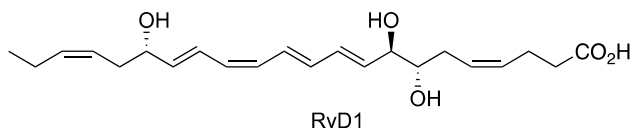


## **Stereocontrolled synthesis of resolvin D1**

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|                                |        |
|--------------------------------|--------|
| Comparison of NMR data of RvD1 | S2     |
| NMR Spectra and chiral HPLC    | S3–S25 |



### Synthetic RvD1 by Us

#### <sup>1</sup>H NMR (400 MHz, CD<sub>3</sub>OD) δ

0.93 (t, *J* = 7.6 Hz, 3 H)  
 1.98–2.08 (m, 2 H)  
 2.12–2.38 (m, 11 H)  
 3.51 (dt, *J* = 8.0 Hz, 4.8 Hz, 1 H)  
 3.96–4.01 (m, 1 H)  
 4.10–4.17 (m, 1 H)  
 5.30–5.56 (m, 4 H)  
 5.70 (dd, *J* = 15.0 Hz, 6.2 Hz, 1 H)  
 5.83 (dd, *J* = 15.2 Hz, 7.0 Hz, 1 H)  
 5.92–6.04 (m, 2 H)  
 6.26 (dd, *J* = 14.4 Hz, 10.8 Hz, 1 H)  
 6.36 (dd, *J* = 15.2 Hz, 10.8 Hz, 1 H)  
 6.67–6.78 (m, 2 H)

#### <sup>13</sup>C–APT<sup>c</sup> NMR (75 MHz, CD<sub>3</sub>OD) δ

14.8 (+)  
 22.0 (–)  
 24.4 (–)  
 32.2 (–)  
 35.2 (–)  
 36.5 (–)  
 73.4 (+)  
 76.1 (+)  
 76.6 (+)  
 125.8 (+)  
 126.9 (+)  
 128.6 (+)  
 129.5 (+)  
 130.5 (+)  
 130.8 (+)  
 131.1 (+)  
 133.8 (+)  
 134.8 (+)  
 134.9 (+)  
 135.0 (+)  
 138.5 (+)  
 177.5 (–)

### RvD1 by Spur<sup>a,b</sup>

#### <sup>1</sup>H NMR (300 MHz, CD<sub>3</sub>OD) δ

0.9–1.0 (t, *J* = 7.5 Hz, 3 H)  
 2.0–2.1 (quint, *J* = 7.5 Hz, 2 H)  
 2.1–2.4 (m, 8 H)  
 3.5–3.6 (m, 1 H)  
 3.9–4.1 (m, 1 H)  
 4.1–4.2 (m, 1 H)  
 5.3–5.6 (m, 4 H)  
 5.7–5.8 (dd, *J* = 15.0, 6.6 Hz, 1 H)  
 5.8–5.9 (dd, *J* = 14.7, 6.7 Hz, 1 H)  
 5.9–6.1 (m, 2 H)  
 6.2–6.5 (m, 2 H)  
 6.6–6.8 (m, 2 H)

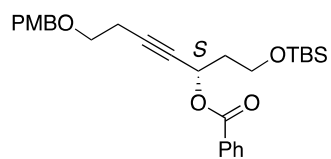
#### <sup>13</sup>C NMR (75.5 MHz, CD<sub>3</sub>OD) δ

14.46  
 21.65  
 24.06  
 31.89  
 34.95  
 36.27  
 73.13  
 75.86  
 76.27  
 125.47  
 126.61  
 128.32  
 129.19  
 130.24  
 130.46  
 130.78  
 133.44  
 134.47  
 134.57  
 134.69  
 138.29  
 C1 not observed.

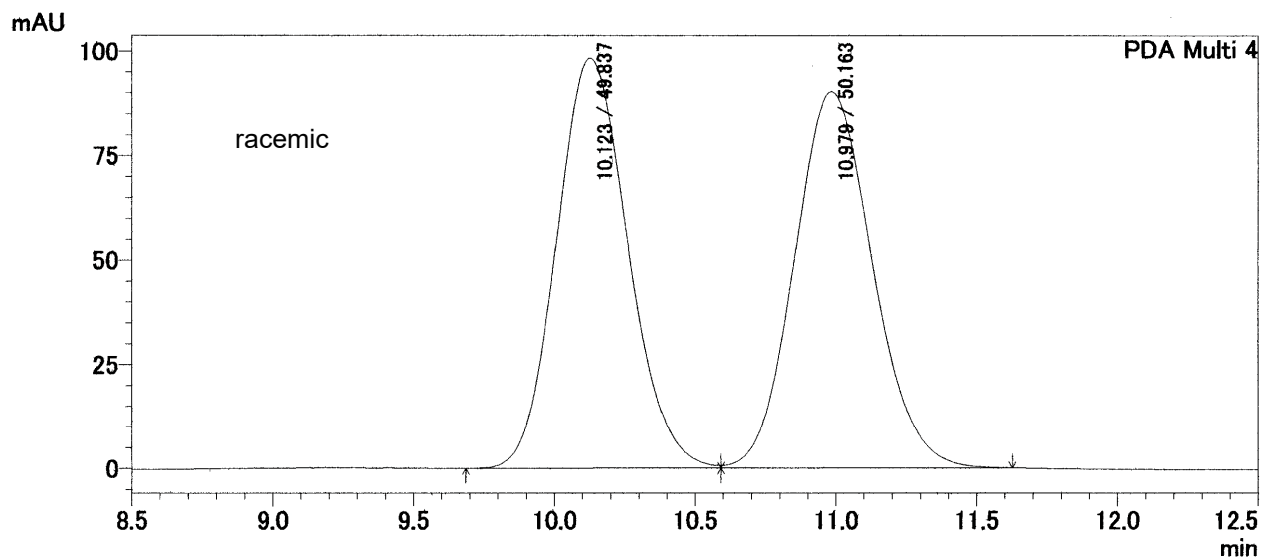
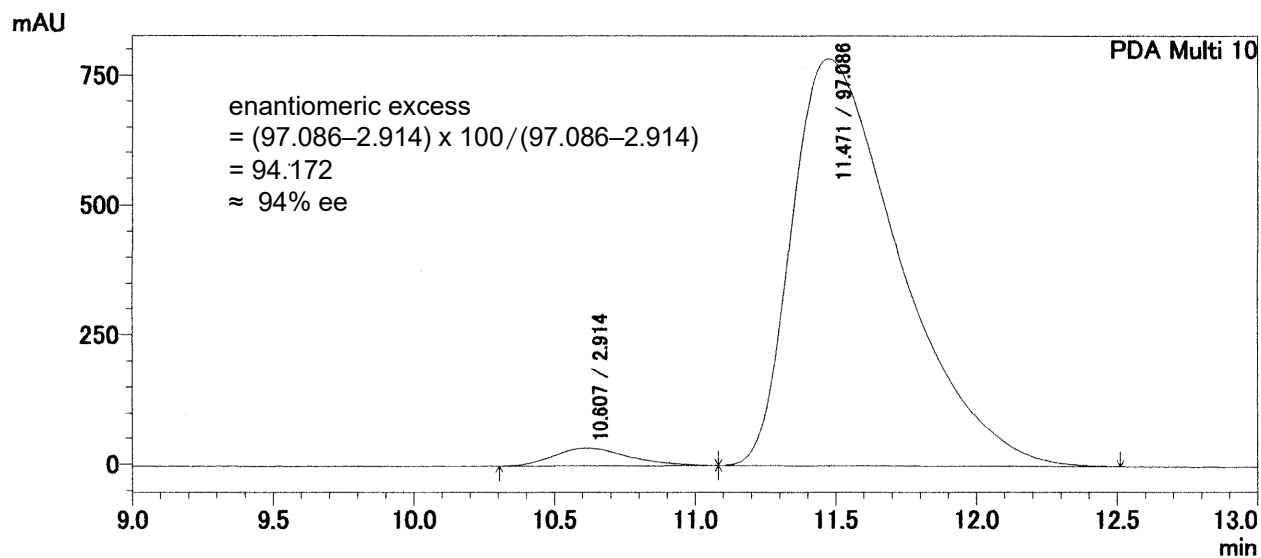
<sup>a</sup> A. R. Rodriguez and B. W. Spur, *Tetrahedron Lett.*, 2012, **53**, 6990.

<sup>b</sup> Being o-eluted with an authentic sample of Resolvin D1 purchased from Cayman.

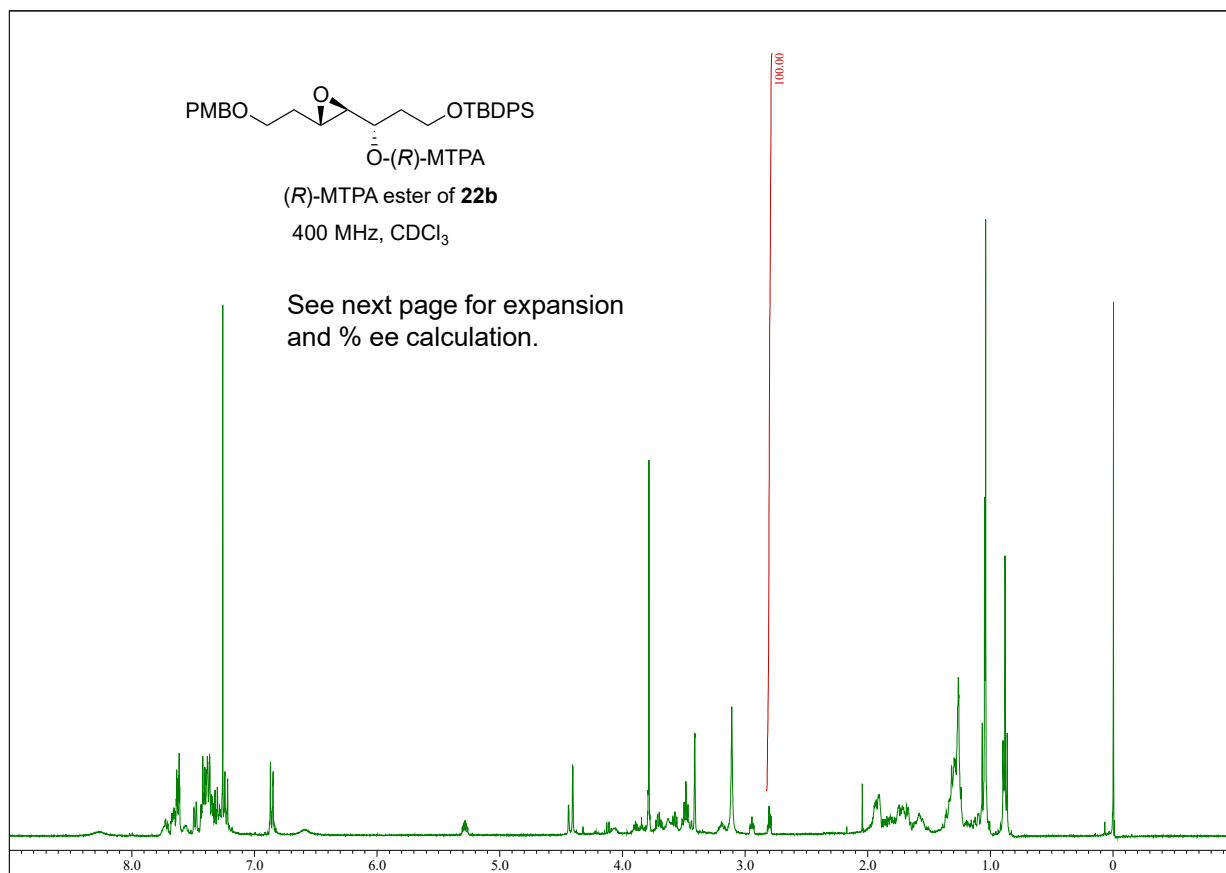
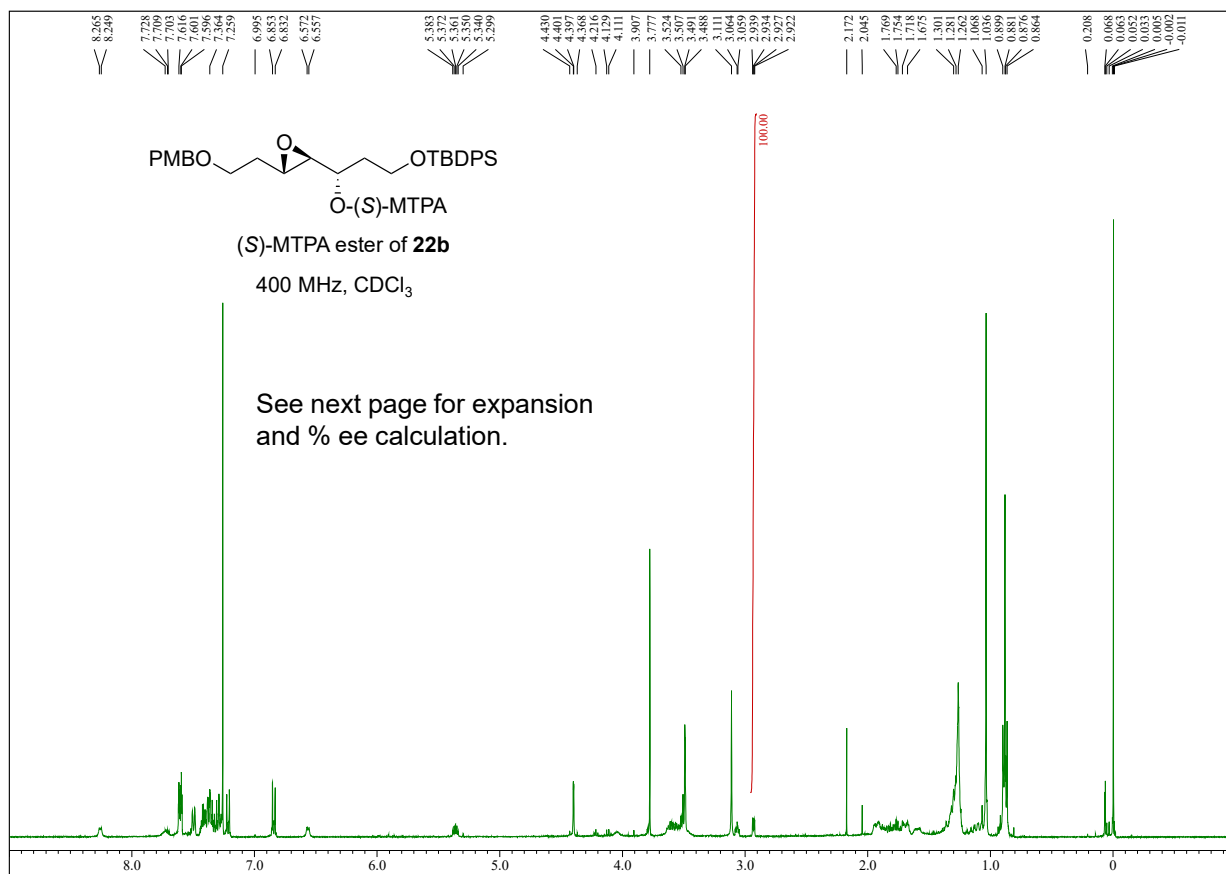
<sup>c</sup> APT : minus for C and CH<sub>2</sub>; and plus for CH and CH<sub>3</sub>.

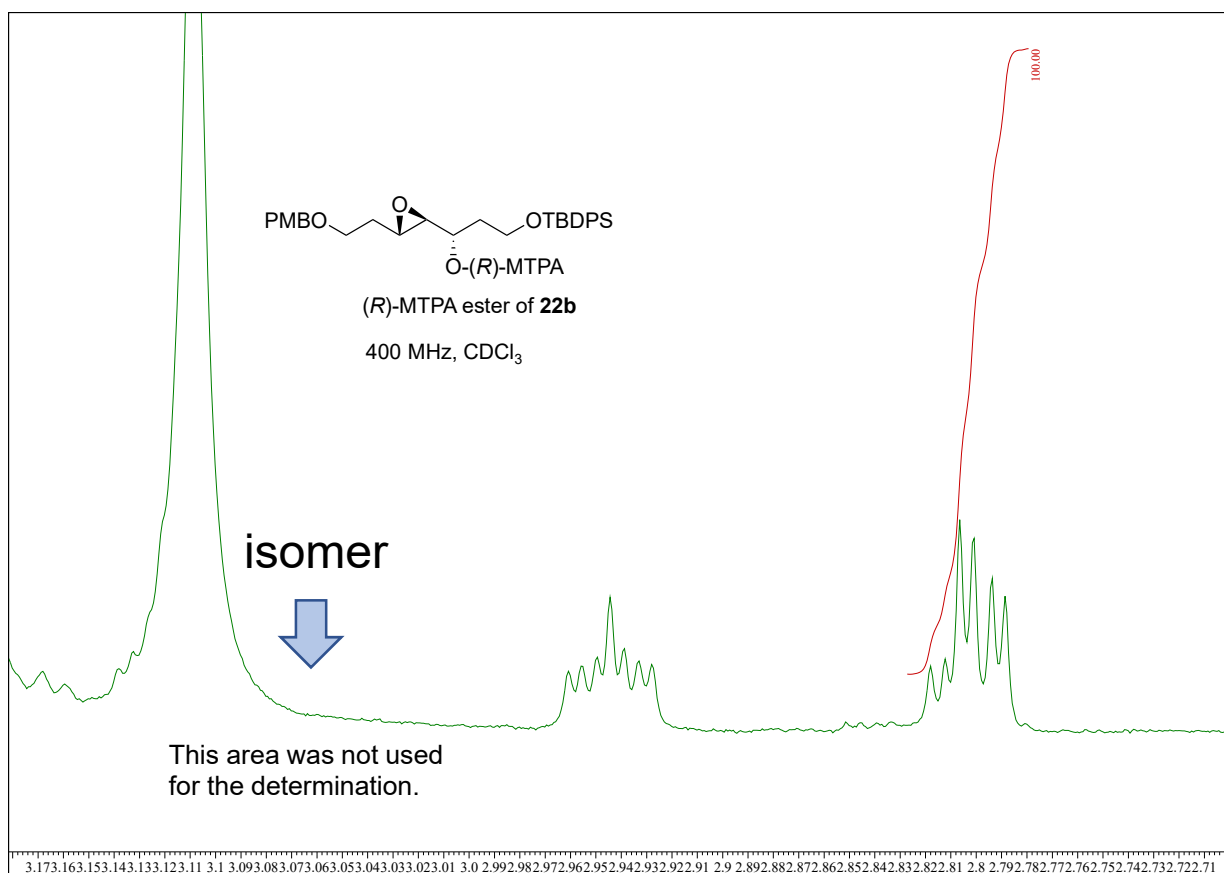
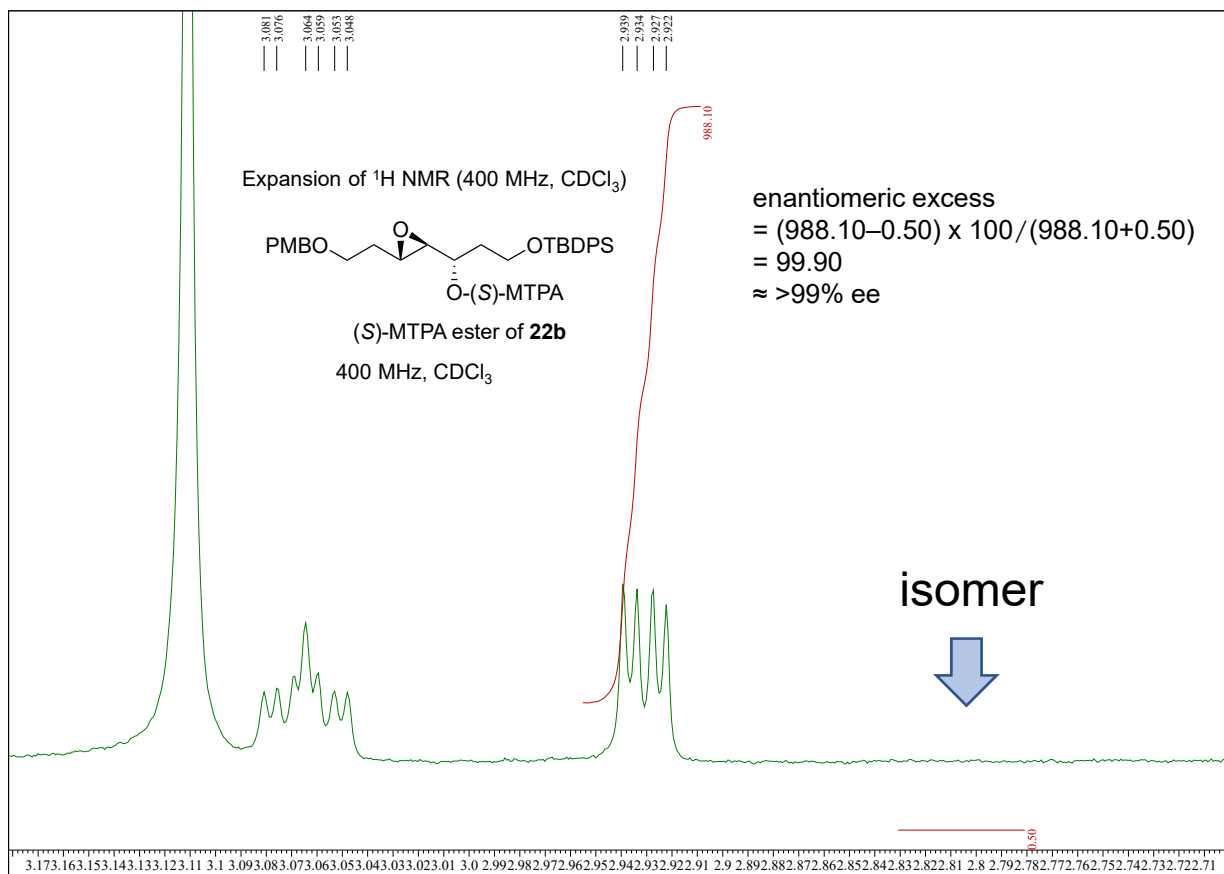


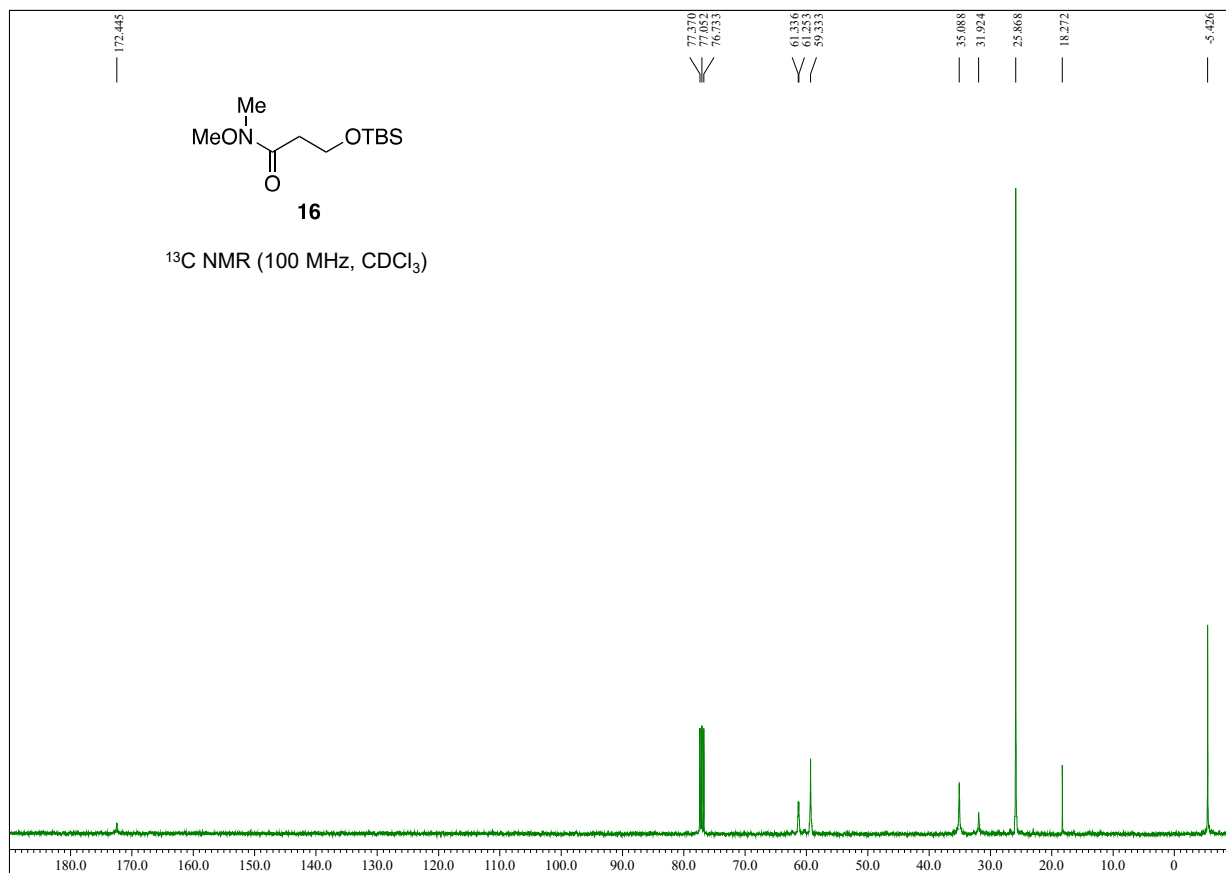
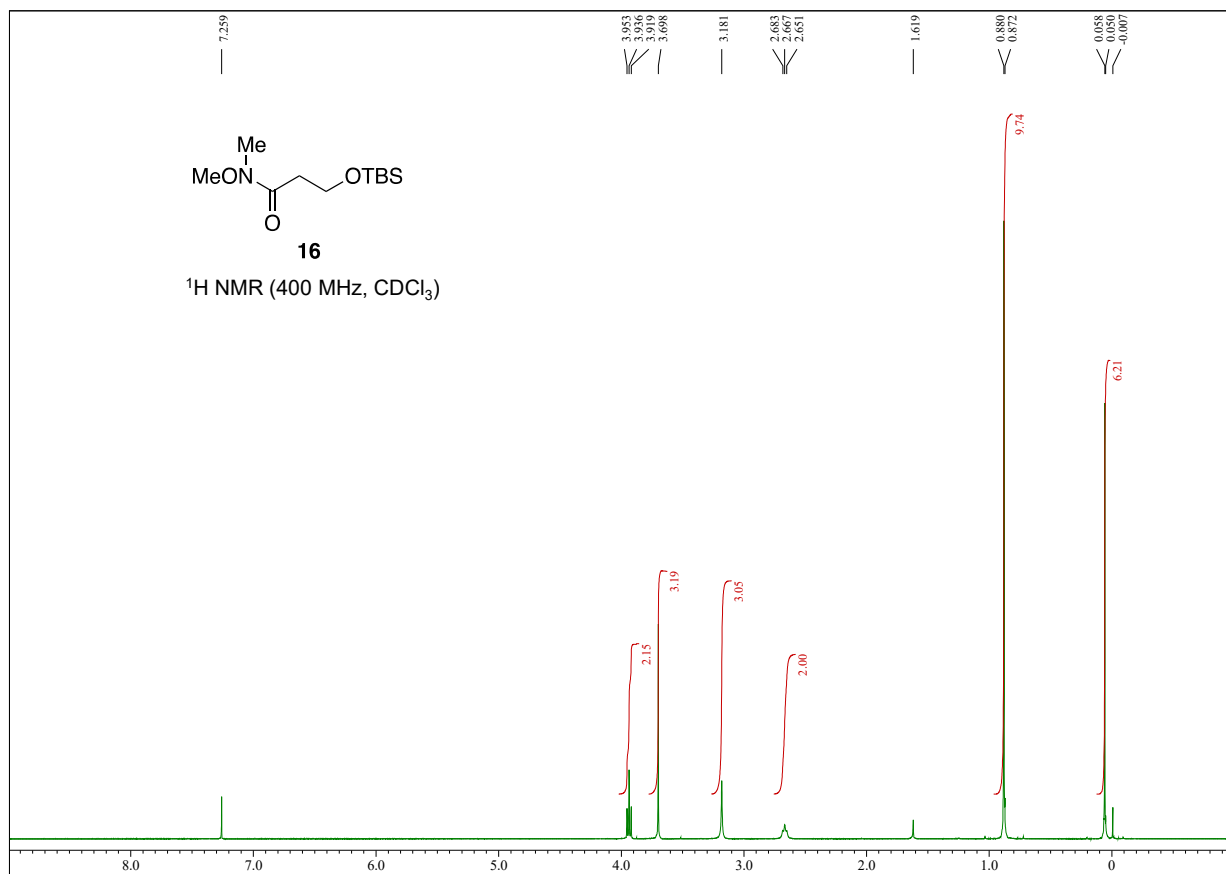
Benzoate of **19**

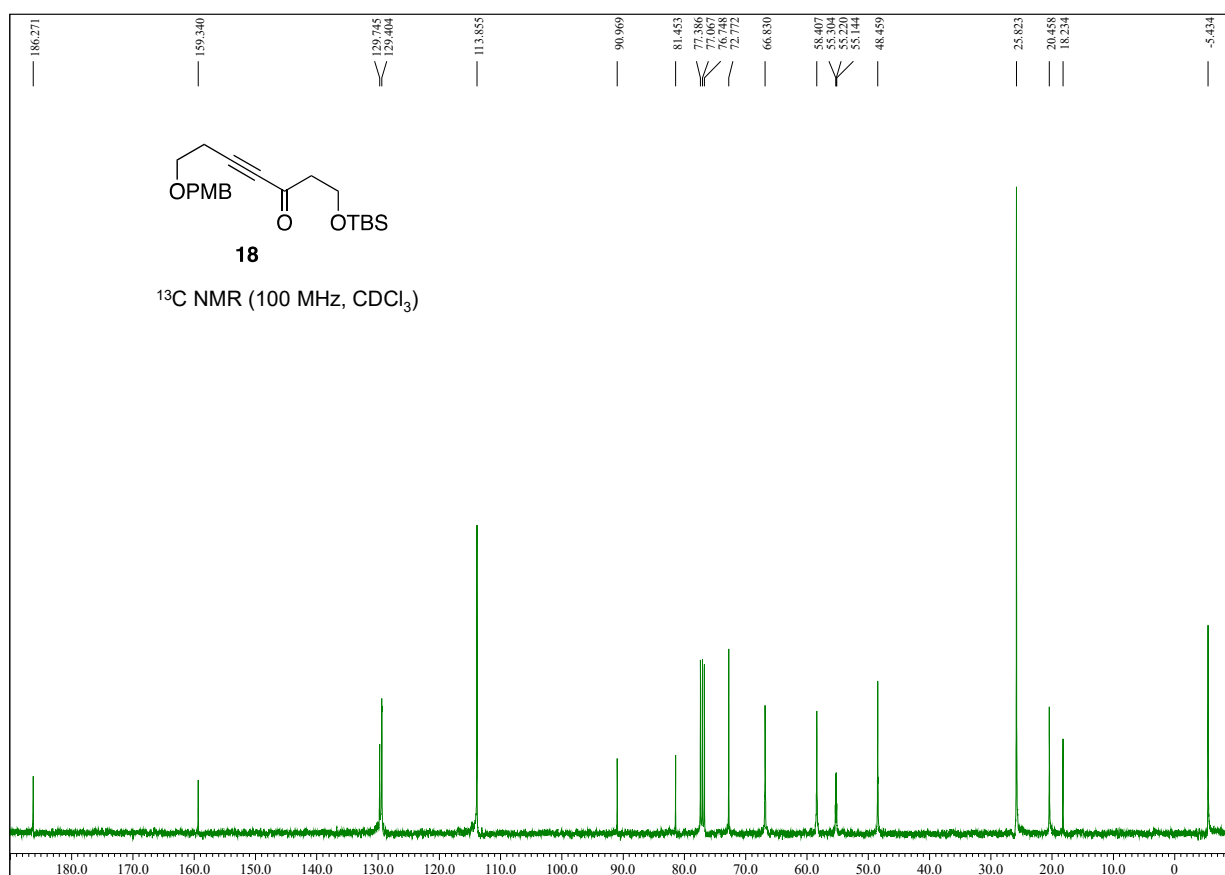
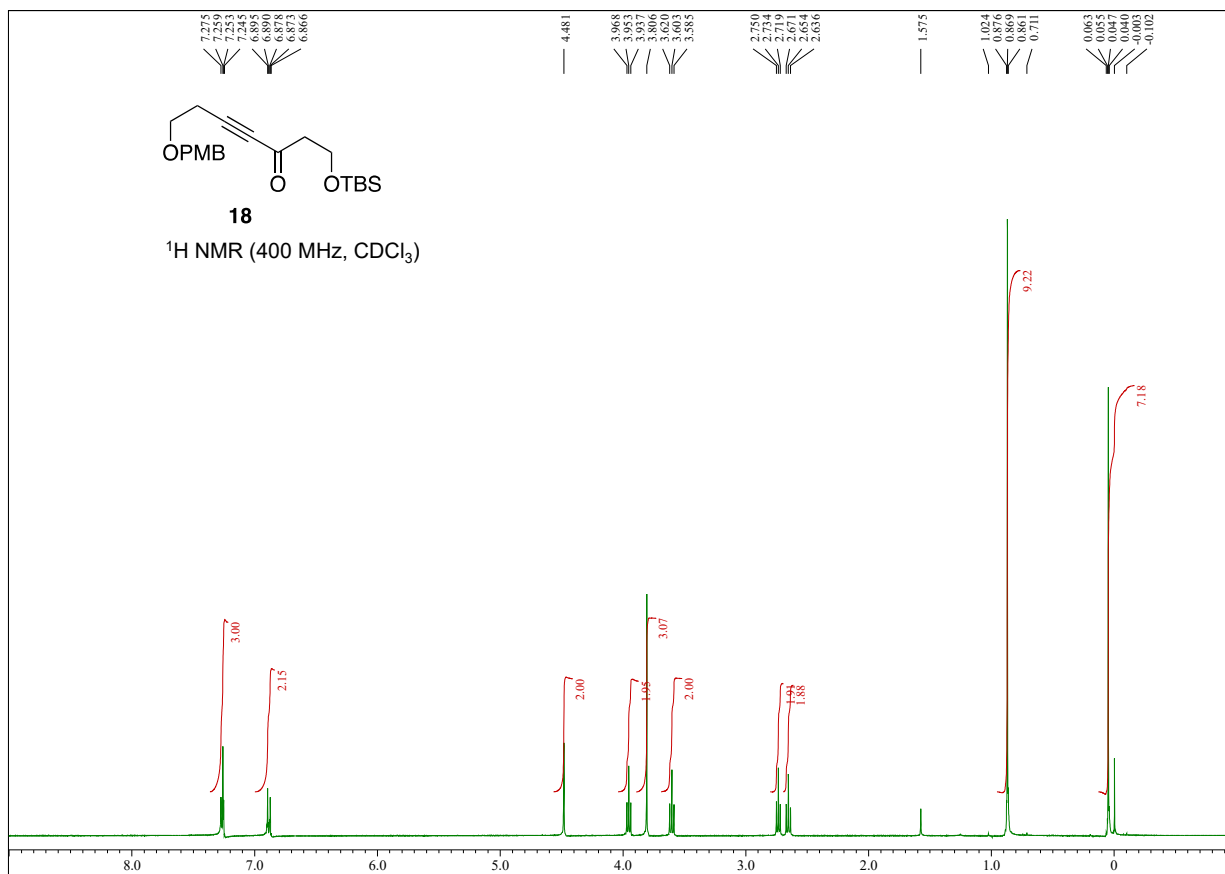


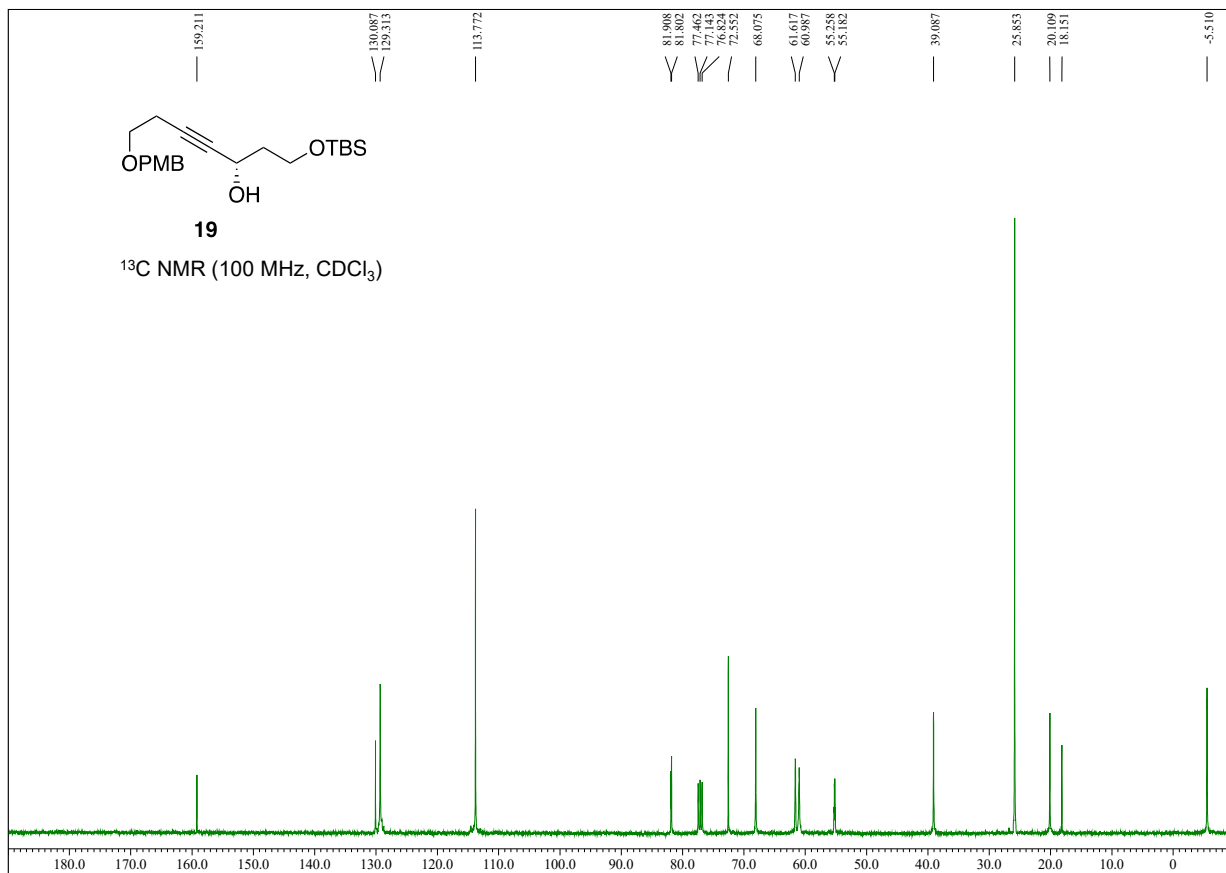
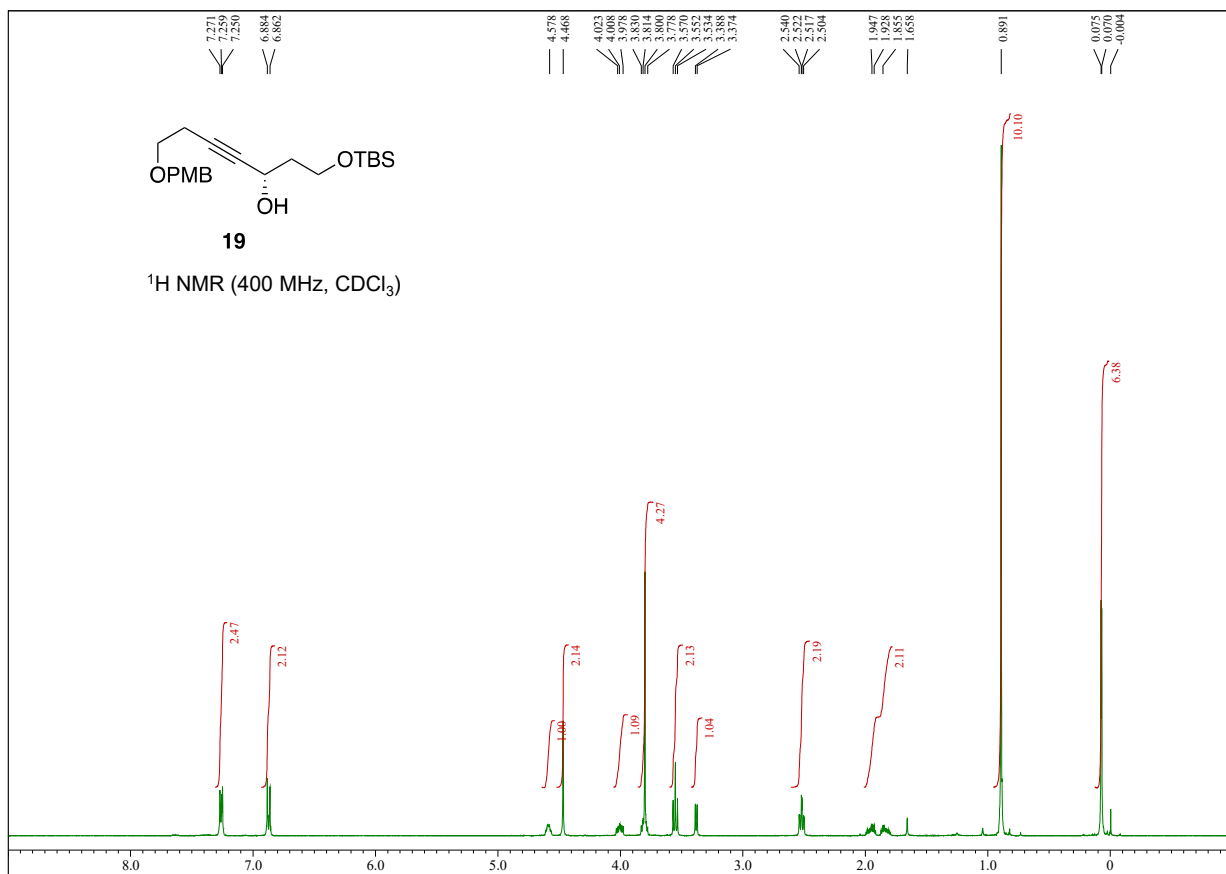
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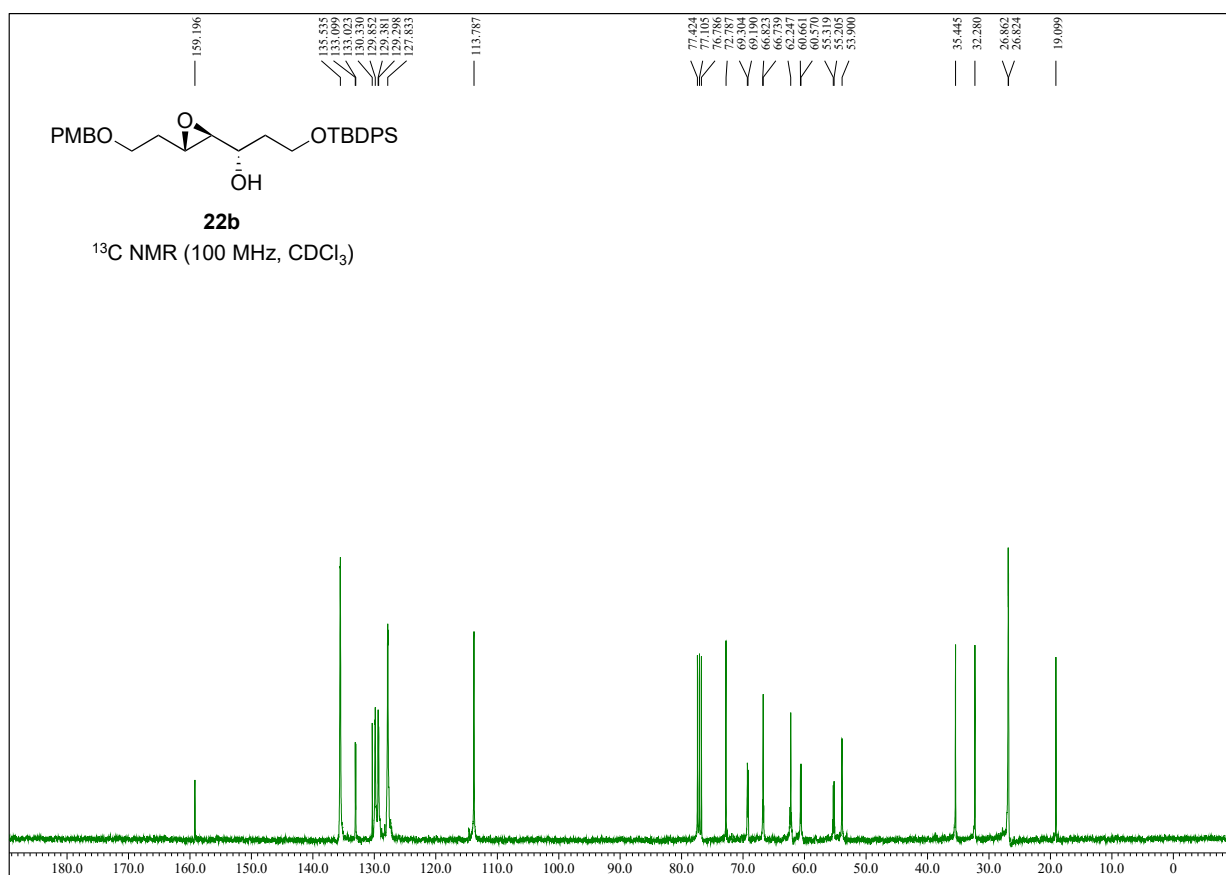
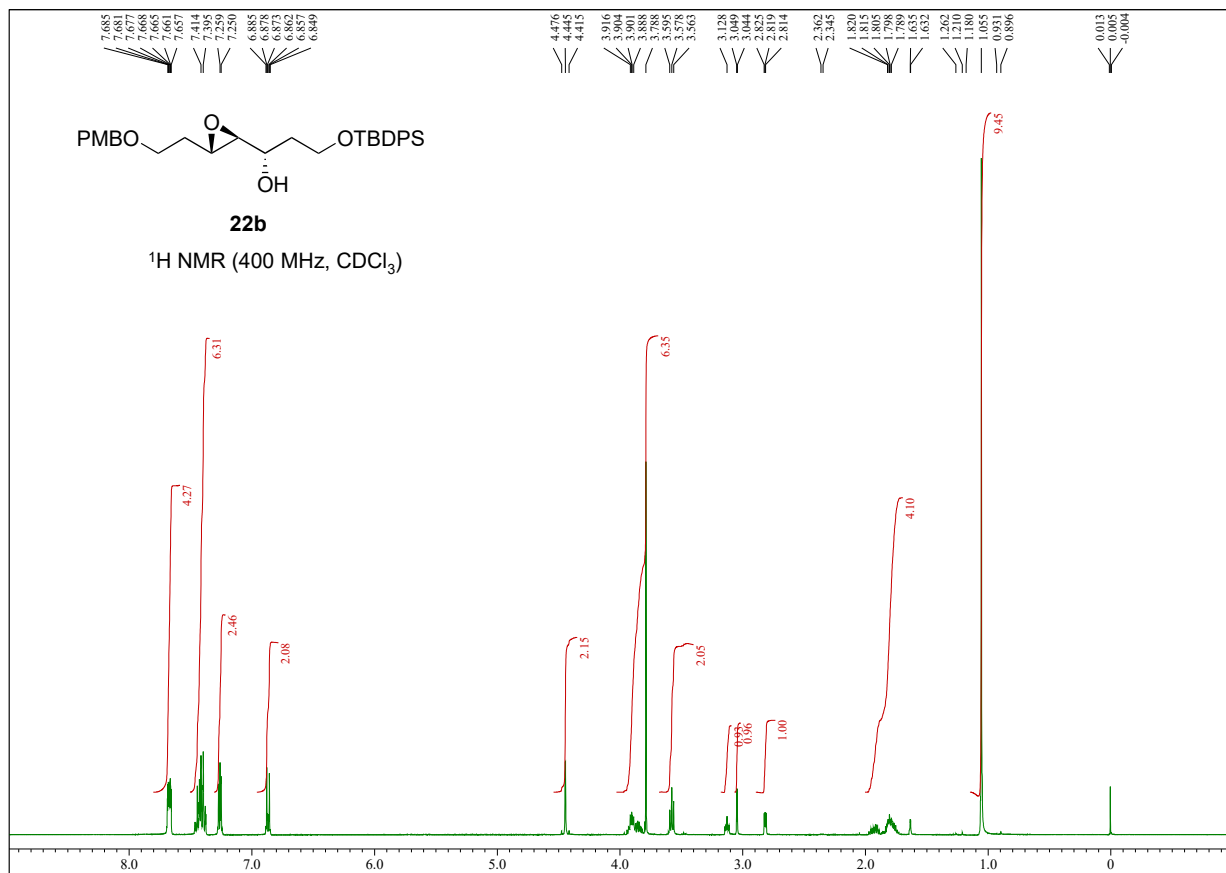








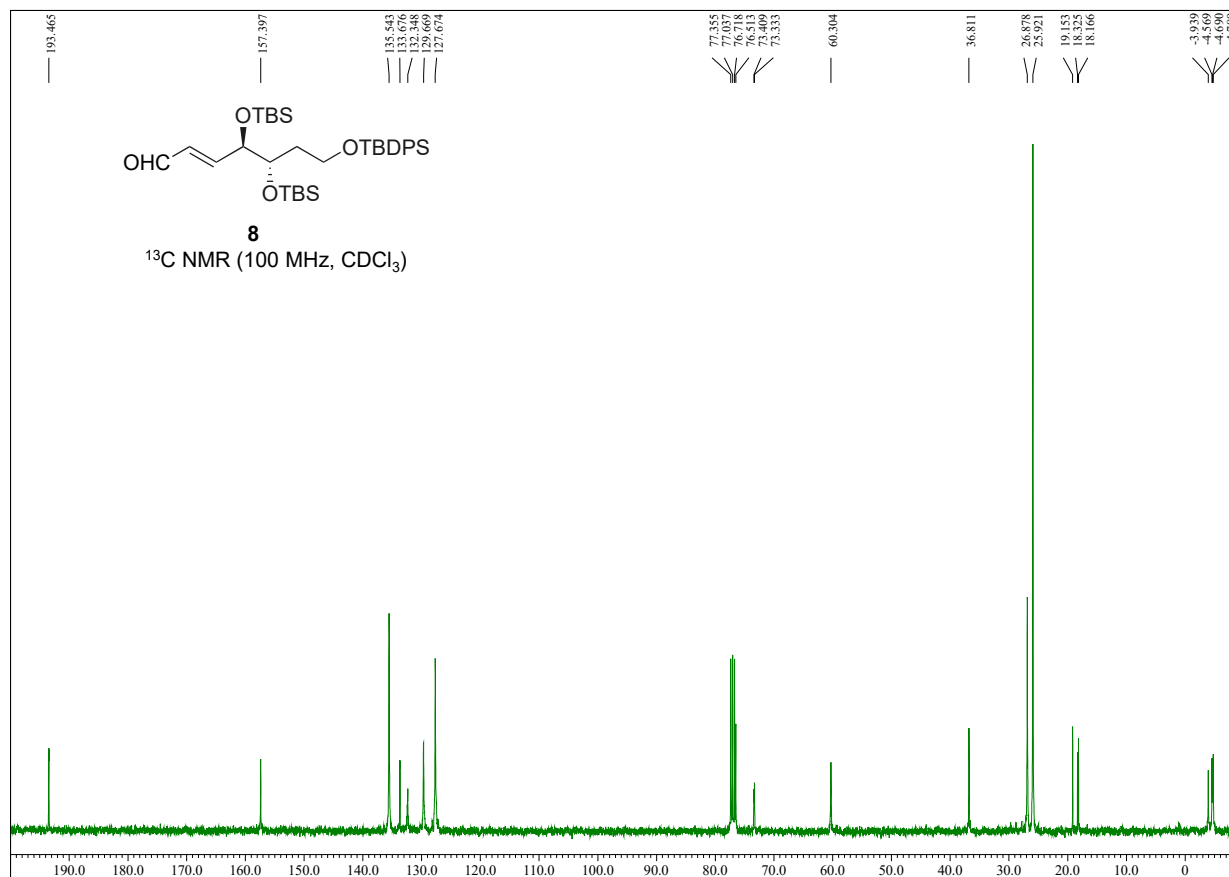
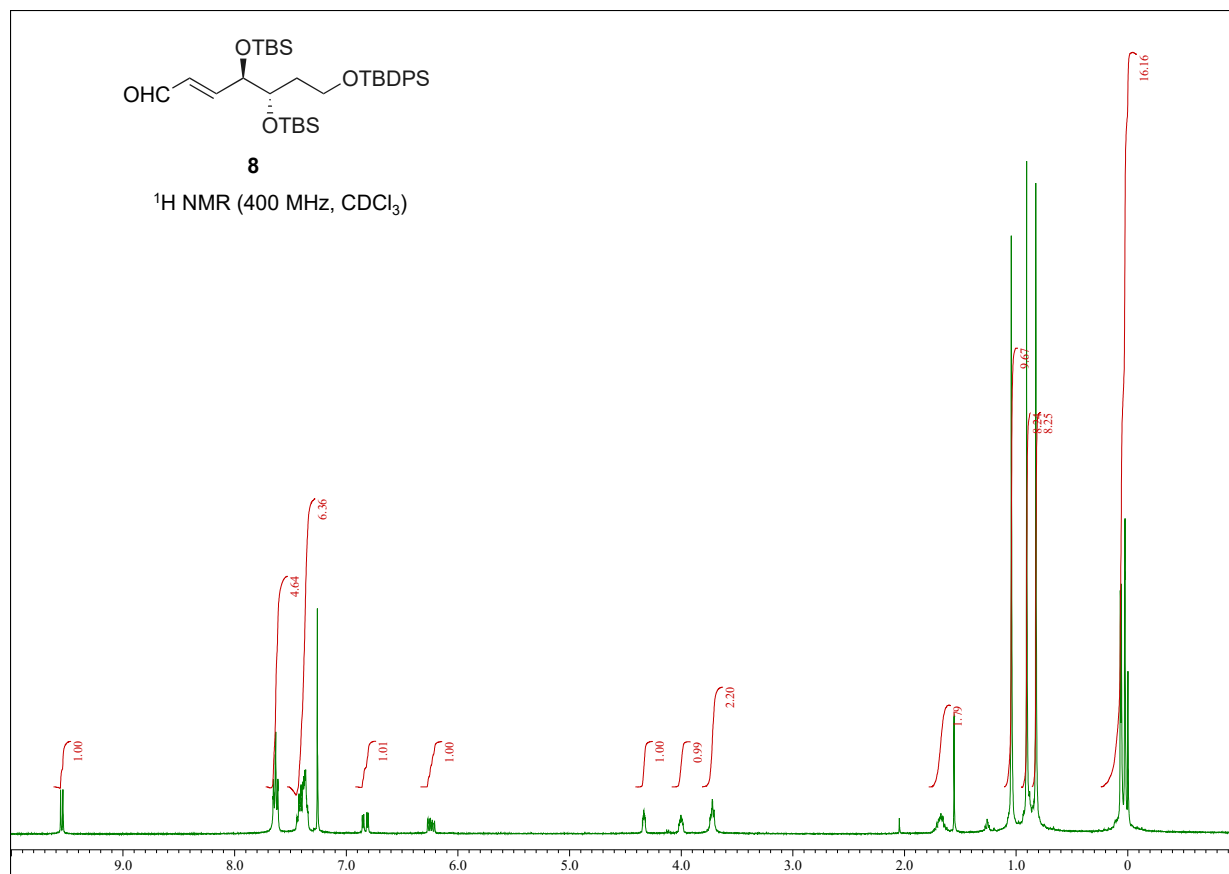


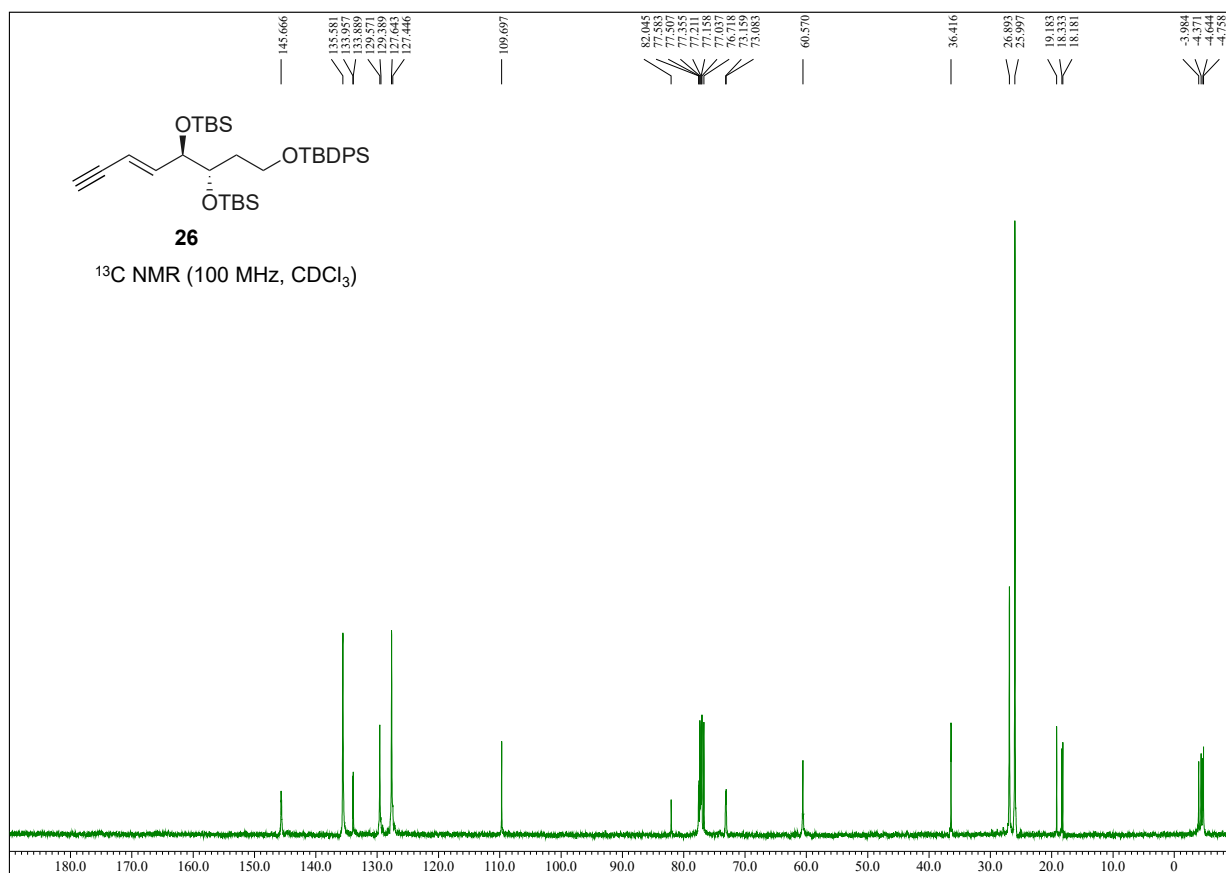
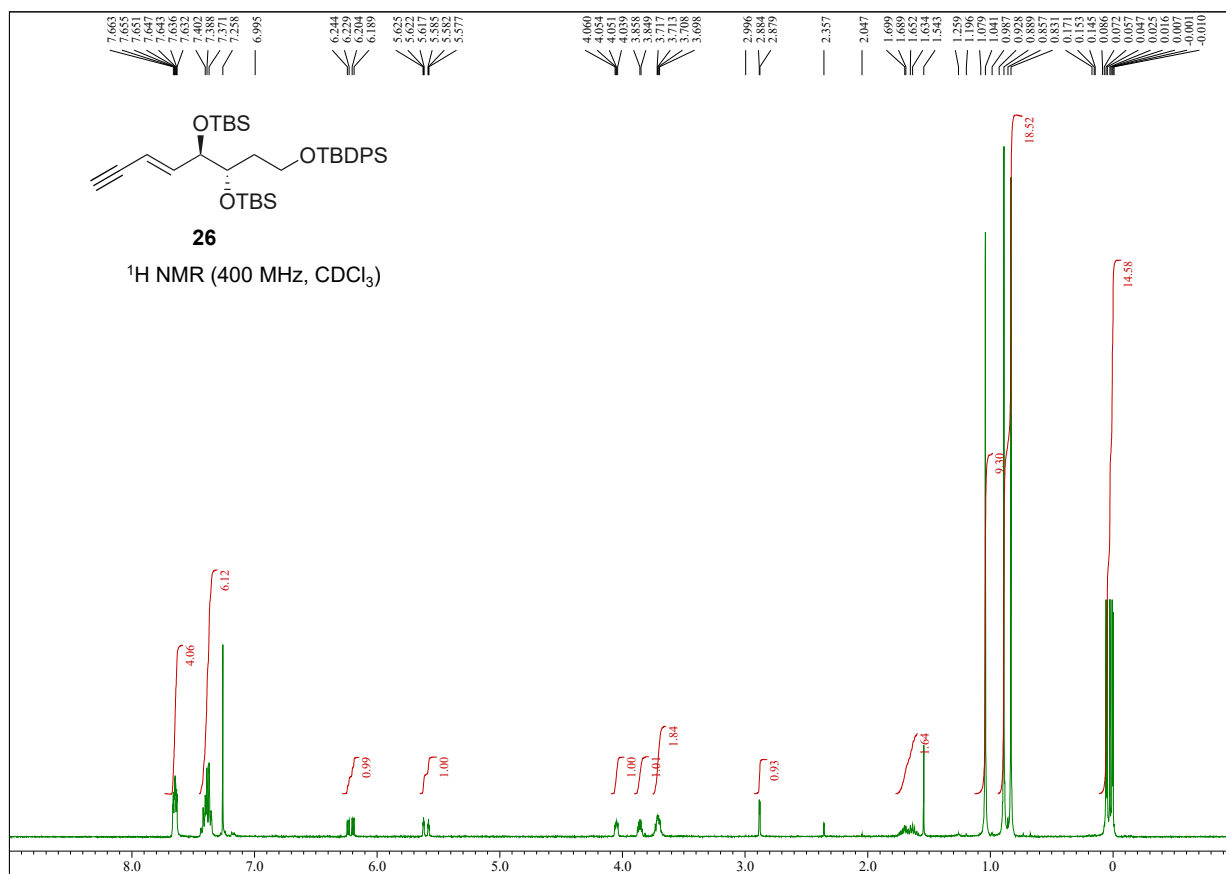


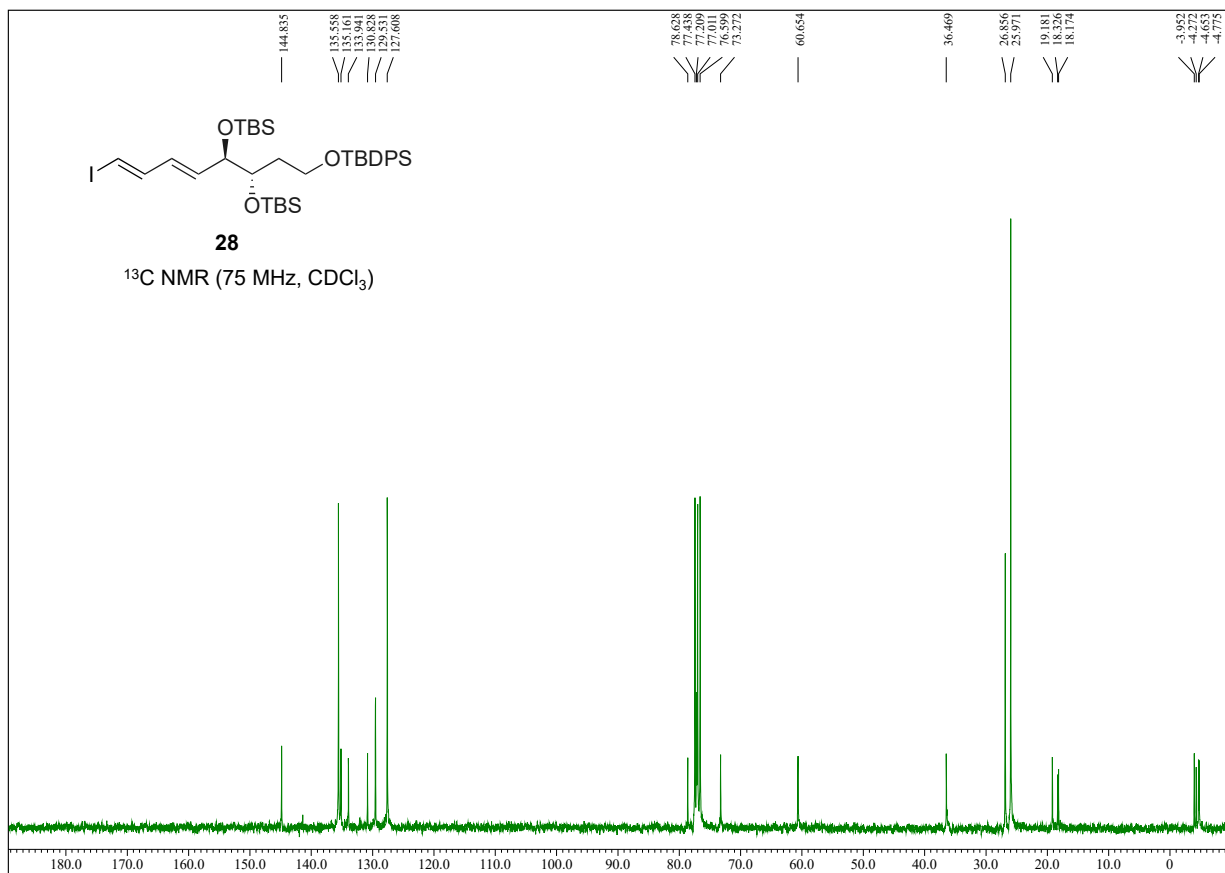
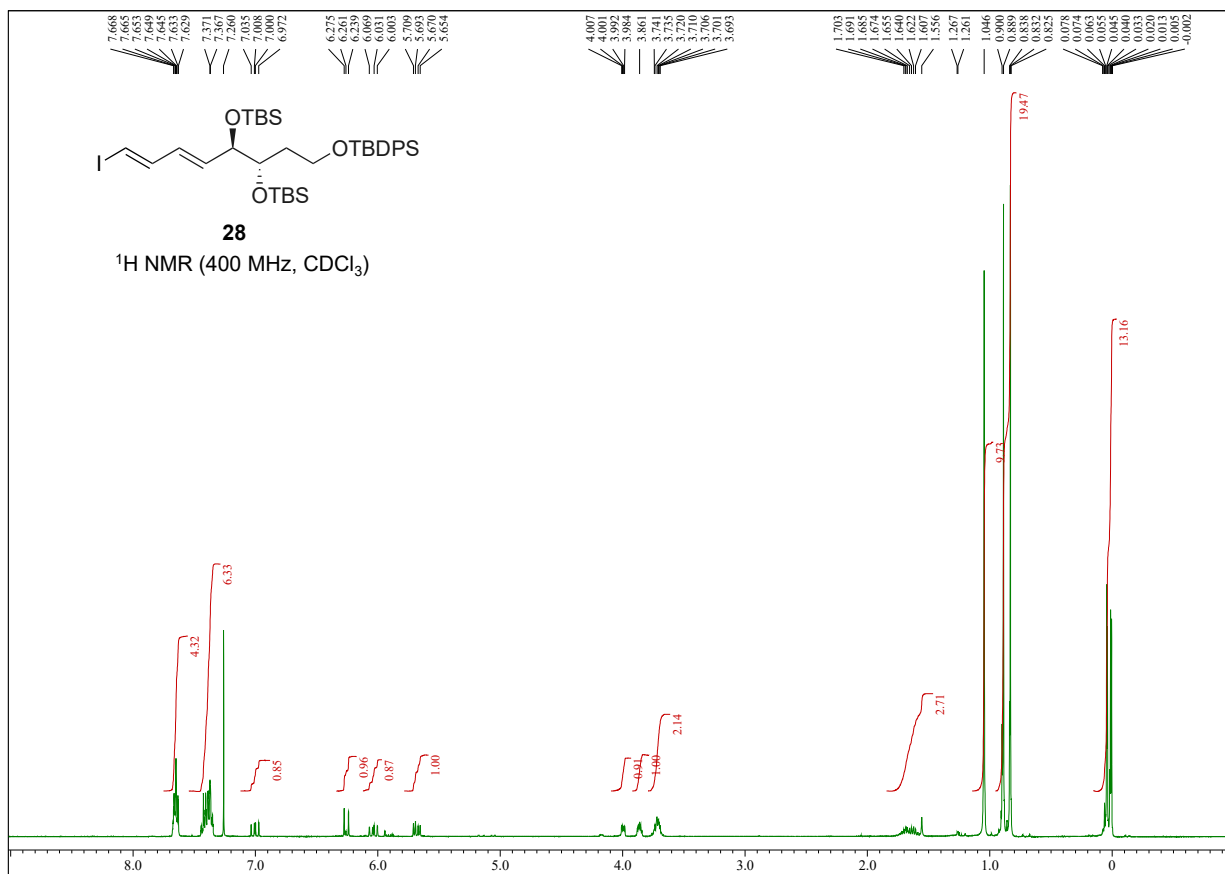


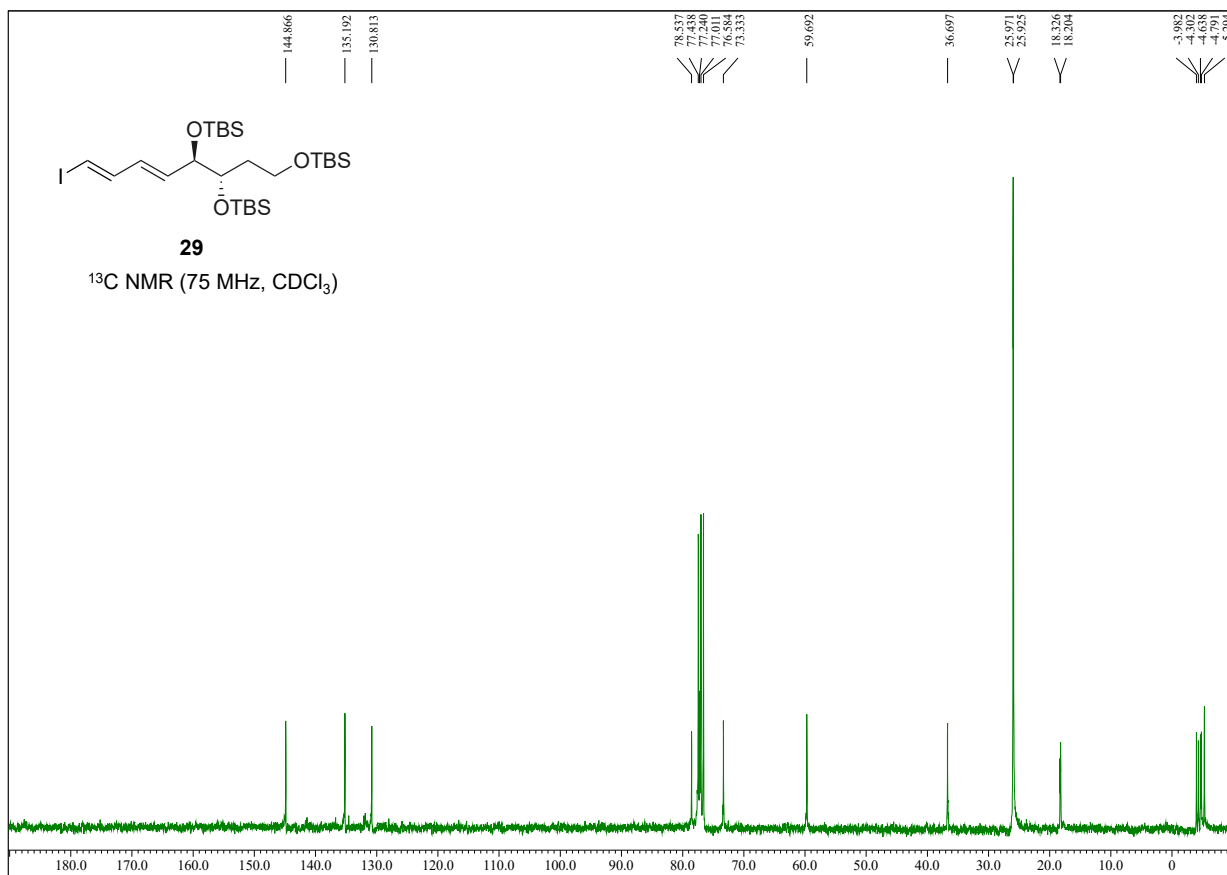
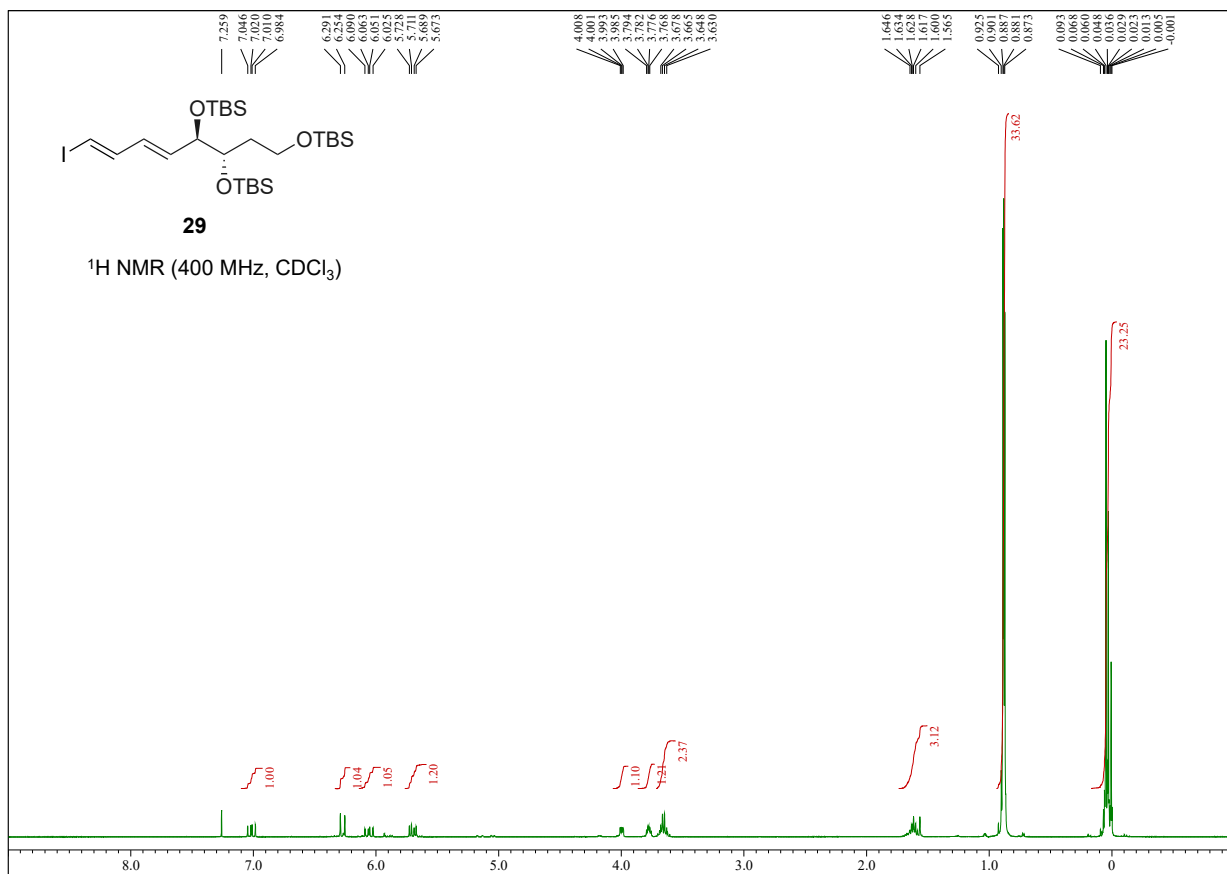


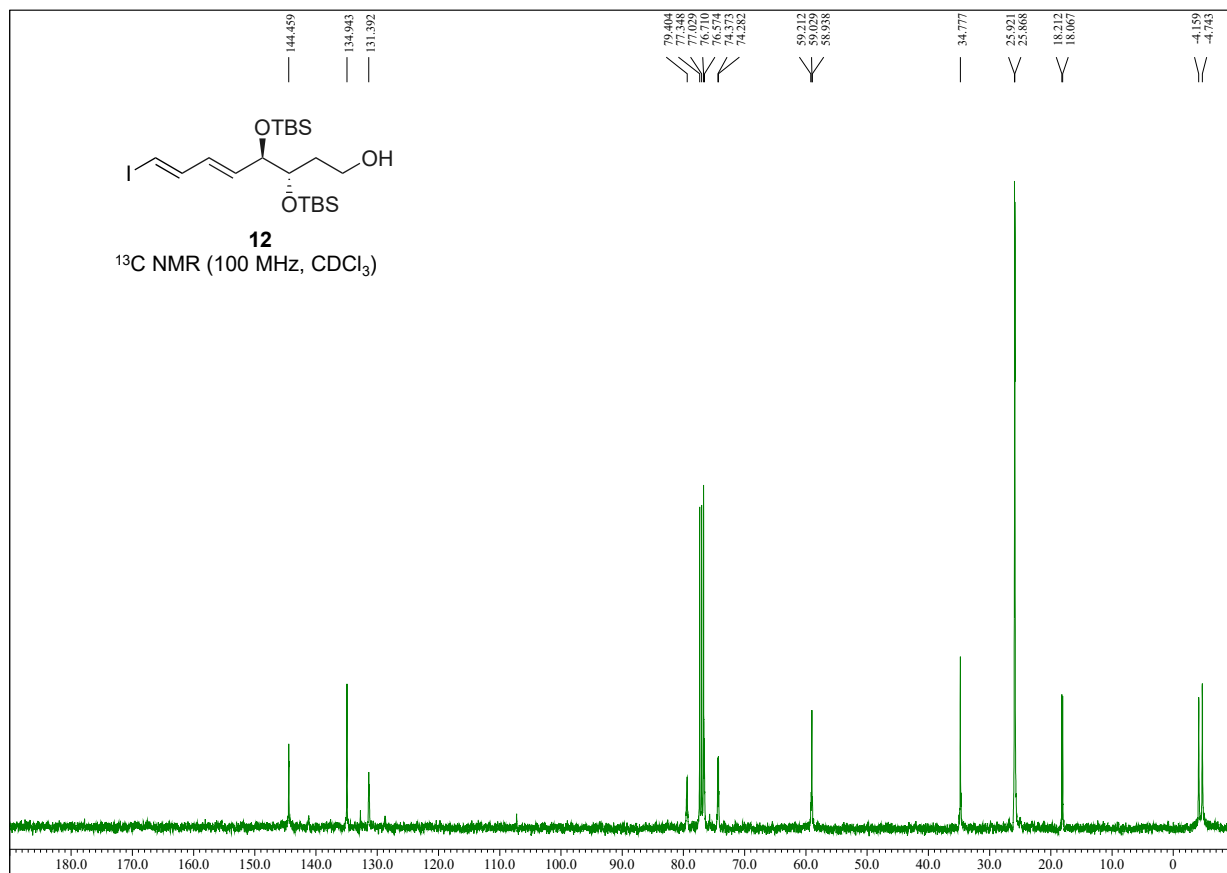
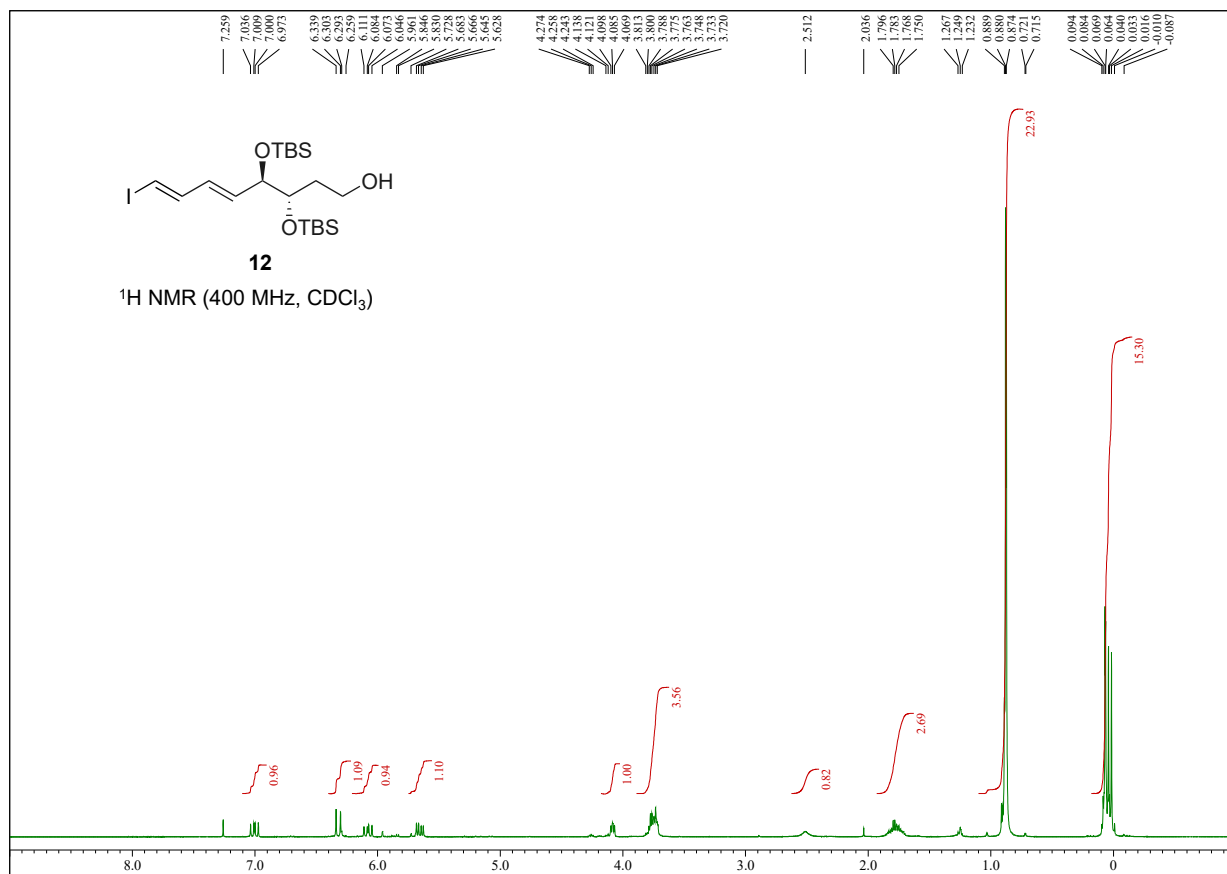


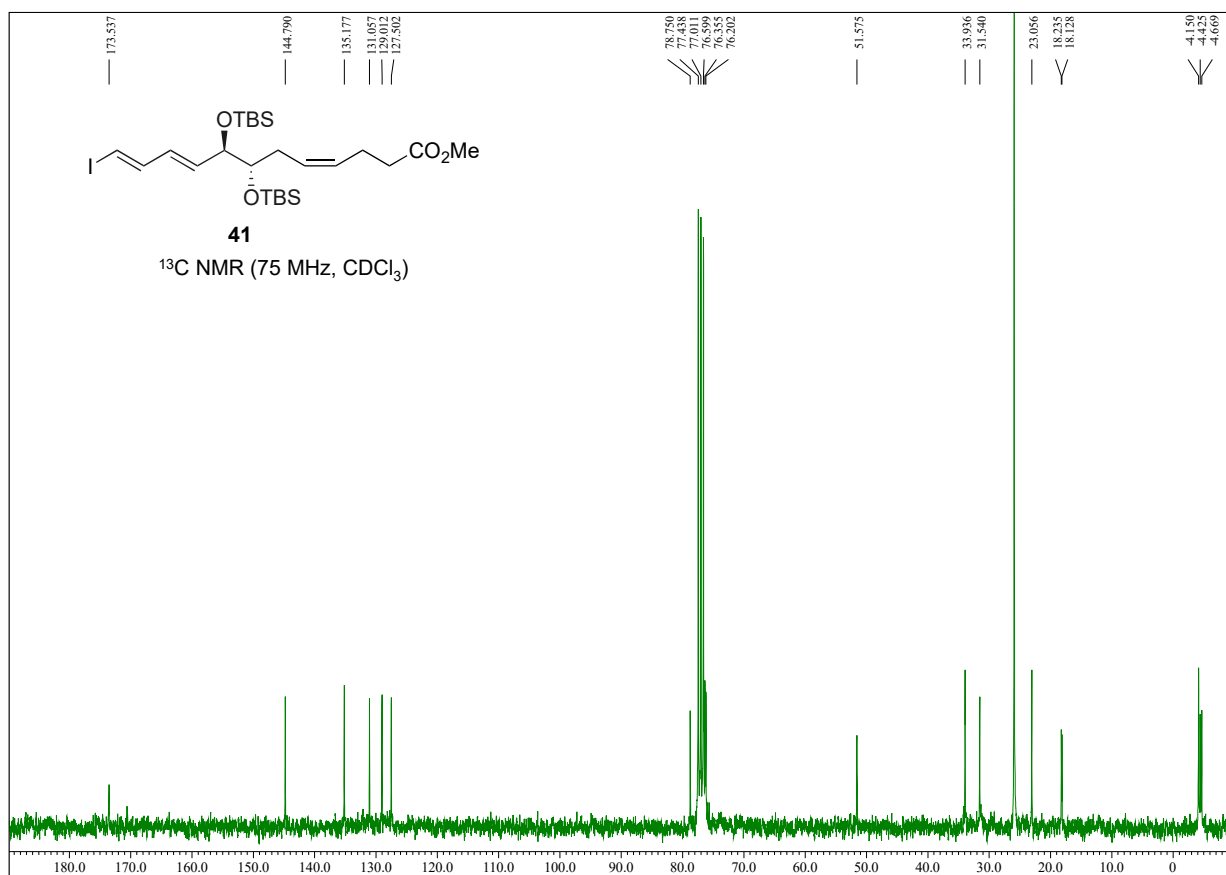
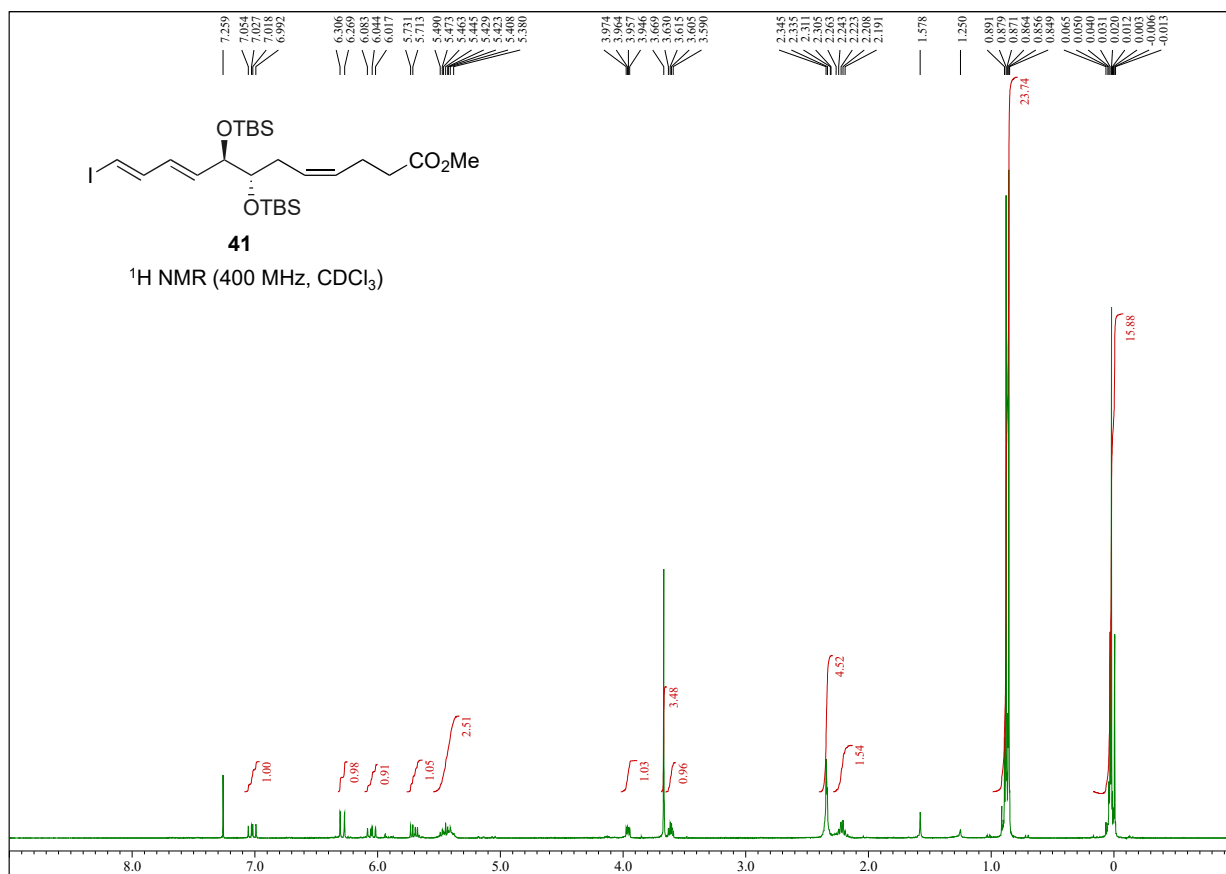


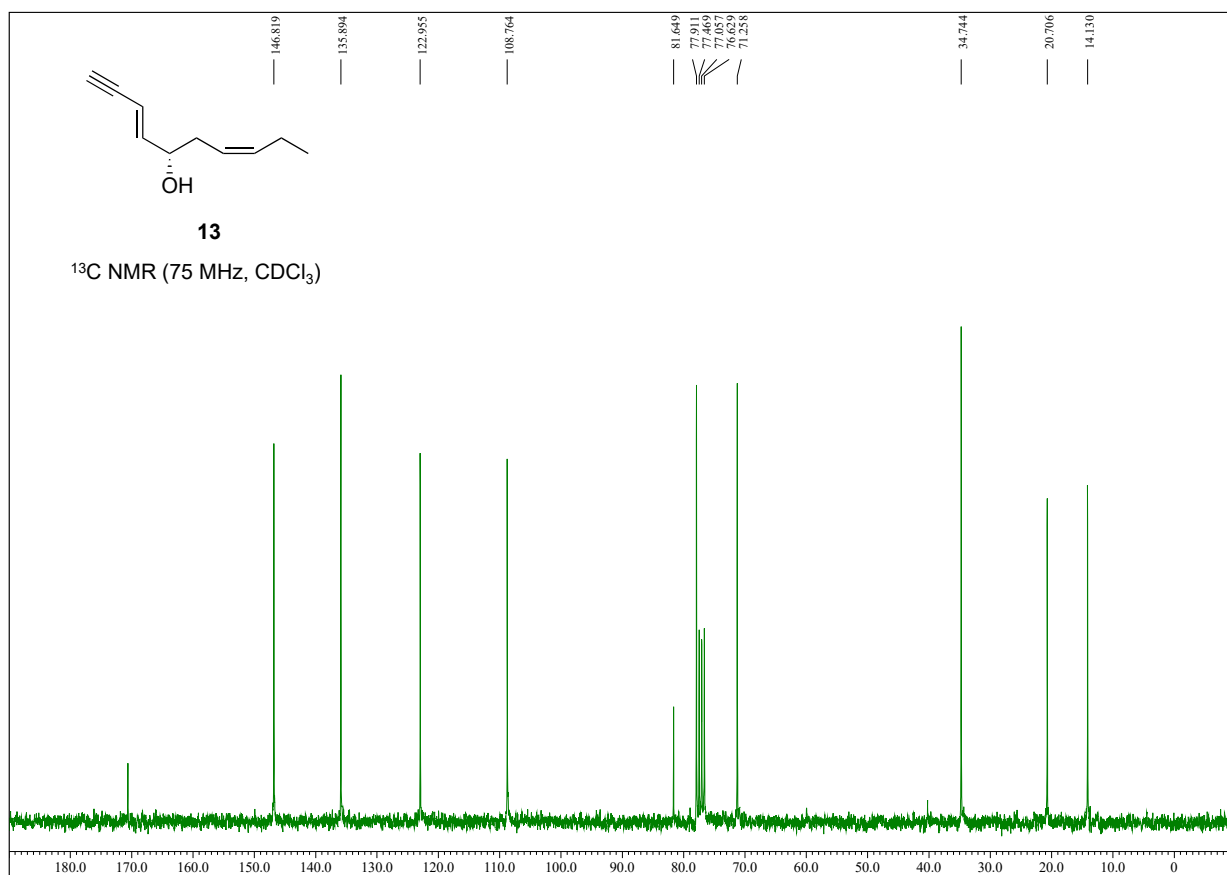
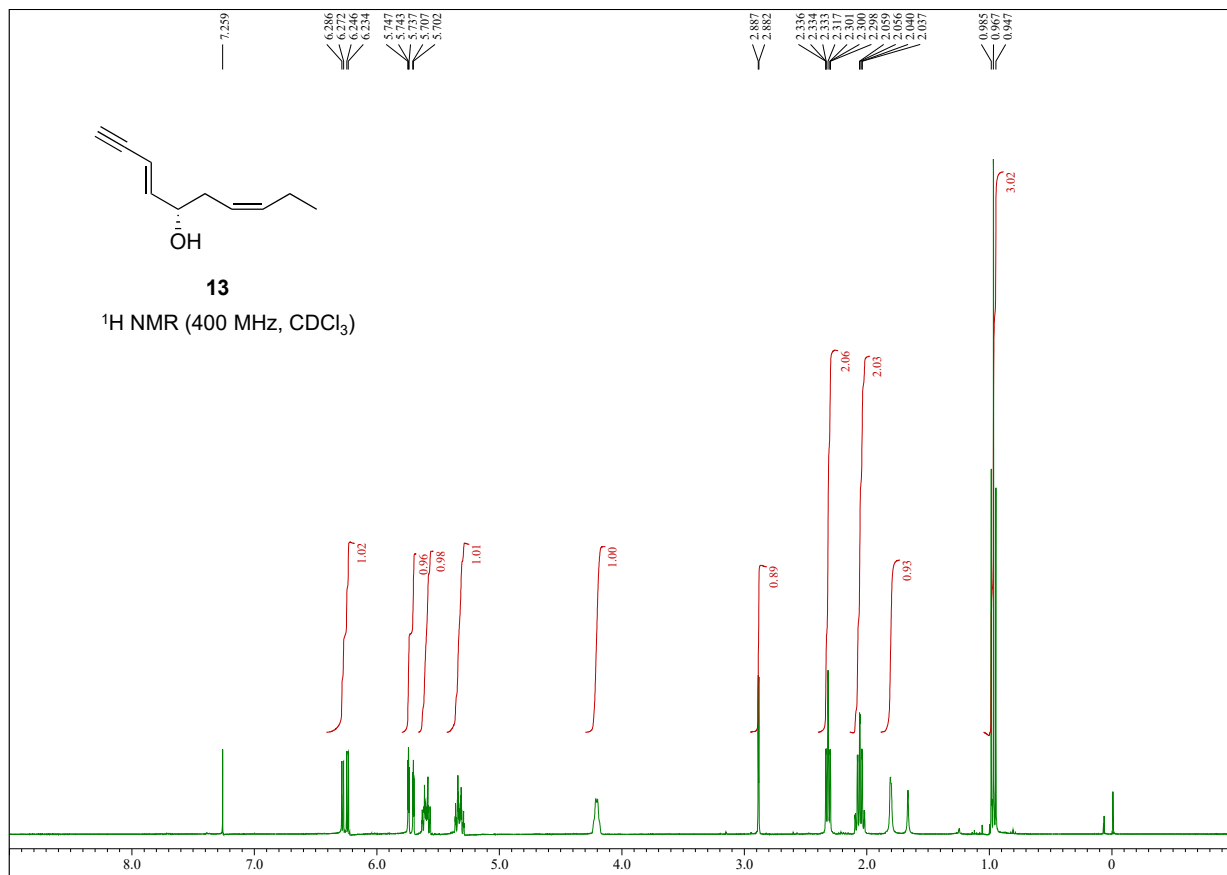


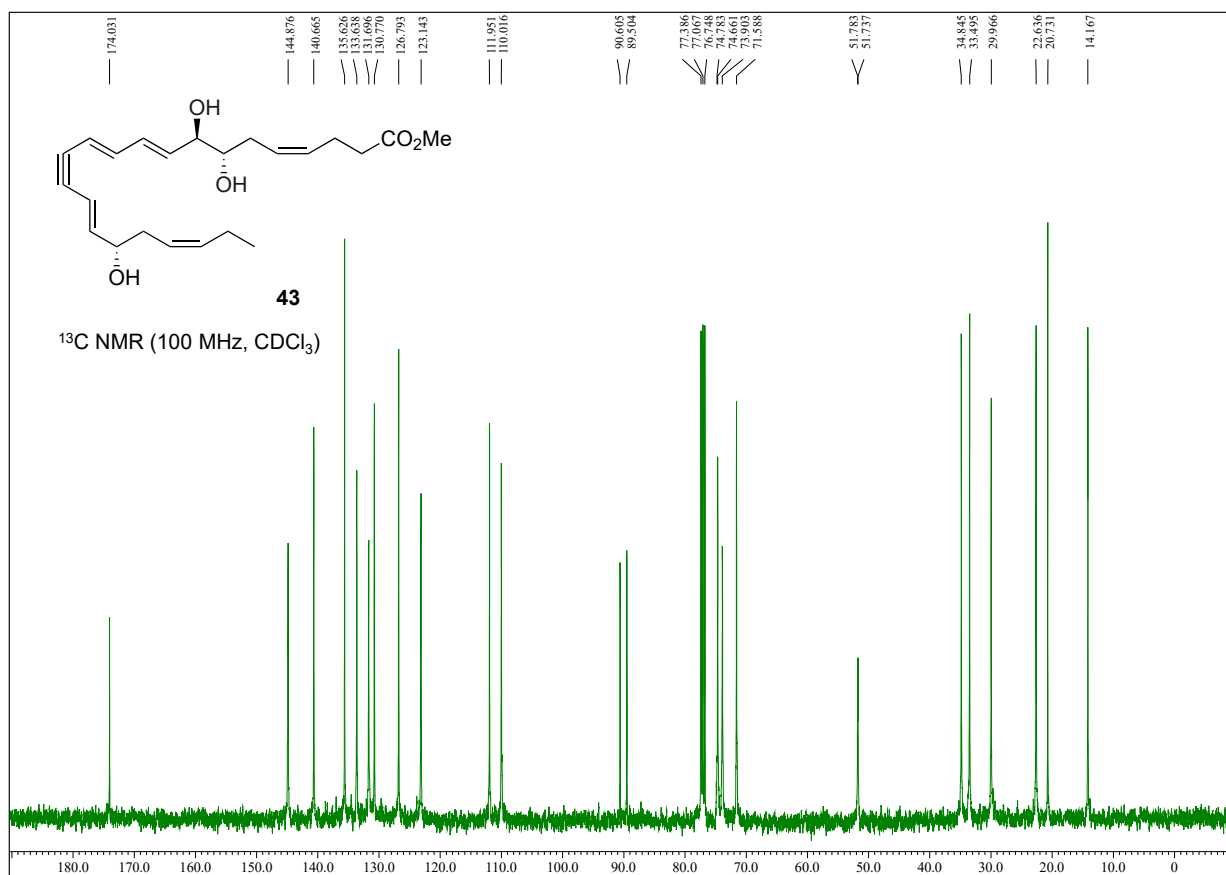
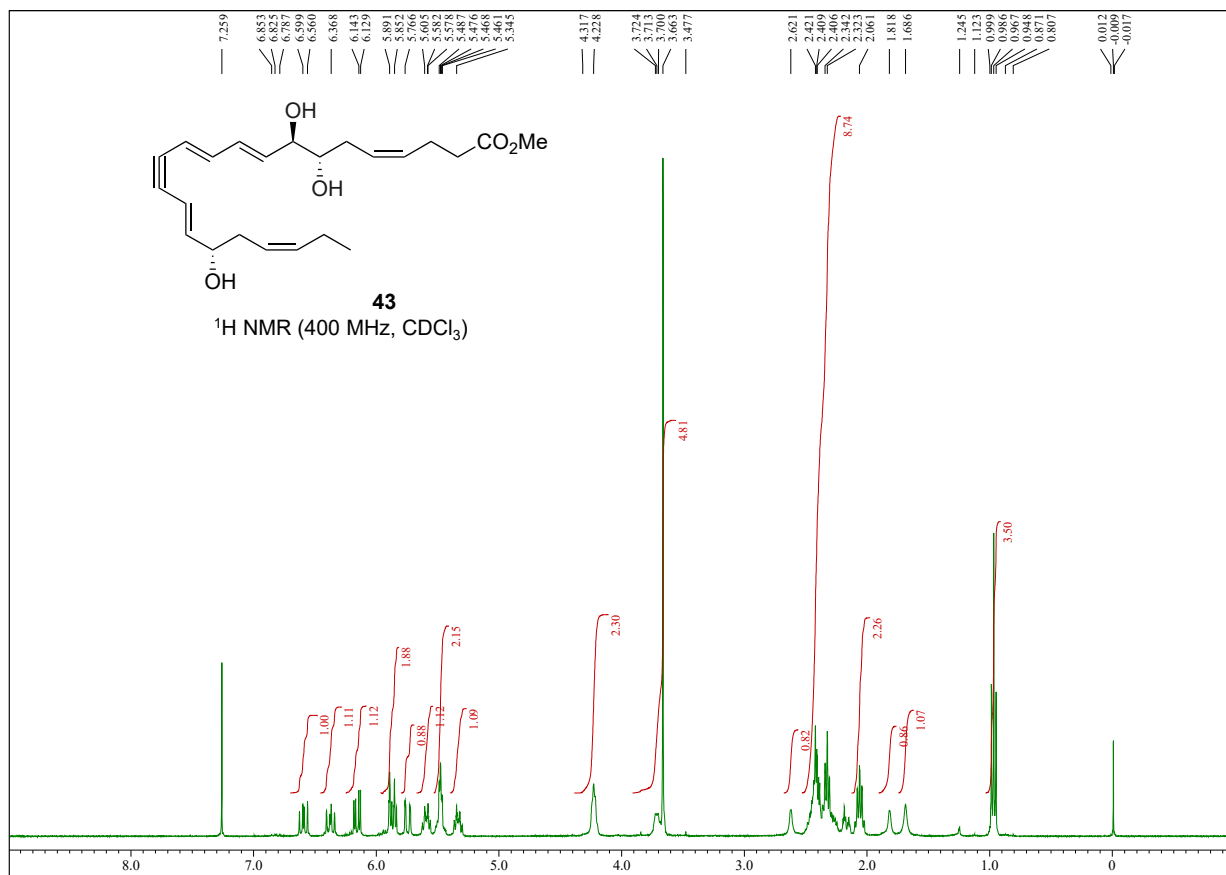


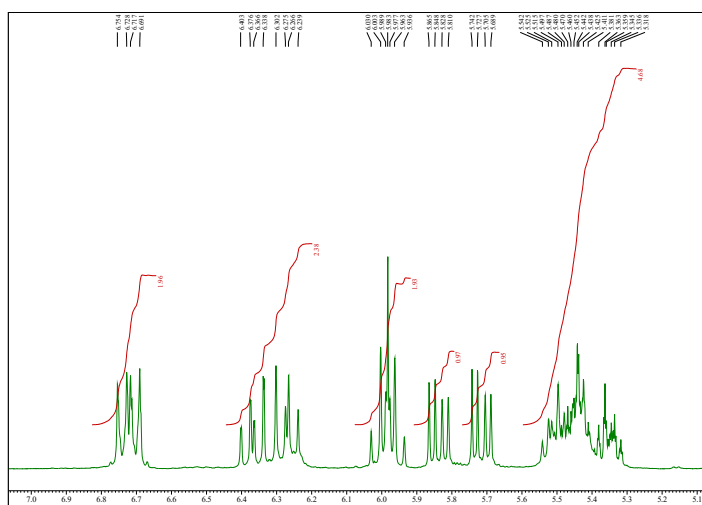
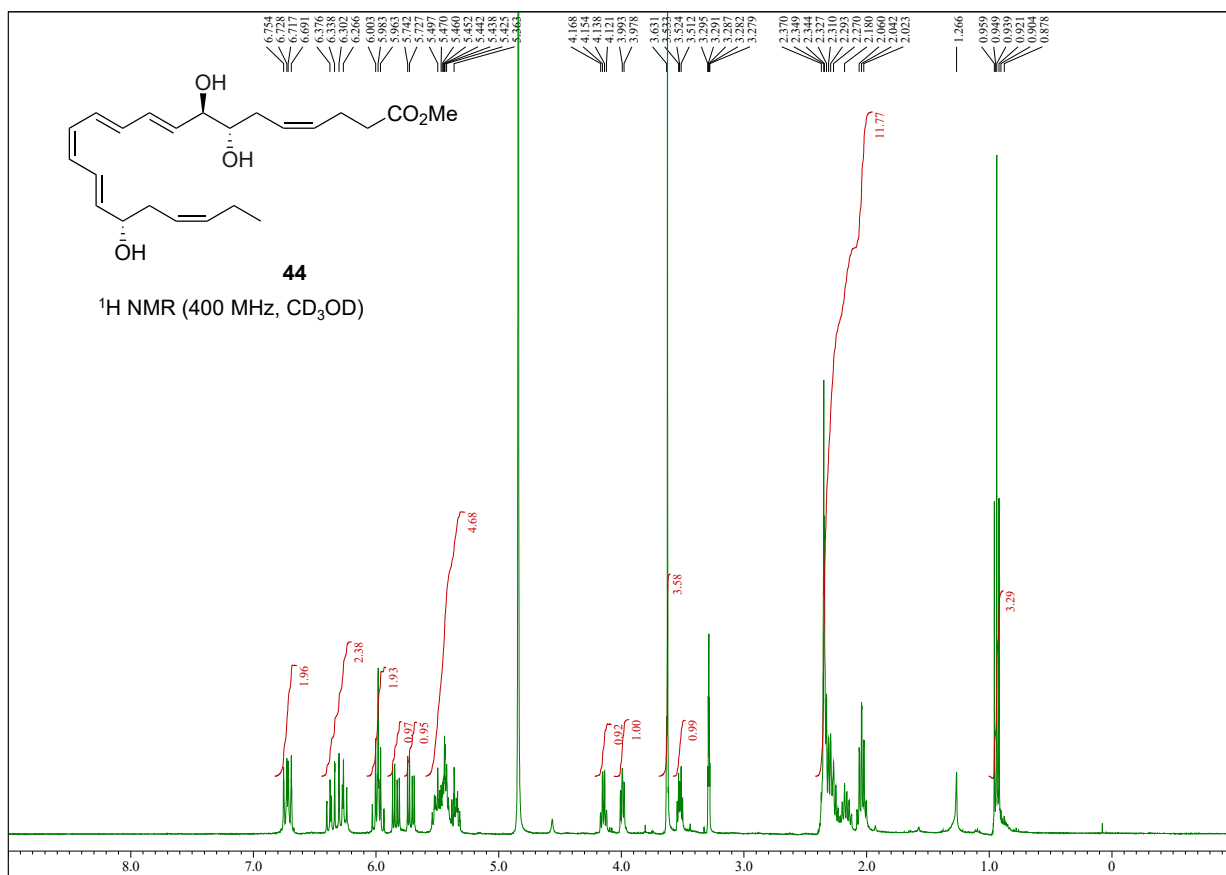


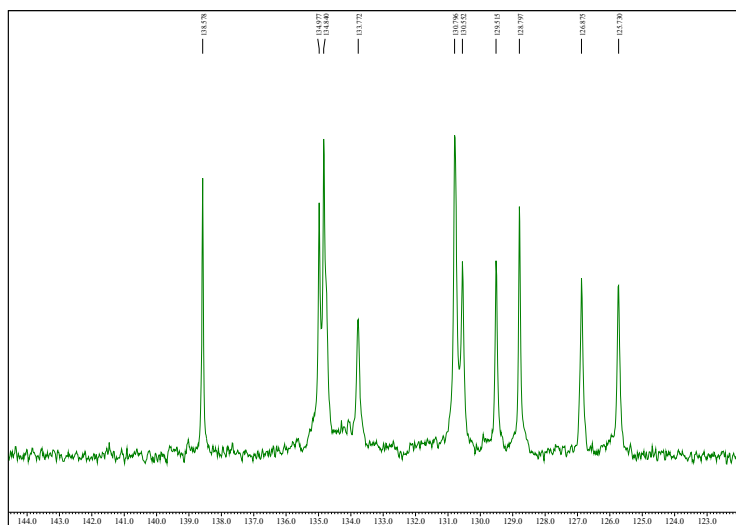
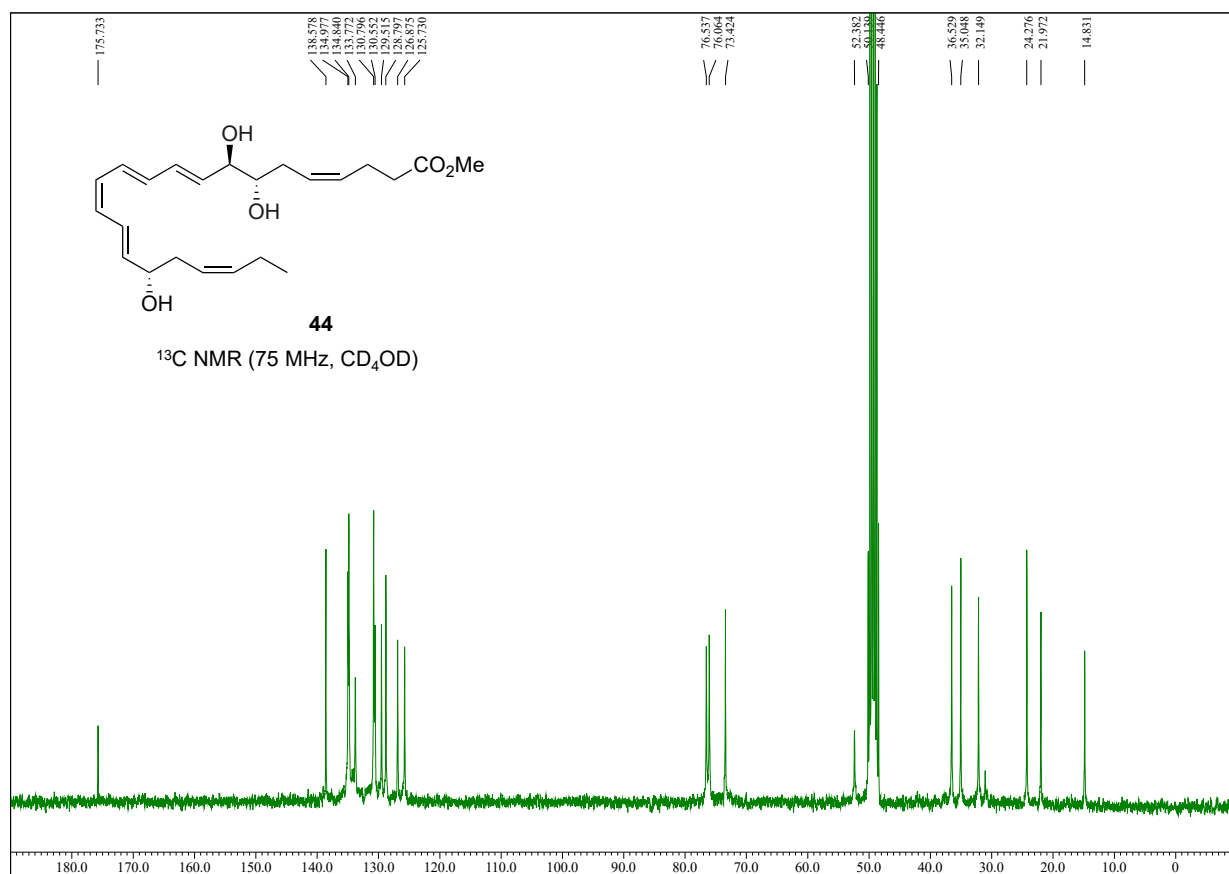


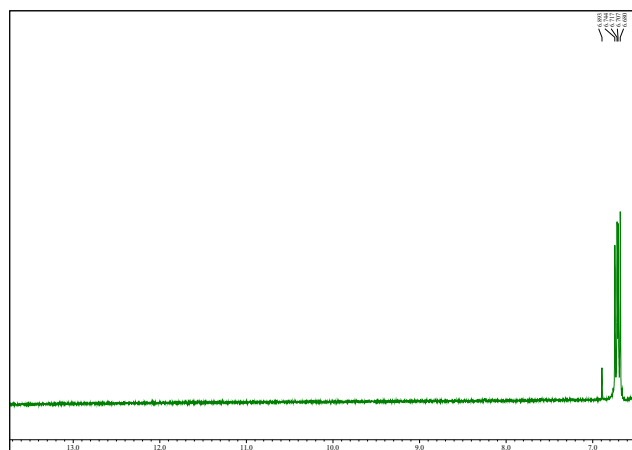
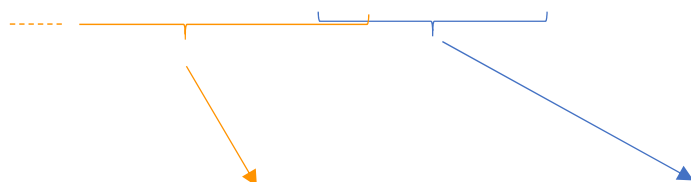
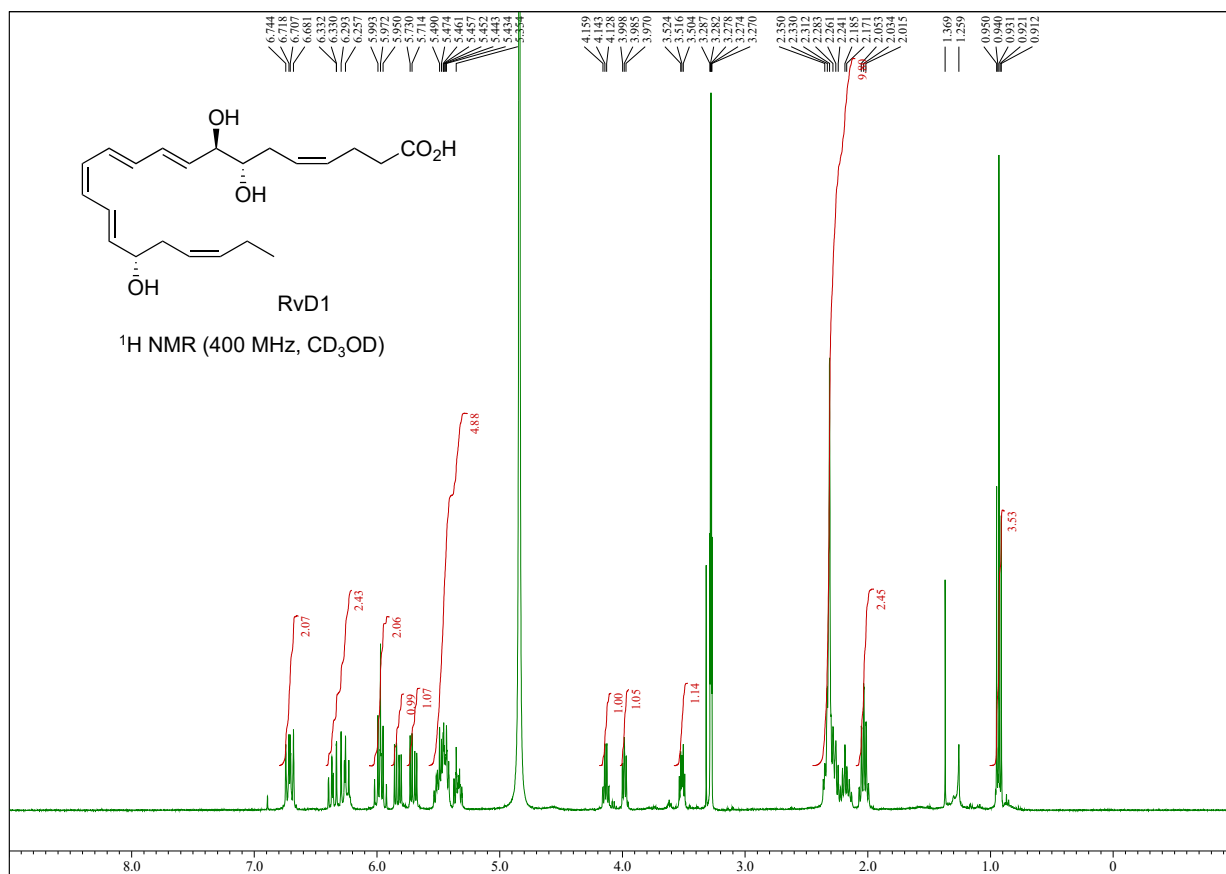












$\delta$  6.5–14.0 ppm

$\delta$  5.1–7.0 ppm

