SUPPORTING INFORMATION

Total Syntheses of the Marine Pyrrole Alkaloids Polycitone A and B

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Experimental Section

General Methods. Melting points were determined using a Reichert Thermovar hot stage microscope and are uncorrected. IR spectra were recorded on a Bruker FTIR IFS 48 spectrometer and the intensities are given as: s (strong), m (medium), w (weak) and br (broad). UV/VIS spectra were obtained on a Perkin Elmer Lambda 16 instrument. NMR spectra were recorded on Bruker AMX 600 and ARX 300 instruments using the solvent peak as internal reference (CDCl_3 : δ_{H} 7.24, δ_{C} 77.0; CD_3CN : δ_{H} 1.93, δ_{C} 117.7; CD_3OD : δ_{H} 3.35, δ_{C} 49.3; $[\text{D}_6]\text{DMSO}$: δ_{H} 2.49, δ_{C} 39.7). Mass spectra (MS) and high resolution mass spectra (HRMS) were recorded with a Finnigan MAT 95 double focusing spectrometer, equipped with an EI ion source operating at 70 eV.

All non-aqueous reactions were carried out under an argon atmosphere in dry solvents, unless otherwise noted. Dichloromethane was distilled from Sicapent, and tetrahydrofuran was distilled from potassium/benzophenone. Other solvents were purchased at absolute quality and stored over molecular sieves.

All reactions were monitored by thin-layer chromatography using E. Merck silica gel plates 60 F_{254} . The spots were detected under UV light (254 and 366 nm). Flash chromatography was conducted on E. Merck silica gel 60, particle size 0.04–0.063 mm.

2,5-Bis(4-methoxybenzoyl)-3,4-bis(4-methoxyphenyl)-1H-pyrrole (5). Dicarboxylic acid **3**⁵ (271 mg, 0.74 mmol) was suspended in 20 mL of dichloromethane. The mixture was cooled to 0 °C and then oxalyl chloride (252 μL , 373 mg, 2.94 mmol) and a cat. amount of DMF were added. The mixture was warmed to room temperature and stirred for 2 h. After evaporation to dryness, the acid chloride **4** was dissolved in 20 mL of dichloromethane and AlCl_3 (492 mg, 3.67 mmol) and anisole (403 μL , 399 mg, 3.69 mmol) were added at 0 °C. The mixture was then warmed to room temperature and stirred for 12 h. The reaction mixture was poured into 100 mL of ice water and extracted with EtOAc. Flash chromatography (50% EtOAc/petroleum ether) yielded 266 mg (66%) of **5** as a yellow solid: mp = 131–132 °C; UV (CHCl_3) λ_{max} (ϵ) 286 (26076), 350 nm (14597); IR (KBr) 3435 (br, s), 3259 (m, br), 2044 (w), 1600 (s), 1574 (m), 1531 (m), 1461 (m), 1296 (s), 1252 (s), 1167 (s), 1027 (m), 838 cm^{-1} (m); ^1H NMR (CDCl_3 , 300 MHz) δ 9.97 (br s, NH), 7.48 (d, J = 9

Hz, 4H), 6.74 (d, J = 8.8 Hz, 4H), 6.56 (d, J = 9 Hz, 4H), 6.49 (d, J = 8.8 Hz, 4H), 3.72 (s, 6H), 3.65 (s, 6H); ^{13}C NMR (CDCl_3 , 75 MHz) δ 186.6 (2 $\times$ CO), 162.7, 158.3 (each 2 $\times$ C-OH), 132.2, 131.8 (each 4 $\times$ CH), 130.4, 129.9, 129.7, 125.7 (each 2 $\times$ quart. C), 113.1, 113.0 (each 4 $\times$ CH), 55.3, 55.1 (each 2 $\times$ OCH_3); EIMS m/z (rel. intensity) 547 $[\text{M}]^+$ (100), 412 (3), 220 (6), 135 (15), 107 (1), 77 (2); HRMS calcd for $\text{C}_{34}\text{H}_{29}\text{NO}_6$ (M^+): 547.1995, found 547.1973; Anal. Calcd for $\text{C}_{34}\text{H}_{29}\text{NO}_6$: C, 74.57; H, 5.34; N, 2.56. Found: C, 74.43; H, 5.59; N, 2.25.

2,5-Bis(4-hydroxybenzoyl)-3,4-bis(4-hydroxyphenyl)-1H-pyrrole (6). Iodine (6.26 g, 49.4 mmol) was added to a mixture of aluminum (0.89 g, 32.9 mmol) in dry benzene. The mixture was refluxed for 1 h, then $n\text{-Bu}_4\text{N}^+\text{I}^-$ (50 mg, 0.14 mmol) and **5** (1.00 g, 1.83 mmol) in dry benzene (75 mL) were added at room temperature. The resulting mixture was refluxed for 12 h then cooled to room temperature and quenched with water. After acidification with 2 M HCl, the mixture was extracted with EtOAc (3 $\times$ 50 mL). The organic phase was extracted with 2 M NaOH, washed with EtOAc, acidified with conc. HCl and re-extracted with EtOAc. Evaporation of the solvent gave 900 mg (1.83 mmol, >99%) of dark yellow **6** that was used for the next step without further purification: mp = 309–311 °C; UV (MeOH) λ_{max} (ϵ) 231 (28378), 294 (17028), 359 nm (15098); IR (KBr) 3436 (br, s), 1611 (s), 1532 (s), 1513 (s), 1441 (s), 1291 (s), 1317 (s), 1164 (s), 1101 (w), 838 (m), 778 cm^{-1} (w); ^1H NMR (CD_3CN , 300 MHz) δ 10.24 (s, NH), 7.48, 6.74, 6.59, 6.45 (each d, J = 8.7 Hz, 4H); ^{13}C NMR ($[\text{D}_6]\text{DMSO}$, 100 MHz) δ 186.3 (2 $\times$ CO), 161.5, 155.5 (each 2 $\times$ C-OH), 132.2, 131.9 (each 4 $\times$ CH), 130.2, 129.0, 128.1, 124.6 (each 2 $\times$ quart. C), 114.8, 114.5 (4 $\times$ CH); EIMS m/z (rel. intensity) 491 $[\text{M}]^+$ (100), 371 (49), 251 (21), 198 (9), 121 (42); HRMS calcd for $\text{C}_{30}\text{H}_{21}\text{NO}_6$ (M^+): 491.1369, found 491.1389.

Polycitone B (2). To a solution of **6** (200 mg, 0.41 mmol) in acetic acid (10 mL) was added bromine (0.42 mL, 8.14 mmol), and the resulting solution was stirred overnight. After the addition of water (30 mL), the yellow product was filtered off, washed with water and dried in vacuo to yield 377 mg (0.34 mmol, 83%) of **2**: mp = 269–272 °C (ref.²: yellow oil); UV (CHCl_3) λ_{max} (ϵ) 283.5 (24490), 341.5 nm (15905); IR (KBr) 3435 (s), 2930 (w), 1636 (s), 1584 (m), 1510 (w), 1477 (w), 1443 (w), 1299

(s), 1239 (m), 1160 cm^{-1} (m); ^1H NMR (CD_3OD , 600 MHz): δ 7.65, 7.02 (each s, 4H); ^{13}C NMR (MeOH, 151 MHz): δ 185.8 ($2 \times \text{CO}$), 156.4, 151.7 (each $2 \times \text{C-OH}$), 136.1, 135.1 (each $4 \times \text{CH}$), 132.6, 132.2, 129.2, 128.4 (each $2 \times \text{quart. C}$), 112.1, 111.8 (each $4 \times \text{CBr}$); EIMS m/z (rel. intensity) 1123 $[\text{M}]^+$ (100), 1045 (24), 965 (11), 885 (3), 279 (55); HRMS calcd for $\text{C}_{30}\text{H}_{13}^{79}\text{Br}_8\text{NO}_6$ (M^+): 1114.4210, found 1114.4532.

2,5-Bis(4-acetoxy-3,5-dibromobenzoyl)-3,4-bis(4-acetoxy-3,5-dibromophenyl)-1H-pyrrole (7). To a solution of **2** (117 mg, 0.1 mmol) in CH_2Cl_2 (10 mL) were added acetyl chloride (74 μL , 82 mg, 1.04 mmol) and triethylamine (87 μL , 63 mg, 0.63 mmol), and the mixture was stirred overnight at room temperature. After acidification with 2 M HCl (3 mL), the solution was extracted with EtOAc (3×10 mL). Evaporation of the solvent yielded **7** (126 mg, 99%) as a yellow-orange solid: mp = 137.5 $^\circ\text{C}$; UV (CHCl_3) λ_{max} (ϵ) 328 nm (14296); IR (KBr) 3420 (br, m), 3072 (w), 2962 (w), 1776 (s), 1653 (m), 1550 (m), 1433 (m), 1370 (m), 1292 (m), 1181 (s), 1066 (m), 896 cm^{-1} (m); ^1H NMR (CDCl_3 , 300 MHz) δ 10.89 (s, NH), 7.66, 7.07 (each s, 4H), 2.35, 2.31 (each s, 6 H); ^{13}C NMR (CDCl_3 , 75 MHz) δ 183.3 ($2 \times \text{CO}$), 166.4, 166.3 (each $2 \times \text{COCH}_3$), 149.6, 146.0 (each $2 \times \text{C-OAc}$), 135.8 ($2 \times \text{quart. C}$), 134.2, 132.9 (each $4 \times \text{CH}$), 131.5, 131.5, 127.8 (each $2 \times \text{quart. C}$), 118.0, 117.7 (each $4 \times \text{CBr}$), 20.5, 20.4 (each $2 \times \text{COCH}_3$); EIMS m/z (rel. intensity) 1292 $[\text{M}]^+$ (1), 1285 (2), 1249 (6), 1207 (30), 1123 (26), 597 (37), 279 (33), 80 (100); HRMS calcd. for $\text{C}_{38}\text{H}_{21}^{79}\text{Br}_4^{81}\text{Br}_4\text{NO}_6$ (M^+): 1290.4559, found 1290.4486.

2,5-Bis(4-acetoxy-3,5-dibromobenzoyl)-3,4-bis(4-acetoxy-3,5-dibromophenyl)-1-[2-(4-acetoxyphenyl)ethyl]-1H-pyrrole (8). To **7** (152 mg, 0.12 mmol) in dry THF (20 mL) were added 2-(4-acetoxyphenyl)ethanol (84 mg, 0.47 mmol), PPh_3 (123 mg, 0.47 mmol), and DEAD (73 μL , 81 mg, 0.47 mmol), and the mixture was refluxed for 2 h. The reaction was quenched with water and extracted with EtOAc (3×10 mL). After evaporation of the solvent, the product was purified by column chromatography (33% EtOAc/petroleum ether) to yield **8** (110 mg, 64%) as a yellow solid: mp = 147.7 $^\circ\text{C}$; UV (CHCl_3) λ_{max} (ϵ) 320 nm (12012); IR (KBr) 3436 (br, s), 2981 (w), 1764 (s), 1654 (m), 1508 (w), 1370 (m), 1189 (s), 1009 cm^{-1} (w); ^1H NMR (CDCl_3 , 300 MHz) δ 7.64 (s, 4H), 7.21 (d, $J = 8.4$ Hz, 2H), 6.99 (s, 4H), 6.93 (d, $J = 8.4$ Hz, 2H), 4.73 (t, $J = 7.4$ Hz, 2H), 3.13 (t, $J = 7.4$ Hz, 2H), 2.35, 2.30 (each s, 6H), 2.22 (s, 3H); ^{13}C NMR (CDCl_3 , 75 MHz) δ 184.9 ($2 \times \text{CO}$), 169.4 (COCH_3), 166.3 ($4 \times \text{COCH}_3$), 150.0 ($2 \times \text{C-OAc}$), 149.6 (C-OAc), 145.8 ($2 \times \text{C-OAc}$), 136.4 ($2 \times \text{quart. C}$), 134.5 (quart. C), 133.9, 133.2 (each $4 \times \text{CH}$), 131.9, 131.4 (each $2 \times \text{quart. C}$), 130.1 ($2 \times \text{CH}$), 126.1 ($2 \times \text{quart. C}$), 121.7 ($2 \times \text{CH}$), 118.1, 117.7 (each $4 \times \text{CBr}$), 47.7 (CH_2N), 38.0 (CH_2Ar), 21.0 (COCH_3), 20.5, 20.4 (each $2 \times \text{COCH}_3$); EIMS m/z (rel. intensity) 1152 $[\text{M}]^+$ (0.4), 1411 (9), 1370 (17), 1207 (11), 1123 (14), 279 (11), 120 (100), 80 (37); HRMS calcd for $\text{C}_{48}\text{H}_{31}^{79}\text{Br}_4^{81}\text{Br}_4\text{NO}_{12}$ (M^+): 1452.5244, found 1452.5270.

Polycitone A (1). To **8** (47 mg, 0.032 mmol) in dry MeOH (10 mL) was added hydrazine monohydrate (31 μL , 32 mg, 0.64 mmol), and the mixture was stirred for 45 min. After addition of 2 N HCl (10 mL), the mixture was extracted with EtOAc (3×10 mL). The solvent was removed in vacuo to yield **1** (35 mg, 88%) as a yellow solid: mp = 288 $^\circ\text{C}$; UV (CHCl_3) λ_{max} (ϵ) 340 (11306), 278 nm (19305); IR (KBr) 3436 (br, s), 1637 (s), 1582 (m), 1514 (m), 1300 (s), 1218 (m), 1160 cm^{-1} (m); ^1H NMR ($[\text{D}_6]\text{DMSO}$, 600 MHz) δ 9.83 (br s, $2 \times \text{OH}$), 9.09 (br s, $1 \times \text{OH}$), 7.60, 7.01 (each s, $4 \times \text{CH}$), 6.87, 6.56 (each d, $J = 8.2$ Hz, 2H), 4.52, 2.87 (each t, $J = 7.16$ Hz, 2 H); ^1H NMR (CDCl_3 , 300 MHz) δ 7.53 (s, 4H), 6.93 (d, $J = 8.4$ Hz, 2H), 6.90 (s, 4H), 6.56 (d, $J = 8.4$ Hz, 2H), 4.67, 3.04 (each t, $J = 7$ Hz, 2H); ^{13}C NMR ($[\text{D}_6]\text{DMSO}$, 150 MHz) δ 184.4 ($2 \times \text{CO}$), 156.2 ($2 \times \text{C-OH}$), 155.4 (C-OH), 149.5 ($2 \times \text{C-OH}$), 134.3, 133.9 (each $4 \times \text{CH}$), 131.2, 130.1 (each $2 \times \text{quart. C}$), 129.8 ($2 \times \text{CH}$), 127.8 ($2 \times \text{quart. C}$), 126.1 (quart. C), 126.1 ($2 \times \text{quart. C}$), 115.3 ($2 \times \text{CH}$), 111.2, 111.1 (each $4 \times \text{CBr}$), 47.4 (CH_2N), 37.3 (CH_2Ar); ^{13}C NMR (CDCl_3 , 75 MHz): δ 185.0 ($2 \times \text{CO}$), 155.0 (C-OH), 153.2, 148.6 (each $2 \times \text{C-OH}$), 133.9, 133.8 (each $4 \times \text{CH}$), 131.5, 131.4 (each $2 \times \text{quart. C}$), 130.3 ($2 \times \text{CH}$), 128.7 (quart. C), 126.9, 125.7 (each $2 \times \text{quart. C}$), 115.5 ($2 \times \text{CH}$), 109.7 ($4 \times \text{CBr}$), 109.6 ($4 \times \text{CBr}$), 47.5 (CH_2N), 37.7 (CH_2Ar); EIMS m/z (rel. intensity) 1242 $[\text{M}]^+$ (11), 1122 (58), 1044 (24), 845 (14), 765 (6), 279 (22), 120 (67), 80 (100); HRMS calcd for $\text{C}_{38}\text{H}_{21}^{79}\text{Br}_4^{81}\text{Br}_4\text{NO}_7$ (M^+): 1242.4712, found 1242.4850.

Penta-O-methylpolycitone A. To a solution of **1** (27 mg, 0.022 mmol) in dry acetone (6 mL) were added dried potassium carbonate (60 mg, 0.434 mmol) and dimethyl sulfate (55 mg, 0.434 mmol). The mixture was refluxed for 4 h. After addition of aqueous ammonia (0.1 mL, 28% NH_3 in H_2O), the mixture was stirred at room temperature for 30 min. Then, water (10 mL) was added and the mixture extracted with Et_2O (3×5 mL). The solvent was removed in vacuo to yield penta-O-methylpolycitone A (28 mg, 98 %) as a yellow solid: mp = 210 $^\circ\text{C}$; UV (CHCl_3) λ_{max} (ϵ) 321 (9692), 266 nm (19098); IR (KBr) 3436 (br, s), 2921 (m), 1719 (m), 1646 (s), 1512 (w), 1470 (w), 1378 (w), 1263 cm^{-1} (m); ^1H NMR (CDCl_3 , 400 MHz) δ 7.49 (s, 4H), 7.04 (d, $J = 8.6$ Hz, 2H), 6.90 (s, 4H), 6.64 (d, $J = 8.6$ Hz, 2H), 4.80 (t, $J = 7$ Hz, 2H), 3.79, 3.70 (each s, O-CH_3), 3.61 (s, O-CH_3), 3.12 (t, $J = 7$ Hz, 2H); ^{13}C NMR (CDCl_3 , 100 MHz): δ 185.2 ($2 \times \text{CO}$), 158.5 (C-OCH_3), 157.3, 153.2 (each $2 \times \text{C-OCH}_3$), 135.2 ($2 \times \text{quart. C}$), 134.7, 133.9 (each $4 \times \text{CH}$), 131.8, 130.6 (each $2 \times \text{quart. C}$), 130.4 ($2 \times \text{CH}$), 129.0 (quart. C), 126.5 ($2 \times \text{quart. C}$), 118.0, 117.8 (each $4 \times \text{CBr}$), 114.0 ($2 \times \text{CH}$), 60.7, 60.5 (each $2 \times \text{OCH}_3$), 55.1 (OCH_3), 47.5 (CH_2N), 37.8 (CH_2Ar); EIMS m/z (rel. intensity) 1313 $[\text{M}]^+$ (10), 1182 (54), 1103 (20), 1021 (16), 295 (10), 134 (58), 91 (100). HRMS calcd for $\text{C}_{43}\text{H}_{31}^{79}\text{Br}_4^{81}\text{Br}_4\text{NO}_7$ (M^+): 1312.5567, found 1312.5535.

Synthetic polycitone A (1): ¹H NMR ([D₆]DMSO, 600 MHz, water signal is suppressed)

Synthetic penta-*O*-methylpolycitone A: ¹H NMR (CDCl₃, 400 MHz)

Synthetic polycitone A (1): ^{13}C NMR ($[\text{D}_6]\text{DMSO}$, 600 MHz)

Synthetic penta-*O*-methylpolycitone A: ^{13}C NMR (CDCl_3 , 400 MHz)

Comparison of the ^1H and ^{13}C NMR data of natural and synthetic polycitone A and those of the corresponding pentamethyl ethers

1 in $[\text{D}_6]\text{DMSO}$:

^1H NMR data of natural 1 (ref. 1)	^1H NMR data of synthetic 1	^{13}C NMR data of natural 1 (ref. 1)*	^{13}C NMR data of synthetic 1
2.97, t, 2 H, $J = 6.0$ Hz	2.87, t, 2 H, $J = 7.0$ Hz	37.1, CH_2Ar	37.3, CH_2Ar
4.57, t, 2 H, $J = 6.0$ Hz	4.52, t, 2 H, $J = 7.0$ Hz	47.2, CH_2N	47.4, CH_2N
		116.1, $4 \times \text{CBr}$	111.1, $4 \times \text{CBr}$
		116.2, $4 \times \text{CBr}$	111.2, $4 \times \text{CBr}$
6.58, d, 2 H, $J = 8.0$ Hz	6.56, d, 2 H, $J = 8.2$ Hz	120.4, $2 \times \text{CH}$	115.3, $2 \times \text{CH}$
		132.0, $2 \times \text{quart. C}$	126.1, $2 \times \text{quart. C}$
		132.8, quart. C	127.0, $2 \times \text{quart. C}$
		132.8, $2 \times \text{quart. C}$	127.8, $2 \times \text{quart. C}$
6.89, d, 2 H, $J = 8.0$ Hz	6.87, d, 2 H, $J = 8.2$ Hz	134.7, $2 \times \text{CH}$	129.8, $2 \times \text{CH}$
		136.0, $2 \times \text{quart. C}$	130.1, quart. C
		136.3, $2 \times \text{quart. C}$	131.2, $2 \times \text{quart. C}$
7.62, s, 4 H	7.60, s, 4 H	138.9, $4 \times \text{CH}$	133.9, $4 \times \text{CH}$
7.00, s, 4 H	7.01, s, 4 H	139.3, $4 \times \text{CH}$	134.3, $4 \times \text{CH}$
		154.6, $2 \times \text{C-OH}$	149.5, $2 \times \text{C-OH}$
		159.9, $2 \times \text{C-OH}$	155.4, C-OH
		161.2, C-OH	156.2, $2 \times \text{C-OH}$
		189.7, $2 \times \text{CO}$	184.4, $2 \times \text{CO}$

*) The ^{13}C chemical shifts reported for the aromatic and CO region of natural polycitone A in $[\text{D}_6]\text{DMSO}$ show a constant deviation of ~5 ppm which may be due to wrong calibration (Prof. Y. Kashman, personal communication)

1 in $\text{CDCl}_3/\text{MeOD}$:

	^1H NMR data of synthetic 1 ($\text{CDCl}_3/\text{MeOD}$ ratio 10/1)	^{13}C NMR data of natural 1 (ref. 1) (no solvent ratio given)	^{13}C NMR data of synthetic 1 ($\text{CDCl}_3/\text{MeOD}$ ratio 10/1)
		184.5, $2 \times \text{CO}$	185.1, $2 \times \text{CO}$
		156.1, $2 \times \text{C-OH}$	155.2, $2 \times \text{C-OH}$
		154.8, C-OH	154.1, C-OH
		149.3, $2 \times \text{C-OH}$	148.8, $2 \times \text{C-OH}$
	7.50, s, 4 H	133.8, $4 \times \text{CH}$	133.9, $4 \times \text{CH}$
	6.87, s, 4 H	133.7, $4 \times \text{CH}$	133.8, $4 \times \text{CH}$
		131.0, $2 \times \text{quart. C}$	131.5, $2 \times \text{quart. C}$
		130.6, $2 \times \text{quart. C}$	131.0, $2 \times \text{quart. C}$
	6.89, d, 2 H, $J = 7.4$ Hz	130.0, $2 \times \text{CH}$	130.2, $2 \times \text{CH}$
		127.9, quart. C	128.3, quart. C
		127.2, $2 \times \text{quart. C}$	126.8, $2 \times \text{quart. C}$
		126.6, $2 \times \text{quart. C}$	125.7, $2 \times \text{quart. C}$
	6.51, d, 2 H, $J = 7.4$ Hz	114.9, $2 \times \text{CH}$	115.2, $2 \times \text{CH}$
		110.1, $4 \times \text{CBr}$	110.1, $4 \times \text{CBr}$
		110.05, $4 \times \text{CBr}$	109.8, $4 \times \text{CBr}$
	4.61, t, 2 H, $J = 6.8$ Hz	47.3, CH_2N	47.5, CH_2N
	2.98, t, 2 H, $J = 6.8$ Hz	37.5, CH_2Ar	37.7, CH_2Ar

Penta-*O*-methylpolycitone A in CDCl₃:

¹ H NMR data according to ref. 1	¹ H NMR data of synthetic compound	¹³ C NMR data according to ref. 1	¹³ C NMR data of synthetic compound
3.10, t, 2 H, <i>J</i> = 6 Hz	3.12, t, 2 H, <i>J</i> = 7.0 Hz	37.0, CH ₂ Ar	37.8, CH ₂ Ar
4.76, t, 2 H, <i>J</i> = 6.0 Hz	4.80, t, 2 H, <i>J</i> = 7.0 Hz	46.5, CH ₂ N	47.5, CH ₂ N
3.69, s, 3 H	3.61, s, 3 H	56.0, OCH ₃	55.1, OCH ₃
3.77, s, 6 H	3.70, s, 6 H	59.8, 2 × OCH ₃	60.5, 2 × OCH ₃
3.91, s, 6 H	3.79, s, 6 H	60.6, 2 × OCH ₃	60.7, 2 × OCH ₃
6.97, d, 2 H, <i>J</i> = 8.0 Hz	7.04, d, 2 H, <i>J</i> = 8.6 Hz	114.0, 2 × CH	114.0, 2 × CH
		117.1, 4 × CBr	117.8, 4 × CBr
		117.3, 4 × CBr	118.0, 4 × CBr
		125.7, 2 × quart. C	126.5, 2 × quart. C
		128.2, quart. C	129.0, quart. C
6.57, d, 2 H, <i>J</i> = 8.0 Hz	6.64, d, 2 H, <i>J</i> = 8.6 Hz	129.9, 2 × CH	130.4, 2 × CH
			130.6, 2 × quart. C
		131.1, 2 × quart. C	131.8, 2 × quart. C
7.47, s, 4 H	7.49, s, 4 H	133.2, 4 × CH	133.9, 4 × CH
6.89, s, 4 H	6.90, s, 4 H	133.9, 4 × CH	134.7, 4 × CH
		134.5, 2 × quart. C	135.2, 2 × quart. C
		153.3, 2 × C-OCH ₃	153.2, 2 × C-OCH ₃
		156.5, 2 × C-OCH ₃	157.3, 2 × C-OCH ₃
		158.2, C-OCH ₃	158.5, C-OCH ₃
		185.4, 2 × CO	185.2, 2 × CO