

Supporting Information file 1

Kinase Chemodiversity from the Arctic: The Breitfussins

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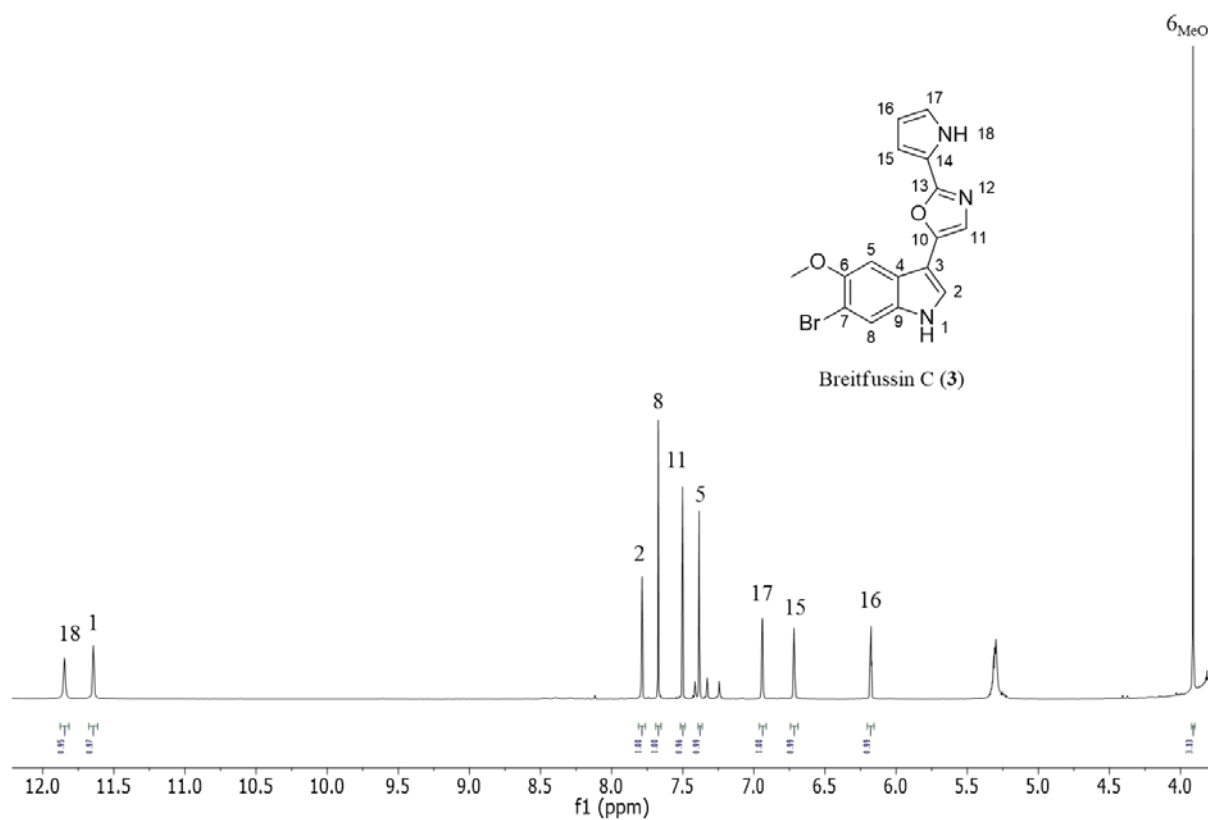
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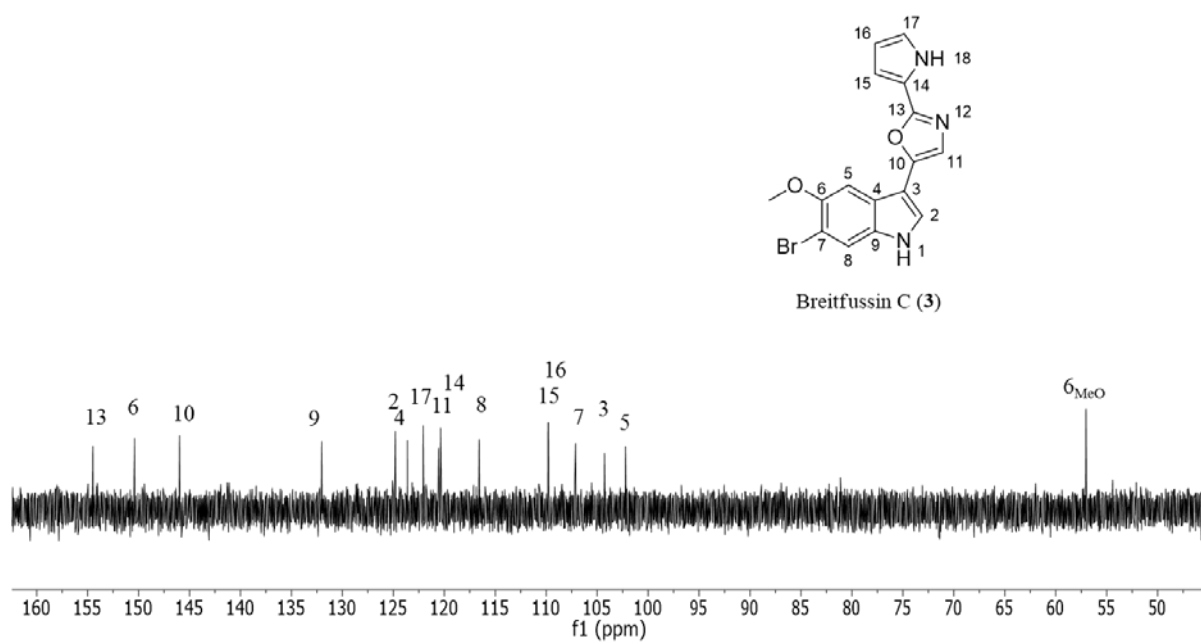
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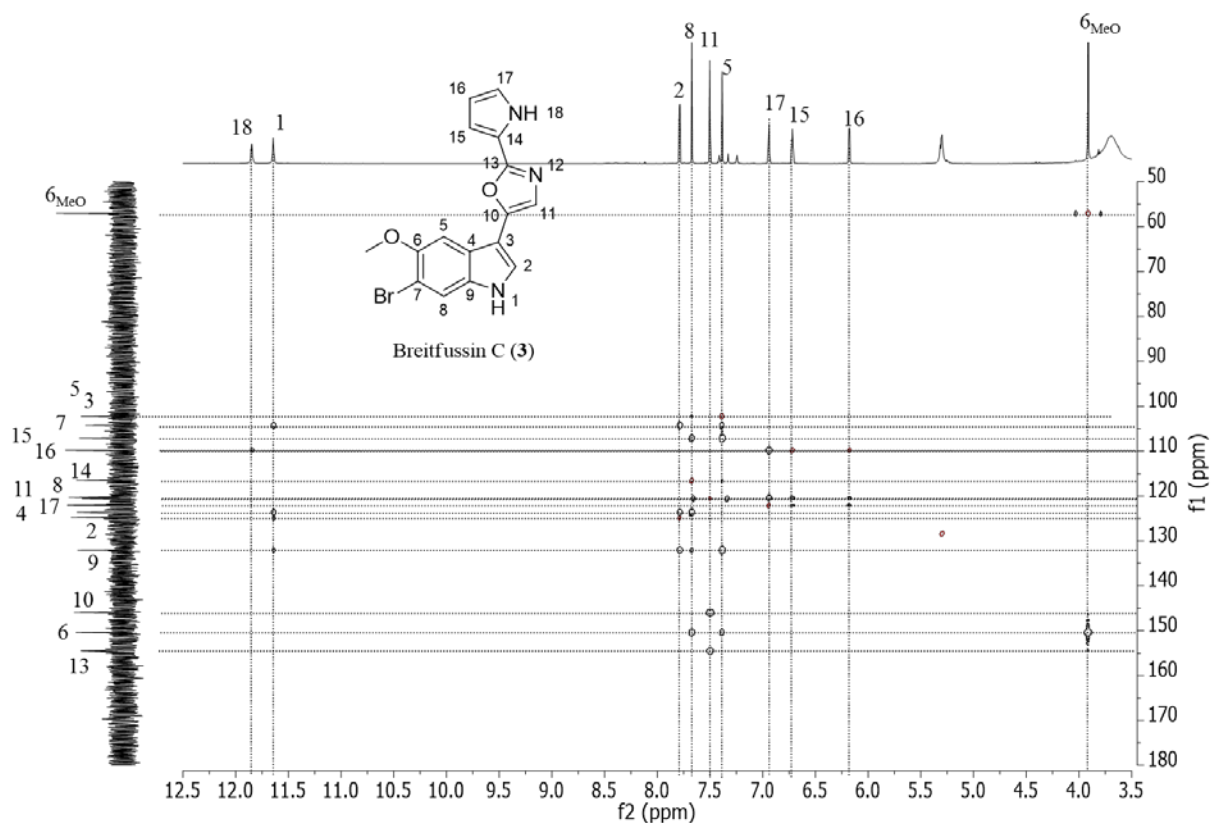
^1H -NMR (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin C (**3**)



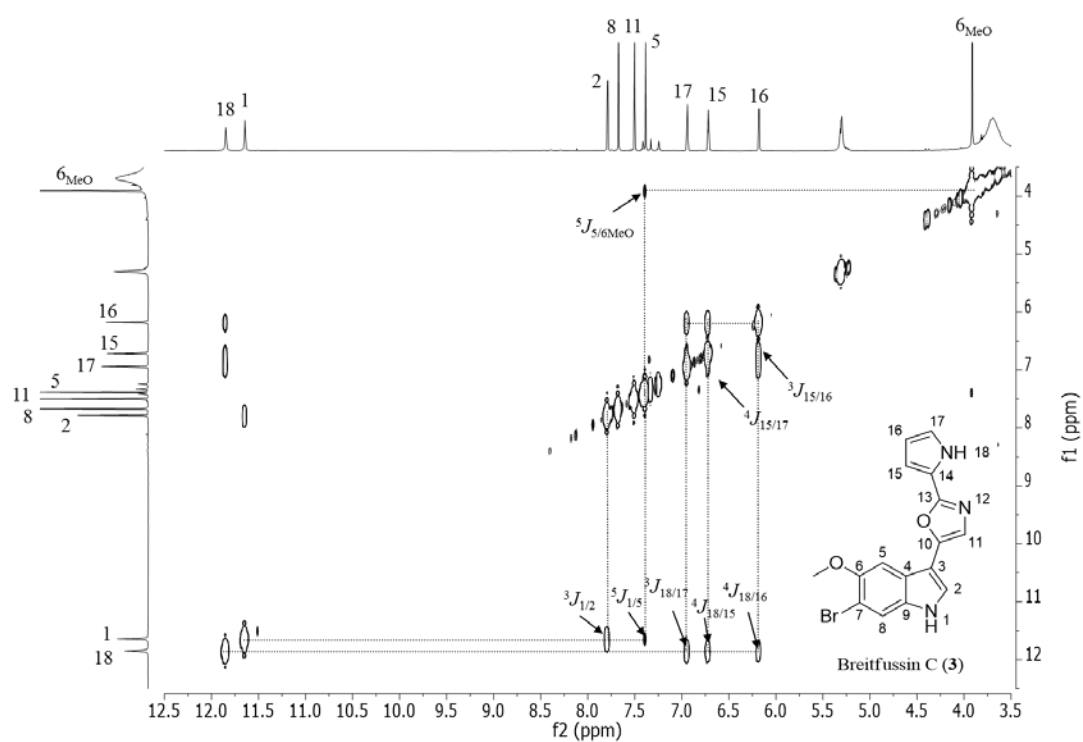
^{13}C -NMR (151 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin C (**3**)



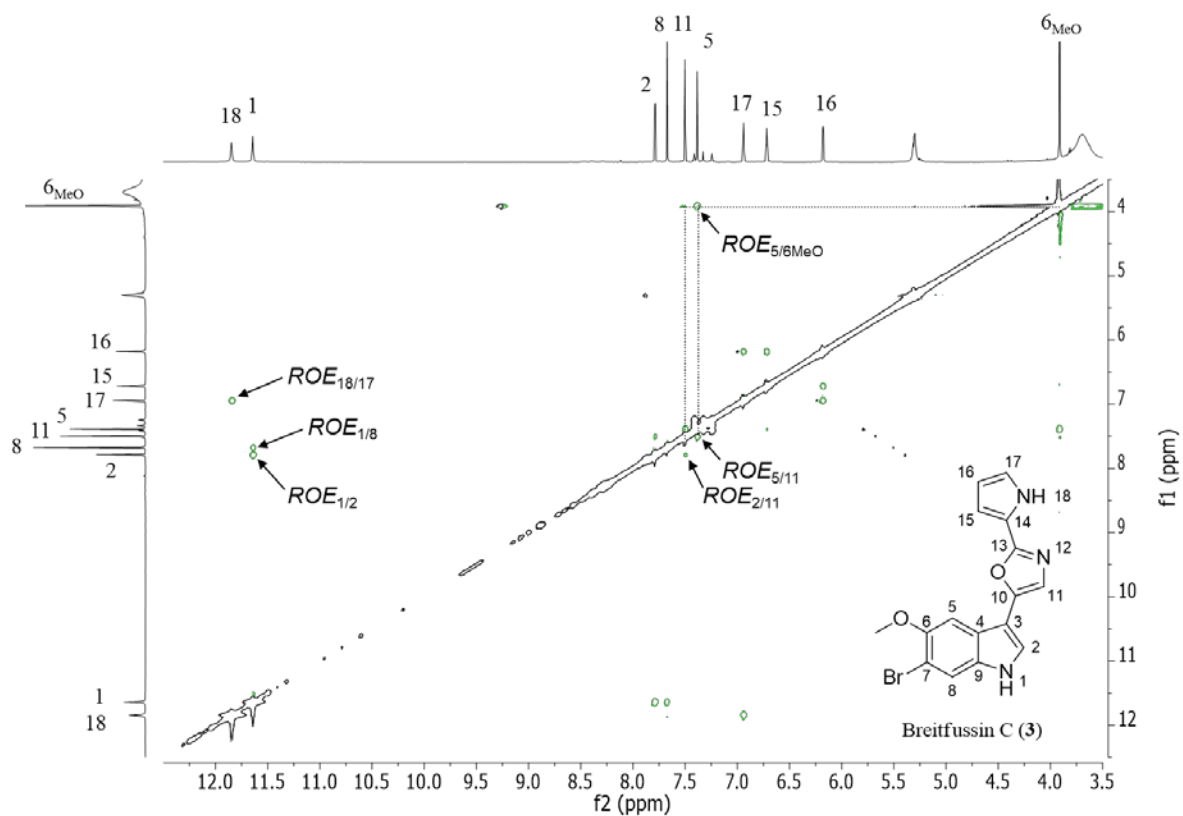
HSQC + HMBC (600 MHz, (CD₃)₂SO) spectrum of breitfussin C (3)



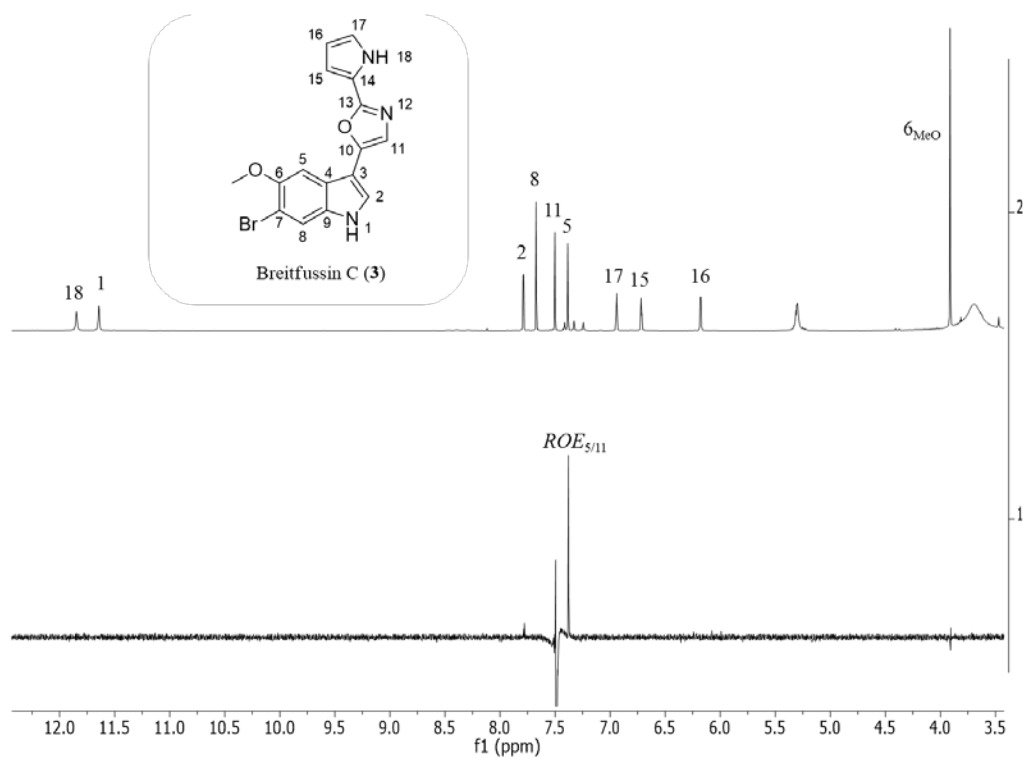
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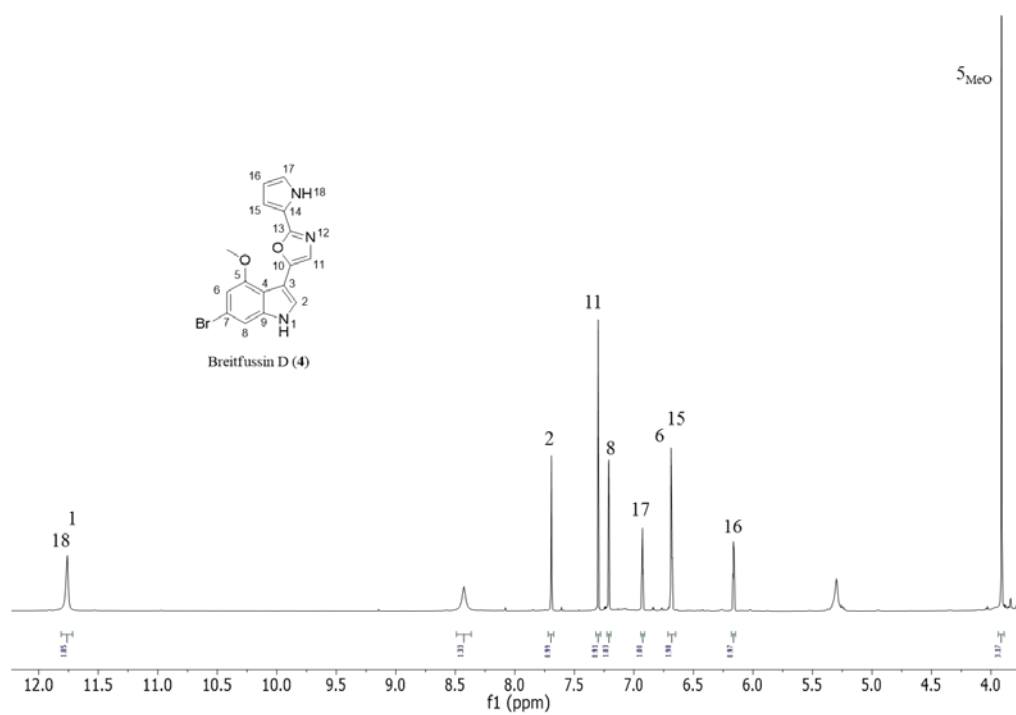
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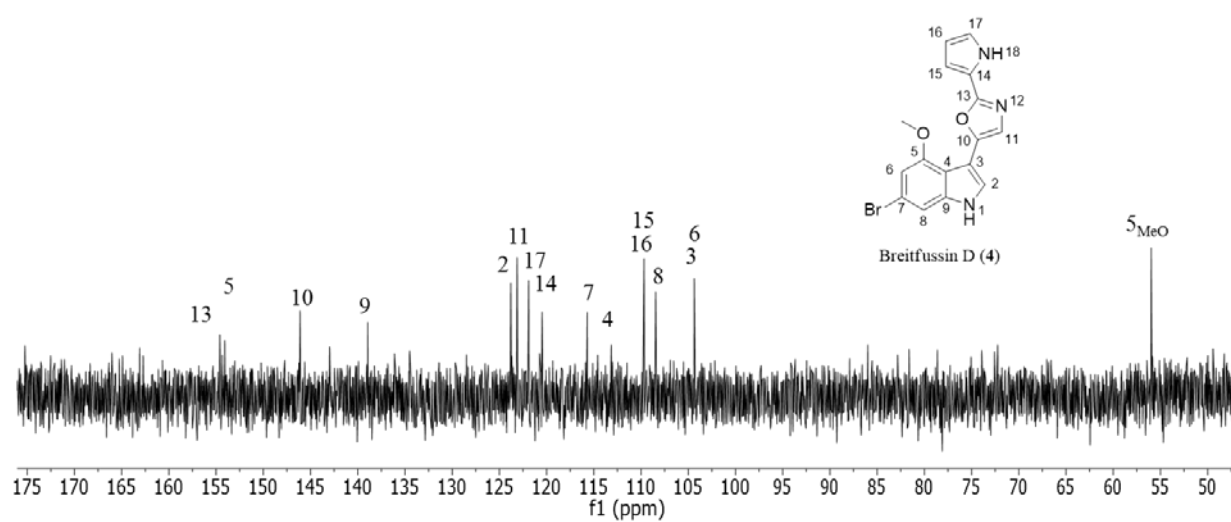
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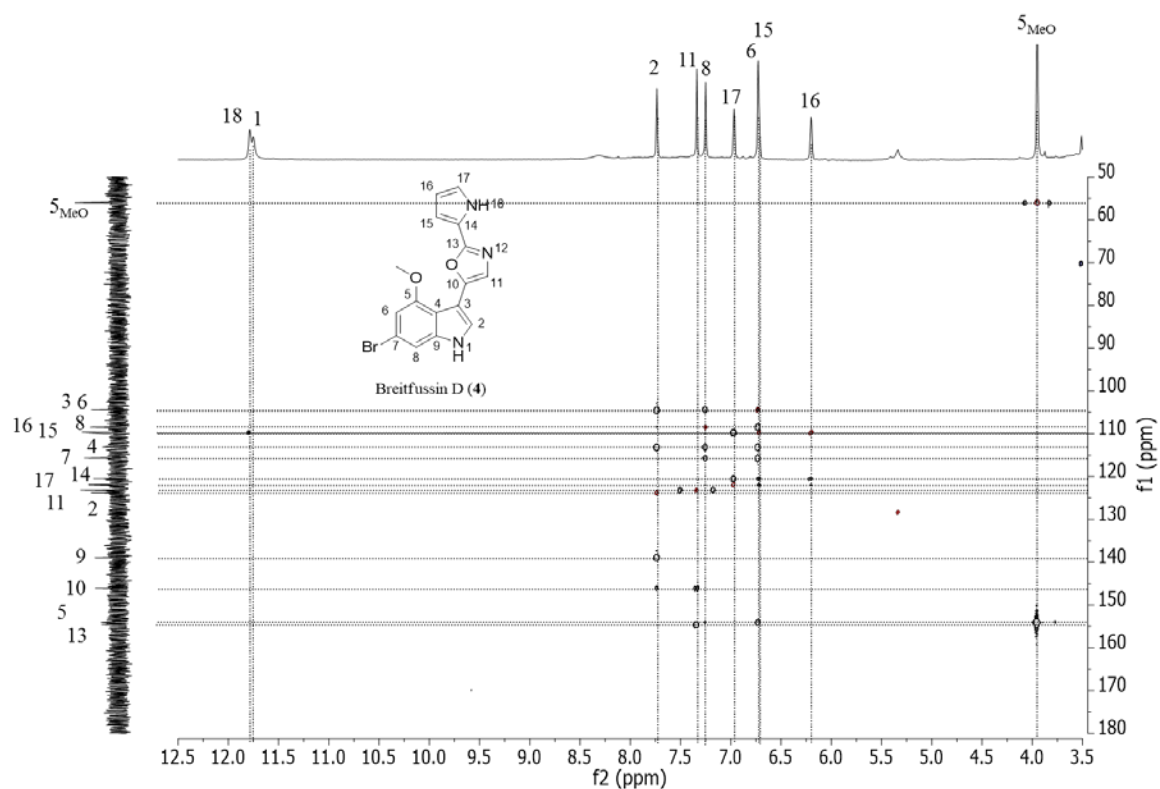
^1H -NMR (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin D (**4**)



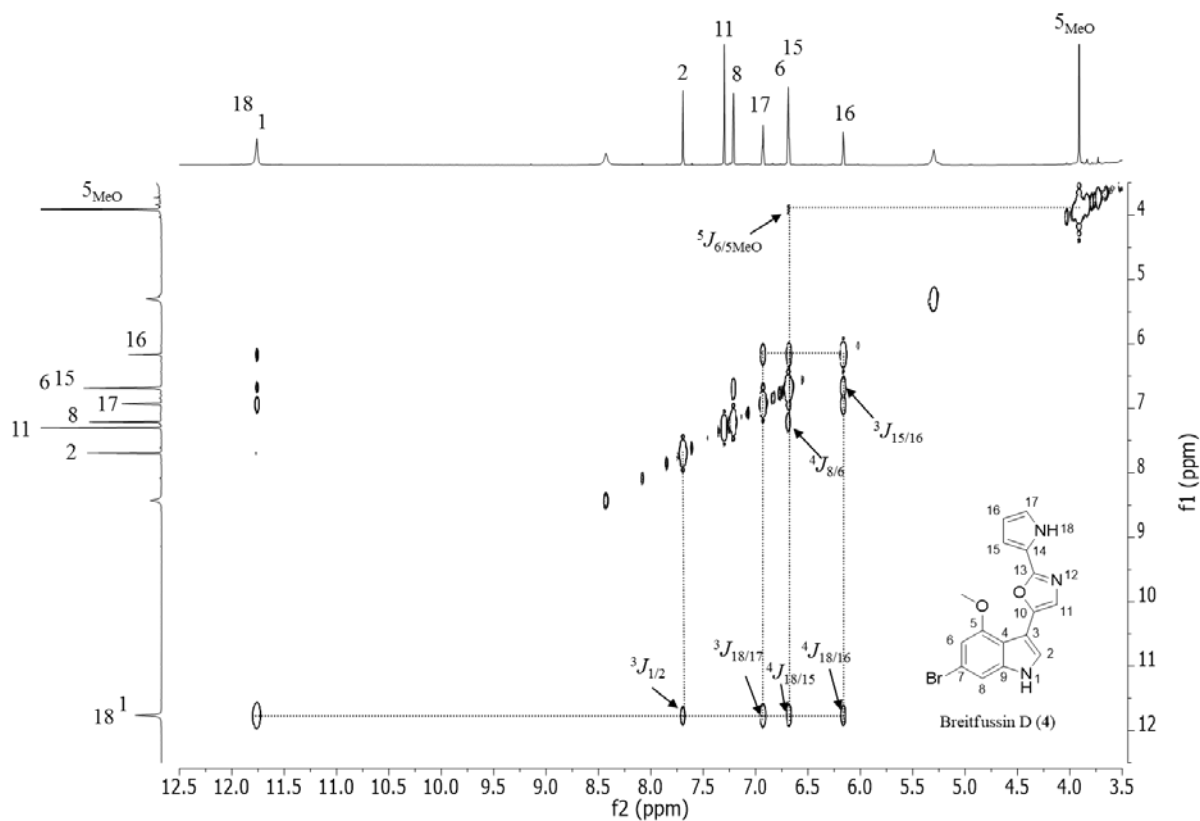
^{13}C -NMR (151 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin D (**4**)



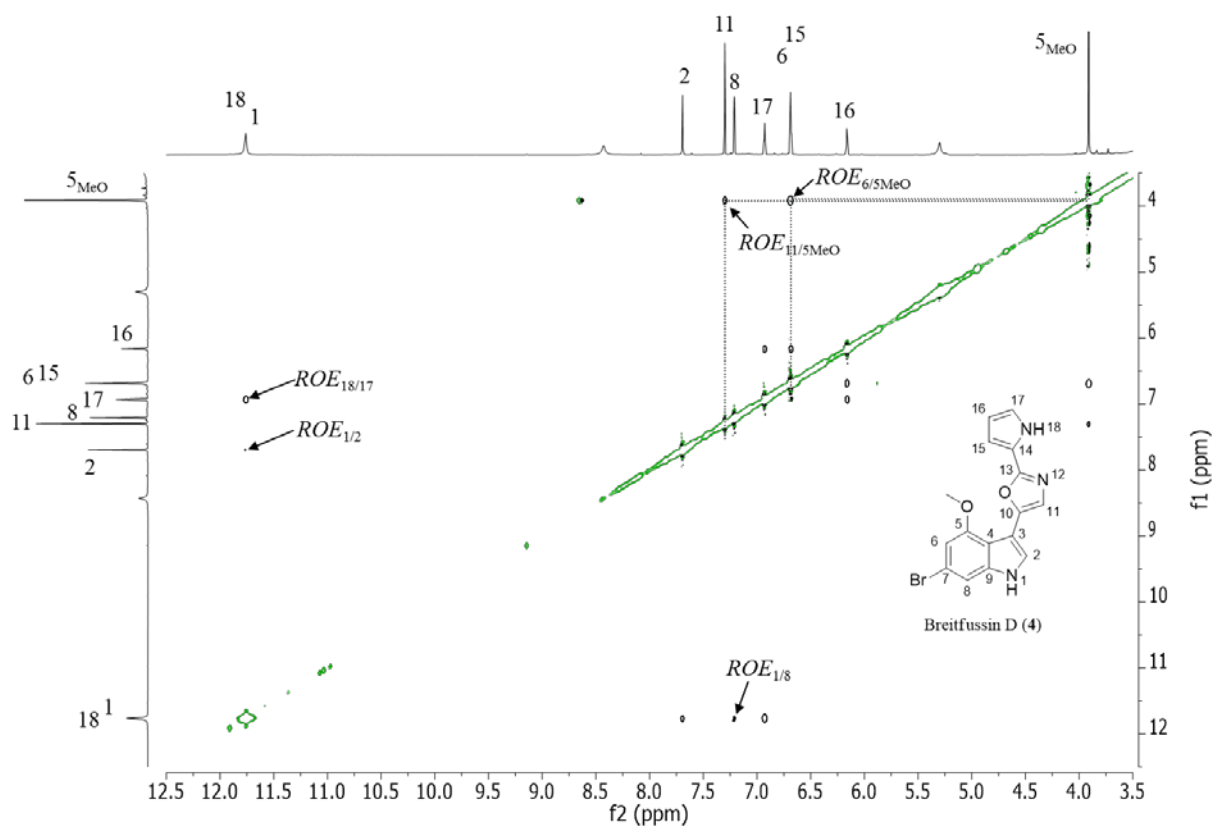
HSQC + HMBC (600 MHz, d_6 -DMSO) spectrum of breitfussin D (**4**)



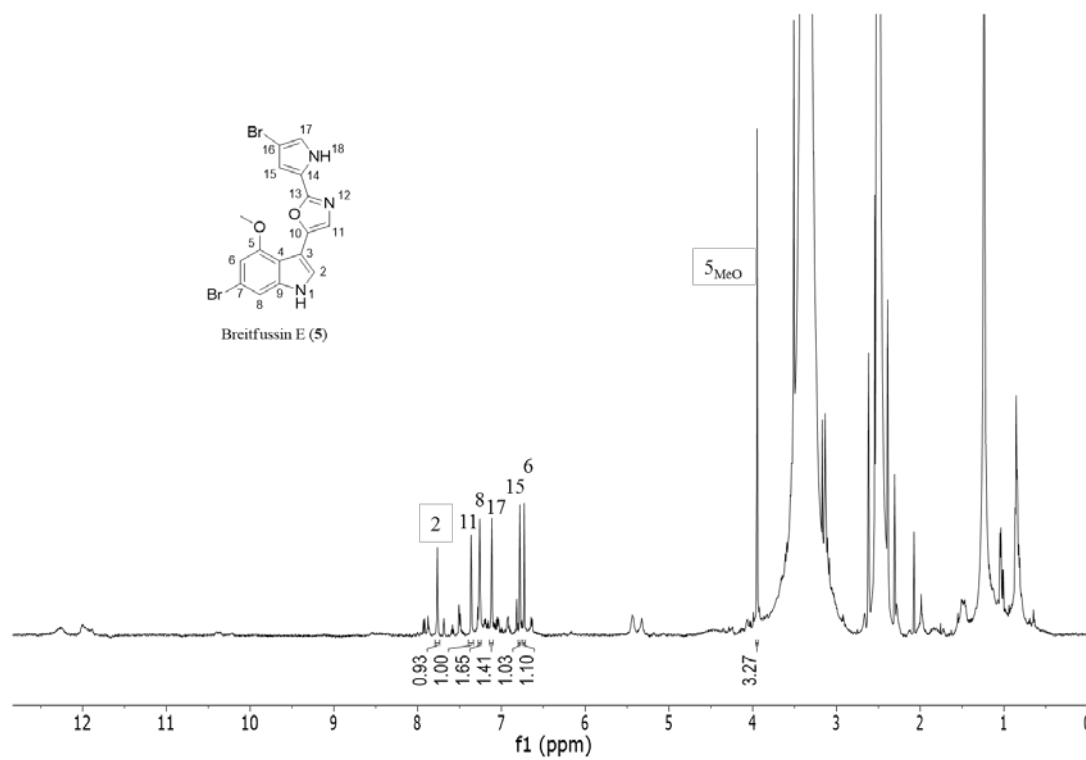
H,H-COSY (600 MHz, $(CD_3)_2SO$) spectrum of breitfussin D (**4**)



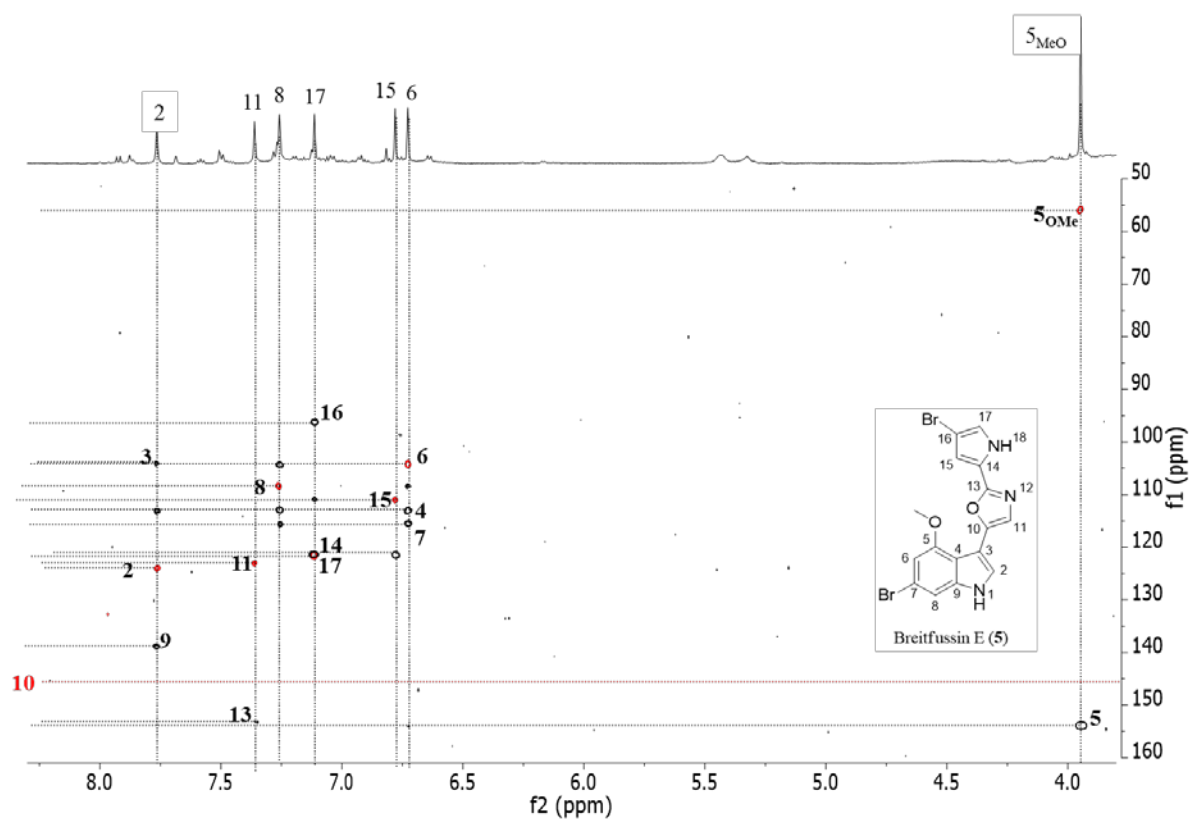
ROESY (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin D (**4**)



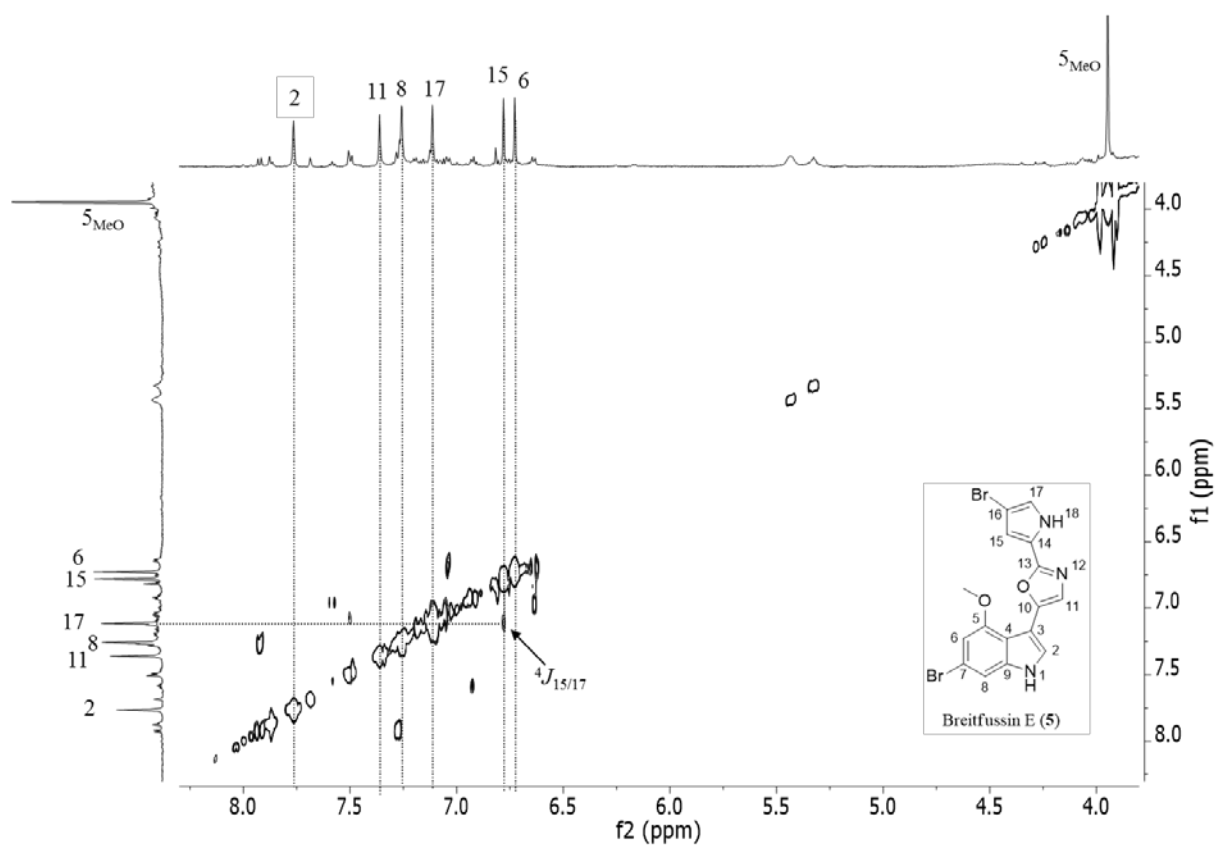
^1H -NMR (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin E (**5**)



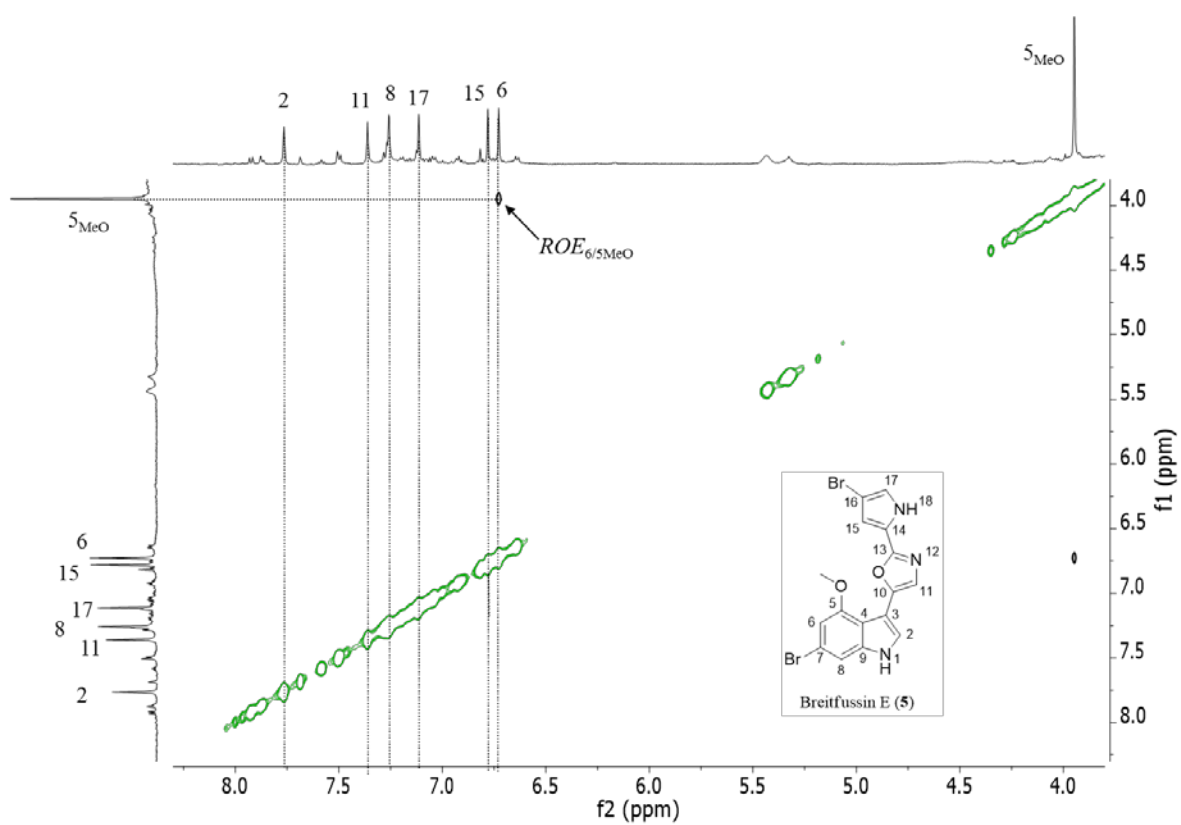
HSQC + HMBC (600 MHz, (CD₃)₂SO) spectrum of breitfussin E (5)



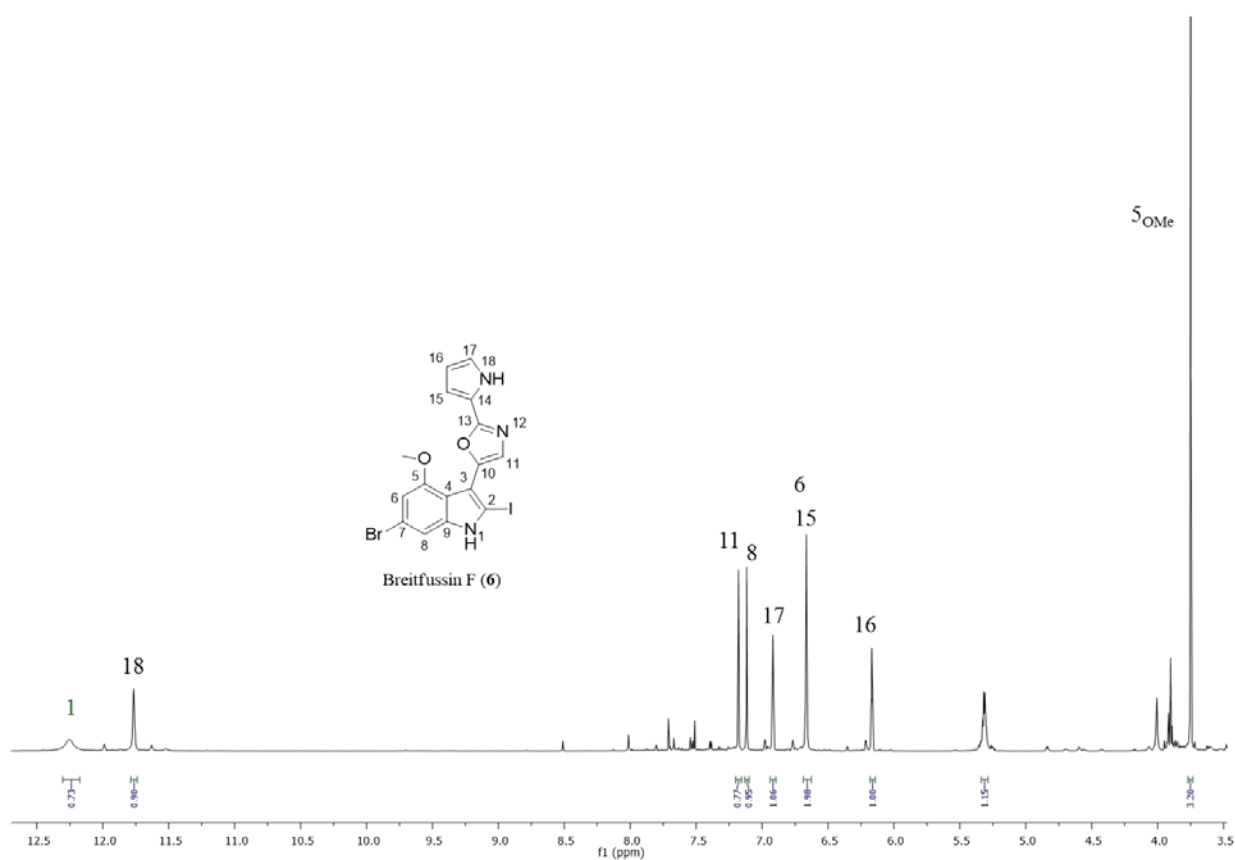
H,H-COSY (600 MHz, (CD₃)₂SO) spectrum of breitfussin E (5)



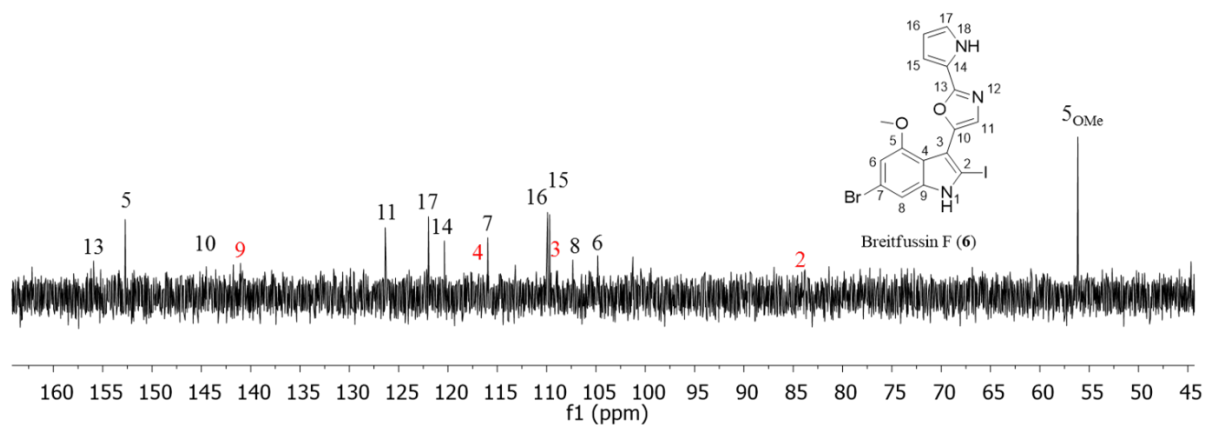
ROESY (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin E (**5**)



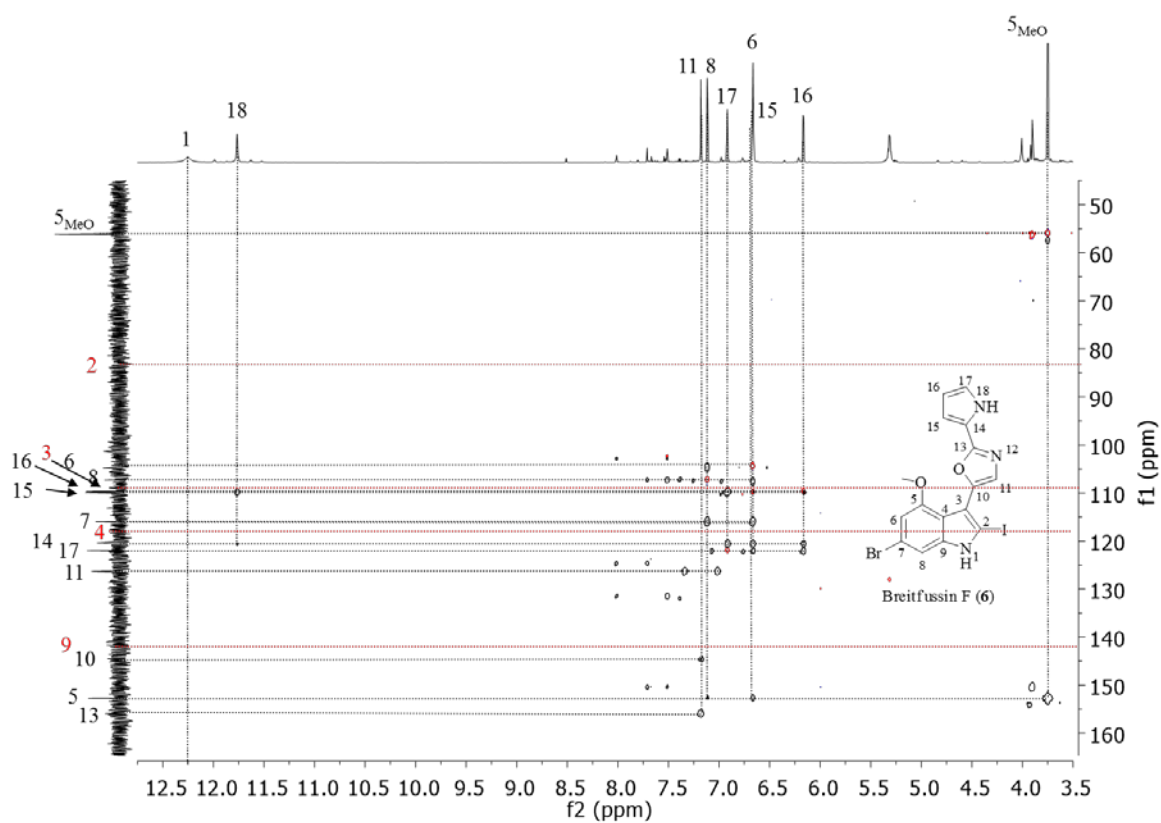
^1H -NMR (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin F (**6**)



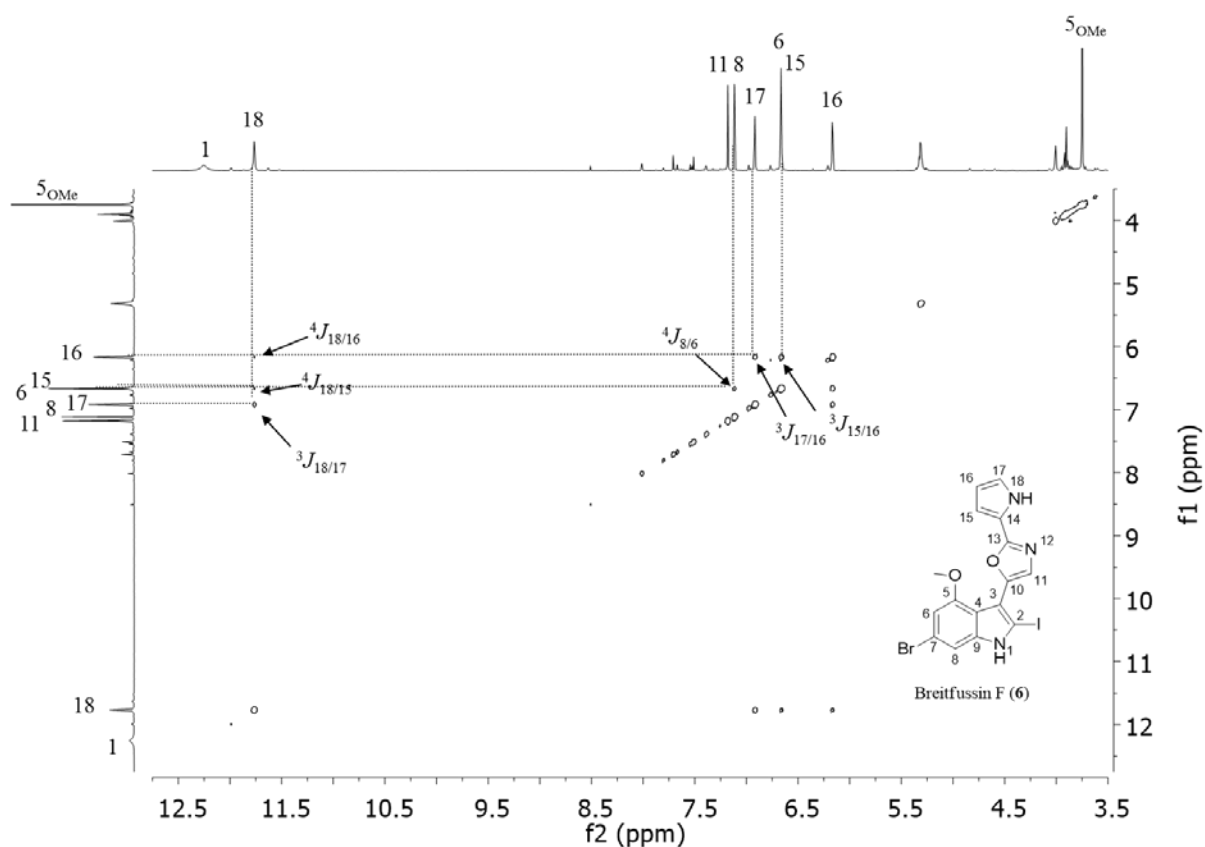
^{13}C -NMR (151 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breidfussin F (**6**)



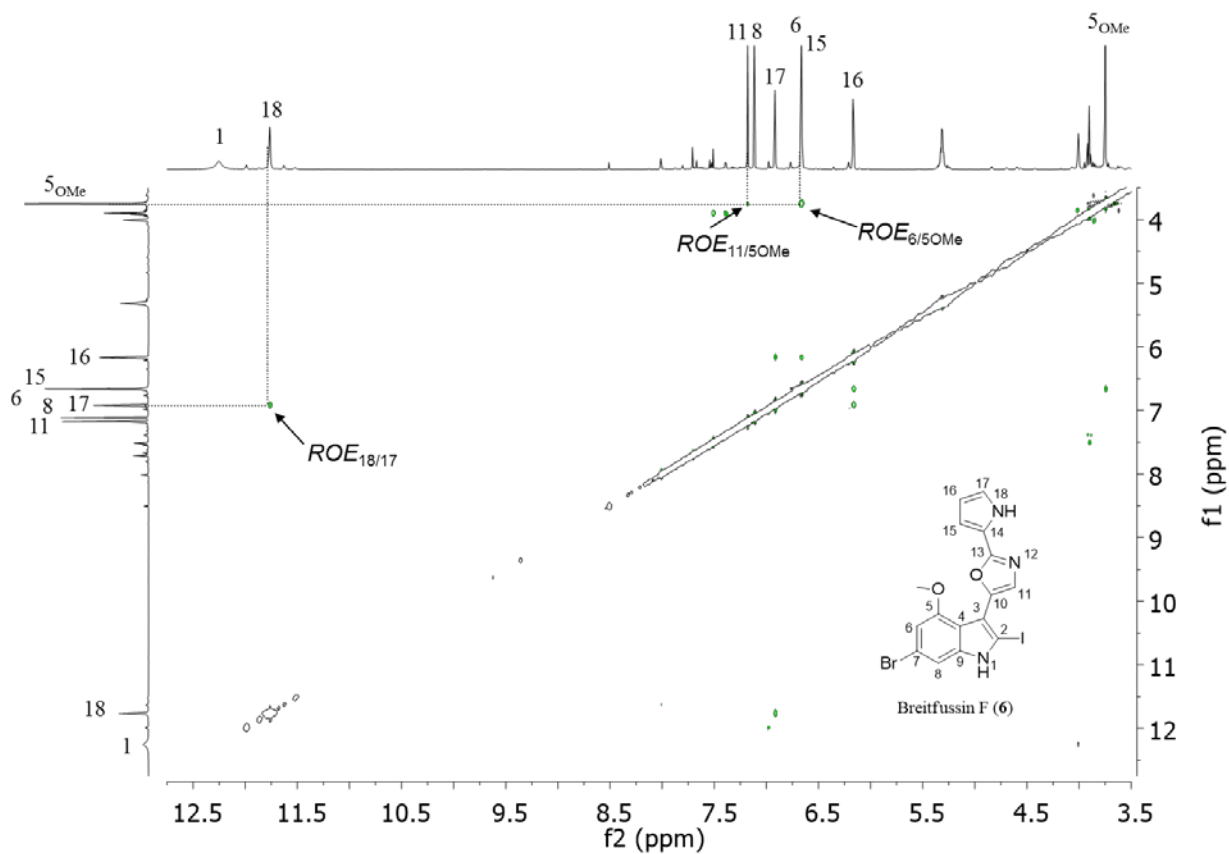
HSQC + HMBC (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breidfussin F (**6**)



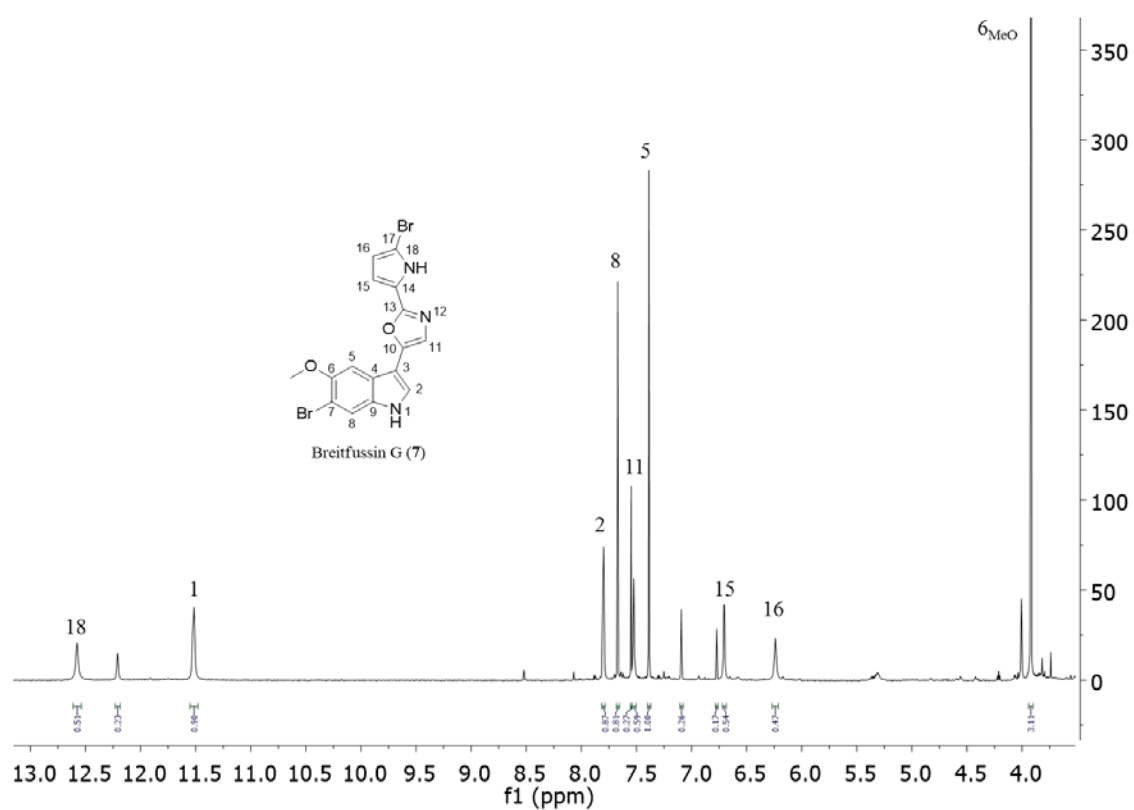
H,H-COSY (600 MHz, (CD₃)₂SO) spectrum of breitfussin F (**6**)



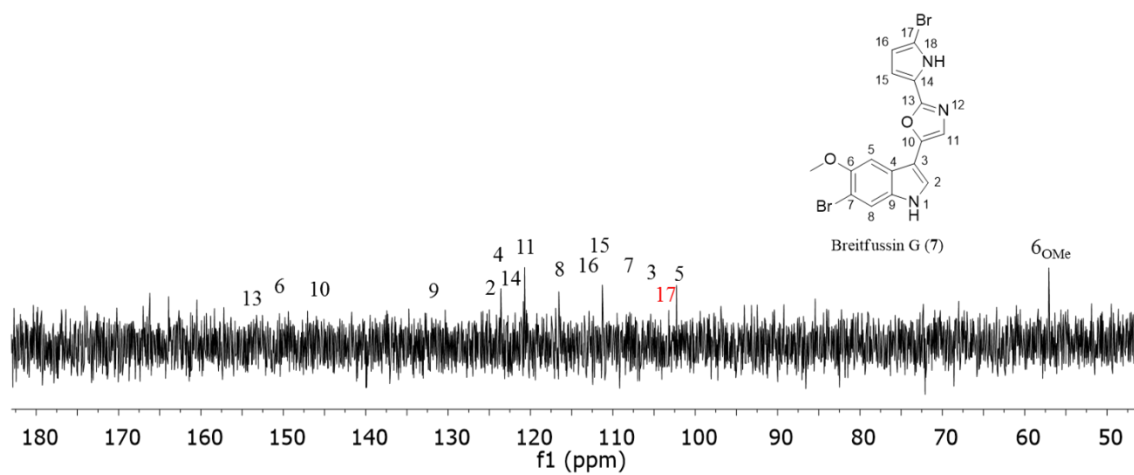
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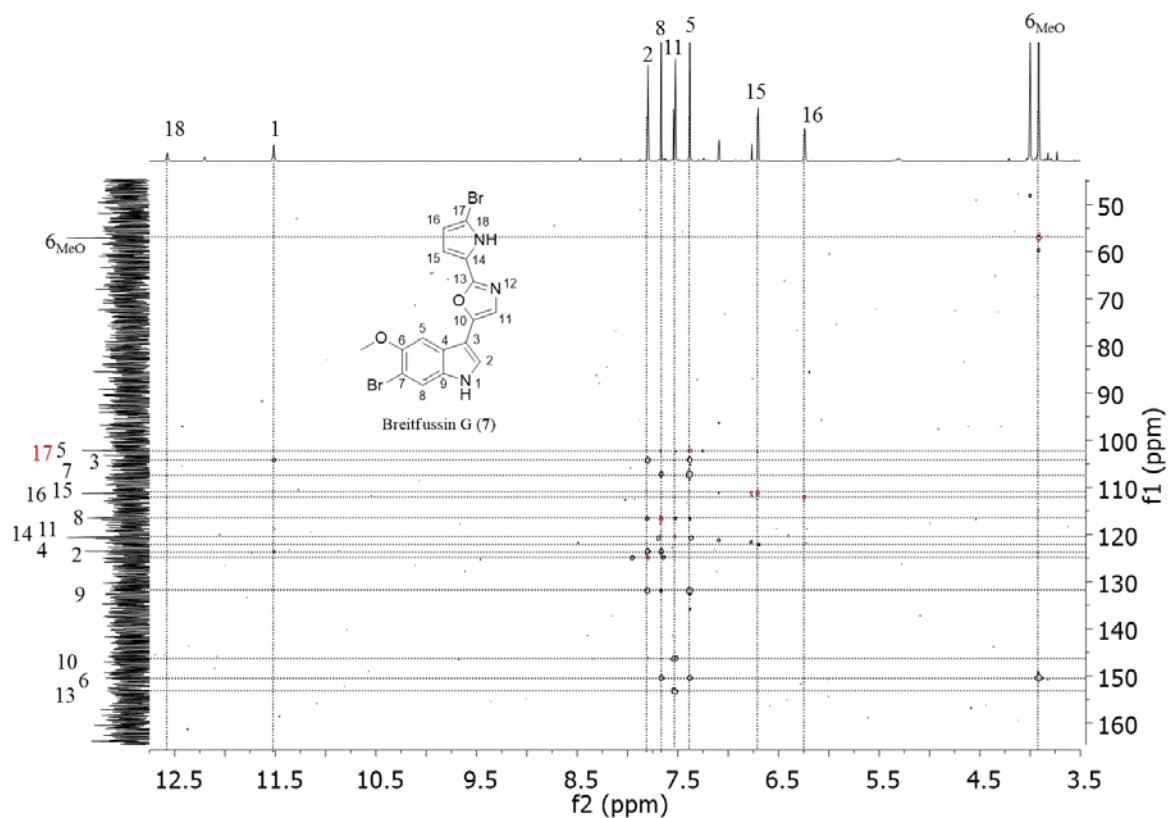
^1H -NMR (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin G (7)



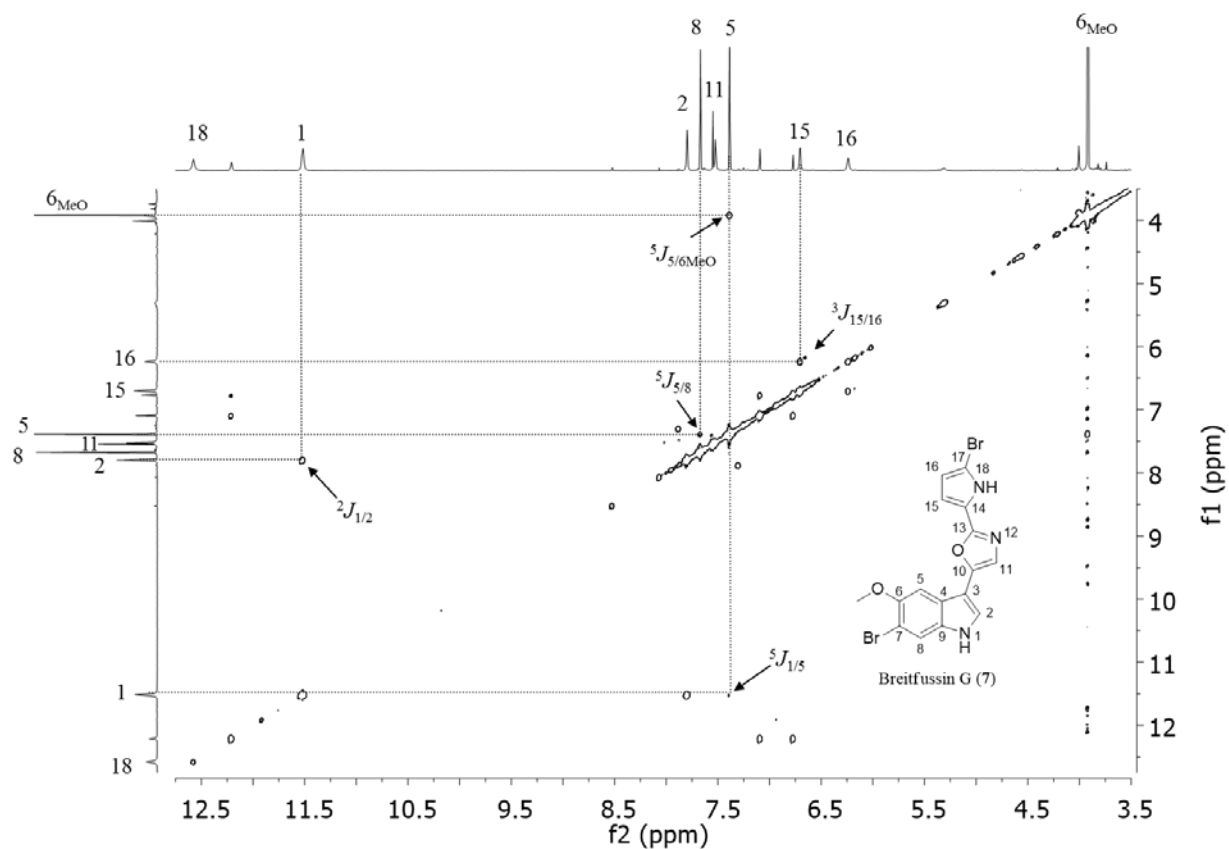
^{13}C -NMR (151 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin G (7)



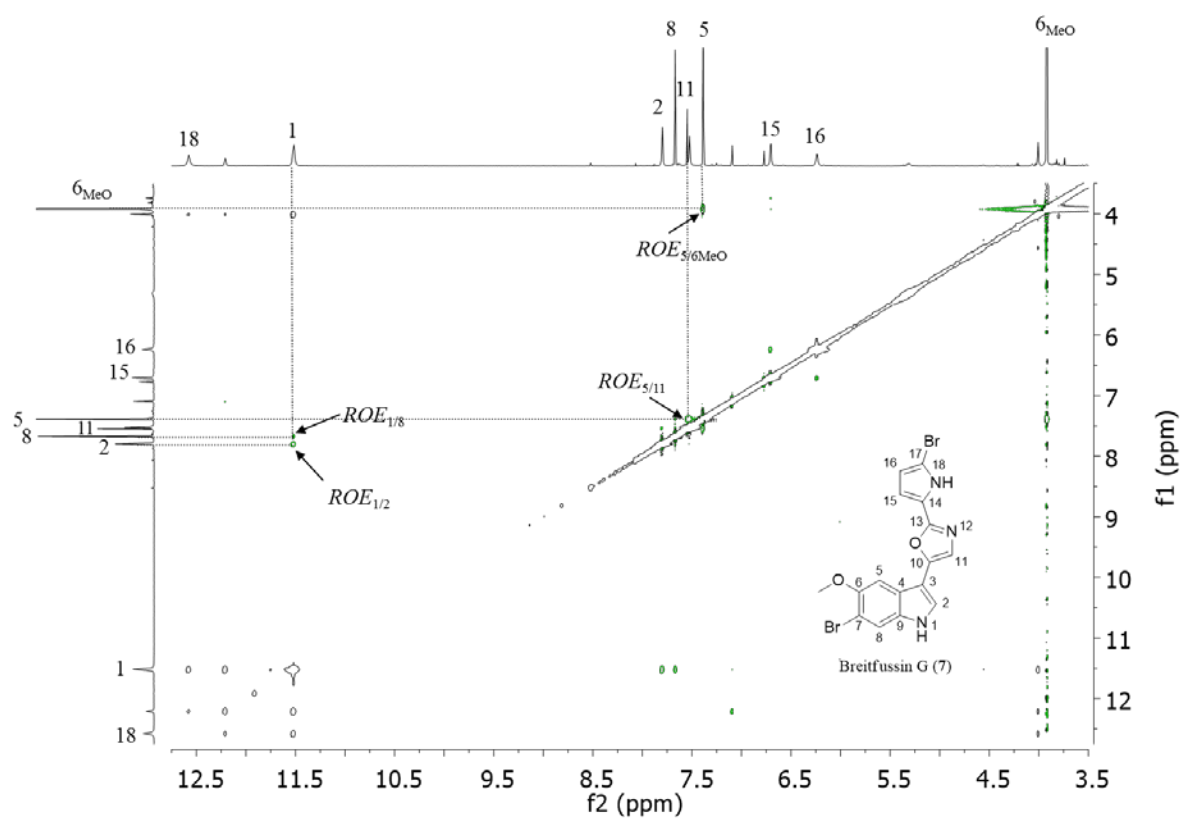
HSQC + HMBC (600 MHz, (CD₃)₂SO) spectrum of breitfussin G (7)



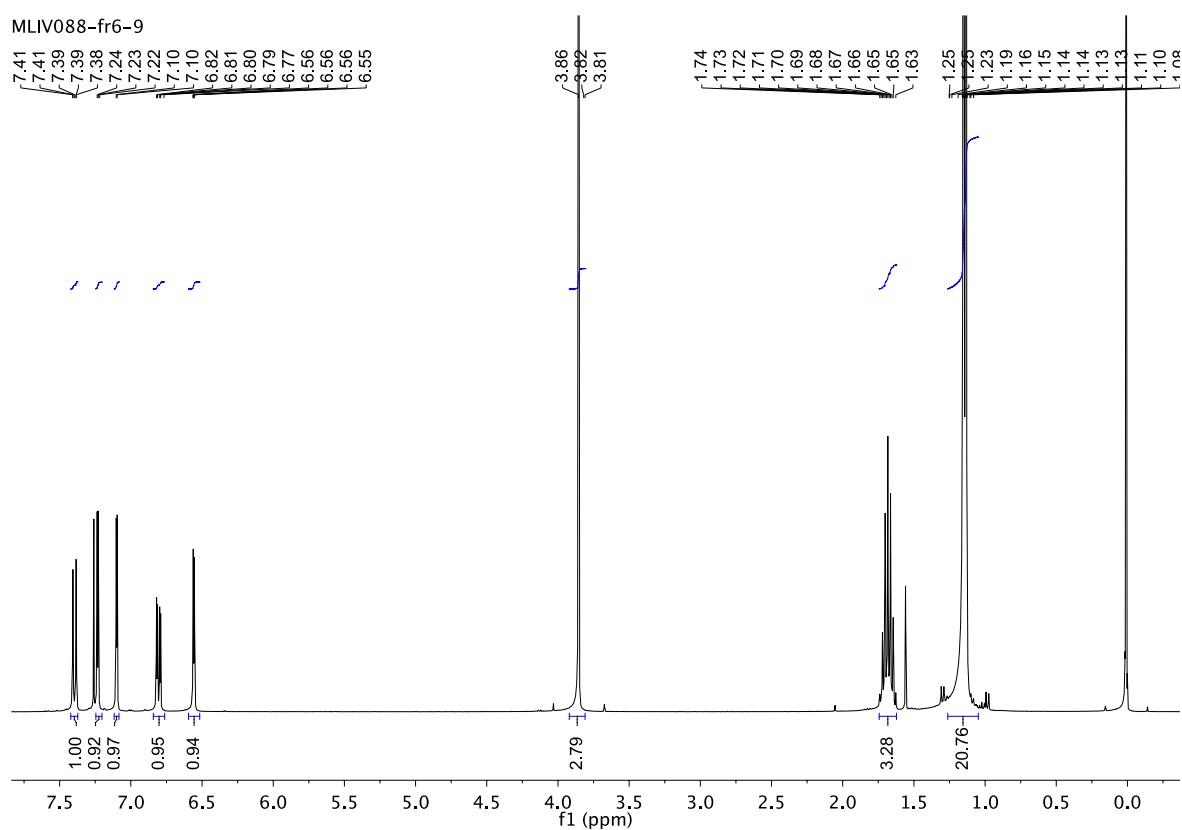
H,H-COSY (600 MHz, (CD₃)₂SO) spectrum of breitfussin G (7)



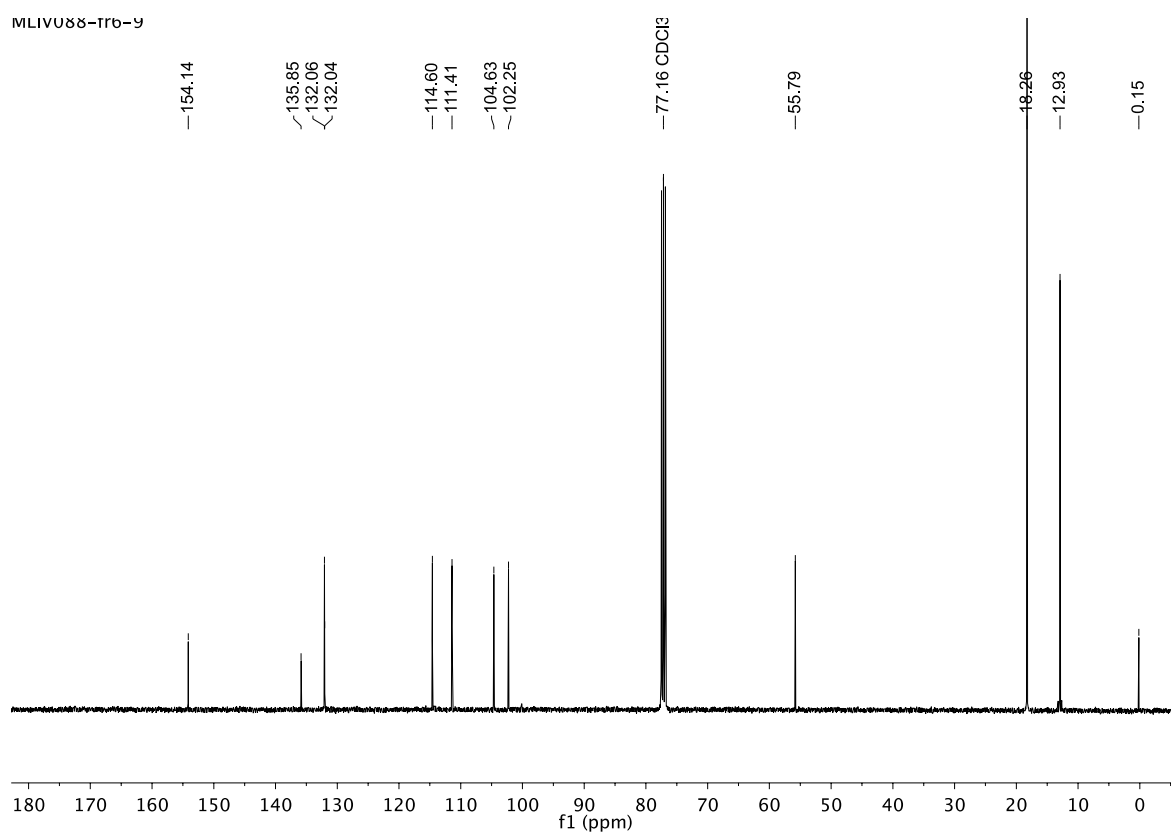
ROESY (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin G (7)



^1H -NMR (400 MHz, CDCl_3) spectrum of **10**

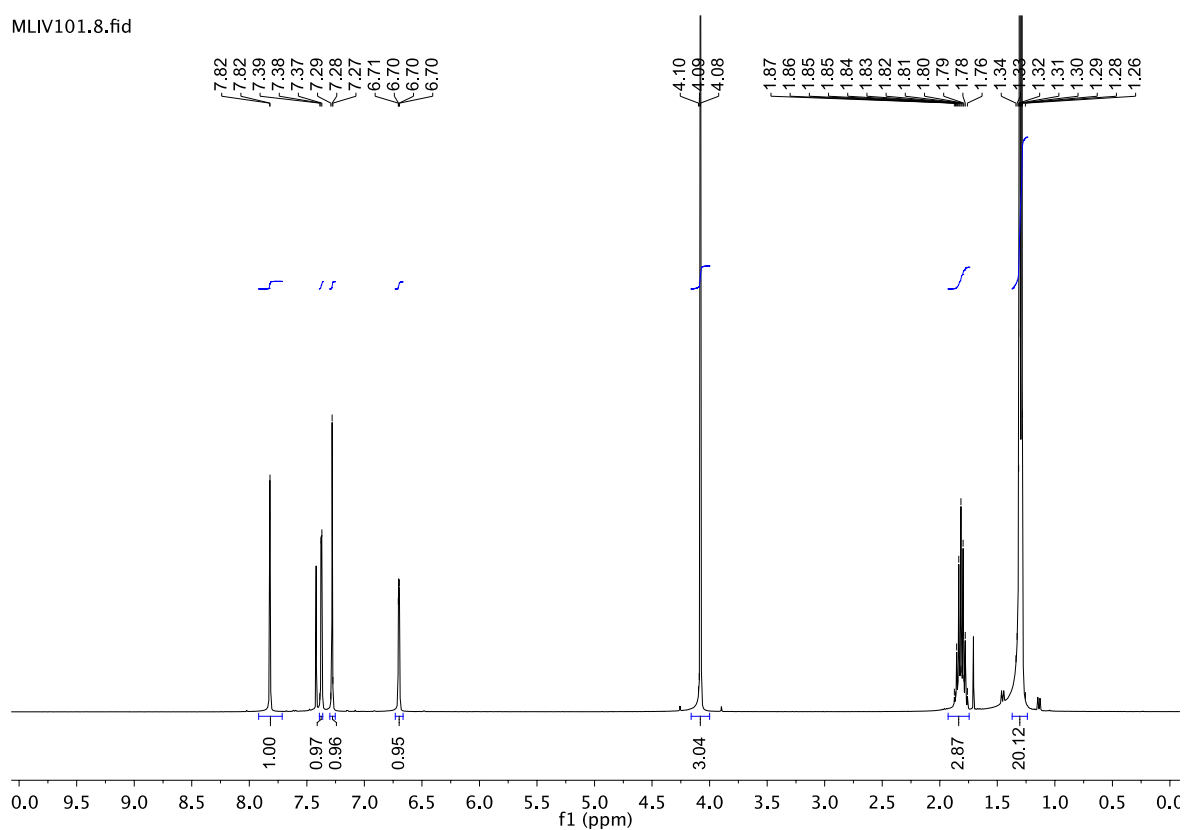


^{13}C -NMR (100 MHz, CDCl_3) spectrum of **10**



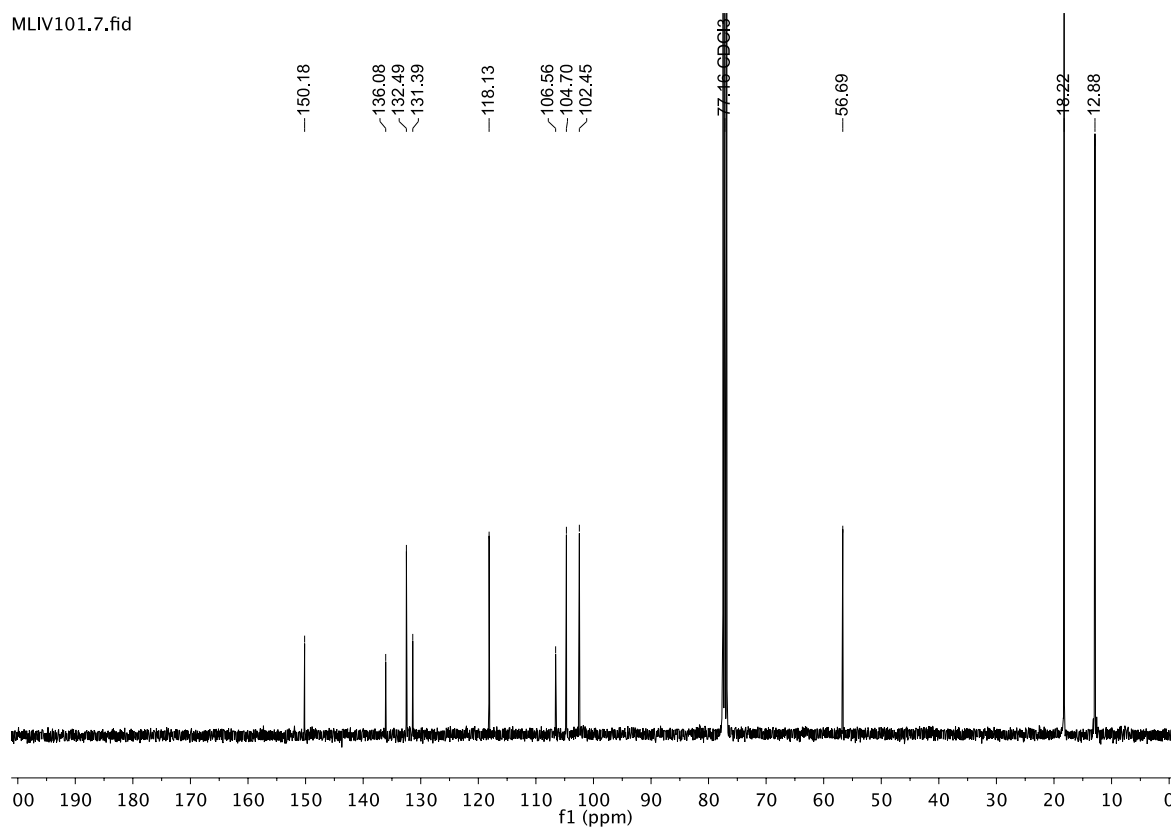
¹H-NMR (400 MHz, CDCl₃) spectrum of **12**

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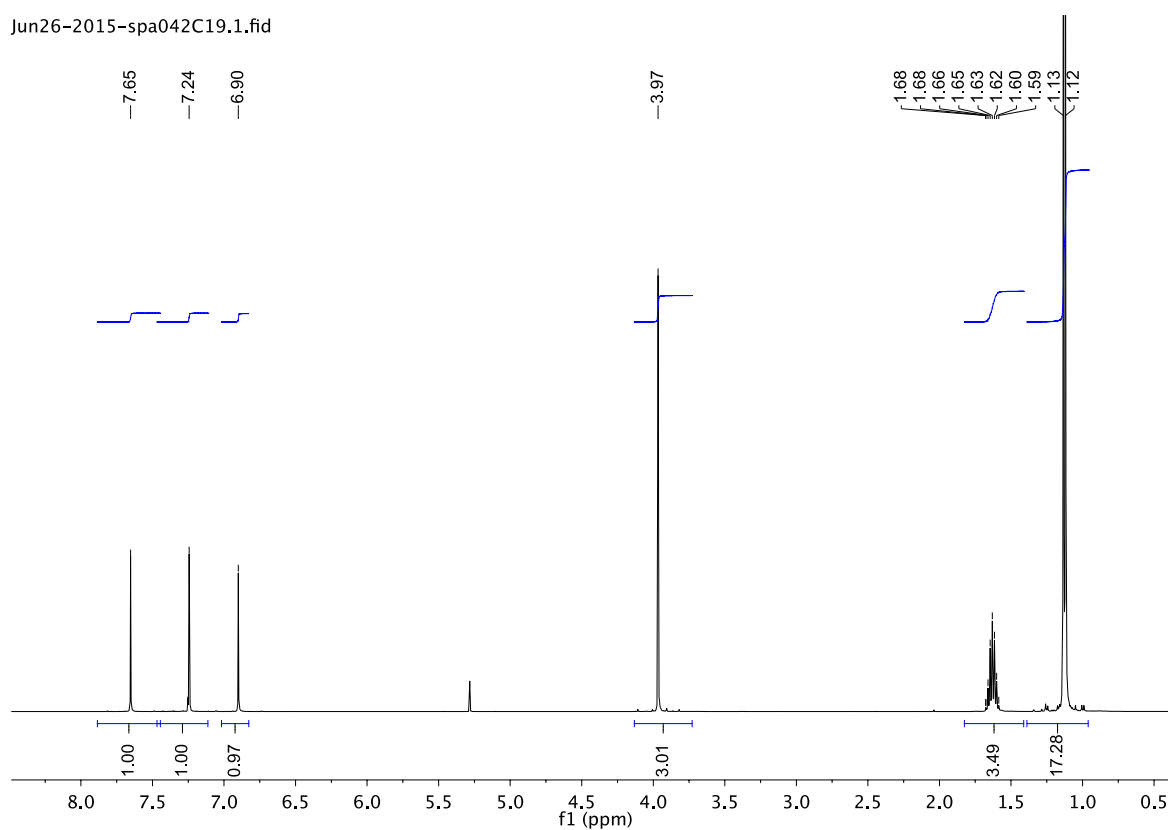
¹³C-NMR (100 MHz, CDCl₃) spectrum of **12**

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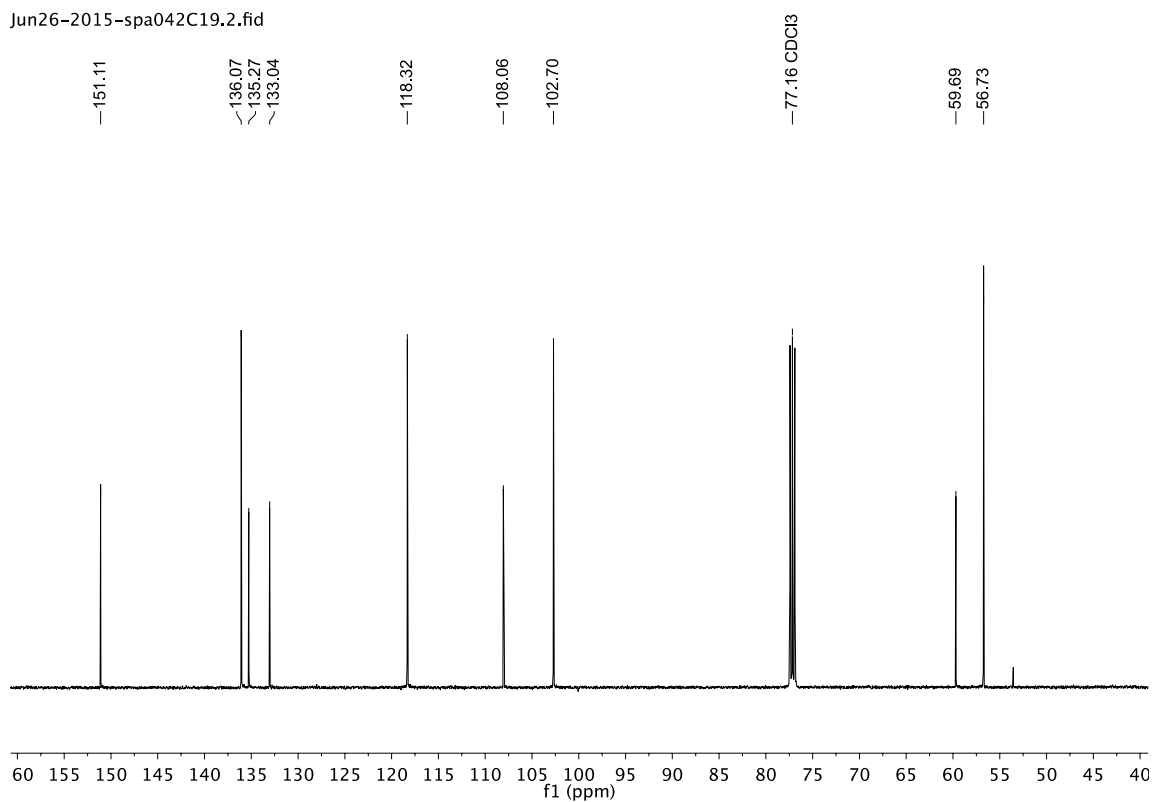
¹H-NMR (500 MHz, (CD₃)₂SO) spectrum of **13**

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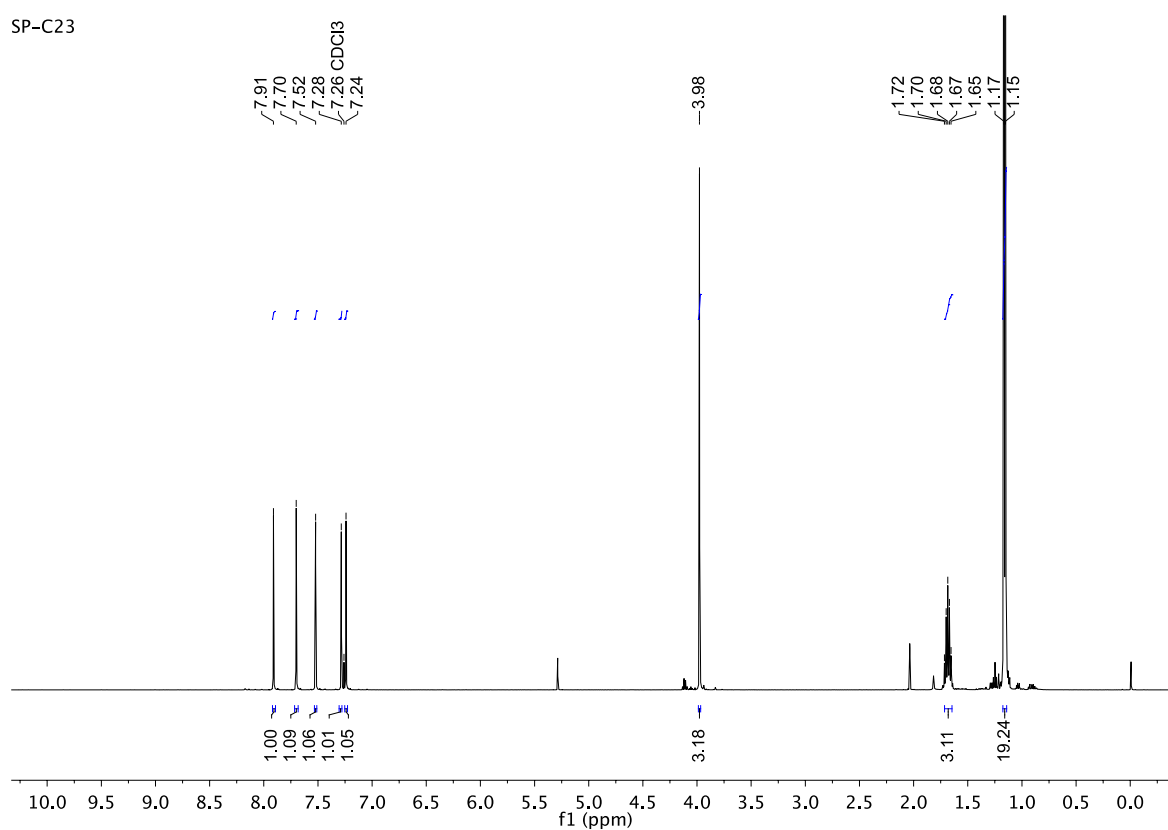
¹³C-NMR (500 MHz, (CD₃)₂SO) spectrum of **13**

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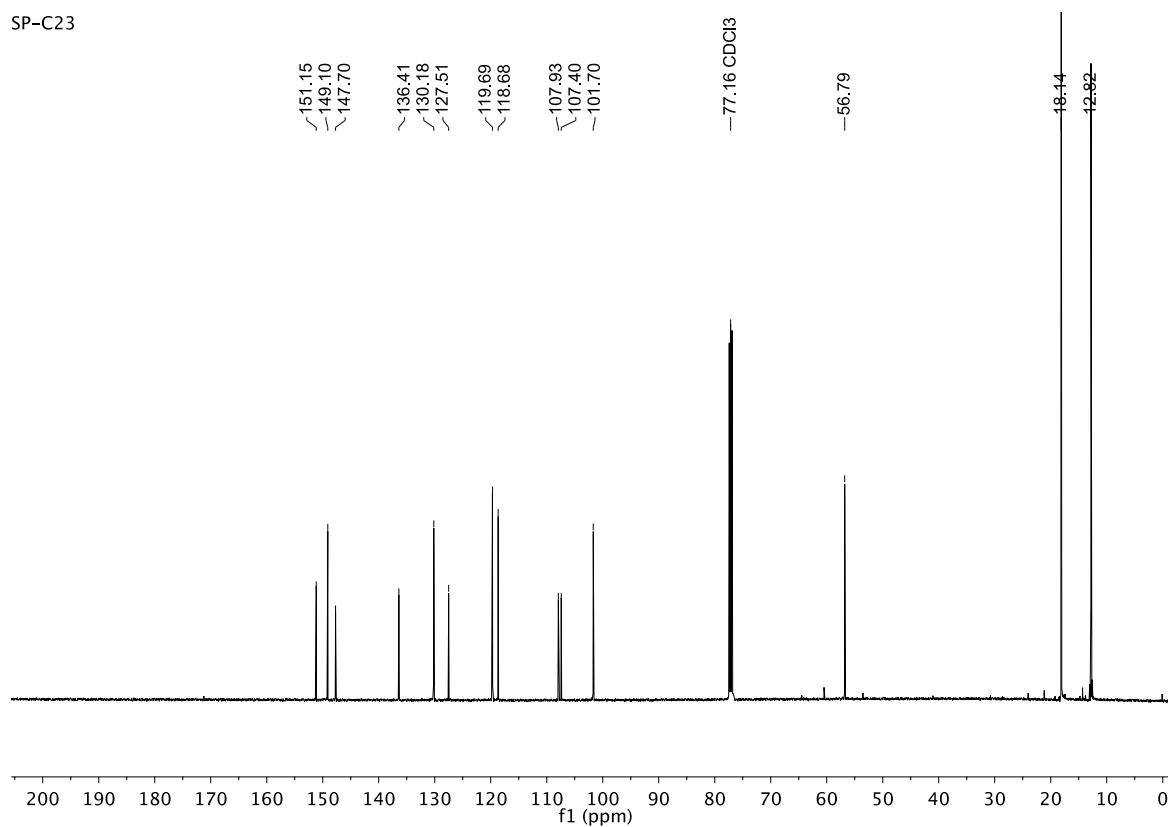
¹H-NMR (500 MHz, (CD₃)₂SO) spectrum of **14**

SP-C23



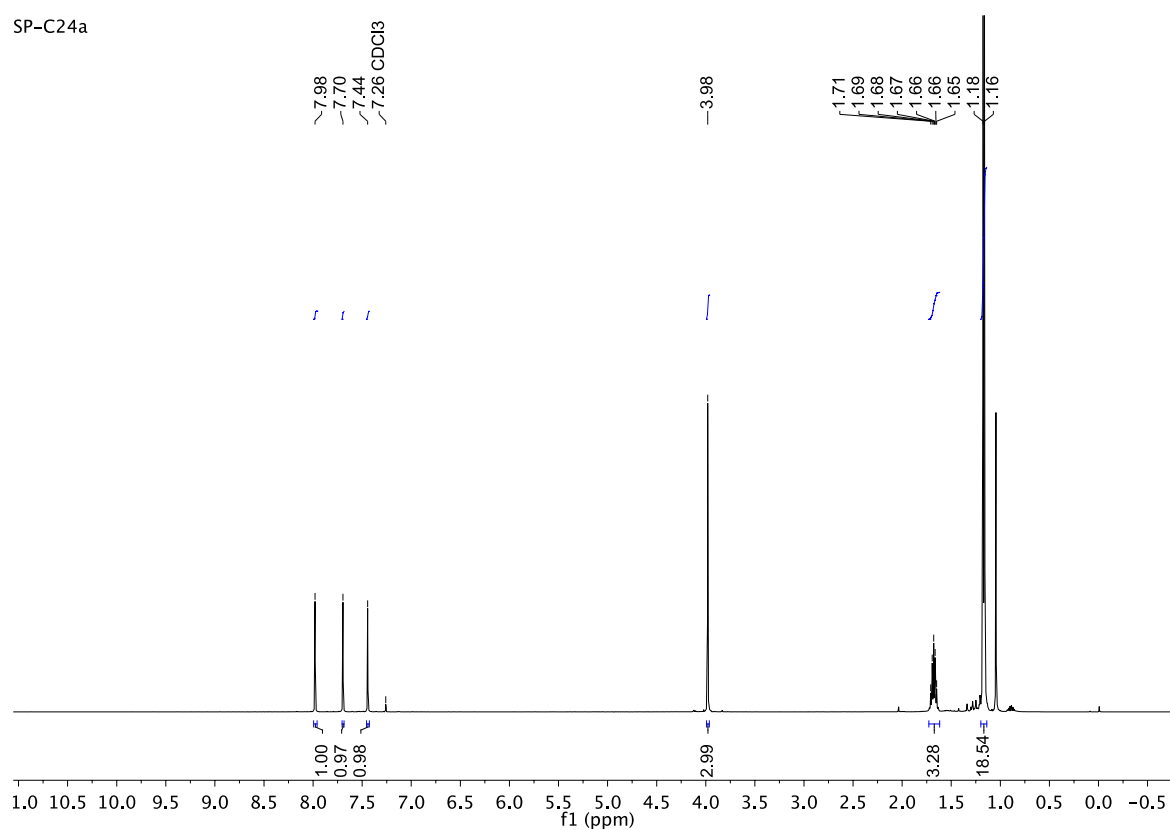
¹³C-NMR (500 MHz, (CD₃)₂SO) spectrum of **14**

SP-C23



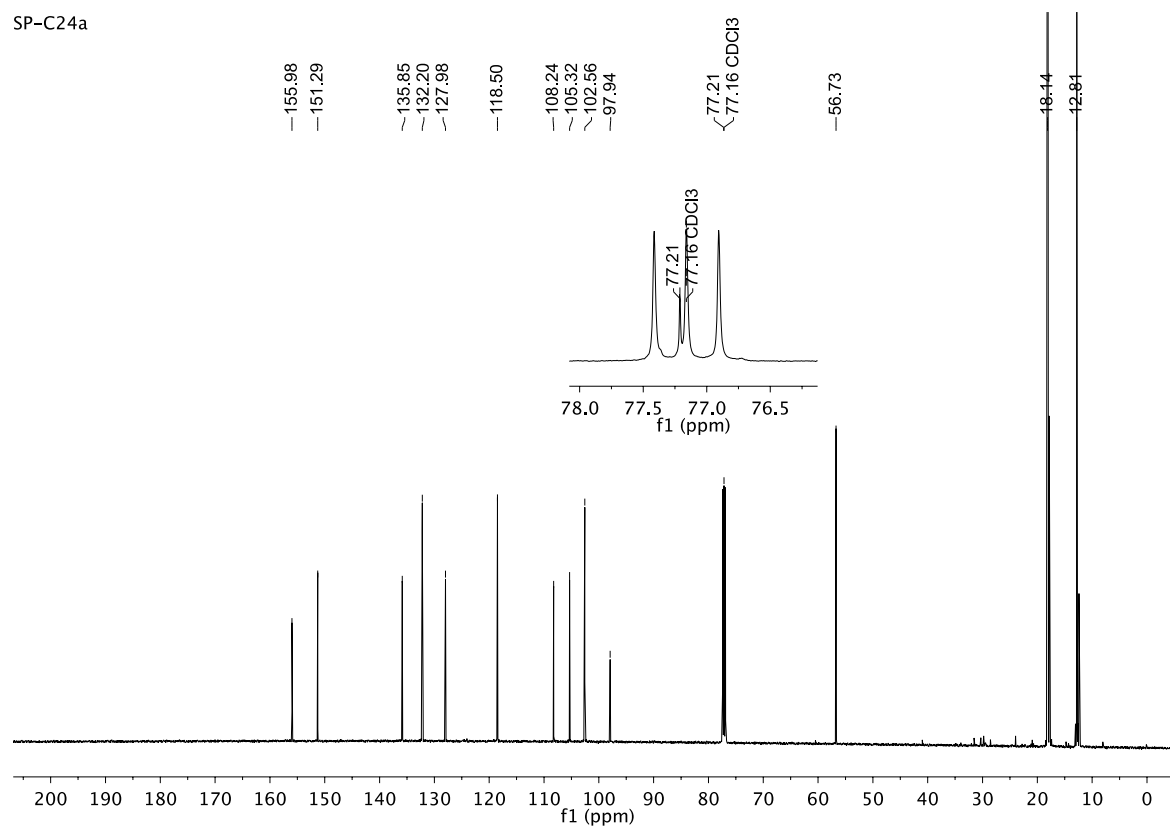
¹H-NMR (500 MHz, (CD₃)₂SO) spectrum of **15**

SP-C24a



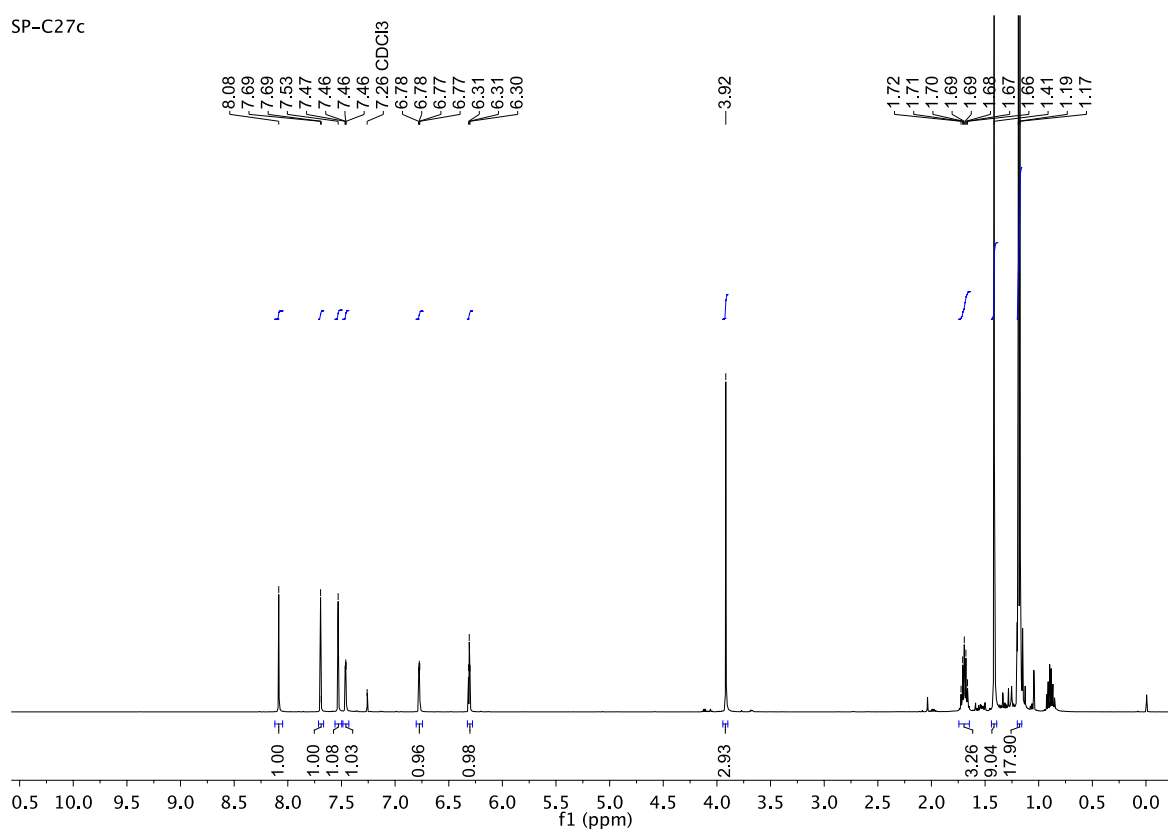
¹³C-NMR (126 MHz, (CD₃)₂SO) spectrum of **15**

SP-C24a



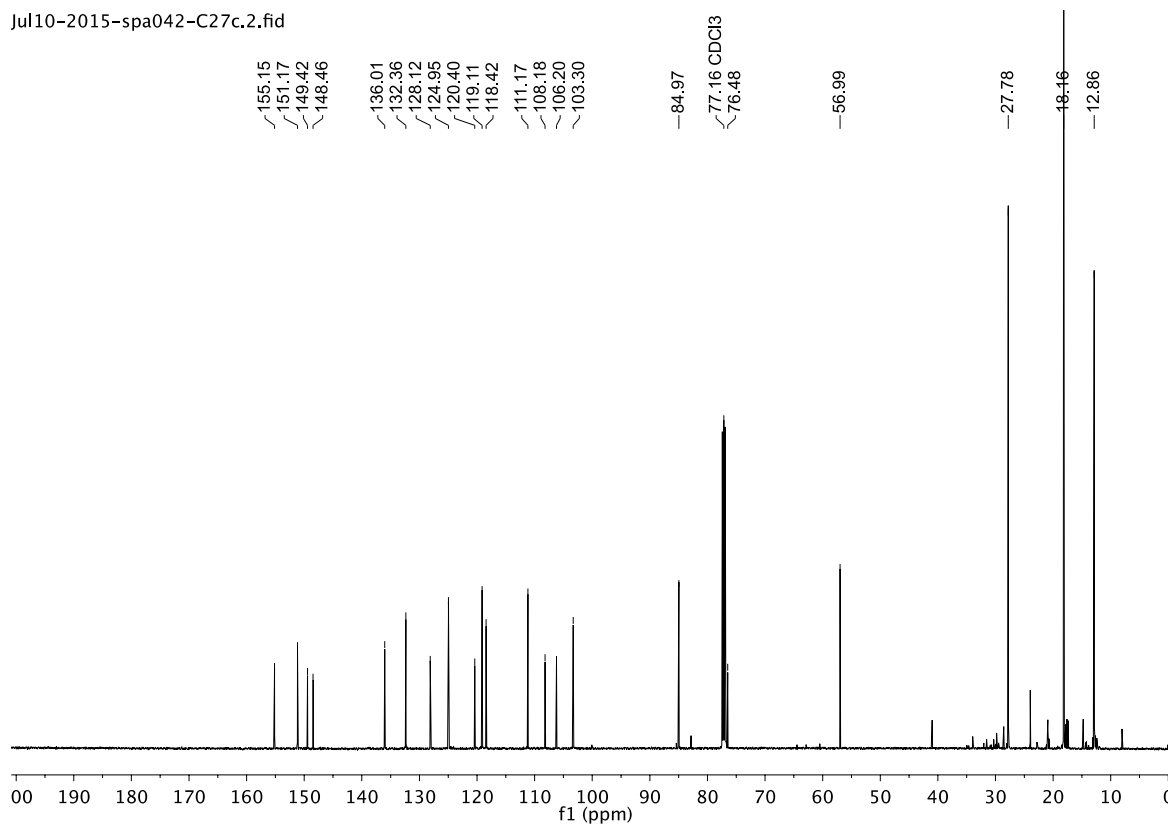
¹H-NMR (500 MHz, (CD₃)₂SO) spectrum of **18**

SP-C27c



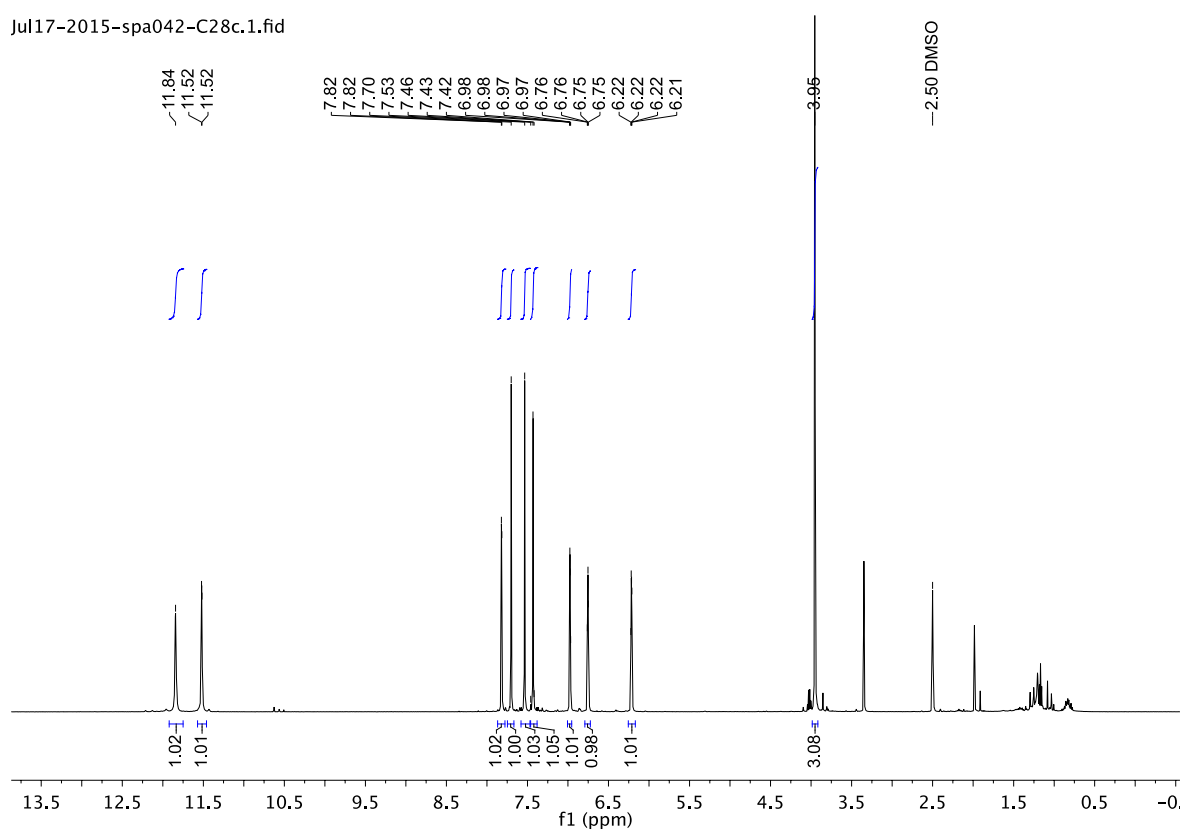
¹³C-NMR (126 MHz, (CD₃)₂SO) spectrum of **18**

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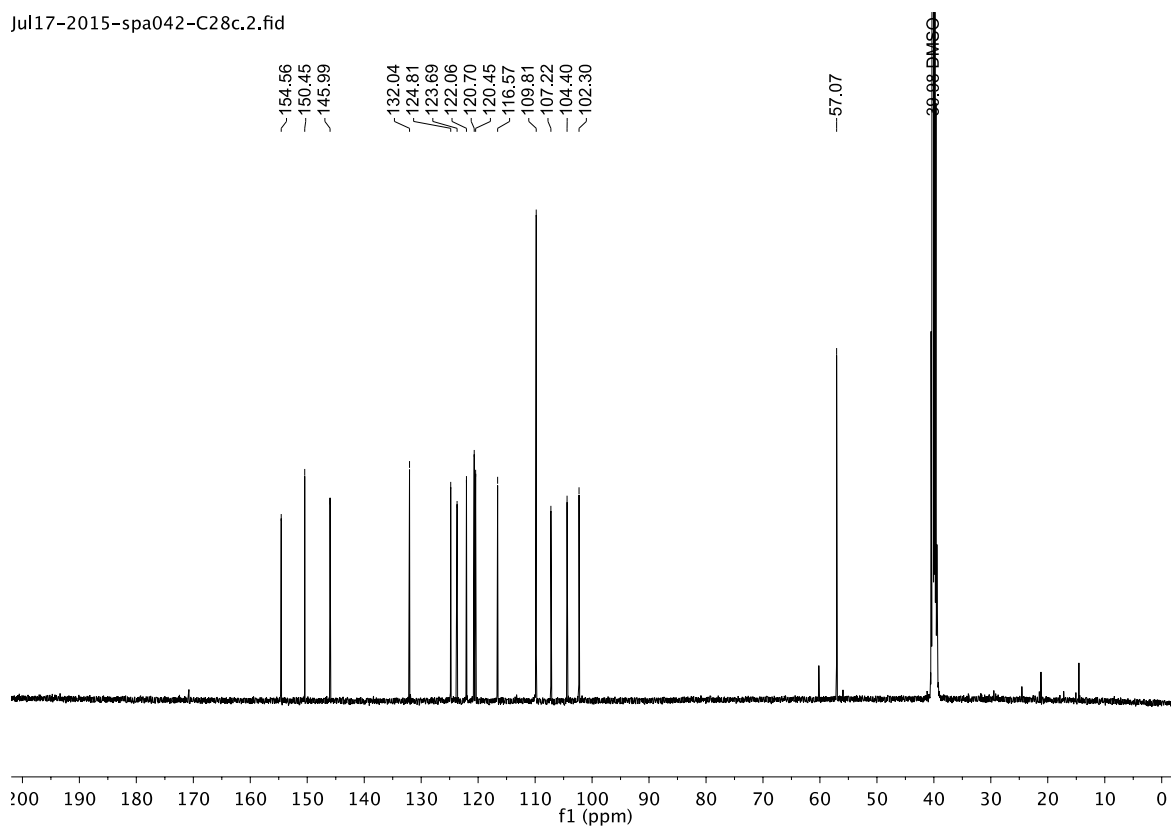
¹H-NMR (500 MHz, (CD₃)₂SO) spectrum of synthetic breitfussin C (**3**)

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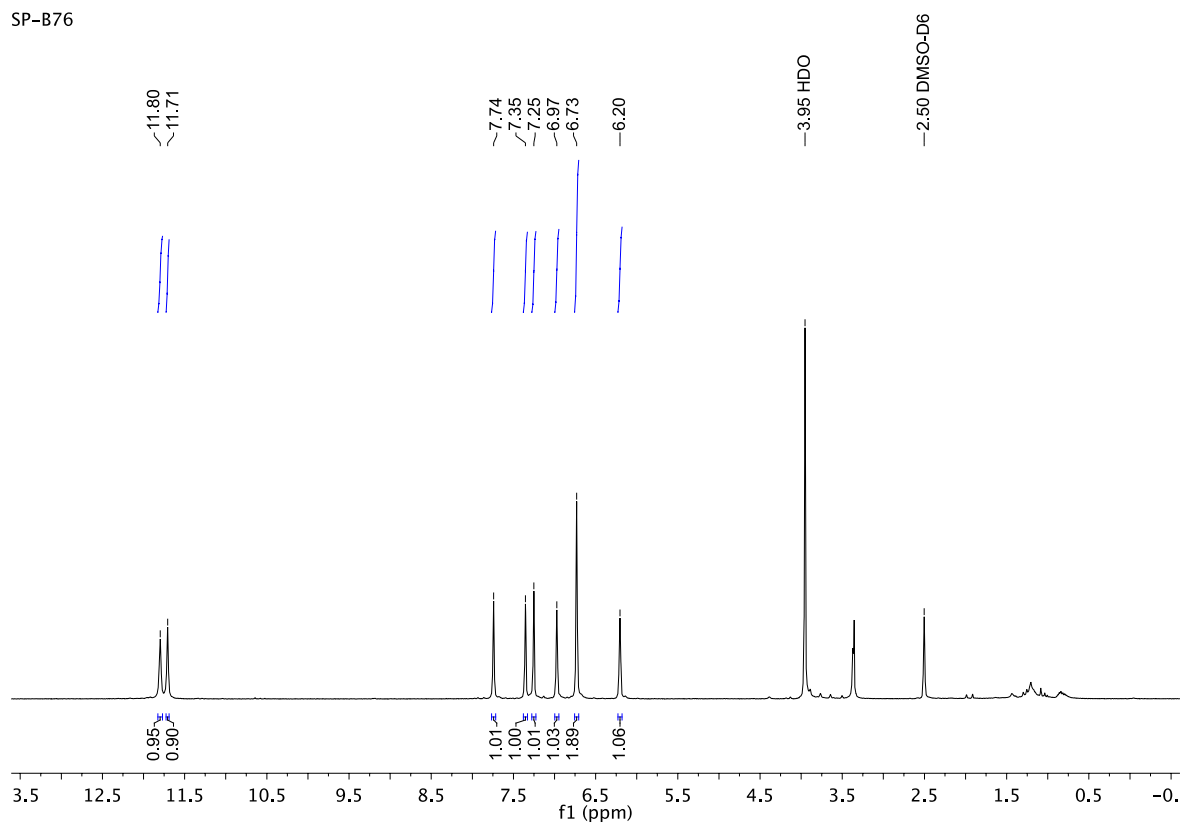
¹H-NMR (126 MHz, (CD₃)₂SO) spectrum of synthetic breitfussin C (**3**)

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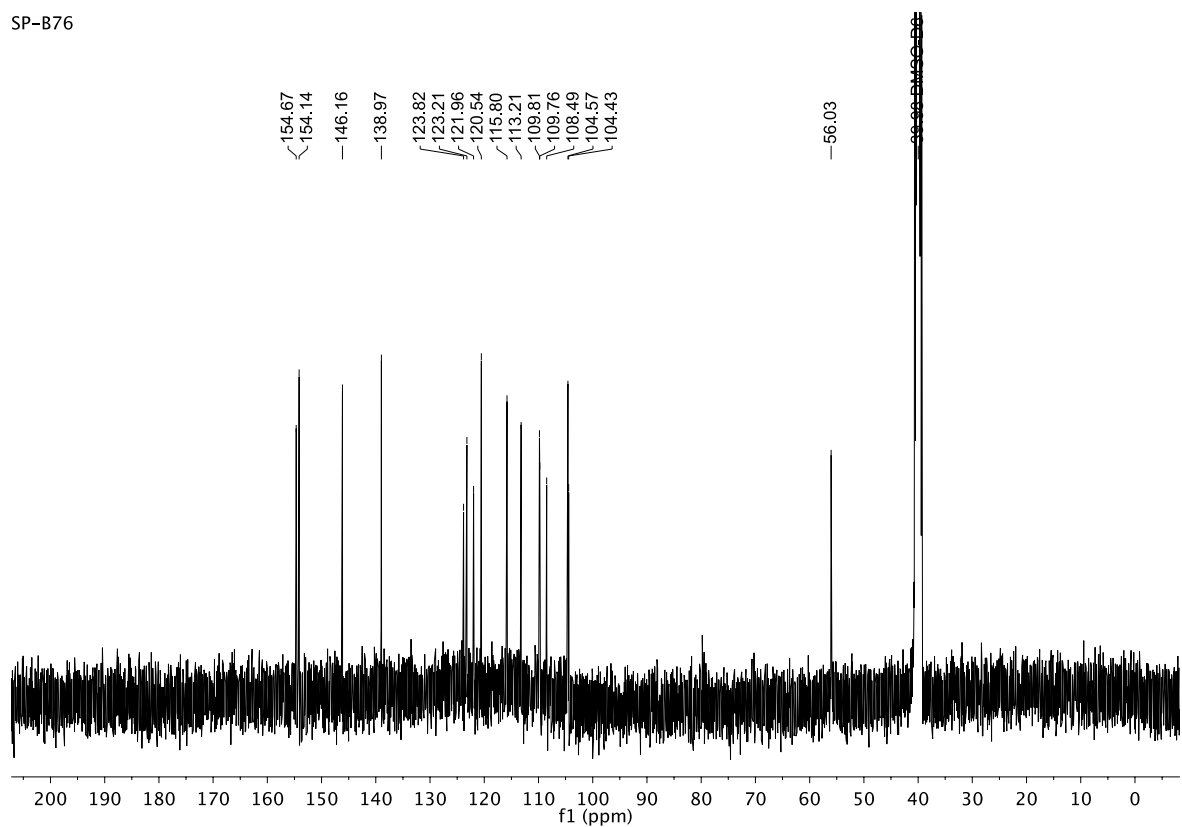
^1H -NMR (500 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of synthetic breitfussin D (**4**)

SP-B76

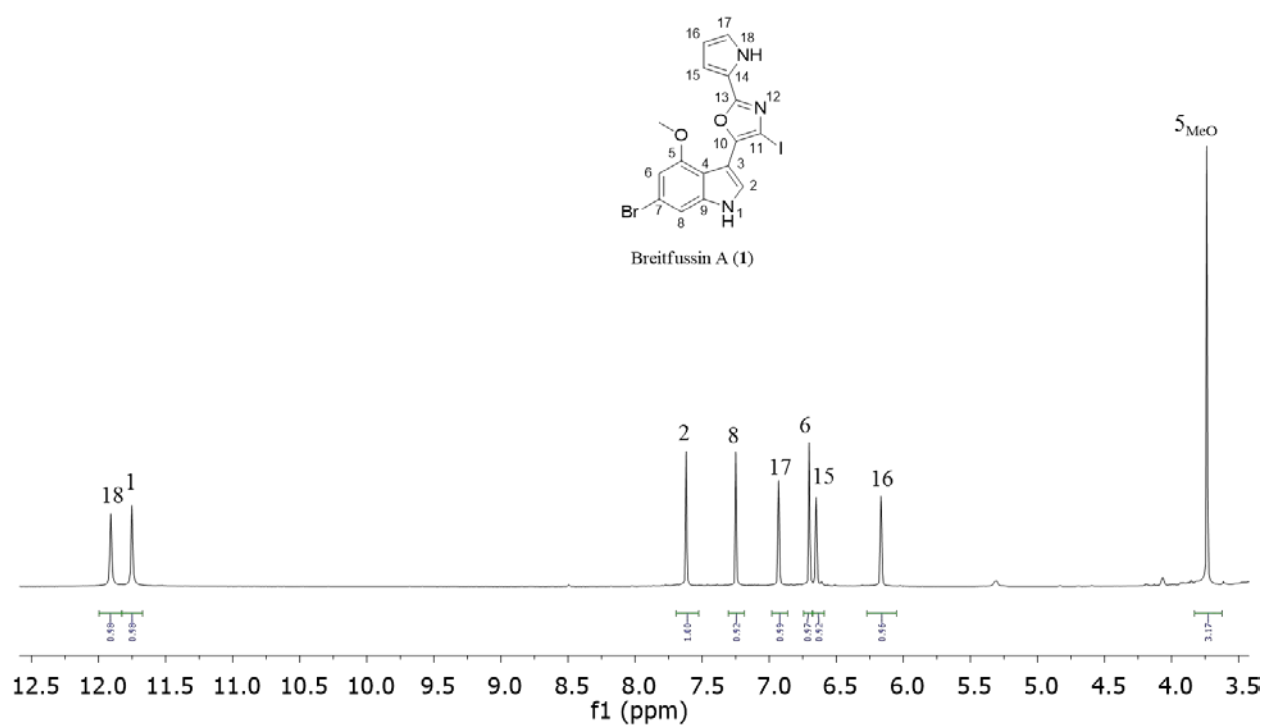


^{13}C -NMR (126 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of synthetic breitfussin D (**4**)

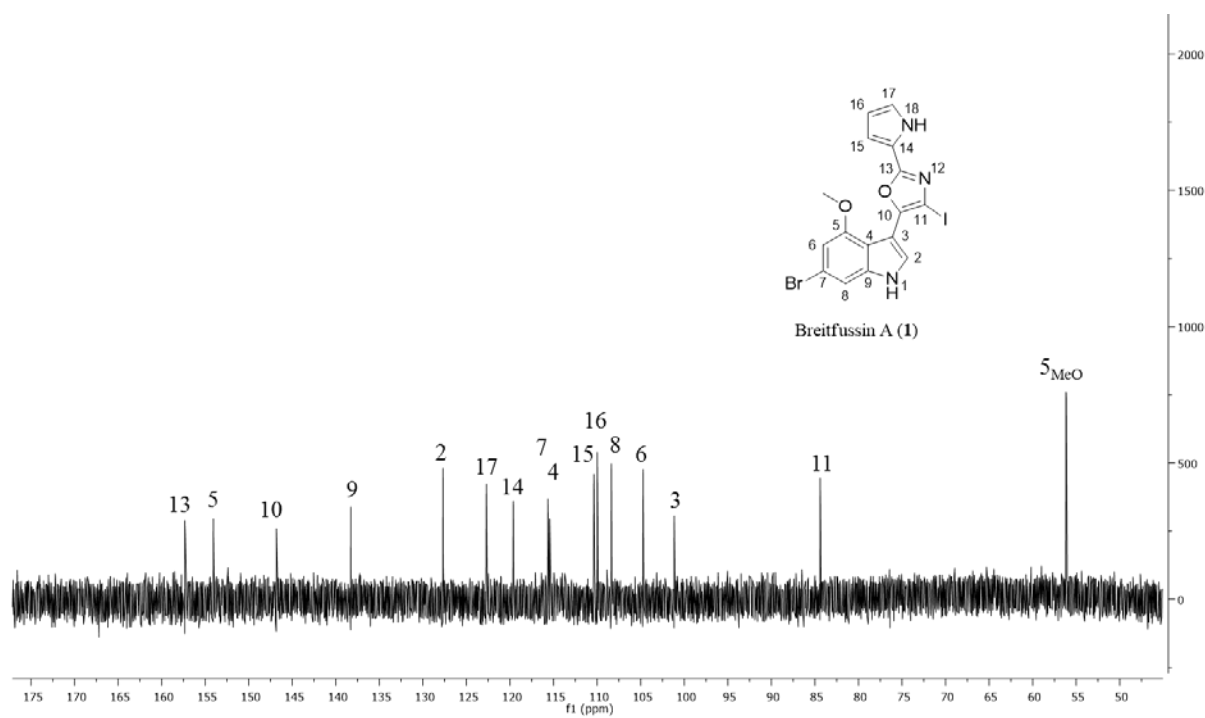
SP-B76



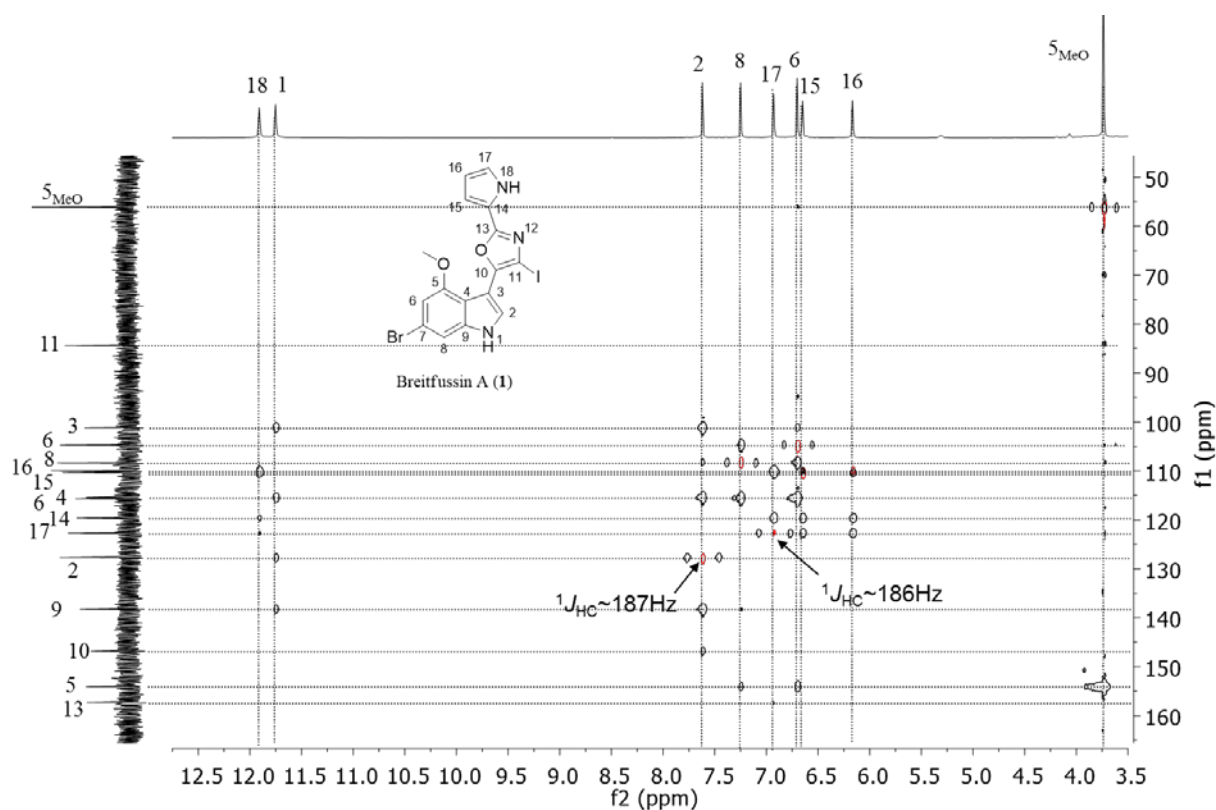
^1H NMR (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin A (**1**)



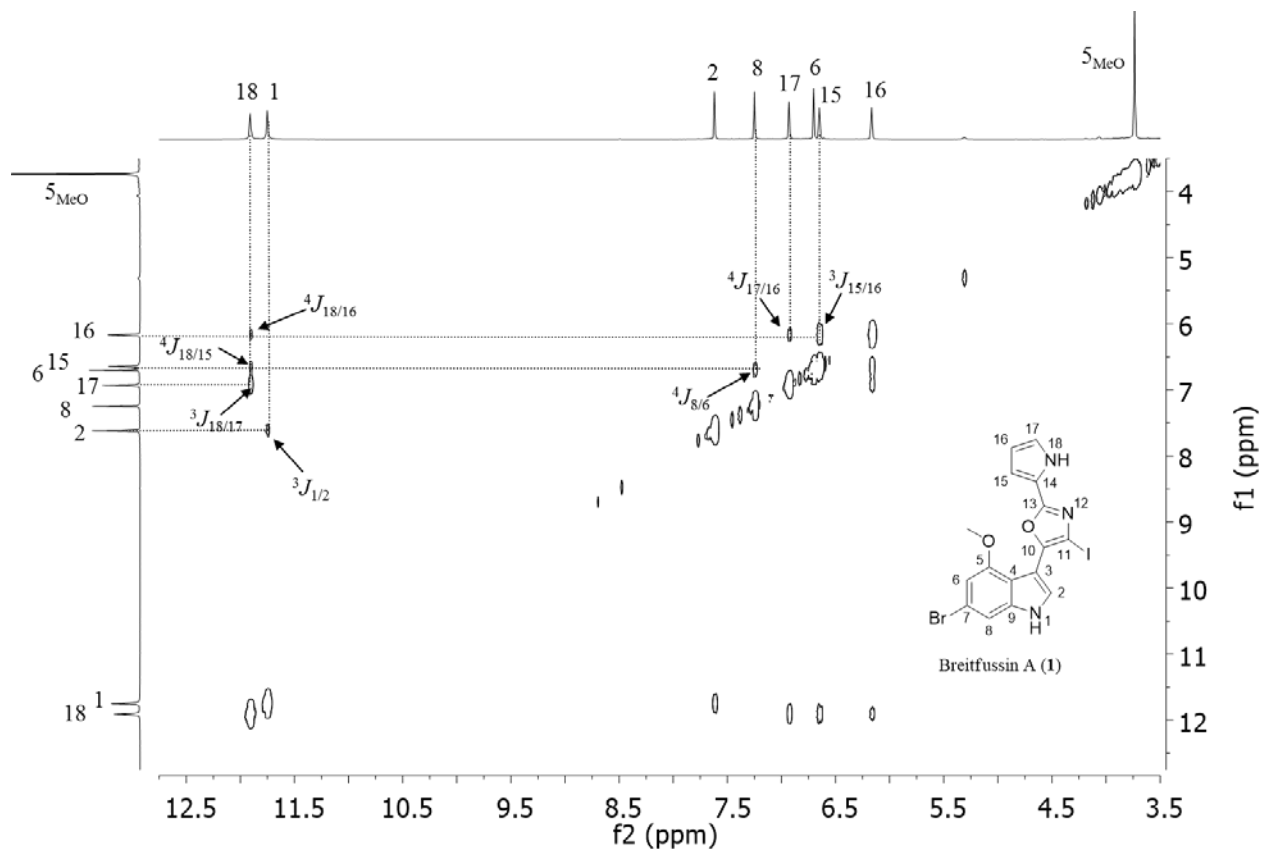
^{13}C (151 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin A (**1**)



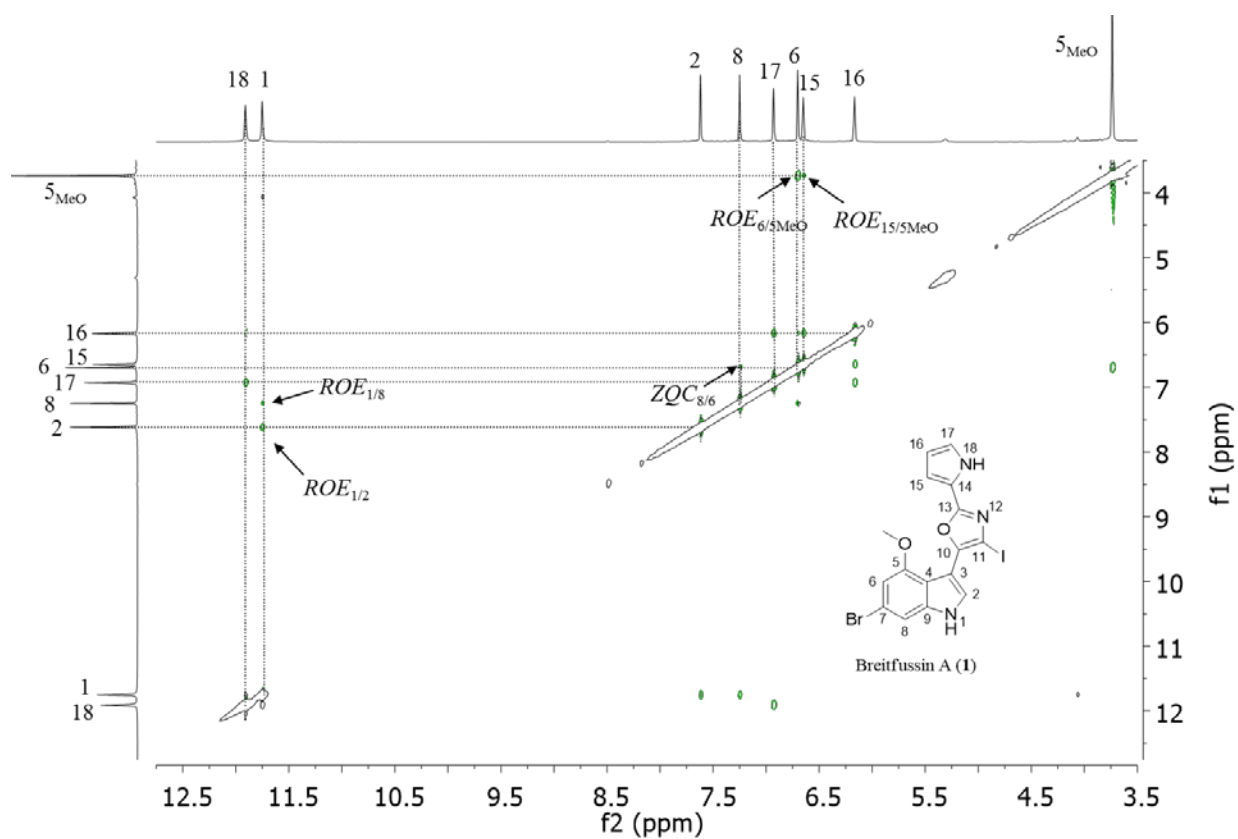
HSQC + HMBC (600 MHz, (CD₃)₂SO) spectrum of breitfussin A (1)



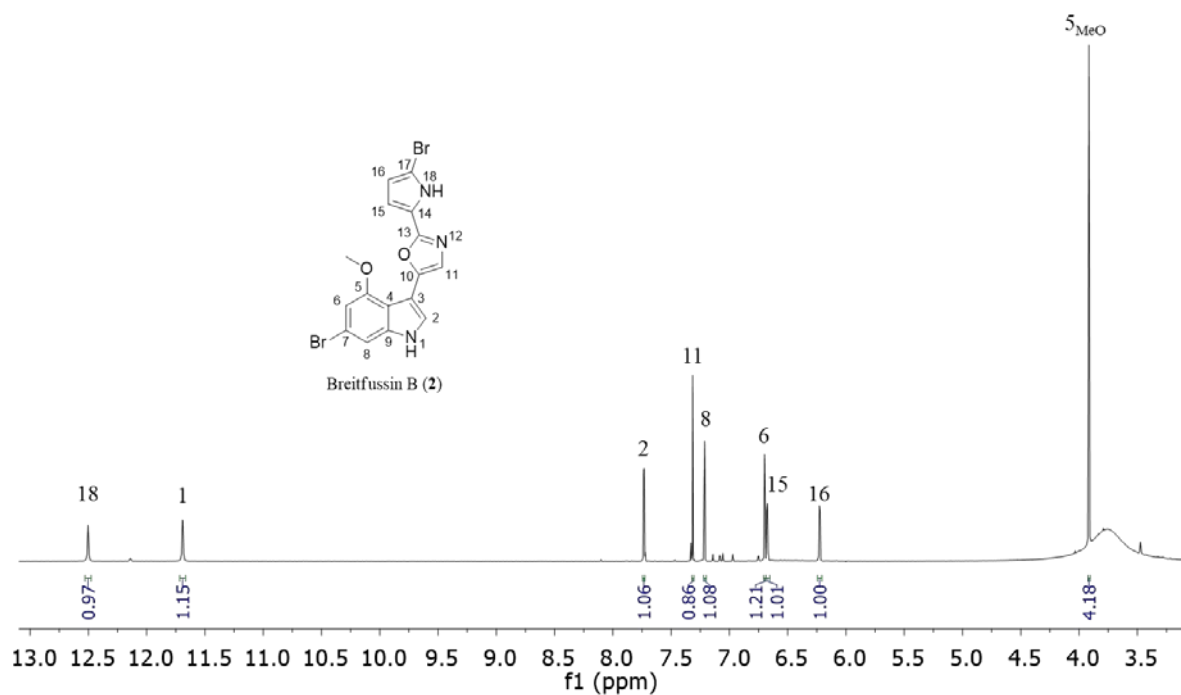
COSY (600 MHz, (CD₃)₂SO) spectrum of breitfussin A (1)



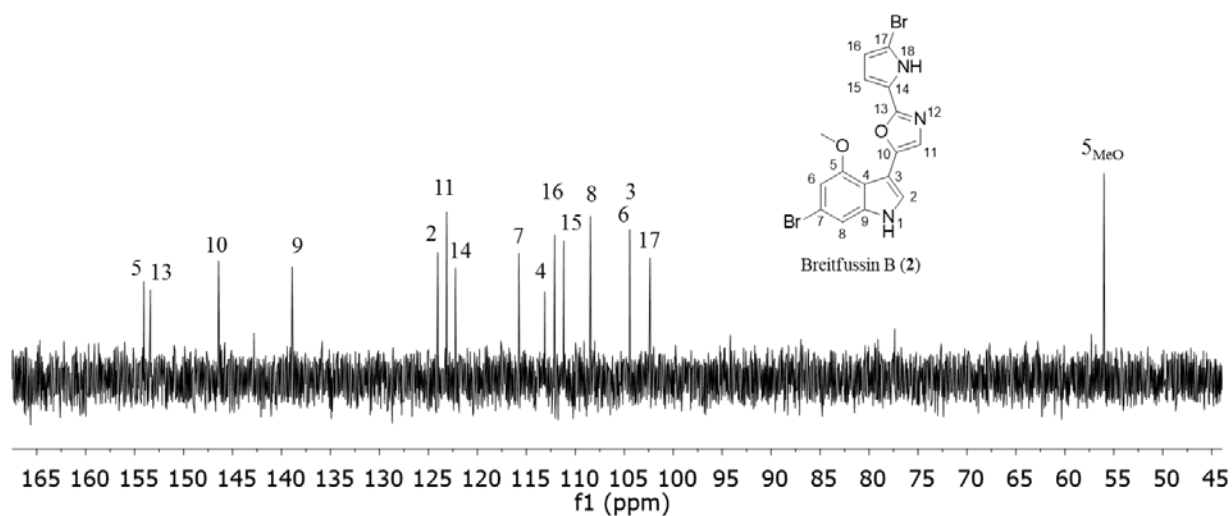
ROESY (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin A (1)



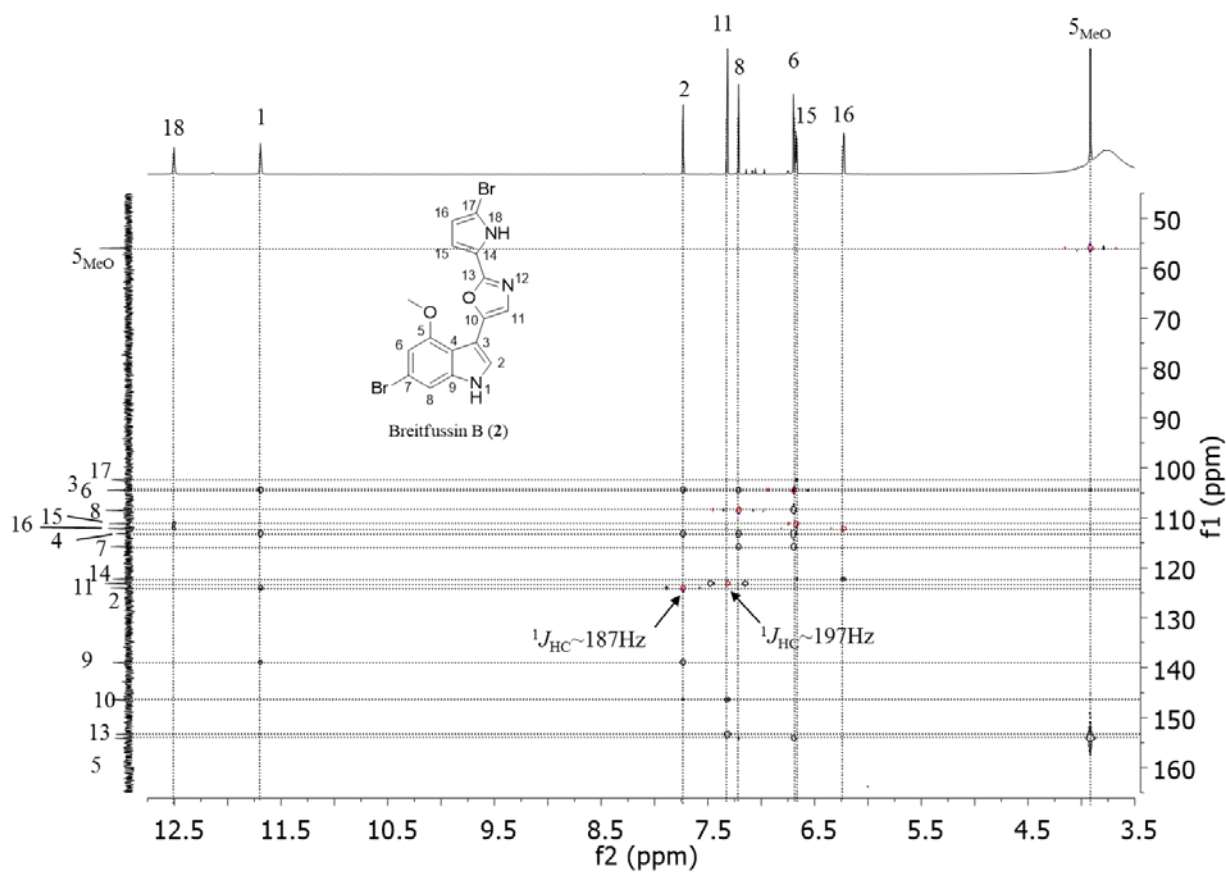
^1H NMR (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin B (2)



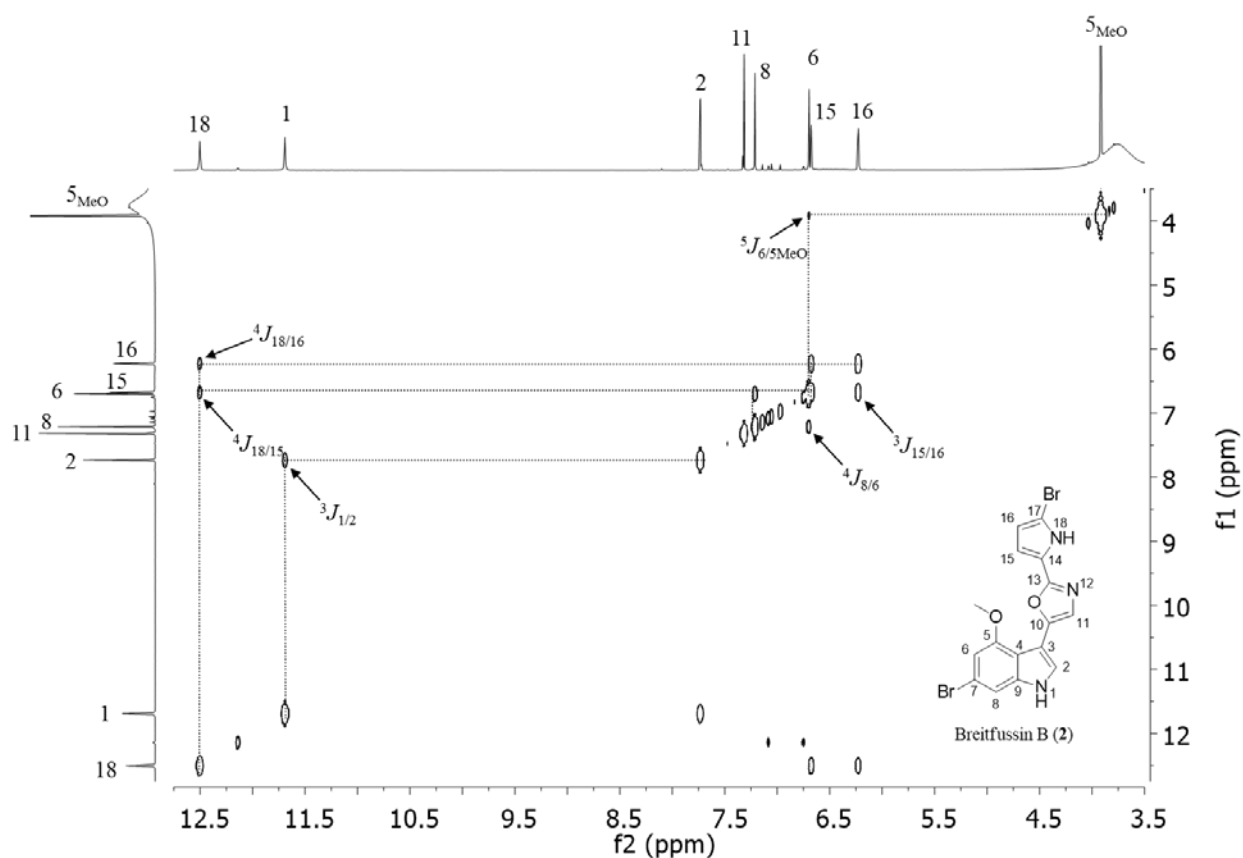
^{13}C (151 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin B (2)



HSQC + HMBC (600 MHz, $(\text{CD}_3)_2\text{SO}$) spectrum of breitfussin B (2)



COSY (600 MHz, (CD₃)₂SO) spectrum of breitfussin B (2)



ROESY (600 MHz, (CD₃)₂SO) spectrum of breitfussin B (2)

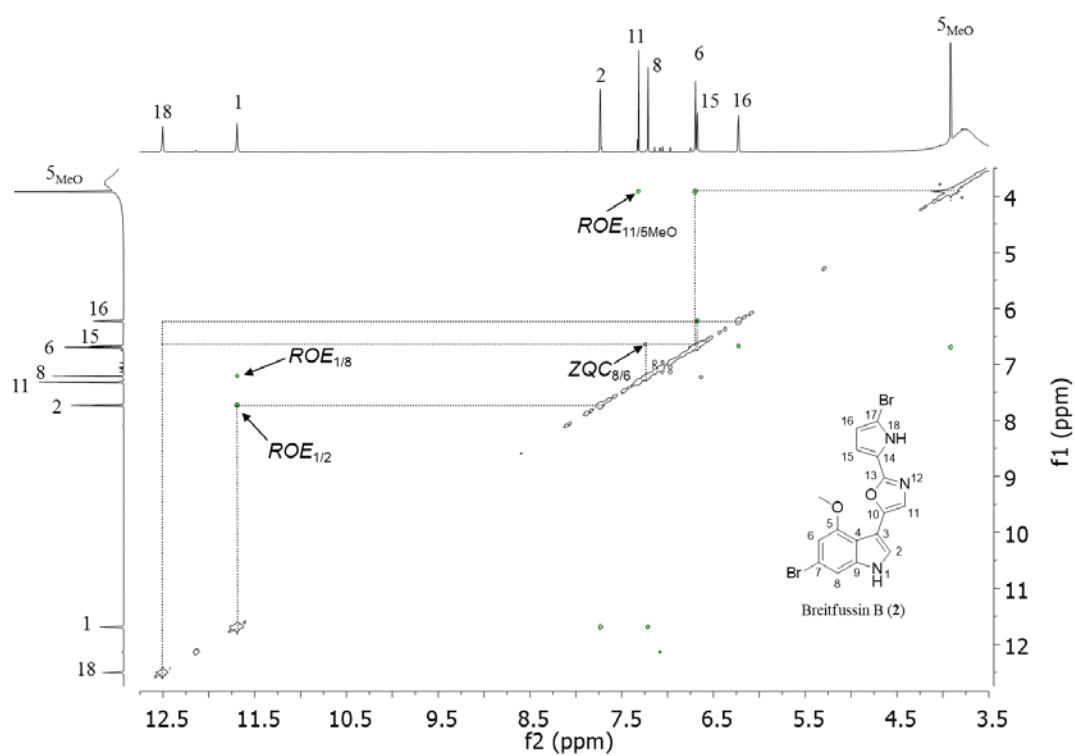


Table S1. Comparison of NMR data for synthetic and isolated breitfussin C (**3**)

Synthetic, ¹ H-NMR 500 MHz, (CD ₃) ₂ SO	Isolated, ¹ H-NMR 600 MHz, (CD ₃) ₂ SO	Synthetic, ¹³ C-NMR 126 MHz, (CD ₃) ₂ SO	Isolated, ¹³ C-NMR 151 MHz, (CD ₃) ₂ SO
11.84 (s, 1H)	11.85 (s, 1H)	154.6	154.4, C
11.52 (d, <i>J</i> = 2.7 Hz, 1H)	11.64 (d, <i>J</i> = 2.6 Hz, 1H)	150.5	150.3, C
7.82 (d, <i>J</i> = 2.5 Hz, 1H)	7.79 (d, <i>J</i> = 2.7, 1H)	146.0	145.9, C
7.70 (s, 1H)	7.67 (s, 1H)	132.0	132.0, C
7.54 (s, 1H)	7.5? (s, 1H)	124.8	124.7, CH
7.43 (s, 1H)	7.38 (s, 1H)	123.7	123.6, C
6.98 (q, <i>J</i> = 2.2 Hz, 1H)	6.94 (td, <i>J</i> = 2.6, 1.5 Hz, 1H)	122.1	122.0, CH
6.76 (q, <i>J</i> = 1.9 Hz, 1H)	6.72 (ddd, <i>J</i> = 3.8, 2.4, 1.6 Hz, 1H)	120.7	120.5, CH
6.22 (dd, <i>J</i> = 3.8, 1.9 Hz, 1H)	6.18 (dt, <i>J</i> = 3.5, 2.4 Hz, 1H)	120.5	120.3, C
3.96 (s, 3H)	3.91 (s, 3H)	116.6	116.6, CH
		109.8 (2C)	109.8, CH
			109.7, CH
		107.2	107.1, C
		104.4	104.3, C
		102.3	102.2, CH
		57.1	57.0, CH ₃

Table S2. Comparison of NMR data for synthetic and isolated breitfussin D (**4**)

Synthetic, ¹ H-NMR 400 MHz, (CD ₃) ₂ SO	Isolated ¹ H-NMR 600 MHz, (CD ₃) ₂ SO	Synthetic, ¹³ C-NMR 101 MHz, (CD ₃) ₂ SO	Isolated, ¹³ C-NMR 151 MHz, (CD ₃) ₂ SO
11.80 (s, 1H)	11.79 (s, 1H)	154.7	154.6, C
11.71 (s, 1H)	11.75 (s, 1H)	154.1	154.0, C
7.74 (s, 1H)	7.74 (s, 1H)	146.2	146.1, C
7.35 (d, <i>J</i> = 2.8 Hz, 1H)	7.34 (s, 1H)	139.0	138.9, C
7.25 (d, <i>J</i> = 2.4 Hz, 1H)	7.25 (d, <i>J</i> = 1.6 Hz, 1H)	123.8	123.8, CH
6.97 (s, 1H)	6.97 (td, <i>J</i> = 2.6, 1.5 Hz, 1H)	123.2	123.2, CH
6.73 (br. s, 2H)	6.73 (d, <i>J</i> = 1.6 Hz, 1H)	122.0	121.8, CH
	6.72 (ddd, <i>J</i> = 3.7, 2.0, 1.4 Hz, 1H)	120.5	120.5, C
6.23 – 6.18 (m, 1H)	6.2? (dt, <i>J</i> = 3.5, 2.3 Hz, 1H)	115.8	115.7, C
3.95 (s, 3H)	3.95 (s, 3H)	113.2	113.1, C
		109.8 (2C)	109.7, CH
			109.6, CH
		108.5	108.4, CH
		104.6	104.5, C
		104.4	104.3, CH
		56.0	56.1, CH ₃