Total Synthesis of all (–)-Agelastatin Alkaloids

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Supporting Information

General Procedures. All reactions were performed in oven-dried or flame-dried round bottomed flasks or modified Schlenk (Kjeldahl shape) flasks. The flasks were fitted with rubber septa and reactions were conducted under a positive pressure of argon. Stainless steel syringes or cannulae were used to transfer air- and moisture-sensitive liquids. Where necessary (so noted), solutions were deoxygenated by argon purging for a minimum of 10 min. Flash column chromatography was performed as described by Still et al. using silica gel (60-Å pore size, 40–63 μm, 4-6% H_2O content, Zeochem).[1] Analytical thin–layer chromatography was performed using glass plates pre-coated with 0.25 mm 230–400 mesh silica gel impregnated with a fluorescent indicator (254 nm). Thin layer chromatography plates were visualized by exposure to ultraviolet light and/or by exposure to an ethanolic phosphomolybdic acid (PMA), an acidic solution of *p*-anisaldehyde (Anis), an aqueous solution of ceric ammonium molybdate (CAM), an aqueous solution of potassium permanganate ($KMnO_4$) or an ethanolic solution of ninhydrin followed by heating (<1 min) on a hot plate (~250 °C). Organic solutions were concentrated on Büchi R-200 rotary evaporators at ~10 torr (house vacuum) at 25–35 °C, then at ~0.5 torr (vacuum pump) unless otherwise indicated.

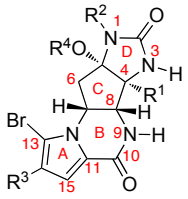
Materials. Commercial reagents and solvents were used as received with the following exceptions: dichloromethane, diethyl ether, tetrahydrofuran, acetonitrile, toluene, methanol, triethylamine, and pyridine were purchased from J.T. Baker (Cycletainer™) and were purified by the method of Grubbs et al. under positive argon pressure.[2] Copper thiophene 2-carboxylate (CuTC), a tan colored solid, was purchased from Matrix Inc. and was used as received. Chlorosulfonyl isocyanate was purchased from TCI and was used as received. Sodium Amalgam was freshly prepared before use.[3] The molarity of *sec*-butyllithium solutions were determined by titration using diphenylacetic acid as an indicator (average of three determinations).[4] The molarity of DMDO[5] solutions were determined by titration using triphenylphosphine with ^{31}P NMR analysis.

Instrumentation. Proton (^{1}H) and carbon (^{13}C) nuclear magnetic resonance spectra were recorded with Varian inverse probe 500 INOVA and Varian 500 INOVA spectrometers. Proton nuclear magnetic resonance (^{1}H NMR) spectra are reported in parts per million on the δ scale and are referenced from the residual protium in the NMR solvent ($CDCl_3$: δ 7.24 ($CHCl_3$), Toluene-d_8: δ 2.09 (Toluene-d_7); CD_3OD: δ 3.31 (CHD_2OD), Pyridine-d_5: δ 8.74 (Pyridine-d_4), DMSO-d_6: δ 2.50 (DMSO-d_5)). Data is reported as follows: chemical shift [multiplicity (s = singlet, d = doublet, t = triplet, q = quartet, st = sextet, sp = septet, m = multiplet, app = apparent, br = broad), coupling constant(s) in Hertz, integration, assignment. Carbon-13 nuclear magnetic resonance (^{13}C NMR)

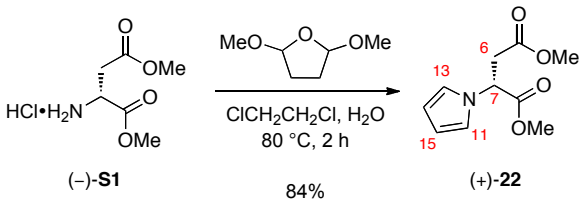
[1] W. C. Still, M. Kahn and A. Mitra, *J. Org. Chem.*, 1978, **43**, 2923–2925.
[2] A. B. Pangborn, M. A. Giardello, R. H. Grubbs, R. K. Rosen and F. J. Timmers, *Organometallics*, 1996, **15**, 1518–1520.
[3] Sodium amalgam (5% wt) was prepared according to: W. R. Brasen and C. R. Hauser, *Org. Synth.*, 1954, **34**, 56–57.
[4] W. G. Kofron and L. M. Baclawski, *J. Org. Chem.*, 1976, **41**, 1879–1880.
[5] For the preparation of DMDO, see: R. W. Murray and M. Singh, *Org. Synth.*, 1997, **74**, 91–96.

spectra are reported in parts per million on the δ scale and are referenced from the carbon resonances of the solvent ($CDCl_3$: δ 77.23, Toluene-d_8: δ 20.40, CD_3OD: δ 49.15, Pyridine-d_5: δ 150.35, DMSO-d_6: δ 39.51). Data is reported as follows: chemical shift. Infrared data (IR) were obtained with a Perkin-Elmer 2000 FTIR and are reported as follows: [frequency of absorption (cm^{-1}), intensity of absorption (s = strong, m = medium, w = weak, br = broad)]. Optical Rotation was recorded on a Jasco P-1010 Polarimeter (chloroform, Aldrich, Chromosolv Plus 99.9%; methanol, Aldrich, Chromosolv Plus 99.9%; pyridine, purified by the method of Grubbs et al.[2]). Chiral HPLC analysis was performed on an Agilent Technologies 1100 Series system. Semi-preparative HPLC was performed on a Waters system with the 1525 Binary HPLC Pump, 2489 UV/Vis Detector, SFO System Fluidics Organizer, and 2767 Sample Manager components. The structures of (–)-**1**, (–)-**2**, (–)-**4**, (+)-**19**, (+)-**21**, and (+)-**26** were obtained at the X-ray crystallography laboratory of the Department of Chemistry, Massachusetts Institute of Technology, with the assistance of Mr. Justin Kim. We are grateful to Dr. Li Li for obtaining the mass spectrometric data at the Department of Chemistry's Instrumentation Facility, Massachusetts Institute of Technology. High-resolution mass spectrometric data (HRMS) were recorded on a Bruker APEXIV 4.7 t FT-ICR-MS spectrometer using electrospray ionization (ESI) source or direct analysis in real time (DART) ionization source.

Positional Numbering System. In assigning the ^1H and ^{13}C NMR data of all intermediates en route to our total synthesis of (–)-**1** through (–)-**6** we have employed a uniform numbering system consistent with that of the final targets.



R^1 = H, R^2 = Me, R^3 = H, R^4 = H	(–)-agelastatin A (**1**)
R^1 = H, R^2 = Me, R^3 = Br, R^4 = H	(–)-agelastatin B (**2**)
R^1 = OH, R^2 = Me, R^3 = H, R^4 = H	(–)-agelastatin C (**3**)
R^1 = H, R^2 = H, R^3 = H, R^4 = H	(–)-agelastatin D (**4**)
R^1 = H, R^2 = Me, R^3 = H, R^4 = Me	(–)-agelastatin E (**5**)
R^1 = H, R^2 = H, R^3 = Br, R^4 = H	(–)-agelastatin F (**6**)



(+)-(*R*)-Dimethyl-2-(1*H*-pyrrol-1-yl)succinate (22):[6]

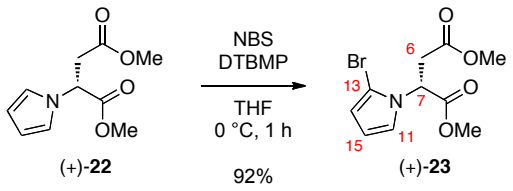
To a solution of (–)-dimethyl D-aspartate hydrogenchloride[7] (**S1**, 20.0 g, 101 mmol, 1 equiv) in water (153 ml) at 23 °C was added 1,2-dichloroethane (153 mL) via syringe followed by 2,5-dimethoxytetrahydrofuran (13.1 mL, 101 mmol, 1.00 equiv), and the resulting mixture was heated to 80 °C. After 2 h, the brown reaction mixture was cooled to 23 °C, and the aqueous layer was separated and was extracted with dichloromethane (3 × 150 mL). The combined organic layers were dried over anhydrous sodium sulfate and were concentrated under reduced pressure. The brown residue was purified by flash column chromatography (silica gel: diam. 6 cm, ht. 15 cm; eluent: 50% diethyl ether in hexanes) to afford pyrrole (+)-**22** (17.9 g, 84%) as colorless oil.

Pyrrole (+)-**22** was found to be 99% ee by chiral HPLC analysis [Welk-O (*S*,*S*); 3 mL/min; 2% isopropanol in hexanes; t_R(major) = 4.5 min, t_R(minor) = 5.2 min]. (+)-**22** could be stored for greater than a month as a solution frozen in benzene at –8 °C without any erosion of enantiomeric excess.

^{1}H NMR (500 MHz, $CDCl_3$, 21 °C):	δ 6.69 (t, *J* = 2.2 Hz, 2H, C_{11}**H**, C_{13}**H**), 6.15 (t, *J* = 2.1 Hz, 2H, C_{14}**H**, C_{15}**H**), 5.11 (dd, *J* = 7.9, 6.8 Hz, 1H, C_7**H**), 3.71 (s, 3H, OC**H$_3$**), 3.66 (s, 3H, OC**H$_3$**), 3.26 (dd, *J* = 16.8, 8.0 Hz, 1H, C_6**H**$_a$), 2.92 (dd, *J* = 16.7, 6.8 Hz, 1H, C_6**H**$_b$).
^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C):	δ 170.4, 170.0, 120.1, 109.2, 57.8, 53.0, 52.2, 37.5.
FTIR (neat) cm^{-1}:	3643 (m), 3466 (m), 3103 (m), 2956 (s), 1739 (br-s), 1557 (w), 1490 (s), 729 (s).
HRMS (DART) (*m*/*z*):	calc'd for $C_{10}H_{14}NNaO_4$, $[M+Na]^+$: 212.0917 found: 212.0911.
$[\alpha]_D^{22}$:	+71.3 (*c* 0.37, $CHCl_3$).
TLC (25% ethyl acetate in hexanes), R*f*:	0.50 (CAM, UV).

[6] For a previous report of the synthesis of (–)-**22** in 99% ee, see: C. W. Jefford, F. de Villedone de Naide and K. Sienkiewicz, *Tetrahedron: Asymmetry*, 1996, **7**, 1069–1076.

[7] (–)-Dimethyl D-aspartate hydrochloride (**S1**) can be purchased from commercial sources. Additionally, we prepared **S1** from (–)-D-aspartic acid in 99% yield on greater than 35 gram scale according to the following procedure: P. Gmeiner, P. L. Feldman, M. Y. Chu-Moyer and H. Rapoport, *J. Org. Chem.*, 1990, **55**, 3068–3074.

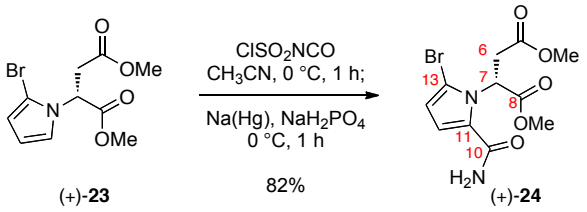


(+)-(*R*)-Dimethyl 2-(2-bromo-1*H*-pyrrol-1-yl)succinate (23):

N-Bromosuccinimide (NBS, 13.7 g, 77.0 mmol, 1.00 equiv) was added as solid in one portion to a solution of pyrrole (+)-**22** (16.2 g, 77.0 mmol, 1 equiv) and 2,6-di-*tert*-butyl-4-methylpyridine (DTBMP, 17.3 g, 84.0 mmol, 1.10 equiv) in tetrahydrofuran (385 mL) at 0 °C. After 1 h, the clear colorless reaction mixture was quenched with a mixture of saturated aqueous sodium thiosulfate solution and saturated aqueous sodium bicarbonate solution (1:1, 200 mL). The solution was diluted with ethyl acetate (800 mL) and water (800 mL), and the layers were separated. The aqueous layer was extracted with ethyl acetate (2 × 800 mL), and the combined organic layers were dried over anhydrous sodium sulfate and were concentrated under reduced pressure. The sample of the crude colorless residue was purified by flash column chromatography (silica gel: diam. 9 cm, ht. 17 cm; eluent: 10% ethyl acetate in hexanes) to afford bromopyrrole (+)-**23** (20.6 g, 92%) as a colorless oil.

Bromopyrrole (+)-**23** was found to be 99% ee by chiral HPLC analysis [Welk-O (*R*,*R*); 3 mL/min; 2% isopropanol in hexanes; t_R(major) = 3.5 min, t_R(minor) = 4.1 min]. While neat (+)-**23** is sensitive toward long term storage, it could be stored for greater than a month as a solution frozen in benzene at −8 °C without any $C_{13}\rightarrow C_{14}$ bromine migration.

^{1}H NMR (500 MHz, $CDCl_3$, 21 °C):	δ 6.74 (ddd, *J* = 3.1, 1.9, 0.2 Hz, 1H, C_{11}**H**), 6.18-6.16 (m, 2H, C_{14}**H**, C_{15}**H**), 5.38 (t, *J* = 7.2 Hz, 1H, C_7**H**), 3.73 (s, 3H, OC**H**$_3$), 3.67 (s, 3H, OC**H**$_3$), 3.27 (dd, *J* = 16.8, 7.5 Hz, 1H, C_6**H**$_a$), 2.92 (dd, *J* = 16.8, 7.0 Hz, 1H, C_6**H**$_b$).
^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C):	δ 170.3, 169.8, 120.6, 111.7, 110.6, 102.1, 56.2, 53.3, 52.4, 37.2.
FTIR (neat) cm^{-1}:	3654 (w), 3468 (w), 3130 (m), 2954 (s), 1739 (br-s), 1437 (s), 1010 (s), 709 (s).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{10}H_{12}BrNNaO_4$, $[M+Na]^+$: 311.9842 found: 313.9847.
$[\alpha]_D^{22}$:	+65.9 (*c* 1.06, $CHCl_3$).
TLC (25% ethyl acetate in hexanes) R*f*:	0.42 (CAM, UV).



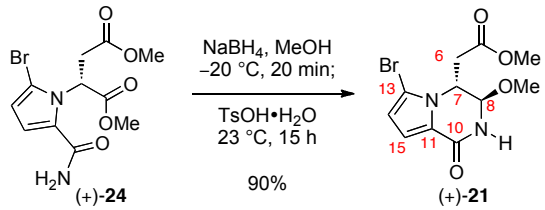
(+)-(*R*)-Dimethyl 2-(2-bromo-5-carbamoyl-1*H*-pyrrol-1-yl)succinate (24):

Chlorosulfonyl isocyanate (4.28 mL, 49.0 mmol, 1.05 equiv) was added slowly via syringe to a solution of bromopyrrole (+)-**23** (13.6 g, 46.8 mmol, 1 equiv) in acetonitrile (235 mL) at 0 °C. After 1 h, anhydrous powdered sodium phosphate monobasic (28.2 g, 235 mmol, 5.00 equiv) followed by freshly prepared sodium amalgam (5%-Na, 110 g, 239 mmol, 5.11 equiv) were added as solids to the reaction mixture. After 1h, the reaction mixture was diluted with ethyl acetate (800 mL), and silica gel (400 mL) was added to the reaction mixture. The resulting slurry was filtered through a plug of silica gel (diam. 9 cm, ht. 8 cm; eluent: ethyl acetate). The filtrate was concentrated under reduced pressure, and the residue was purified by flash column chromatography (silica gel: diam. 9 cm, ht. 15 cm; eluent: 50% ethyl acetate in hexanes) to afford (+)-**24** (12.7 g, 82%) as white solid. Pyrrole (+)-**24** could be stored for greater than a month as a solution frozen in benzene at –8 °C. Exposure of (+)-**24** to alcoholic solvents, namely methanol, or base results in rapid lactamization and erosion of enantiomeric excess.

^{1}H NMR (500 MHz, $CDCl_3$, 21 °C)[8]:	δ 6.69 (br-d, J = 3.9 Hz, 1H, C_{15}**H**), 6.23 (d, J = 4.1 Hz, 1H, C_{14}**H**), 5.78 (br-s, 2H, N_9**H**$_2$), 5.78 (br-s, 1H, C_7**H**)[9], 3.69 (s, 3H, OC**H**$_3$), 3.65 (s, 3H, OC**H**$_3$), 3.59 (br-d, J = 14.4 Hz, 1H, C_6**H**$_a$), 2.89 (br-dd, J = 16.4, 6.3 Hz, 1H, C_6**H**$_b$).
^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C)[8]:	δ 171.2, 169.5, 162.5, 125.2, 115.1, 111.7, 111.7[9], 56.8, 53.0, 52.3, 37.3.
FTIR (neat) cm^{-1}:	3359 (m), 3191 (m), 2953 (m), 1740 (s), 1660 (m), 1602 (m), 1534 (w), 1438 (s), 1413 (m), 1272 (m), 1011 (m) 751 (m).
HRMS (DART) (*m*/*z*):	calc'd for $C_{11}H_{14}BrN_2O_5$, $[M+H]^+$: 333.0081 found: 333.0074.
$[\alpha]_D^{22}$:	+74.0 (*c* 1.25, $CHCl_3$).
M.p.:	45–49 °C.
TLC (33% in hexanes in ethyl acetate) R*f*:	0.44 (CAM, UV).

[8] Resonances at 21 °C are broadened due to atropisomerism.

[9] Resonance is obscured due to line broadening. At higher temperature in toluene-d_8 the signals are resolved; however, atropisomerism persist for ^{13}C NMR. ^{1}H NMR (500 MHz, Toluene-d_8, 80 °C) δ 6.30 (br-s, 1H, C_7**H**), 6.27 (dd, J = 4.1, 1.1 Hz, 1H, C_{15}**H**), 6.01 (dd, J = 4.1 0.6 Hz, 1H, C_{14}**H**), 5.40 (br-s, 2H, N_9**H**$_2$), 3.66 (dd, J = 16.5, 6.7 Hz, 1H, C_6**H**$_a$), 3.37 (s, 3H, OC**H**$_3$), 3.36 (s, 3H, OC**H**$_3$), 2.86 (dd, J = 16.6, 6.5 Hz, 1H, C_6**H**$_b$). ^{13}C NMR (125.8 MHz, Toluene-d_8, 80 °C; Minor rotamer resonances denoted by *) δ 170.7, 169.2, 162.9, 126.8, 115.1*, 114.9*, 114.8, 114.6*, 112.2*, 112.0*, 111.6, 111.4*, 110.9 (br), 57.1 (br), 52.3, 52.1*, 51.7*, 51.5, 51.3*, 37.9*, 37.7, 37.5*.

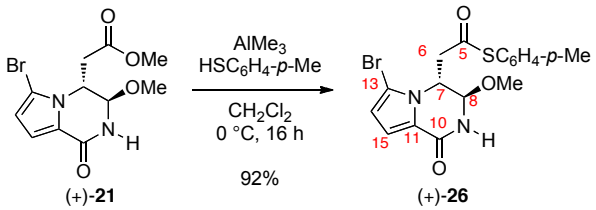


(+)-Methyl-2-((3*R*,4*R*)-6-bromo-3-methoxy-1-oxo-1,2,3,4-tetrahydropyrrolo[1,2-a]pyrazin-4-yl)-acetate (21):

Anhydrous methanol (377 mL, cooled to –20 °C) was added to a 2L flask charged with (+)-**24** (12.5 g, 37.7 mmol, 1 equiv) at –20 °C followed immediately by sodium borohydride (7.12 g, 188 mmol, 5.00 equiv) as a solid in one portion (Note: Significant gas evolution was observed. The internal temperature remained below –10 °C). After 20 minutes, acetone (41.0 mL, 566 mmol, 15.0 equiv) was added slowly via syringe to the reaction mixture. After 10 min, the reaction mixture was diluted with methanol (1L, –20 °C), and a solution of *p*-toluenesulfonic acid hydrate (TsOH•H_2O, 43.0 g, 226 mmol, 6.00 equiv) in methanol (100 mL) was added slowly via cannula over a 10 min period, while maintaining an internal temperature of –20 °C. The resulting mixture (pH = 3) was allowed to slowly warm to 23 °C. After 15 h, the reaction mixture was basified with saturated aqueous sodium bicarbonate solution (pH = 7) and was concentrated under reduced pressure to a volume of approximately 200 mL. The resulting mixture was partitioned between dichloromethane (750 mL) and saturated aqueous sodium bicarbonate solution (750 mL). The layers were separated, and the aqueous layer was extracted with dichloromethane (4 × 750 mL). The combined organic layers were dried over anhydrous sodium sulfate, and were concentrated under reduced pressure to provide a white solid residue. This solid was purified by flash column chromatography (silica gel: diam. 5 cm, ht. 12 cm; eluent: 25% hexanes in ethyl acetate) to afford the bicycle (+)-**21** (10.8 g, 90%) as white crystalline solid.

Bicycle (+)-**21** was found to be 99% ee by chiral HPLC analysis [Chiralpak AD-H; 0.54 mL/min; 21% isopropanol in hexanes; t_R(major) = 16.2 min, t_R(minor) = 11.6 min]. Crystals of the bicycle (+)-**21** suitable for X-ray diffraction were obtained from methanol. For a thermal ellipsoid representation of the bicycle (+)-**21**, see page S38.

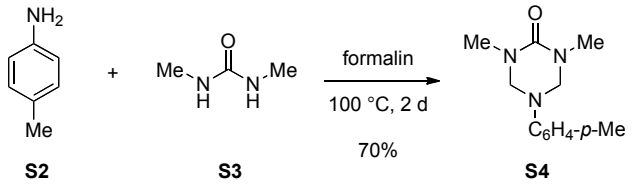
^{1}H NMR (500 MHz, $CDCl_3$, 21 °C):	δ 7.73 (br-d, *J* = 4.4 Hz, 1H, N_9**H**), 6.94 (d, *J* = 4.1 Hz, 1H, C_{15}**H**), 6.29 (d, *J* = 4.1 Hz, 1H, C_{14}**H**), 4.84 (dd, *J* = 9.8, 3.5 Hz, 1H, C_7**H**), 4.80 (dd, *J* = 4.8, 1.5 Hz, 1H, C_8**H**), 3.73 (s, 3H, OC**H**$_3$), 3.37 (s, 3H, OC**H**$_3$), 2.75 (dd, *J* = 17.0, 10.8 Hz, 1H, C_6**H**$_a$), 2.65 (dd, *J* = 17.0, 3.6 Hz, 1H, C_6**H**$_b$).
^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C):	δ 170.2, 159.7, 123.5, 115.3, 113.2, 106.3, 84.7, 55.2, 53.6, 52.5, 36.6.
FTIR (neat) cm^{-1}:	3226 (br-m), 2952 (m), 1736 (s), 1669 (s), 1553 (m), 1423 (s), 1384 (w), 1319 (m), 1088 (m).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{11}H_{13}BrN_2NaO_4$, $[M+Na]^+$: 317.0131, found: 317.0135.
$[\alpha]_D^{22}$:	+128.1 (*c* 0.61, $CHCl_3$).
M.p.:	156–157 °C.
TLC (25% hexanes in ethyl acetate), R*f*:	0.31 (CAM, UV).



(+)-*S*-*p*-Tolyl-2-((3*R*,4*R*)-6-bromo-3-methoxy-1-oxo-1,2,3,4-tetrahydropyrrolo[1,2-a]pyrazin-4-yl)ethanethioate (26):

Trimethyl aluminum (2 M in toluene, 30.7 mL, 61.5 mmol, 5.00 equiv) was added slowly via syringe to a solution of 4-methylbenzenethiol (7.80 g, 61.5 mmol, 5.00 equiv) in dichloromethane (123 mL) at 0 °C. After 40 min, a pre-cooled solution (0 °C) of bicycle (+)-**21** (3.90 g, 12.3 mmol, 1 equiv) in dichloromethane (90 mL) was added via cannula. After 16 h, the light yellow reaction mixture was diluted with saturated aqueous potassium sodium tartrate solution (360 mL) and saturated aqueous sodium bicarbonate solution (250 mL). After 1h, the layers were separated and the aqueous layer was extracted with dichloromethane (3 × 250 mL). The combined organic layers were dried over anhydrous sodium sulfate and were concentrated under reduced pressure to afford an opaque white oil. The residue was purified by flash column chromatography (silica gel: diam. 5 cm, ht. 14 cm; eluent: 50% ethyl acetate in hexanes) to afford thioester (+)-**26** (4.8 g, 92%) as white crystalline solid. Crystals of the thioester (+)-**26** suitable for X-ray diffraction were obtained from isopropanol. For a thermal ellipsoid representation of the thioester (+)-**26**, see page S42.

^{1}H NMR (500 MHz, $CDCl_3$, 21 °C):	δ 8.01 (br-d, *J* = 4.6 Hz, 1H, N_9**H**), 7.30 (app-d, *J* = 8.1 Hz, 2H, SAr-*o*-**H**), 7.24 (d, *J* = 7.9 Hz, 2H, SAr-*m*-**H**), 6.95 (d, *J* = 4.1 Hz, 1H, C_{15}**H**), 6.30 (d, *J* = 4.1 Hz, 1H, C_{14}**H**), 4.89 (app-dd, *J* = 10.4, 3.5 Hz, 1H, C_7**H**), 4.79 (dd, *J* = 4.8, 1.5 Hz, 1H, C_8**H**), 3.33 (s, 3H, OC**H$_3$**), 3.09 (dd, *J* = 16.6, 10.5 Hz, 1H, C_6**H**$_a$), 2.98 (dd, *J* = 16.6, 3.5 Hz, 1H, C_6**H**$_b$), 2.37 (s, 3H, SArC**H$_3$**).
^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C):	δ 194.9, 159.9, 140.6, 134.6, 130.5, 123.5, 123.0, 115.4, 113.2, 106.4, 83.6, 55.3, 53.7, 45.1, 21.6.
FTIR (neat) cm^{-1}:	3216 (s), 3094 (m), 2931 (s), 2248 (w), 1670 (br-s), 1553 (s), 1423 (s), 1318 (s), 1087 (s), 733 (s).
HRMS (DART) (*m*/*z*):	calc'd for $C_{17}H_{18}BrN_2O_3S$, $[M+H]^+$: 409.0216, found: 409.0212.
$[\alpha]_D^{22}$:	+97.8 (*c* 0.3, $CHCl_3$).
M.p.:	133–135 °C (dec.).
TLC (25% hexanes in ethyl acetate), R*f*:	0.42 (CAM, UV).

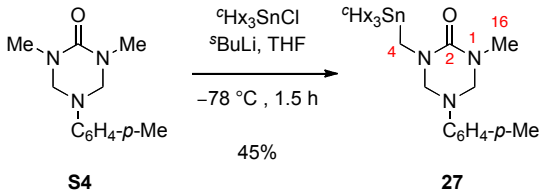


S2 **S3** **S4**

1,3-Dimethyl-5-(*p*-tolyl)-1,3,5-triazinan-2-one (S4):

p-Toluidine (**S2**, 12.2 g, 113 mmol, 1.00 equiv) was added as a solid to a solution of *N*,*N*′-dimethylurea (**S3**, 10.0 g, 113 mmol, 1 equiv) in formalin (37% wt in water, 18.4 ml, 227 mmol, 2.00 equiv) at 23 °C, and the resulting suspension was heated to 100 °C. After 2 d, the reaction mixture was allowed to cool to 23 °C, and was partitioned between dichloromethane (500 mL) and water (500 mL). The layers were separated, and the aqueous layer was extracted with dichloromethane (3 × 100 mL). The combined organic layers were dried over anhydrous sodium sulfate, and were concentrated under reduced pressure. The solid residue was purified by crystallization from hot hexanes to afford triazone **S4** (17.4 g, 70%) as a tan crystalline solid.

^{1}H NMR (500 MHz, $CDCl_3$, 21 °C):	δ 7.06 (d, *J* = 8.5 Hz, 2H, NAr-*o*-**H**), 6.89 (d, *J* = 8.5 Hz, 2H, NAr-*m*-**H**), 4.60 (s, 4H, NC**H$_2$**N, NC**H$_2$**N), 2.85 (s, 6H, NC**H$_3$**, NC**H$_3$**), 2.27 (s, 3H, NArC**H$_3$**).
^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C):	155.9, 145.6, 132.0, 129.7, 119.2, 67.1, 32.1, 20.4.
FTIR (neat) cm^{-1}:	3029 (s), 2872 (s), 1638 (s), 1513 (s), 1451 (m), 1403 (m), 1294 (m), 1197 (m), 1093 (w).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{12}H_{17}N_3NaO$, $[M+Na]^+$: 242.1264, found: 242.1275.
M.p.:	79–82 °C.
TLC (10% ethyl acetate in hexanes), R*f*:	0.80 (CAM, UV).

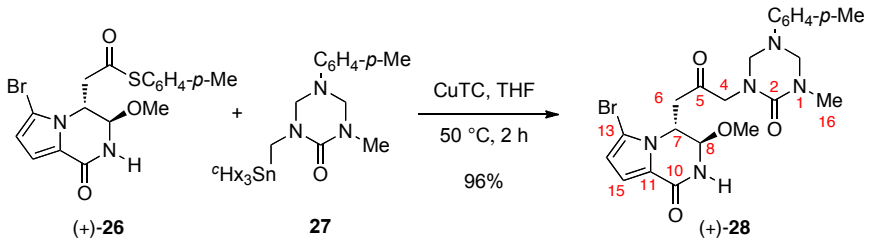


S4 **27**

1-Methyl-5-(*p*-tolyl)-3-((tricyclohexylstannyl)methyl)-1,3,5-triazinan-2-one (27):

To a solution of triazone **S4** (10.0 g, 46.0 mmol, 1 equiv) in tetrahydrofuran (400 mL) at –78 °C was added *sec*-butyllithium (1.4 M in cyclohexane, 34.5 mL, 48.0 mmol, 1.05 equiv) rapidly via cannula. After 10 min, the resulting bright orange mixture was added via cannula over a 15 min period to a solution of tricyclohexyltin chloride (20.3 g, 50.0 mmol, 1.10 equiv) in tetrahydrofuran (400 mL) at –78 °C. After 1.5 h, saturated aqueous ammonium chloride solution (100 mL) was added via syringe, and the resulting mixture was concentrated under reduced pressure. The residue was partitioned between dichloromethane (800 mL) and water (800 mL). The layers were separated, and the organic layer was washed with brine (800 mL), was dried over anhydrous sodium sulfate, and was concentrated under reduced pressure. The crude residue absorbed onto silica gel was purified by flash column chromatography (silica gel: diam. 6 cm, ht. 15 cm; eluent: hexanes then 10% ethyl acetate in hexanes) to afford stannyltriazone **27** (12.1 g, 45%) as a white solid.

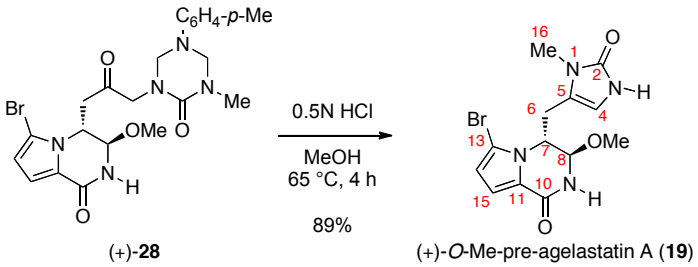
^{1}H NMR (500 MHz, $CDCl_3$, 21 °C):	δ 7.07 (dd, *J* = 8.7, 0.7 Hz, 2H, NAr-*o*-**H**), 6.89 (d, *J* = 8.5 Hz, 2H, NAr-*m*-**H**), 4.60 (s, 2H, NC**H$_2$**N), 4.58 (s, 2H, NC**H$_2$**N), 2.85 (s, 3H, NC**H$_3$**), 2.78 (t, *J* = 12.2 Hz, 2H, NC**H$_2$**Sn), 2.27 (s, 3H, NArC**H$_3$**), 1.82-1.74 (m, 6H, ^{c}Hx), 1.65-1.56 (m, 9H, ^{c}Hx), 1.52-1.13 (m, 18H, ^{c}Hx).
^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C):	δ 156.3, 146.1, 132.2, 130.0, 119.5, 69.2, 67.3, 32.7, 32.3, 29.5, 28.7, 27.9, 27.4, 20.8.
FTIR (neat) cm^{-1}:	2915 (s), 2844 (s), 1636 (s), 1515 (s), 1444 (s), 1407 (m), 1299 (s), 1201 (m), 991 (m).
HRMS (DART) (*m*/*z*):	calc'd for $C_{30}H_{50}N_3OSn$, $[M+H]^+$: 588.2987, found: 588.2982.
M.p.:	59–62 °C.
TLC (15% ethyl acetate in hexanes), R*f*:	0.20 (CAM, UV).



(+)-(3*R*,4*R*)-6-Bromo-3-methoxy-4-(3-(3-methyl-2-oxo-5-(*p*-tolyl)-1,3,5-triazinan-1-yl)-2-oxopropyl)-3,4-dihydropyrrolo[1,2-a]pyrazin-1(2*H*)-one (28):

A flask was charged with thioester (+)-**26** (5.70 g, 13.9 mmol, 1 equiv), stannyltriazone **27** (9.80 g, 16.8 mmol, 1.20 equiv), and copper(I)-thiophene-2-carboxylate (CuTC, 4.00 g, 21.0 mmol 1.50 equiv) at 23 °C and placed under an argon atmosphere. Anhydrous tetrahydrofuran (140 mL) was added via syringe, and the entire reaction mixture was degassed thoroughly by passage of a stream of argon. After the reaction mixture was heated to 50 °C for 2 h, the resulting brown reaction mixture was allowed to cool to 23 °C, was diluted with ethyl acetate (500 mL), and was filtered through a plug of celite with ethyl acetate as eluent (3 × 200 mL). The resulting green filtrate was washed with ~5% aqueous ammonium hydroxide solution (4 × 600 mL), and brine (400 mL). The resulting light yellow organic layer was dried over anhydrous sodium sulfate and was concentrated under reduced pressure. The residue was purified by flash column chromatography (silica gel: diam. 5 cm, ht. 14 cm; eluent: 5% methanol in ethyl acetate then 10% methanol in ethyl acetate) and was lyophilized from benzene to afford ketone (+)-**28** (6.7 g, 96%) as a light tan solid.

^{1}H NMR (500 MHz, $CDCl_3$, 21 °C):	δ 7.04 (dd, *J* = 8.6, 0.6 Hz, 2H, NAr-*o*-**H**), 6.93 (d, *J* = 4.0 Hz, 1H, C_{15}**H**), 6.89 (d, *J* = 8.5 Hz, 2H, NAr-*m*-**H**), 6.55 (d, *J* = 4.6 Hz, 1H, N_9**H**), 6.26 (d, *J* = 4.1 Hz, 1H, C_{14}**H**), 4.85 (ddd, *J* = 11.2, 2.8, 1.4 Hz, 1H, C_7**H**), 4.81 (d, *J* = 11.6 Hz, 1H, NC**H$_2$**N), 4.71 (d, *J* = 12.0, Hz, 1H, NC**H$_2$**N), 4.66 (dd, *J* = 11.7, 1.3 Hz, 1H, NC**H$_2$**N), 4.63-4.60 (m, 2H, C_8**H**, NC**H$_2$**N), 3.92 (d, *J* = 17.7 Hz, 1H, C_4**H**$_a$), 3.85 (d, *J* = 17.7 Hz, 1H, C_4**H**$_b$) 3.33 (s, 3H, OC**H$_3$**), 2.92 (s, 3H, C_{16}**H$_3$**), 2.79 (dd, *J* = 17.9, 11.2, Hz, 1H, C_6**H**$_a$), 2.39 (dd, *J* = 17.9, 2.9 Hz, 1H, C_6**H**$_b$), 2.23 (s, 3H, NArC**H$_3$**).
^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C):	δ 204.4, 159.5, 155.8, 145.4, 132.7, 130.1, 123.6, 119.4, 114.7, 112.7, 105.7, 83.4, 67.8, 66.8, 55.6, 55.0, 52.7, 41.1, 32.2, 20.7.
FTIR (neat) cm^{-1}:	3248 (m), 2921 (m), 1724, (m), 1667 (s), 1640 (s), 1514 (s), 1422 (s), 1316 (s), 1087 (m).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{22}H_{26}BrN_5NaO_4$, $[M+Na]^+$: 526.1060, found: 526.1063.
$[\alpha]_D^{22}$:	+81.1 (c 0.62, $CHCl_3$).
M.p.:	101–105 °C.
TLC (5% methanol in ethyl acetate), R*f*:	0.20 (CAM, UV).



(+)-**28** (+)-*O*-Me-pre-agelastatin A (**19**)

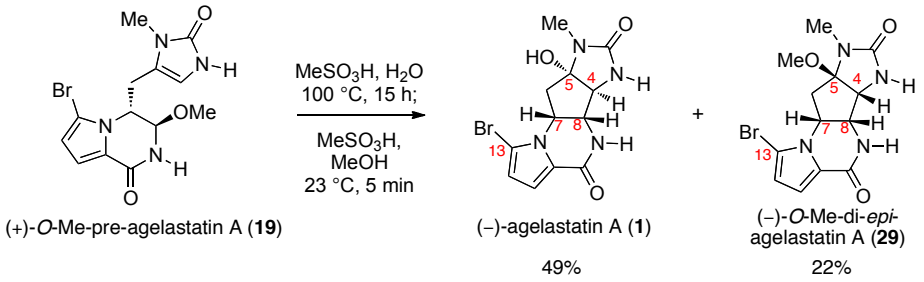
(+)-*O*-Methyl-pre-agelastatin A (19):

Aqueous hydrochloric acid solution (0.5 N, 23.8 mL, 11.9 mmol, 2.00 equiv) was added via syringe to a solution of ketone (+)-**28** (3.00 g, 5.90 mmol, 1 equiv) in methanol (1.18 L) at 23 °C, and the entire reaction mixture was degassed thoroughly by passage of a stream of argon. After the reaction mixture was heated to 65 °C for 4 h, the light pink reaction mixture was allowed to cool to 23 °C, and was concentrated to approximately 250 mL volume under reduced pressure. The resulting solution was basified to pH = 8 by the addition of a 5% aqueous ammonium hydroxide in methanol solution and the reaction mixture became a clear light orange color. A silica gel (50 mL) slurry in a 1% aqueous ammonium hydroxide in methanol solution (75 mL) was added and the resulting mixture was concentrated to dryness under reduced pressure. The crude residue adsorbed onto silica gel was purified by flash column chromatography (silica gel: diam. 5 cm, ht. 15 cm; eluent: 9% methanol, 1% ammonium hydroxide in chloroform to 13.5% methanol, 1.5% ammonium hydroxide in chloroform) to afford (+)-*O*-methyl-pre-agelastatin A (**19**, 1.87 g, 89%) as a light tan solid.

(+)-*O*-Methyl-pre-agelastatin A (**19**) was found to be 99% ee by chiral HPLC analysis [Chiralcel OD-H; 0.8 mL/min; 35% isopropanol in hexanes; t_R(major) = 14.9 min, t_R(minor) = 12.1 min]. Crystals of (+)-*O*-methyl-pre-agelastatin A (**19**) suitable for X-ray diffraction were obtained from methanol. For a thermal ellipsoid representation of (+)-*O*-methyl-pre-agelastatin A (**19**) see page S47. (+)-*O*-Methyl-pre-agelastatin A (**19**) is best used immediately in the following step; however, it could be stored as a dry solid at –8 °C under an argon atmosphere, or as a suspension frozen in benzene at –8 °C under an argon atmosphere for greater than a month. (+)-*O*-Methyl-pre-agelastatin A (**19**) is sparingly soluble in organic solvents, methanol, and water.

^{1}H NMR (500 MHz, CD_3OD, 21 °C):	δ 6.90 (dd, *J* = 4.1, 0.4 Hz, 1H, C_{15}**H**), 6.27 (d, *J* = 4.1 Hz, 1H, C_{14}**H**), 5.97 (t, *J* = 0.7 Hz, 1H, C_4**H**), 4.76 (d, *J* = 1.6 Hz, 1H, C_8**H**), 4.54 (ddd, *J* = 8.4, 6.1, 1.5 Hz, 1H, C_7**H**), 3.35 (s, 3H, OC**H**$_3$), 3.14 (s, 3H, C_{16}**H**$_3$), 2.95 (ddd, *J* = 15.4, 6.0, 0.8 Hz, 1H, C_6**H**$_a$), 2.78 (ddd, *J* = 15.4, 8.5, 0.8 Hz, 1H, C_6**H**$_b$).
^{13}C NMR (125.8 MHz, CD_3OD, 21 °C):	δ 161.2, 156.1, 124.5, 120.2, 116.1, 113.5, 108.8, 108.5, 84.9, 58.0, 55.2, 29.5, 27.7.
FTIR (neat) cm^{-1}:	3227 (br-m), 2936 (w), 1666 (s), 1552 (m), 1460 (w), 1421 (m), 1386 (w), 1319 (m), 1085 (m).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{13}H_{15}BrN_4NaO_3$, $[M+Na]^+$: 377.0220, found: 377.0221.
$[\alpha]_D^{22}$:	+248.7 (c 0.032, methanol).
M.p.:	157-161 °C (dec.).

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.40 (CAM, UV).



(–)-Agelastatin A (1) and (–)-*O*-methyl-di-*epi*-agelastatin A (29):

A solution of methanesulfonic acid (10.9 mL, 168 mmol, 20.0 equiv) in water (100 mL) was added slowly via syringe to a solution of (+)-*O*-methyl-pre-agelastatin A (**19**, 2.97 g, 8.39 mmol, 1 equiv) in water (1.68 L) at 23 °C. The entire reaction mixture was degassed thoroughly by passage of a stream of argon, and the mixture was heated to 100 °C. After 15 h, the reaction mixture was allowed to cool to 23 °C and was basified to pH = 8 by addition of 5% aqueous ammonium hydroxide solution. The resulting mixture was concentrated under reduced pressure. The crude residue was dissolved in methanol (839 mL) and the resulting mixture was acidified to pH = 2 by the addition of a solution of 5% methanesulfonic acid in methanol (20 mL). After 5 min, the reaction mixture was basified to pH = 8 by addition of by addition of 5% aqueous ammonium hydroxide solution. The resulting mixture was concentrated under reduced pressure, and the crude residue adsorbed onto silica gel was purified by flash column chromatography (silica gel: diam. 7 cm, ht. 14 cm; eluent: 9% methanol, 1.0% ammonium hydroxide in chloroform to 13.5% methanol, 1.5% ammonium hydroxide in chloroform) to afford (–)-agelastatin A (**1**, 1.40 g, 49%) as a tan solid.

(–)-Agelastatin A (**1**) was found to be 99% ee by chiral HPLC analysis [Chiralpak AD-H; 0.53 mL/min; 10% isopropanol in hexanes; t_R(major) = 40.0 min, t_R(minor) = 24.5 min]. (–)-*O*-Methyl-di-*epi*-agelastatin A (**29**, 668 mg, 22%) was also isolated as light tan solid. (–)-Agelastatin A (**1**) is sparingly soluble in organic solvents, methanol, and water. Crystals of (–)-agelastatin A (**1**) suitable for X-ray diffraction were obtained from methanol. For a thermal ellipsoid representation of (–)-agelastatin A (**1**), see page S52.

(–)-agelastatin A (1):

^{1}H NMR (500 MHz, CD_3OD, 21 °C): δ 6.92 (d, J = 4.0 Hz, 1H, C_{15}**H**), 6.33 (d, J = 4.1 Hz, 1H, C_{14}**H**), 4.60 (app-dt, J = 11.9, 6.0 Hz, 1H, C_7**H**), 4.09 (d, J = 5.4 Hz, 1H, C_8H), 3.88 (s, 1H, C_4**H**), 2.81 (s, 3H, C_{16}**H**$_3$), 2.65 (dd, J = 13.1, 6.3 Hz, 1H, C_6**H**), 2.10 (app-t, J = 12.7 Hz, 1H, C_6**H**).

^{13}C NMR (125.8 MHz, CD_3OD, 21 °C): δ 161.6, 161.2, 124.3, 116.2, 113.9, 107.4, 95.8, 67.5, 62.3, 54.5, 40.1, 24.4.

FTIR (neat) cm^{-1}: 3269 (m), 2921 (w), 1651 (s), 1552 (w), 1423 (m), 1378 (w), 1090 (w), 746 (w).

HRMS (ESI) (*m*/*z*): calc'd for $C_{12}H_{13}BrN_4NaO_3$, $[M+Na]^+$: 363.0063, found: 363.0073.

$[\alpha]_D^{22}$: –87.6 (c 0.10, methanol).[10]

M.p.: 213–215 °C (dec.).

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.34 (CAM, UV).

(–)-*O*-methyl-di-*epi*-agelastatin A (29):

^{1}H NMR (500 MHz, CD_3OD, 21 °C): δ 6.90 (d, *J* = 4.1 Hz, 1H, C_{15}**H**), 6.33 (d, *J* = 4.1 Hz, 1H, C_{14}**H**), 4.95 (ddd, *J* = 10.4, 7.2, 5.1 Hz, 1H, C_7**H**), 4.42 (app-t, *J* = 5.4 Hz, 1H, C_8H), 4.22 (d, *J* = 5.9 Hz, 1H, C_4**H**), 3.13 (s, 3H, OC**H$_3$**), 2.69 (s, 3H, NC**H$_3$**), 2.53 (dd, *J* = 13.4, 7.1 Hz, 1H, C_6**H**), 2.32 (dd, *J* = 13.5 10.5 Hz, 1H, C_6**H**).

^{13}C NMR (125.8 MHz, CD_3OD, 21 °C): δ 162.4, 161.6, 124.9, 116.3, 114.3, 107.2, 100.1, 59.3, 58.6, 55.1, 49.9, 42.2, 24.9.

FTIR (neat) cm^{-1}: 3374 (m), 2951 (w), 1703 (s), 1659 (s), 1552 (m), 1424 (m), 1346 (w).

HRMS (ESI) (*m*/*z*): calc'd for $C_{13}H_{15}BrN_4NaO_3$, $[M+Na]^+$: 377.0220, found: 377.0220.

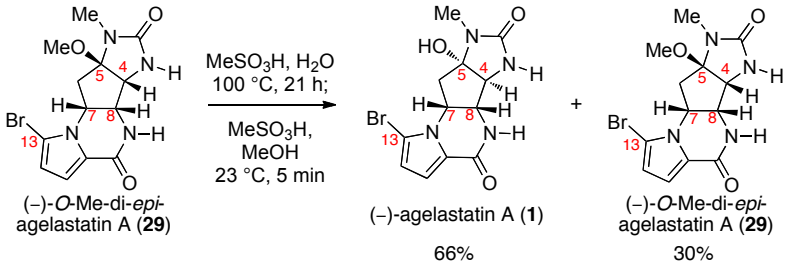
$[\alpha]_D^{22}$: –70.0 (c 0.042, methanol).

M.p.: 205–208 °C.

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.60 (CAM, UV).

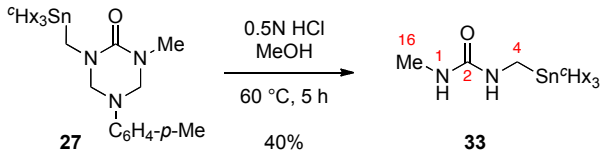
[10] Optical rotations from natural samples of (–)-agelastatin A (**1**):
$[\alpha]_D$ = –59.3 (c 0.13, methanol), T. W. Hong, D. R. Jímenez and T. F. Molinski, *J. Nat. Prod.*, 1998, **61**, 158–161.
$[\alpha]_D^{26}$ = –88.9 (c 0.09, chloroform), G. R. Pettit, S. Ducki, D. L. Herald, D. L. Doubek, J. M. Schmidt and J. Chapuis, *Oncol. Res.*, 2005, **15**, 11–20.
$[\alpha]_D^{25}$ = –58.5 (c 0.21, methanol), S. Tilvi, C. Moriou, M. Martin, J. Gallard, J. Sorres, K. Patel, S. Petek, C. Debitus, L. Ermolenko and A. Al-Mourabit, *J. Nat. Prod.*, 2010, **73**, 720–723.

Optical rotations from synthetic samples of (–)-agelastatin A (**1**):
$[\alpha]_D^{20}$ = –65.5 (c 0.5, methanol), K. S. Feldman and J. C. Saunders, *J. Am. Chem. Soc.*, 2002, **124**, 9060–9061.
$[\alpha]_D$ = –84.2 (c 1, methanol), M. M. Domostoj, E. Irving, F. Scheinmann and K. J. Hale, *Org. Lett.*, 2004, **6**, 2615–2618.
$[\alpha]_D^{20}$ = –62.2 (c 0.18, methanol), F. A. Davis and J. Deng, *Org. Lett.*, 2005, **7**, 621–623.
(+)-Agelastatin A, $[\alpha]_D$ = +53.2 (c 0.13, methanol), B. M. Trost and G. Dong, *J. Am. Chem. Soc.*, 2006, **128**, 6054–6055.
$[\alpha]_D^{14}$ = –83.8 (c 0.21, methanol), Y. Ichikawa, T. Yamaoka, K. Nakano and H. Kotsuki, *Org. Lett.*, **9**, 2989–2992.
$[\alpha]_D^{26}$ = –64.4 (c 0.15, methanol), T. Yoshimitsu, T. Ino and T. Tanaka, *Org. Lett.*, 2008, **10**, 5497–5460.
$[\alpha]_D^{23}$ = –83.4 (c 0.93, methanol), N. Hama, T. Matsuda, T. Sato and N. Chida, *Org. Lett.*, 2009, **11**, 2687–2690.
$[\alpha]_D^{23}$ = –87.0 (c 1.1, methanol), P. M. When and J. Du Bois, *Angew. Chem., Int. Ed. Eng.*, 2009, **48**, 3802–3805.



Equilibration of (–)-*O*-methyl-di-*epi*-agelastatin A (29) to (–)-agelastatin A (1):

A solution of methanesulfonic acid (613 μL, 9.44 mmol, 5.00 equiv) in water (10 mL) was added slowly via syringe to a solution of (–)-*O*-methyl-di-*epi*-agelastatin A (**29**, 668 mg, 1.89 mmol, 1 equiv) in water (378 mL) at 23 °C. The entire reaction mixture was degassed thoroughly by passage of a stream of argon and was heated to 100 °C. After 21 h, the reaction mixture was allowed to cool to 23 °C and was basified to pH = 8 by addition of 5% aqueous ammonium hydroxide solution. The resulting mixture was concentrated under reduced pressure. The crude residue was dissolved in methanol (378 mL) and the resulting mixture was acidified to pH = 2 by the addition of a solution of 5% methanesulfonic acid in methanol (20 mL). After 5 min, the reaction mixture was basified to pH = 8 by addition of by addition of 5% aqueous ammonium hydroxide solution. The resulting mixture was concentrated under reduced pressure, and the crude residue adsorbed onto silica gel was purified by flash column chromatography (silica gel: diam. 4 cm, ht. 14 cm; eluent: 9% methanol, 1.0% ammonium hydroxide in chloroform to 13.5% methanol, 1.5% ammonium hydroxide in chloroform) to afford (–)-agelastatin A (**1**, 421 mg, 66%) as a tan solid. (–)-*O*-Methyl-di-*epi*-agelastatin A (**29**, 200 mg, 30%) was also isolated as a light tan solid. See pages S13 and S14 for full characterization data.

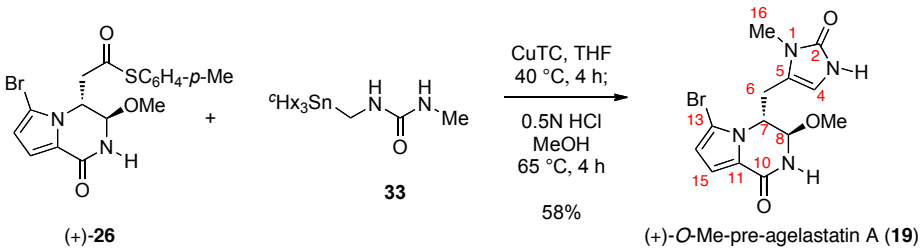


1-Methyl-3-((tricyclohexylstannyl)methyl)urea (33):

Aqueous hydrochloric acid solution (0.5 N, 2.30 mL, 1.15 mmol, 2.00 equiv) was added via syringe to a solution of stannyltriazone **27** (338 mg, 0.576 mmol, 1 equiv) in methanol (11.5 mL) at 23 °C, and the resulting mixture was heated to 60 °C. After 5 h, the reaction mixture was allowed to cool to 23 °C, and was neutralized with saturated aqueous sodium bicarbonate solution (4 mL). The resulting mixture was concentrated under reduced pressure, and the residue was partitioned between dichloromethane (50 mL) and water (50 mL). The layers were separated, and the aqueous layer was extracted with dichloromethane (2 × 50 mL). The combined organic layers were dried over anhydrous sodium sulfate and were concentrated under reduced pressure. The crude residue was purified by flash column chromatography (silica gel: diam. 2.5 cm, ht. 15 cm; eluent: 15% ethyl acetate in dichloromethane) to afford stannylurea **33** (104 mg, 40%) as a white crystalline solid.

^{1}H NMR (500 MHz, $CDCl_3$, 21 °C):	δ 4.63 (br-s, 1H, N**H**), 4.33 (br-s, 1H, N**H**), 2.77 (br-d, *J* = 4.6 Hz, $C_{16}\mathbf{H}_3$), 2.75-2.65 (m, 2H, $C_4\mathbf{H}_2$), 1.85-1.74 (m, 6H, ^{c}Hx), 1.70-1.44 (m, 18H, ^{c}Hx), 1.36-1.16 (m, 9H, ^{c}Hx).
^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C):	δ 160.7, 32.5, 29.3, 27.5, 27.2, 26.9. 22.3.
FTIR (neat) cm^{-1}:	3357 (br-m), 2912 (s), 2842 (s), 1628 (s), 1580 (s), 1442 (m), 1279 (m), 1167 (w).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{21}H_{40}N_2NaOSn$, $[M+Na]^+$: 479.2068, found: 479.2056.
M.p.:	144–148 °C.

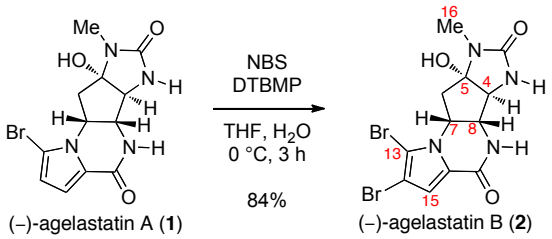
TLC (15% ethyl acetate in dichloromethane), R*f*: 0.25 (CAM, UV).



Direct synthesis of (+)-*O*-methyl-pre-agelastatin A (19):

Anhydrous tetrahydrofuran (1 mL) was added via syringe to a flask charged with (+)-**26** (20.0 mg, 49.0 µmol, 1 equiv), urea **33** (67.0 mg, 147 µmol, 3.00 equiv), and copper(I)-thiophene-2-carboxylate (CuTC, 23.3 mg, 123 µmol, 2.50 equiv) at 23 °C and under an argon atmosphere. The entire reaction mixture was degassed thoroughly by passage of a stream of argon, and the mixture was heated to 40 °C. After 4 h, the reaction mixture was allowed to cool to 23 °C, was diluted with methanol (7 mL), and was filtered through a plug of celite with methanol washings (3 × 1 mL). Aqueous hydrochloric acid solution (0.5 N, 196 µL, 98.0 µmol, 2.00 equiv) was added to the filtrate, and the resulting mixture was heated to 65 °C. After 4 h, the reaction mixture was allowed to cool to 23 °C and was basified to pH = 8 by the addition of a 5% aqueous ammonium hydroxide in methanol solution. The resulting mixture was concentrated under reduced pressure, and the crude residue adsorbed onto silica gel was purified by flash column chromatography (silica gel: diam. 1.5 cm, ht. 10 cm; eluent: 10% methanol in dichloromethane to 15% methanol in dichloromethane) to afford (+)-*O*-methyl-pre-agelastatin A (**19**, 10.0 mg, 58%) as a tan solid.

(+)-*O*-Methyl-pre-agelastatin A (**19**) was found to be 99% ee by chiral HPLC analysis [Chiralcel OD-H; 0.8 mL/min; 35% isopropanol in hexanes; t_R(major) = 14.9 min, t_R(minor) = 12.1 min]. See page S12 for full characterization data.



(–)-Agelastatin B (2):

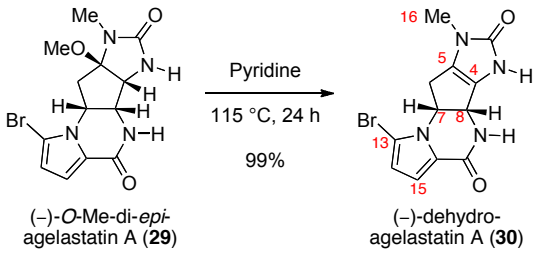
N-Bromosuccinimide (NBS, 5.0 mg, 28 μmol, 1.1 equiv) was added as a solid in one portion to a solution of (–)-agelastatin A (**1**, 9.1 mg, 27 μmol, 1 equiv) and 2,6-di-*tert*-butyl-4-methylpyridine (DTBMP, 8.3 mg, 41 μmol, 1.5 equiv) in water (500 μL) and tetrahydrofuran (1.00 mL) at 0 °C. After 2 h, a mixture of saturated aqueous sodium thiosulfate solution and saturated aqueous sodium bicarbonate solution (1:1, 100 μL,) was added, and the resulting mixture was purified directly by flash column chromatography (silica gel: diam. 1.5 cm, ht. 9 cm; eluent: 9% methanol, 1.0% ammonium hydroxide in chloroform to 13.5% methanol, 1.3% ammonium hydroxide in chloroform) to afford (–)-agelastatin B (**2**, 9.4 mg, 84%) as a white crystalline solid.

(–)-Agelastatin B (**2**) was found to be 99% ee by chiral HPLC analysis [Chiralpak AD-H; 0.53 mL/min; 10% isopropanol in hexanes; t_R(major) = 27.7 min, t_R(minor) = 21.1 min]. (–)-Agelastatin B (**2**) is sparingly soluble in organic solvents, methanol, and water. Crystals of (–)-agelastatin B (**2**) suitable for X-ray diffraction were obtained from methanol. For a thermal ellipsoid representation of (–)-agelastatin B (**2**), see page S58.

^{1}H NMR (500 MHz, CD_3OD, 21 °C):	δ 6.97 (s, 1H, C_{15}**H**), 4.60 (app-dt, *J* = 12.0, 6.0 Hz, 1H, C_7**H**), 4.11 (d, *J* = 5.4 Hz, 1H, C_8**H**), 3.88 (s, 1H, C_4**H**), 2.81 (s, 3H, C_{16}**H$_3$**), 2.68 (dd, *J* = 13.1, 6.5 Hz, 1H, C_6**H**$_a$), 2.12 (app-t, *J* = 12.6 Hz, 1H, C_6**H**$_b$).
^{13}C NMR (125.8 MHz, CD_3OD, 21 °C):	δ 161.5, 160.2, 124.9, 117.1, 108.9, 101.8, 95.7, 67.5, 62.2, 55.5, 40.0, 24.4.
FTIR (neat) cm^{-1}:	3219 (m), 2919 (m), 1639 (s), 1548 (m), 1497 (m), 1403 (m), 1360 (m).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{12}H_{13}Br_2N_4O_3$, $[M+H]^+$: 418.9349, found: 418.9343.
$[\alpha]_D^{22}$:	–60.6 (c 0.018, methanol).[11]
M.p.:	211–214 °C (dec.).

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.25 (CAM, UV).

[11] Literature value: $[\alpha]_D^{20}$ = –60.3 (c 0.50, methanol), K. S. Feldman and J. C. Saunders, *J. Am. Chem. Soc.*, 2002, **124**, 9060–9061.



(–)-Dehydroagelastatin A (30):[12]

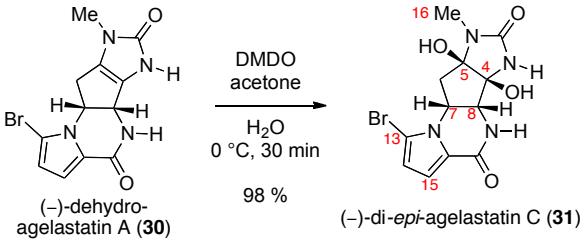
A solution of (–)-*O*-methyl-di-*epi*-agelastatin A (**29**, 11.6 mg, 32.8 μmol, 1 equiv) in pyridine (3.28 mL) sealed under an argon atmosphere was heated to 115 °C. After 24 h, the resulting mixture was allowed to cool to 23 °C, and was concentrated under reduced pressure. The residue was purified by flash column chromatography (silica gel: diam. 1.5 cm, ht. 8 cm; eluent: 9% methanol, 1% ammonium hydroxide in chloroform) to afford (–)-dehydroagelastatin A (**30**, 10.9 mg, 99%) as a light tan solid.

(–)-Dehydroagelastatin A (**30**) was found to be 99% ee by chiral HPLC analysis [Chiralcel OD-H; 0.8 mL/min; 35% isopropanol in hexanes; t_R(major) = 53.8 min, t_R(minor) = 62.8 min]. (–)-dehydroagelastatin A (**30**) is sparingly soluble in organic solvents, methanol, and water.

^{1}H NMR (500 MHz, CD_3OD, 21 °C):	δ 6.91 (d, J = 4.0 Hz, 1H, C_{15}**H**), 6.39 (d, J = 4.1 Hz, 1H, C_{14}**H**), 5.34 (app-q, J = 7.1 Hz, 1H, C_7**H**), 5.10 (dd, J = 6.7, 1.6 Hz, 1H, C_8**H**), 3.48 (dd, J = 14.4, 7.4 Hz, 1H, C_6**H**$_a$), 3.22 (s, 3H, C_{16}**H**$_3$), 2.63 (ddd, J = 14.4, 7.2, 1.8 Hz, 1H, C_6**H**$_b$).
^{13}C NMR (125.8 MHz, CD_3OD, 21 °C):	δ 160.0, 158.5, 127.5, 124.0, 120.3, 116.0, 114.2, 107.2, 57.1, 53.1, 32.4, 29.1.
FTIR (neat) cm^{-1}:	3209 (br-m), 2924 (w), 1691 (s), 1657 (s), 1555 (m), 1427 (m), 1375 (w), 1323 (w).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{12}H_{12}BrN_4O_2$, $[M+H]^+$: 323.0138, found: 323.0144.
$[\alpha]_D^{22}$:	–765.9 (c 0.07, methanol).
M.p.:	219-222 °C (dec.).

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.30 (CAM, UV).

[12] For a previous report of the synthesis of (–)-dehydroagelastatin A (**30**), see: M. D'Ambrosio, A. Guerriero, M. Ripamonti, C. Debitus, J. Waikedre and F. Pietra, *Helv. Chim. Acta*, 1996, **79**, 727–735.



(–)-dehydro-agelastatin A (**30**)

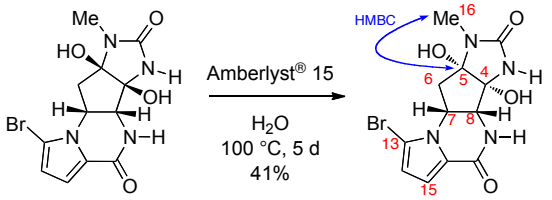
(–)-di-*epi*-agelastatin C (**31**)

(–)-Di-*epi*-agelastatin C (31):

Freshly prepared dimethyldioxirane (DMDO, 0.108 M in acetone, 2.16 mL, 233 μmol, 1.00 equiv) was added via syringe to a solution of (–)-dehydroagelastatin A (**30**, 75.0 mg, 233 μmol, 1 equiv) in acetone (2.3 mL) and water (2.3 mL) at 0 °C. After 30 min, the reaction mixture was concentrated under reduced pressure to afford (–)-di-*epi*-agelastatin C (**31**, 81.5 mg, 98%) as a white solid. (–)-di-*epi*-agelastatin C (**31**) is sparingly soluble in organic, methanol, and water, and is sensitive to base.

^{1}H NMR (500 MHz, CD_3OD, 21 °C):	δ 6.89 (d, *J* = 4.1 Hz, 1H, C_{15}**H**), 6.33 (d, *J* = 4.0 Hz, 1H, C_{14}**H**), 5.05-5.00 (m, 1H, C_7**H**), 4.23 (d, *J* = 5.8 Hz, 1H, C_8**H**), 2.72 (s, 3H, C_{16}**H**$_3$), 2.56 (ddd, *J* = 13.6, 6.8, 1.0 Hz, 1H, C_6**H**$_a$), 2.40 (dd, *J* = 13.7, 10.0 Hz, 1H, C_6**H**$_b$).
^{13}C NMR (125.8 MHz, CD_3OD, 21 °C):	δ 161.2, 159.9, 124.6, 116.3, 114.4, 107.1, 94.0, 92.5, 64.3, 54.2, 42.7, 25.0.
FTIR (neat) cm^{-1}:	3335 (br-s), 2922 (m), 2851 (m), 1691 (s), 1658 (s), 1553 (m), 1424 (m), 1337 (w), 1127 (w).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{12}H_{13}BrN_4NaO_4$, $[M+Na]^+$: 379.0012, found: 379.0024.
$[\alpha]_D^{22}$:	–89.1 (c 0.011, methanol).
M.p.:	190-194 °C (dec.).

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.21 (CAM, UV).



(–)-di-*epi*-agelastatin C (**31**) (–)-agelastatin C (**3**)

(–)-Agelastatin C (3):

Amberlyst® 15 (400 mg) was added to a solution of (–)-di-*epi*-agelastatin C (**31**, 10.0 mg, 28.0 μmol, 1 equiv) in water (14 mL) at 23 °C. The entire reaction mixture was degassed thoroughly by passage of a stream of argon and the reaction mixture was heated to 100 °C. After 5 d, the light yellow hot reaction mixture was filtered through a plug of cotton, and the filtered resin beads were washed with hot water (3 × 1 mL). The filtrate was allowed to cool to 23 °C and was concentrated under reduced pressure to approximately 1 mL volume. The resulting mixture was purified directly by semi-preparative HPLC [Grace Vydac semi-preparative HPLC column, C18, monomeric 120Å; 10.0 mL/min; 15% acetonitrile and 0.1% trifluoroacetic acid in water; t_R(**31**) = 4.3 min, t_R(**3**) = 5.2 min] to afford (–)-agelastatin C (**3**, 4.1 mg, 41%) as a white solid. (–)-Agelastatin C (**3**) is sparingly soluble in organic solvents, methanol, and water, and is sensitive to base. (–)-Di-*epi*-agelastatin C (**31**, 4.2 mg, 42%) was also isolated from the reaction mixture. Treatment of either (–)-di-*epi*-agelastatin C (**31**) or (–)-agelastatin C (**3**) with methanesulfonic acid (10 equiv) in D_2O at 100 °C for 3 d afforded a 1:1 equilibrium mixture of (–)-**3** and (–)-**31** with quantitative deuterium incorporation at the C6, C14, and C15 centers as indicated by ^{1}H NMR analysis.

^{1}H NMR (500 MHz, CD_3OD, 21 °C): δ 6.92 (d, *J* = 4.1 Hz, 1H, C_{15}**H**), 6.34 (d, *J* = 4.1 Hz, 1H, C_{14}**H**), 4.57 (ddd, J = 11.9, 6.8, 5.2 Hz, 1H, C_7**H**), 4.19 (d, *J* = 5.2 Hz, 1H, C_8**H**), 2.79 (s, 3H, C_{16}**H**$_3$), 2.68 (dd, *J* = 13.3, 6.9 Hz, 1H, C_6**H**$_a$), 2.05 (dd, *J* = 13.3, 11.9 Hz, 1H, C_6**H**$_b$).

^{13}C NMR (125.8 MHz, CD_3OD, 21 °C): δ 160.4, 159.8, 124.1, 116.3, 114.1, 107.5, 93.9, 90.0, 62.1, 52.1, 41.1, 24.6.

FTIR (neat) cm^{-1}: 3311 (br-s), 2921 (w), 1679 (s), 1642 (s), 1554 (m), 1425 (s), 1335 (w), 1273 (w), 1206 (m), 1184 (m), 1129 (m), 742 (w).

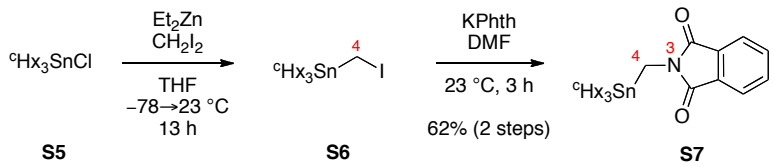
HRMS (ESI) (*m*/*z*): calc'd for $C_{12}H_{14}BrN_4O_4$, $[M+H]^+$: 357.0193, found: 357.0199.

$[\alpha]_D^{22}$: –26.9 (c 0.125, methanol).[13]

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.21 (CAM, UV).

[13] Literature value: $[\alpha]_D$ = –5 (c 0.06, methanol), T. W. Hong, D. R. Jímenez and T. F. Molinski, *J. Nat. Prod.*, 1998, **61**, 158–161.

HMBC correlations (500 MHz, CD_3OD, 21 °C): C2-H16, C4-H6_a, C4-H8, C5-H6_a, C5-H6_b, C5-H8, **C5-H16**, C6-H7, C6-H8, C7-H6_a, C7-H6_b, C7-H8, C7-H14, C7-H15, C8-H6_a, C8-H7, C10-H14, C10-H15, C11-H7, C11-H14, C11-H15, C13-H7, C13-H14, C13-H15, C14-H15, C15-H14. Key correlations are shown in bold.



S5 **S6** **S7**

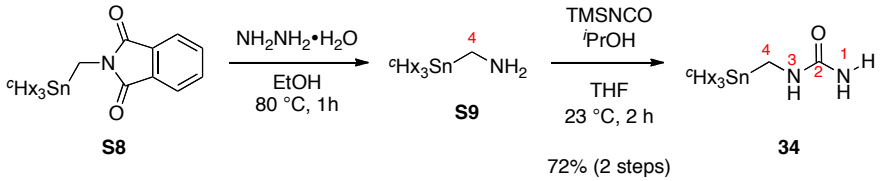
2-((Tricyclohexylstannyl)methyl)isoindoline-1,3-dione (S7): [14]

Diiodomethane (3.3 mL, 40 mmol, 5.0 equiv) was added dropwise via syringe to a solution of diethylzinc (1 M in hexanes, 20 mL, 20 mmol, 2.5 equiv) in tetrahydrofuran (27 mL) at –78 °C, and the reaction mixture was warmed to –40 °C. After 1 h, a solution of tricyclohexyltin chloride (**S5**, 3.3 g, 8.0 mmol, 1 equiv) in tetrahydrofuran (6 mL) was added via cannula, and the reaction mixture was warmed to 0 °C. After 3 h, the reaction mixture was allowed to warm to 23 °C. After an additional 12 h, the reaction mixture was partitioned between heptanes (80 mL) and water (26 mL). Aqueous hydrochloric acid solution (1 N, 30 mL) was added, and the layers were separated. The organic phase was washed with water (2 × 25 mL) and brine (25 mL), was dried over anhydrous sodium sulfate, and was concentrated under reduced pressure to afford crude **S6** as a white solid.

Crude **S6** was dissolved in dimethylformamide (40 mL), and potassium phthalimide (2.4 g, 13 mmol, 1.6 equiv) was added as a solid at 23 °C. After 3 h, the reaction mixture was partitioned between water (400 mL) and ethyl acetate (400 mL). The layers were separated, and the organic layer was washed with water (200 mL), was dried over anhydrous sodium sulfate, and was concentrated under reduced pressure. The residue was purified by flash column chromatography (silica gel: diam. 4 cm, ht. 11 cm; eluent: 2.5% ethyl acetate in hexane) to afford stannylphthalimide **S7** (2.6 g, 62% over 2 steps) as a light green solid.

^{1}H NMR (500 MHz, $CDCl_3$, 21 °C):	δ 7.75 (dd, *J* = 5.3, 3.1 Hz, 2H, Ar**H**), 7.62 (dd, *J* = 5.5, 3.1 Hz, 2H, Ar**H**), 3.19 (s, 2H, $C_4\mathbf{H}_2$) 1.86-1.74 (m, 6H, ^{c}Hx), 1.64-1.46 (m, 18H, ^{c}Hx), 1.30-1.10 (m, 9H, ^{c}Hx).
^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C):	δ 168.9, 133.7, 132.5, 122.8, 32.2, 29.3, 28.0, 27.2, 19.4.
FTIR (neat) cm^{-1}:	3451 (w), 2920 (s), 2843 (s), 1773 (s), 1705 (s), 1389 (s), 1056 (s), 879 (s), 717 (s).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{27}H_{39}NNaO_3Sn$, $[M+Na]^+$: 552.1911, found: 552.1913.
M.p.:	68–71 °C.
TLC (9% ethyl acetate in hexane), R*f*:	0.5 (CAM, UV).

[14] For a previous report of the synthesis of compounds related to **S7**, see: M. S. Jensen, C. Yang, Y. Hsiao, N. Rivera, K. M. Wells, J. Y. L. Chung, N. Yasuda, D. L. Hughes and P. J. Reider, *Org. Lett.*, **2**, 1081–1084.



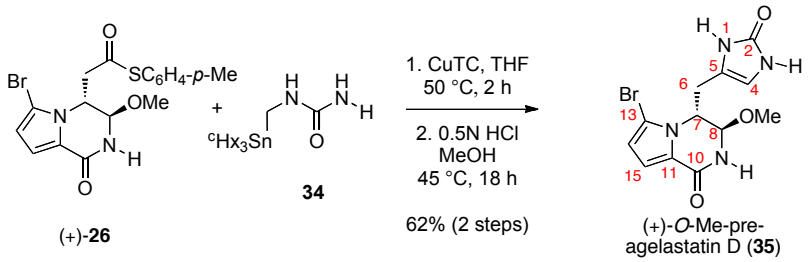
1-((Tricyclohexylstannyl)methyl)urea (34):

Hydrazine monohydrate (10.6 mL) was added dropwise via syringe to a solution of stannylphthalimide **S7** (2.61 g, 4.95 mmol, 1 equiv) in ethanol (80 mL) at 80 °C. After 1 h, the reaction mixture was allowed to cool to 23 °C, and was partitioned between water (480 mL) and diethyl ether (480 mL). The layers were separated, and the organic layer was washed with water (3 × 400 mL) and brine (200 mL), was dried over anhydrous sodium sulfate, and was concentrated under reduced pressure to afford stannylamine **S9**. Stannylamine **S9** was observed to be highly sensitive, and was used immediately in the following step.[15]

Stannylamine **S9** was dissolved in tetrahydrofuran (96 mL), and trimethylsilyl isocyanate (2.07 mL 14.4 mmol, 2.97 equiv) and isopropanol (590 μL, 7.66 mmol, 1.55 equiv) were added sequentially at 23 °C. After 2 h, water (10 mL) was added and the resulting mixture was concentrated under reduced pressure. The residue was purified by flash column chromatography (silica gel: diam. 4.0 cm, ht. 9 cm; eluent: 50% ethyl acetate in hexane) to afford stannylurea **34** (1.58 g, 72% over two steps) as a white crystalline solid.

^{1}H NMR (500 MHz, $CDCl_3$, 21 °C):	δ 4.46 (br-s, 2H, $N_1\mathbf{H}_2$), 4.39 (br-s, 1H, $N_3\mathbf{H}$), 2.75 (br-s, 2H, $C_4\mathbf{H}_2$), 1.88-1.78 (m, 6H, ^{c}Hx), 1.68-1.46 (m, 18H, ^{c}Hx), 1.36-1.16 (m, 9H, ^{c}Hx).
^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C):	δ 160.4, 32.5, 29.4, 27.3, 27.1, 23.0.
FTIR (neat) cm^{-1}:	3353 (m), 3207 (w), 2917 (s), 2845 (s), 1646 (s), 1589 (s), 1554 (s), 1444 (s), 1350 (m), 1169 (m).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{12}H_{15}BrN_4NaO_4$, $[M+Na]^+$: 381.0169, found: 381.0182.
M.p.:	128–131 °C.
TLC (50% ethyl acetate in hexane), R*f*:	0.21 (CAM).

[15] For a previous report of the synthesis of derivatives related to **S9**, see: W. H. Pearson, P. Stoy and Y. Mi, *J. Org. Chem.*, 2004, **69**, 1919–1939.

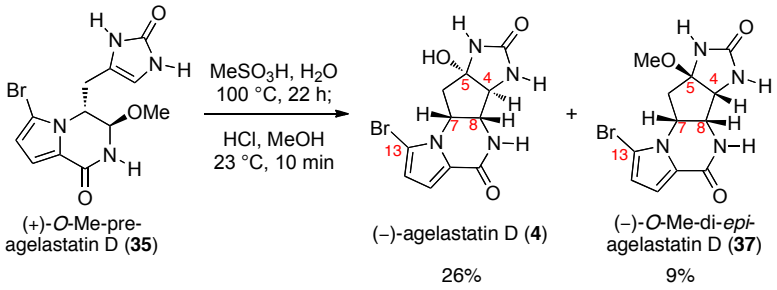


(+)-*O*-Methyl-pre-agelastatin D (35):

Anhydrous tetrahydrofuran (77 mL, degassed thoroughly by passage of a stream of argon) was added via cannula to a flask charged with thioester (+)-**26** (314 mg, 769 μmol, 1 equiv), urea **34** (1.02 g, 2.31 mmol, 3.00 equiv), and copper(I)-thiophene-2-carboxylate (CuTC, 306 mg, 1.54 mmol, 2.00 equiv) at 23 °C under an argon atmosphere, and the reaction mixture was heated to 50 °C. After 2 h, the reaction mixture was allowed to cool to 23 °C and was filtered through a plug of celite with methanol washings (3 × 10 mL). The resulting mixture was concentrated under reduced pressure, and the crude residue adsorbed onto silica gel was purified by flash column chromatography (silica gel: diam. 4.0 cm, ht. 10 cm; eluent: 14.0% methanol, 1.5% ammonium hydroxide in chloroform) to afford a mixture of the C4–C5 coupled open urea and N1–C5 hemiaminal cyclized diastereomers (194.1 mg) as a clear colorless oil. Aqueous hydrochloric acid solution (0.5 N, 2.20 mL, 1.08 mmol, 1.40 equiv) was added via syringe to a solution of this colorless oil in methanol (54 mL) at 23 °C, and the resulting mixture was heated to 45 °C under an argon atmosphere. After 18 h, the reaction mixture was allowed to cool to 23 °C and was neutralized with an 18.0% methanol, 2.0% ammonium hydroxide in chloroform solution. The resulting mixture was concentrated under reduced pressure, and the crude residue adsorbed onto silica gel was purified by flash column chromatography (silica gel: diam. 2.5 cm, ht. 10 cm; eluent: 14.0% methanol, 1.5% ammonium hydroxide in chloroform) to afford (+)-*O*-methyl-pre-agelastatin D (**35**, 162.2 mg, 62% over two steps) as a tan solid.

^{1}H NMR (500 MHz, CD_3OD, 21 °C):	δ 6.89 (dd, *J* = 4.0, 0.4 Hz, 1H, C_{15}**H**), 6.26 (d, *J* = 4.1 Hz, 1H, C_{14}**H**), 5.94 (t, *J* = 0.7 Hz, 1H, C_4**H**), 4.68 (d, *J* = 1.6 Hz, 1H, C_8**H**), 4.62 (ddd, *J* = 7.9, 6.9, 1.4 Hz, 1H, C_7**H**), 3.34 (s, 3H, OC**H**$_3$), 2.76 (ddd, *J* = 15.0, 6.8, 0.9 Hz, 1H, C_6**H**$_a$), 2.70 (ddd, *J* = 15.0, 7.7, 0.9 Hz, 1H, C_6**H**$_b$).
^{13}C NMR (125.8 MHz, CD_3OD, 21 °C):	δ 161.2, 157.2, 124.4, 118.7, 116.1, 113.4, 109.1, 108.7, 84.9, 57.8, 55.2, 30.7.
FTIR (neat) cm^{-1}:	3219 (br-s), 2936 (w), 2408 (w), 1680 (s), 1553 (m), 1459 (w), 1422 (m), 1387 (w), 1323 (m), 1088 (m).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{12}H_{12}BrN_4NaO_3$, $[M+Na]^+$: 363.0063, found: 363.0053.
$[\alpha]_D^{22}$:	+234.5 (c 0.362, methanol).

TLC (14.0% methanol, 1.5% ammonium hydroxide in chloroform), R*f*: 0.29 (CAM, UV).



(–)-Agelastatin D (4), (–)-*O*-methyl-di-*epi*-agelastatin D (37), 38, and 40:

To a solution of (+)-*O*-methyl-pre-agelastatin D (**35**, 32.9 mg, 96.4 μmol, 1 equiv) in water (32 mL, degassed thoroughly by passage of a stream of argon) at 23 °C was added methanesulfonic acid (313 μL, 4.82 mmol, 50.0 equiv), and the reaction mixture was heated to 100 °C. After 22 h, the reaction mixture was allowed to cool to 23 °C, was basified to pH = 8 by addition of ammonium hydroxide, and was concentrated under reduced pressure. The residue was dissolved in methanol (32 mL) and the resulting mixture was acidified to pH = 3 by the addition of aqueous hydrochloric acid solution (1 N, 386 μL, 0.386 mmol, 4.00 equiv). After 10 min, the reaction mixture was basified to pH = 8 by the addition of ammonium hydroxide. The resulting mixture was concentrated under reduced pressure, and the crude residue adsorbed onto silica gel was purified by flash column chromatography (silica gel: diam. 2 cm, ht. 3 cm; eluent: 14.0% methanol, 1.5% ammonium hydroxide in chloroform) to afford (–)-agelastatin D (**4**, 8.2 mg, 26%) as a tan solid.

(–)-Agelastatin D (**4**) was found to be 99% ee by chiral HPLC analysis [Chiralpak AD-H; 0.53 mL/min; 10% isopropanol in hexanes; t_R(major) = 47.7 min, t_R(minor) = 29.3 min]. Crystals suitable for X-ray diffraction were obtained from methanol. For a thermal ellipsoid representation of (–)-agelastatin D (**4**), see page S62. (–)-Agelastatin D (**4**) was sparingly soluble in organic solvents, methanol, and water. (–)-Di-*epi*-methoxy-agelastatin D (**37**, 2.9 mg, 9%) was also isolated from the reaction mixture as a light yellow solid. An equal amount of pyrrolopyrazinone **38** and tetracycle **40** constituted approximately 40% of the mass balance.

(–)-agelastatin D (4):

^{1}H NMR (500 MHz, CD_3OD, 21 °C): δ 6.91 (d, J = 4.1 Hz, 1H, C_{15}**H**), 6.33 (d, J = 4.1 Hz, 1H, C_{14}**H**), 4.74 (app-dt, J = 11.9, 6.0 Hz, 1H, C_7**H**), 4.10 (d, J = 5.7 Hz, 1H, C_8**H**), 3.91 (s, 1H, C_4**H**), 2.54 (dd, J = 12.6, 6.6 Hz, 1H, C_6**H**$_a$), 2.21 (app-t, J = 12.4 Hz, 1H, C_6**H**$_b$).

^{1}H NMR (500 MHz, Pyridine-d_5, 21 °C): δ 9.20 (s, 1H, N**H**), 8.92 (s, 1H, N**H**), 8.82 (s, 1H, N**H**), 8.30 (s, 1H, N**H**), 7.28 (d, J = 3.9 Hz, 1H, C_{15}**H**), 6.42 (d, J = 3.9 Hz, 1H, C_{14}**H**), 5.13 (app-dt, J = 11.9, 6.0 Hz, 1H, C_7**H**), 4.66 (d, J = 2.2 Hz, 1H, C_4**H**), 4.44 (d, J = 5.5 Hz, 1H, C_8**H**) 2.95 (dd, J = 12.4, 6.5 Hz, 1H, C_6**H**$_a$), 2.84 (app-t, J = 12.2 Hz, 1H, C_6**H**$_b$).

^{13}C NMR (125.8 MHz, Pyridine-d_5, 21 °C): δ 162.1, 159.7, 125.5, 114.7, 113.0, 105.5, 93.1, 69.9, 62.7, 54.8, 44.5.

FTIR (neat) $\tilde{\nu}$ cm^{-1}: 3461 (br-s), 2360 (w), 1674 (s), 1640 (s), 1424 (w), 1218 (w), 1114 (w), 1073 (w), 734 (m).

HRMS (ESI) (*m*/*z*): calc'd for $C_{11}H_{11}BrN_4NaO_3$, $[M+Na]^+$: 348.9907, found: 348.9910.

$[\alpha]_D^{22}$: –43.2 (c 0.04, methanol),[16] –79.4 (c 0.02, pyridine).

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.18 (CAM, UV).

(–)-*O*-methyl-di-*epi*-agelastatin D (37):

^{1}H NMR (500 MHz,CD_3OD, 21 °C): δ 6.91 (d, *J* = 4.1 Hz, 1H, C_{15}**H**), 6.33 (d, *J* = 4.1 Hz, 1H, C_{14}**H**), 4.94-4.86[17] (m, 1H, C_7**H**), 4.41 (app-t, *J* = 5.3 Hz, 1H, C_8H), 4.22 (d, *J* = 5.6 Hz, 1H, C_4**H**), 3.25 (s, 3H, OC**H**$_3$), 2.64 (dd, *J* = 13.3, 7.2 Hz, 1H, C_6**H**$_a$), 2.20 (dd, *J* = 13.4, 10.8 Hz, 1H, C_6**H**$_b$).

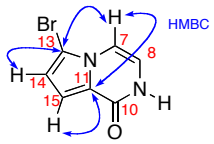
^{13}C NMR (125.8 MHz,CD_3OD, 21 °C): δ 162.8, 159.8, 125.8, 114.9, 113.2, 105.3, 97.0, 62.6, 58.3, 55.0, 49.5, 44.0.

FTIR (neat) cm^{-1}: 3428 (m), 1688 (s), 1647 (s), 1550 (s), 1422 (m), 1344 (w), 1068 (m).

HRMS (ESI) (*m*/*z*): calc'd for $C_{12}H_{13}BrN_4NaO_3$, $[M+Na]^+$: 363.0063, found: 363.0062.

$[\alpha]_D^{22}$: –78.1 (c 0.06, pyridine).

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.5 (CAM, UV).



38

pyrrolopyrazinone 38:

^{1}H NMR (500 MHz, CD_3OD, 21 °C): 7.29 (dd, *J* = 5.9, 0.8 Hz, 1H), 7.12 (dd, *J* = 4.3, 0.8 Hz, 1H), 6.72 (d, *J* = 5.9 Hz, 1H), 6.69 (d, *J* = 4.2 Hz, 1H).

^{1}H NMR (500 MHz, $CDCl_3$, 21 °C): δ 8.96 (s, 1H, N**H**), 7.16 (dd, *J* = 4.2, 0.8 Hz, 1H, C_{15}**H**), 7.09 (d, *J* = 5.96, 1H, C_7**H**), 6.61 (d, *J* = 4.2 Hz, 1H, C_{14}**H**), 6.55 (app-t, *J* = 5.8 Hz, 1H, C_8**H**).

^{13}C NMR (125.8 MHz, $CDCl_3$, 21 °C): δ 156.8[18], 125.0[18], 115.2, 114.3, 111.6, 106.6, 101.1.

[16] Literature value: $[\alpha]_D^{25} = –12$ (c 0.07, methanol), S. Tilvi, C. Moriou, M. Martin, J. Gallard, J. Sorres, K. Patel, S. Petek, C. Debitus, L. Ermolenko and A. Al-Mourabit, *J. Nat. Prod.*, 2010, **73**, 720–723.

[17] Resonance is partially obscured by the H_2O resonance in CD_3OD.

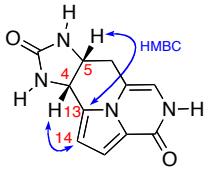
[18] Resonance is partially obscured due to low solubility/concentration, however, this signal is clearly observed via gHMBC analysis.

FTIR (neat) cm^{-1}: 3030 (w), 1656 (s), 1412 (m), 1360 (m), 1207 (w), 941 (m).

HRMS (ESI) (*m*/*z*): calc'd for $C_7H_6BrN_2O$, $[M+H]^+$: 212.9658, found: 212.9664.

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.69 (CAM, UV).

HMBC correlations (500 MHz, $CDCl_3$, 21 °C): C10-H8, C11-H14, **C11-H7**, **C11-H15**, C14-H15, C8-H7, C15-H14, C7-H8, **C13-H14**, **C13-H7**, C13-H15. Key correlations are shown in bold.



(±)-**40**

tetracycle 40:

^{1}H NMR (500 MHz, DMSO-d_6, 21 °C): δ 10.32 (d, *J* = 4.4 Hz, 1H, N**H**), 6.98 (s, 1H, N**H**), 6.87 (d, 1H, *J* = 3.9 Hz, 1H, C_{15}**H**), 6.61 (s, 1H, N**H**), 6.55 (d, *J* = 3.9 Hz, 1H, C_{14}**H**), 6.49 (d, *J* = 3.9, 1H, C_8**H**), 4.80 (d, *J* = 6.9 Hz, 1H, C_4**H**), 4.06 (app-dd, *J* = 10.5, 5.0 Hz, 1H, C_5**H**), 2.92 (dd, *J* = 16.2, 2.8 Hz, 1H, C_6**H**$_a$), 2.81 (dd, *J* = 16.2, 5.5 Hz, 1H, C_6**H**$_b$).

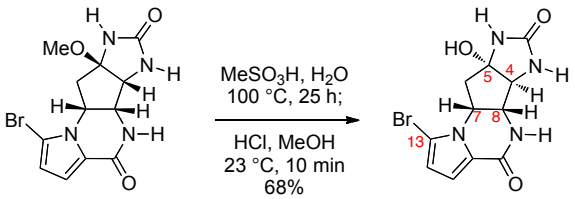
^{13}C NMR (125.8 MHz, DMSO-d_6, 21 °C): δ 162.7, 155.5, 127.0, 121.5, 111.9, 111.0, 110.8, 109.0, 48.5, 47.6, 25.5.

FTIR (neat) cm^{-1}: 3446 (bs), 2361 (w), 1644 (s), 1447 (w), 1194 (m), 1049 (w).

HRMS (ESI) (*m*/*z*): calc'd for $C_{11}H_{11}N_4O_2$, $[M+H]^+$: 231.0887, found: 231.0886.

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.24 (CAM, UV).

HMBC correlations (500 MHz, DMSO-d_6, 21 °C): C2-H4, C2-H1, C2-H3, C10-H8, **C13-H5**, C13-H14, C13-H15, C11-H14, C11-H15, C11-H9, C7-H6, C7-H5, C7-H8, C8-H6, **C14-H4**, C14-H15, C15-H14, C5-H6, C5-H4, C5-H1, C5-H3, C4-H6, C4-H1, C4-H3, C6-H4. Key correlations are shown in bold.



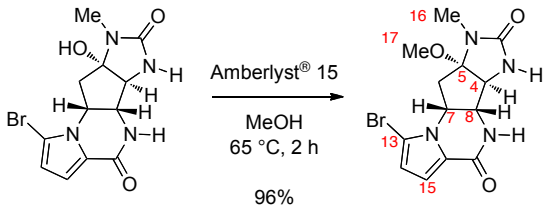
(–)-*O*-Me-di-*epi*-agelastatin D (**37**)

(–)-agelastatin D (**4**)

Equilibration of (–)-*O*-methyl-di-*epi*-agelastatin D (37) to (–)-agelastatin D (4):

Methanesulfonic acid (34 μL, 523 μmol, 57.3 equiv) was added to a solution of (–)-*O*-methyl-di-*epi*-agelastatin D (**37**, 3.11 mg, 9.12 μmol, 1 equiv) in water (4 mL, degassed thoroughly by passage of a stream of argon) at 23 °C, and the reaction mixture was heated to 100 °C. After 25 h, the reaction mixture was allowed to cool to 23 °C, was basified to pH = 8 by addition of ammonium hydroxide, and was concentrated under reduced pressure. The residue was dissolved in methanol (4 mL) and the resulting mixture was acidified to pH = 3 by the addition of aqueous hydrochloric acid solution (1 N, 42 μL, 0.042 mmol, 4.6 equiv). After 10 min, the reaction mixture was basified to pH = 8 by addition of ammonium hydroxide. The resulting mixture was concentrated under reduced pressure, and the crude residue adsorbed onto silica gel was purified by flash column chromatography (silica gel: diam. 1.5 cm, ht. 2.5 cm; eluent: 14.0% methanol, 1.5% ammonium hydroxide in chloroform) to afford (–)-agelastatin D (**4**, 2.02 mg, 68%) as a tan solid.

(–)-Agelastatin D **(4)** was found to be 99% ee by chiral HPLC analysis [Chiralpak AD-H; 0.53 mL/min; 10% isopropanol in hexanes; t_R(major) = 47.7 min, t_R(minor) = 29.3 min]. See page S26 for full characterization data.



(–)-Agelastatin E (5):[19]

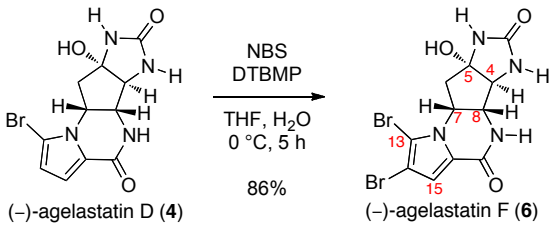
Amberlyst® 15 (25.0 mg) was added to a solution of (–)-agelastatin A (**1**, 10.0 mg, 29.4 μmol, 1 equiv) in methanol (5.8 mL) at 23 °C, and the resulting mixture was heated to 65 °C. After 2 h, the reaction mixture was filtered through a plug of cotton, and the filtrate was concentrated to afford (–)-agelastatin E (**5**, 10.0 mg, 96%) as a light tan solid. (–)-Agelastatin E (**5**) was sparingly soluble in organic solvents, methanol, and water.

^{1}H NMR (500 MHz, CD_3OD, 21 °C):	δ 6.91 (d, J = 4.0 Hz, 1H, C_{15}**H**), 6.33 (d, J = 4.1 Hz, 1H, C_{14}**H**), 4.62 (app-dt, J = 11.9, 6.1 Hz, 1H, C_7**H**), 4.12 (d, J = 5.6 Hz, 1H, C_8**H**), 4.09 (s, 1H, C_4**H**), 3.18 (s, 1H, C_{17}**H**$_3$), 2.79 (s, 3H, C_{16}**H**$_3$), 2.66 (dd, J = 13.2, 6.5 Hz, 1H, C_6**H**$_a$), 2.14 (app-t, J = 12.7 Hz, 1H, C_6**H**$_b$).
^{13}C NMR (125.8 MHz, CD_3OD, 21 °C):	δ 161.9, 161.1, 124.2, 116.2, 114.0, 107.5, 100.2, 62.1, 61.2, 53.9, 50.8, 39.3, 24.7.
FTIR (neat) cm^{-1}:	3239 (br-m), 2927 (m), 1703 (s), 1659 (s), 1552 (m), 1425 (s), 1377 (w), 1302 (w), 1198 (w), 1103 (m).
HRMS (DART) (m/z):	calc'd for $C_{13}H_{14}BrN_4O_3$, $[M–H]^-$: 353.0255, found: 353.0254.
$[\alpha]_D^{22}$:	–63.4 (c 0.054, methanol).[20]
M.p.:	186–190 °C (dec.).

TLC (18% methanol, 2% ammonium hydroxide in chloroform), Rf: 0.60 (CAM, UV).

[19] For a previous report of the semi-synthesis of (–)-agelastatin E (**5**), see: M. D'Ambrosio, A. Guerriero, G. Chiasera and F. Pietra, *Helv. Chim. Acta*, 1994, **7**, 1895–1902.

[20] Literature value: $[\alpha]_D^{25}$ = –28 (c 0.09, methanol), S. Tilvi, C. Moriou, M. Martin, J. Gallard, J. Sorres, K. Patel, S. Petek, C. Debitus, L. Ermolenko and A. Al-Mourabit, *J. Nat. Prod.*, 2010, **73**, 720–723.



(–)-Agelastatin F (6):

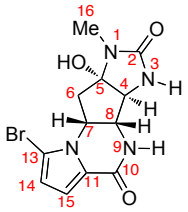
N-Bromosuccinimide (NBS, 5.9 mg, 33 μmol, 1.5 equiv) was added as a solid in one portion to a solution of (–)-agelastatin D (**4**, 7.17 mg, 21.9 μmol, 1 equiv) and 2,6-di-*tert*-butyl-4-methylpyridine (DTBMP, 6.7 mg, 33 μmol, 1.5 equiv) in water (1.5 mL) and tetrahydrofuran (3.0 mL) at 0 °C. After 5 h, the reaction mixture was quenched with a mixture of saturated aqueous sodium thiosulfate solution and saturated aqueous sodium bicarbonate solution (1:1, 125 μL). The resulting mixture was concentrated under reduced pressure, and the crude residue adsorbed onto silica gel was purified by flash column chromatography (silica gel: diam. 2 cm, ht. 2.5 cm; eluent: 14.0% methanol, 1.5% ammonium hydroxide in chloroform) to afford (–)-agelastatin F (**6**, 7.69 mg, 86%) as a white solid. (–)-Agelastatin F (**6**) is sparingly soluble in organic solvents, methanol, and water.

^{1}H NMR (500 MHz, CD_3OD, 21 °C):	δ 6.96 (s, 1H, C_{15}**H**), 4.73 (app-dt, *J* = 11.9, 6.0 Hz, 1H, C_7**H**), 4.12 (d, *J* = 5.6 Hz, 1H, C_8**H**), 3.91 (s, 1H, C_4**H**), 2.56 (dd, *J* = 12.8, 6.4 Hz, 1H, C_6**H**$_a$), 2.23 (app-t, *J* = 12.4 Hz, 1H, C_6**H**$_b$).
^{13}C NMR (125.8 MHz, CD_3OD, 21 °C):	δ 162.8, 160.2, 124.9, 117.0, 108.8, 101.8, 93.1, 69.5, 62.2, 55.8, 43.7.
FTIR (neat) cm^{-1}:	3200 (m), 2923 (m), 1677 (s), 1640 (s), 1557 (w), 1420 (m), 1117 (w).
HRMS (ESI) (*m*/*z*):	calc'd for $C_{11}H_{10}Br_2N_4NaO_3$, $[M+H]^+$: 426.9012, found: 426.9021.
$[\alpha]_D^{22}$:	–47.4 (c 0.10, methanol).[21]

TLC (18% methanol, 2% ammonium hydroxide in chloroform), R*f*: 0.25 (CAM, UV).

[21] Literature value: $[\alpha]_D^{25}$ = –34.3 (c 0.11, methanol), S. Tilvi, C. Moriou, M. Martin, J. Gallard, J. Sorres, K. Patel, S. Petek, C. Debitus, L. Ermolenko and A. Al-Mourabit, *J. Nat. Prod.*, 2010, **73**, 720–723.

Table S1. Comparison of our data for (–)-agelastatin A (1) with literature:



(–)-agelastatin A (**1**)

Assignment	**Pietra's Report**[22] ^{1}H NMR, 300 MHz, CD_3OD	**Du Bois' Report**[23] ^{1}H NMR, 400 MHz, CD_3OD	**This Work**[24] ^{1}H NMR, 500 MHz, CD_3OD
C4	3.89 (br-s, 1H)	3.87 (br-s, 1H)	3.88 (s, 1H)
C6′	2.65 (br-dd, J = 12.9, 6.6 Hz, 1H)	2.64 (dd, J = 12.8, 6.4 Hz, 1H)	2.65 (dd, J = 13.1, 6.3 Hz, 1H)
C6′′	2.10 (br-t, J = 12.3, 12.9, Hz, 1H)	2.09 (dd, J = 12.8, 12.4 Hz, 1H)	2.10 (app-t, J = 12.7 Hz, 1H)
C7	4.60 (m, J = 12.3, 6.6, 5.4 Hz, 1H)	4.59 (dt, J = 12.0, 6.0 Hz, 1H)	4.60 (app-dt, J = 11.9, 6.0 Hz, 1H)
C8	4.09 (br-d, J = 5.4 Hz, 1H)	4.08 (d, J = 5.6 Hz, 1H)	4.09 (d, J = 5.4 Hz, 1H)
C14	6.33 (d, J = 4.2 Hz, 1H)	6.32 (d, J = 4.0 Hz, 1H)	6.33 (d, J = 4.1 Hz, 1H)
C15	6.92 (br-d, J = 4.2 Hz, 1H)	6.90 (d, J = 4.0 Hz, 1H)	6.92 (d, J = 4.0 Hz, 1H)
C16	2.81 (s, 3H)	2.80 (s, 3H)	2.81 (s, 3H)

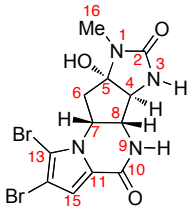
Assignment	**Pietra's Report**[22] ^{13}C NMR, 75 MHz, CD_3OD	**Du Bois' Report**[23] ^{13}C NMR, 125 MHz, CD_3OD	**This Work**[24] ^{13}C NMR, 125.8 MHz, CD_3OD
C2	163.00	161.4	161.6
C4	68.98	67.4	67.5
C5	97.24	95.6	95.8
C6	41.58	40.0	40.1
C7	55.96	54.4	54.5
C8	63.76	62.2	62.3
C10	162.65	161.1	161.2
C11	125.71	124.1	124.3
C13	108.80	107.3	107.4
C14	115.37	113.8	113.9
C15	117.59	116.0	116.2
C16	25.79	24.2	24.4

[22] The reference points for the residual protium and carbon resonances of the NMR solvent were not listed. M. D'Ambrosio, A. Guerriero, C. Debitus, O. Ribes, J. Pusset, S. Leroy and F. Pietra, *J. Chem. Soc., Chem. Commun.*, 1993, 1305–1306.

[23] The reference points for the residual protium and carbon resonances of the NMR solvent were not listed. P. M. When and J. Du Bois, *Angew. Chem., Int. Ed. Eng.*, 2009, **48**, 3802–3805.

[24] In this report, the NMR spectra are referenced from the residual protium resonance, CD_3OD: δ 3.31 (CHD_2OD), and carbon resonance, CD_3OD: δ 49.15.

Table S2. Comparison of our data for (–)-Agelastatin B (2) with literature:



(–)-agelastatin B (**2**)

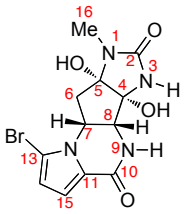
Assignment	**Feldman's Report**[25] ^{1}H NMR, 300 MHz, CD_3OD	**This Work**[24] ^{1}H NMR, 500 MHz, CD_3OD
C4	3.88 (s, 1H)	3.88 (s, 1H)
C6′	2.68 (dd, J = 13.1, 6.5 Hz, 1H)	2.68 (dd, J = 13.1, 6.5 Hz, 1H)
C6′′	2.12 (t, J = 12.6 Hz, 1H)	2.12 (app-t, J = 12.6 Hz, 1H)
C7	4.60 (dt, J = 11.8, 6.0 Hz, 1H)	4.60 (app-dt, J = 12.0, 6.0 Hz, 1H)
C8	4.11 (d, J = 5.5 Hz, 1H)	4.11 (d, J = 5.4 Hz, 1H)
C15	6.96 (s, 1H)	6.97 (s, 1H)
C16	2.81 (s, 3H)	2.81 (s, 3H)

Assignment	**Feldman's Report**[25] ^{13}C NMR, 75 MHz, CD_3OD	**This Work**[24] ^{13}C NMR, 125.8 MHz, CD_3OD
C2	161.4	161.5
C4	67.6	67.5
C5	95.6	95.7
C6	40.0	40.0
C7	55.5	55.5
C8	62.1	62.2
C10	159.6	160.2
C11	111.0	124.9[26]
C13	108.6	108.9
C14	101.8	101.8
C15	117.0	117.1
C16	24.2	24.4

[25] The reference point for the residual protium of the NMR solvent was not listed. The ^{13}C NMR spectrum is referenced from the carbon resonance, CD_3OD: δ 49.00. K. S. Feldman and J. C. Saunders, *J. Am. Chem. Soc.*, 2002, **124**, 9060–9061.

[26] We assign the C11 ^{13}C NMR resonance to the signal at δ 124.9.

Table S3. Comparison of our data for (–)-Agelastatin C (3) with literature:



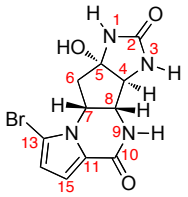
(–)-agelastatin C (**3**)

Assignment	**Molinski's Report**[27] ^{1}H NMR, CD_3OD	**This Work**[24] ^{1}H NMR, 500 MHz, CD_3OD
C6a	2.68 (dd, *J* = 13.3, 6.7 Hz, 1H)	2.68 (dd, *J* = 13.3, 6.9 Hz, 1H)
C6b	2.05 (dd, *J* = 13.3, 11.9 Hz, 1H)	2.05 (dd, *J* = 13.3, 11.9 Hz, 1H)
C7	4.56 (m, *J* = 11.9, 6.7, 5.1 Hz, 1H)	4.57 (ddd, *J* = 11.9, 6.8, 5.2 Hz, 1H)
C8	4.19 (d, *J* = 5.1 Hz, 1H)	4.19 (d, *J* = 5.2 Hz, 1H)
C14	6.33 (d, *J* = 4.1 Hz, 1H)	6.34 (d, *J* = 4.1 Hz, 1H)
C15	6.92 (d, *J* = 4.1 Hz, 1H)	6.92 (d, *J* = 4.1 Hz, 1H)
C16	2.78 (s, 3H)	2.79 (s, 3H)

Assignment	**Molinski's Report**[27] ^{13}C NMR, CD_3OD	**This Work**[24] ^{13}C NMR, 125.8 MHz, CD_3OD
C2	160.26	160.4
C4	89.85	90.0
C5	93.78	93.9
C6	40.96	41.1
C7	51.97	52.1
C8	61.91	62.1
C10	159.61	159.8
C11	124.00	124.1
C13	107.29	107.5
C14	113.90	114.1
C15	116.11	116.3
C16	24.47	24.6

[27] The reference points for the residual protium and carbon resonances of the NMR solvent and the magnetic field strength were not listed. T. W. Hong, D. R. Jímenez and T. F. Molinski, *J. Nat. Prod.*, 1998, **61**, 158–161.

Table S4. Comparison of our data for (–)-agelastatin D (4) with literature:



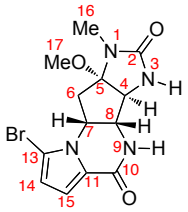
(–)-agelastatin D (**4**)

Assignment	**Molinski's Report**[27] ^{1}H NMR, CD_3OD	**This Work**[24] ^{1}H NMR, 500 MHz, CD_3OD
C4	3.91 (s, 1H)	3.91 (s, 1H)
C6′	2.54 (dd, J = 12.9, 6.5 Hz, 1H)	2.54 (dd, J = 12.6, 6.6 Hz, 1H)
C6′′	2.21(br-t, J = 12.9, 12.4, Hz, 1H)	2.21 (app-t, J = 12.4 Hz, 1H)
C7	4.73 (m, J = 12.4, 6.5, 5.4 Hz, 1H)	4.74 (app-dt, J = 11.9, 6.0 Hz, 1H)
C8	4.09 (d, J = 5.4 Hz, 1H)	4.10 (d, J = 5.7 Hz, 1H)
C14	6.33 (d, J = 4.1 Hz, 1H)	6.33 (d, J = 4.1 Hz, 1H)
C15	6.91 (br-d, J = 4.1 Hz, 1H)	6.91 (d, J = 4.1 Hz, 1H)

Assignment	**This Work**[28] ^{13}C NMR, 125.8 MHz, Pyridine-d_5
C2	162.1
C4	69.9
C5	93.1
C6	44.5
C7	54.8
C8	62.7
C10	159.7
C11	125.5
C13	105.5
C14	113.0
C15	114.7

[28] The ^{13}C NMR for (–)-agelastatin D (**4**) has not been previously reported. In this report, the ^{13}C NMR spectrum is referenced from the carbon resonances, Pyridine-d_5: δ 150.35.

Table S5. Comparison of our data for (–)-agelastatin E (5) with literature:



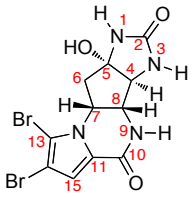
(–)-agelastatin E (**5**)

Assignment	**Al-Mourabit's Report**[29] ^{1}H NMR, 600 MHz, CD_3OD	**This Work**[24] ^{1}H NMR, 500 MHz, CD_3OD
C4	4.08 (br-s, 1H)	4.09 (s, 1H)
C6′	2.66 (dd, *J* = 12.9, 6.6 Hz, 1H)	2.66 (dd, *J* = 13.2, 6.5 Hz, 1H)
C6′′	2.14 (br-t, *J* = 12.9, Hz, 1H)	2.14 (app-t, *J* = 12.7 Hz, 1H)
C7	4.62 (m, *J* = 12.6, 6.6 Hz, 1H)	4.62 (app-dt, *J* = 11.9, 6.1 Hz, 1H)
C8	4.11 (d, *J* = 5.4 Hz, 1H)	4.12 (d, *J* = 5.6 Hz, 1H)
C14	6.32 (d, *J* = 4.1 Hz, 1H)	6.33 (d, *J* = 4.1 Hz, 1H)
C15	6.91 (d, *J* = 4.1 Hz, 1H)	6.91 (d, *J* = 4.0 Hz, 1H)
C16	2.78 (s, 3H)	2.79 (s, 3H)
C17	3.18 (s, 3H)	3.18 (s, 3H)

Assignment	**Al-Mourabit's Report**[29] ^{13}C NMR, 150.8 MHz, CD_3OD	**This Work**[24] ^{13}C NMR, 125.8 MHz, CD_3OD
C2	162.2	161.9
C4	61.2	61.2
C5	101.0	100.2
C6	39.3	39.3
C7	53.9	53.9
C8	62.2	62.1
C10	161.2	161.1
C11	124.2	124.2
C13	107.4	107.5
C14	114.0	114.0
C15	116.2	116.2
C16	24.7	24.7
C17	50.8	50.8

[29] The NMR spectra are referenced from the residual protium resonance, CHD_2OD: δ 3.32, and carbon resonance, CD_3OD: δ 49.0. S. Tilvi, C. Moriou, M. Martin, J. Gallard, J. Sorres, K. Patel, S. Petek, C. Debitus, L. Ermolenko and A. Al-Mourabit, *J. Nat. Prod.*, 2010, **73**, 720–723.

Table S6. Comparison of our data for (–)-agelastatin F (6) with literature:



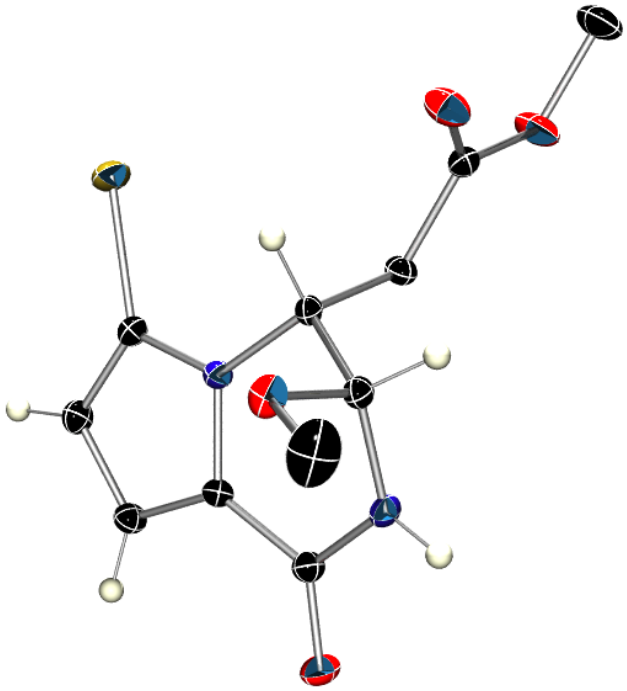
(–)-agelastatin F (**6**)

Assignment	**Al-Mourabit's Report**[29] ^{1}H NMR, 600 MHz, CD_3OD	**This Work**[24] ^{1}H NMR, 500 MHz, CD_3OD
C4	3.92 (br-s, 1H)	3.91 (s, 1H)
C6′	2.58 (dd, *J* = 12.9, 6.6 Hz, 1H)	2.56 (dd, *J* = 12.8, 6.4 Hz, 1H)
C6′′	2.24 (br-t, *J* = 12.9 Hz, 1H)	2.23 (app-t, *J* = 12.4 Hz, 1H)
C7	4.74 (m, *J* = 12.6, 6.6 Hz, 1H)	4.73 (app-dt, *J* = 11.9, 6.0 Hz, 1H)
C8	4.14 (d, *J* = 5.5 Hz, 1H)	4.12 (d, *J* = 5.6 Hz, 1H)
C15	6.98 (s, 1H)	6.96 (s, 1H)

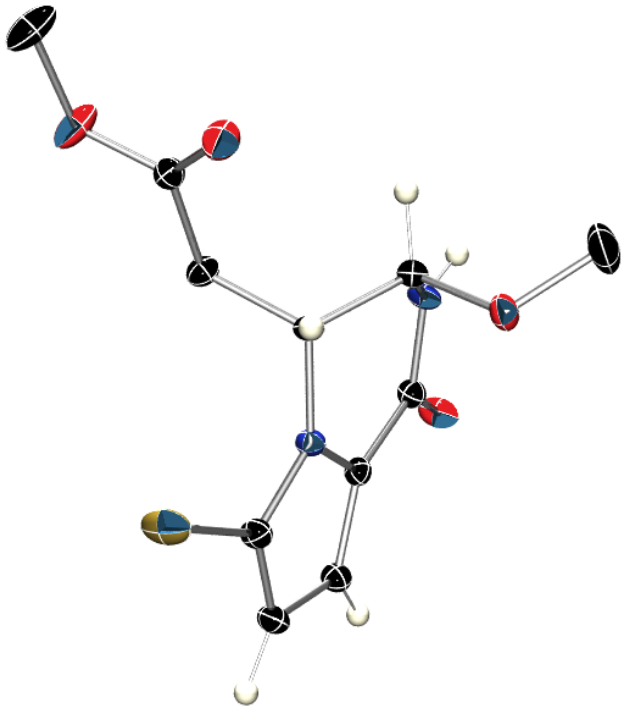
Assignment	**Al-Mourabit's Report**[29] ^{13}C NMR, 150.8 MHz, CD_3OD	**This Work**[24] ^{13}C NMR, 125.8 MHz, CD_3OD
C2	162.8	162.8
C4	69.5	69.5
C5	93.3	93.1
C6	43.7	43.7
C7	55.8	55.8
C8	62.2	62.2
C10	160.2	160.2
C11	125.0	124.9
C13	108.7	108.8
C14	101.1	101.8
C15	117.1	117.0

Crystal Structure of Bicycle (+)-21

View 1:



View 2:



View 3:

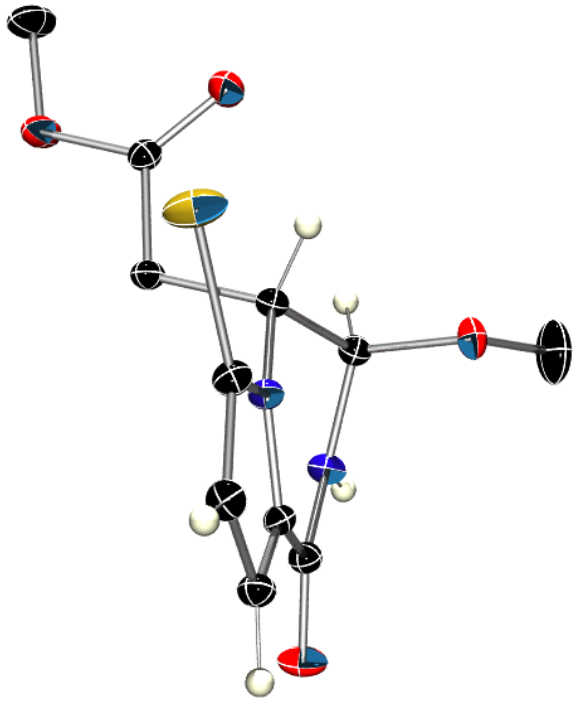


Table S7. Crystal data and structure refinement for bicycle (+)-**21**.

Identification code	10011	
Empirical formula	C11 H13 Br N2 O4	
Formula weight	317.14	
Temperature	100(2) K	
Wavelength	0.71073 Å	
Crystal system	Orthorhombic	
Space group	P2(1)2(1)2(1)	
Unit cell dimensions	a = 8.4061(9) Å	a= 90°.
	b = 9.2037(10) Å	b= 90°.
	c = 17.3522(18) Å	g = 90°.
Volume	1342.5(2) Å^3	
Z	4	
Density (calculated)	1.569 Mg/m^3	
Absorption coefficient	3.070 mm^{-1}	
F(000)	640	
Crystal size	0.35 x 0.20 x 0.15 mm^3	
Theta range for data collection	2.35 to 29.56°.	
Index ranges	-11<=h<=11, -12<=k<=12, -24<=l<=24	
Reflections collected	35594	
Independent reflections	3764 [R(int) = 0.0403]	
Completeness to theta = 29.56°	100.0 %	
Absorption correction	None	
Max. and min. transmission	0.6559 and 0.4129	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	3764 / 155 / 168	
Goodness-of-fit on F^2	1.030	
Final R indices [I>2sigma(I)]	R1 = 0.0224, wR2 = 0.0556	
R indices (all data)	R1 = 0.0241, wR2 = 0.0561	
Absolute structure parameter	0.009(6)	
Largest diff. peak and hole	0.646 and -0.476 e.Å^{-3}	

Table S8. Atomic coordinates (x 10^4) and equivalent isotropic displacement parameters (Å^{2}x 10^3) for bicycle (+)-**21**. U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
Br(1)	4530(1)	12344(1)	7612(1)	25(1)
O(3)	-588(2)	11005(1)	7596(1)	22(1)
O(1)	3784(1)	7512(2)	5030(1)	21(1)
C(11)	4314(2)	9440(2)	5895(1)	13(1)
C(8)	1060(2)	10016(2)	5919(1)	13(1)
C(13)	4913(2)	11063(2)	6798(1)	15(1)
O(2)	1136(2)	11236(1)	5425(1)	18(1)
C(6)	1639(2)	9434(2)	7331(1)	15(1)
N(9)	1681(2)	8707(2)	5561(1)	15(1)
C(7)	1994(2)	10421(2)	6642(1)	12(1)
C(10)	3270(2)	8482(2)	5451(1)	14(1)

N(12)	3685(2)	10368(2)	6443(1)	13(1)
C(5)	194(2)	9954(2)	7768(1)	15(1)
O(4)	-98(2)	9125(1)	8382(1)	26(1)
C(14)	6335(2)	10625(2)	6477(1)	16(1)
C(16)	-1439(3)	9579(2)	8850(1)	30(1)
C(15)	5961(2)	9584(2)	5907(1)	15(1)
C(17)	16(3)	11172(3)	4806(1)	35(1)

Table S9. Bond lengths [Å] and angles [°] for bicycle (+)-**21**.

Br(1)-C(13)	1.8667(16)	O(2)-C(8)-C(7)	106.33(13)
O(3)-C(5)	1.2064(19)	N(9)-C(8)-C(7)	111.66(13)
O(1)-C(10)	1.232(2)	N(12)-C(13)-C(14)	109.66(14)
C(11)-N(12)	1.384(2)	N(12)-C(13)-Br(1)	120.57(12)
C(11)-C(15)	1.390(2)	C(14)-C(13)-Br(1)	129.74(12)
C(11)-C(10)	1.463(2)	C(8)-O(2)-C(17)	113.14(14)
C(8)-O(2)	1.4135(19)	C(5)-C(6)-C(7)	111.19(13)
C(8)-N(9)	1.452(2)	C(10)-N(9)-C(8)	122.51(14)
C(8)-C(7)	1.525(2)	N(12)-C(7)-C(8)	107.35(13)
C(13)-N(12)	1.362(2)	N(12)-C(7)-C(6)	110.72(13)
C(13)-C(14)	1.379(2)	C(8)-C(7)-C(6)	113.40(13)
O(2)-C(17)	1.430(2)	O(1)-C(10)-N(9)	122.42(15)
C(6)-C(5)	1.510(2)	O(1)-C(10)-C(11)	122.61(15)
C(6)-C(7)	1.532(2)	N(9)-C(10)-C(11)	114.93(14)
N(9)-C(10)	1.366(2)	C(13)-N(12)-C(11)	108.15(13)
C(7)-N(12)	1.463(2)	C(13)-N(12)-C(7)	127.87(14)
C(5)-O(4)	1.3321(19)	C(11)-N(12)-C(7)	123.63(13)
O(4)-C(16)	1.452(2)	O(3)-C(5)-O(4)	123.83(16)
C(14)-C(15)	1.413(2)	O(3)-C(5)-C(6)	124.62(15)
		O(4)-C(5)-C(6)	111.54(14)
N(12)-C(11)-C(15)	108.14(14)	C(5)-O(4)-C(16)	115.14(14)
N(12)-C(11)-C(10)	120.30(14)	C(13)-C(14)-C(15)	106.74(15)
C(15)-C(11)-C(10)	131.49(15)	C(11)-C(15)-C(14)	107.28(14)
O(2)-C(8)-N(9)	112.54(14)		

Symmetry transformations used to generate equivalent atoms:

Table S10. Anisotropic displacement parameters ($Å^2 x\ 10^3$) for bicycle (+)-**21**. The anisotropic displacement factor exponent takes the form: $-2p^2[\ h^2\ a^{*2}U^{11} + ...\ + 2\ h\ k\ a^*\ b^*\ U^{12}\ ]$

	U^{11}	U^{22}	U^{33}	U^{23}	U^{13}	U^{12}
Br(1)	21(1)	28(1)	27(1)	-16(1)	3(1)	-7(1)
O(3)	21(1)	25(1)	21(1)	4(1)	4(1)	8(1)
O(1)	16(1)	22(1)	25(1)	-11(1)	1(1)	1(1)
C(11)	13(1)	14(1)	12(1)	-1(1)	1(1)	1(1)
C(8)	12(1)	13(1)	15(1)	-1(1)	0(1)	0(1)
C(13)	15(1)	15(1)	15(1)	-3(1)	0(1)	-2(1)

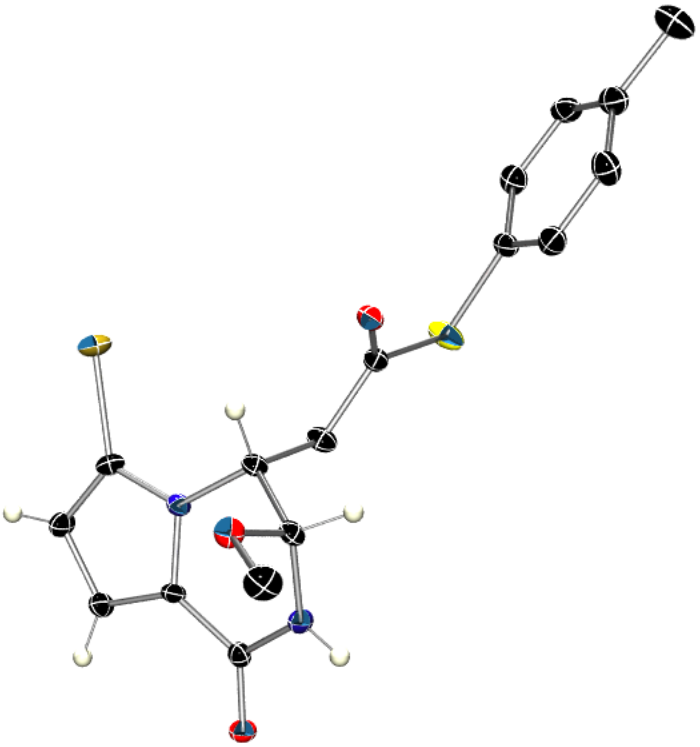
O(2)	20(1)	17(1)	17(1)	4(1)	-5(1)	0(1)
C(6)	15(1)	14(1)	16(1)	0(1)	3(1)	2(1)
N(9)	11(1)	15(1)	19(1)	-5(1)	-1(1)	-1(1)
C(7)	10(1)	12(1)	14(1)	-1(1)	1(1)	-1(1)
C(10)	14(1)	15(1)	14(1)	-1(1)	0(1)	0(1)
N(12)	11(1)	14(1)	14(1)	-2(1)	1(1)	0(1)
C(5)	16(1)	14(1)	14(1)	-2(1)	0(1)	-2(1)
O(4)	33(1)	20(1)	24(1)	6(1)	16(1)	8(1)
C(14)	13(1)	18(1)	17(1)	-1(1)	-2(1)	-2(1)
C(16)	36(1)	23(1)	29(1)	2(1)	20(1)	3(1)
C(15)	13(1)	17(1)	16(1)	-1(1)	1(1)	1(1)
C(17)	38(1)	37(1)	28(1)	12(1)	-18(1)	-7(1)

Table S11. Hydrogen coordinates (x 10^4) and isotropic displacement parameters ($Å^2$x 10^3) for bicycle (+)-**21**.

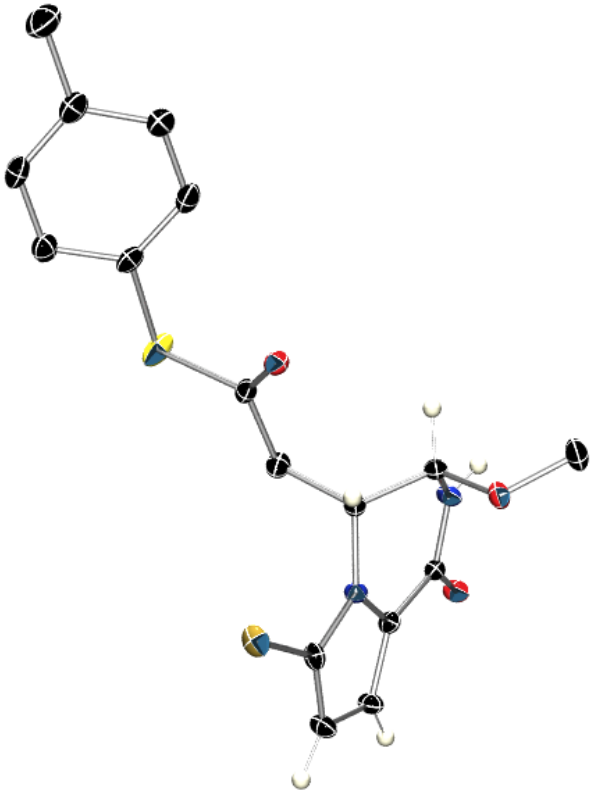
	x	y	z	U(eq)
H(8)	-75	9846	6065	16
H(6A)	1454	8430	7148	18
H(6B)	2569	9420	7681	18
H(9)	1070(20)	8200(20)	5292(12)	18
H(7)	1718	11442	6786	14
H(14)	7367	10959	6613	20
H(16A)	-1233	10550	9060	44
H(16B)	-1588	8890	9275	44
H(16C)	-2402	9605	8532	44
H(15)	6697	9077	5590	18
H(17A)	261	10338	4475	52
H(17B)	79	12068	4503	52
H(17C)	-1060	11065	5016	52

Crystal Structure of Thioester (+)-26

View 1:



View 2:



View 3:

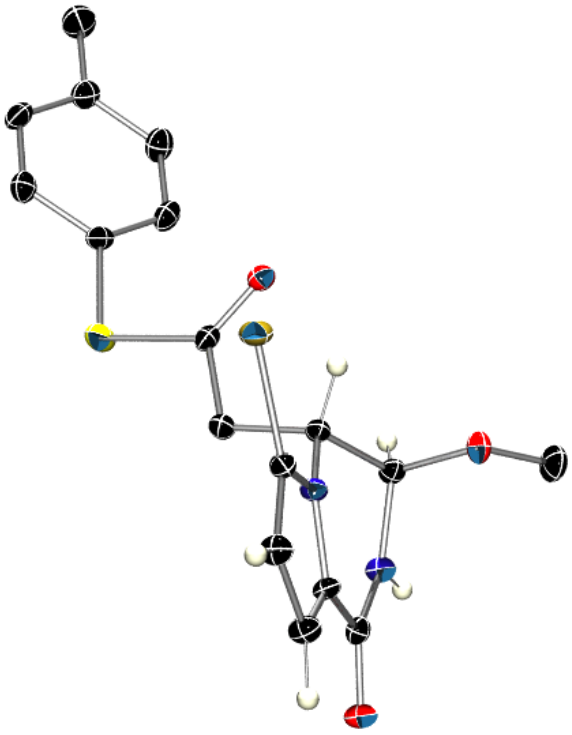


Table S12. Crystal data and structure refinement for thioester (+)-**26**.

Identification code	10013	
Empirical formula	C17 H17 Br N2 O3 S	
Formula weight	409.30	
Temperature	100(2) K	
Wavelength	0.71073 Å	
Crystal system	Monoclinic	
Space group	P2(1)	
Unit cell dimensions	a = 9.2556(9) Å	a= 90°.
	b = 8.0917(8) Å	b= 91.799(2)°.
	c = 11.7613(12) Å	g = 90°.
Volume	880.41(15) $Å^3$	
Z	2	
Density (calculated)	1.544 Mg/m^3	
Absorption coefficient	2.470 mm^{-1}	
F(000)	416	
Crystal size	0.35 x 0.35 x 0.15 mm^3	
Theta range for data collection	1.73 to 29.13°.	
Index ranges	-12<=h<=12, -10<=k<=11, -16<=l<=16	
Reflections collected	19103	
Independent reflections	4583 [R(int) = 0.0383]	
Completeness to theta = 29.13°	99.9 %	
Absorption correction	None	
Max. and min. transmission	0.7082 and 0.4785	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	4583 / 203 / 222	
Goodness-of-fit on F^2	1.008	
Final R indices [I>2sigma(I)]	R1 = 0.0251, wR2 = 0.0560	
R indices (all data)	R1 = 0.0282, wR2 = 0.0570	
Absolute structure parameter	0.014(5)	
Largest diff. peak and hole	0.519 and -0.232 $e.Å^{-3}$	

Table S13. Atomic coordinates (x 10^4) and equivalent isotropic displacement parameters ($Å^2$x 10^3) for thioester (+)-**26**. U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
Br(1)	135(1)	9493(1)	3768(1)	20(1)
S(1)	3998(1)	4712(1)	5370(1)	26(1)
O(3)	1618(1)	4293(2)	4073(1)	17(1)
C(5)	2720(2)	5054(2)	4221(2)	15(1)
C(7)	2125(2)	6816(2)	2470(2)	14(1)
C(19)	2830(2)	1758(3)	7926(2)	22(1)
C(17)	3282(2)	3004(3)	6116(2)	18(1)
C(22)	2870(2)	1547(3)	5576(2)	21(1)
C(18)	3263(2)	3118(3)	7301(2)	21(1)
C(6)	3212(2)	6452(3)	3461(2)	18(1)
C(20)	2403(2)	297(3)	7410(2)	22(1)

C(23)	1951(3)	-1187(3)	8091(2)	33(1)
C(21)	2420(2)	214(3)	6216(2)	25(1)
O(1)	4980(2)	8576(2)	117(1)	18(1)
O(2)	1148(2)	5943(2)	706(1)	19(1)
C(11)	3137(2)	9187(2)	1394(2)	14(1)
N(12)	2177(2)	8549(2)	2165(1)	14(1)
C(13)	1509(2)	9849(2)	2670(2)	16(1)
C(16)	1114(2)	4835(3)	-239(2)	26(1)
N(9)	3697(2)	6443(2)	833(2)	16(1)
C(10)	4007(2)	8076(2)	723(2)	15(1)
C(8)	2425(2)	5821(2)	1393(2)	15(1)
C(15)	3040(2)	10894(3)	1419(2)	17(1)
C(14)	2000(2)	11308(3)	2229(2)	18(1)

Table S14. Bond lengths [Å] and angles [°] for thioester (+)-**26**.

Br(1)-C(13)	1.8635(17)	C(6)-C(5)-S(1)	110.86(14)
S(1)-C(17)	1.776(2)	N(12)-C(7)-C(8)	107.21(15)
S(1)-C(5)	1.789(2)	N(12)-C(7)-C(6)	110.21(16)
O(3)-C(5)	1.199(2)	C(8)-C(7)-C(6)	113.14(17)
C(5)-C(6)	1.521(3)	C(20)-C(19)-C(18)	121.9(2)
C(7)-N(12)	1.448(3)	C(22)-C(17)-C(18)	120.05(19)
C(7)-C(8)	1.533(3)	C(22)-C(17)-S(1)	122.48(16)
C(7)-C(6)	1.544(3)	C(18)-C(17)-S(1)	117.23(17)
C(19)-C(20)	1.381(3)	C(17)-C(22)-C(21)	119.72(19)
C(19)-C(18)	1.390(3)	C(19)-C(18)-C(17)	119.3(2)
C(17)-C(22)	1.387(3)	C(5)-C(6)-C(7)	112.71(16)
C(17)-C(18)	1.397(3)	C(19)-C(20)-C(21)	117.9(2)
C(22)-C(21)	1.387(3)	C(19)-C(20)-C(23)	121.89(19)
C(20)-C(21)	1.406(3)	C(21)-C(20)-C(23)	120.2(2)
C(20)-C(23)	1.510(3)	C(22)-C(21)-C(20)	121.2(2)
O(1)-C(10)	1.235(2)	C(8)-O(2)-C(16)	113.47(15)
O(2)-C(8)	1.414(2)	C(15)-C(11)-N(12)	108.31(16)
O(2)-C(16)	1.427(2)	C(15)-C(11)-C(10)	131.64(17)
C(11)-C(15)	1.385(3)	N(12)-C(11)-C(10)	120.04(17)
C(11)-N(12)	1.389(2)	C(13)-N(12)-C(11)	107.77(15)
C(11)-C(10)	1.456(2)	C(13)-N(12)-C(7)	128.29(16)
N(12)-C(13)	1.365(2)	C(11)-N(12)-C(7)	123.21(16)
C(13)-C(14)	1.373(3)	N(12)-C(13)-C(14)	109.77(16)
N(9)-C(10)	1.358(3)	N(12)-C(13)-Br(1)	120.69(14)
N(9)-C(8)	1.457(2)	C(14)-C(13)-Br(1)	129.53(15)
C(15)-C(14)	1.416(3)	C(10)-N(9)-C(8)	123.69(17)
		O(1)-C(10)-N(9)	122.22(18)
C(17)-S(1)-C(5)	104.18(9)	O(1)-C(10)-C(11)	122.47(18)
O(3)-C(5)-C(6)	124.42(18)	N(9)-C(10)-C(11)	115.29(17)
O(3)-C(5)-S(1)	124.72(15)		

		N(9)-C(8)-C(7)	111.24(16)
O(2)-C(8)-N(9)	112.99(15)	C(11)-C(15)-C(14)	107.20(18)
O(2)-C(8)-C(7)	105.37(15)	C(13)-C(14)-C(15)	106.95(19)

Symmetry transformations used to generate equivalent atoms:

Table S15. Anisotropic displacement parameters ($Å^2 x\ 10^3$) for thioester (+)-**26**. The anisotropic displacement factor exponent takes the form: $-2p^2[\ h^2\ a^{*2}U^{11} + ... + 2\ h\ k\ a^*\ b^*\ U^{12}\ ]$

	U^{11}	U^{22}	U^{33}	U^{23}	U^{13}	U^{12}
Br(1)	18(1)	24(1)	19(1)	-3(1)	8(1)	-4(1)
S(1)	20(1)	35(1)	24(1)	13(1)	-7(1)	-8(1)
O(3)	19(1)	16(1)	15(1)	2(1)	2(1)	0(1)
C(5)	17(1)	18(1)	12(1)	1(1)	1(1)	2(1)
C(7)	16(1)	12(1)	13(1)	1(1)	1(1)	-3(1)
C(19)	21(1)	30(1)	13(1)	3(1)	2(1)	2(1)
C(17)	12(1)	23(1)	17(1)	8(1)	-1(1)	1(1)
C(22)	22(1)	27(1)	14(1)	2(1)	-1(1)	6(1)
C(18)	20(1)	23(1)	18(1)	0(1)	-4(1)	2(1)
C(6)	19(1)	18(1)	17(1)	2(1)	-1(1)	-6(1)
C(20)	19(1)	28(1)	19(1)	6(1)	-1(1)	3(1)
C(23)	38(1)	32(1)	27(1)	10(1)	-2(1)	-8(1)
C(21)	31(1)	21(1)	21(1)	1(1)	-4(1)	2(1)
O(1)	20(1)	15(1)	19(1)	1(1)	7(1)	-1(1)
O(2)	21(1)	19(1)	16(1)	-4(1)	-3(1)	0(1)
C(11)	16(1)	14(1)	12(1)	2(1)	3(1)	-1(1)
N(12)	15(1)	12(1)	15(1)	1(1)	2(1)	-2(1)
C(13)	14(1)	20(1)	13(1)	-3(1)	3(1)	-2(1)
C(16)	33(1)	26(2)	18(1)	-7(1)	-2(1)	-3(1)
N(9)	19(1)	12(1)	18(1)	-1(1)	5(1)	0(1)
C(10)	17(1)	14(1)	13(1)	0(1)	-1(1)	2(1)
C(8)	19(1)	12(1)	15(1)	2(1)	1(1)	-2(1)
C(15)	22(1)	11(1)	18(1)	0(1)	4(1)	0(1)
C(14)	20(1)	14(1)	20(1)	-3(1)	5(1)	1(1)

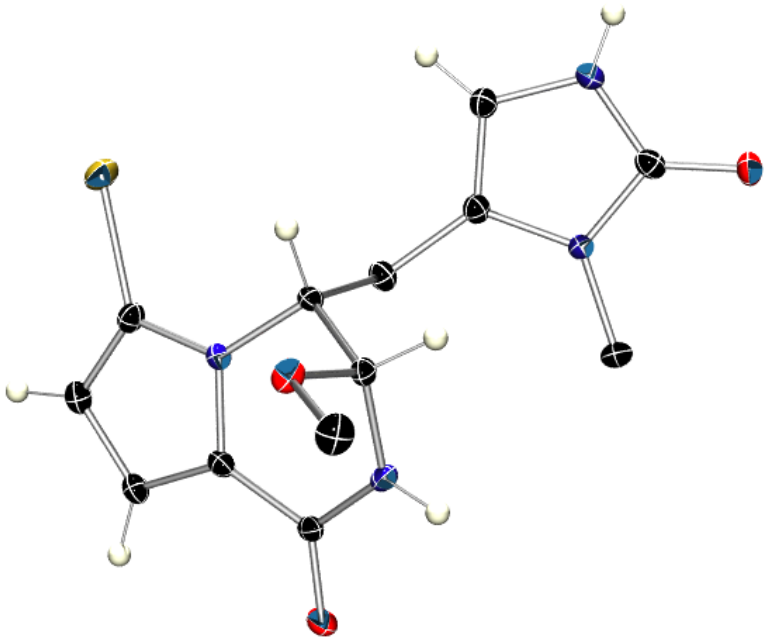
Table S16. Hydrogen coordinates ($x\ 10^4$) and isotropic displacement parameters ($Å^2 x\ 10^3$) for thioester (+)-**26**.

	x	y	z	U(eq)
H(7)	1129	6547	2719	17
H(19)	2827	1836	8732	26
H(22)	2896	1463	4772	25
H(18)	3544	4114	7674	25
H(6A)	4158	6159	3146	22

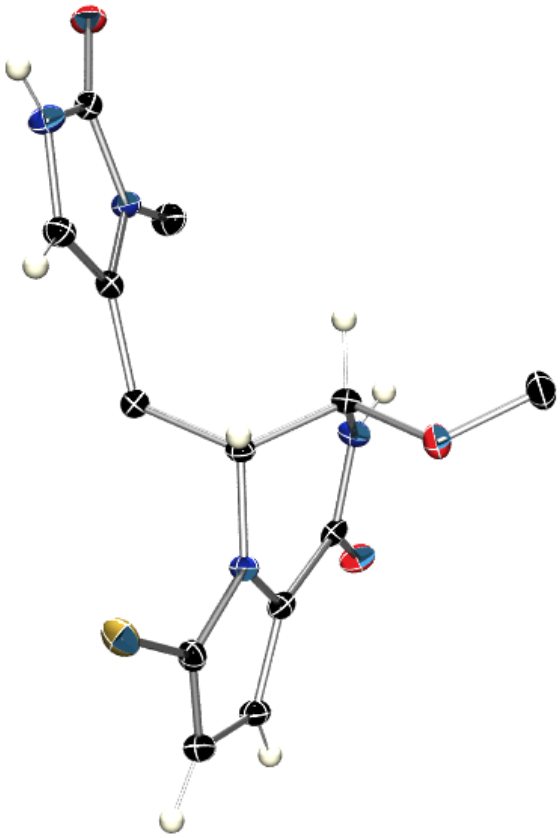
H(6B)	3347	7464	3925	22
H(23A)	2805	-1851	8298	49
H(23B)	1270	-1858	7633	49
H(23C)	1485	-817	8783	49
H(21)	2118	-773	5842	30
H(16A)	1943	5053	-715	38
H(16B)	216	4999	-688	38
H(16C)	1159	3694	38	38
H(9)	4120(20)	5750(30)	416(17)	19
H(8)	2588	4638	1605	18
H(15)	3573	11647	975	20
H(14)	1699	12389	2428	21

Crystal Structure of (+)-*O*-Methyl-pre-agelastatin A (19)

View 1:



View 2:



View 3:

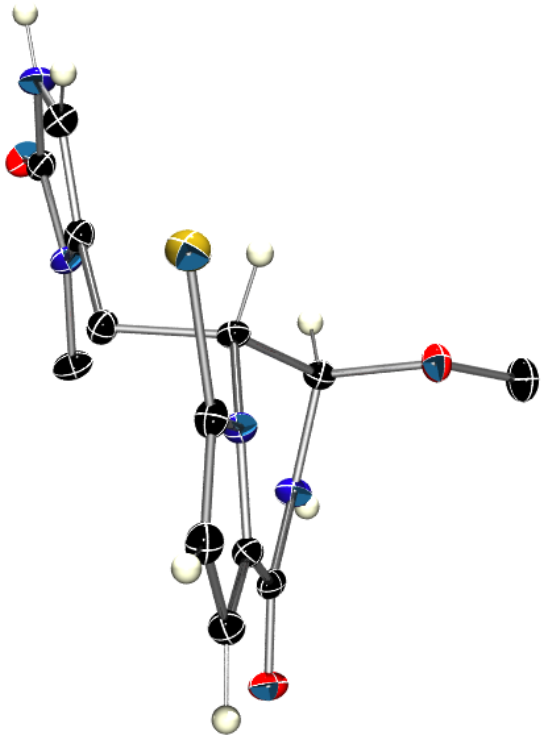


Table S17. Crystal data and structure refinement for (+)-*O*-methyl-pre-agelastatin A (**19**).

Identification code	10012	
Empirical formula	C14 H19 Br N4 O4	
Formula weight	387.24	
Temperature	100(2) K	
Wavelength	0.71073 Å	
Crystal system	Orthorhombic	
Space group	P2(1)2(1)2(1)	
Unit cell dimensions	a = 10.3843(11) Å	a= 90°.
	b = 10.7461(11) Å	b= 90°.
	c = 14.0947(15) Å	g = 90°.
Volume	1572.8(3) $Å^3$	
Z	4	
Density (calculated)	1.635 Mg/m^3	
Absorption coefficient	2.640 mm^{-1}	
F(000)	792	
Crystal size	0.49 x 0.20 x 0.18 mm^3	
Theta range for data collection	2.38 to 29.56°.	
Index ranges	-14<=h<=14, -14<=k<=14, -19<=l<=19	
Reflections collected	31959	
Independent reflections	4413 [R(int) = 0.0524]	
Completeness to theta = 29.56°	100.0 %	
Absorption correction	None	
Max. and min. transmission	0.6479 and 0.3578	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	4413 / 199 / 220	
Goodness-of-fit on F^2	1.016	
Final R indices [I>2sigma(I)]	R1 = 0.0276, wR2 = 0.0618	
R indices (all data)	R1 = 0.0327, wR2 = 0.0635	
Absolute structure parameter	-0.007(6)	
Largest diff. peak and hole	0.598 and -0.372 $e.Å^{-3}$	

Table S18. Atomic coordinates (x 10^4) and equivalent isotropic displacement parameters ($Å^2$x 10^3) for (+)-*O*-methyl-pre-agelastatin A (**19**). U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
Br(1)	159(1)	5727(1)	8694(1)	19(1)
C(7)	299(2)	8579(2)	9501(1)	12(1)
O(1)	3736(1)	10457(1)	9284(1)	17(1)
N(9)	1768(2)	10252(2)	9958(1)	14(1)
C(13)	1556(2)	6821(2)	8716(2)	14(1)
C(4)	-2779(2)	9358(2)	8879(1)	16(1)
N(1)	-1764(2)	11168(2)	8930(1)	13(1)
O(2)	-3553(2)	12482(1)	9115(1)	18(1)
O(3)	1132(1)	8682(1)	11052(1)	16(1)

C(17)	1400(2)	9361(2)	11909(1)	20(1)
N(3)	-3662(2)	10316(2)	8998(1)	16(1)
C(15)	3436(2)	7809(2)	8539(1)	15(1)
C(8)	740(2)	9455(2)	10295(1)	12(1)
N(12)	1452(2)	7949(2)	9159(1)	12(1)
C(6)	-325(2)	9256(2)	8651(1)	15(1)
C(10)	2770(2)	9819(2)	9433(1)	12(1)
C(2)	-3051(2)	11429(2)	9029(1)	15(1)
C(16)	-794(2)	12148(2)	8888(2)	18(1)
C(11)	2611(2)	8564(2)	9047(1)	13(1)
C(5)	-1592(2)	9867(2)	8832(1)	14(1)
C(14)	2771(2)	6692(2)	8339(1)	16(1)
O(1S)	9175(2)	1656(2)	1844(1)	27(1)
C(1S)	7951(2)	1693(2)	1404(2)	24(1)

Table S19. Bond lengths [Å] and angles [°] for (+)-*O*-methyl-pre-agelastatin A (**19**).

Br(1)-C(13)	1.8678(19)	C(10)-N(9)-C(8)	122.66(17)
C(7)-N(12)	1.457(2)	N(12)-C(13)-C(14)	109.78(18)
C(7)-C(8)	1.532(3)	N(12)-C(13)-Br(1)	120.24(15)
C(7)-C(6)	1.545(3)	C(14)-C(13)-Br(1)	129.98(16)
O(1)-C(10)	1.234(2)	C(5)-C(4)-N(3)	107.96(19)
N(9)-C(10)	1.359(3)	C(2)-N(1)-C(5)	109.55(17)
N(9)-C(8)	1.448(3)	C(2)-N(1)-C(16)	121.94(17)
C(13)-N(12)	1.368(2)	C(5)-N(1)-C(16)	128.43(17)
C(13)-C(14)	1.375(3)	C(8)-O(3)-C(17)	113.06(15)
C(4)-C(5)	1.350(3)	C(2)-N(3)-C(4)	110.46(17)
C(4)-N(3)	1.388(3)	C(11)-C(15)-C(14)	107.40(18)
N(1)-C(2)	1.372(3)	O(3)-C(8)-N(9)	112.48(16)
N(1)-C(5)	1.416(3)	O(3)-C(8)-C(7)	106.02(15)
N(1)-C(16)	1.459(3)	N(9)-C(8)-C(7)	110.20(15)
O(2)-C(2)	1.252(3)	C(13)-N(12)-C(11)	107.54(17)
O(3)-C(8)	1.413(2)	C(13)-N(12)-C(7)	128.87(17)
O(3)-C(17)	1.439(2)	C(11)-N(12)-C(7)	122.15(16)
N(3)-C(2)	1.355(3)	C(5)-C(6)-C(7)	116.37(16)
C(15)-C(11)	1.380(3)	O(1)-C(10)-N(9)	121.63(19)
C(15)-C(14)	1.413(3)	O(1)-C(10)-C(11)	122.74(19)
N(12)-C(11)	1.382(3)	N(9)-C(10)-C(11)	115.62(18)
C(6)-C(5)	1.492(3)	O(2)-C(2)-N(3)	127.34(19)
C(10)-C(11)	1.464(3)	O(2)-C(2)-N(1)	126.9(2)
O(1S)-C(1S)	1.415(3)	N(3)-C(2)-N(1)	105.78(17)
		C(15)-C(11)-N(12)	108.65(18)
N(12)-C(7)-C(8)	106.31(16)	C(15)-C(11)-C(10)	131.65(19)
N(12)-C(7)-C(6)	107.86(14)	N(12)-C(11)-C(10)	119.69(18)
C(8)-C(7)-C(6)	113.71(16)		

		N(1)-C(5)-C(6)	124.23(18)
C(4)-C(5)-N(1)	106.24(18)	C(13)-C(14)-C(15)	106.60(18)
C(4)-C(5)-C(6)	129.41(19)		

Symmetry transformations used to generate equivalent atoms:

Table S20. Anisotropic displacement parameters ($Å^2 x\ 10^3$) for (+)-*O*-methyl-pre-agelastatin A (**19**). The anisotropic displacement factor exponent takes the form: $-2p^2[\ h^2\ a^{*2}U^{11} + ... + 2\ h\ k\ a^*\ b^*\ U^{12}\ ]$

	U^{11}	U^{22}	U^{33}	U^{23}	U^{13}	U^{12}
Br(1)	22(1)	15(1)	20(1)	-4(1)	1(1)	-4(1)
C(7)	10(1)	12(1)	14(1)	-2(1)	1(1)	0(1)
O(1)	11(1)	18(1)	23(1)	2(1)	2(1)	0(1)
N(9)	14(1)	10(1)	17(1)	-2(1)	2(1)	-2(1)
C(13)	18(1)	12(1)	14(1)	-2(1)	-2(1)	0(1)
C(4)	16(1)	14(1)	17(1)	-2(1)	0(1)	1(1)
N(1)	11(1)	11(1)	17(1)	-2(1)	-1(1)	0(1)
O(2)	17(1)	14(1)	24(1)	-4(1)	-1(1)	4(1)
O(3)	20(1)	15(1)	12(1)	0(1)	-2(1)	-1(1)
C(17)	27(1)	21(1)	14(1)	-2(1)	-3(1)	1(1)
N(3)	11(1)	16(1)	21(1)	1(1)	2(1)	0(1)
C(15)	13(1)	16(1)	15(1)	0(1)	2(1)	3(1)
C(8)	12(1)	11(1)	13(1)	-1(1)	1(1)	1(1)
N(12)	11(1)	12(1)	14(1)	-1(1)	1(1)	1(1)
C(6)	14(1)	16(1)	14(1)	-1(1)	-1(1)	2(1)
C(10)	11(1)	12(1)	15(1)	4(1)	-3(1)	0(1)
C(2)	12(1)	19(1)	13(1)	-2(1)	-1(1)	1(1)
C(16)	14(1)	16(1)	25(1)	-3(1)	-1(1)	-3(1)
C(11)	11(1)	15(1)	13(1)	2(1)	0(1)	1(1)
C(5)	14(1)	14(1)	13(1)	-2(1)	-1(1)	1(1)
C(14)	17(1)	16(1)	16(1)	-1(1)	0(1)	4(1)
O(1S)	19(1)	29(1)	32(1)	6(1)	5(1)	-2(1)
C(1S)	27(1)	19(1)	25(1)	4(1)	-2(1)	-2(1)

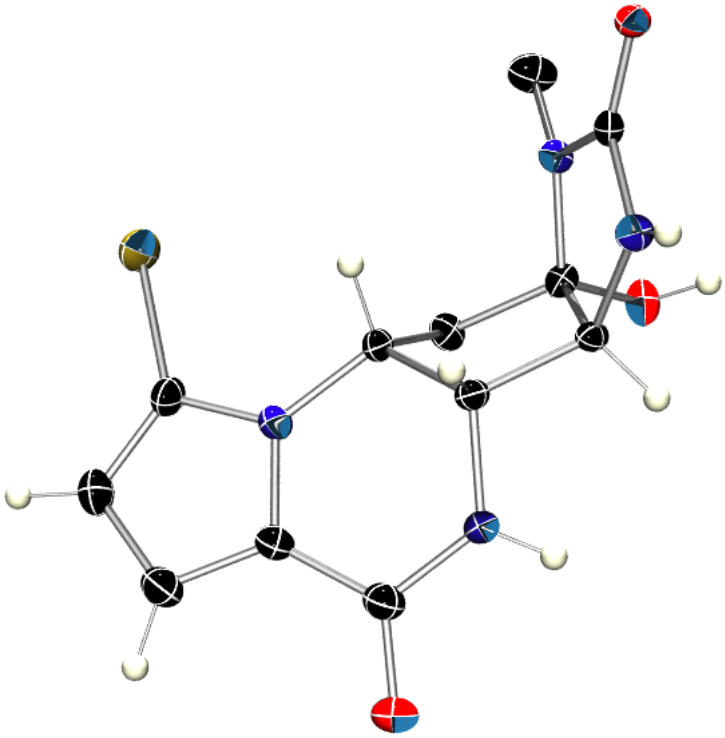
Table S21. Hydrogen coordinates ($x\ 10^4$) and isotropic displacement parameters ($Å^2 x\ 10^3$) for (+)-*O*-methyl-pre-agelastatin A (**19**).

	x	y	z	U(eq)
H(7)	-318	7952	9764	14
H(9)	1820(20)	10950(16)	10199(16)	16
H(4)	-2976	8497	8837	19
H(17A)	2117	9936	11799	31
H(17B)	1631	8777	12415	31
H(17C)	634	9834	12097	31

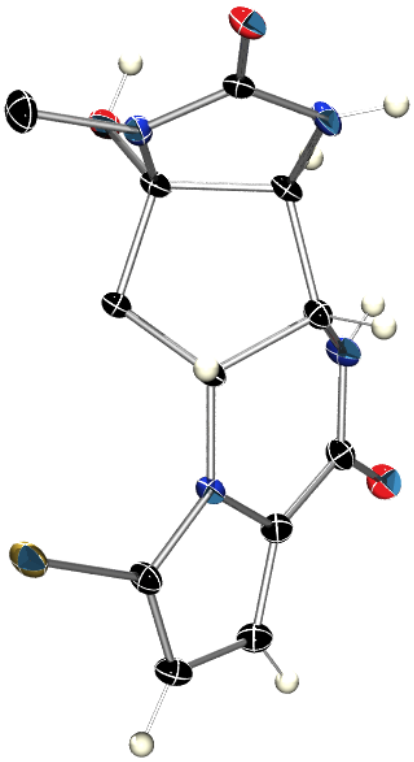
H(3)	-4461(16)	10210(20)	9060(17)	19
H(15)	4294	8004	8358	18
H(8)	-3	9980	10504	15
H(6A)	284	9898	8423	17
H(6B)	-440	8646	8131	17
H(16A)	-1189	12947	9057	27
H(16B)	-443	12197	8244	27
H(16C)	-99	11960	9336	27
H(14)	3098	5989	8009	20
H(1O1)	9730(20)	1980(20)	1516(16)	32
H(1S1)	7284	1498	1873	36
H(1S2)	7921	1080	890	36
H(1S3)	7799	2526	1145	36

Crystal Structure of (–)-Agelastatin A (1)

View 1:



View 2:



View 3:

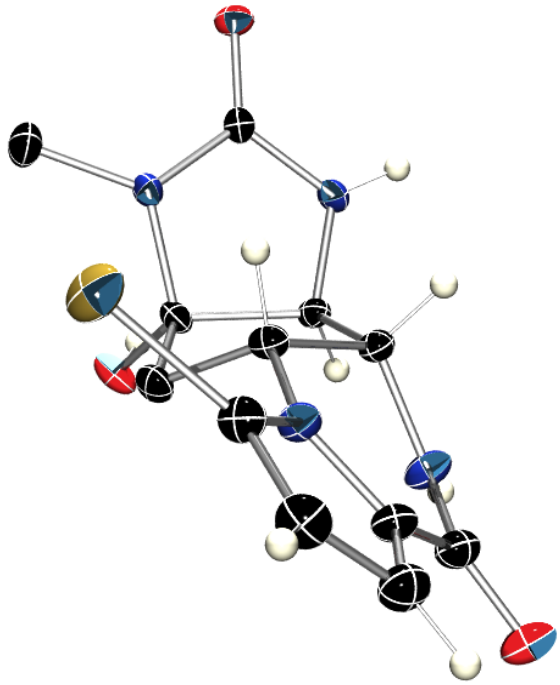


Table S22. Crystal data and structure refinement for (–)-agelastatin A (**1**).

Identification code	10026	
Empirical formula	C12 H16 Br N4 O4.50	
Formula weight	368.20	
Temperature	100(2) K	
Wavelength	0.71073 Å	
Crystal system	Monoclinic	
Space group	P2(1)	
Unit cell dimensions	a = 13.5873(14) Å	a= 90°.
	b = 6.9161(7) Å	b= 98.786(2)°.
	c = 15.7114(17) Å	g = 90°.
Volume	1459.1(3) $Å^3$	
Z	4	
Density (calculated)	1.676 Mg/m^3	
Absorption coefficient	2.844 mm^{-1}	
F(000)	748	
Crystal size	0.48 x 0.25 x 0.04 mm^3	
Theta range for data collection	1.31 to 30.03°.	
Index ranges	-19<=h<=19, -9<=k<=9, -22<=l<=21	
Reflections collected	39133	
Independent reflections	8508 [R(int) = 0.0524]	
Completeness to theta = 30.03°	99.9 %	
Absorption correction	None	
Max. and min. transmission	0.8947 and 0.3422	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	8508 / 402 / 426	
Goodness-of-fit on F^2	1.017	
Final R indices [I>2sigma(I)]	R1 = 0.0346, wR2 = 0.0795	
R indices (all data)	R1 = 0.0437, wR2 = 0.0829	
Absolute structure parameter	0.015(5)	
Largest diff. peak and hole	0.875 and -0.490 $e.Å^{-3}$	

Table S23. Atomic coordinates (x 10^4) and equivalent isotropic displacement parameters ($Å^2$x 10^3) for (–)-agelastatin A (**1**). U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
Br(1A)	10024(1)	9800(1)	4181(1)	20(1)
O(1A)	7655(1)	2032(3)	3166(1)	19(1)
O(2A)	5380(1)	12339(3)	4193(1)	15(1)
O(3A)	6575(1)	7489(3)	5834(1)	16(1)
N(1A)	6544(2)	10312(3)	4960(1)	13(1)
N(3A)	5476(2)	9051(3)	3910(2)	16(1)
N(9A)	6925(1)	4729(4)	3601(1)	16(1)
N(12A)	8666(1)	6765(3)	3693(1)	13(1)
C(2A)	5761(2)	10700(4)	4338(2)	13(1)
C(4A)	6100(2)	7438(4)	4214(2)	13(1)

C(5A)	6771(2)	8256(4)	5039(2)	13(1)
C(6A)	7840(2)	7741(4)	4947(2)	14(1)
C(7A)	7830(2)	7787(4)	3976(2)	12(1)
C(8A)	6834(2)	6839(3)	3592(2)	13(1)
C(10A)	7700(2)	3773(4)	3354(2)	15(1)
C(11A)	8604(2)	4898(4)	3361(2)	14(1)
C(13A)	9618(2)	7390(4)	3713(2)	15(1)
C(14A)	10170(2)	5986(4)	3382(2)	16(1)
C(15A)	9532(2)	4414(3)	3163(2)	16(1)
C(16A)	7030(2)	11771(4)	5551(2)	20(1)
Br(1B)	677(1)	1059(1)	-861(1)	30(1)
O(1B)	3160(2)	8724(3)	175(1)	28(1)
O(2B)	3843(1)	-1576(3)	2515(1)	17(1)
O(3B)	1898(1)	3202(3)	2824(1)	22(1)
N(1B)	2475(2)	446(3)	2140(1)	15(1)
N(3B)	3984(2)	1698(3)	2274(2)	16(1)
N(9B)	3293(2)	6008(4)	988(2)	21(1)
N(12B)	1965(2)	4066(3)	-199(2)	18(1)
C(2B)	3473(2)	41(4)	2325(2)	14(1)
C(4B)	3345(2)	3314(4)	2009(2)	14(1)
C(5B)	2286(2)	2529(4)	2096(2)	15(1)
C(6B)	1615(2)	3162(4)	1279(2)	18(1)
C(7B)	2307(2)	3044(4)	598(2)	16(1)
C(8B)	3300(2)	3896(4)	1057(2)	15(1)
C(10B)	2944(2)	6983(4)	254(2)	22(1)
C(11B)	2275(2)	5912(4)	-382(2)	20(1)
C(13B)	1303(2)	3459(4)	-886(2)	20(1)
C(14B)	1190(2)	4839(5)	-1516(2)	25(1)
C(15B)	1809(2)	6408(4)	-1198(2)	25(1)
C(16B)	1704(2)	-950(4)	2232(2)	26(1)
O(1W)	5937(1)	1920(3)	1936(2)	27(1)
O(2W)	3590(2)	477(4)	8668(2)	47(1)
O(3W)	4605(2)	3913(5)	9290(2)	59(1)

Table S24. Bond lengths [Å] and angles [°] for (–)-agelastatin A (**1**).

Br(1A)-C(13A)	1.870(3)	N(12A)-C(13A)	1.360(3)
O(1A)-C(10A)	1.239(3)	N(12A)-C(11A)	1.391(3)
O(2A)-C(2A)	1.252(3)	N(12A)-C(7A)	1.464(3)
O(3A)-C(5A)	1.419(3)	C(4A)-C(8A)	1.556(3)
N(1A)-C(2A)	1.357(3)	C(4A)-C(5A)	1.571(3)
N(1A)-C(5A)	1.456(3)	C(5A)-C(6A)	1.524(3)
N(1A)-C(16A)	1.459(3)	C(6A)-C(7A)	1.523(3)
N(3A)-C(2A)	1.350(3)	C(7A)-C(8A)	1.541(3)
N(3A)-C(4A)	1.438(3)	C(10A)-C(11A)	1.453(3)
N(9A)-C(10A)	1.350(3)	C(11A)-C(15A)	1.385(3)
N(9A)-C(8A)	1.465(3)		

C(13A)-C(14A)	1.376(4)
C(14A)-C(15A)	1.401(4)
Br(1B)-C(13B)	1.868(3)
O(1B)-C(10B)	1.251(3)
O(2B)-C(2B)	1.244(3)
O(3B)-C(5B)	1.410(3)
N(1B)-C(2B)	1.372(3)
N(1B)-C(16B)	1.447(3)
N(1B)-C(5B)	1.463(3)
N(3B)-C(2B)	1.349(3)
N(3B)-C(4B)	1.437(3)
N(9B)-C(10B)	1.357(4)
N(9B)-C(8B)	1.465(3)
N(12B)-C(13B)	1.361(3)
N(12B)-C(11B)	1.388(4)
N(12B)-C(7B)	1.452(3)
C(4B)-C(8B)	1.541(4)
C(4B)-C(5B)	1.563(3)
C(5B)-C(6B)	1.521(4)
C(6B)-C(7B)	1.530(3)
C(7B)-C(8B)	1.546(3)
C(10B)-C(11B)	1.448(4)
C(11B)-C(15B)	1.384(4)
C(13B)-C(14B)	1.367(4)
C(14B)-C(15B)	1.416(4)

C(2A)-N(1A)-C(5A)	112.7(2)
C(2A)-N(1A)-C(16A)	123.4(2)
C(5A)-N(1A)-C(16A)	123.5(2)
C(2A)-N(3A)-C(4A)	112.4(2)
C(10A)-N(9A)-C(8A)	123.6(2)
C(13A)-N(12A)-C(11A)	107.9(2)
C(13A)-N(12A)-C(7A)	128.3(2)
C(11A)-N(12A)-C(7A)	123.82(19)
O(2A)-C(2A)-N(3A)	126.5(2)
O(2A)-C(2A)-N(1A)	124.5(2)
N(3A)-C(2A)-N(1A)	109.0(2)
N(3A)-C(4A)-C(8A)	113.5(2)
N(3A)-C(4A)-C(5A)	103.5(2)
C(8A)-C(4A)-C(5A)	105.46(18)
O(3A)-C(5A)-N(1A)	111.9(2)
O(3A)-C(5A)-C(6A)	107.80(19)
N(1A)-C(5A)-C(6A)	114.4(2)
O(3A)-C(5A)-C(4A)	115.33(19)
N(1A)-C(5A)-C(4A)	101.15(19)
C(6A)-C(5A)-C(4A)	106.22(19)
C(7A)-C(6A)-C(5A)	103.11(19)
N(12A)-C(7A)-C(6A)	113.87(19)
N(12A)-C(7A)-C(8A)	110.6(2)
C(6A)-C(7A)-C(8A)	104.85(19)
N(9A)-C(8A)-C(7A)	110.6(2)
N(9A)-C(8A)-C(4A)	108.67(19)
C(7A)-C(8A)-C(4A)	104.47(19)
O(1A)-C(10A)-N(9A)	122.2(2)
O(1A)-C(10A)-C(11A)	122.2(2)
N(9A)-C(10A)-C(11A)	115.5(2)
C(15A)-C(11A)-N(12A)	107.7(2)
C(15A)-C(11A)-C(10A)	131.8(3)
N(12A)-C(11A)-C(10A)	120.2(2)
N(12A)-C(13A)-C(14A)	109.8(2)
N(12A)-C(13A)-Br(1A)	120.95(18)
C(14A)-C(13A)-Br(1A)	129.24(18)
C(13A)-C(14A)-C(15A)	106.8(2)
C(11A)-C(15A)-C(14A)	107.9(2)
C(2B)-N(1B)-C(16B)	123.3(2)
C(2B)-N(1B)-C(5B)	111.8(2)
C(16B)-N(1B)-C(5B)	122.5(2)
C(2B)-N(3B)-C(4B)	112.60(19)
C(10B)-N(9B)-C(8B)	123.8(2)
C(13B)-N(12B)-C(11B)	107.7(2)
C(13B)-N(12B)-C(7B)	128.2(2)
C(11B)-N(12B)-C(7B)	124.0(2)
O(2B)-C(2B)-N(3B)	125.8(2)
O(2B)-C(2B)-N(1B)	125.8(2)
N(3B)-C(2B)-N(1B)	108.4(2)
N(3B)-C(4B)-C(8B)	114.7(2)
N(3B)-C(4B)-C(5B)	103.2(2)
C(8B)-C(4B)-C(5B)	106.0(2)
O(3B)-C(5B)-N(1B)	111.8(2)
O(3B)-C(5B)-C(6B)	109.9(2)
N(1B)-C(5B)-C(6B)	113.7(2)
O(3B)-C(5B)-C(4B)	114.8(2)
N(1B)-C(5B)-C(4B)	100.89(19)
C(6B)-C(5B)-C(4B)	105.5(2)
C(5B)-C(6B)-C(7B)	102.81(19)
N(12B)-C(7B)-C(6B)	115.4(2)
N(12B)-C(7B)-C(8B)	111.0(2)
C(6B)-C(7B)-C(8B)	103.9(2)
N(9B)-C(8B)-C(4B)	109.3(2)
N(9B)-C(8B)-C(7B)	110.5(2)
C(4B)-C(8B)-C(7B)	104.8(2)
O(1B)-C(10B)-N(9B)	120.4(3)
O(1B)-C(10B)-C(11B)	123.8(3)
N(9B)-C(10B)-C(11B)	115.7(3)
C(15B)-C(11B)-N(12B)	108.0(2)
C(15B)-C(11B)-C(10B)	131.6(3)

		C(14B)-C(13B)-Br(1B)	129.4(2)
N(12B)-C(11B)-C(10B)	120.4(2)	C(13B)-C(14B)-C(15B)	106.6(2)
N(12B)-C(13B)-C(14B)	110.2(3)	C(11B)-C(15B)-C(14B)	107.4(3)
N(12B)-C(13B)-Br(1B)	120.4(2)		

Symmetry transformations used to generate equivalent atoms:

Table S25. Anisotropic displacement parameters ($Å^2 x\ 10^3$) for (–)-agelastatin A (**1**). The anisotropic displacement factor exponent takes the form: $-2p^2[\ h^2\ a^{*2}U^{11} + ... + 2\ h\ k\ a^*\ b^*\ U^{12}\ ]$

	U^{11}	U^{22}	U^{33}	U^{23}	U^{13}	U^{12}
Br(1A)	13(1)	17(1)	30(1)	-5(1)	4(1)	-5(1)
O(1A)	20(1)	12(1)	25(1)	-2(1)	2(1)	0(1)
O(2A)	10(1)	13(1)	21(1)	2(1)	2(1)	1(1)
O(3A)	12(1)	22(1)	14(1)	4(1)	2(1)	0(1)
N(1A)	12(1)	13(1)	14(1)	-2(1)	1(1)	0(1)
N(3A)	11(1)	13(1)	22(1)	-1(1)	-4(1)	2(1)
N(9A)	12(1)	10(1)	25(1)	-1(1)	4(1)	-4(1)
N(12A)	10(1)	12(1)	16(1)	0(1)	2(1)	0(1)
C(2A)	8(1)	17(1)	14(1)	-1(1)	4(1)	0(1)
C(4A)	8(1)	14(1)	17(1)	2(1)	1(1)	1(1)
C(5A)	9(1)	13(1)	17(1)	0(1)	2(1)	1(1)
C(6A)	9(1)	16(1)	15(1)	-1(1)	2(1)	1(1)
C(7A)	9(1)	10(1)	18(1)	0(1)	2(1)	0(1)
C(8A)	11(1)	11(1)	16(1)	0(1)	1(1)	0(1)
C(10A)	14(1)	15(1)	16(1)	2(1)	0(1)	1(1)
C(11A)	15(1)	12(1)	16(1)	0(1)	3(1)	2(1)
C(13A)	12(1)	14(1)	20(1)	0(1)	2(1)	-4(1)
C(14A)	13(1)	17(1)	20(1)	3(1)	5(1)	3(1)
C(15A)	16(1)	13(1)	19(1)	1(1)	5(1)	2(1)
C(16A)	19(1)	16(1)	24(1)	-5(1)	-3(1)	-2(1)
Br(1B)	29(1)	26(1)	29(1)	-1(1)	-9(1)	-9(1)
O(1B)	38(1)	17(1)	29(1)	3(1)	1(1)	-3(1)
O(2B)	17(1)	14(1)	20(1)	0(1)	-2(1)	2(1)
O(3B)	16(1)	32(1)	18(1)	-3(1)	2(1)	8(1)
N(1B)	10(1)	16(1)	18(1)	2(1)	1(1)	1(1)
N(3B)	10(1)	17(1)	22(1)	0(1)	0(1)	1(1)
N(9B)	28(1)	14(1)	18(1)	0(1)	-2(1)	-4(1)
N(12B)	19(1)	17(1)	17(1)	2(1)	-2(1)	0(1)
C(2B)	13(1)	18(1)	11(1)	-1(1)	2(1)	-1(1)
C(4B)	13(1)	12(1)	17(1)	0(1)	0(1)	0(1)
C(5B)	11(1)	16(1)	17(1)	-3(1)	2(1)	2(1)
C(6B)	12(1)	21(1)	20(1)	2(1)	-1(1)	3(1)
C(7B)	16(1)	14(1)	15(1)	0(1)	-2(1)	1(1)
C(8B)	15(1)	12(1)	17(1)	0(1)	0(1)	0(1)
C(10B)	25(1)	18(1)	22(1)	2(1)	4(1)	2(1)
C(11B)	23(1)	16(1)	20(1)	2(1)	2(1)	2(1)

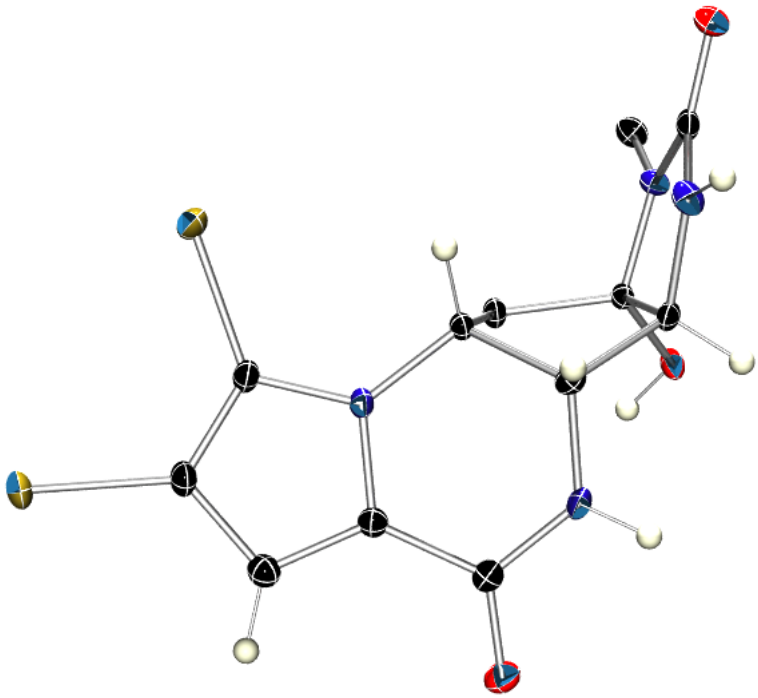
C(13B)	20(1)	21(1)	19(1)	-3(1)	-2(1)	-1(1)
C(14B)	26(1)	30(1)	18(1)	0(1)	-2(1)	0(1)
C(15B)	29(1)	23(2)	22(1)	4(1)	4(1)	2(1)
C(16B)	17(1)	23(1)	38(2)	5(1)	4(1)	-5(1)
O(1W)	16(1)	29(1)	36(1)	-3(1)	4(1)	-4(1)
O(2W)	68(2)	37(1)	39(2)	1(1)	17(1)	-4(1)
O(3W)	58(2)	52(2)	70(2)	14(2)	17(2)	4(2)

Table S26. Hydrogen coordinates (x 10^4) and isotropic displacement parameters (Å^{2}x 10^3) for (–)-agelastatin A (**1**).

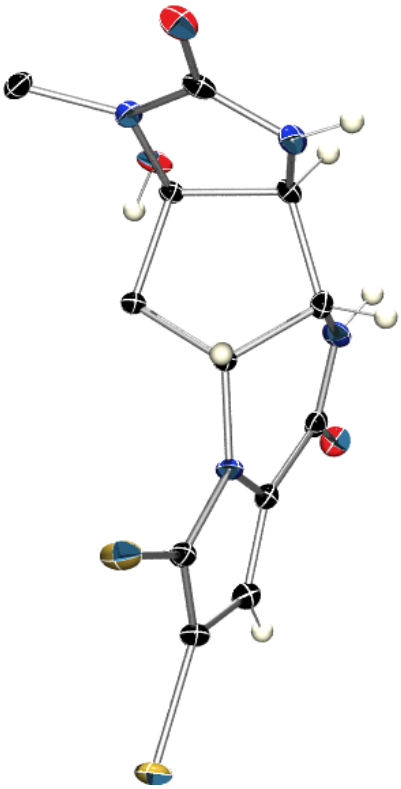
	x	y	z	U(eq)
H(3A)	5979(14)	7400(50)	5910(20)	24
H(3C)	5030(18)	8970(50)	3485(14)	19
H(9A)	6394(16)	4140(40)	3660(20)	19
H(4A)	5695	6311	4359	16
H(6A1)	8314	8702	5242	16
H(6A2)	8020	6441	5184	16
H(7A)	7831	9163	3780	15
H(8A)	6601	7324	2996	15
H(14A)	10852	6068	3316	20
H(15A)	9704	3226	2921	19
H(16A)	6673	13002	5450	31
H(16B)	7720	11939	5453	31
H(16C)	7023	11354	6146	31
H(3B)	2340(20)	2970(50)	3263(17)	33
H(3D)	4624(13)	1690(40)	2343(19)	20
H(9B)	3540(20)	6620(40)	1443(15)	25
H(4B)	3520	4449	2396	17
H(6B1)	1369	4497	1334	22
H(6B2)	1039	2280	1140	22
H(7B)	2412	1653	463	19
H(8B)	3876	3338	813	18
H(14B)	776	4761	-2060	30
H(15B)	1889	7585	-1492	30
H(16D)	2007	-2223	2361	39
H(16E)	1234	-1018	1694	39
H(16F)	1351	-553	2702	39
H(1WB)	5980(30)	3100(30)	1780(20)	40
H(1WA)	6400(20)	1660(50)	2325(18)	40
H(2WA)	3980(30)	1650(50)	8790(30)	70
H(2WB)	3620(30)	90(60)	9199(16)	70
H(3WA)	4290(30)	4630(70)	8840(30)	89
H(3WB)	5240(15)	4070(80)	9230(30)	89

Crystal Structure of (–)-Agelastatin B (2)

View 1:



View 2:



View 3:

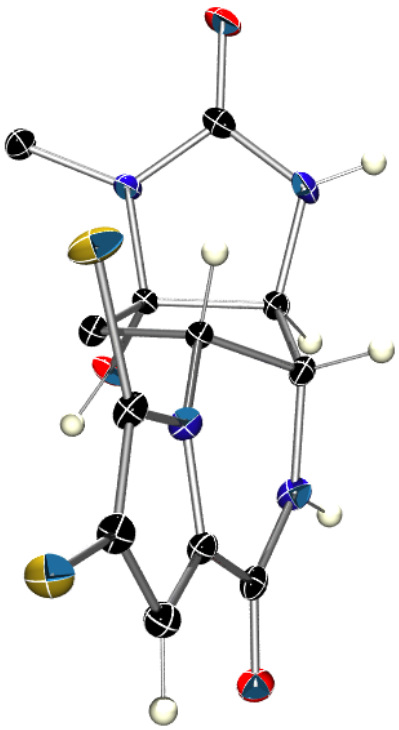


Table S27. Crystal data and structure refinement for (–)-agelastatin B (**2**).

Identification code	agb	
Empirical formula	C12 H12 Br2 N4 O3	
Formula weight	420.08	
Temperature	100(2) K	
Wavelength	0.71073 Å	
Crystal system	Monoclinic	
Space group	P2(1)	
Unit cell dimensions	a = 6.7838(7) Å	a= 90°.
	b = 8.1180(9) Å	b= 100.117(2)°.
	c = 12.9579(14) Å	g = 90°.
Volume	702.51(13) Å^3	
Z	2	
Density (calculated)	1.986 Mg/m^3	
Absorption coefficient	5.785 mm^{-1}	
F(000)	412	
Crystal size	0.35 x 0.20 x 0.10 mm^3	
Theta range for data collection	1.60 to 29.13°.	
Index ranges	-9<=h<=9, -11<=k<=11, -17<=l<=17	
Reflections collected	12240	
Independent reflections	3735 [R(int) = 0.0338]	
Completeness to theta = 29.13°	99.9 %	
Absorption correction	None	
Max. and min. transmission	0.5954 and 0.2366	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	3735 / 200 / 200	
Goodness-of-fit on F^2	1.009	
Final R indices [I>2sigma(I)]	R1 = 0.0227, wR2 = 0.0488	
R indices (all data)	R1 = 0.0243, wR2 = 0.0491	
Absolute structure parameter	0.012(6)	
Largest diff. peak and hole	0.492 and -0.270 e.Å^{-3}	

Table S28. Atomic coordinates (x 10^4) and equivalent isotropic displacement parameters (Å^{2}x 10^3) for (–)-agelastatin B (**2**). U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
Br(1)	219(1)	10031(1)	-1432(1)	18(1)
N(12)	3774(3)	9351(2)	1377(2)	12(1)
O(1)	936(2)	11219(2)	3162(1)	17(1)
C(13)	3279(3)	9108(3)	324(2)	13(1)
Br(2)	4999(1)	8072(1)	-439(1)	20(1)
O(2)	4807(2)	6491(2)	4466(1)	15(1)
N(9)	4149(3)	10321(2)	3438(2)	14(1)
C(14)	1454(3)	9862(3)	-28(2)	15(1)
O(3)	11057(2)	5858(2)	3802(1)	18(1)
N(3)	9069(3)	8190(3)	3777(2)	15(1)

C(15)	788(3)	10545(3)	849(2)	15(1)
N(1)	7672(3)	5736(2)	3815(2)	12(1)
C(11)	2239(3)	10217(3)	1706(2)	13(1)
C(10)	2364(3)	10642(3)	2814(2)	13(1)
C(8)	5955(3)	9731(3)	3077(2)	12(1)
C(7)	5382(3)	8591(3)	2125(2)	10(1)
C(6)	4762(3)	6961(3)	2580(2)	12(1)
C(5)	5979(3)	6866(3)	3712(2)	10(1)
C(4)	7047(3)	8570(3)	3916(2)	11(1)
C(2)	9426(3)	6543(3)	3810(2)	14(1)
C(16)	7436(3)	3975(3)	3701(2)	15(1)

Table S29. Bond lengths [Å] and angles [°] for (–)-agelastatin B (**2**).

Br(1)-C(14)	1.870(2)	C(13)-C(14)-Br(1)	125.06(17)
N(12)-C(13)	1.362(3)	C(15)-C(14)-Br(1)	127.15(17)
N(12)-C(11)	1.384(3)	C(2)-N(3)-C(4)	111.91(19)
N(12)-C(7)	1.462(3)	C(11)-C(15)-C(14)	106.9(2)
O(1)-C(10)	1.231(3)	C(2)-N(1)-C(16)	124.0(2)
C(13)-C(14)	1.384(3)	C(2)-N(1)-C(5)	111.90(18)
C(13)-Br(2)	1.857(2)	C(16)-N(1)-C(5)	122.83(19)
O(2)-C(5)	1.397(3)	C(15)-C(11)-N(12)	108.6(2)
N(9)-C(10)	1.358(3)	C(15)-C(11)-C(10)	131.0(2)
N(9)-C(8)	1.466(3)	N(12)-C(11)-C(10)	120.32(19)
C(14)-C(15)	1.408(3)	O(1)-C(10)-N(9)	122.1(2)
O(3)-C(2)	1.240(3)	O(1)-C(10)-C(11)	122.4(2)
N(3)-C(2)	1.358(3)	N(9)-C(10)-C(11)	115.46(19)
N(3)-C(4)	1.448(3)	N(9)-C(8)-C(4)	107.60(18)
C(15)-C(11)	1.375(3)	N(9)-C(8)-C(7)	110.16(17)
N(1)-C(2)	1.359(3)	C(4)-C(8)-C(7)	102.86(17)
N(1)-C(16)	1.443(3)	N(12)-C(7)-C(8)	109.41(17)
N(1)-C(5)	1.458(3)	N(12)-C(7)-C(6)	113.27(17)
C(11)-C(10)	1.464(3)	C(8)-C(7)-C(6)	104.97(18)
C(8)-C(4)	1.528(3)	C(7)-C(6)-C(5)	105.61(17)
C(8)-C(7)	1.536(3)	O(2)-C(5)-N(1)	109.58(18)
C(7)-C(6)	1.537(3)	O(2)-C(5)-C(6)	113.45(16)
C(6)-C(5)	1.553(3)	N(1)-C(5)-C(6)	113.41(18)
C(5)-C(4)	1.562(3)	O(2)-C(5)-C(4)	112.21(18)
C(13)-N(12)-C(11)	108.44(18)	N(1)-C(5)-C(4)	101.94(16)
C(13)-N(12)-C(7)	128.84(19)	C(6)-C(5)-C(4)	105.65(18)
C(11)-N(12)-C(7)	121.58(19)	N(3)-C(4)-C(8)	113.20(18)
N(12)-C(13)-C(14)	108.33(19)	N(3)-C(4)-C(5)	102.22(17)
N(12)-C(13)-Br(2)	122.12(16)	C(8)-C(4)-C(5)	105.84(17)
C(14)-C(13)-Br(2)	129.36(18)	O(3)-C(2)-N(3)	126.5(2)
C(10)-N(9)-C(8)	125.5(2)	O(3)-C(2)-N(1)	124.6(2)
C(13)-C(14)-C(15)	107.7(2)	N(3)-C(2)-N(1)	108.85(19)

Symmetry transformations used to generate equivalent atoms:

Table S30. Anisotropic displacement parameters ($Å^2 x\ 10^3$) for (–)-agelastatin B (**2**). The anisotropic displacement factor exponent takes the form: $-2p^2[\ h^2\ a^{*2}U^{11} + ... + 2\ h\ k\ a^*\ b^*\ U^{12}\ ]$

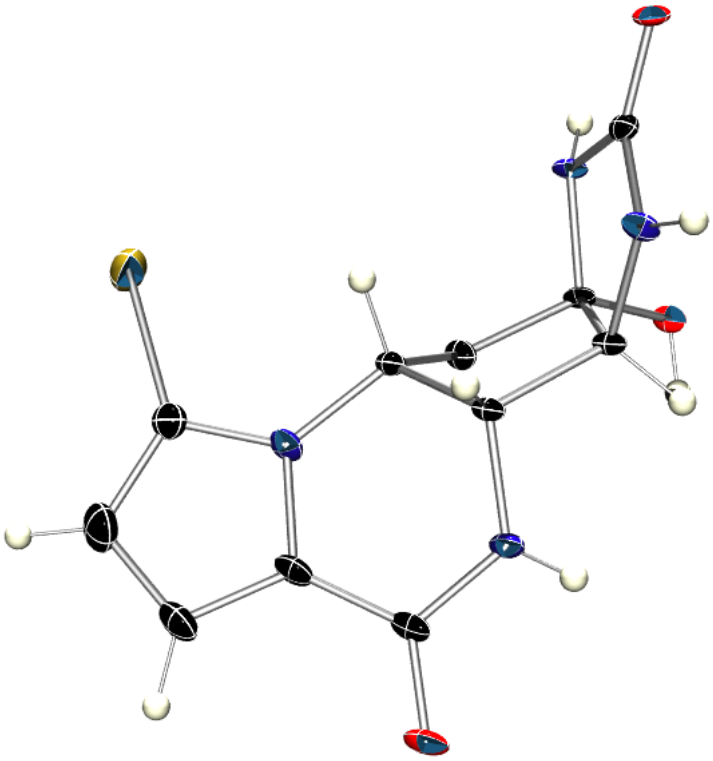
	U^{11}	U^{22}	U^{33}	U^{23}	U^{13}	U^{12}
Br(1)	19(1)	23(1)	11(1)	3(1)	-2(1)	4(1)
N(12)	15(1)	12(1)	8(1)	1(1)	1(1)	2(1)
O(1)	18(1)	18(1)	17(1)	0(1)	7(1)	1(1)
C(13)	18(1)	12(1)	9(1)	0(1)	1(1)	2(1)
Br(2)	26(1)	24(1)	12(1)	0(1)	4(1)	11(1)
O(2)	9(1)	26(1)	10(1)	3(1)	1(1)	-1(1)
N(9)	18(1)	16(1)	9(1)	-3(1)	1(1)	2(1)
C(14)	18(1)	15(1)	10(1)	2(1)	0(1)	0(1)
O(3)	9(1)	26(1)	20(1)	-2(1)	2(1)	0(1)
N(3)	10(1)	16(1)	17(1)	1(1)	0(1)	-4(1)
C(15)	15(1)	15(1)	15(1)	2(1)	2(1)	1(1)
N(1)	10(1)	13(1)	14(1)	1(1)	2(1)	0(1)
C(11)	14(1)	10(1)	13(1)	0(1)	2(1)	1(1)
C(10)	17(1)	10(1)	13(1)	1(1)	4(1)	-2(1)
C(8)	14(1)	9(1)	13(1)	-1(1)	3(1)	0(1)
C(7)	11(1)	10(1)	9(1)	0(1)	0(1)	1(1)
C(6)	14(1)	11(1)	9(1)	0(1)	0(1)	0(1)
C(5)	9(1)	11(1)	8(1)	0(1)	2(1)	0(1)
C(4)	12(1)	13(1)	8(1)	-2(1)	1(1)	-1(1)
C(2)	11(1)	22(1)	8(1)	0(1)	1(1)	-1(1)
C(16)	16(1)	11(1)	17(1)	3(1)	2(1)	2(1)

Table S31. Hydrogen coordinates ($x\ 10^4$) and isotropic displacement parameters ($Å^2 x\ 10^3$) for (–)-agelastatin B (**2**).

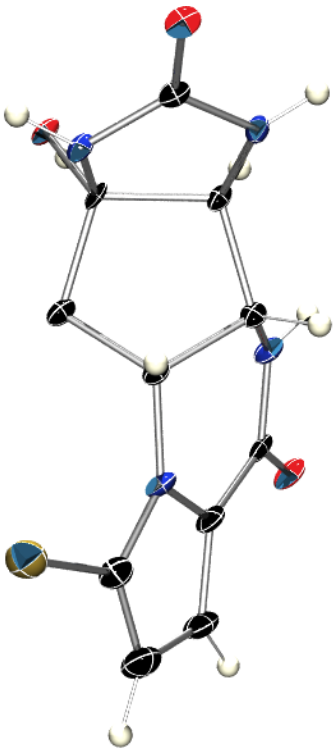
	x	y	z	U(eq)
H(2O2)	3570(30)	6500(30)	4190(20)	18
H(1N9)	4300(40)	10680(30)	4091(15)	17
H(1N3)	10050(30)	8880(30)	3900(20)	18
H(3A)	-430	11122	848	18
H(6)	6830	10660	2927	14
H(7)	6574	8405	1783	12
H(8A)	5086	6017	2156	14
H(8B)	3306	6953	2591	14
H(10)	7008	8984	4639	14
H(12A)	6600	3725	3022	22
H(12B)	6795	3544	4266	22
H(12C)	8753	3461	3736	22

Crystal Structure of (–)-Agelastatin D (4)

View 1:



View 2:



View 3:

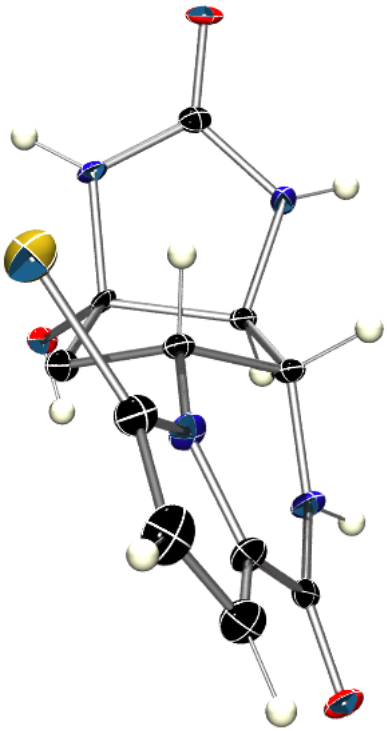


Table S32. Crystal data and structure refinement for (–)-agelastatin D (**4**).

Identification code	10087	
Empirical formula	C11 H11 Br N4 O3	
Formula weight	327.15	
Temperature	100(2) K	
Wavelength	0.71073 Å	
Crystal system	Orthorhombic	
Space group	P2(1)2(1)2(1)	
Unit cell dimensions	a = 6.1269(7) Å	a= 90°.
	b = 6.8919(9) Å	b= 90°.
	c = 29.087(4) Å	g = 90°.
Volume	1228.2(3) $Å^3$	
Z	4	
Density (calculated)	1.769 Mg/m^3	
Absorption coefficient	3.357 mm^{-1}	
F(000)	656	
Crystal size	0.50 x 0.25 x 0.05 mm^3	
Theta range for data collection	1.40 to 30.48°.	
Index ranges	-8<=h<=8, -9<=k<=9, -41<=l<=41	
Reflections collected	33337	
Independent reflections	3716 [R(int) = 0.0679]	
Completeness to theta = 30.48°	99.9 %	
Absorption correction	None	
Max. and min. transmission	0.8501 and 0.2846	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	3716 / 188 / 184	
Goodness-of-fit on F^2	1.161	
Final R indices [I>2sigma(I)]	R1 = 0.0464, wR2 = 0.1115	
R indices (all data)	R1 = 0.0515, wR2 = 0.1133	
Absolute structure parameter	0.046(11)	
Largest diff. peak and hole	1.323 and -1.028 $e.Å^{-3}$	

Table S33. Atomic coordinates (x 10^4) and equivalent isotropic displacement parameters ($Å^2$x 10^3) for (–)-agelastatin D (**4**). U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
Br(1)	4297(1)	1321(1)	220(1)	24(1)
O(1)	11956(4)	-1060(4)	1580(1)	18(1)
O(2)	7309(4)	6416(4)	1862(1)	12(1)
O(3)	922(4)	4877(4)	2194(1)	14(1)
N(1)	3860(4)	5223(4)	1696(1)	11(1)
C(2)	2793(5)	4438(5)	2064(1)	11(1)
N(3)	4067(5)	3057(4)	2256(1)	12(1)
C(4)	6225(5)	2994(5)	2056(1)	10(1)
C(5)	6171(5)	4758(4)	1710(1)	10(1)
C(6)	7005(5)	3941(5)	1249(1)	13(1)

C(7)	6208(5)	1825(4)	1266(1)	10(1)
C(8)	6677(5)	1162(5)	1763(1)	11(1)
N(9)	8996(5)	658(4)	1814(1)	13(1)
C(10)	10128(5)	-366(5)	1494(1)	13(1)
C(11)	9127(6)	-516(5)	1045(1)	16(1)
N(12)	7237(5)	518(4)	943(1)	14(1)
C(13)	6672(6)	98(5)	497(1)	17(1)
C(14)	8155(7)	-1229(6)	316(1)	26(1)
C(15)	9677(6)	-1621(5)	667(1)	20(1)

Table S34. Bond lengths [Å] and angles [°] for (–)-agelastatin D (**4**).

Br(1)-C(13)	1.864(4)	C(8)-C(4)-C(5)	106.4(3)
O(1)-C(10)	1.244(4)	O(2)-C(5)-N(1)	108.2(3)
O(2)-C(5)	1.409(4)	O(2)-C(5)-C(6)	113.9(3)
O(3)-C(2)	1.244(4)	N(1)-C(5)-C(6)	112.3(3)
N(1)-C(2)	1.365(4)	O(2)-C(5)-C(4)	114.5(3)
N(1)-C(5)	1.452(4)	N(1)-C(5)-C(4)	102.0(2)
C(2)-N(3)	1.352(4)	C(6)-C(5)-C(4)	105.4(2)
N(3)-C(4)	1.446(4)	C(7)-C(6)-C(5)	102.3(3)
C(4)-C(8)	1.547(5)	N(12)-C(7)-C(6)	115.5(3)
C(4)-C(5)	1.578(5)	N(12)-C(7)-C(8)	110.1(3)
C(5)-C(6)	1.543(5)	C(6)-C(7)-C(8)	104.6(3)
C(6)-C(7)	1.538(5)	N(9)-C(8)-C(7)	110.1(3)
C(7)-N(12)	1.447(4)	N(9)-C(8)-C(4)	108.1(3)
C(7)-C(8)	1.544(5)	C(7)-C(8)-C(4)	103.9(3)
C(8)-N(9)	1.470(4)	C(10)-N(9)-C(8)	123.1(3)
N(9)-C(10)	1.360(5)	O(1)-C(10)-N(9)	121.3(4)
C(10)-C(11)	1.445(5)	O(1)-C(10)-C(11)	122.5(3)
C(11)-C(15)	1.381(5)	N(9)-C(10)-C(11)	116.1(3)
C(11)-N(12)	1.391(4)	C(15)-C(11)-N(12)	108.3(3)
N(12)-C(13)	1.373(5)	C(15)-C(11)-C(10)	131.0(3)
C(13)-C(14)	1.393(5)	N(12)-C(11)-C(10)	120.7(3)
C(14)-C(15)	1.408(6)	C(13)-N(12)-C(11)	107.7(3)
		C(13)-N(12)-C(7)	129.4(3)
C(2)-N(1)-C(5)	111.0(3)	C(11)-N(12)-C(7)	122.8(3)
O(3)-C(2)-N(3)	125.3(3)	N(12)-C(13)-C(14)	109.3(3)
O(3)-C(2)-N(1)	125.6(3)	N(12)-C(13)-Br(1)	120.6(3)
N(3)-C(2)-N(1)	109.0(3)	C(14)-C(13)-Br(1)	130.0(3)
C(2)-N(3)-C(4)	112.5(3)	C(13)-C(14)-C(15)	106.5(3)
N(3)-C(4)-C(8)	114.2(3)	C(11)-C(15)-C(14)	108.1(3)
N(3)-C(4)-C(5)	102.4(2)		

Symmetry transformations used to generate equivalent atoms:

Table S35. Anisotropic displacement parameters ($Å^2 x\ 10^3$) for (–)-agelastatin D (**4**). The anisotropic displacement factor exponent takes the form: $-2p^2[\ h^2\ a^{*2}U^{11} + ... + 2\ h\ k\ a^*\ b^*\ U^{12}\ ]$

	U^{11}	U^{22}	U^{33}	U^{23}	U^{13}	U^{12}
Br(1)	26(1)	25(1)	21(1)	-3(1)	-7(1)	1(1)
O(1)	13(1)	10(1)	31(1)	-1(1)	1(1)	5(1)
O(2)	10(1)	6(1)	20(1)	-2(1)	1(1)	-2(1)
O(3)	5(1)	15(1)	21(1)	-2(1)	0(1)	1(1)
N(1)	8(1)	9(1)	18(1)	1(1)	0(1)	4(1)
C(2)	9(1)	10(1)	15(2)	-3(1)	-2(1)	-1(1)
N(3)	12(1)	9(1)	15(1)	3(1)	3(1)	3(1)
C(4)	7(1)	7(1)	17(2)	0(1)	1(1)	0(1)
C(5)	8(1)	4(1)	17(2)	1(1)	-2(1)	2(1)
C(6)	12(1)	8(2)	18(2)	-2(1)	0(1)	-1(1)
C(7)	8(1)	9(1)	14(1)	-1(1)	0(1)	1(1)
C(8)	8(1)	11(1)	14(1)	0(1)	1(1)	2(1)
N(9)	10(1)	9(1)	20(1)	-2(1)	-2(1)	2(1)
C(10)	11(1)	5(1)	22(2)	1(1)	4(1)	-1(1)
C(11)	17(2)	8(1)	22(2)	-1(1)	3(1)	4(1)
N(12)	16(1)	8(1)	19(2)	-3(1)	0(1)	2(1)
C(13)	16(2)	14(2)	21(2)	-2(1)	-2(1)	-1(1)
C(14)	34(2)	17(2)	26(2)	-7(2)	-5(2)	-1(2)
C(15)	22(2)	12(2)	25(2)	-5(1)	4(1)	2(1)

Table S36. Hydrogen coordinates ($x\ 10^4$) and isotropic displacement parameters ($Å^2 x\ 10^3$) for (–)-agelastatin D (**4**).

	x	y	z	U(eq)
H(1O2)	8600(40)	5990(60)	1906(15)	14
H(1N1)	3410(70)	6390(40)	1609(14)	13
H(1N3)	3770(70)	2630(70)	2528(9)	15
H(4)	7377	3178	2295	12
H(6A)	6362	4645	985	16
H(6B)	8617	4009	1229	16
H(7)	4595	1804	1214	12
H(8)	5710	60	1856	13
H(1N9)	9450(80)	550(70)	2091(8)	15
H(14)	8143	-1764	15	31
H(15)	10873	-2493	646	24

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pw	8.0	dres	1.0
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dp	y	wnt	wft
hs	nn		
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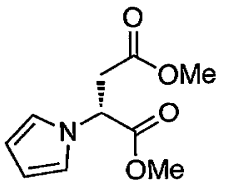

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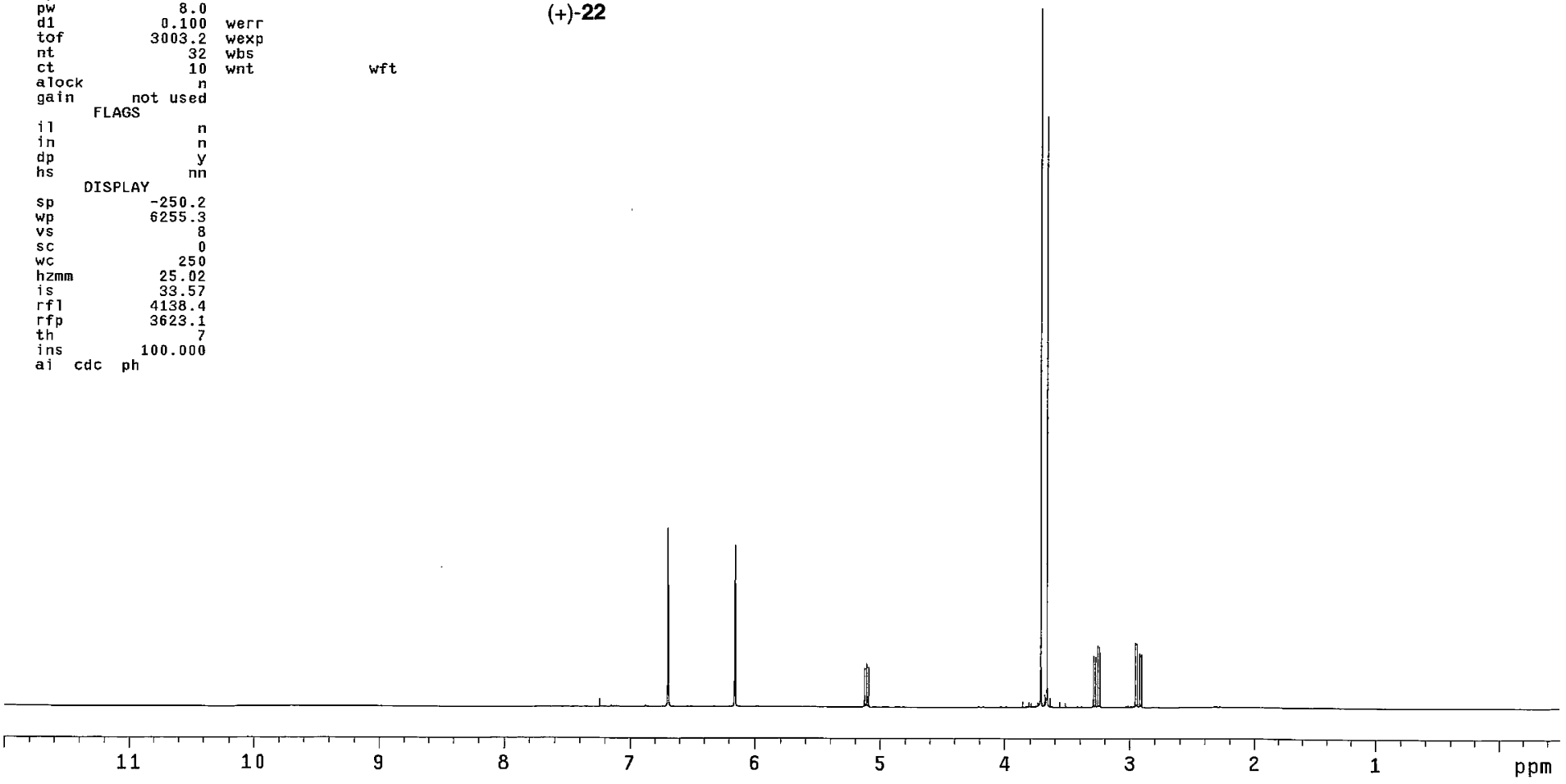

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in	n	wbs	
dp	y	wnt	
hs	nn		
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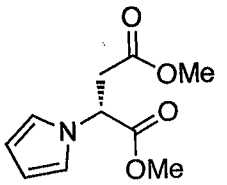

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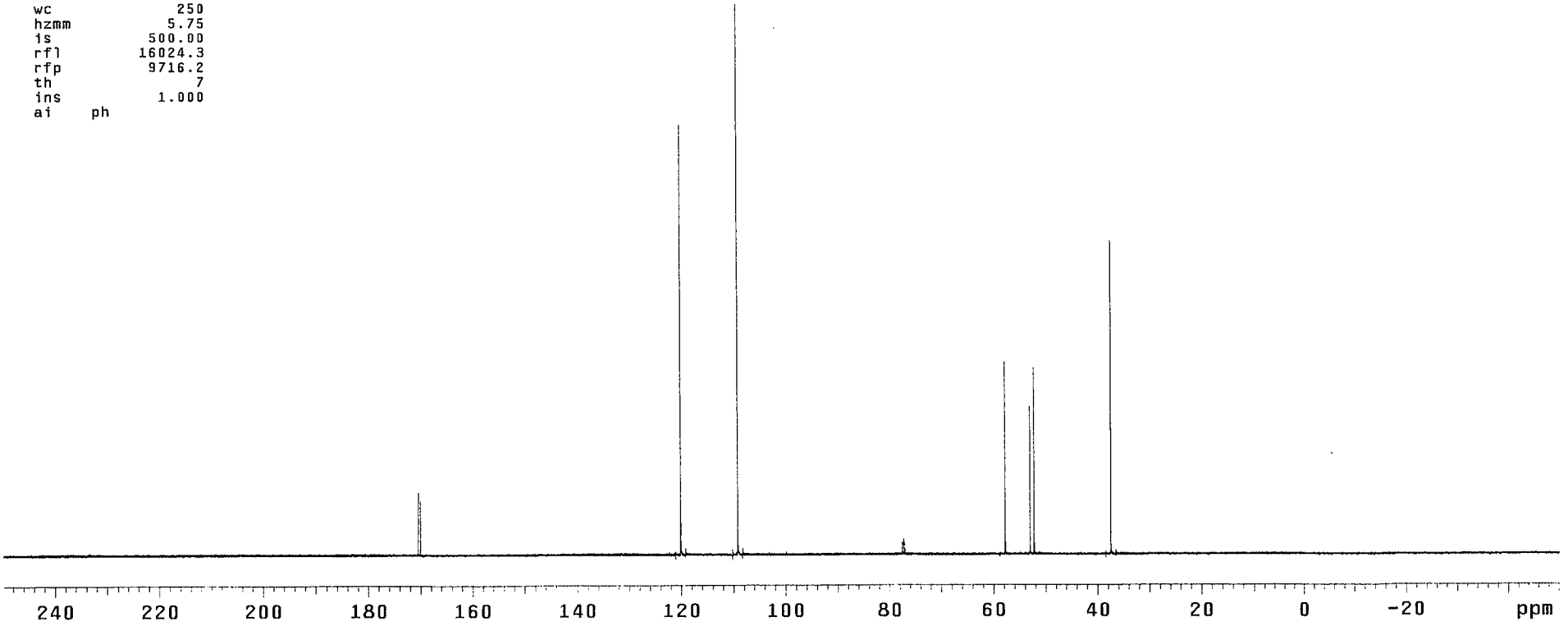

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Last changed    :
Analysis Method :
Last changed    :

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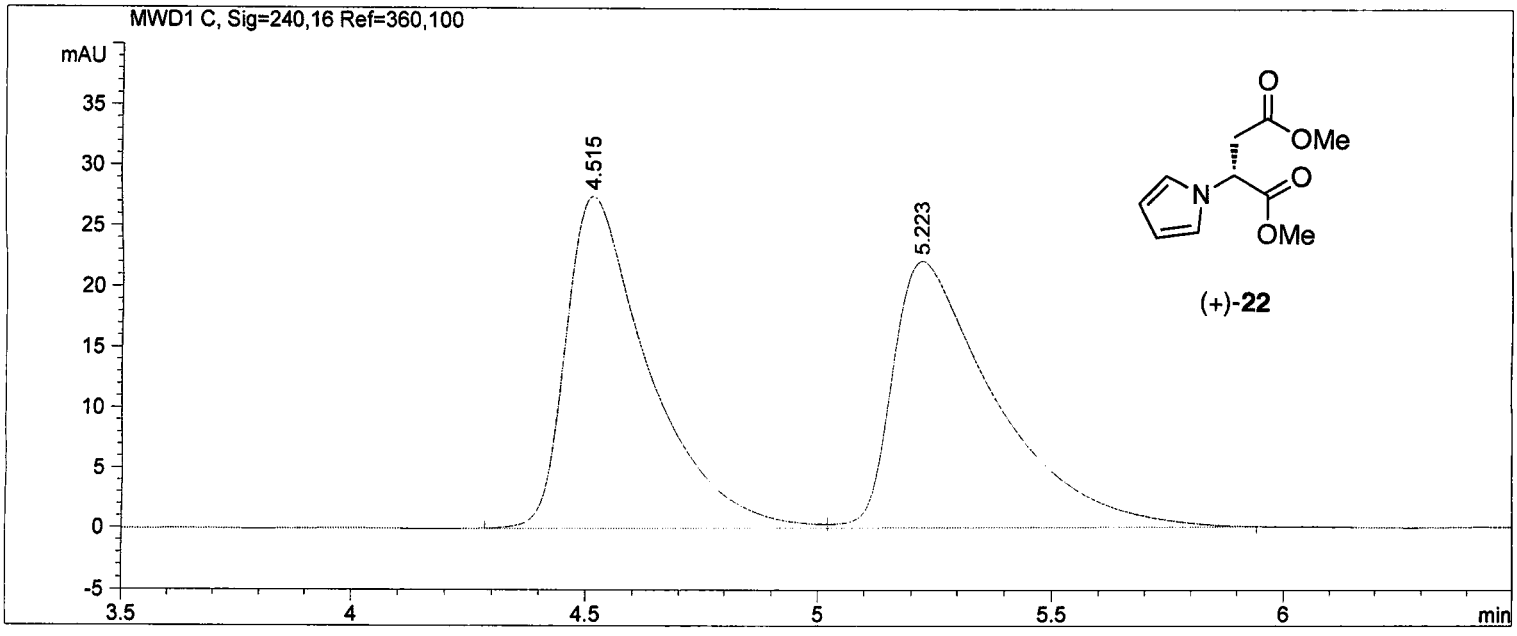


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                        Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 C, Sig=240,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   4.515 BV    0.1810  342.47797   27.56392  50.0382
   2   5.223 VB    0.2221  341.95474   22.15433  49.9618

Totals :                   684.43271   49.71825

 Results obtained with enhanced integrator!
==========================================================================
                        *** End of Report ***
```

```
Injection Date  :                                   Seq. Line :   1
Sample Name     :                                    Location : Vial 91
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                                                  Inj Volume : 1 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :
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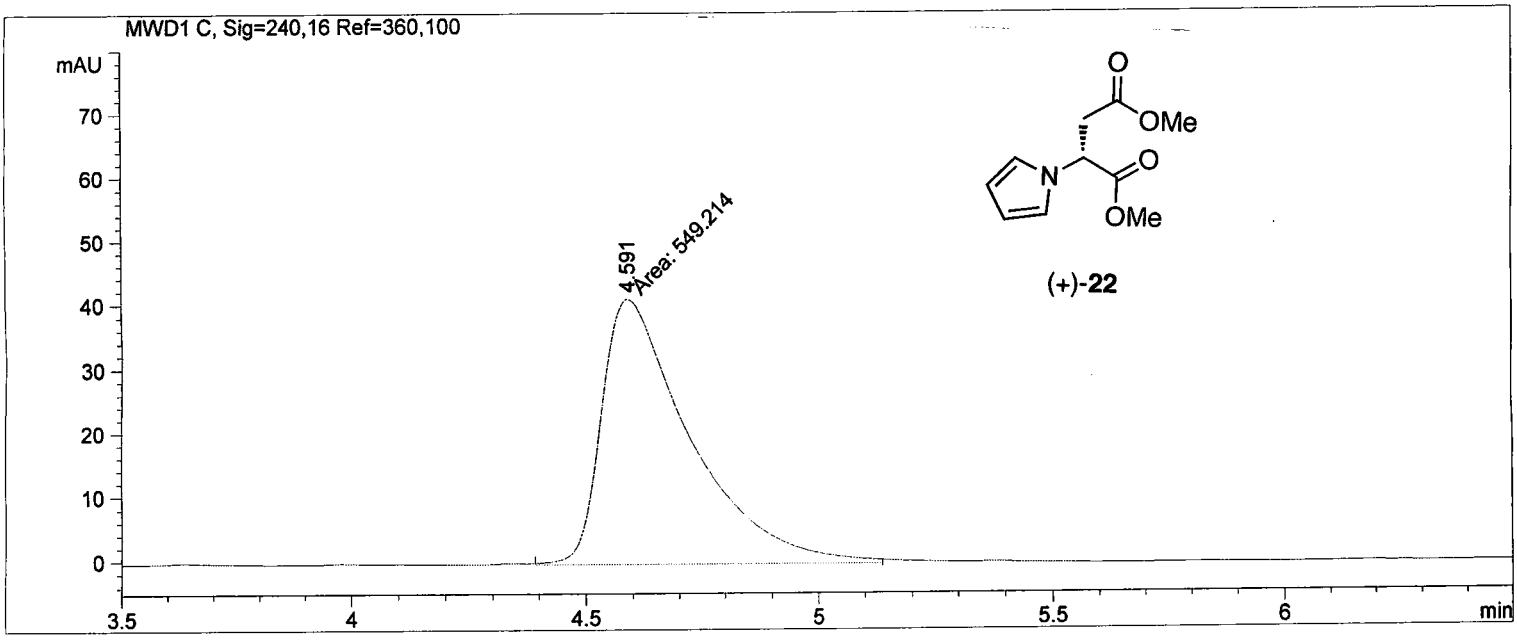


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                          Area Percent Report

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 C, Sig=240,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
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Totals :                   549.21417   41.44402

 Results obtained with enhanced integrator!

                          *** End of Report ***
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ct	22	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS		werr	
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in	n	wbs	
dp	y	wnt	wft
hs	nn		
DISPLAY			
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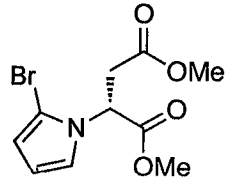
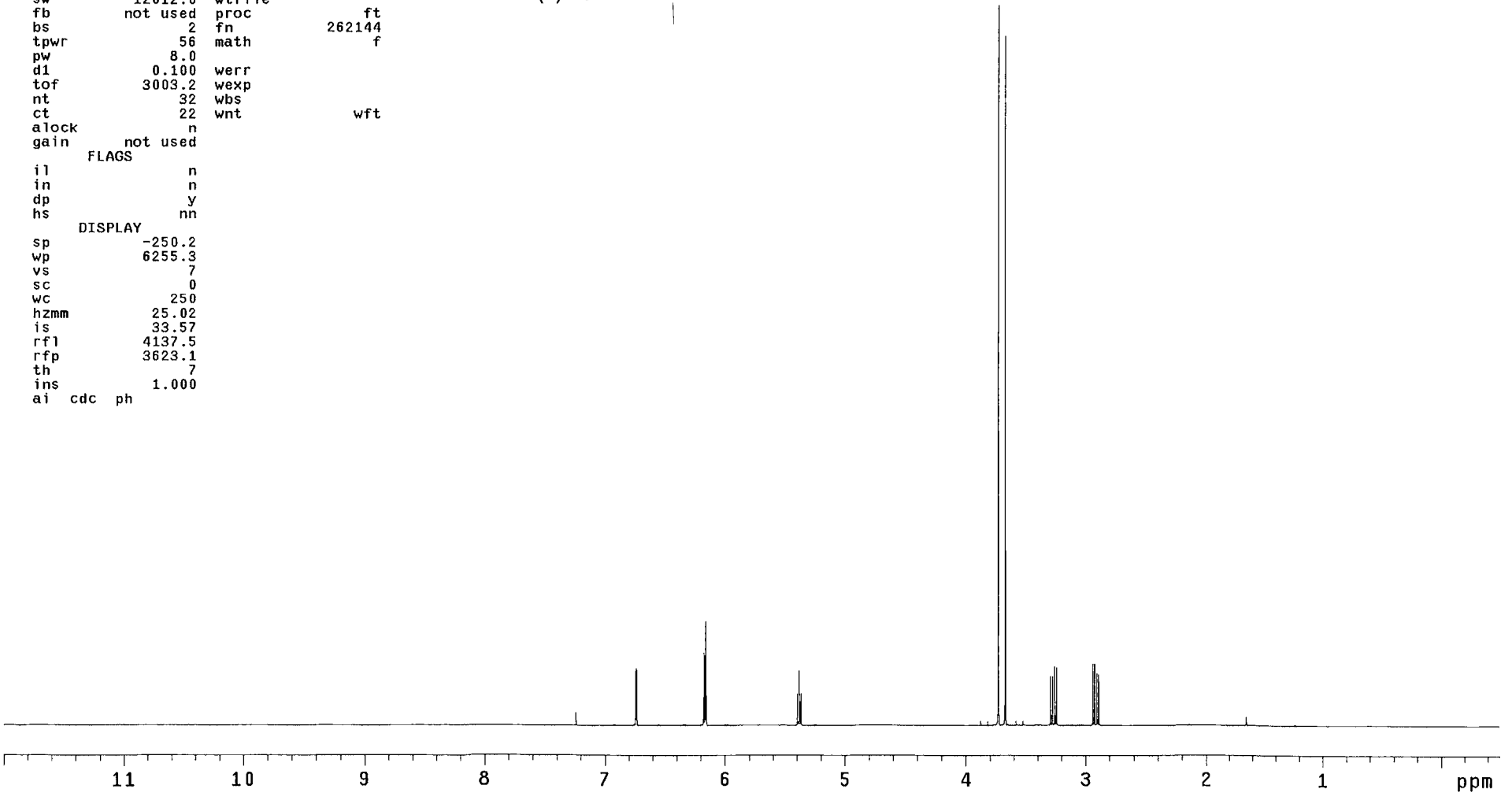
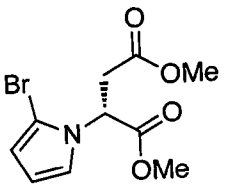
ins	1.000		
ai cdc ph			



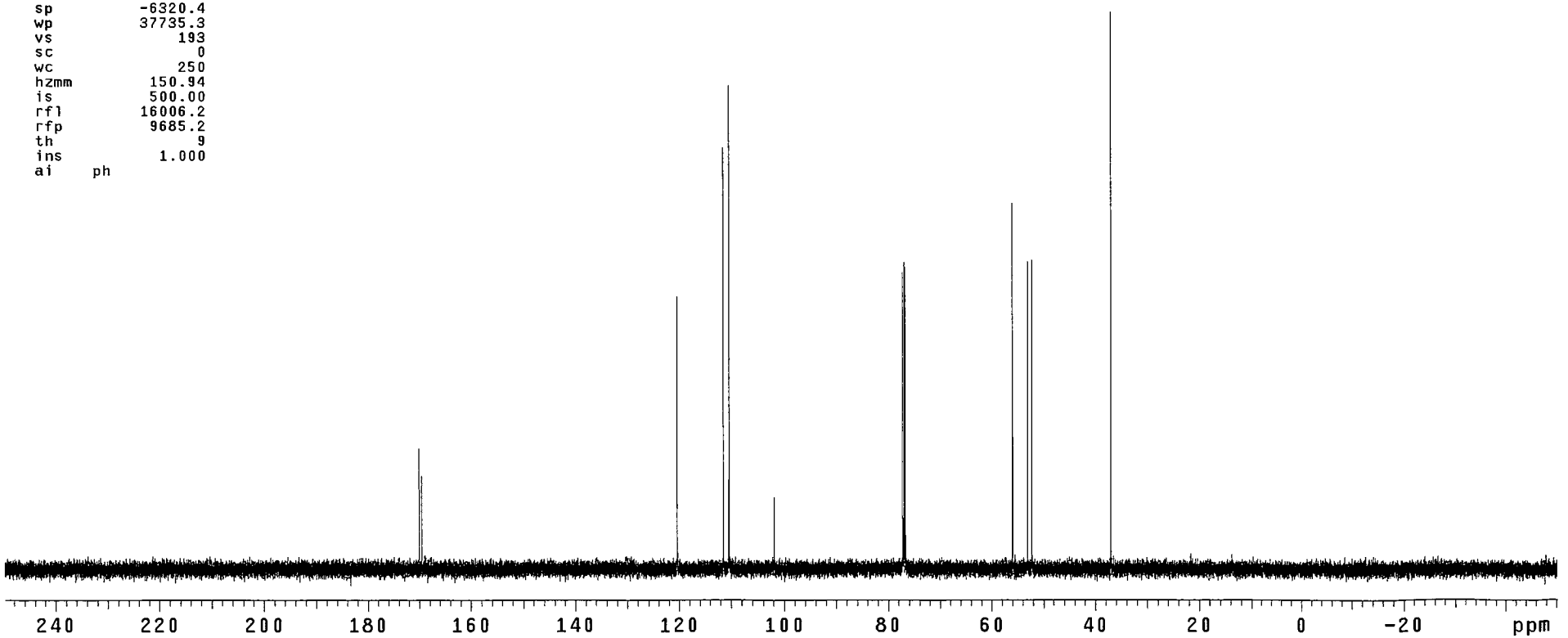
(+)-**23**



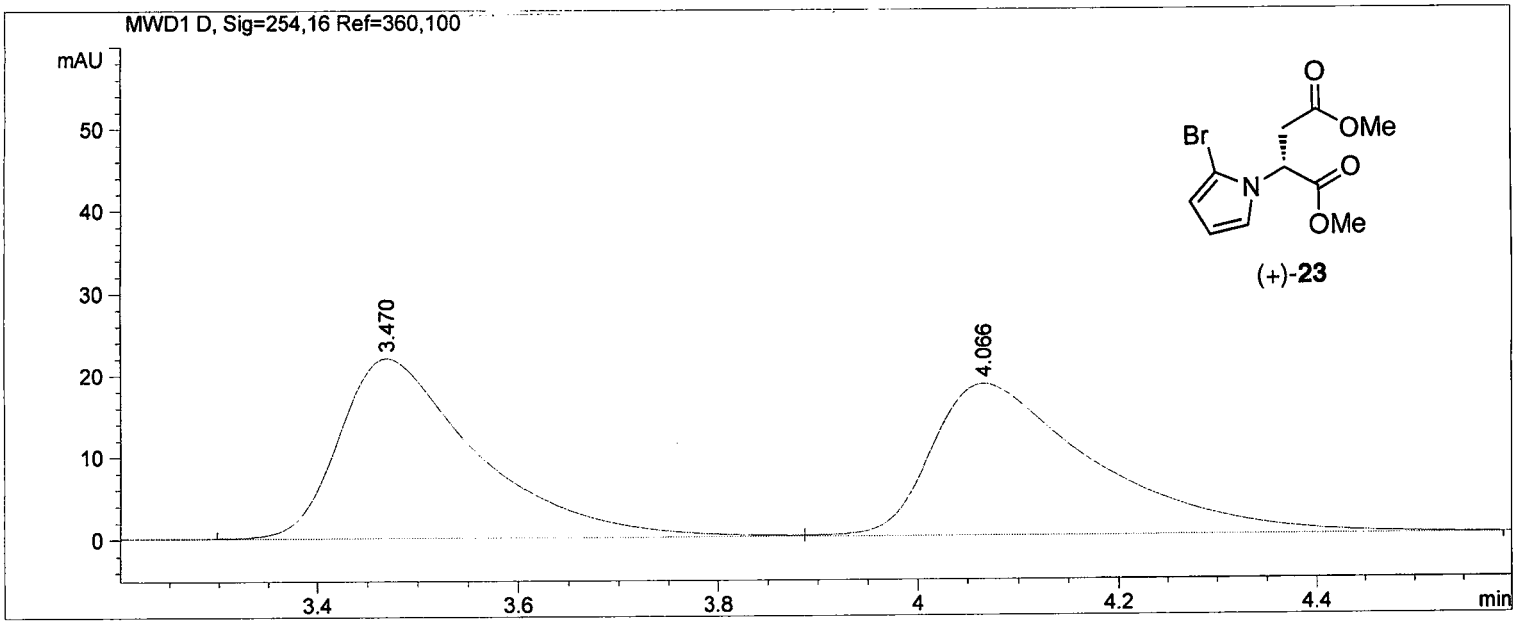
ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.229
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	4	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	1e+06	wtfile	
ct	100	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6320.4		
wp	37735.3		
vs	193		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	16006.2		
rfp	9685.2		
th	9		
ins	1.000		
ai	ph		



(+)-**23**

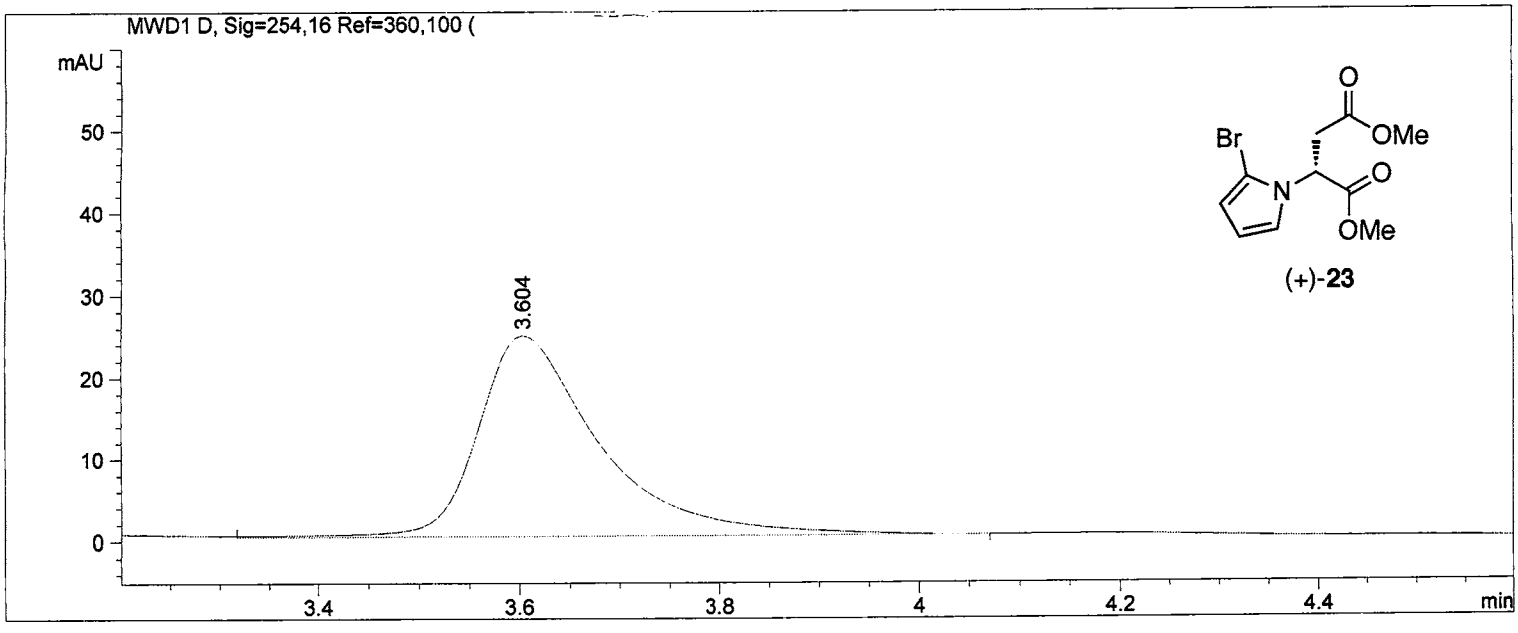


```
==========================================================================
Injection Date  :                                  Seq. Line :   1
Sample Name     :                                   Location : Vial 74
Acq. Operator   :                                        Inj :   1
                                                  Inj Volume : 1 µl
Acq. Method     :
Last changed    :

Analysis Method :
Last changed    :
==========================================================================
```



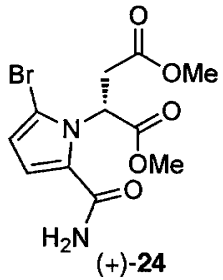

```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 D, Sig=254,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   3.470 BV    0.1392  209.35068   21.96089  49.9378
   2   4.066 VB    0.1622  209.87196   18.52020  50.0622

Totals :                   419.22264   40.48109

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  :                                  Seq. Line :   1
Sample Name     :                                   Location : Vial 91
Acq. Operator   :                                        Inj :   1
                                                  Inj Volume : 1 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :
==========================================================================
```



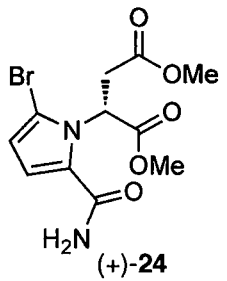

```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 D, Sig=254,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   3.604 VP    0.1247  207.81982   24.56680 100.0000

Totals :                   207.81982   24.56680

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

ACQUISITION		DEC. & VT	
sfrq	500.435	dfrq	125.845
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	2	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	32	wtfile	
ct	18	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS			
il	n	werr	
in	n	wexp	
dp	y	wbs	
hs	nn	wnt	wft
DISPLAY			
sp	-250.2		
wp	6255.3		
vs	19		
sc	0		
wc	250		
hzmm	25.02		
is	33.57		
rfl	4139.7		
rfp	3623.1		
th	7		
ins	100.000		
ai cdc ph			



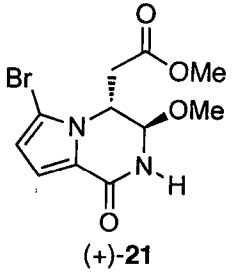
(+)-**24**

ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.229
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	2	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	60000	wtfile	
ct	13308	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS			
il	n	werr	
in	n	wexp	
dp	y	wbs	
hs	nn	wnt	
DISPLAY			
sp	-6292.0		
wp	37735.3		
vs	770		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	16006.8		
rfp	9714.2		
th	20		
ins	1.000		
ai	ph		



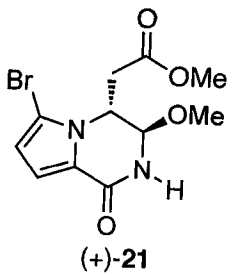
(+)-**24**

ACQUISITION		DEC. & VT	
sfrq	500.435	dfrq	125.845
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	2	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	32	wtfile	
ct	10	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	wft
hs	nn		
DISPLAY			
sp	-250.2		
wp	6255.3		
vs	11		
sc	0		
wc	250		
hzmm	25.02		
is	33.57		
rfl	4138.9		
rfp	3623.1		
th	7		
ins	100.000		
ai cdc ph			



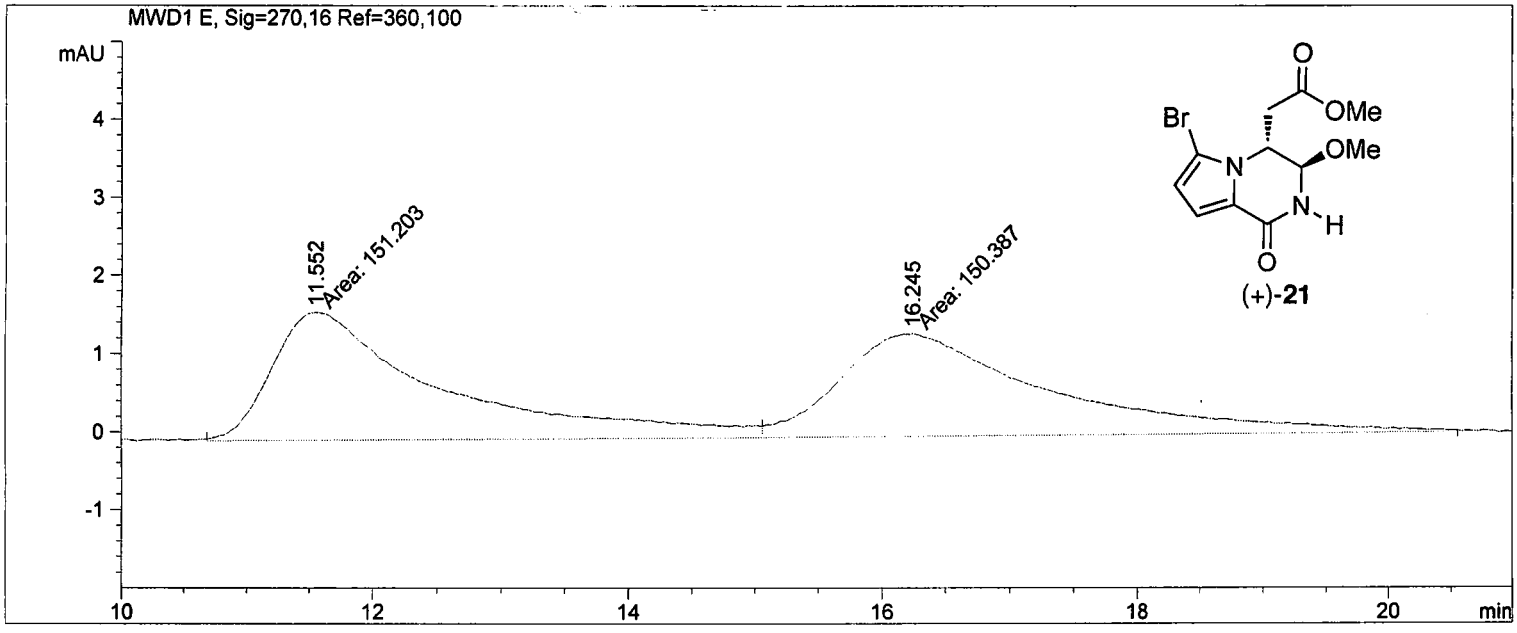
(+)-**21**

ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.229
tn	C13	dn	H1
at	1.736	dpwr	37
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	4	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	1e+07	wtfile	
ct	176	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6288.0		
wp	37735.3		
vs	665		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	16002.7		
rfp	9714.2		
th	20		
ins	1.000		
ai ph			



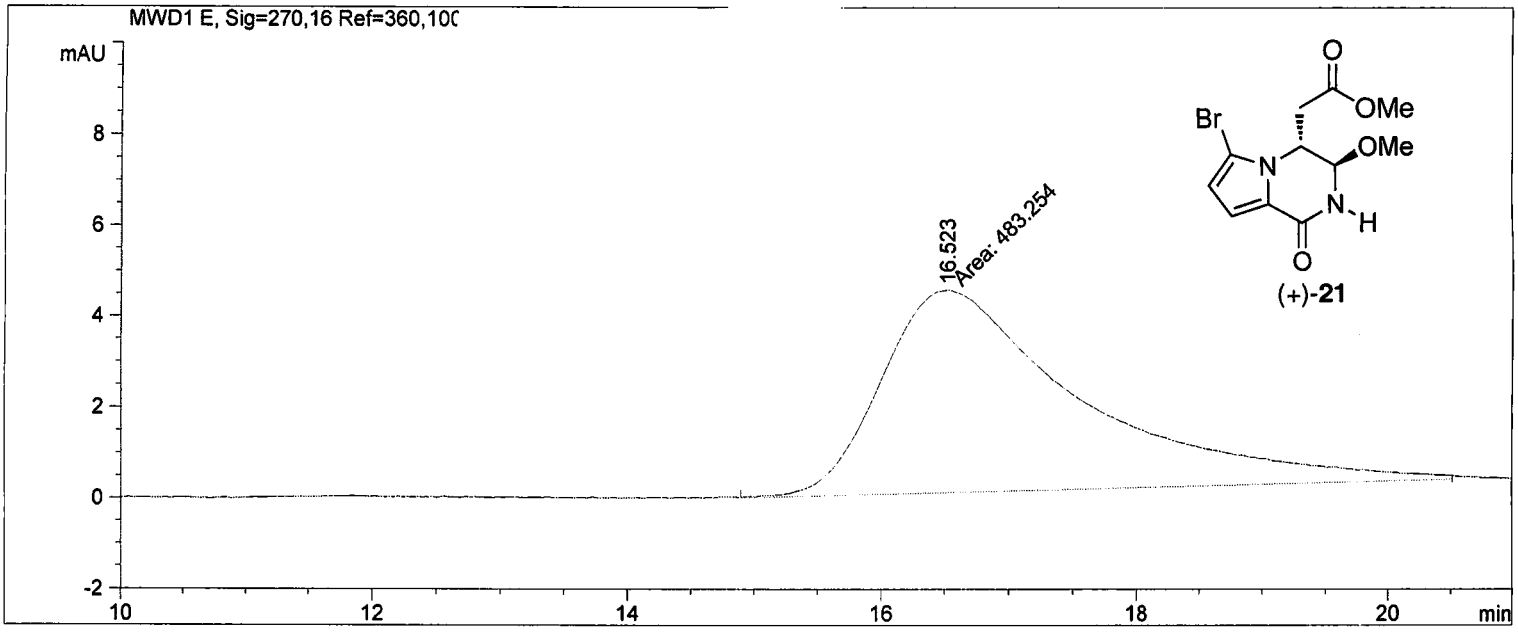
(+)-**21**

```
==========================================================================
Injection Date  :                                  Seq. Line :   1
Sample Name     :                                   Location : Vial 91
Acq. Operator   :                                        Inj :   1
                                                  Inj Volume : 1 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :
==========================================================================
```



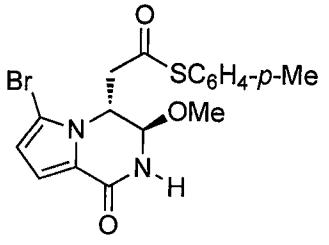

```
==========================================================================
                        Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 E, Sig=270,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  11.552 MF    1.5397  151.20343    1.63667  50.1354
   2  16.245 FM    1.9061  150.38686    1.31497  49.8646

Totals :                   301.59029    2.95164

 Results obtained with enhanced integrator!
==========================================================================
                        *** End of Report ***
```

```
==========================================================================
Injection Date  :                                Seq. Line :   1
Sample Name     :                                 Location : Vial 91
Acq. Operator   :                                      Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :

==========================================================================
```



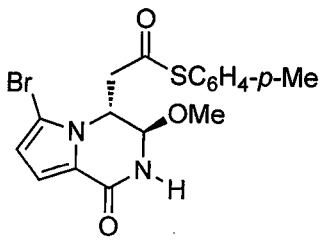

```
==========================================================================
                        Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 E, Sig=270,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]    [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  16.523 MM    1.8067  483.25354    4.45788 100.0000

Totals :                   483.25354    4.45788

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

ACQUISITION		DEC. & VT	
sfrq	500.435	dfrq	125.845
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	2	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	32	wtfile	
ct	20	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	wft
hs	nn		
DISPLAY			
sp	-250.2		
wp	6255.3		
vs	14		
sc	0		
wc	250		
hzmm	25.02		
is	33.57		
rfl	4139.0		
rfp	3623.1		
th	7		
ins	100.000		
ai cdc ph			



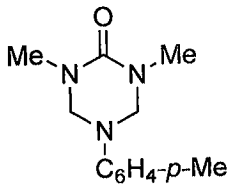
(+)-**26**

ACQUISITION		DEC. & VT	
sfrq	125.672	dfrq	499.744
tn	C13	dn	H1
at	2.000	dpwr	34
np	125588	dof	0
sw	31397.2	dm	yyy
fb	not used	dmm	w
bs	2	dmf	10400
tpwr	59	dseq	
pw	6.7	dres	1.0
d1	3.000	homo	n
tof	0	PROCESSING	
nt	5000	lb	1.00
ct	710	wtfile	
alock	n	proc	ft
gain	not used	fn	131072
FLAGS		math	f
il	n		
in	n	werr	
dp	y	wexp	
hs	nn	wbs	
DISPLAY		wnt	
sp	-3766.1		
wp	31396.7		
vs	1340		
sc	0		
wc	250		
hzmm	125.59		
is	500.00		
rfl	13471.3		
rfp	9704.7		
th	10		
ins	100.000		
ai cdc ph			

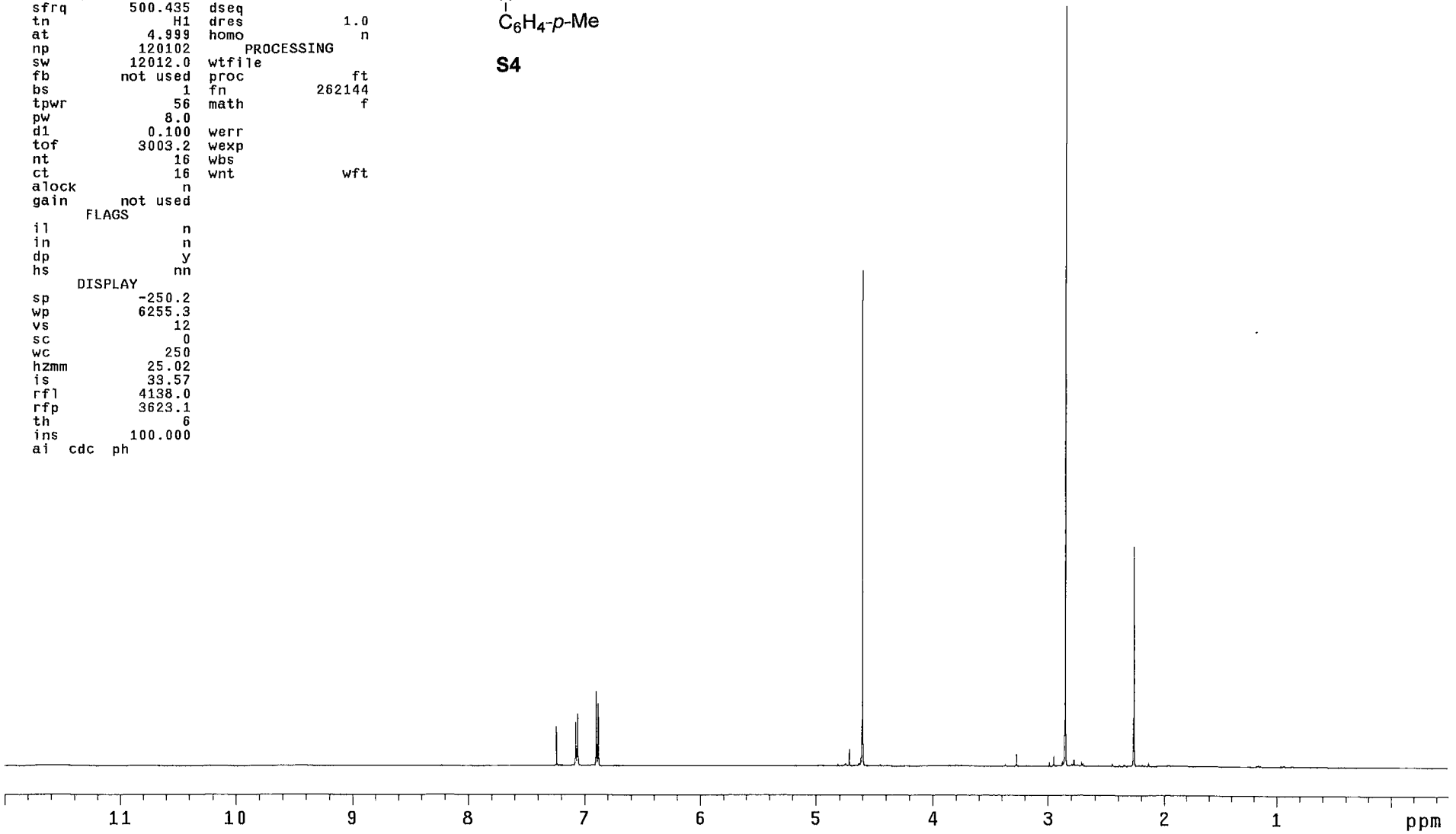


(+)-**26**

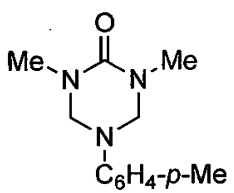
ACQUISITION		DEC. & VT	
sfrq	500.435	dfrq	125.845
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	1	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	16	wtfile	
ct	16	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS			
il	n	werr	
in	n	wexp	
dp	y	wbs	
hs	nn	wnt	wft
DISPLAY			
sp	-250.2		
wp	6255.3		
vs	12		
sc	0		
wc	250		
hzmm	25.02		
is	33.57		
rfl	4138.0		
rfp	3623.1		
th	6		
ins	100.000		
ai cdc ph			



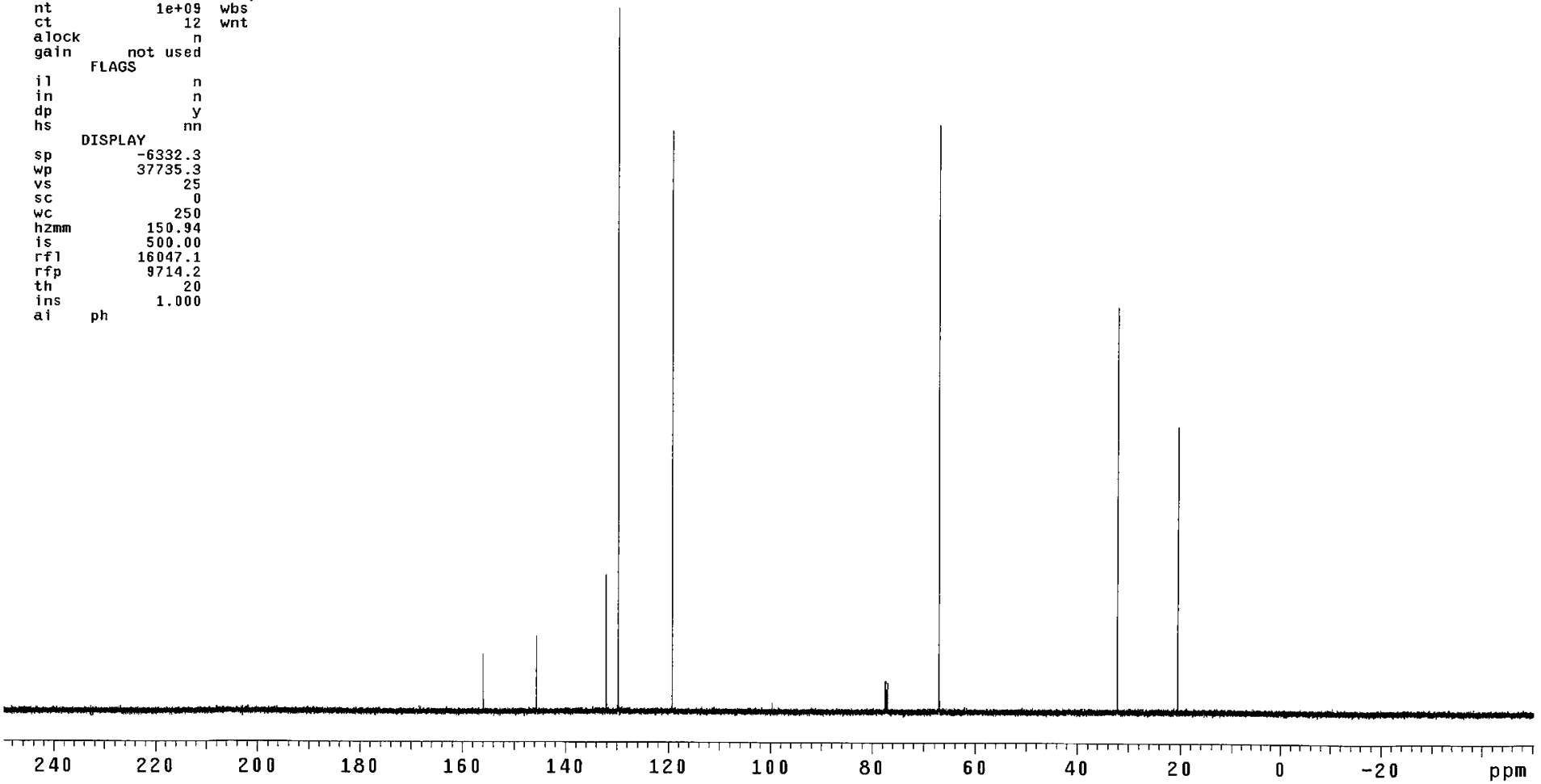
S4



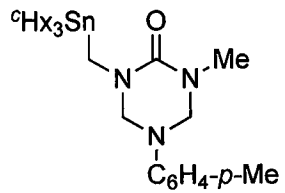
ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.229
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	4	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	1e+09	wtfile	
ct	12	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6332.3		
wp	37735.3		
vs	25		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	16047.1		
rfp	9714.2		
th	20		
ins	1.000		
ai	ph		



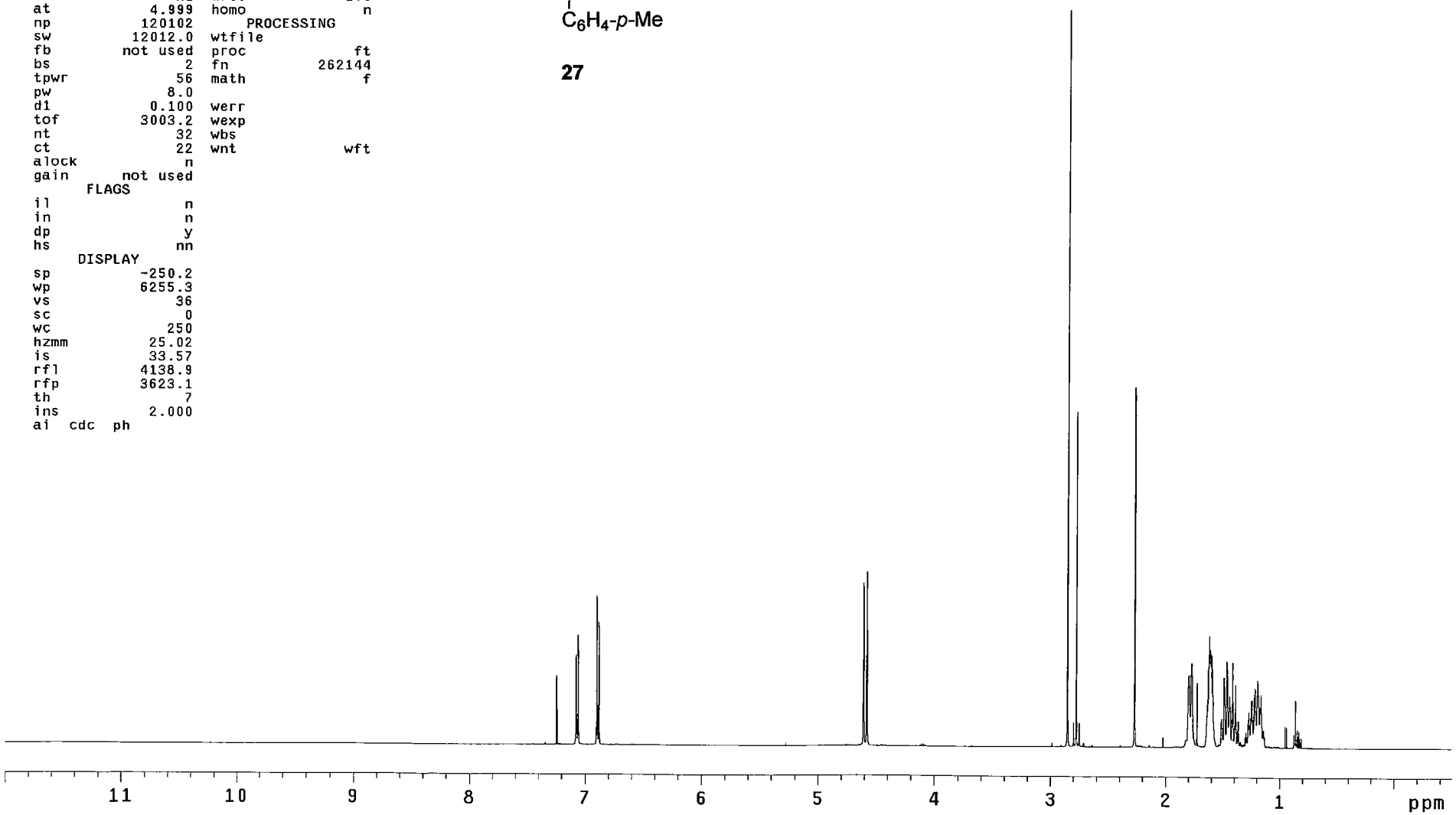
S4



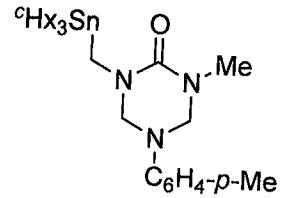
ACQUISITION		DEC. & VT	
sfrq	500.435	dfrq	125.845
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	2	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	32	wtfile	
ct	22	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS			
il	n	werr	
in	n	wexp	
dp	y	wbs	
hs	nn	wnt	wft
DISPLAY			
sp	-250.2		
wp	6255.3		
vs	36		
sc	0		
wc	250		
hzmm	25.02		
is	33.57		
rfl	4138.9		
rfp	3623.1		
th	7		
ins	2.000		
ai cdc ph			



27

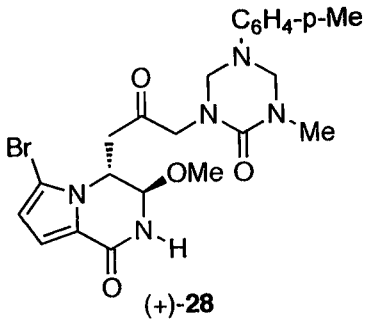


ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.229
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	4	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	1e+06	wtfile	
ct	148	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6296.7		
wp	37735.3		
vs	49		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	16012.2		
rfp	9714.9		
th	6		
ins	1.000		
ai	ph		



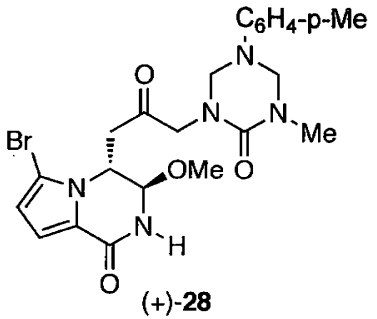
27

ACQUISITION		DEC. & VT	
sfrq	500.435	dfrq	125.845
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	1	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	16	wtfile	
ct	16	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS			
il	n	werr	
in	n	wexp	
dp	y	wbs	
hs	nn	wnt	wft
DISPLAY			
sp	-250.2		
wp	6255.3		
vs	24		
sc	0		
wc	250		
hzmm	25.02		
is	33.57		
rfl	4139.6		
rfp	3623.1		
th	6		
ins	100.000		
ai cdc ph			

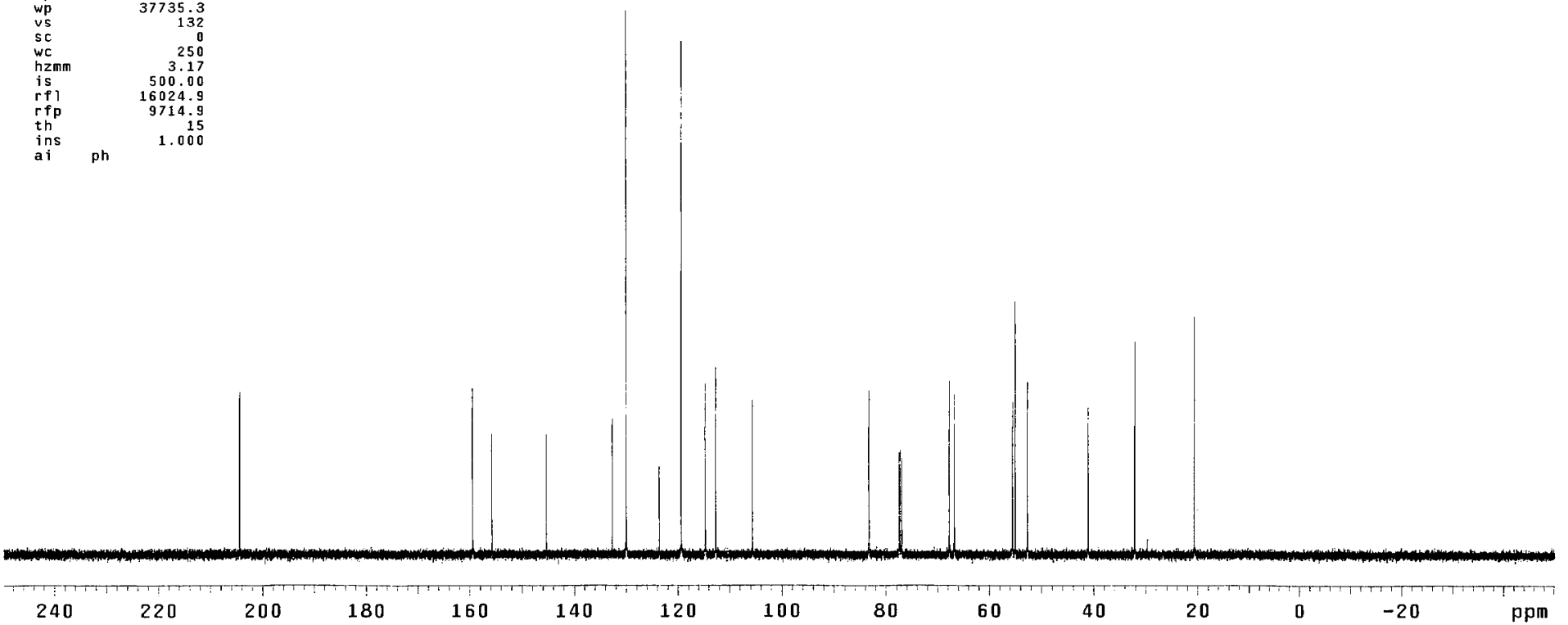


(+)-**28**

ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.229
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	4	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	1e+09	wtfile	
ct	60	proc	ft
alock	n	fn	131072
gain	60	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6309.4		
wp	37735.3		
vs	132		
sc	0		
wc	250		
hzmm	3.17		
is	500.00		
rfl	16024.9		
rfp	9714.9		
th	15		
ins	1.000		
ai	ph		

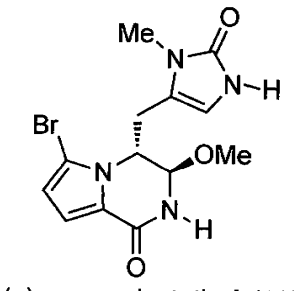


(+)-**28**



ACQUISITION	
sfrq	500.437
tn	H1
at	4.999
np	120102
sw	12012.0
fb	not used
bs	1
tpwr	56
pw	8.0
d1	0.100
tof	3003.2
nt	32
ct	32
alock	n
gain	not used
FLAGS	
il	n
in	n
dp	y
hs	nn
DISPLAY	
sp	-250.2
wp	6255.4
vs	45
sc	0
wc	250
hzmm	25.02
is	33.57
rfl	2159.2
rfp	1656.4
th	7
ins	100.000
ai cdc ph	

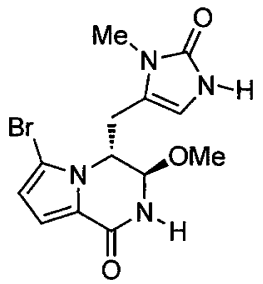
DEC. & VT	
dfrq	125.846
dn	C13
dpwr	30
dof	0
dm	nnn
dmm	c
dmf	200
dseq	
dres	1.0
homo	n
PROCESSING	
wtfile	
proc	ft
fn	262144
math	f
werr	
wexp	
wbs	
wnt	wft



(+)-pre-agelastatin A (**19**)

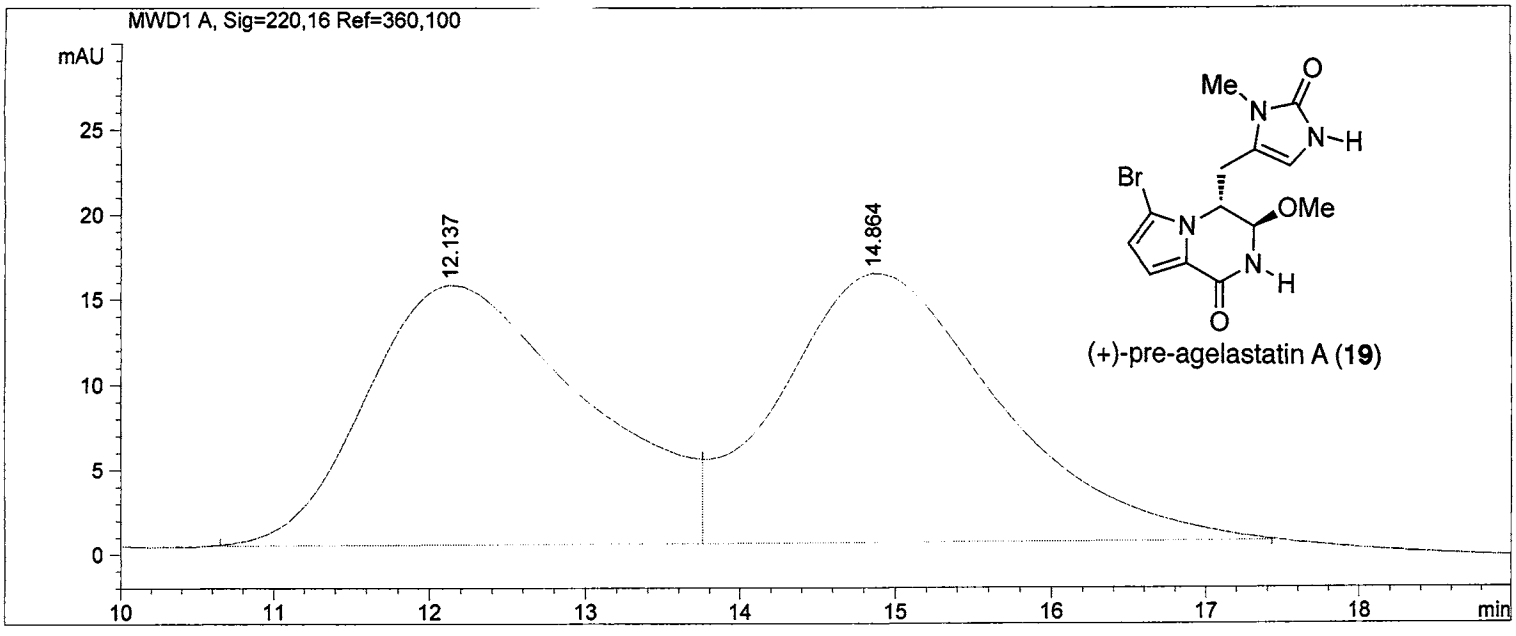
ACQUISITION	
sfrq	125.795
tn	C13
at	1.736
np	131010
sw	37735.8
fb	not used
bs	4
ss	1
tpwr	53
pw	6.9
d1	0.763
tof	631.4
nt	1e+09
ct	8268
alock	n
gain	60
FLAGS	
il	n
in	n
dp	y
hs	nn
DISPLAY	
sp	-6115.7
wp	37735.3
vs	4867
sc	0
wc	250
hzmm	150.94
is	500.00
rfl	12298.8
rfp	6182.5
th	5
ins	1.000
ai	ph

DEC. & VT	
dfrq	500.231
dn	H1
dpwr	38
dof	-500.0
dm	y
dmm	w
dmf	10000
dseq	
dres	1.0
homo	n
PROCESSING	
lb	0.30
wtfile	
proc	ft
fn	131072
math	f
werr	
wexp	
wbs	
wnt	



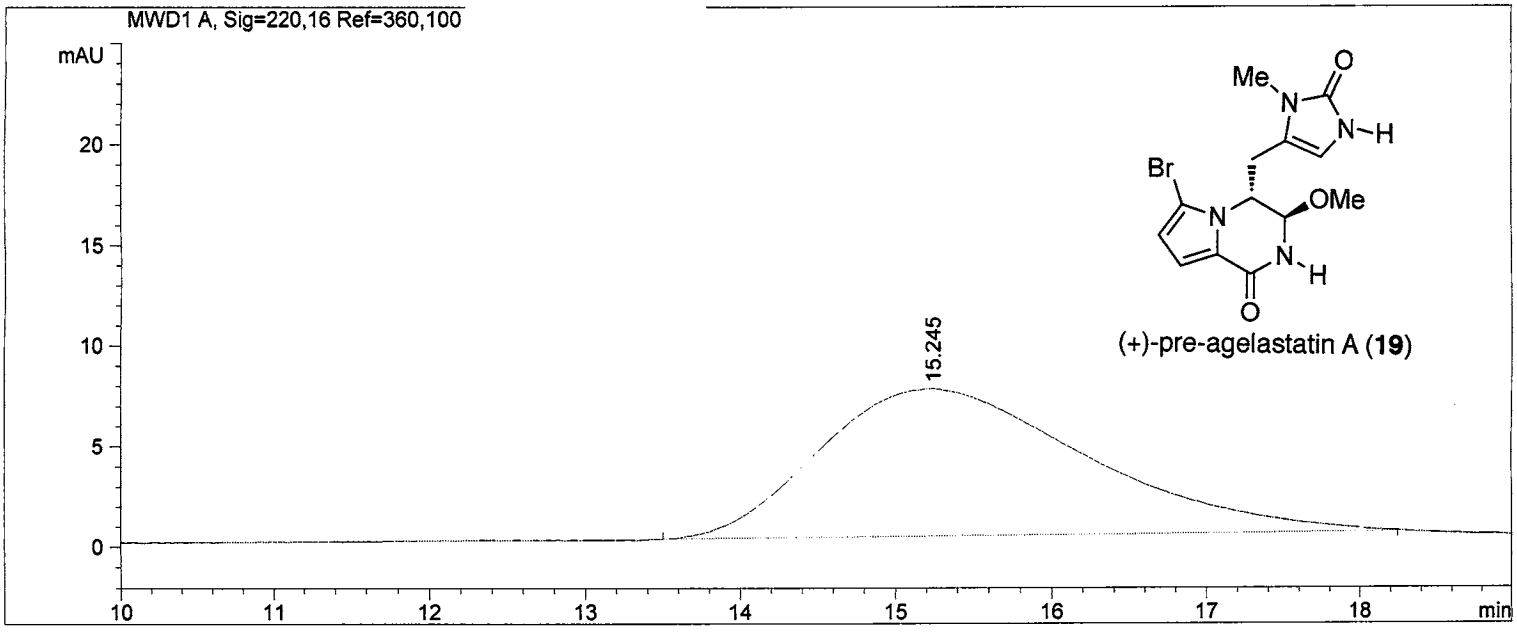
(+)-pre-agelastatin A (**19**)

```
==========================================================================
Injection Date  :                                  Seq. Line :   1
Sample Name     :                                   Location : Vial 61
Acq. Operator   :                                        Inj :   1
                                                  Inj Volume : 1 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :

==========================================================================
```




```
==========================================================================
                        Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 A, Sig=220,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  12.137 BV    1.1608 1499.41431   15.28030  49.0828
   2  14.864 VB    1.1626 1555.45105   15.82612  50.9172

Totals :                  3054.86536   31.10642

 Results obtained with enhanced integrator!
==========================================================================
                        *** End of Report ***
```

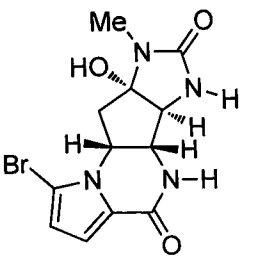
```
==========================================================================
Injection Date  :                                  Seq. Line :   1
Sample Name     :                                   Location : Vial 91
Acq. Operator   :                                        Inj :   1
                                                  Inj Volume : 1 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :

==========================================================================
```




```
==========================================================================
                        Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 A, Sig=220,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  15.245 PB    1.4033  875.68500    7.33223 100.0000

Totals :                   875.68500    7.33223

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

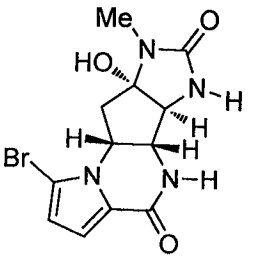
ACQUISITION	
sfrq	500.437
tn	H1
at	4.999
np	120102
sw	12012.0
fb	not used
bs	1
tpwr	56
pw	8.0
d1	0.100
tof	3003.2
nt	16
ct	16
alock	n
gain	not used
FLAGS	
il	n
in	n
dp	y
hs	nn
DISPLAY	
sp	-250.2
wp	6255.4
vs	68
sc	0
wc	250
hzmm	25.02
is	33.57
rfl	2159.4
rfp	1656.4
th	7
ins	100.000
ai cdc ph	

DEC. & VT	
dfrq	125.846
dn	C13
dpwr	30
dof	0
dm	nnn
dmm	c
dmf	200
dseq	
dres	1.0
homo	n
PROCESSING	
wtfile	
proc	ft
fn	262144
math	f
werr	
wexp	
wbs	
wnt	wft



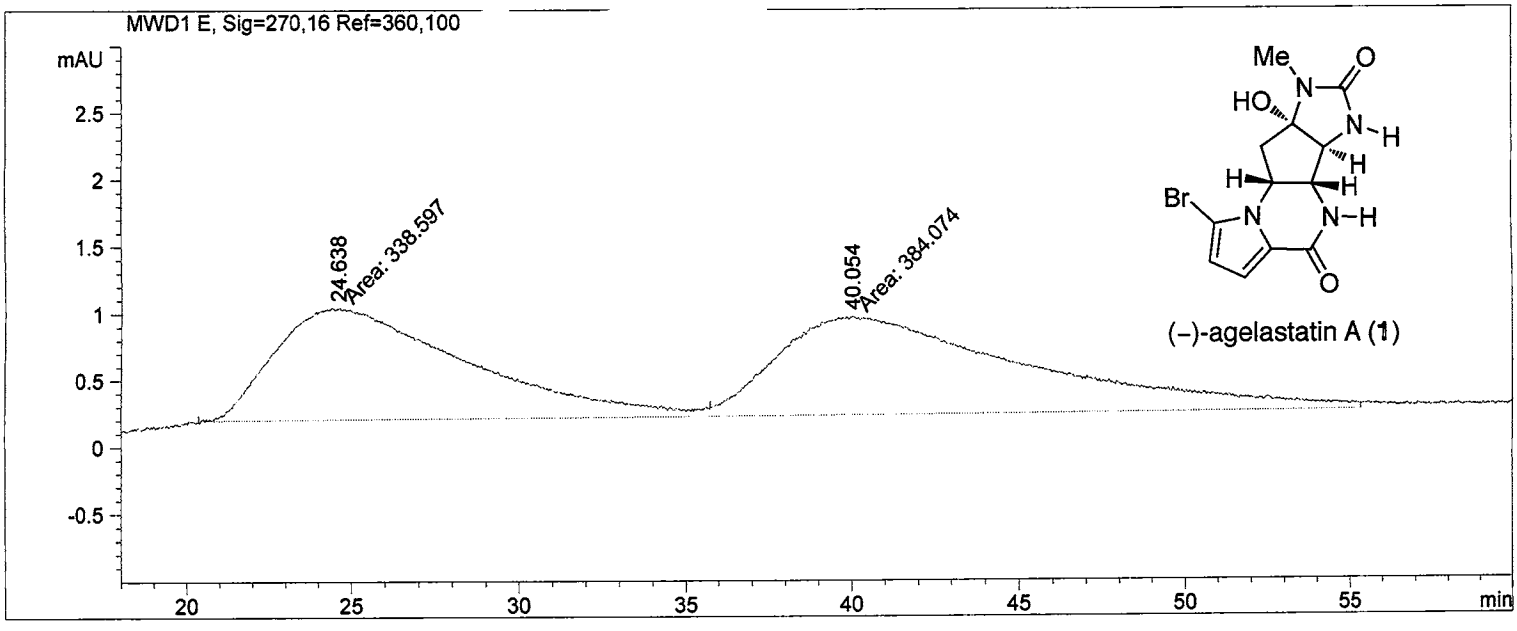
(–)-agelastatin A (**1**)

ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.231
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	4	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	1e+09	wtfile	
ct	21180	proc	ft
alock	n	fn	131072
gain	60	math	
FLAGS			
il	n	werr	
in	n	wexp	
dp	y	wbs	
hs	nn	wnt	
DISPLAY			
sp	-6115.7		
wp	37735.3		
vs	7283		
sc	0		
wc	250		
hzmm	5.16		
is	500.00		
rfl	12298.8		
rfp	6182.5		
th	10		
ins	1.000		
ai	ph		



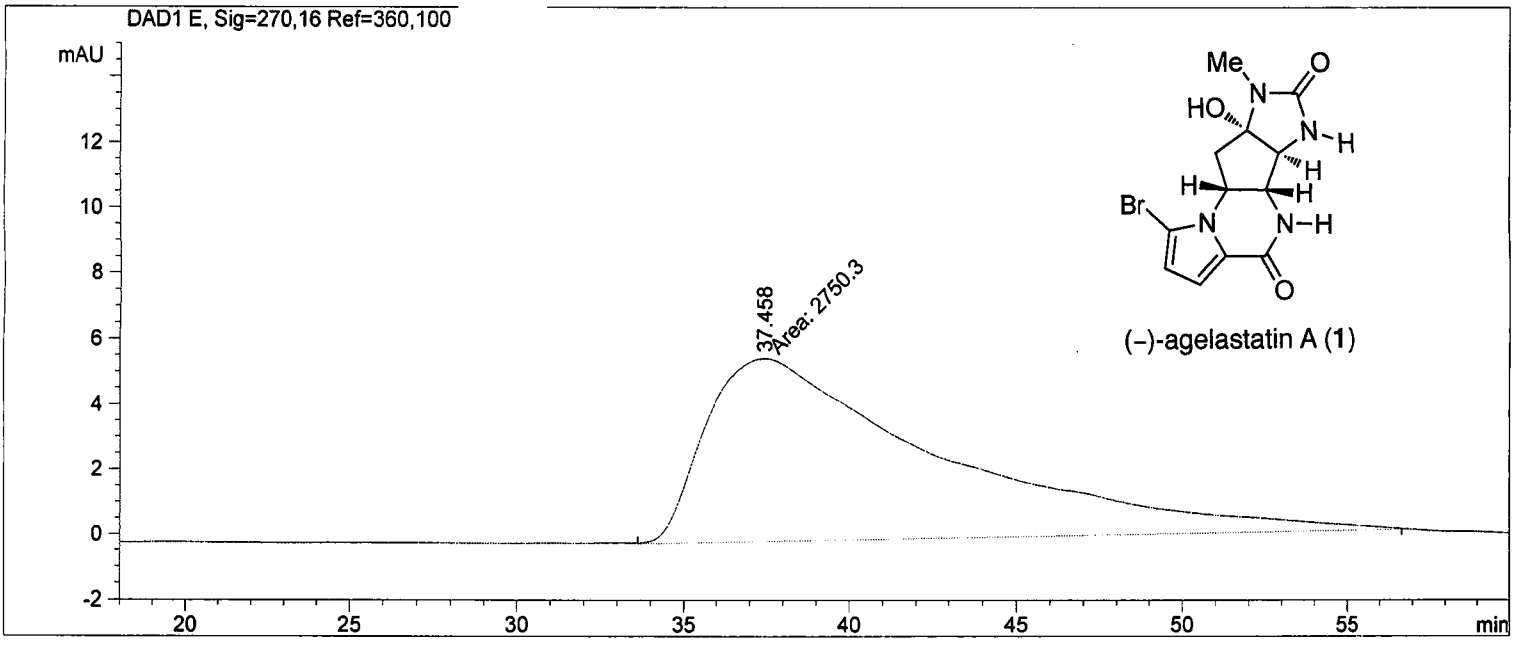
(–)-agelastatin A (**1**)

```
Injection Date  :                                  Seq. Line :   1
Sample Name     :                                   Location : Vial 91
Acq. Operator   :                                        Inj :   1
                                                  Inj Volume : 5 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :
```




```
                          Area Percent Report

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 E, Sig=270,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]    [mAU*s]    [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  24.638 MF    6.6959  338.59686 8.42801e-1  46.8535
   2  40.054 FM    8.6223  384.07428 7.42408e-1  53.1465

Totals :                   722.67114    1.58521

 Results obtained with enhanced integrator!

                          *** End of Report ***
```

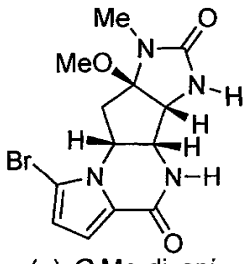
```
==============================================================================
Injection Date  :                                  Seq. Line :   1
Sample Name     :                                   Location : Vial 91
Acq. Operator   :                                        Inj :   1
                                                  Inj Volume : 1 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :
==============================================================================
```




```
==============================================================================
                          Area Percent Report
==============================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: DAD1 E, Sig=270,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  37.458 MM    8.1336 2750.29980    5.63566 100.0000

Totals :                  2750.29980    5.63566

 Results obtained with enhanced integrator!
==============================================================================
                          *** End of Report ***
```

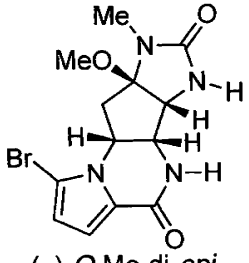
ACQUISITION	
sfrq	500.437
tn	H1
at	4.999
np	120102
sw	12012.0
fb	not used
bs	1
tpwr	56
pw	8.0
d1	0.100
tof	3003.2
nt	32
ct	32
alock	n
gain	not used
FLAGS	
il	n
in	n
dp	y
hs	nn
DISPLAY	
sp	-250.2
wp	6255.4
vs	136
sc	0
wc	250
hzmm	25.02
is	33.57
rfl	2159.0
rfp	1656.4
th	7
ins	100.000
ai cdc ph	

DEC. & VT	
dfrq	125.846
dn	C13
dpwr	30
dof	0
dm	nnn
dmm	c
dmf	200
dseq	
dres	1.0
homo	n
PROCESSING	
wtfile	
proc	ft
fn	262144
math	f
werr	
wexp	
wbs	
wnt	wft



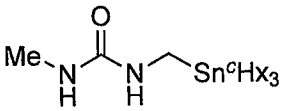
(–)-*O*-Me-di-*epi*-agelastatin A (**29**)

ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.231
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	4	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	1e+09	wtfile	
ct	356	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6117.5		
wp	37735.3		
vs	920		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	12300.3		
rfp	6182.2		
th	7		
ins	1.000		
ai	ph		

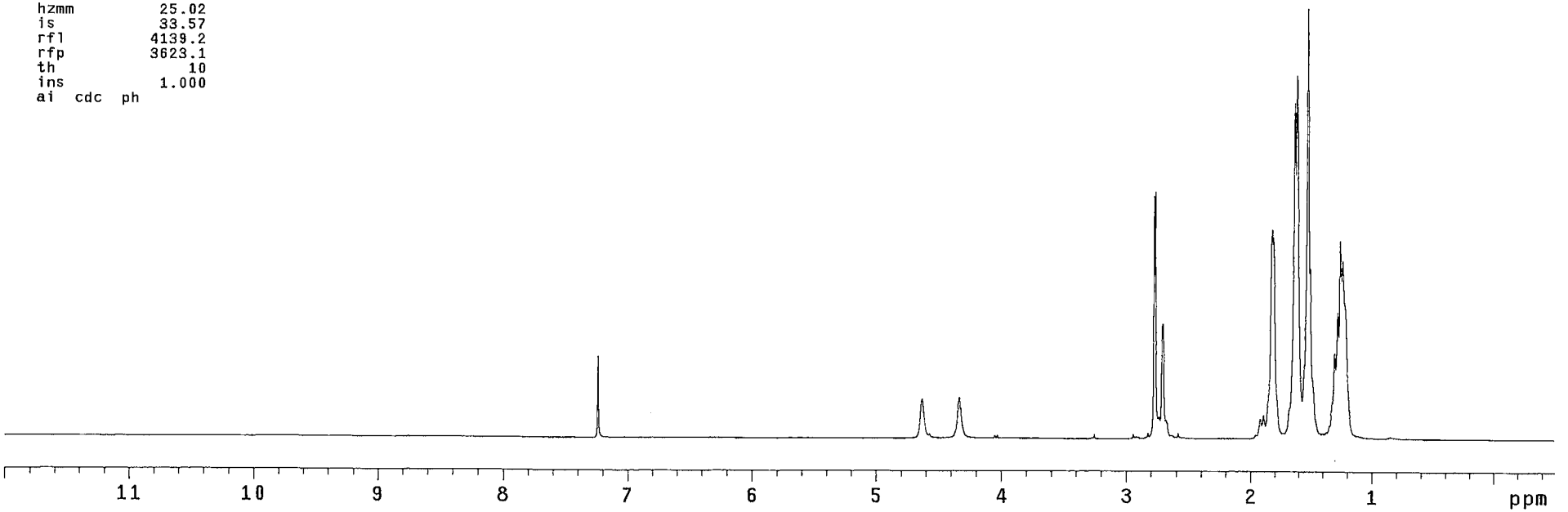


(–)-*O*-Me-di-*epi*-agelastatin A (**29**)

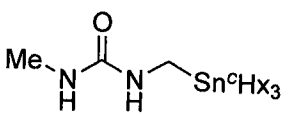
ACQUISITION		DEC. & VT	
sfrq	500.435	dfrq	125.845
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	1	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	16	wtfile	
ct	16	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS			
il	n	werr	
in	n	wexp	
dp	y	wbs	
hs	nn	wnt	wft
DISPLAY			
sp	-250.2		
wp	6255.3		
vs	111		
sc	0		
wc	250		
hzmm	25.02		
is	33.57		
rfl	4139.2		
rfp	3623.1		
th	10		
ins	1.000		
ai cdc ph			



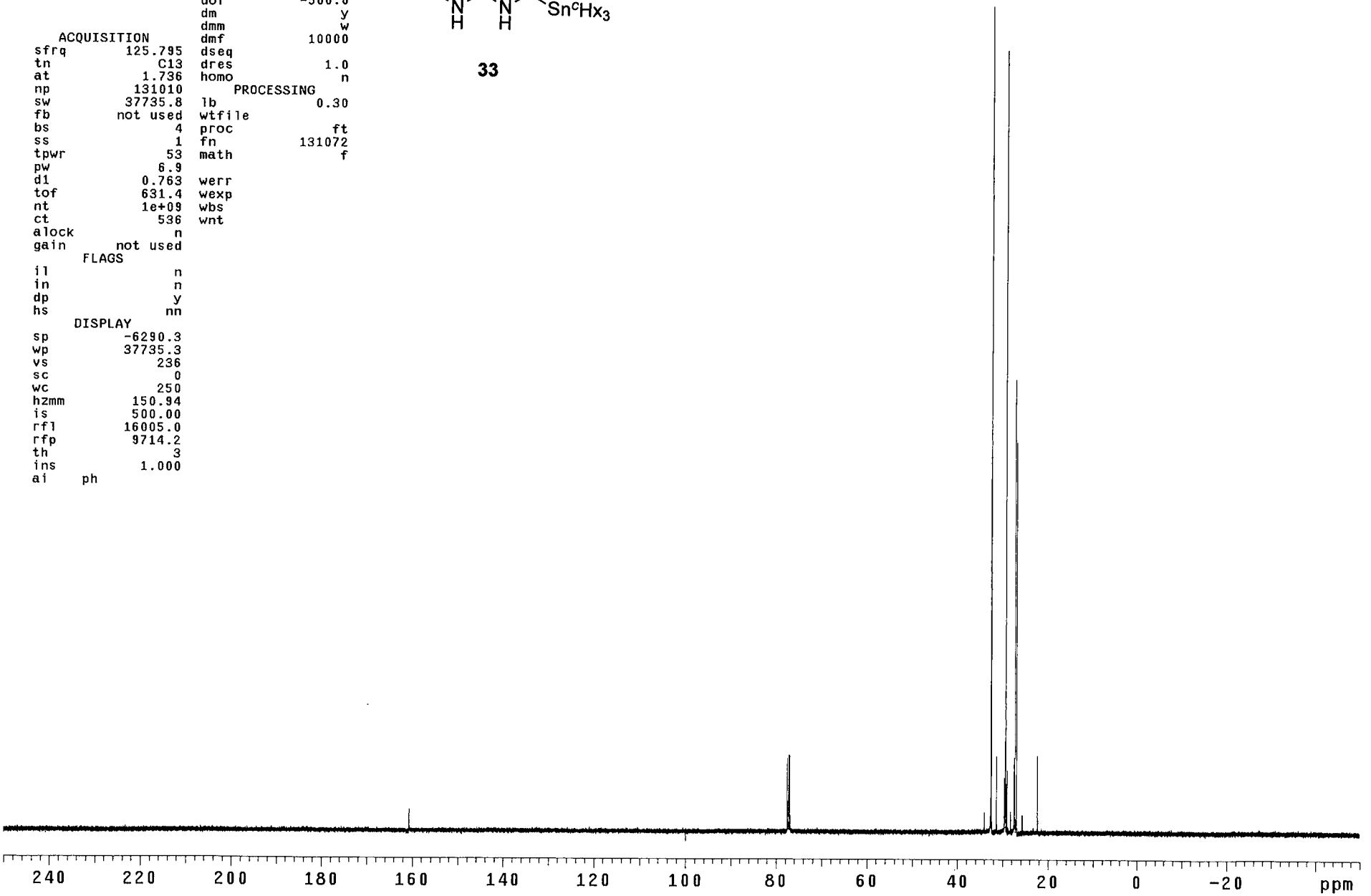
33



ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.229
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	4	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	1e+09	wtfile	
ct	536	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6290.3		
wp	37735.3		
vs	236		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	16005.0		
rfp	9714.2		
th	3		
ins	1.000		
ai	ph		



33



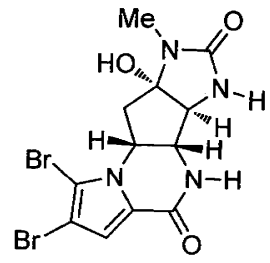
ACQUISITION	
sfrq	500.437
tn	H1
at	4.999
np	120102
sw	12012.0
fb	not used
bs	1
tpwr	56
pw	8.0
d1	0.100
tof	3003.2
nt	16
ct	16
alock	n
gain	not used

FLAGS	
il	n
in	n
dp	y
hs	nn

DISPLAY	
sp	-250.2
wp	6255.4
vs	63
sc	0
wc	250
hzmm	25.02
is	33.57
rfl	2159.4
rfp	1656.4
th	4
ins	100.000
ai cdc ph	

DEC. & VT	
dfrq	125.846
dn	C13
dpwr	30
dof	0
dm	nnn
dmm	c
dmf	200
dseq	
dres	1.0
homo	n

PROCESSING	
wtfile	
proc	ft
fn	262144
math	f
werr	
wexp	
wbs	
wnt	wft



(–)-agelastatin B (**2**)

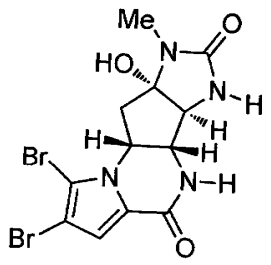
ACQUISITION	
sfrq	125.795
tn	C13
at	1.736
np	131010
sw	37735.8
fb	not used
bs	4
ss	1
tpwr	53
pw	6.9
d1	0.763
tof	631.4
nt	1e+09
ct	16156
alock	n
gain	60

FLAGS	
il	n
in	n
dp	y
hs	nn

DISPLAY	
sp	-6116.3
wp	37735.3
vs	5086
sc	0
wc	250
hzmm	3.77
is	500.00
rfl	12299.3
rfp	6182.5
th	12
ins	1.000
ai	ph

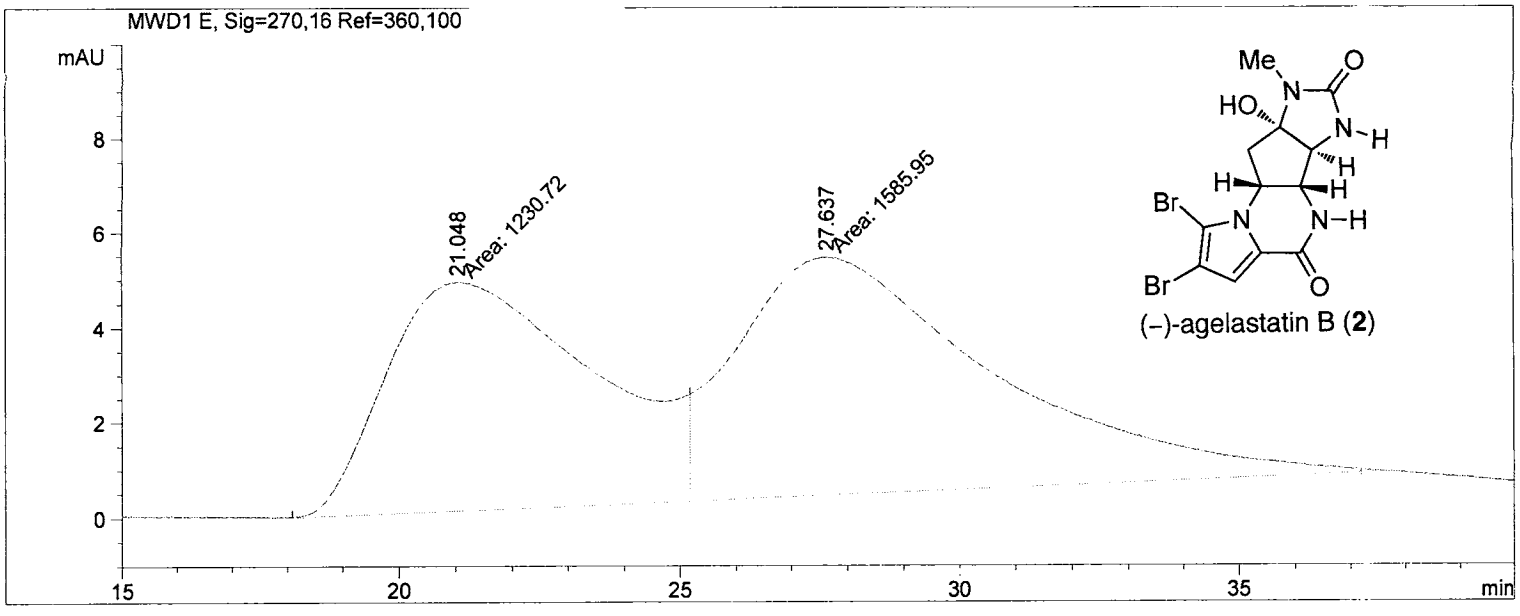
DEC. & VT	
dfrq	500.231
dn	H1
dpwr	38
dof	-500.0
dm	y
dmm	w
dmf	10000
dseq	
dres	1.0
homo	n

PROCESSING	
lb	0.30
wtfile	
proc	ft
fn	131072
math	f
werr	
wexp	
wbs	
wnt	



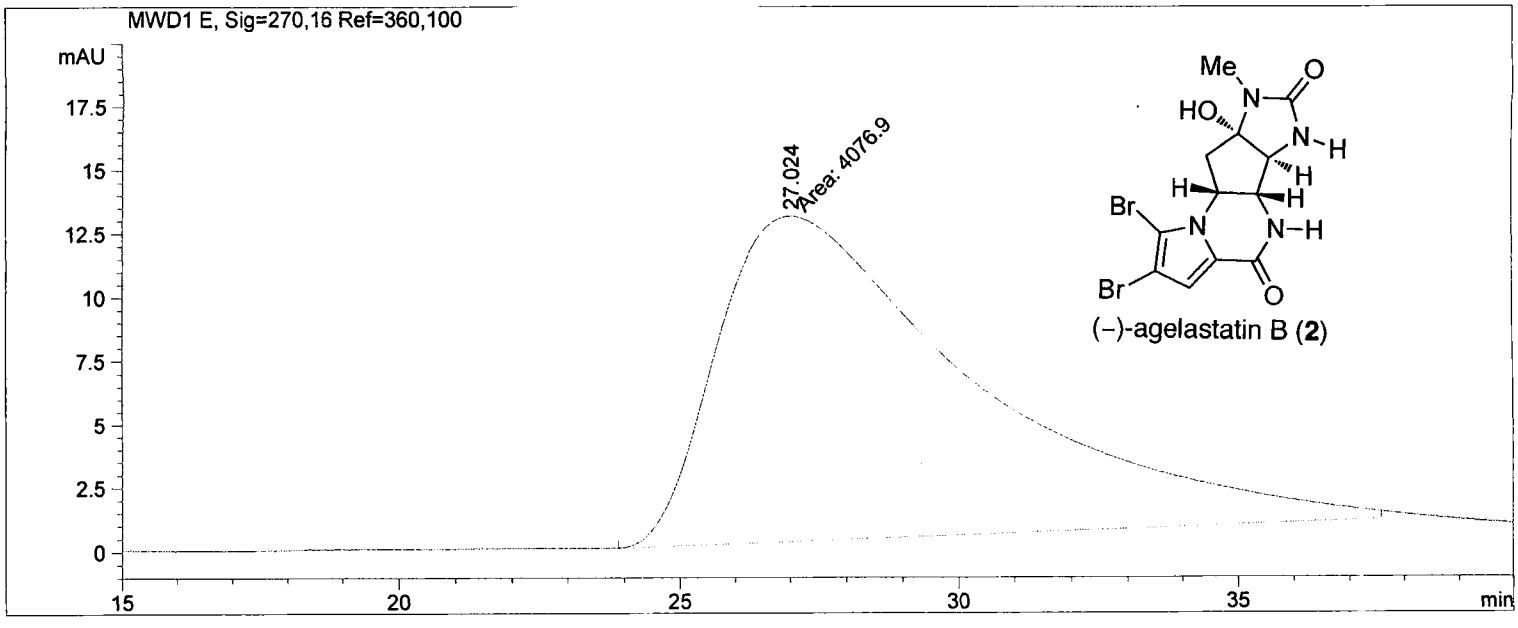
(–)-agelastatin B (**2**)

```
==========================================================================
Injection Date  :                                   Seq. Line :   1
Sample Name     :                                    Location : Vial 79
Acq. Operator   :                                         Inj :   1
                                                  Inj Volume : 3 µl
Acq. Method     :
Last changed    :

Analysis Method :
Last changed    :

==========================================================================
```



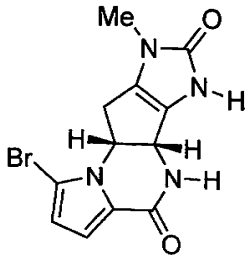

```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 E, Sig=270,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  21.048 MF    4.2737 1230.71851    4.79959  43.6941
   2  27.637 FM    5.2827 1585.95435    5.00365  56.3059

Totals :                  2816.67285    9.80324

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  :                                   Seq. Line :   1
Sample Name     :                                    Location : Vial 80
Acq. Operator   :                                        Inj :   1
                                                   Inj Volume : 5 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :
==========================================================================
```



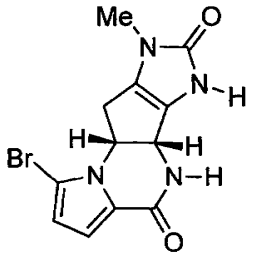

```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 E, Sig=270,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  27.024 MM    5.3130 4076.89722   12.78911 100.0000

Totals :                  4076.89722   12.78911

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

ACQUISITION		DEC. & VT	
sfrq	500.437	dfrq	125.846
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	1	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	16	wtfile	
ct	3	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	wft
hs	nn		
DISPLAY			
sp	-250.2		
wp	6255.4		
vs	33		
sc	0		
wc	250		
hzmm	25.02		
is	33.57		
rfl	2159.3		
rfp	1656.4		
th	7		
ins	100.000		
ai cdc ph			



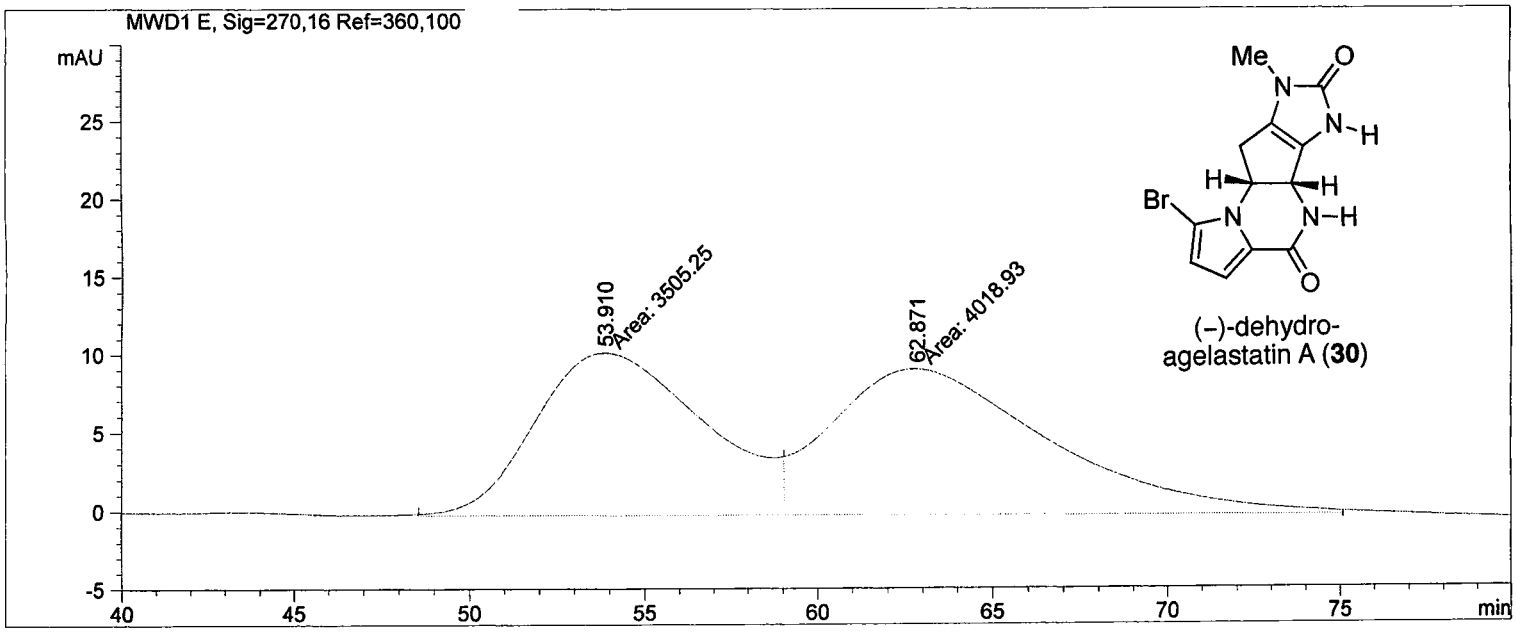
(–)-dehydro-agelastatin A (**30**)

ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.231
tn	C13	dn	H1
at	1.736	ipwr	38
np	131010	₋of	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	4	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	1e+09	wtfile	
ct	576	proc	ft
alock	n	fn	131072
gain	60	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6116.9		
wp	37735.3		
vs	1100		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	12299.7		
rfp	6182.2		
th	7		
ins	1.000		
ai	ph		



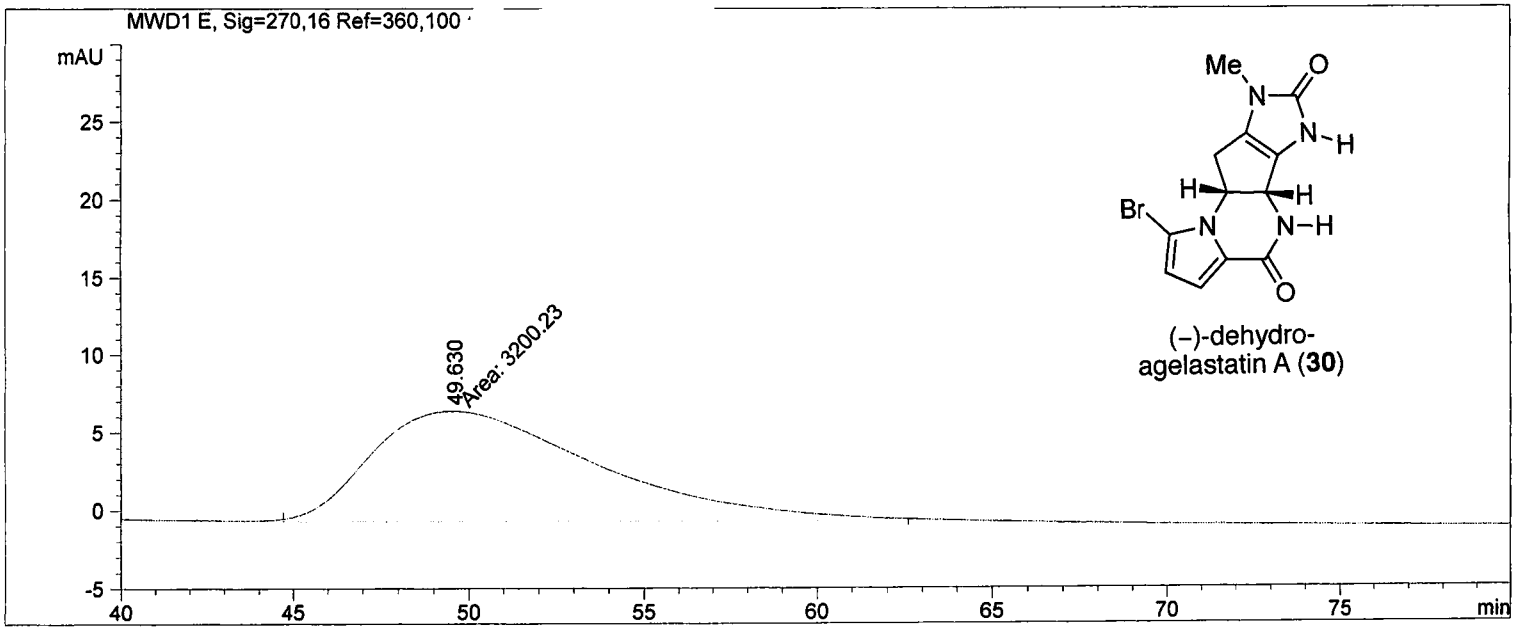
(–)-dehydro-agelastatin A (**30**)

```
==========================================================================
Injection Date  :                                  Seq. Line :   1
Sample Name     :                                   Location : Vial 91
Acq. Operator   :                                        Inj :   1
                                                  Inj Volume : 1 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :
==========================================================================
```




```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 E, Sig=270,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  53.910 MF    5.6060 3505.24609   10.42107  46.5865
   2  62.871 FM    7.1602 4018.92529    9.35472  53.4135

Totals :                  7524.17139   19.77579

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

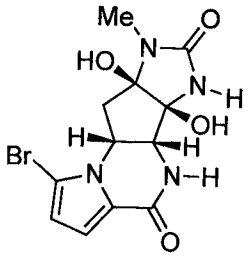
```
==========================================================================
Injection Date  :                                  Seq. Line :   1
Sample Name     :                                   Location : Vial 91
Acq. Operator   :                                        Inj :   1
                                                  Inj Volume : 1 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :

==========================================================================
```




```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: MWD1 E, Sig=270,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  49.630 MM    7.4872 3200.22583    7.12375 100.0000

Totals :                  3200.22583    7.12375

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

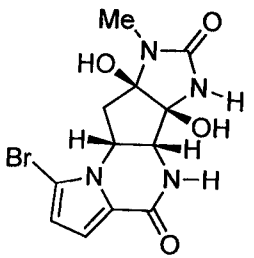
ACQUISITION	
sfrq	500.437
tn	H1
at	4.999
np	120102
sw	12012.0
fb	not used
bs	1
tpwr	56
pw	8.0
d1	0.100
tof	3003.2
nt	64
ct	16
alock	n
gain	not used
FLAGS	
il	n
in	n
dp	y
hs	nn
DISPLAY	
sp	-250.2
wp	6255.4
vs	172
sc	0
wc	250
hzmm	25.02
is	33.57
rfl	2159.5
rfp	1656.4
th	14
ins	100.000
ai cdc ph	

DEC. & VT	
dfrq	125.846
dn	C13
dpwr	30
dof	0
dm	nnn
dmm	c
dmf	200
dseq	
dres	1.0
homo	n
PROCESSING	
wtfile	
proc	ft
fn	262144
math	f
werr	
wexp	
wbs	
wnt	wft

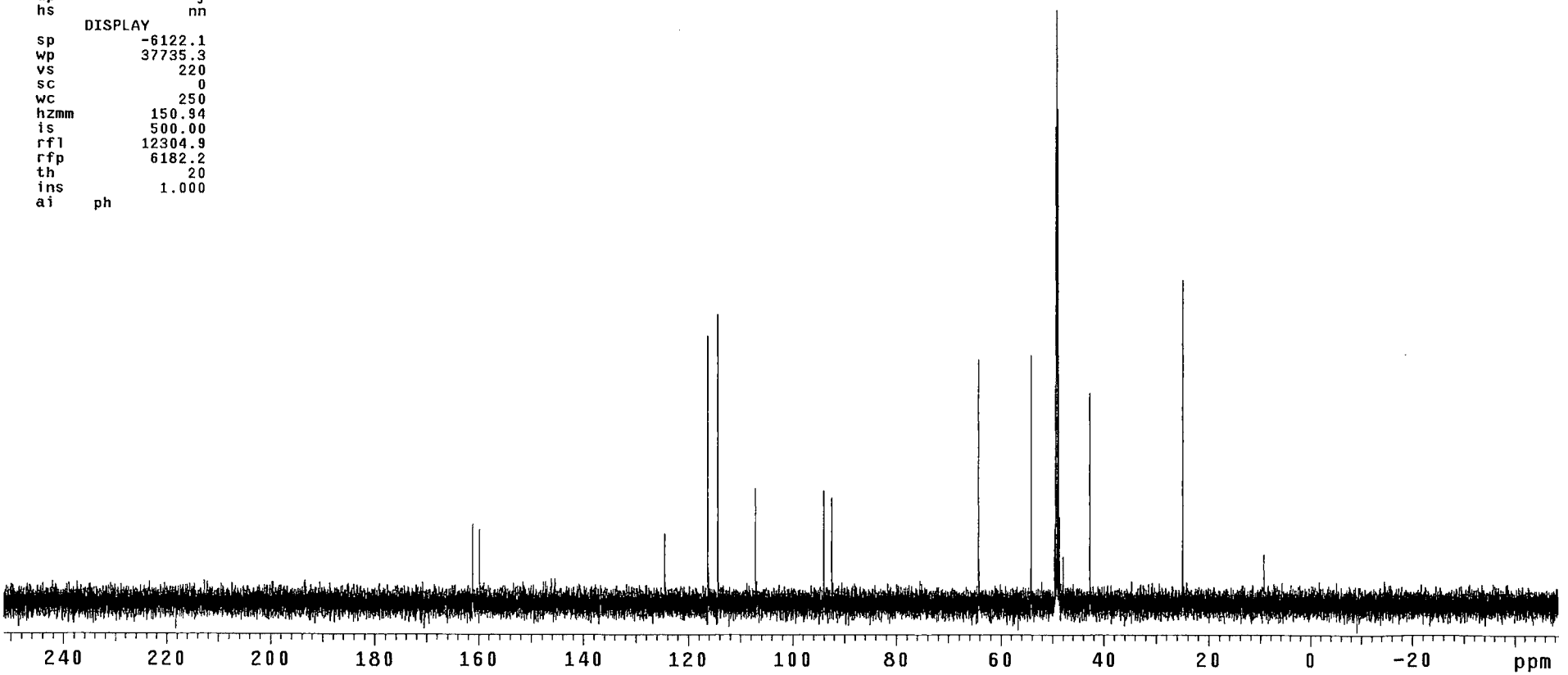


(–)-di-*epi*-agelastatin C (**31**)

ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.231
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	4	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	1e+09	wtfile	
ct	24	proc	ft
alock	n	fn	131072
gain	60	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6122.1		
wp	37735.3		
vs	220		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	12304.9		
rfp	6182.2		
th	20		
ins	1.000		
ai	ph		



(–)-di-*epi*-agelastatin C (**31**)



ACQUISITION	
sfrq	500.437
tn	H1
at	4.999
np	120102
sw	12012.0
fb	not used
bs	1
tpwr	56
pw	8.0
d1	0.100
tof	3003.2
nt	64
ct	33
alock	n
gain	not used

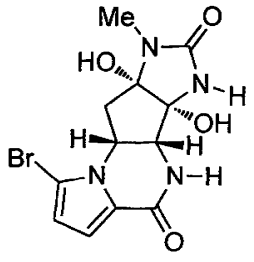
FLAGS	
il	n
in	n
dp	y
hs	nn

DISPLAY	
sp	-250.2
wp	6255.4
vs	51
sc	0
wc	250
hzmm	25.02
is	33.57
rfl	2159.2
rfp	1656.4
th	3
ins	100.000

ai cdc ph

DEC. & VT	
dfrq	125.846
dn	C13
dpwr	30
dof	0
dm	nnn
dmm	c
dmf	200
dseq	
dres	1.0
homo	n

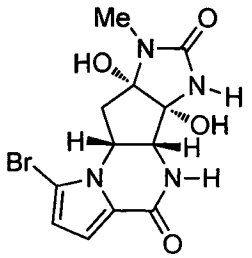
PROCESSING	
wtfile	
proc	ft
fn	262144
math	f
werr	
wexp	
wbs	
wnt	wft



(–)-agelastatin C (**3**)

ACQUISITION	
sfrq	125.795
tn	C13
at	1.736
np	131010
sw	37735.8
fb	not used
bs	4
ss	1
tpwr	53
pw	6.9
d1	0.763
tof	631.4
nt	1e+09
ct	20820
alock	n
gain	60
FLAGS	
il	n
in	n
dp	y
hs	nn
DISPLAY	
sp	-6116.4
wp	37735.3
vs	5122
sc	0
wc	250
hzmm	150.94
is	500.00
rfl	12299.2
rfp	6182.2
th	7
ins	1.000
ai	ph

DEC. & VT	
dfrq	500.231
dn	H1
dpwr	38
dof	-500.0
dm	y
dmm	w
dmf	10000
dseq	
dres	1.0
homo	n
PROCESSING	
lb	0.30
wtfile	
proc	ft
fn	131072
math	f
werr	
wexp	
wbs	
wnt	

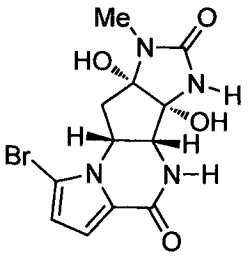


(–)-agelastatin C (**3**)

exp3 gCOSY

solvent	CD3OD
sample	undefined
ACQUISITION	
sw	4490.3
at	0.228
np	2048
fb	not used
ss	16
d1	1.000
nt	23
2D ACQUISITION	
sw1	4490.3
ni	128
TRANSMITTER	
tn	H1
sfrq	499.746
tof	-252.5
tpwr	56
pw	9.200
GRADIENTS	
gzlvl1	2000
gt1	0.001000
gstab	0.000500
DECOUPLER	
dn	C13
dm	nnn

FLAGS	
hs	nn
sspul	n
hsglvl	2000
SPECIAL	
temp	not used
gain	58
spin	0
F2 PROCESSING	
sb	-0.114
sbs	not used
fn	2048
F1 PROCESSING	
sb1	-0.057
sbs1	not used
proc1	lp
fn1	2048
DISPLAY	
sp	4.6
wp	4486.0
sp1	0.6
wp1	4486.0
rfl	-0.2
rfp	0
rfl1	3.8
rfp1	0
PLOT	
wc	138.9
sc	0
wc2	138.9
sc2	0
vs	322
th	2
ai cdc av	



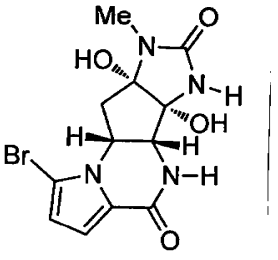
(–)-agelastatin C (**3**)

exp4 HSQC

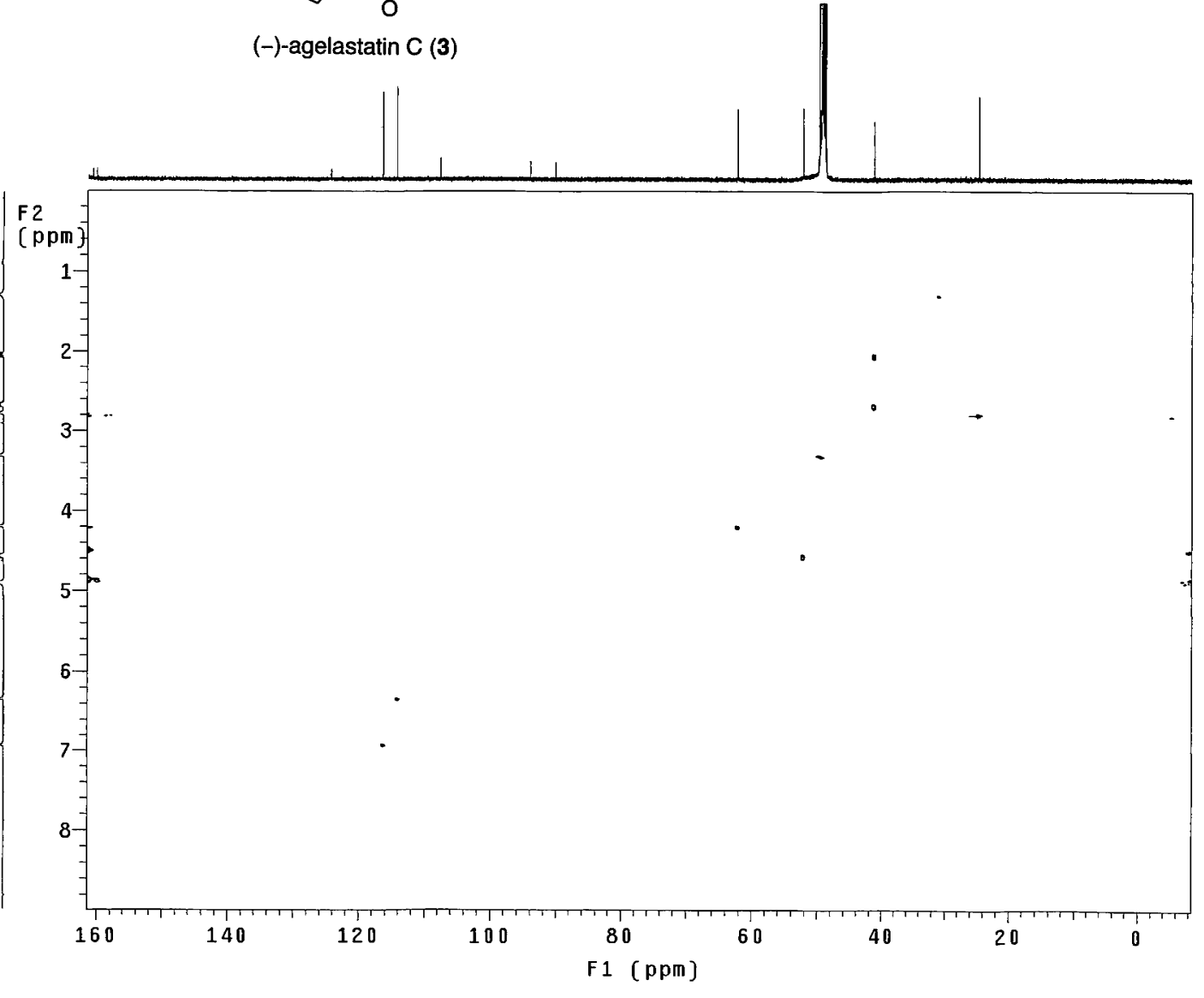
solvent	CD3OD
sample	undefined
ACQUISITION	
sw	4490.3
at	0.150
np	1348
fb	not used
ss	256
d1	1.000
nt	37
2D ACQUISITION	
sw1	21361.8
ni	256
phase	arrayed
TRANSMITTER	
tn	H1
sfrq	499.746
tof	-252.5
tpwr	56
pw	9.200
DECOUPLER	
dn	C13
dof	-2514.8
dm	nny
dmm	ccg
dmf	32200
dpwr	53
pwxlvl	59
pwx	18.000
HSQC	
j1xh	140.0
null	0.350
nullflg	n
mult	2

FLAGS	
hs	n
sspul	n
PFGflg	y
hsglvl	2000
SPECIAL	
temp	not used
gain	52
spin	0
PRESATURATION	
satmode	n
satpwr	0
satdly	0
satfrq	0
F2 PROCESSING	
gf	0.105
gfs	not used
fn	2048
F1 PROCESSING	
sb1	-0.024
sbs1	-0.024
proc1	lp
fn1	2048
DISPLAY	
sp	5.1
wp	4486.0
sp1	-1064.1
wp1	21341.0
rfl	3167.7
rfp	3168.4
rfl1	15417.0
rfp1	14332.1
PLOT	
wc	170.0
sc	0
wc2	110.0
sc2	0
vs	322
th	2
ai cdc ph	

ACQUISITION ARRAYS	
array	phase
arraydim	512
i	phase
1	1
2	2



(–)-agelastatin C (**3**)

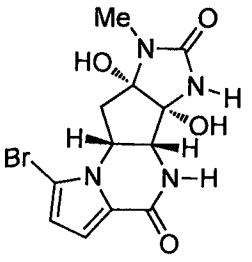


exp5 HMBC

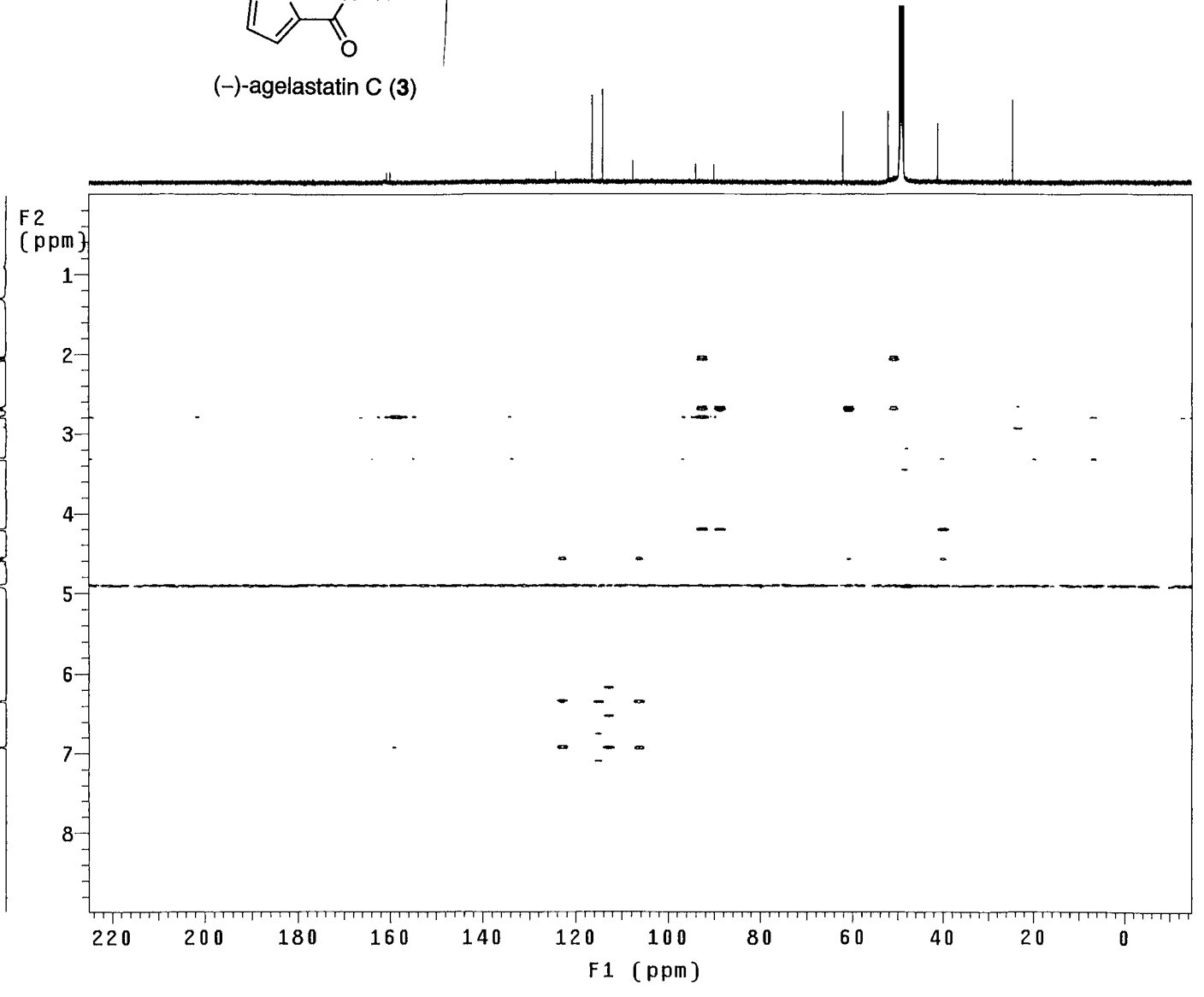
solvent	CD3OD
sample	undefined
ACQUISITION	
sw	4490.3
at	0.228
np	2048
fb	not used
ss	32
d1	1.000
nt	40
2D ACQUISITION	
sw1	30154.5
ni	256
phase	arrayed
TRANSMITTER	
tn	H1
sfrq	499.746
tof	-252.5
tpwr	56
pw	9.200
DECOUPLER	
dn	C13
dof	1255.1
dm	nnn
dmm	ccc
dmf	32200
dpwr	53
pwxlvl	59
pwx	18.000
HMBC	
j1xh	140.0
jnxh	8.0

FLAGS	
hs	n
sspul	n
PFGflg	n
hsglvl	2000
SPECIAL	
temp	not used
gain	52
spin	0
PRESATURATION	
satmode	n
satpwr	0
satdly	0
satfrq	0
F2 PROCESSING	
sb	0.114
sbs	not used
fn	2048
F1 PROCESSING	
sb1	0.004
sbs1	not used
fn1	2048
DISPLAY	
sp	4.6
wp	4486.0
sp1	-1853.5
wp1	30125.1
rfl	-0.2
rfp	0
rfl1	1882.9
rfp1	0
PLOT	
wc	170.0
sc	0
wc2	110.0
sc2	0
vs	322
th	2
ai	cdc av

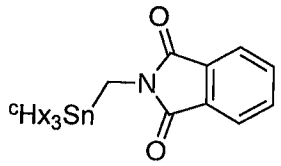
ACQUISITION ARRAYS	
array	phase
arraydim	512
i	phase
1	1
2	2



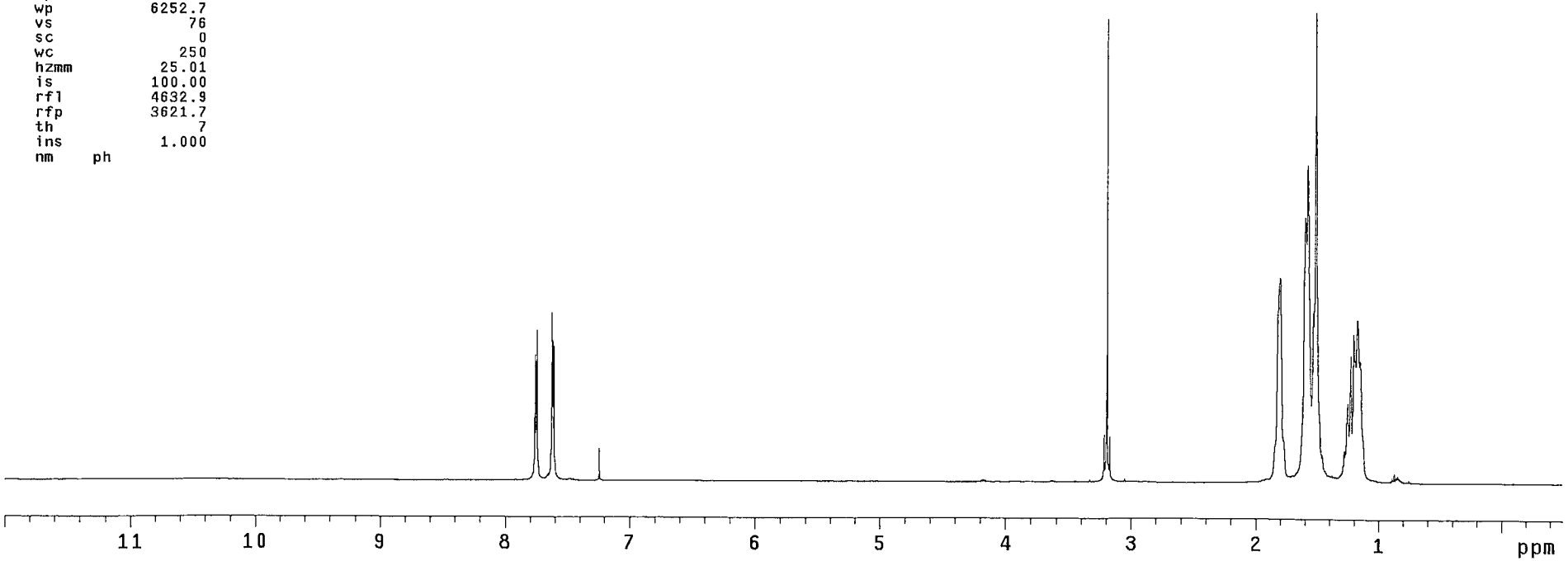
(–)-agelastatin C (**3**)



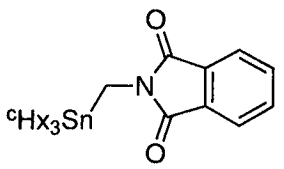
ACQUISITION		DEC. & VT	
sfrq	500.231	dfrq	125.794
tn	H1	dn	C13
at	3.200	dpwr	38
np	64000	dof	0
sw	10000.0	dm	nnn
fb	not used	dmm	c
bs	2	dmf	10000
ss	1	dseq	
tpwr	58	dres	1.0
pw	9.0	homo	n
d1	0	PROCESSING	
tof	1498.2	wtfile	
nt	16	proc	ft
ct	16	fn	131072
alock	n	math	f
gain	not used	werr	
FLAGS		wexp	
il	n	wbs	
in	n	wnt	
dp	y		
hs	nn		
DISPLAY			
sp	-250.2		
wp	6252.7		
vs	76		
sc	0		
wc	250		
hzmm	25.01		
is	100.00		
rfl	4632.9		
rfp	3621.7		
th	7		
ins	1.000		
nm	ph		



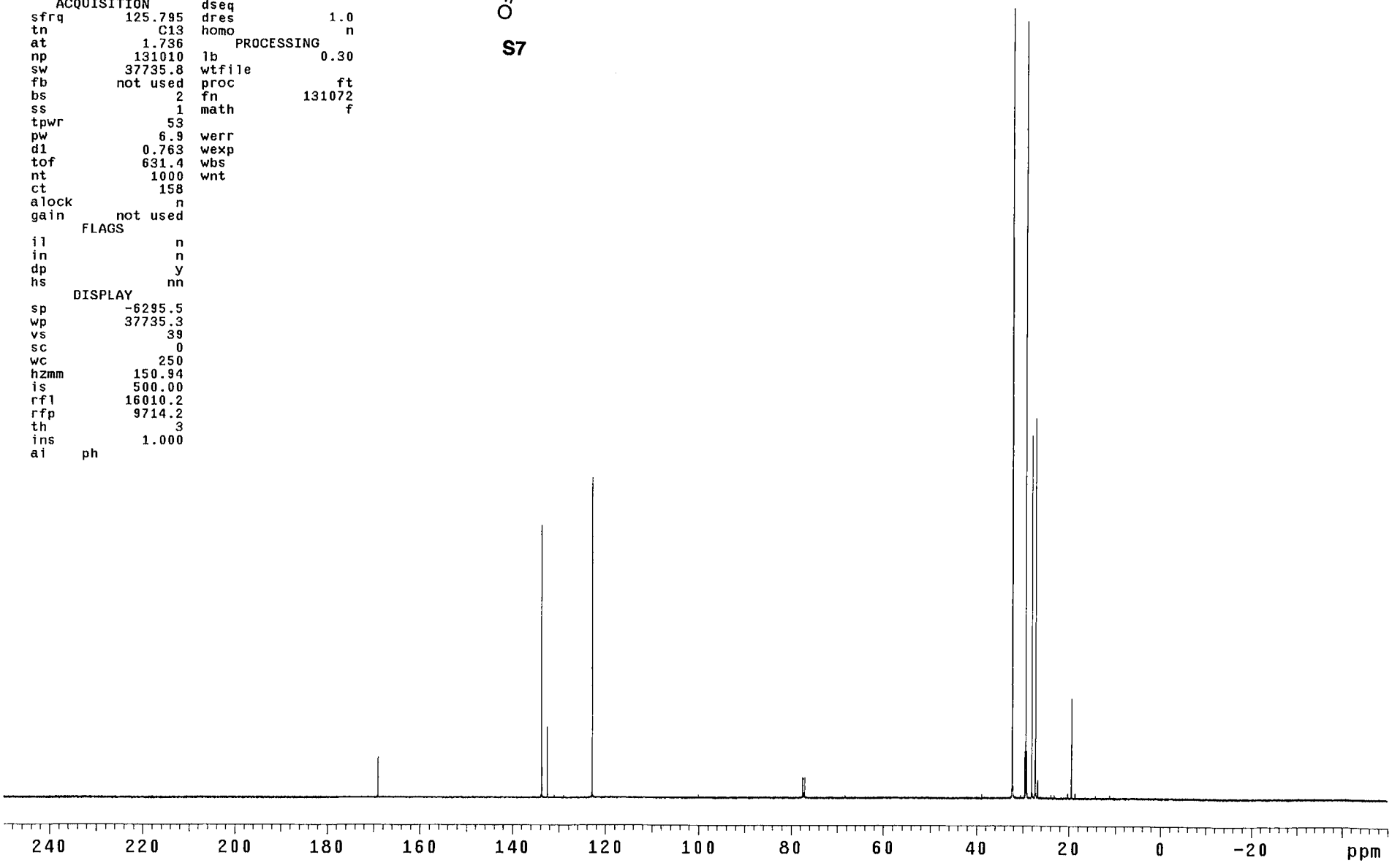
S7



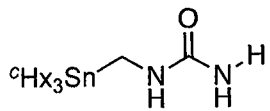
ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.229
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	2	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	1000	wtfile	
ct	158	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6295.5		
wp	37735.3		
vs	39		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	16010.2		
rfp	9714.2		
th	3		
ins	1.000		
ai	ph		



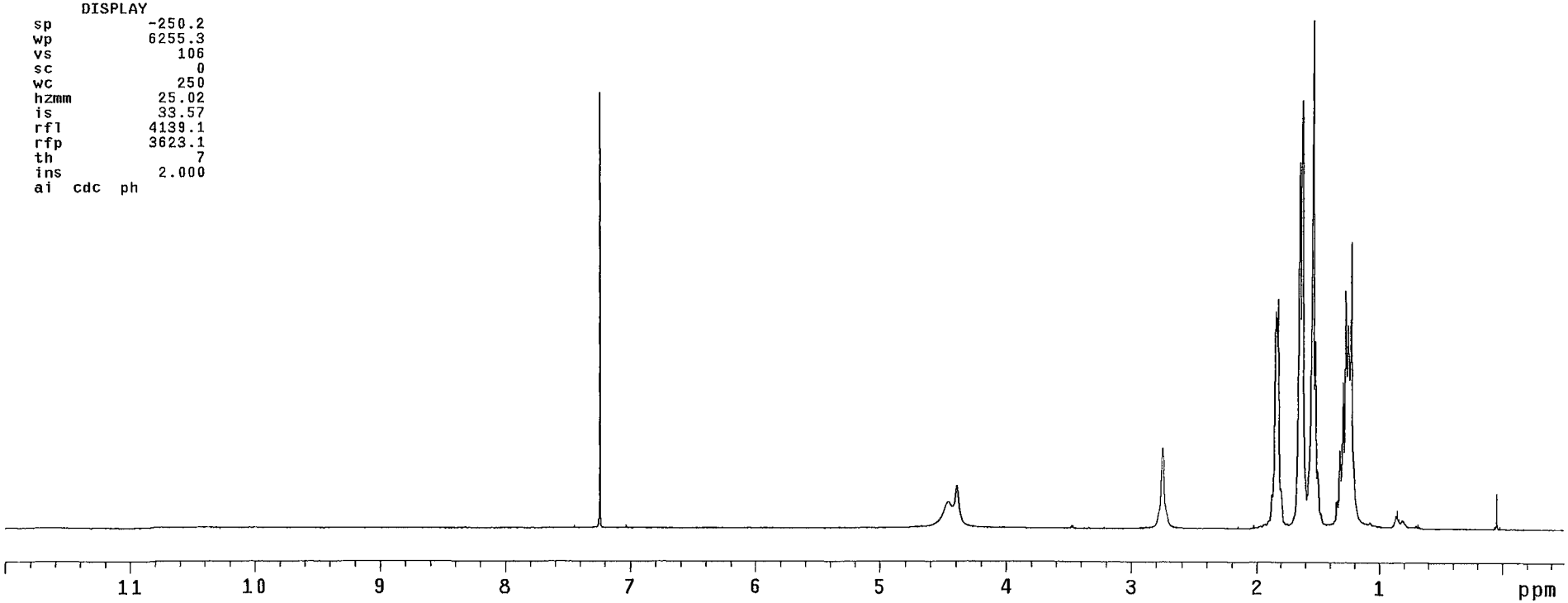
S7



ACQUISITION		DEC. & VT	
sfrq	500.435	dfrq	125.845
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	2	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	32	wtfile	
ct	24	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	wft
hs	nn		
DISPLAY			
sp	-250.2		
wp	6255.3		
vs	106		
sc	0		
wc	250		
hzmm	25.02		
is	33.57		
rfl	4139.1		
rfp	3623.1		
th	7		
ins	2.000		
ai cdc ph			

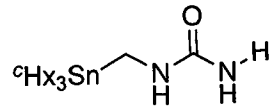


34



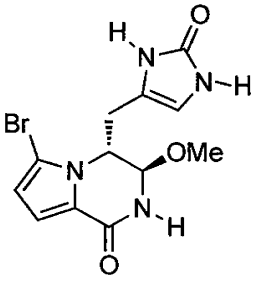
ACQUISITION	
sfrq	125.795
tn	C13
at	1.736
np	131010
sw	37735.8
fb	not used
bs	2
ss	1
tpwr	53
pw	6.9
d1	0.763
tof	631.4
nt	40000
ct	13630
alock	n
gain	60
FLAGS	
il	n
in	n
dp	y
hs	nn
DISPLAY	
sp	-6287.5
wp	37735.8
vs	5116
sc	0
wc	250
hzmm	12.50
is	500.00
rfl	16002.4
rfp	9714.9
th	31
ins	1.000
ai	ph

DEC. & VT	
dfrq	500.229
dn	H1
dpwr	38
dof	-500.0
dm	y
dmm	w
dmf	10000
dseq	
dres	1.0
homo	n
temp	20.0
PROCESSING	
lb	0.30
wtfile	
proc	ft
fn	131072
math	f
werr	
wexp	
wbs	
wnt	



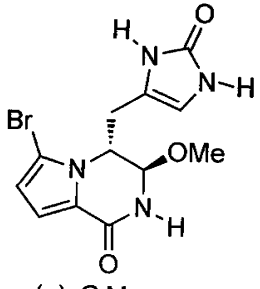
34

ACQUISITION		DEC. & VT	
sfrq	500.437	dfrq	125.846
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	2	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	32	wtfile	
ct	24	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	wft
hs	nn		
DISPLAY			
sp	-250.2		
wp	6255.4		
vs	13		
sc	0		
wc	250		
hzmm	25.02		
is	0.01		
rfl	2159.4		
rfp	1656.4		
th	7		
ins	1.000		
ai cdc ph			



(+)-*O*-Me-pre-agelastatin D (**35**)

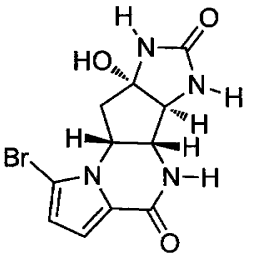
ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.231
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	2	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	10000	wtfile	
ct	888	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-2515.9		
wp	30187.6		
vs	545		
sc	0		
wc	250		
hzmm	120.75		
is	500.00		
rfl	12301.5		
rfp	6182.2		
th	20		
ins	1.000		
ai	ph		



(+)-*O*-Me-pre-agelastatin D (**35**)

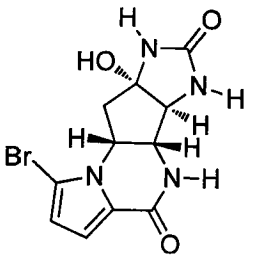
ACQUISITION	
sfrq	500.437
tn	H1
at	4.999
np	120102
sw	12012.0
fb	not used
bs	2
tpwr	56
pw	8.0
d1	0.100
tof	3003.2
nt	32
ct	32
alock	n
gain	not used
FLAGS	
il	n
in	n
dp	y
hs	nn
DISPLAY	
sp	-250.2
wp	6255.4
vs	267
sc	0
wc	250
hzmm	25.02
is	33.57
rfl	2159.4
rfp	1656.4
th	24
ins	100.000
ai cdc ph	

DEC. & VT	
dfrq	125.846
dn	C13
dpwr	30
dof	0
dm	nnn
dmm	c
dmf	200
dseq	
dres	1.0
homo	n
PROCESSING	
wtfile	
proc	ft
fn	262144
math	f
werr	
wexp	
wbs	
wnt	wft



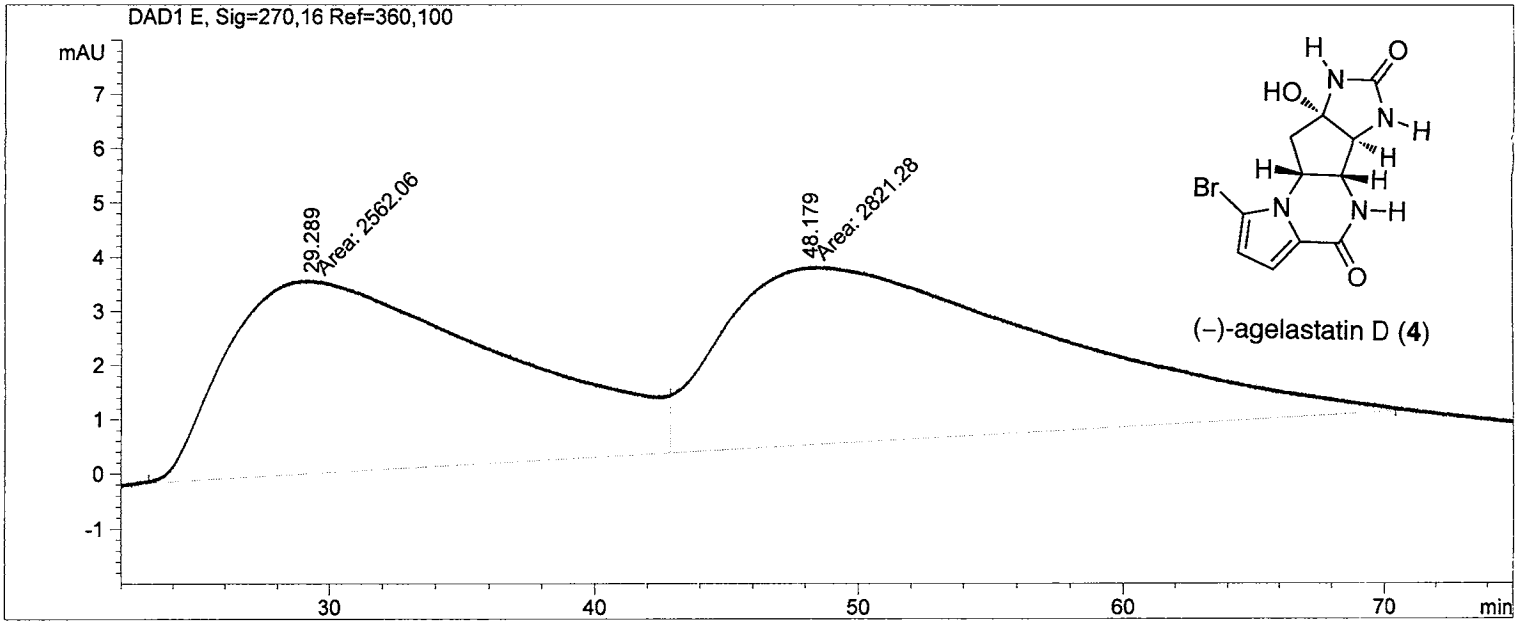
(–)-agelastatin D (**4**)

ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.229
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	2	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	40000	wtfile	
ct	19788	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6226.3		
wp	37735.3		
vs	4485		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	25141.1		
rfp	18914.2		
th	20		
ins	1.000		
ai	ph		



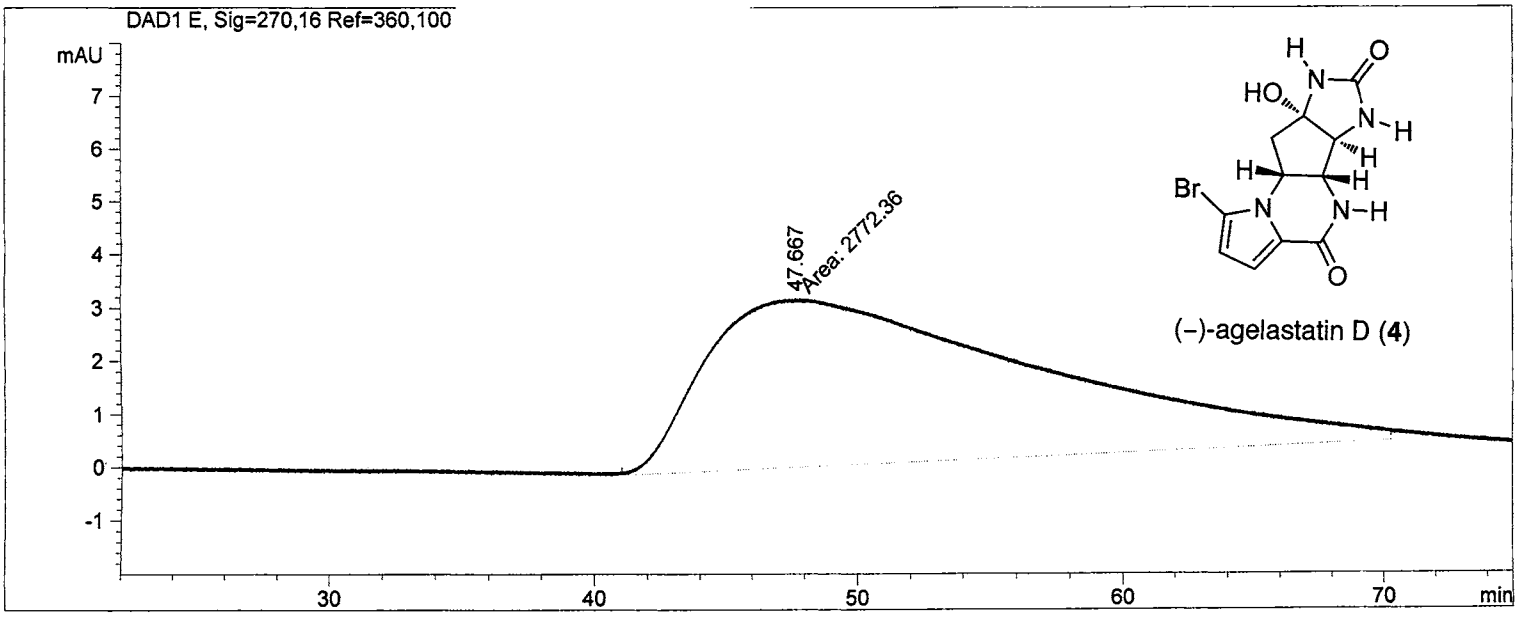
(–)-agelastatin D (**4**)

```
==========================================================================
Injection Date  :                                  Seq. Line :   1
Sample Name     :                                   Location : Vial 61
Acq. Operator   :                                        Inj :   1
                                                  Inj Volume : 1 µl
Different Inj Volume from Sequence !     Actual Inj Volume : 3 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :

==========================================================================
```




```
==========================================================================
                        Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: DAD1 E, Sig=270,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  29.289 MF   11.8707 2562.06494    3.59718  47.5924
   2  48.179 FM   14.0578 2821.28418    3.34485  52.4076

Totals :                  5383.34912    6.94203

 Results obtained with enhanced integrator!
==========================================================================
                        *** End of Report ***
```

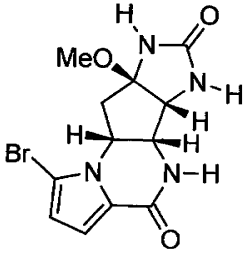
```
==========================================================================
Injection Date  :                                  Seq. Line :   1
Sample Name     :                                   Location : Vial 62
Acq. Operator   :                                        Inj :   1
                                                  Inj Volume : 1 µl
                                                  Inj Volume : 3 µl
Acq. Method     :
Last changed    :
Analysis Method :
Last changed    :

==========================================================================
```




```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: DAD1 E, Sig=270,16 Ref=360,100

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  47.667 MM   14.4059 2772.36328    3.20744 100.0000

Totals :                  2772.36328    3.20744

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

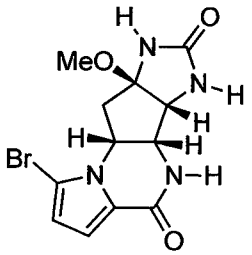
ACQUISITION	
sfrq	500.437
tn	H1
at	4.999
np	120102
sw	12012.0
fb	not used
bs	2
tpwr	56
pw	8.0
d1	0.100
tof	3003.2
nt	32
ct	24
alock	n
gain	not used
FLAGS	
il	n
in	n
dp	y
hs	nn
DISPLAY	
sp	-250.2
wp	6255.4
vs	99
sc	0
wc	250
hzmm	25.02
is	33.57
rfl	2159.5
rfp	1656.4
th	7
ins	100.000
ai cdc ph	

DEC. & VT	
dfrq	125.846
dn	C13
dpwr	30
dof	0
dm	nnn
dmm	c
dmf	200
dseq	
dres	1.0
homo	n
PROCESSING	
wtfile	
proc	ft
fn	262144
math	f
werr	
wexp	
wbs	
wnt	wft



(–)-*O*-Me-di-*epi*-agelastatin D (**37**)

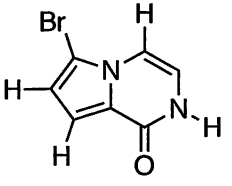
ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.229
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	2	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	40000	wtfile	
ct	2334	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6034.1		
wp	37735.3		
vs	3167		
sc	0		
wc	250		
hzmm	6.15		
is	500.00		
rfl	24948.8		
rfp	18914.2		
th	9		
ins	1.000		
ai	ph		



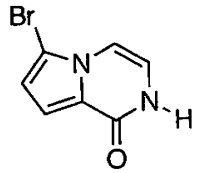
(–)-*O*-Me-di-*epi*-agelastatin D (**37**)

exp1 s2pul

ACQUISITION		DEC. & VT	
sfrq	499.748	dfrq	125.673
tn	H1	dn	C13
at	3.001	dpwr	30
np	63050	dof	0
sw	10504.2	dm	nnn
fb	not used	dmm	w
bs	2	dmf	10000
tpwr	56	dseq	
pw	8.6	dres	1.0
d1	2.000	homo	n
tof	1519.5	PROCESSING	
nt	32	wtfile	
ct	10	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS			
il	n	werr	
in	n	wexp	
dp	y	wbs	
hs	nn	wnt	wft
DISPLAY			
sp	-249.9		
wp	6246.7		
vs	31		
sc	0		
wc	250		
hzmm	24.99		
is	33.57		
rfl	2889.1		
rfp	1654.2		
th	7		
ins	100.000		
ai cdc ph			

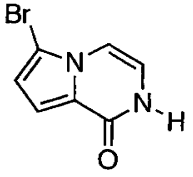


38



38

ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.229
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	2	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	40000	wtfile	
ct	18022	proc	ft
alock	n	fn	131072
gain	60	math	f
FLAGS			
il	n	werr	
in	n	wexp	
dp	y	wbs	
hs	nn	wnt	
DISPLAY			
sp	-6286.8		
wp	37735.3		
vs	15063		
sc	0		
wc	250		
hzmm	2.58		
is	500.00		
rfl	16001.6		
rfp	9714.2		
th	16		
ins	1.000		
ai	ph		



38

gCOSY

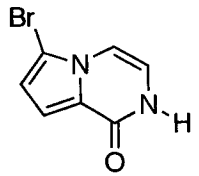
ACQUISITION		FLAGS	
sw	5497.5	hs	nn
at	0.186	sspul	n
np	2048	hsglvl	2000
fb	not used	SPECIAL	
ss	16	temp	not used
di	1.000	gain	46
nt	40	spin	0
2D ACQUISITION		F2 PROCESSING	
sw1	5497.5	sb	-0.093
ni	128	sbs	not used
TRANSMITTER		fn	2048
tn	H1	F1 PROCESSING	
sfrq	500.432	sb1	-0.047
tof	264.6	sbs1	not used
tpwr	56	proc1	lp
pw	9.850	fn1	2048
GRADIENTS		DISPLAY	
gzlvl1	2000	sp	8.3
gt1	0.001000	wp	5492.2
gstab	0.000500	sp1	10.2
DECOUPLER		wp1	5492.2
dn	C13	rfl	-2.9
dm	nnn	rfp	0
		rfl1	-4.8
		rfp1	0
		PLOT	
		wc	147.0
		sc	0
		wc2	147.0
		sc2	0
		vs	81
		th	6
		ai cdc av	

HSQC

ACQUISITION	
sw	5497.5
at	0.100
np	1098
fb	not used
ss	256
d1	1.000
nt	31
2D ACQUISITION	
sw1	21361.8
ni	256
phase	arrayed
TRANSMITTER	
tn	H1
sfrq	499.744
tof	256.4
tpwr	56
pw	8.950
DECOUPLER	
dn	C13
dof	-2514.7
dm	nny
dmm	ccg
dmf	32200
dpwr	53
pwxlvl	59
pwx	18.000
HSQC	
j1xh	140.0
null	0.350
nullflg	n
mult	2

FLAGS	
hs	n
sspul	n
PFGflg	y
hsglvl	2000
SPECIAL	
temp	not used
gain	58
spin	0
PRESATURATION	
satmode	n
satpwr	0
satdly	0
satfrq	0
F2 PROCESSING	
gf	0.086
gfs	not used
fn	2048
F1 PROCESSING	
sb1	-0.024
sbs1	-0.024
proc1	lp
fn1	2048
DISPLAY	
sp	-5.1
wp	5492.2
sp1	-1231.6
wp1	21341.8
rfl	3314.7
rfp	3304.3
rfl1	15725.1
rfp1	14472.7
PLOT	
wc	250.0
sc	0
wc2	155.0
sc2	0
vs	256
th	2
ai cdc ph	

ACQUISITION ARRAYS	
array	phase
arraydim	512
i	phase
1	1
2	2



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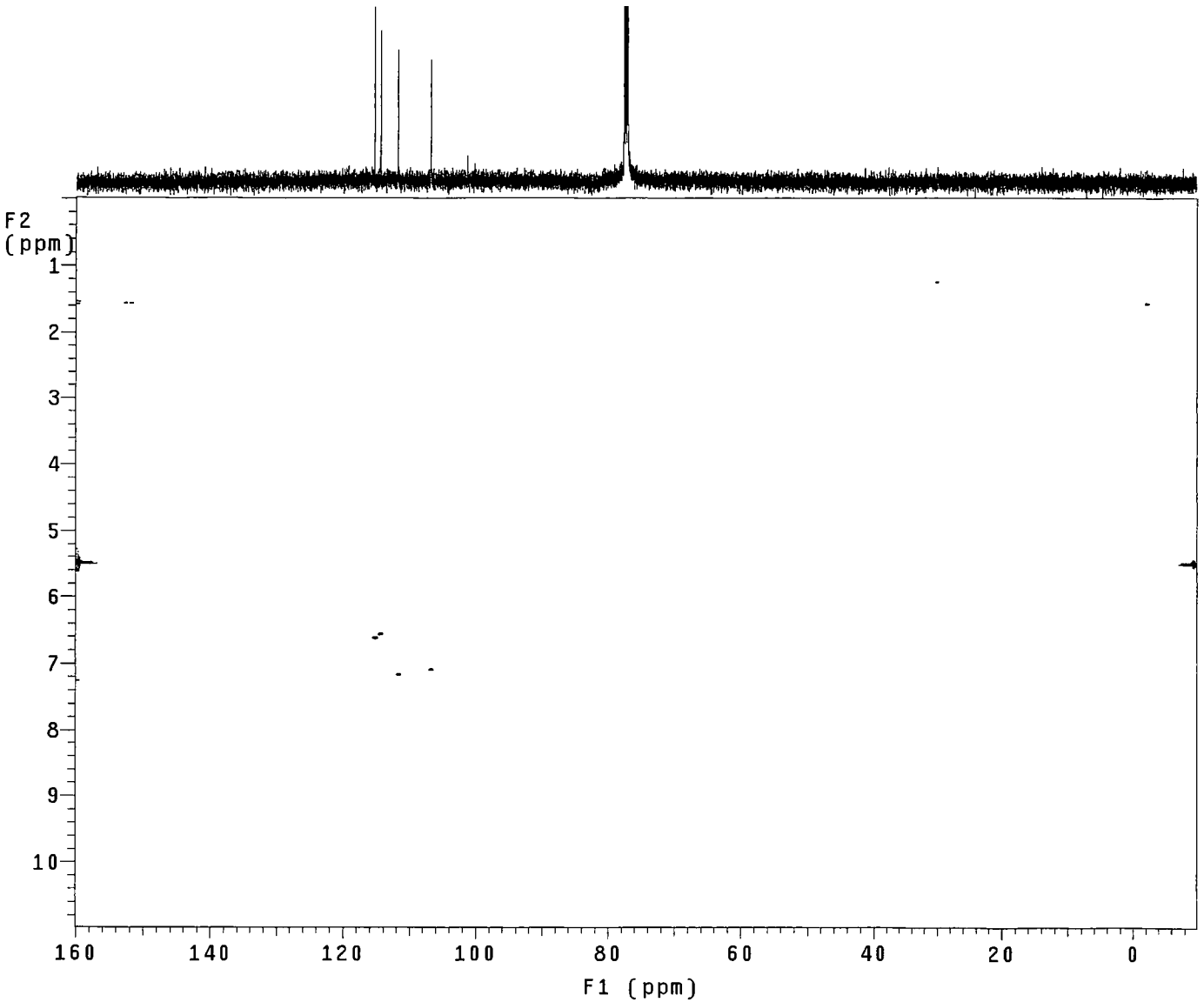
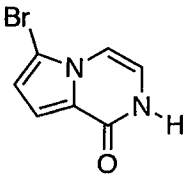
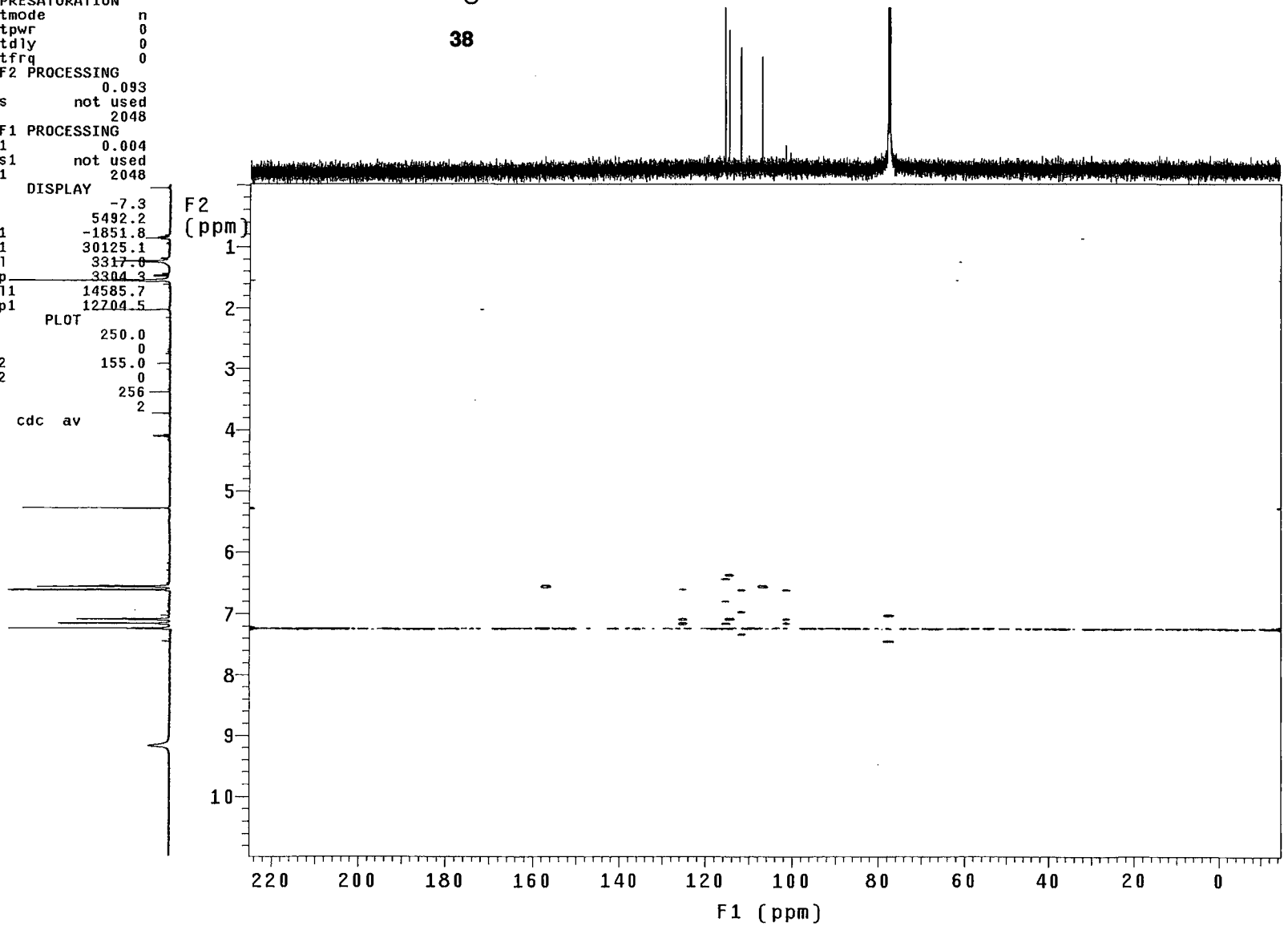


HMBC

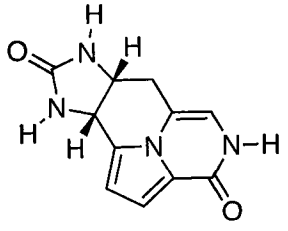
ACQUISITION		FLAGS		ACQUISITION ARRAYS	
sw	5497.5	hs	n	array	phase
at	0.186	sspul	n	arraydim	512
np	2048	PFGflg	n		
fb	not used	hsglvl	2000	i	phase
ss	32	SPECIAL		1	1
d1	1.000	temp	not used	2	2
nt	40	gain	58		
2D ACQUISITION		spin	0		
sw1	30154.5	PRESATURATION			
ni	256	satmode	n		
phase	arrayed	satpwr	0		
TRANSMITTER		satdly	0		
tn	H1	satfrq	0		
sfrq	499.744	F2 PROCESSING			
tof	256.4	sb	0.093		
tpwr	56	sbs	not used		
pw	8.950	fn	2048		
DECOUPLER		F1 PROCESSING			
dn	C13	sb1	0.004		
dof	1255.1	sbs1	not used		
dm	nnn	fn1	2048		
dmm	ccc	DISPLAY			
dmf	32200	sp	-7.3		
dpwr	53	wp	5492.2		
pwxlvl	59	sp1	-1851.8		
pwx	18.000	wp1	30125.1		
HMBC		rfl	3317.8		
jlxh	140.0	rfp	3304.3		
jnxh	8.0	rfl1	14585.7		
		rfp1	12704.5		
		PLOT			
		wc	250.0		
		sc	0		
		wc2	155.0		
		sc2	0		
		vs	256		
		th	2		
		ai cdc av			



38



ACQUISITION		DEC. & VT	
sfrq	500.437	dfrq	125.846
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	2	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	32	wtfile	
ct	32	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	wft
hs	nn		
DISPLAY			
sp	-250.2		
wp	6255.4		
vs	155		
sc	0		
wc	250		
hzmm	25.02		
is	33.57		
rfl	1750.0		
rfp	1251.1		
th	7		
ins	1.000		
ai cdc ph			



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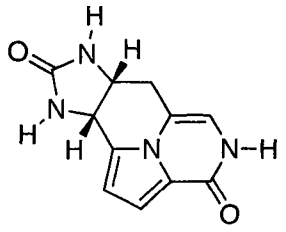
ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.232
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	2	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	40000	wtfile	
ct	16450	proc	ft
alock	n	fn	131072
gain	60	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6370.8		
wp	37735.3		
vs	13035		
sc	0		
wc	250		
hzmm	1.98		
is	500.00		
rfl	11341.0		
rfp	4969.7		
th	20		
ins	1.000		
ai	ph		



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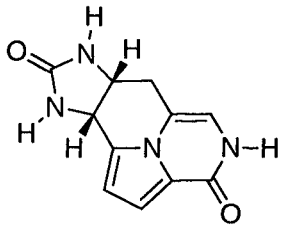
gCOSY

ACQUISITION	
sw	6000.6
at	0.171
np	2048
fb	not used
ss	16
d1	1.000
nt	50
2D ACQUISITION	
sw1	6000.6
ni	128
TRANSMITTER	
tn	H1
sfrq	499.747
tof	490.3
tpwr	56
pw	8.925
GRADIENTS	
gzlvl1	2000
gt1	0.001000
gstab	0.000500
DECOUPLER	
dn	C13
dm	nnn

FLAGS	
hs	nn
sspul	n
hsglvl	2000
SPECIAL	
temp	not used
gain	58
spin	0
F2 PROCESSING	
sb	-0.085
sbs	not used
fn	2048
F1 PROCESSING	
sb1	-0.043
sbs1	not used
proc1	lp
fn1	2048
DISPLAY	
sp	2.0
wp	5994.7
sp1	1.1
wp1	5994.7
rfl	3.8
rfp	0
rfl1	4.7
rfp1	0
PLOT	
wc	250.0
sc	0
wc2	160.0
sc2	0
vs	174
th	2
ai cdc av	



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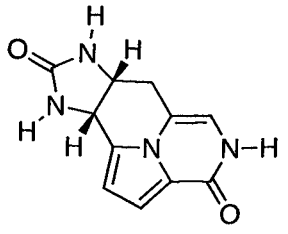
HSQC

ACQUISITION	
sw	6000.6
at	0.100
np	1198
fb	not used
ss	256
d1	1.000
nt	42
2D ACQUISITION	
sw1	21361.8
ni	256
phase	arrayed
TRANSMITTER	
tn	H1
sfrq	499.747
tof	490.3
tpwr	56
pw	8.925
DECOUPLER	
dn	C13
dof	-2514.8
dm	nny
dmm	ccg
dmf	32200
dpwr	53
pwxlvl	59
pwx	18.000
HSQC	
j1xh	140.0
null	0.350
nullflg	n
mult	2

FLAGS	
hs	n
sspul	n
PFGflg	y
hsglvl	2000
SPECIAL	
temp	not used
gain	54
spin	0
PRESATURATION	
satmode	n
satpwr	0
satdly	0
satfrq	0
F2 PROCESSING	
gf	0.079
gfs	not used
fn	2048
F1 PROCESSING	
sb1	-0.024
sbs1	-0.024
proc1	lp
fn1	2048
DISPLAY	
sp	-1.6
wp	5994.7
sp1	-1321.9
wp1	21341.0
rfl	2036.7
rfp	2029.2
rfl1	7431.7
rfp1	6088.9
PLOT	
wc	170.0
sc	0
wc2	110.0
sc2	0
vs	174
th	2
ai cdc ph	

ACQUISITION ARRAYS	
array	phase
arraydim	512
i	phase
1	1
2	2



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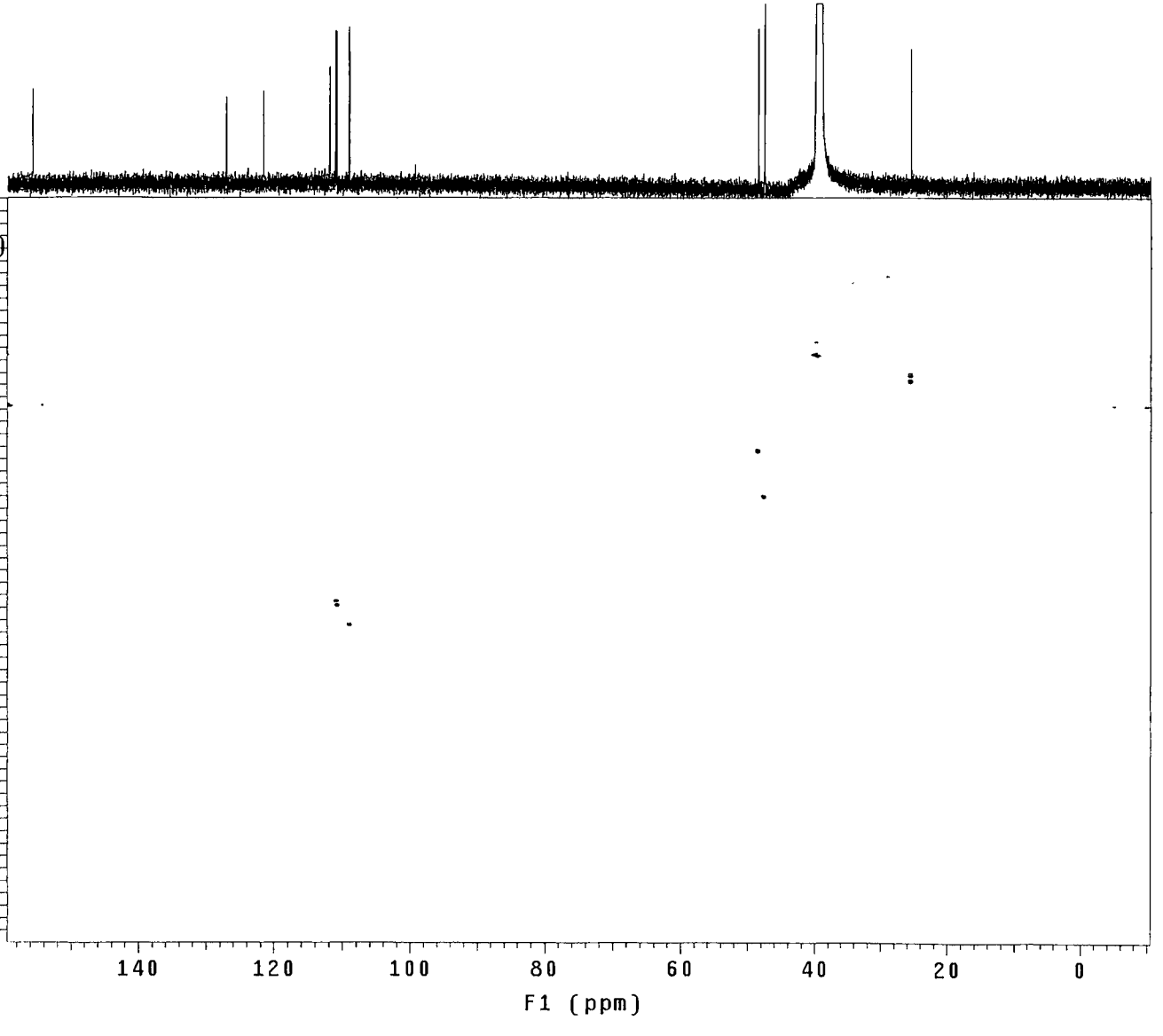
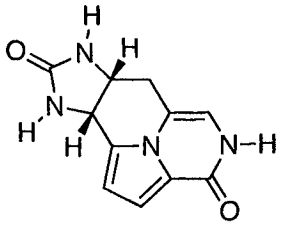


HMBC

ACQUISITION	
sw	6000.6
at	0.171
np	2048
fb	not used
ss	32
d1	1.000
nt	45
2D ACQUISITION	
sw1	30154.5
ni	256
phase	arrayed
TRANSMITTER	
tn	H1
sfrq	499.747
tof	490.3
tpwr	56
pw	8.925
DECOUPLER	
dn	C13
dof	1255.1
dm	nnn
dmm	ccc
dmf	32200
dpwr	53
pwx1vl	59
pwx	18.000
HMBC	
j1xh	140.0
jnxh	8.0

FLAGS	
hs	n
sspul	n
PFGflg	n
hsglvl	2000
SPECIAL	
temp	not used
gain	54
spin	0
PRESATURATION	
satmode	n
satpwr	0
satdly	0
satfrq	0
F2 PROCESSING	
sb	0.085
sbs	not used
fn	2048
F1 PROCESSING	
sb1	0.004
sbs1	not used
fn1	2048
DISPLAY	
sp	18038.4
wp	5994.7
sp1	-1853.4
wp1	30125.1
rfl	2414.8
rfp	20447.3
rfl1	1882.9
rfp1	0
PLOT	
wc	250.0
sc	0
wc2	155.0
sc2	0
vs	174
th	2
ai cdc av	

ACQUISITION ARRAYS	
array	phase
arraydim	512
i	phase
1	1
2	2



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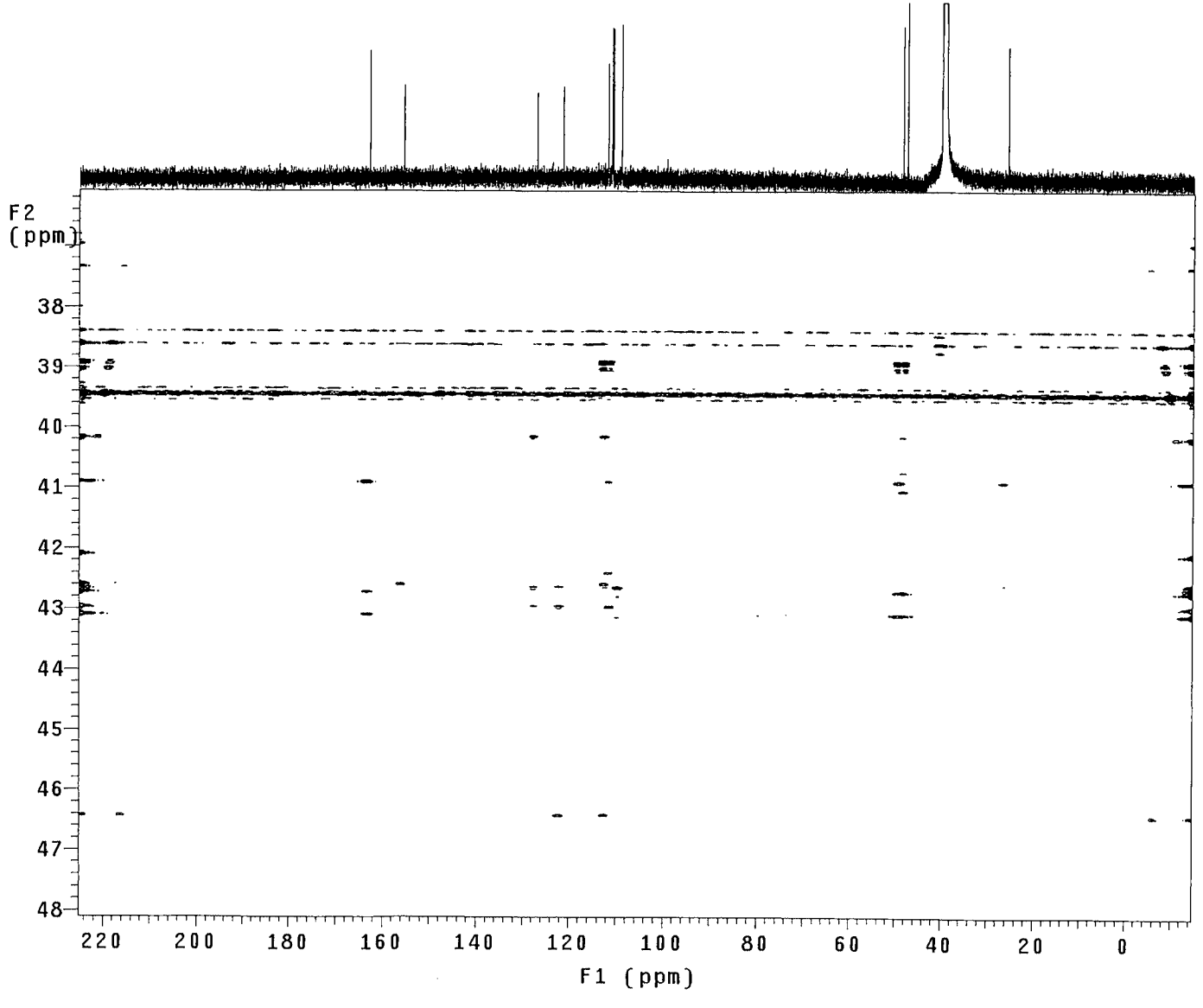
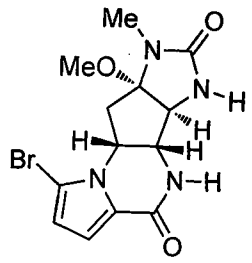


ACQUISITION		DEC. & VT	
sfrq	500.437	dfrq	125.846
tn	H1	dn	C13
at	4.999	dpwr	30
np	120102	dof	0
sw	12012.0	dm	nnn
fb	not used	dmm	c
bs	1	dmf	200
tpwr	56	dseq	
pw	8.0	dres	1.0
d1	0.100	homo	n
tof	3003.2	PROCESSING	
nt	16	wtfile	
ct	16	proc	ft
alock	n	fn	262144
gain	not used	math	f
FLAGS			
il	n	werr	
in	n	wexp	
dp	y	wbs	
hs	nn	wnt	wft
DISPLAY			
sp	-250.2		
wp	6255.4		
vs	16		
sc	0		
wc	250		
hzmm	25.02		
is	33.57		
rfl	2159.7		
rfp	1656.4		
th	4		
ins	100.000		
ai cdc ph			



(–)-agelastatin E (**5**)

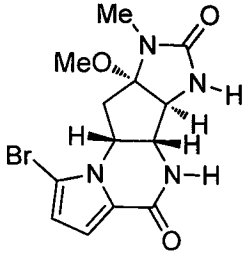
ACQUISITION	
sfrq	125.795
tn	C13
at	1.736
np	131010
sw	37735.8
fb	not used
bs	4
ss	1
tpwr	53
pw	6.9
d1	0.763
tof	631.4
nt	1e+09
ct	448
alock	n
gain	not used

FLAGS	
il	n
in	n
dp	y
hs	nn

DISPLAY	
sp	-6118.1
wp	37735.3
vs	1265
sc	0
wc	250
hzmm	150.94
is	23000.00
rfl	12300.9
rfp	6182.2
th	11
ins	1.000
ai	ph

DEC. & VT	
dfrq	500.231
dn	H1
dpwr	38
dof	-500.0
dm	y
dmm	w
dmf	10000
dseq	
dres	1.0
homo	n

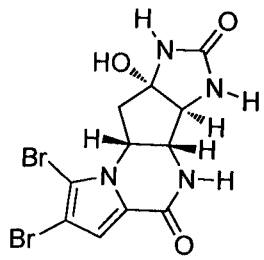
PROCESSING	
lb	0.30
wtfile	
proc	ft
fn	131072
math	f
werr	
wexp	
wbs	
wnt	



(–)-agelastatin E (**5**)

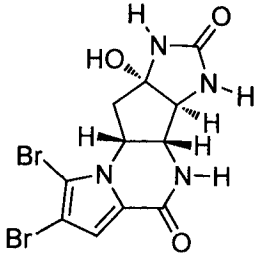
ACQUISITION	
sfrq	500.437
tn	H1
at	4.999
np	120102
sw	12012.0
fb	not used
bs	2
tpwr	56
pw	8.0
d1	0.100
tof	3003.2
nt	32
ct	8
alock	n
gain	not used
FLAGS	
il	n
in	n
dp	y
hs	nn
DISPLAY	
sp	-250.2
wp	6255.4
vs	43
sc	0
wc	250
hzmm	25.02
is	33.57
rfl	2159.5
rfp	1656.4
th	3
ins	100.000
ai cdc ph	

DEC. & VT	
dfrq	125.846
dn	C13
dpwr	30
dof	0
dm	nnn
dmm	c
dmf	200
dseq	
dres	1.0
homo	n
PROCESSING	
wtfile	
proc	ft
fn	262144
math	f
werr	
wexp	
wbs	
wnt	wft



(–)-agelastatin F (**6**)

ACQUISITION		DEC. & VT	
sfrq	125.795	dfrq	500.231
tn	C13	dn	H1
at	1.736	dpwr	38
np	131010	dof	-500.0
sw	37735.8	dm	y
fb	not used	dmm	w
bs	2	dmf	10000
ss	1	dseq	
tpwr	53	dres	1.0
pw	6.9	homo	n
d1	0.763	PROCESSING	
tof	631.4	lb	0.30
nt	40000	wtfile	
ct	15698	proc	ft
alock	n	fn	131072
gain	not used	math	f
FLAGS		werr	
il	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-6116.4		
wp	37735.3		
vs	8340		
sc	0		
wc	250		
hzmm	150.94		
is	500.00		
rfl	12299.2		
rfp	6182.2		
th	56		
ins	1.000		
ai	ph		



(–)-agelastatin F (**6**)