Supporting information for Stereoselective Synthesis, Pro-resolution and Anti-inflammatory Bioactions of $RvD5_{n\text{-}3\ DPA}$

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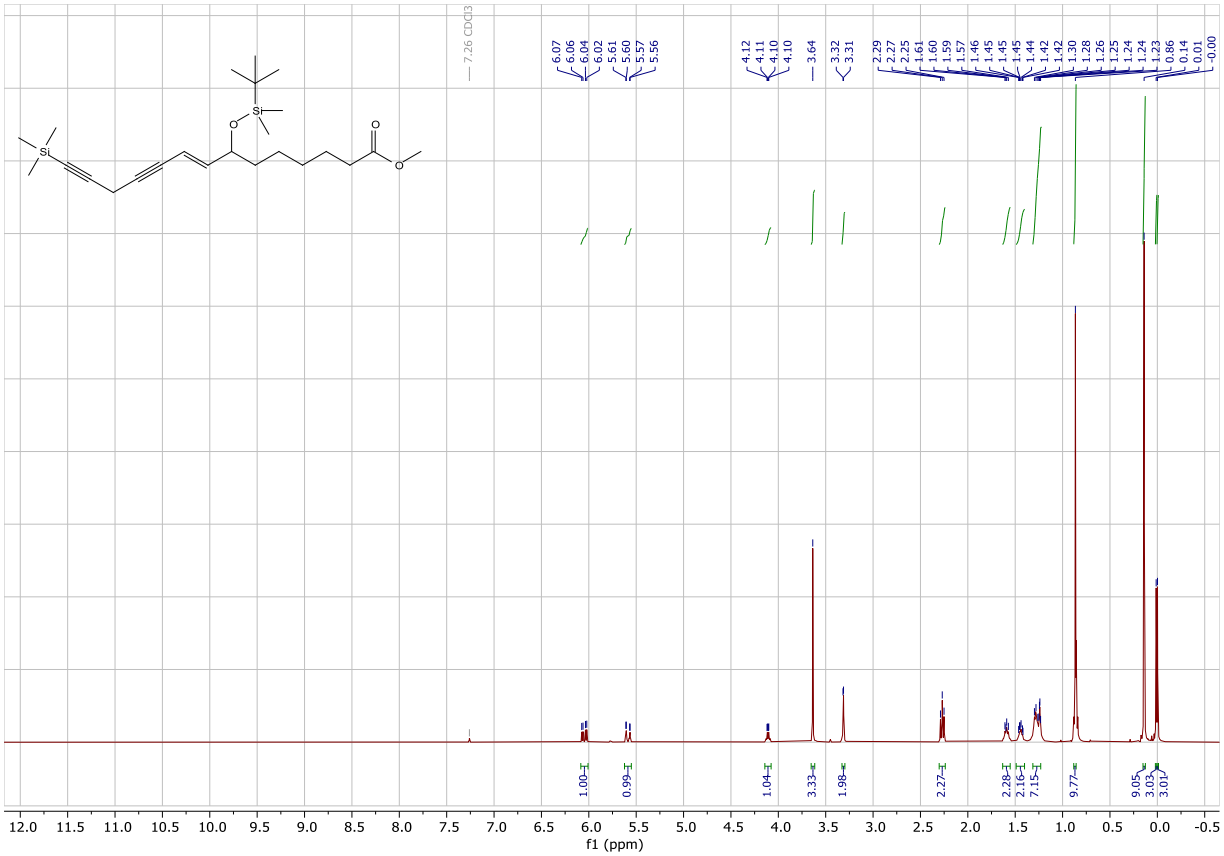


Figure S-1. ^{1}H NMR spectrum of compound **8**, $CDCl_3$, 400 MHz.

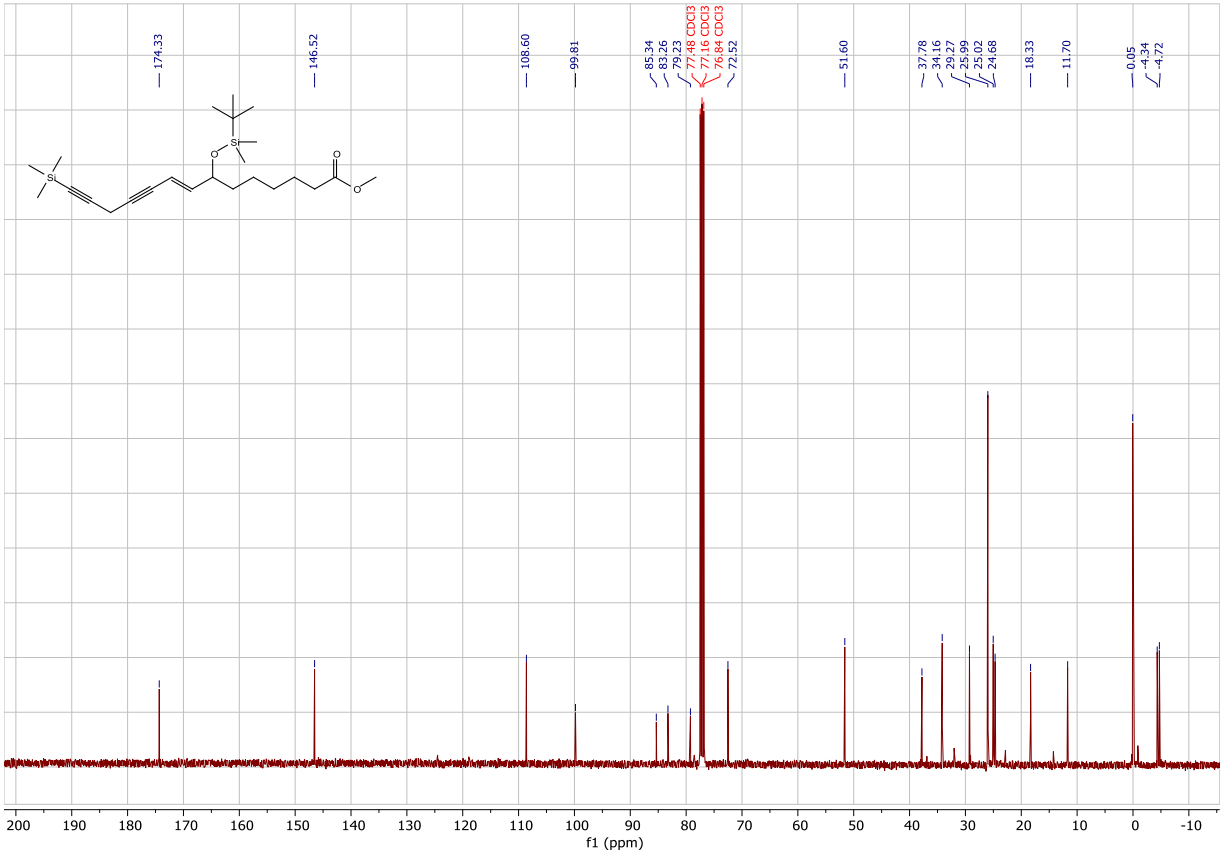


Figure S-2. ^{13}C NMR spectrum of compound **8**, $CDCl_3$, 100 MHz.

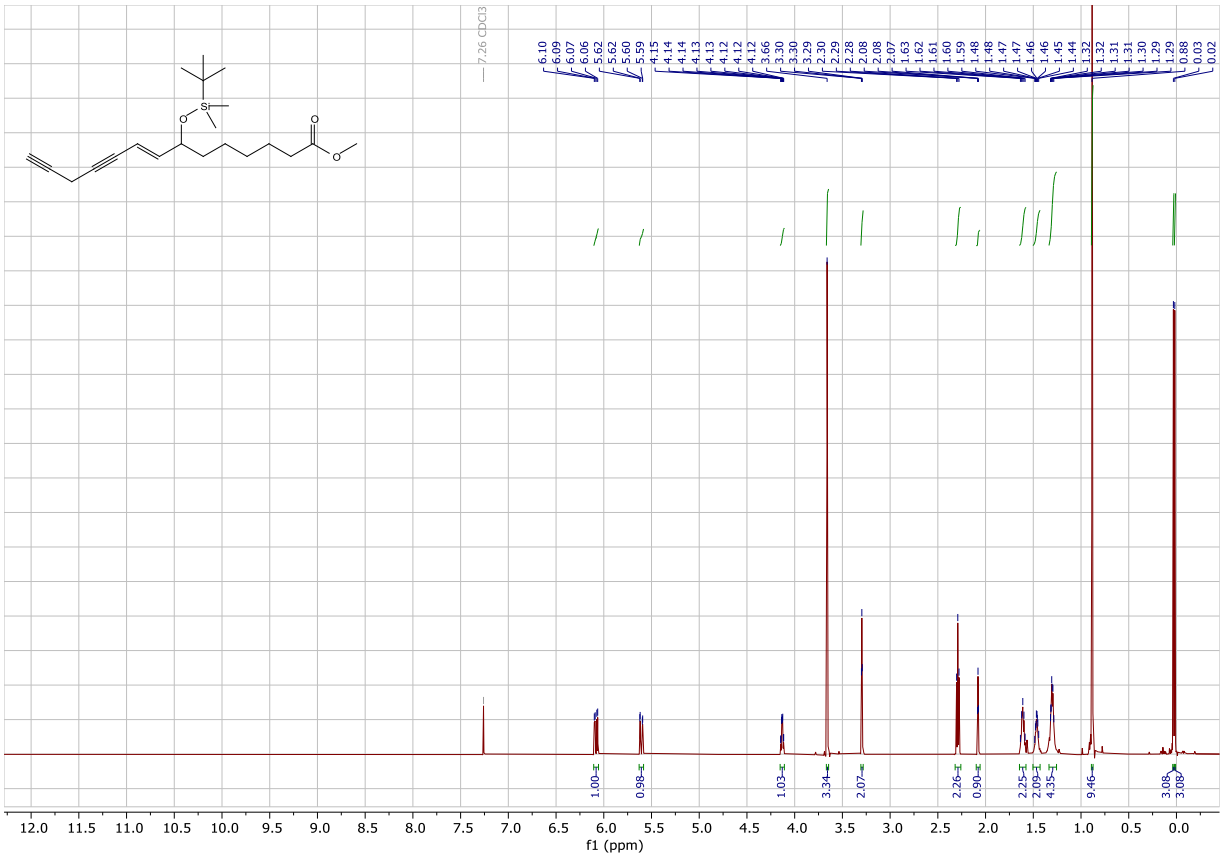


Figure S-3. ^{1}H NMR spectrum of compound **9**, $CDCl_3$, 400 MHz.

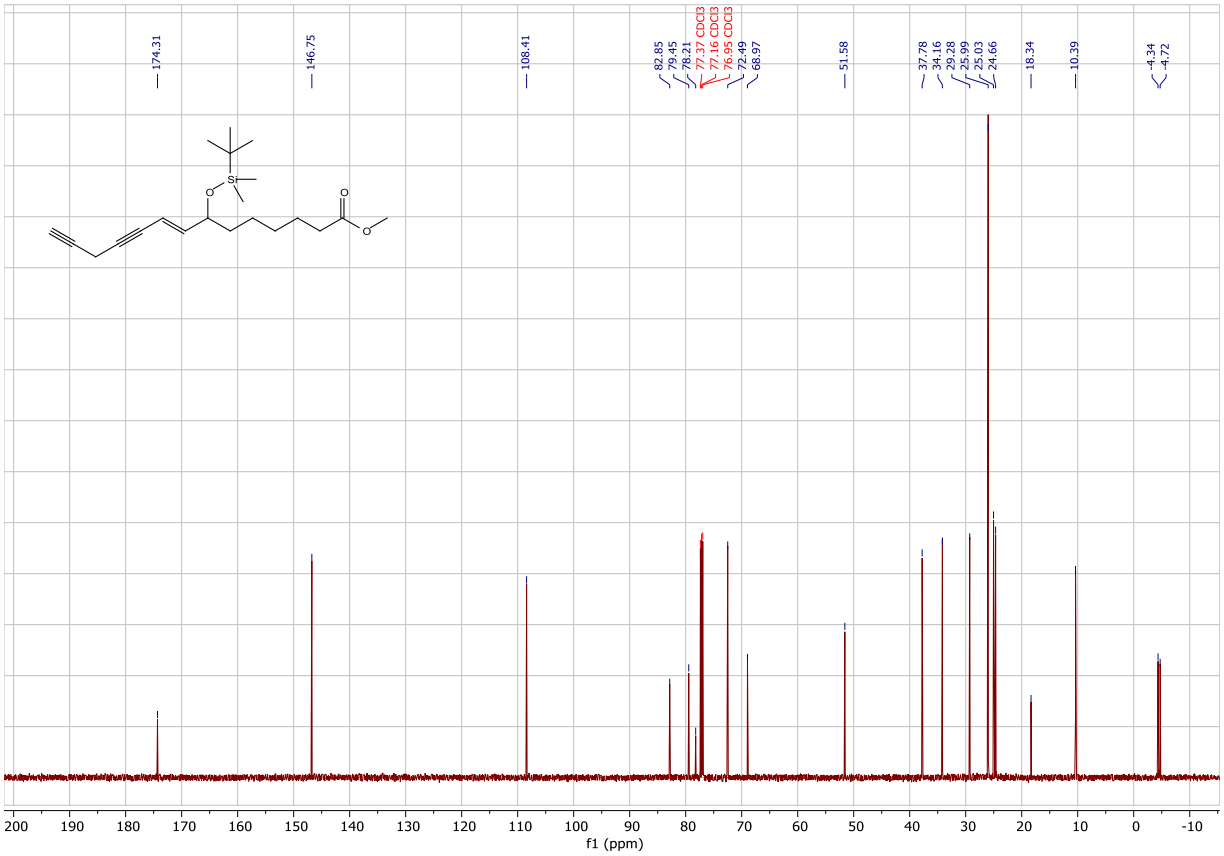


Figure S-4. ^{13}C NMR spectrum of compound **9**, $CDCl_3$, 100 MHz.

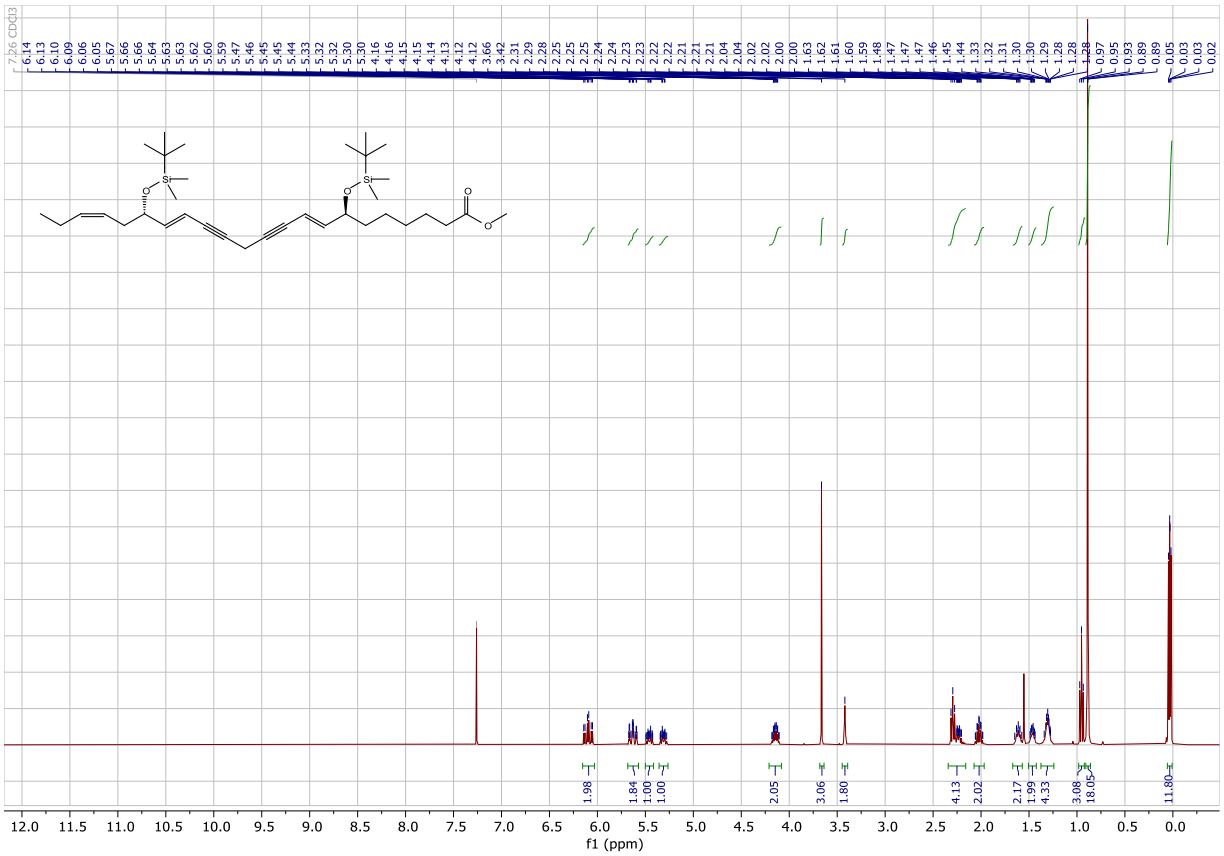


Figure S-5. ^{1}H NMR spectrum of compound **10**, $CDCl_3$, 400 MHz.

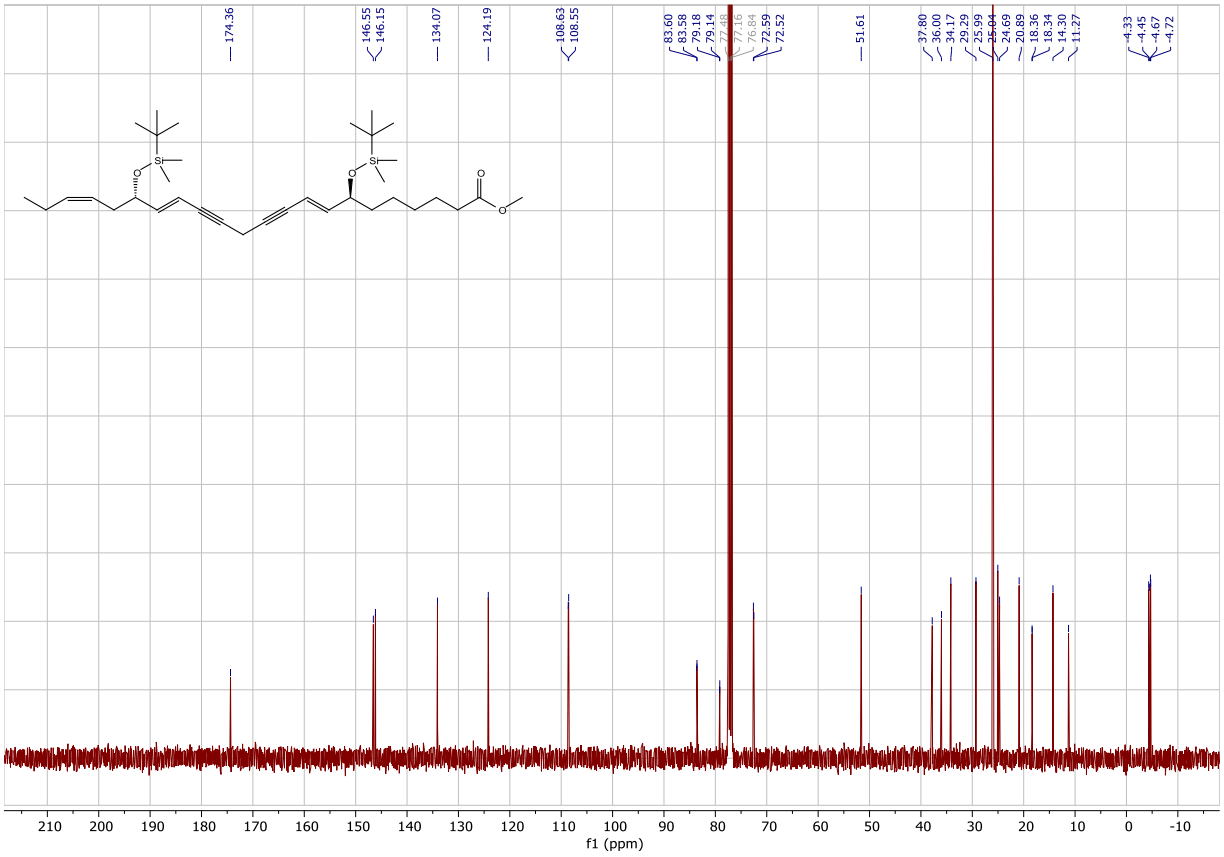


Figure S-6. ^{13}C NMR spectrum of compound **10**, $CDCl_3$, 100 MHz.

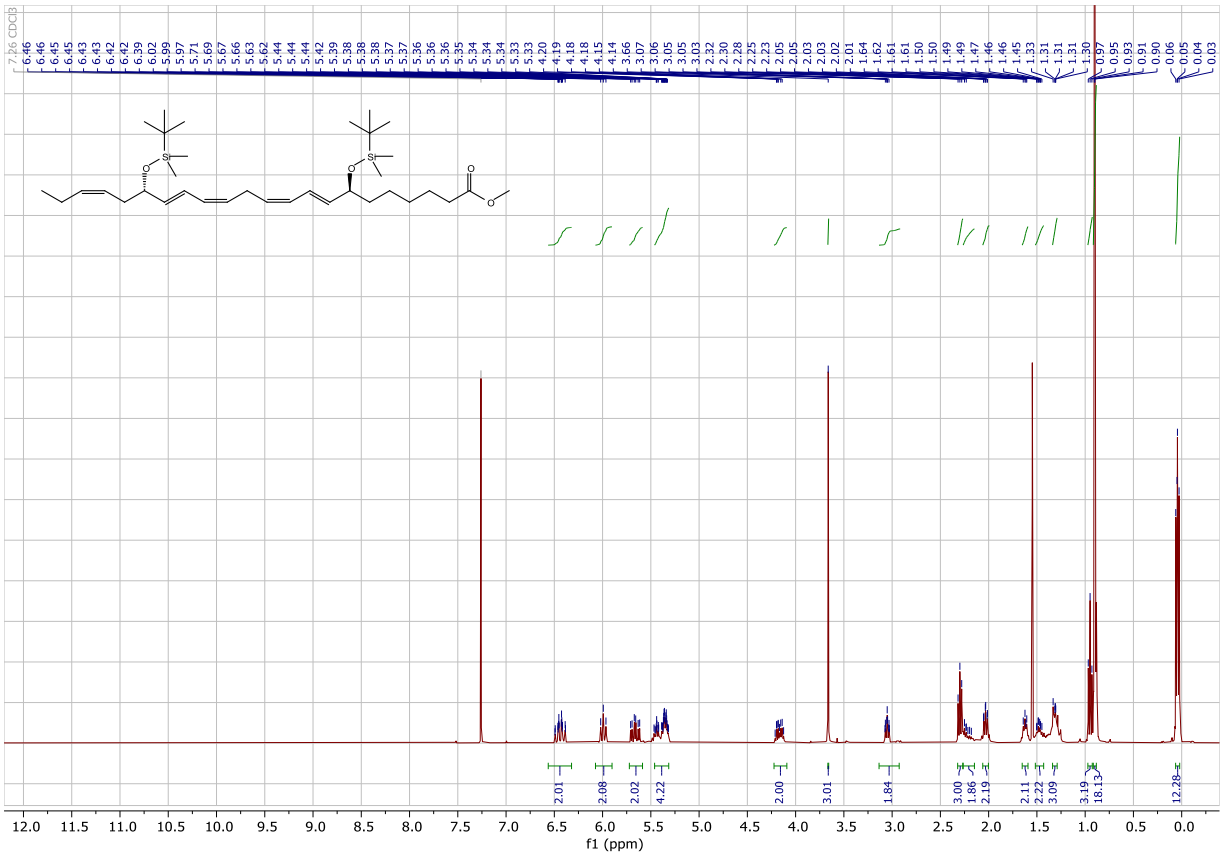


Figure S-7. ^{1}H NMR spectrum of compound **11**, $CDCl_3$, 400 MHz.

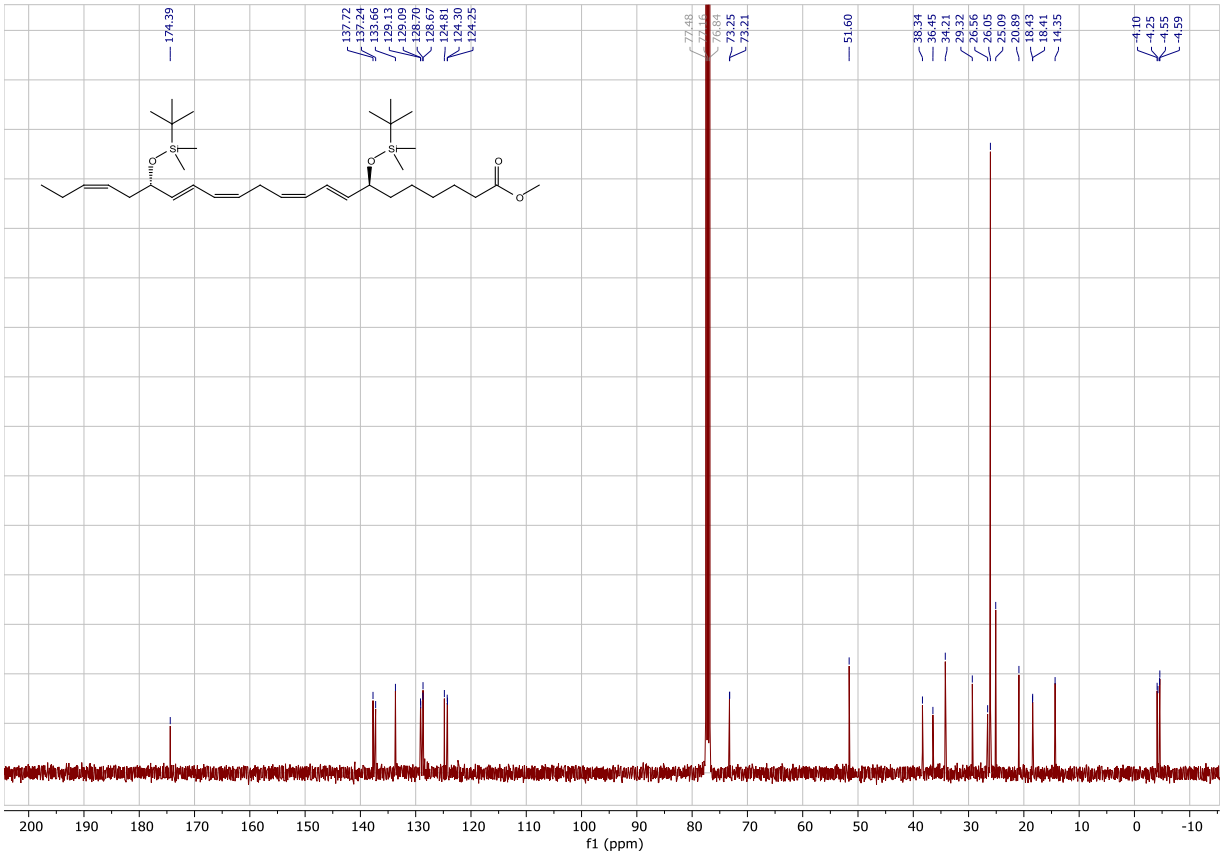


Figure S-8. ^{13}C NMR spectrum of compound **11**, $CDCl_3$, 100 MHz.

Figure S-9. ^{1}H NMR spectrum of compound RvD5$_{n\text{-}3\ DPA}$ methyl ester **2**, CD_3OD, 400 MHz.

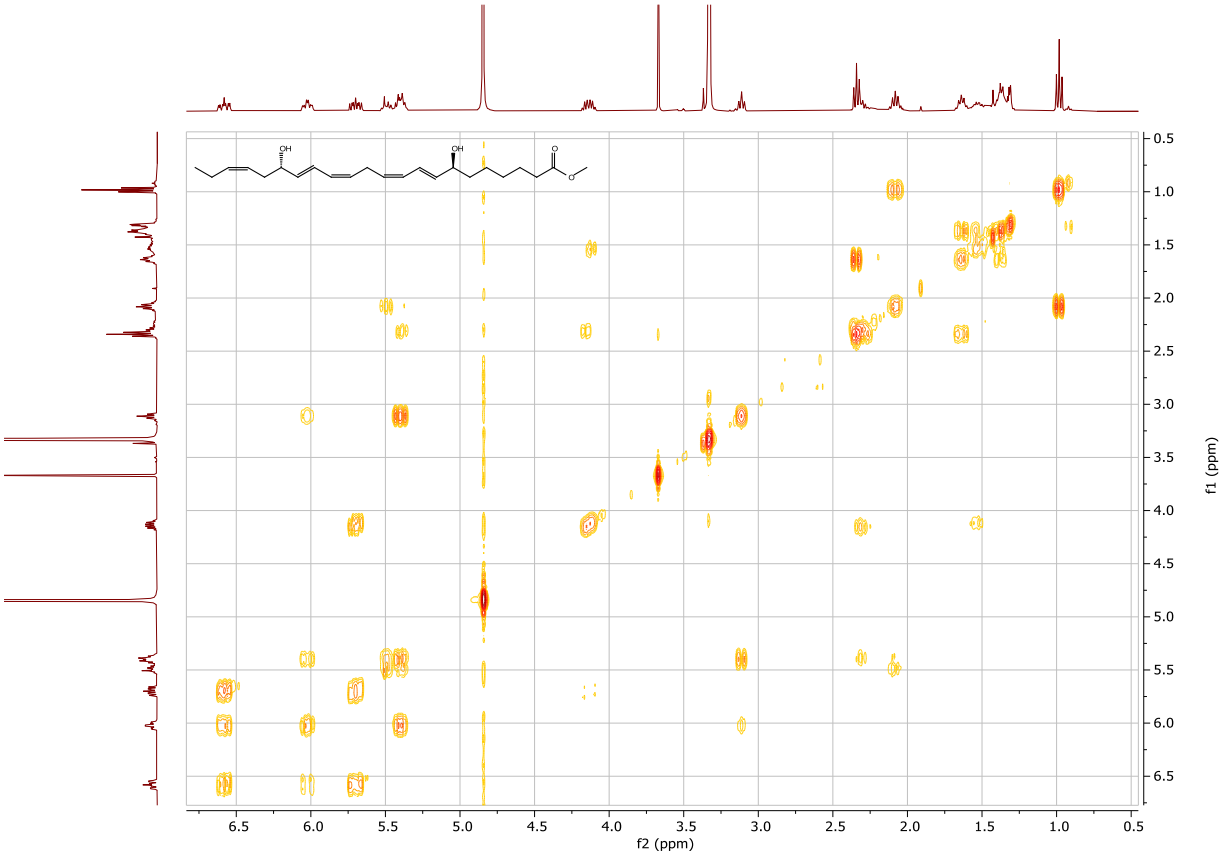


Figure S-10. COSY-spectrum of RvD5$_{n\text{-}3\ DPA}$ methyl ester **2**, CD_3OD, 400 MHz.

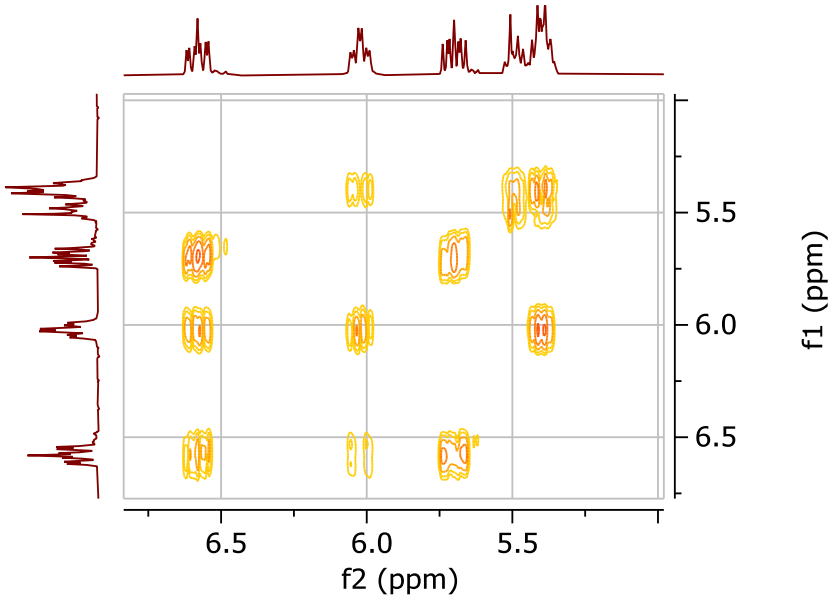
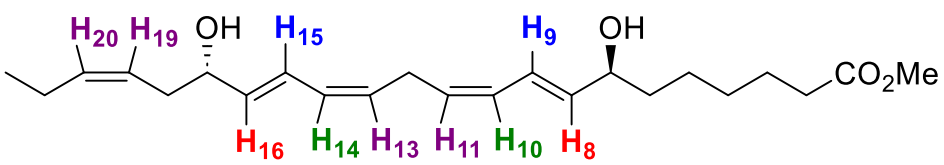


Figure S-11. Expansion of the olefinic area in the COSY NMR spectrum of RvD5$_{n\text{-}3\ DPA}$ methyl ester **2**.



2

Position	*δ* (mult, *J*/Hz)
H_9, H_{15}	6.56 (ddd, *J* = 15.0, 11.1, 3.9 Hz, 2H)
H_{10}, H_{14}	6.00 (td, *J* = 10.8, 4.6 Hz, 2H)
H_8, H_{16}	5.68 (ddd, *J* = 15.7, 9.8, 6.6 Hz, 2H)
H_{11}, H_{13}, H_{19}, H_{20}	5.49 – 5.35 (m, 4H)

Table S-1. Interpretation of the double bond geometry in RvD5$_{n\text{-}3\ DPA}$ methyl ester (**2**).

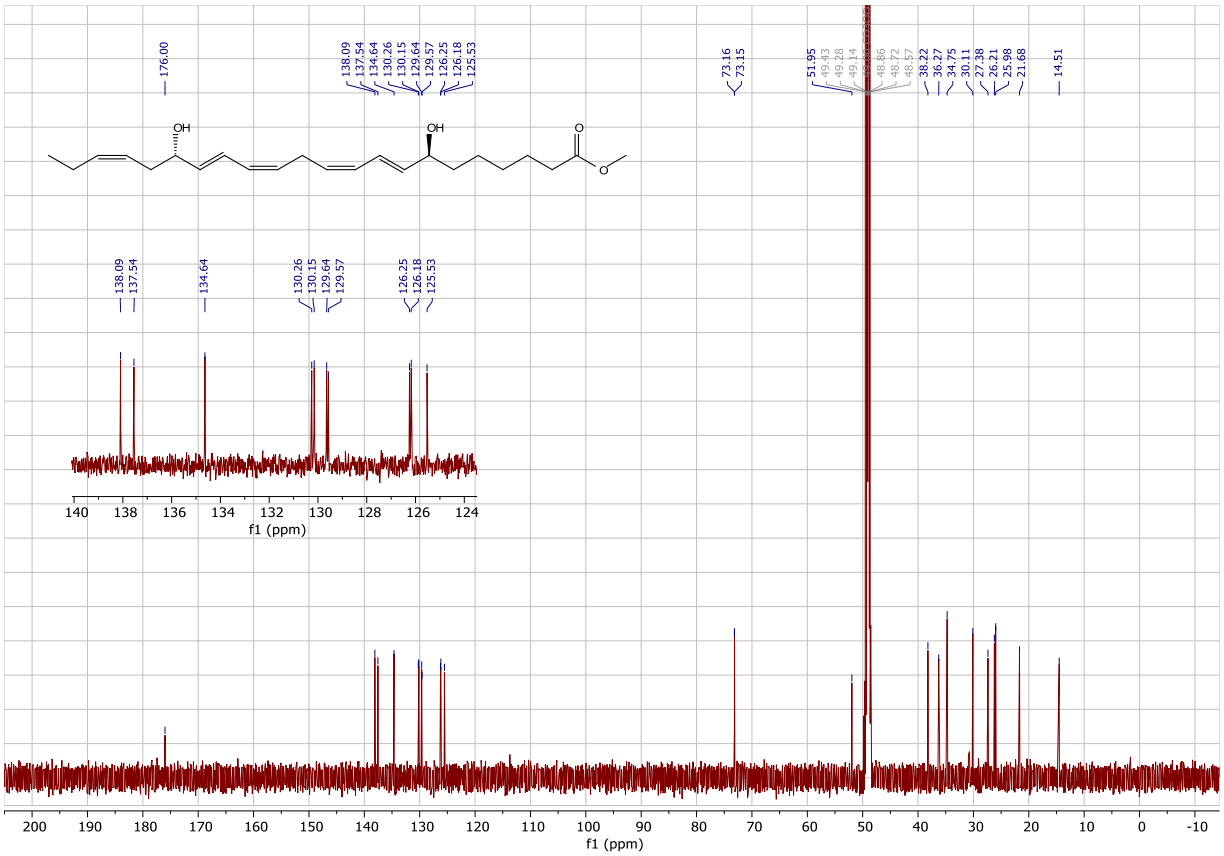


Figure S-12. ^{13}C NMR spectrum of RvD5$_{n\text{-}3\ DPA}$ methyl ester **2**, CD_3OD, 150 MHz.

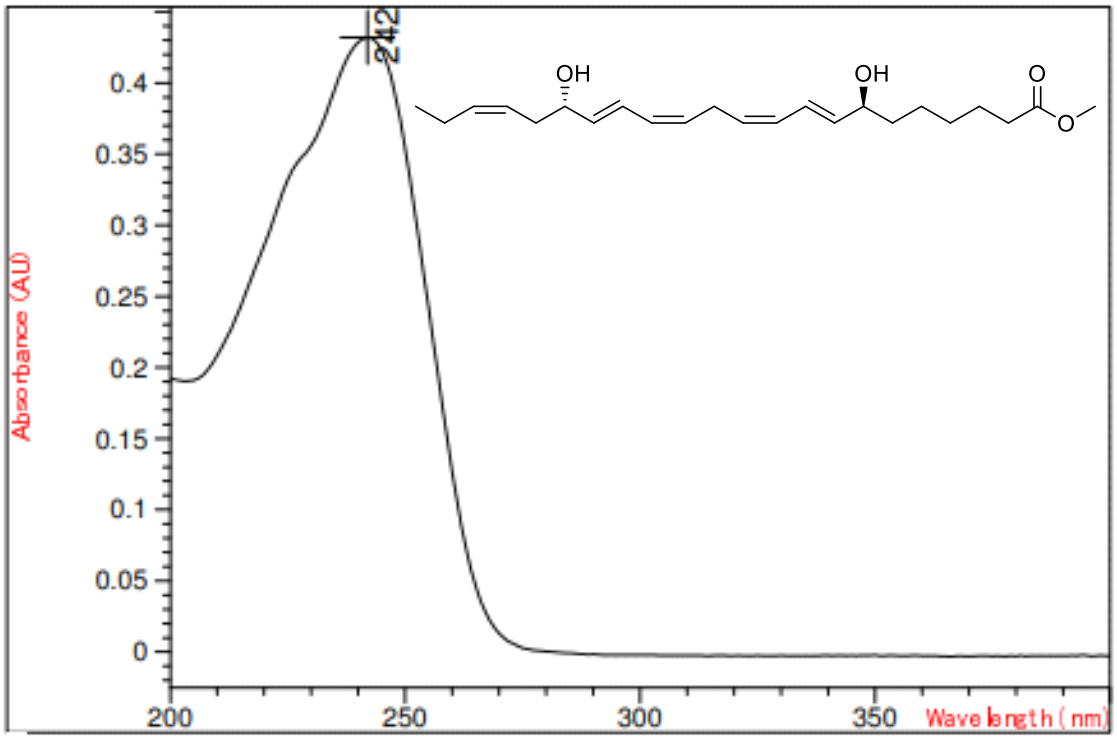


Figure S-13. UV-Vis of RvD5$_{n\text{-}3\ DPA}$ methyl ester **2** in MeOH.

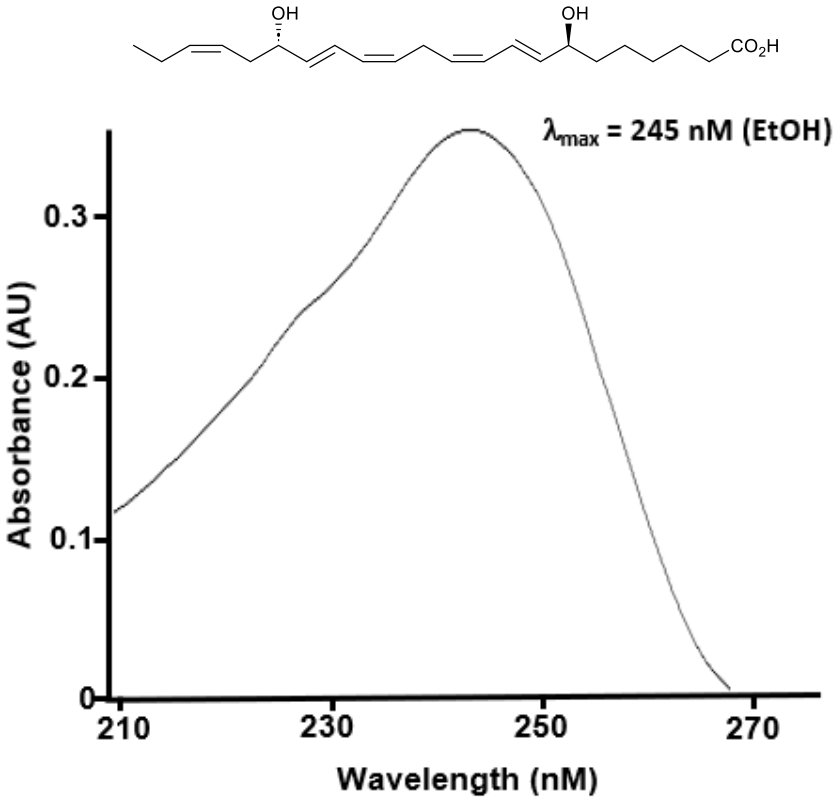
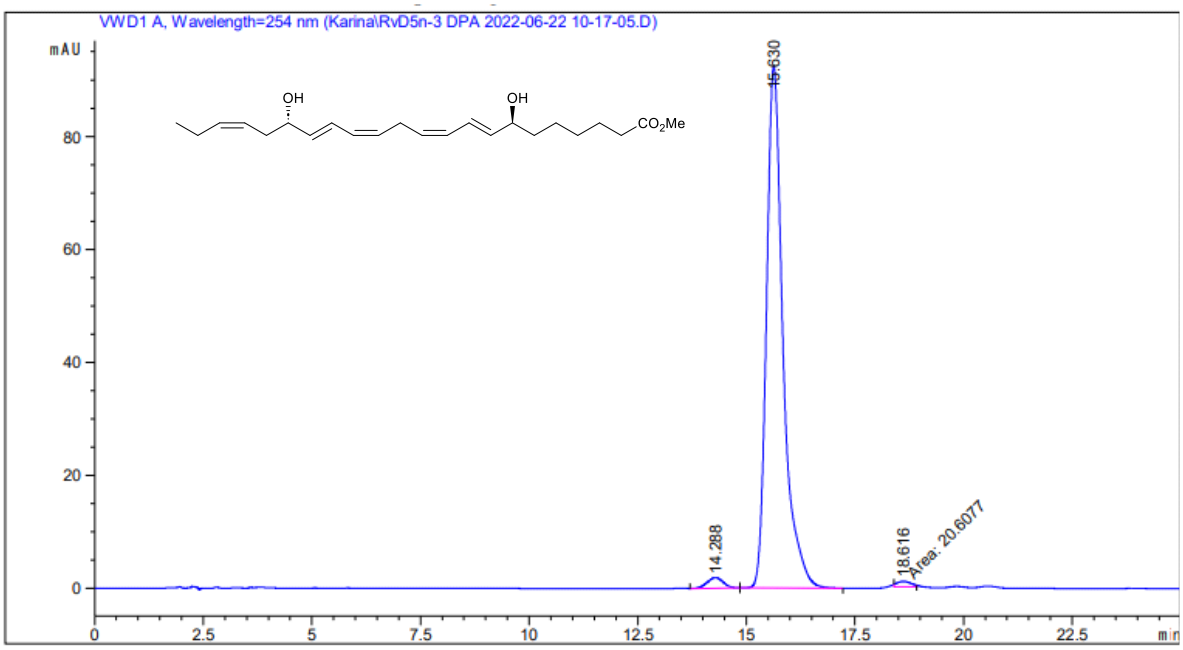


Figure S-14. UV-Vis of RvD5$_{n\text{-}3\ DPA}$ **1**.

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Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
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   1  14.288 BB    0.3929   48.07434    1.87654   1.9158
   2  15.630 BB    0.3974 2440.66089   92.33601  97.2629
   3  18.616 MM    0.3787   20.60766 9.06916e-1   0.8212
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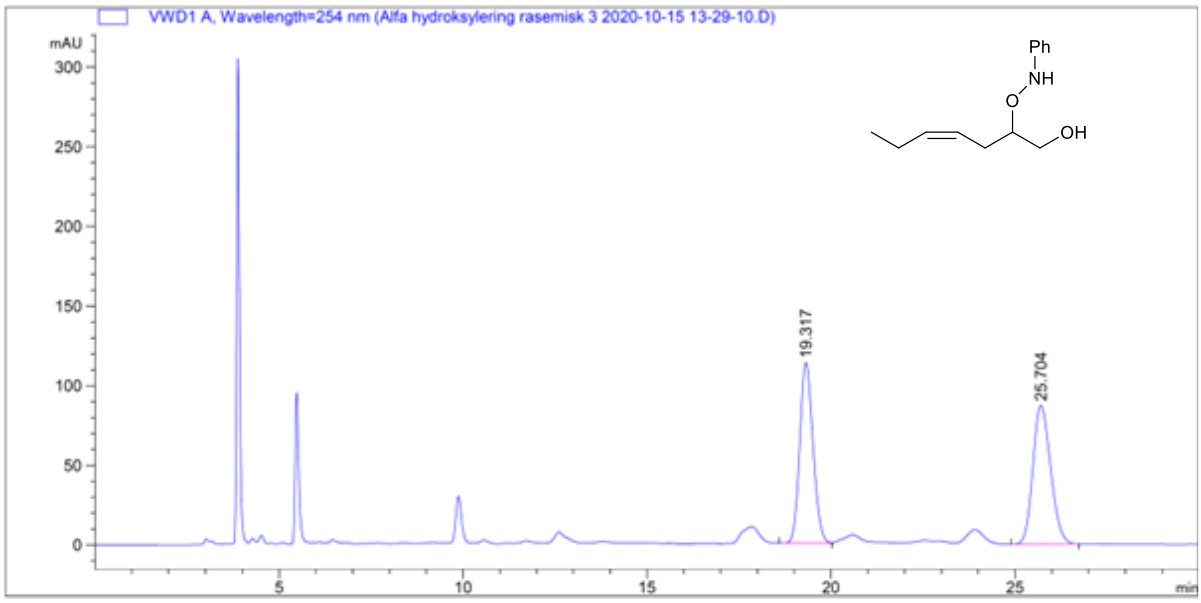
Figure S-15. HPLC chromatogram of RvD5$_{n\text{-}3\ DPA}$ methyl ester **2**.

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Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  19.317 BV    0.3891 2837.64722  113.32843  49.2803
   2  25.704 BB    0.5210 2920.53052   87.13389  50.7197

Totals :                  5758.17773  200.46232
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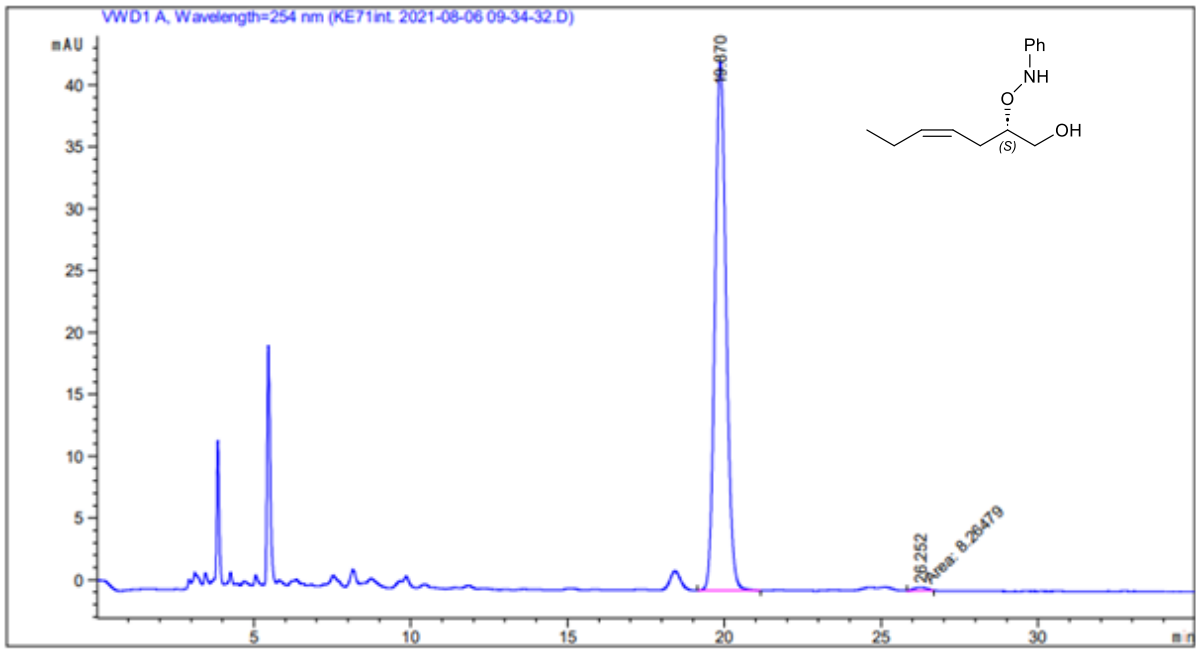
Figure S-16. HPLC chromatogram of racemic α-aminoxylated alcohol intermediate of compound **7**.



Area Percent Report

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Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

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1	19.870	BB	0.3840	1057.72974	42.69299	99.2247
2	26.252	MM	0.4983	8.26479	2.76407e-1	0.7753

Figure S-17. HPLC chromatogram of optical α-aminoxylated alcohol intermediate of compound **7**.

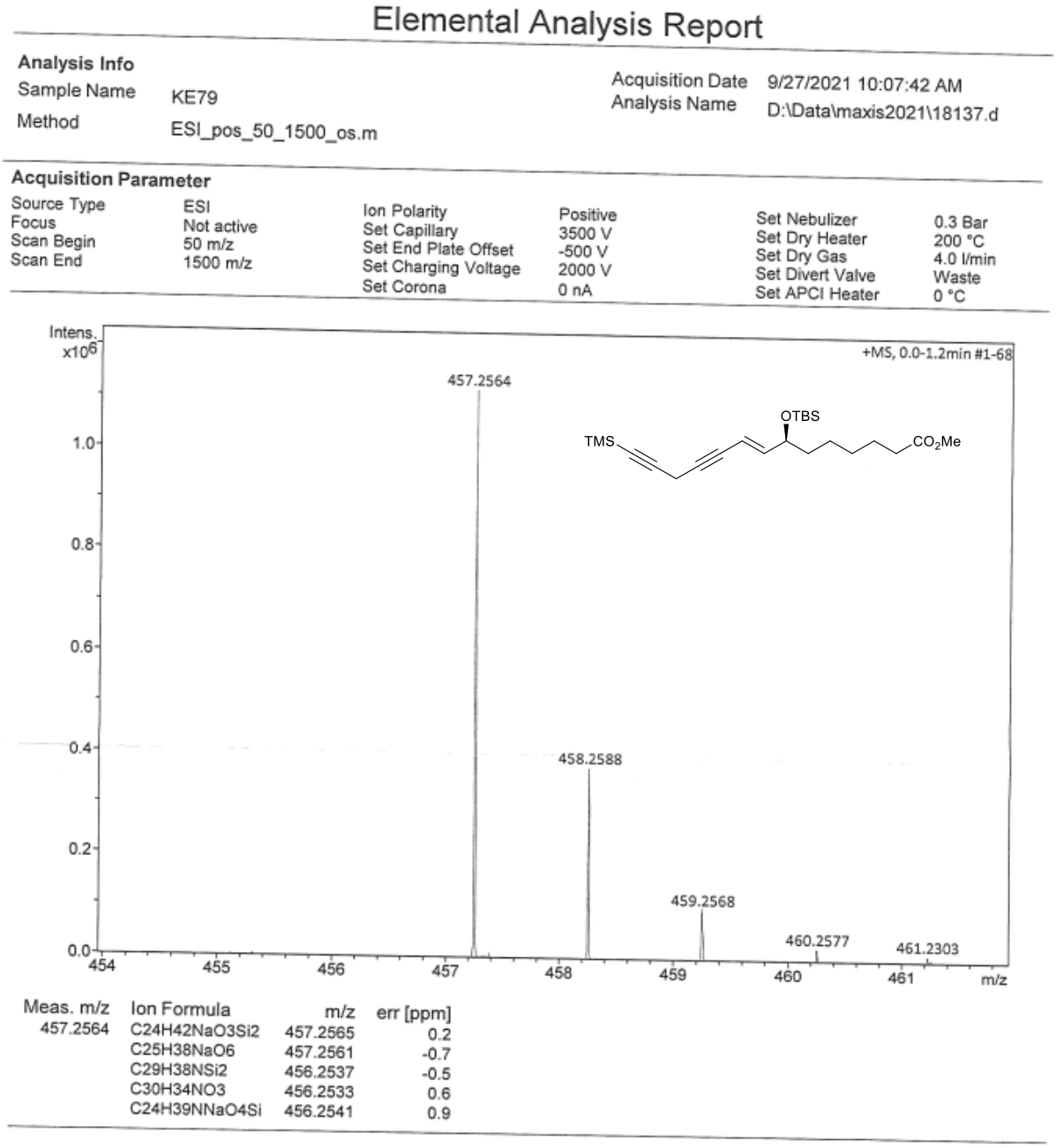

Figure S-18. HRMS spectrum of compound **8**.

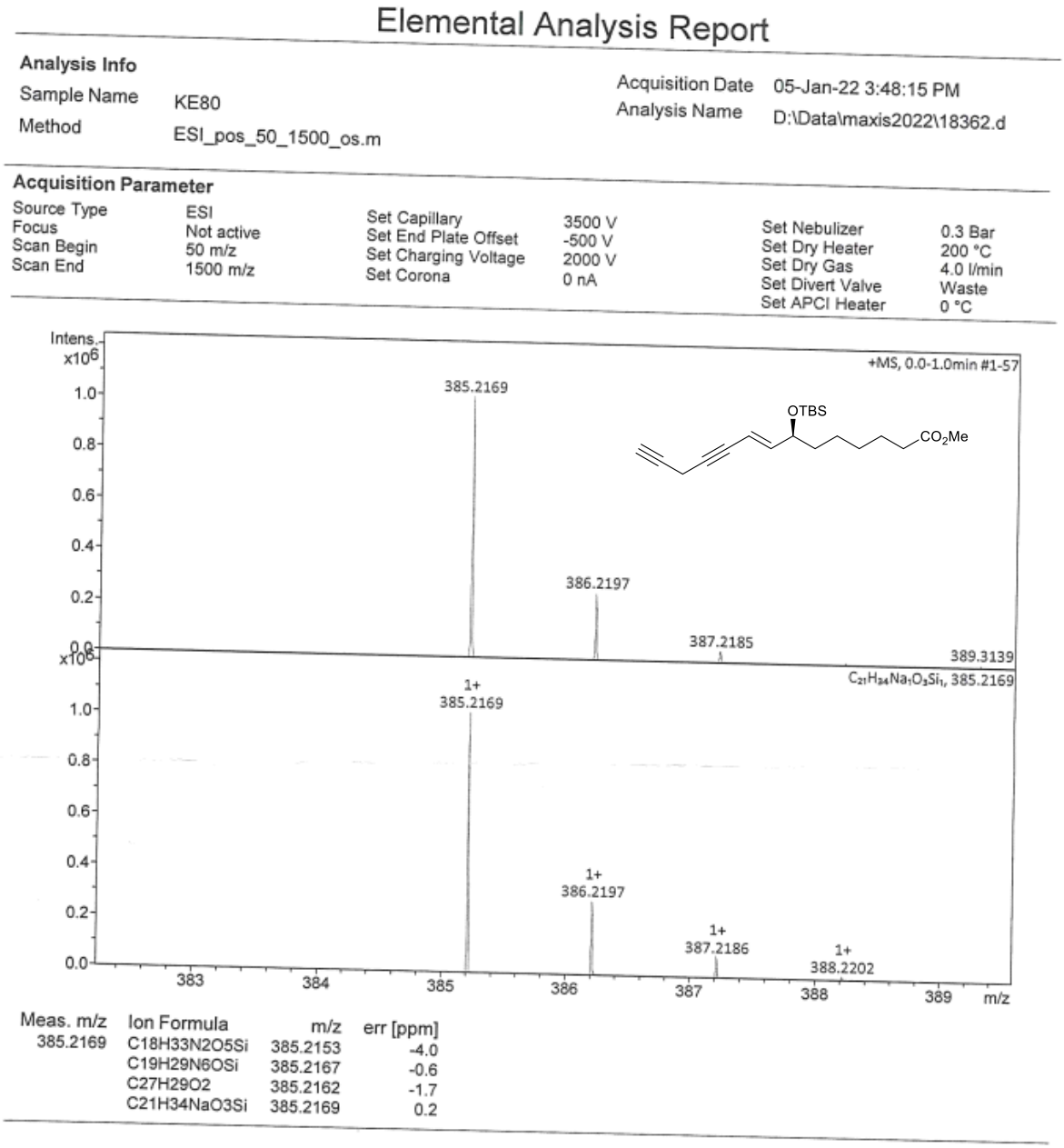

Figure S-19. HRMS spectrum of compound **9**.

Elemental Analysis Report

Analysis Info

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Acquisition Parameter

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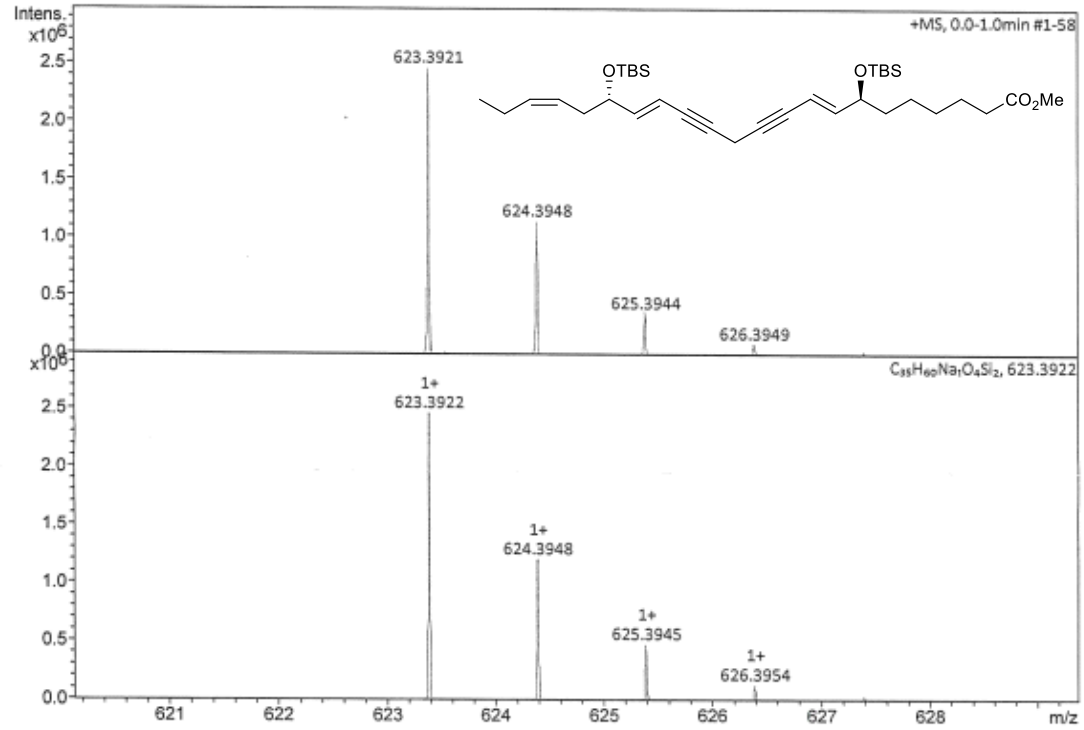
Focus	Not active	Set End Plate Offset	-500 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set Charging Voltage	2000 V	Set Dry Gas	4.0 l/min
Scan End	1500 m/z	Set Corona	0 nA	Set Divert Valve	Waste
				Set APCI Heater	0 °C



Meas. m/z	Ion Formula	m/z	err [ppm]
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	C41H55O3Si	623.3915	-1.0
	C34H51N6O5	623.3915	-1.0
	C40H56NOSi2	622.3895	-0.0
	C41H52NO4	622.3891	0.5
	C36H57N2O3Si2	621.3902	0.6
	C35H60NaO4Si2	623.3922	0.1
	C36H56NaO7	623.3918	-0.5
	C35H57NNaO5Si	622.3898	1.0
	C38H51N3NaO3	620.3823	-0.9

Figure S-20. HRMS spectrum of compound **10**.

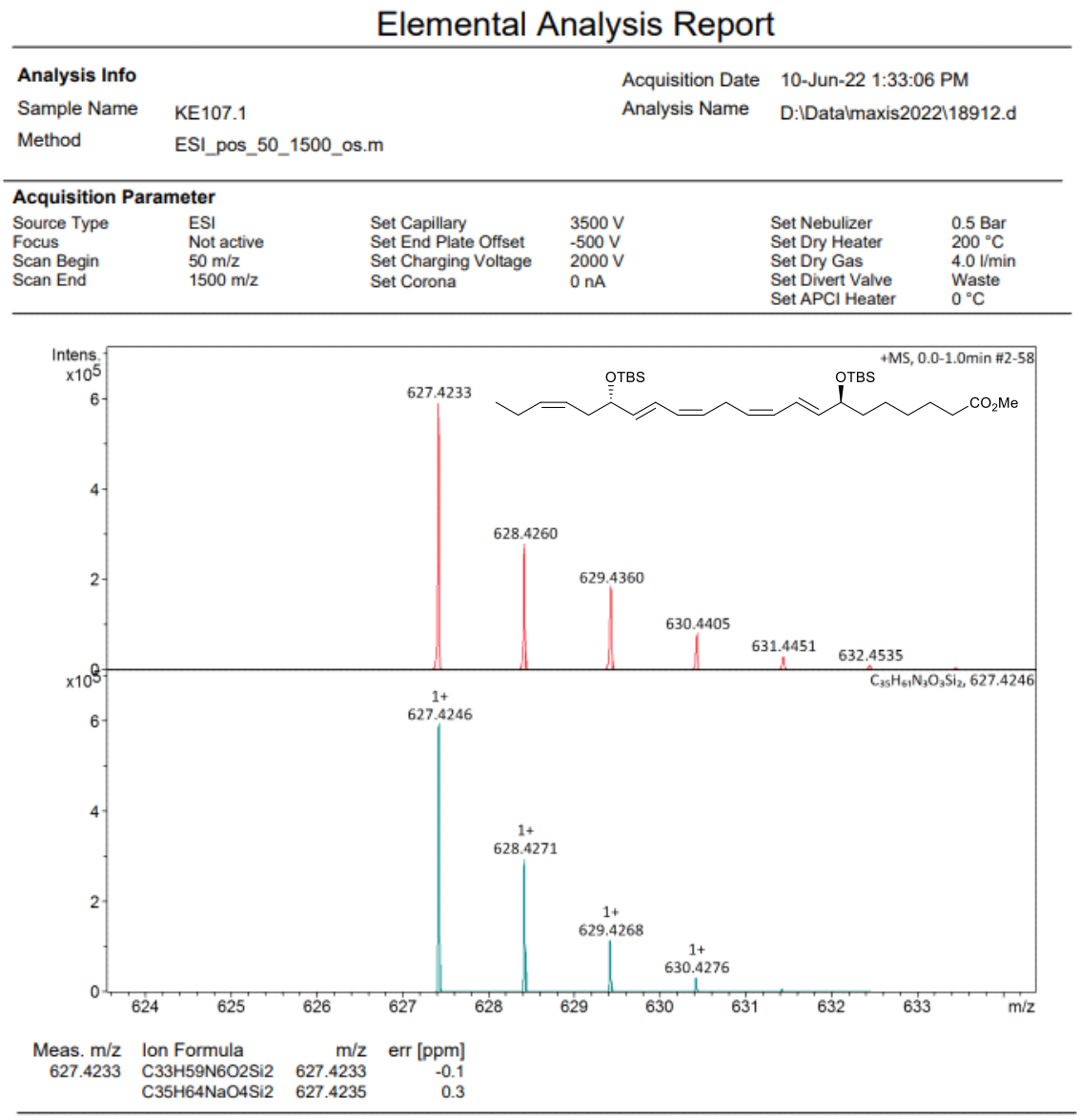

Figure S-21. HRMS spectrum of compound **11**.

Elemental Analysis Report

Analysis Info

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Method	ESI_pos_50_1500_os.m	Analysis Name	D:\Data\maxis2022\18949.d

Acquisition Parameter

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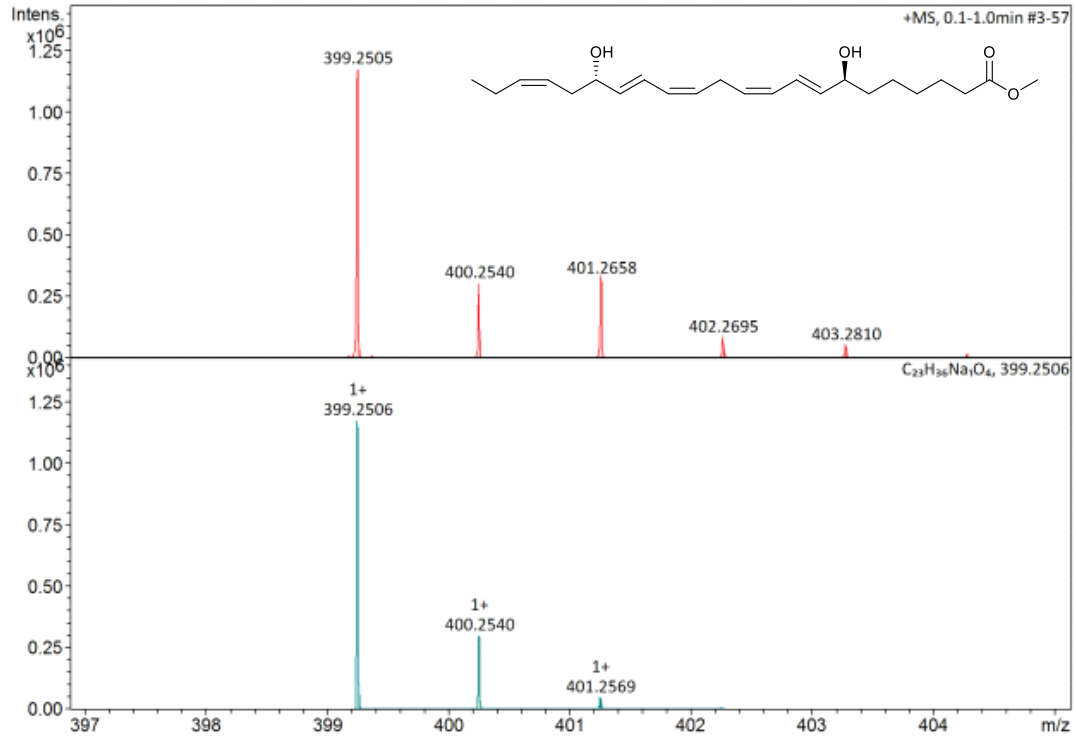
Focus	Not active	Set End Plate Offset	-500 V	Set Dry Heater	200 °C
Scan Begin	50 m/z	Set Charging Voltage	2000 V	Set Dry Gas	4.0 l/min
Scan End	1500 m/z	Set Corona	0 nA	Set Divert Valve	Waste
				Set APCI Heater	0 °C



Meas. m/z	Ion Formula	m/z	err [ppm]
399.2505	C21H31N6O2	399.2503	-0.5
	C23H36NaO4	399.2506	0.2
401.2658	C21H33N6O2	401.2660	0.5
	C23H38NaO4	401.2662	1.2

Figure S-22. HRMS spectrum of RvD5$_{n\text{-}3\ DPA}$ methyl ester **2**.