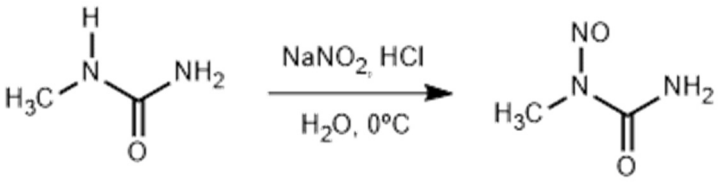
Supplementary materials

Table of contents

1. Synthesis of diazomethane's precursor



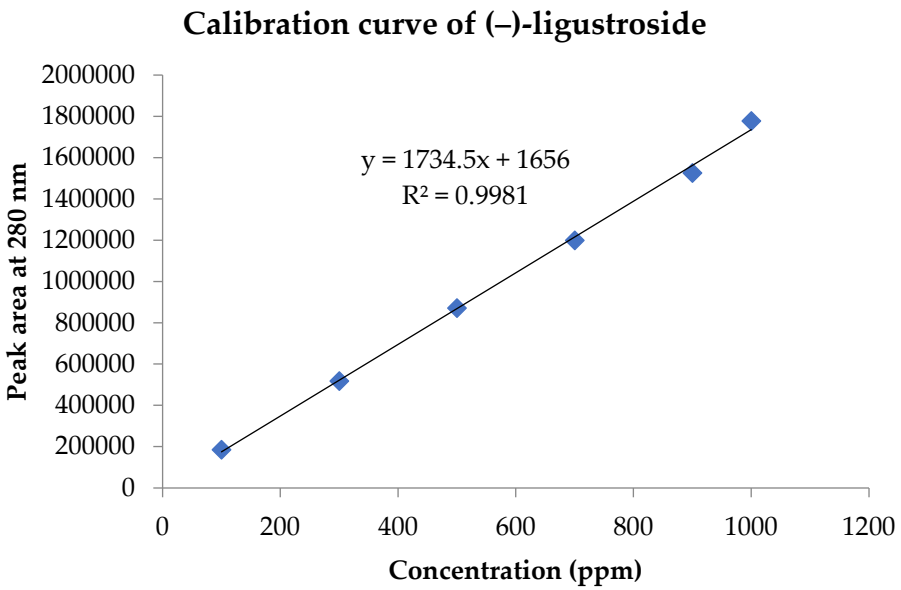
The synthesis of diazomethane's precursor was achieved following a reported procedure (Huang *et al.*, 2016). A mixture of *N*-methylurea (14.8 g), $NaNO_2$ (15.2 g) and water (120 mL) was stirred until dissolution of products. Next, the mixture was cooled to 0 ºC and concentrated HCl (26 mL) was added dropwise for 1 h. The mixture was left to stir for 30 minutes to 0 ºC. Finally, the resulting precipitate was filtered, washed with cooled water (20 mL), and dried under vacuum. As a result, a beige solid was obtained (14.4 g, 70% yield).

Huang, Z.; Huang, X.; Li, B.; Mou, C.; Yang, S.; Song, B.A.; Chi, Y.R. Access to P-stereogenic phosphinates via *N*-heterocyclic carbene-catalyzed desymmetrization of bisphenols. *J. Am. Chem. Soc.* **2016**, *138*, 7524–7527, doi: 10.1021/jacs.6b04624.

2. Western Blotting

Antibody	Dilution	Source
iNOS	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
COX-2	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
mPGES-1	1:1000	Abcam® (Cambridge, UK)
p-P38	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
P38	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
p-ERK	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
ERK	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
p-JNK	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
JNK	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
Nrf-2	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
HO-1	1:1000	Enzo Life Sciences® (Inc. Farmingdale, NY, USA)
NLRP3	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
ASC	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
IL-18	1:1000	Abcam® (Cambridge, UK)
Caspase-1	1:1000	Novus Biologicals®, Littleton, CO, USA
Caspase-11	1:1000	Novus Biologicals®, Littleton, CO, USA
H3	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
H3K18ac	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
H3K27me3	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
H3K9me3	1:1000	Cell Signaling Technology® (Danvers, MA, USA)
β-Actin	1:2500	Abcam® (Cambridge, UK)

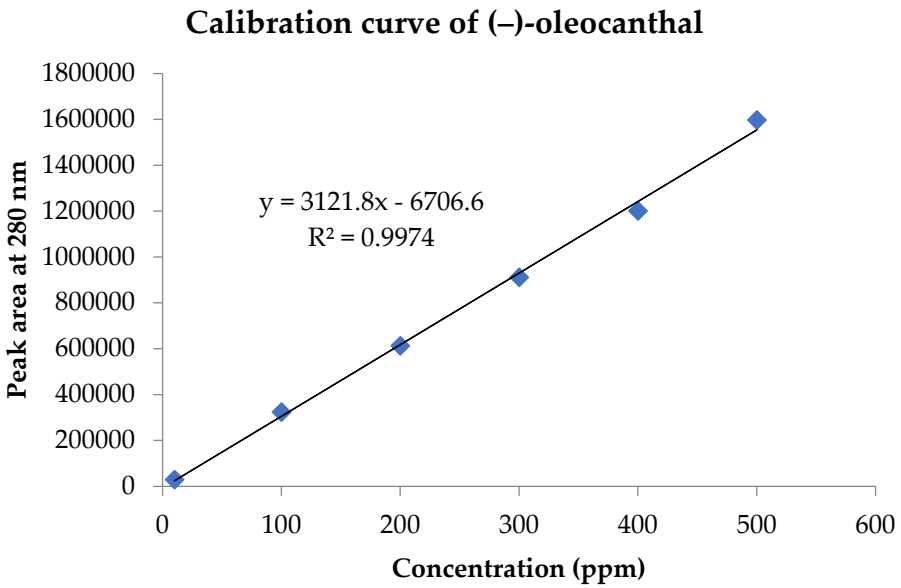
3. Calibration curves



Graphic S1. Peak area at 280 nm vs (–)-ligustroside concentration (ppm).

Table S1. Concentration of prepared solutions of (–)-ligustroside and their peak area values at 280 nm.

(–)-Ligustroside concentration (ppm)	Peak area at 280 nm
100	185383
300	518516
500	871968
700	1200114
900	1526396
1000	1778304



Graphic S2. Peak area at 280 nm vs (–)-oleocanthal concentration (ppm).

Table S2. Concentration of prepared solutions of (–)-oleocanthal and their peak area values at 280 nm.

(–)-Oleocanthal concentration (ppm)	Peak area at 280 nm
10	28987
100	323681
200	612313
300	911136
400	1200596
500	1596912

4. Spectroscopy data of OLE, met-OLE and methyl-ligustroside

(–)-Oleocanthal (**OLE**)

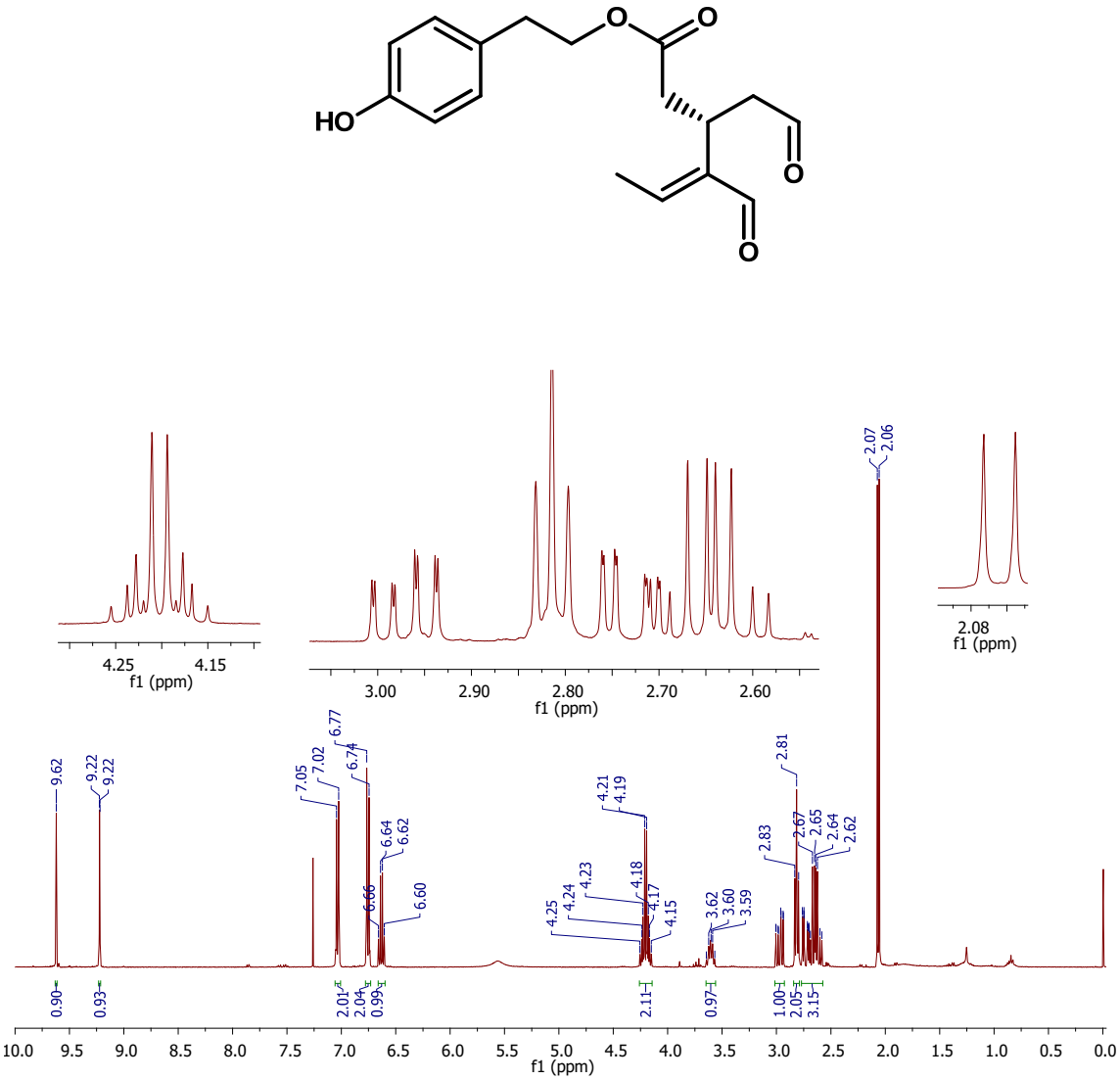


Figure S1. ^{1}H NMR of (–)-oleocanthal in deuterated chloroform.

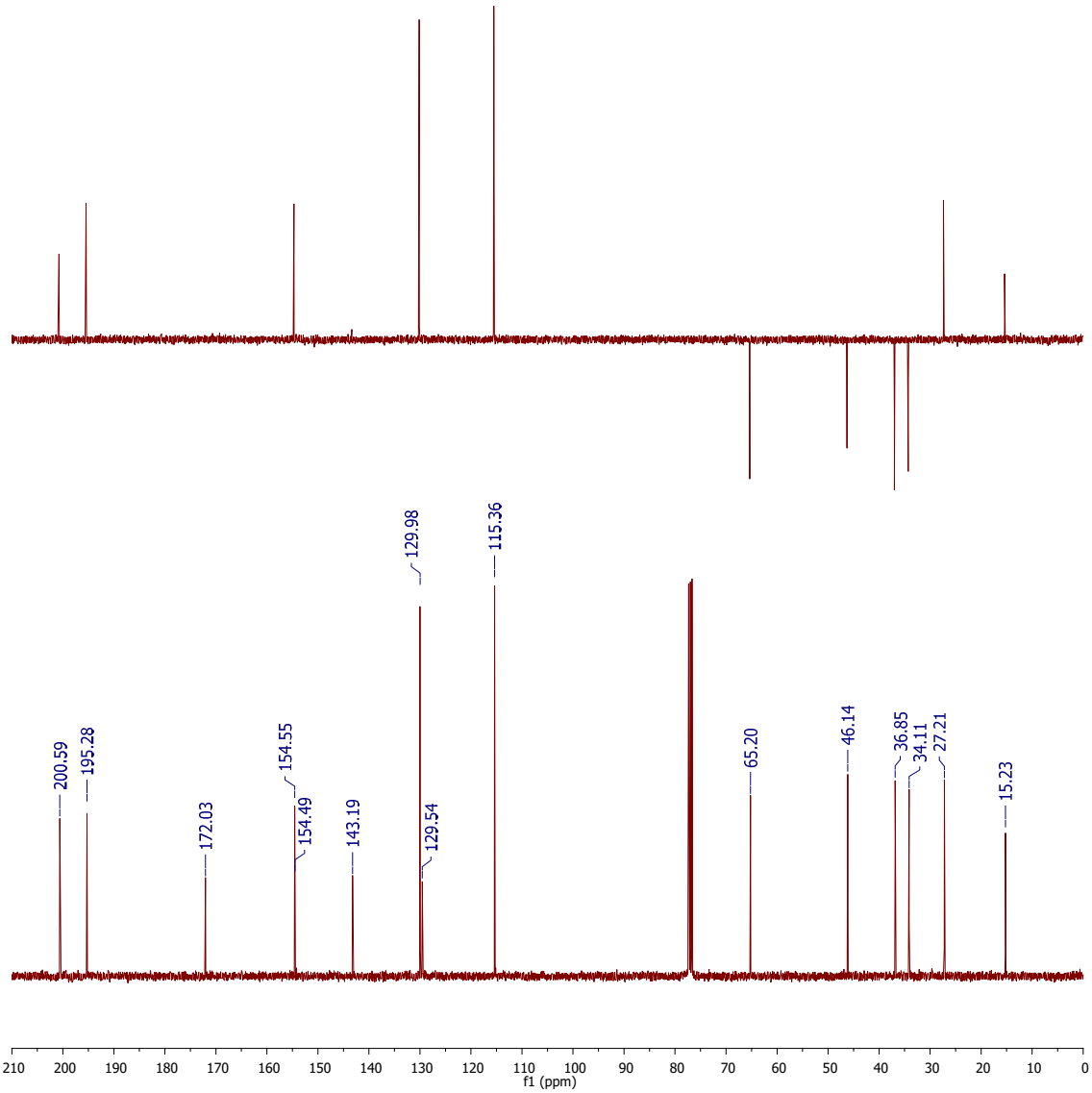


Figure S2. ^{13}C NMR (bottom) and Dept-135 (top) of (–)-oleocanthal in deuterated chloroform.

(–)-Methyl-oleocanthal (**Met-OLE**)

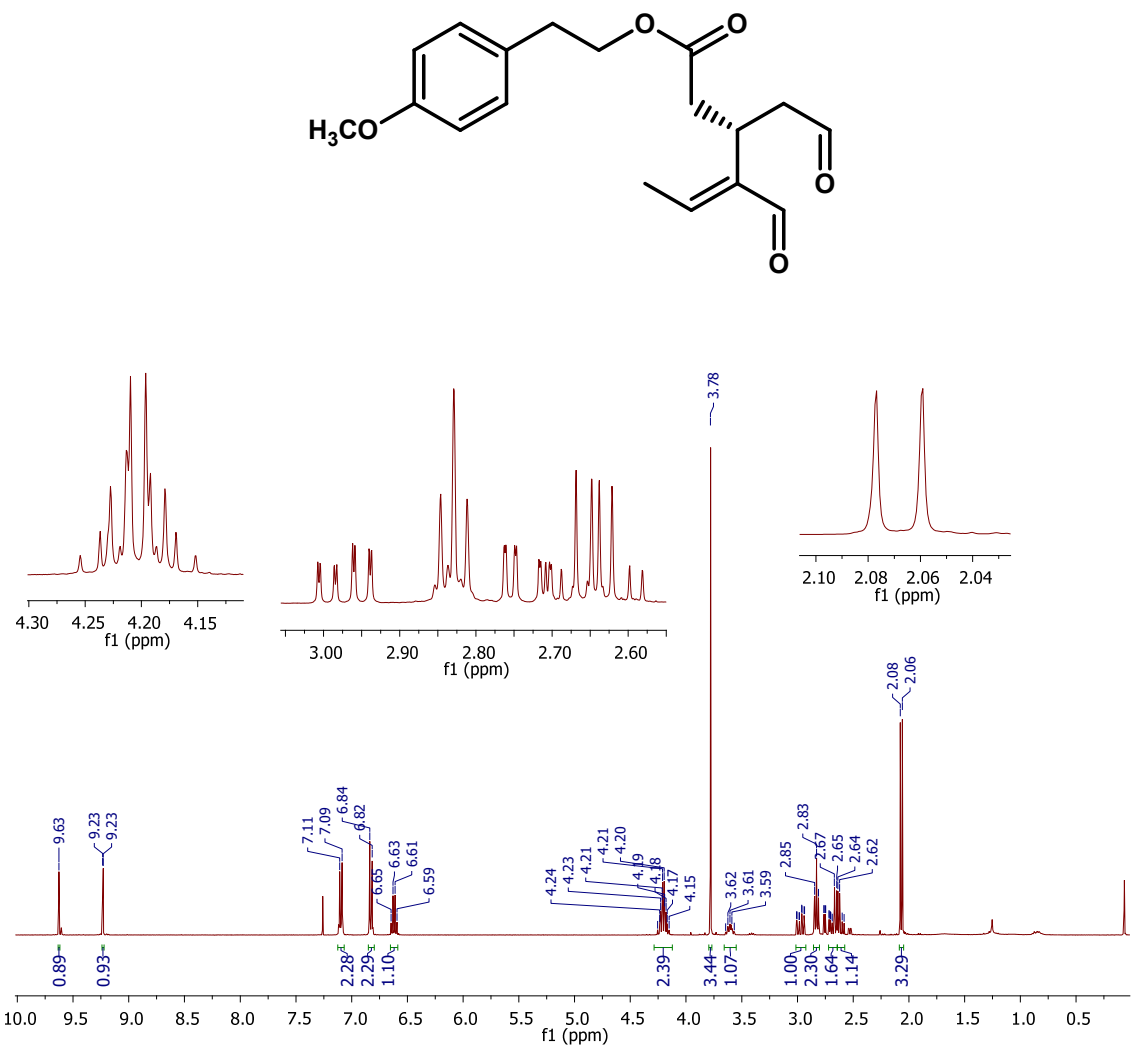


Figure S3. ^{1}H NMR of (–)-methyl-oleocanthal (**Met-OLE**) in deuterated chloroform.

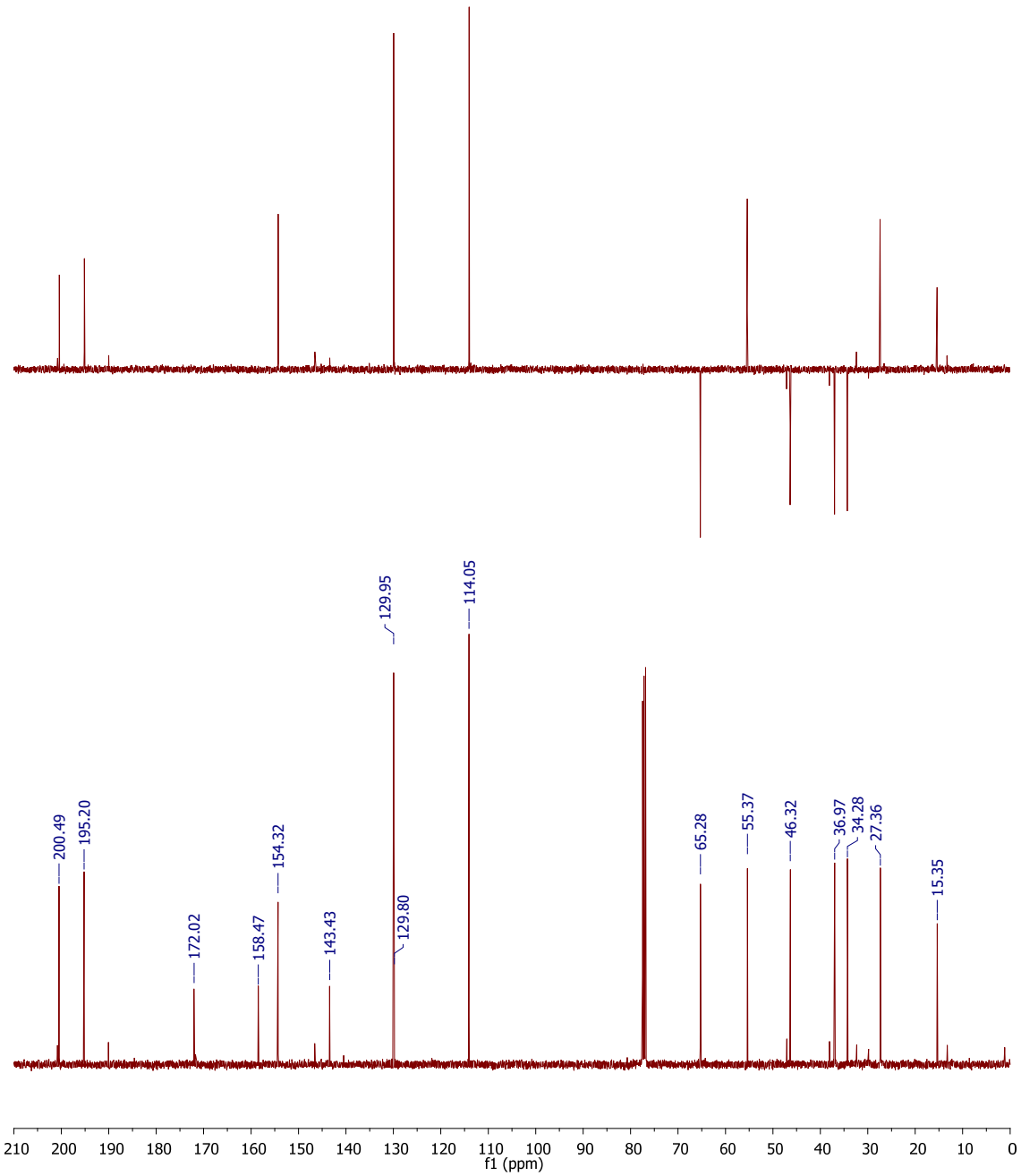


Figure S4. ^{13}C NMR (bottom) and Dept-135 (top) of (–)-methyl-oleocanthal (**Met-OLE**) in deuterated chloroform.

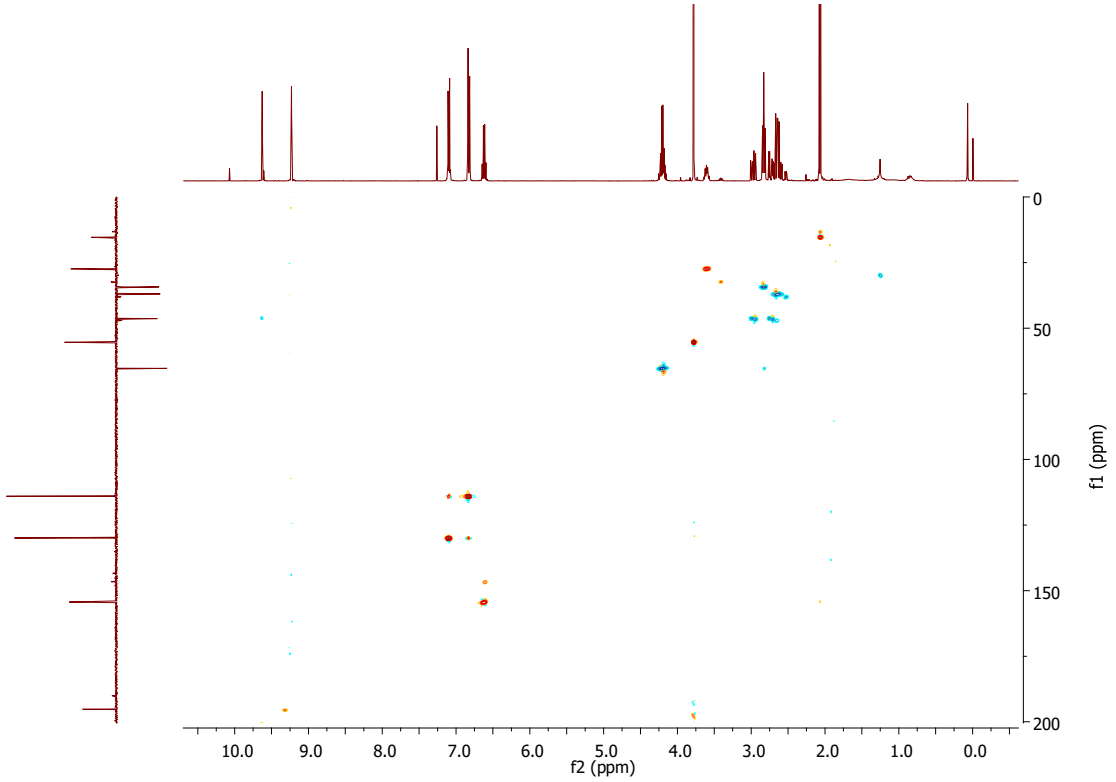


Figure S5. ^{1}H-Dept-135 (HSQC) of (–)-methyl-oleocanthal (**Met-OLE**) in deuterated chloroform.

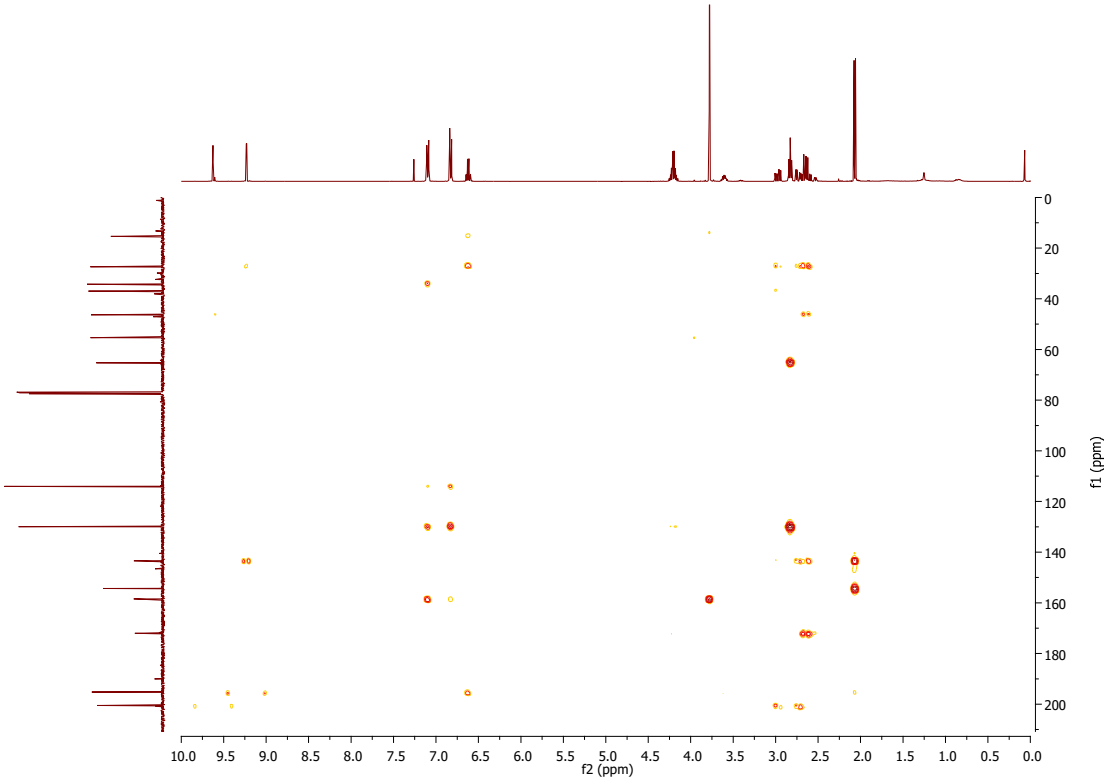


Figure S6. ^{1}H-^{13}C NMR (HMBC) of (–)-methyl-oleocanthal (**Met-OLE**) in deuterated chloroform.

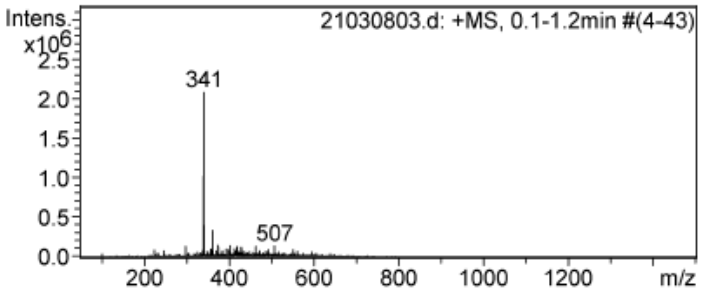


Figure S7. ESIMS of (–)-methyl-oleocanthal (**Met-OLE**).

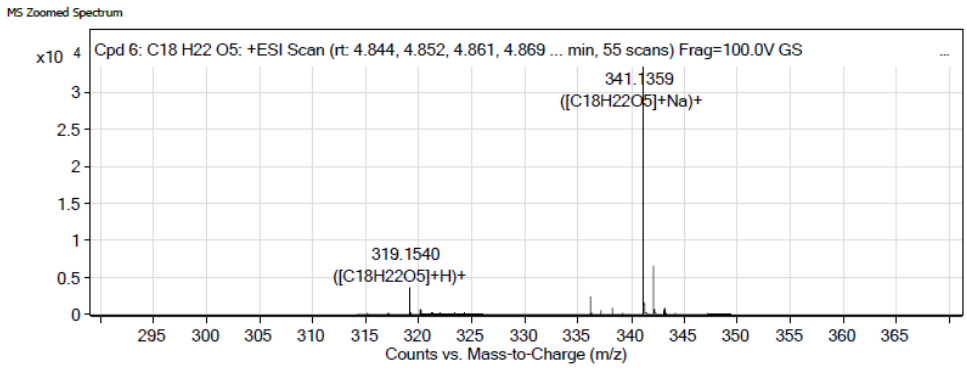


Figure S8. HRMS of (–)-methyl-oleocanthal (**Met-OLE**).

(–)-Methyl-ligustroside

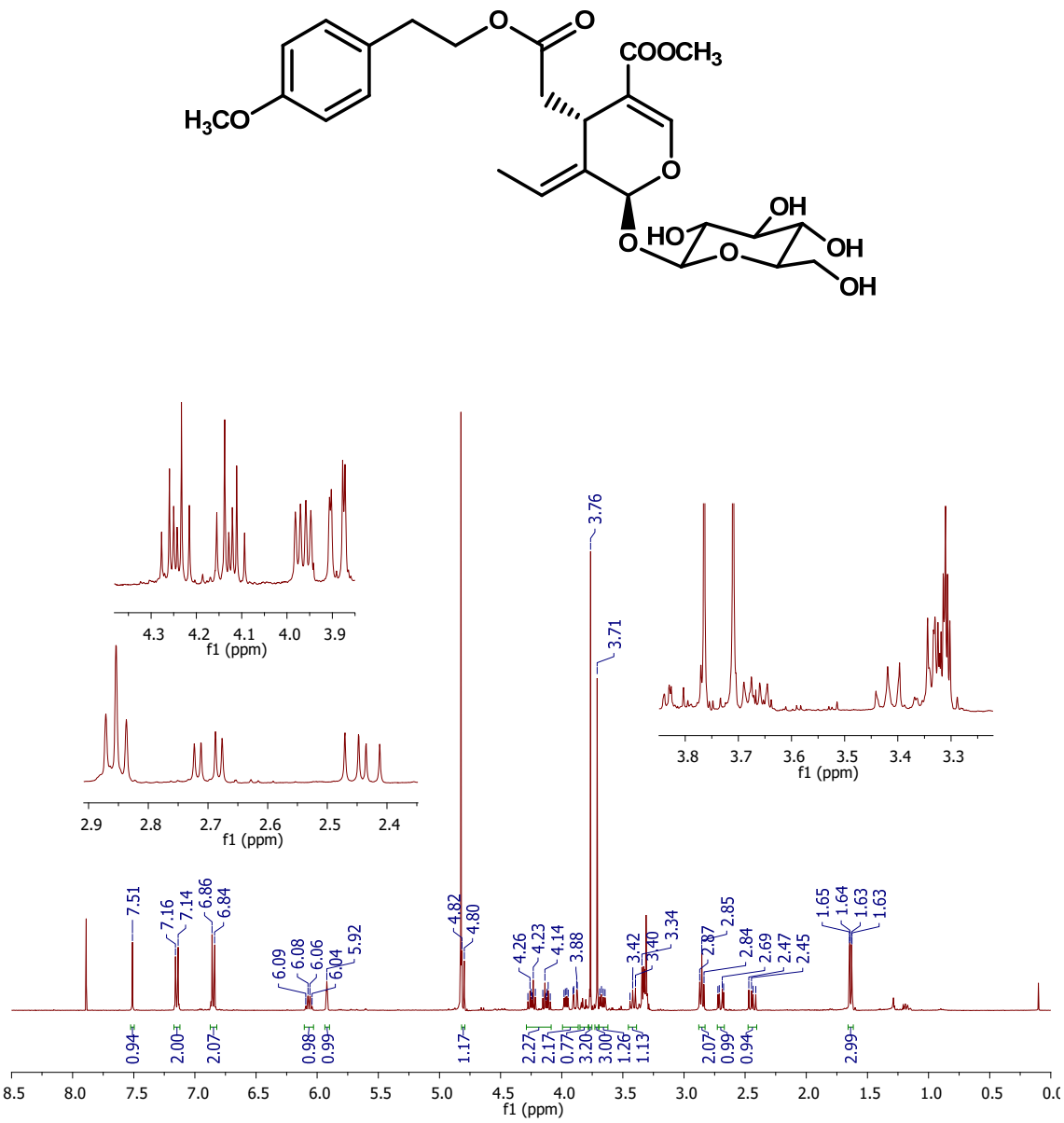


Figure S9. [1]H NMR of (–)-methyl-ligustroside in deuterated chloroform.

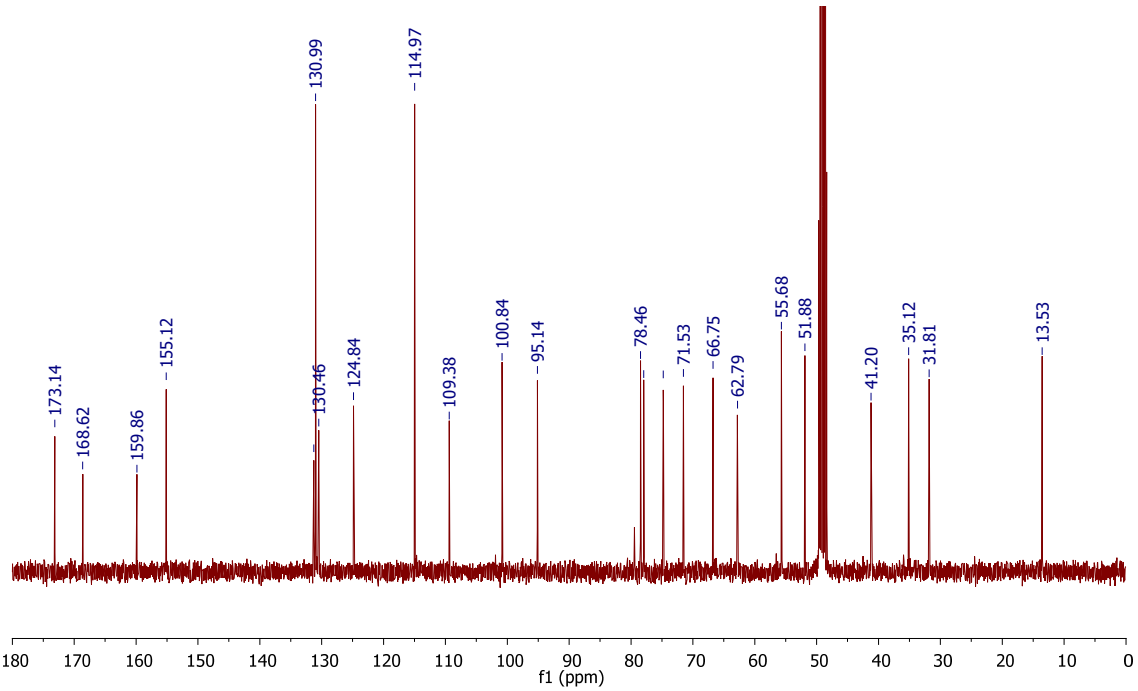


Figure S10. ^{13}C NMR of (–)-methyl-ligustroside in deuterated chloroform.

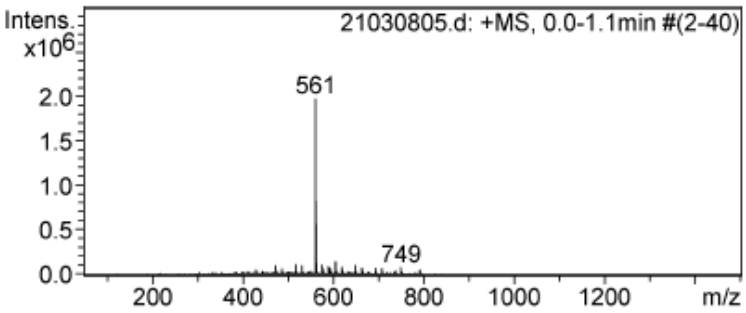


Figure S11. ESIMS of (–)-methyl-ligustroside.