SUPPORTING INFORMATION FOR:

Chemoenzymatic Routes to Enantiomerically Enriched and Polyoxygenated Perhydro-3,5a-methanoindeno[4,5-*c*]furans Related to the Tashironin Class of Sesquiterpenes

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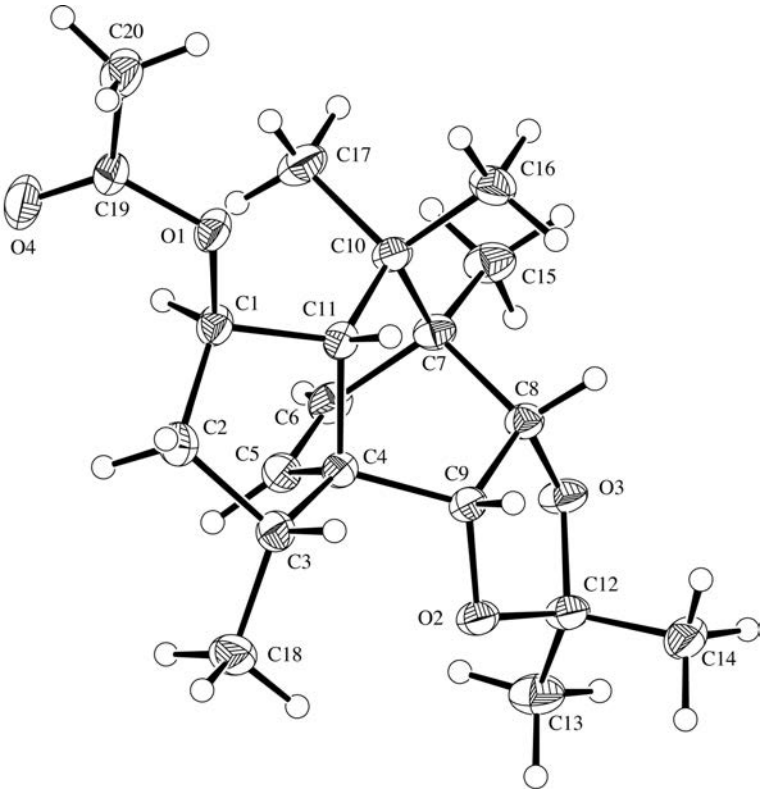


Figure S1: Structure of compound **10** (CCDC 1028238) with labelling of selected atoms. Anisotropic displacement ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

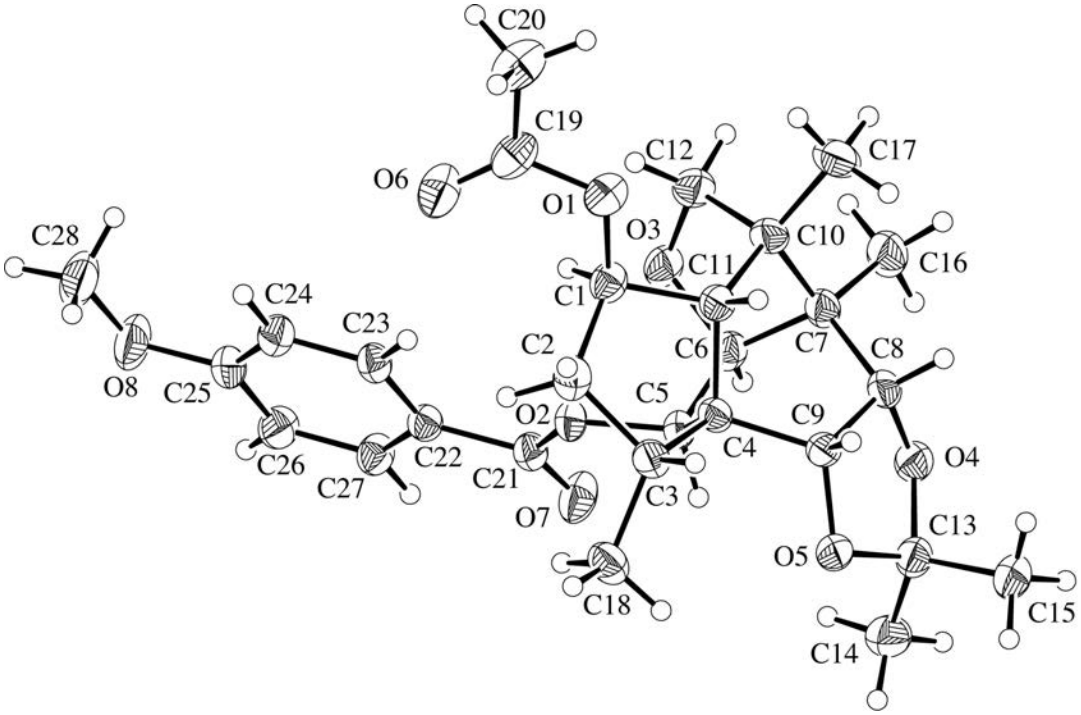


Figure S2: Structure of compound **13** (CCDC 1028241) with labelling of selected atoms. Anisotropic displacement ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

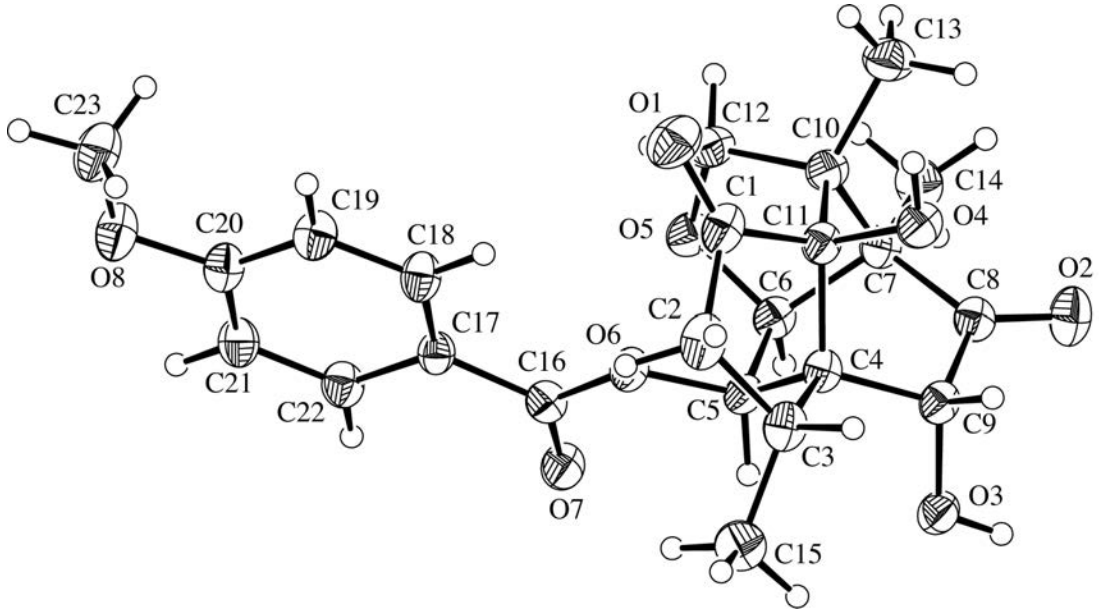


Figure S3a: Structure of molecule 1 of compound **17** (CCDC 1028242) with labelling of selected atoms. Anisotropic displacement ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

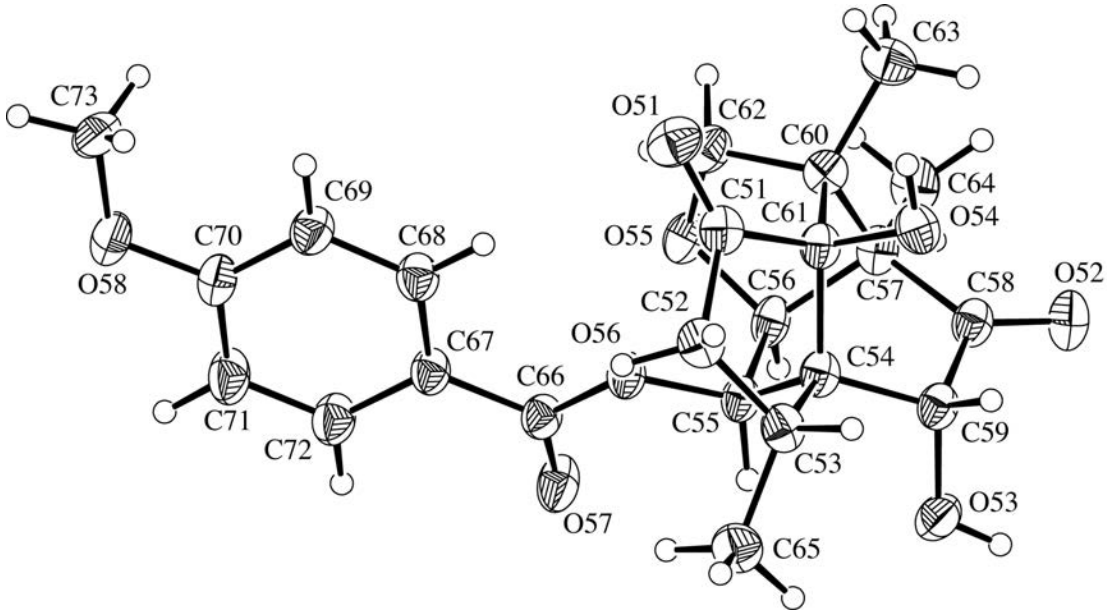


Figure S3b: Structure of molecule 2 of compound **17** (CCDC 1028242) with labelling of selected atoms. Anisotropic displacement ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

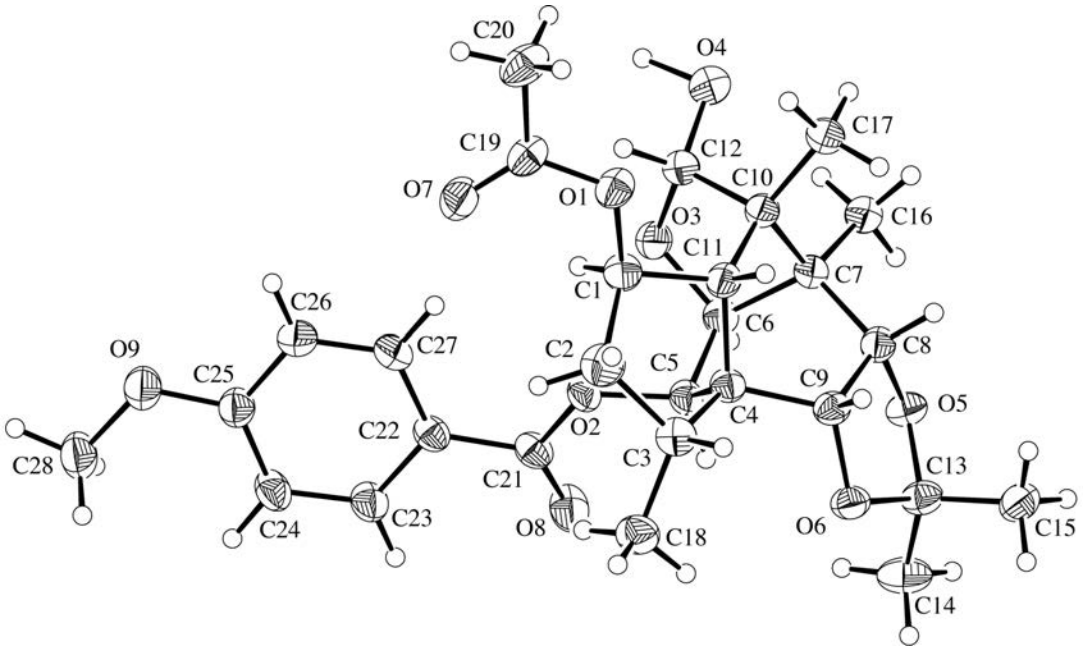
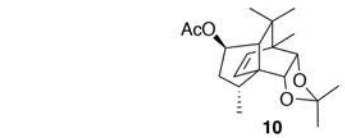


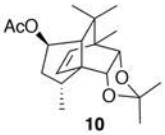
Figure S4: Structure of compound **20** (CCDC 1028244) with labelling of selected atoms. Anisotropic displacement ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

400 MHz ^{1}H NMR Spectrum of Compound **10** (Recorded in $CDCl_3$)



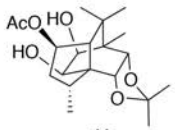
10

100 MHz ^{13}C NMR Spectrum of Compound **10** (Recorded in $CDCl_3$)



10

400 MHz ^{1}H NMR Spectrum of Compound **11** (Recorded in $CDCl_3$)



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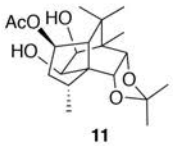
100 MHz ^{13}C NMR Spectrum of Compound **11** (Recorded in $CDCl_3$)



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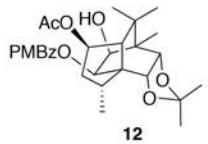
400 MHz ^{1}H NMR Spectrum of Compound **12** (Recorded in $CDCl_3$)



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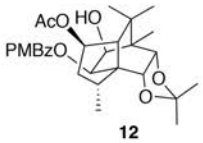
100 MHz ^{13}C NMR Spectrum of Compound **12** (Recorded in $CDCl_3$)



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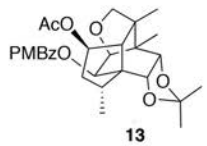
400 MHz ^{1}H NMR Spectrum of Compound **13** (Recorded in $CDCl_3$)



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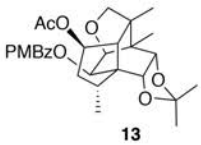
100 MHz ^{13}C NMR Spectrum of Compound **13** (Recorded in $CDCl_3$)



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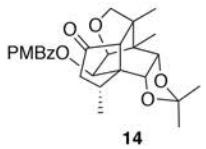
400 MHz ^{1}H NMR Spectrum of Compound **14** (Recorded in $CDCl_3$)



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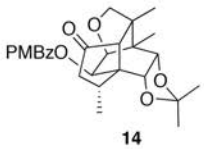
100 MHz ^{13}C NMR Spectrum of Compound **14** (Recorded in $CDCl_3$)



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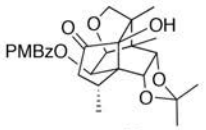
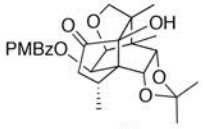
400 MHz ^{1}H NMR Spectrum of Compound **15** (Recorded in $CDCl_3$)



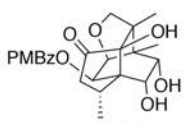
15

100 MHz ^{13}C NMR Spectrum of Compound **15** (Recorded in $CDCl_3$)



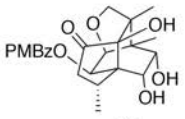
15

400 MHz ^{1}H NMR Spectrum of Compound **16** (Recorded in $CDCl_3$)



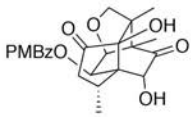
16

100 MHz ^{13}C NMR Spectrum of Compound **16** (Recorded in $CDCl_3$)



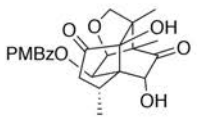
16

400 MHz ^{1}H NMR Spectrum of Compound **17** (Recorded in $CDCl_3$)



17

100 MHz ^{13}C NMR Spectrum of Compound **17** (Recorded in $CDCl_3$)



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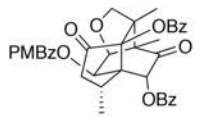
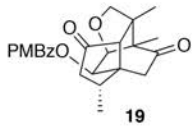
400 MHz ^{1}H NMR Spectrum of Compound **18** (Recorded in $CDCl_3$)



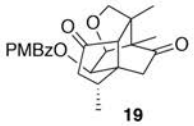
18

400 MHz ^{1}H NMR Spectrum of Compound **19** (Recorded in $CDCl_3$)



19

100 MHz ^{13}C NMR Spectrum of Compound **19** (Recorded in $CDCl_3$)



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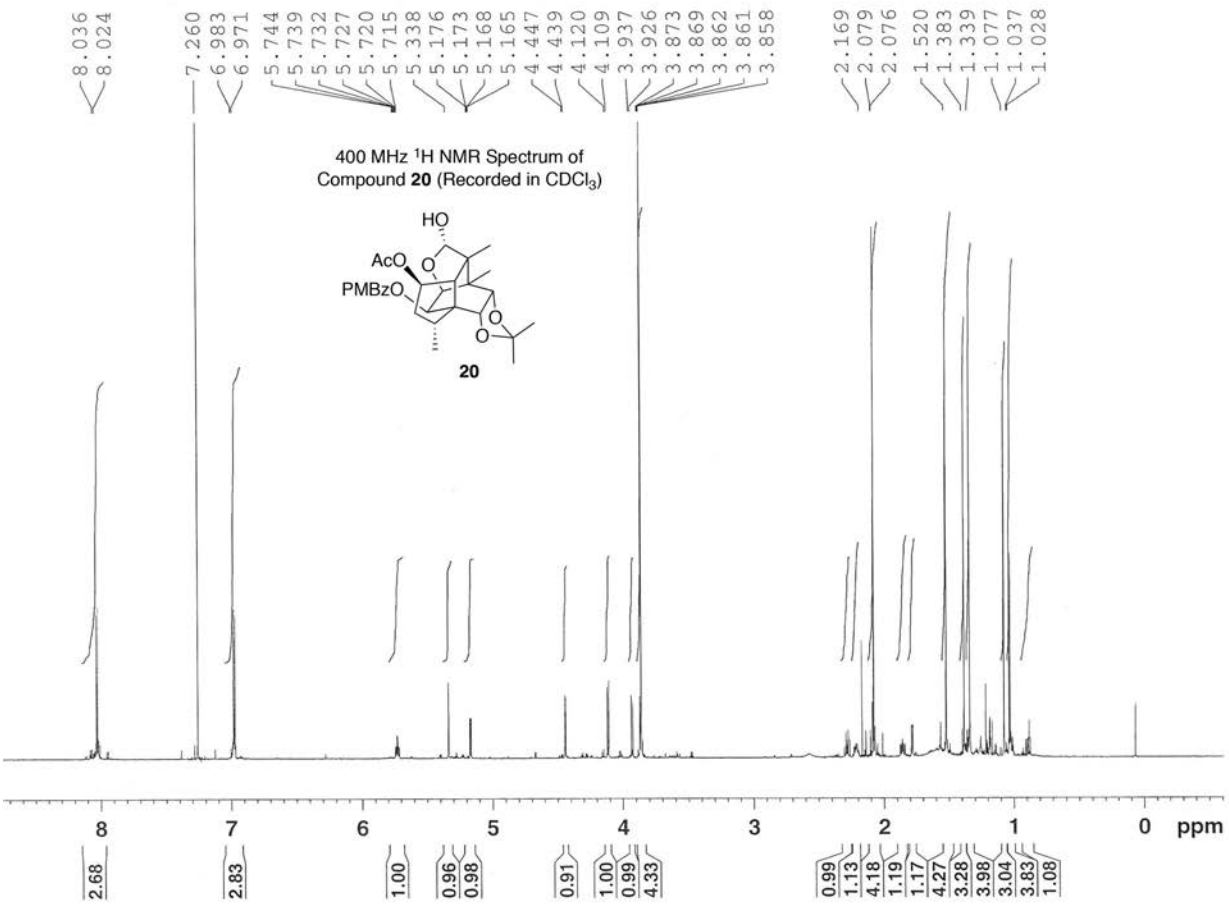
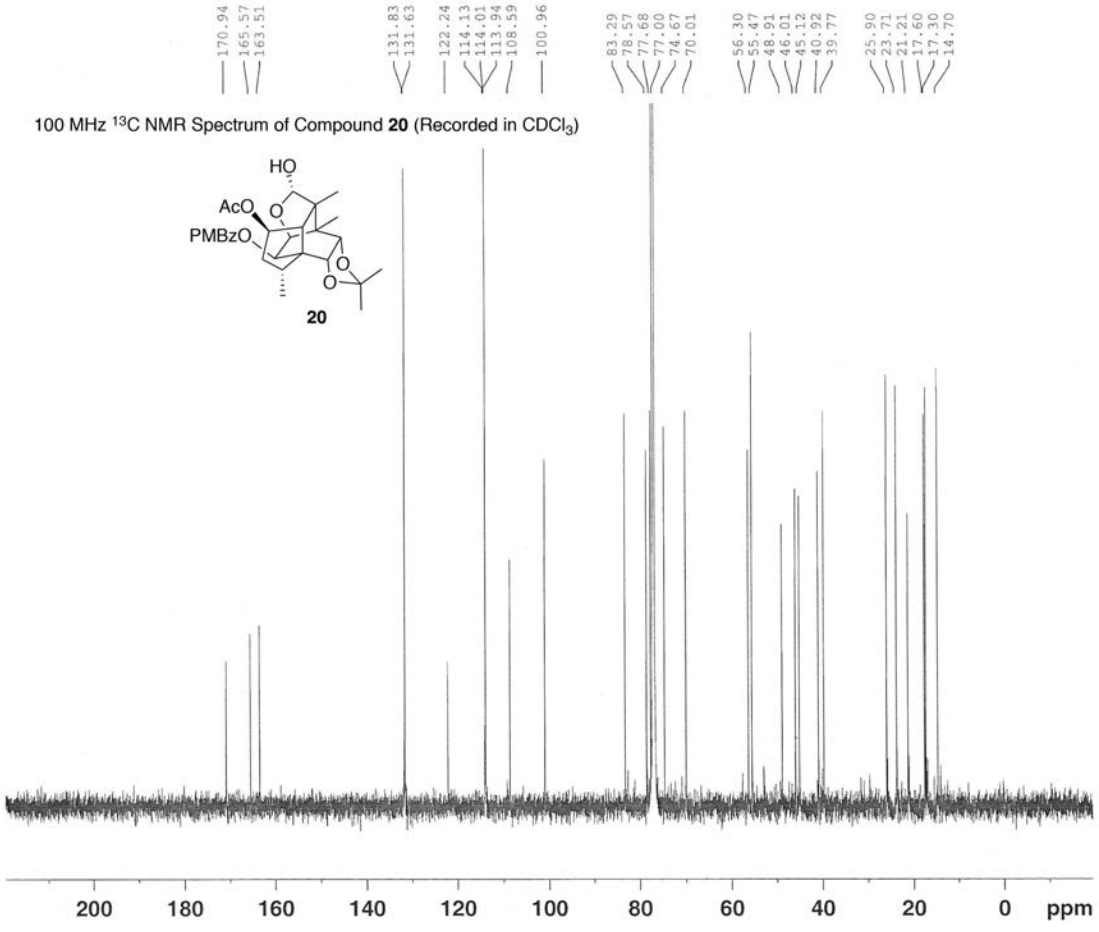
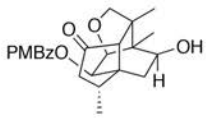

8.036
8.024
7.260
6.983
6.971
5.744
5.739
5.732
5.727
5.720
5.715
5.338
5.176
5.173
5.168
5.165
4.447
4.439
4.120
4.109
3.937
3.926
3.873
3.869
3.862
3.861
3.858
2.169
2.079
2.076
1.520
1.383
1.339
1.077
1.037
1.028
400 MHz ¹H NMR Spectrum of Compound 20 (Recorded in CDCl3)
HO
AcO
PMBzO
O
20
8
7
6
5
4
3
2
1
0
ppm
2.68
2.83
1.00
0.96
0.98
0.91
1.00
0.99
4.33
0.99
1.13
4.18
1.19
1.17
4.27
3.28
3.98
3.04
3.83
1.08

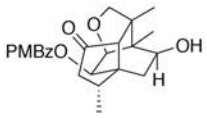

170.94
165.57
163.51
131.83
131.63
122.24
114.13
114.01
113.94
108.59
100.96
83.29
78.57
77.68
77.00
74.67
70.01
56.30
55.47
48.91
46.01
45.12
40.92
39.77
25.90
23.71
21.21
17.60
17.30
14.70
100 MHz ¹³C NMR Spectrum of Compound 20 (Recorded in CDCl3)
HO
AcO
PMBzO
O
20
200
180
160
140
120
100
80
60
40
20
0
ppm

400 MHz ^{1}H NMR Spectrum of Compound **21** (Recorded in $CDCl_3$)



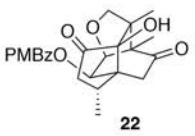
21

100 MHz ^{13}C NMR Spectrum of Compound **21** (Recorded in $CDCl_3$)



21

400 MHz ^{1}H NMR Spectrum of Compound **22** (Recorded in $CDCl_3$)



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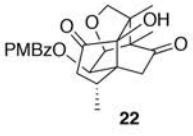
100 MHz ^{13}C NMR Spectrum of Compound **22** (Recorded in $CDCl_3$)



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