

## Supporting information: Sustainable Chemistry: An Opportunity for the Development of Madagascar

### 1- Cashew nut shell liquid valorization as surfactant

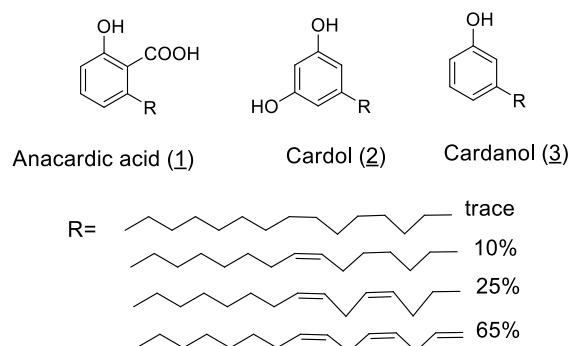


Figure S 1. Composition of CNSL

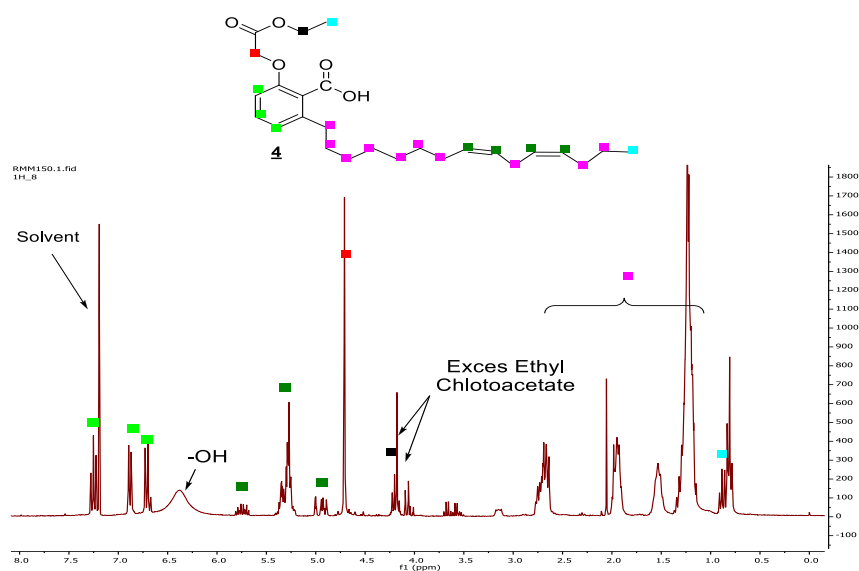


Figure S 2. NMR  $^1\text{H}$  Spectrum of Ester oxyacetic of anacardic acid (4)

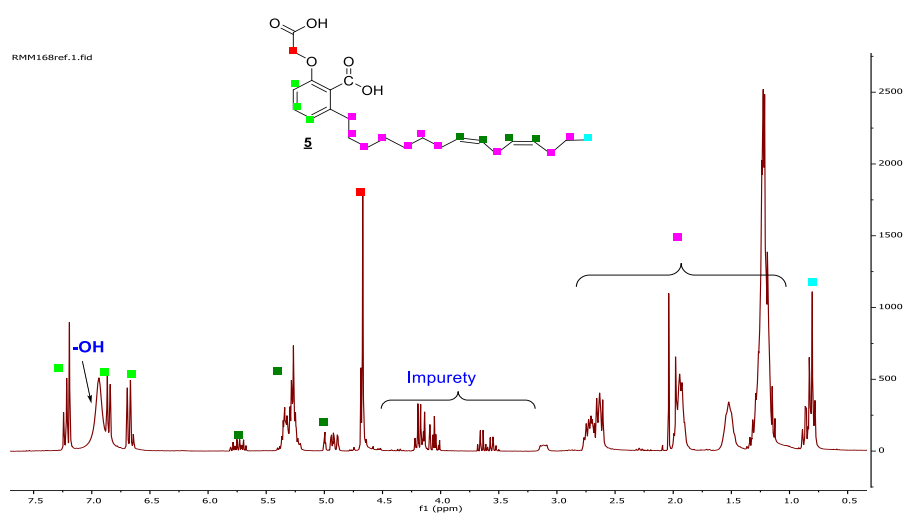


Figure S 3. NMR  $^1\text{H}$  Spectrum of oxyacetic acid of Anacardic acid (5)

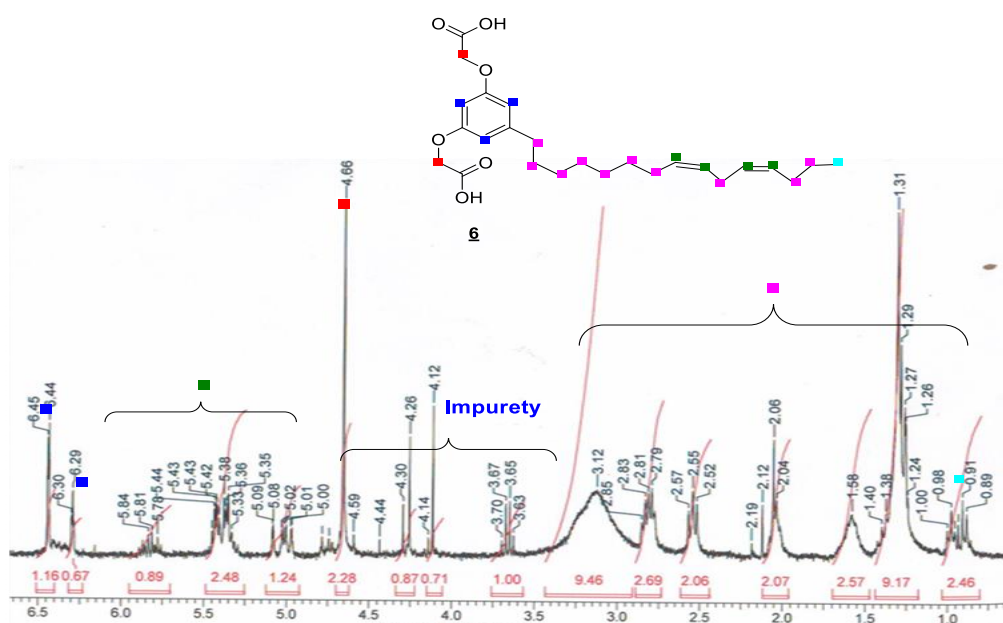


Figure S 4. NMR  $^1\text{H}$  Spectrum of oxyacetic acid of cardol (6)

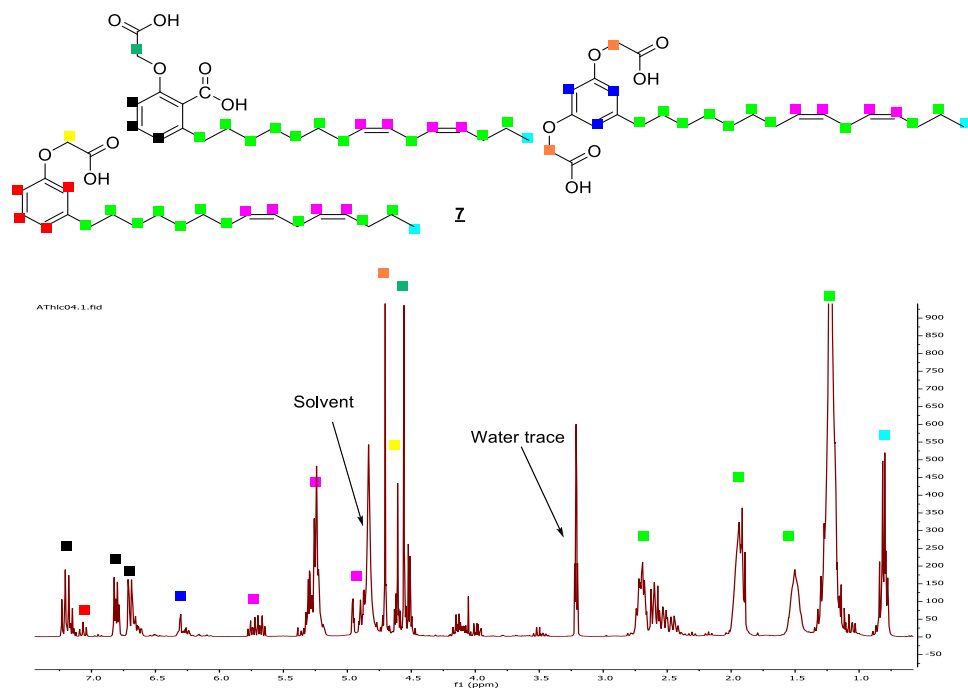


Figure S 5 . NMR  $^1\text{H}$  Spectrum of oxyacetic acid of CNSL (Z)

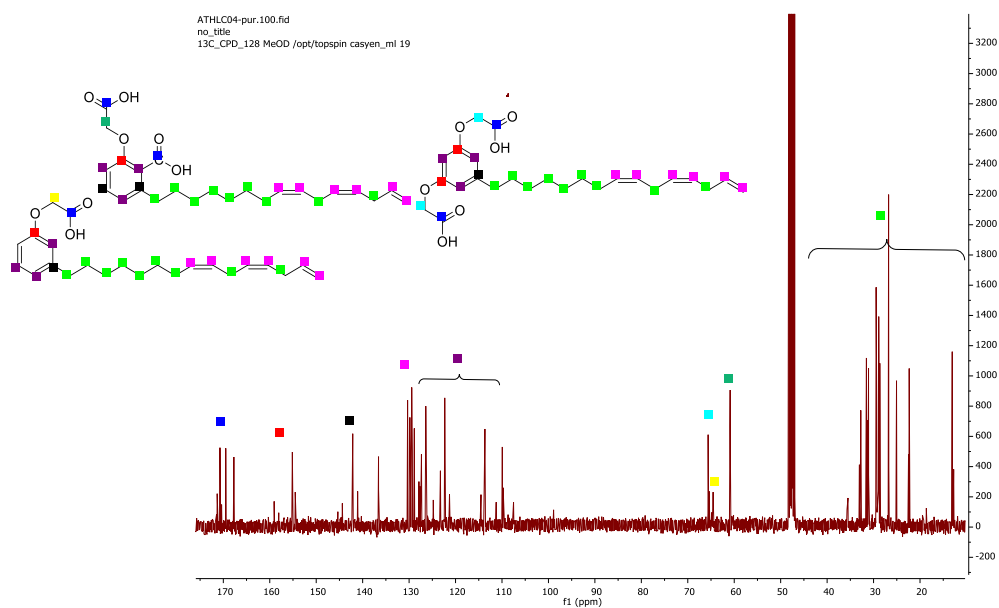


Figure S 6. NMR  $^{13}\text{C}$  Spectrum of oxyacetic acid of CNSL (Z)

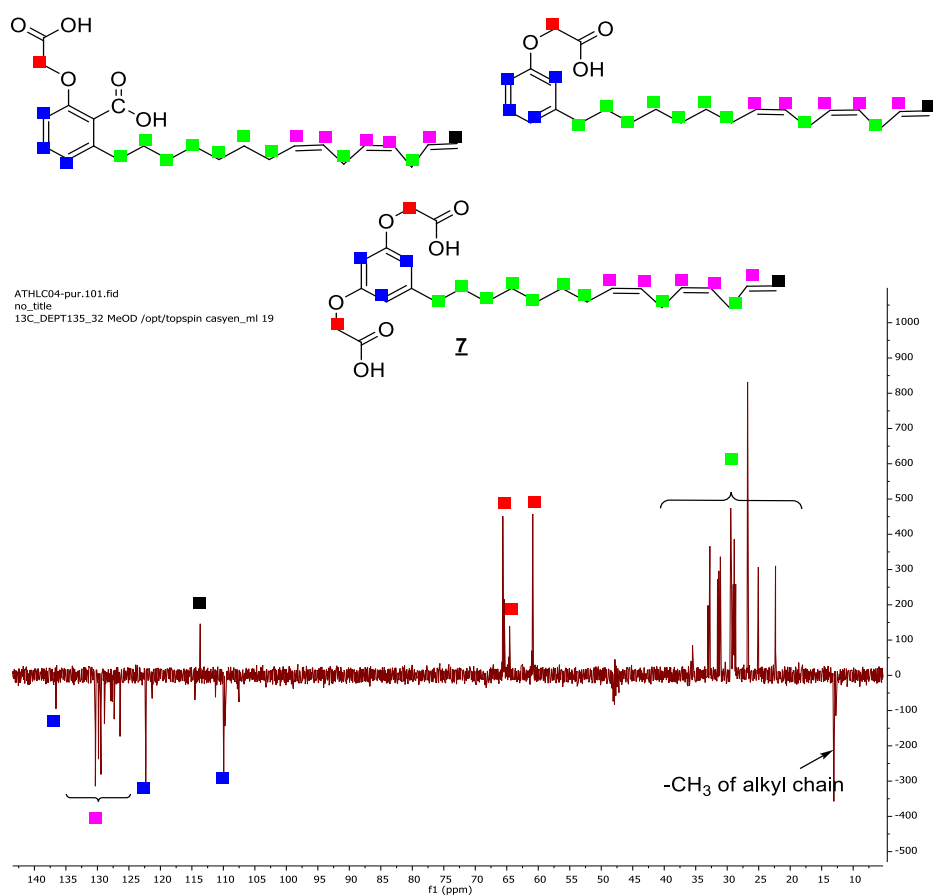


Figure S 7. NMR  $^{13}\text{C}$  DEPT 135 Spectrum of oxyacetic acid of CNSL (Z)

Table S1 : Data of the fluorescence emission spectrum of pyrene.

log ( C )	I1/I3
-1,52287875	1,50351794
-1,39794001	1,48414432
-1,30103	1,43341818
-1	1,43402342
-0,30103	1,18944555
0	0,91672214
0,69897	0,75198674
1	0,6601263

Table S2 : Data of Foaming property of Sodium oxyacetate of CNSL (8) and reference surfactant

Time (min)	Foam volume	Foam volume (mL)	Foam volume (mL) of Sodium
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	(mL) of SDS	of LABSA	oxyacetate of CNSL (8)
0	220	210	200
0,5	190	200	180
1	170	180	160
1,5	150	150	120
2	120	120	80
2,5	100	80	60
3	80	60	40
3,5	60	40	40
4	40	30	40
4,5	20	20	40
5	10	20	30
5,5	10	10	30
6	10	10	30
6,5	5	10	20
7	5	10	20

## 2- Chemical ecology as alternative to insecticides

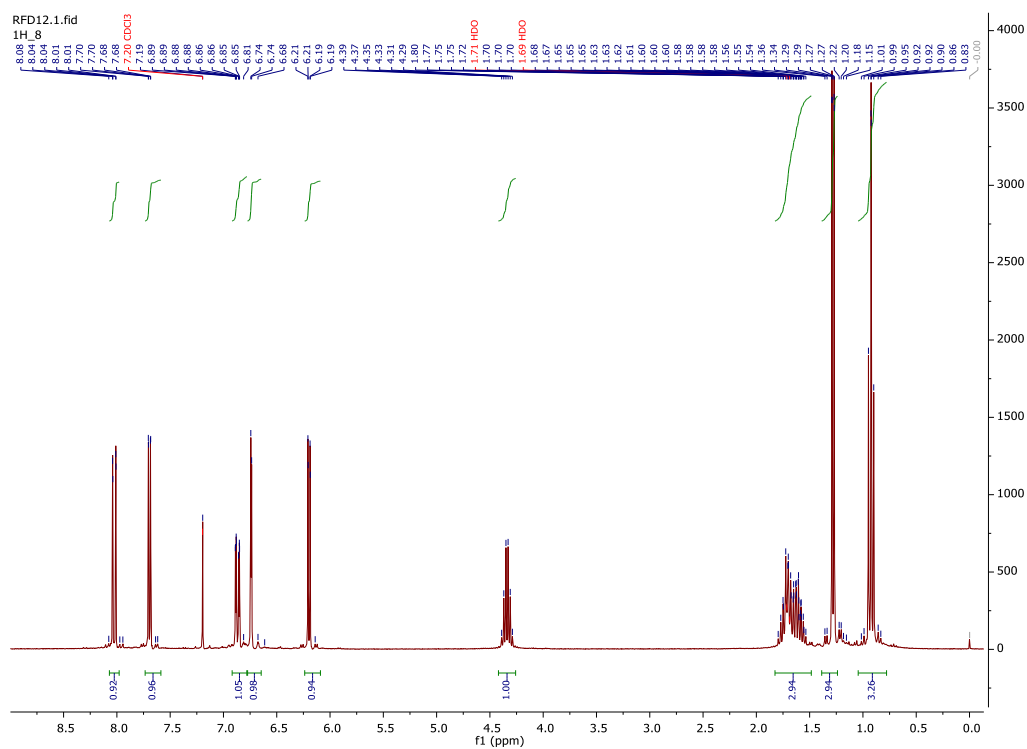


Figure S 8. NMR  $^1\text{H}$  Spectrum of Racemic 7-*sec*-butoxychromone (10)

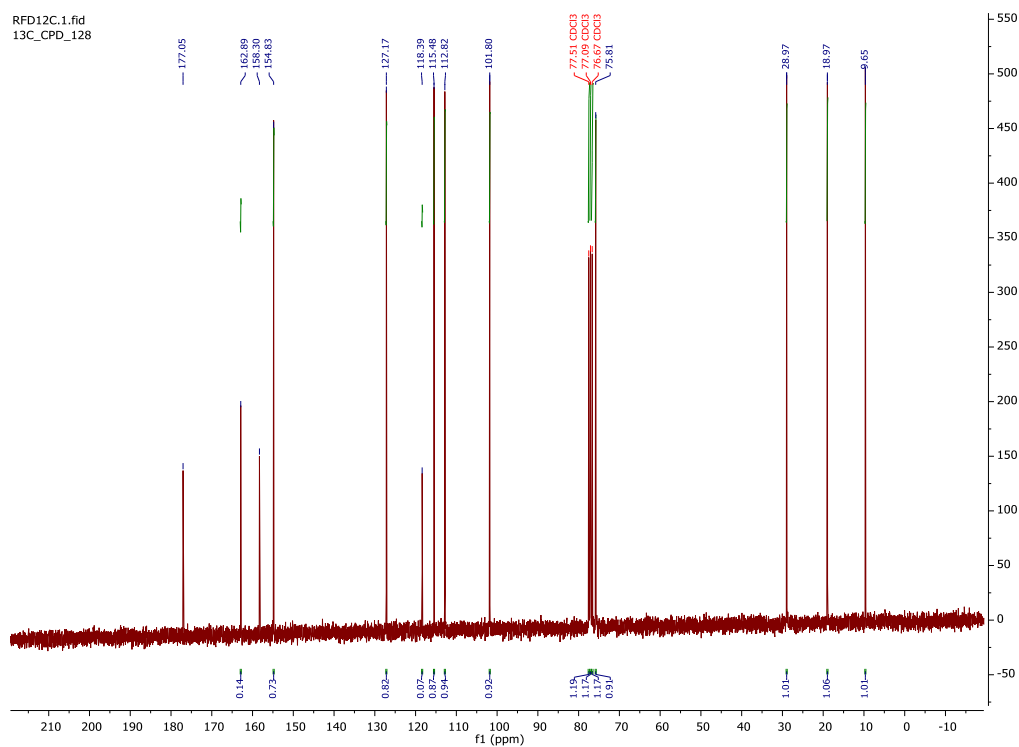


Figure S 9. NMR  $^{13}\text{C}$  Spectrum of Racemic 7-*sec*-butoxychromone (10)

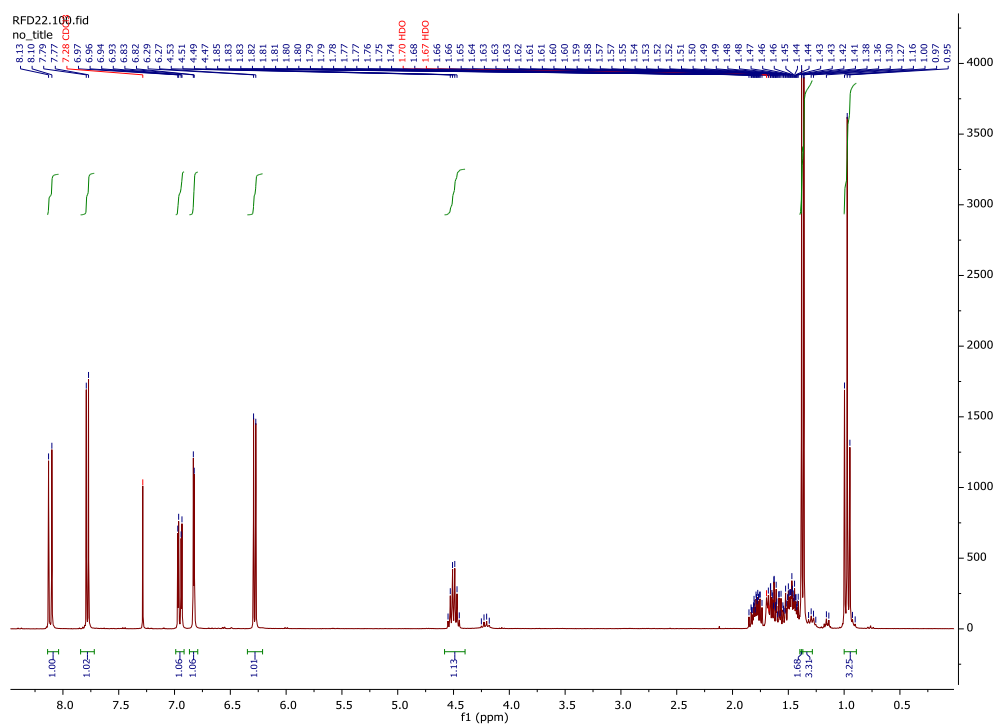


Figure S 10. NMR  $^1\text{H}$  Spectrum of Racemic 7-*sec*-pentoxychromone (11)

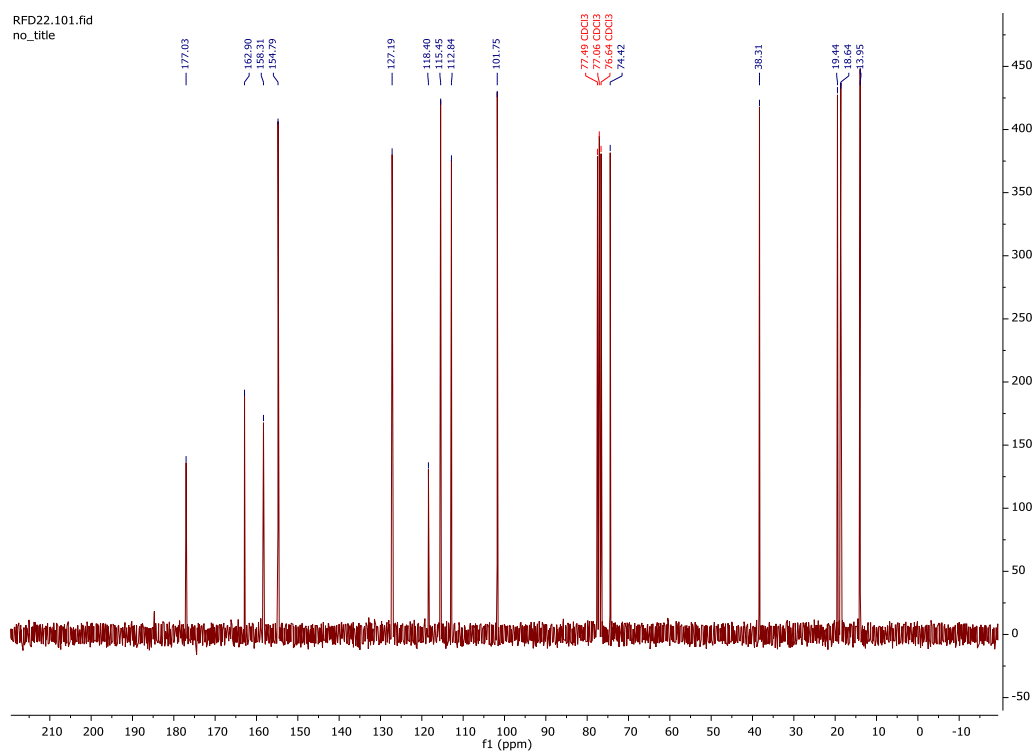


Figure S 11. NMR <sup>13</sup>C Spectrum of Racemic 7-*sec*-pentoxychromone (11)

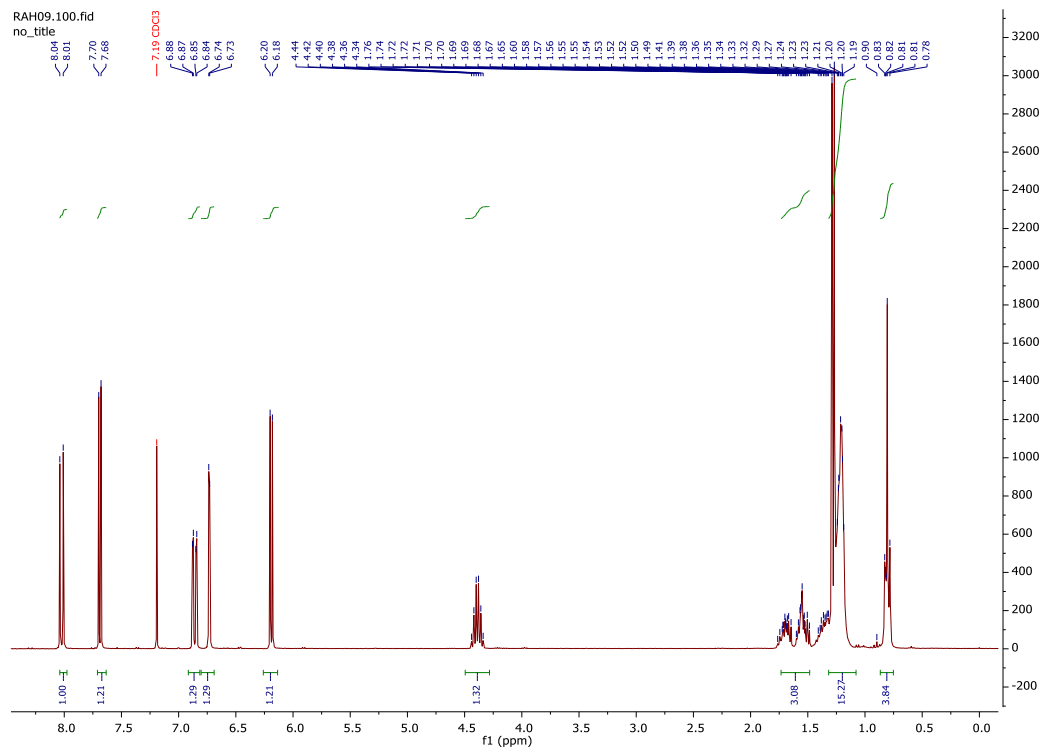


Figure S 12. NMR <sup>1</sup>H Spectrum of Racemic 7-*sec*-nonyloxychromone (12)

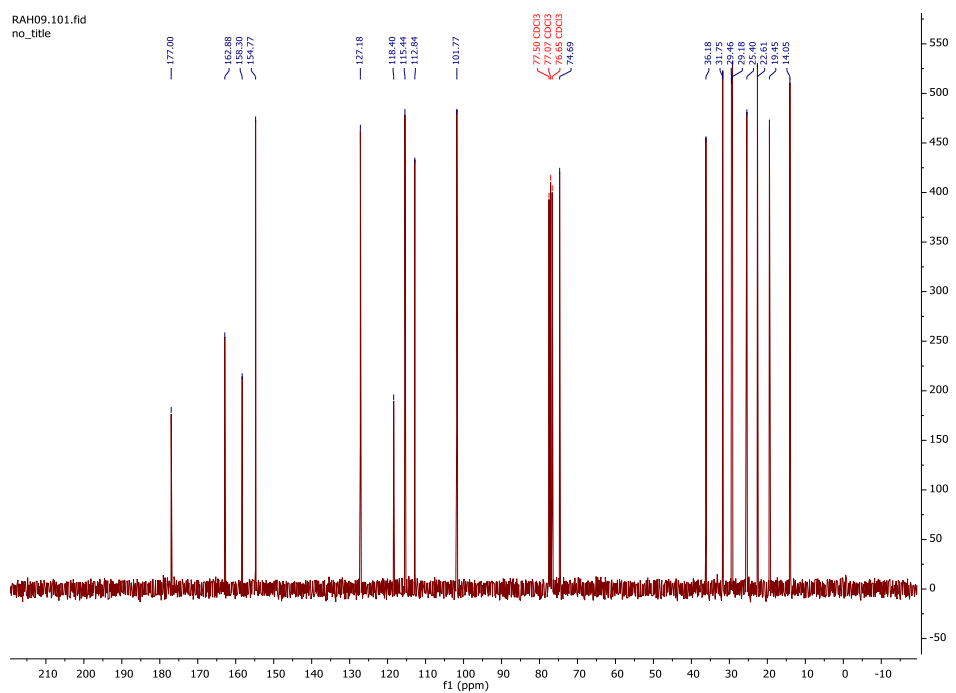


Figure S 13. NMR  $^{13}\text{C}$  Spectrum of Racemic 7-*sec*-nonyloxychromone (12)

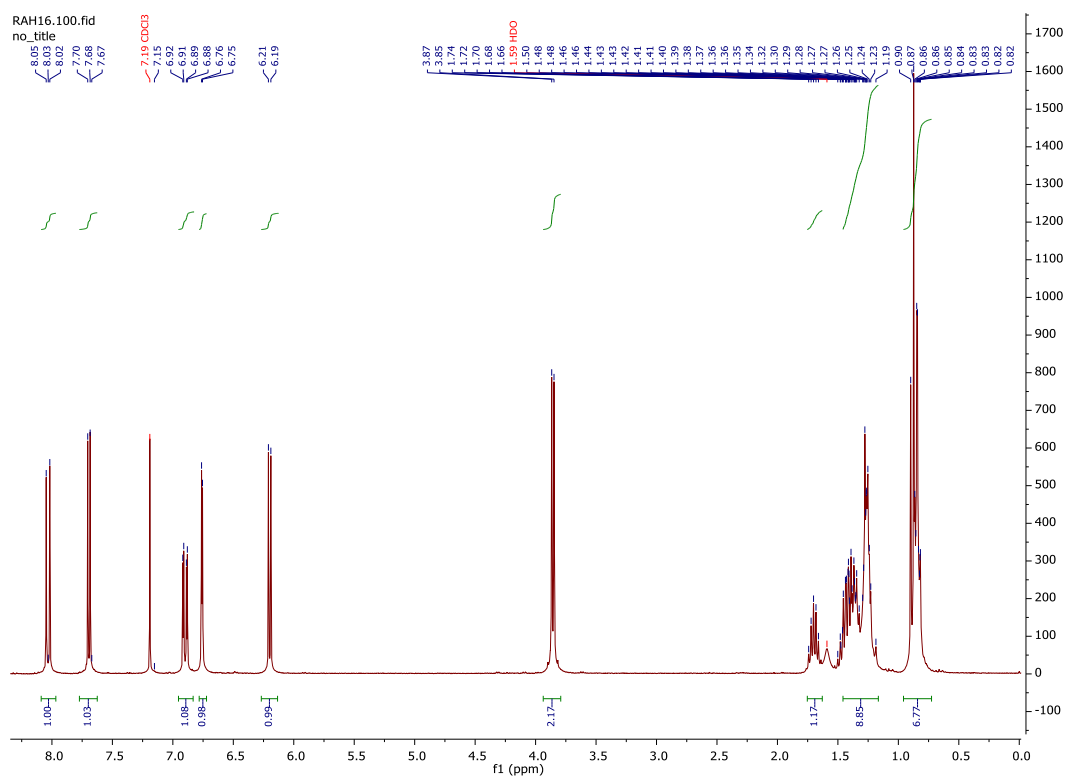


Figure S 14. NMR  $^1\text{H}$  Spectrum of Racemic 7-(2'-ethyl)hexyloxychromone (13)

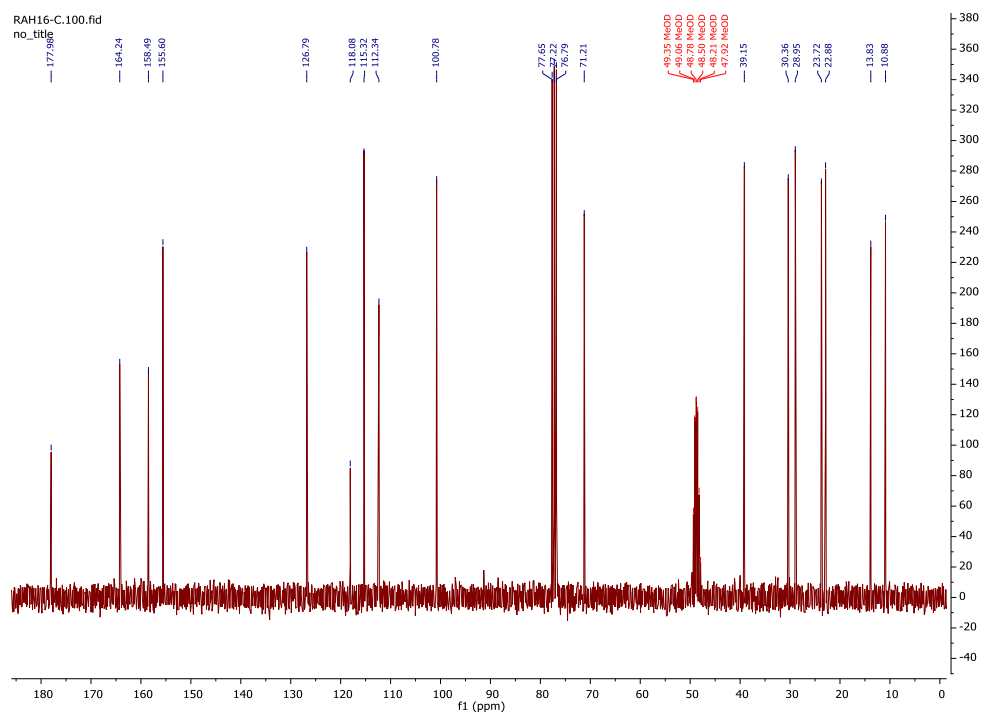


Figure S 15. NMR  $^{13}\text{C}$  Spectrum of Racemic 7-(2'-ethyl)hexyloxychromone (13)