Supplementary Data

N-(Isobutyl)-3,4-methylenedioxy Cinnamoyl Amide

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Figure S1. High resolution mass spectrometry ion chromatogram for FD fraction of *Zanthoxylum zanthoxyloides*.

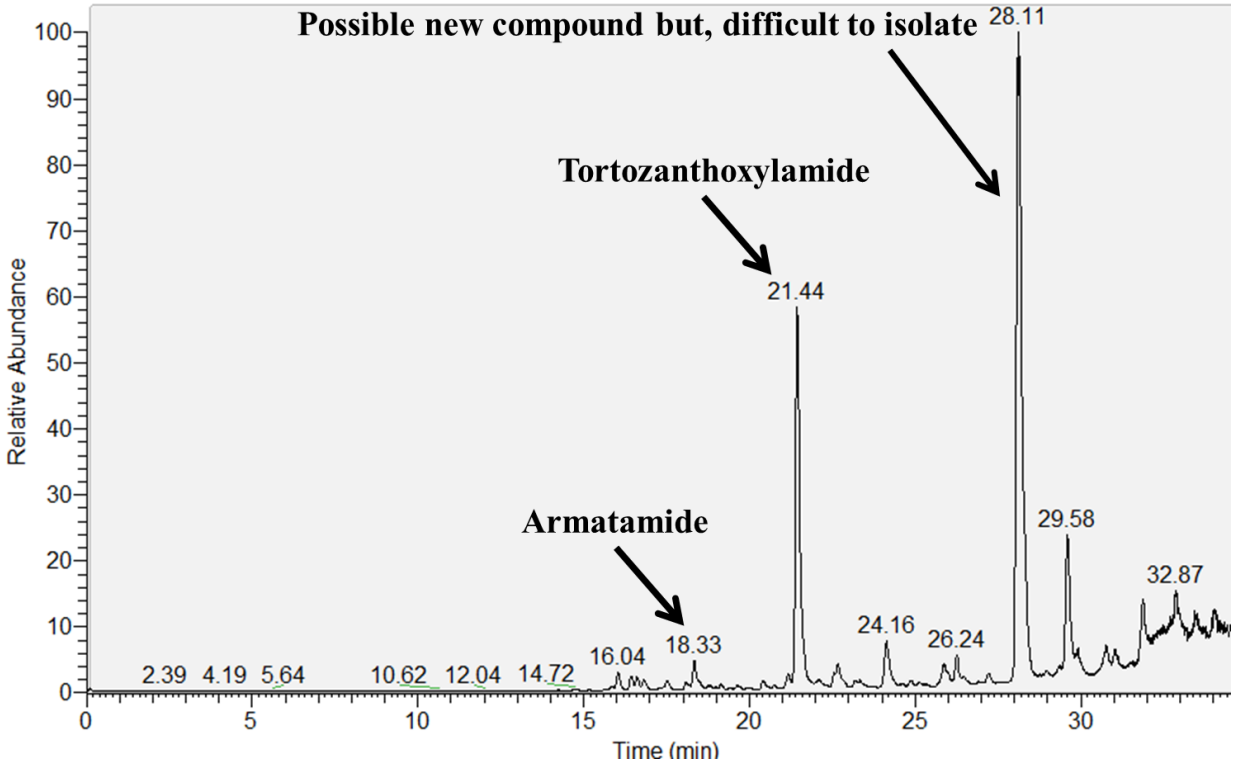


Figure S2. Mass spectrometry fragmentation ions for Armatamide.

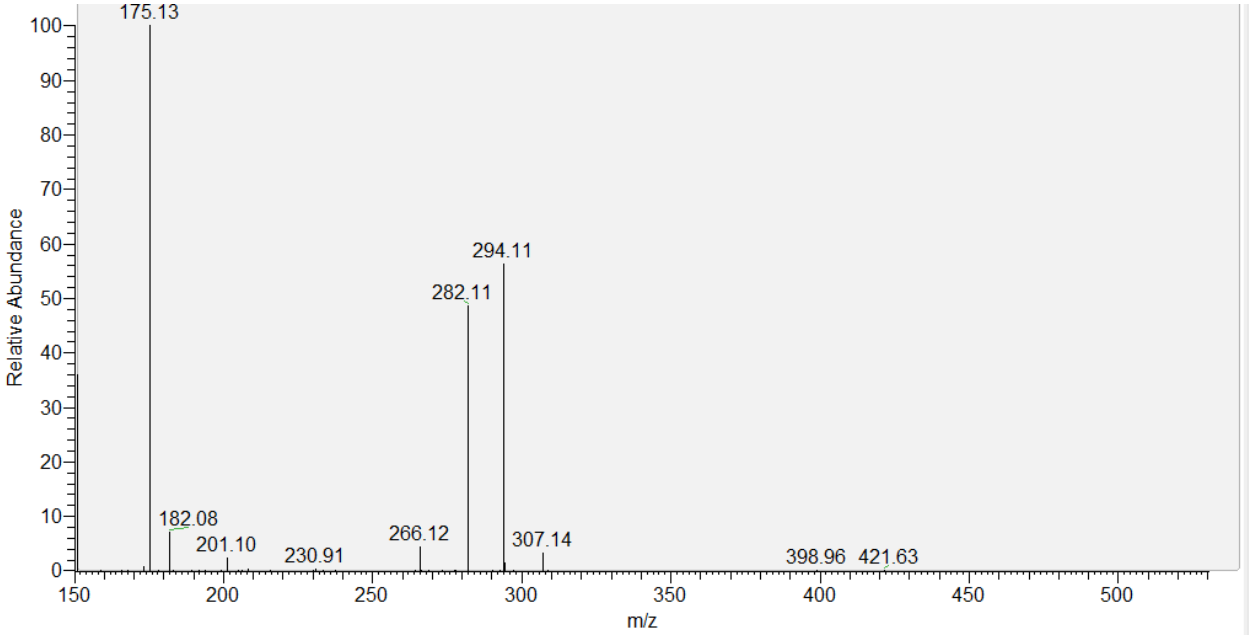


Figure S3. Proposed mass spectrometry fragmentation structures for Armatamide.

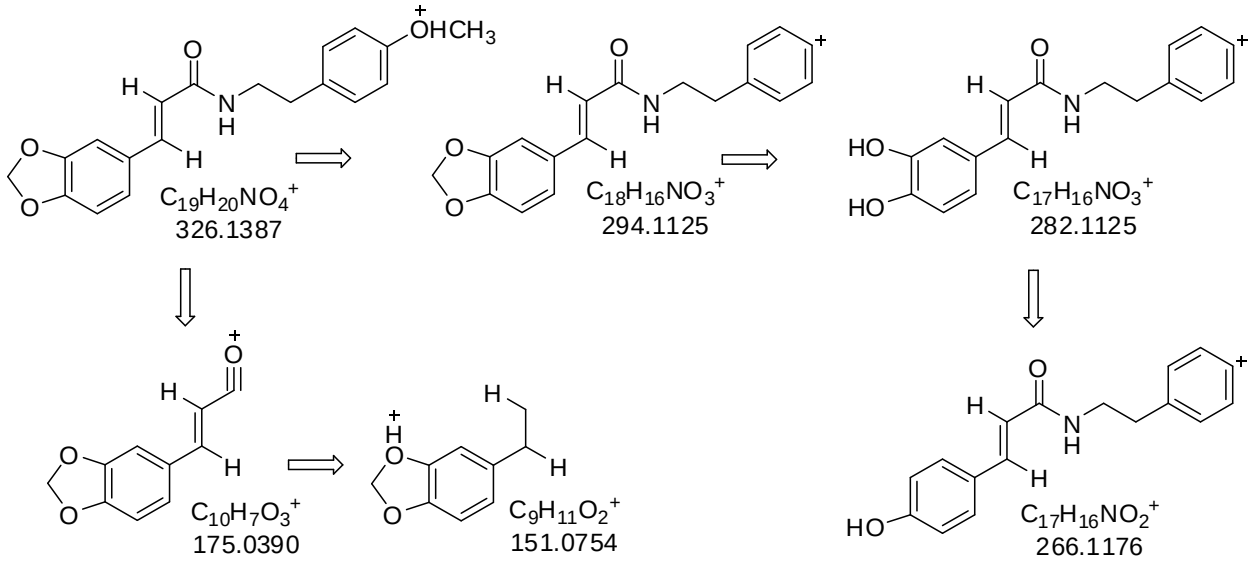


Figure S4. High resolution mass spectrometry ion chromatogram for tortozanthoxylamide (**1**).

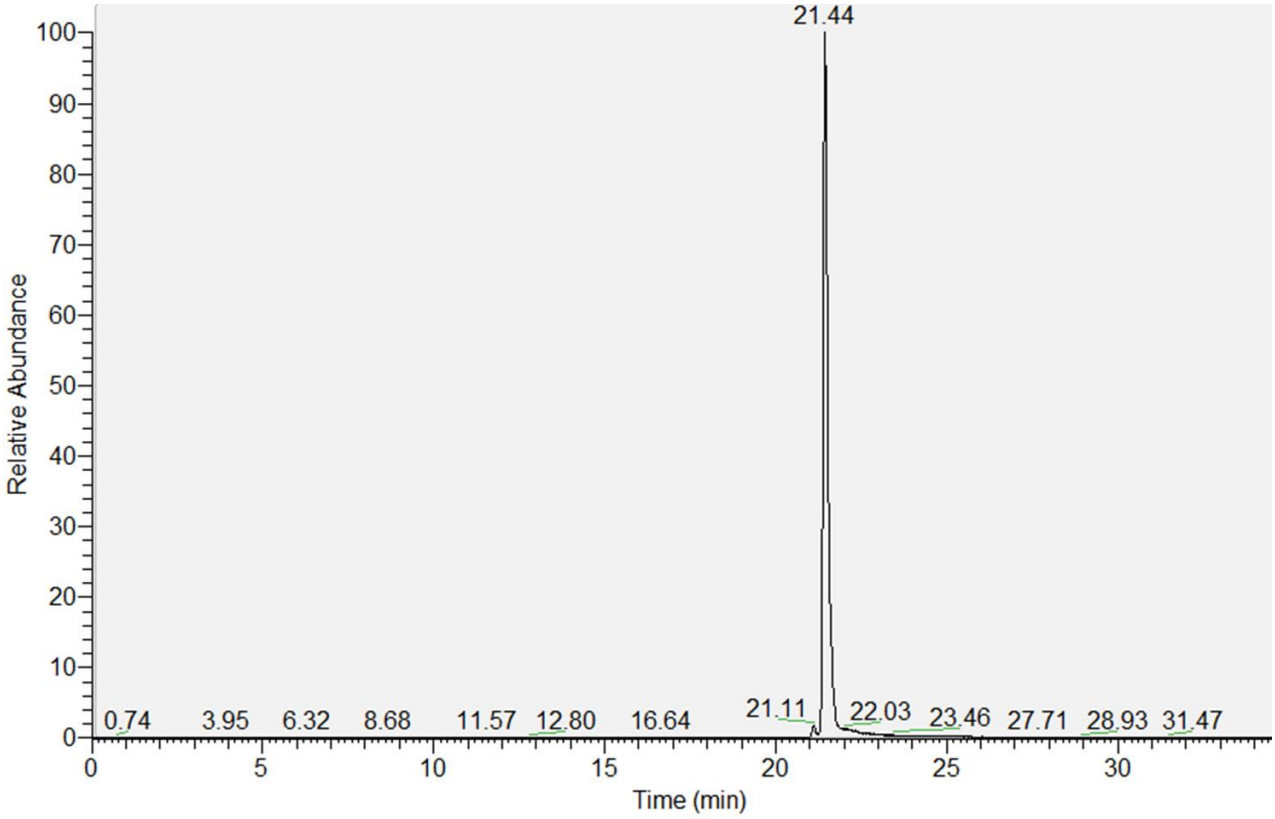


Figure S5. Mass spectrometry fragmentation ions for tortozanthoxylamide.

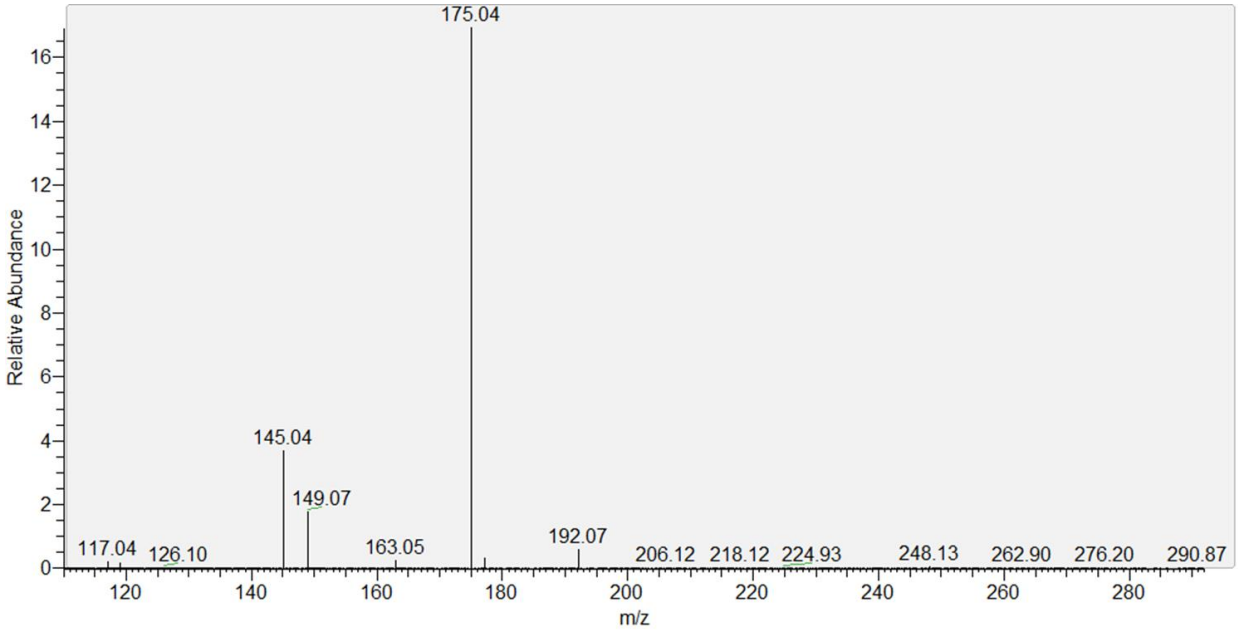


Figure S6. Proposed mass spectrometry fragmentation structures for tortozanthoxylamide.

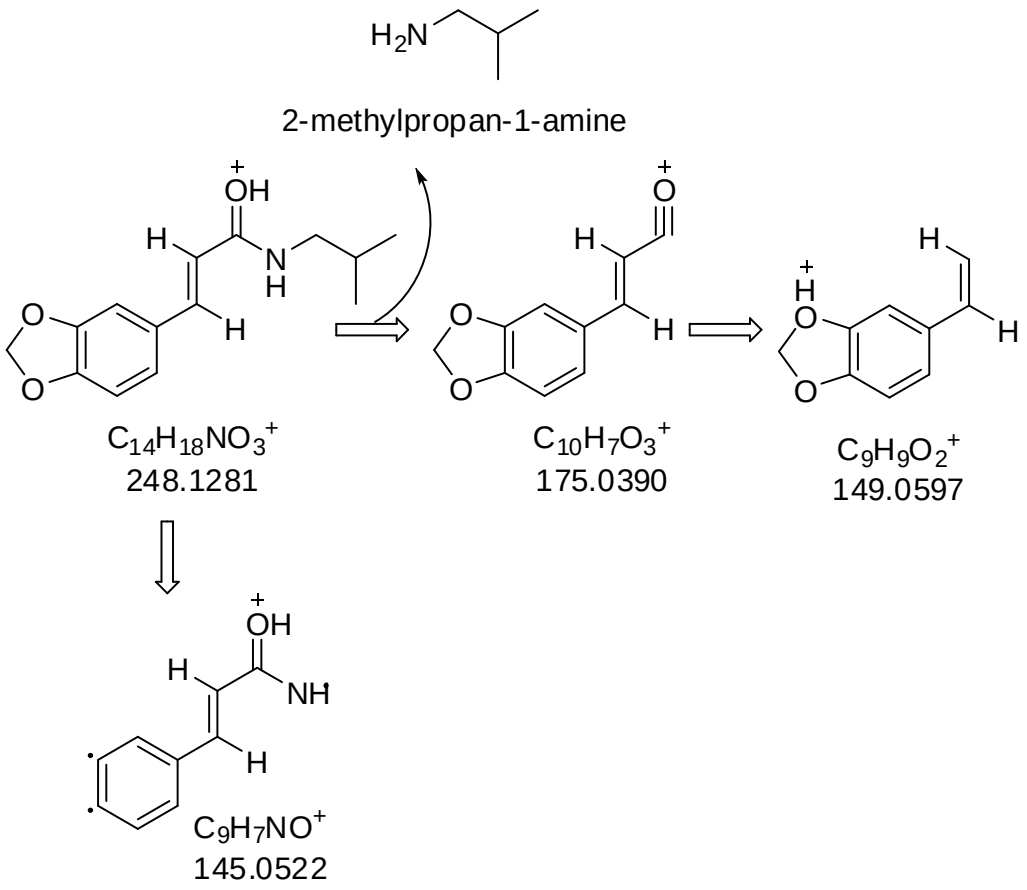


Figure S7. Mass spectrometry fragmentation ions for lanyuamide I-III analogue.

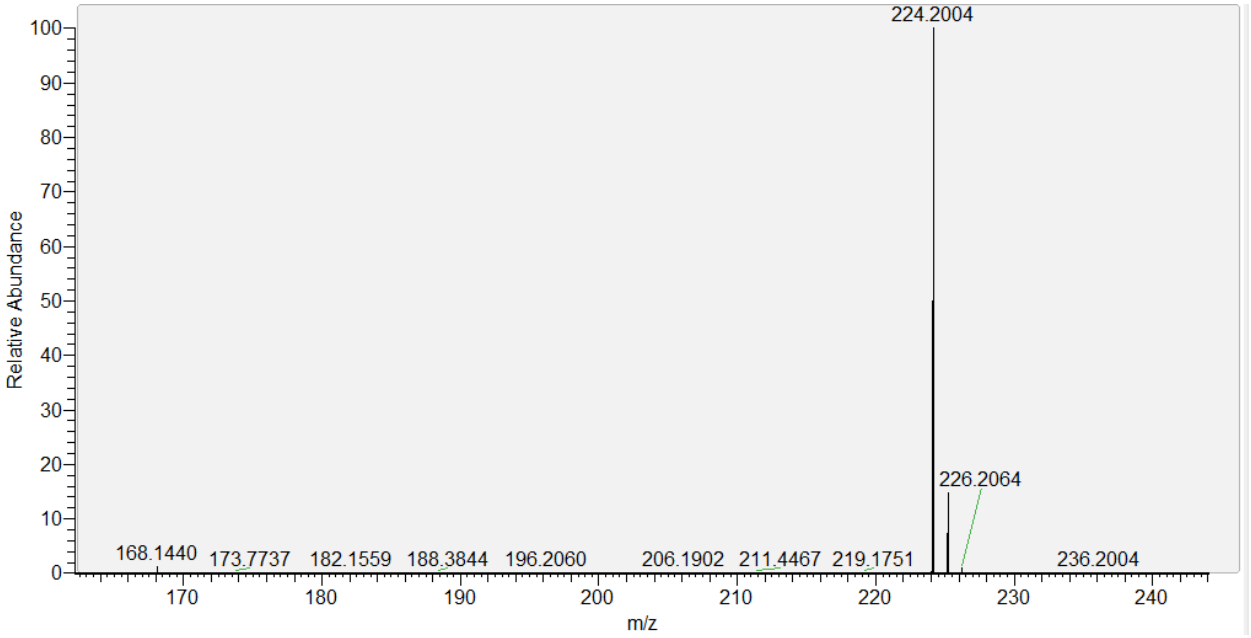
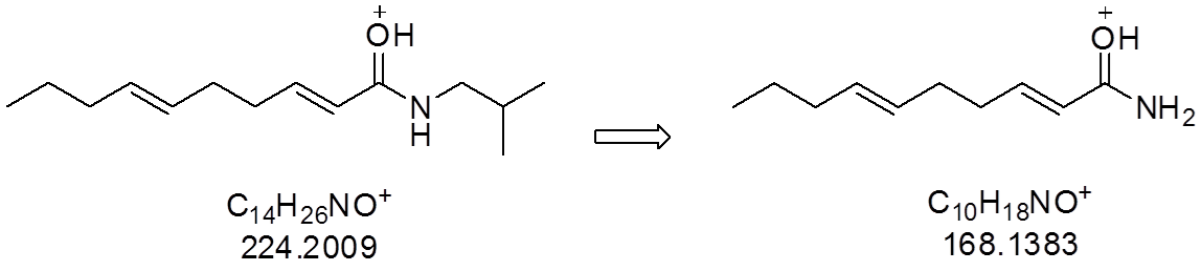


Figure S8. Proposed mass spectrometry fragmentation structures for lanyuamide I-III analogue.



$C_{14}H_{26}NO^+$
224.2009

$C_{10}H_{18}NO^+$
168.1383

Figure S9. . ^{13}C-NMR spectrum of tortozanthoxylamide (**1**) in $CDCl_3$.

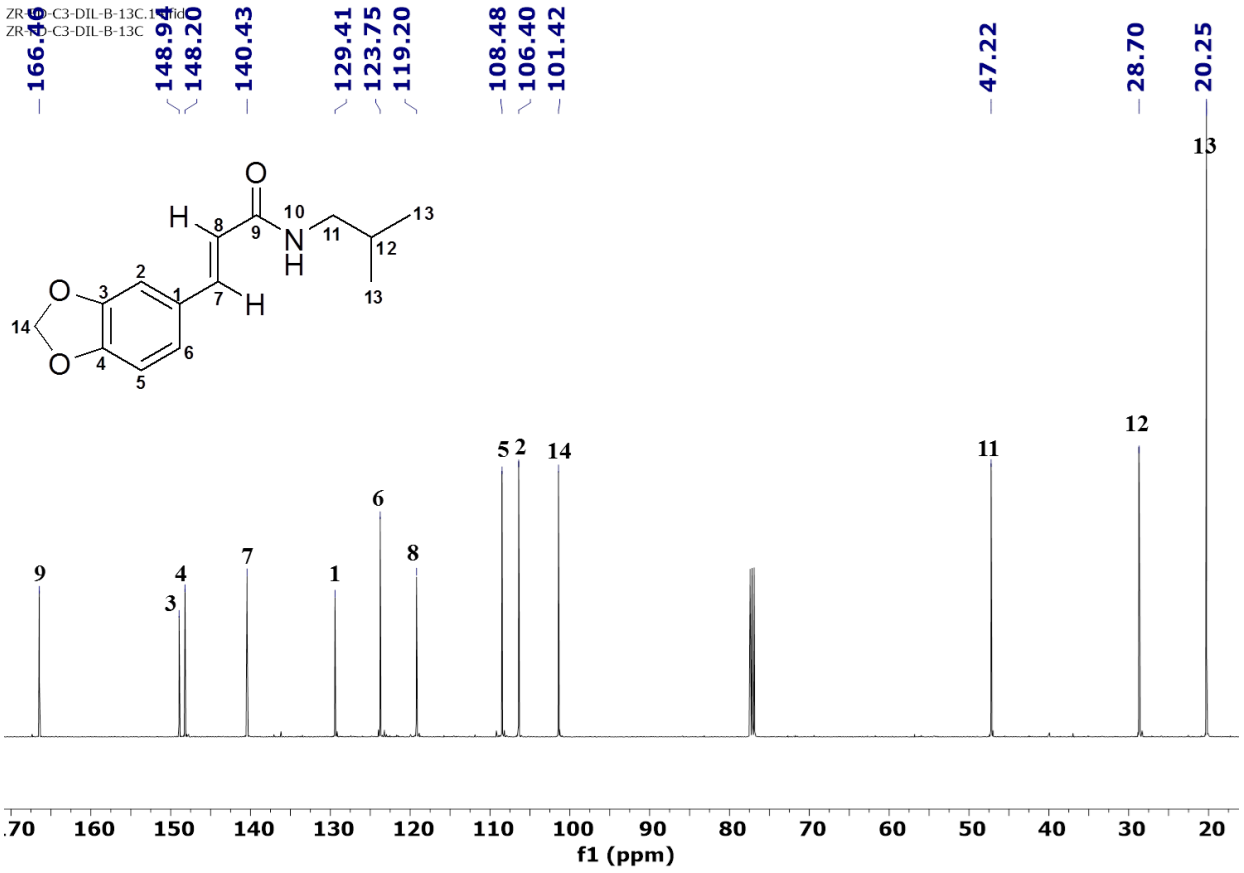


Figure S10. [1]H-NMR spectrum of tortozanthoxylamide (**1**) in $CDCl_3$.

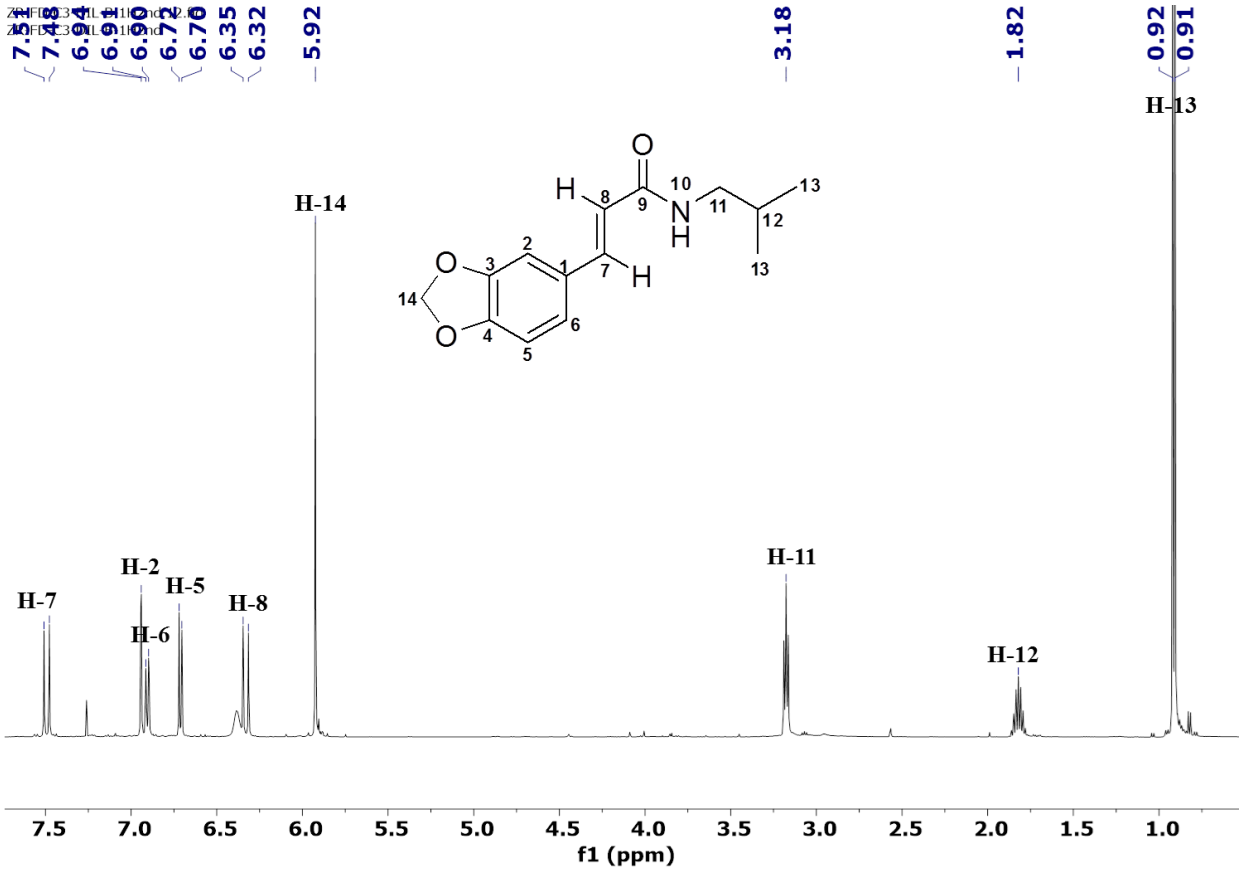


Figure S11. HSQC spectrum of tortozanthoxylamide (**1**) in $CDCl_3$.

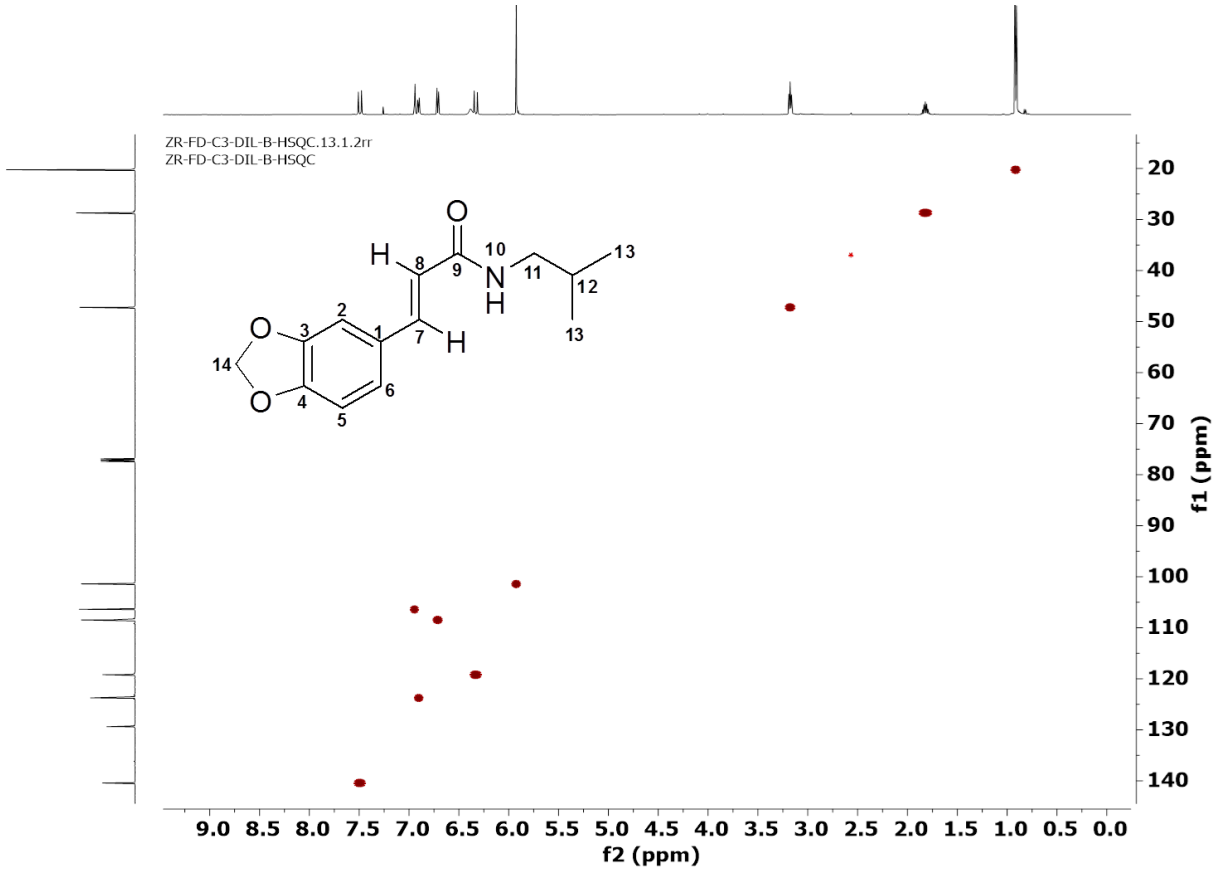


Figure S12. COSY spectrum of tortozanthoxylamide (**1**) in $CDCl_3$.

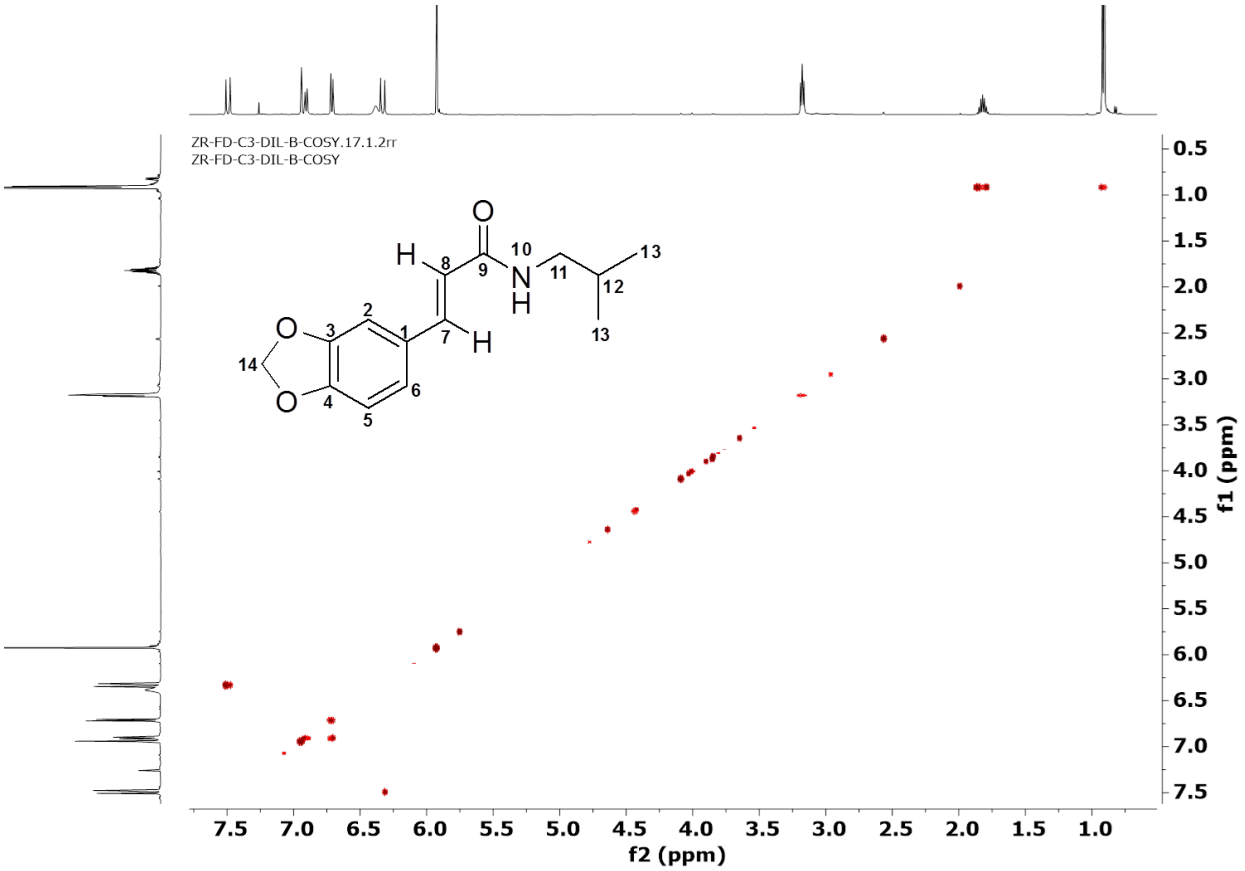


Figure S13. HMBC spectrum of tortozanthoxylamide (**1**) in $CDCl_3$.

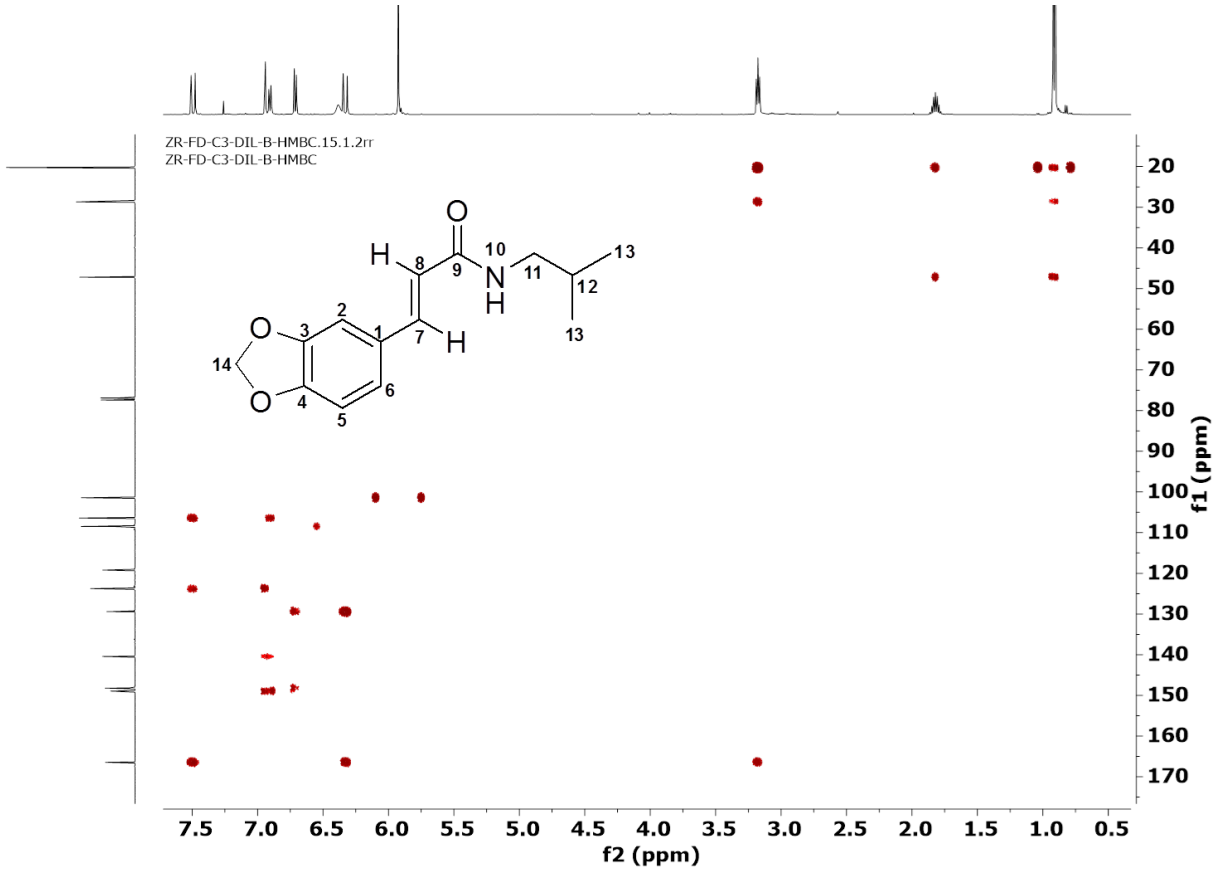


Figure S14. TOCSY spectrum of tortozanthoxylamide (**1**) in $CDCl_3$.

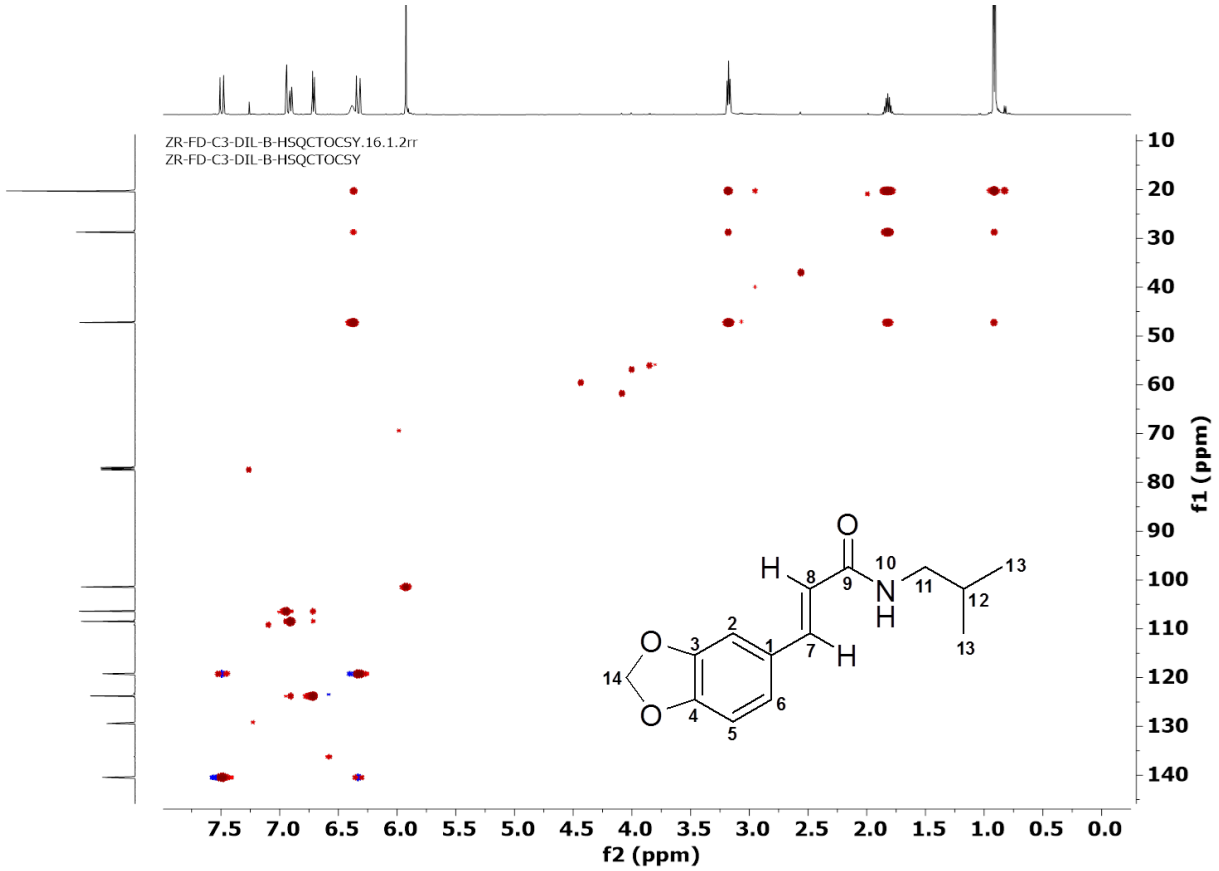


Figure S15. T-ROESY spectrum of tortozanthoxylamide (**1**) in $CDCl_3$.

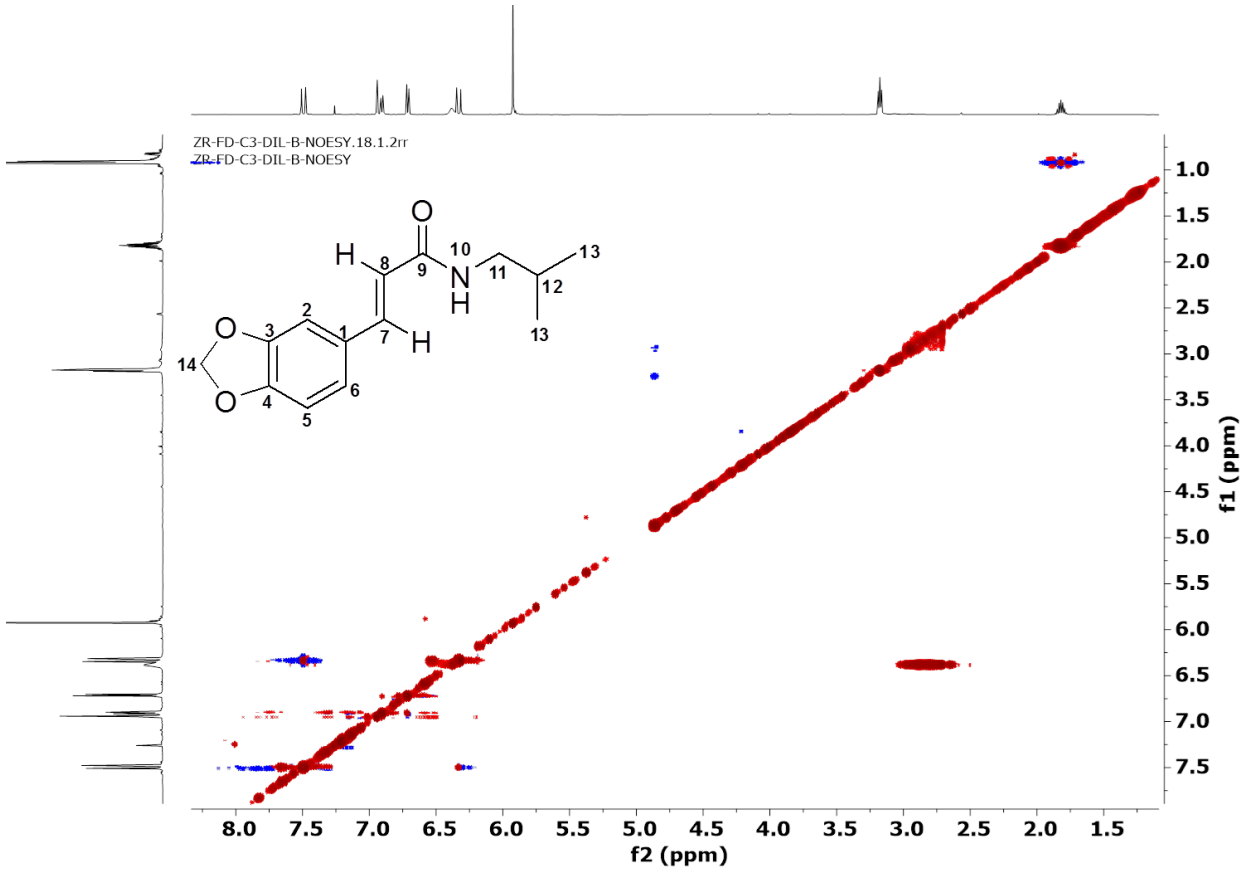


Figure S16. Flow chart of the modified Kupchan solvent partitioning process.

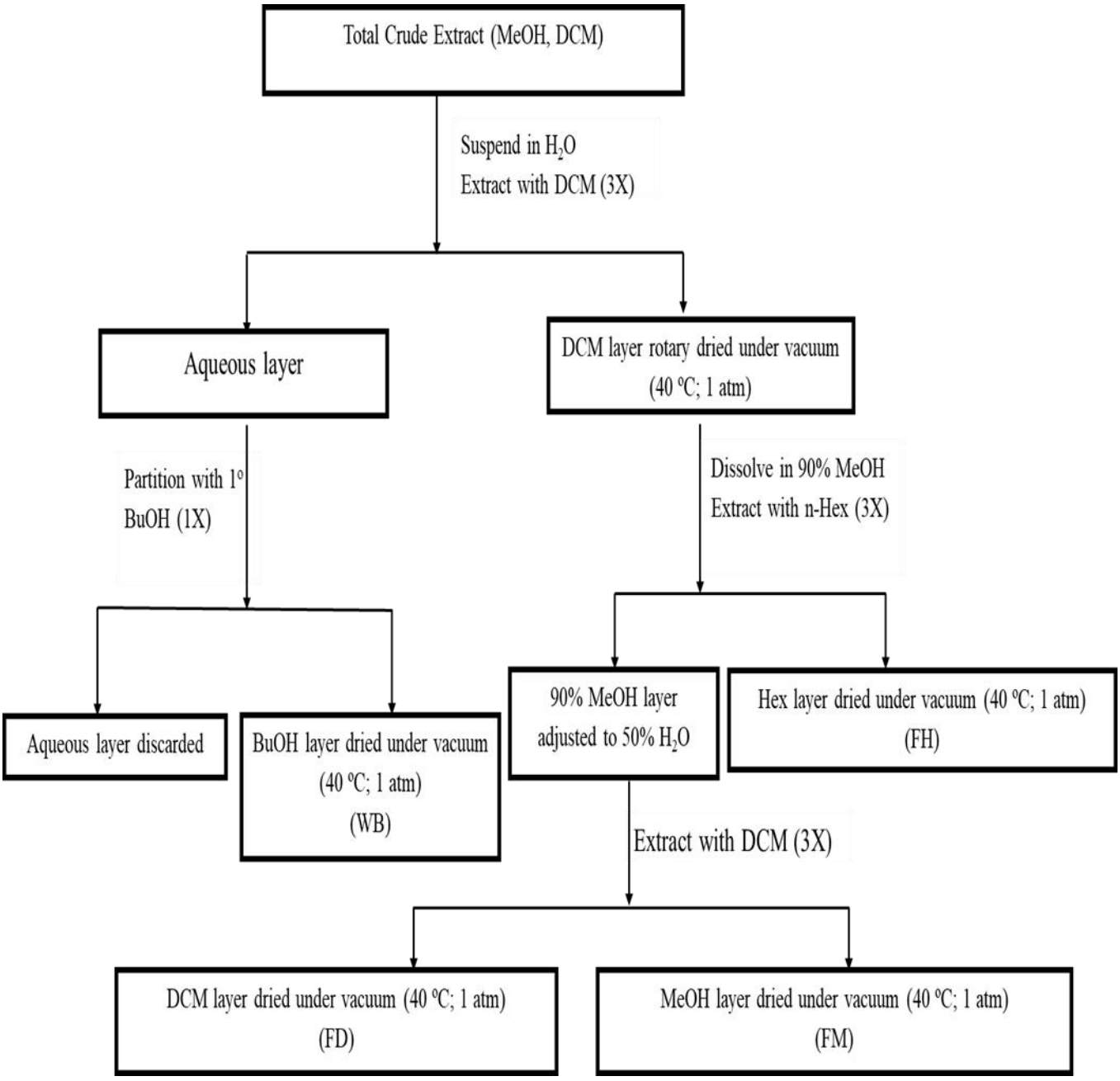


Table S1. Mean percentage cell count at cell cycle phases of *T. brucei* subsp. *brucei*.

COMPOUNDS	PERCENTAGE CELL COUNT (MEAN ± SEM)		
	G0/G1 Phase	S Phase	G2/M Phase
Negative control	62.2 ± 0.7	13.1 ± 0.2	24 ± 1
Tortozanthoxylamide	56.2 ± 0.9	19.4 ± 0.9	26.8 ± 0.4

Table S2. Effects of FD fractions on cell viability of *T. brucei* subsp. *brucei*.

FD, Subsequent fractions, and Standard	MEAN IC_{50} ± SE (μg/ml)
FD	7.9 ± 0.1
C1	11.2 ± 0.7
C2	13.4 ± 0.5
C3	9 ± 1
C4	2.0 ± 0.2
C5	6 ± 1
C6	10 ± 1
C7	17 ± 3
C8	8.9 ± 0.7
C9	19 ± 2
C10	28 ± 1
C11	54 ± 8
DA	0.53 ± 0.04

Mean IC_{50} and standard errors (SE) were calculated from three different experiments. DA=Diminazene aceturate was used as a positive control.