

Supporting information

Phialomustin A-D, new antimicrobial and cytotoxic metabolites from an endophytic fungus, *Phialophora mustea*

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Table of Contents

Figure S1: Phylogenetic analysis by ITS1-5.8S-ITS2 ribosomal gene sequencing	5
Figure S2: ^1H NMR (CDCl_3 , 400 MHz) spectrum of Phialomustin A (1)	6
Figure S3: ^{13}C NMR (CDCl_3 , 125 MHz) spectrum of Phialomustin A (1)	7
Figure S4: DEPT-135 (CDCl_3 , 125 MHz) spectrum of Phialomustin A (1)	8
Figure S5: COSY spectrum of Phialomustin A (1)	9
Figure S6: HSQC spectrum of Phialomustin A (1)	10
Figure S7: HMBC spectrum of Phialomustin A (1)	11
Figure S8: NOESY spectrum of Phialomustin A (1)	12
Figure S9: HRESIMS spectroscopic data of Phialomustin A (1)	13
Figure S10: IR spectra of Phialomustin A (1)	14
Figure S11: CD spectra of Phialomustin A (1)	15
Figure S12: ^1H NMR (CDCl_3 , 400 MHz) spectrum of Phialomustin B (2)	16
Figure S13: ^{13}C NMR (CDCl_3 , 125 MHz) spectrum of Phialomustin B (2)	17
Figure S14: DEPT-135 (CDCl_3 , 125 MHz) spectrum of Phialomustin B (2)	18
Figure S15: HRESIMS spectroscopic data of Phialomustin B (2)	19
Figure S16: IR spectra of Phialomustin B (2)	20
Figure S17: ^1H NMR (CDCl_3 , 400 MHz) spectrum of Phialomustin C (3)	21

Figure S18: ^{13}C NMR (CDCl_3 , 125 MHz) spectrum of Phialomustin C (3)	22
Figure S19: DEPT-135 (CDCl_3 , 125 MHz) spectrum of Phialomustin C (3)	23
Figure S20: COSY spectrum of Phialomustin C (3)	24
Figure S21: HSQC spectrum of Phialomustin C (3)	25
Figure S22: HMBC spectrum of Phialomustin C (3)	26
Figure S23: NOESY spectrum of Phialomustin C (3)	27
Figure S24: HRESIMS spectroscopic data of Phialomustin C (3)	28
Figure S25: IR spectra of Phialomustin C (3)	29
Figure S26: CD spectra of Phialomustin C (3)	30
Figure S27: ^1H NMR (CDCl_3 , 400 MHz) spectrum of Phialomustin D (4)	31
Figure S28: ^{13}C NMR (CDCl_3 , 125 MHz) spectrum of Phialomustin D (4)	32
Figure S29: DEPT-135 (CDCl_3 , 125MHz) spectrum of Phialomustin D (4)	33
S30: COSY spectrum of Phialomustin D (4)	34
Figure S31: HSQC spectrum of Phialomustin D (4)	35
Figure S32: HMBC spectrum of Phialomustin D (4)	36
Figure S33: NOESY spectrum of Phialomustin D (4)	37
Figure S34: HRESIMS spectroscopic data of Phialomustin D (4)	38

Figure S35: IR spectra of Phialomustin D (**4**) 39

Figure S36: CD spectra of Phialomustin D (**4**) 40

Figure S1: Phylogenetic analysis by ITS1-5.8S-ITS2 ribosomal gene sequencing

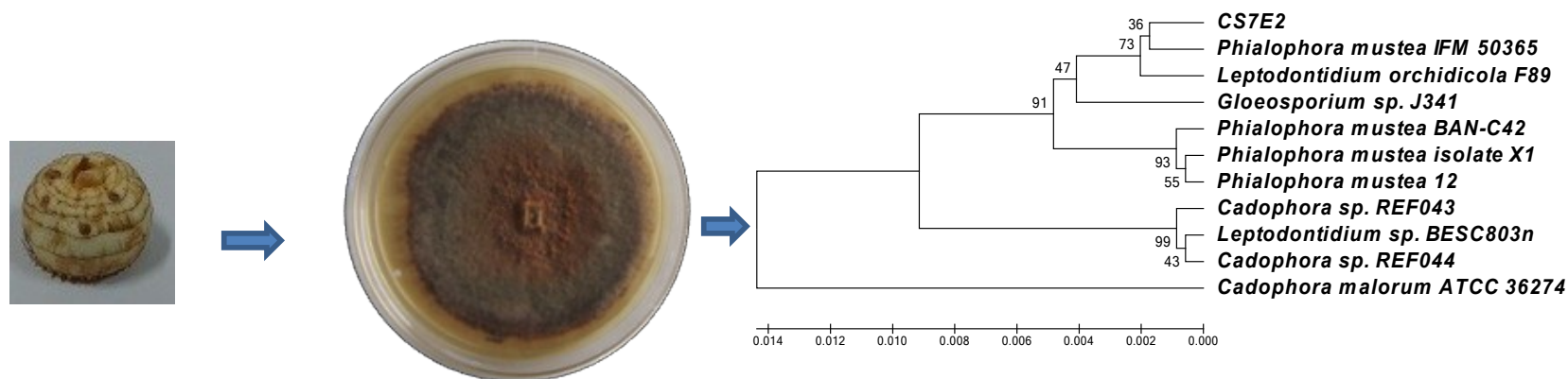


Fig. A fungal endophyte, CS7E2 was isolated from a corm of *Crocus sativus*. Phylogenetic position of CS7E2 was established, as *Phialophora mustea*, by the acquisition of the DNA sequence of its ITS region. The evolutionary history was inferred using the UPGMA method¹. Phylogenetic analyses were conducted in MEGA4².

- (1) Sneath, P. H. A.; Sokal, R. R. *Numerical Taxonomy Freeman*, San Francisco 1973.
- (2) Tamura K, Dudley J, Nei M & Kumar S (2007) *Mol. Biol. Evol.* **2007**, **24**, 1596-1599.

Figure S2: ^1H NMR (CDCl_3 , 400 MHz) spectrum of Phialomustin A (**1**)

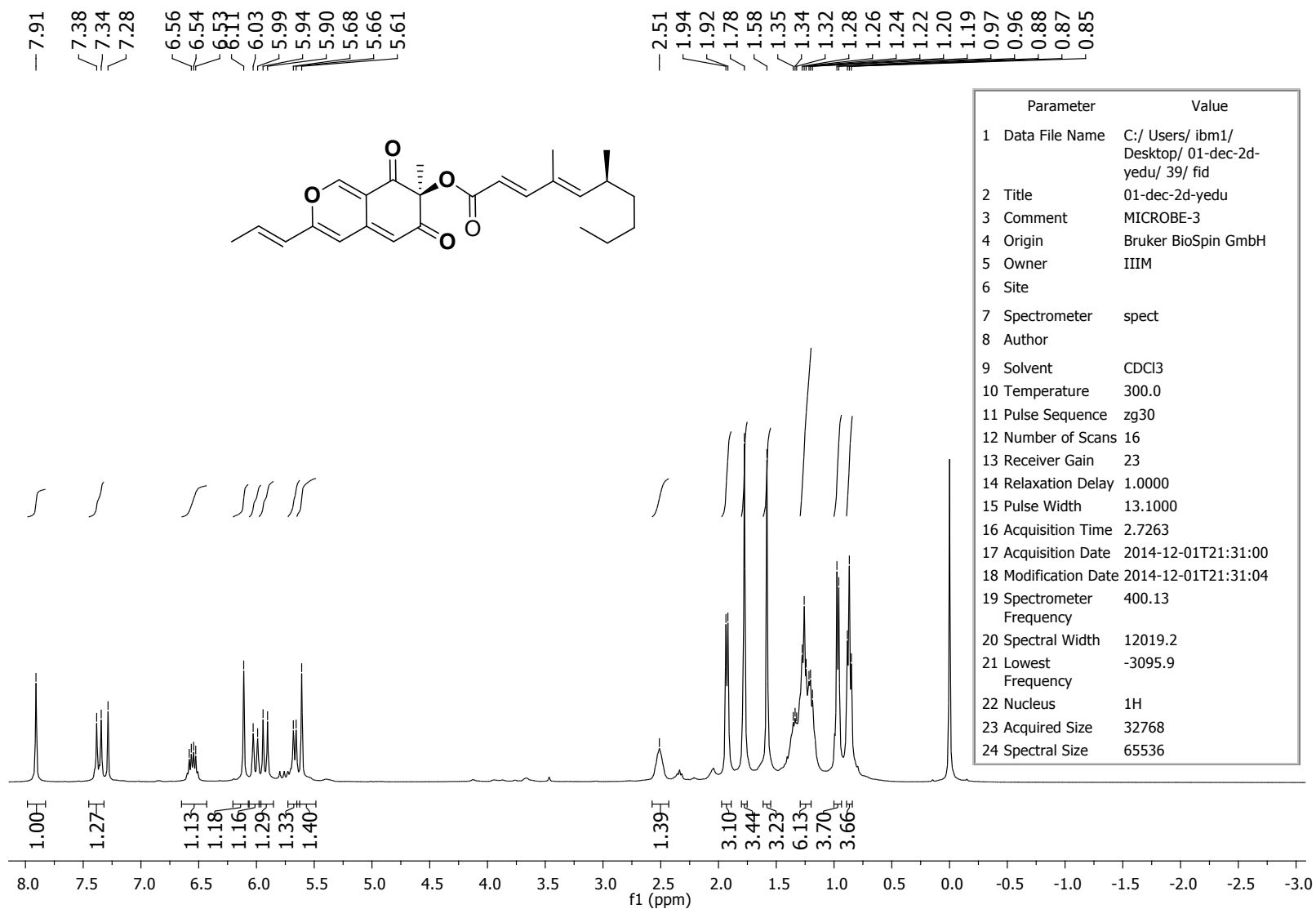


Figure S3: ^{13}C NMR (CDCl_3 , 100 MHz) spectrum of Phialomustin A (**1**)

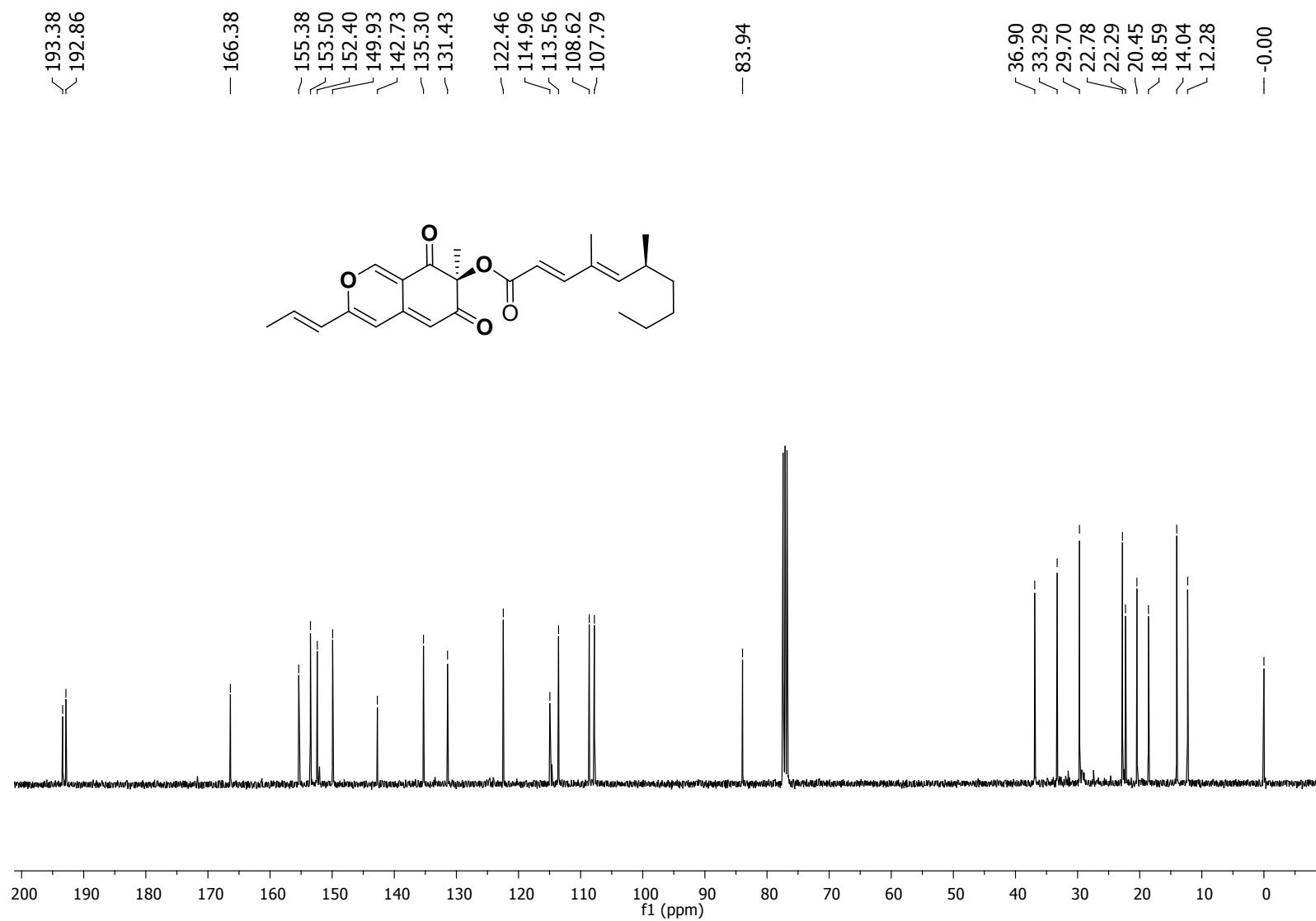


Figure S4: DEPT-135 (CDCl₃, 100 MHz) spectrum of Phialomustin A (**1**)

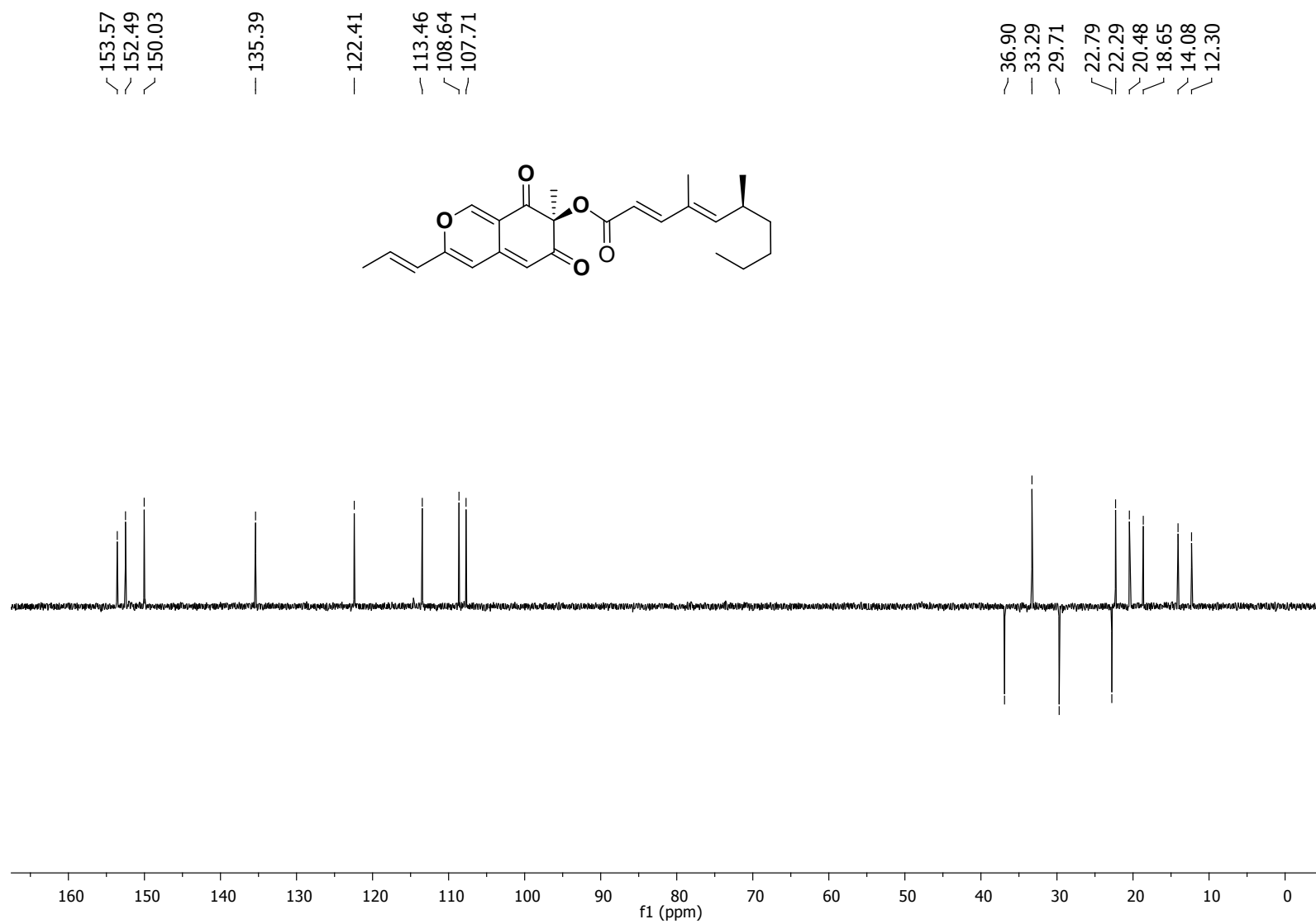


Figure S5: COSY spectrum of Phialomustin A (**1**)

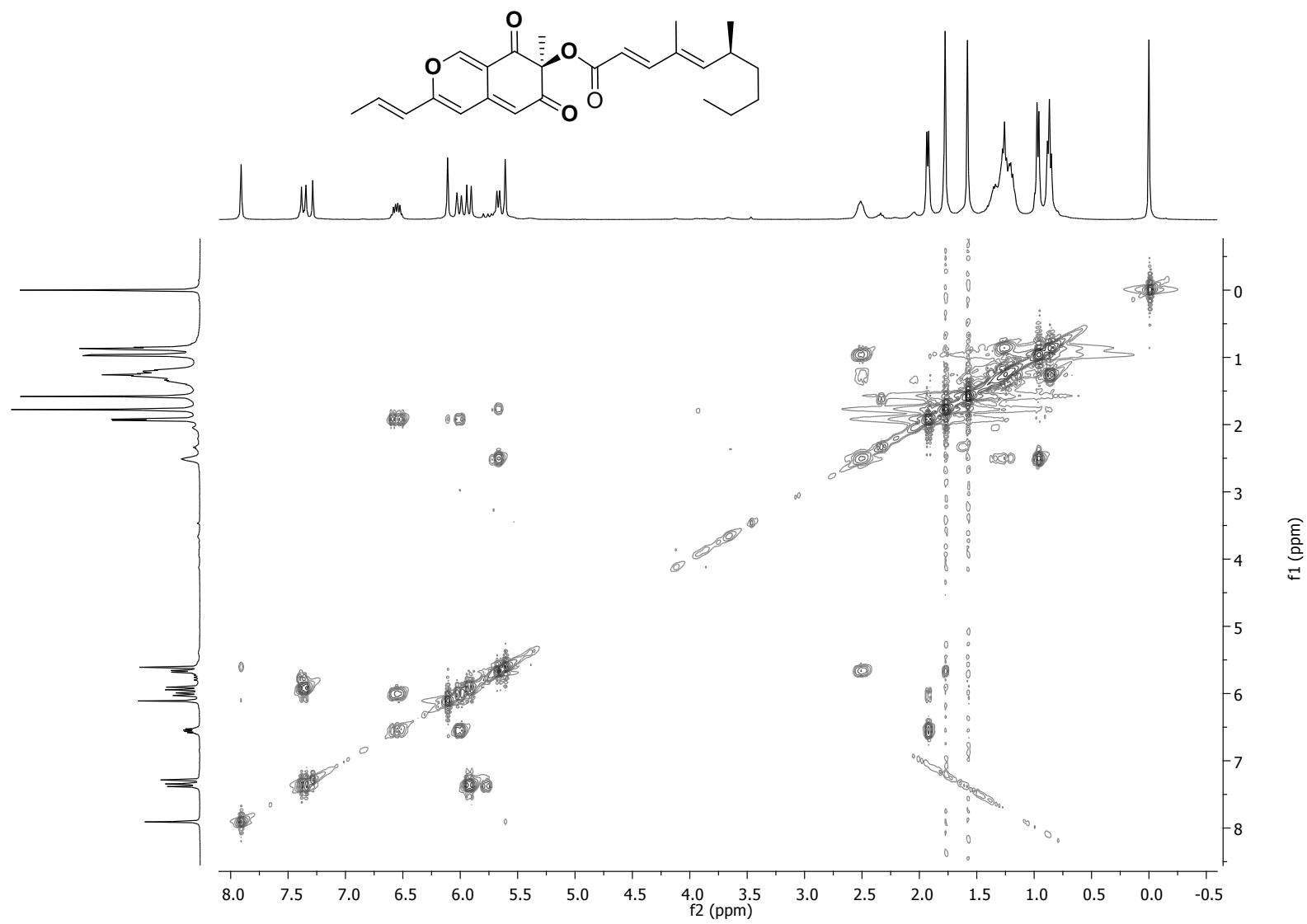


Figure S6: HSQC spectrum of Phialomustin A (**1**)

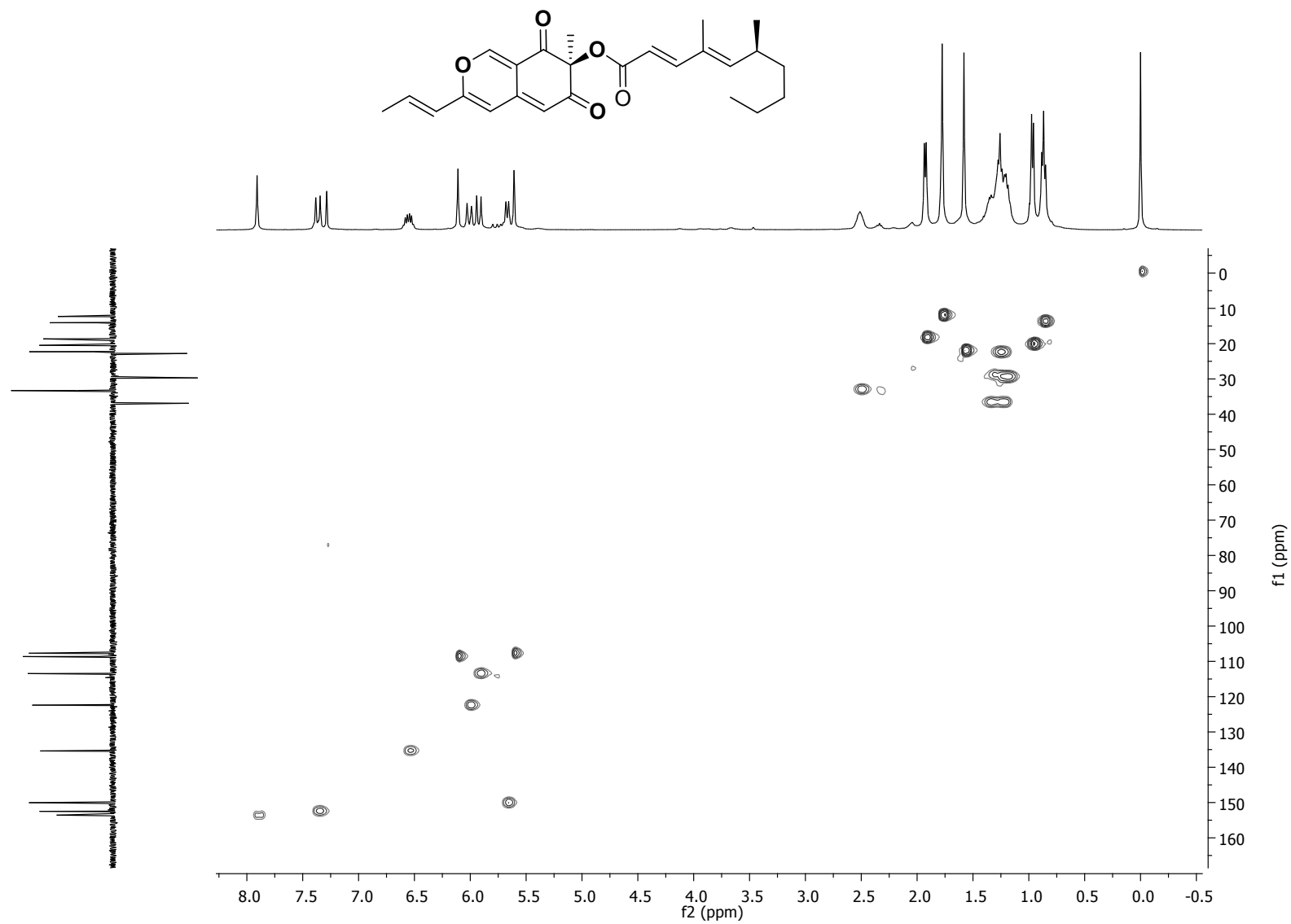


Figure S7: HMBC spectrum of Phialomustin A (**1**)

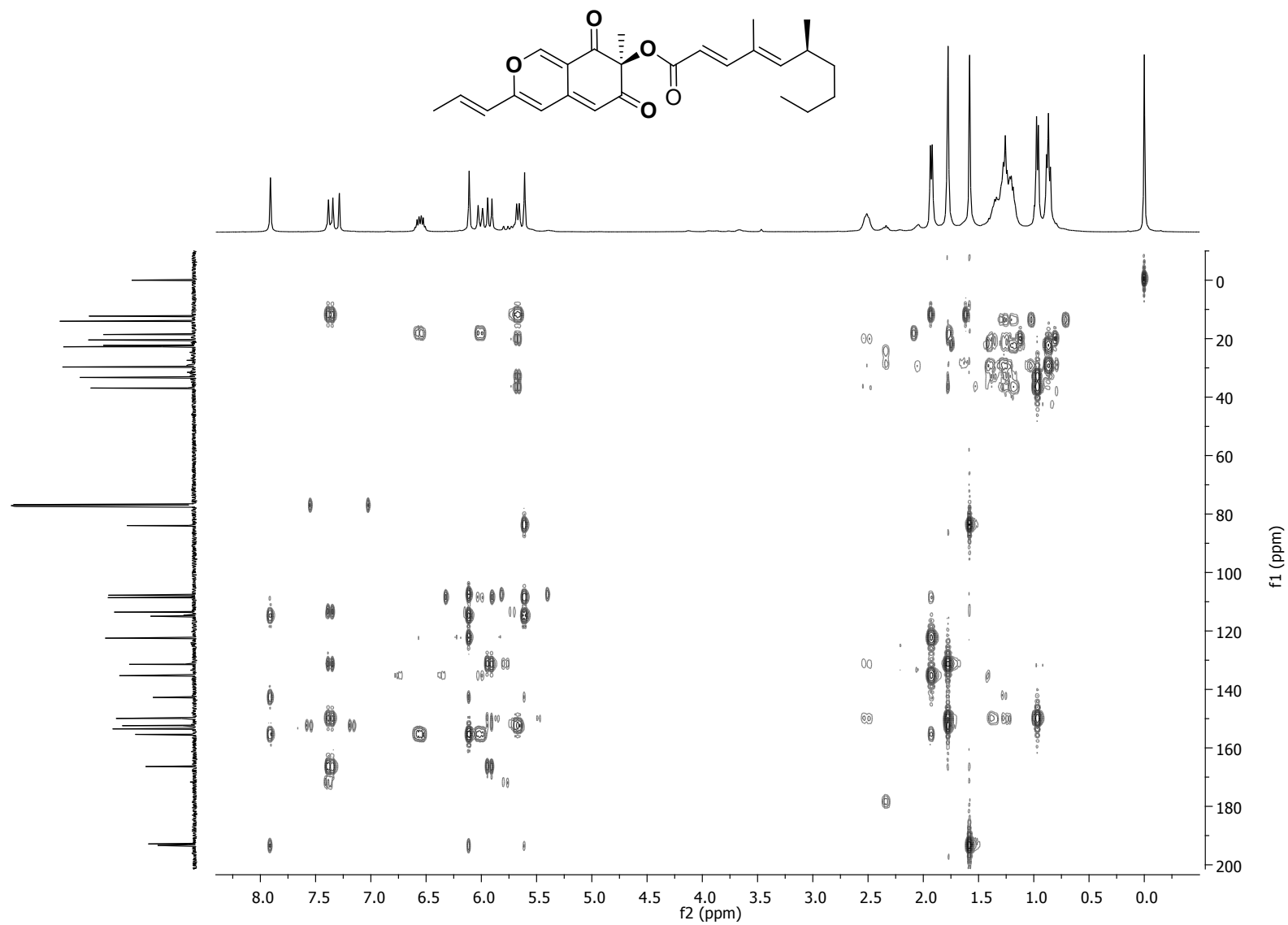


Figure S8: NOESY spectrum of Phialomustin A (**1**)

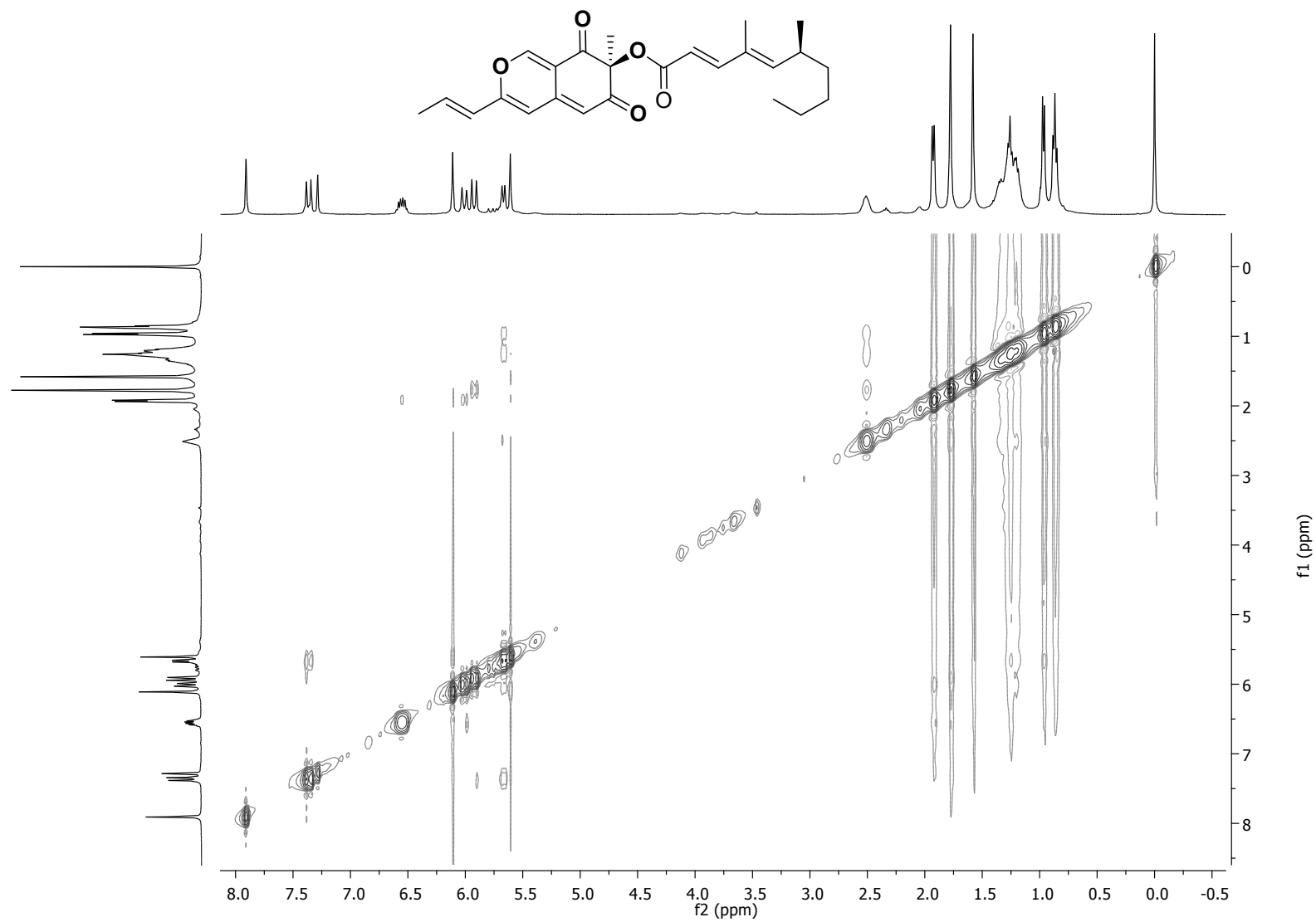


Figure S9: HRESIMS spectroscopic data of Phialomustin A (1)

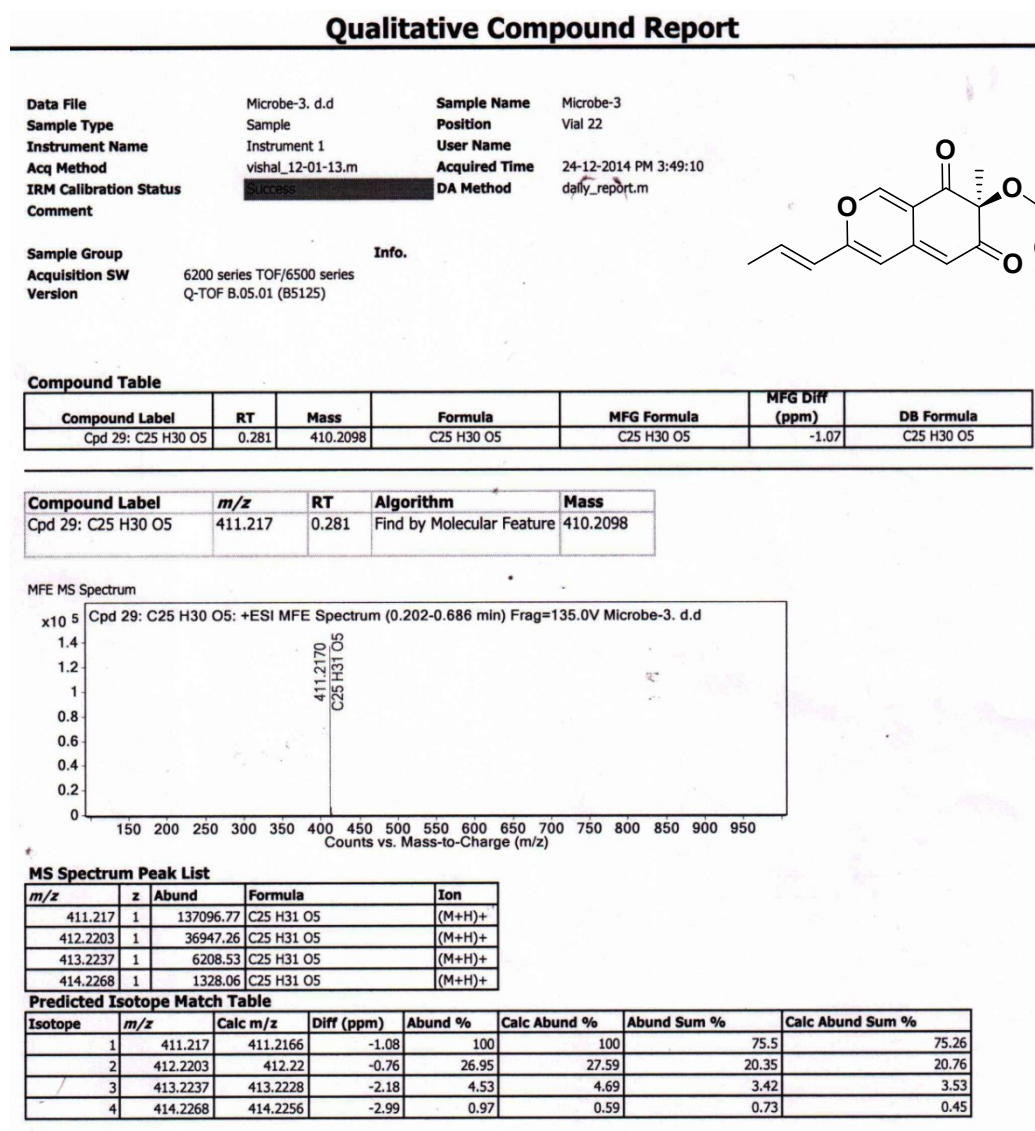


Figure S10: IR spectra of Phialomustin A (1)

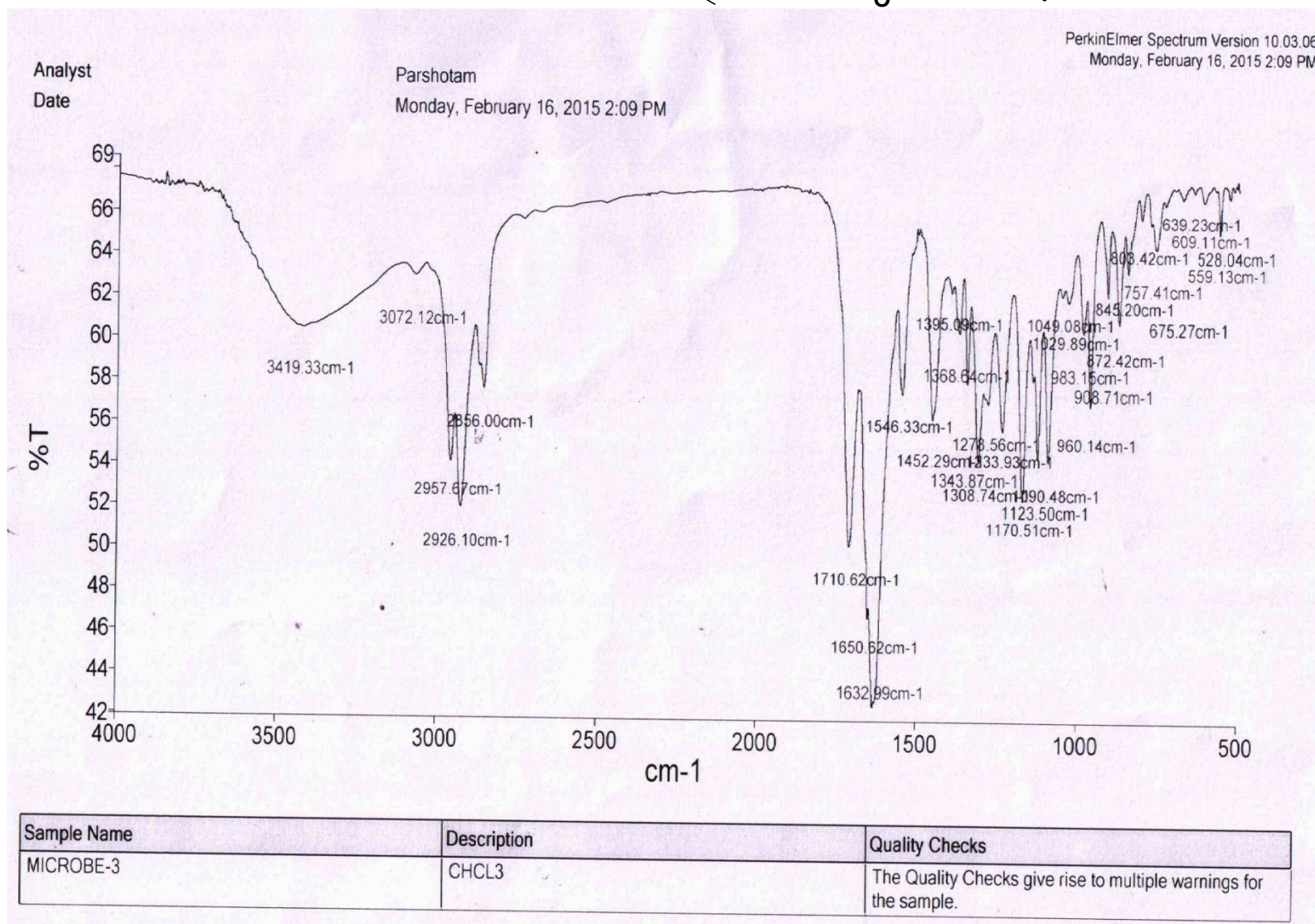
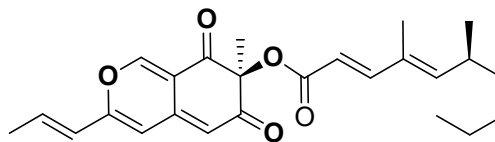


Figure S11: CD spectra of Phialomustin A (**1**)

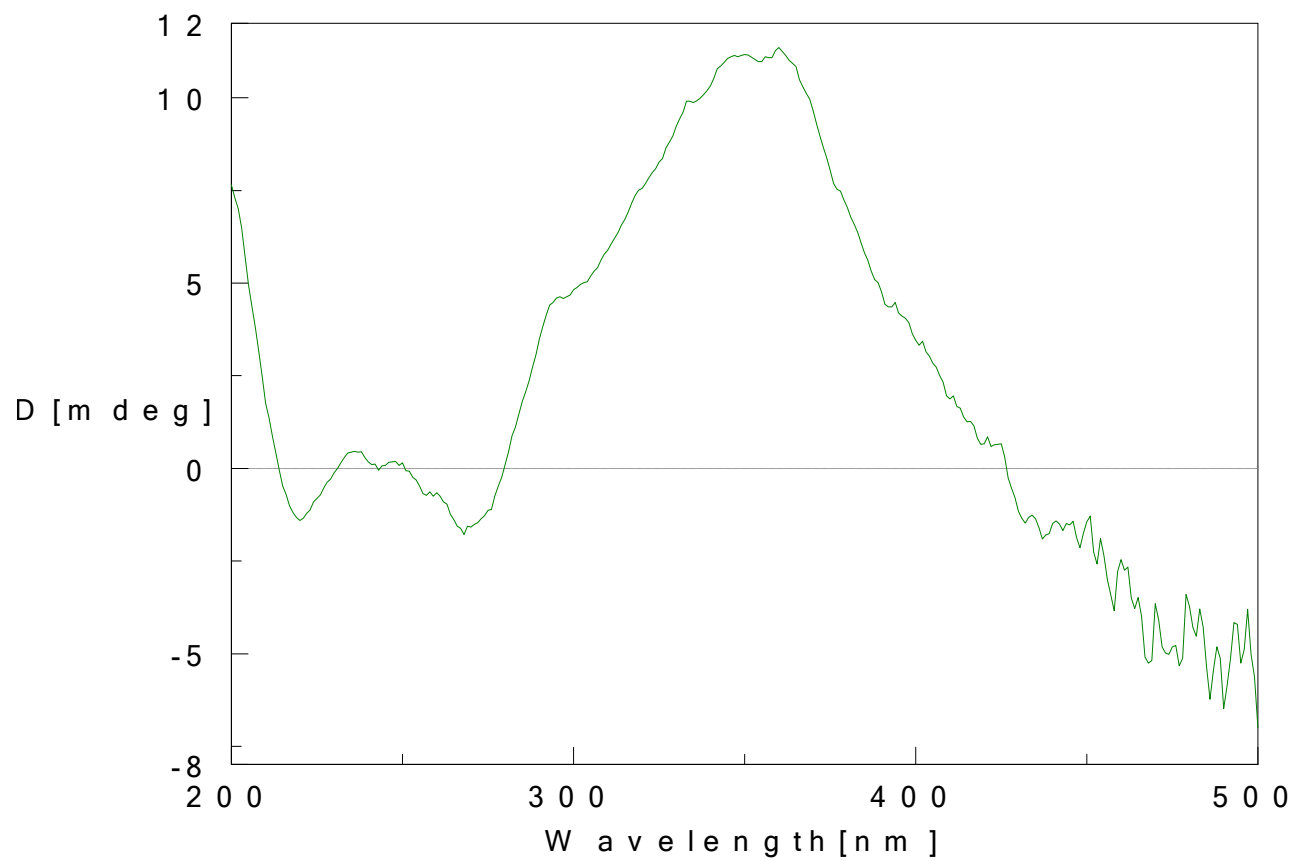
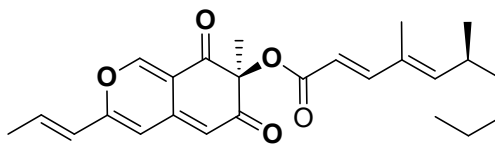


Figure S12: ¹H NMR (CDCl₃, 400 MHz) spectrum of Phialomustin B (**2**)

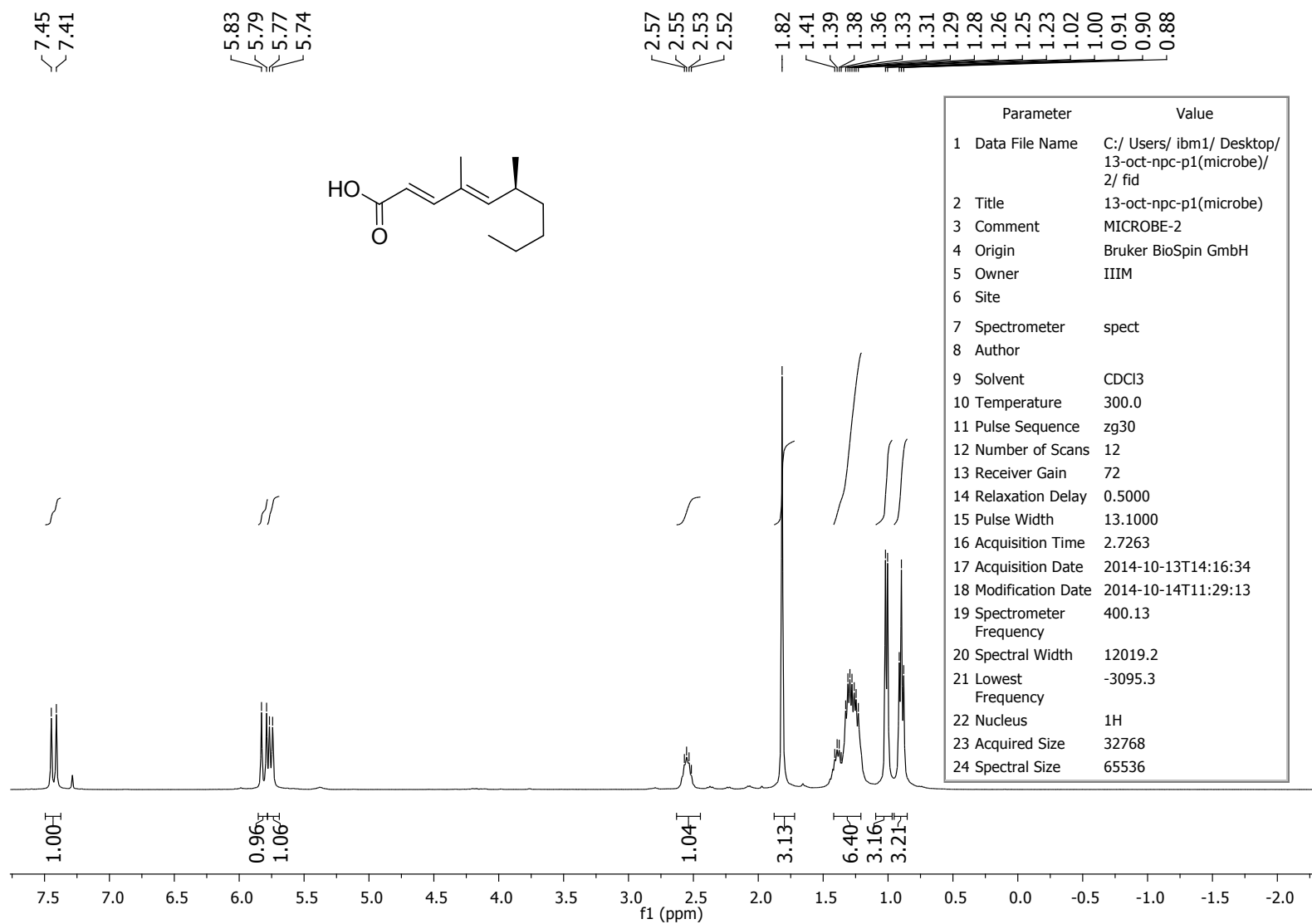


Figure S13: ^{13}C NMR (CDCl_3 , 125 MHz) spectrum of Phialomustin B (**2**)

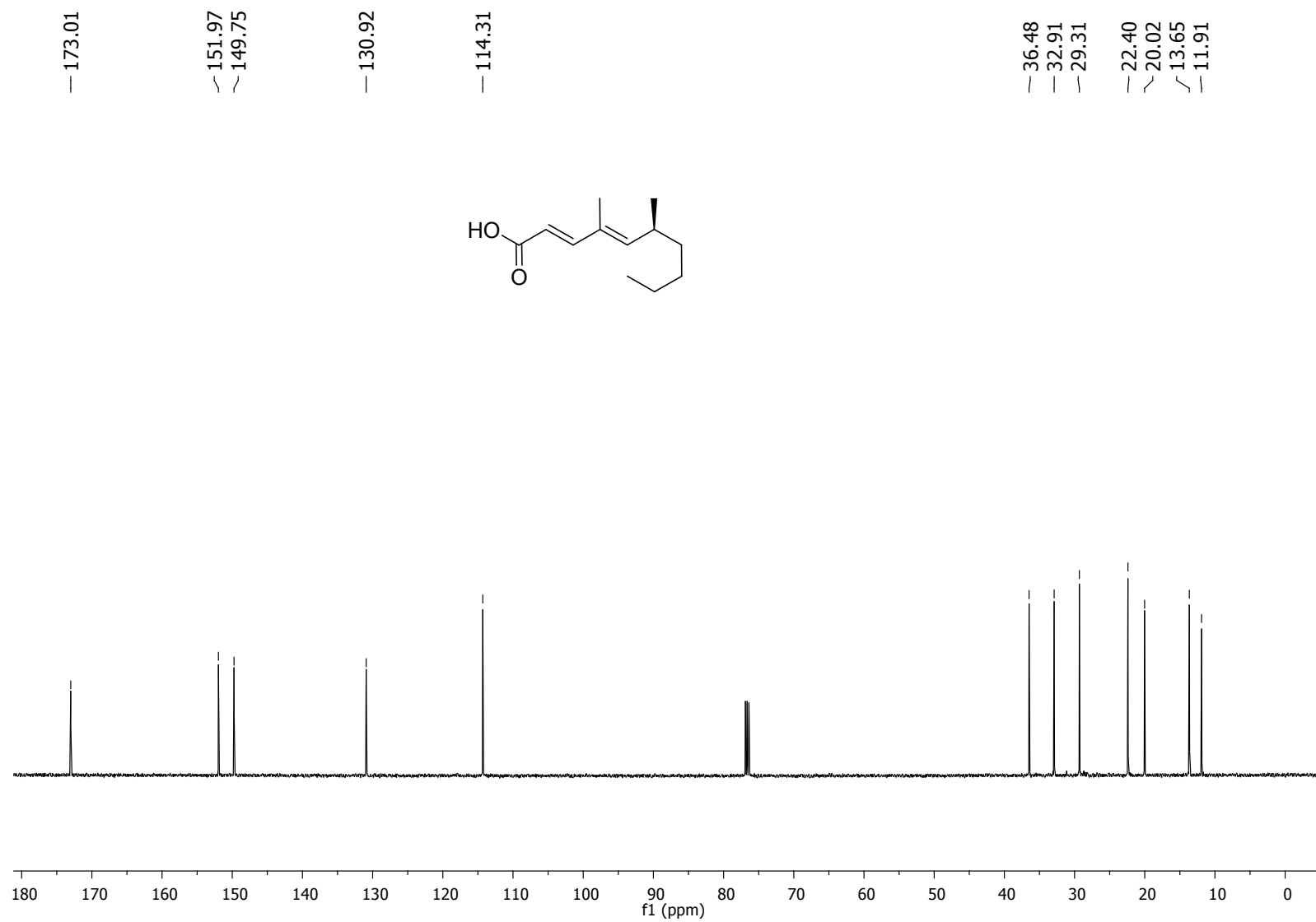


Figure S14: DEPT-135 (CDCl_3 , 125 MHz) spectrum of Phialomustin B (**2**)



Figure S15: HRESIMS spectroscopic data of Phialomustin B (2)

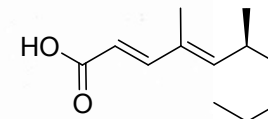
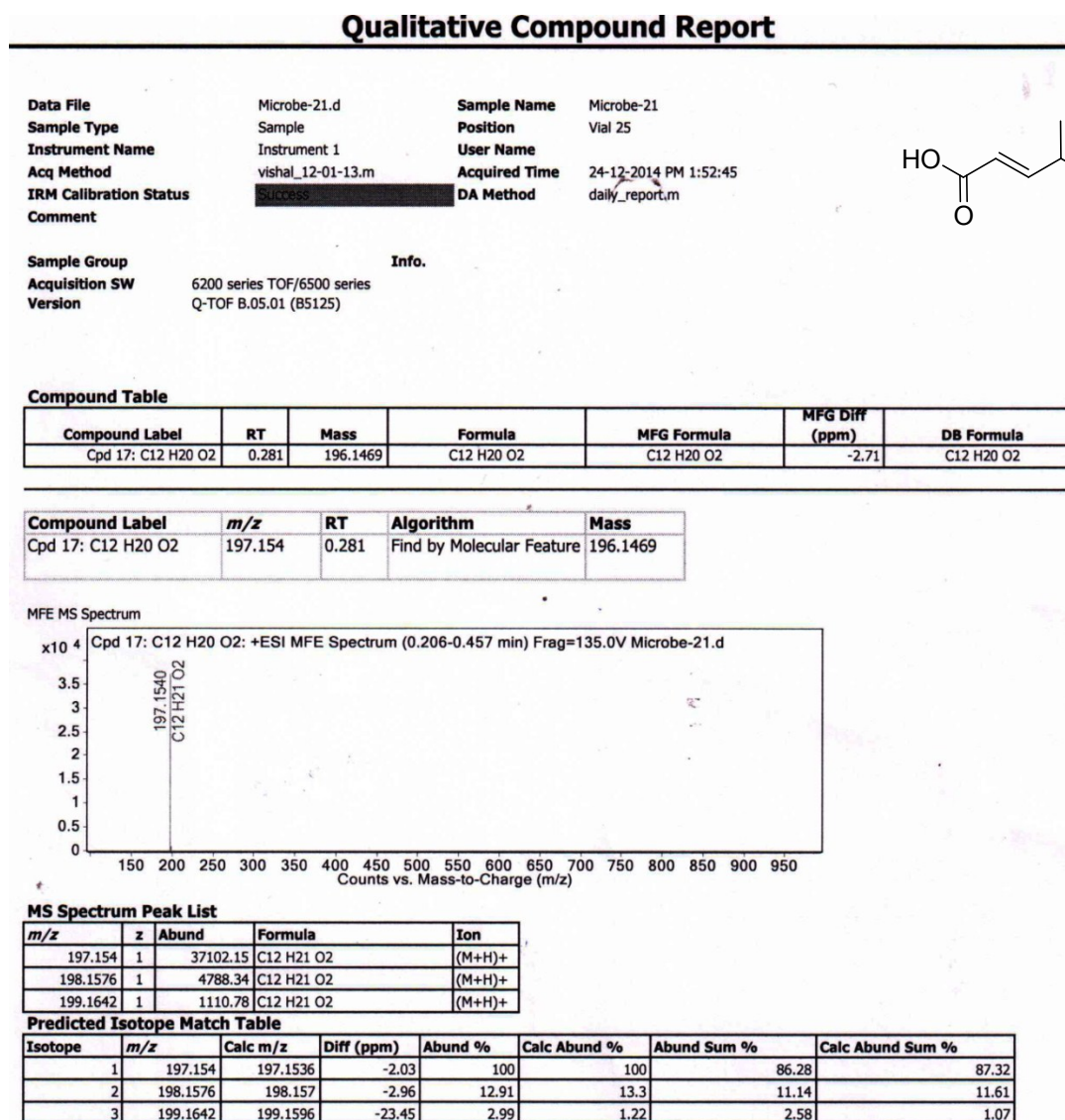


Figure S16: IR of Phialomustin B (2)

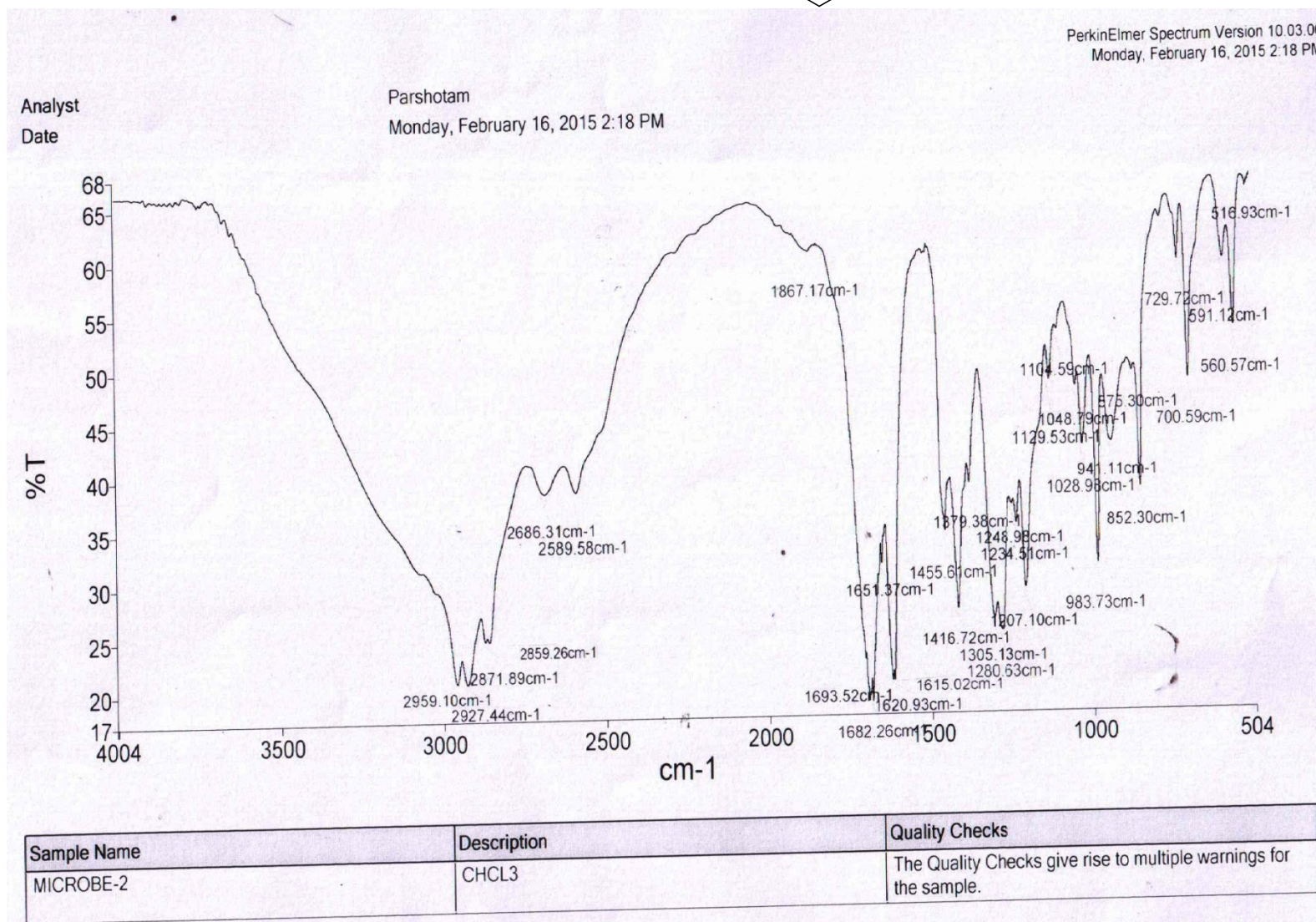
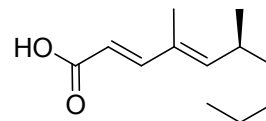


Figure S17: ^1H NMR (CDCl_3 , 400 MHz) spectrum of Phialomustin C (**3**)

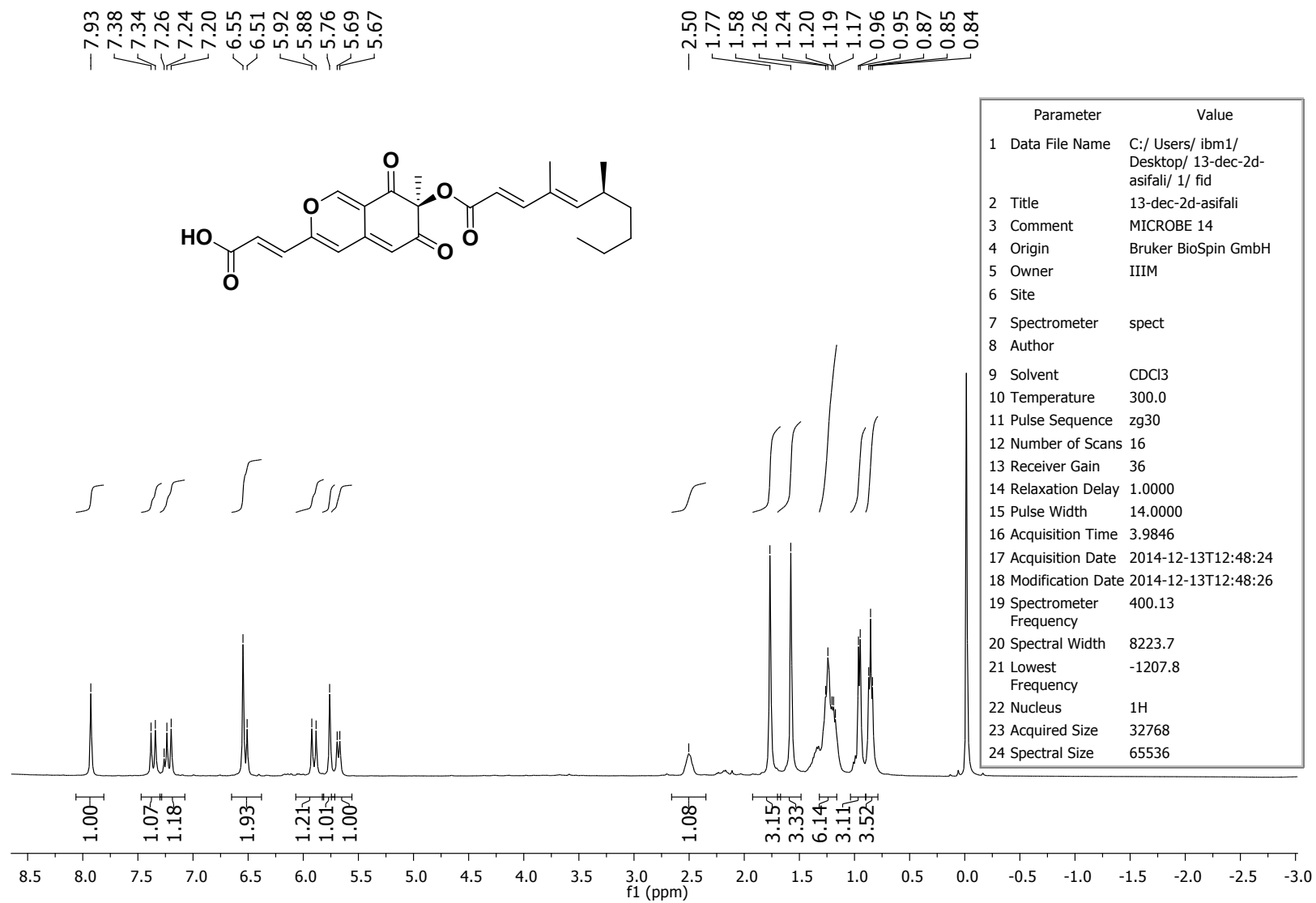


Figure S18: ^{13}C NMR (CDCl_3 , 125 MHz) spectrum of Phialomustin C (**3**)

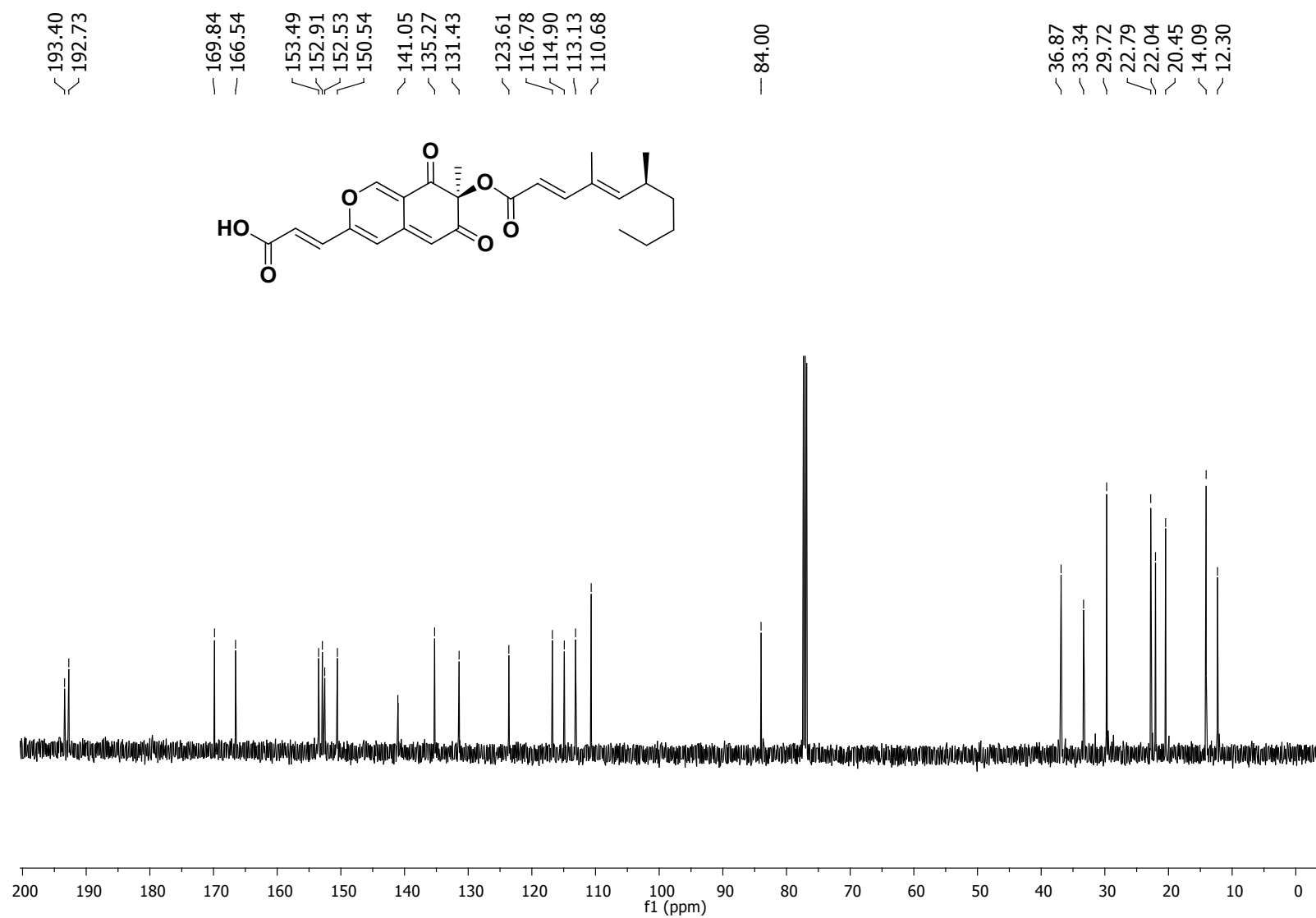


Figure S19: DEPT-135 (CDCl_3 , 125MHz) spectrum of Phialomustin C (**3**)

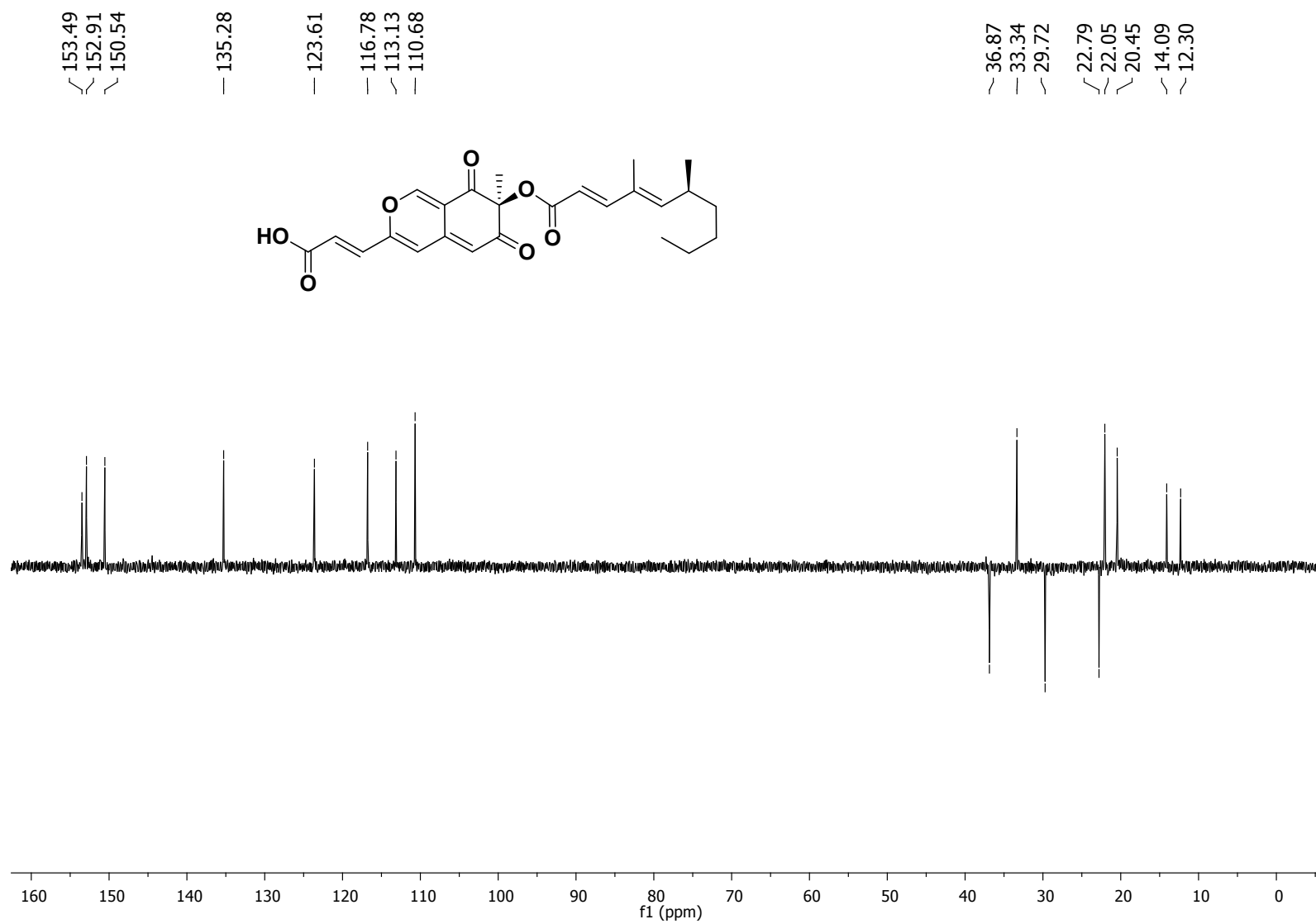


Figure S20: COSY spectrum of Phialomustin C (**3**)

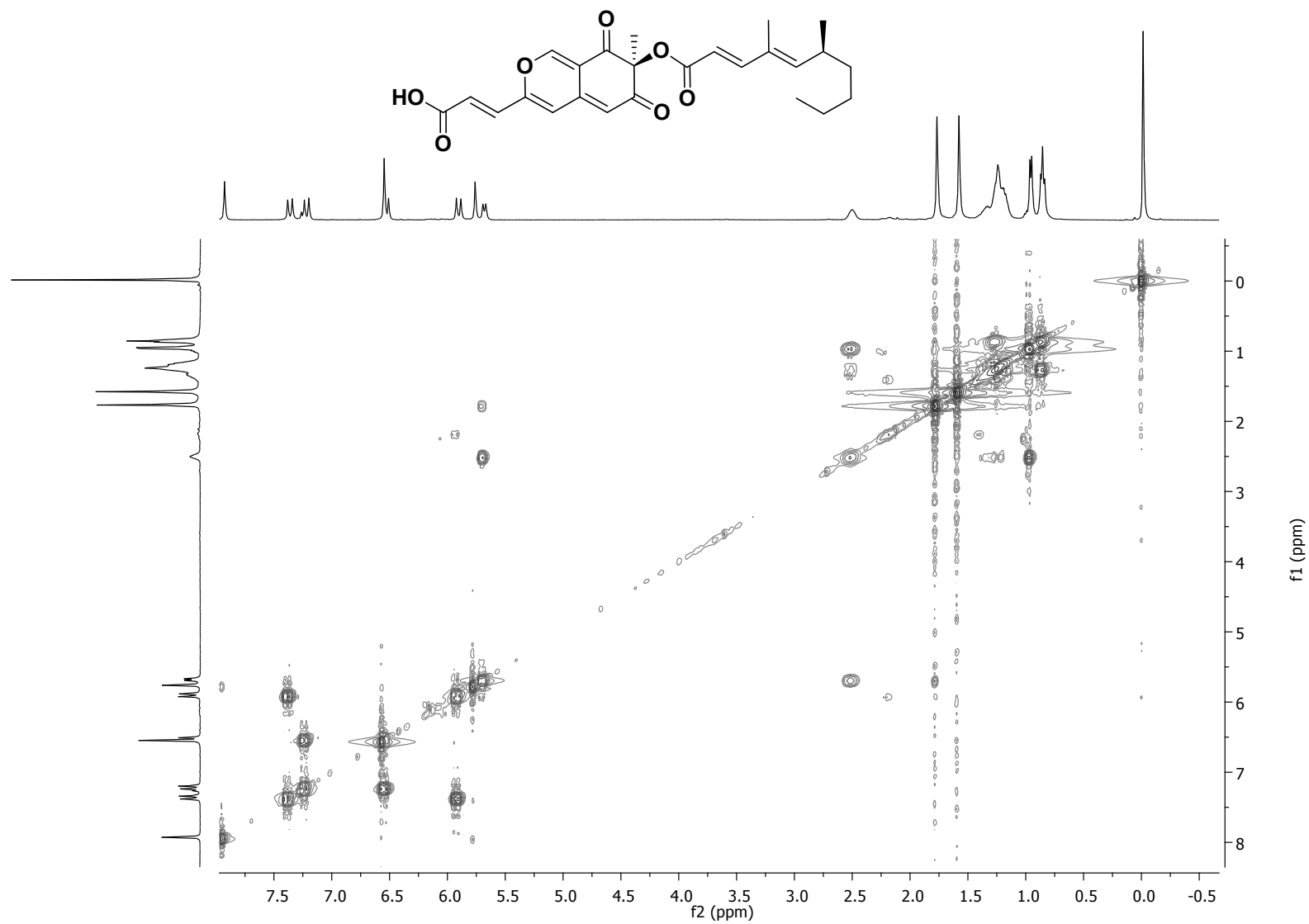


Figure S21: HSQC spectrum of Phialomustin C (**3**)

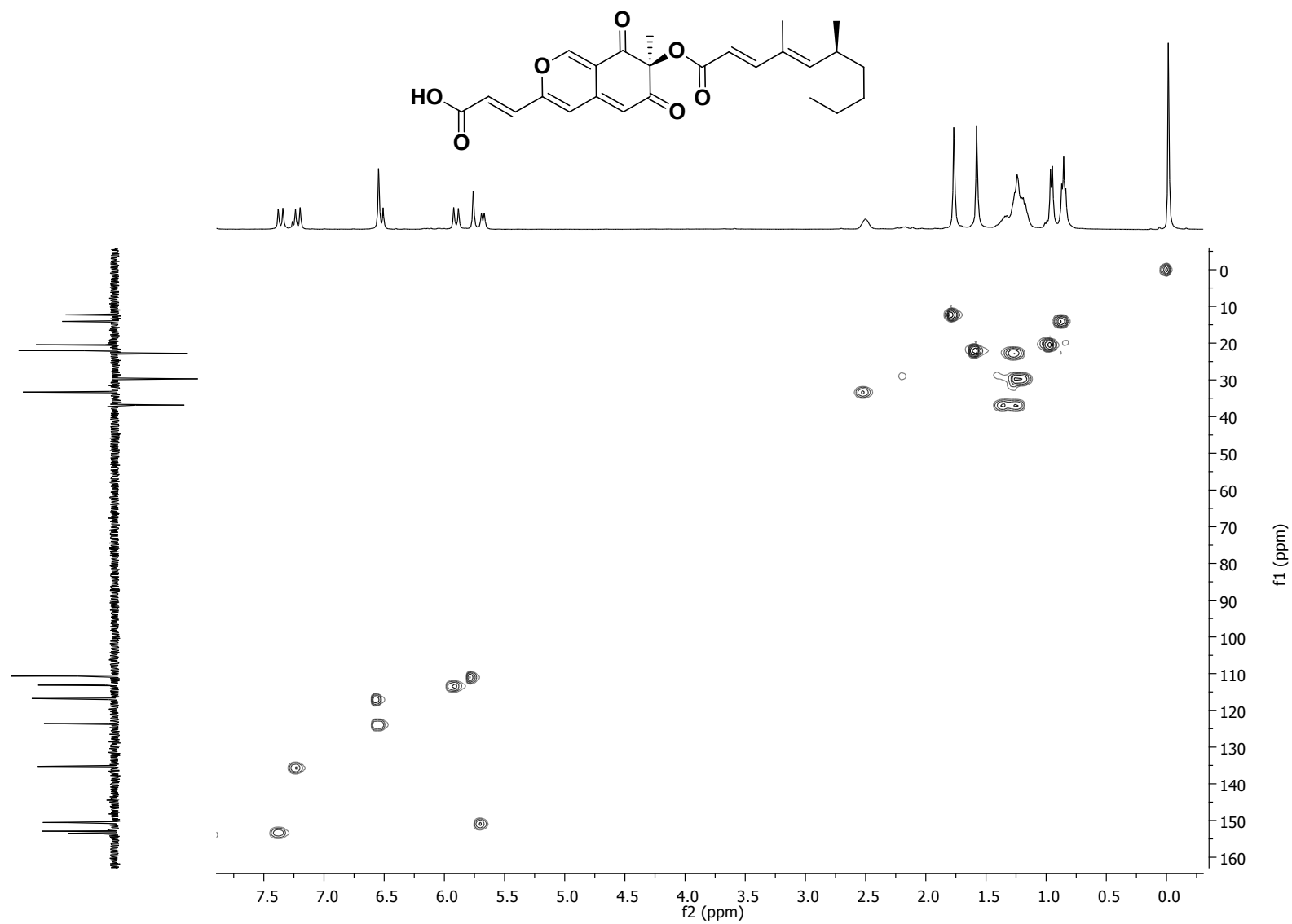


Figure S22: HMBC spectrum of Phialomustin C (**3**)

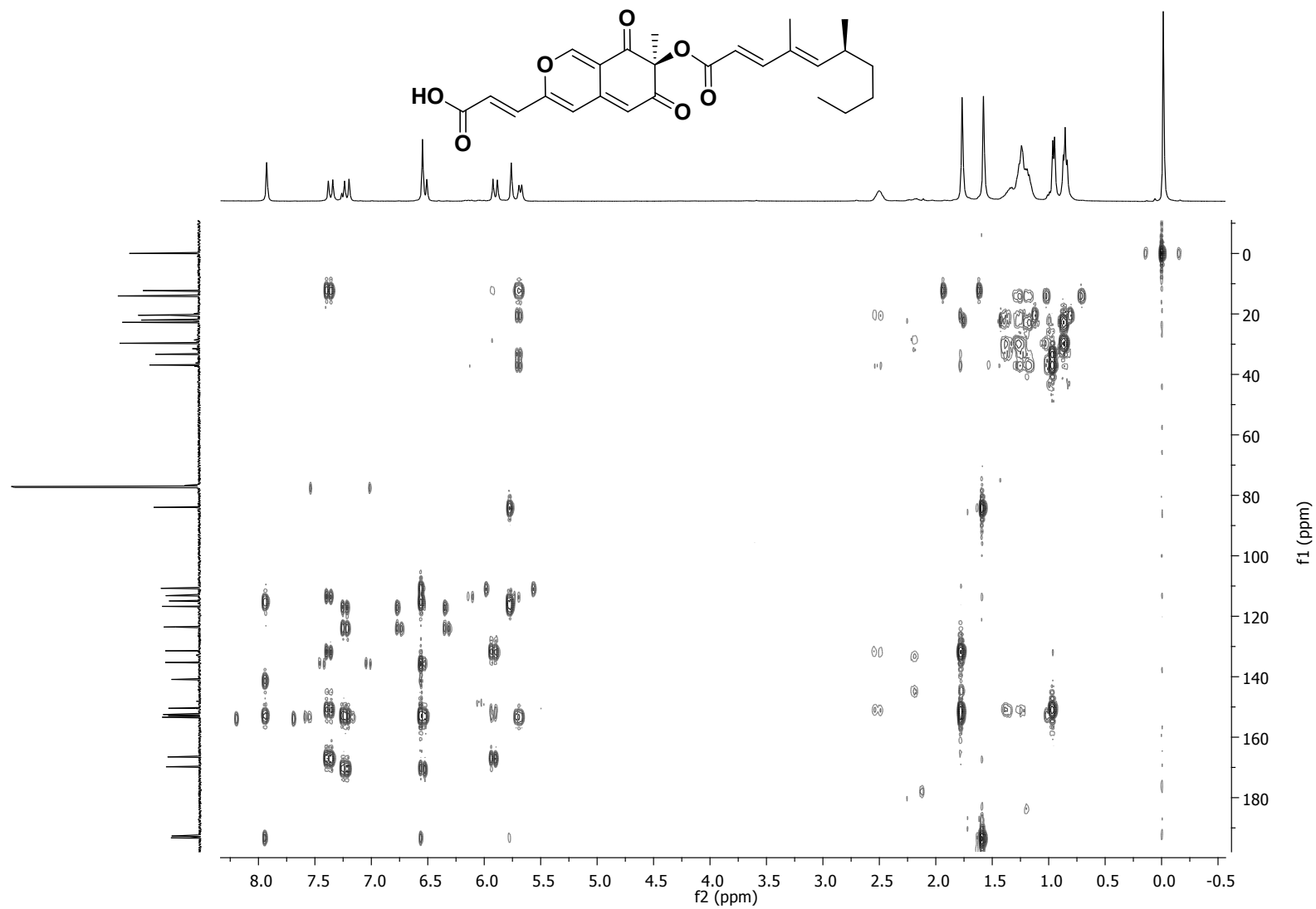


Figure S23: NOESY spectrum of Phialomustin C (**3**)

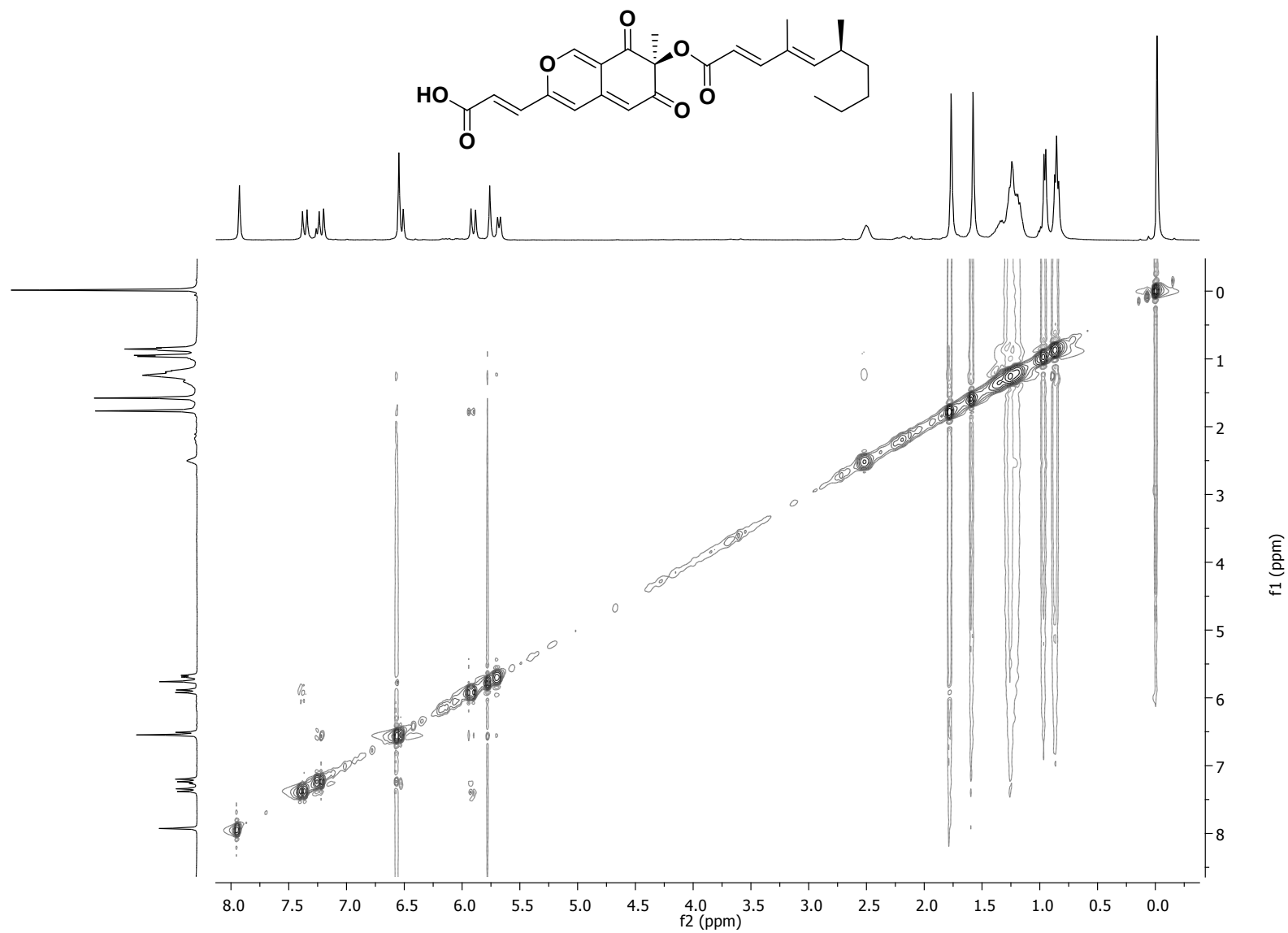


Figure S24: HRESIMS spectroscopic data of Phialomustin C (3)

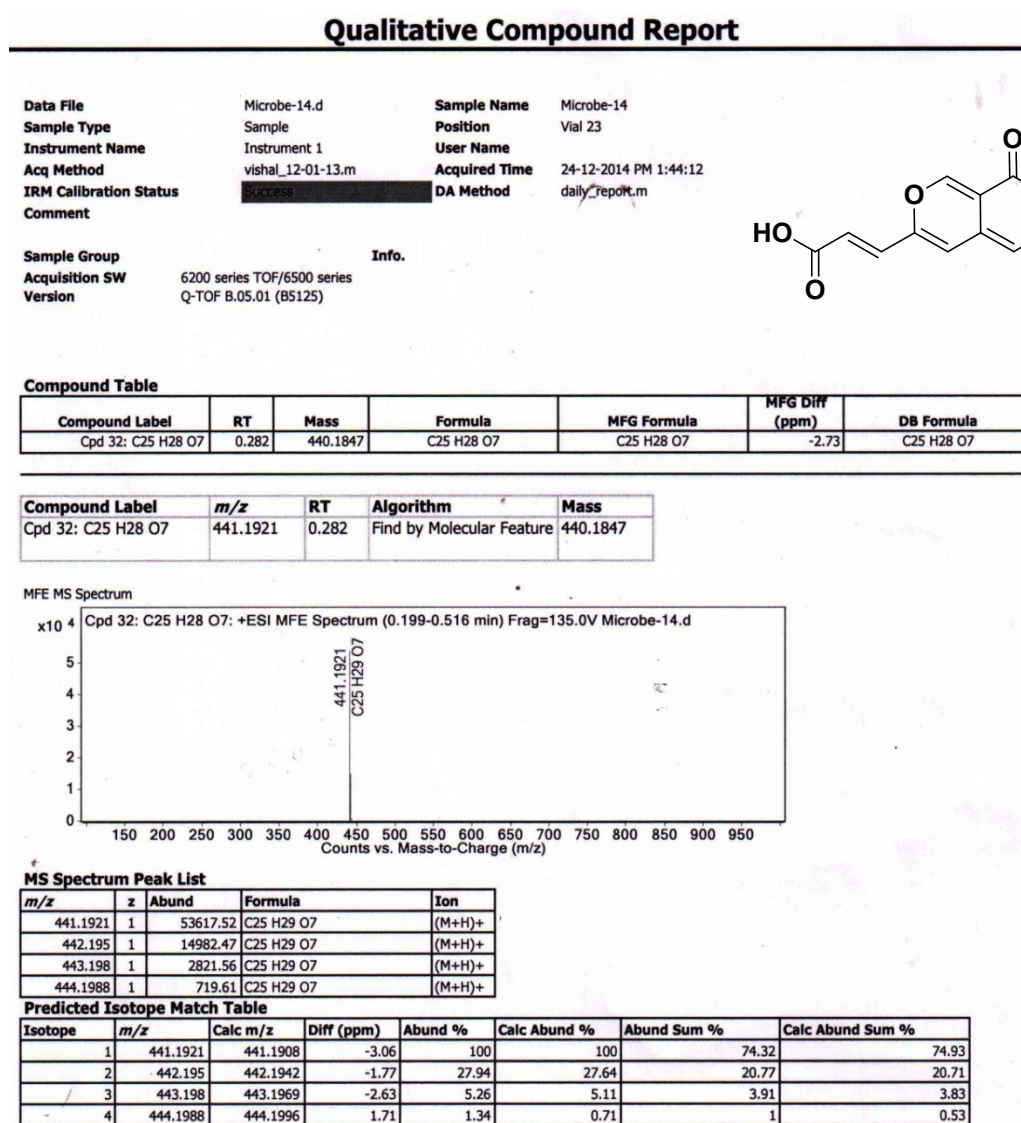


Figure S25: IR of Phialomustin C (3)

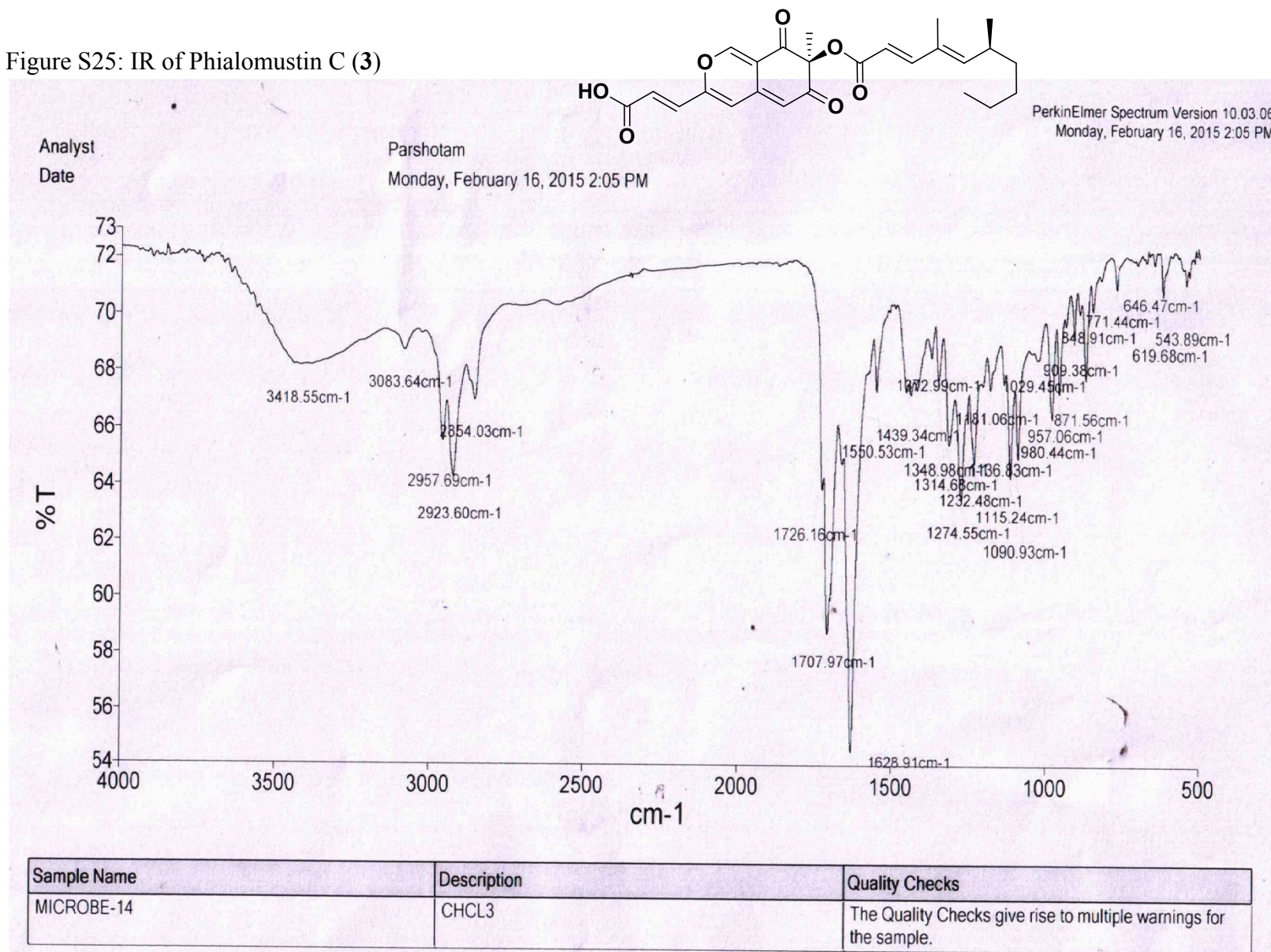


Figure S26: CD of Phialomustin C (3)

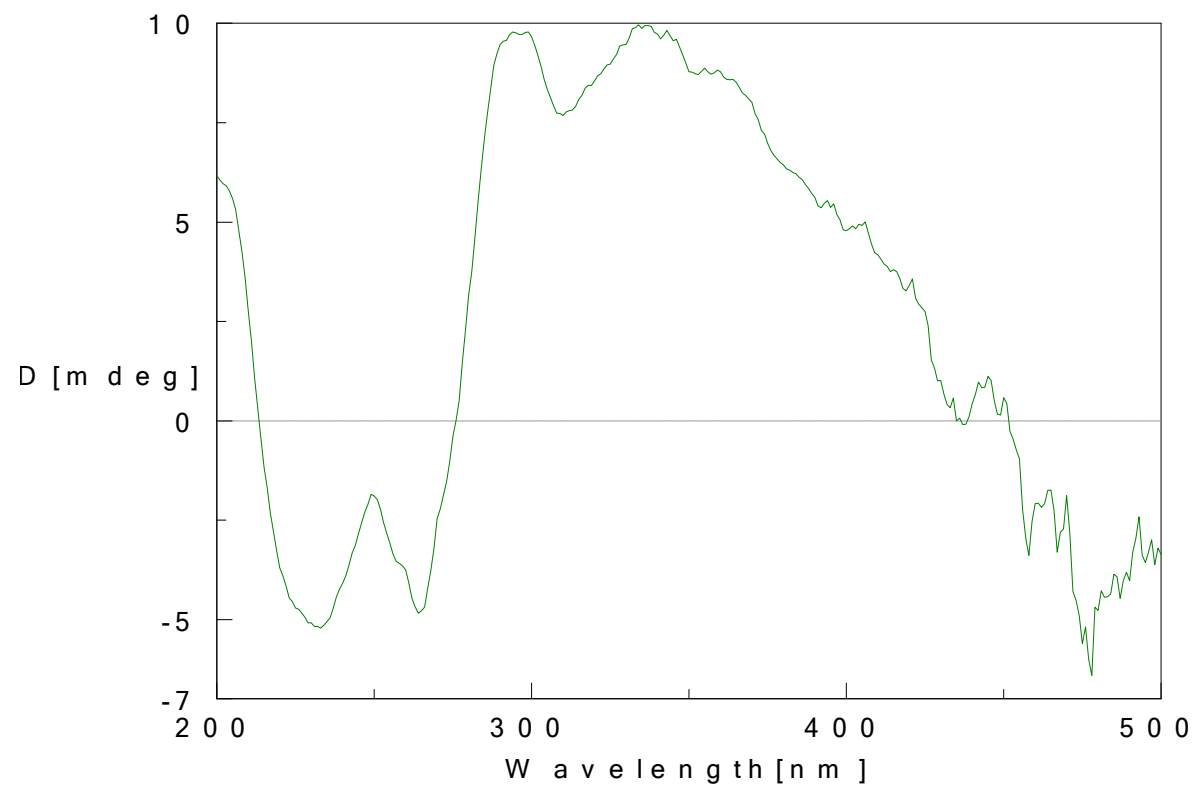
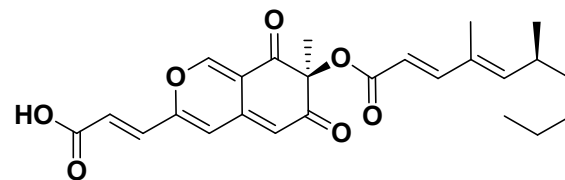


Figure S27: ^1H NMR (CDCl_3 , 400 MHz) spectrum of Phialomustin D (**4**)

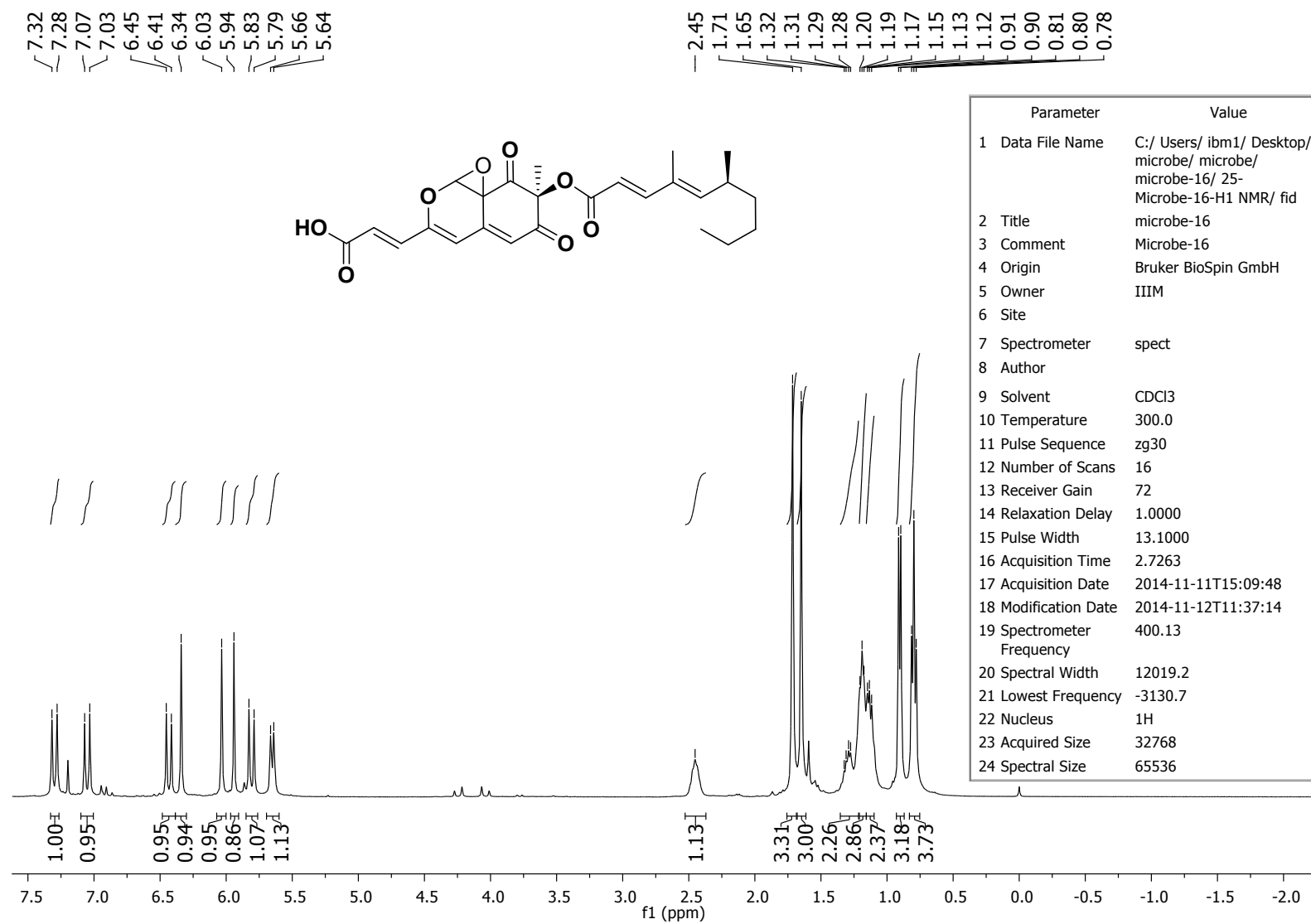


Figure S28: ^{13}C NMR (CDCl_3 , 125 MHz) spectrum of Phialomustin D (**4**)

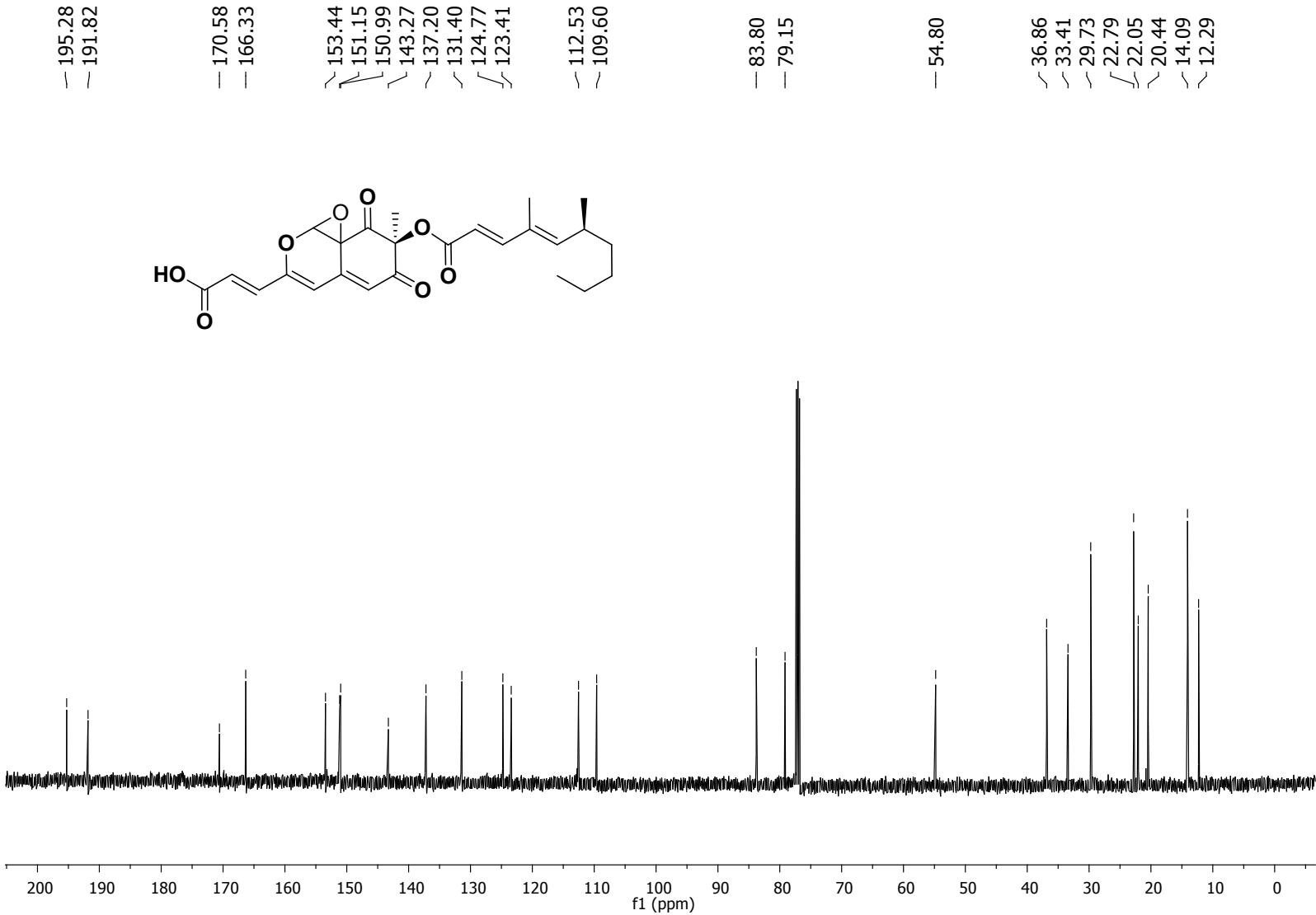


Figure S29: DEPT-135 (CDCl_3 , 125 MHz) spectrum of Phialomustin D (4)

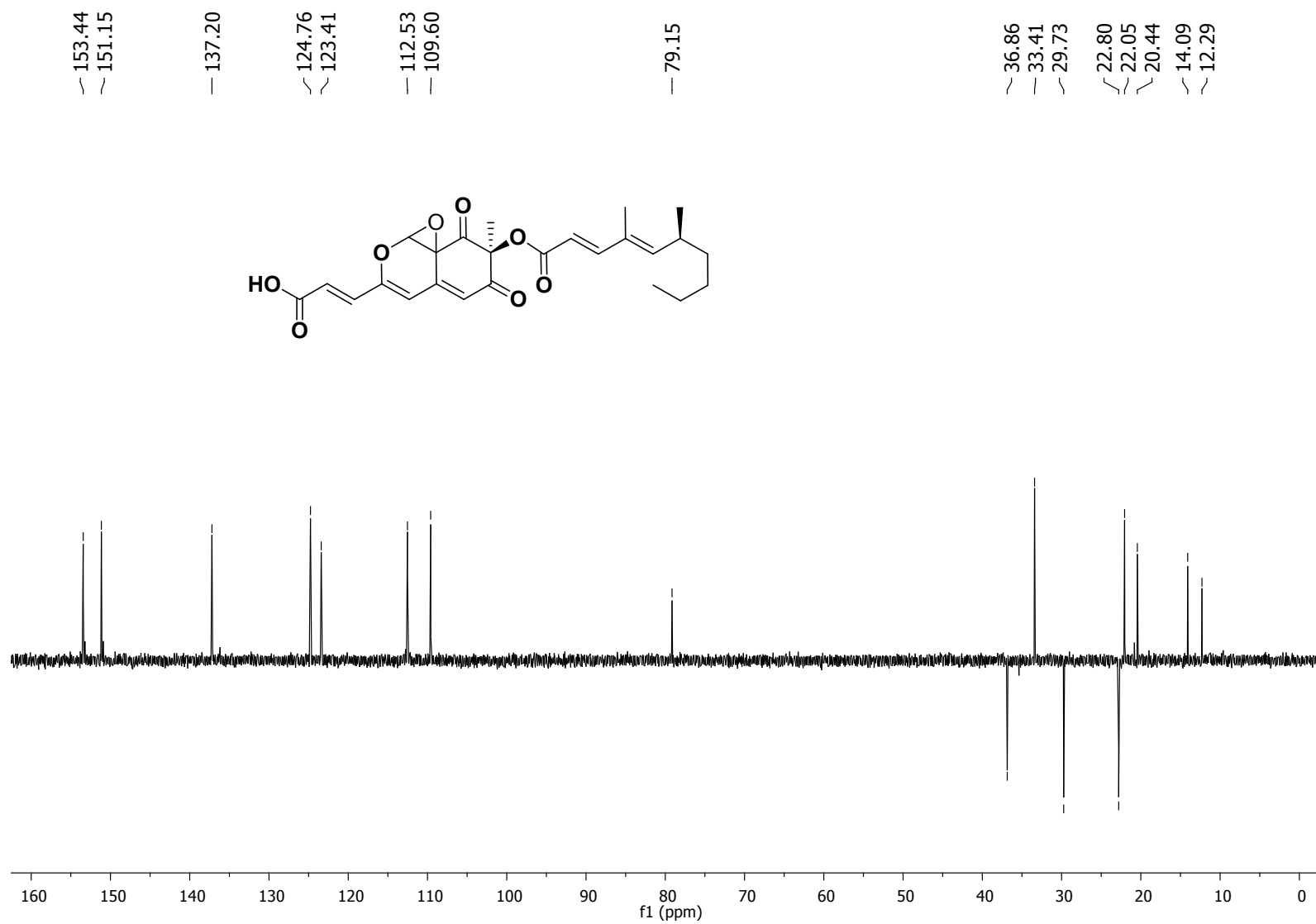


Figure S30: COSY spectrum of Phialomustin D (**4**)

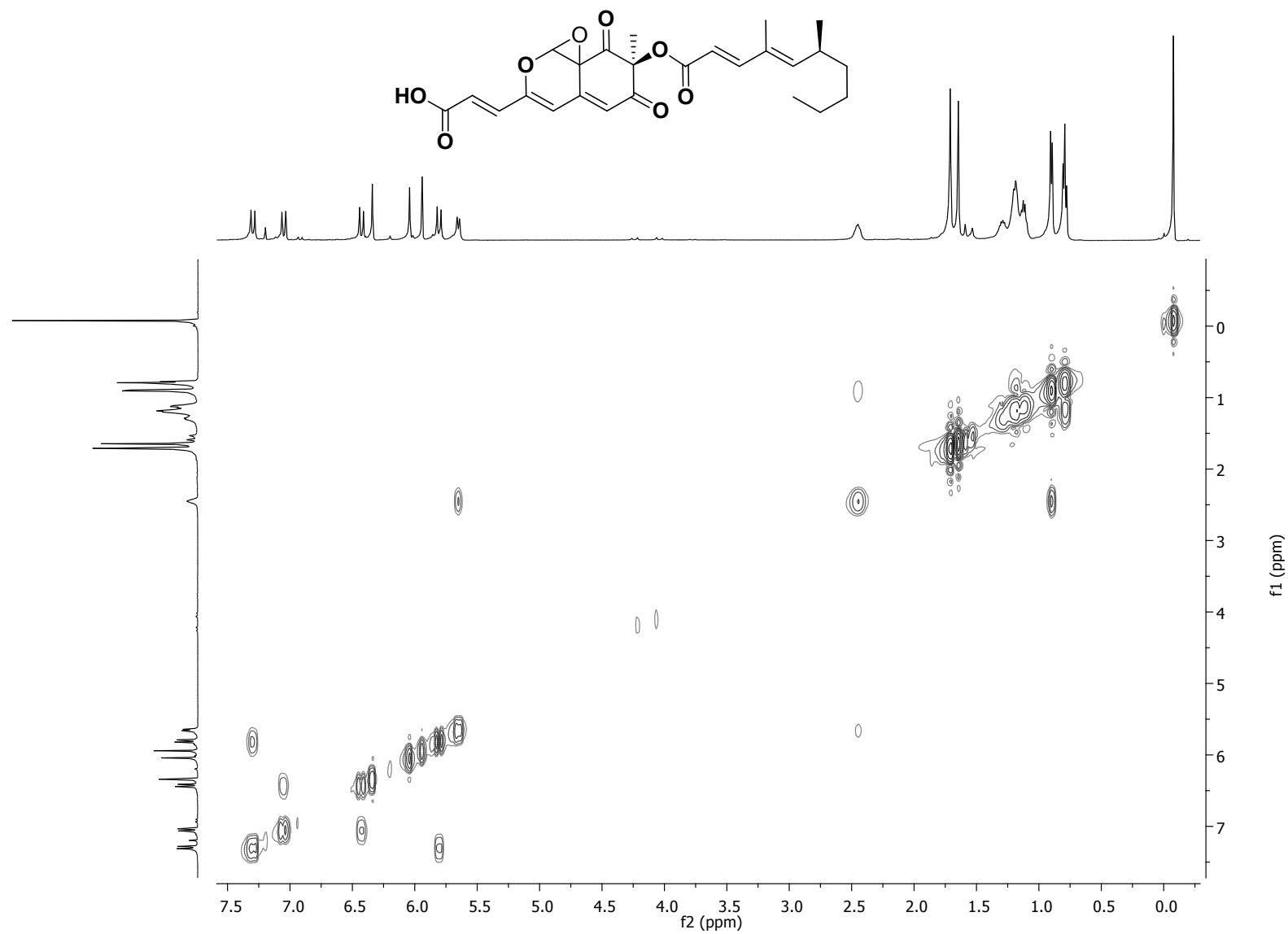


Figure S31: HSQC spectrum of Phialomustin D (**4**)

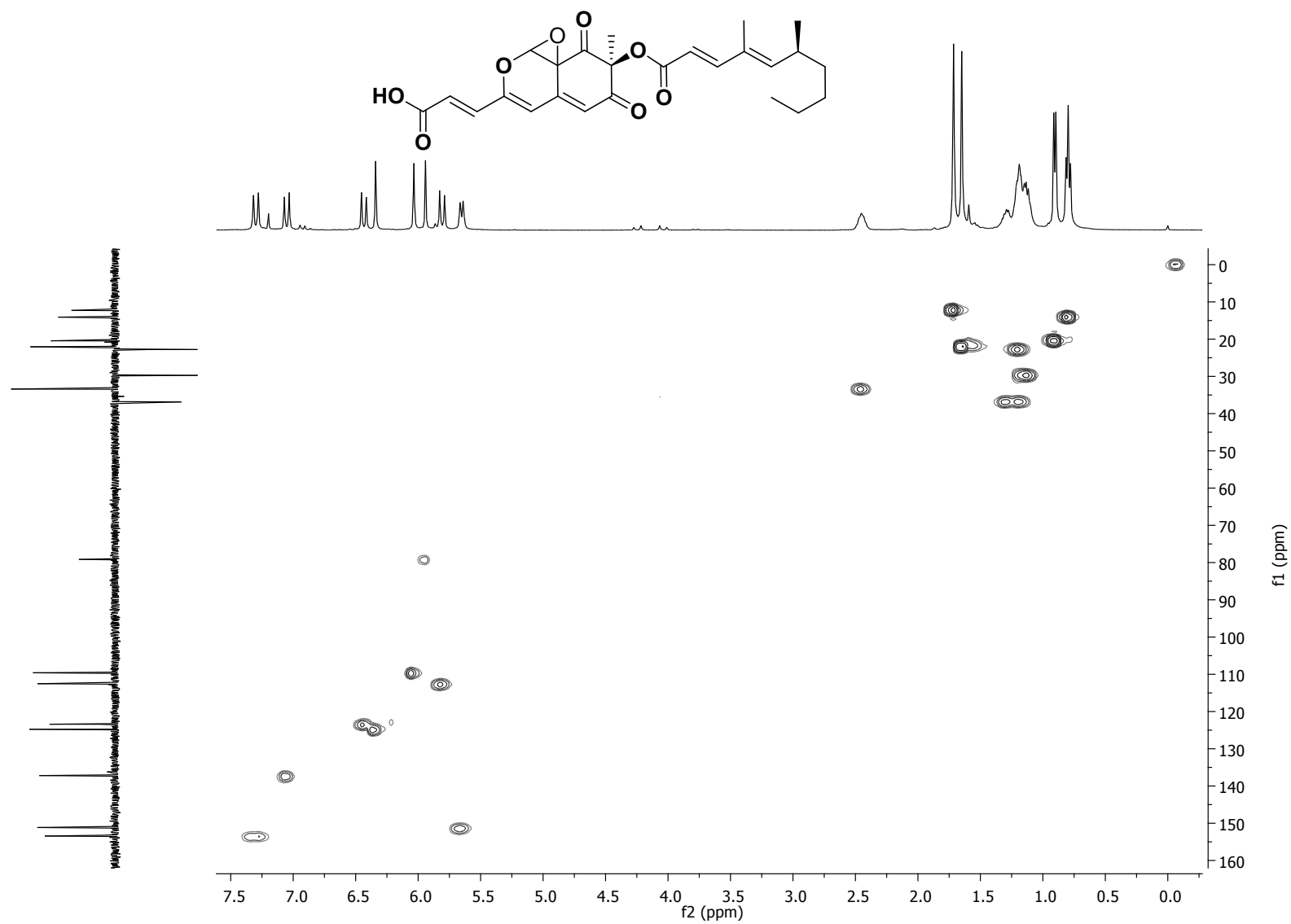


Figure S32: HMBC spectrum of Phialomustin D (4)

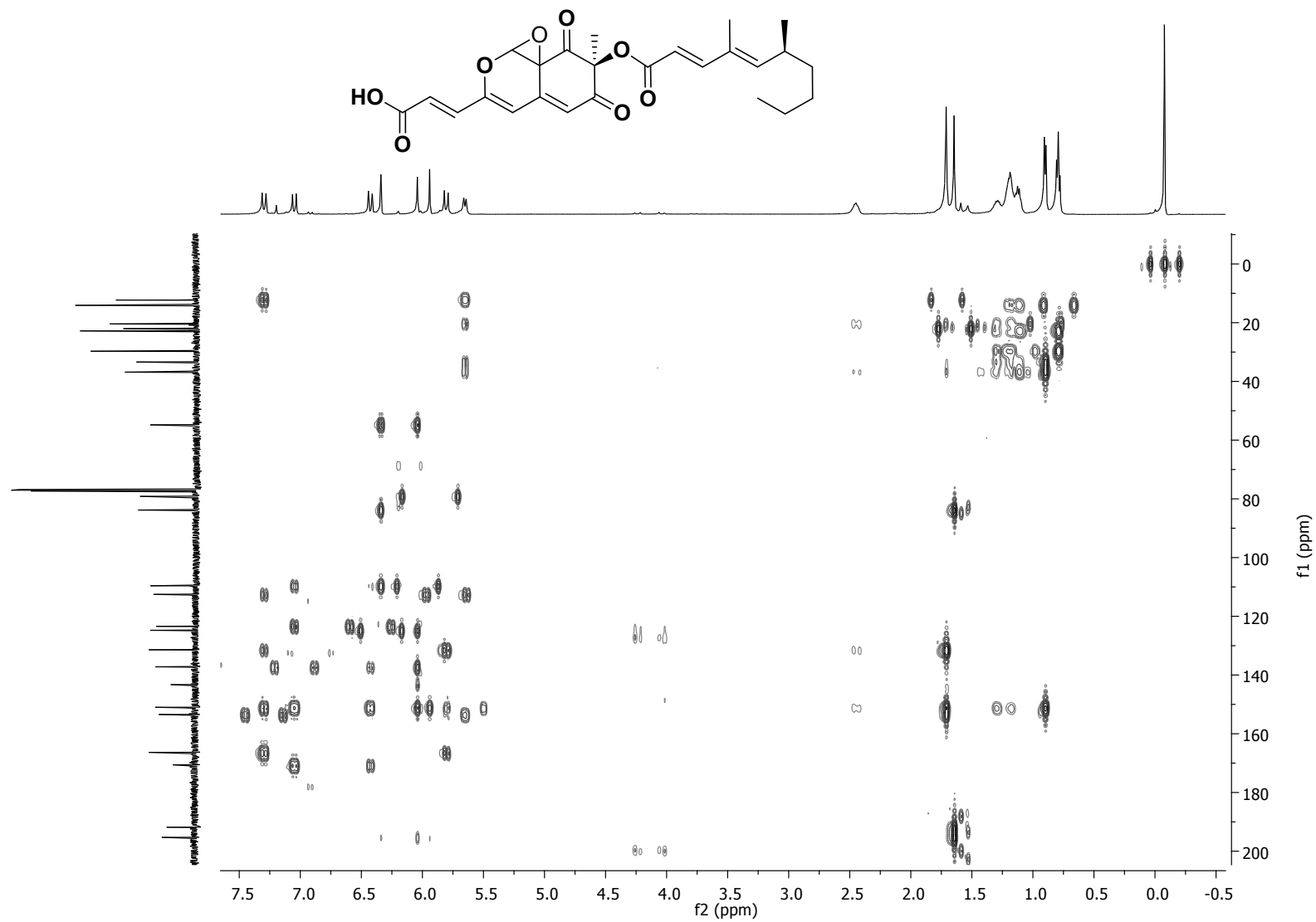


Figure S33: NOESY spectrum of Phialomustin D (4)

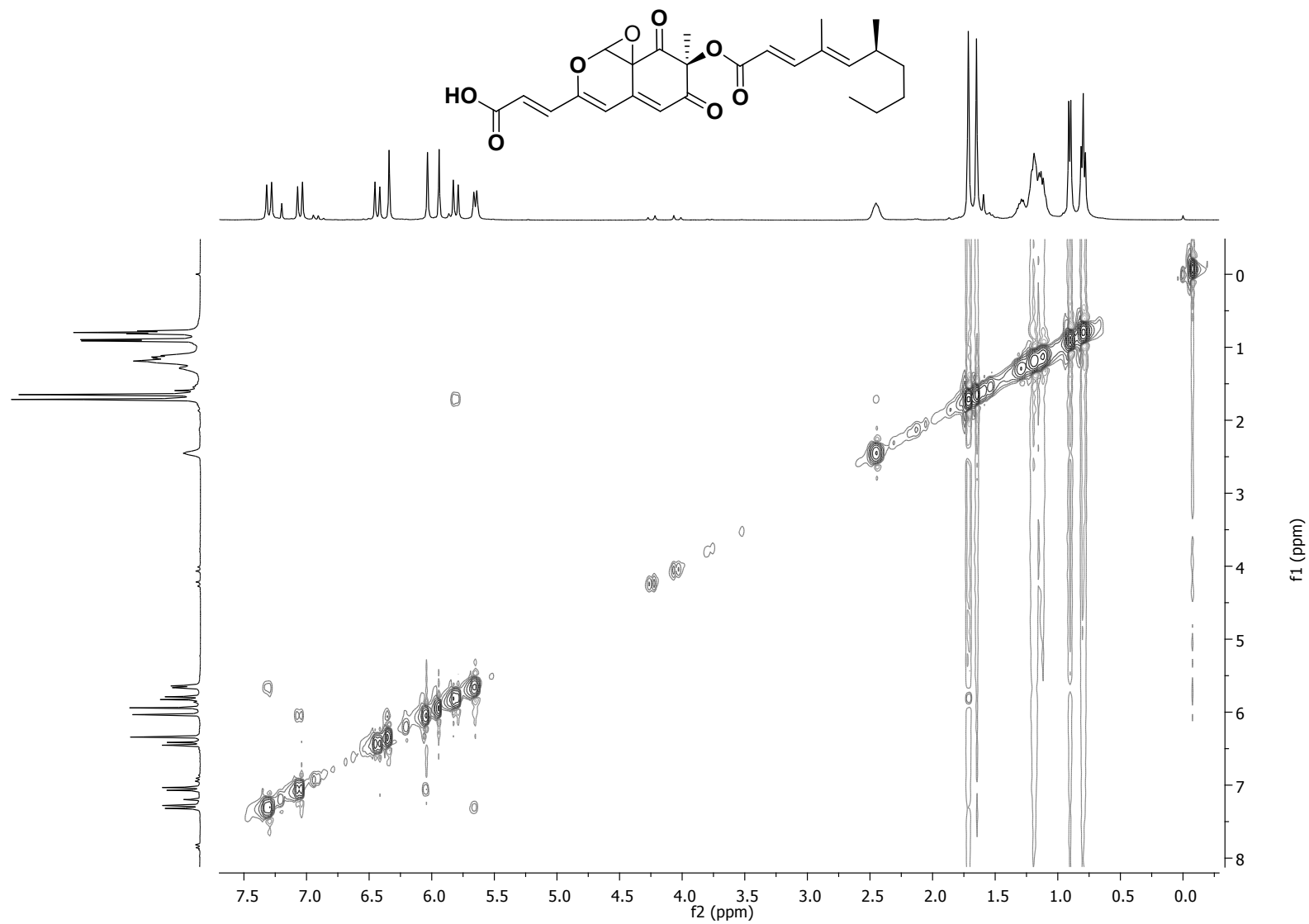


Figure S34: HRESIMS spectroscopic data of Phialomustin D (4)

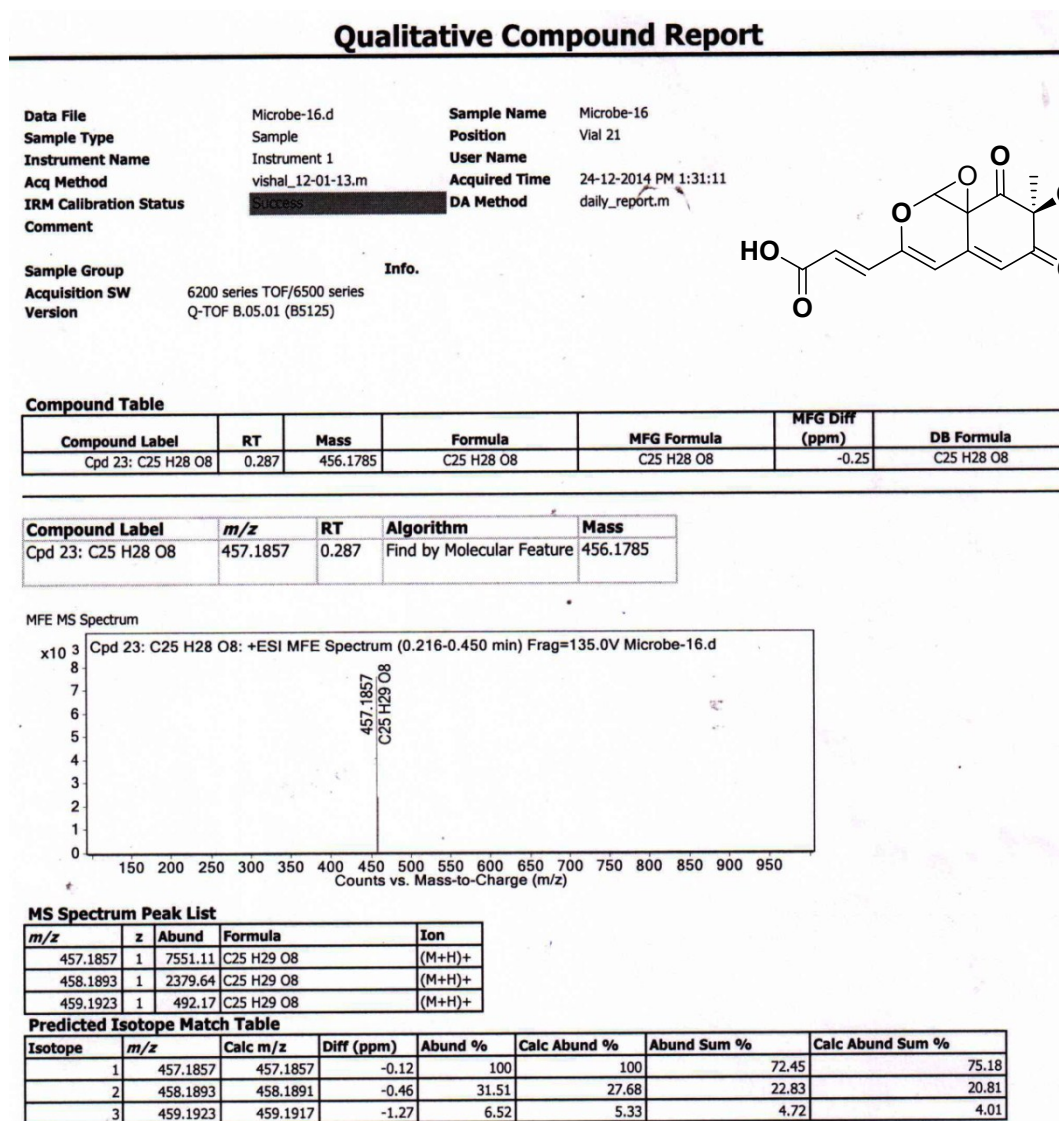


Figure S35: IR of Phialomustin D (4)

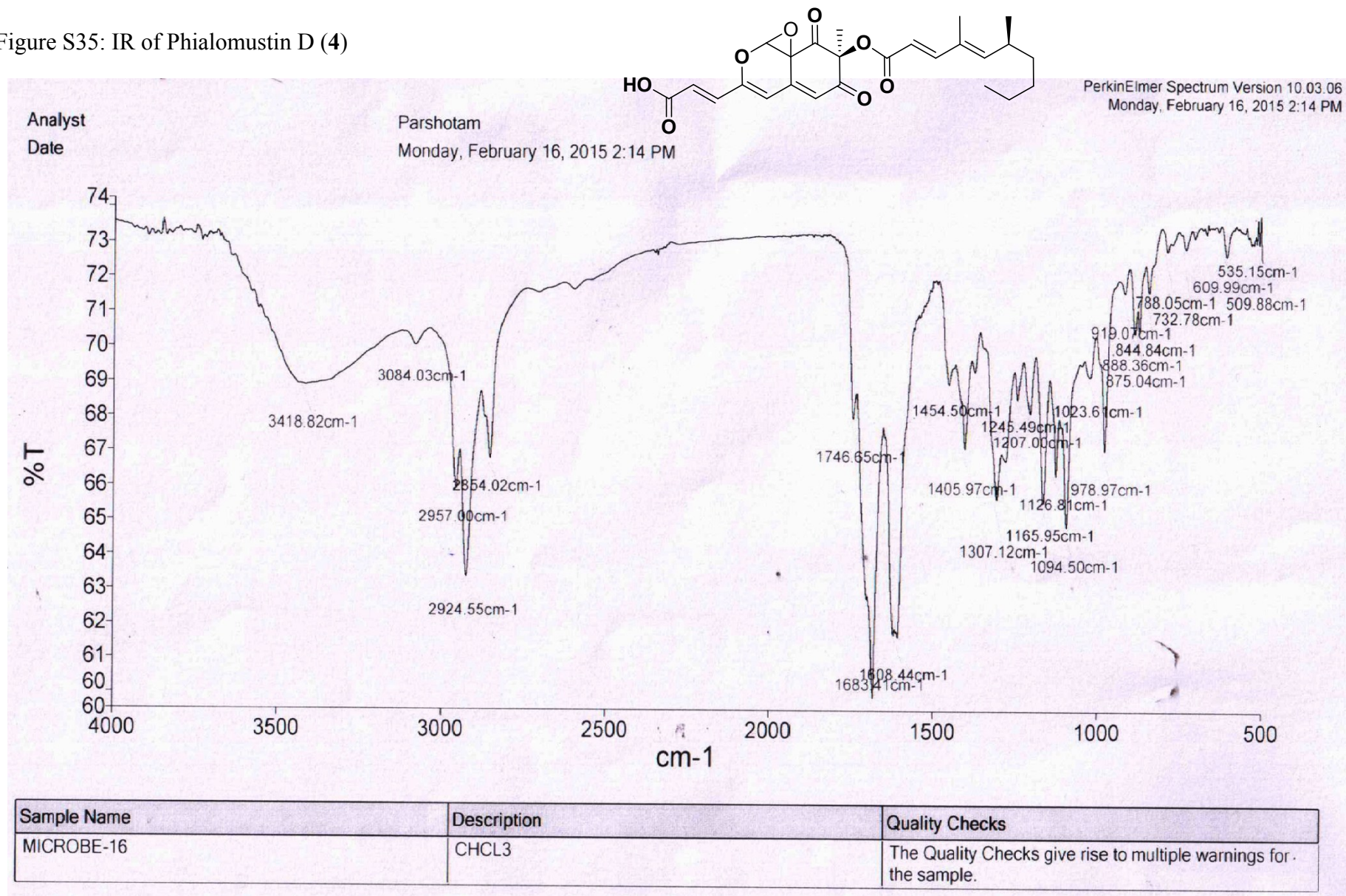


Figure S36: CD of Phialomustin D (4)

