

## SUPPORTING INFORMATION

### The Oxidation of Phytocannabinoids to Cannabinoquinoids

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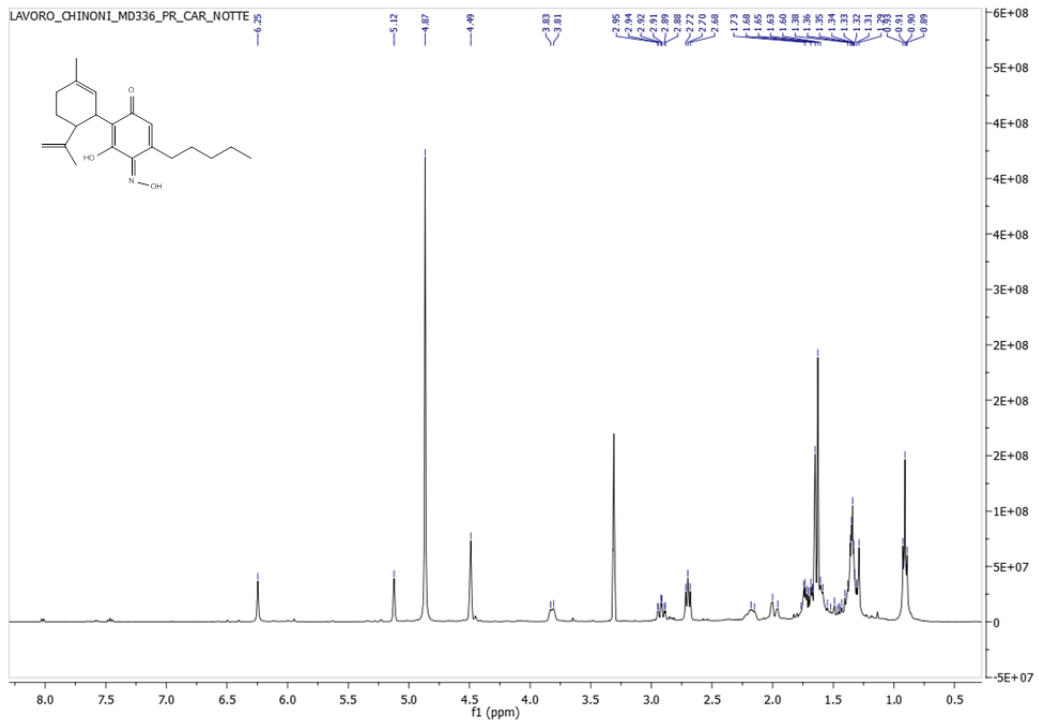


Figure S1.  $^1\text{H}$  NMR spectrum (400 MHz) of compound **11** in  $\text{CD}_3\text{OD}$

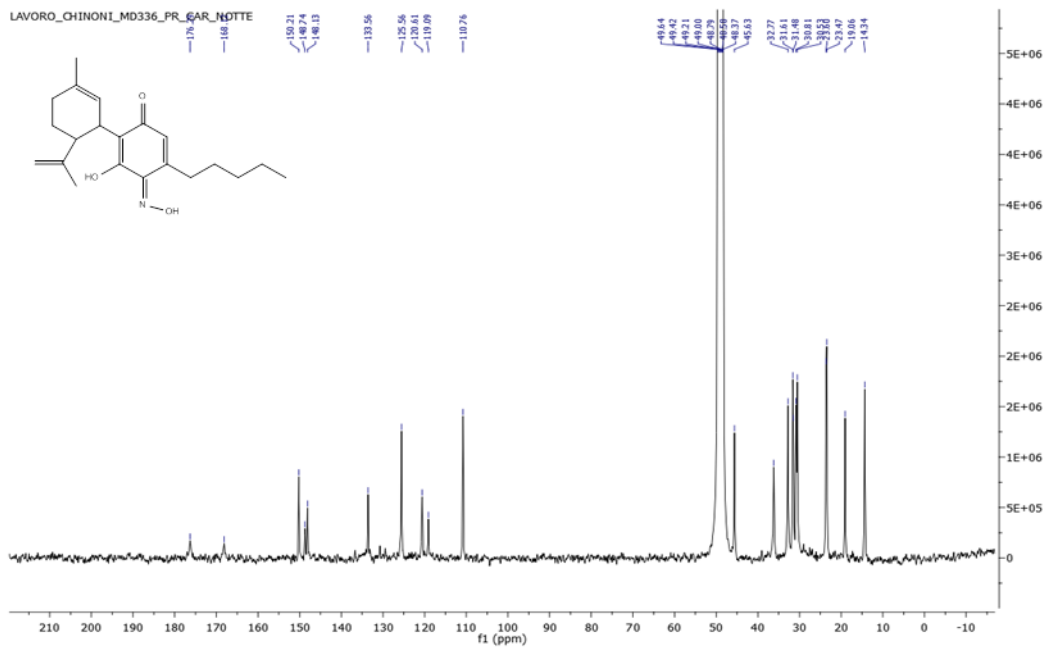


Figure S2.  $^{13}\text{C}$  NMR spectrum (100 MHz) of compound **11** in  $\text{CD}_3\text{OD}$

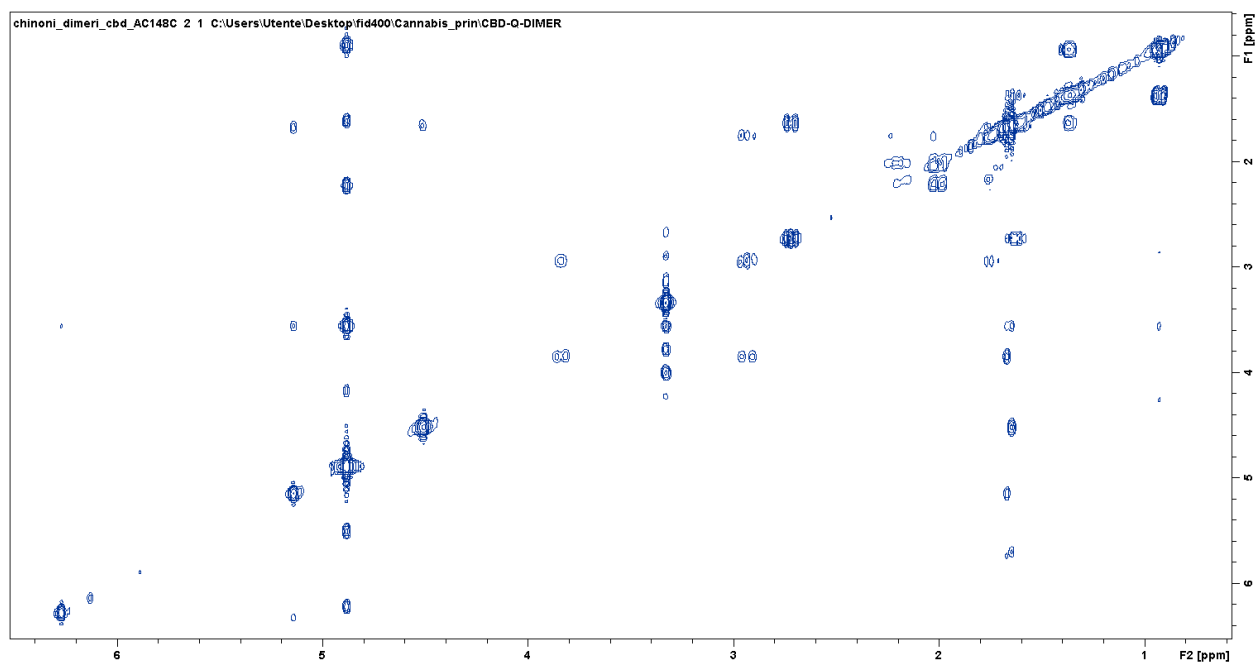


Figure S3.  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound **11**

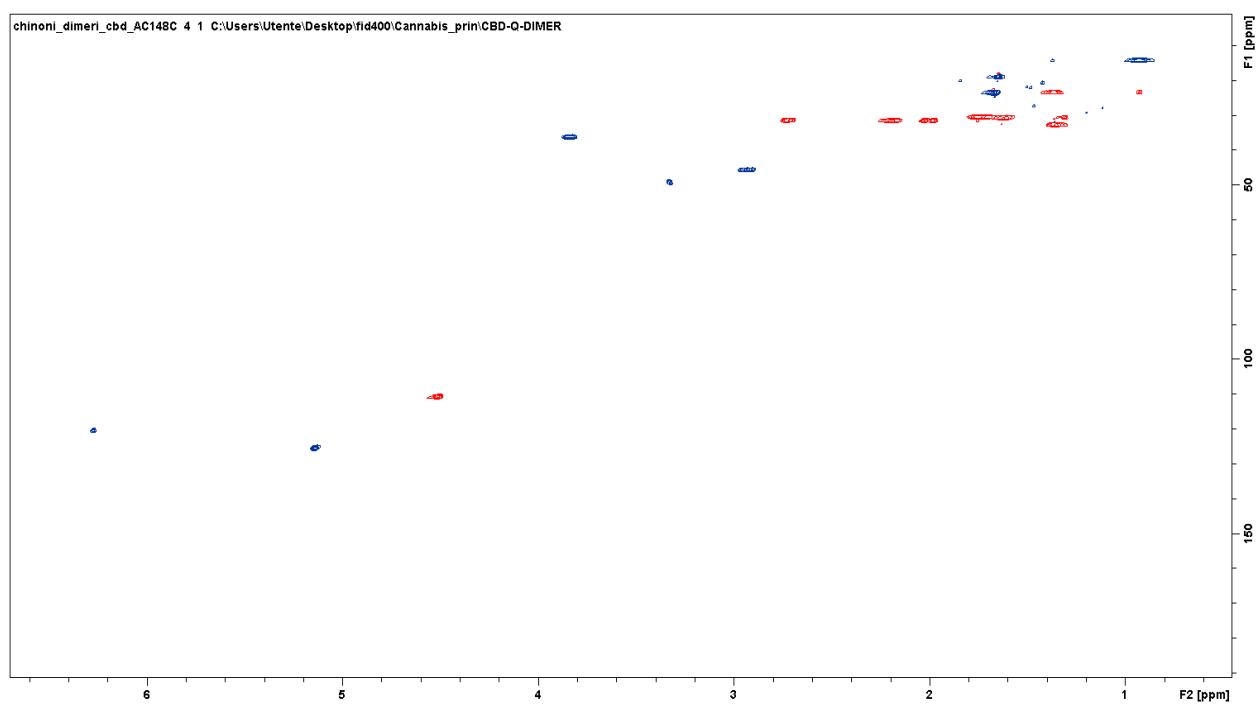


Figure S4. 2D NMR HSQC spectrum of compound **11**

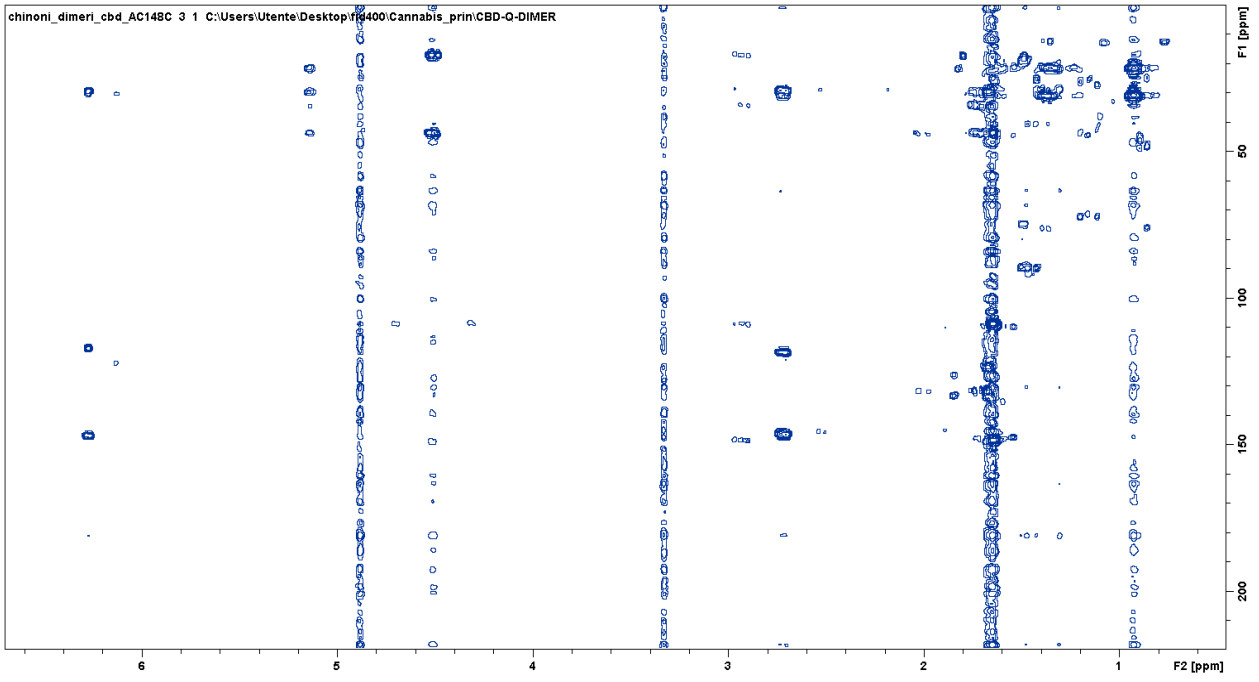


Figure S5. 2D NMR HMBC spectrum of compound **11**

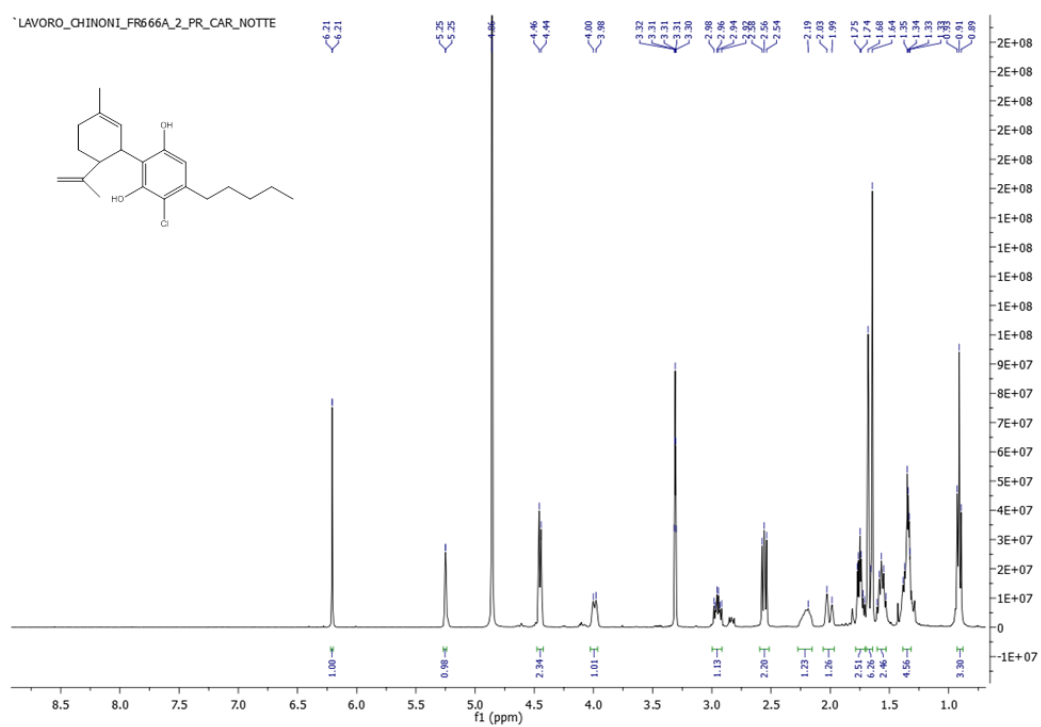


Figure S6.  $^1\text{H}$  NMR spectrum (400 MHz) of compound **12** in  $\text{CD}_3\text{OD}$

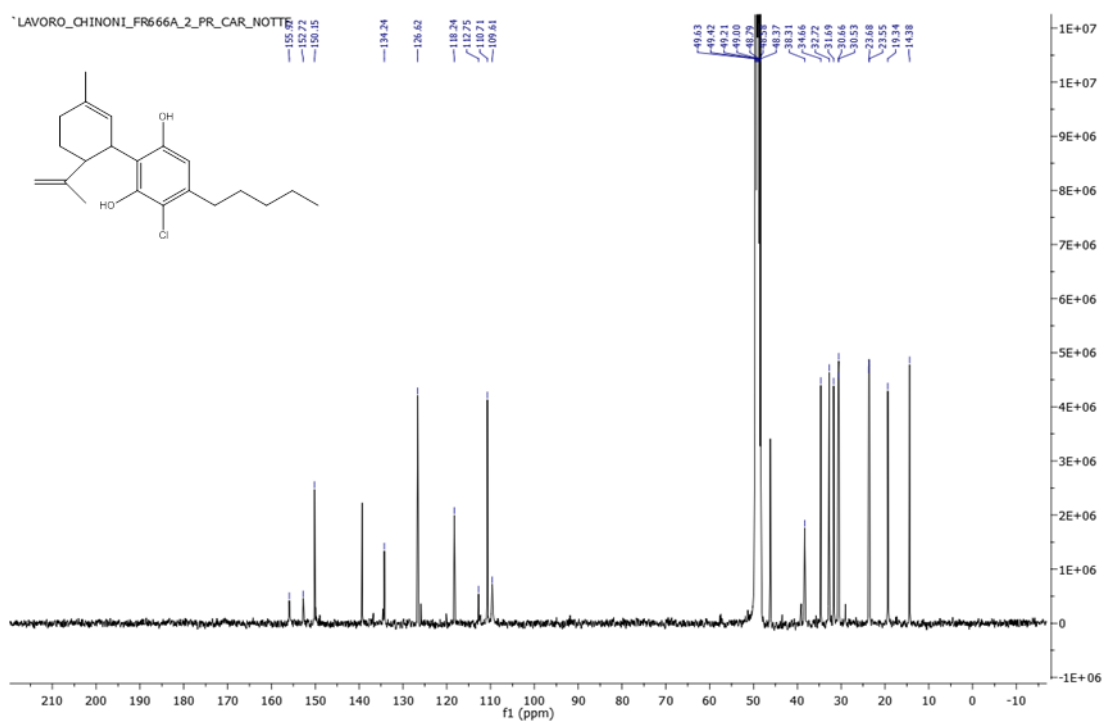
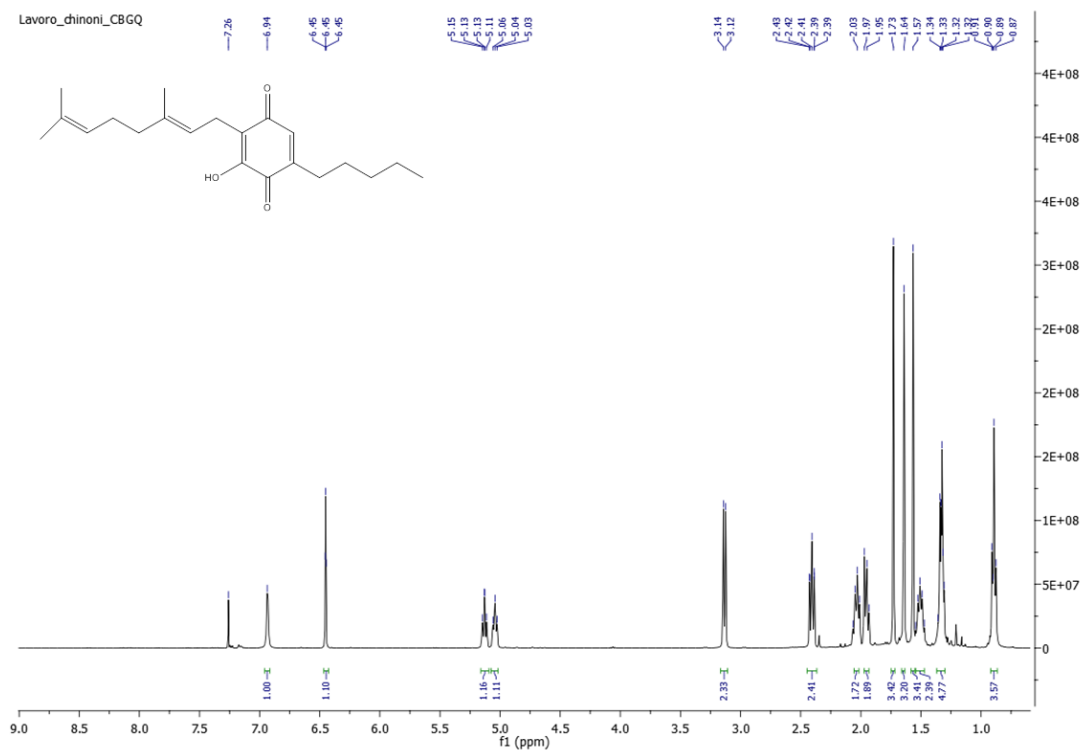
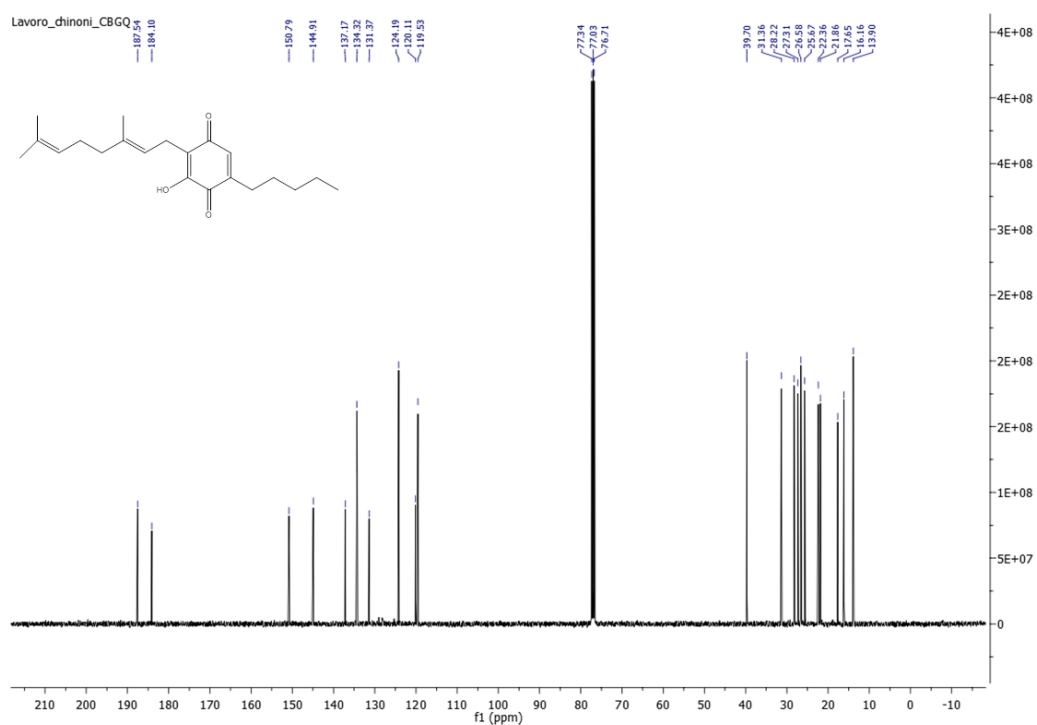


Figure S7.  $^{13}\text{C}$  NMR spectrum of compound **12** in  $\text{CD}_3\text{OD}$



**Figure S8.**  $^1\text{H}$  NMR spectrum (500 MHz) of compound **20** in  $\text{CDCl}_3$



**Figure S9.**  $^{13}\text{C}$  NMR spectrum of compound **20** in  $\text{CDCl}_3$

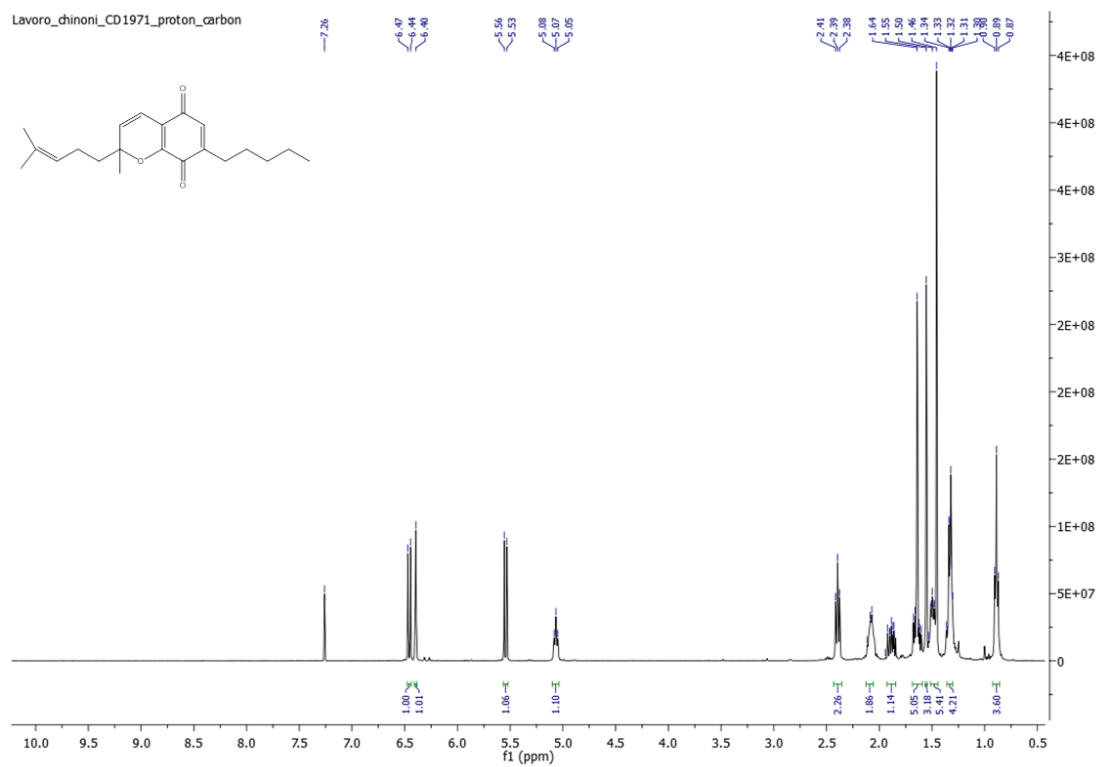


Figure S10.  $^1\text{H}$  NMR spectrum (400 MHz) of compound **21** in  $\text{CDCl}_3$

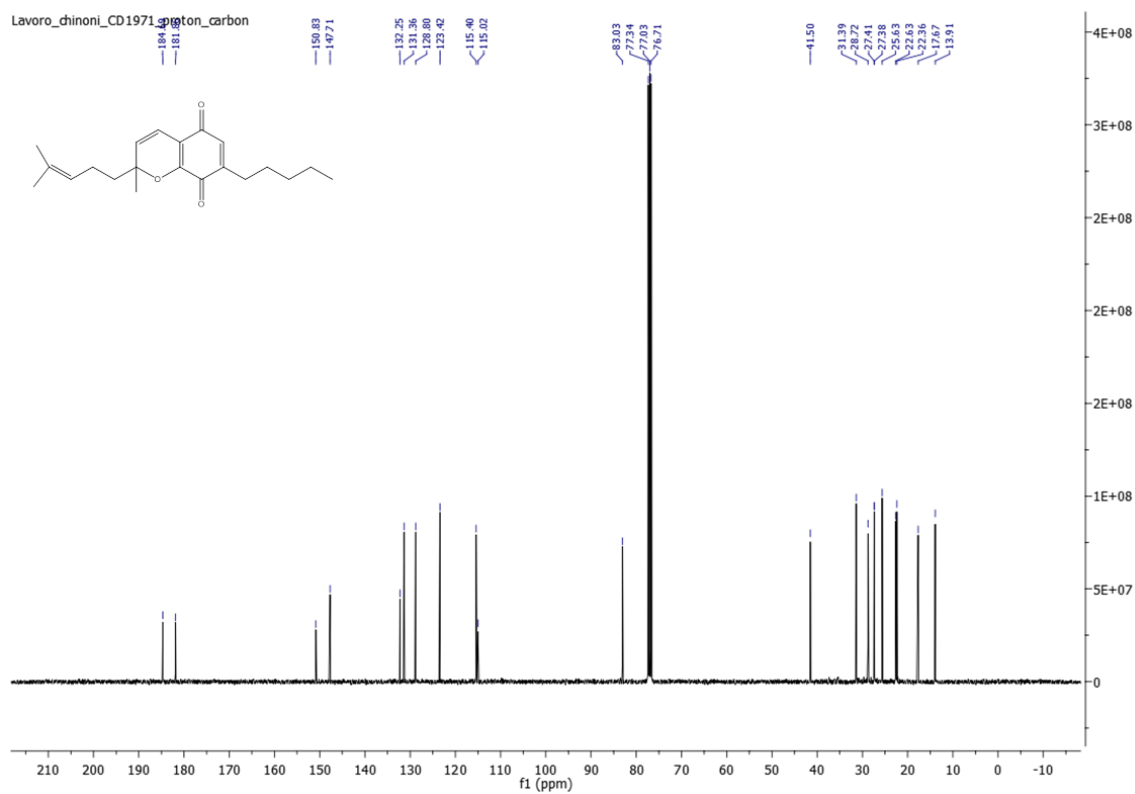


Figure S11.  $^{13}\text{C}$  NMR spectrum of compound **21** in  $\text{CDCl}_3$



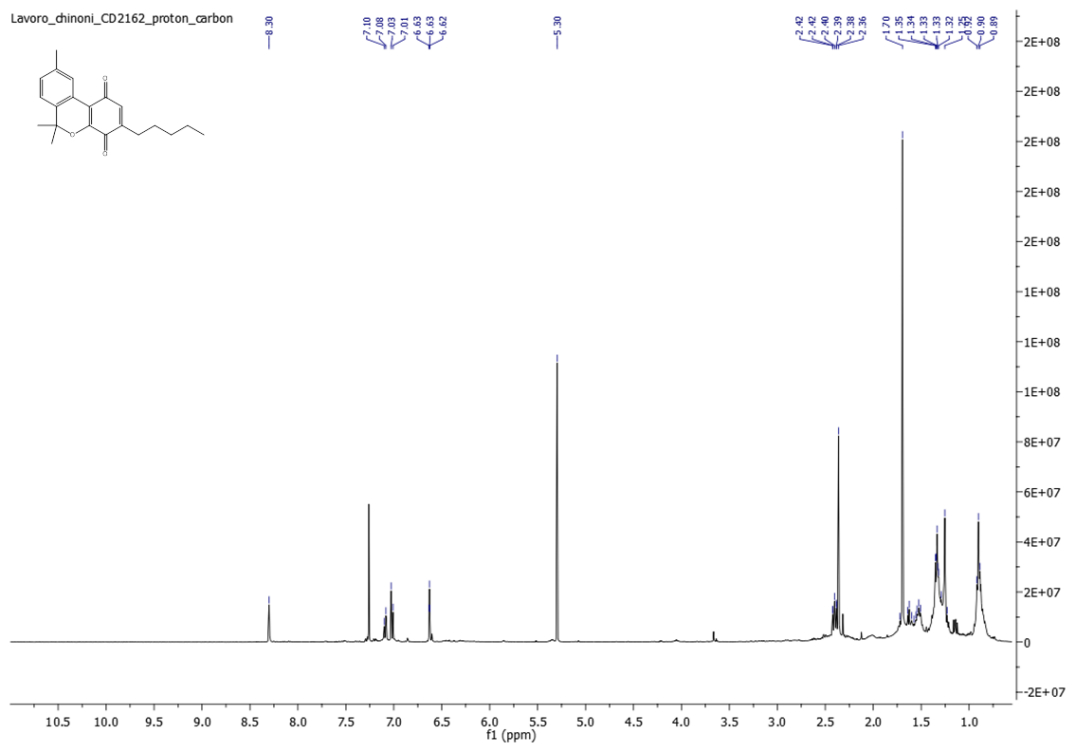


Figure S12.  $^1\text{H}$  NMR spectrum (400 MHz) of compound **22** in  $\text{CDCl}_3$

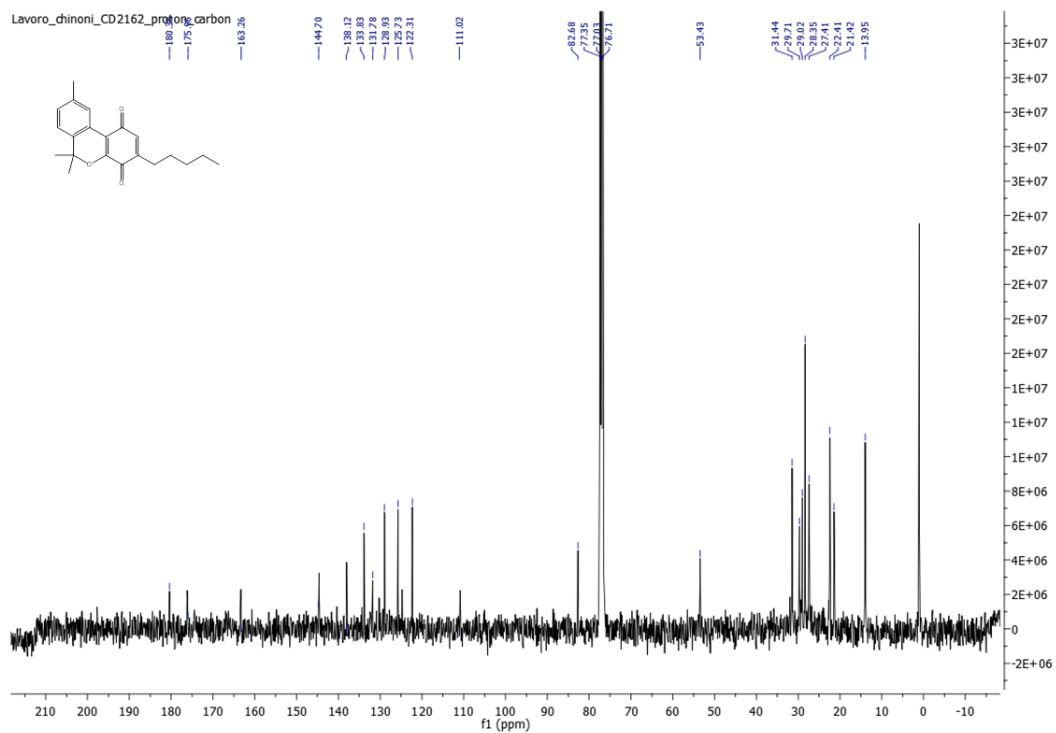


Figure S13.  $^{13}\text{C}$  NMR spectrum of compound **22**

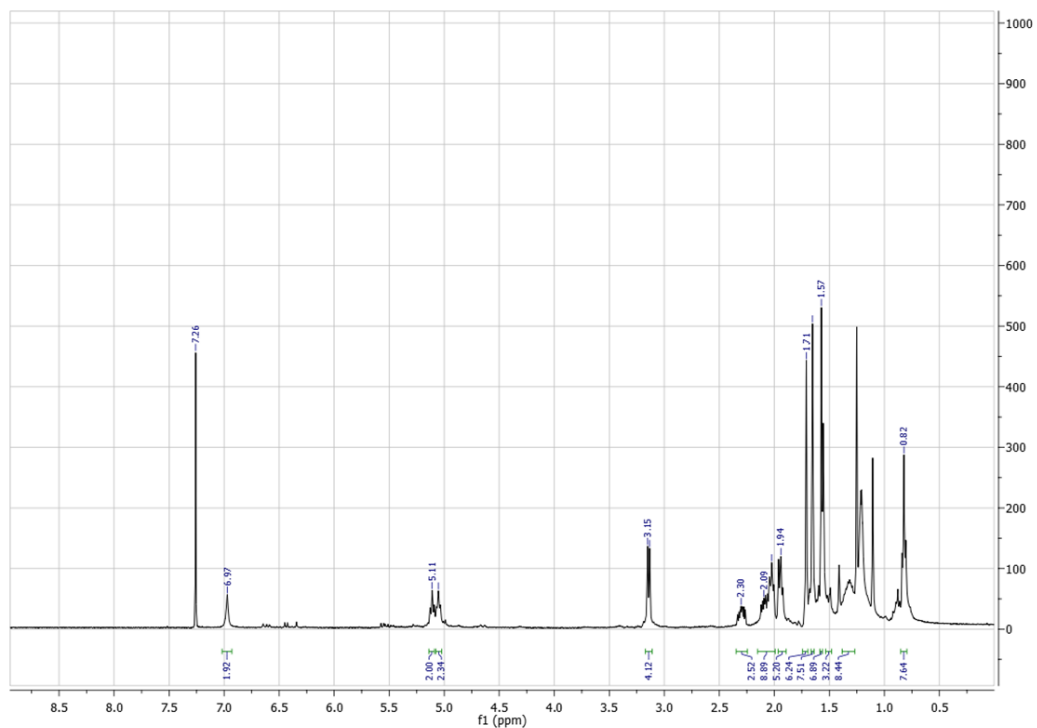


Figure S14.  $^1\text{H}$  NMR spectrum (400 MHz) of compound **23** in  $\text{CDCl}_3$

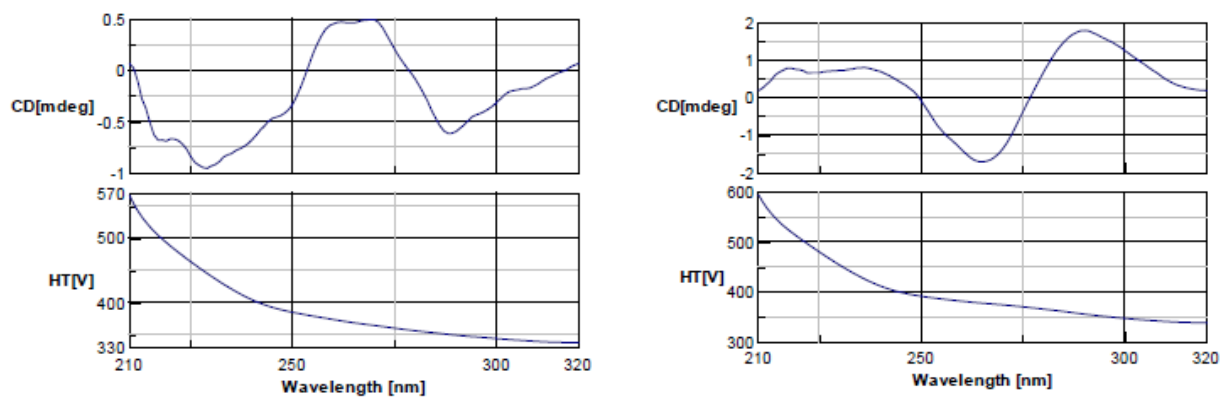


Figure S15. CD spectra of the two peaks obtained by chiral chromatography of compound **23**