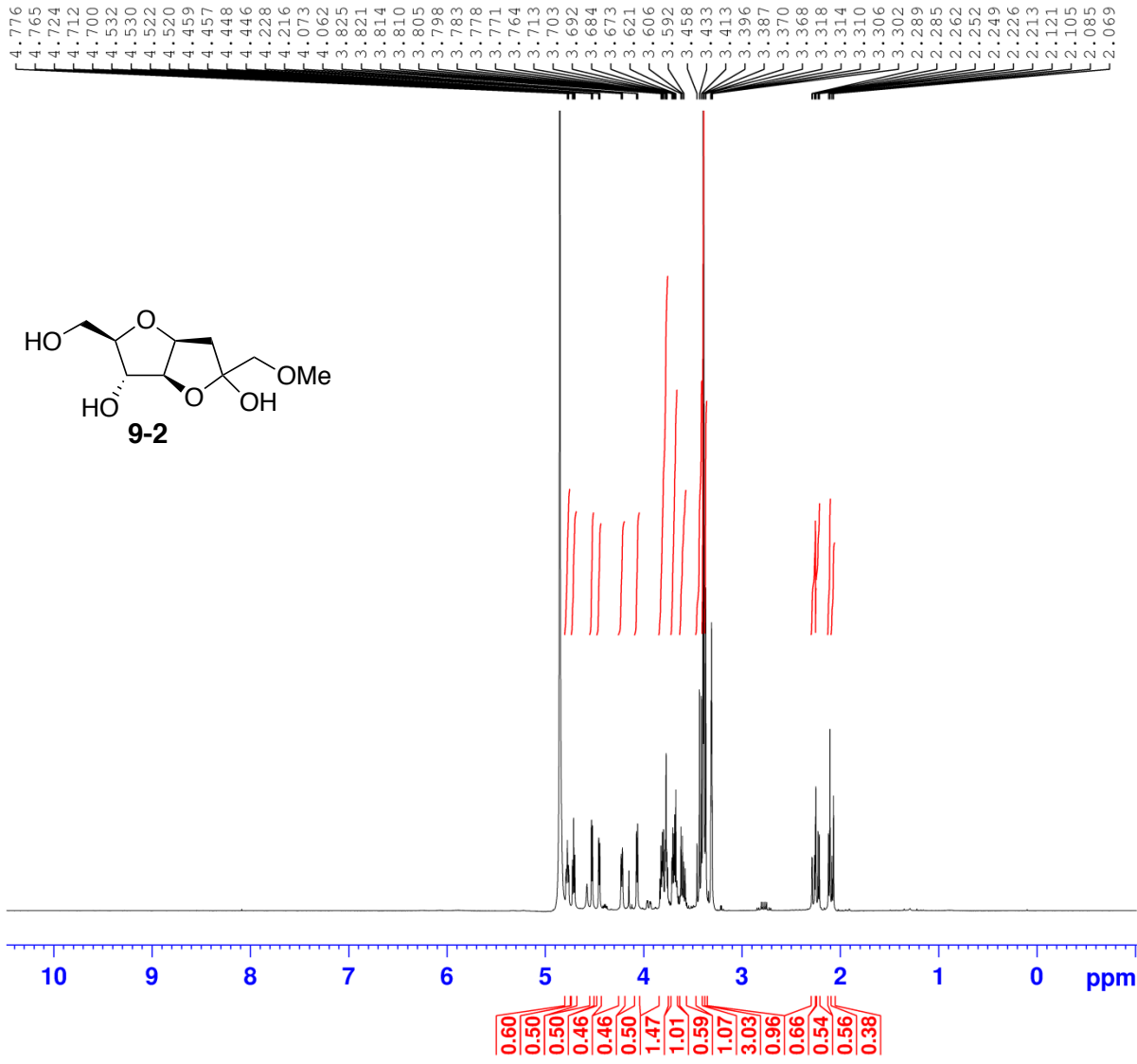
Current Data Parameters
NAME EJ2015-06-29
EXPNO 22
PROCNO 1

F2 - Acquisition Parameters
Date_ 20150702
Time 9.57
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 1024
DS 4
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 195.88
DW 20.800 usec
DE 6.50 usec
TE 0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 100.6228293 MHz
NUC1 13C
P1 10.00 usec
PLW1 70.00000000 W

==== CHANNEL f2 =====
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 8.00000000 W
PLW12 0.28125000 W
PLW13 0.28125000 W

F2 - Processing parameters
SI 32768
SF 100.6126161 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

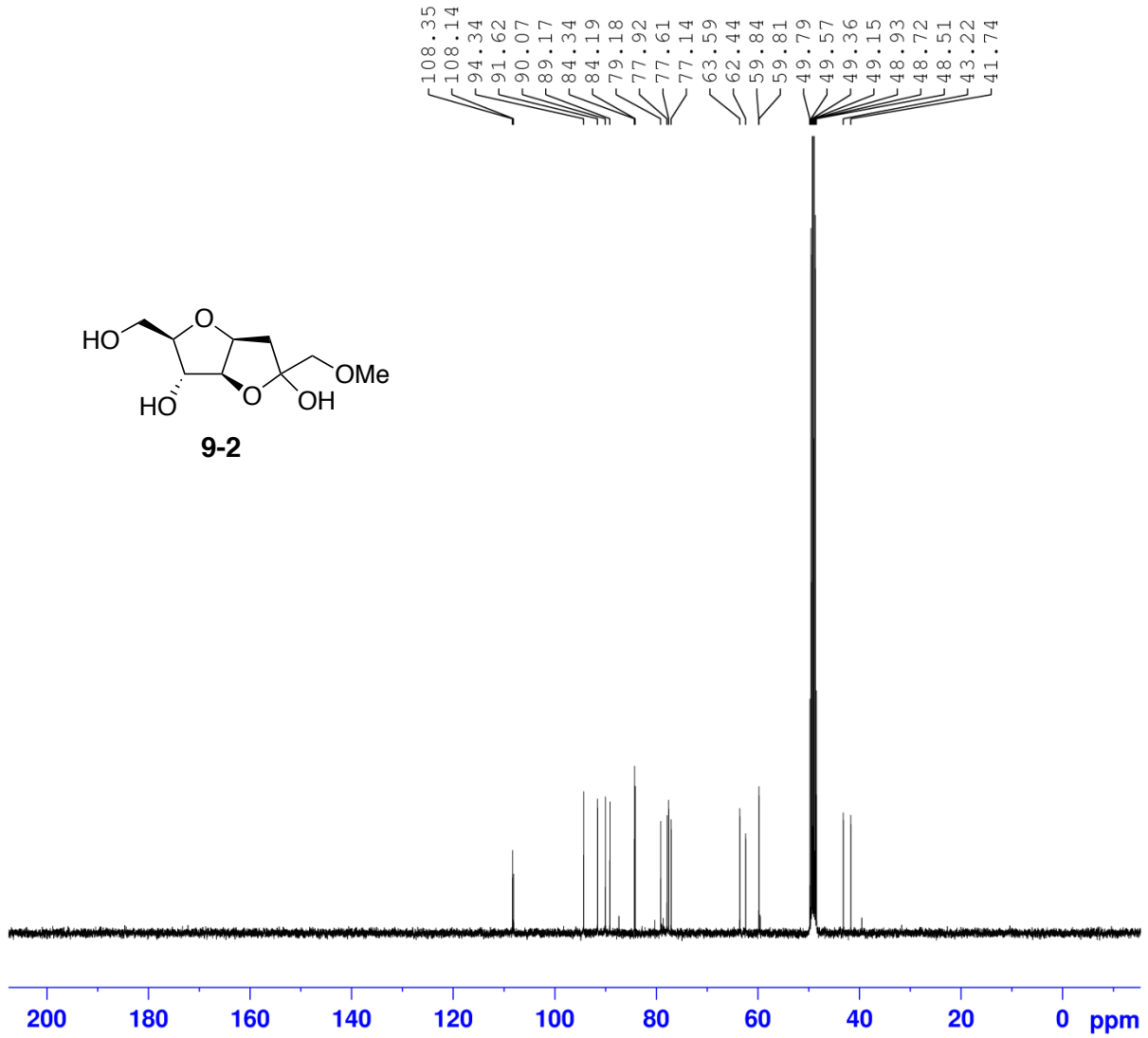
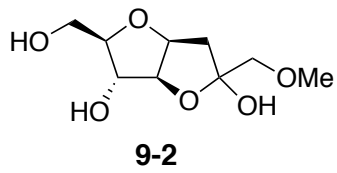


Current Data Parameters
 NAME EJ2015-06-29
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150629
 Time 15.36
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 49.09
 DW 62.400 usec
 DE 6.50 usec
 TE 0 K
 D1 1.00000000 sec
 TD0 1

==== CHANNEL f1 =====
 SFO1 400.1324710 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 8.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300078 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



```

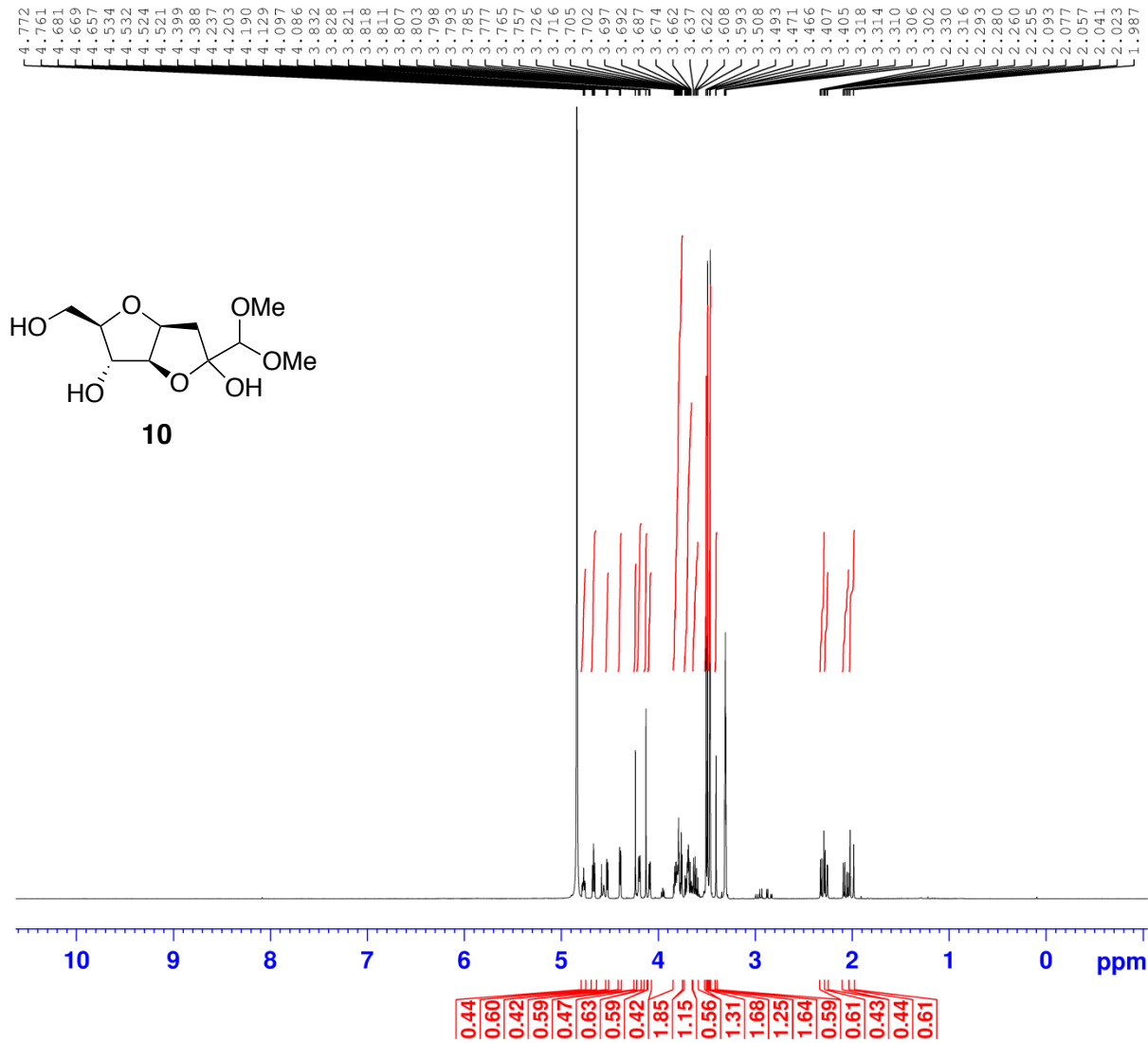
Current Data Parameters
NAME      EJ2015-06-29
EXPNO    16
PROCNO   1

F2 - Acquisition Parameters
Date_    20150630
Time     15.42
INSTRUM  spect
PROBHD   5 mm PABBO BB/
PULPROG  zgpg30
TD       65536
SOLVENT  MeOD
NS       1024
DS       4
SWH      24038.461 Hz
FIDRES   0.366798 Hz
AQ       1.3631488 sec
RG       195.88
DW       20.800 usec
DE       6.50 usec
TE       0 K
D1       2.00000000 sec
D11      0.03000000 sec
TD0      1

===== CHANNEL f1 =====
SFO1     100.6228293 MHz
NUC1     13C
P1       10.00 usec
PLW1     70.00000000 W

===== CHANNEL f2 =====
SFO2     400.1316005 MHz
NUC2     1H
CPDPRG[2] waltz16
PCPD2    80.00 usec
PLW2     8.00000000 W
PLW12    0.28125000 W
PLW13    0.28125000 W

F2 - Processing parameters
SI       32768
SF       100.6126128 MHz
WDW      EM
SSB      0
LB       1.00 Hz
GB       0
PC       1.40
  
```

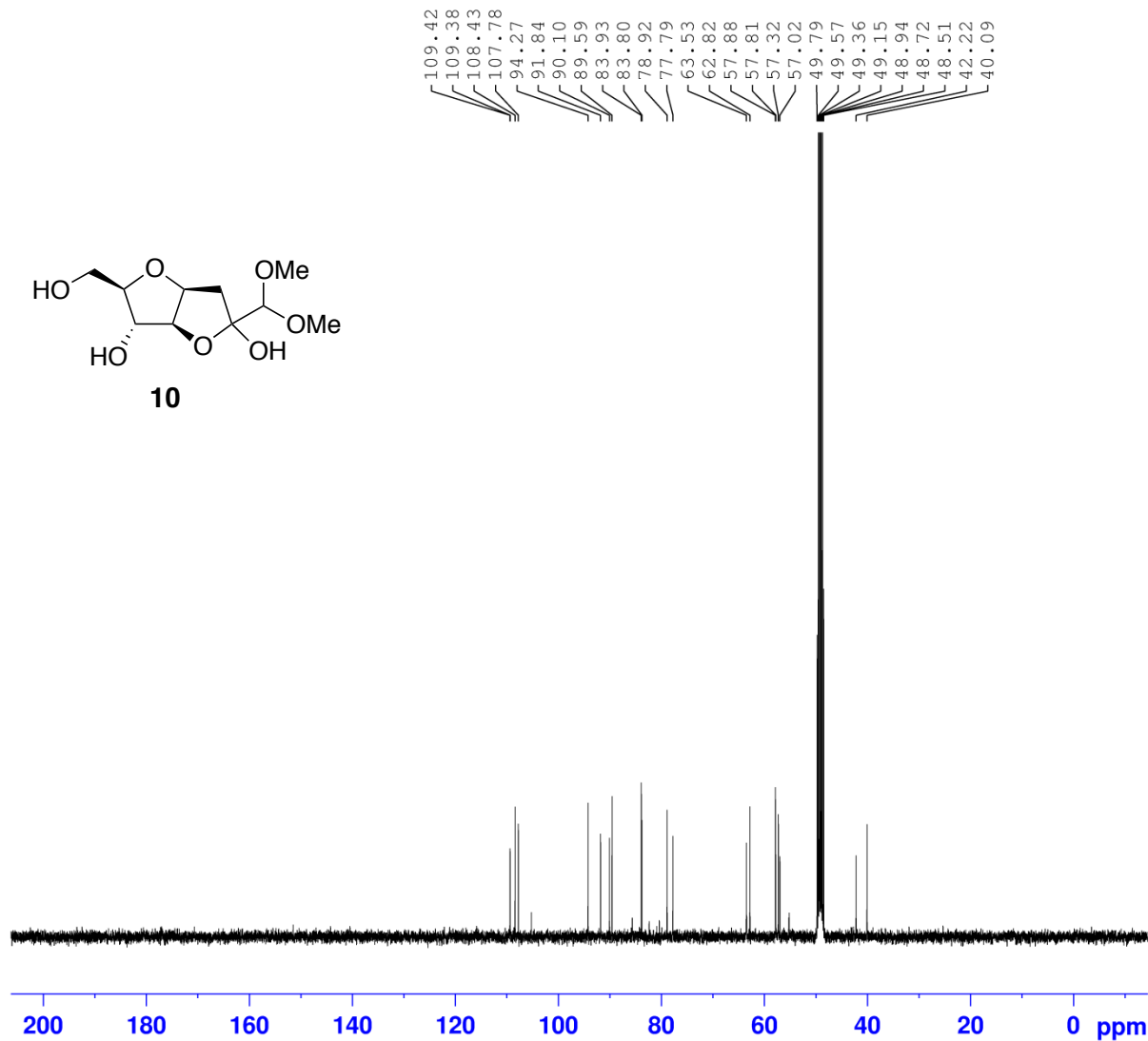
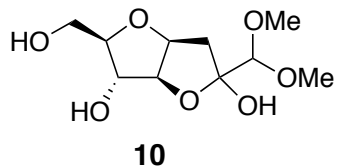


Current Data Parameters
 NAME EJ2015-07-24
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150724
 Time 15.15
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 54.59
 DW 62.400 usec
 DE 6.50 usec
 TE 299.3 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 SFO1 400.1324710 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 8.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300077 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



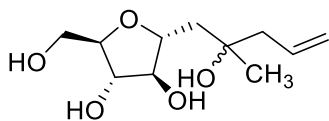
Current Data Parameters
 NAME EJ2015-07-24
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150729
 Time 10.17
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zgpg30
 TD 65536
 SOLVENT MeOD
 NS 1024
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631488 sec
 RG 195.88
 DW 20.800 usec
 DE 6.50 usec
 TE 299.4 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TD0 1

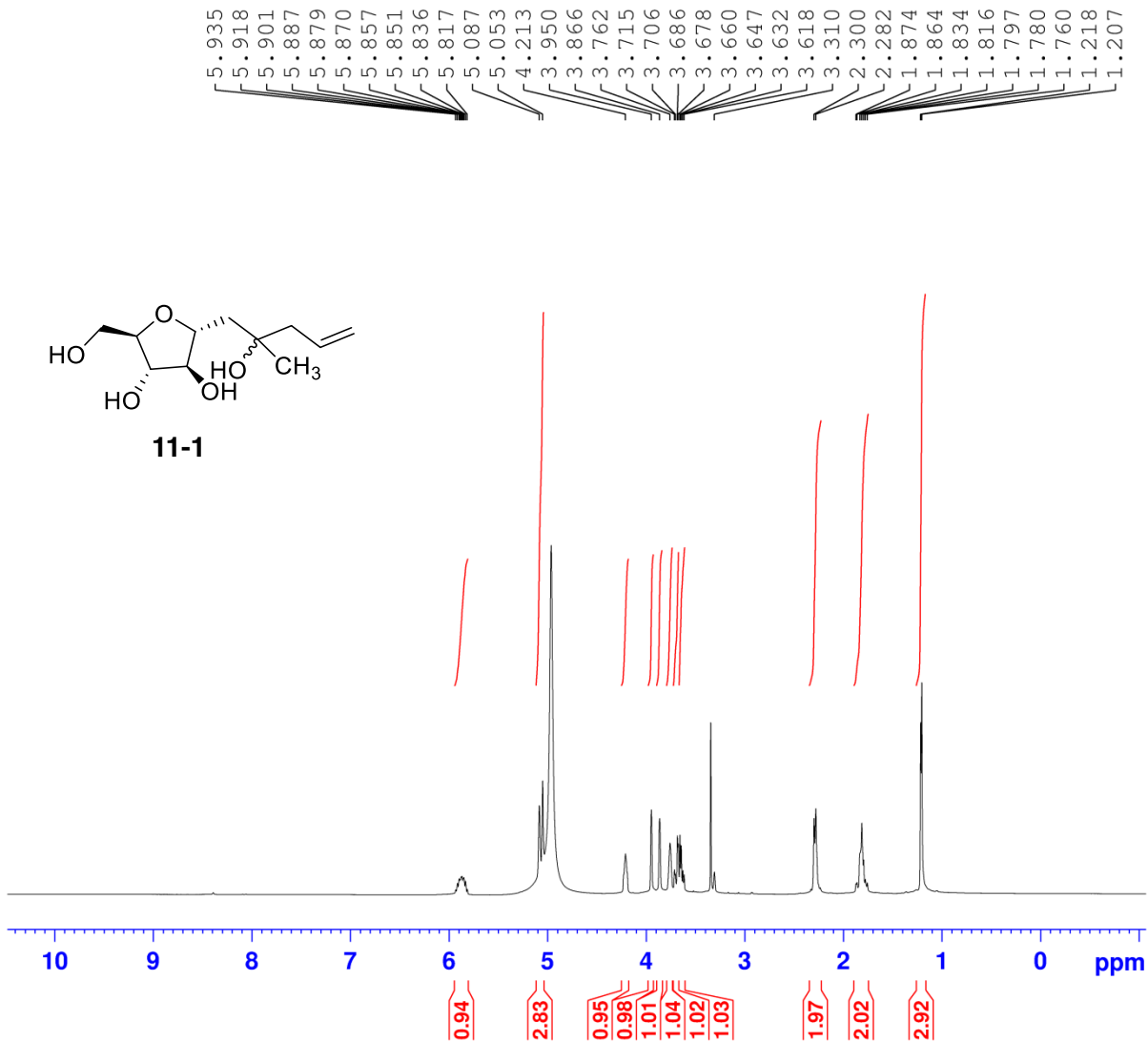
==== CHANNEL f1 =====
 SFO1 100.6228293 MHz
 NUC1 13C
 P1 10.00 usec
 PLW1 70.00000000 W

==== CHANNEL f2 =====
 SFO2 400.1316005 MHz
 NUC2 1H
 CPDPRG2 waltz16
 PCPD2 80.00 usec
 PLW2 8.00000000 W
 PLW12 0.28125000 W
 PLW13 0.28125000 W

F2 - Processing parameters
 SI 32768
 SF 100.6126125 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40



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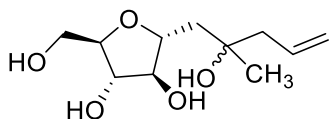


Current Data Parameters
 NAME EJ2015-04-16
 EXPNO 1
 PROCNO 1

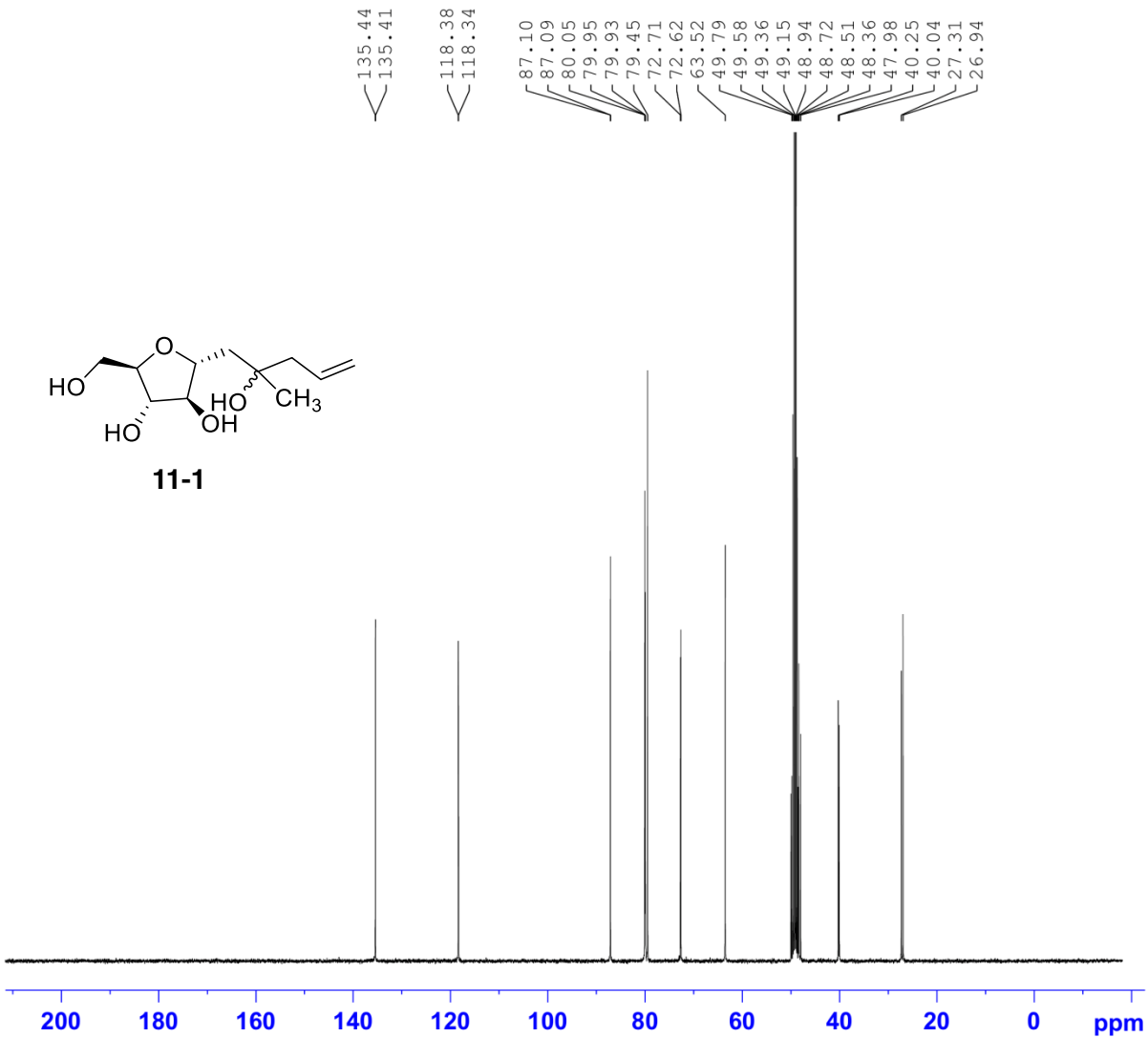
F2 - Acquisition Parameters
 Date_ 20150416
 Time 9.28
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 7.18
 DW 62.400 usec
 DE 6.50 usec
 TE 298.2 K
 D1 1.00000000 sec
 TD0 1

==== CHANNEL f1 =====
 SFO1 400.1324710 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 8.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300076 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



11-1



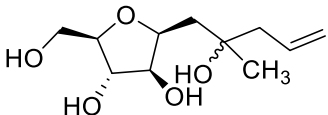
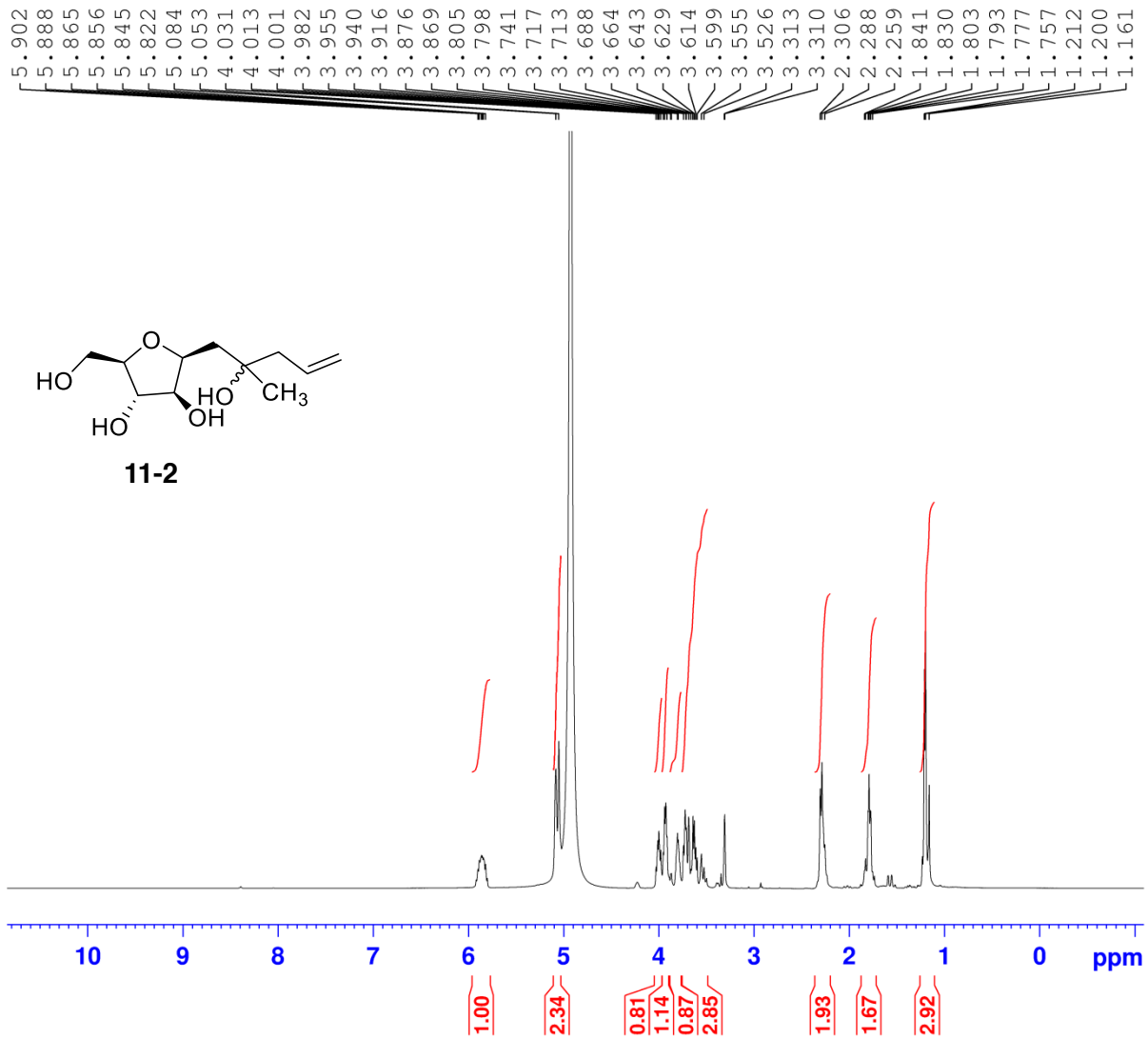
Current Data Parameters
 NAME EJ2015-04-16
 EXPNO 7
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150416
 Time 10.57
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zgpg30
 TD 65536
 SOLVENT MeOD
 NS 1024
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631488 sec
 RG 195.88
 DW 20.800 usec
 DE 6.50 usec
 TE 299.3 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TD0 1

===== CHANNEL f1 =====
 SFO1 100.6228293 MHz
 NUC1 13C
 P1 10.00 usec
 PLW1 70.00000000 W

===== CHANNEL f2 =====
 SFO2 400.1316005 MHz
 NUC2 1H
 CPDPRG[2] waltz16
 PCPD2 80.00 usec
 PLW2 8.00000000 W
 PLW12 0.28125000 W
 PLW13 0.28125000 W

F2 - Processing parameters
 SI 32768
 SF 100.6126468 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40



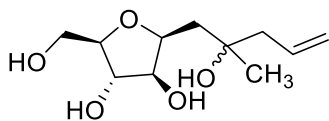
11-2

Current Data Parameters
 NAME EJ2015-04-16
 EXPNO 3
 PROCNO 1

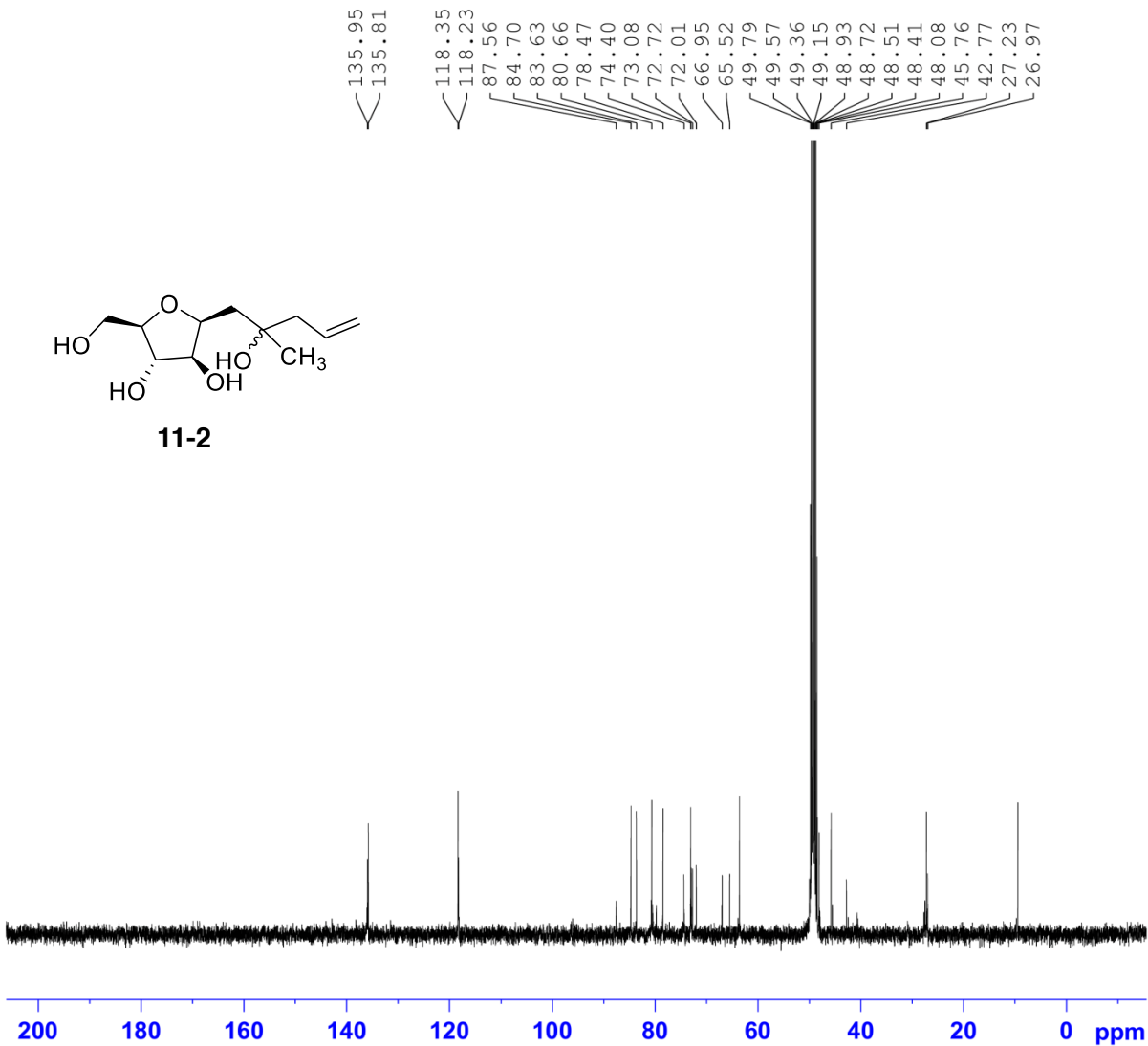
F2 - Acquisition Parameters
 Date_ 20150416
 Time 9.37
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 17.32
 DW 62.400 usec
 DE 6.50 usec
 TE 298.2 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 SFO1 400.1324710 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 8.00000000 W

F2 - Processing parameters
 SI 65536
 SF 400.1300075 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



11-2



Current Data Parameters
 NAME EJ2015-08-04
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20150805
 Time_ 10.25
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zgpg30
 TD 65536
 SOLVENT MeOD
 NS 1200
 DS 4
 SWH 24038.461 Hz
 FIDRES 0.366798 Hz
 AQ 1.3631488 sec
 RG 195.88
 DW 20.800 usec
 DE 6.50 usec
 TE 299.5 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TD0 1

==== CHANNEL f1 =====
 SFO1 100.6228293 MHz
 NUC1 13C
 P1 10.00 usec
 PLW1 70.00000000 W

==== CHANNEL f2 =====
 SFO2 400.1316005 MHz
 NUC2 1H
 CPDPRG[2] waltz16
 PCPD2 80.00 usec
 PLW2 8.00000000 W
 PLW12 0.28125000 W
 PLW13 0.28125000 W

F2 - Processing parameters
 SI 32768
 SF 100.6126127 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40