Supplementary Information

In vitro Antiplasmodial Activities of Alkaloids Isolated from Roots of *Worsleya procera* (Lem.) Traub (Amaryllidaceae)

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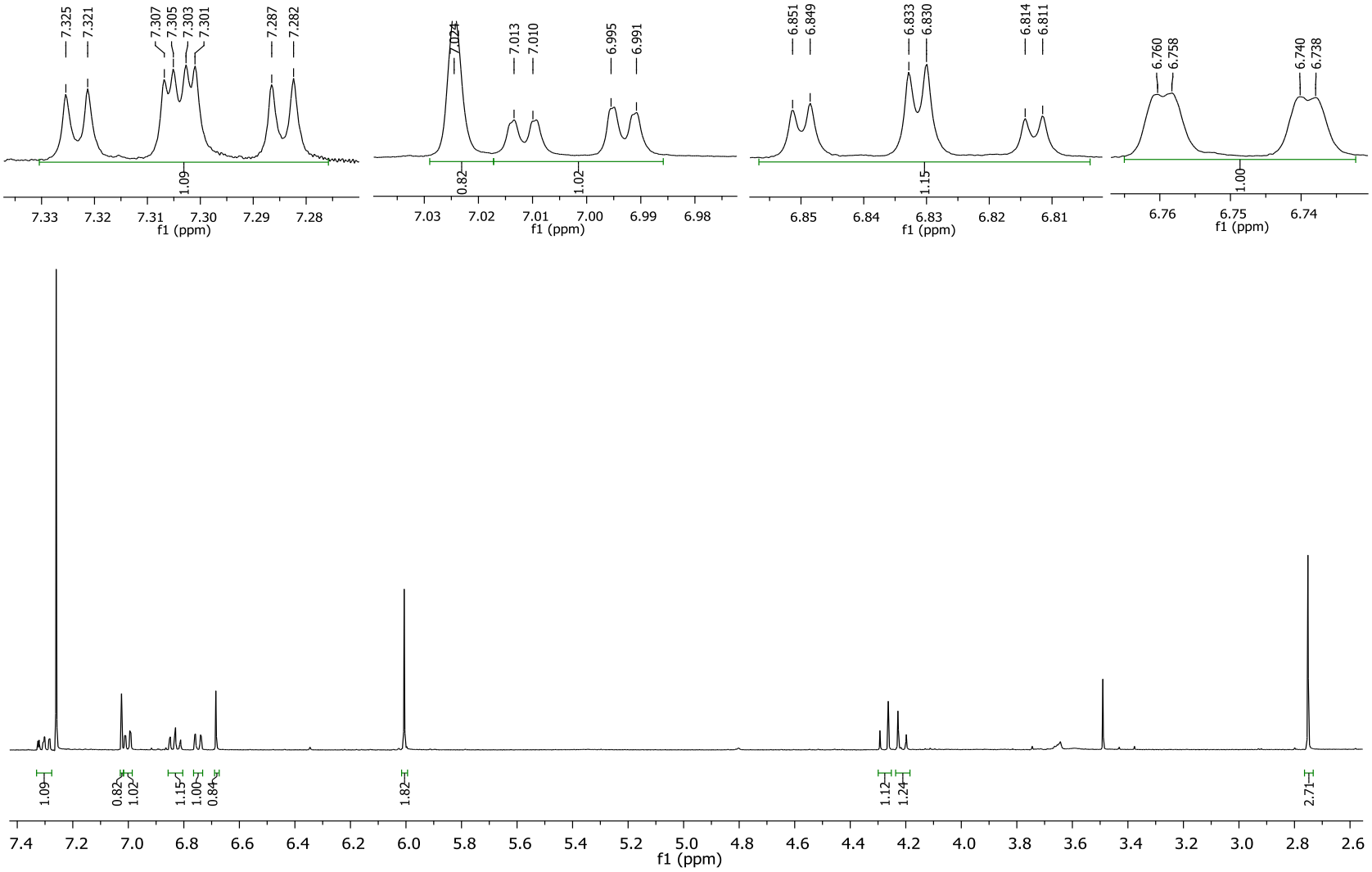

Figure S1. ^{1}H NMR spectrum (400 MHz, $CDCl_3$) of compound **1**.

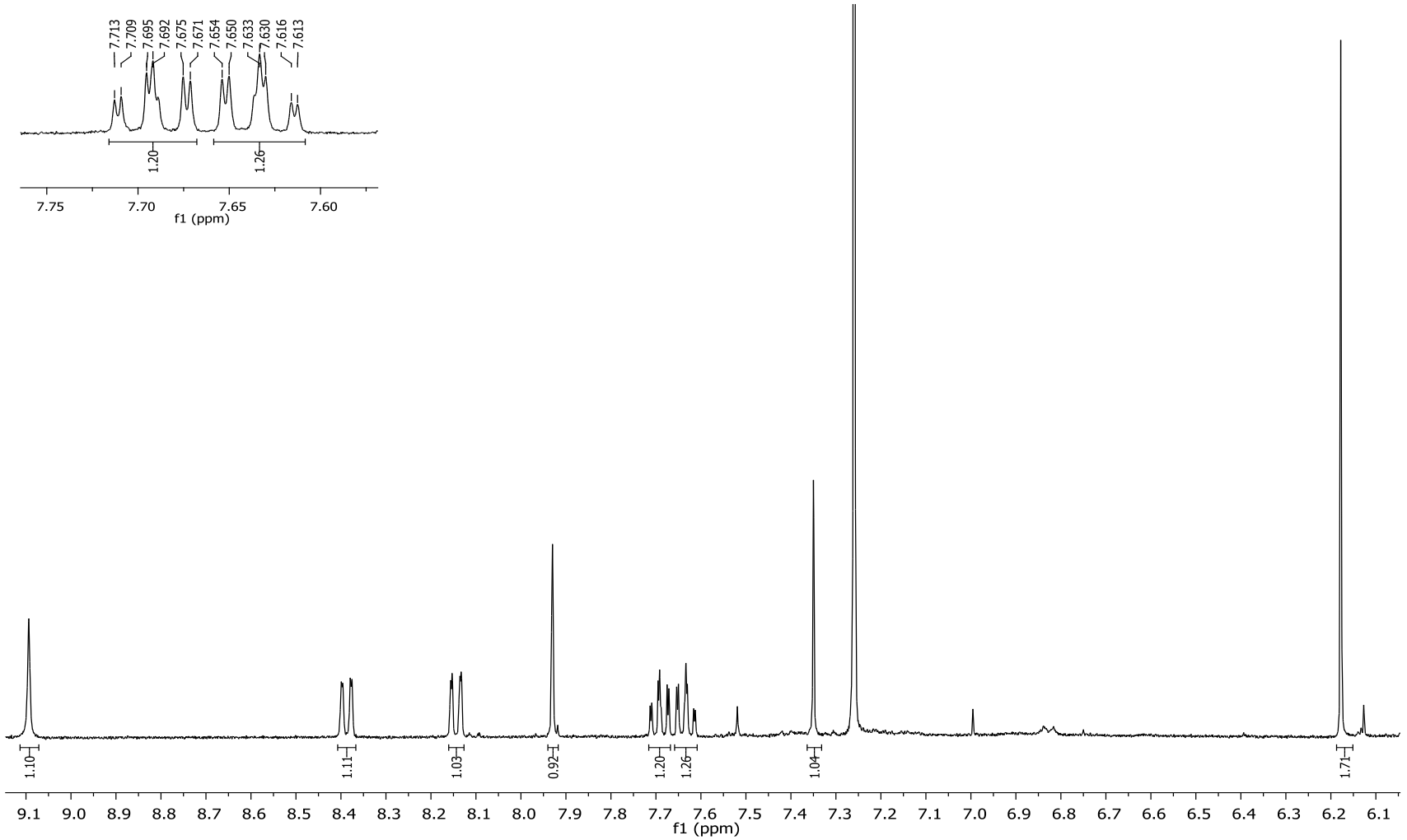

Figure S2. ^{1}H NMR spectrum (400 MHz, $CDCl_3$) of compound **2**.

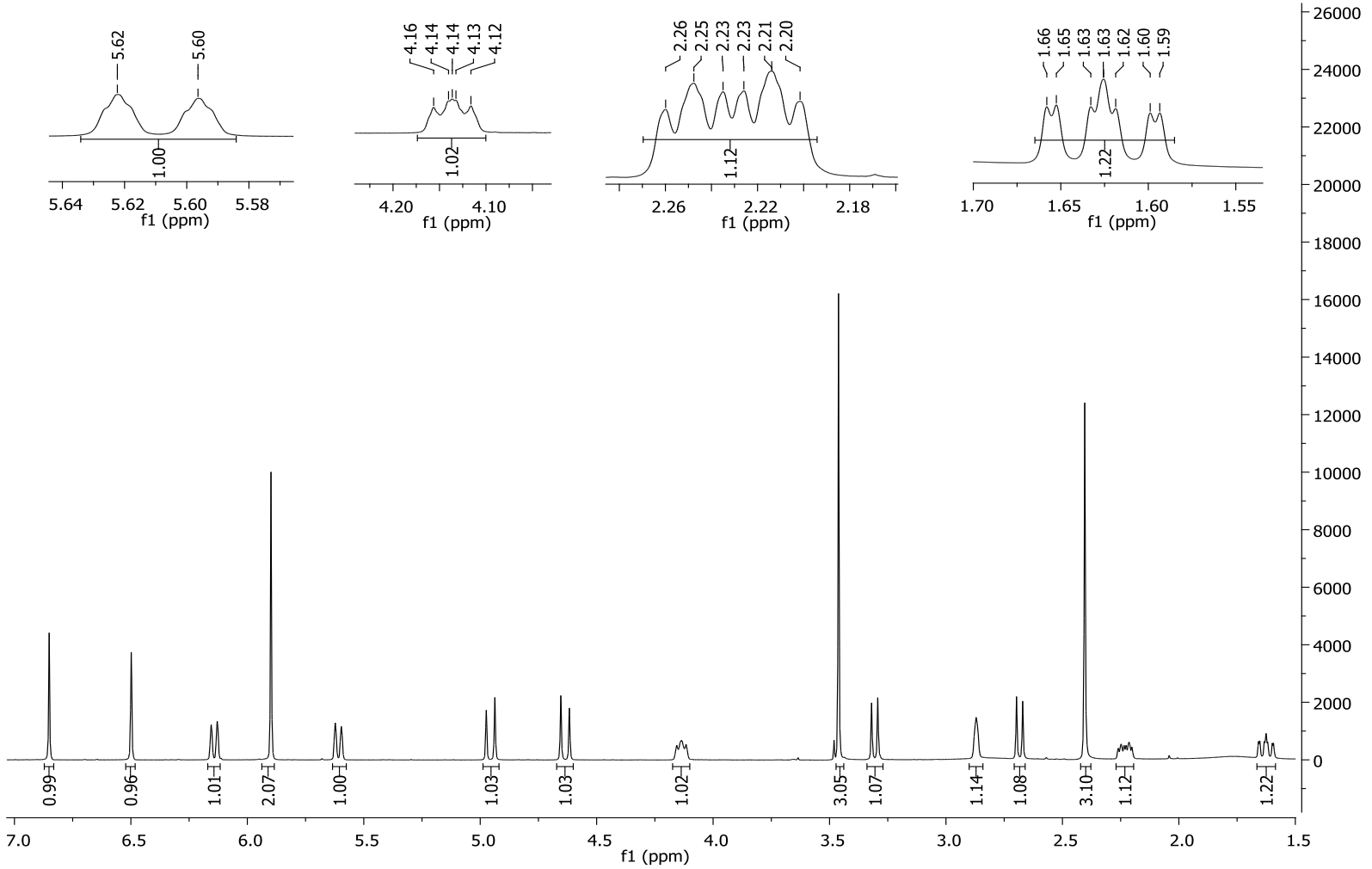

Figure S3. ^{1}H NMR spectrum (400 MHz, $CDCl_3$) of compound **8**.

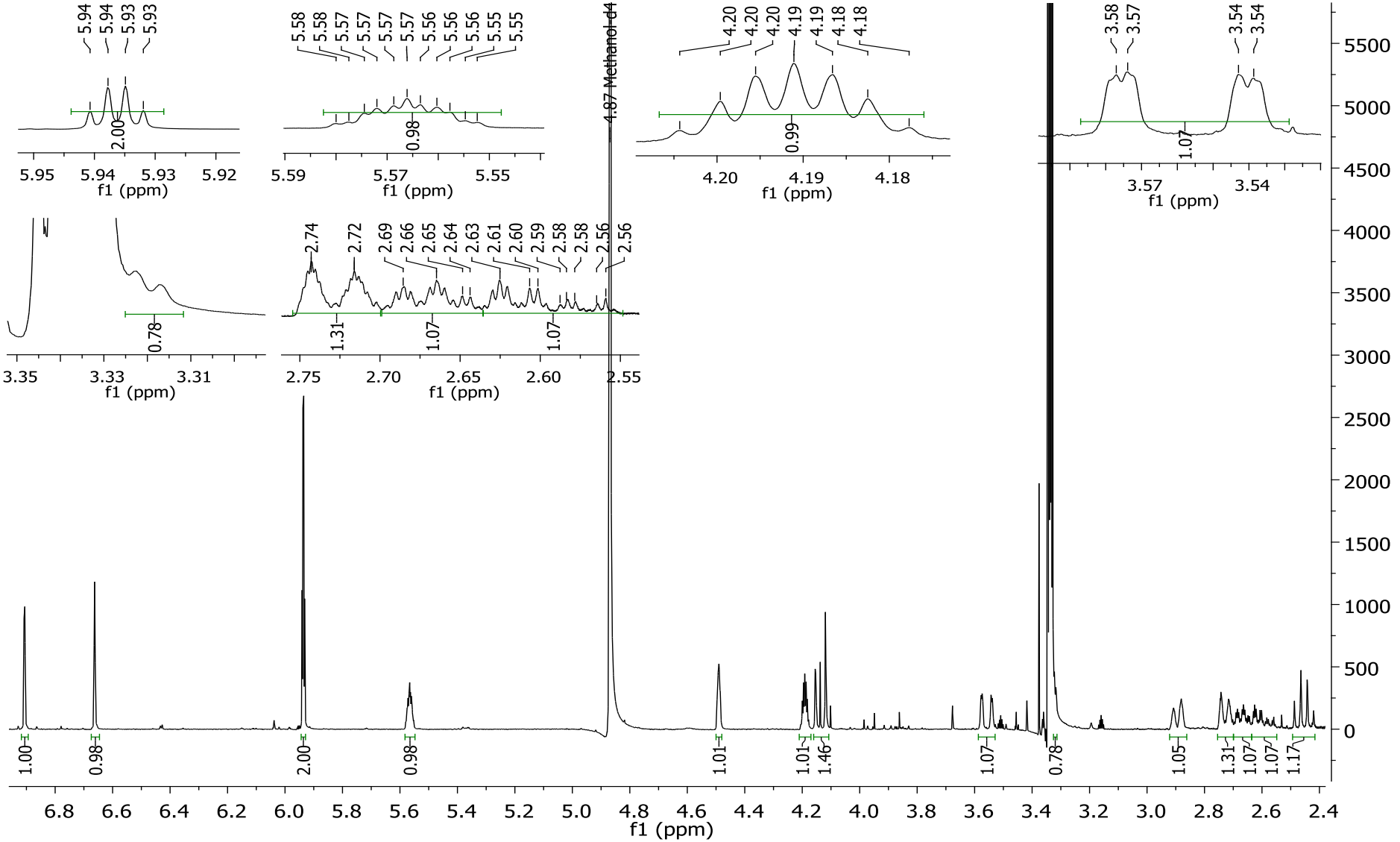

Figure S4. ^{1}H NMR spectrum (400 MHz, CD_3OD) of compound **11**.

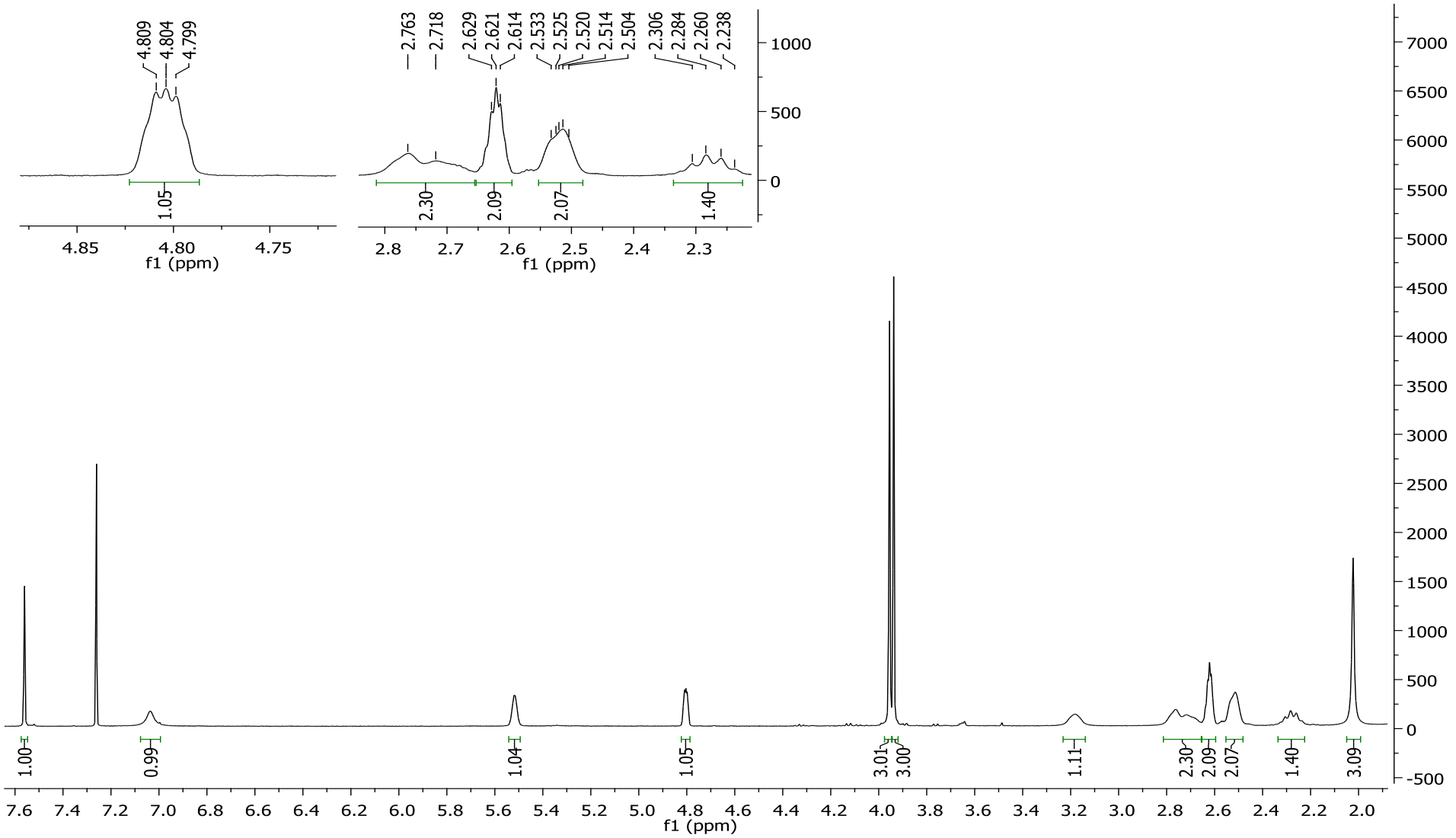

Figure S5. ^{1}H NMR spectrum (400 MHz, $CDCl_3$) of compound **12**.

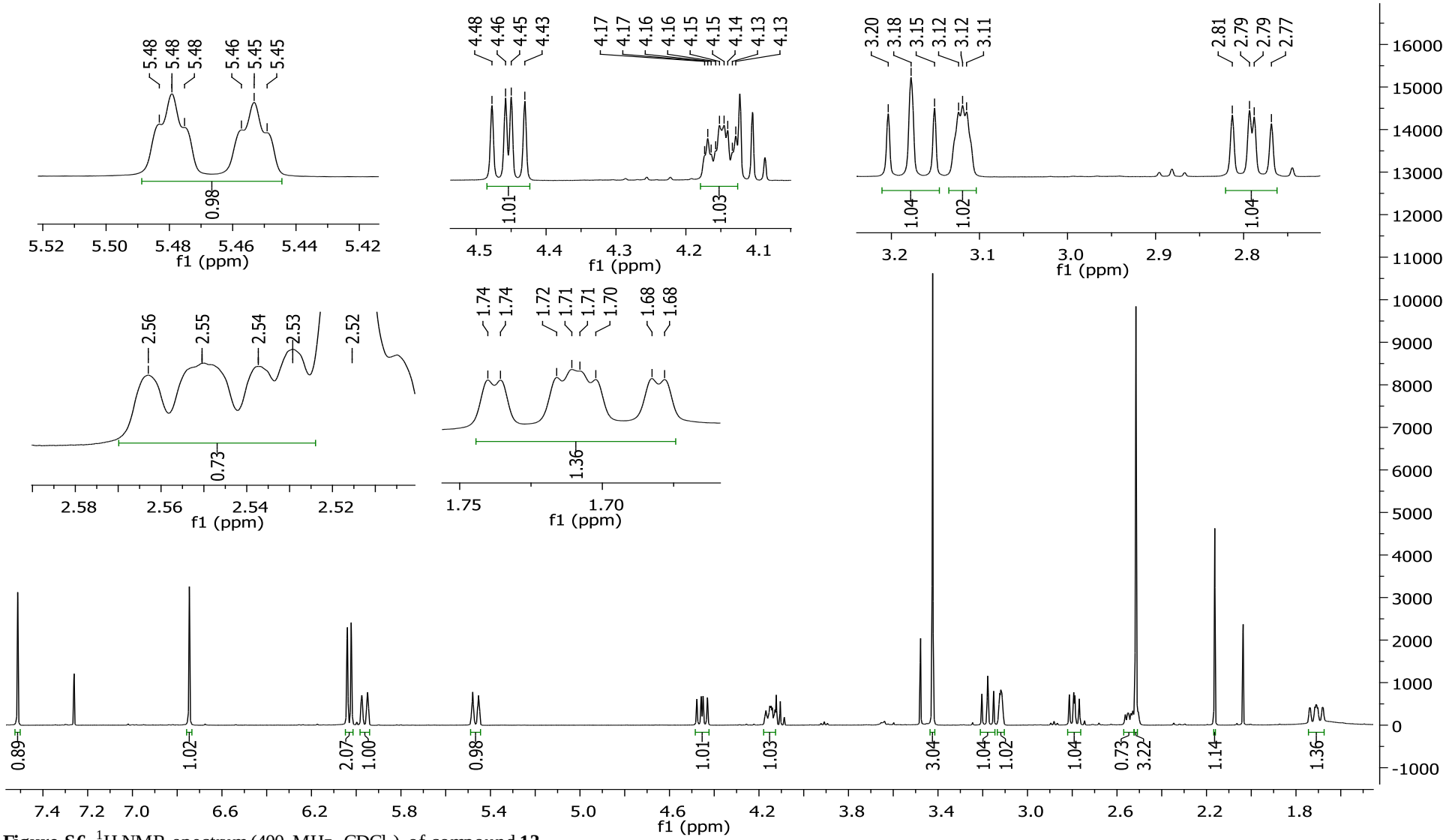

Figure S6. ^{1}H NMR spectrum (400 MHz, $CDCl_3$) of compound **13**.

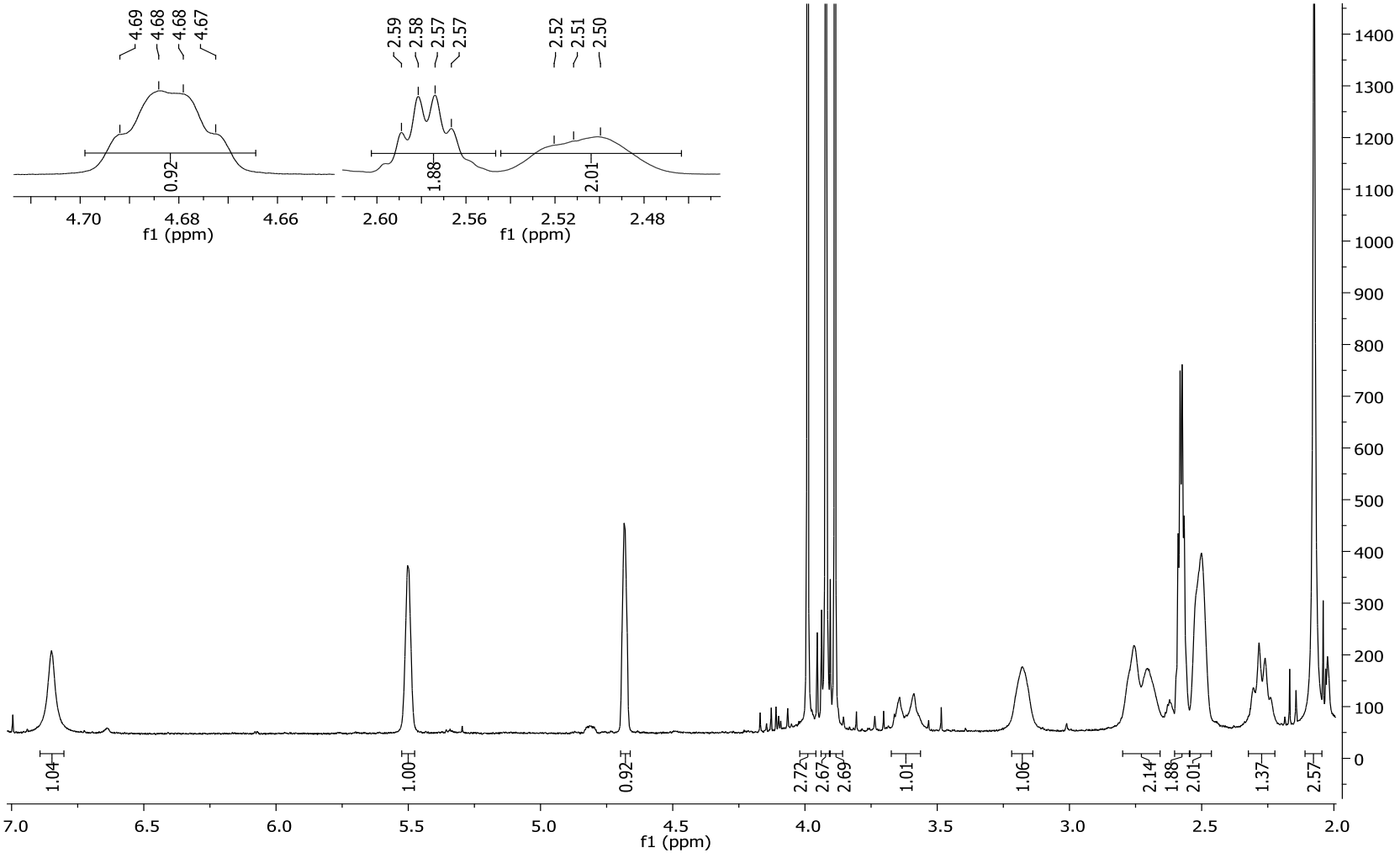

Figure S7. ^{1}H NMR spectrum (400 MHz, $CDCl_3$) of compound **14**.

Table S1. Crystallographic parameters of tazettine

Crystal data	
Empirical formula	$C_{18}H_{23}NO_5$
Formula weight	333.37
Temperature / K	100.15
Crystal system	orthorhombic
Space group	$P2_12_12_1$
a / Å	7.0132(2)
b / Å	13.2870(5)
c / Å	16.7725(6)
Volume / Å^3	1562.94(9)
Z	4
ρ_{calc} / (g cm^{-3})	1.417
μ / mm^{-1}	0.851
F(000)	712.0
Crystal size / mm^3	0.271 × 0.211 × 0.11
Radiation	Cu Kα (λ = 1.54178)
2Θ range for data collection / degree	10.548 to 144.696
Index ranges	$-8 \leq h \leq 7$, $-16 \leq k \leq 16$, $-20 \leq l \leq 20$
Reflections collected	49738
Independent reflections	3035 [R_{int} = 0.0343, R_{sigma} = 0.0157]
Data / restraints / parameters	3035 / 0 / 302
Goodness-of-fit on F^2	1.154
Final R indexes [$I \geq 2\sigma(I)$]	R_1 = 0.0347, wR_2 = 0.0854
Final R indexes [all data]	R_1 = 0.0356, wR_2 = 0.0861
Largest diff. peak / hole / (e Å^{-3})	0.18 / –0.18
Flack parameter	0.00(4)

a-*c*: unit cell parameters; Z: formula unit *per* unit cell; ρ_{calc}: calculated density; F(000): structure factor in the zeroth-order case; μ: absorption coefficient; $I > 2\sigma(I)$: intensity threshold for "observed" reflections; wR_2: R-value for F2; w: weighting factor.

Table S2. Main structural parameters of tazettine

Atom	Atom	Length / Å	Atom	Atom	Length / Å
O7	C6A	1.429(3)	C6A	C13B	1.547(3)
O7	C8	1.428(3)	C6A	C6	1.516(4)
O6A	C6A	1.400(3)	C8A	C8	1.510(4)
O12	C12A	1.382(3)	C8A	C13A	1.387(3)
O12	C11	1.437(3)	C8A	C9	1.406(4)
O3	C3	1.443(3)	C4A	C13B	1.555(4)
O3	C14	1.426(4)	C4A	C4	1.524(4)
O10	C9A	1.376(3)	C9A	C9	1.369(4)
O10	C11	1.434(3)	C13B	C13A	1.523(3)
N5	C4A	1.487(3)	C13B	C1	1.514(4)
N5	C6	1.474(4)	C13A	C13	1.413(3)
N5	C15	1.456(4)	C1	C2	1.327(4)
C12A	C9A	1.388(4)	C3	C4	1.520(4)
C12A	C13	1.371(3)	C3	C2	1.501(4)

Atom	Atom	Atom	Angle / degree
C8	O7	C6A	113.0(2)
O7	C6A	C6	106.2(2)
O6A	C6A	O7	111.2(2)
O6A	C6A	C13B	109.8(2)
C6	N5	C4A	108.3(2)
C15	N5	C4A	111.4(2)
C15	N5	C6	114.3(2)
C14	O3	C3	113.7(2)

Atom	Atom	Atom	Atom	Angle / degree
C4	C3	O3	C14	66.5(3)
C2	C3	O3	C14	–171.5(2)

Table S3. Intermolecular interactions of tazettine

Interaction	D–H / Å	H•••A / Å	D•••A / Å	D–H•••A/ degree
O6A–H6A•••O3^{i}	0.840	1.931(41)	2.755(03)	153.23(3)
C9–H6A•••O3^{ii}	0.950	2.629(32)	3.588(03)	166.85(2)
π-interaction	Distance / Å			
π•••π^{+}	4.146			

Symmetry code: (*i*) –x + 1, y + 1/2, –z + 1/2 + 1; (*ii*) –x + 1/2 + 1, –y + 1, z – 1/2. (+) Average distance determined between centroids of the phenyl ring of the 1,3-benzendioxole fragments.

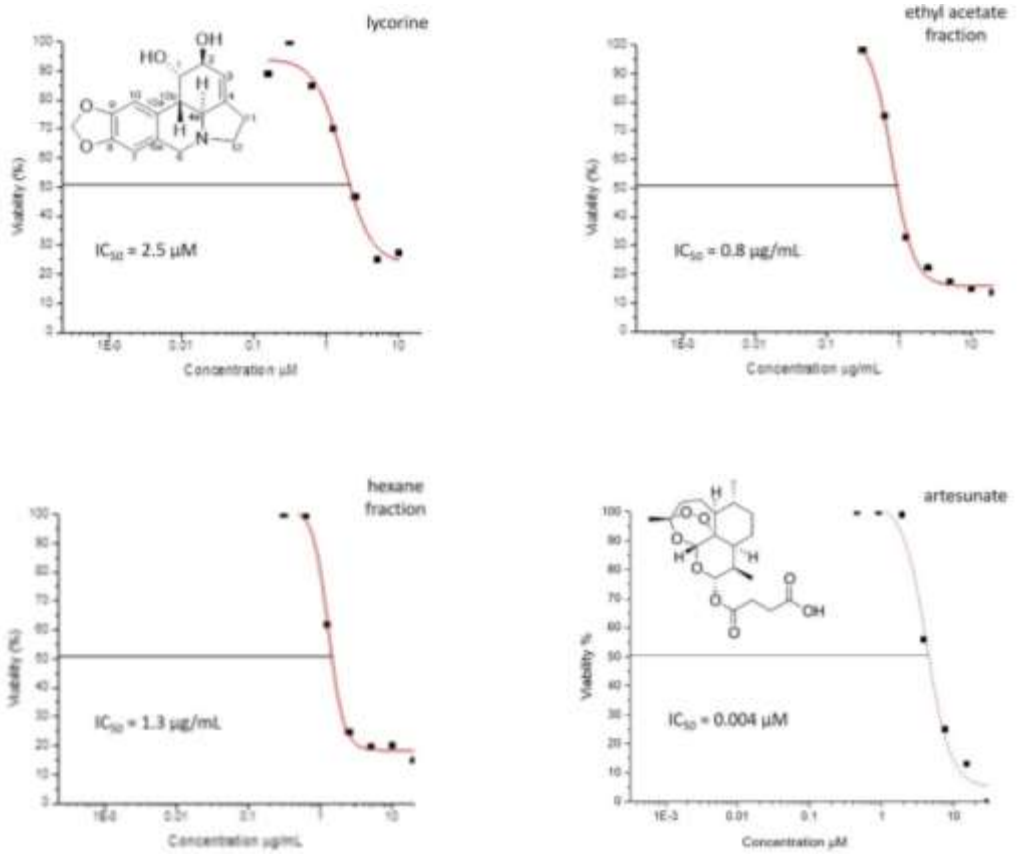

Figure S8. Representative dose-response for curves for lycorine, ethyl acetate fraction (extract B), hexane fraction (extract A) and artesunate (positive control).