Supplementary Material

Coumarin-carbazole based functionalized pyrazolines: Synthesis, characterization, anticancer investigation and molecular docking

Mrugesh Patel[a], Nilesh Pandey[b], Niraj Jain[c], Alex Chauhan[c], Paranjay Parikh[a], Jignesh Timaniya[a] & Kaushal Patel[a]*

[a] *Department of Advanced Organic Chemistry, P. D. Patel Institute of Applied Sciences,*

Charotar University of Science and Technology, Gujarat 388421, India

[b] *Department of Medical Laboratory Technology, Charotar institute of paramedical Sciences,*

Charotar University of Science and Technology, Gujarat 388421, India.

[c] *Department of Biological Sciences, P. D. Patel Institute of Applied Sciences,*

Charotar University of Science and Technology, Gujarat 388421, India.

**Corresponding author.*

Email address: kaus_chem@yahoo.com (Kaushal Patel)

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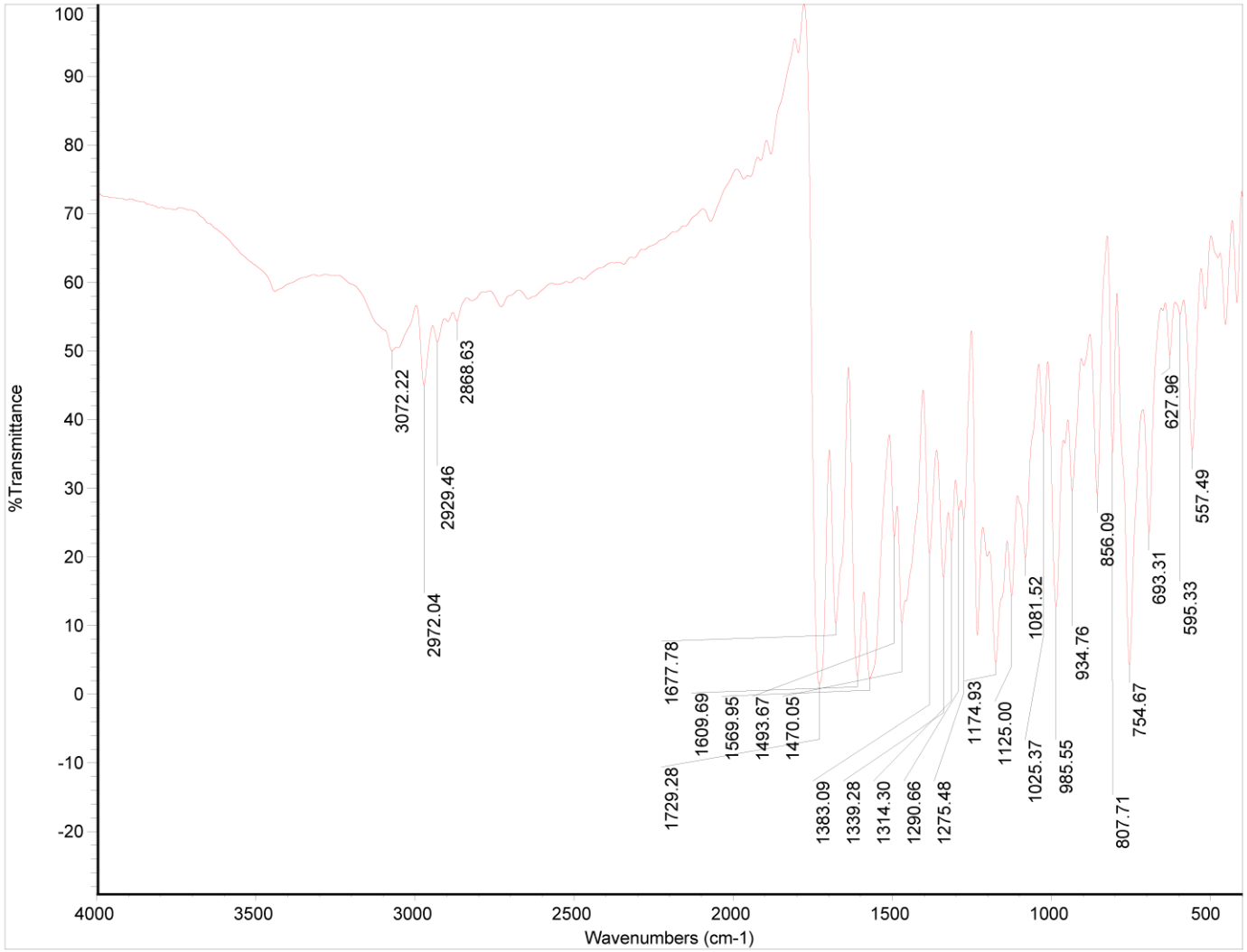


Fig. 1. IR spectrum of compound 3a

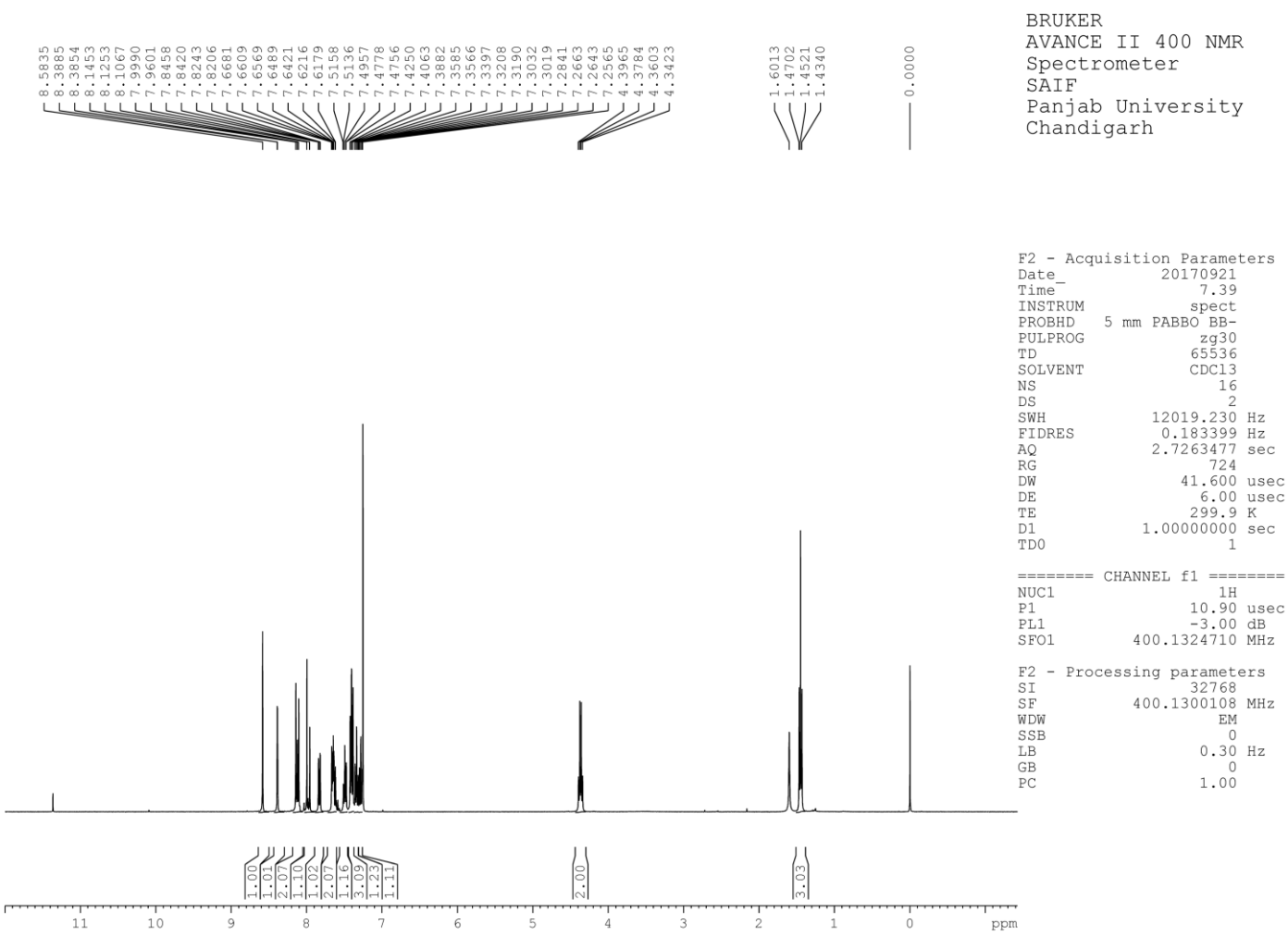


Fig. 2. ^{1}H NMR spectrum of compound 3a

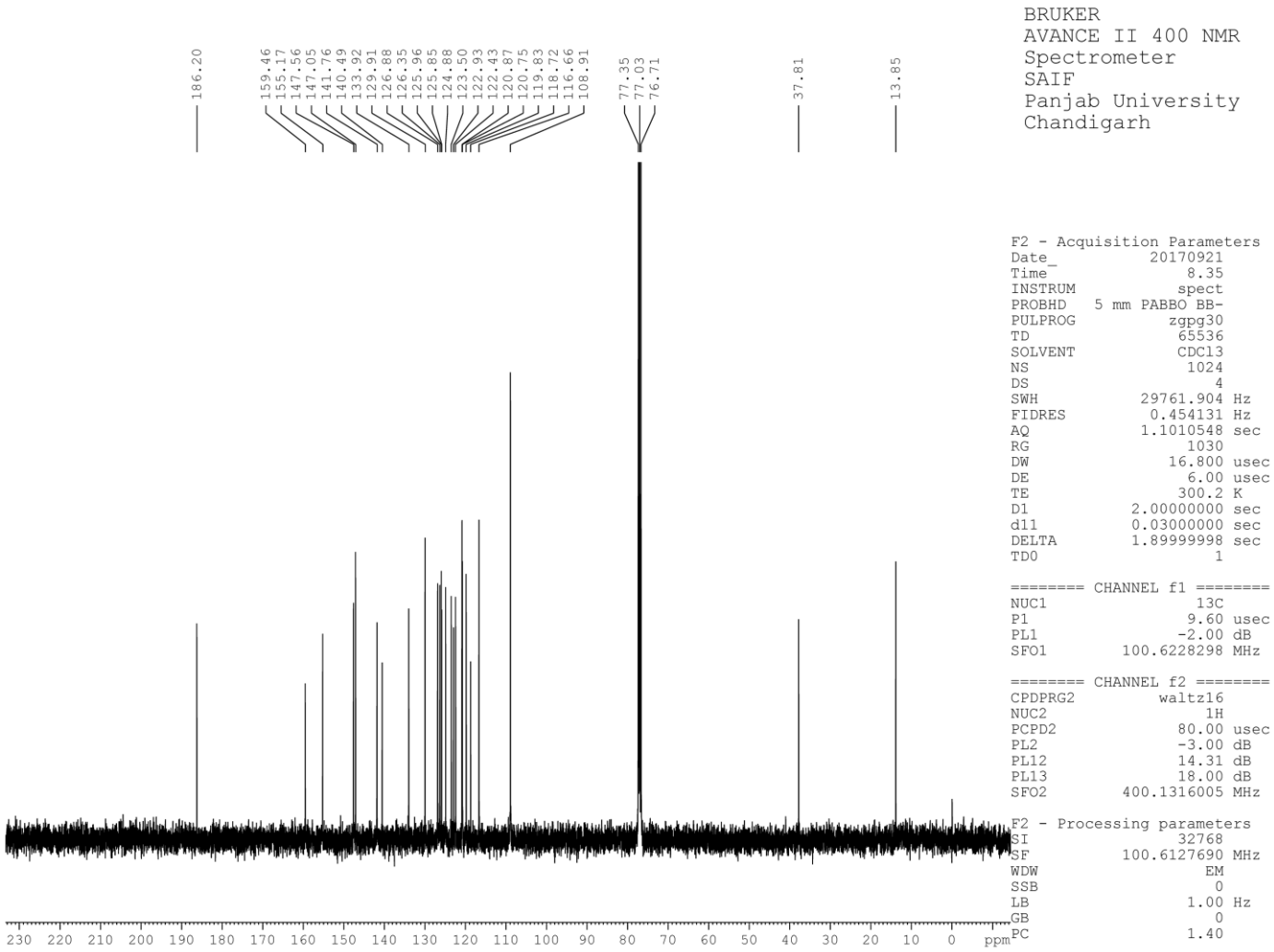


Fig. 3 ^{13}C NMR spectrum of compound 3a

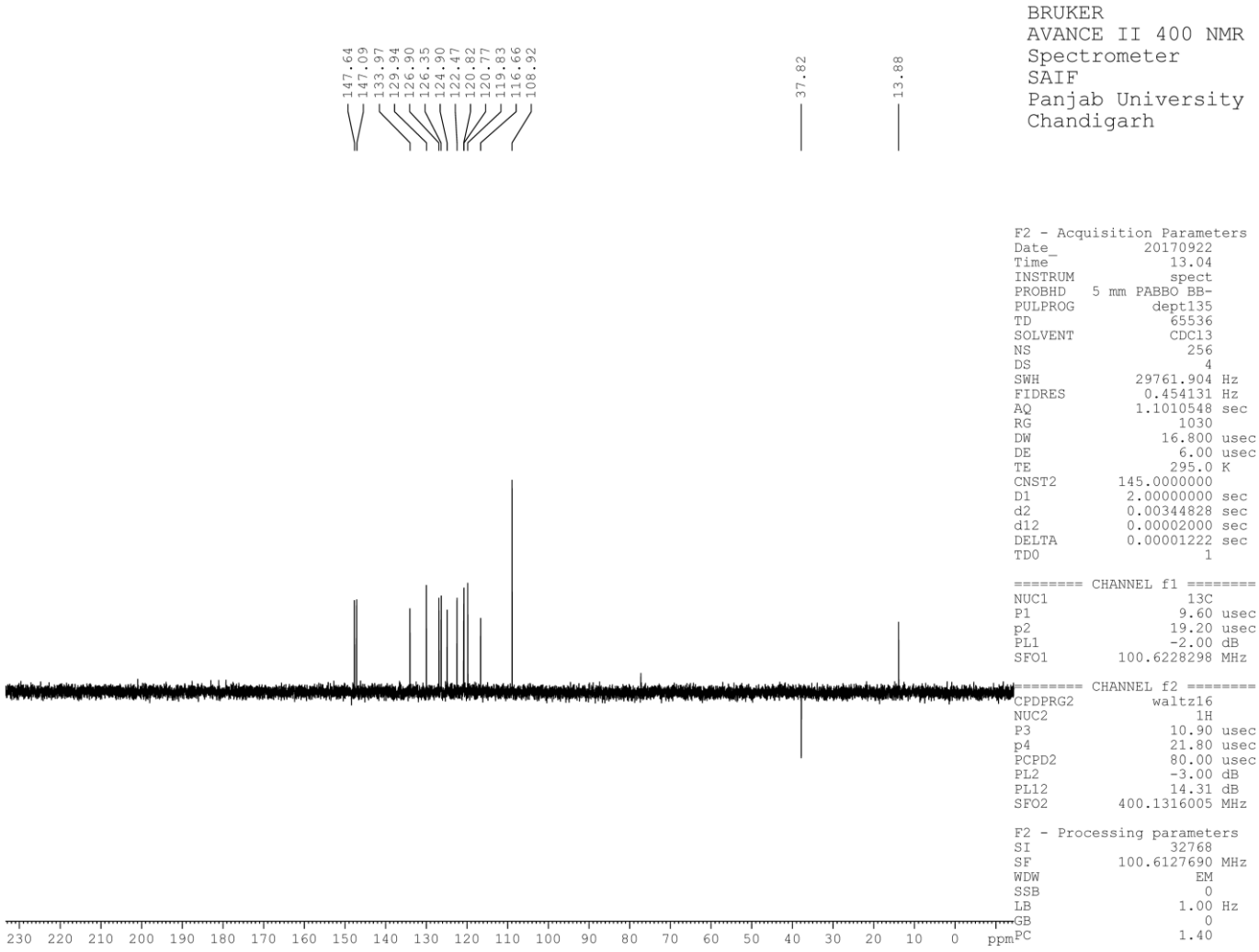


Fig. 4. DEPT-135 spectrum of compound 3a

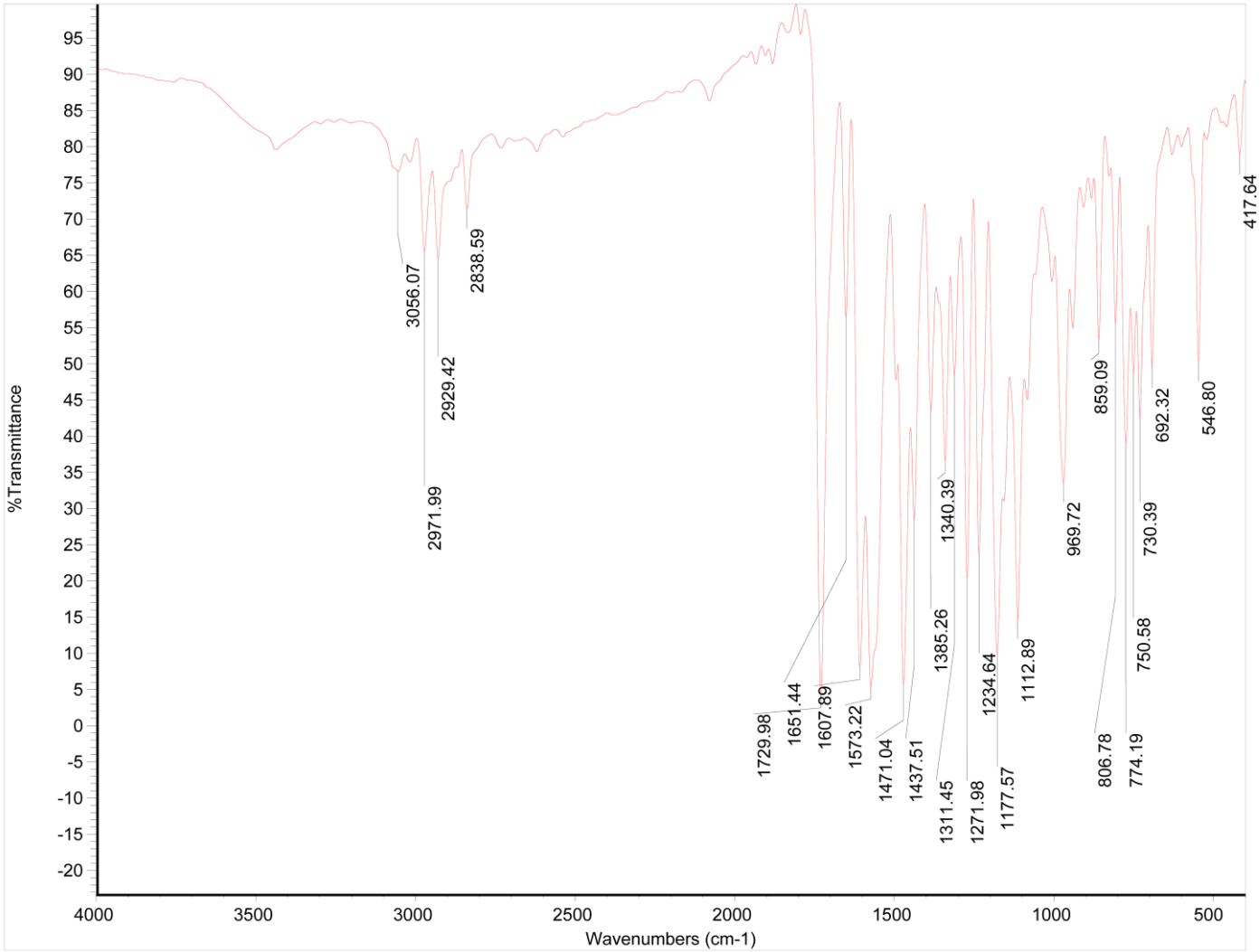


Fig. 5. IR spectrum of compound 3b

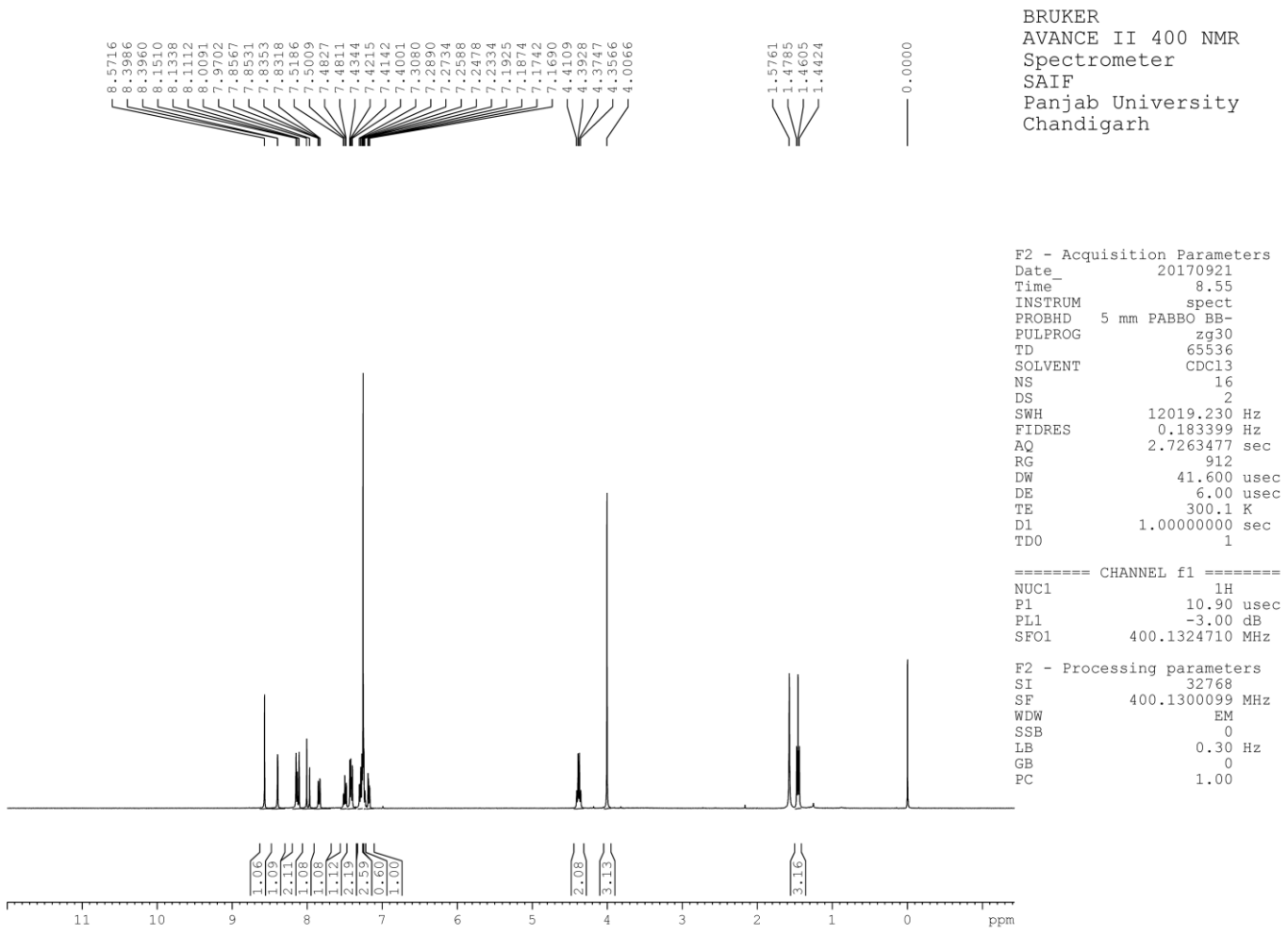


Fig. 6. ^{1}H NMR spectrum of compound 3b

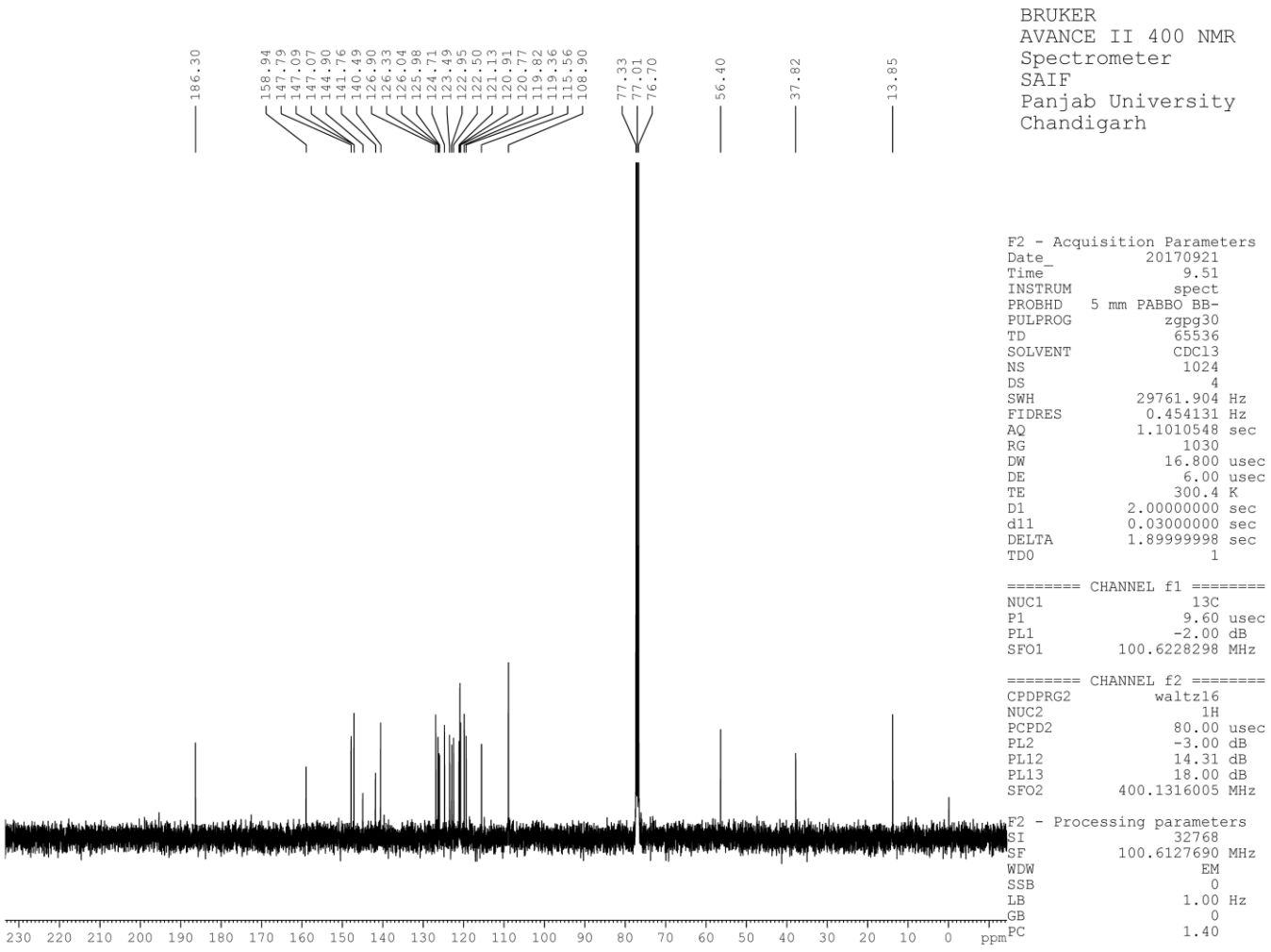
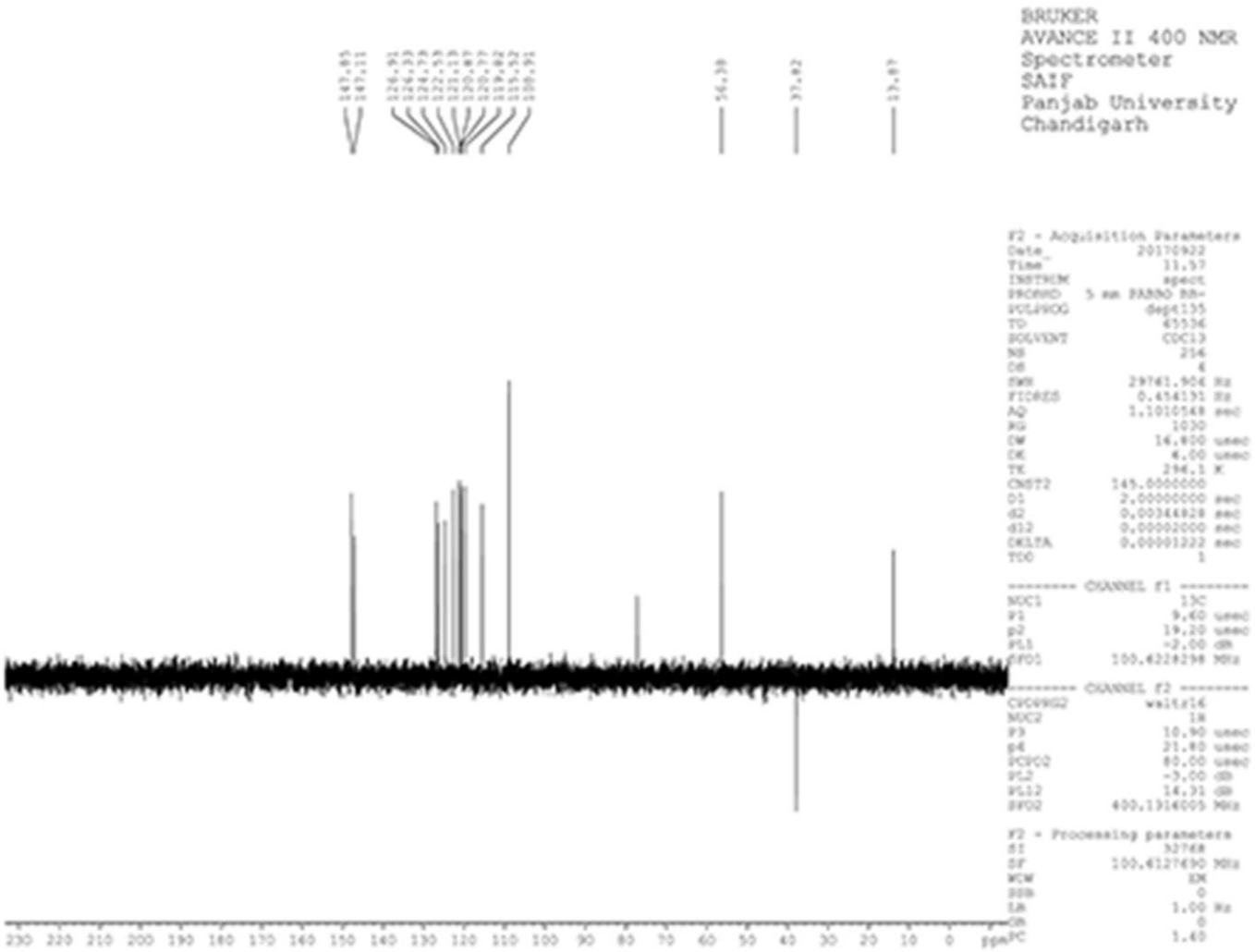


Fig. 7. ^{13}C NMR spectrum of compound 3b



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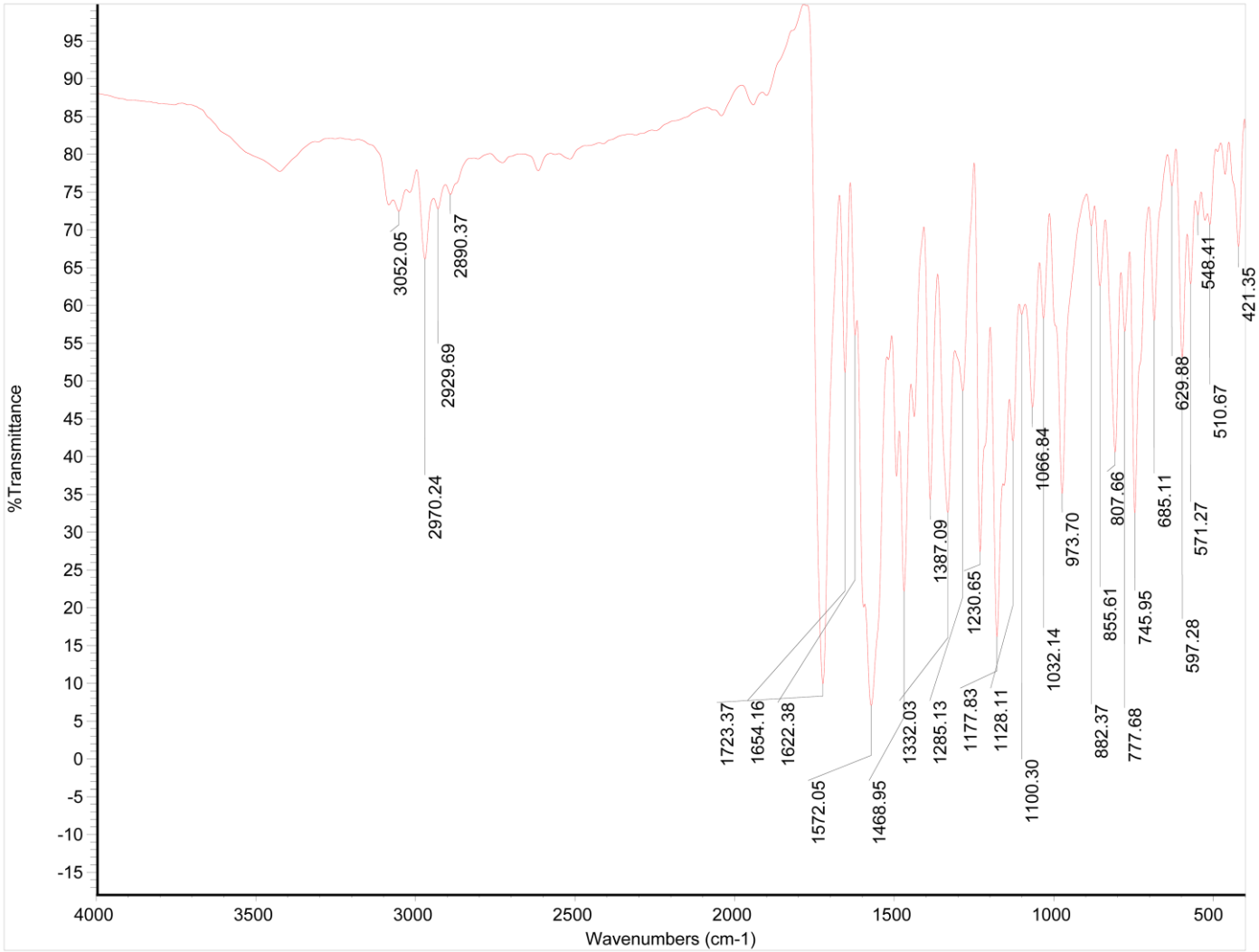

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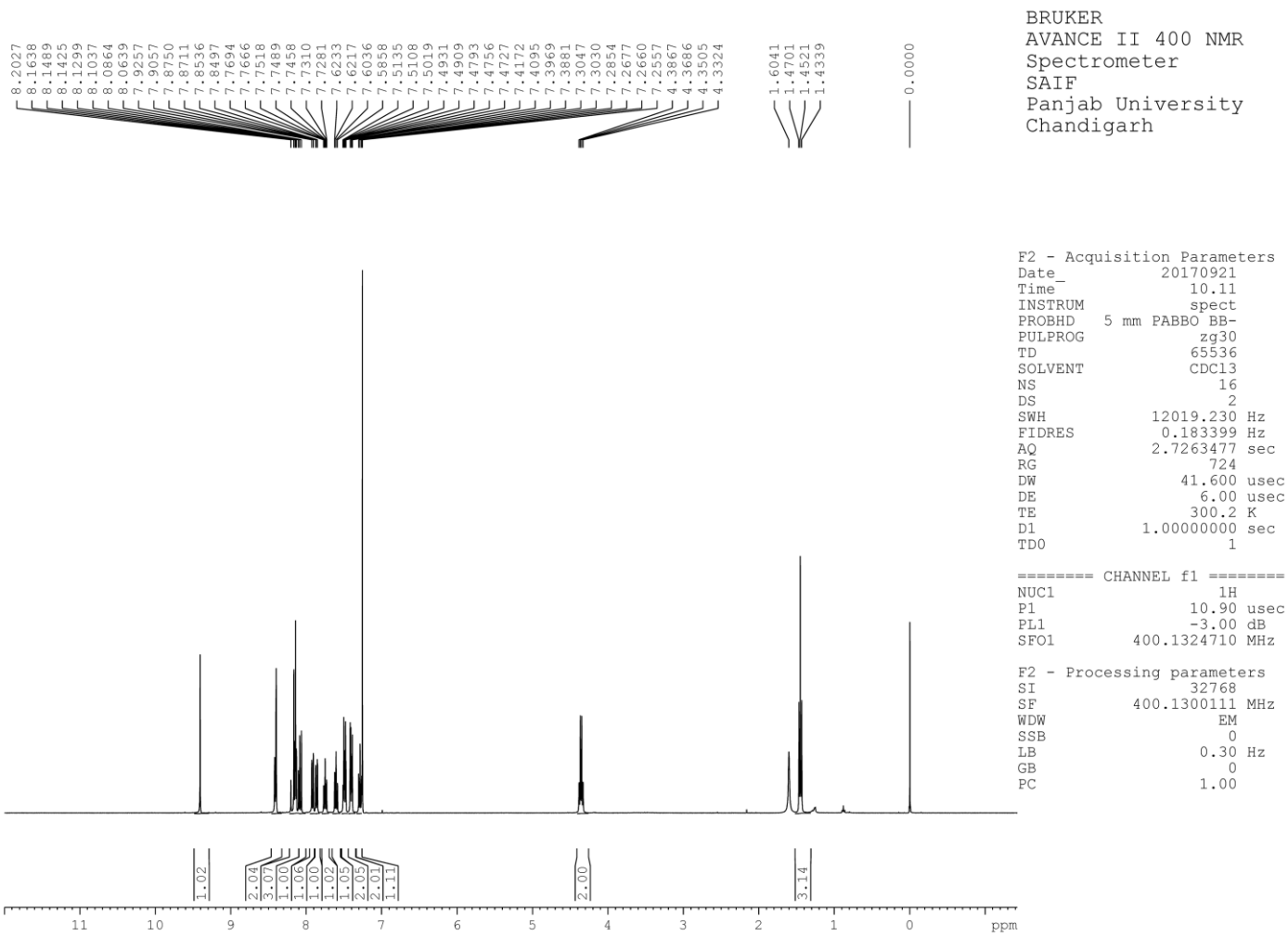
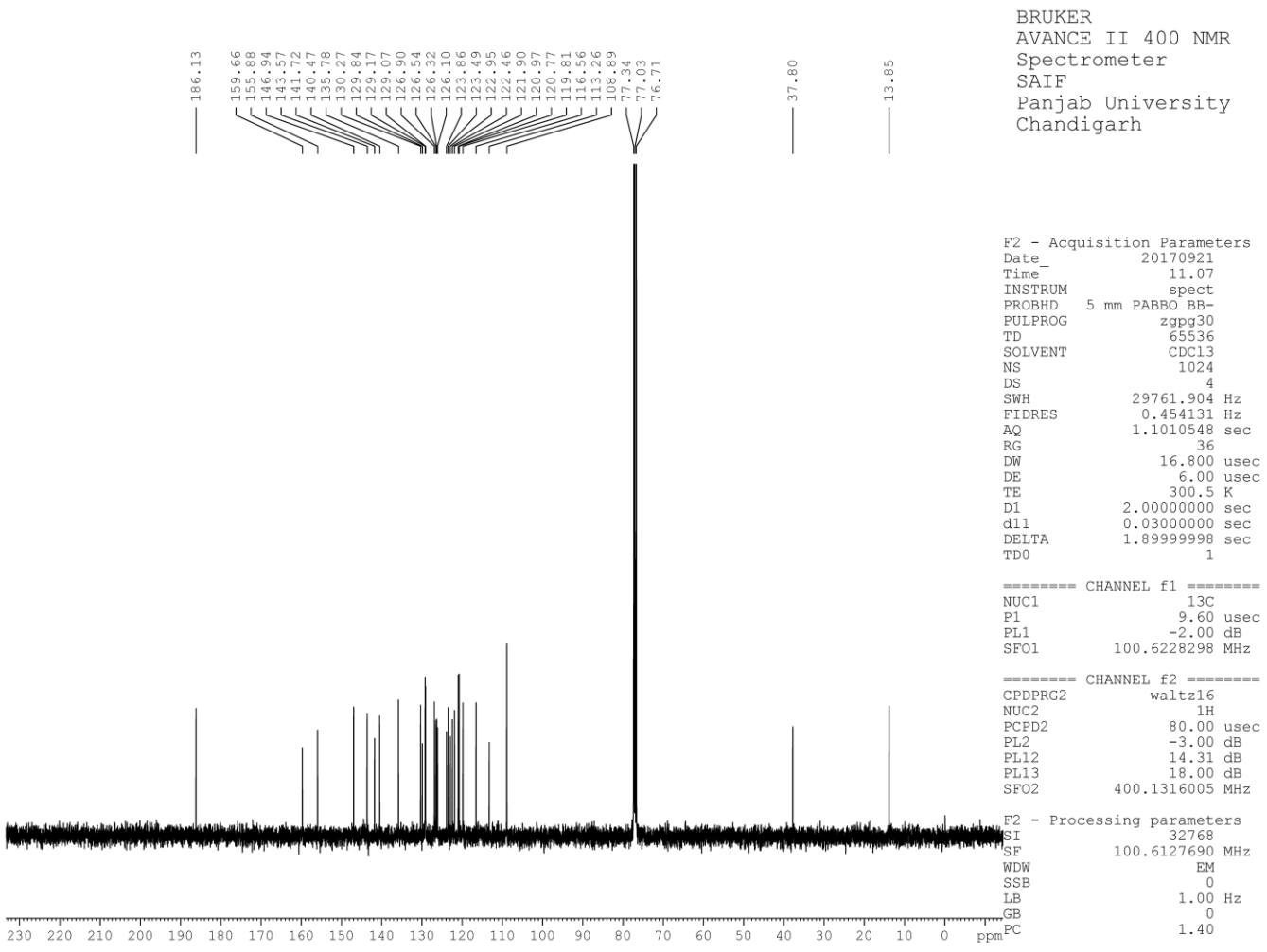


Fig. 10. ^{1}H NMR spectrum of compound 3c



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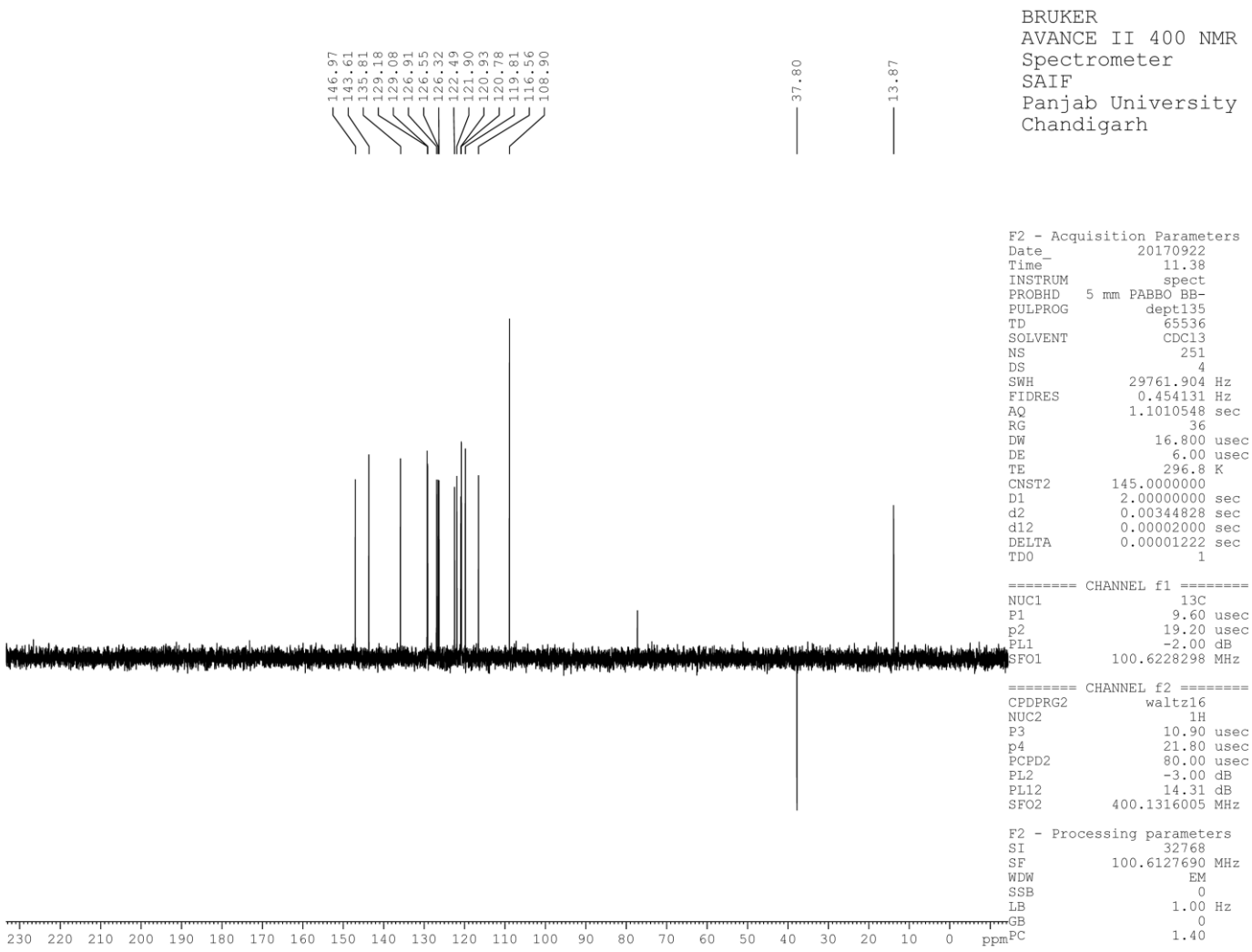

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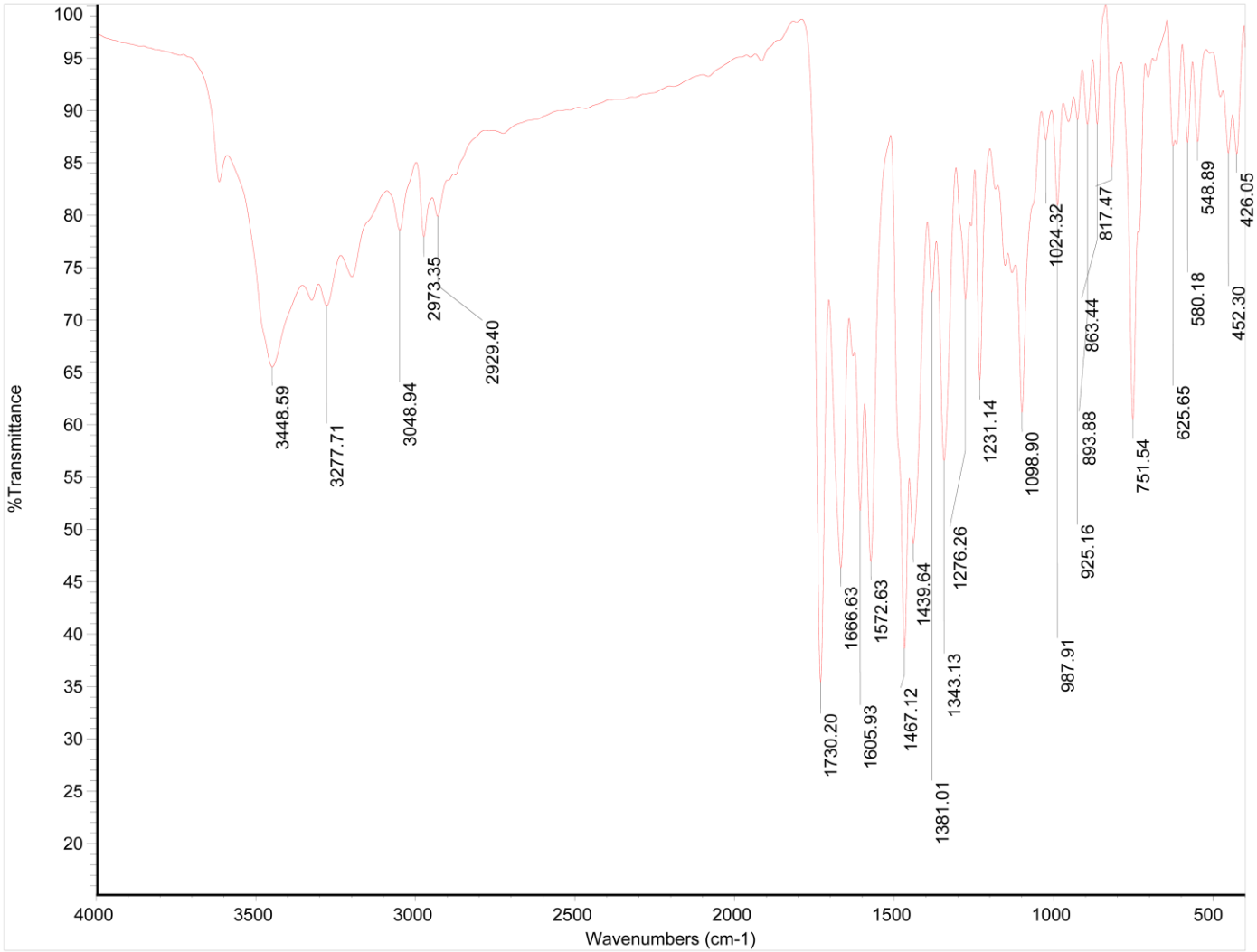

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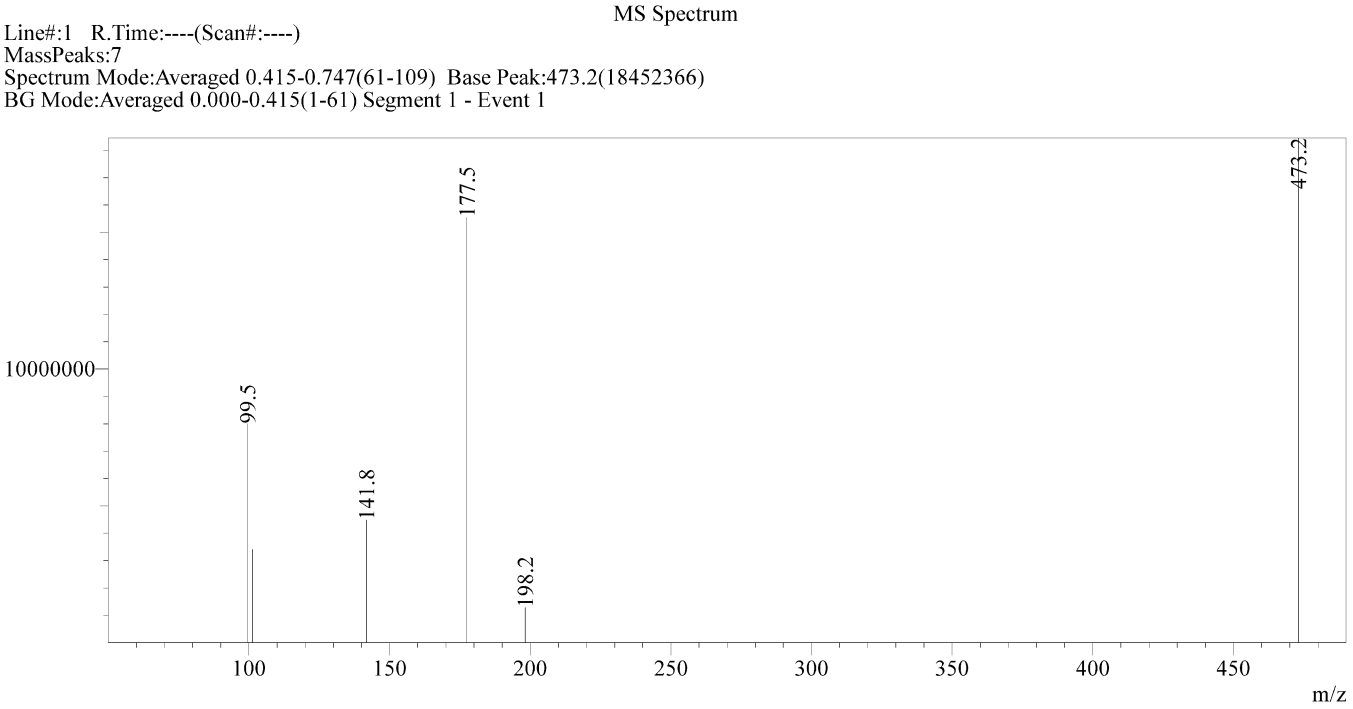

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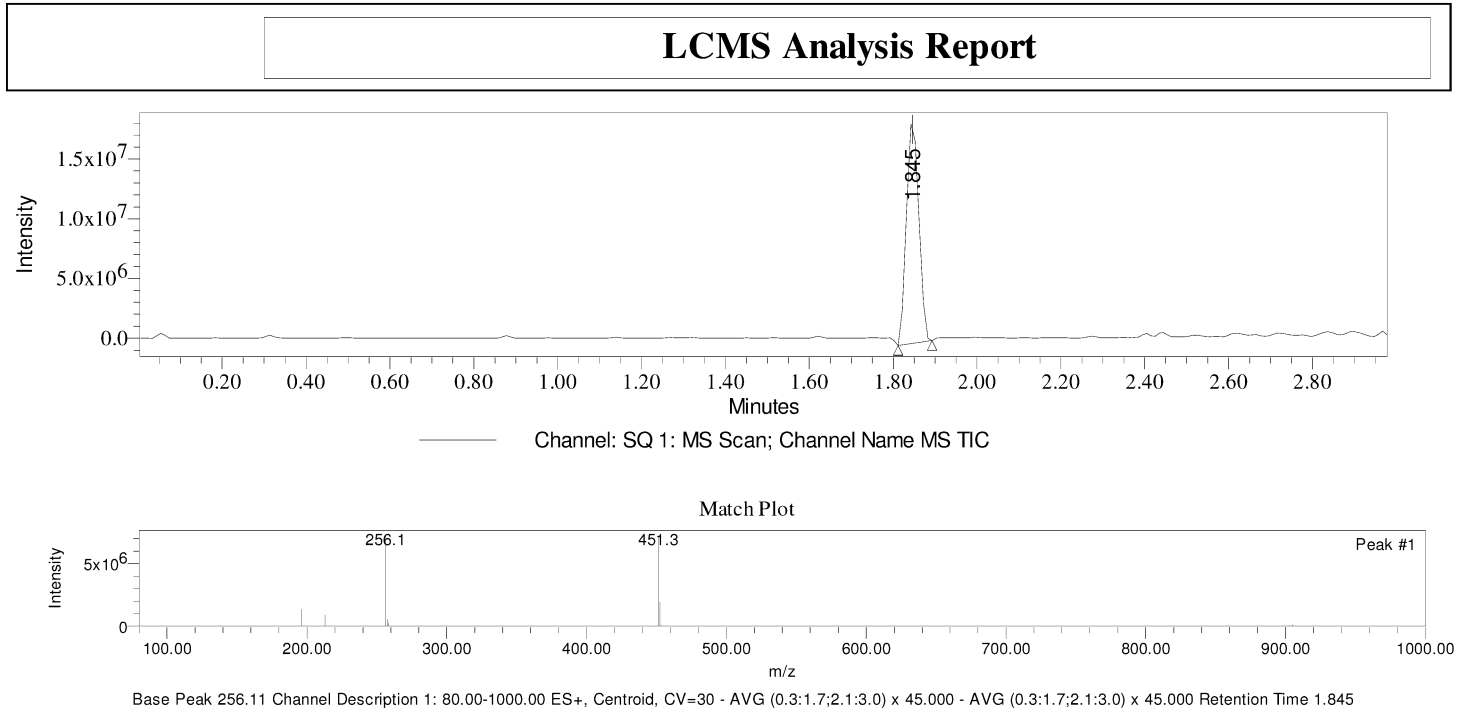

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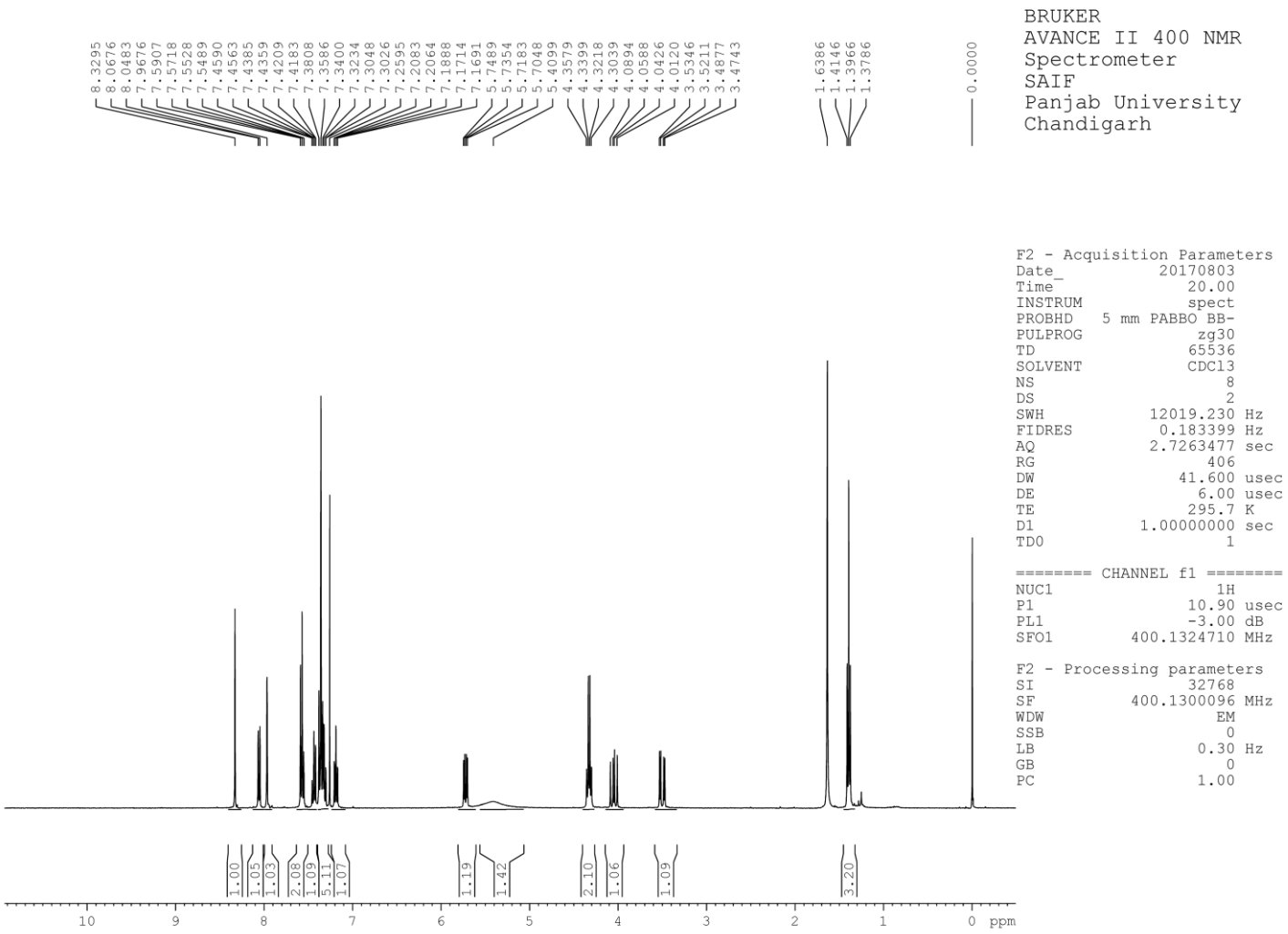

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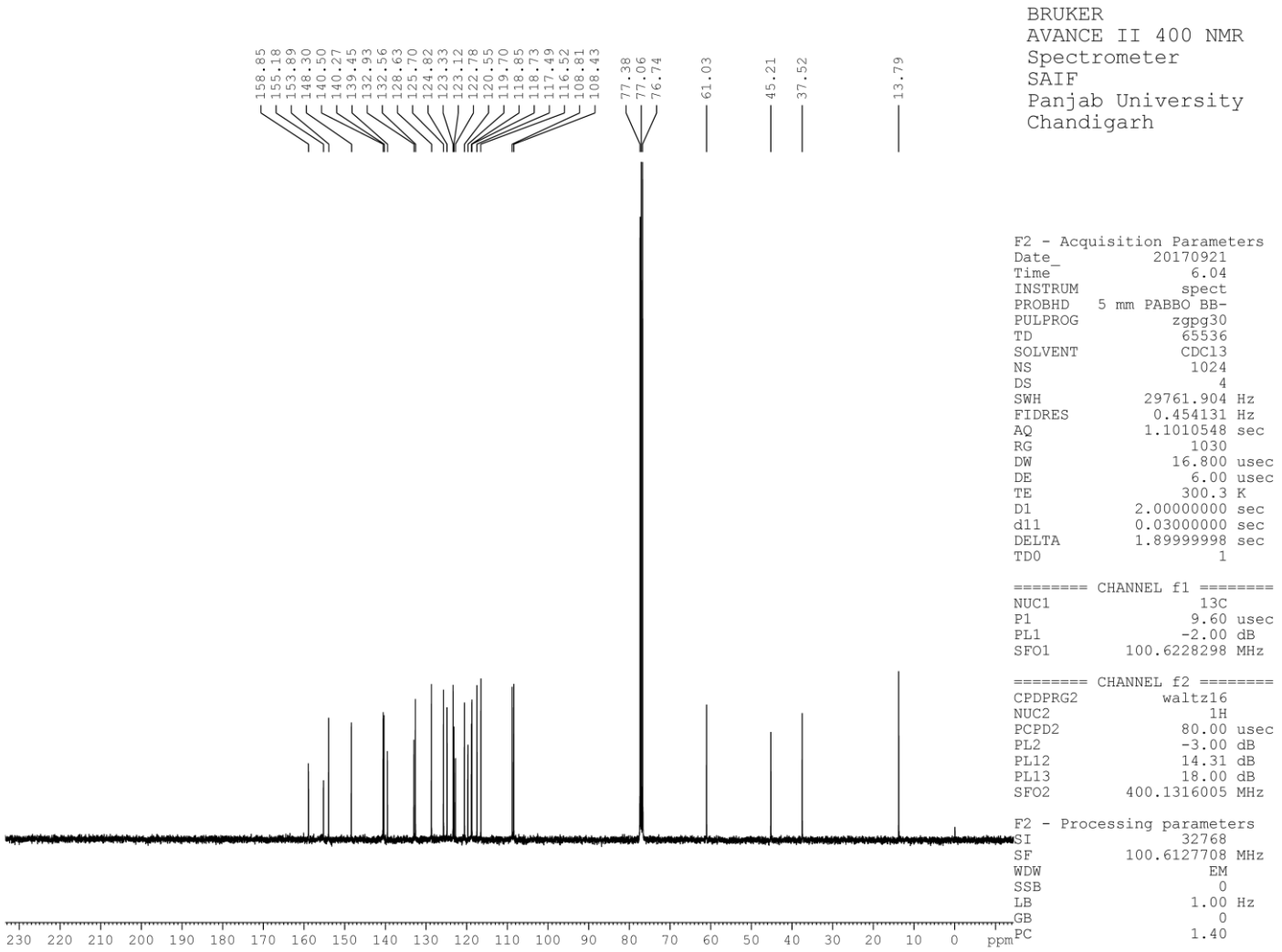

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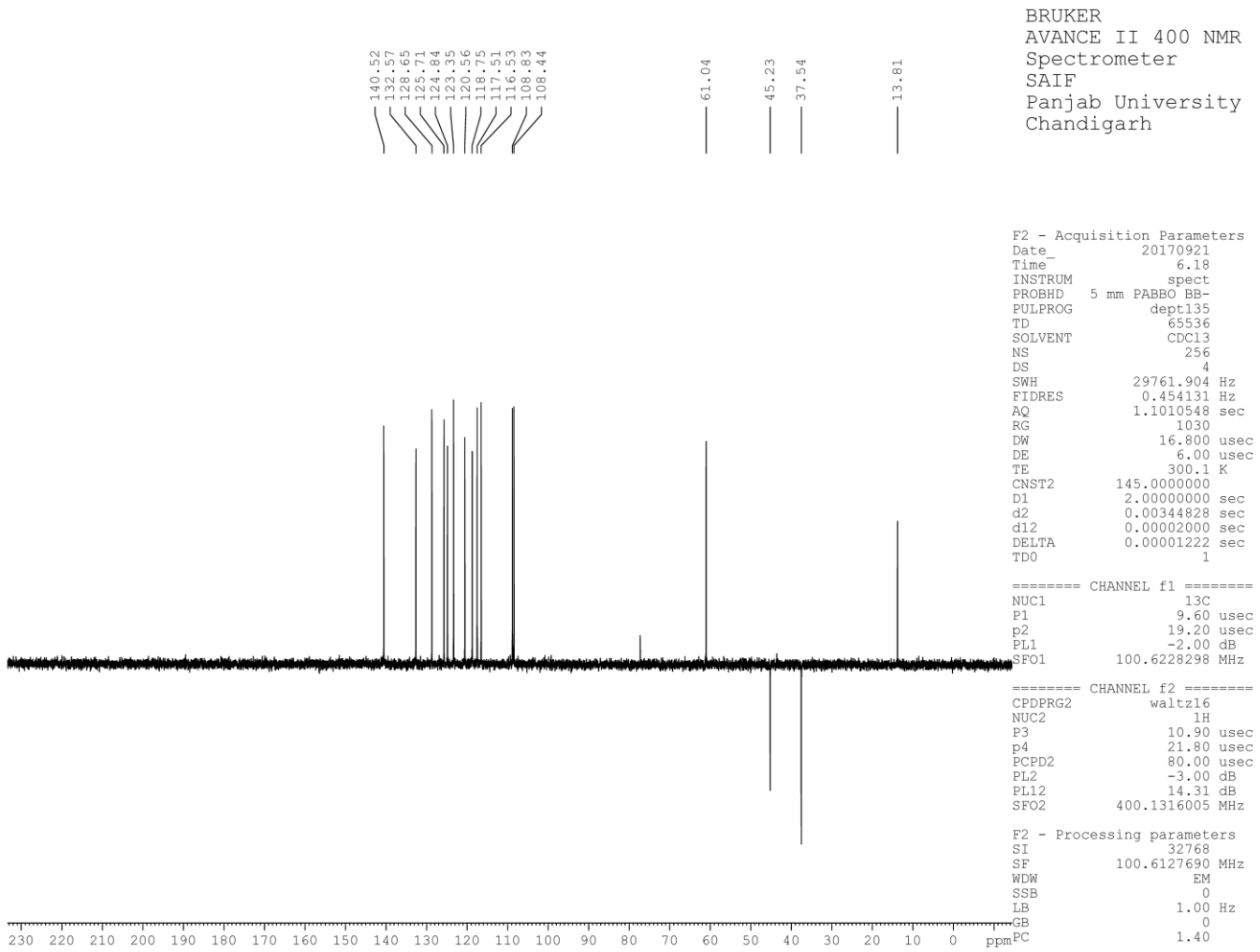

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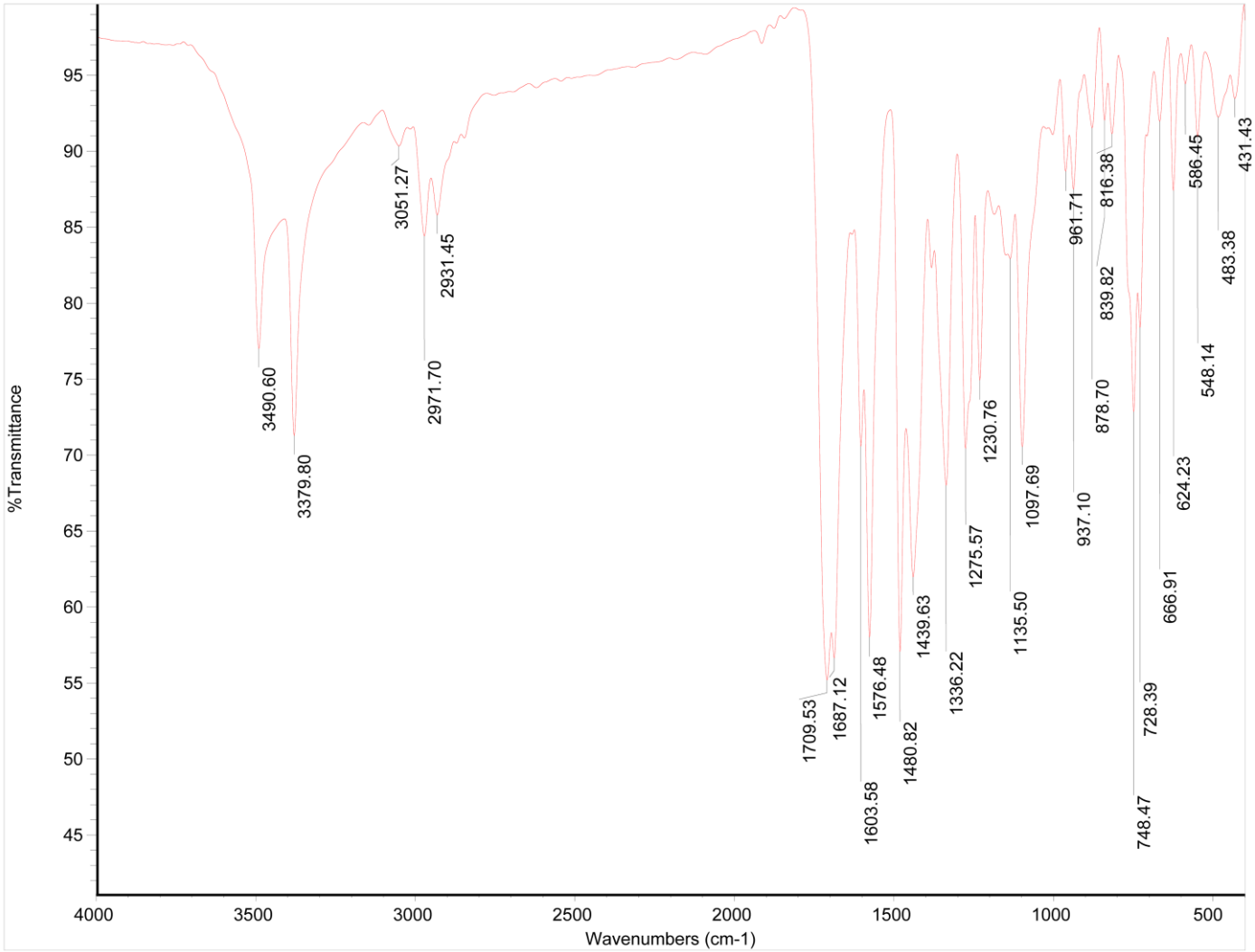

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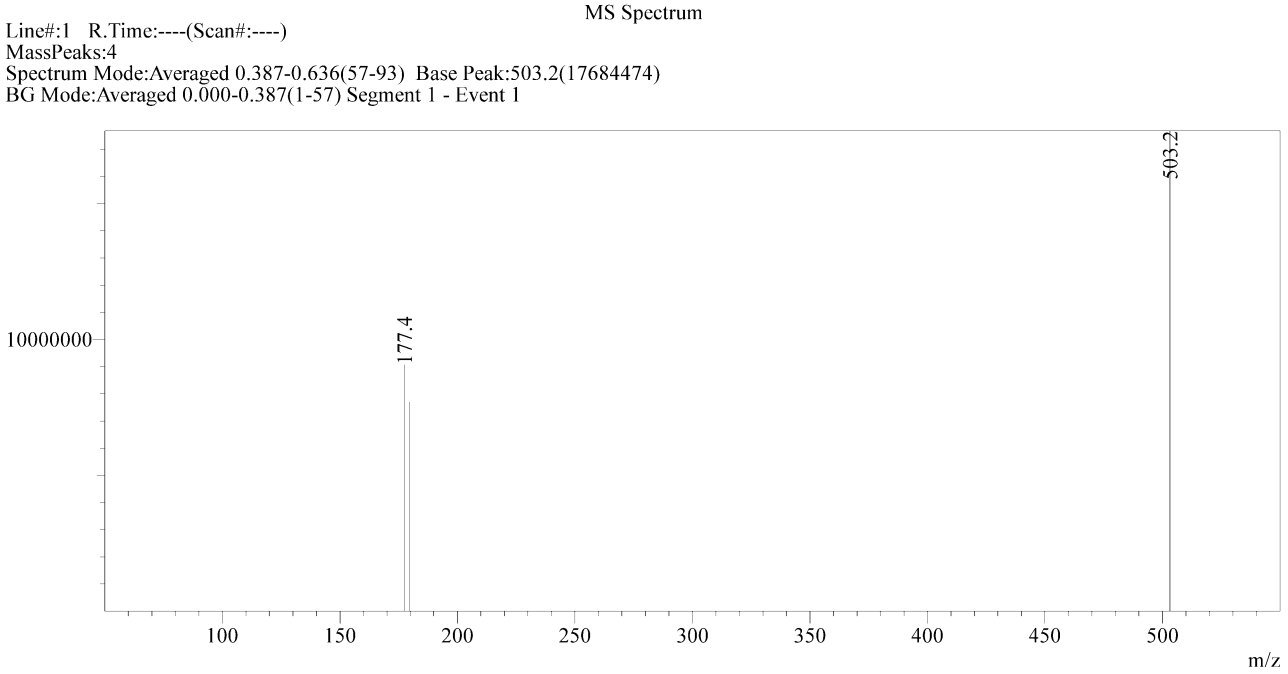

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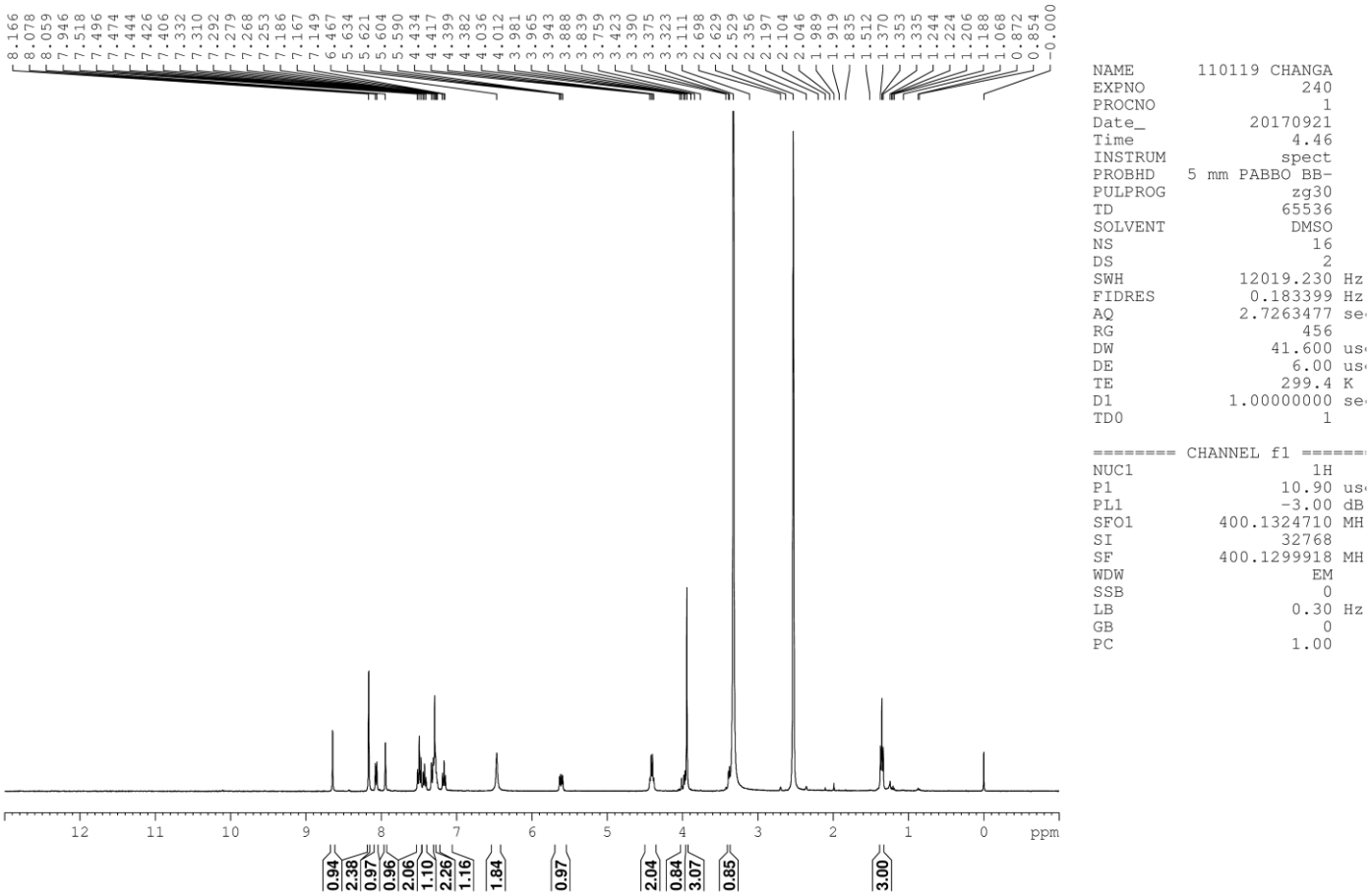

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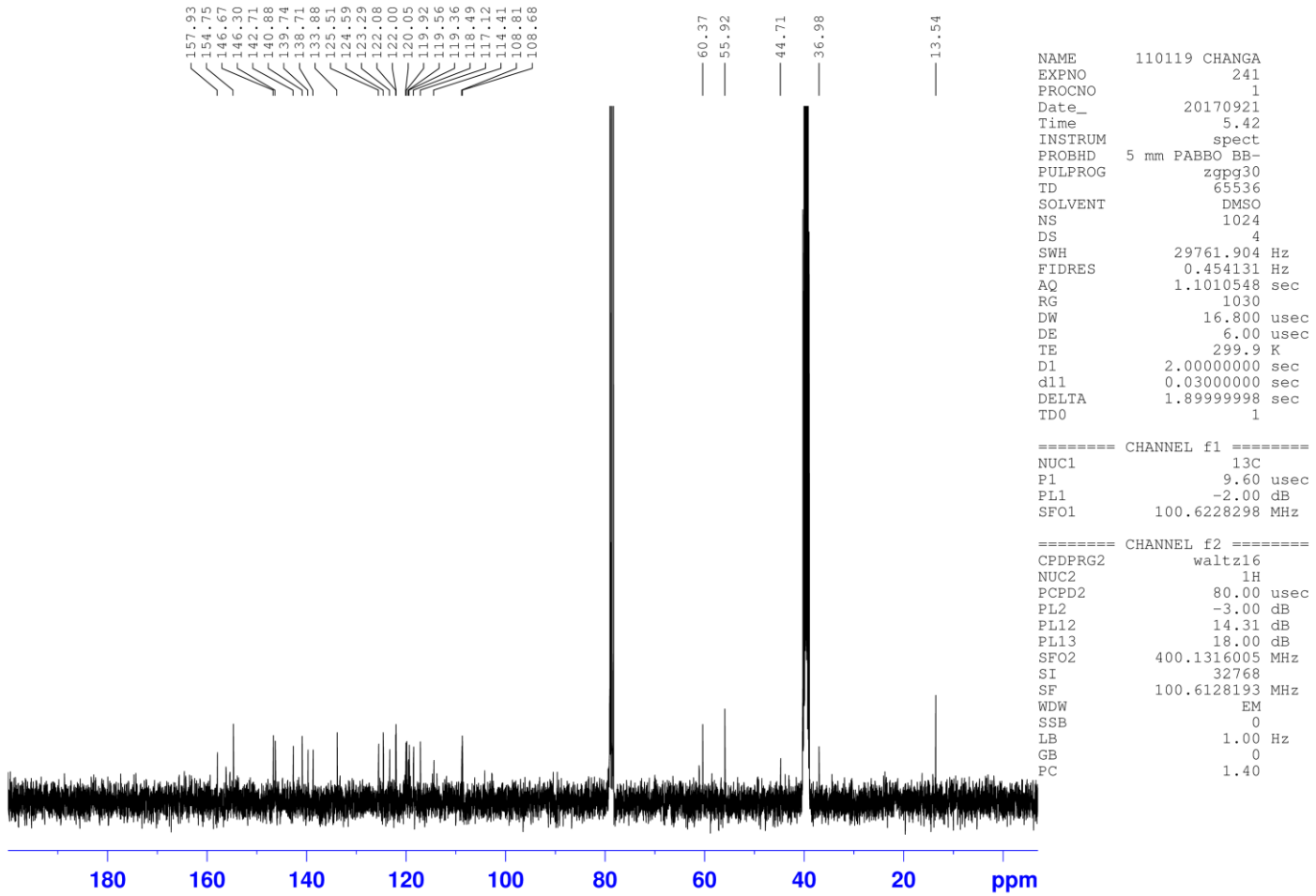

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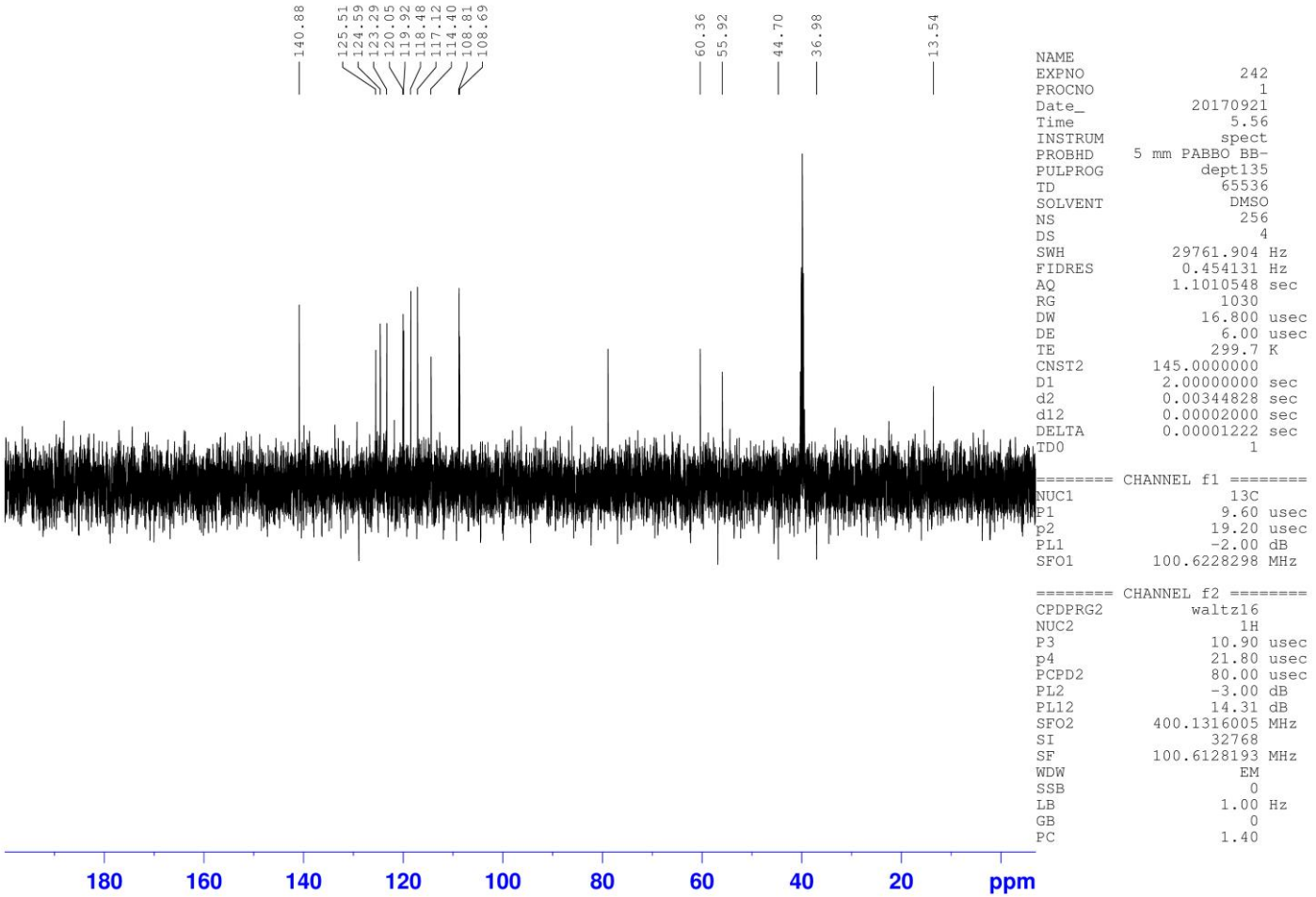

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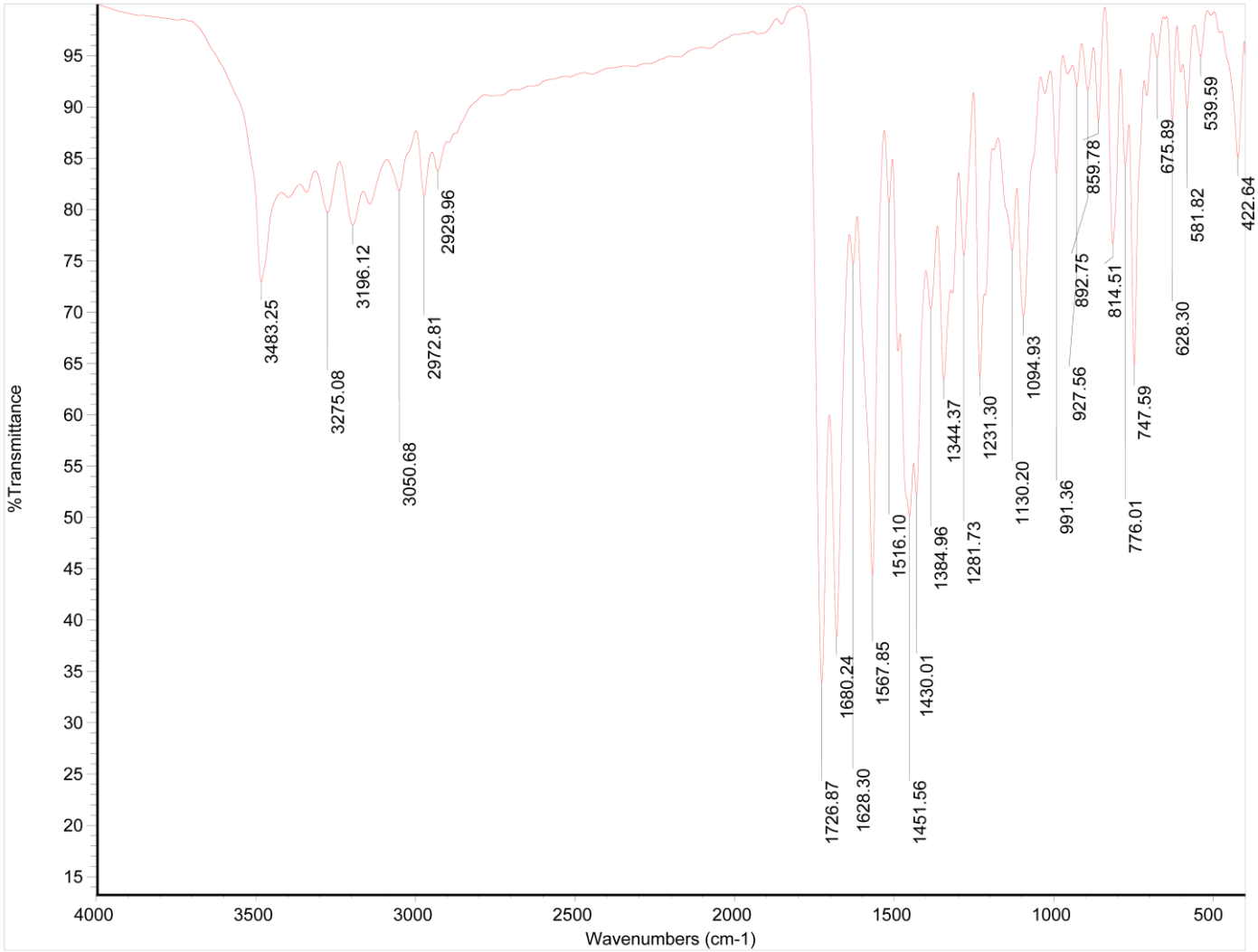

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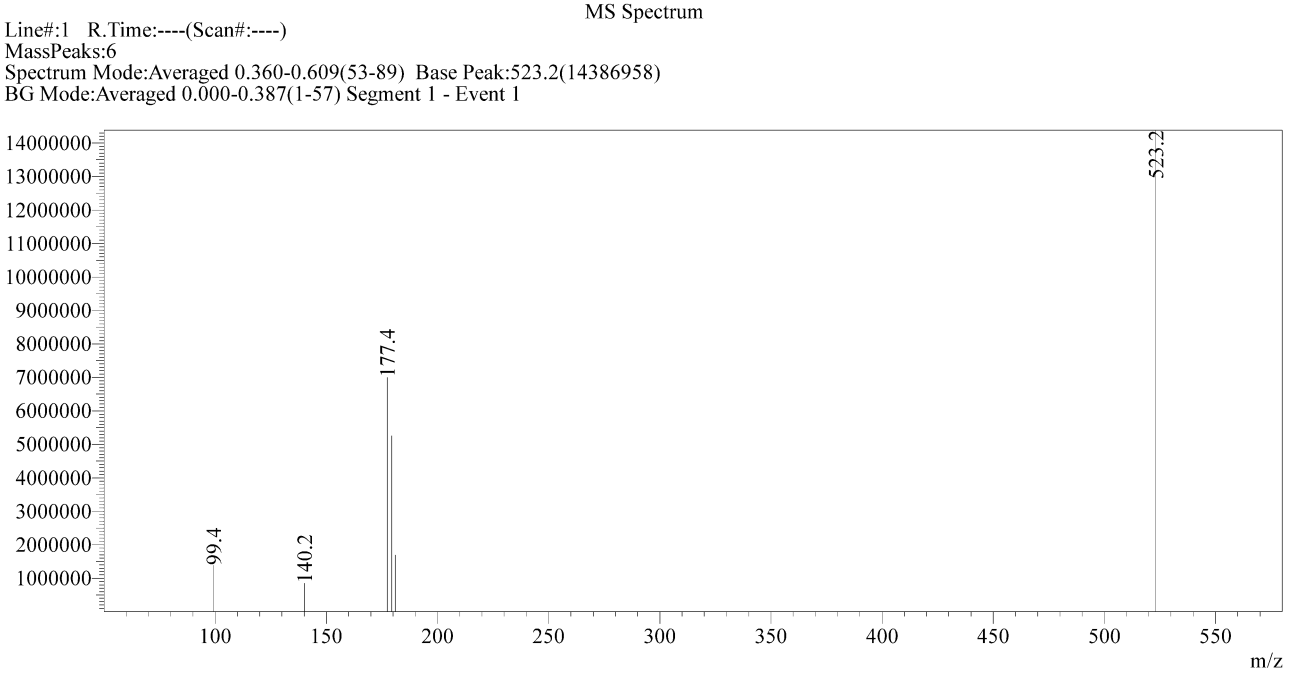

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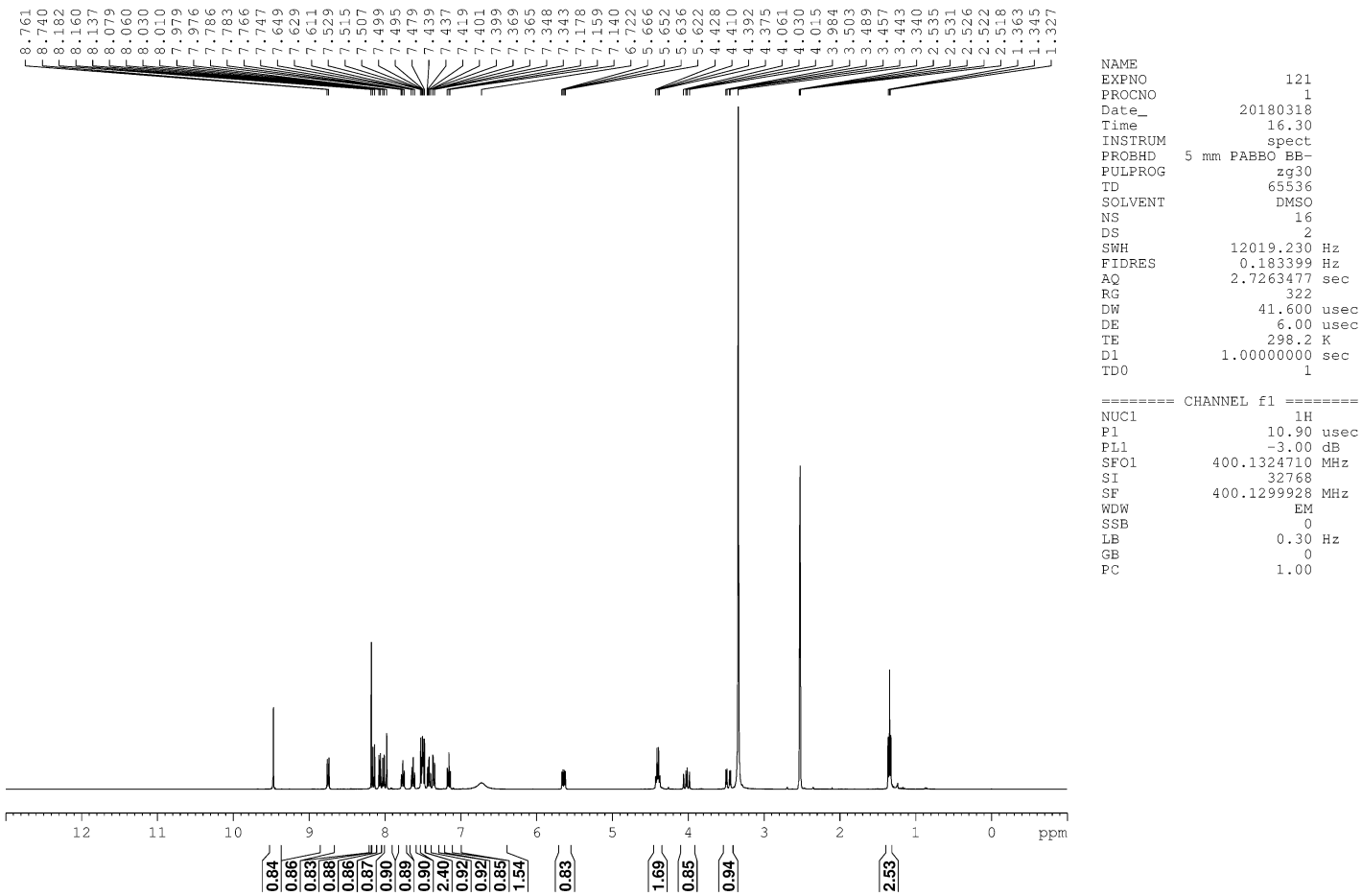


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FIDRES          0.183399 Hz
AQ              2.7263477 sec
RG                    322
DW                 41.600 usec
DE                  6.00 usec
TE                 298.2 K
D1            1.00000000 sec
TD0                     1

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NUC1                   1H
P1                 10.90 usec
PL1                -3.00 dB
SFO1          400.1324710 MHz
SI                  32768
SF            400.1299928 MHz
WDW                    EM
SSB                     0
LB                 0.30 Hz
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PC                 1.00
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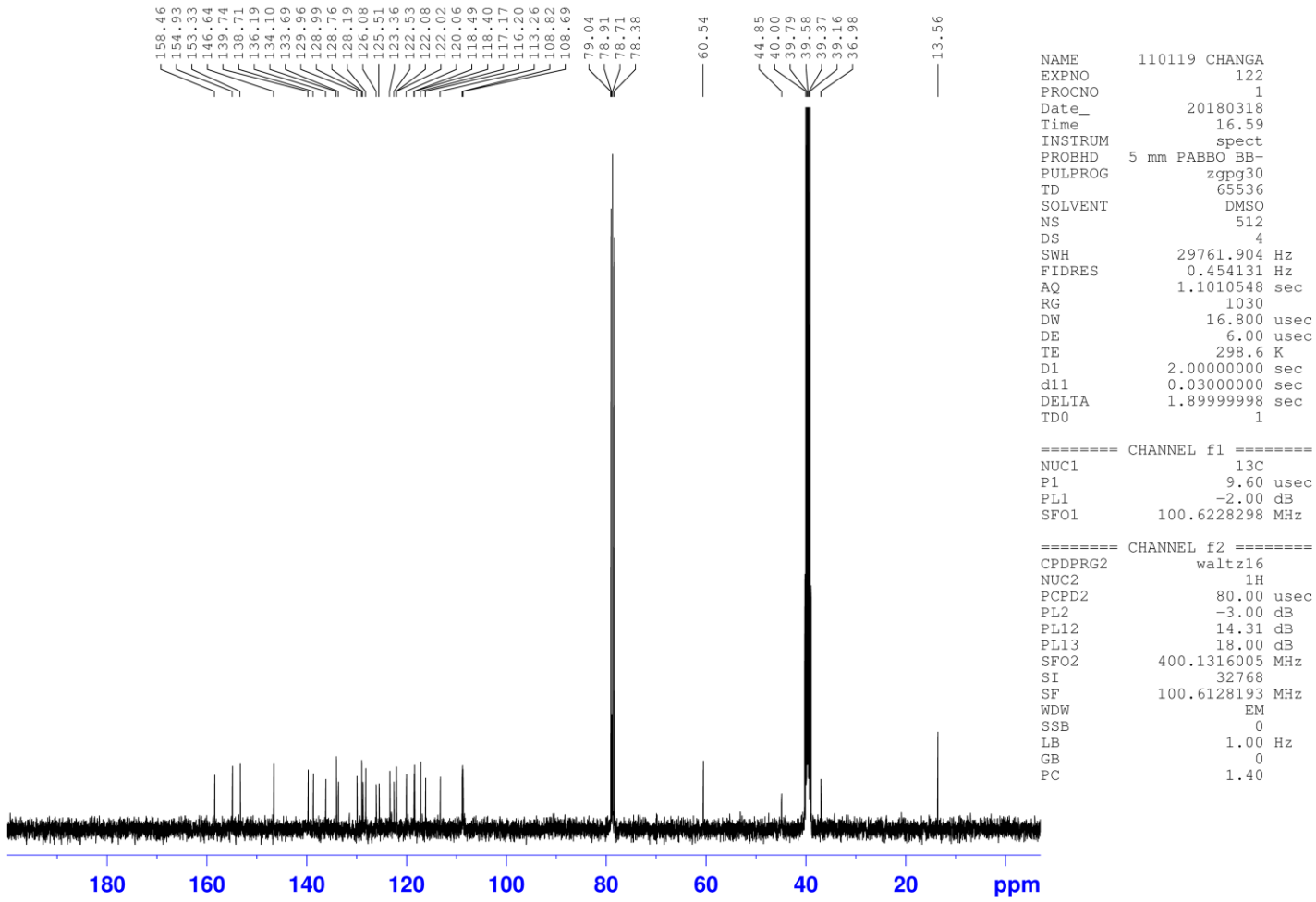
Fig. 26. ^{1}H NMR spectrum of compound 4c



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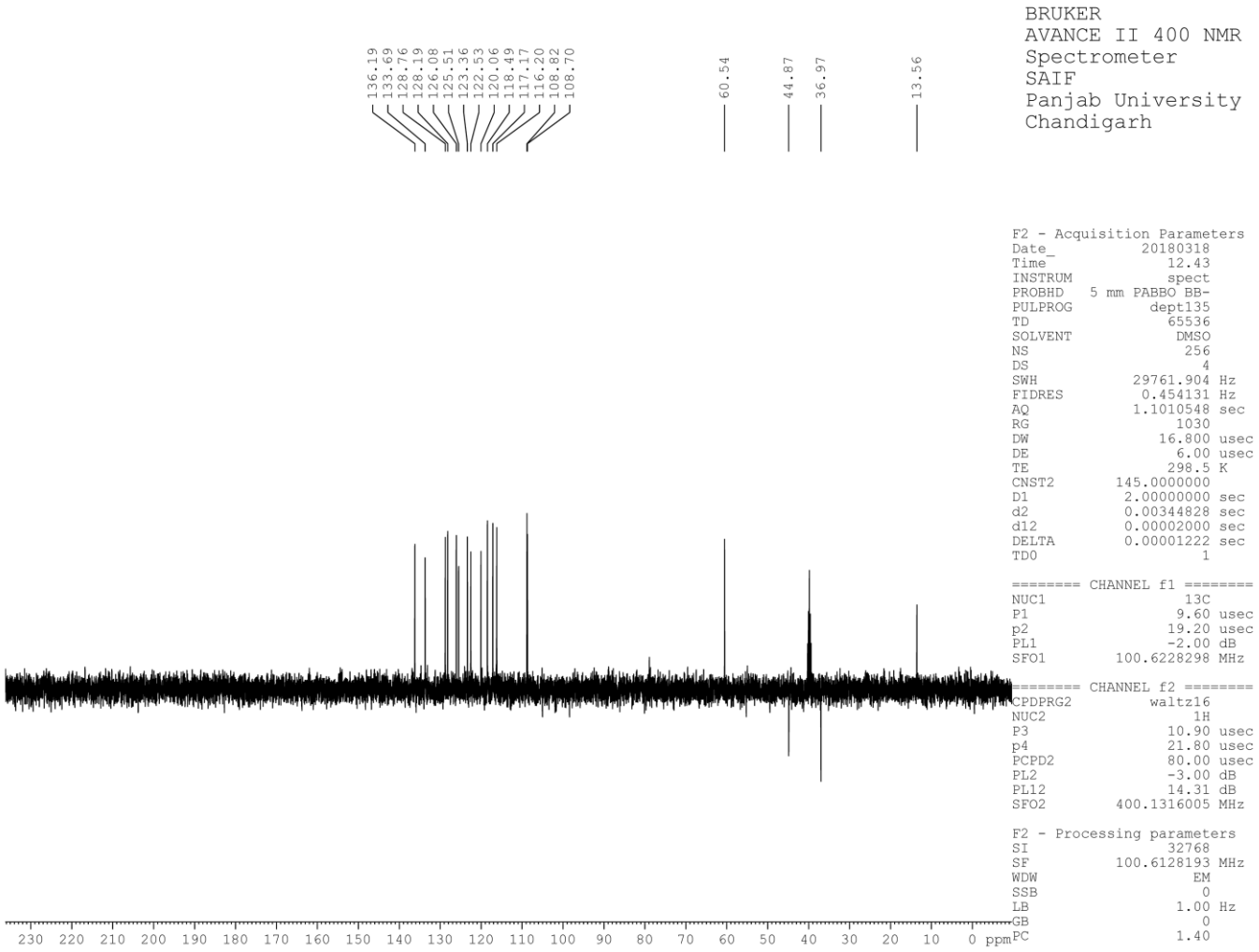
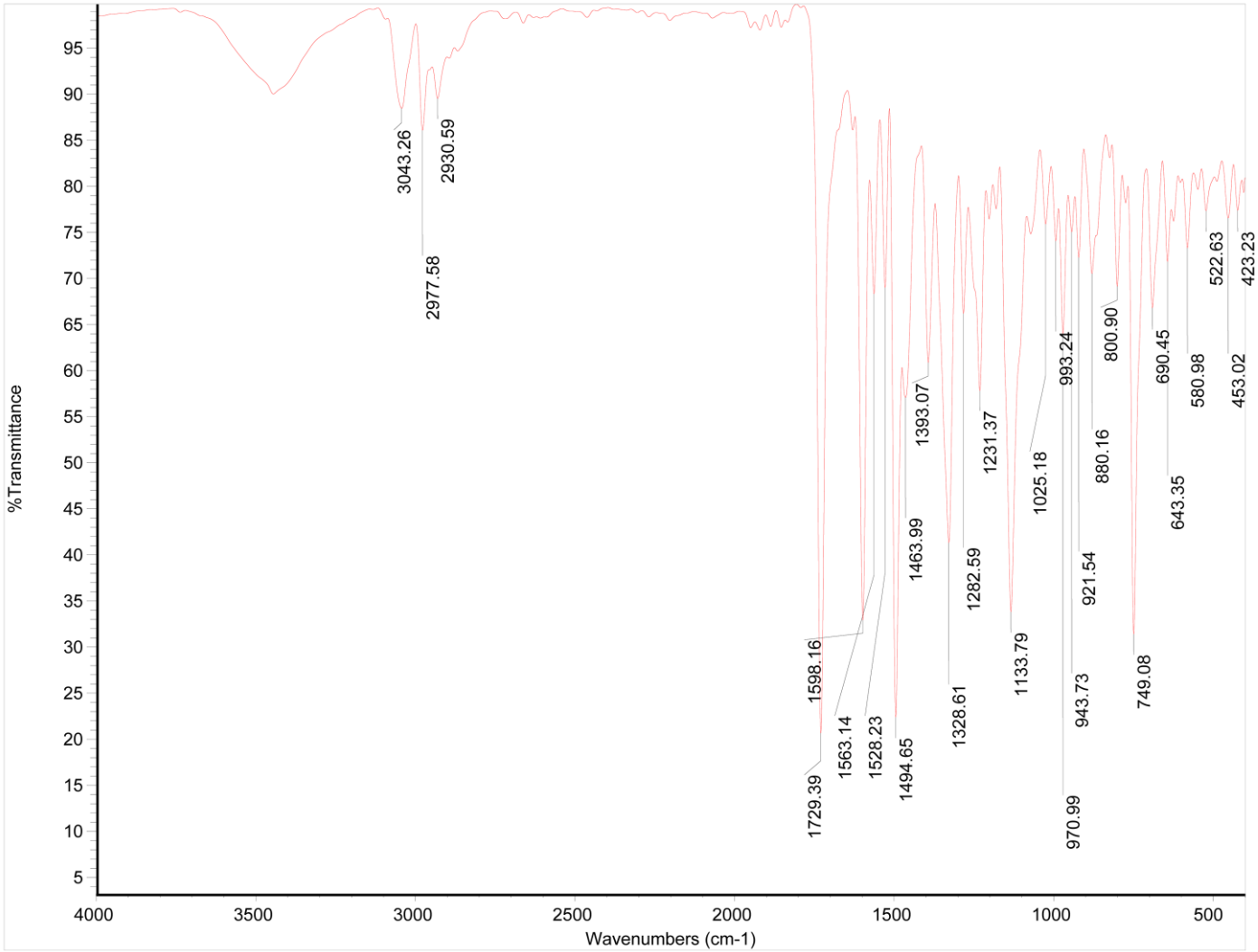


Fig. 28. DEPT-135 spectrum of compound 4c



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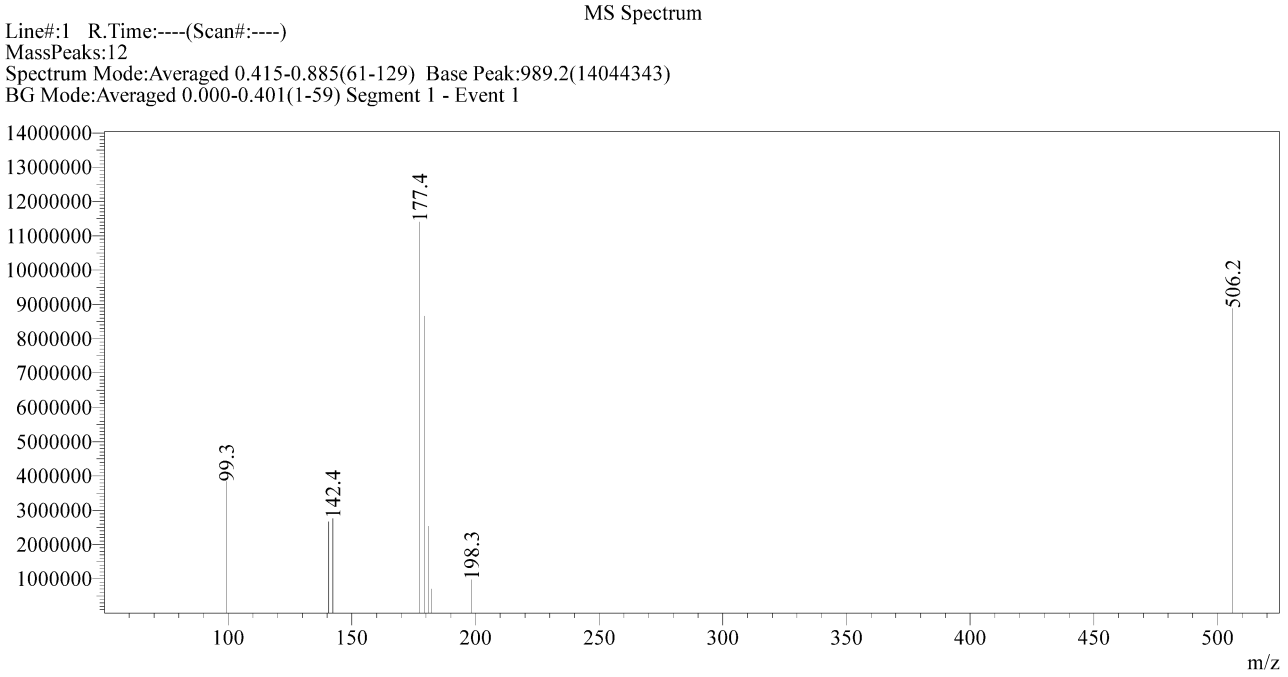

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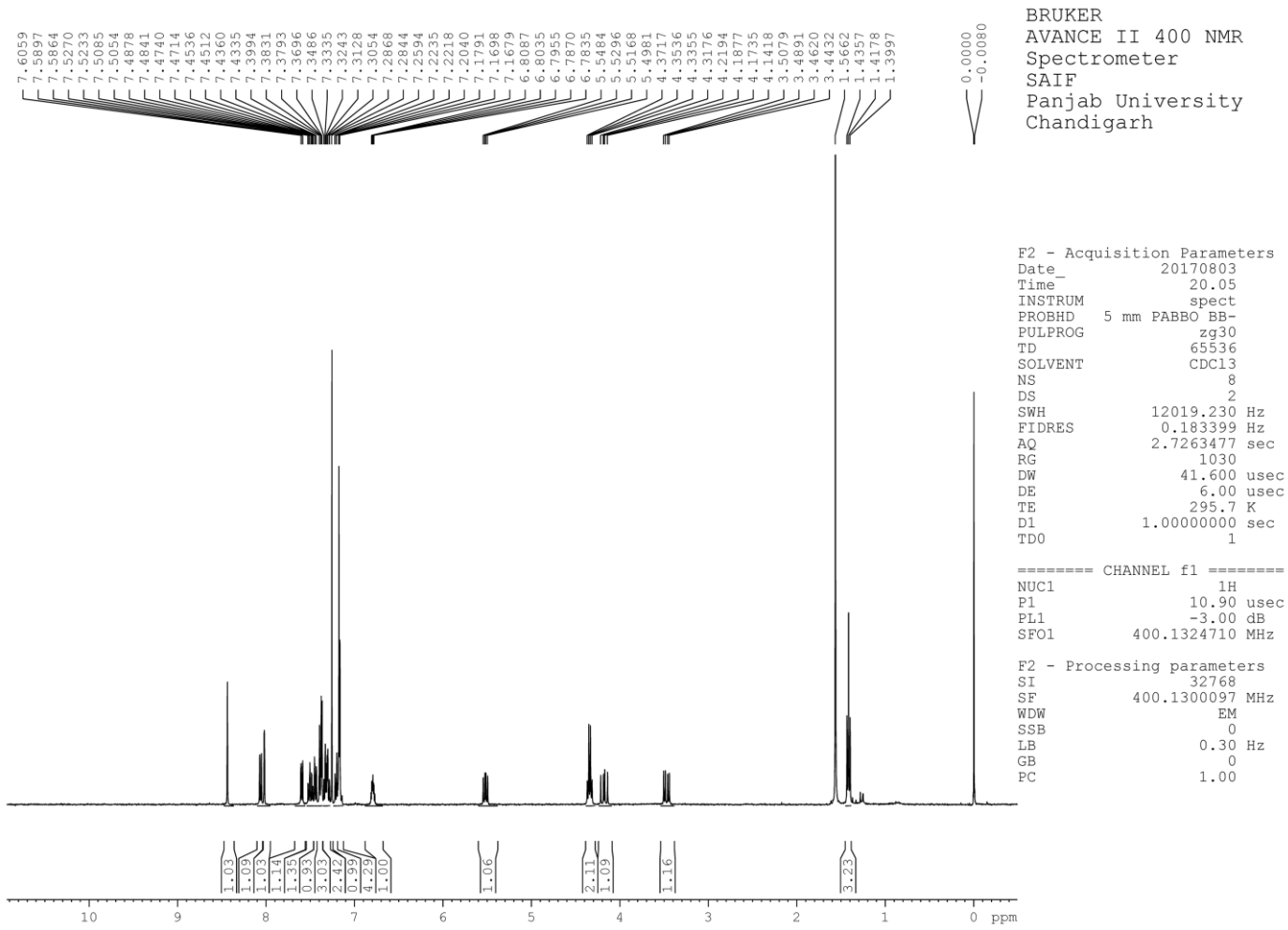

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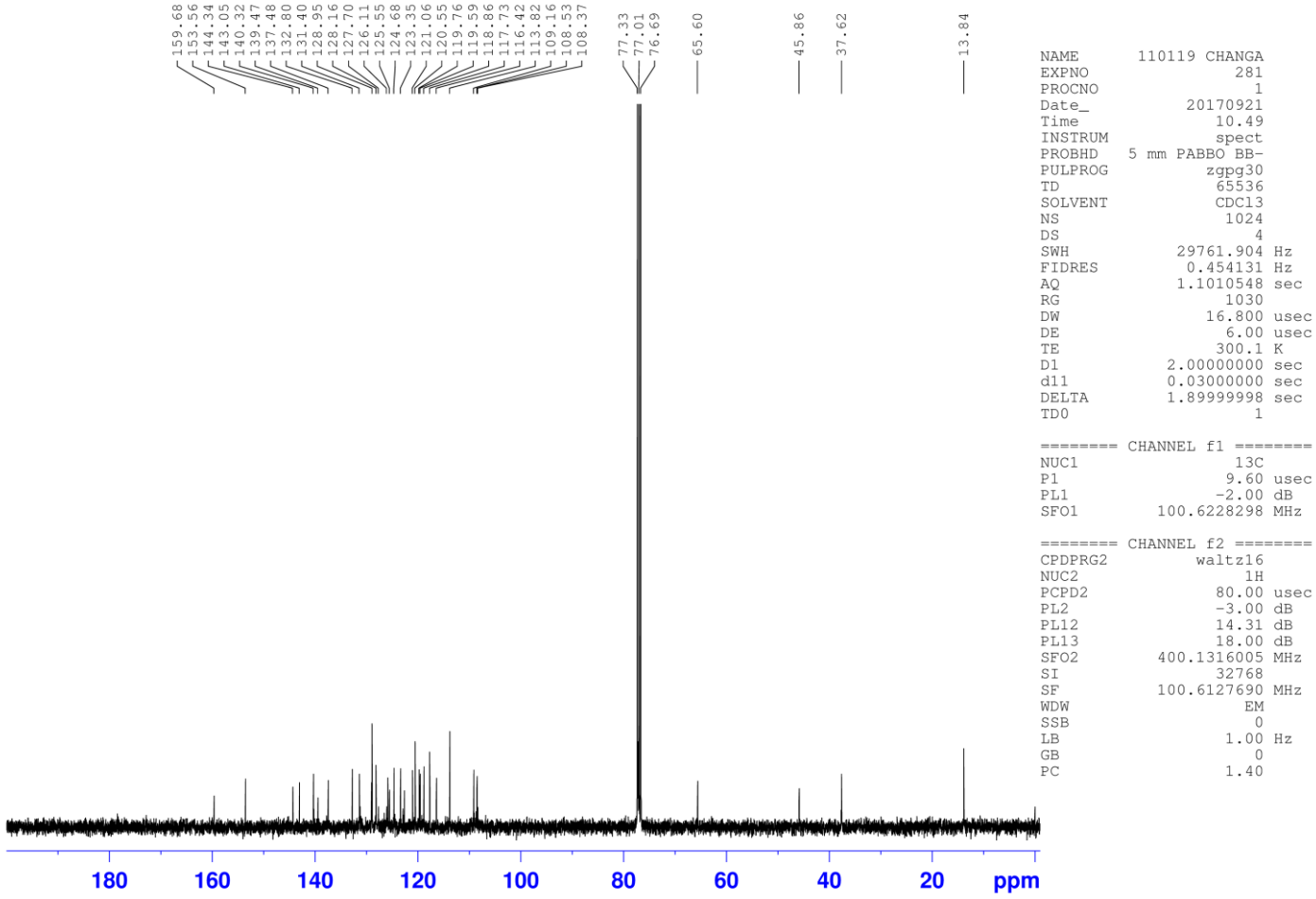


Fig. 32. ^{13}C NMR spectrum of compound 5a

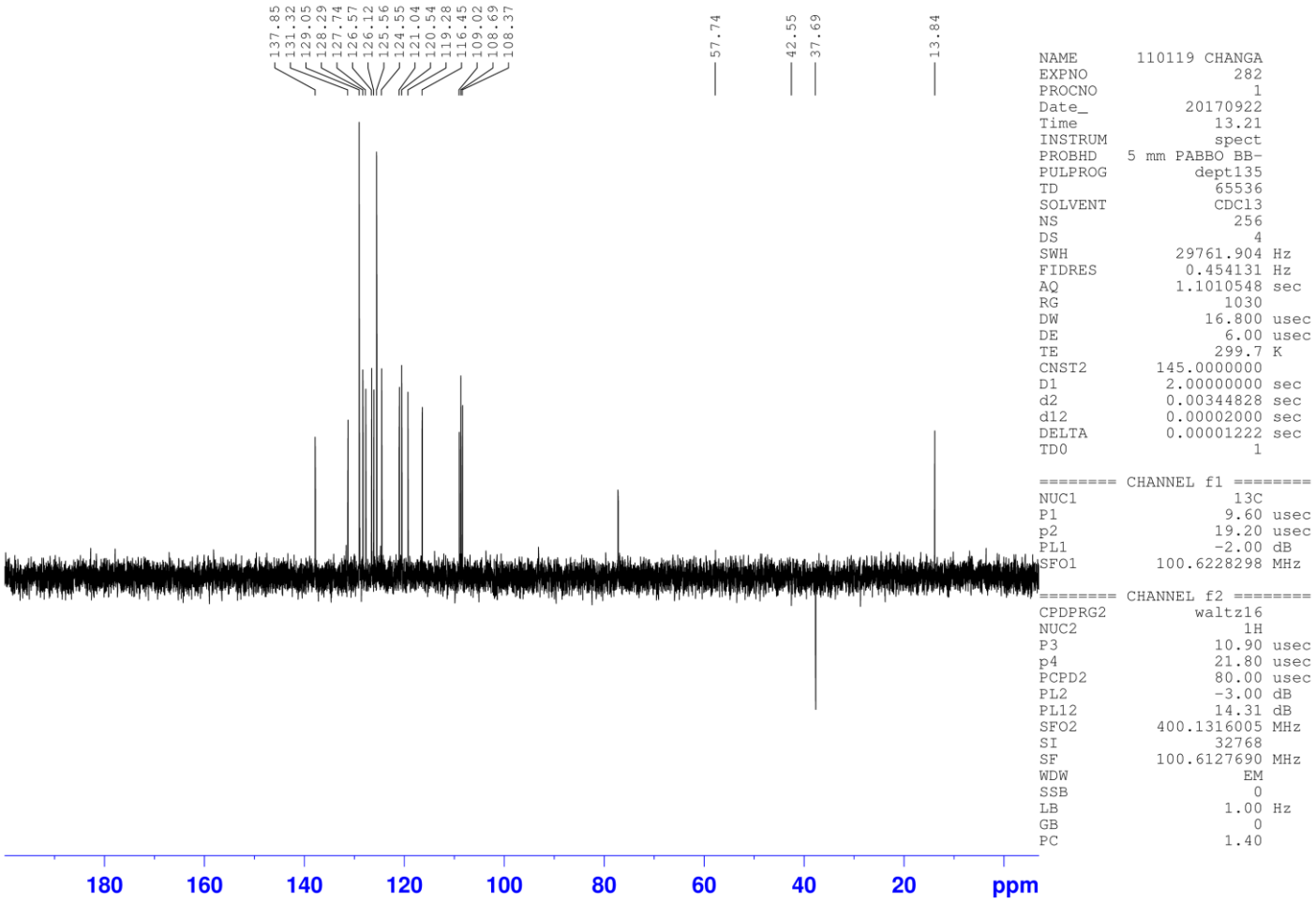
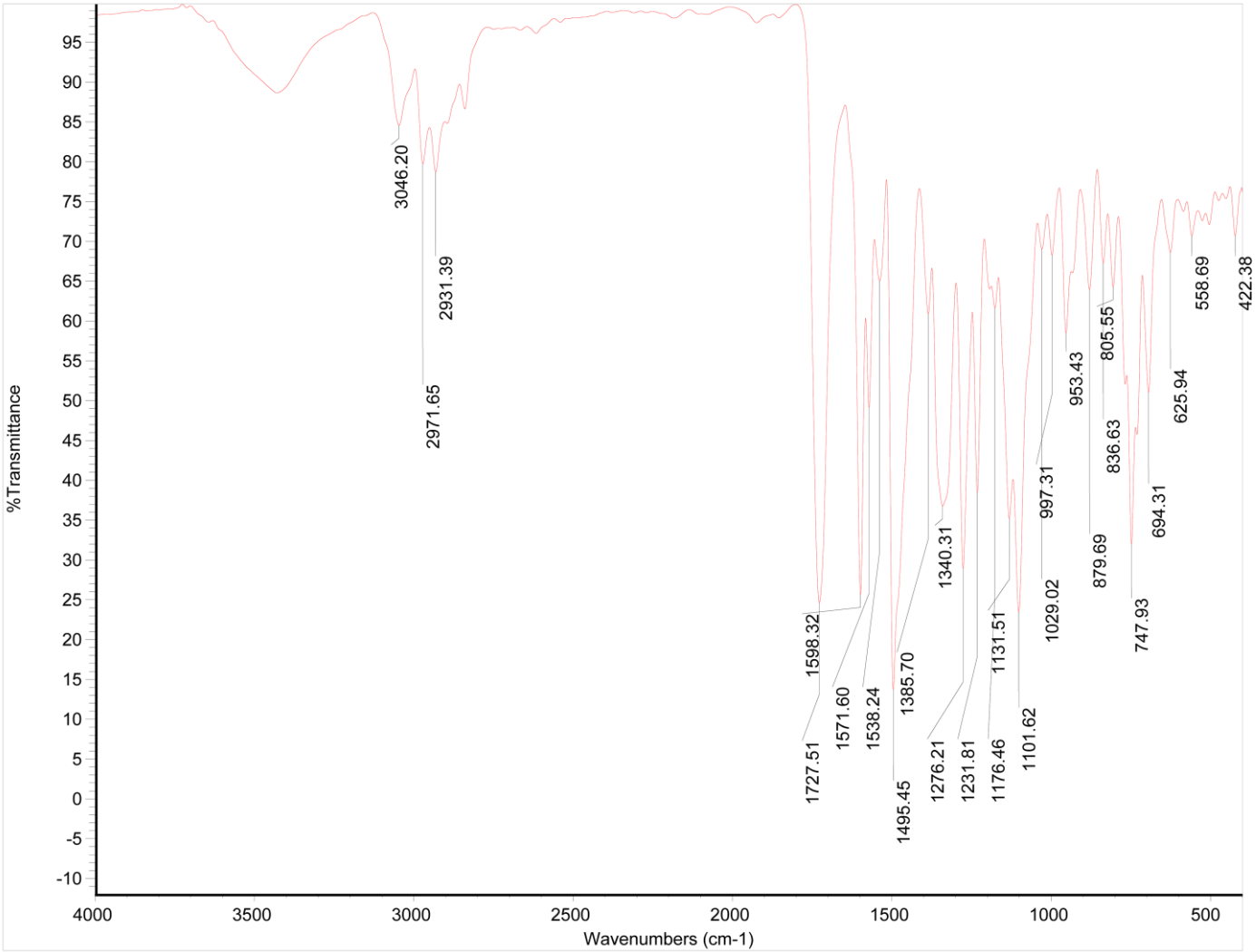


Fig. 33. DEPT-135 spectrum of compound 5a



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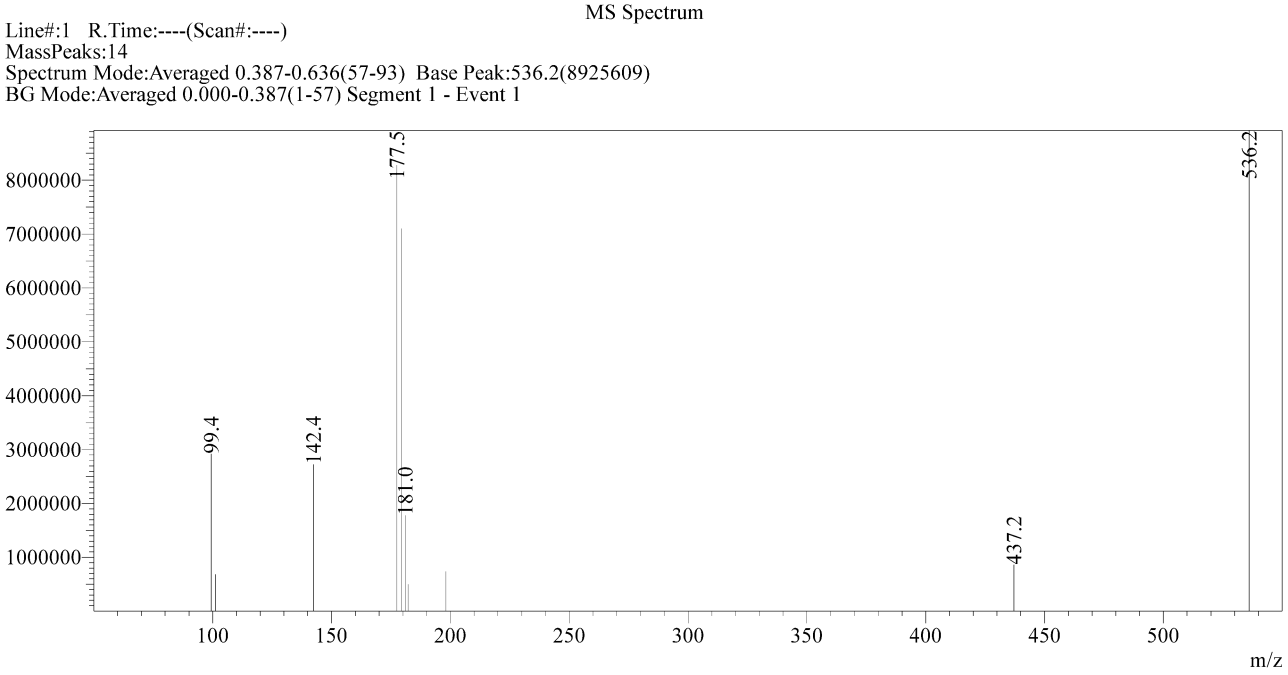

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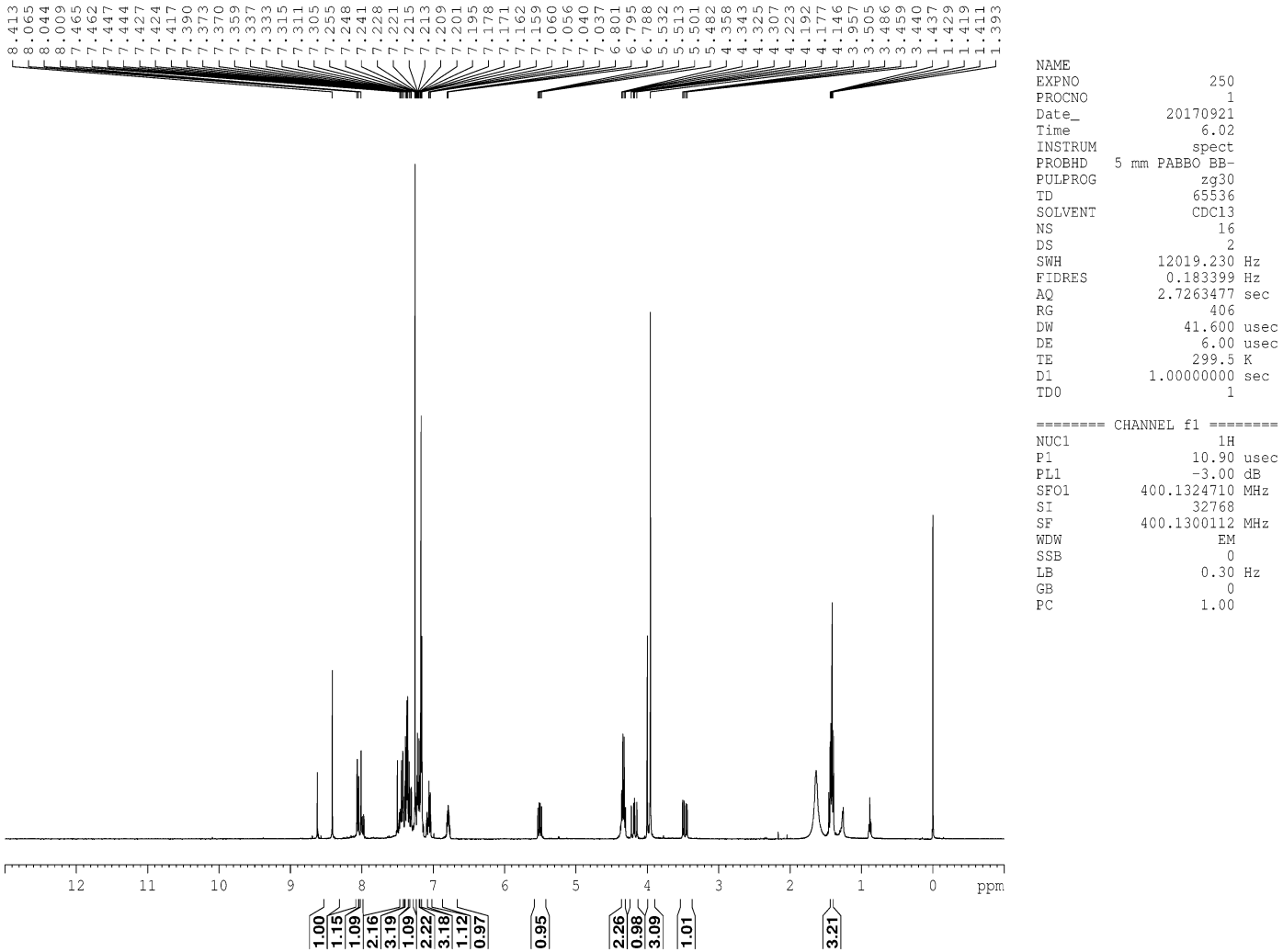

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TE	299.5 K
D1	1.00000000 sec
TD0	1
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NUC1	1H
P1	10.90 usec
PL1	-3.00 dB
SFO1	400.1324710 MHz
SI	32768
SF	400.1300112 MHz
WDW	EM
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PC	1.00

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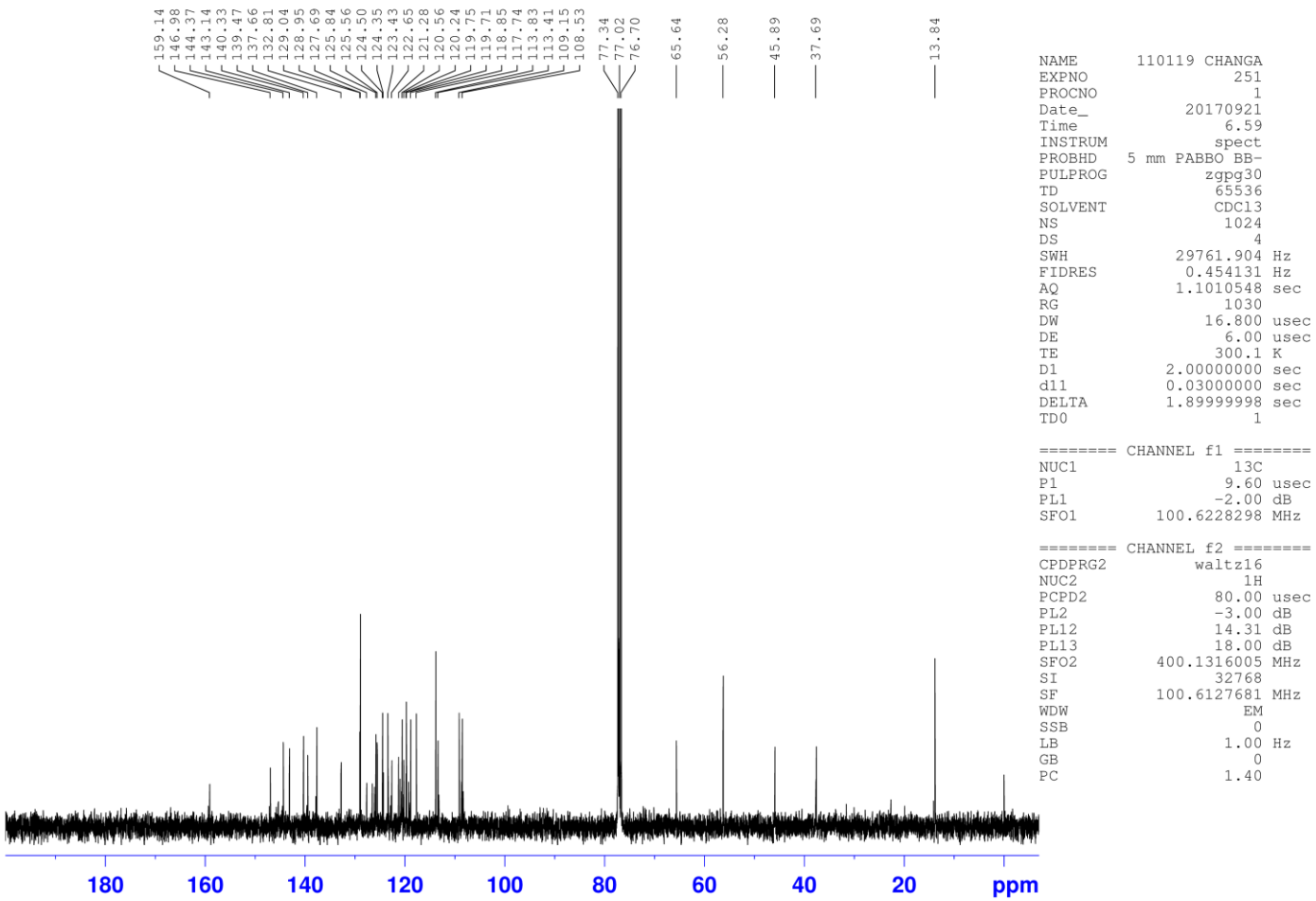

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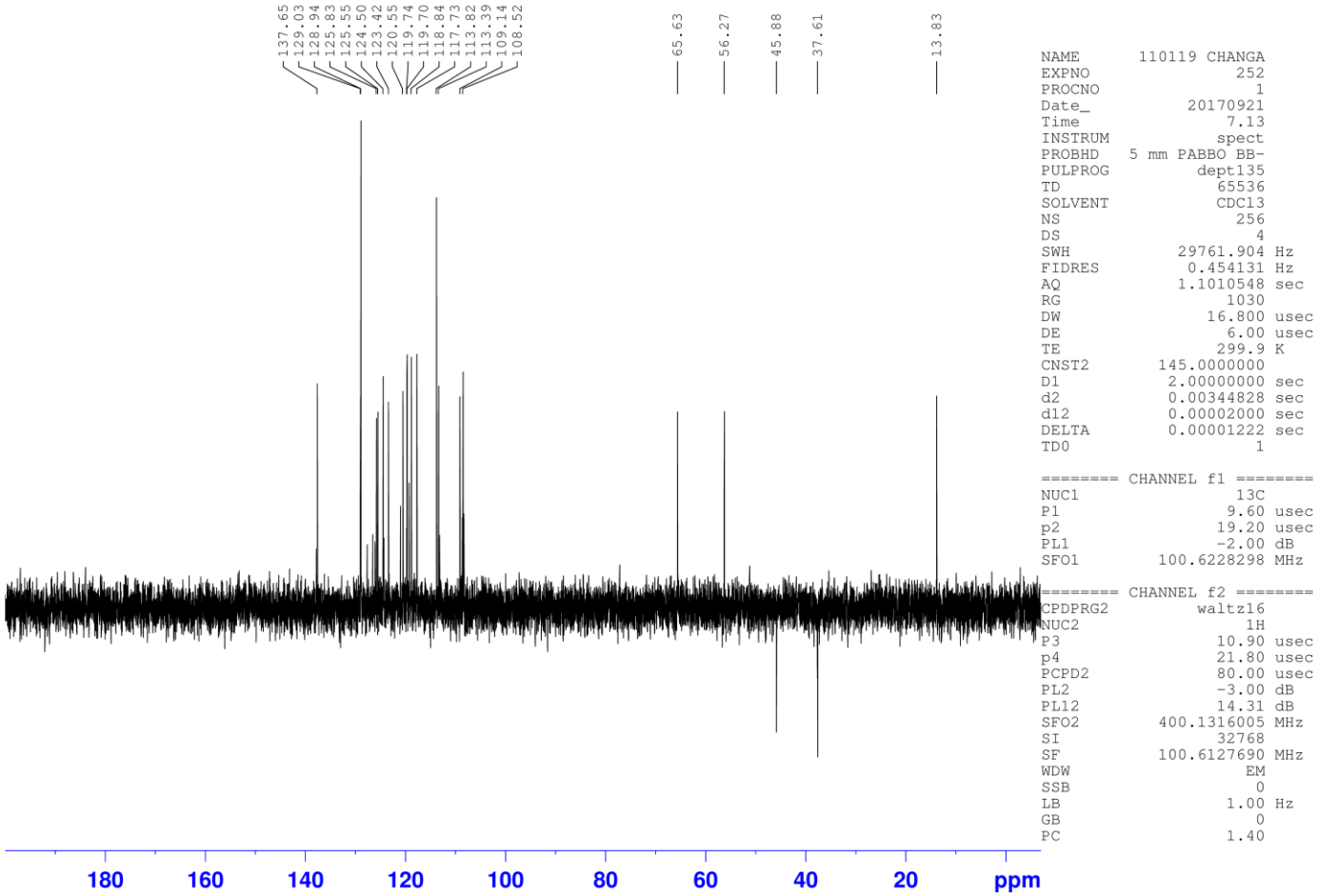


Fig. 38. DEPT-135 spectrum of compound 5b

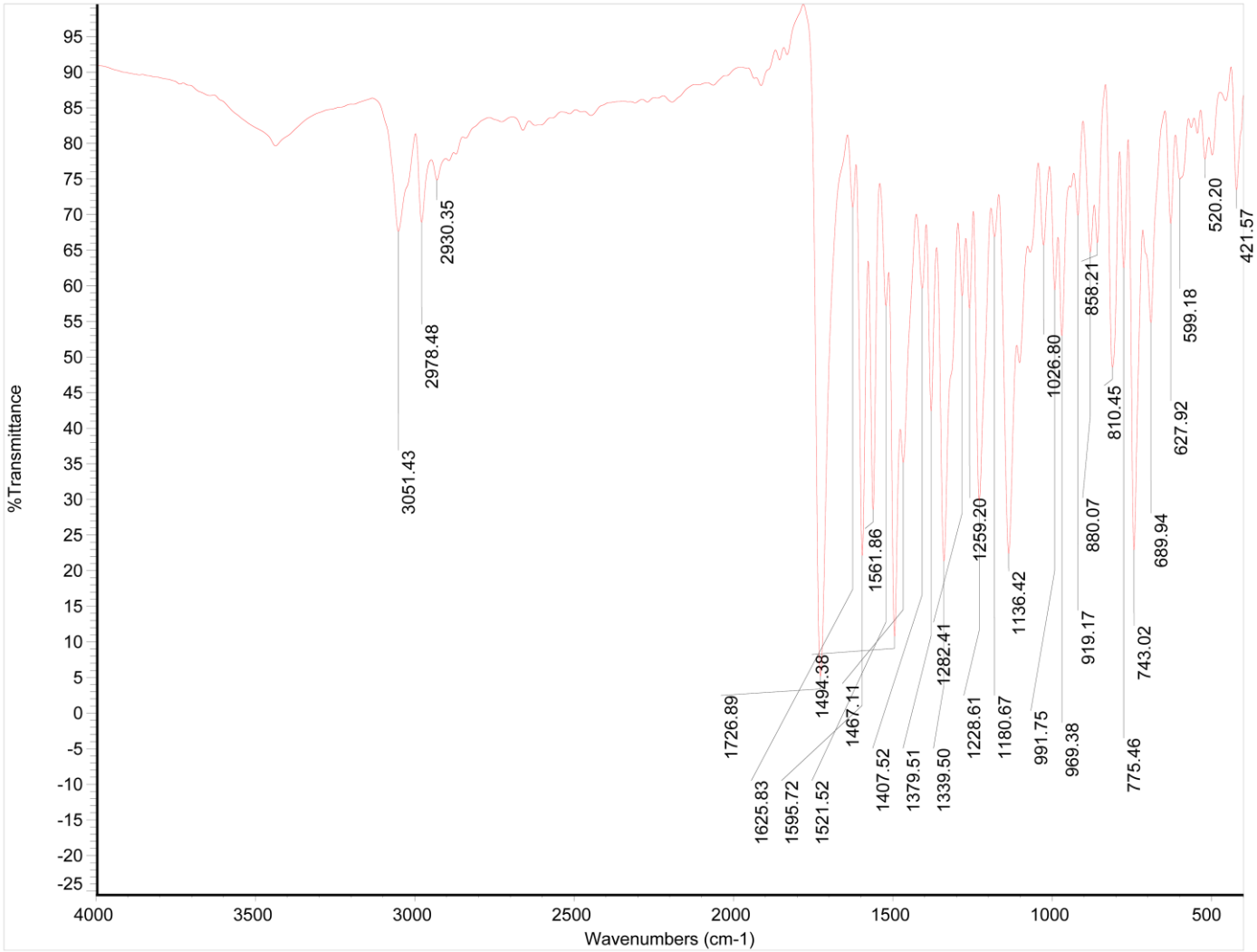


Fig. 39. IR spectrum of compound 5c

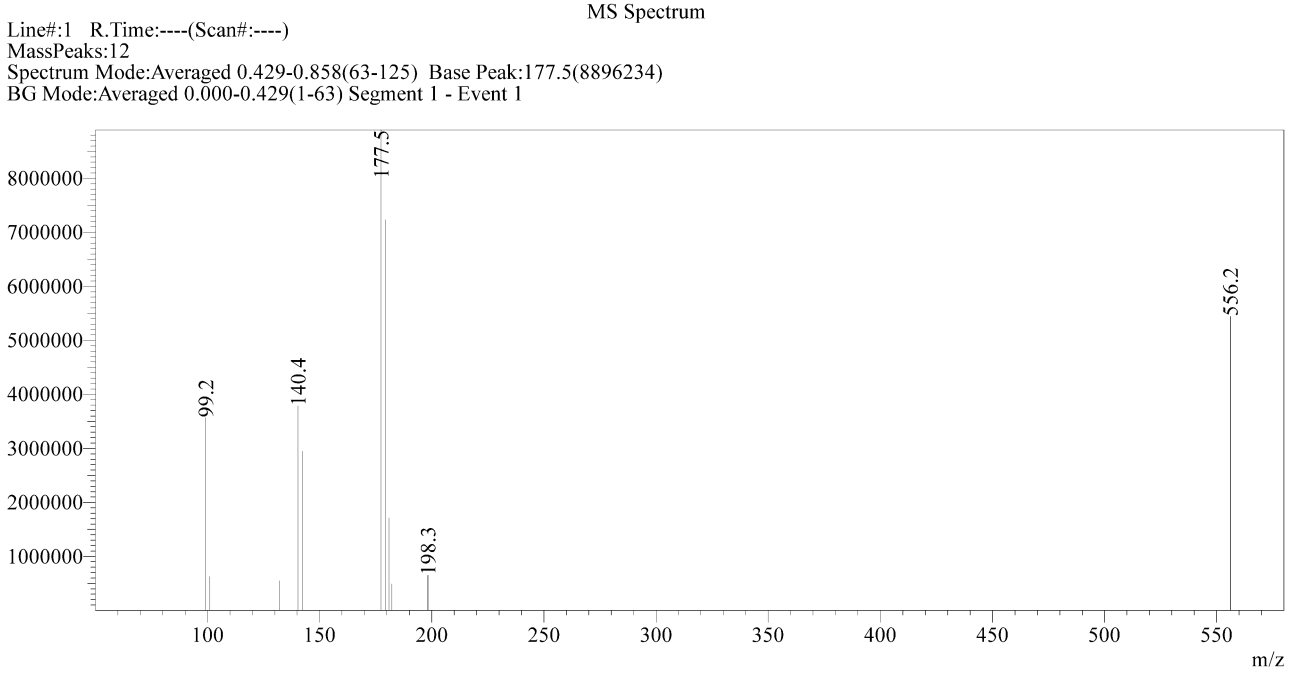
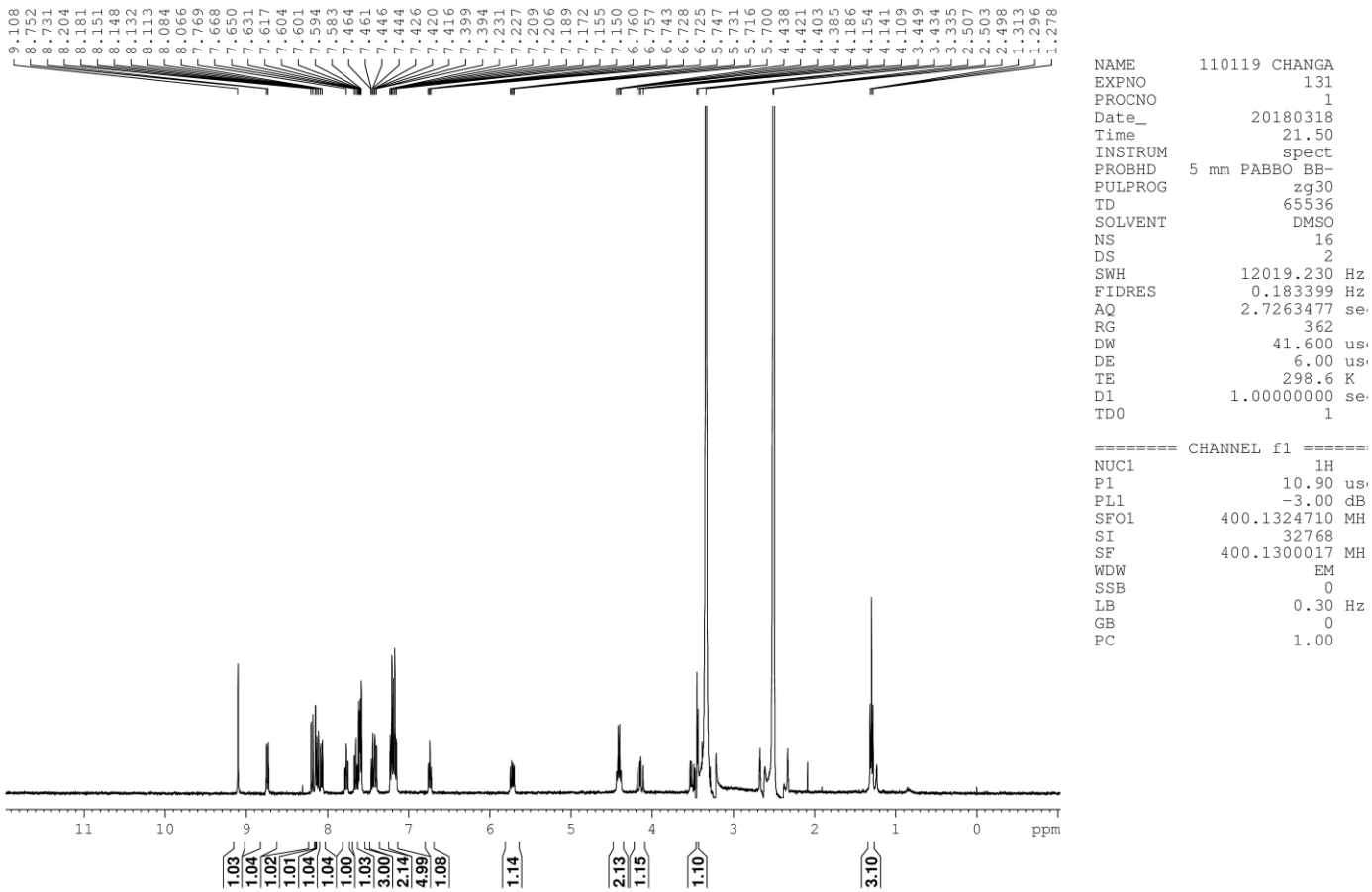


Fig. 40. Mass spectrum of compound 5c



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RG	362
DW	41.600 us
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TE	298.6 K
D1	1.00000000 se
TD0	1
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NUC1	1H
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SFO1	400.1324710 MH
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Fig. 41. ^{1}H NMR spectrum of compound 5c

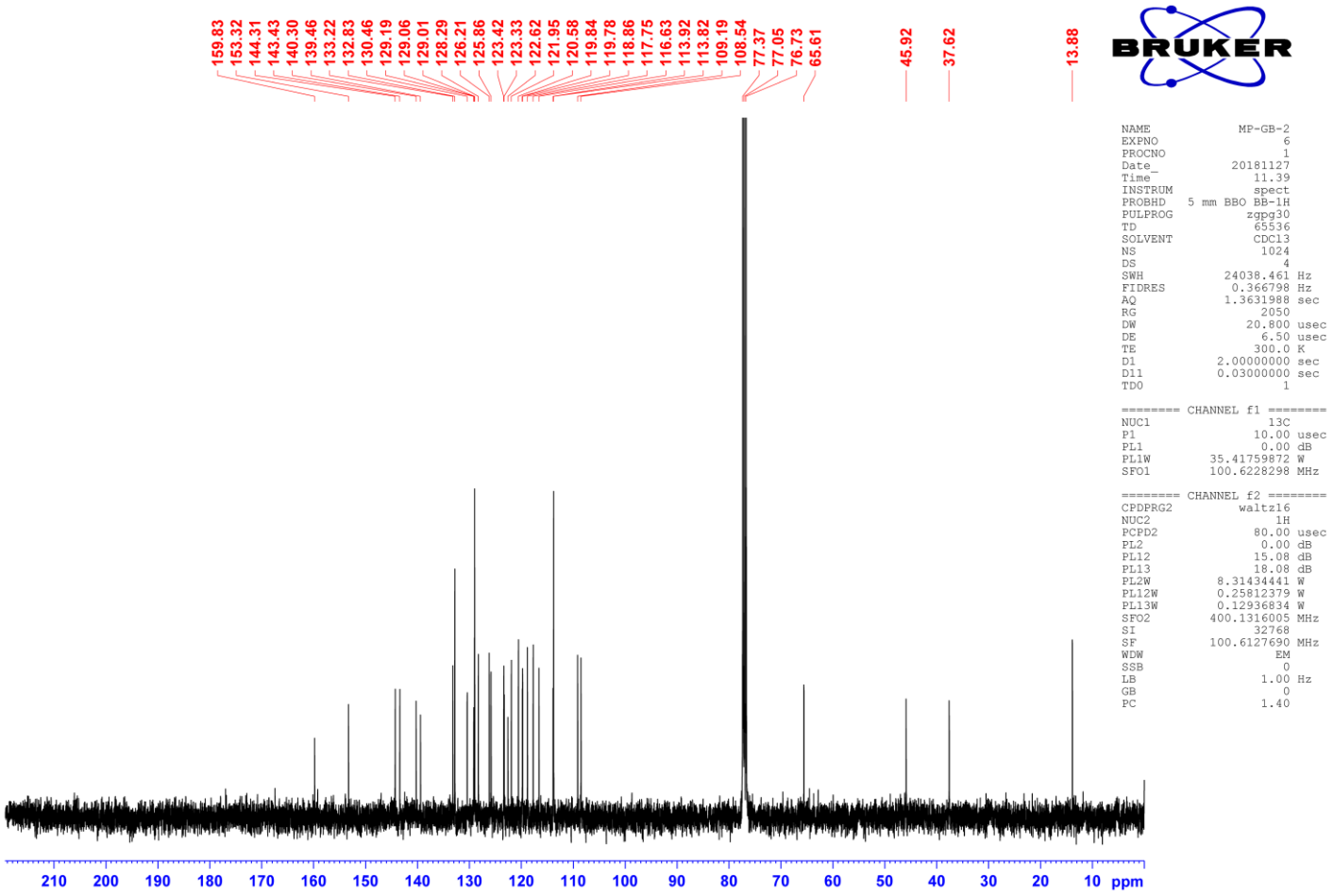


Fig. 42. ^{13}C NMR spectrum of compound 5c

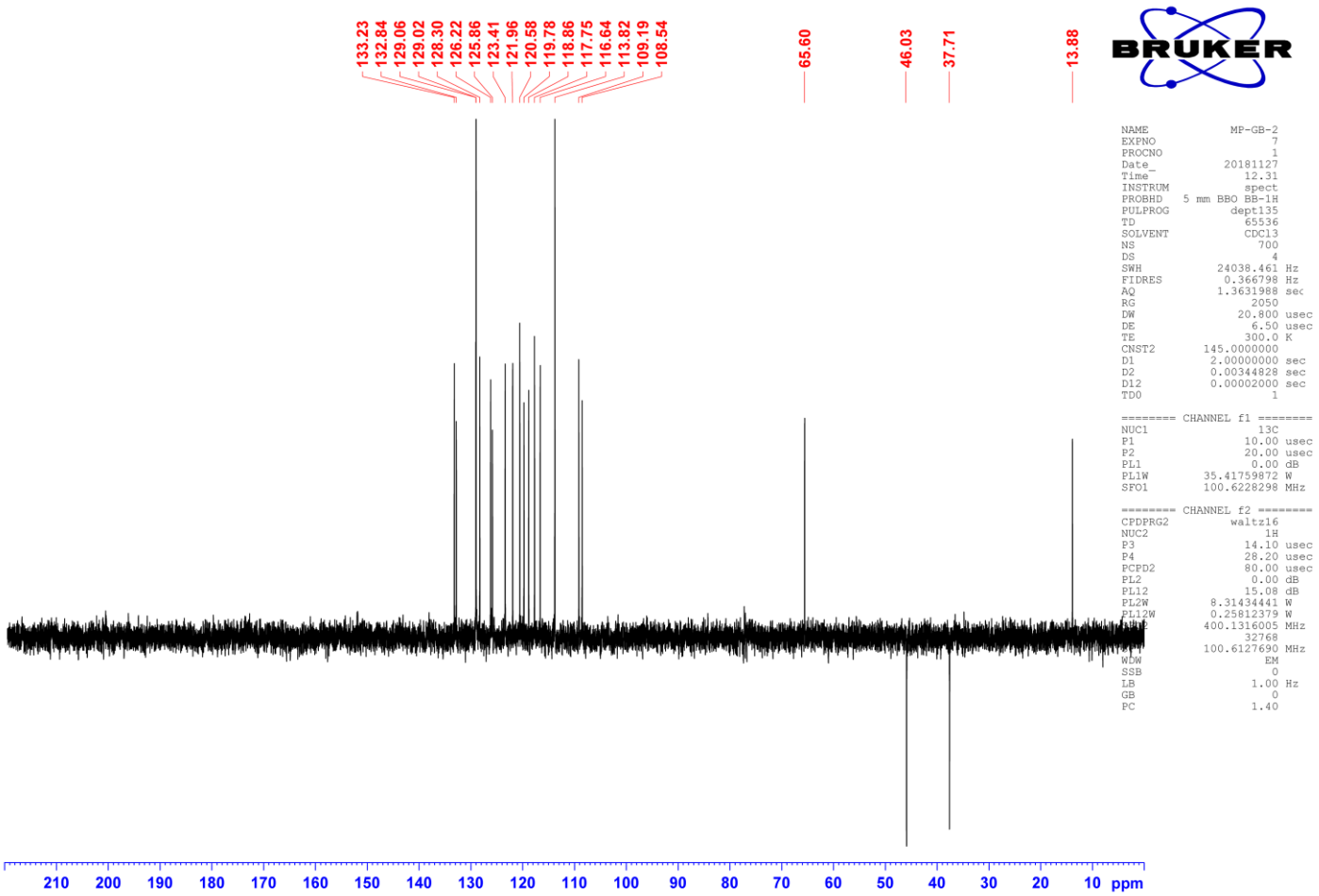
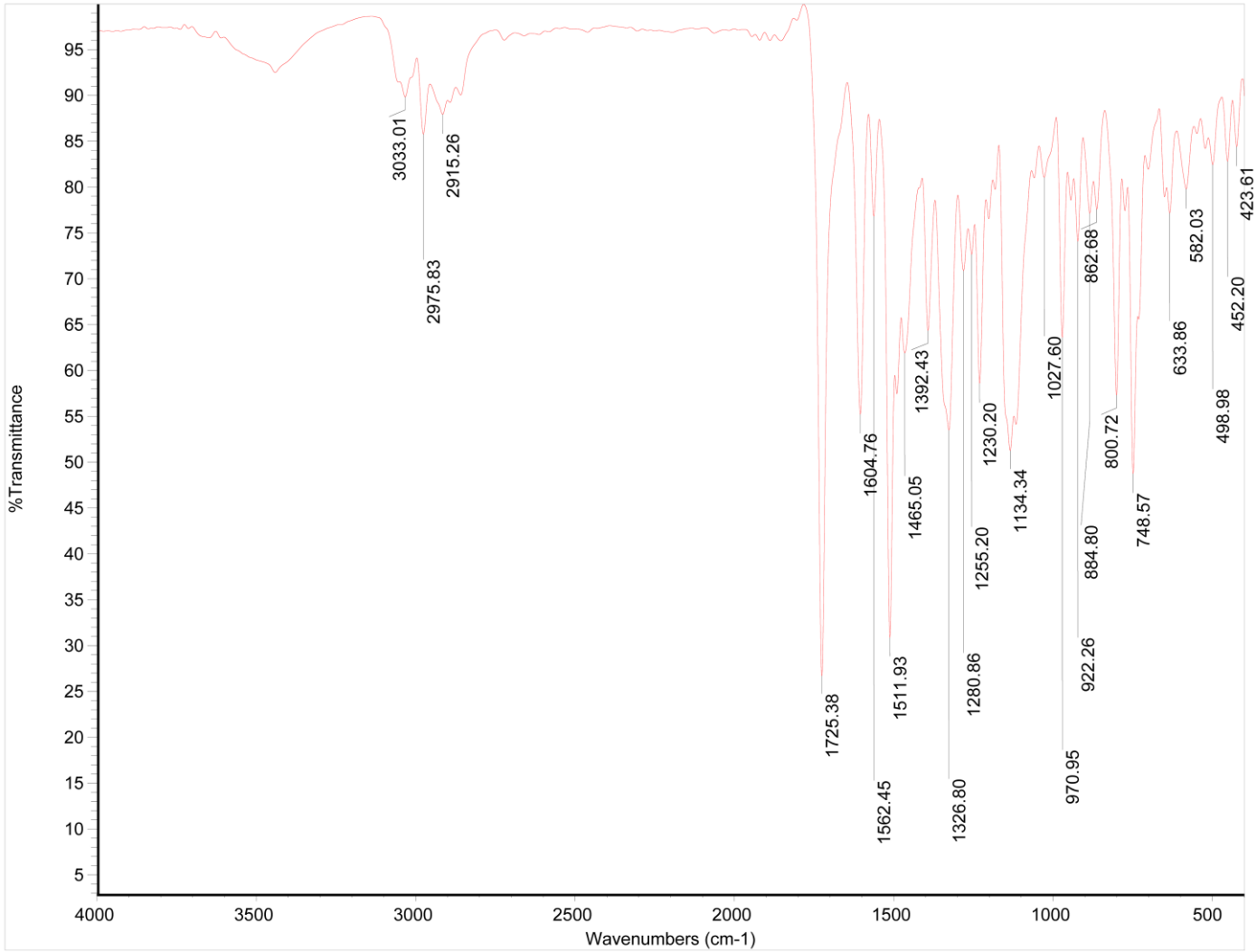


Fig. 43. DEPT-135 spectrum of compound 5c



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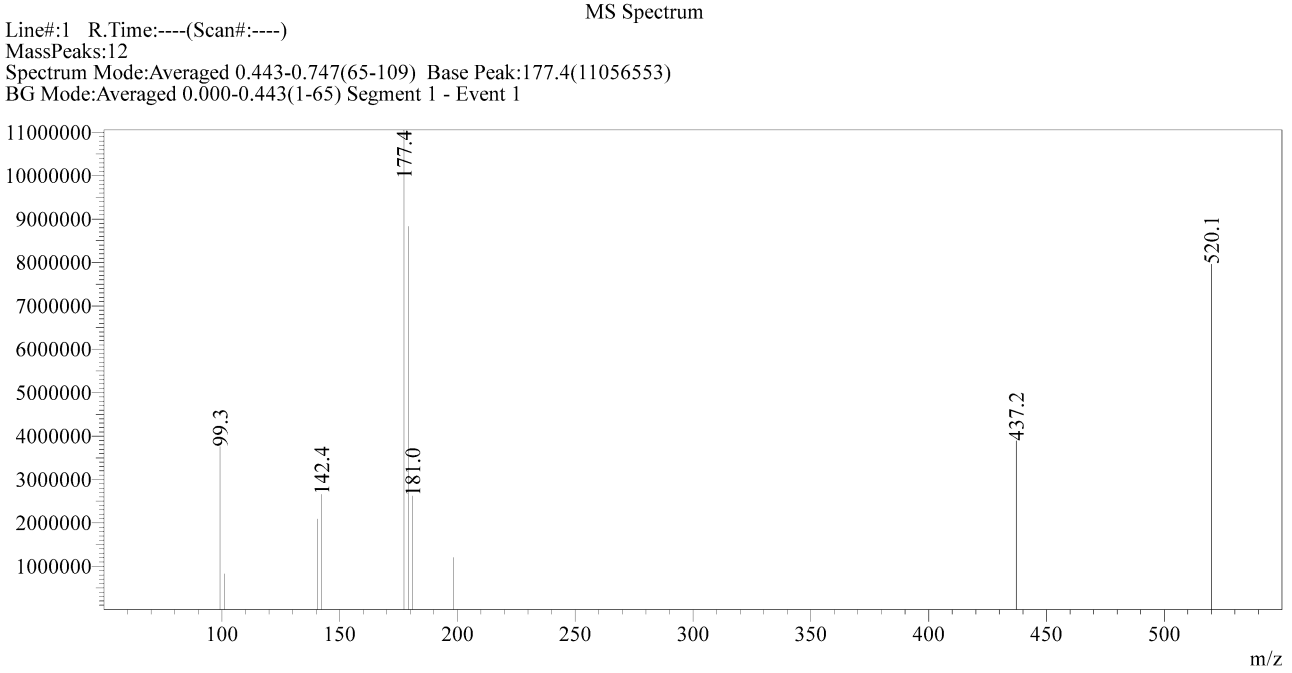

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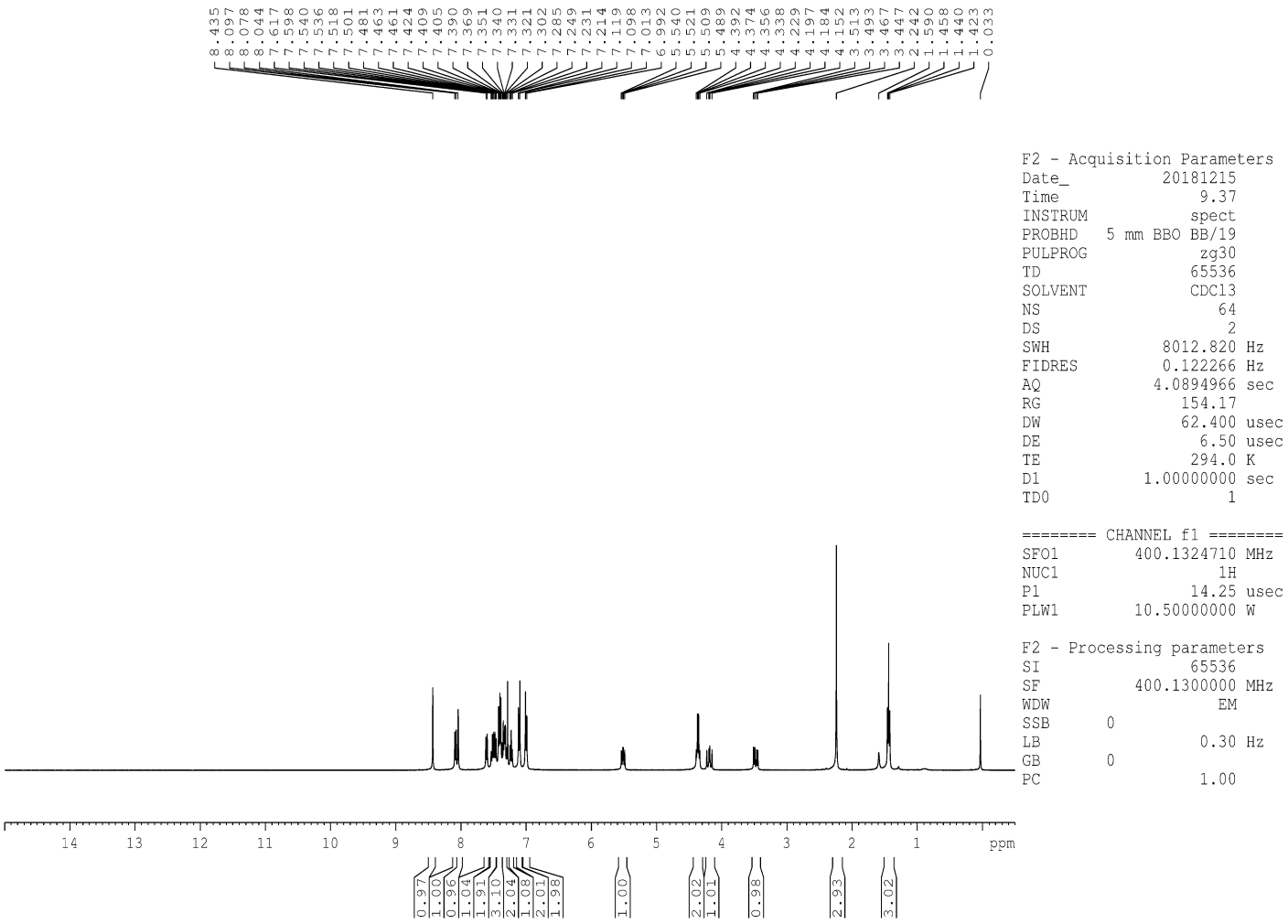
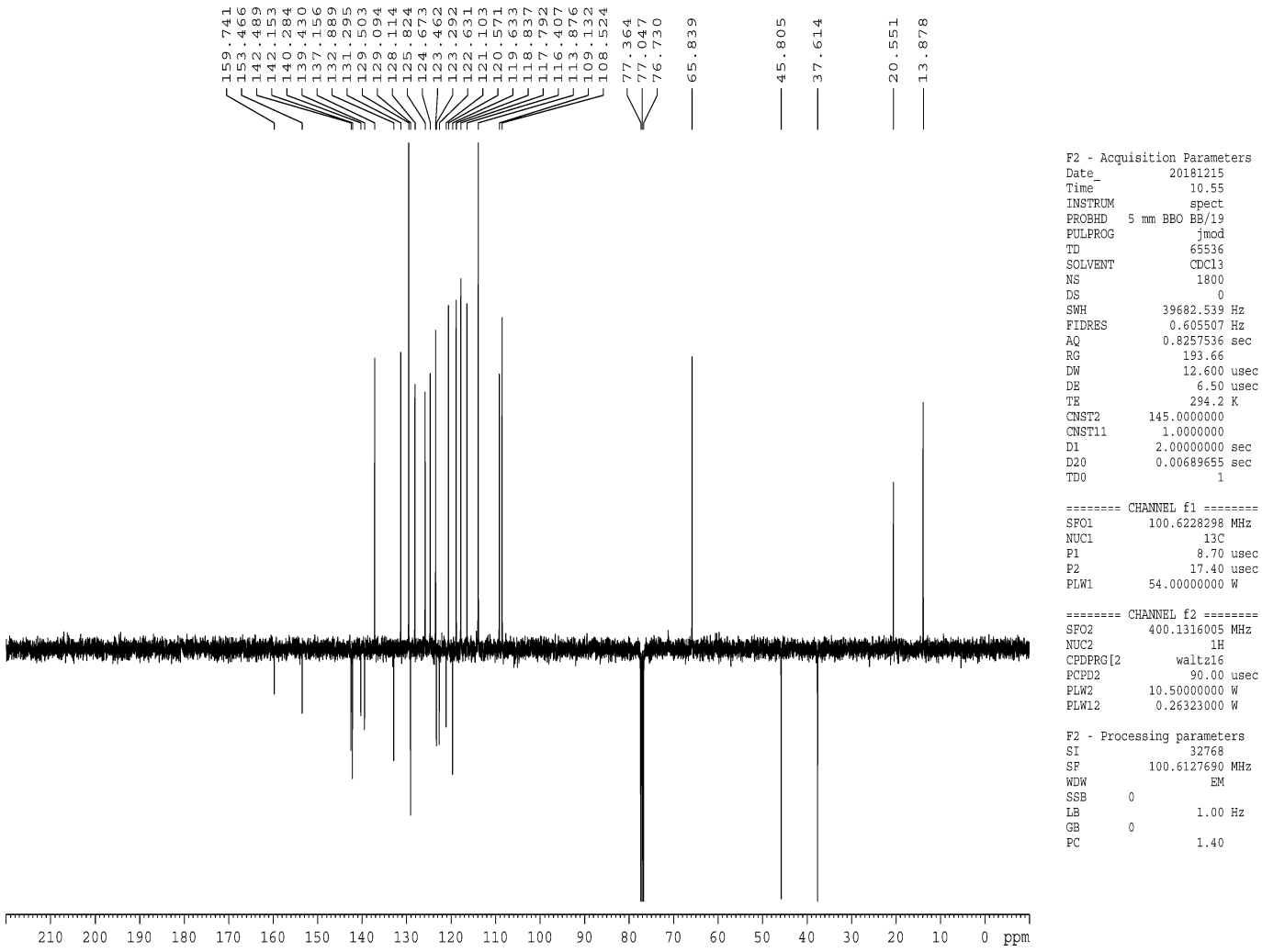


Fig. 46. ^{1}H NMR spectrum of compound 6a



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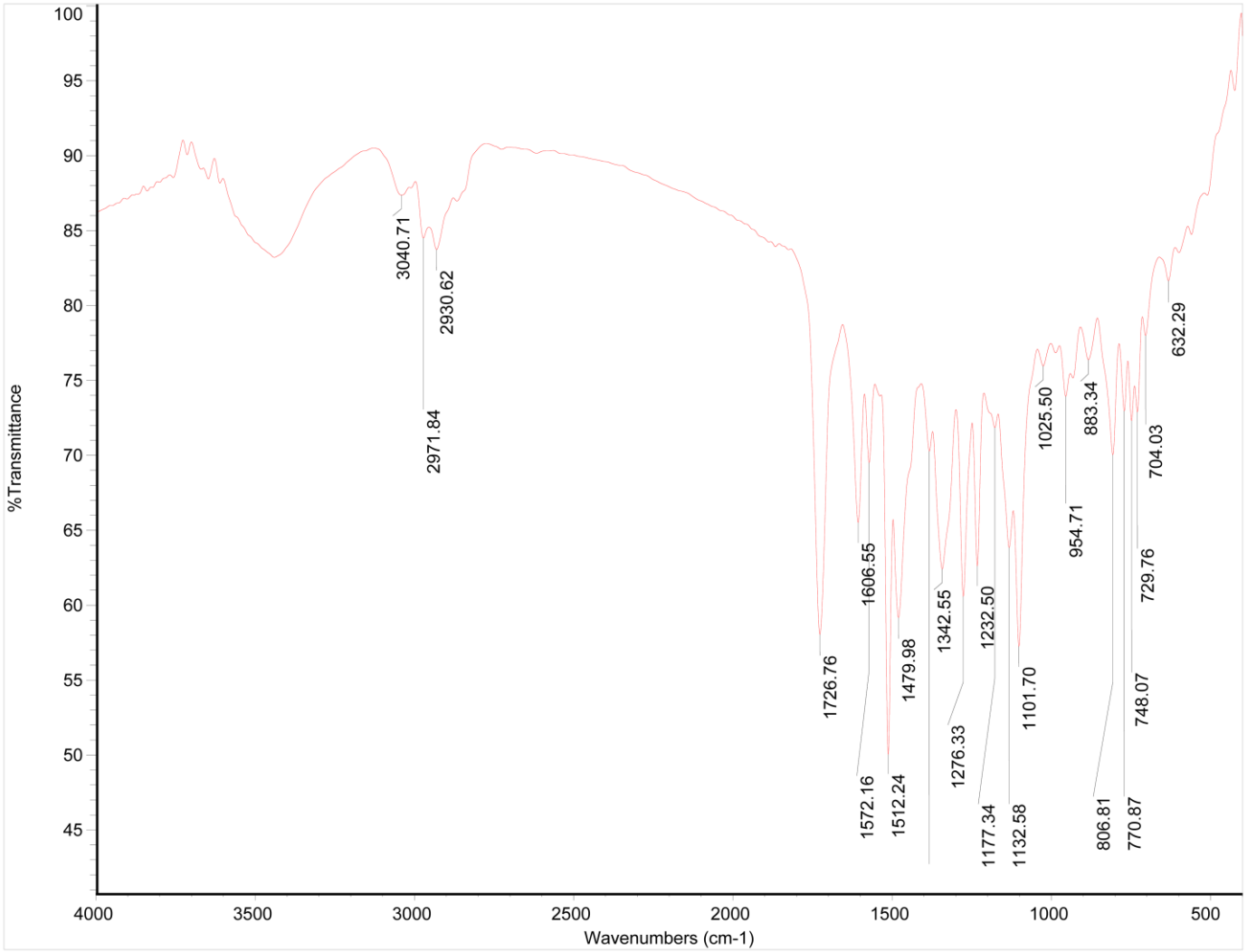

Fig. 48. IR spectrum of compound 6b

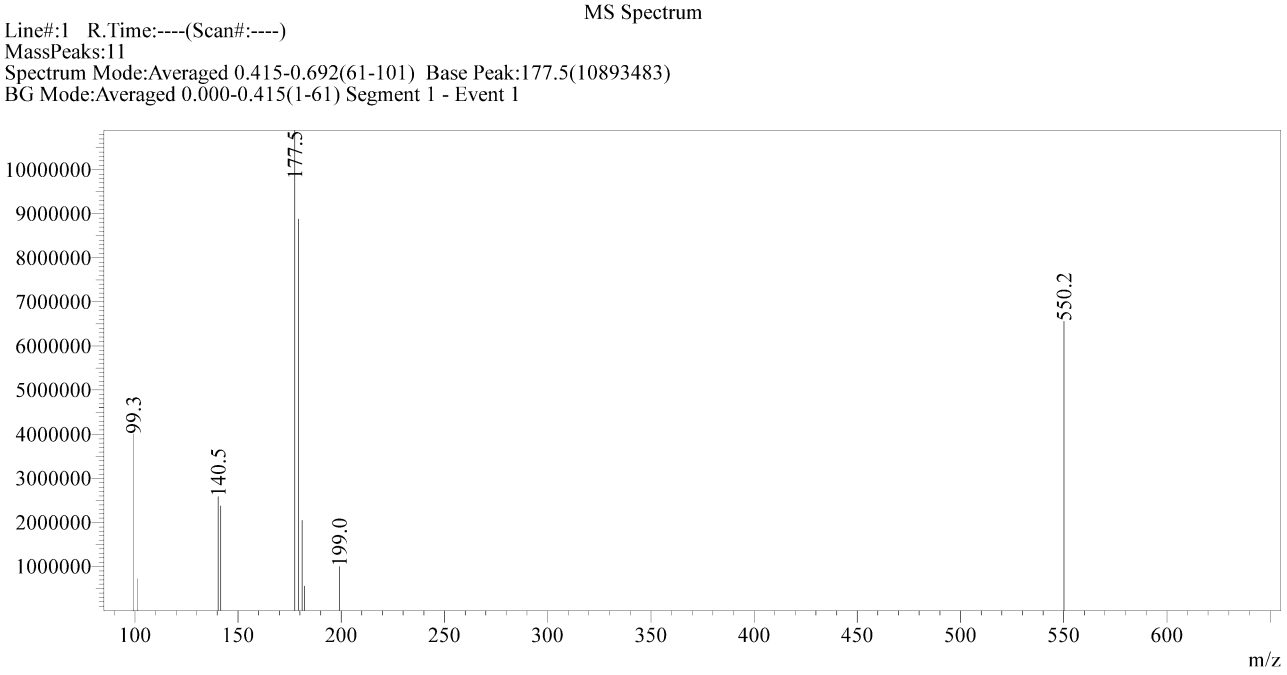

Fig. 49. Mass spectrum of compound 6b

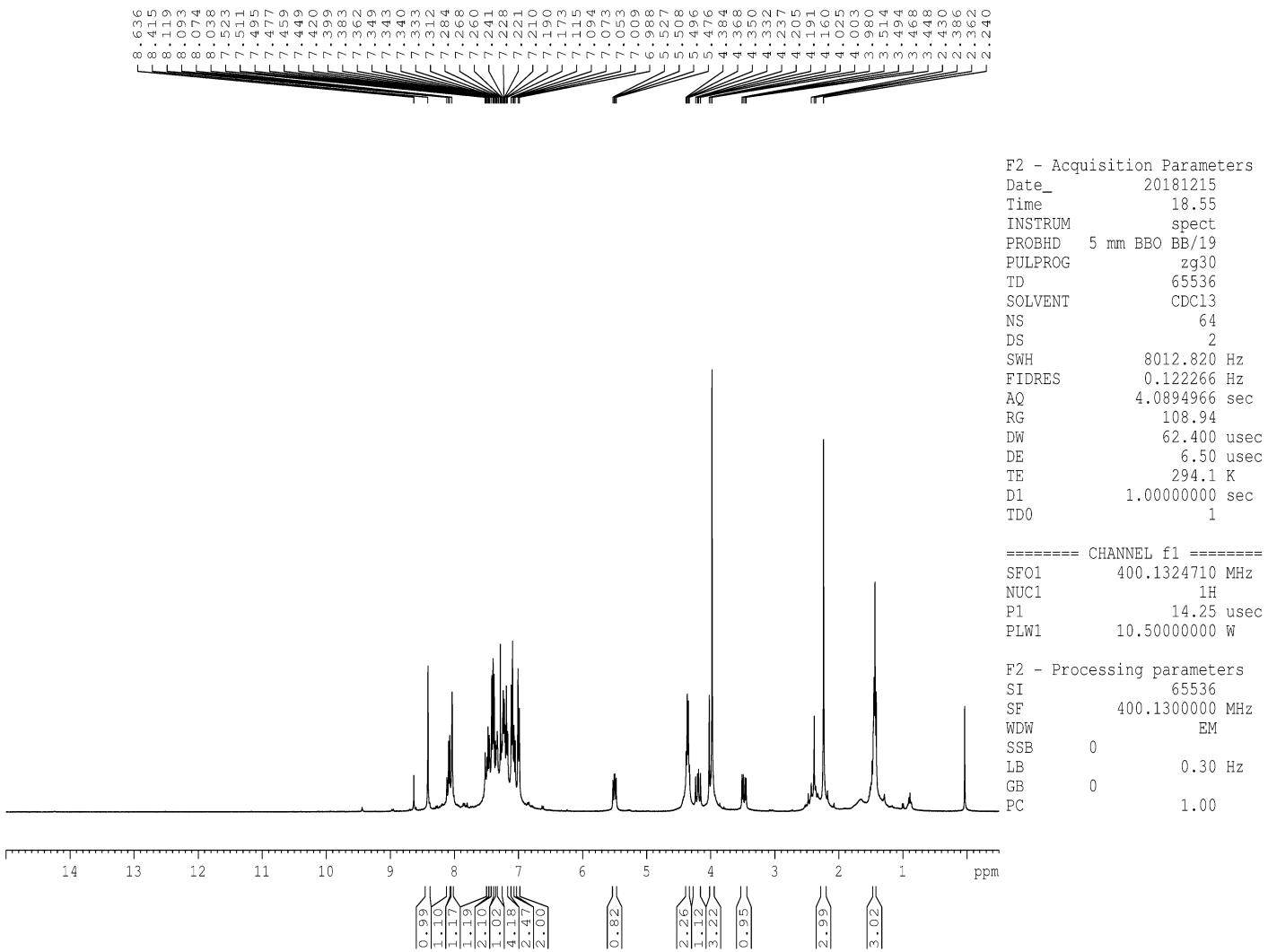

Fig. 50. ^{1}H NMR spectrum of compound 6b

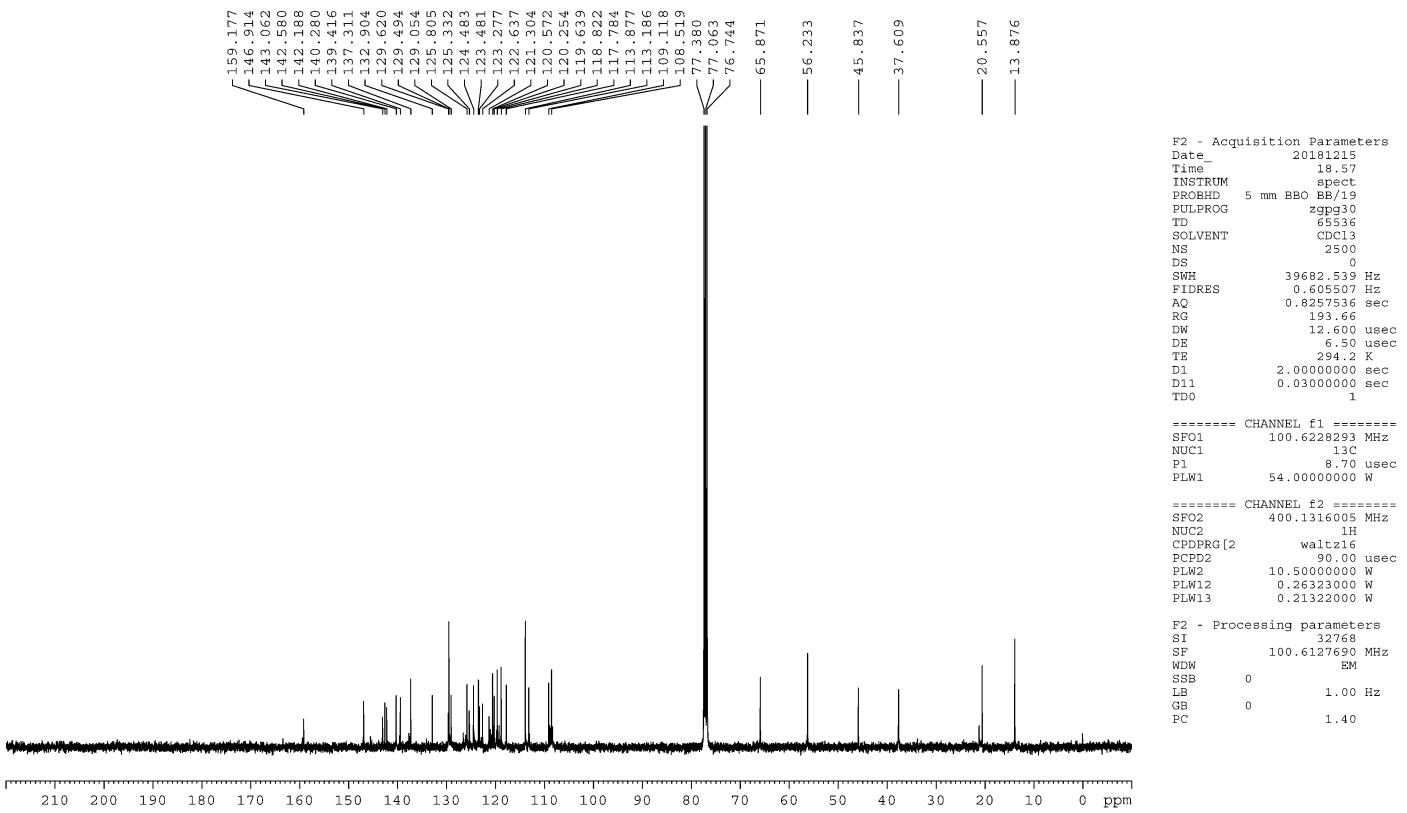

Fig. 51. ^{13}C NMR spectrum of compound 6b

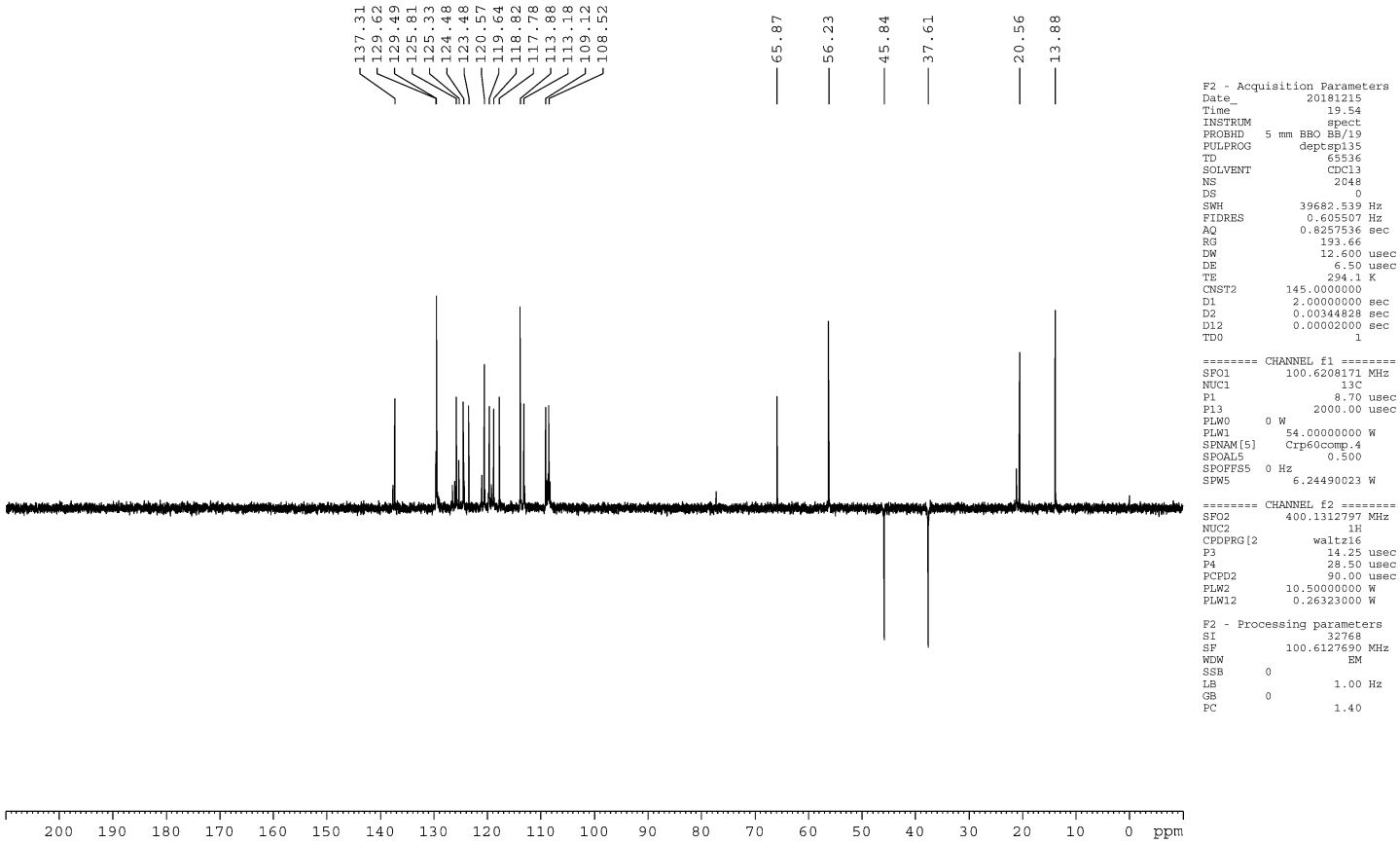

Fig. 52. DEPT-135 spectrum of compound 6b

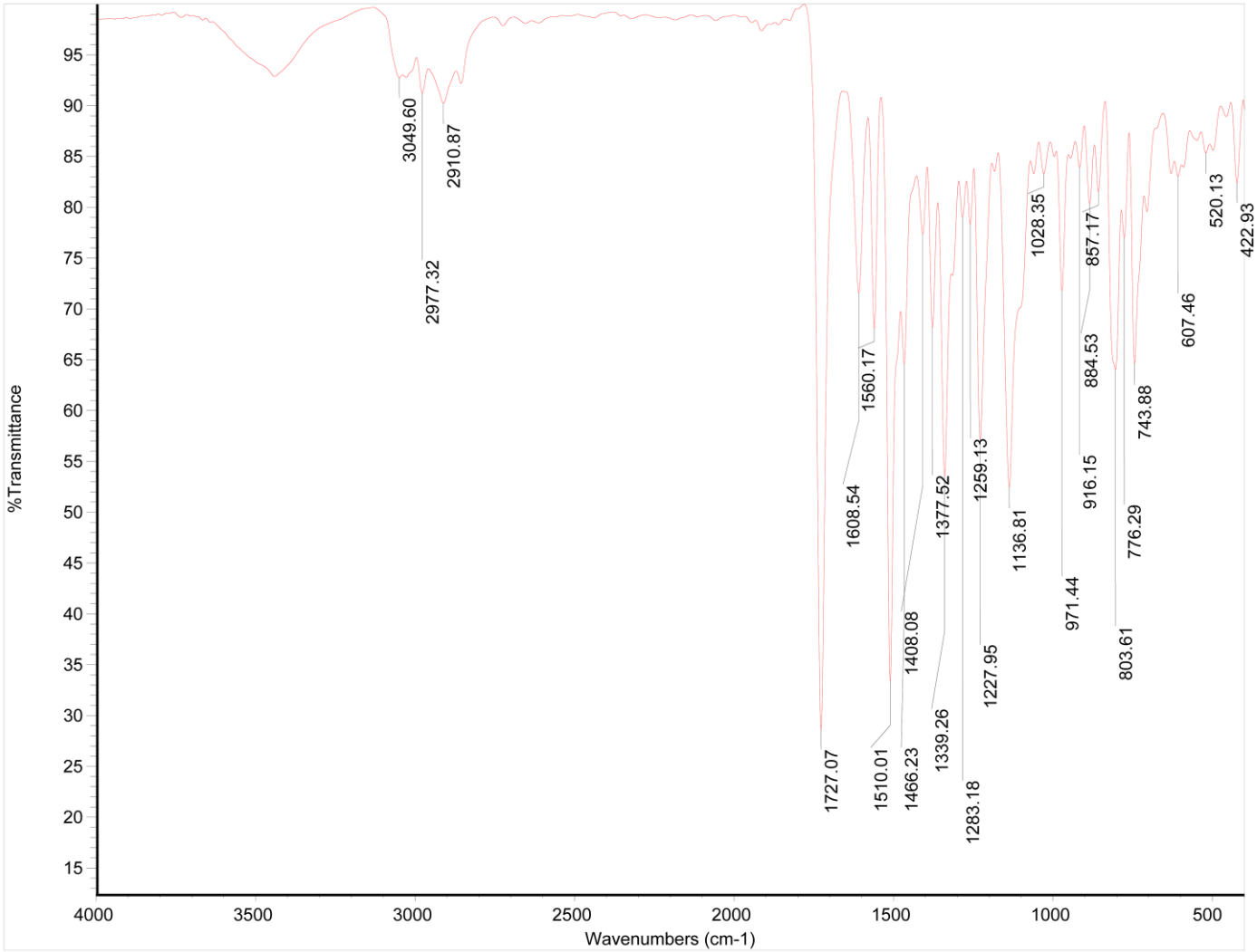

Fig. 53. IR spectrum of compound 6c

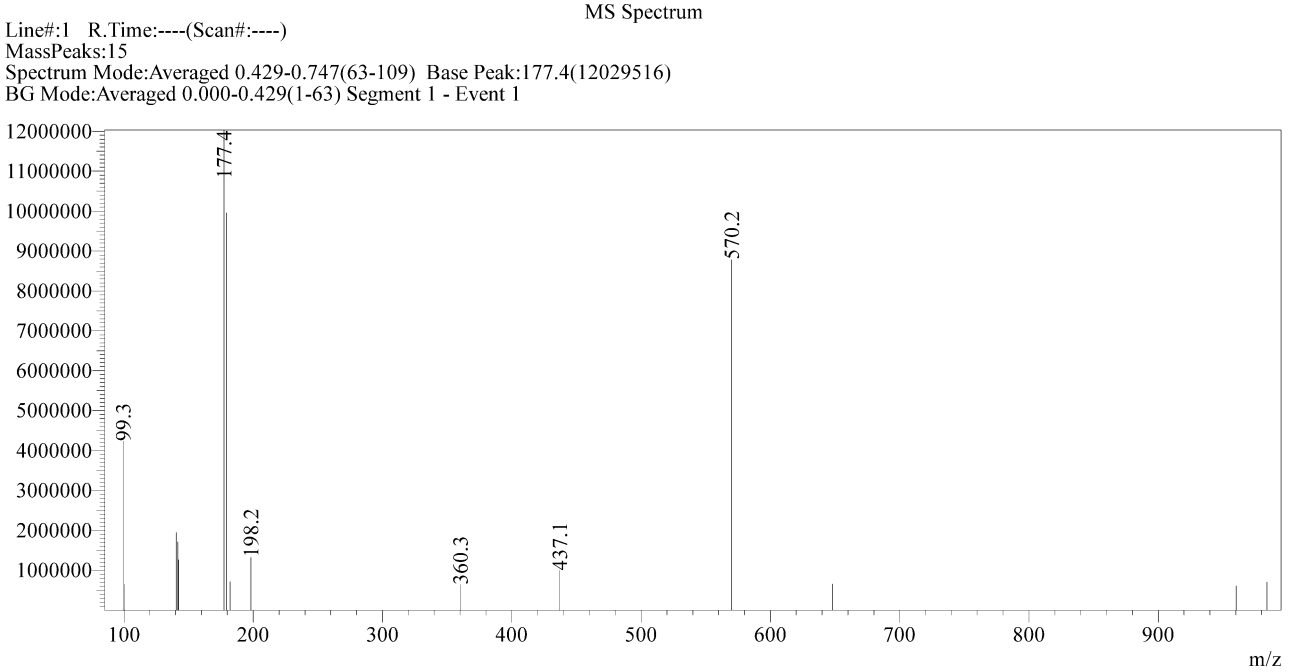

Fig. 54. Mass spectrum of compound 6c

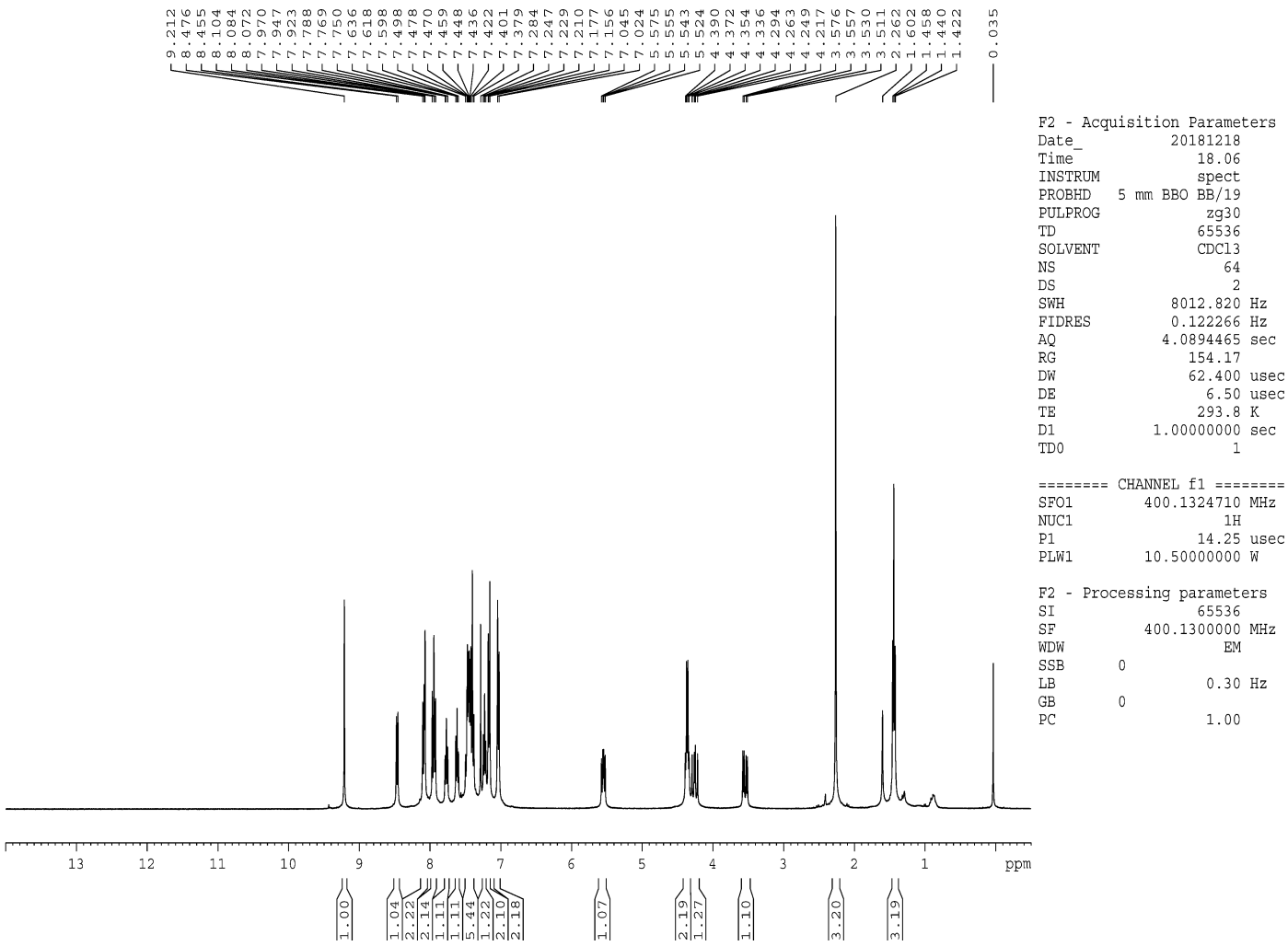

Fig. 55. ^{1}H NMR spectrum of compound 6c

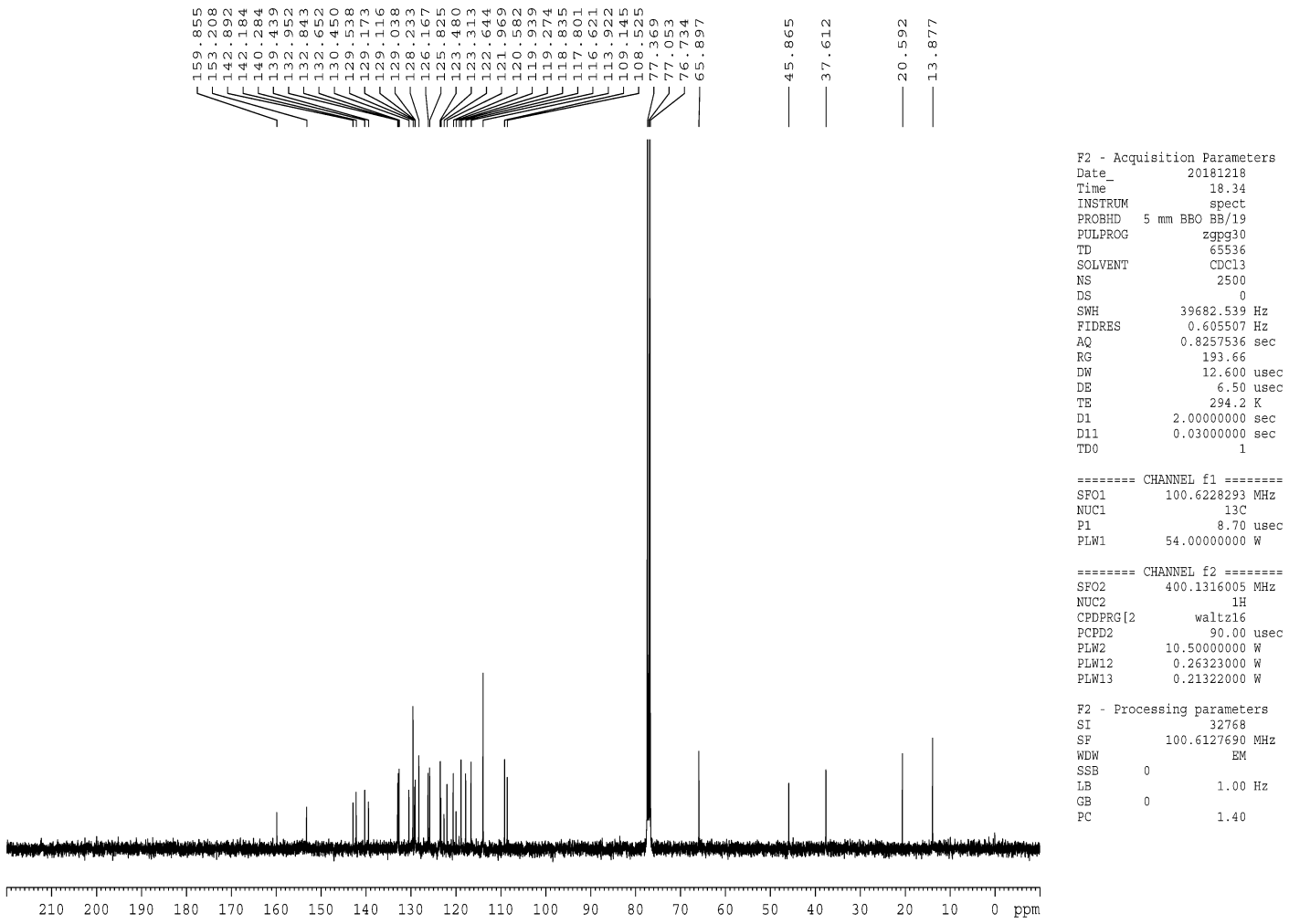

Fig. 56. ^{13}C NMR spectrum of compound 6c

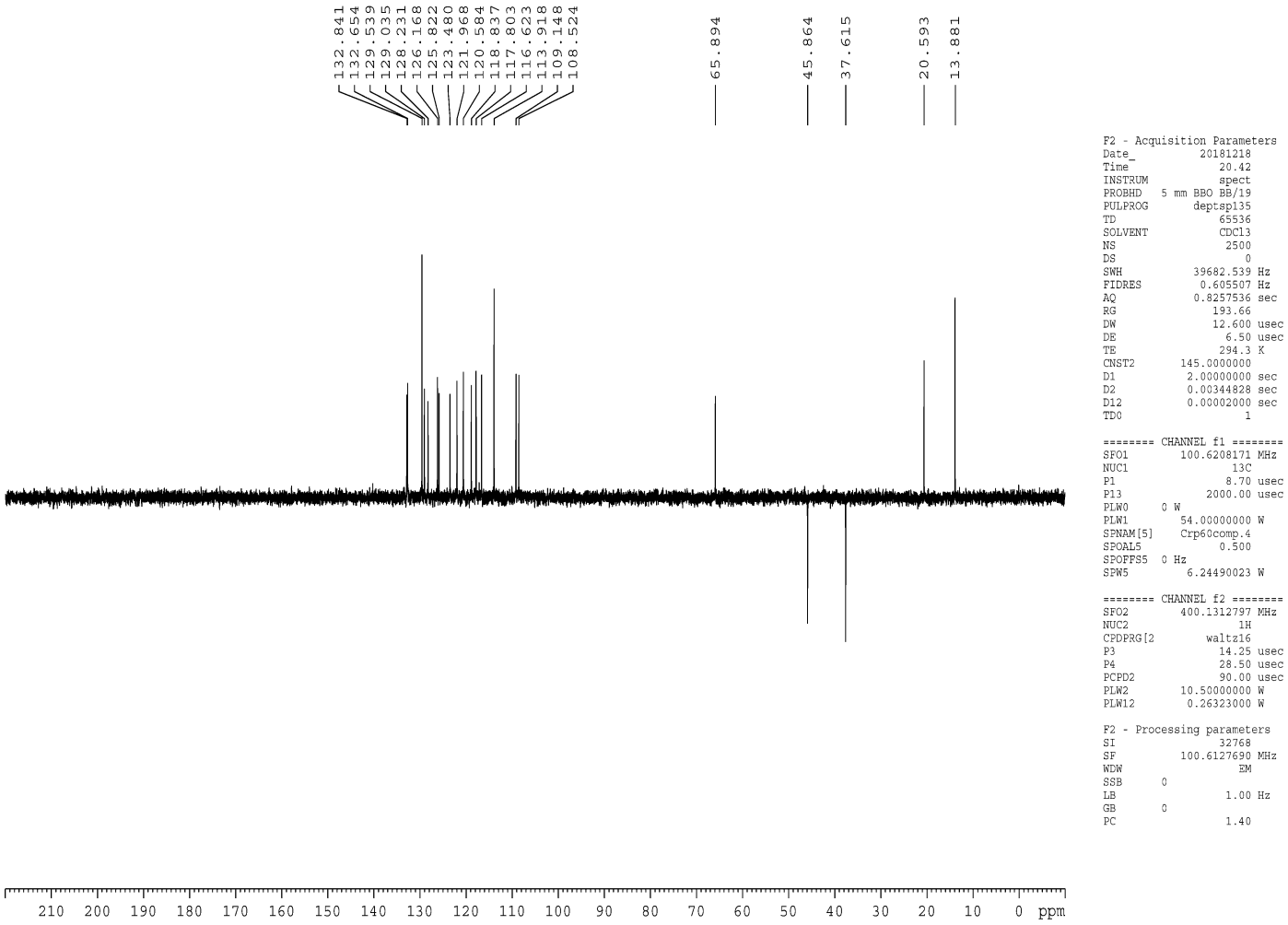

Fig. 57. DEPT-135 spectrum of compound 6c

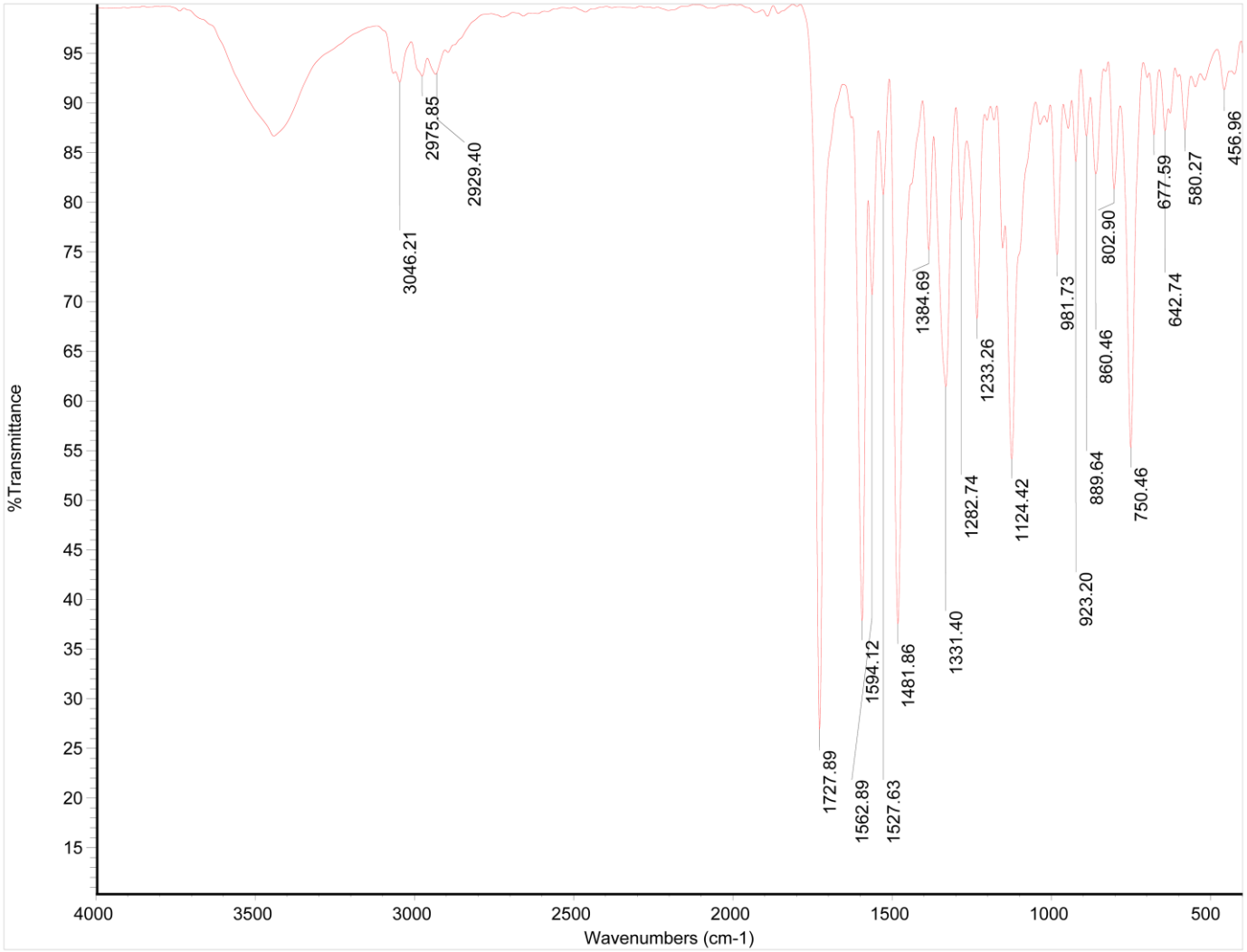

Fig. 58. IR spectrum of compound 7a

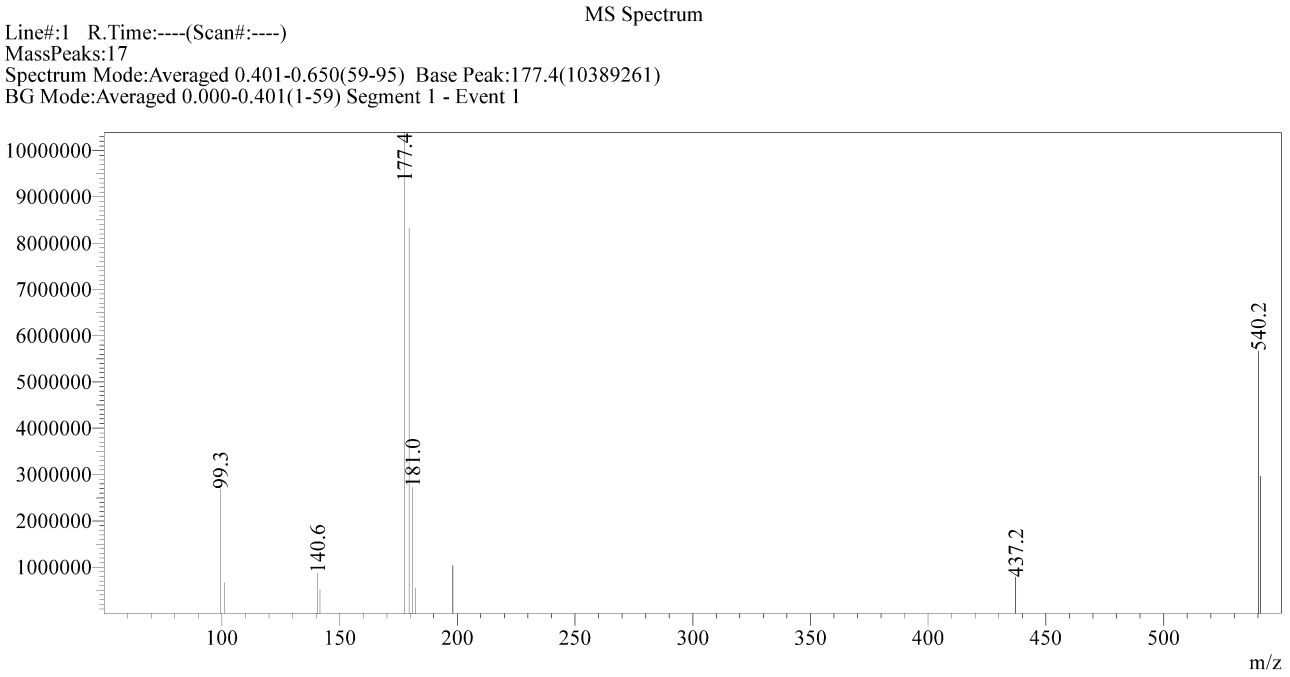

Fig. 59. Mass spectrum of compound 7a

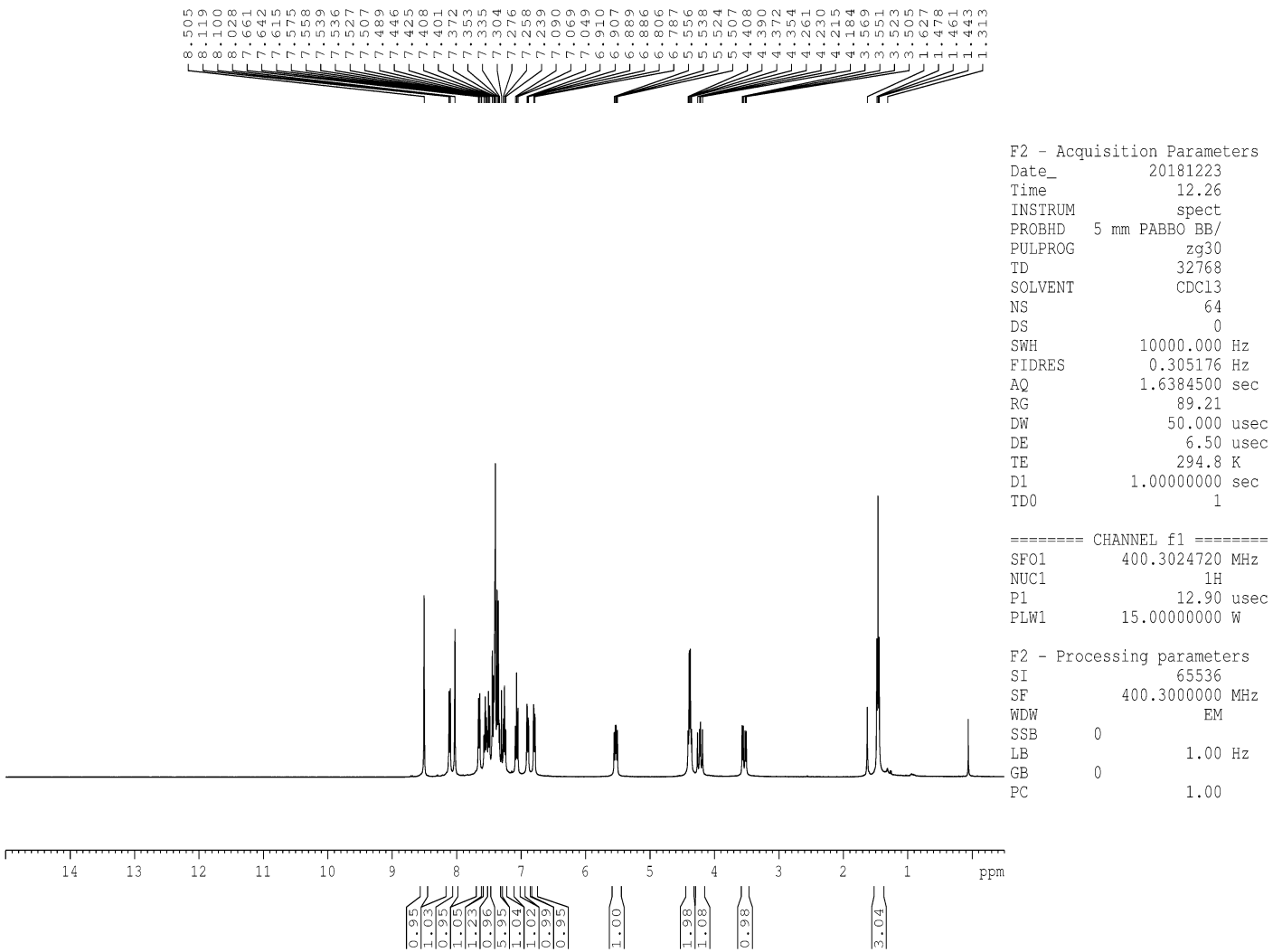

Fig. 60. ^{1}H NMR spectrum of compound 7a

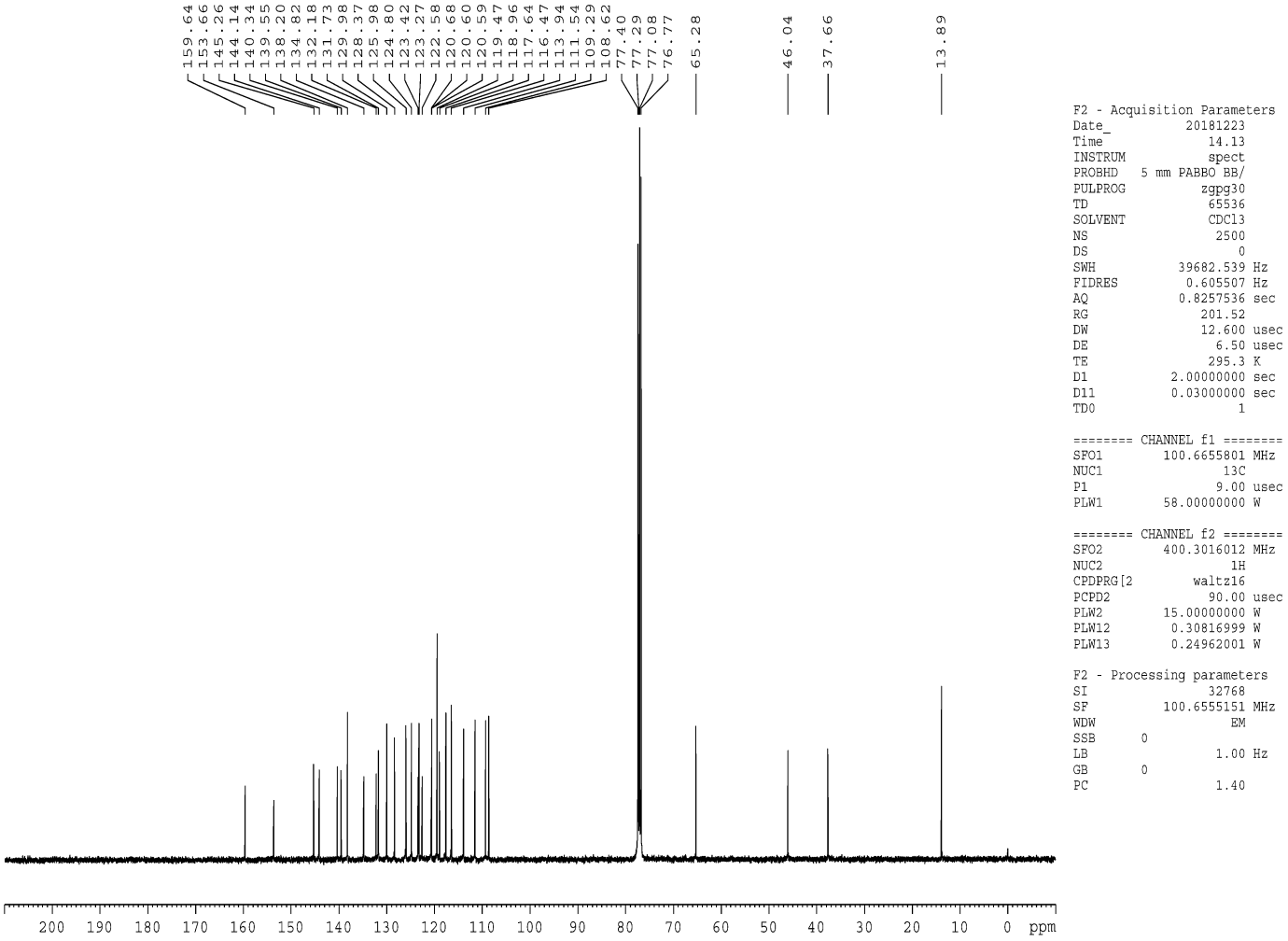

Fig. 61. ^{13}C NMR spectrum of compound 7a

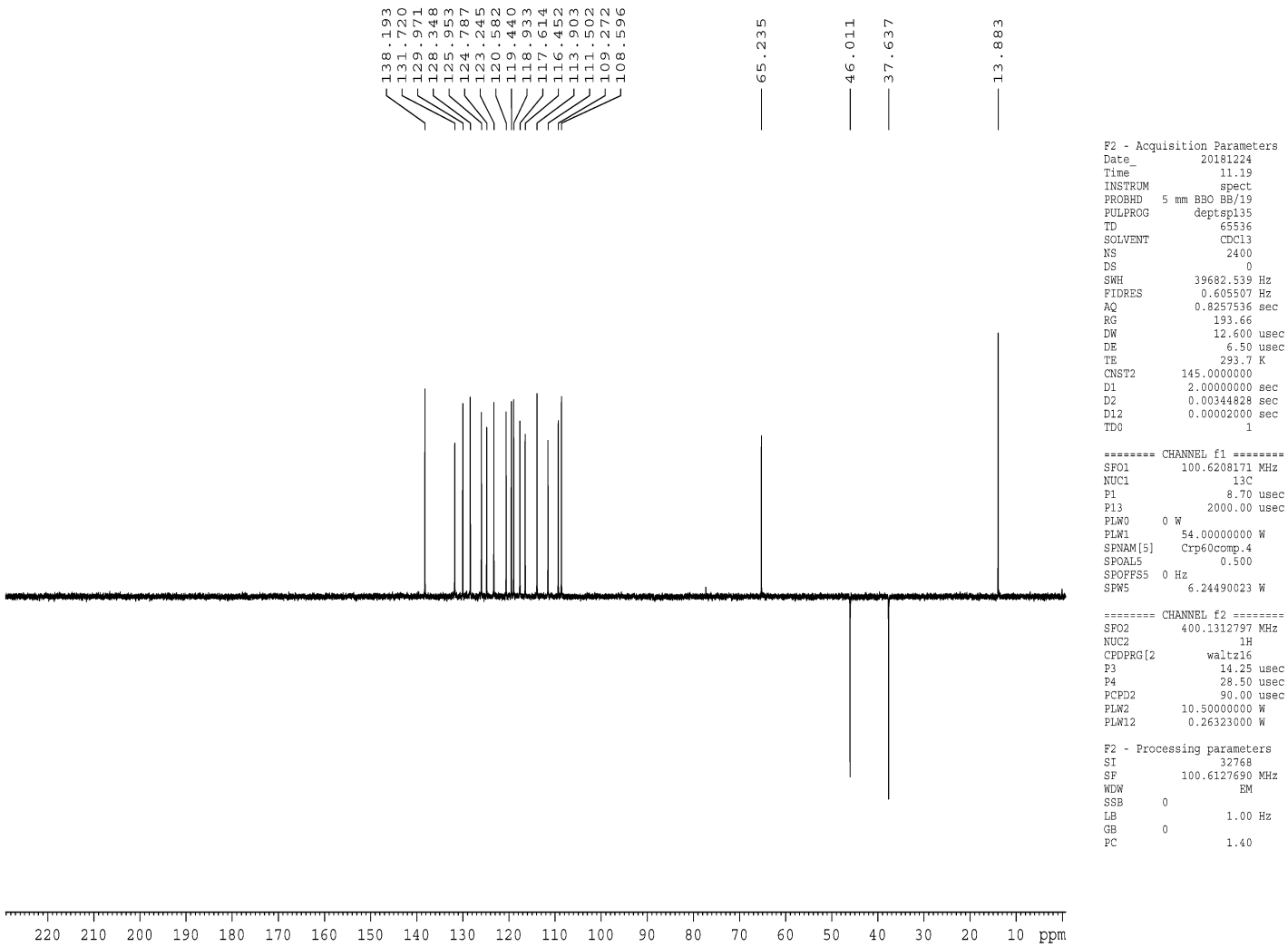

Fig. 62. DEPT-135 spectrum of compound 7a

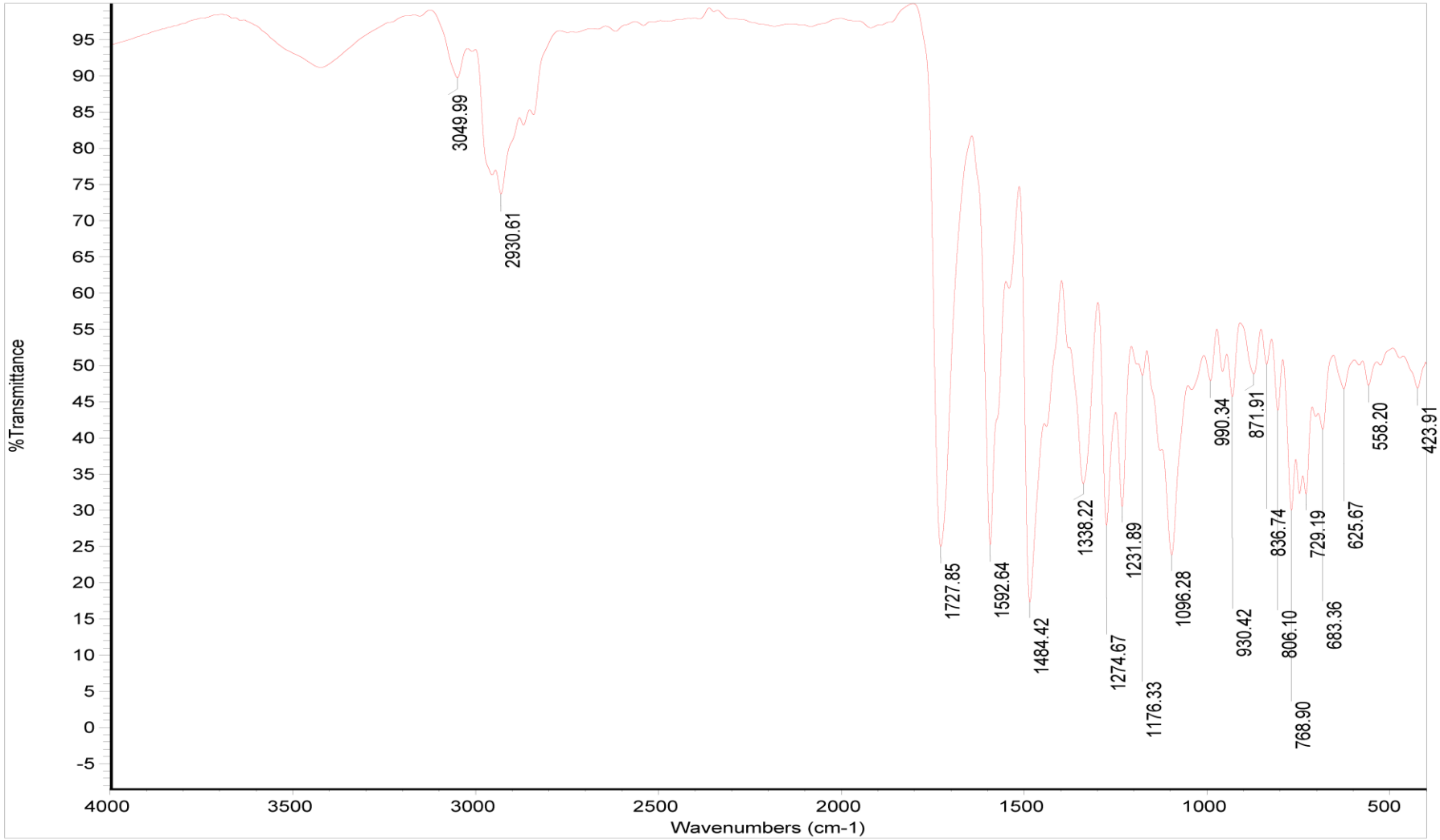

Fig. 63. IR spectrum of compound 7b

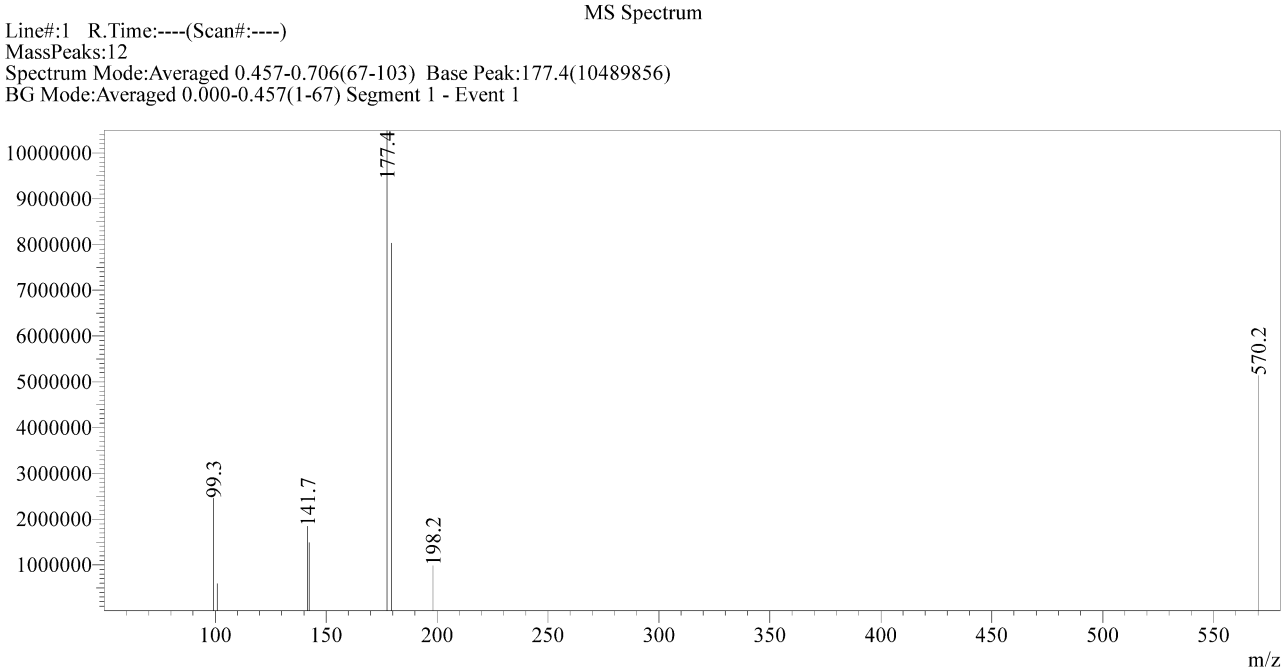

Fig. 64. Mass spectrum of compound 7b

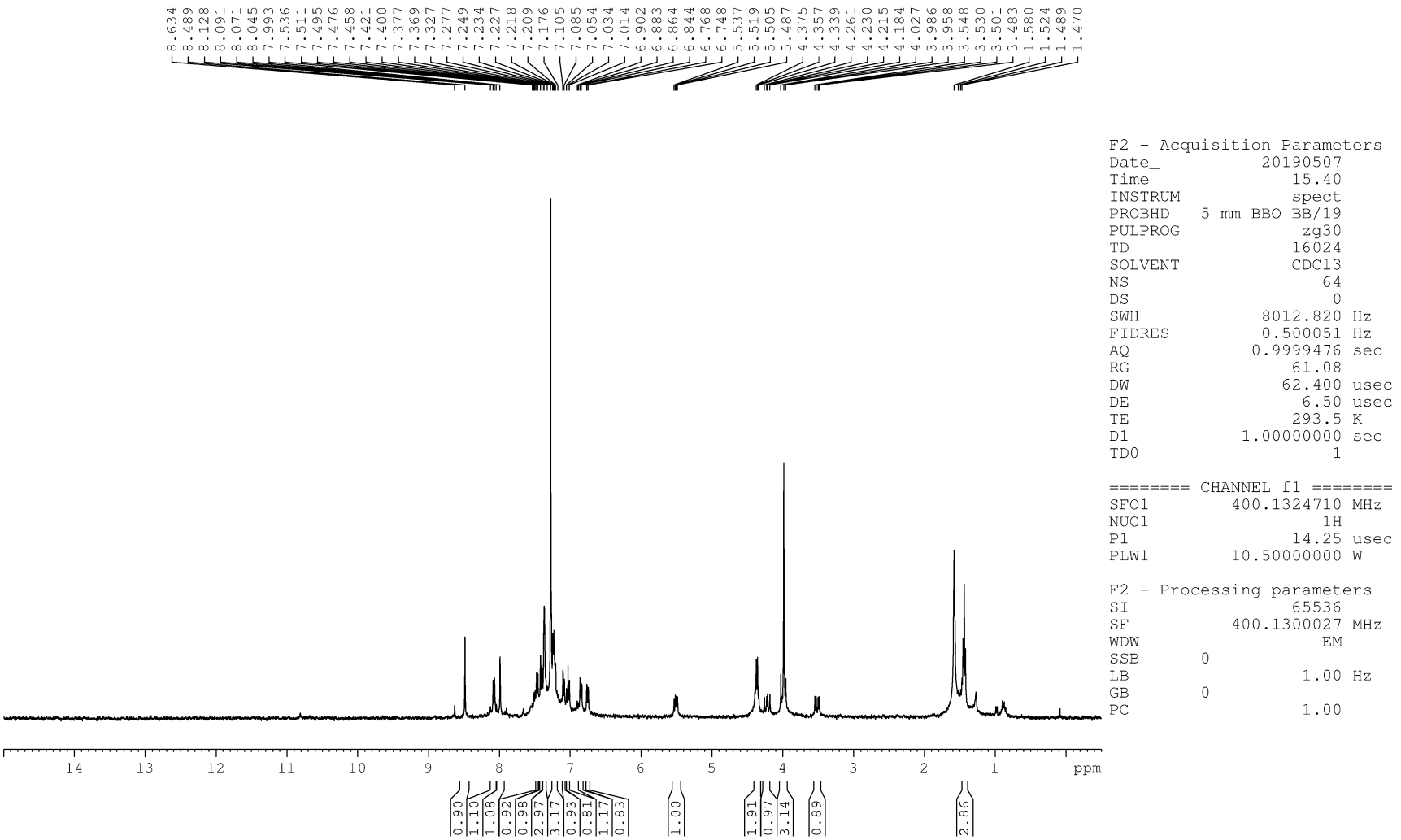

Fig. 65. ^{1}H NMR spectrum of compound 7b

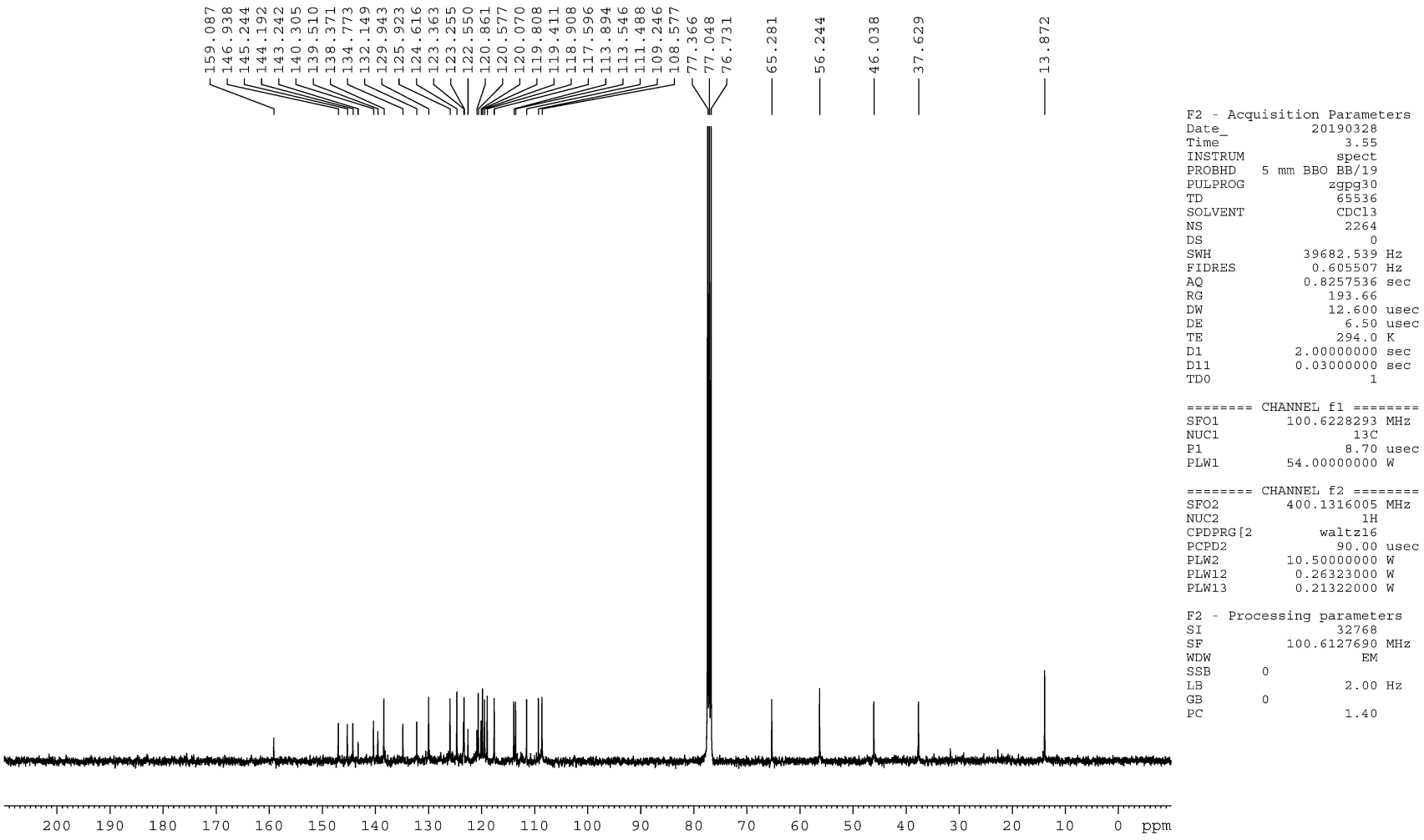

Fig. 66. ^{13}C NMR spectrum of compound 7b

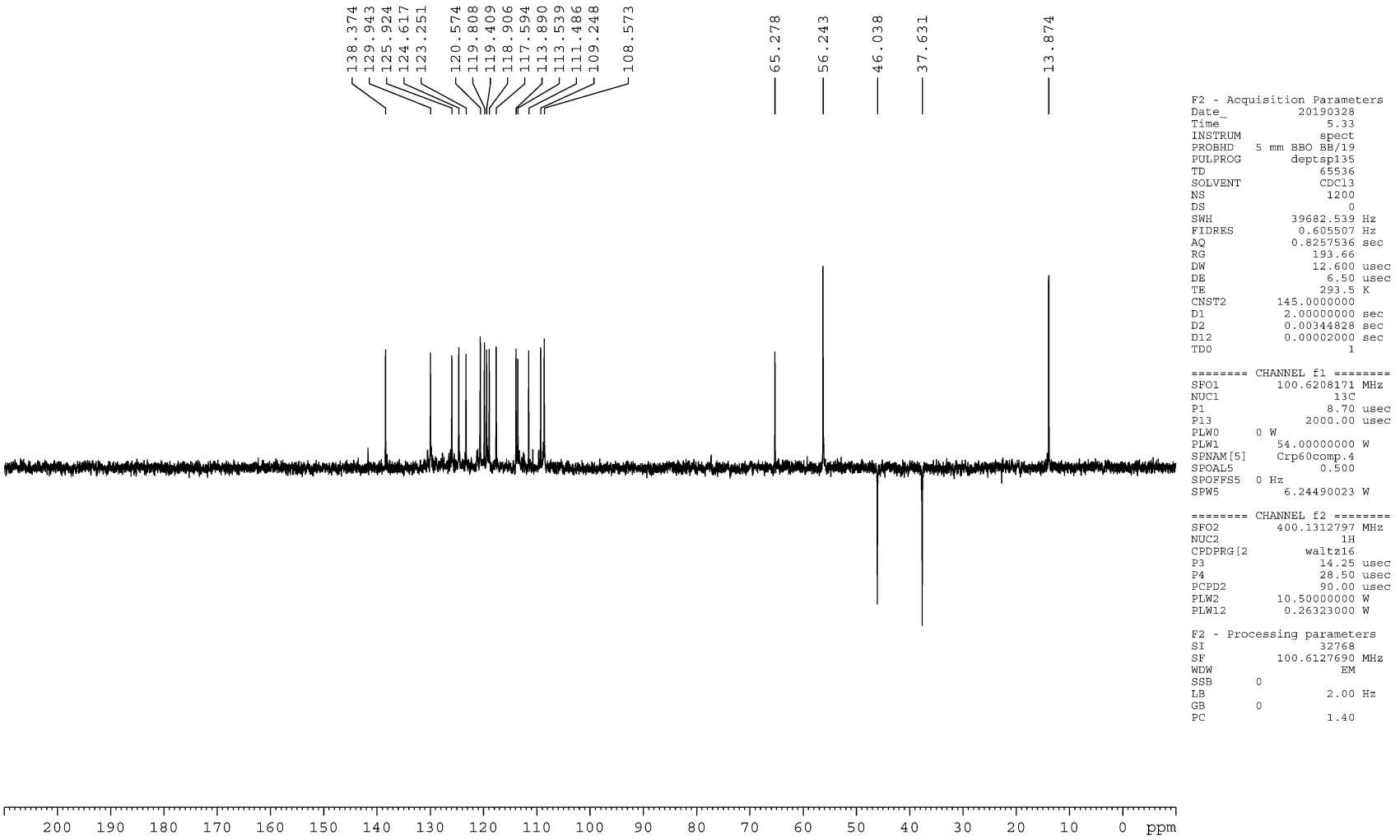

Fig. 67. DEPT-135 spectrum of compound 7b

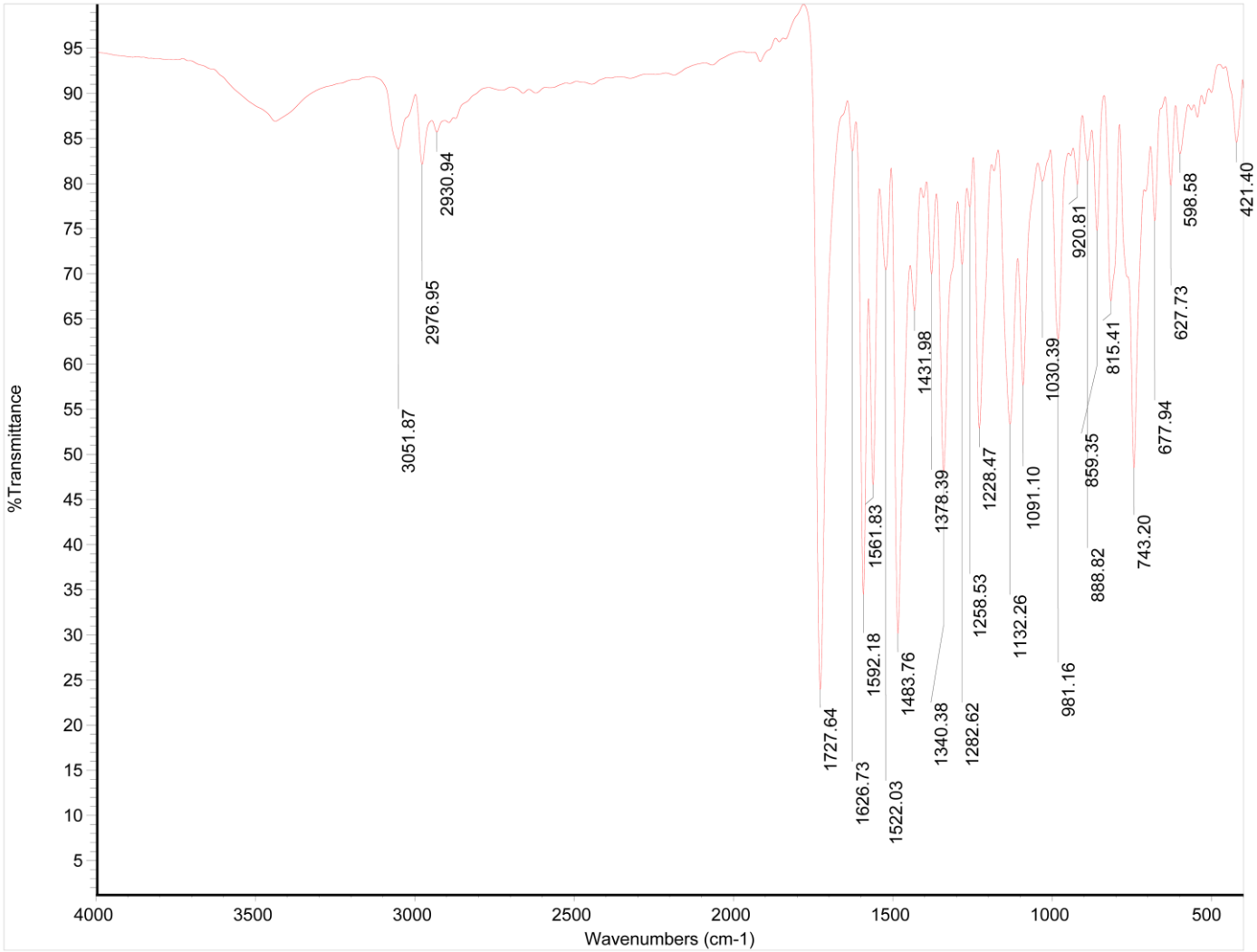

Fig. 68. IR spectrum of compound 7c

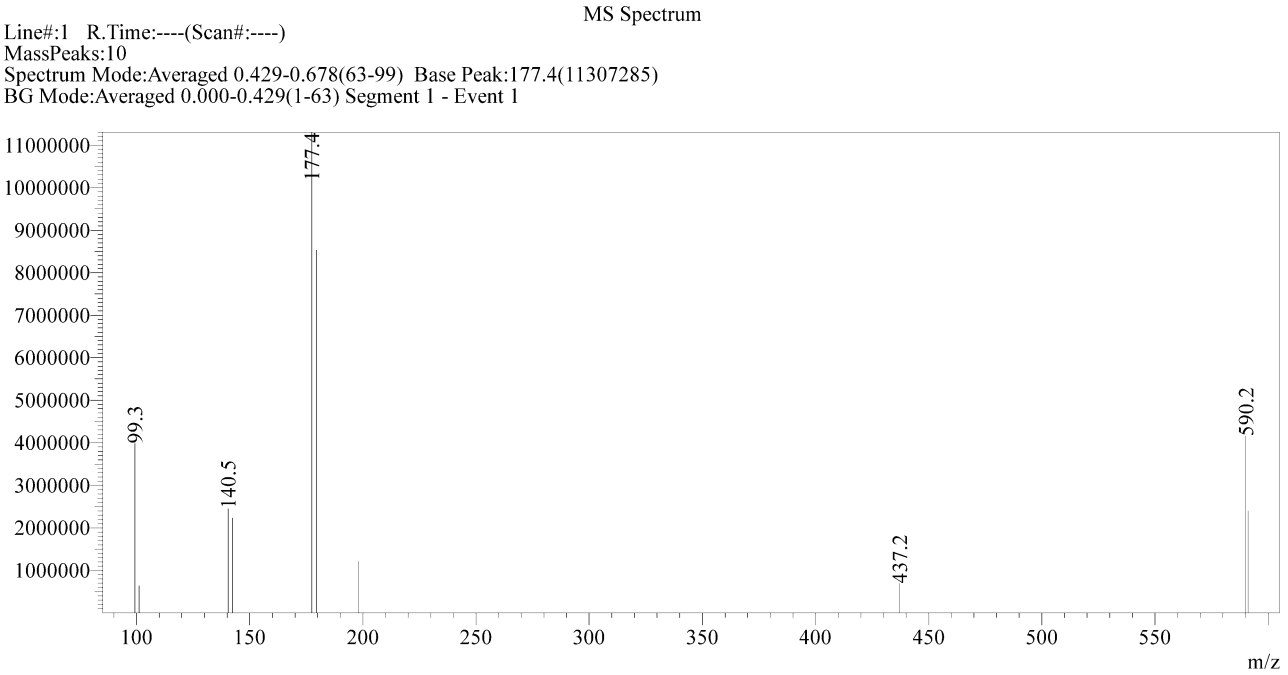

Fig. 69. Mass spectrum of compound 7c

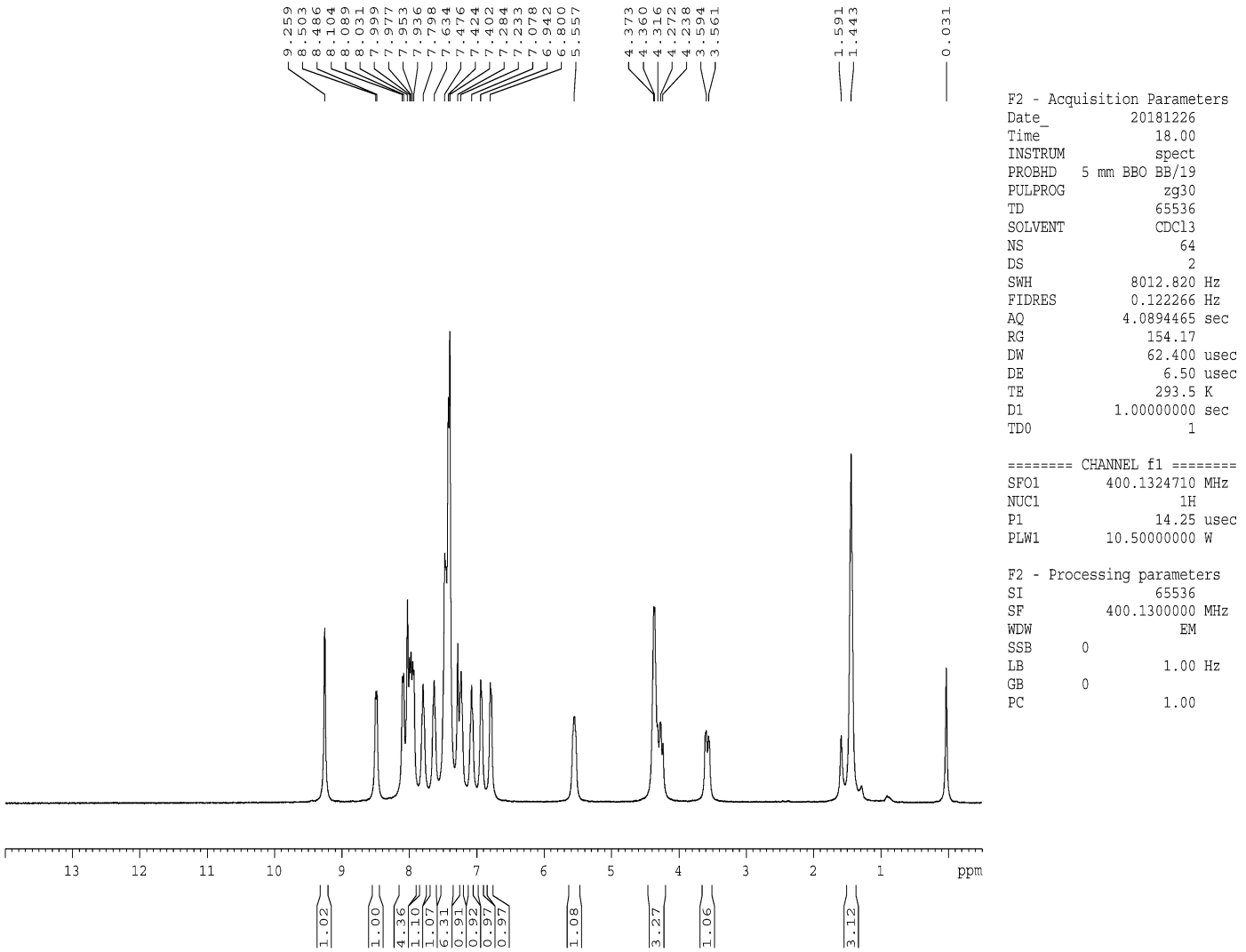

Fig. 70. ^{1}H NMR spectrum of compound 7c

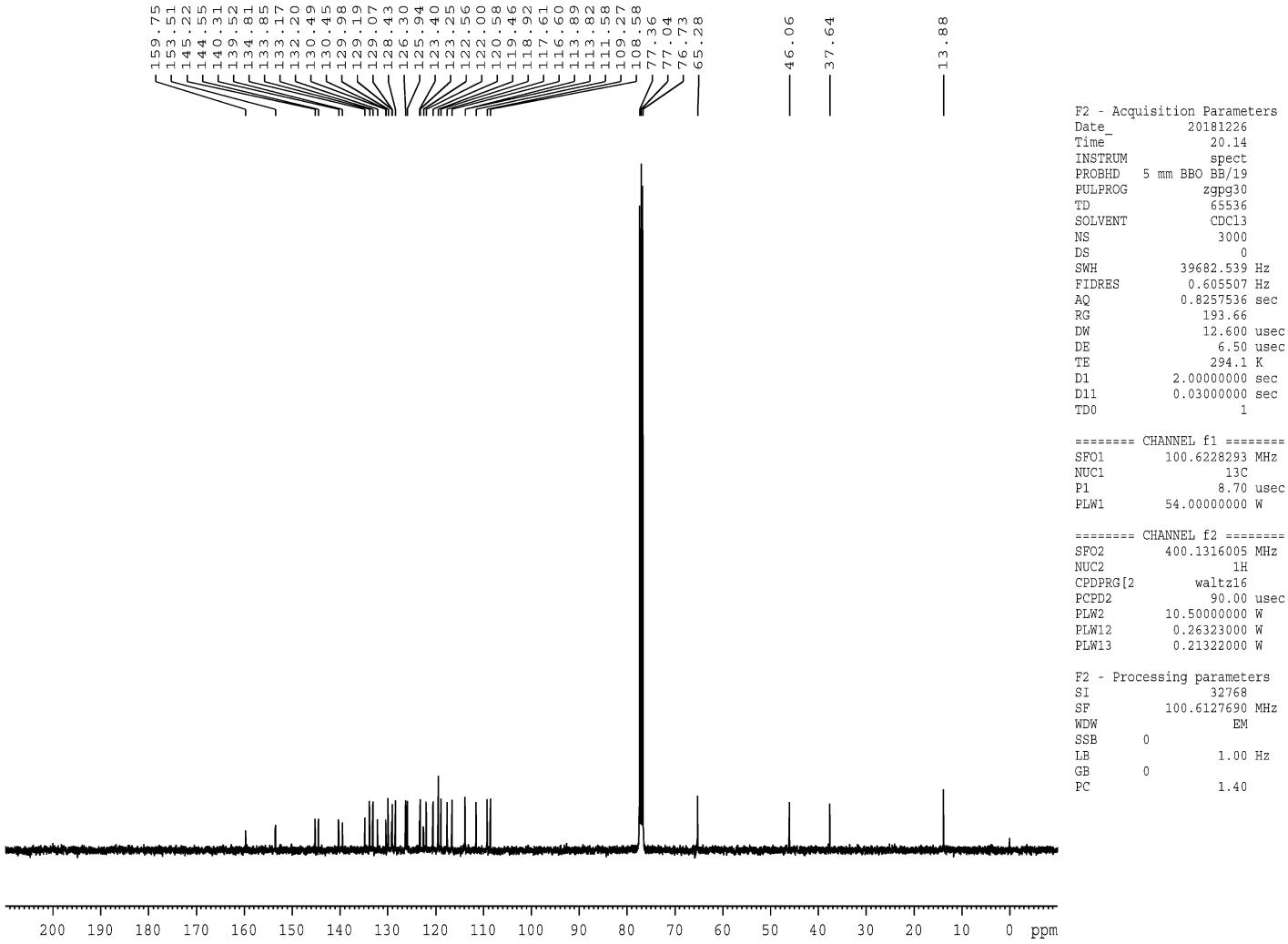

Fig. 71. ^{13}C NMR spectrum of compound 7c

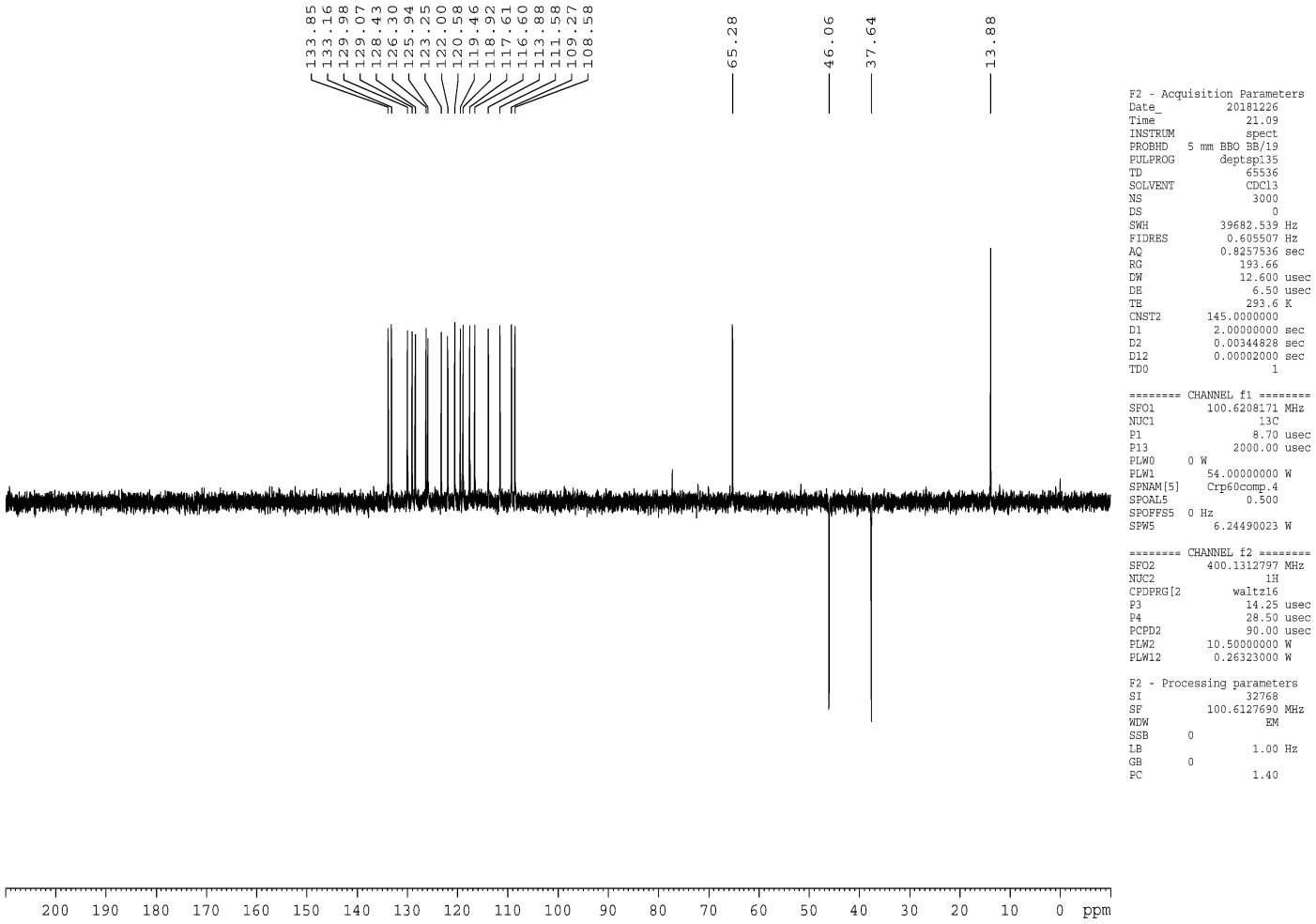

Fig. 72. DEPT-135 spectrum of compound 7c

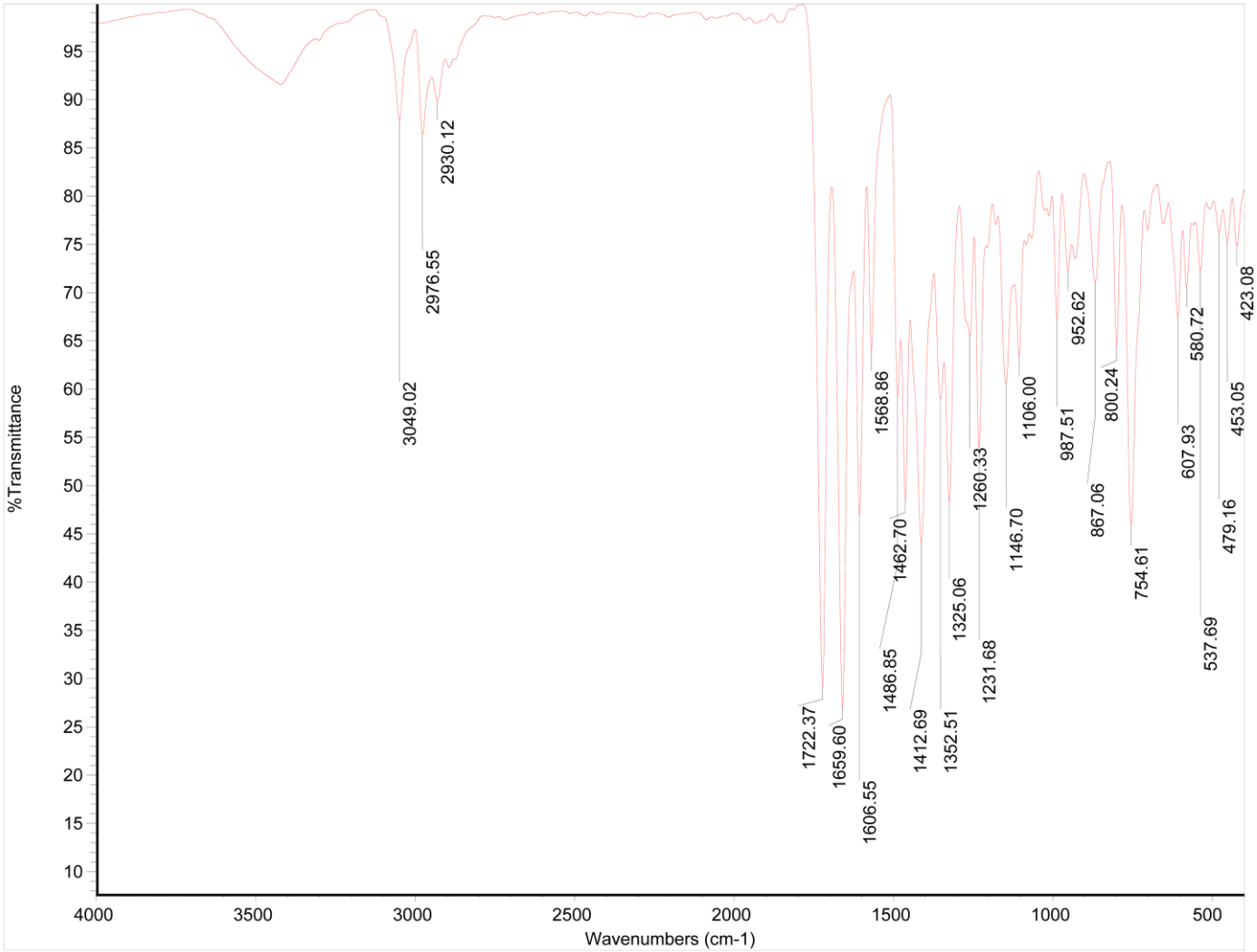

Fig. 73. IR spectrum of compound 8a

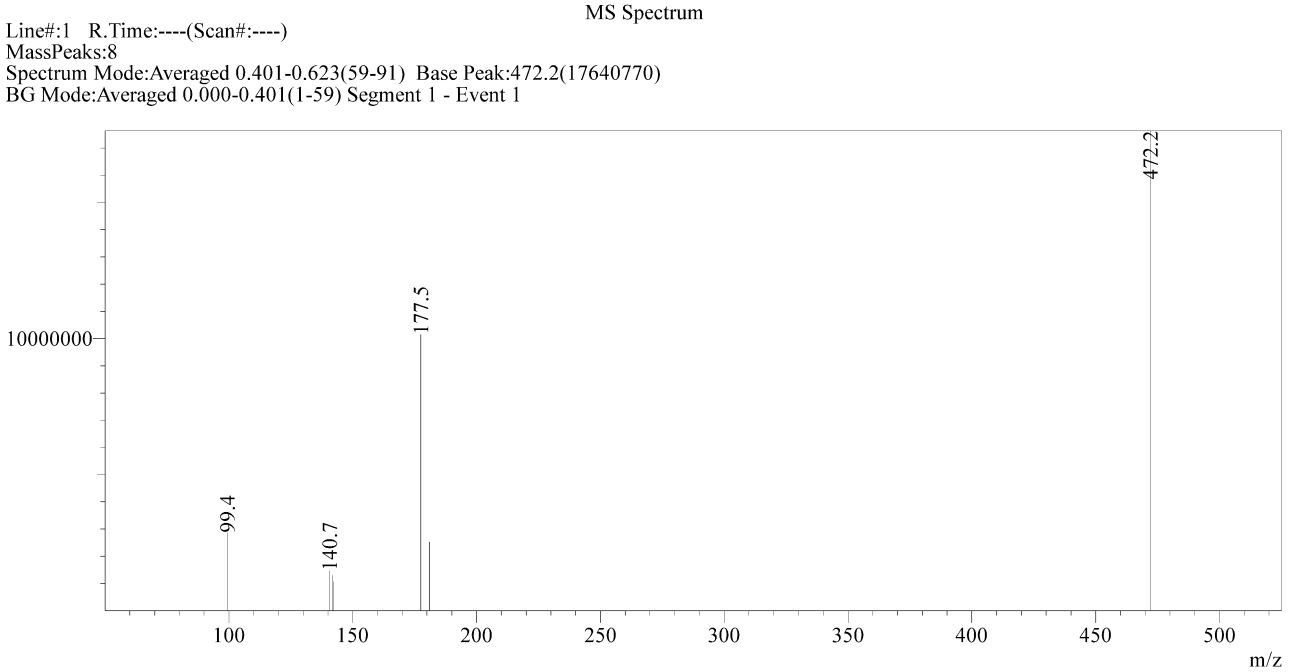

Fig. 74. Mass spectrum of compound 8a

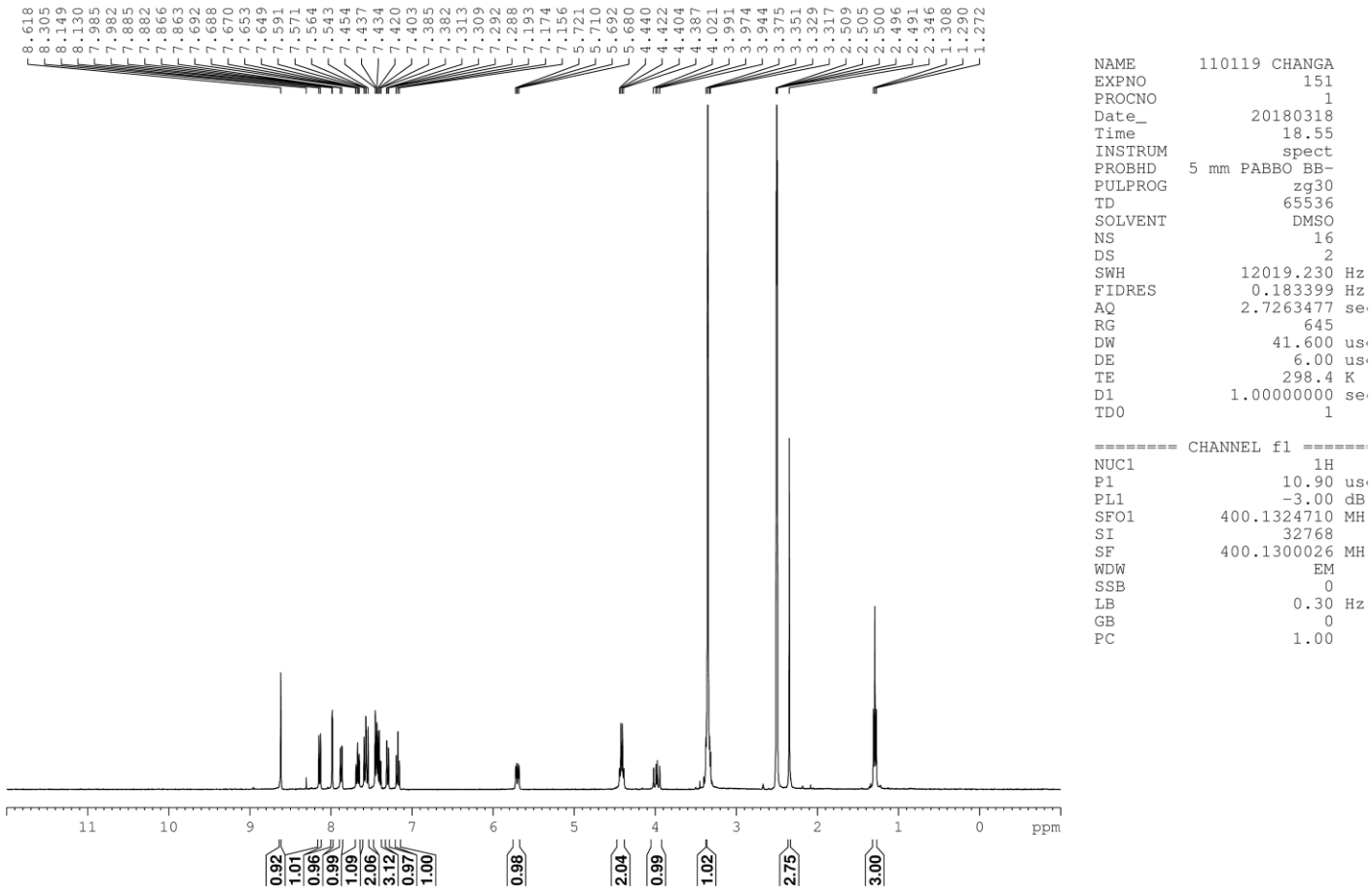

Fig. 75. ^{1}H NMR spectrum of compound 8a

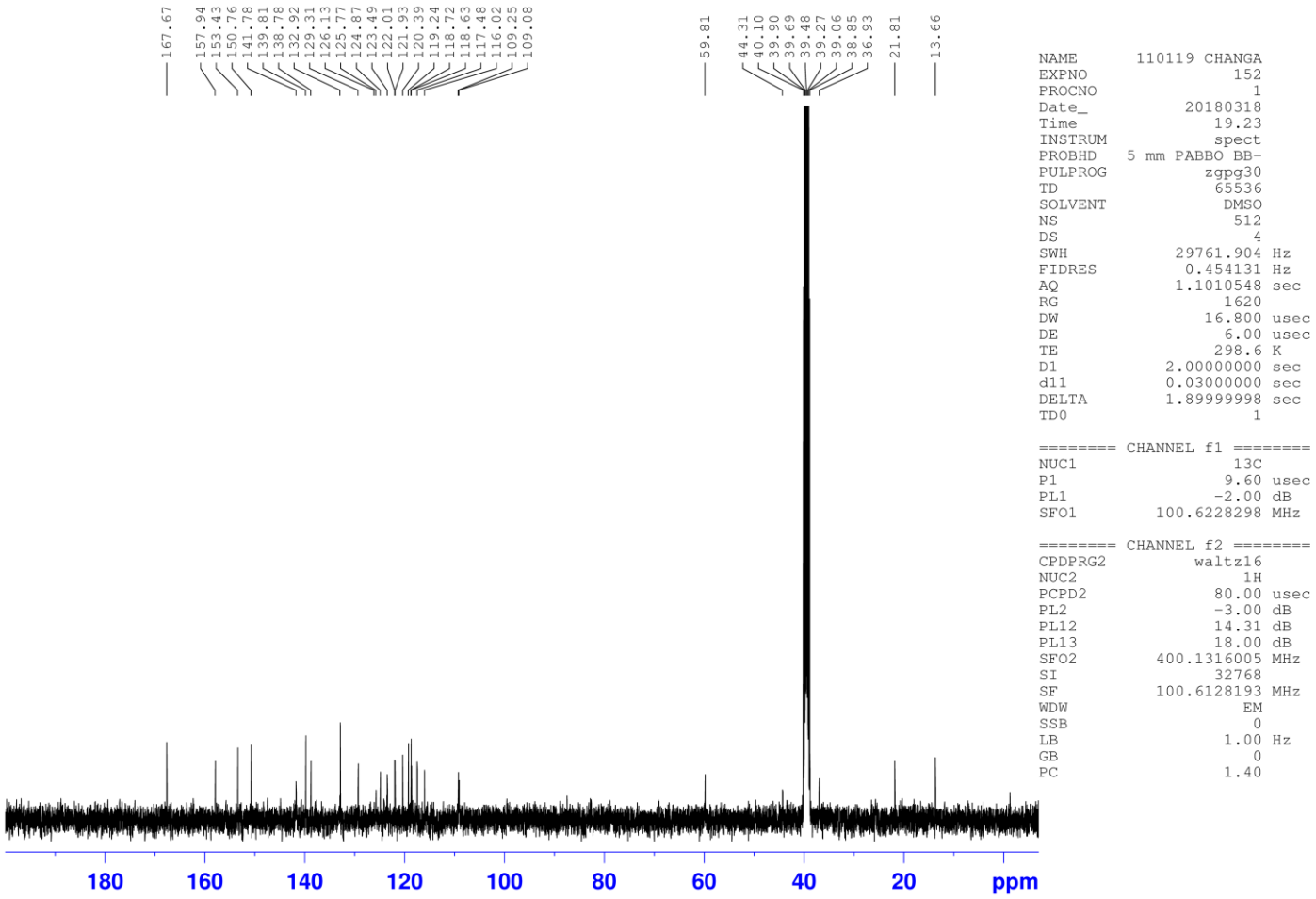

Fig. 76. ^{13}C NMR spectrum of compound 8a

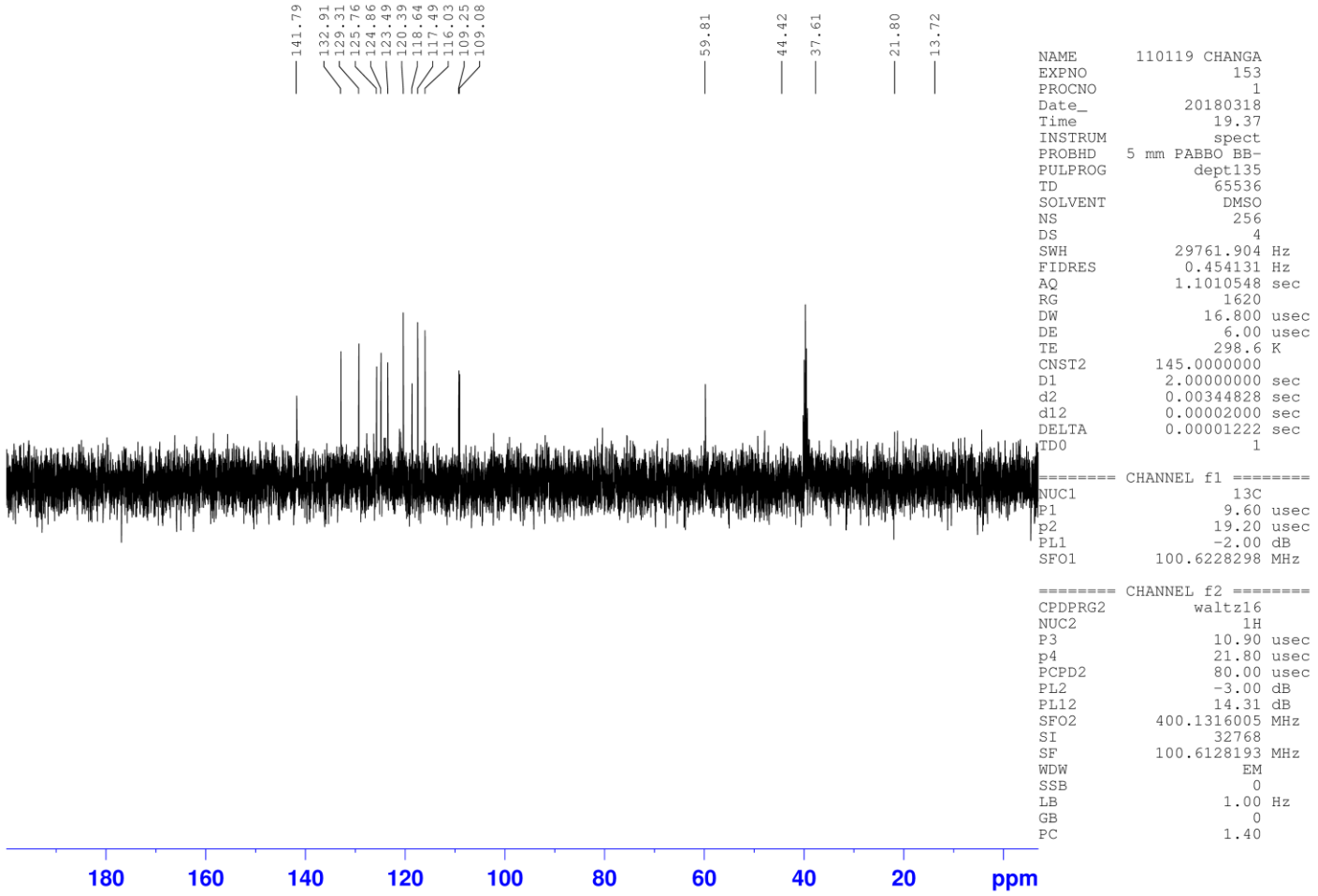

Fig. 77. DEPT-135 spectrum of compound 8a

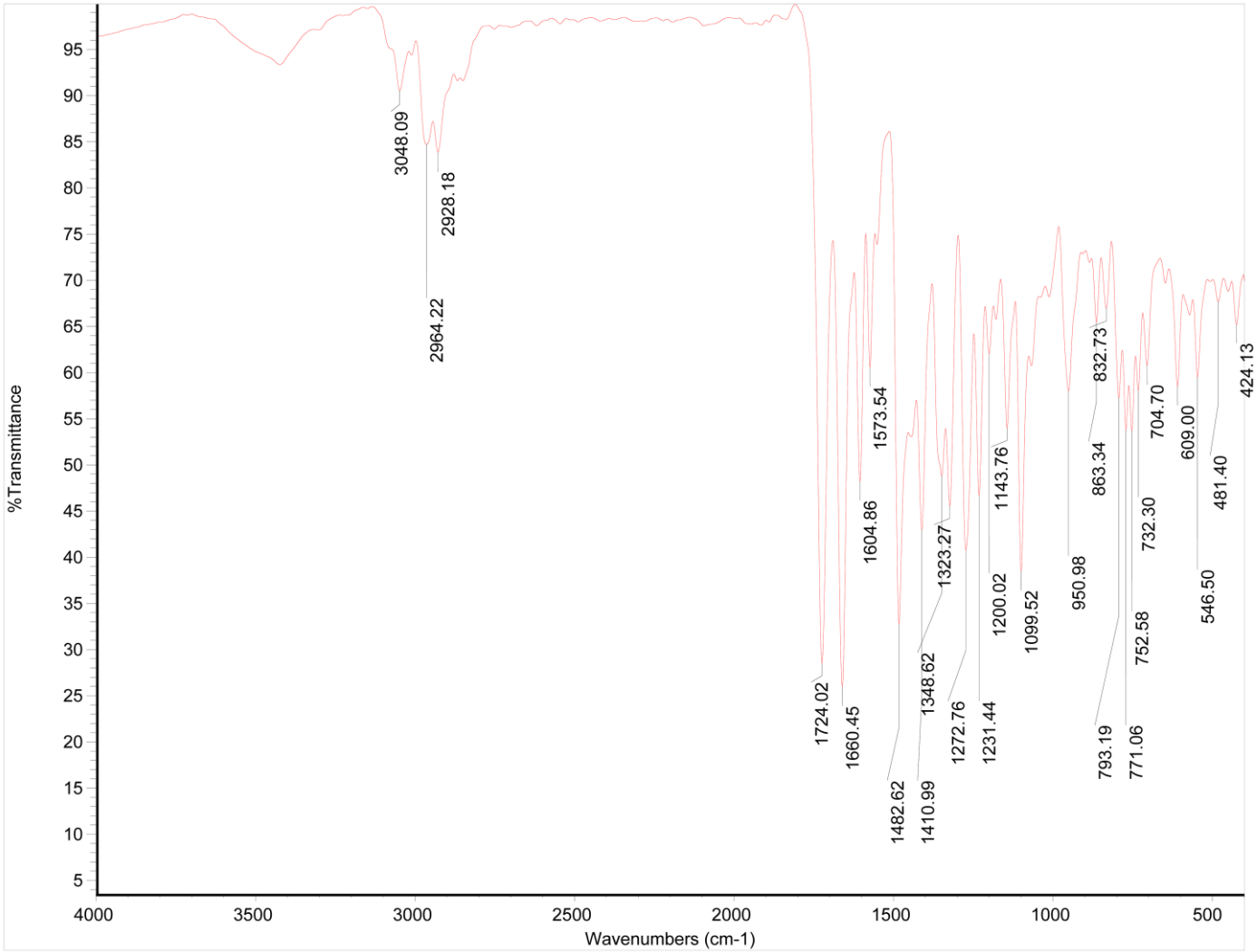

Fig. 78. IR spectrum of compound 8b

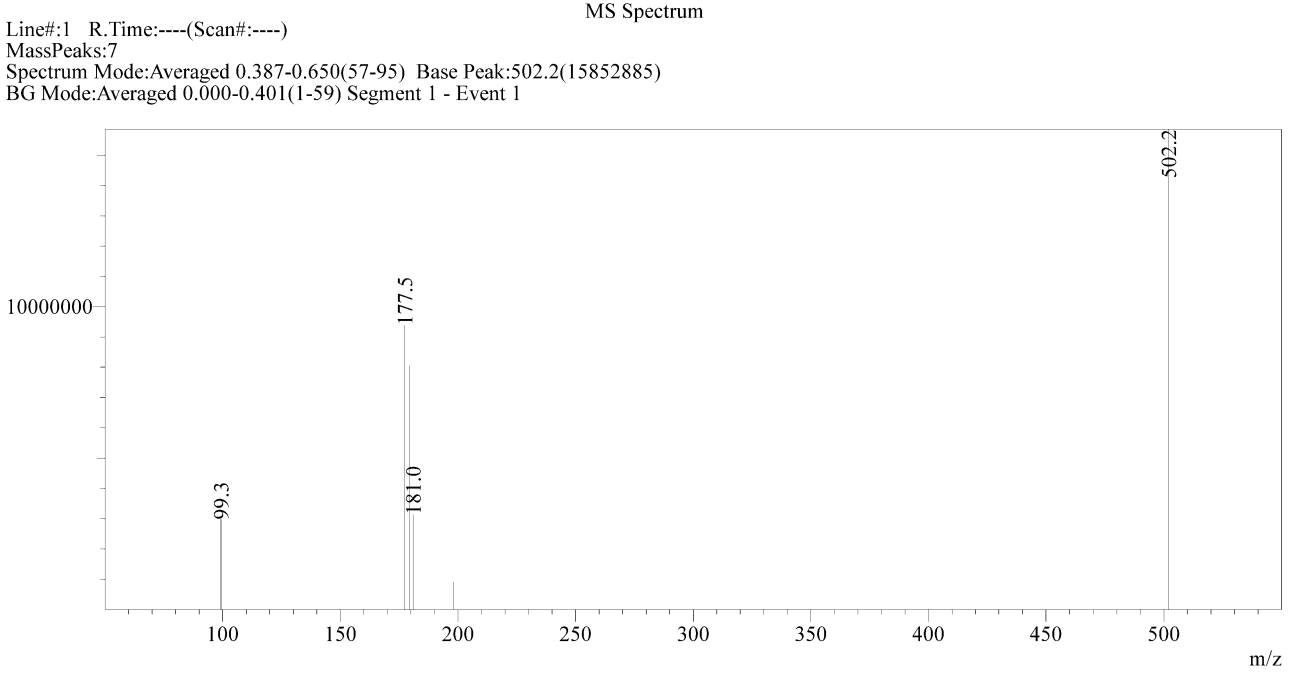

Fig. 79. Mass spectrum of compound 8b

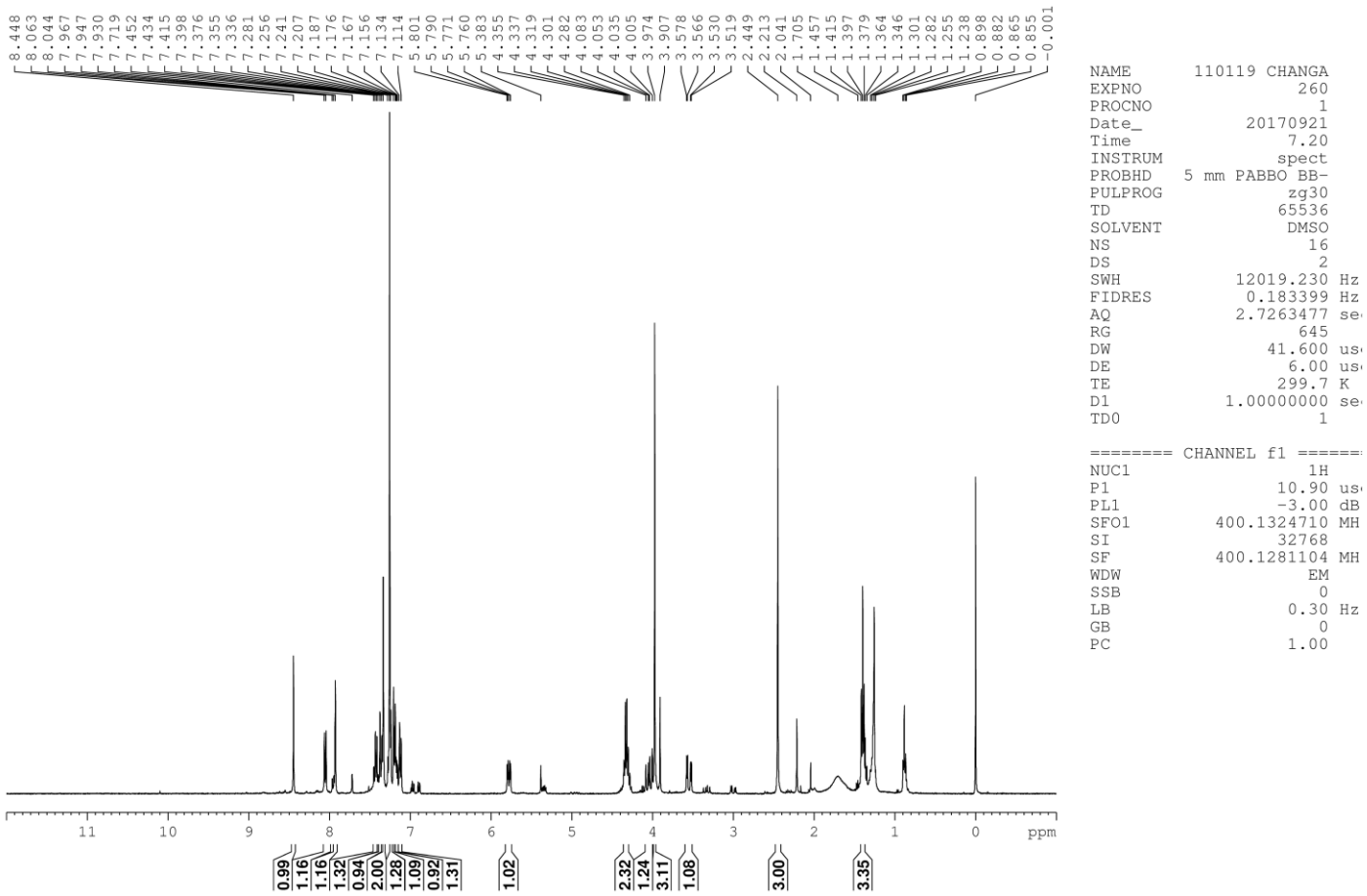

Fig. 80. ^{1}H NMR spectrum of compound 8b

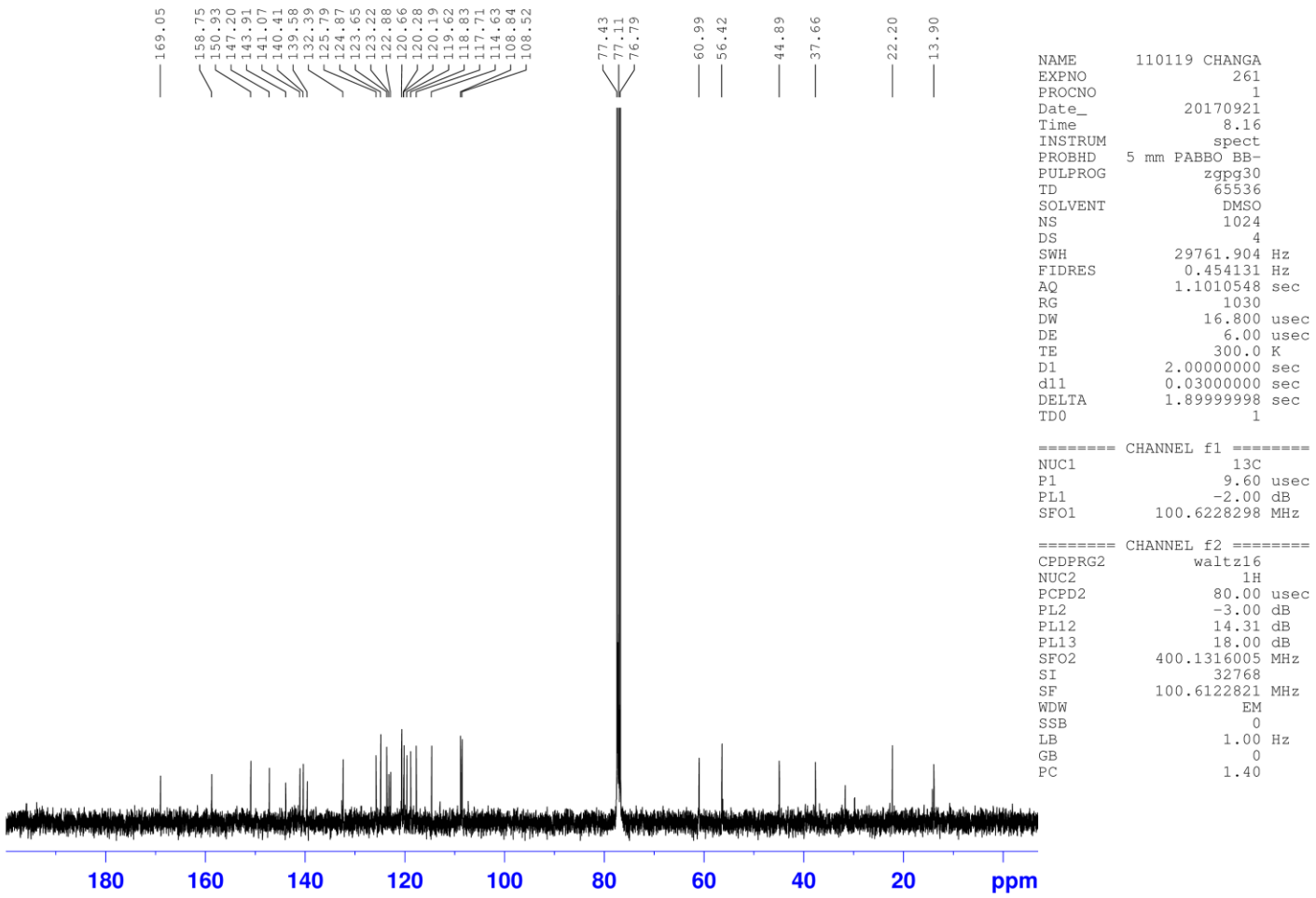

Fig. 81. ^{13}C NMR spectrum of compound 8b

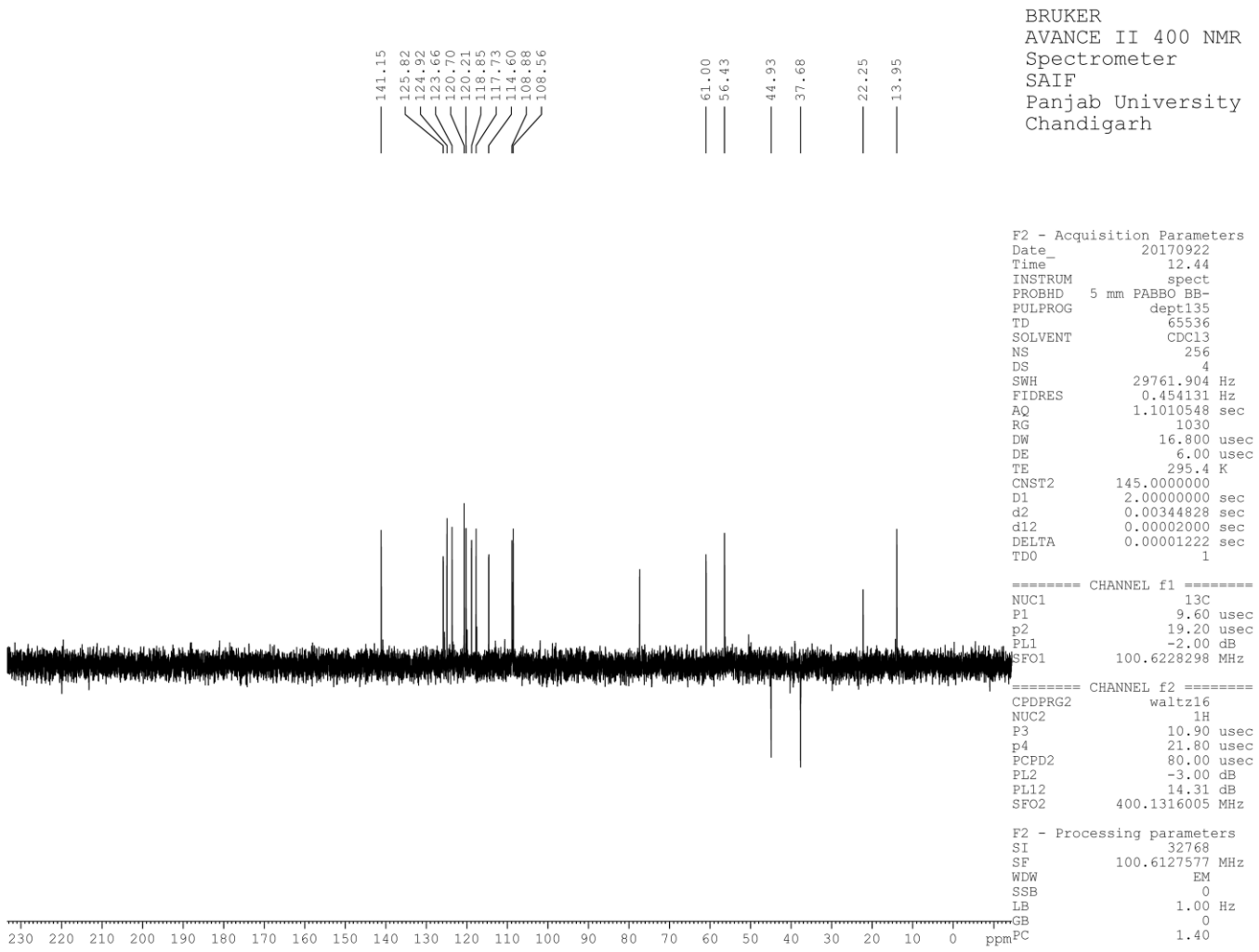

Fig. 82. DEPT-135 spectrum of compound 8b

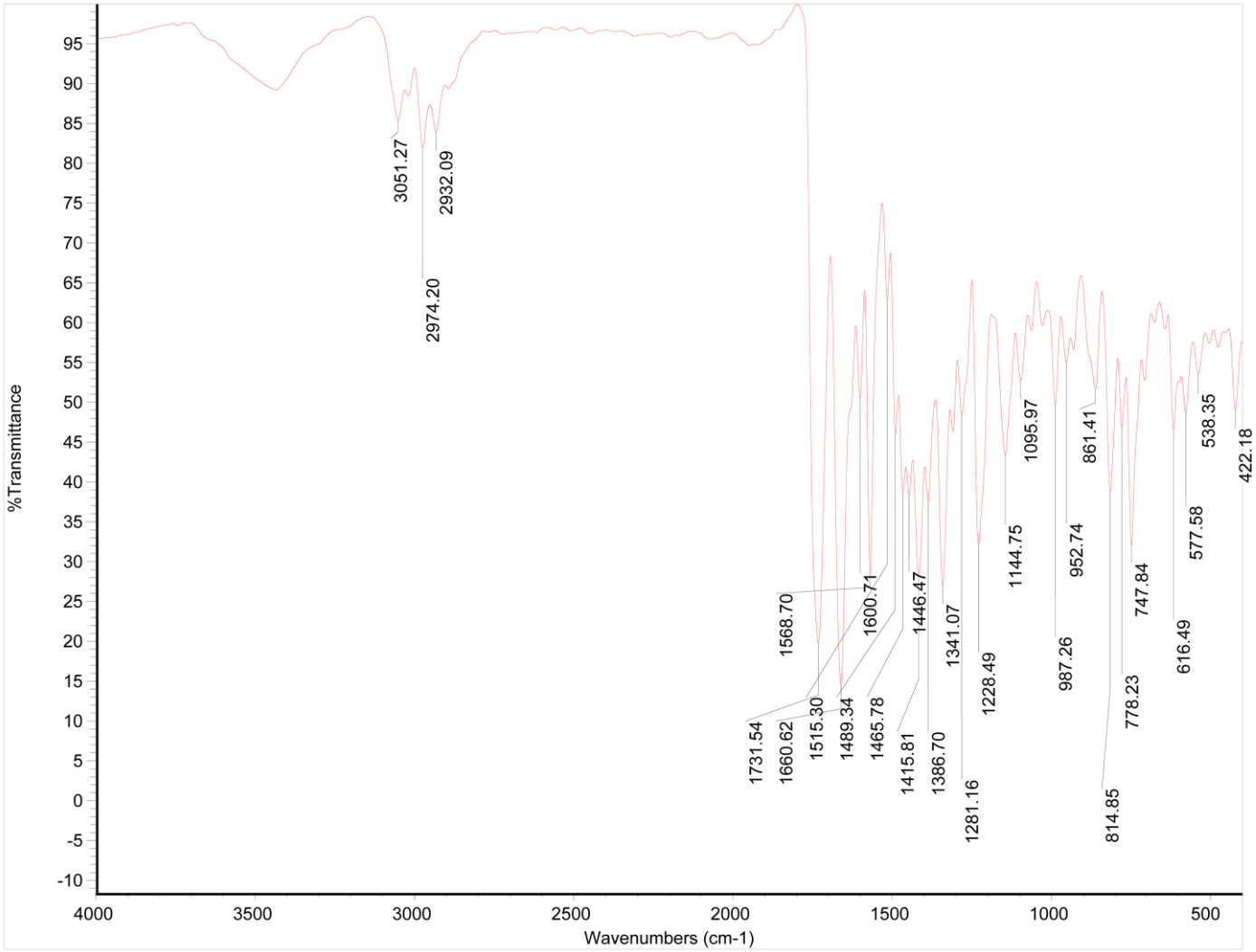

Fig. 83. IR spectrum of compound 8c

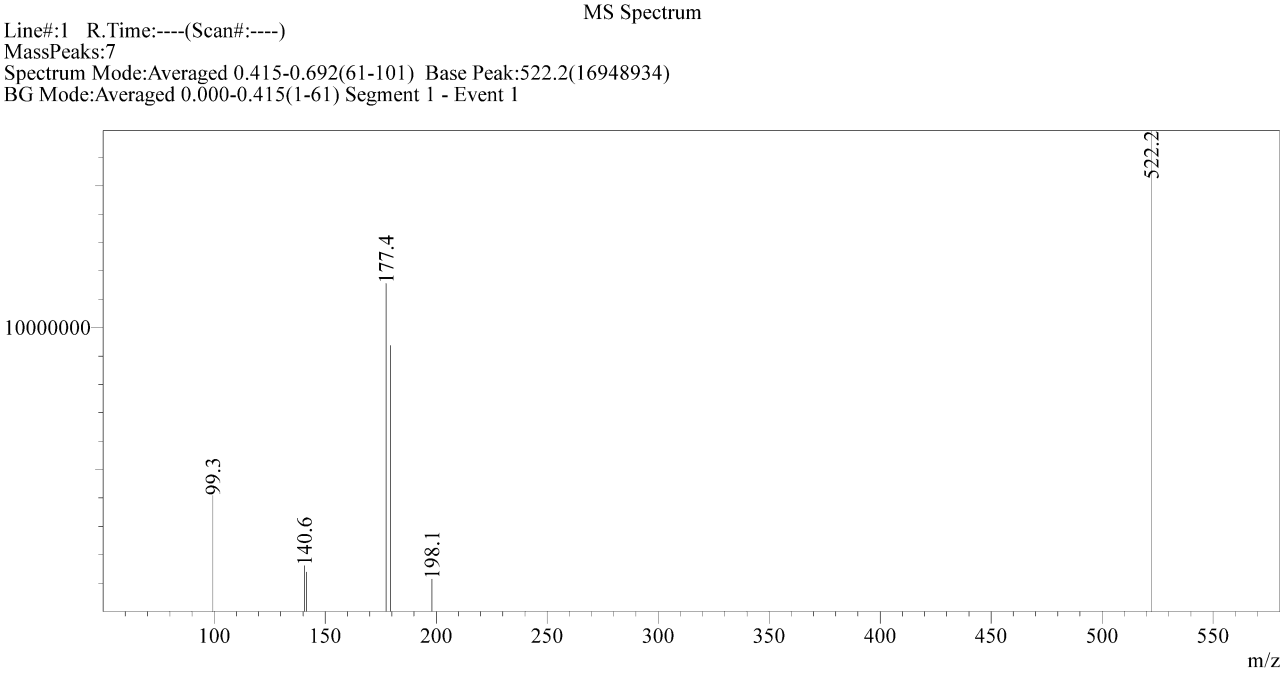

Fig. 84. Mass spectrum of compound 8c

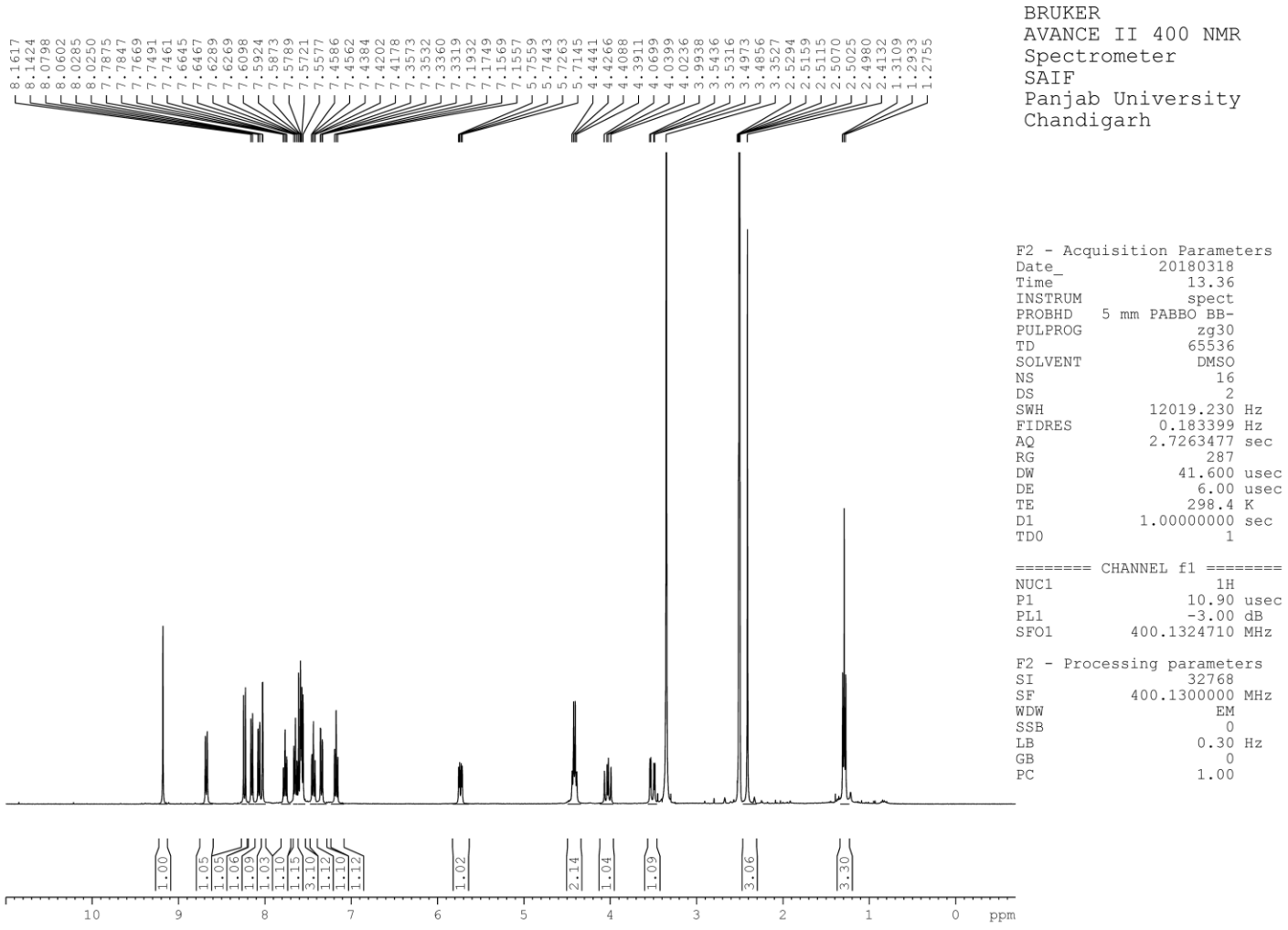

Fig. 85. ^{1}H NMR spectrum of compound 8c

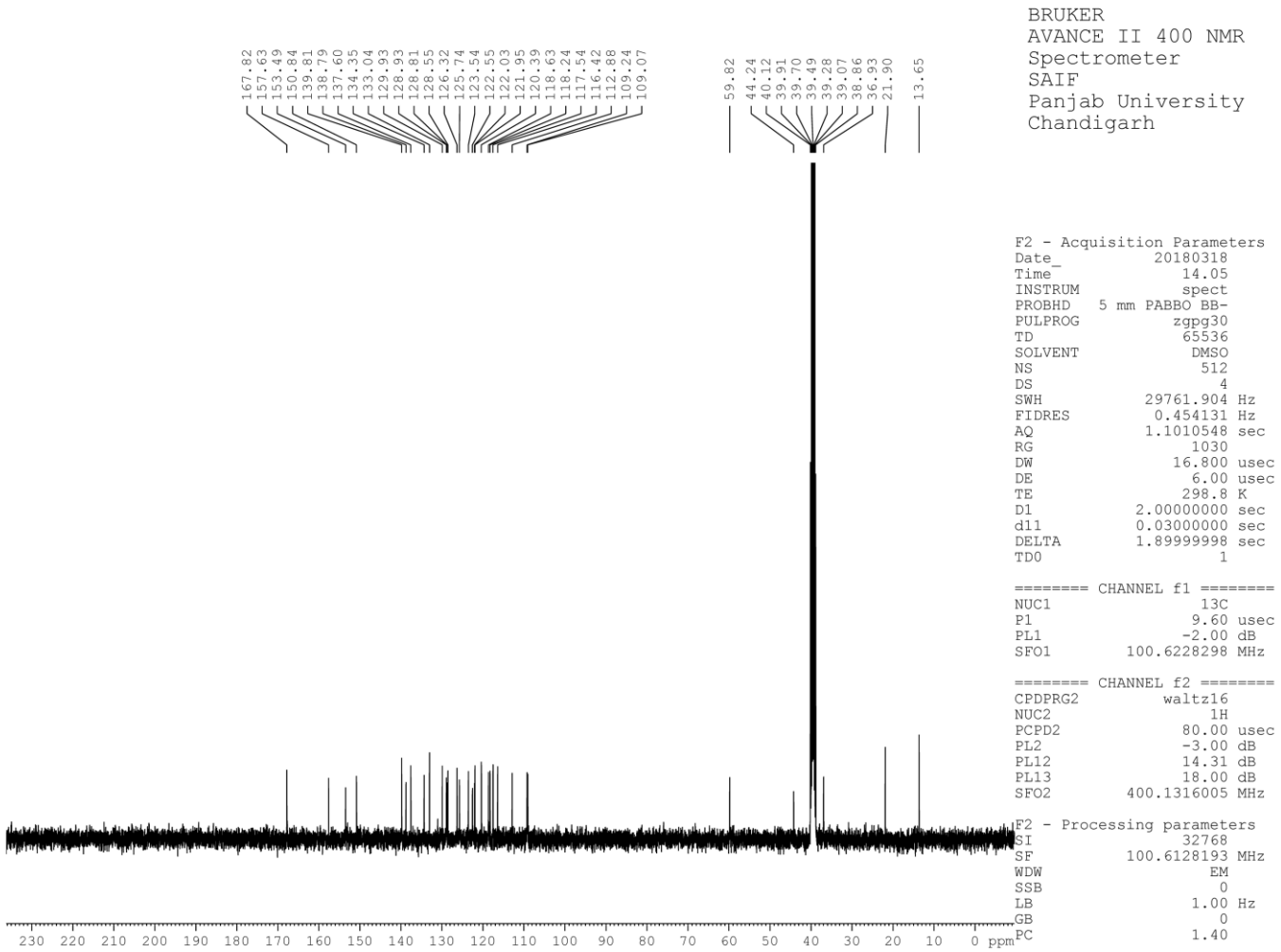

Fig. 86. ^{13}C NMR spectrum of compound 8c

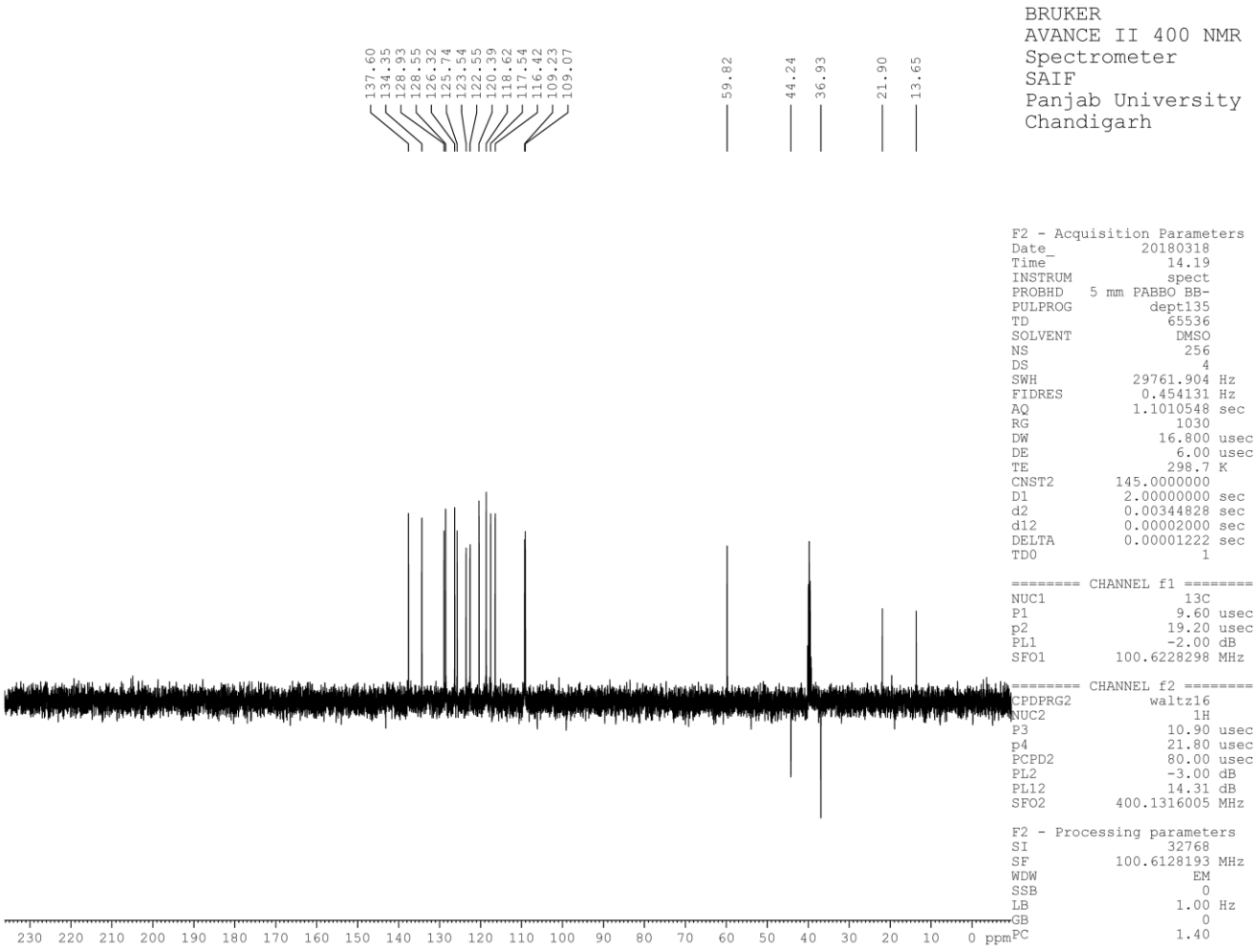

Fig. 87. DEPT-135 spectrum of compound 8c

Note: Some of the synthesized compounds identified with equivalent protons and carbons atoms in their structutes. Either DMSO or $CDCl_3$ used for the solvation of compounds in NMR. In some cases for better resolution of signals, mixture of DMSO and $CDCl_3$ used that is visible in spectra. Some tiny aliphatic signals visible in some of the spectra which were due to solvent trapped during column chromatography purification, those compounds were further purified to remove trapped solvent for utilization of their further application purpose.