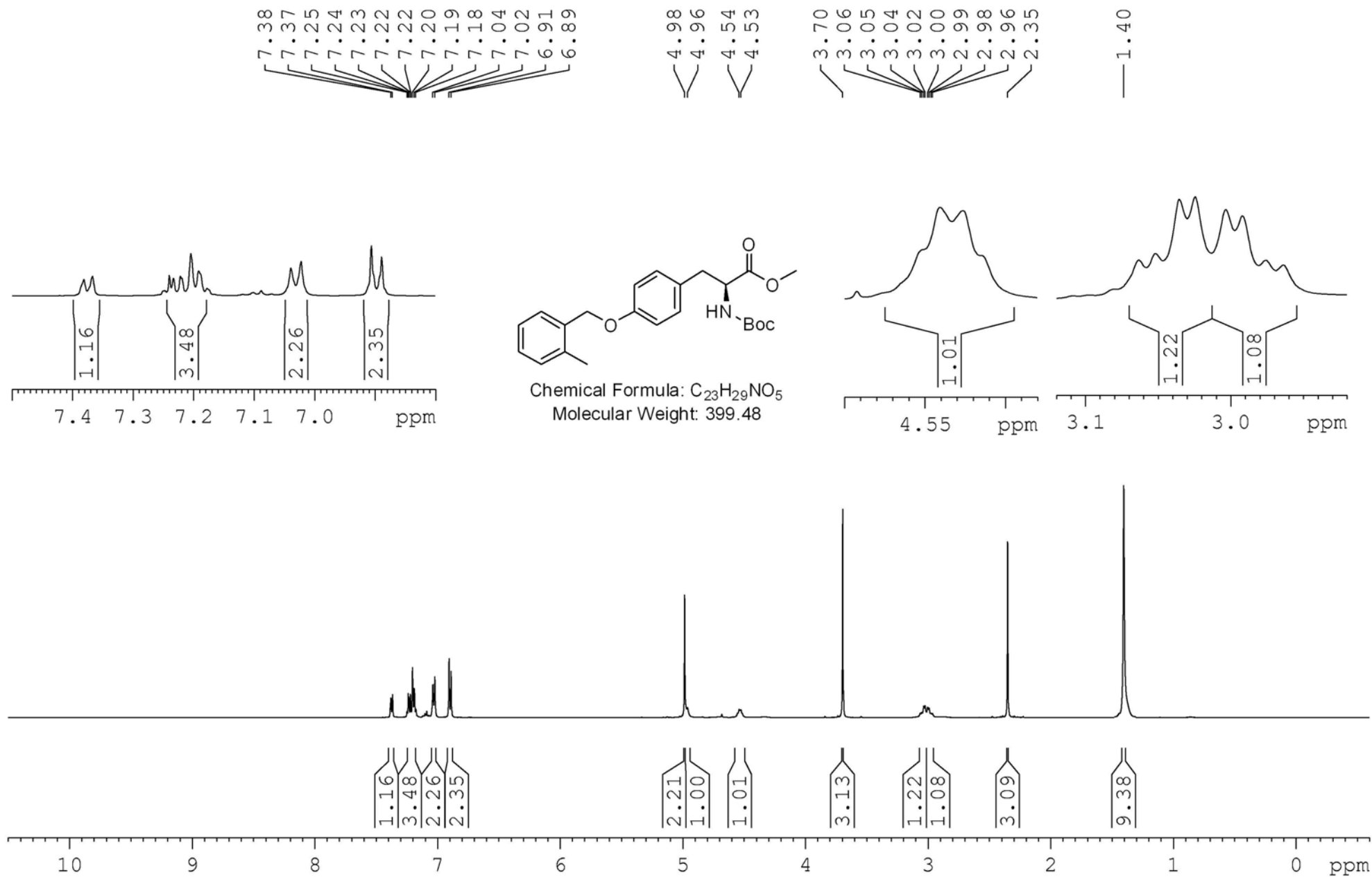
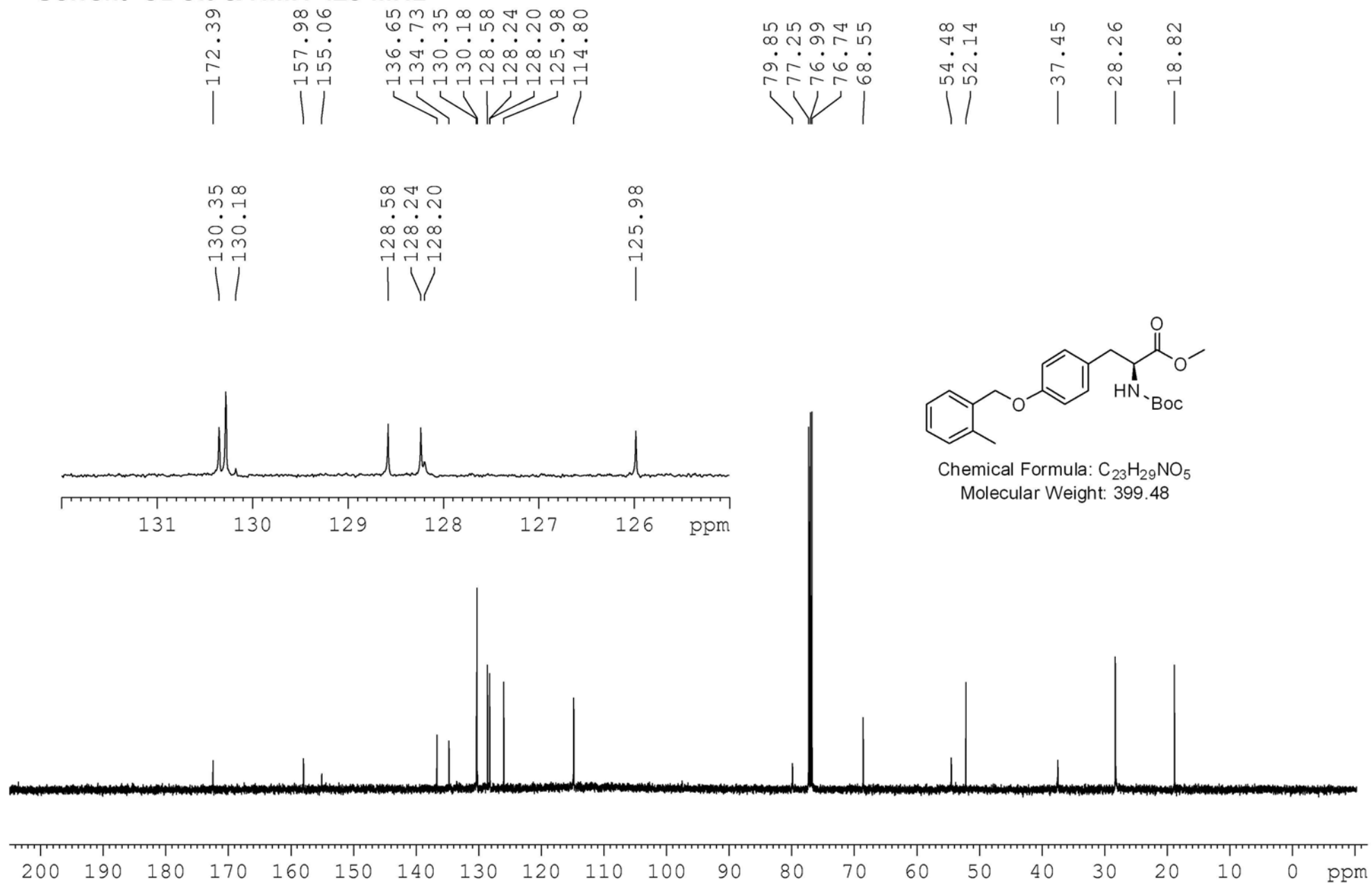


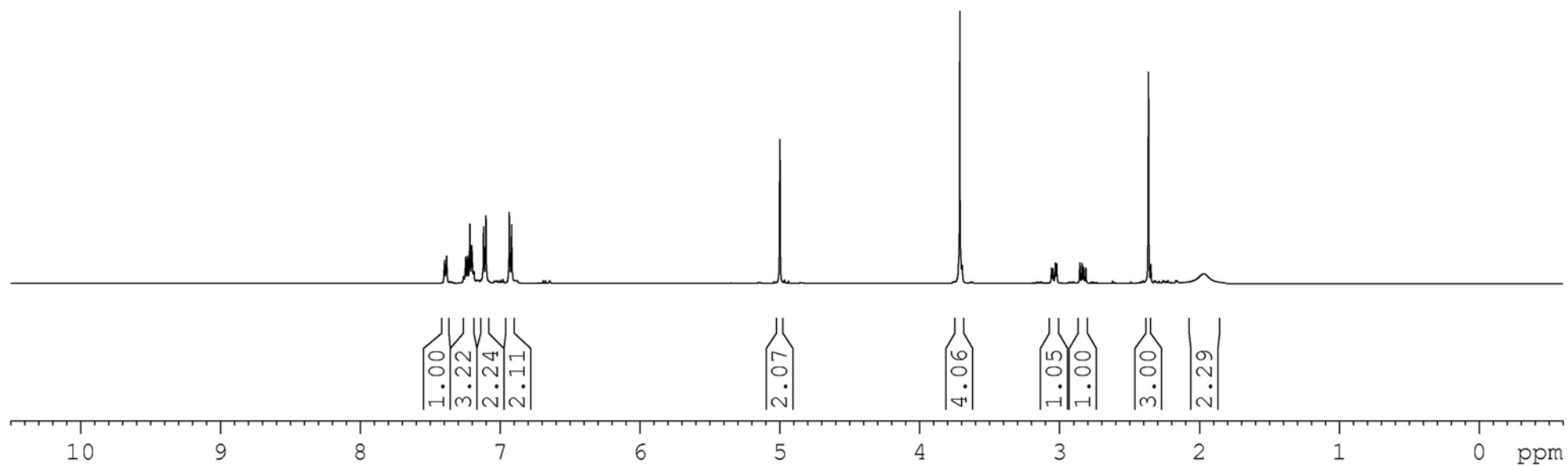
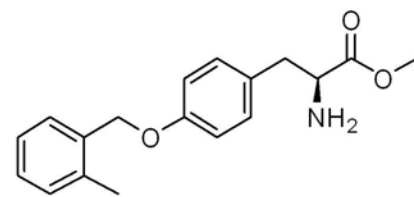
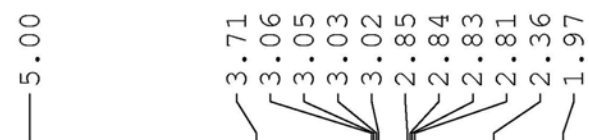
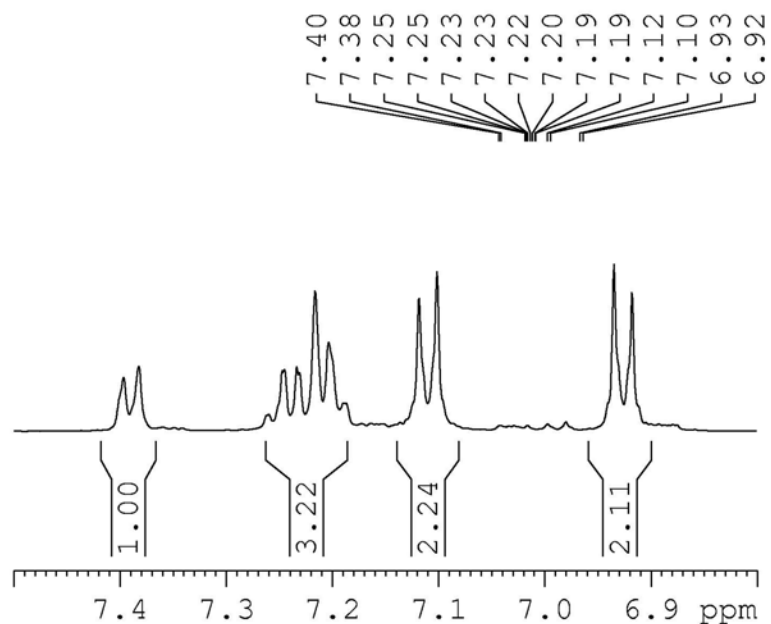
Solvent: CDCl₃ & NMR: 500 MHz



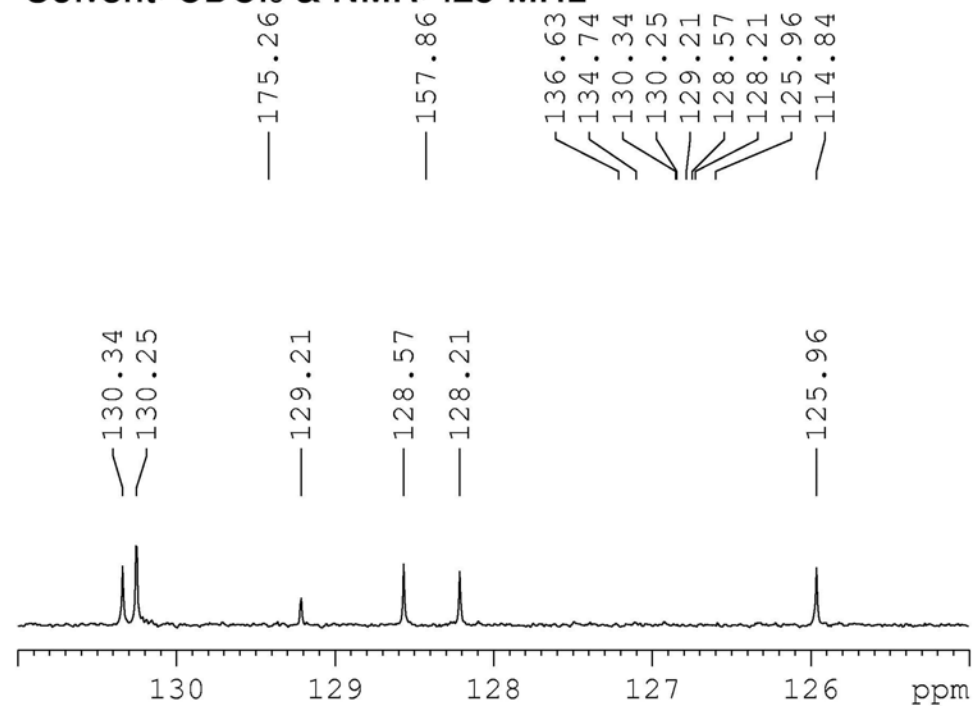
Solvent: CDCl₃ & NMR: 125 MHz



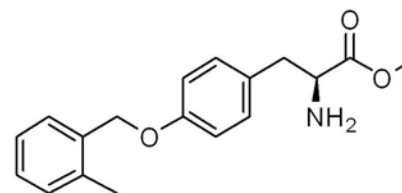
Solvent: CDCl₃ & NMR: 500 MHz



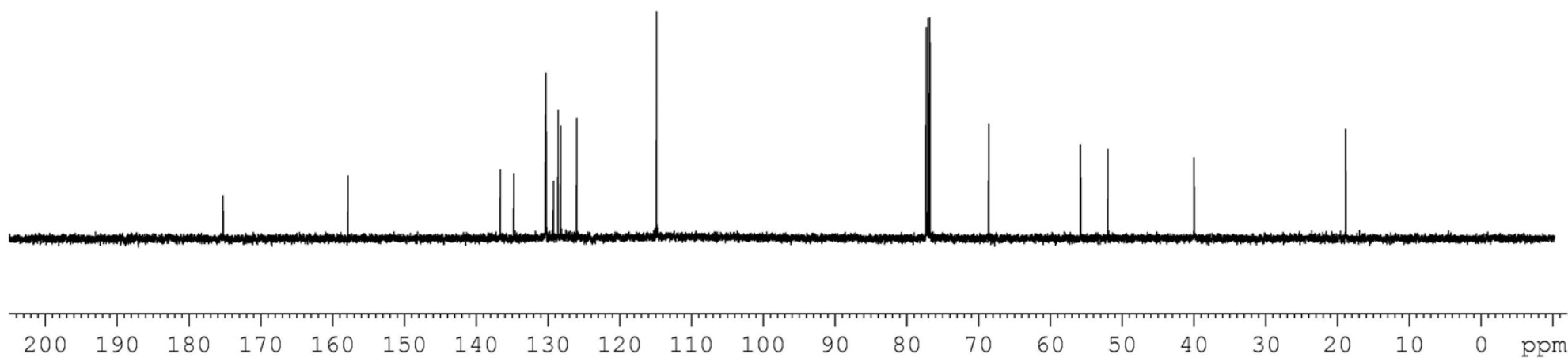
Solvent: CDCl₃ & NMR: 125 MHz



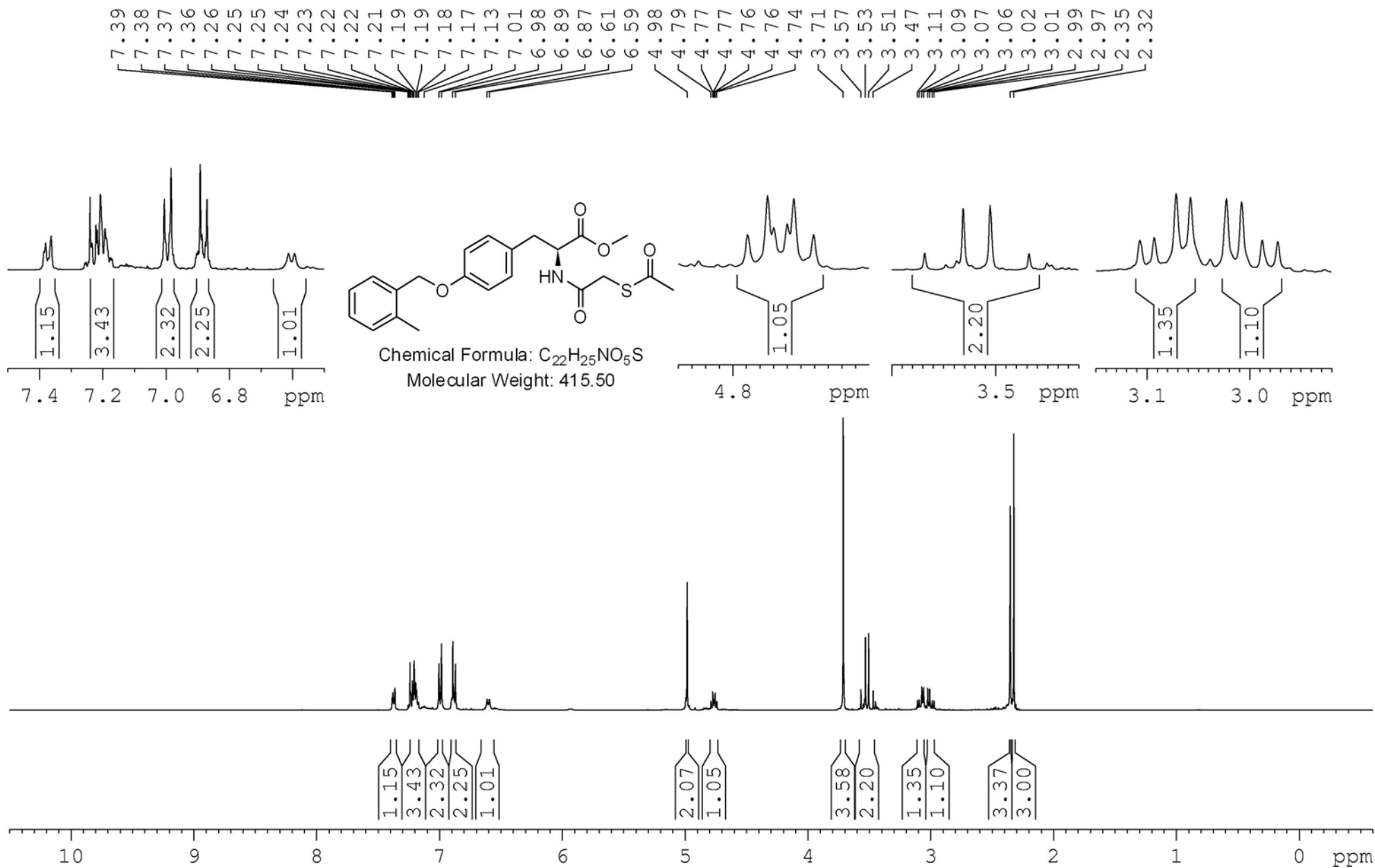
Chemical shifts (ppm): 77.26, 77.00, 76.75, 68.55, 55.76, 51.95, 39.94, 18.82.



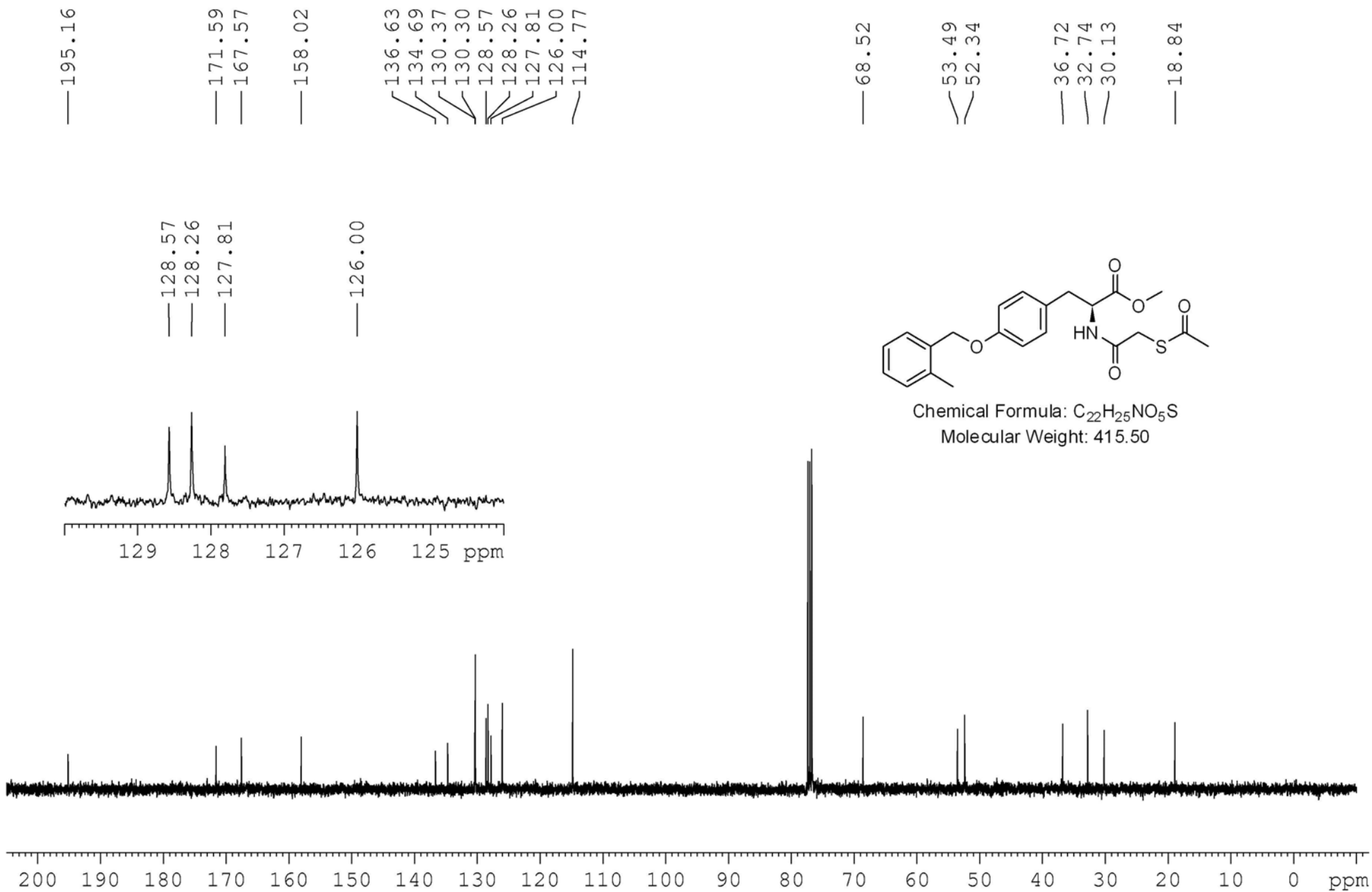
Chemical Formula: C₁₈H₂₁NO₃
Molecular Weight: 299.36



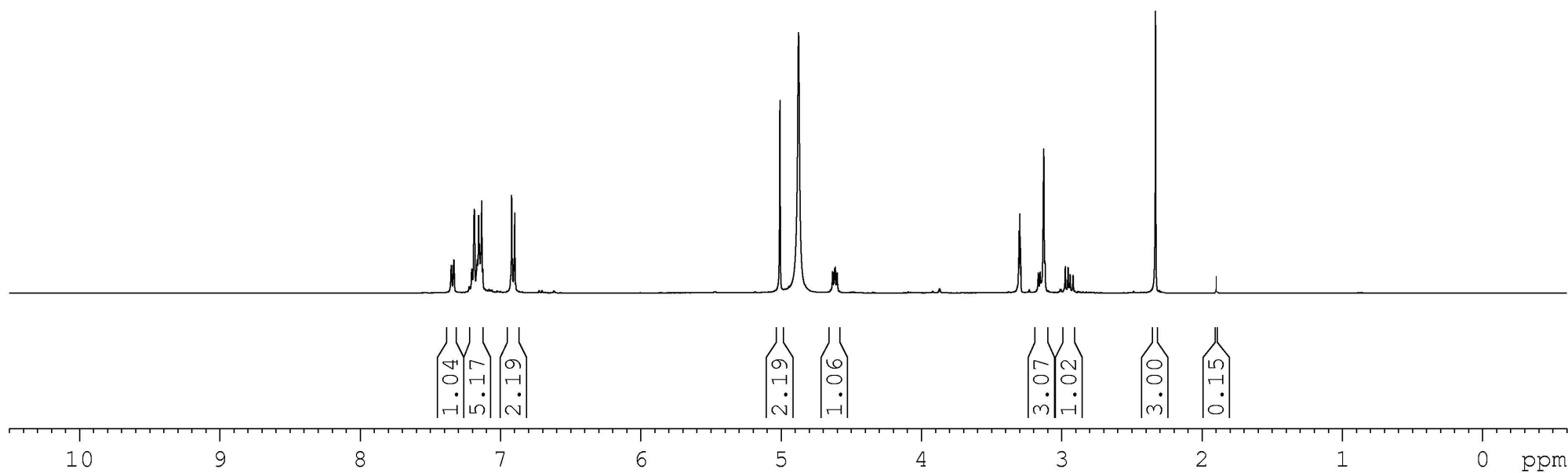
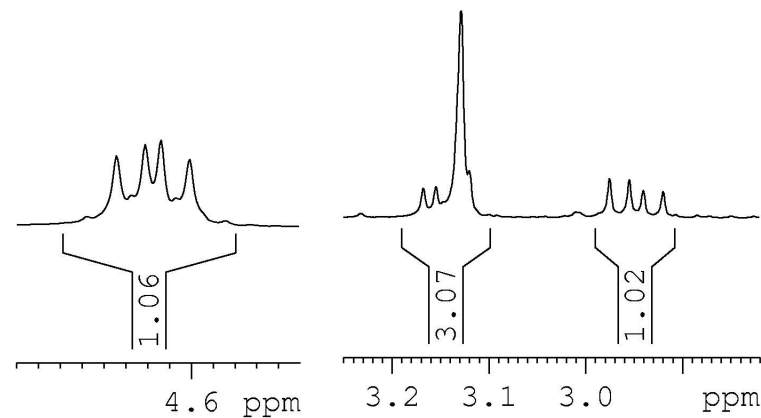
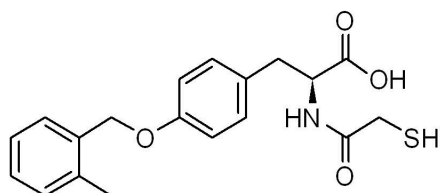
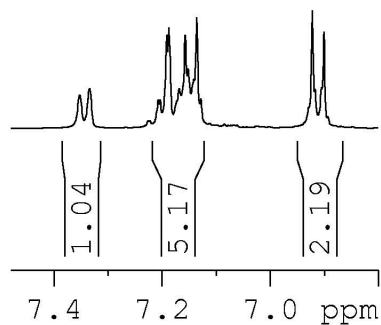
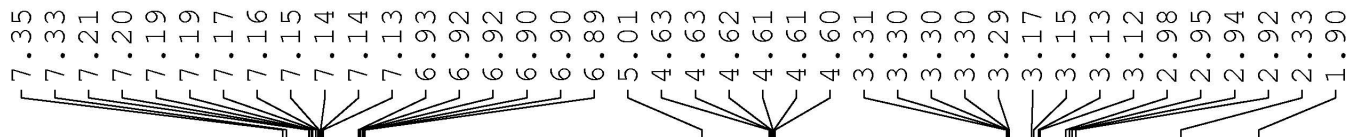
Solvent: CDCl₃ & NMR: 400 MHz



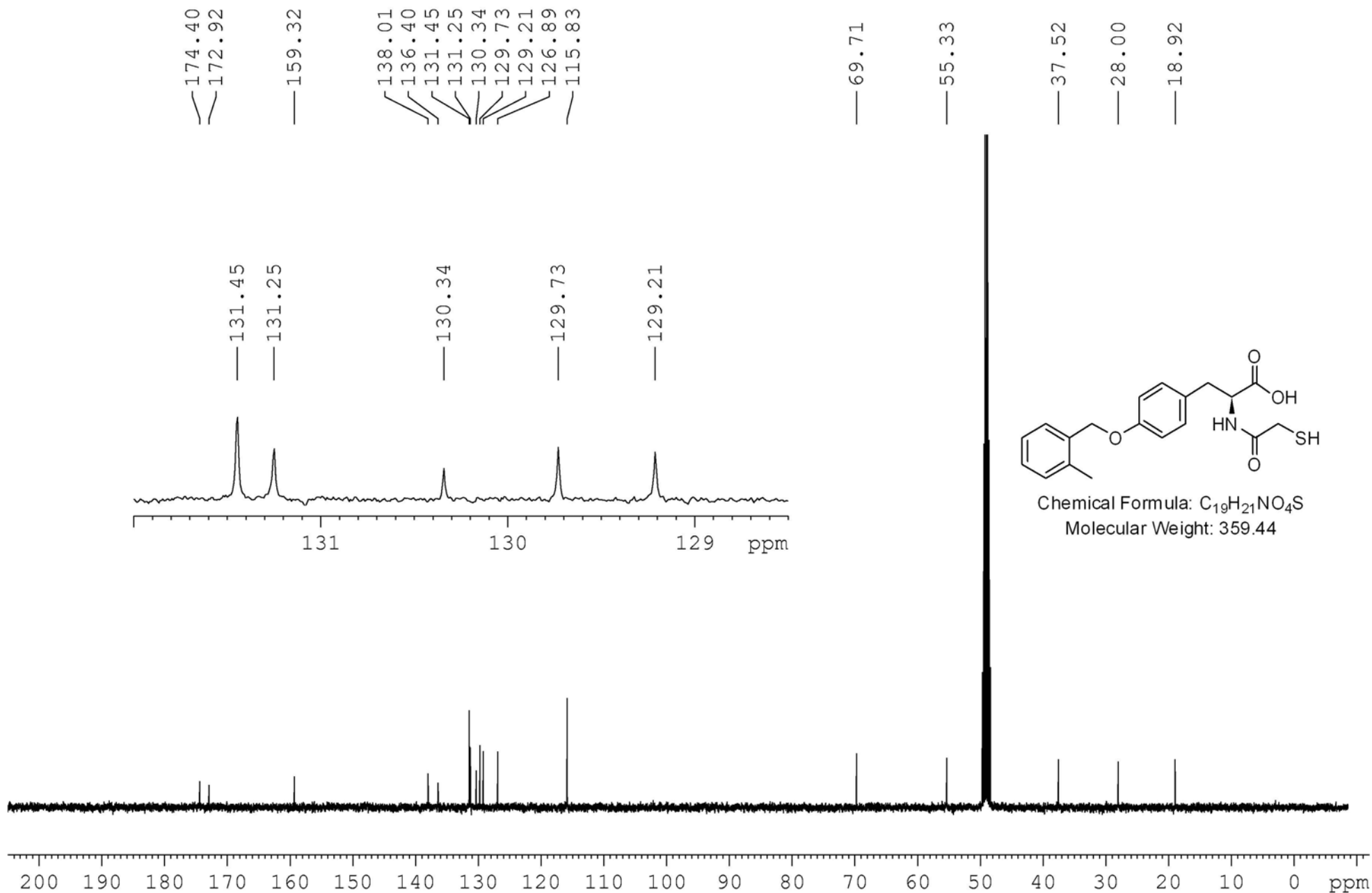
Solvent: CDCl₃ & NMR: 100 MHz



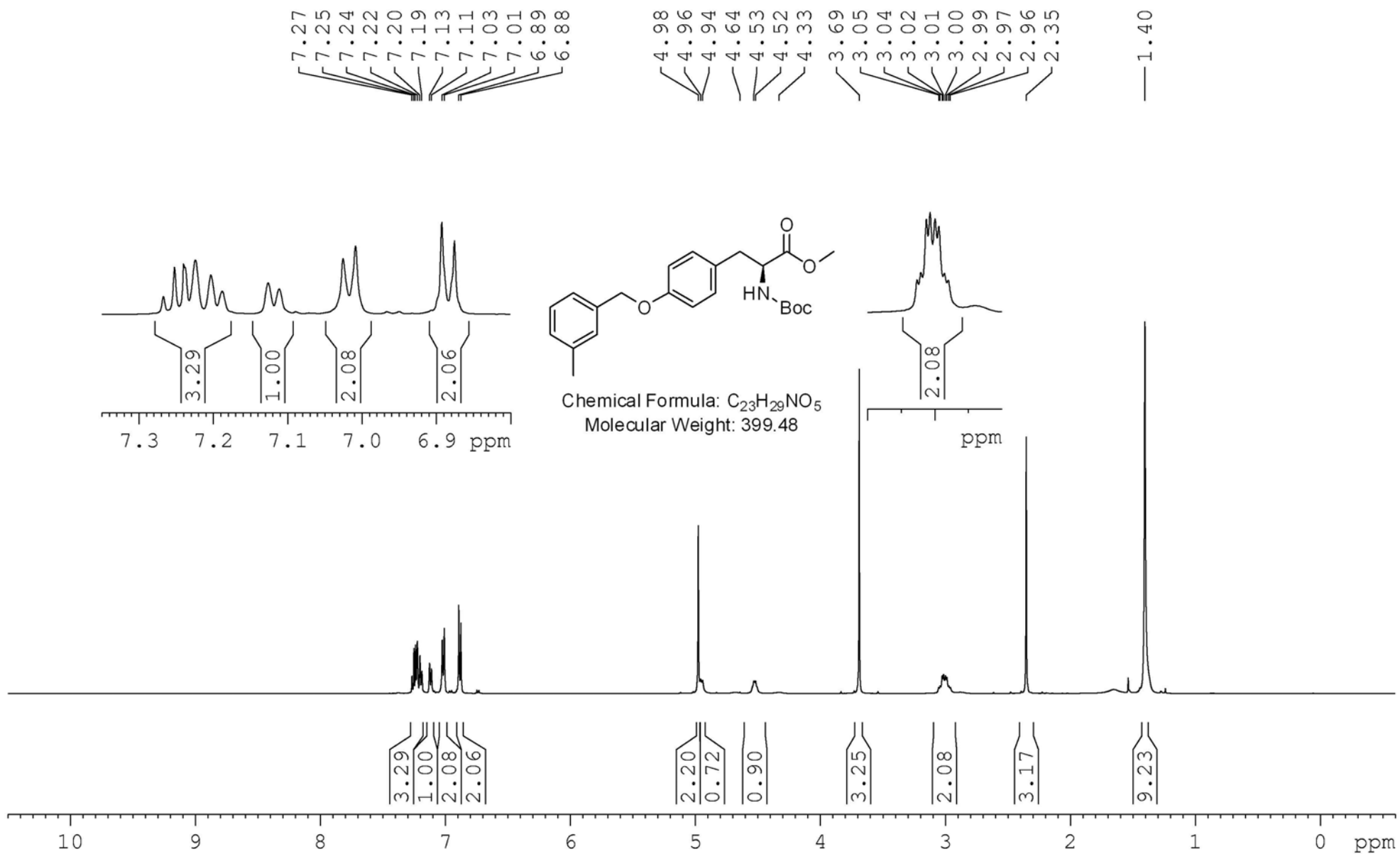
Solvent: CD₃OD & NMR: 400 MHz



Solvent: CD₃OD & NMR: 100 MHz



Solvent: CDCl₃ & NMR: 500 MHz



Solvent: CDCl₃ & NMR: 125 MHz

— 172.42

— 157.95

— 155.09

— 138.25

— 136.86

— 130.27

— 128.71

— 128.46

— 128.21

— 128.16

— 124.56

— 114.88

— 79.88

— 77.25

— 77.00

— 76.75

— 70.06

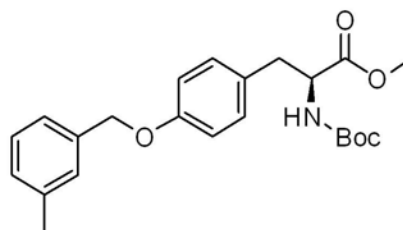
— 54.50

— 52.15

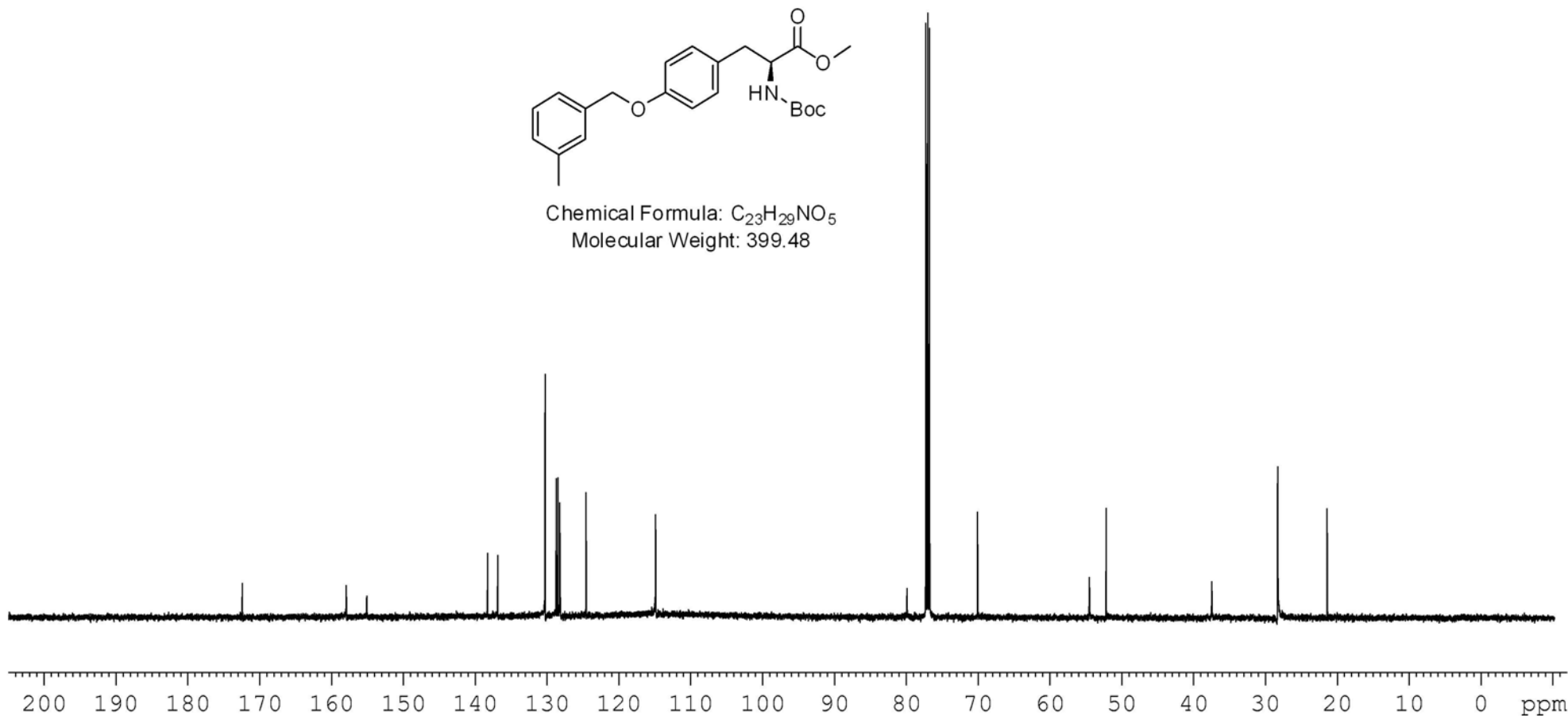
— 37.46

— 28.27

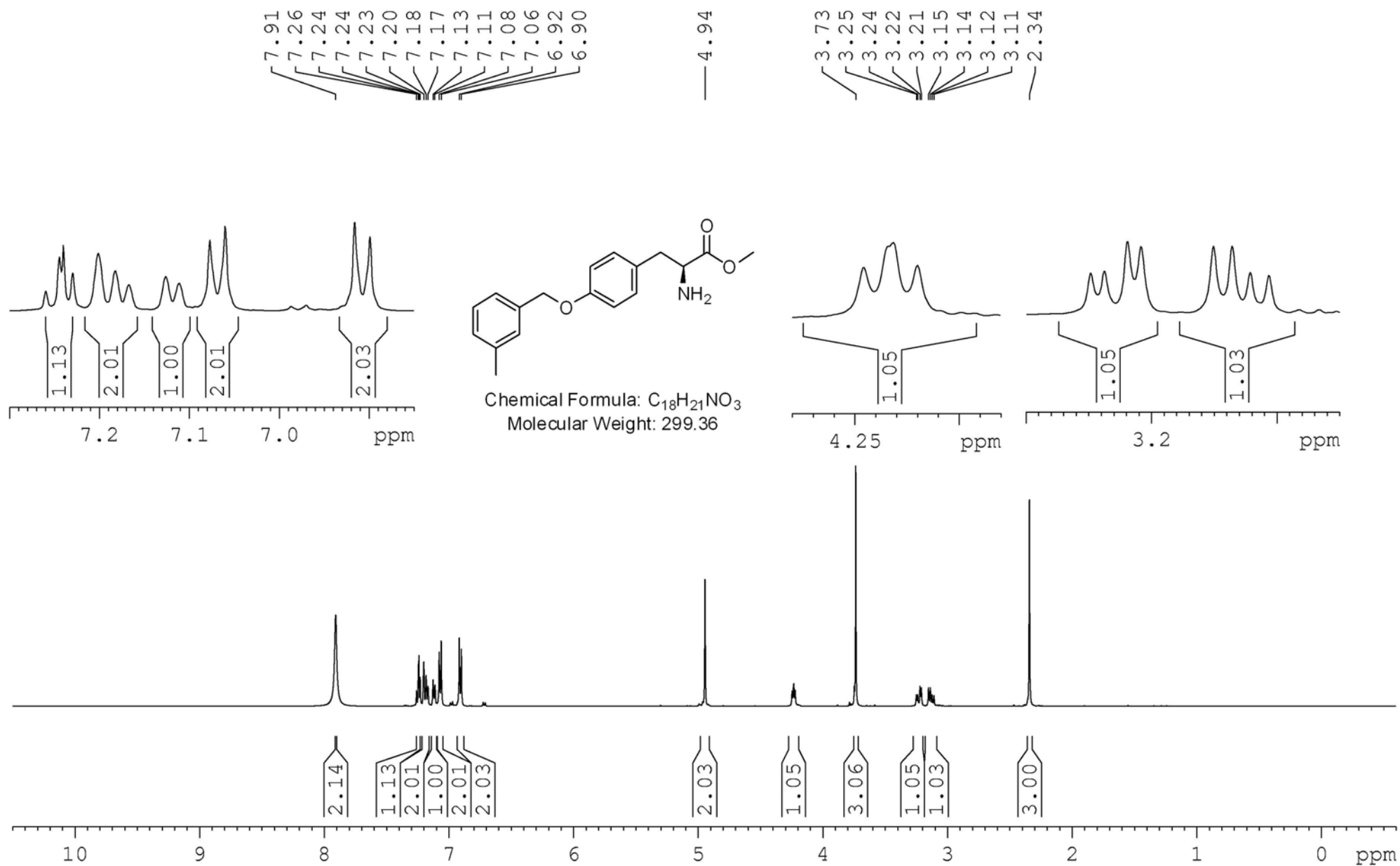
— 21.38



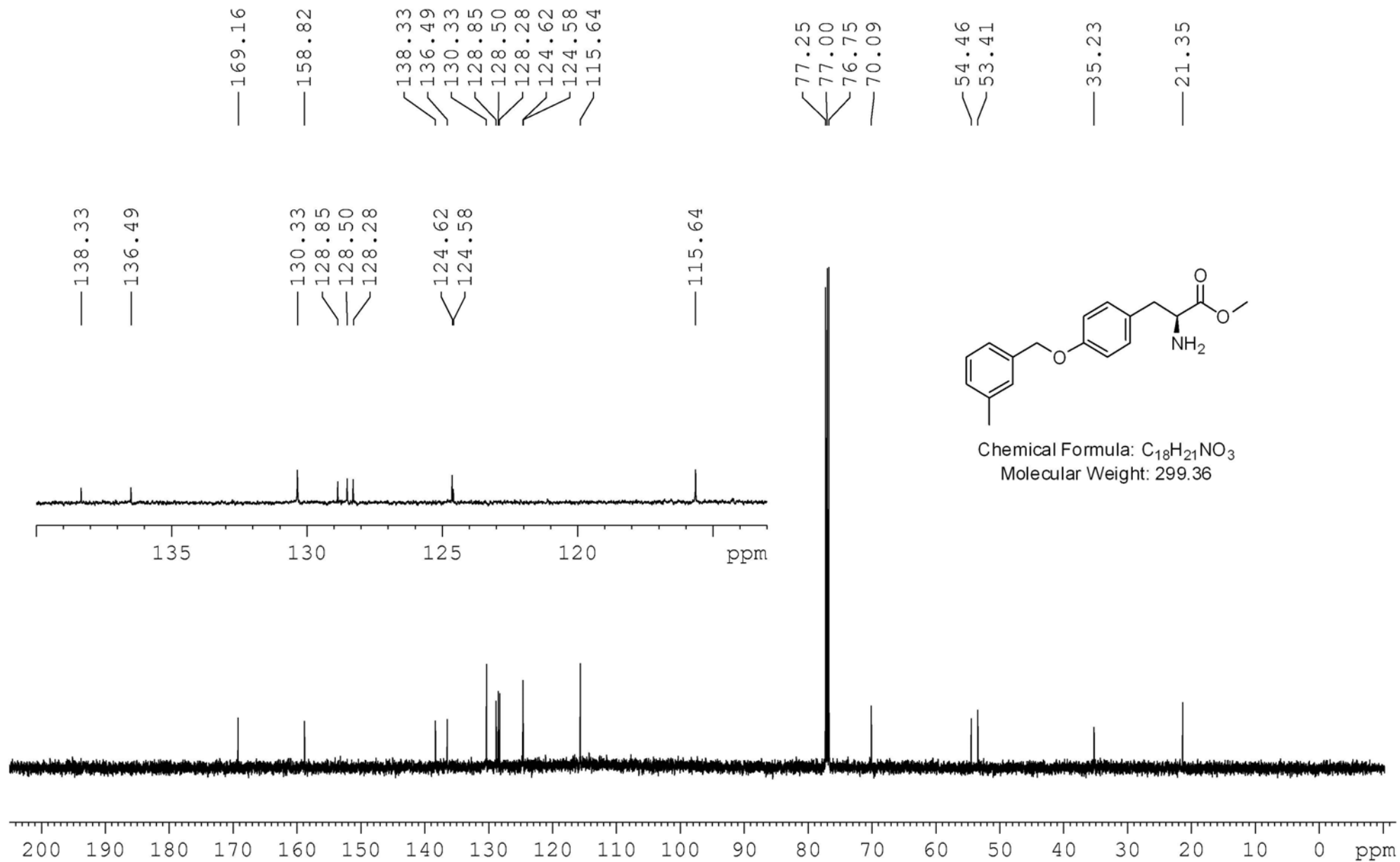
Chemical Formula: C₂₃H₂₉NO₅
Molecular Weight: 399.48



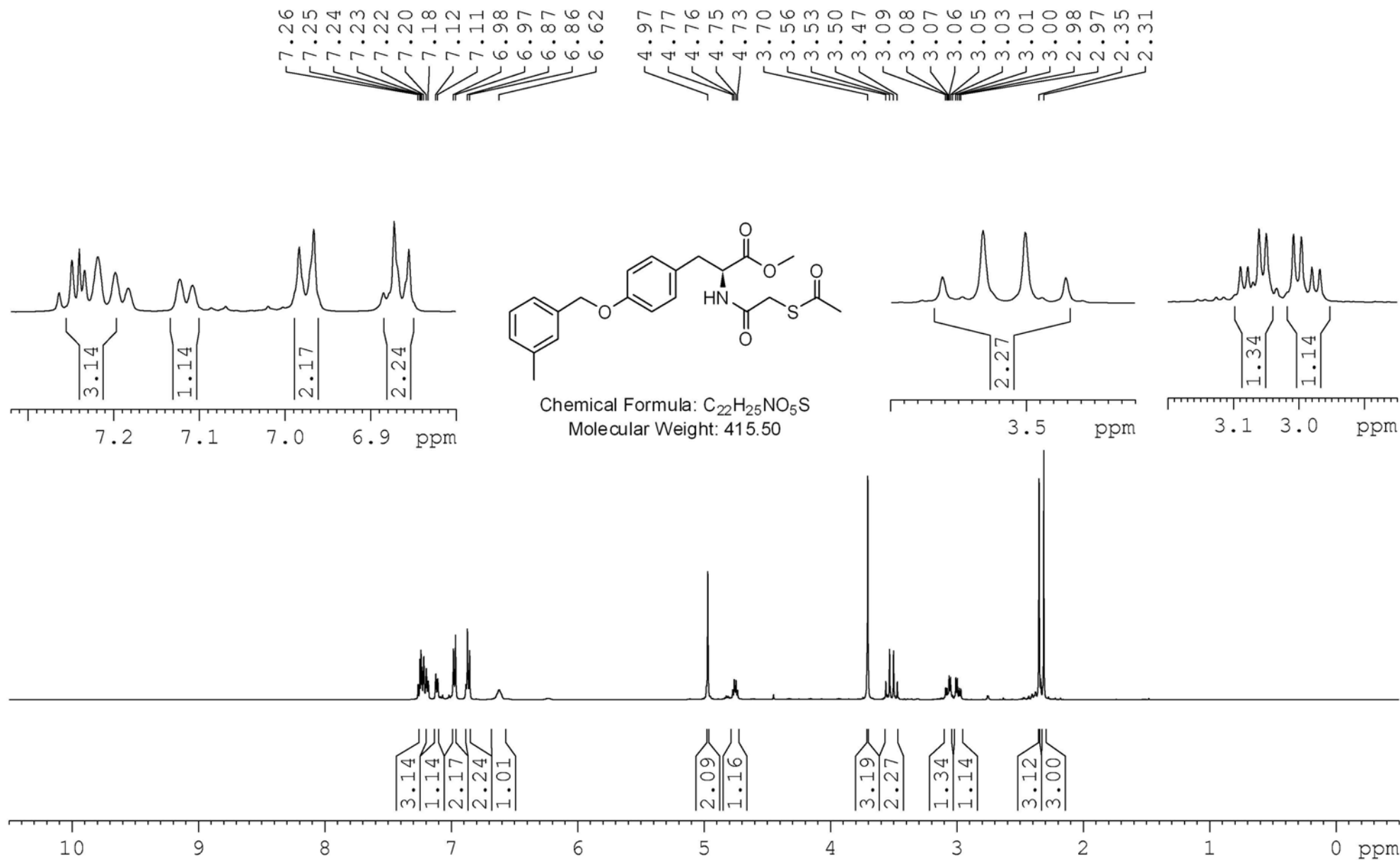
Solvent: CDCl₃ & NMR: 500 MHz



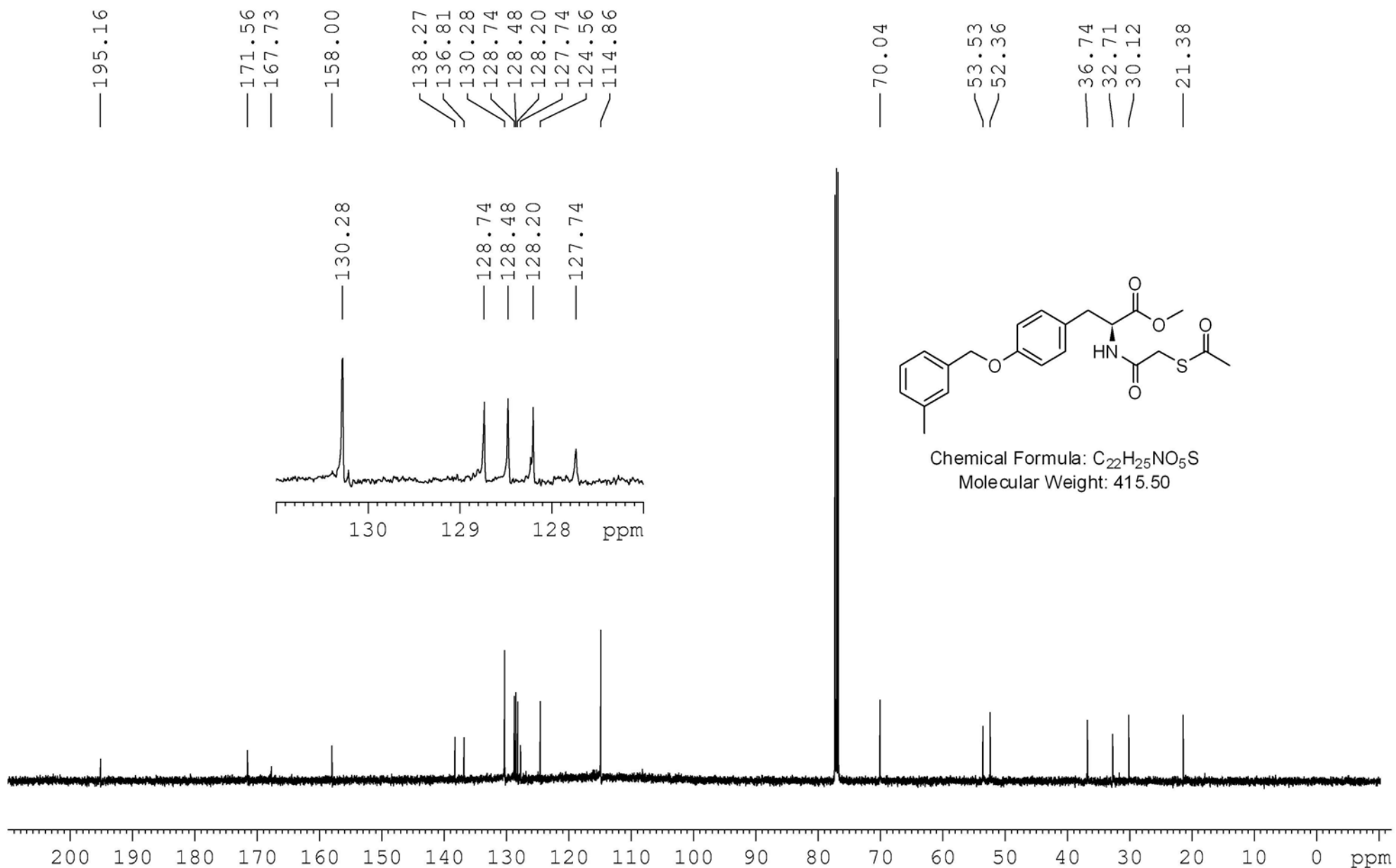
Solvent: CDCl₃ & NMR: 125 MHz



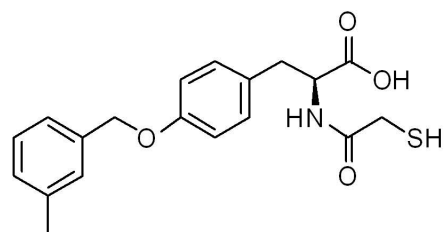
Solvent: CDCl₃ & NMR: 500 MHz



Solvent: CDCl₃ & NMR: 125 MHz



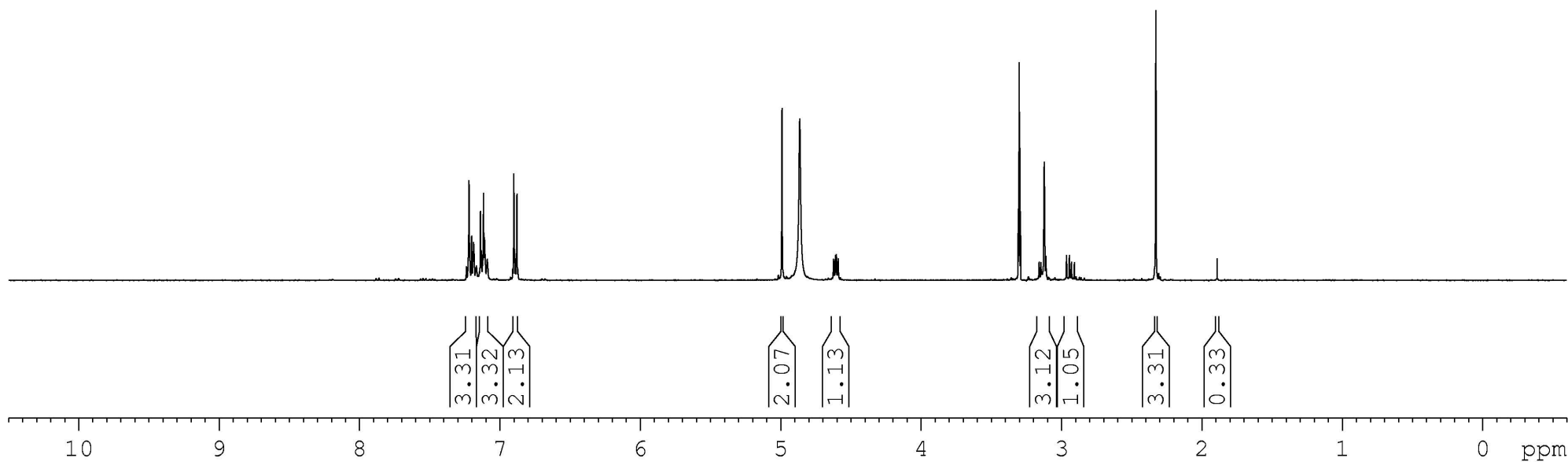
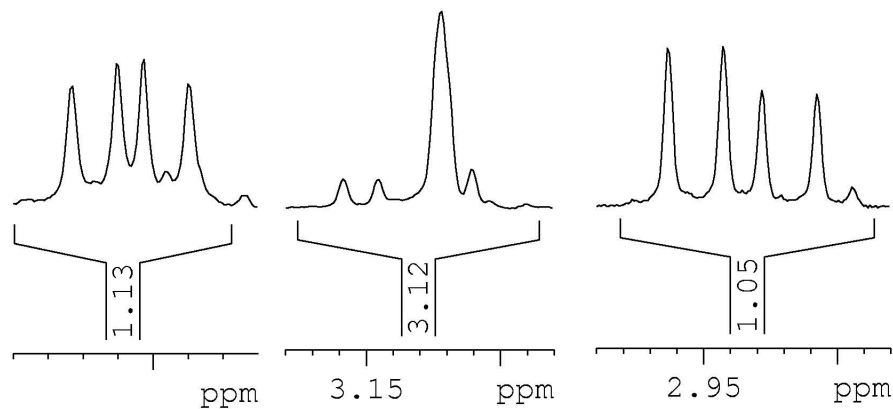
Solvent: CD₃OD & NMR: 400 MHz



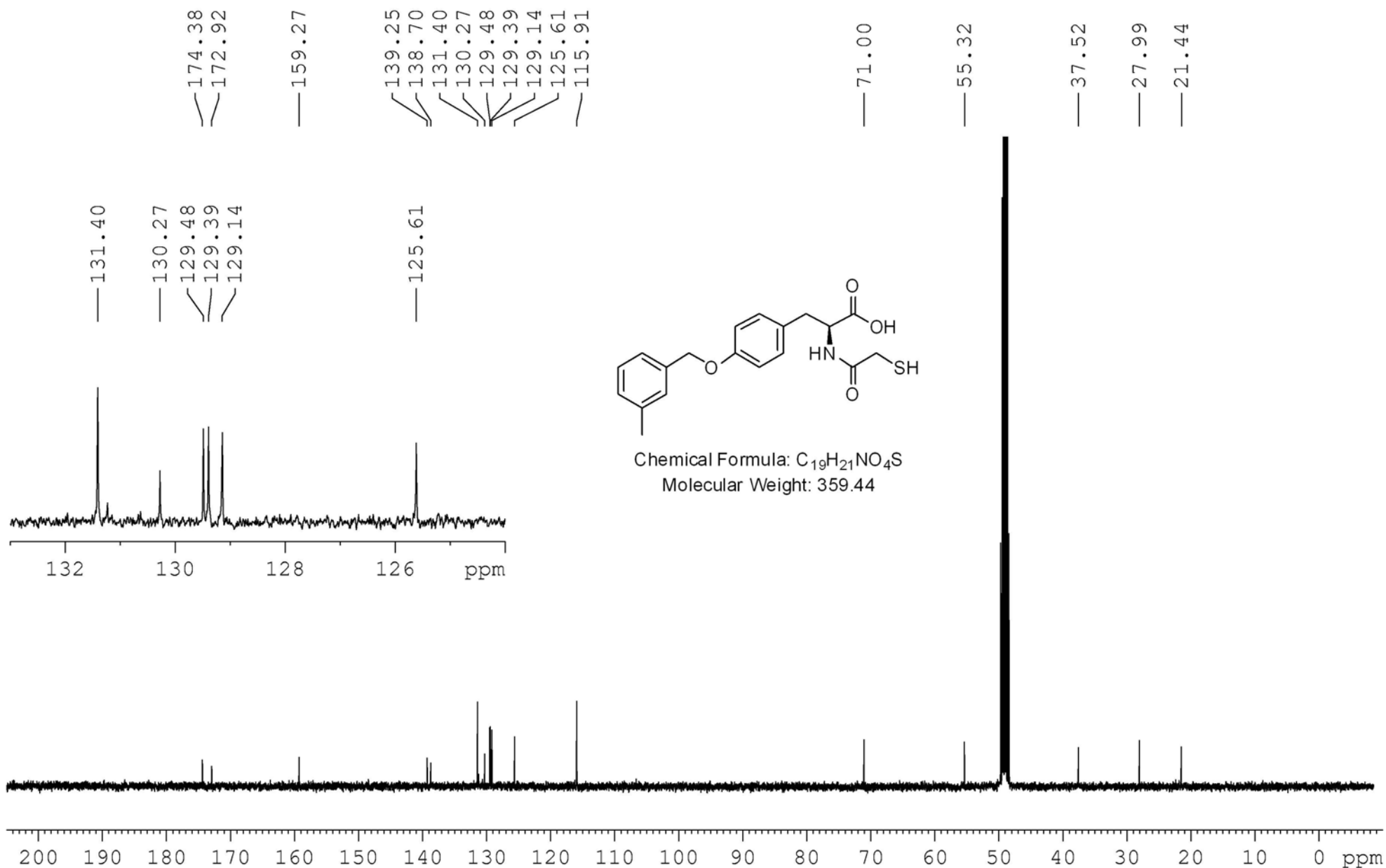
Chemical Formula: C₁₉H₂₁NO₄S
Molecular Weight: 359.44

7.22
7.20
7.19
7.14
7.13
7.12
7.12
7.11
7.09
6.90
6.90
6.88
6.88

4.99
4.62
4.61
4.60
4.60
4.59
3.31
3.30
3.30
3.30
3.29
3.16
3.15
3.12
3.11
2.96
2.94
2.93
2.91
2.33
1.89



Solvent: CD₃OD & NMR: 100 MHz



Solvent: CDCl₃ & NMR: 400 MHz

7.30
7.28
7.24
7.18
7.16
7.02
7.00
6.88
6.86

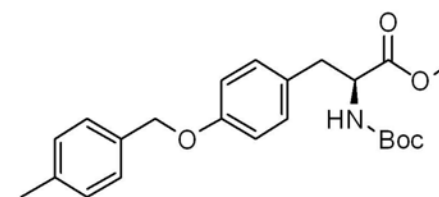
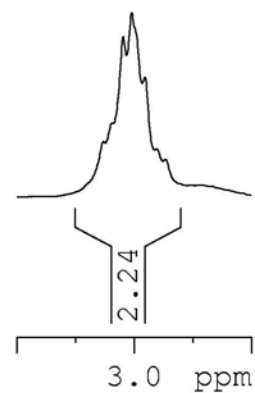
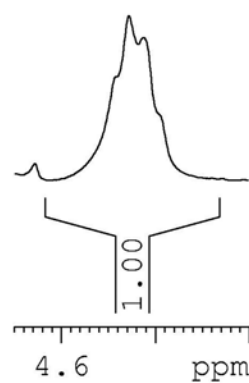
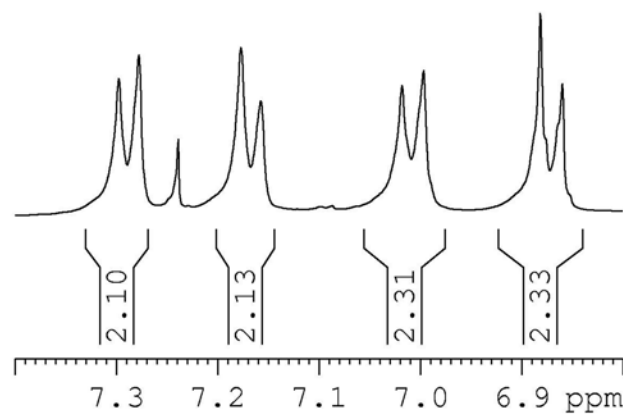
4.97
4.94
4.79
4.68
4.63
4.53
4.51

— 3.68

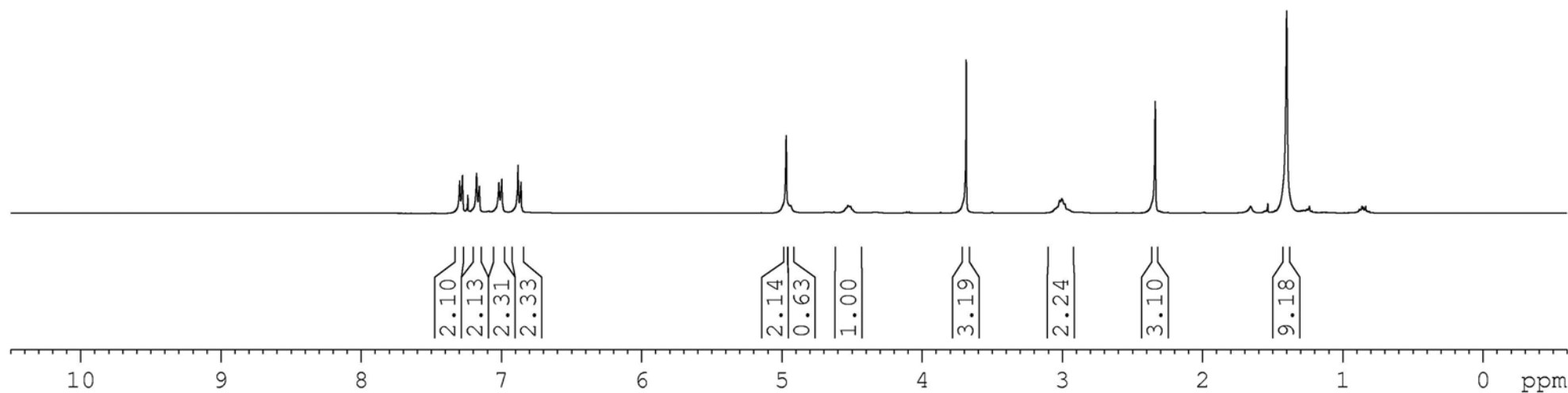
3.02
3.00
2.98

— 2.34

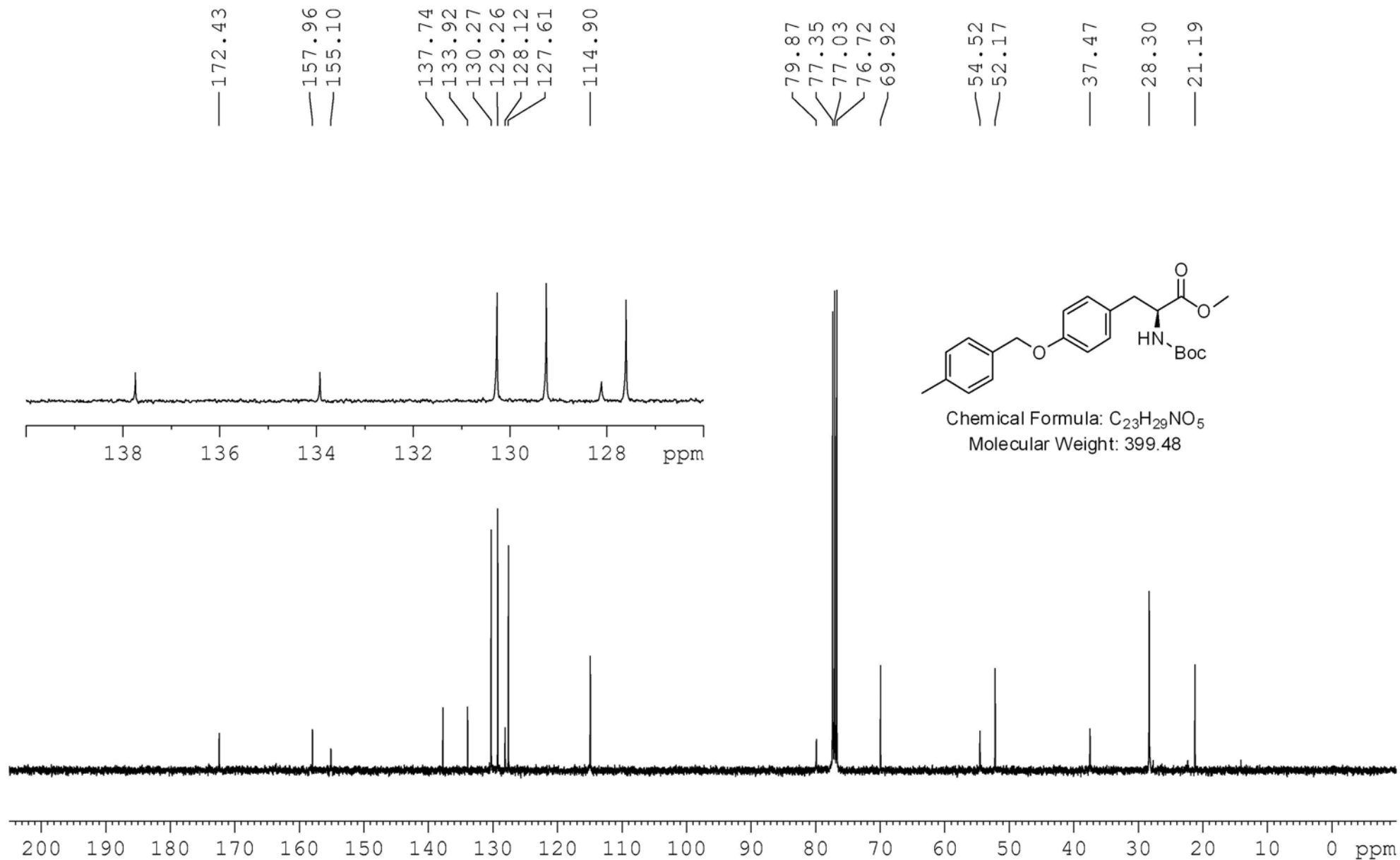
— 1.40



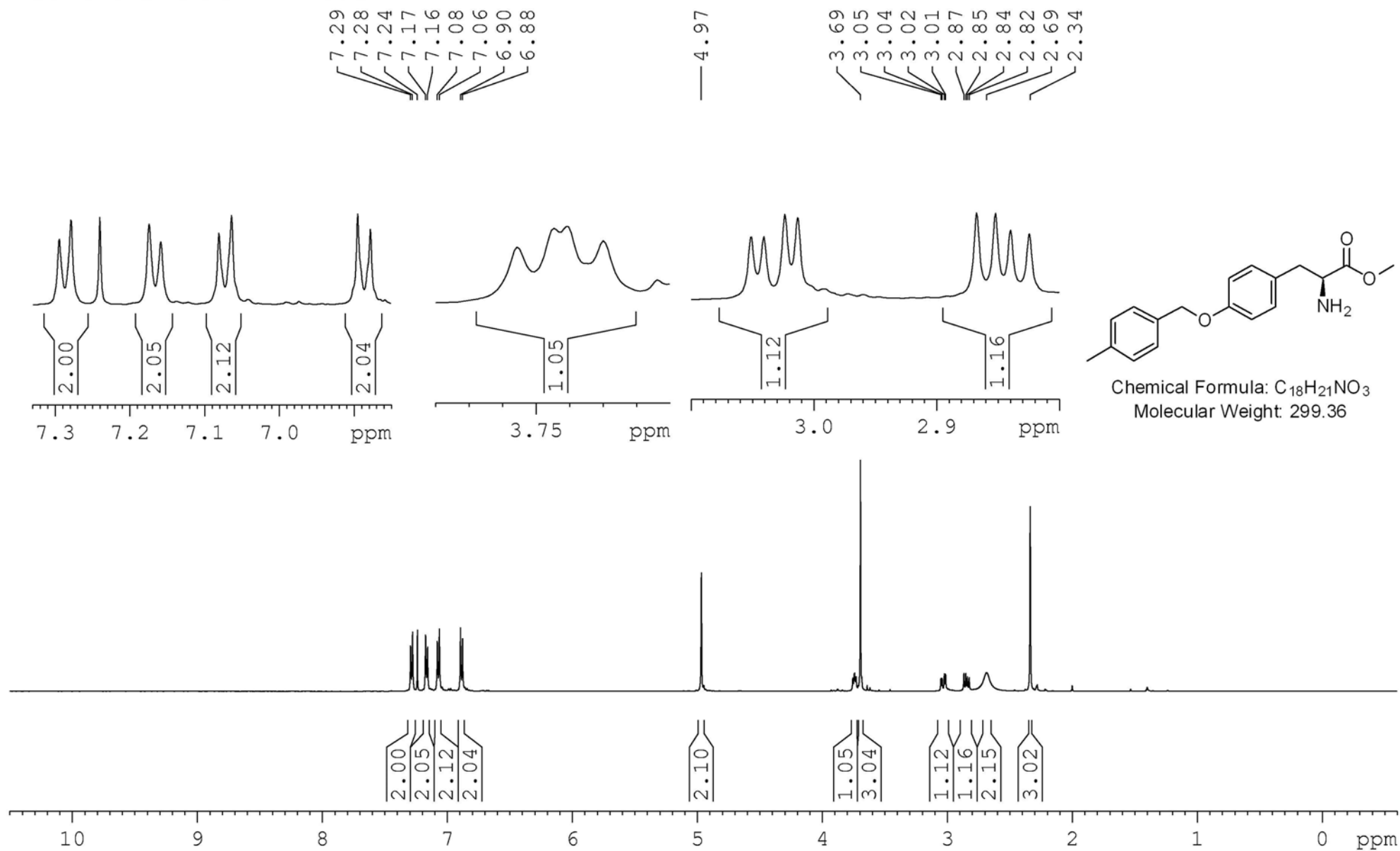
Chemical Formula: C₂₃H₂₉NO₅
Molecular Weight: 399.48



Solvent: CDCl₃ & NMR: 100 MHz



Solvent: CDCl₃ & NMR: 500 MHz



Chemical structure of the compound is shown above the spectrum:

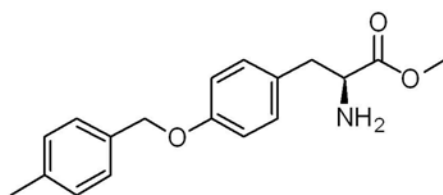
COC(=O)[C@H](N)Cc1ccc(OCC2=CC=C(C)C=C2)cc1

Chemical Formula: C₁₈H₂₁NO₃
Molecular Weight: 299.36

The spectrum displays the following chemical shifts (ppm):

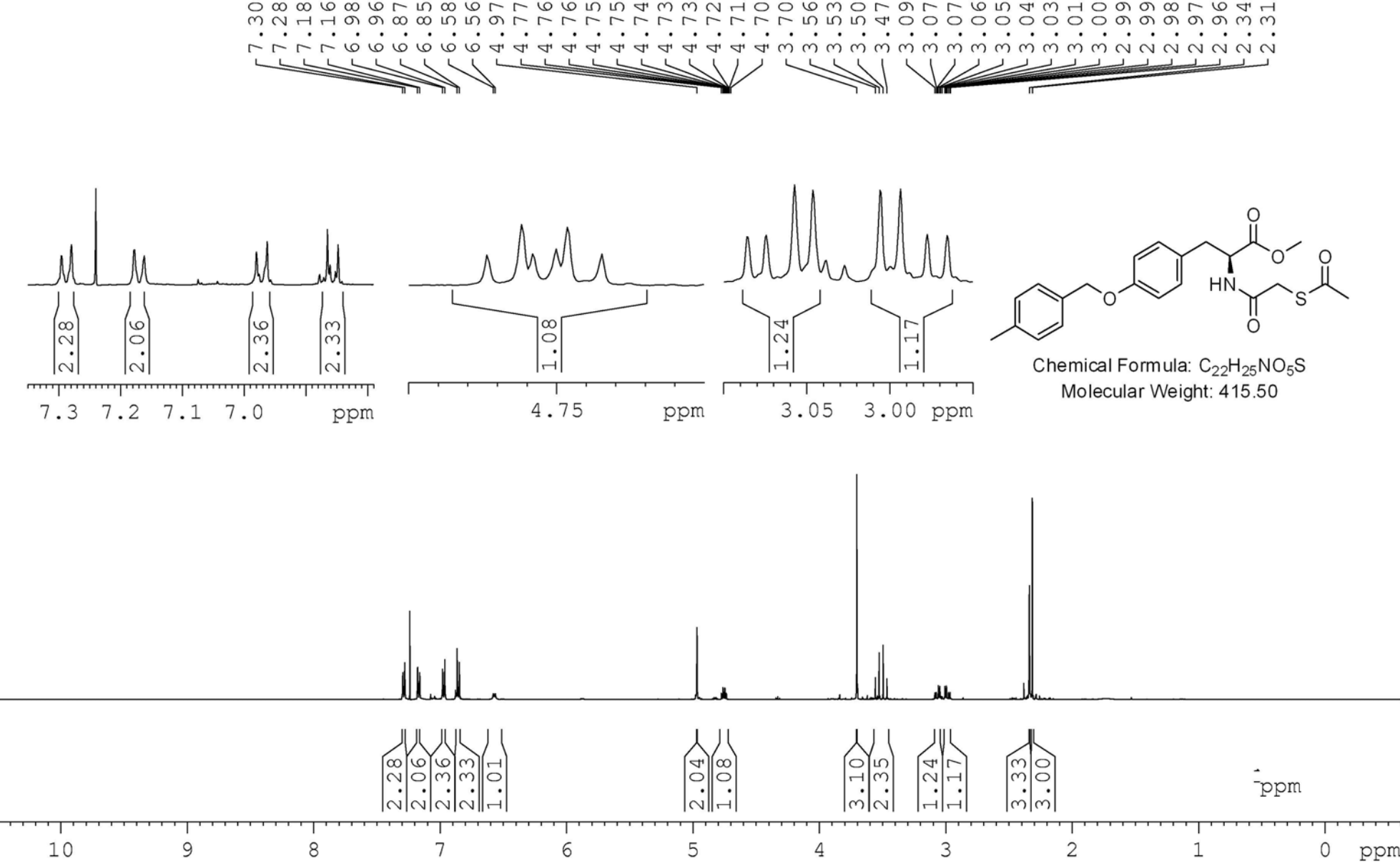
Chemical Shift (ppm)
174.50
157.96
137.74
133.90
130.27
129.25
128.60
127.60
115.04
77.25
77.00
76.75
69.93
55.55
52.16
39.35
21.17

13C NMR spectrum (CDCl₃) showing peaks corresponding to the chemical structure. The x-axis represents the chemical shift in ppm, ranging from 0 to 200.



Chemical Formula: C₁₈H₂₁NO₃
Molecular Weight: 299.36

Solvent: CDCl₃ & NMR: 500 MHz



Solvent: CDCl₃ & NMR: 125 MHz

— 195.16

— 171.60

— 167.56

— 157.99

— 137.76

— 133.87

— 130.27

— 129.25

— 127.72

— 127.59

— 114.87

— 69.90

— 53.50

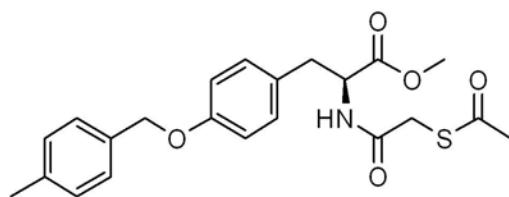
— 52.34

— 36.77

— 32.76

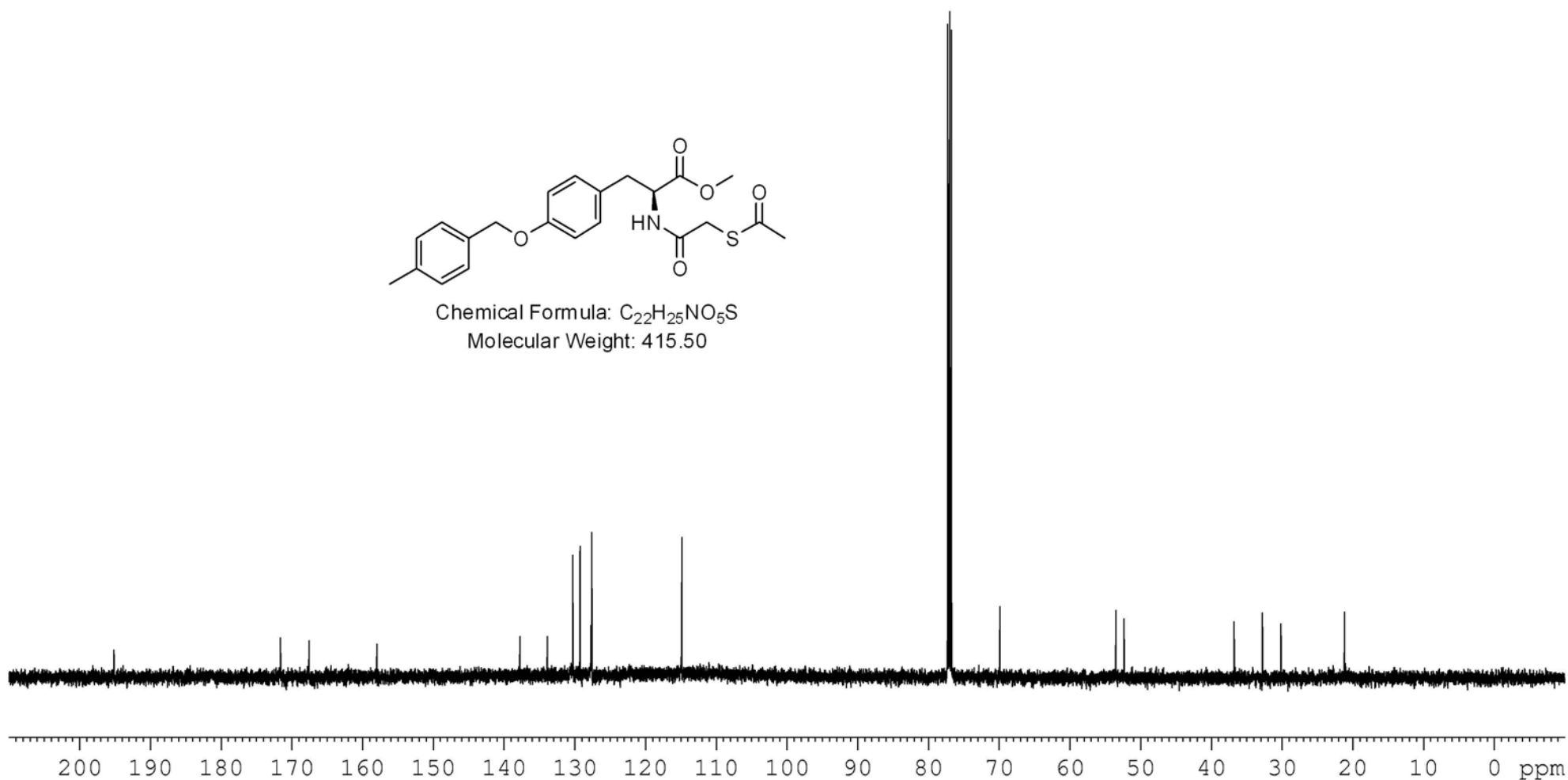
— 30.13

— 21.17

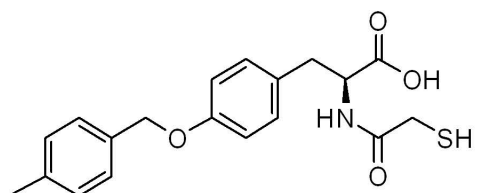
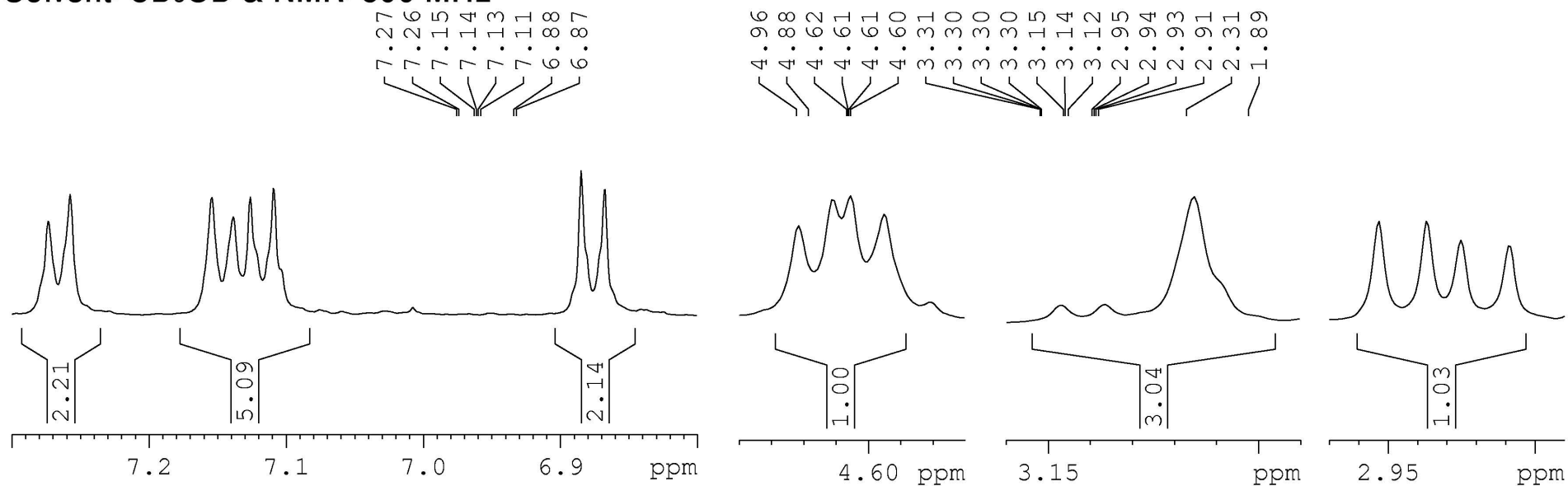


Chemical Formula: C₂₂H₂₅NO₅S

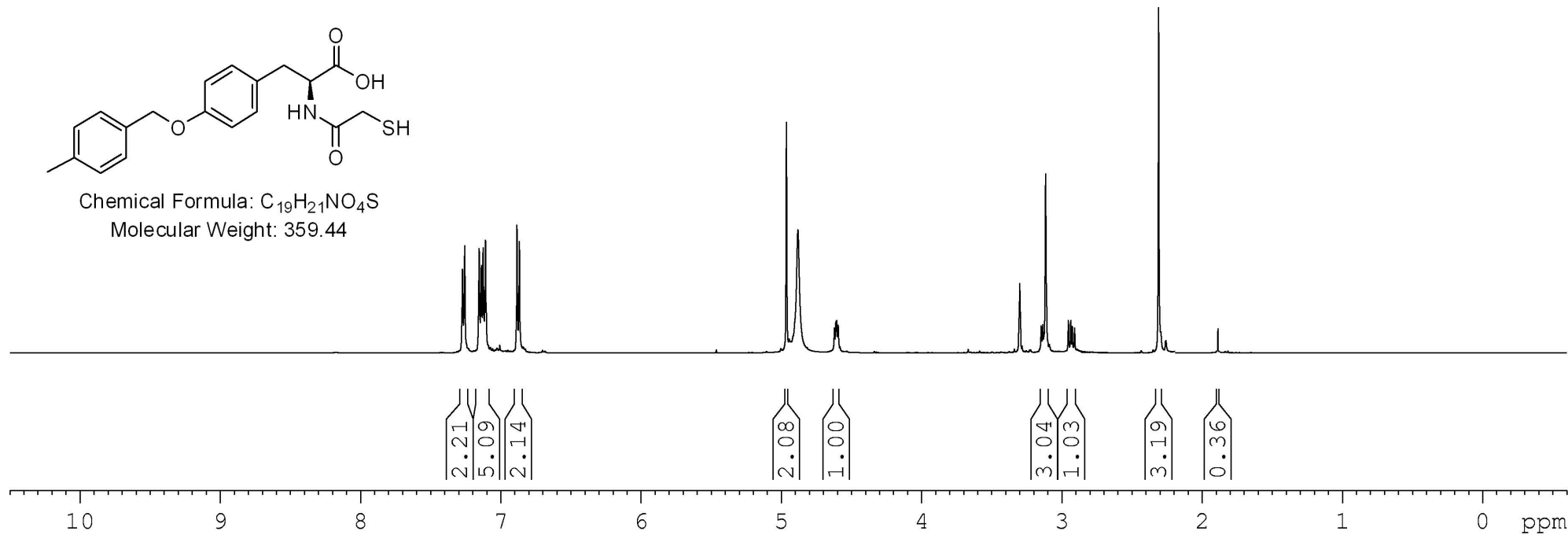
Molecular Weight: 415.50



Solvent: CD₃OD & NMR: 500 MHz



Chemical Formula: C₁₉H₂₁NO₄S
Molecular Weight: 359.44



Solvent: CD₃OD & NMR: 125 MHz

174.38
172.87

159.24

138.65

135.68

131.38

130.22

130.06

128.66

115.94

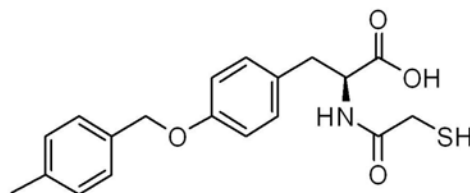
70.90

55.31

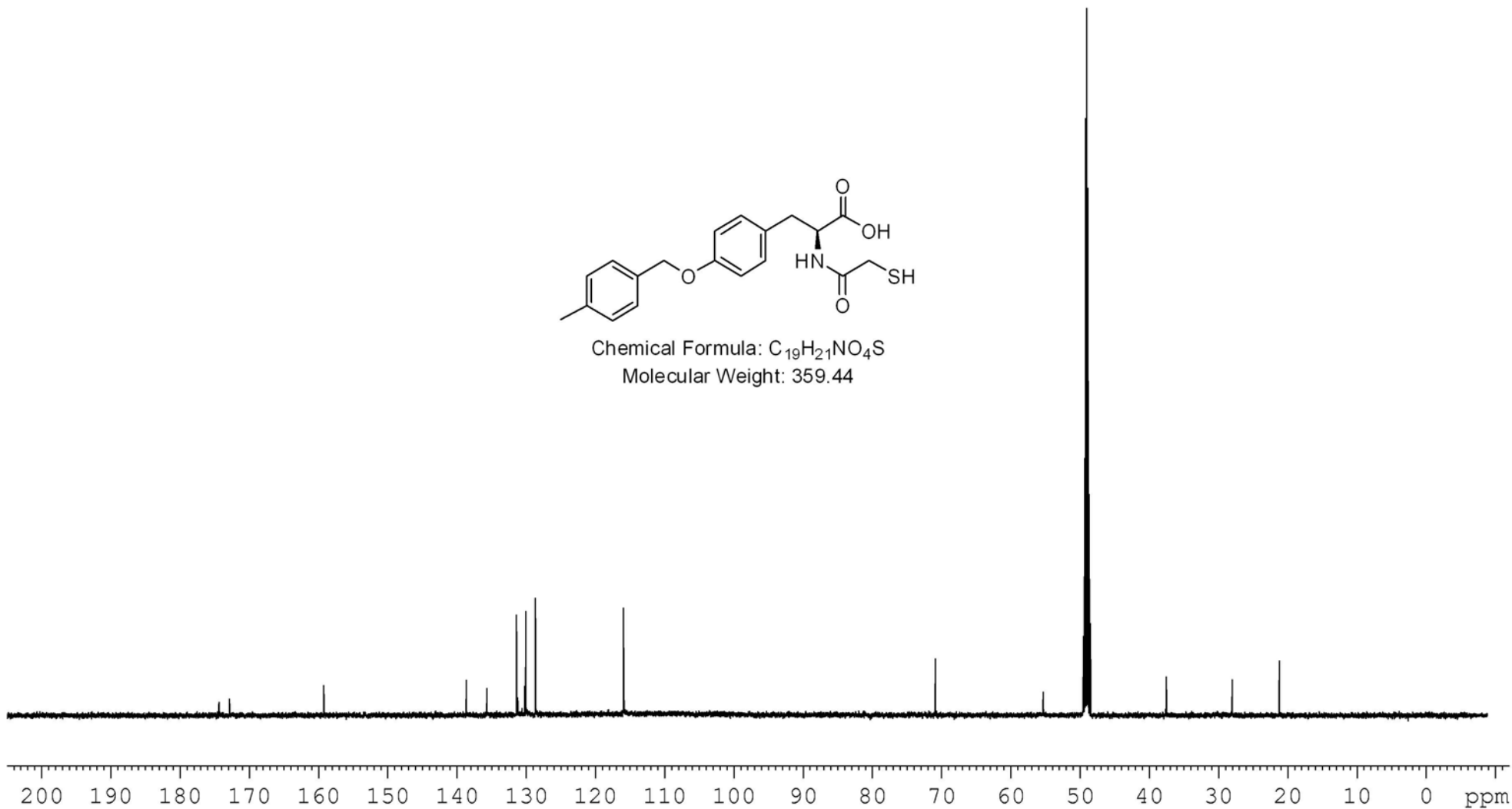
37.51

28.00

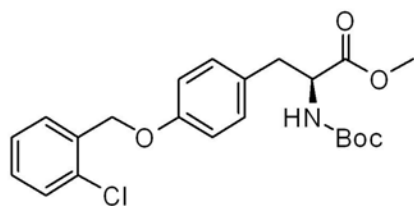
21.21



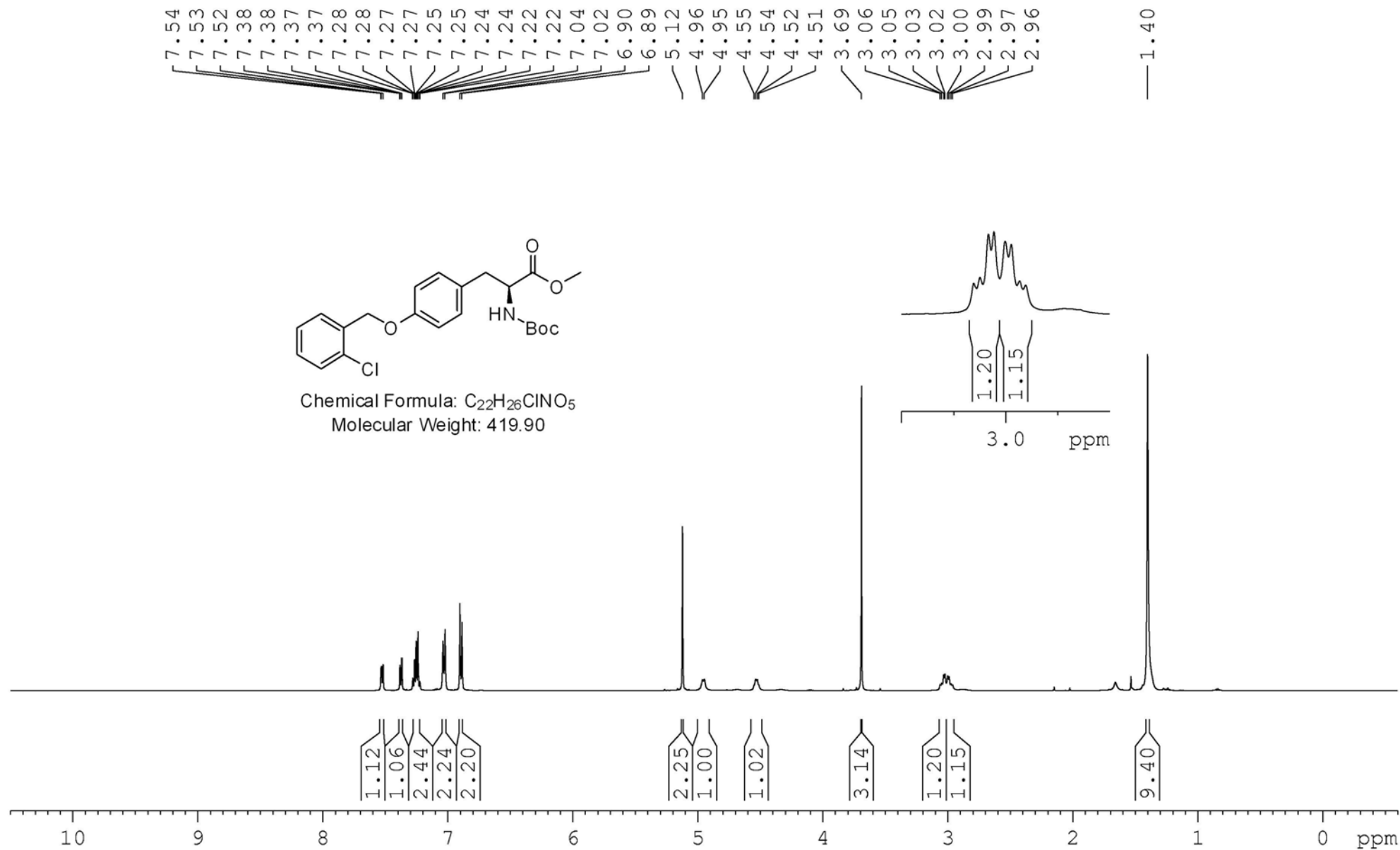
Chemical Formula: C₁₉H₂₁NO₄S
Molecular Weight: 359.44



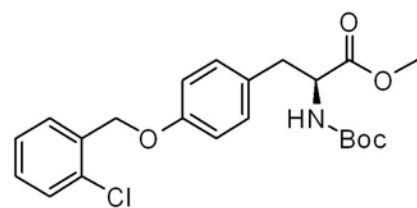
Solvent: CDCl₃ & NMR: 500 MHz



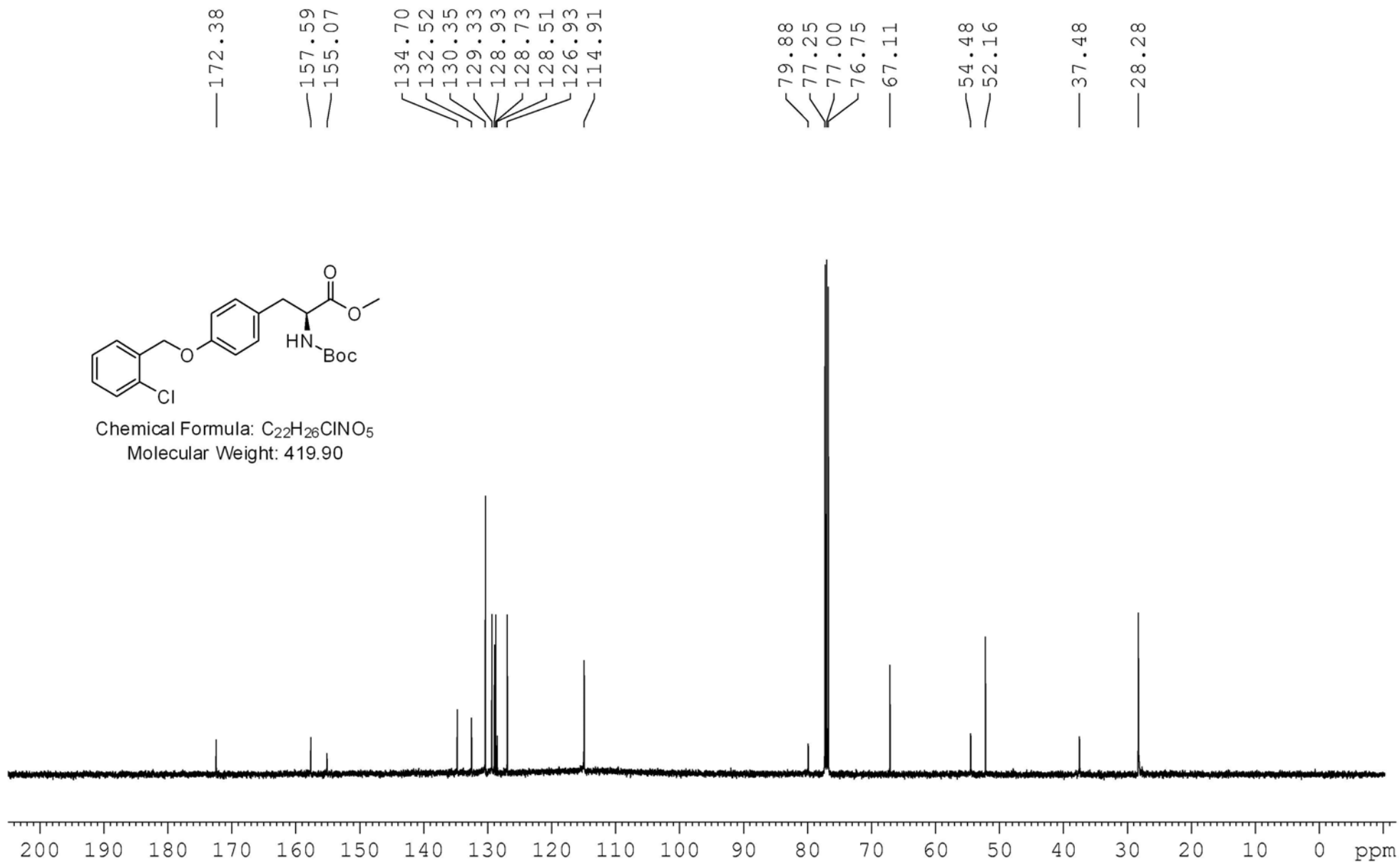
Chemical Formula: C₂₂H₂₆ClNO₅
Molecular Weight: 419.90



Solvent: CDCl_3 & NMR: 125 MHz



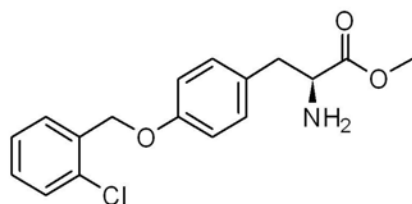
Chemical Formula: $\text{C}_{22}\text{H}_{26}\text{ClNO}_5$
Molecular Weight: 419.90



Solvent: CDCl₃ & NMR: 500 MHz

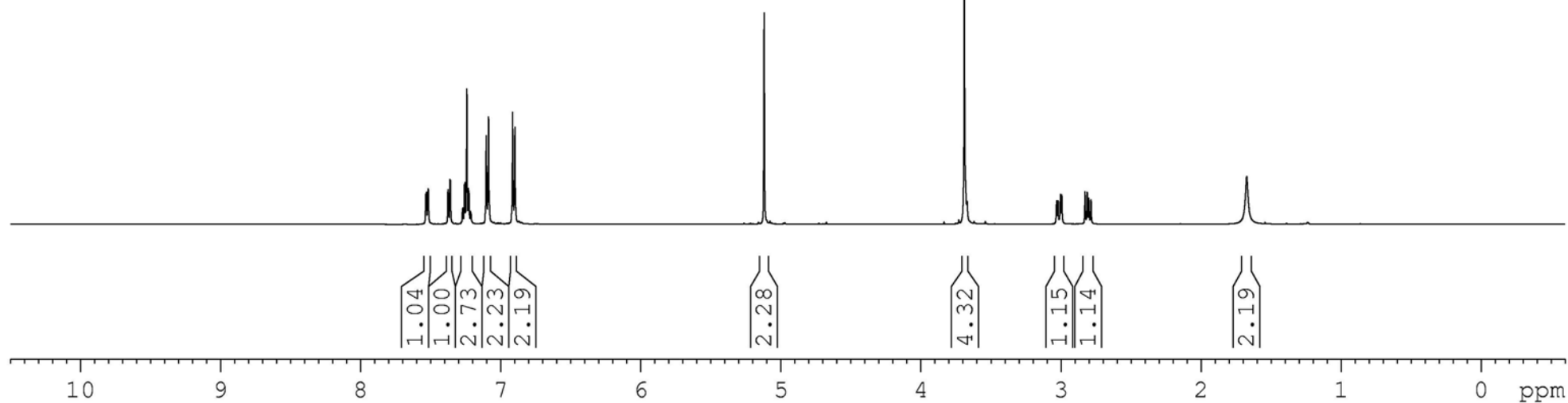
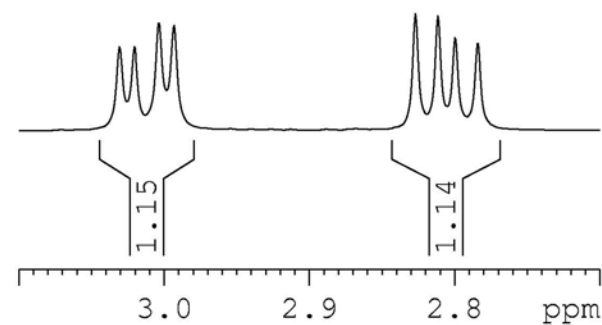
7.53
7.53
7.52
7.52
7.38
7.37
7.36
7.36
7.27
7.27
7.26
7.26
7.24
7.24
7.23
7.23
7.21
7.10
7.09
6.91
6.90
— 5.12

3.69
3.03
3.02
3.00
2.99
2.83
2.81
2.80
2.78
— 1.67

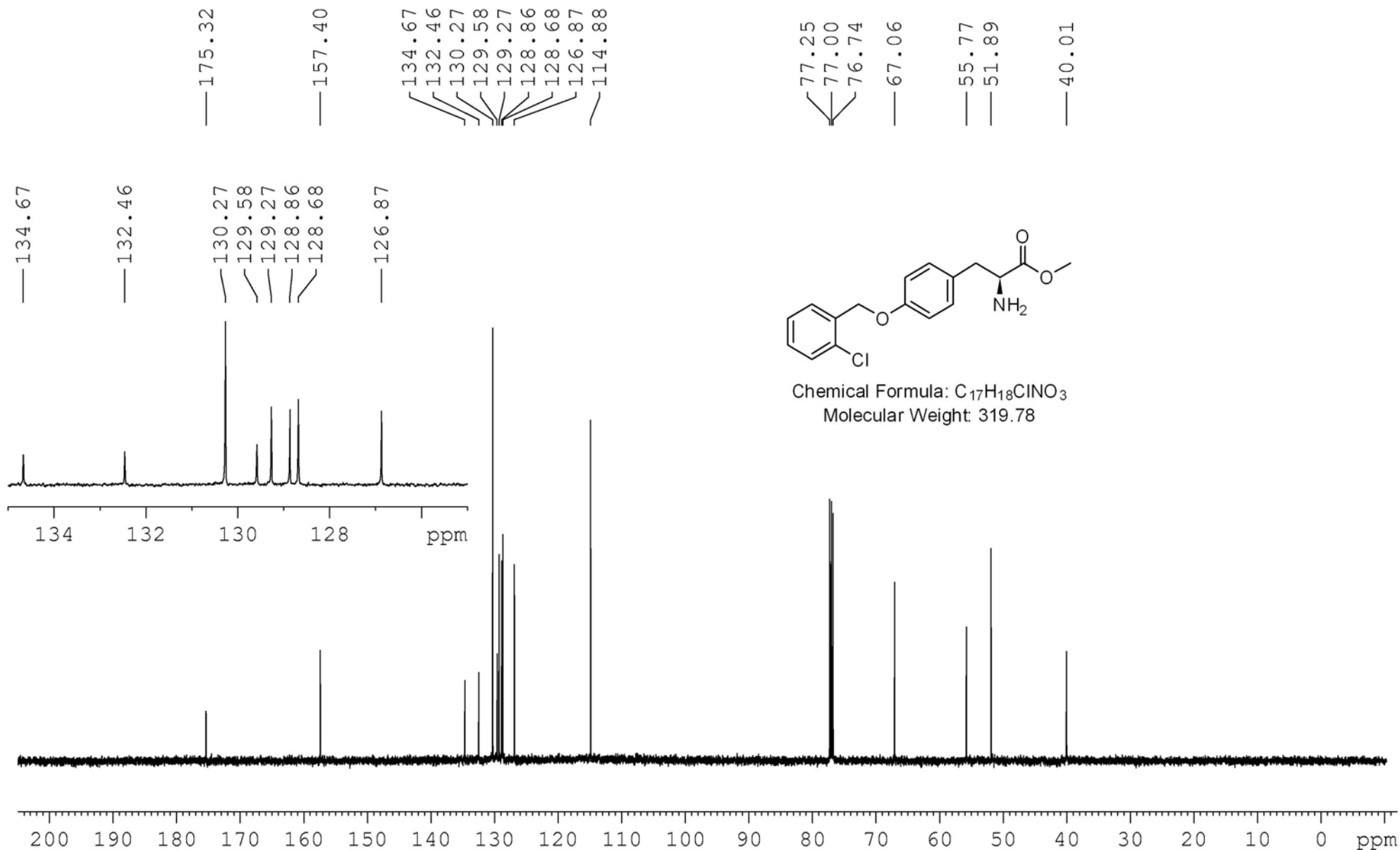


Chemical Formula: C₁₇H₁₈ClNO₃

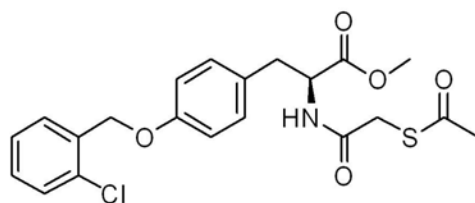
Molecular Weight: 319.78



Solvent: CDCl₃ & NMR: 125 MHz

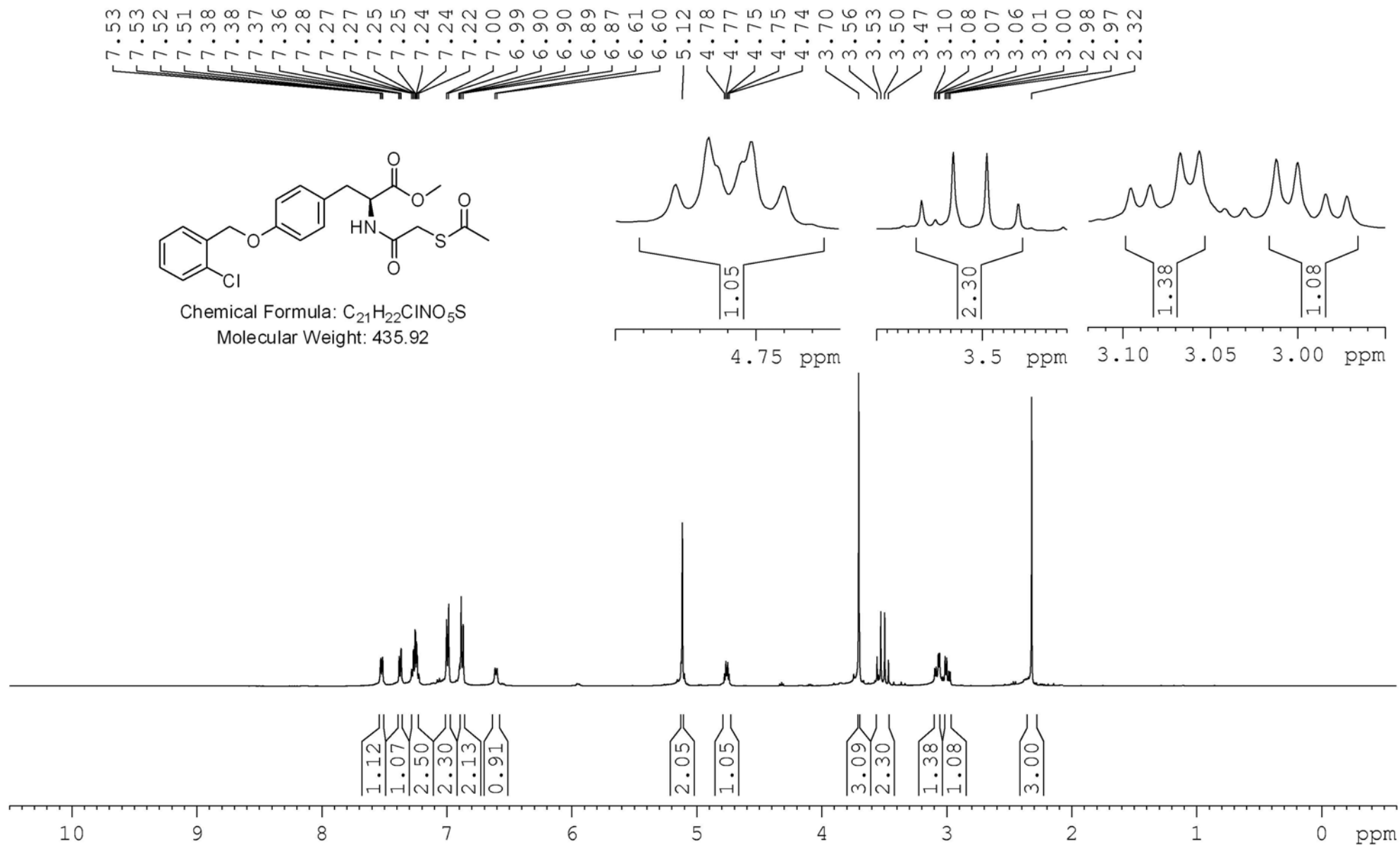


Solvent: CDCl_3 & NMR: 500 MHz

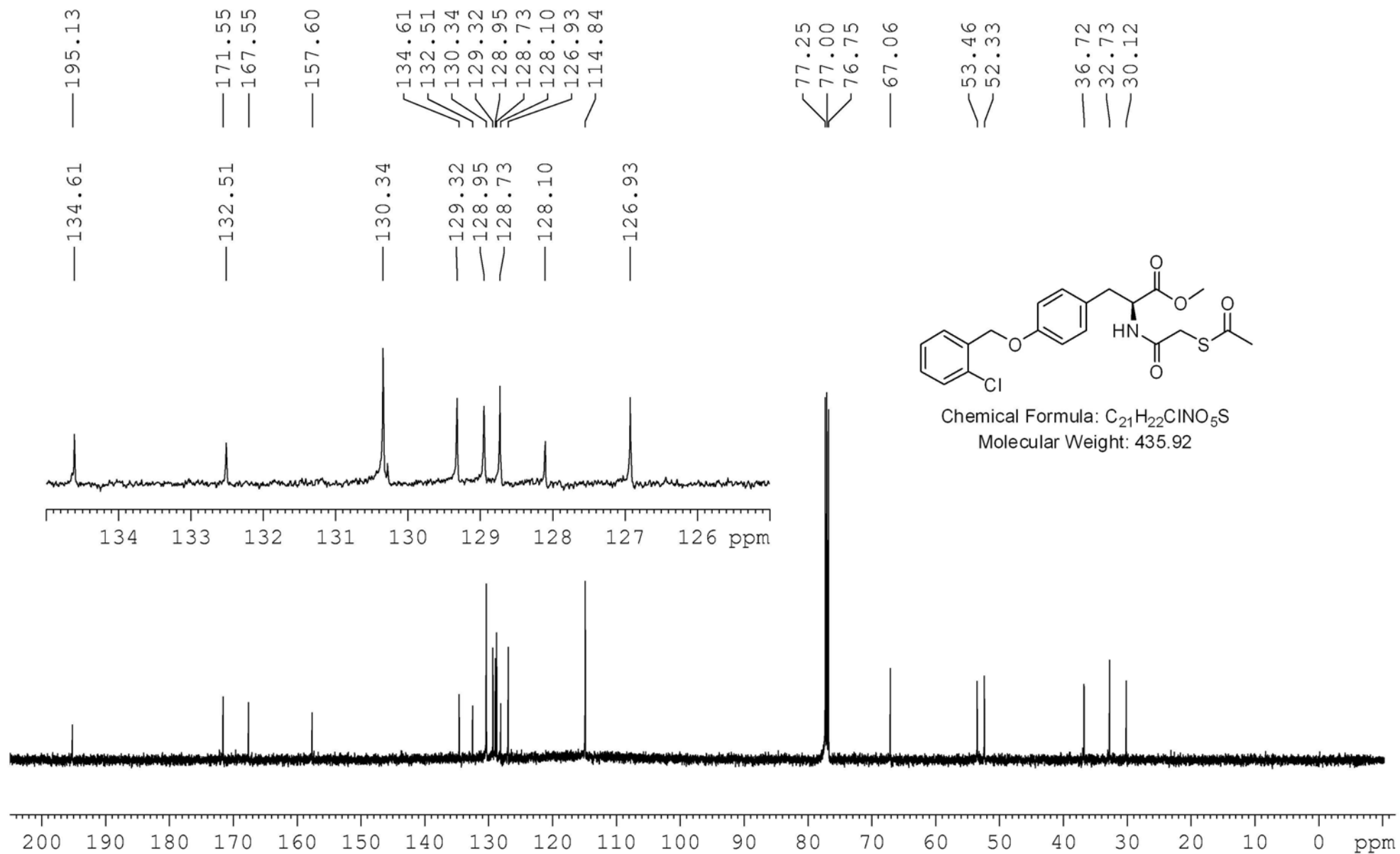


Chemical Formula: C₂₁H₂₂ClNO₅S

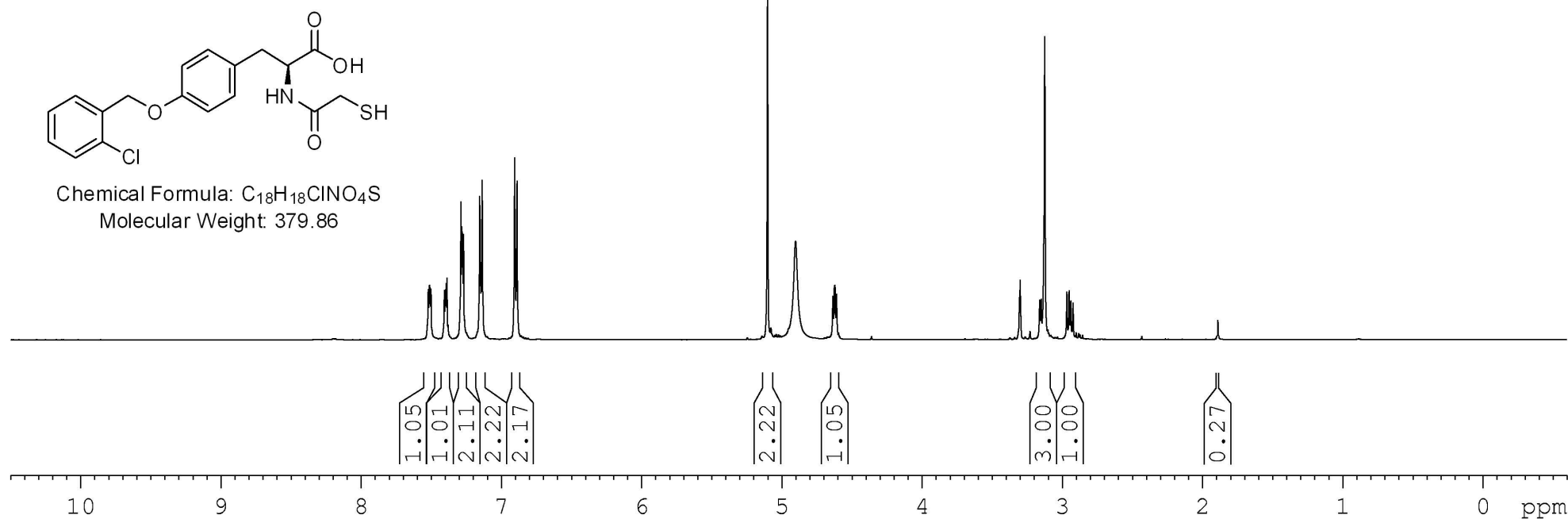
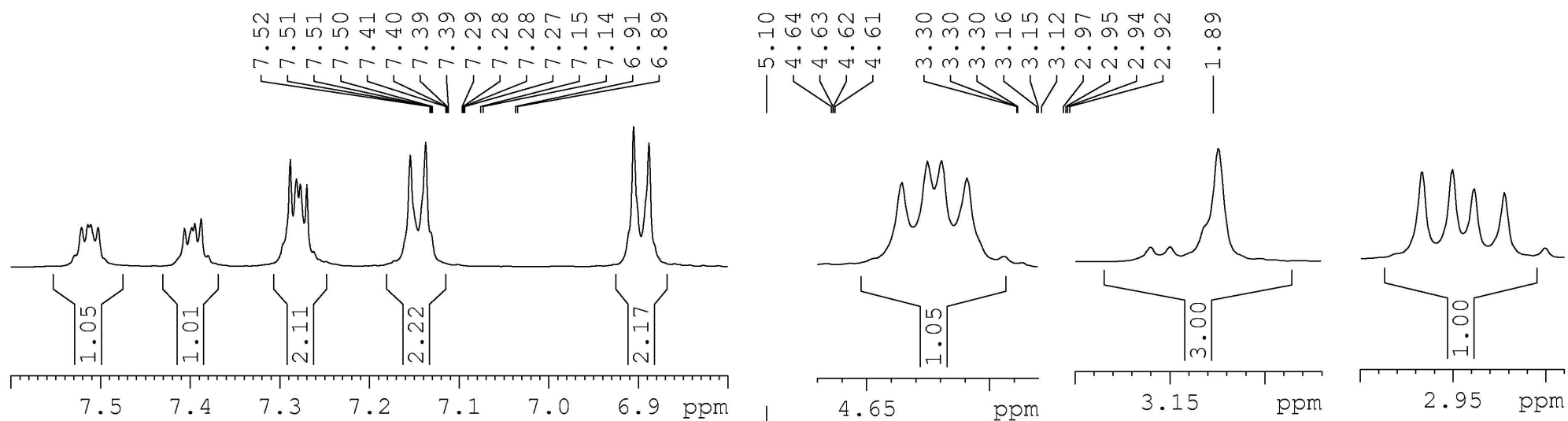
Molecular Weight: 435.92



Solvent: CDCl₃ & NMR: 125 MHz



Solvent: CD₃OD & NMR: 500 MHz



Solvent: CD₃OD & NMR: 125 MHz

174.34
172.88

158.95

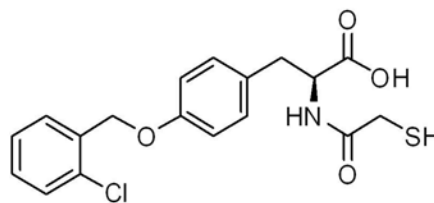
136.14
133.97
131.50
130.64
130.40
130.38
130.33
128.13
115.85

68.25

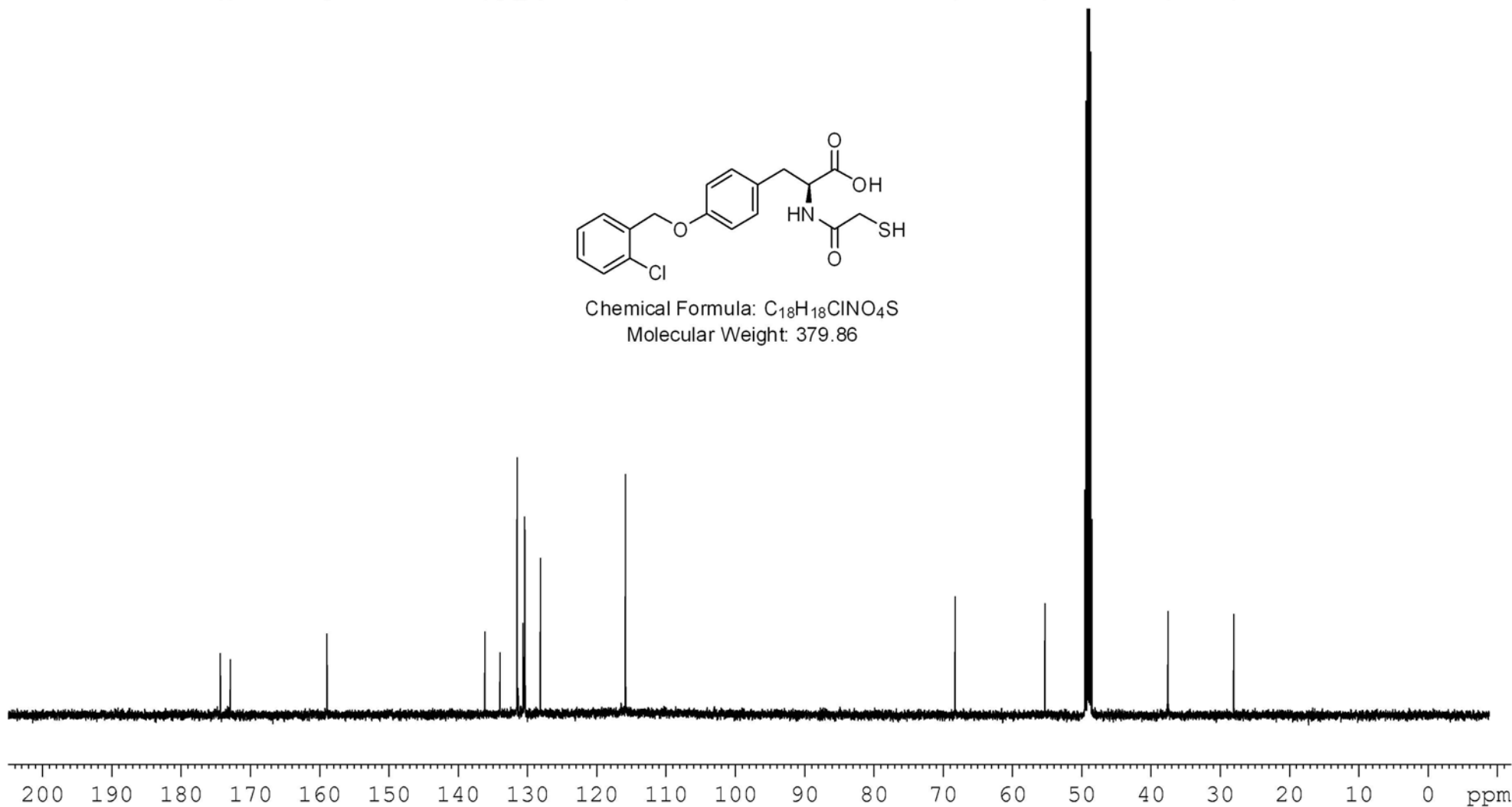
55.28

37.51

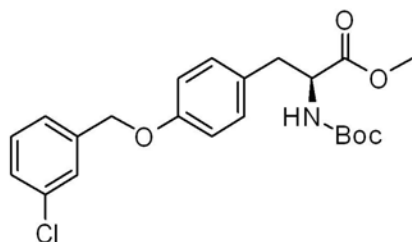
28.01



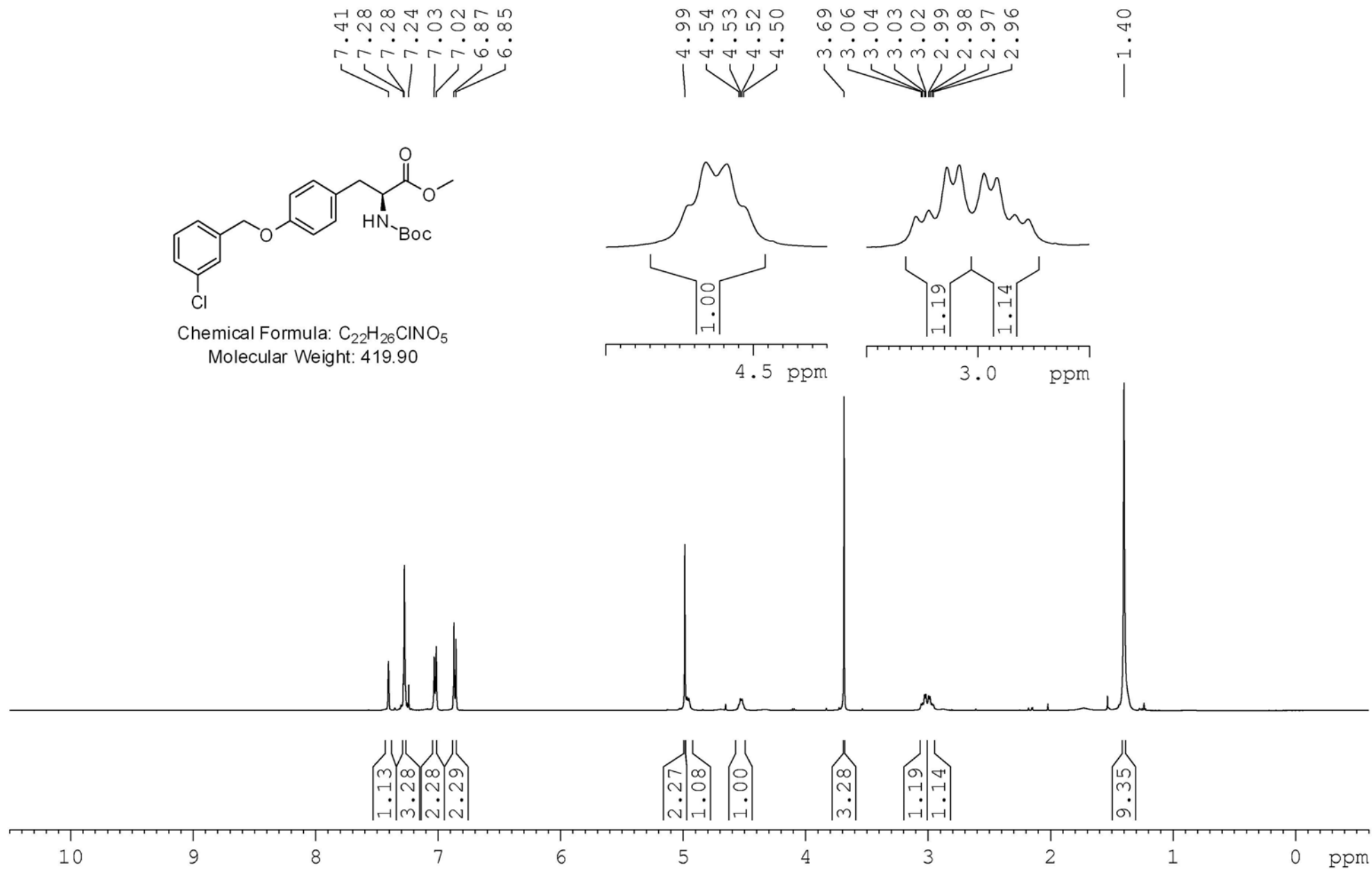
Chemical Formula: C₁₈H₁₈ClNO₄S
Molecular Weight: 379.86



Solvent: CDCl₃ & NMR: 500 MHz



Chemical Formula: C₂₂H₂₆ClNO₅
Molecular Weight: 419.90



Solvent: CDCl₃ & NMR: 125 MHz

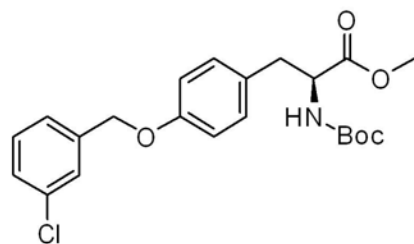
— 172.36
— 157.54
— 155.05
— 139.06
— 134.46
— 130.34
— 129.82
— 128.55
— 128.03
— 127.35
— 125.29
— 114.85

79.87
77.25
77.00
76.74
— 69.11

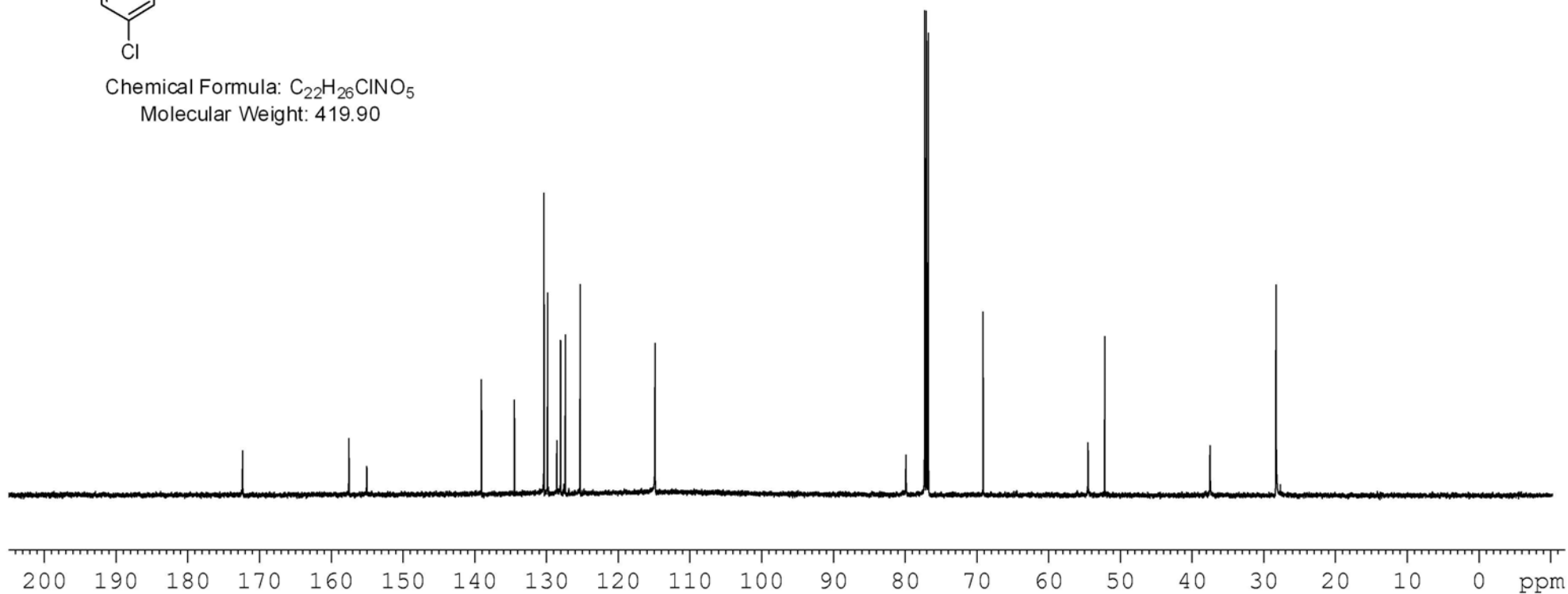
— 54.47
— 52.15

— 37.46

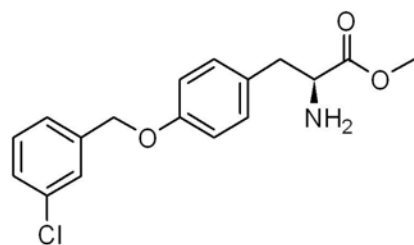
— 28.26



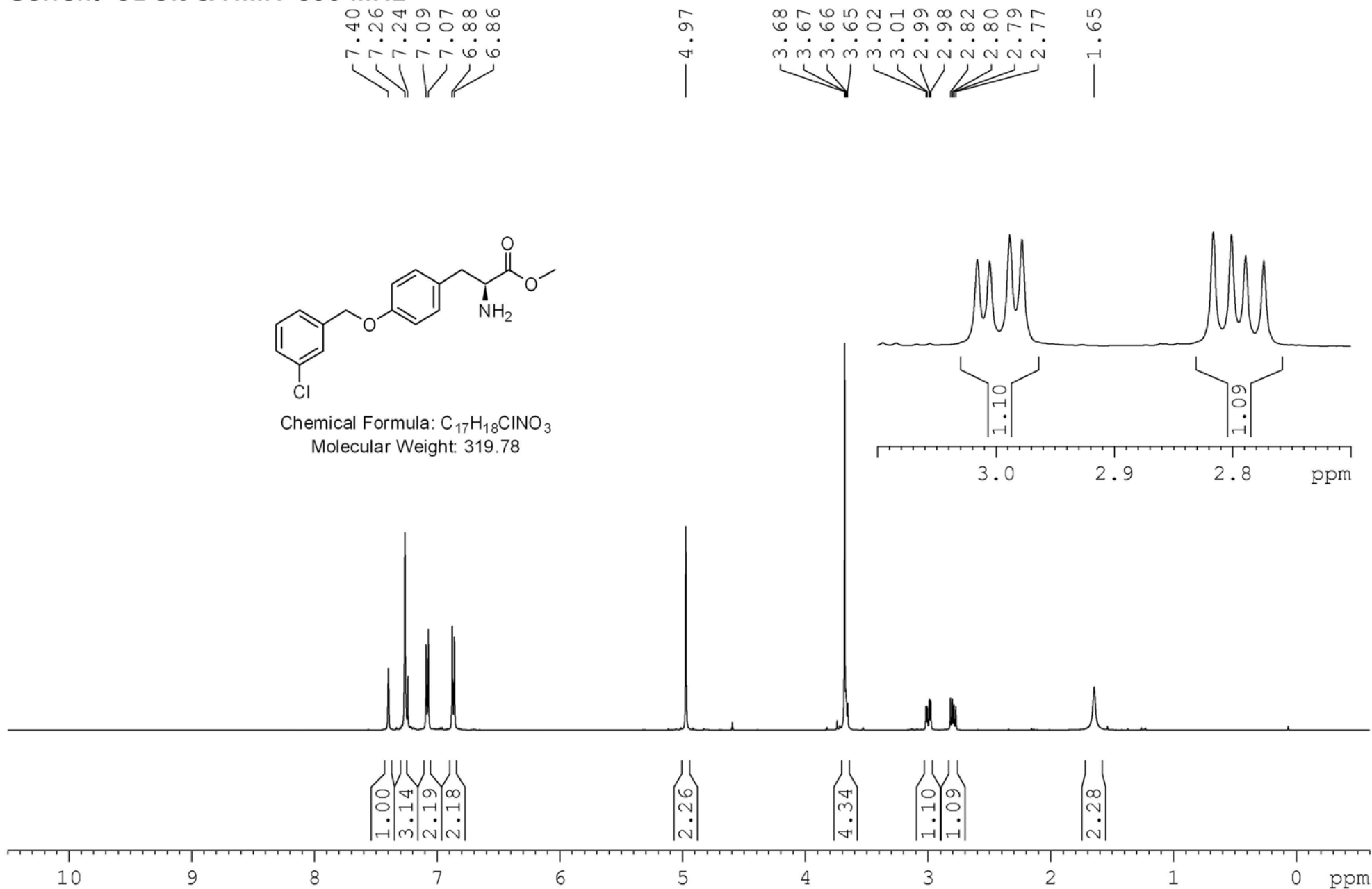
Chemical Formula: C₂₂H₂₆ClNO₅
Molecular Weight: 419.90



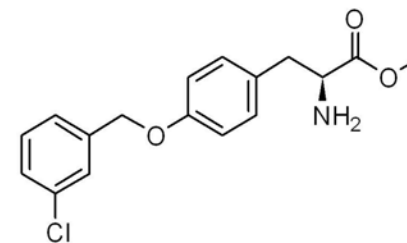
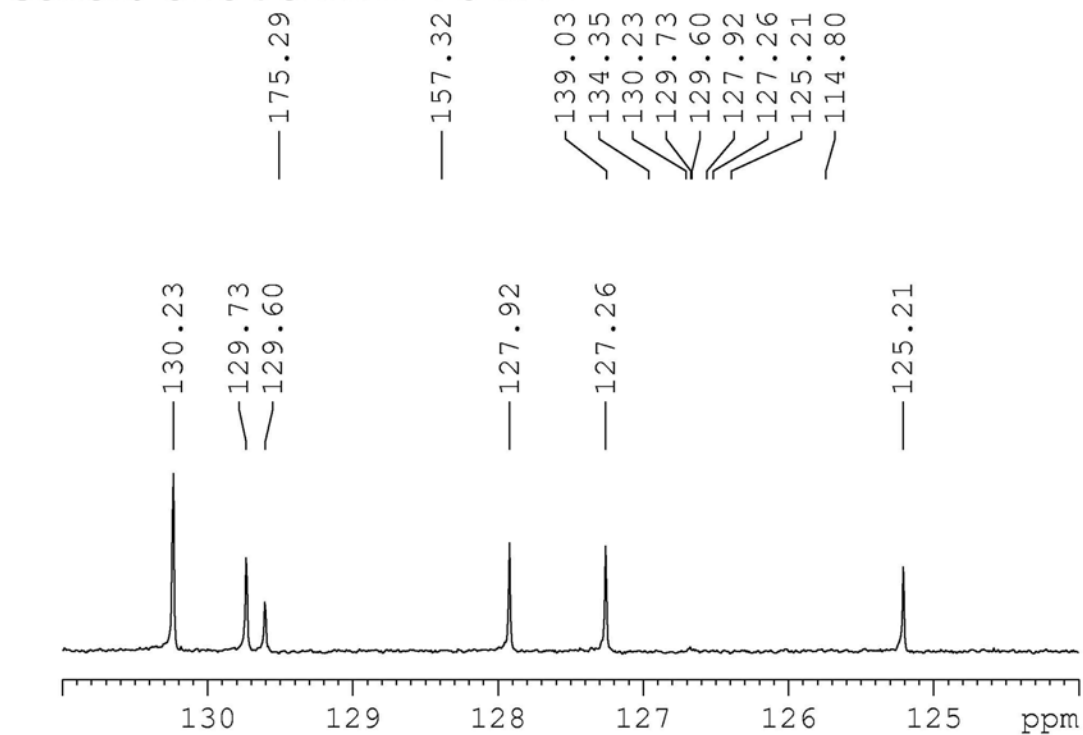
Solvent: CDCl_3 & NMR: 500 MHz



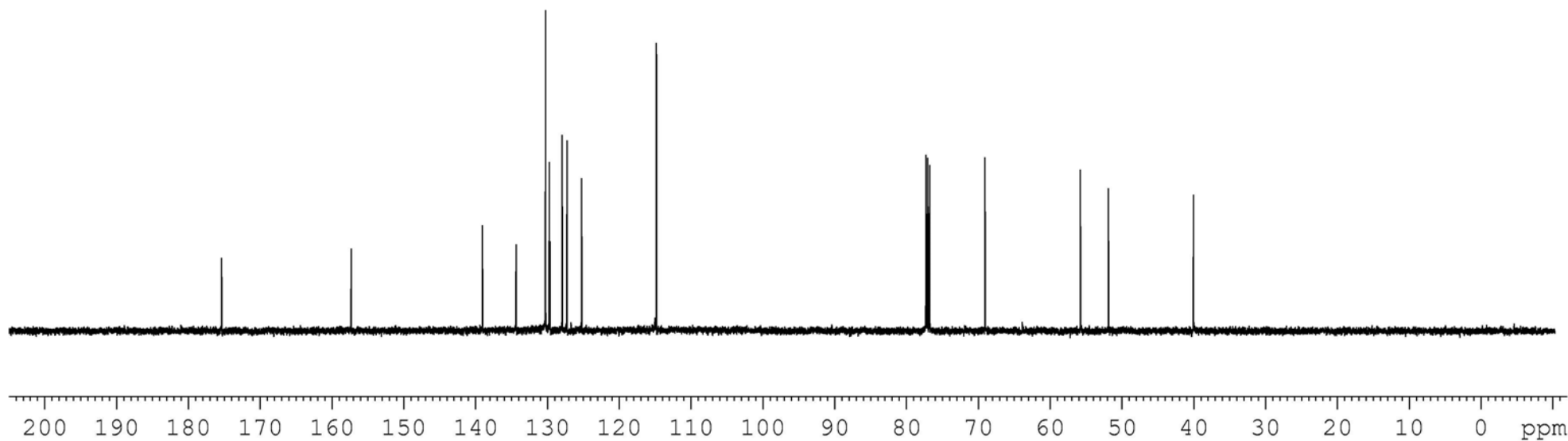
Chemical Formula: $\text{C}_{17}\text{H}_{18}\text{ClNO}_3$
Molecular Weight: 319.78



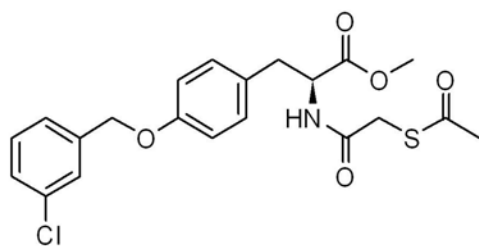
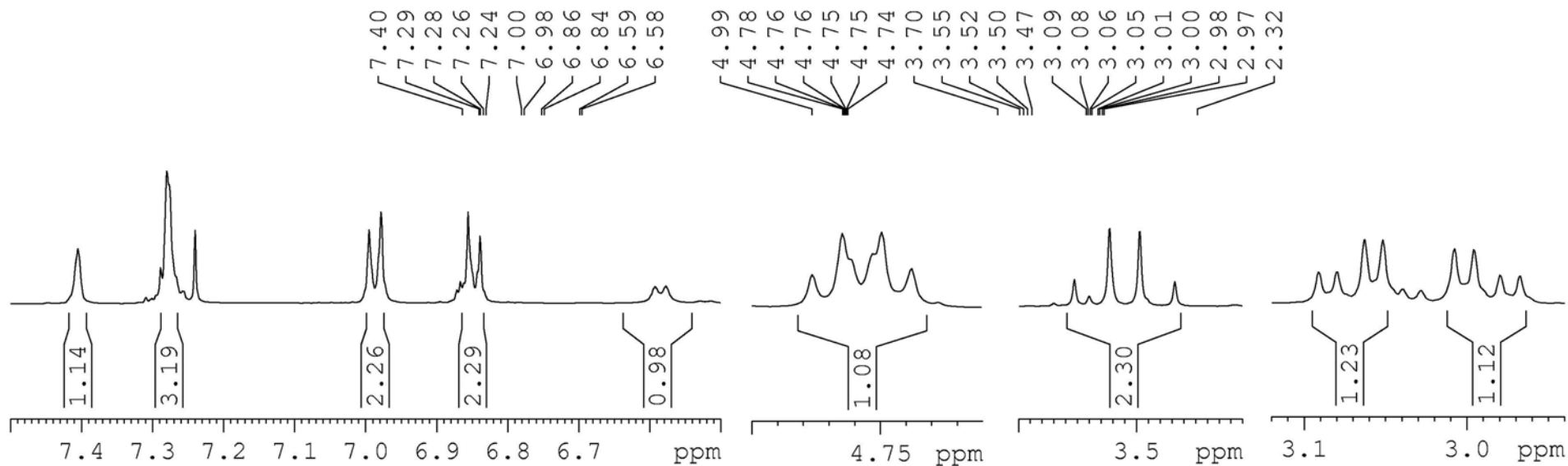
Solvent: CDCl₃ & NMR: 125 MHz



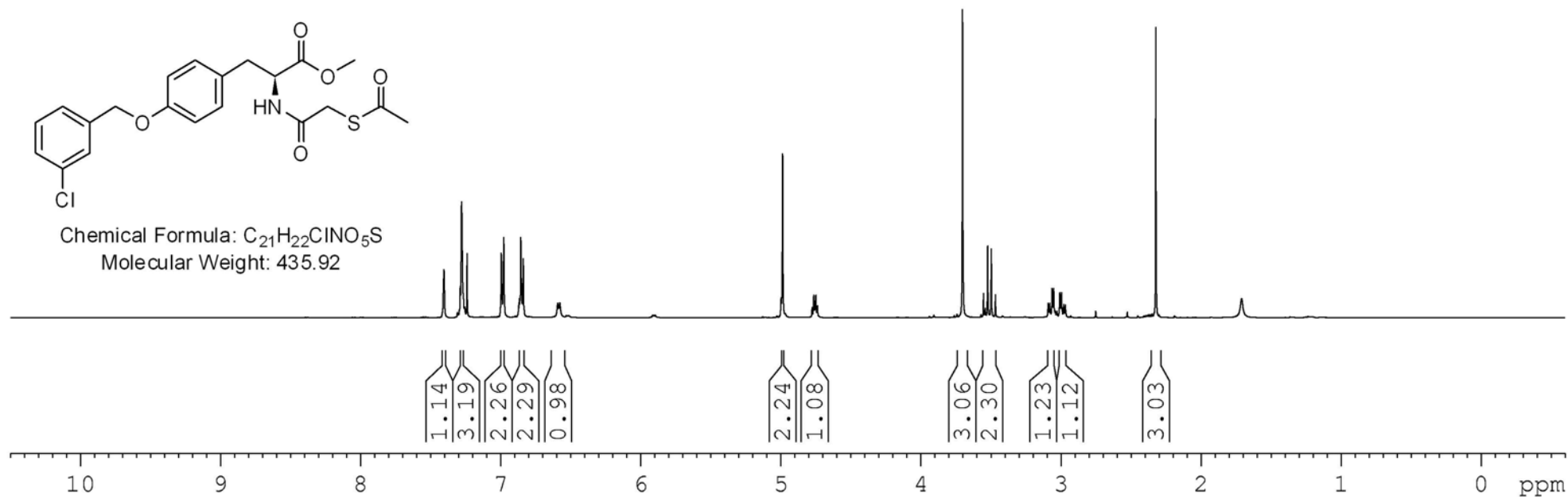
Chemical Formula: C₁₇H₁₈ClNO₃
Molecular Weight: 319.78



Solvent: CDCl₃ & NMR: 500 MHz



Chemical Formula: C₂₁H₂₂ClNO₅S
Molecular Weight: 435.92



Solvent: CDCl₃ & NMR: 125 MHz

— 195.18

— 171.57

— 167.57

— 157.60

139.03

134.49

130.37

129.85

128.17

128.07

127.37

125.30

114.84

77.25

77.00

76.74

— 69.11

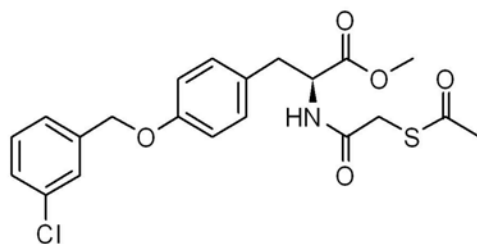
53.49

52.35

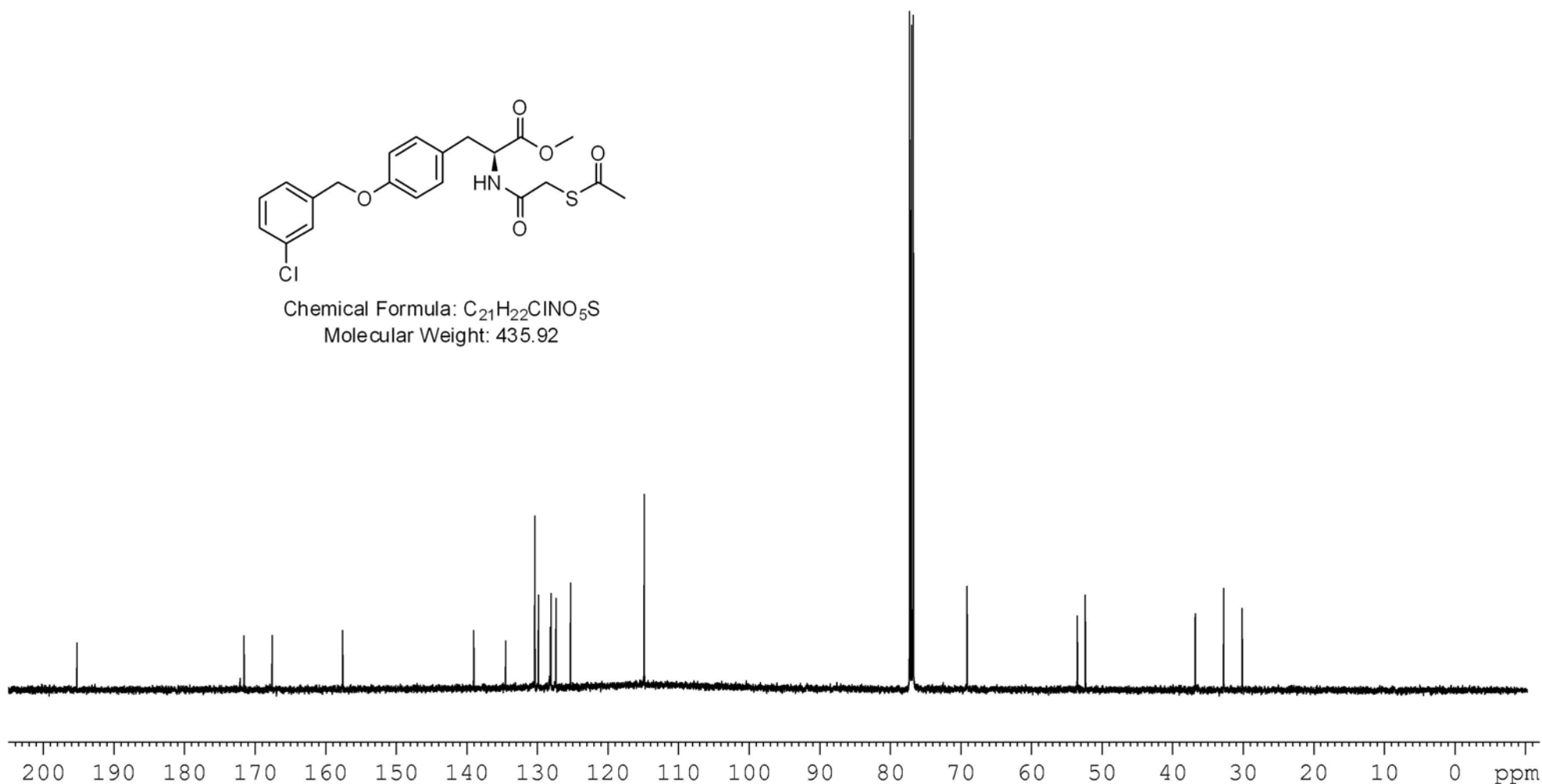
— 36.78

— 32.76

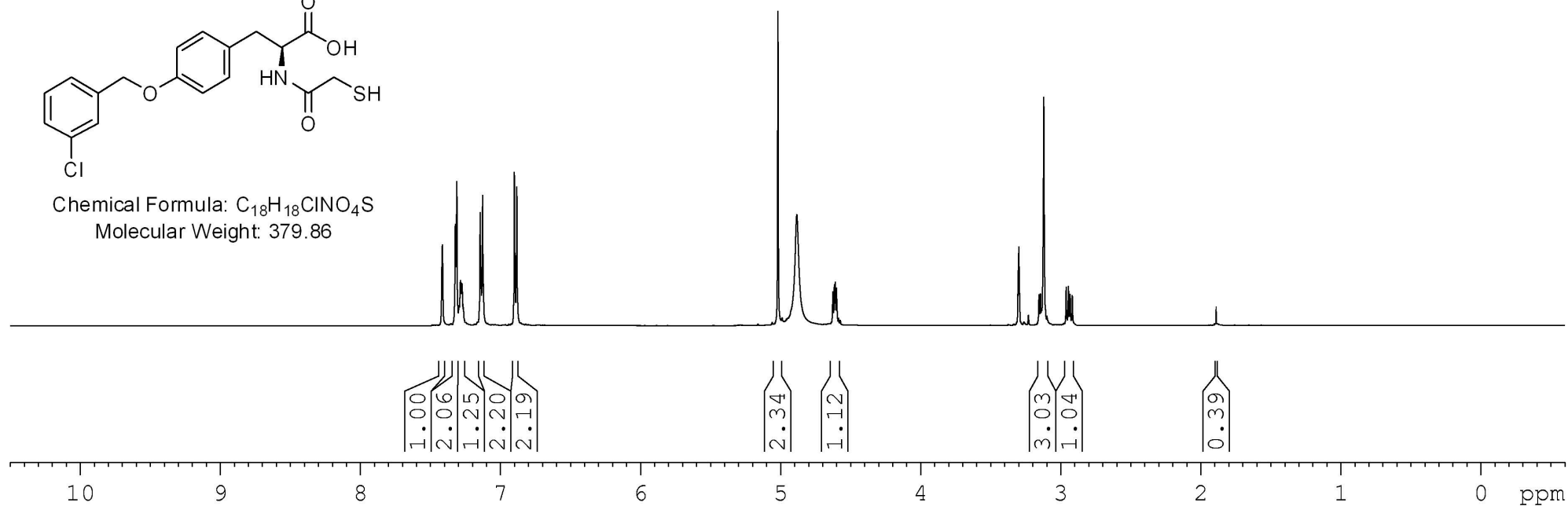
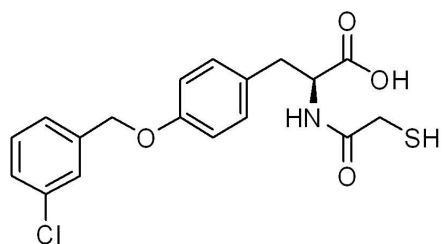
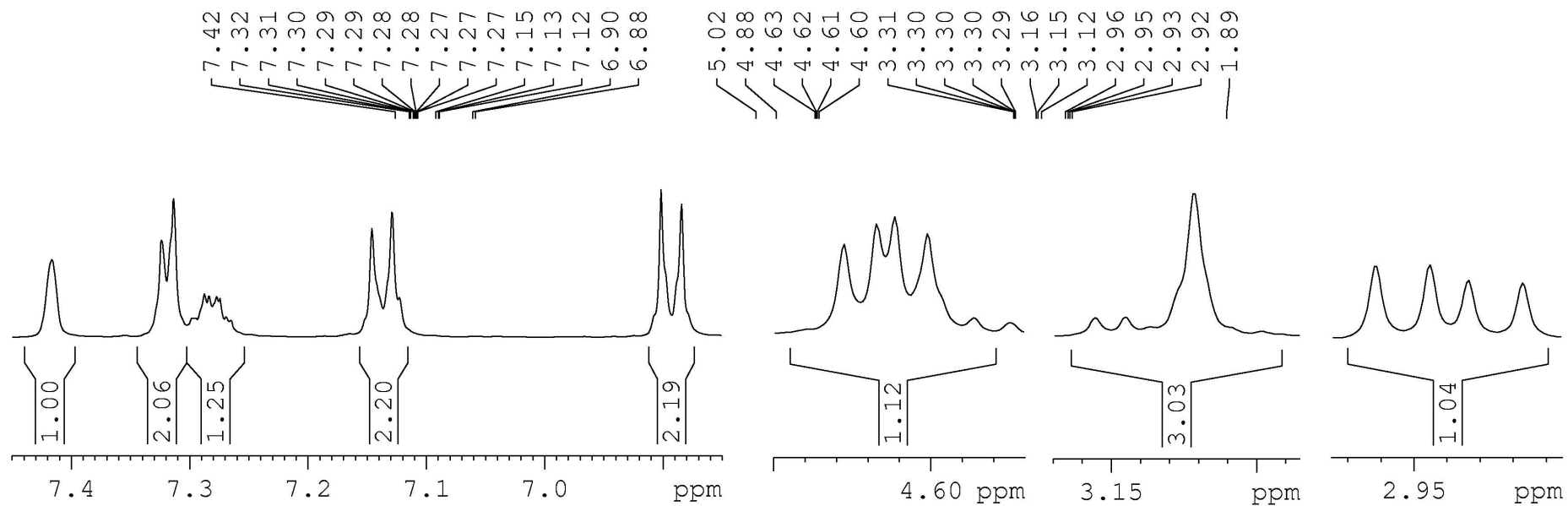
— 30.14



Chemical Formula: C₂₁H₂₂ClNO₅S
Molecular Weight: 435.92



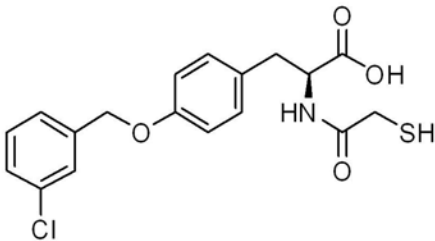
Solvent: CD₃OD & NMR: 500 MHz



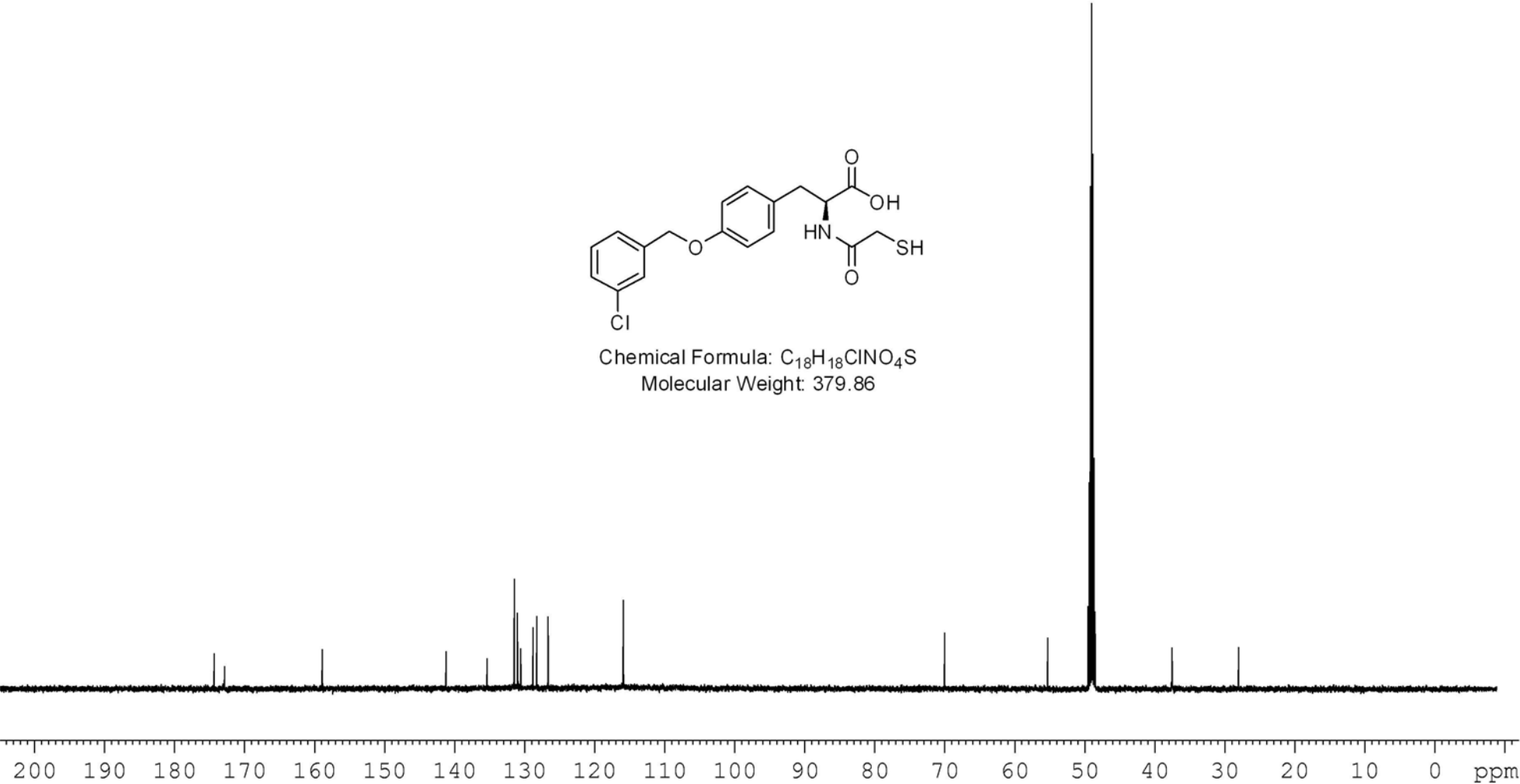
Solvent: CD₃OD & NMR: 125 MHz

174.34
172.87
158.90
141.20
135.36
131.47
131.02
130.55
128.80
128.27
126.63
115.89

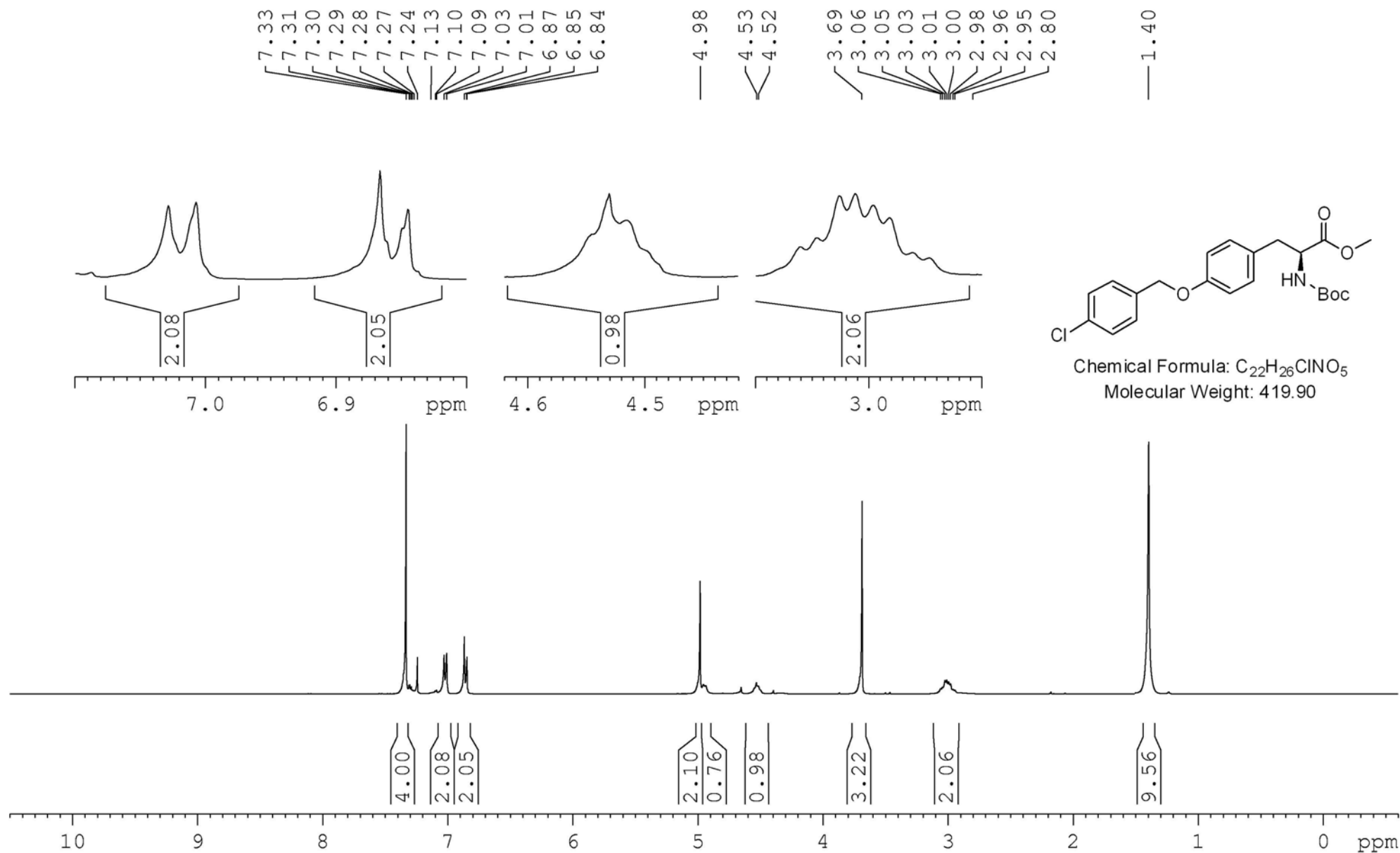
69.98
55.27
37.49
28.00



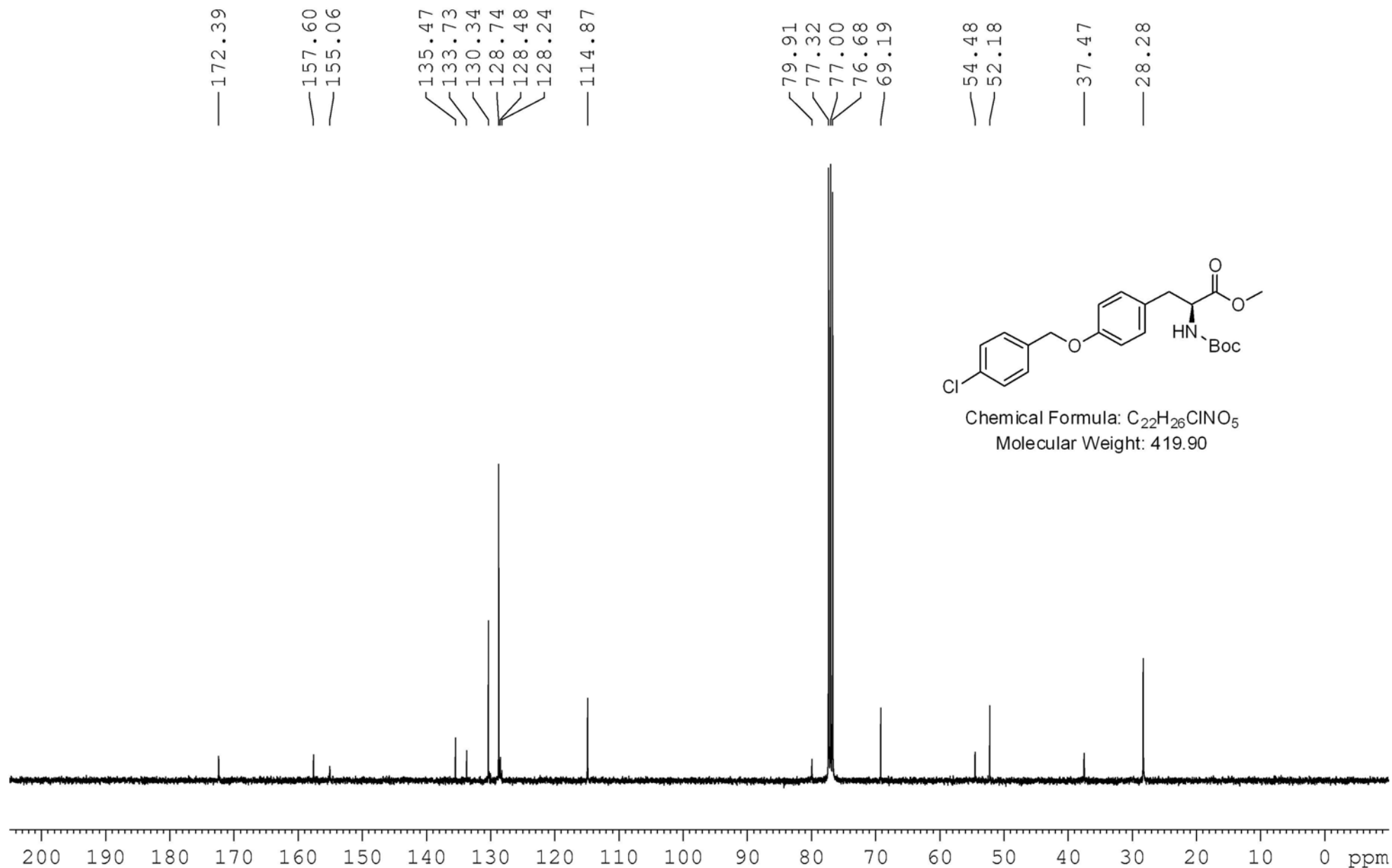
Chemical Formula: C₁₈H₁₈ClNO₄S
Molecular Weight: 379.86



Solvent: CDCl₃ & NMR: 400 MHz



Solvent: CDCl₃ & NMR: 100 MHz

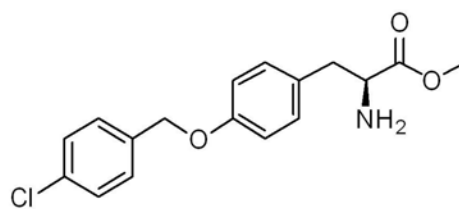


Solvent: CDCl₃ & NMR: 500 MHz

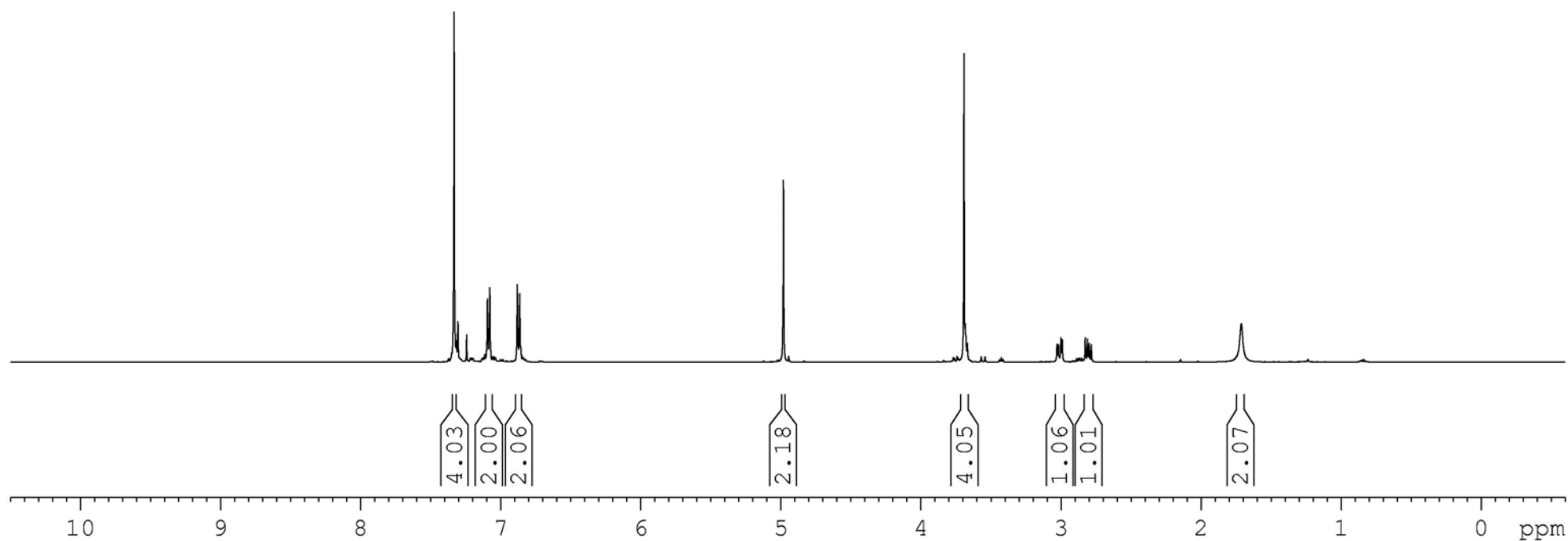
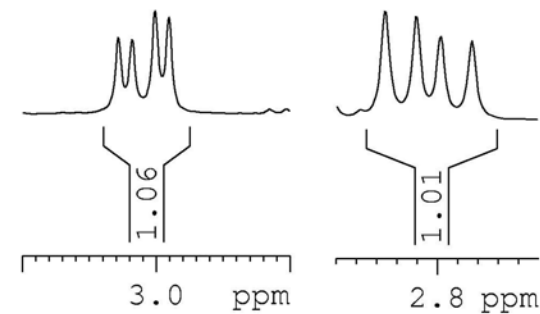
7.33
7.09
7.08
6.88
6.86

4.98

3.69
3.03
3.02
3.00
2.99
2.83
2.81
2.80
2.78
1.71



Chemical Formula: C₁₇H₁₈ClNO₃
Molecular Weight: 319.78



Solvent: CDCl₃ & NMR: 125 MHz

—175.33

—157.47

135.50

133.69

130.30

129.56

128.88

128.71

—114.91

77.25

77.00

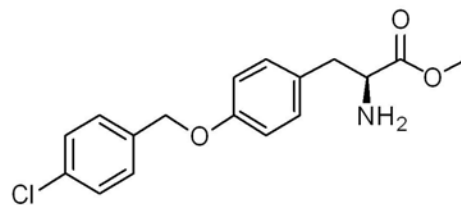
76.74

—69.18

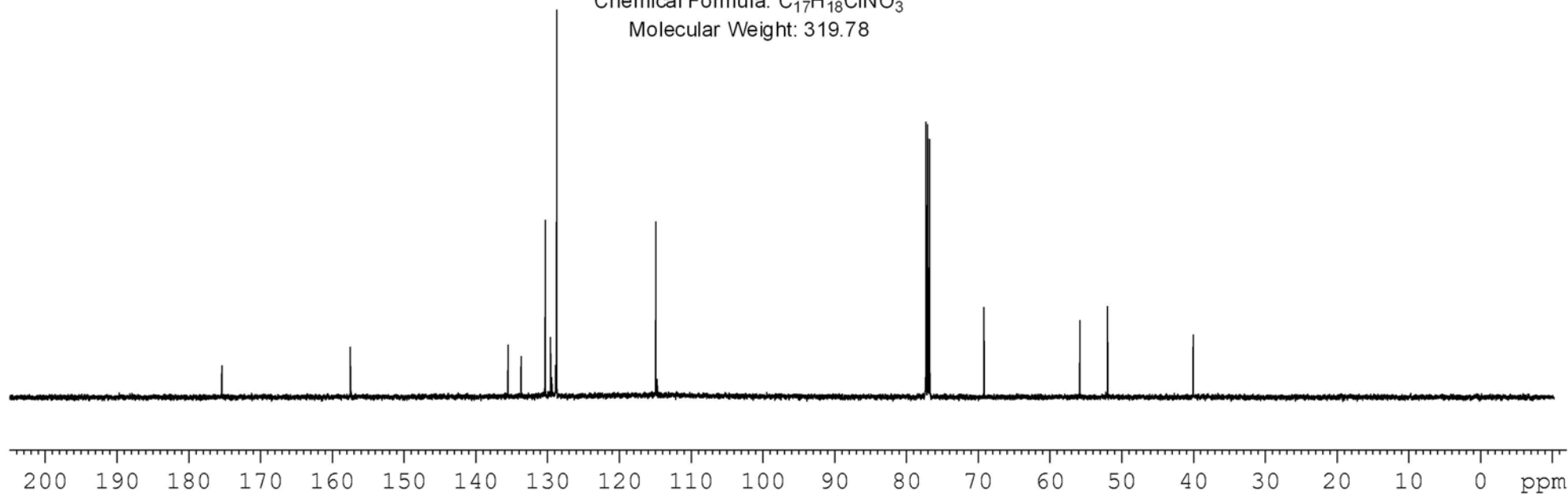
—55.80

—51.95

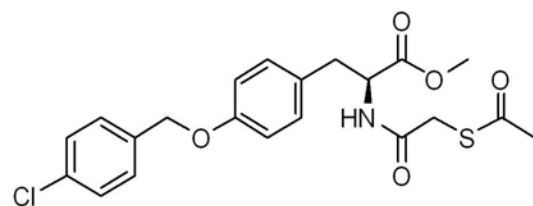
—40.01



Chemical Formula: C₁₇H₁₈ClNO₃
Molecular Weight: 319.78

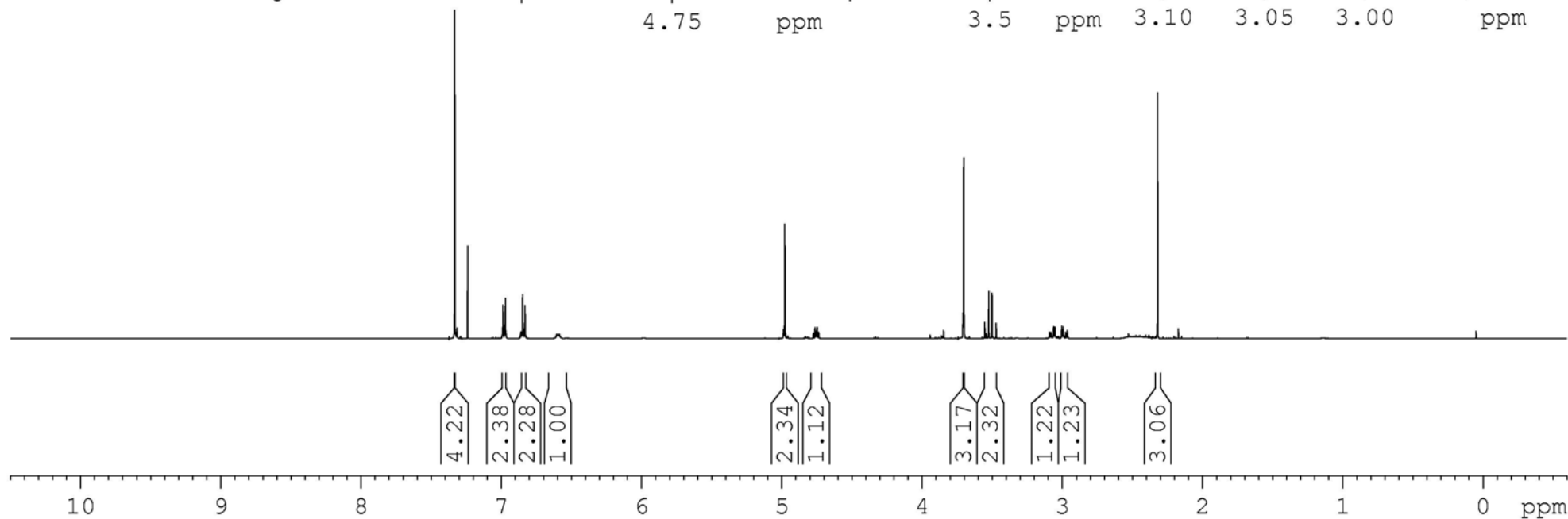
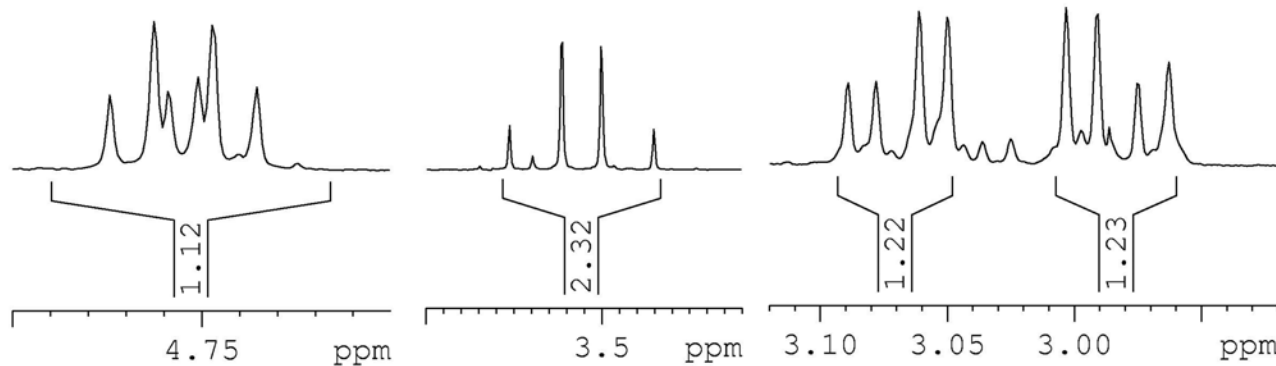


Solvent: CDCl₃ & NMR: 500 MHz



7.33
7.24
6.99
6.97
6.85
6.83

4.98
4.77
4.76
4.76
4.75
4.75
4.74
3.70
3.55
3.54
3.52
3.50
3.47
3.09
3.08
3.06
3.05
3.00
2.99
2.99
2.97
2.96
2.32



Solvent: CDCl₃ & NMR: 125 MHz

—195.19

—171.56
—167.66

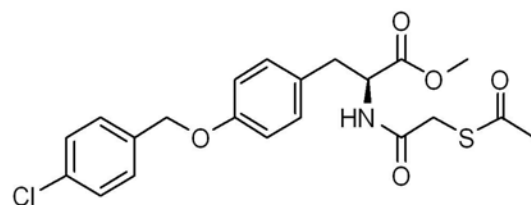
—157.65

135.44
133.76
130.35
130.29
128.74
128.09
—114.86

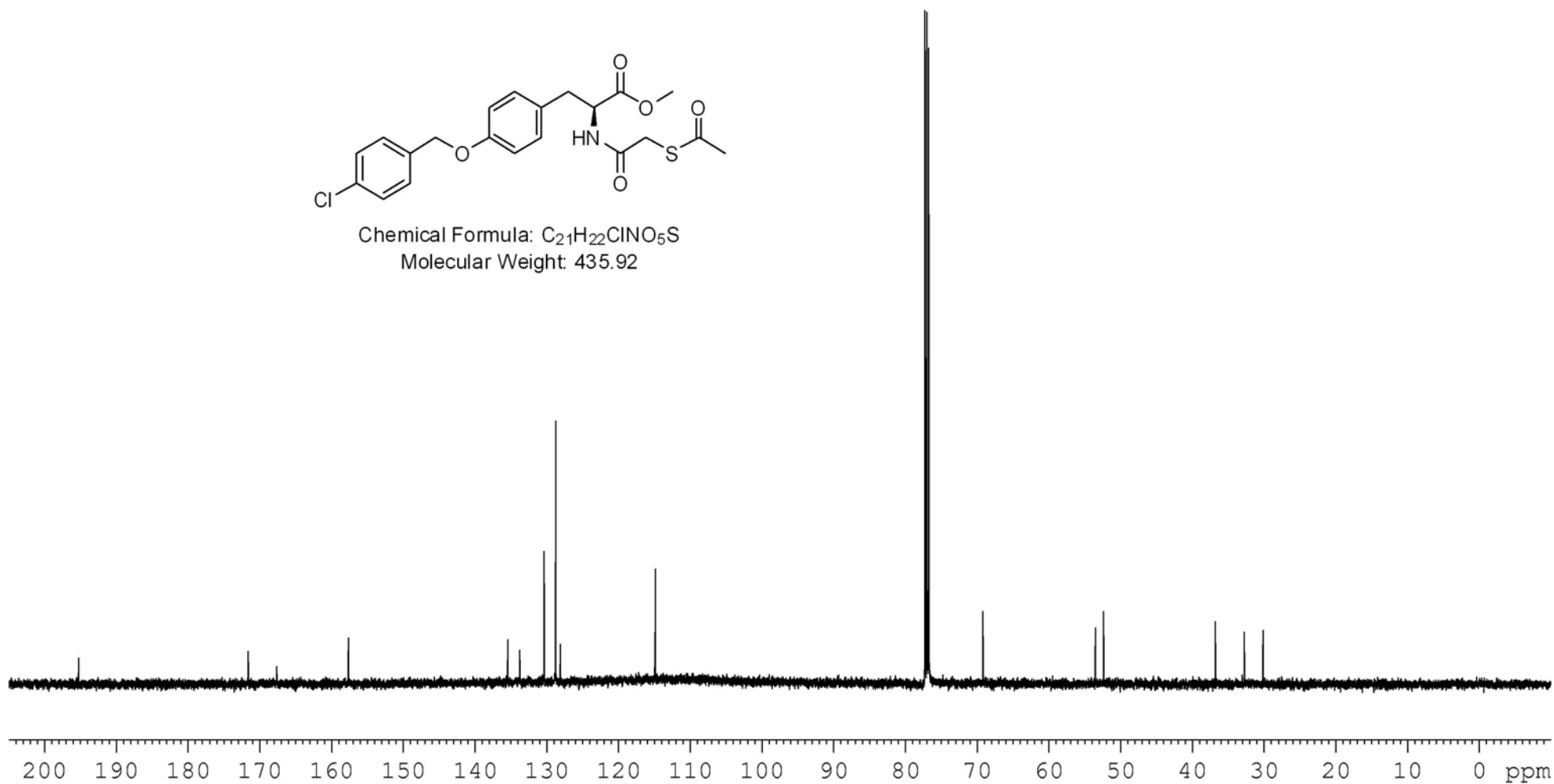
77.25
77.00
76.74
—69.18

53.51
52.37

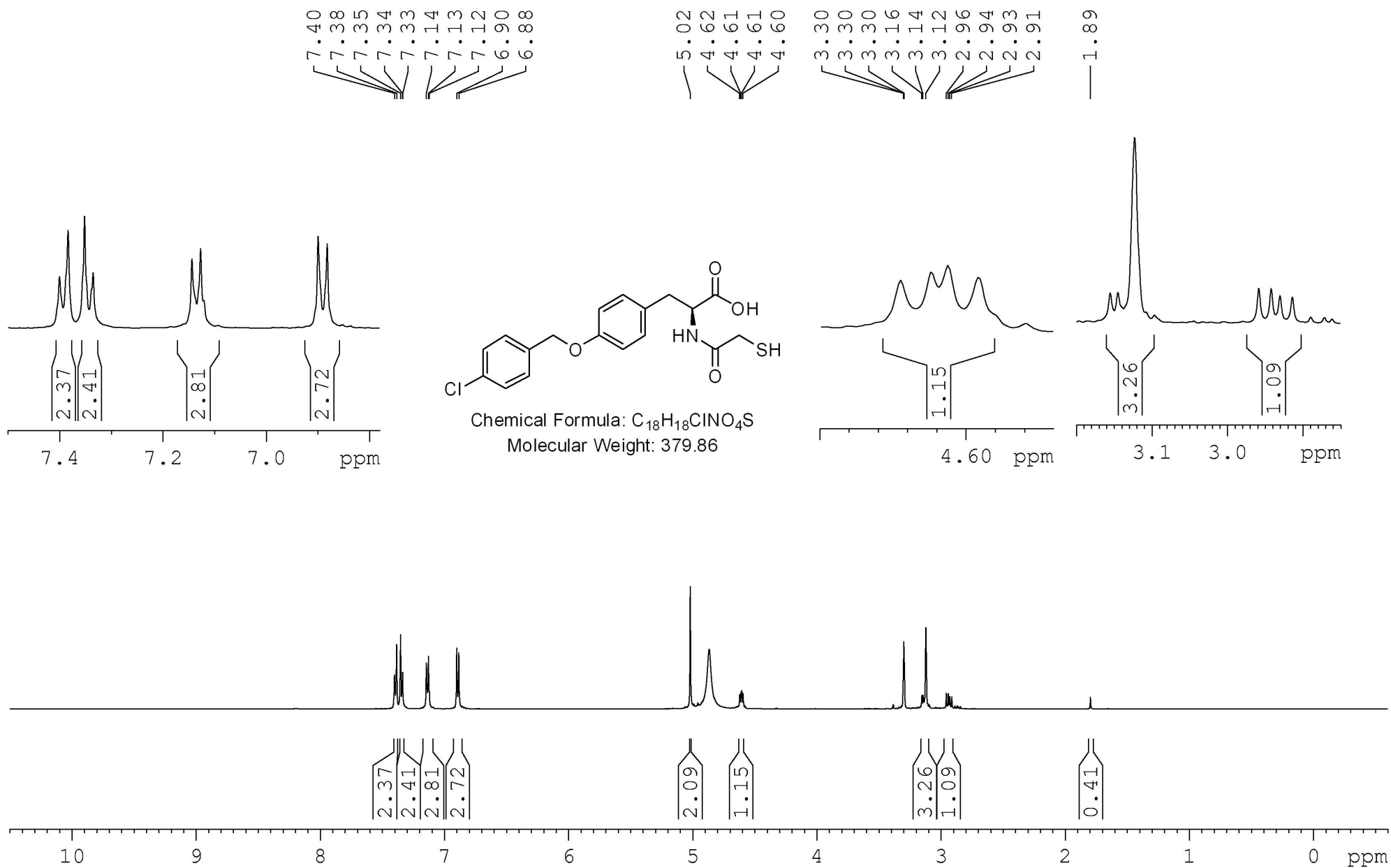
—36.78
—32.74
—30.13



Chemical Formula: C₂₁H₂₂ClNO₅S
Molecular Weight: 435.92



Solvent: CD₃OD & NMR: 500 MHz



Solvent: CD₃OD & NMR: 125 MHz

174.34
172.89

159.01

137.64
134.55
131.45
130.52
130.07
129.57

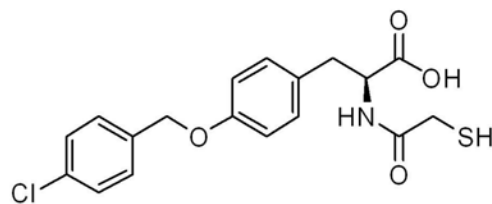
115.93

70.11

55.30

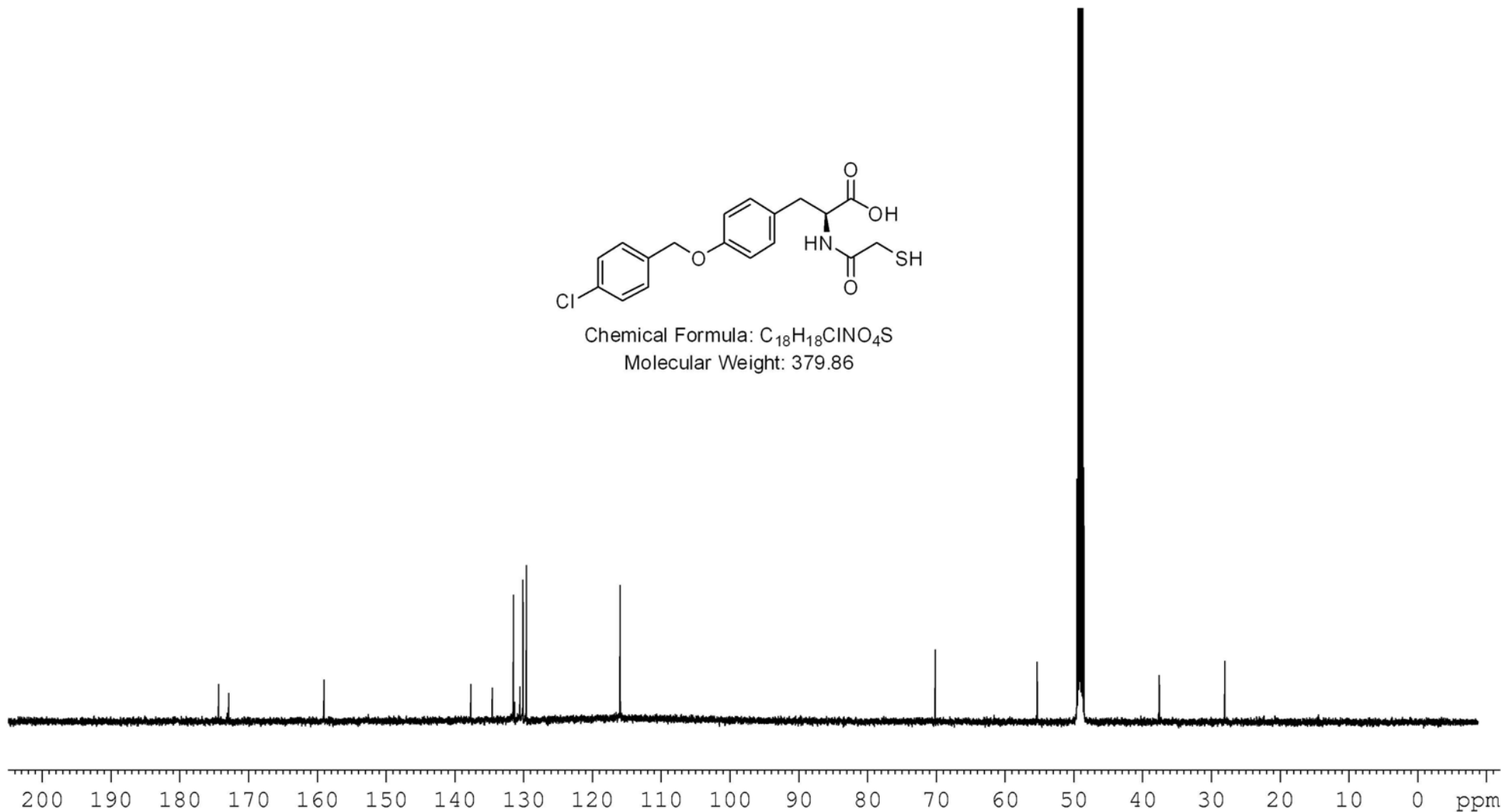
37.52

28.00

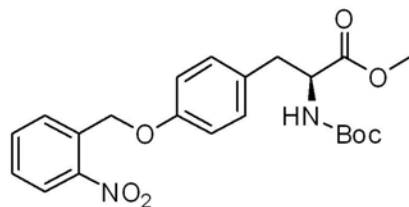


Chemical Formula: C₁₈H₁₈ClNO₄S

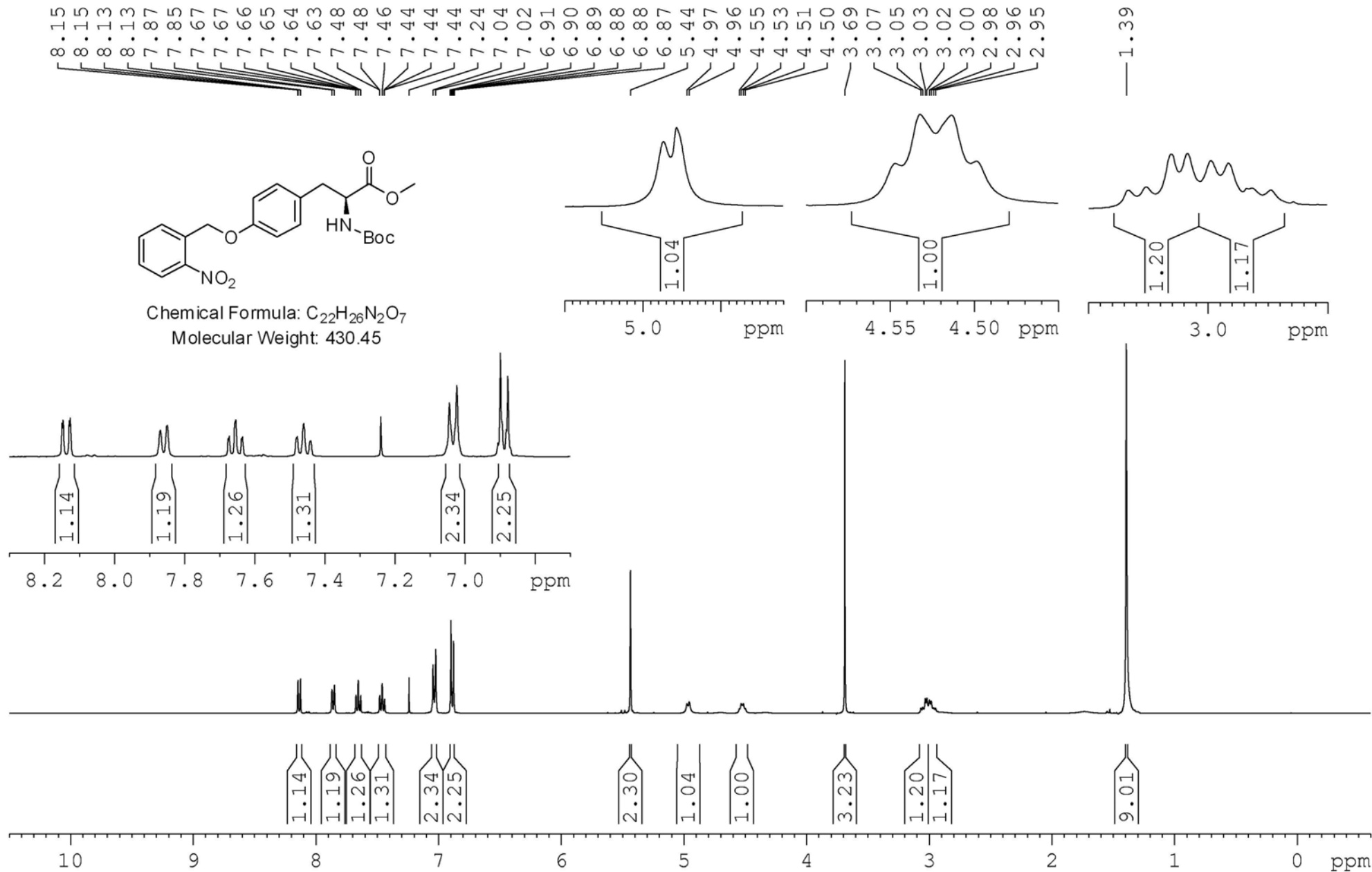
Molecular Weight: 379.86



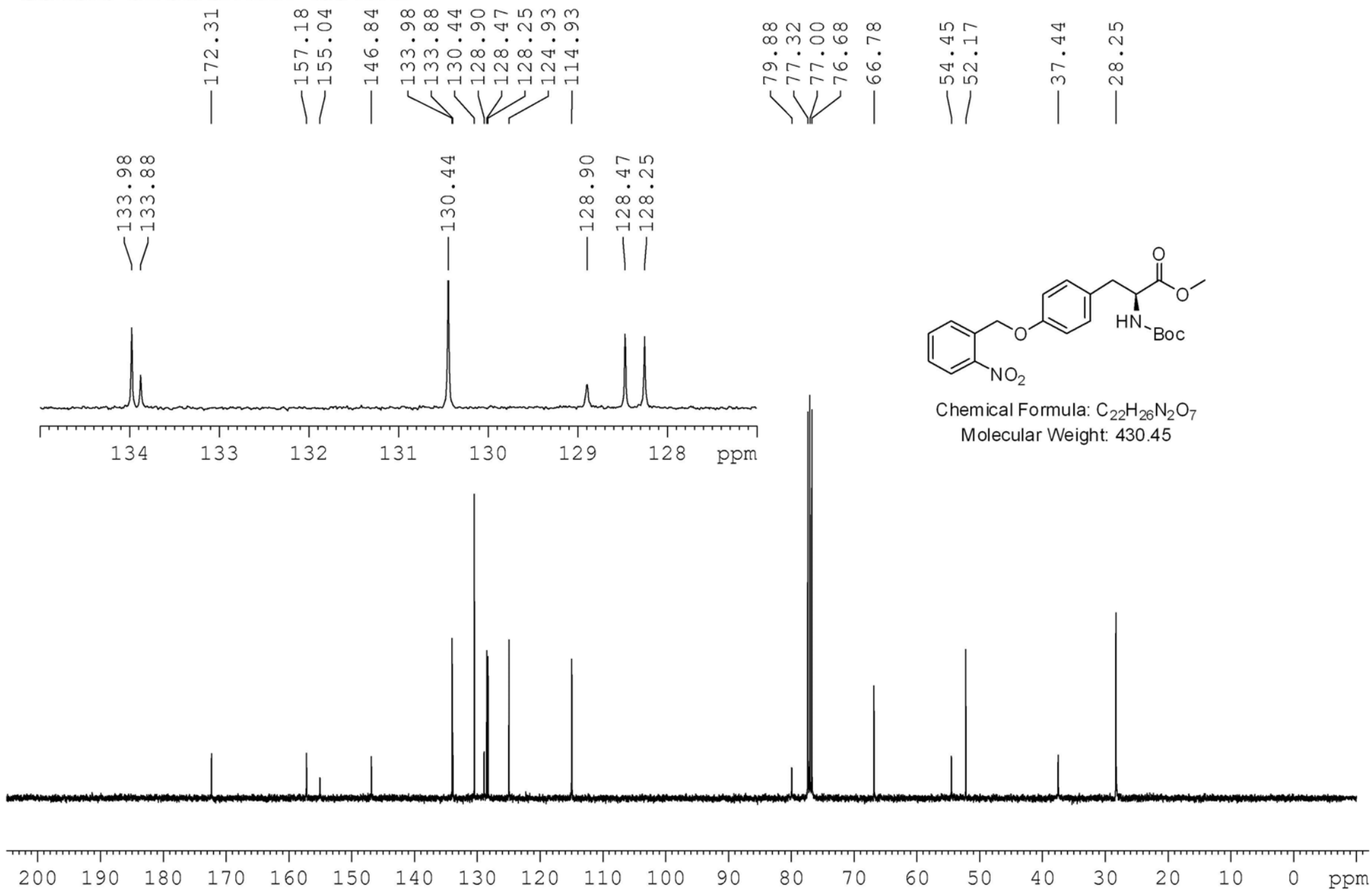
Solvent: CDCl₃ & NMR: 400 MHz



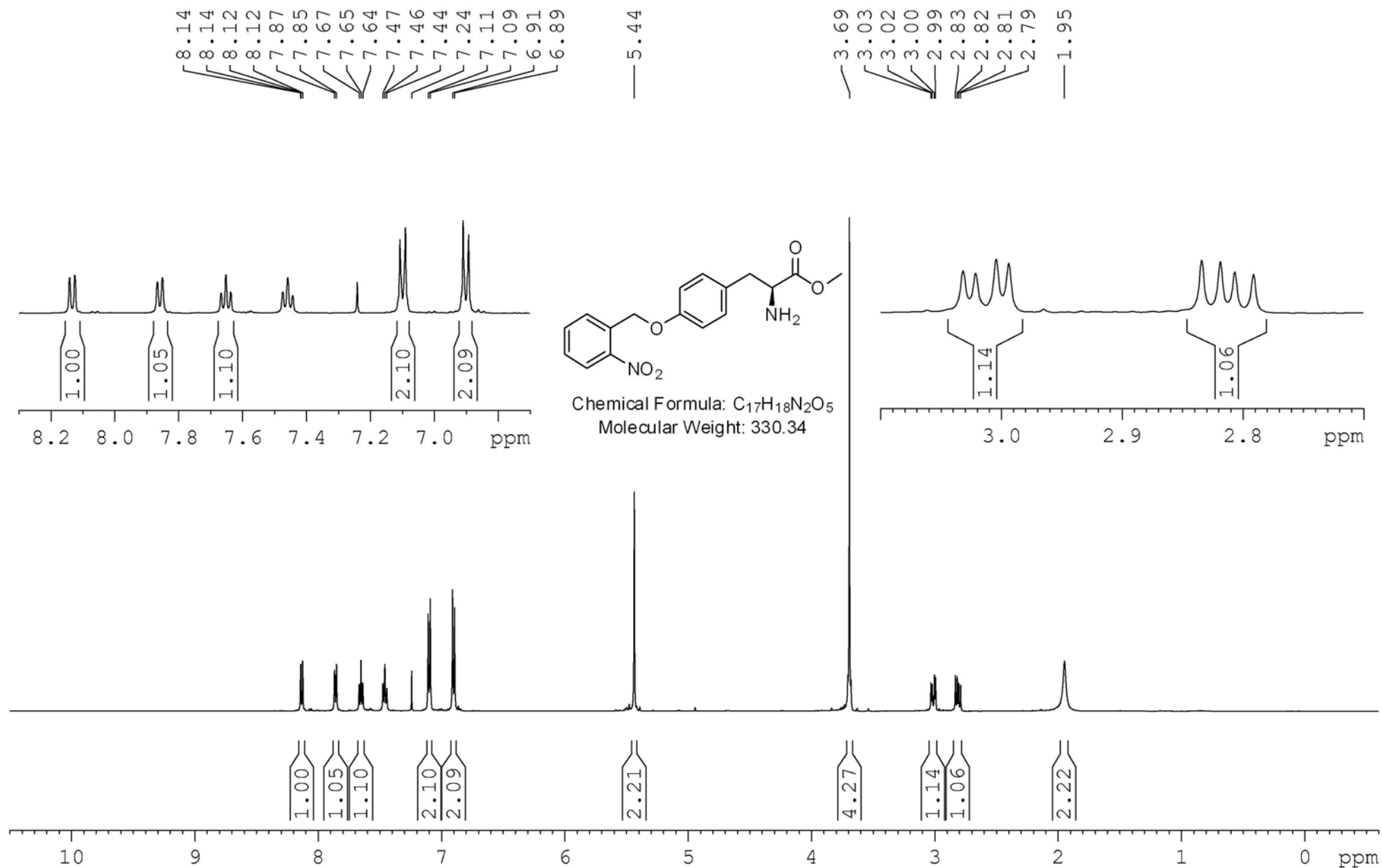
Chemical Formula: C₂₂H₂₆N₂O₇
Molecular Weight: 430.45



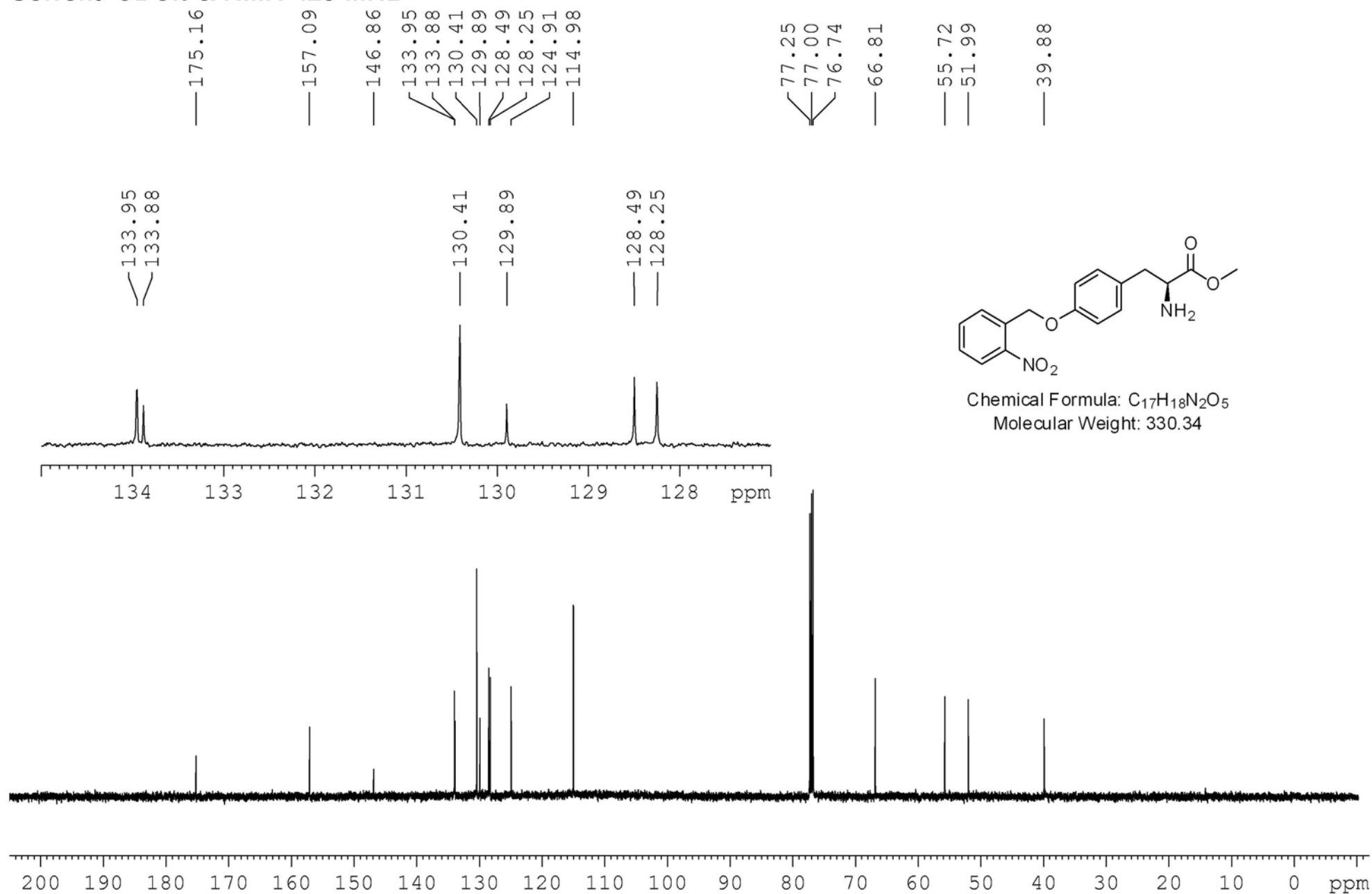
Solvent: CDCl₃ & NMR: 100 MHz



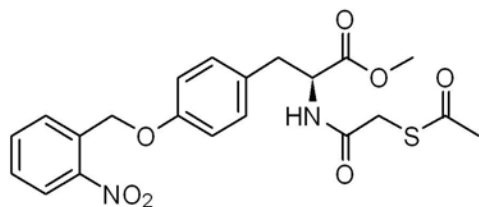
Solvent: CDCl₃ & NMR: 500 MHz



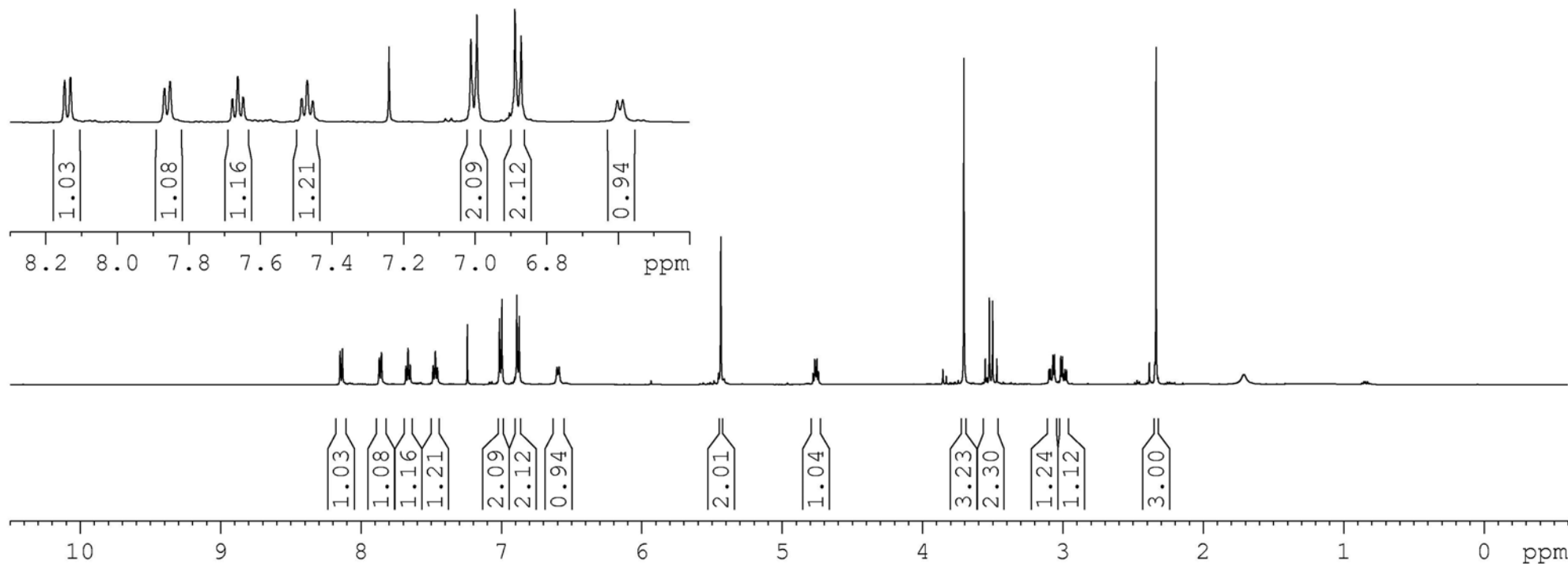
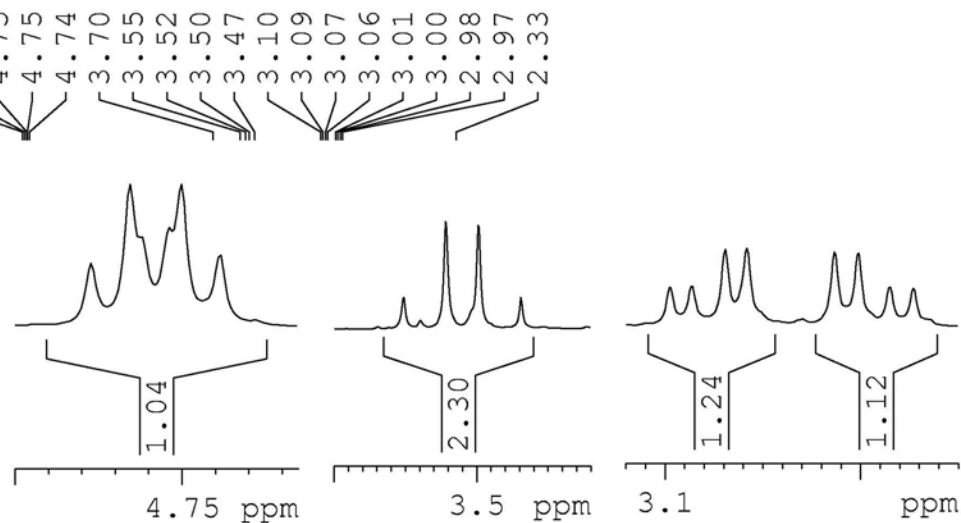
Solvent: CDCl₃ & NMR: 125 MHz



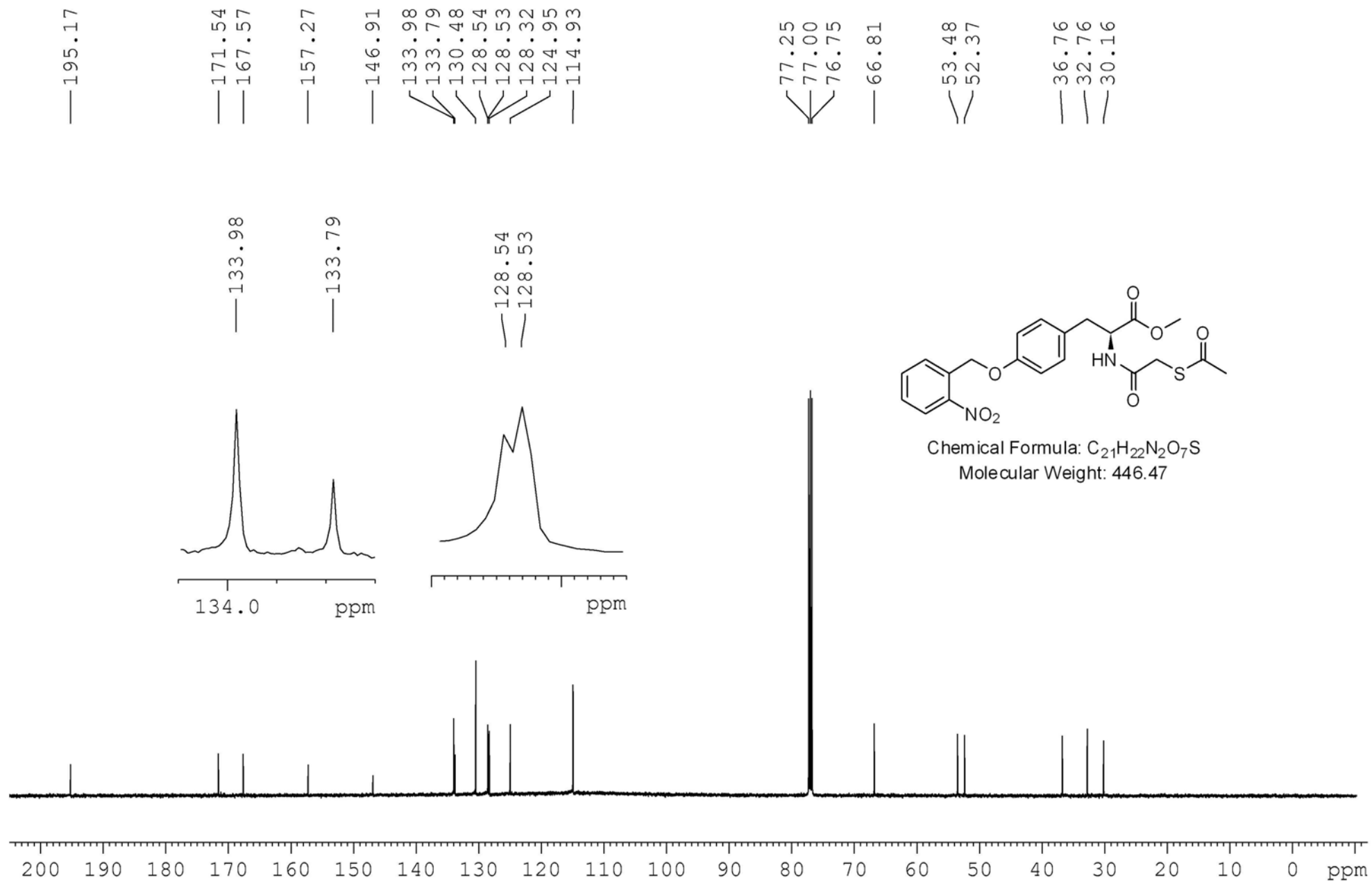
Solvent: CDCl_3 & NMR: 500 MHz



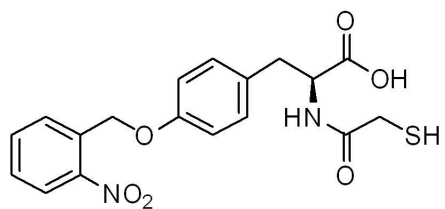
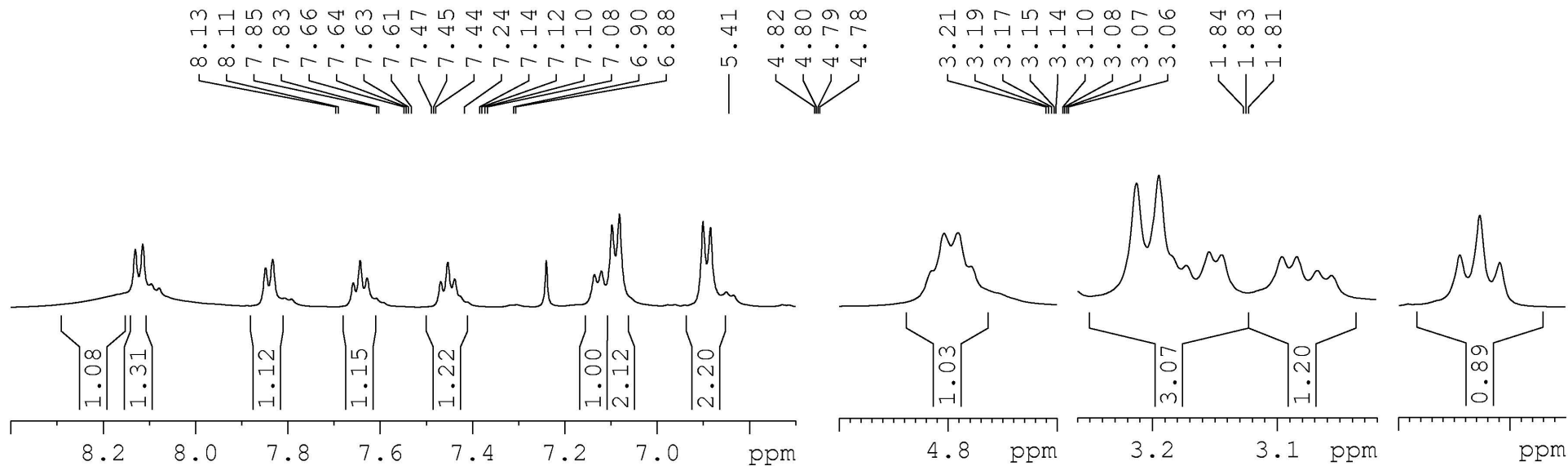
Chemical Formula: $\text{C}_{21}\text{H}_{22}\text{N}_2\text{O}_7\text{S}$
Molecular Weight: 446.47



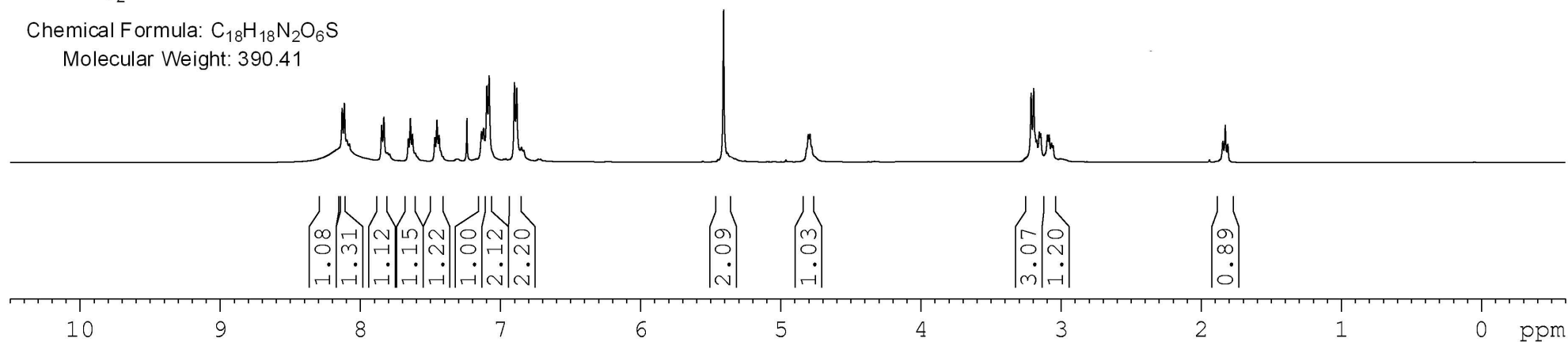
Solvent: CDCl₃ & NMR: 125 MHz



Solvent: CDCl₃ & NMR: 500 MHz



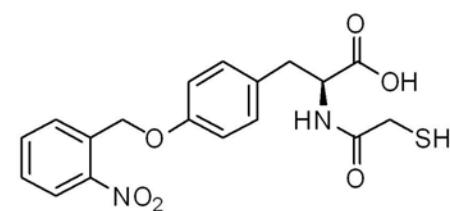
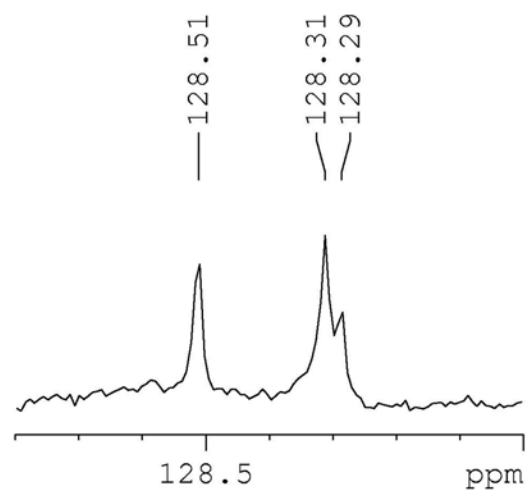
Chemical Formula: C₁₈H₁₈N₂O₆S
Molecular Weight: 390.41



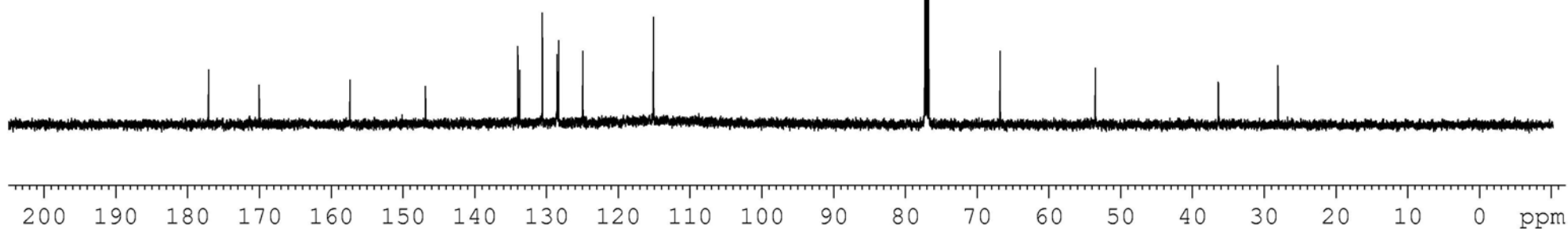
Solvent: CDCl₃ & NMR: 125 MHz

—177.03
—170.04
—157.38
—146.86
133.99
133.72
130.56
128.51
128.31
128.29
124.94
—115.08

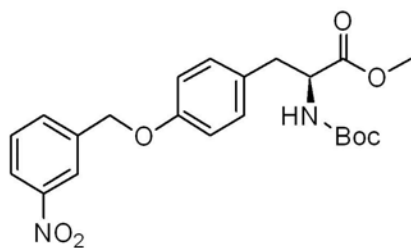
77.25
77.00
76.75
—66.77
—53.51
—36.36
—28.06



Chemical Formula: C₁₈H₁₈N₂O₆S
Molecular Weight: 390.41



Solvent: CDCl₃ & NMR: 500 MHz

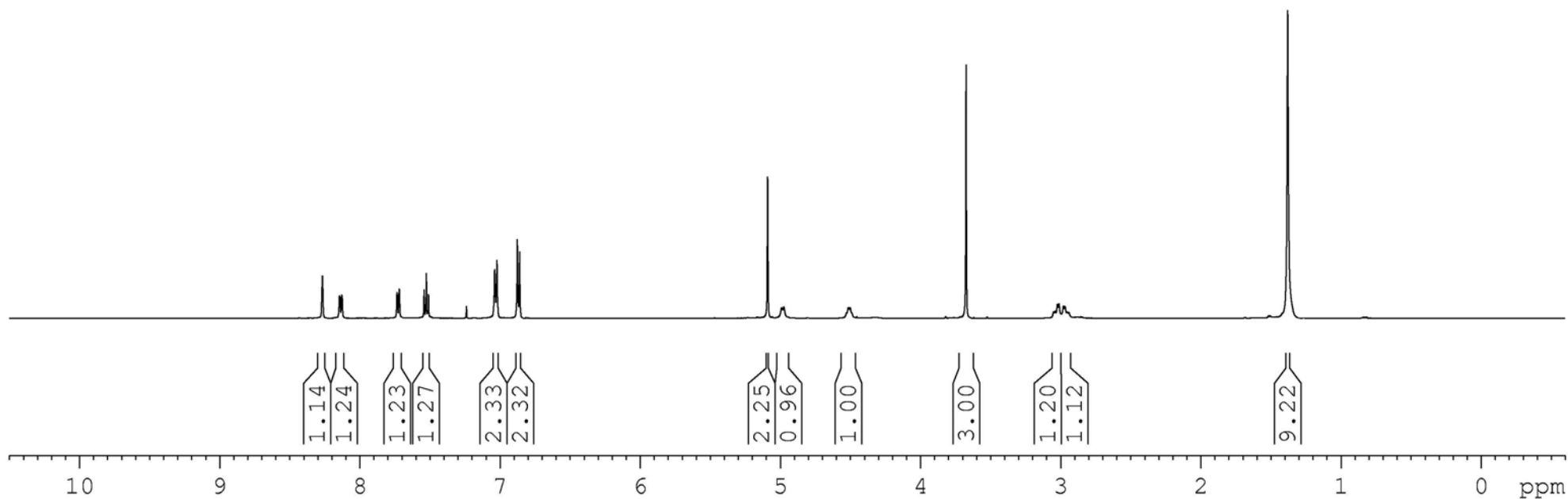
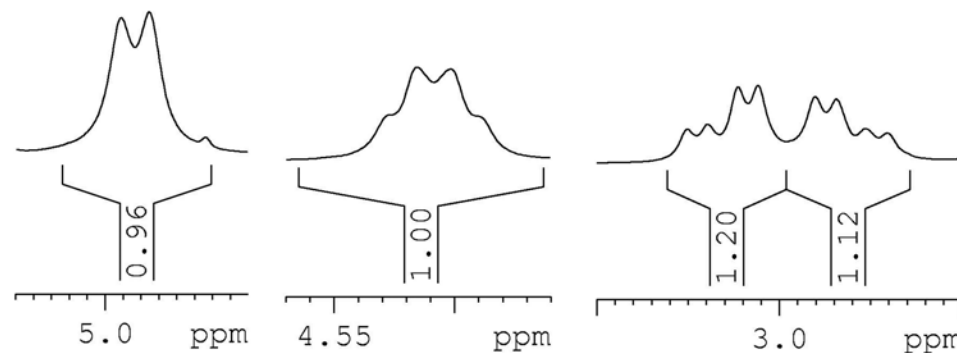


8.27
8.15
8.13
7.73
7.72
7.54
7.53
7.51
7.24
7.04
7.02
6.88
6.86

5.09
4.99
4.98
4.52
4.50

3.67
3.05
3.04
3.02
3.01
2.98
2.97
2.95
2.94

1.38



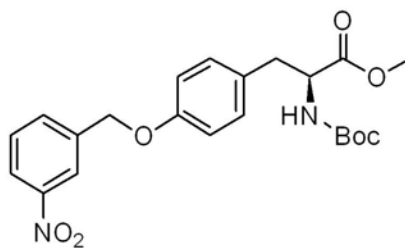
Solvent: CDCl₃ & NMR: 125 MHz

— 172.26
— 157.17
— 155.00
— 148.33
— 139.16
— 133.04
— 130.39
— 129.49
— 128.90
— 122.79
— 122.01
— 114.79

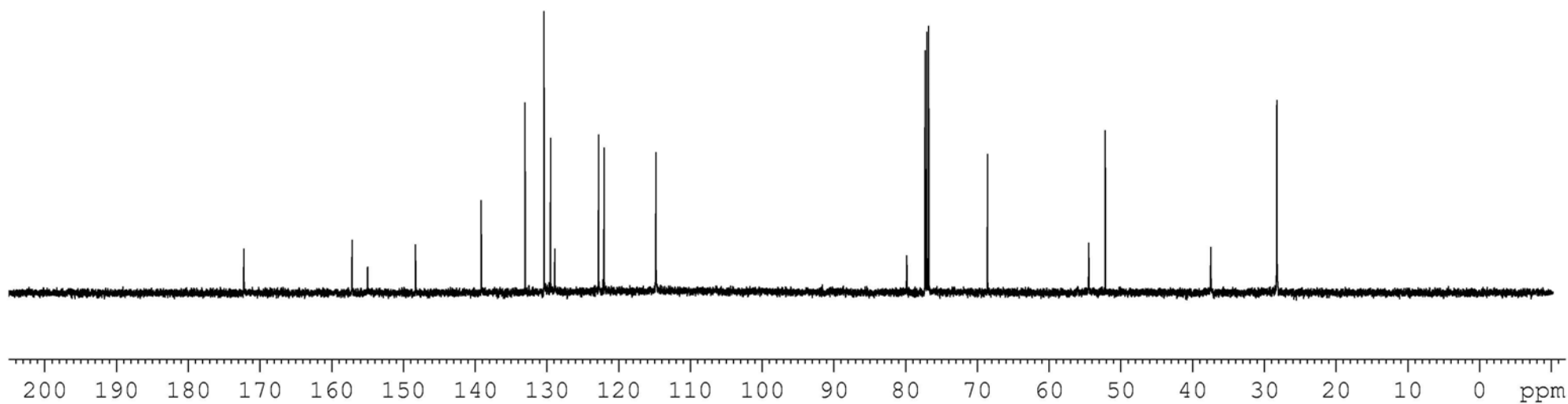
79.81
77.26
77.00
76.75
68.54

54.44
52.11

— 37.39
— 28.19



Chemical Formula: C₂₂H₂₆N₂O₇
Molecular Weight: 430.45

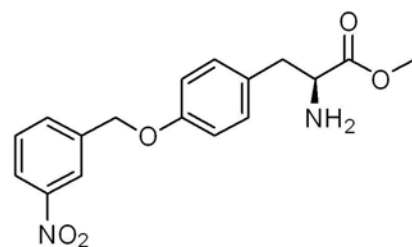


Solvent: CDCl₃ & NMR: 400 MHz

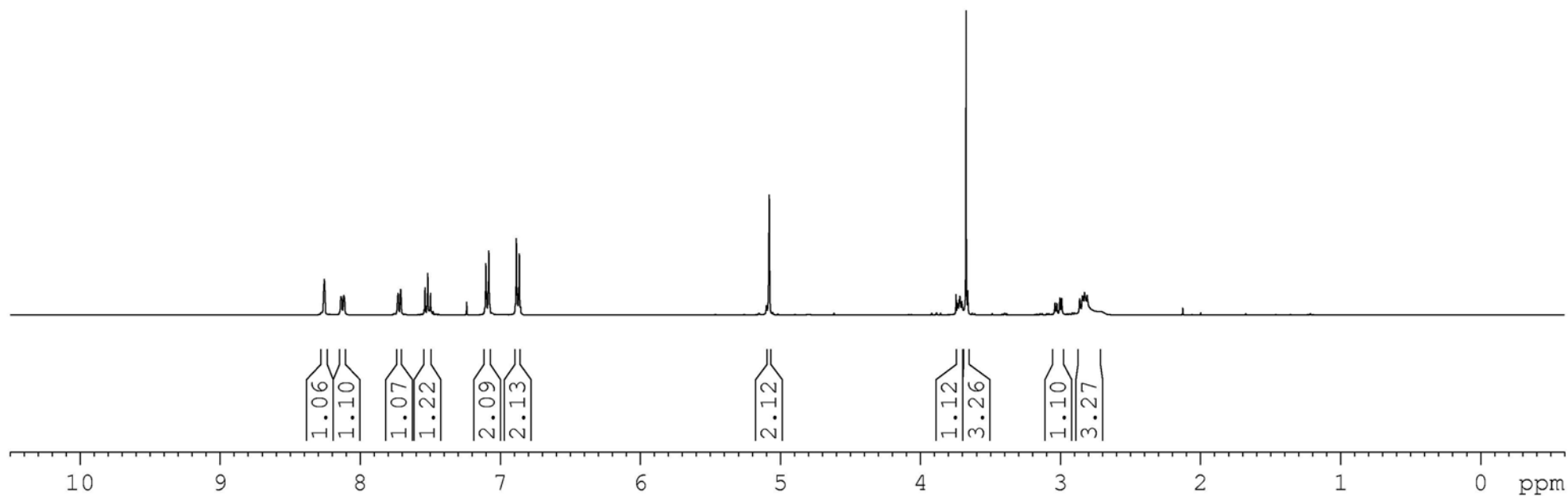
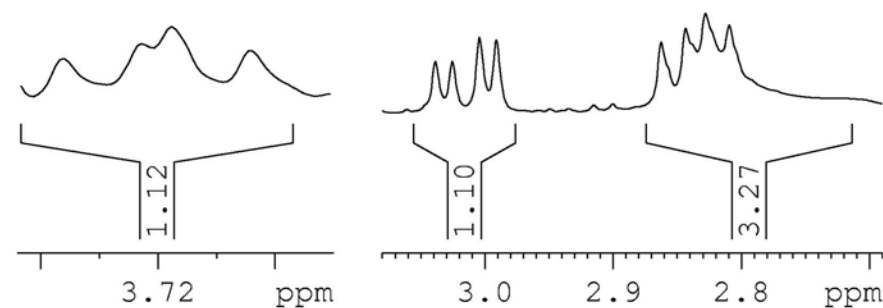
8.26
8.14
8.13
8.12
8.11
7.73
7.71
7.54
7.52
7.50
7.10
7.08
6.89
6.86

— 5.08

3.74
3.72
3.72
3.70
3.67
3.04
3.03
3.00
2.99
2.86
2.84
2.83
2.81



Chemical Formula: C₁₇H₁₈N₂O₅
Molecular Weight: 330.34



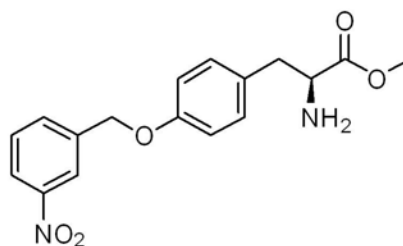
Solvent: CDCl₃ & NMR: 100 MHz

— 174.50
— 157.09
— 148.27
— 139.12
— 133.03
— 130.38
— 129.46
— 122.76
— 121.97
— 121.24
— 114.84

77.32
77.00
76.68
— 68.50

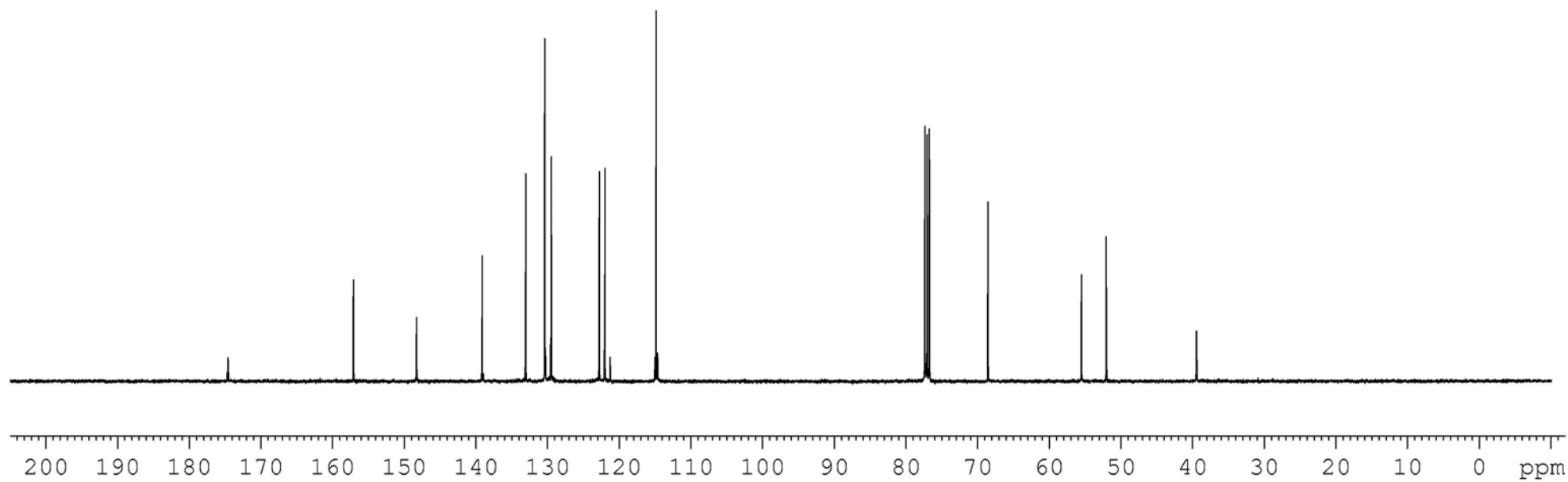
— 55.44
— 52.01

— 39.33

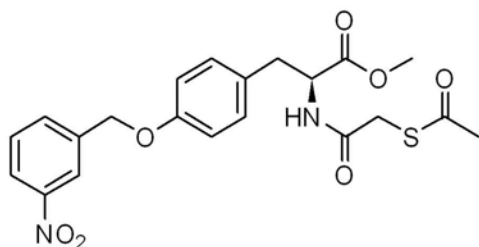


Chemical Formula: C₁₇H₁₈N₂O₅

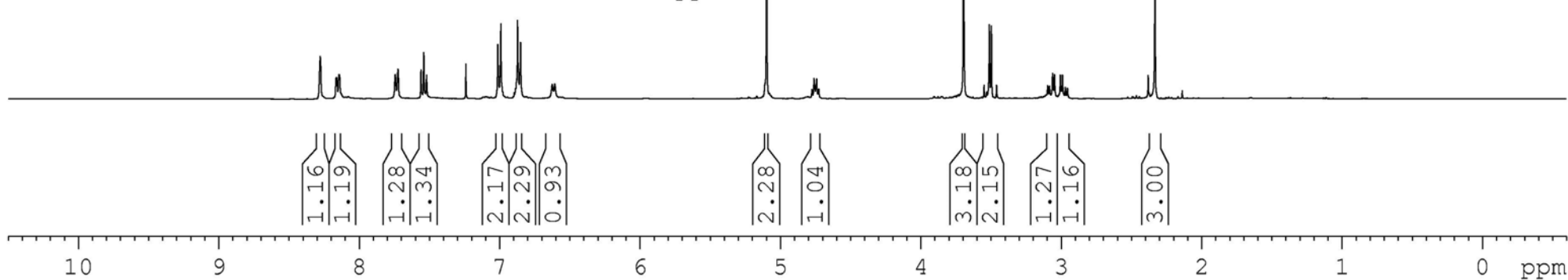
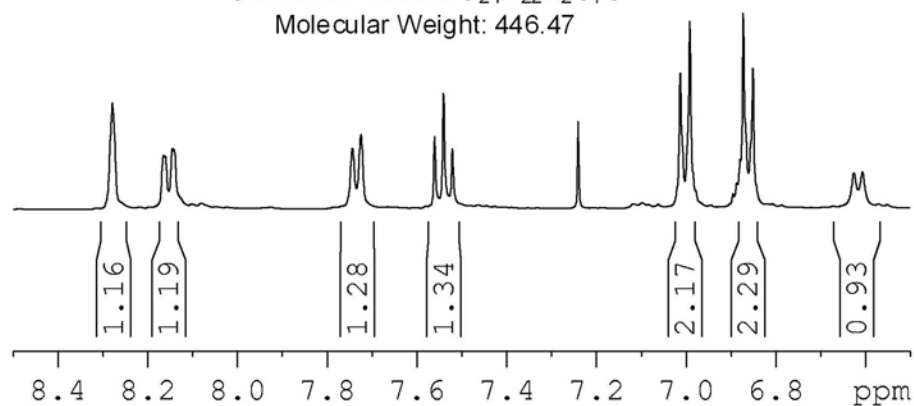
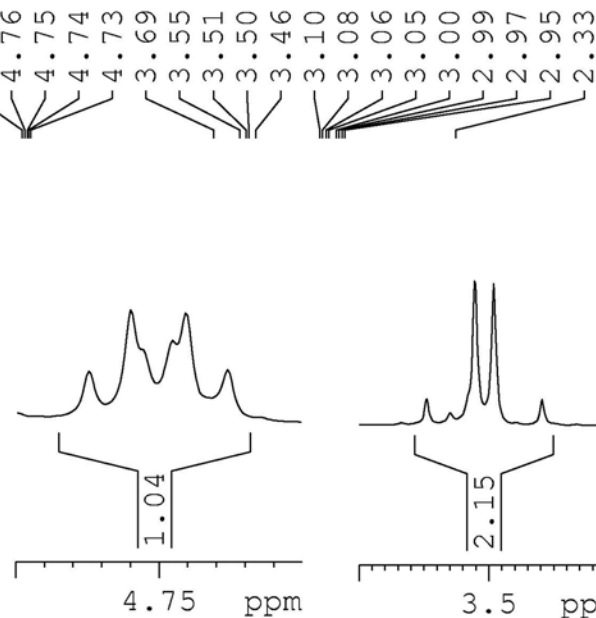
Molecular Weight: 330.34



Solvent: CDCl₃ & NMR: 400 MHz



Chemical Formula: C₂₁H₂₂N₂O₇S
Molecular Weight: 446.47



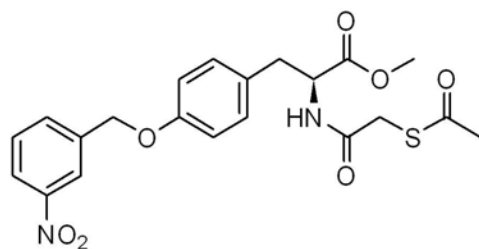
Solvent: CDCl₃ & NMR: 100 MHz

— 195.17
— 171.51
— 167.56
— 157.25
— 148.38
— 139.12
— 133.08
— 130.45
— 129.54
— 128.55
— 122.87
— 122.08
— 114.79

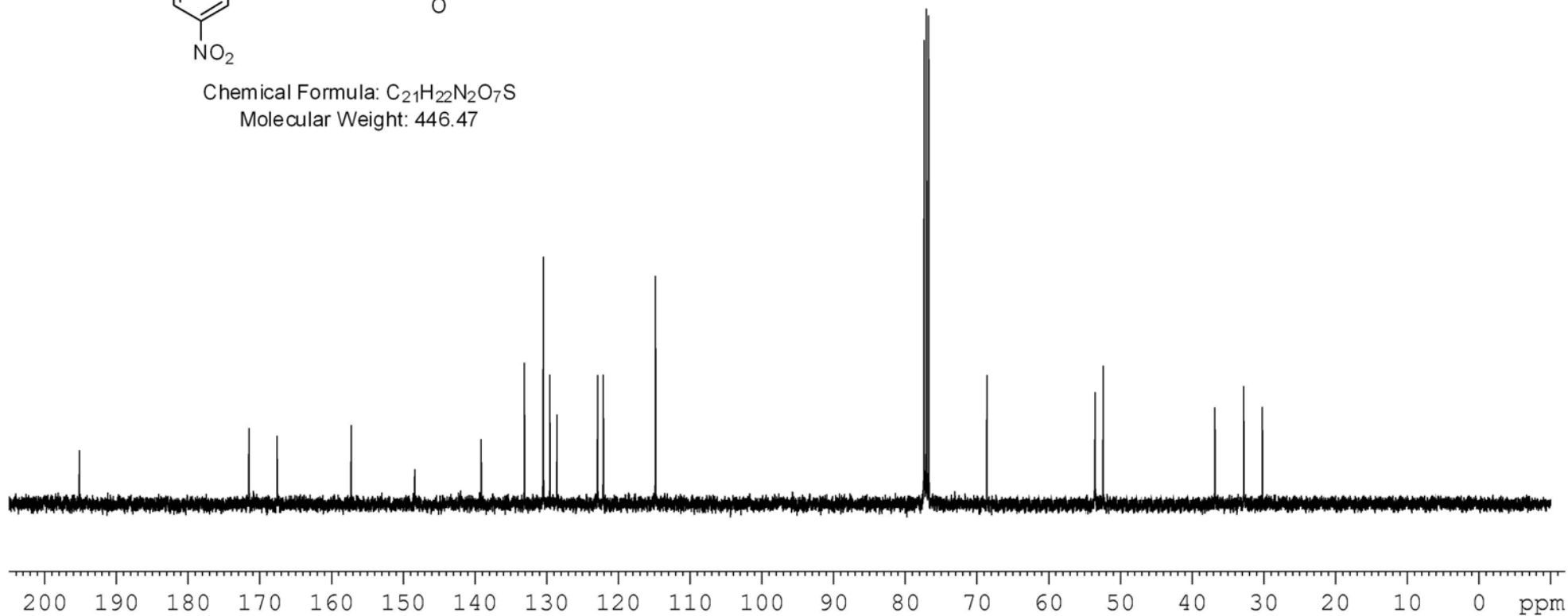
77.32
77.00
76.68
— 68.57

53.48
52.35

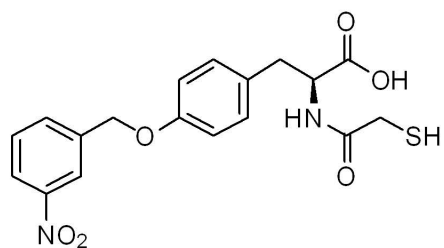
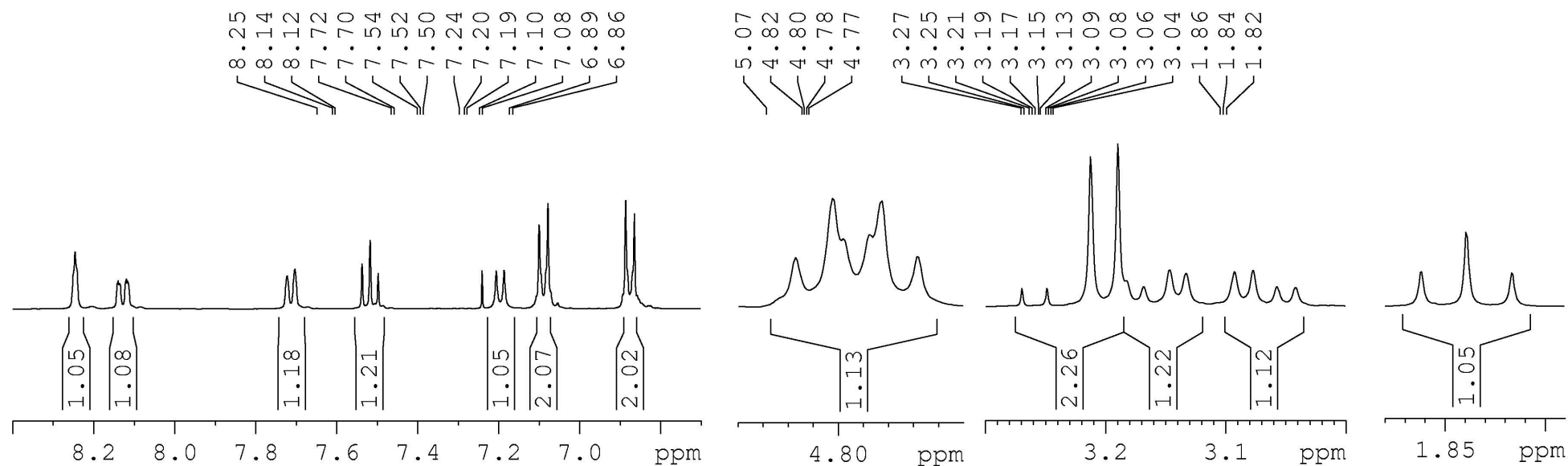
36.76
32.73
30.13



Chemical Formula: C₂₁H₂₂N₂O₇S
Molecular Weight: 446.47

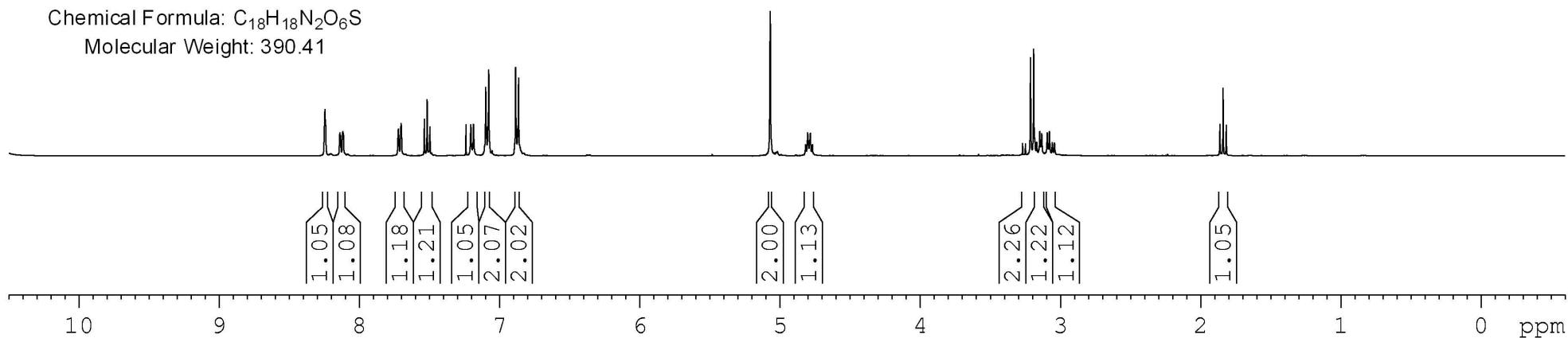


Solvent: CDCl₃ & NMR: 400 MHz



Chemical Formula: C₁₈H₁₈N₂O₆S

Molecular Weight: 390.41



Solvent: CDCl₃ & NMR: 100 MHz

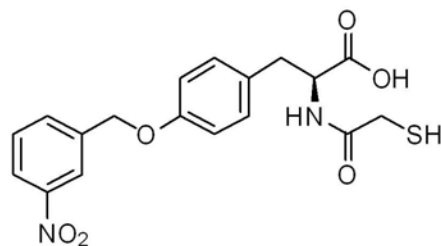
— 174.75
— 170.28
— 157.36
— 148.30
— 139.02
— 133.10
— 130.53
— 129.52
— 128.23
— 122.85
— 122.06
— 114.94

— 68.51

— 53.51

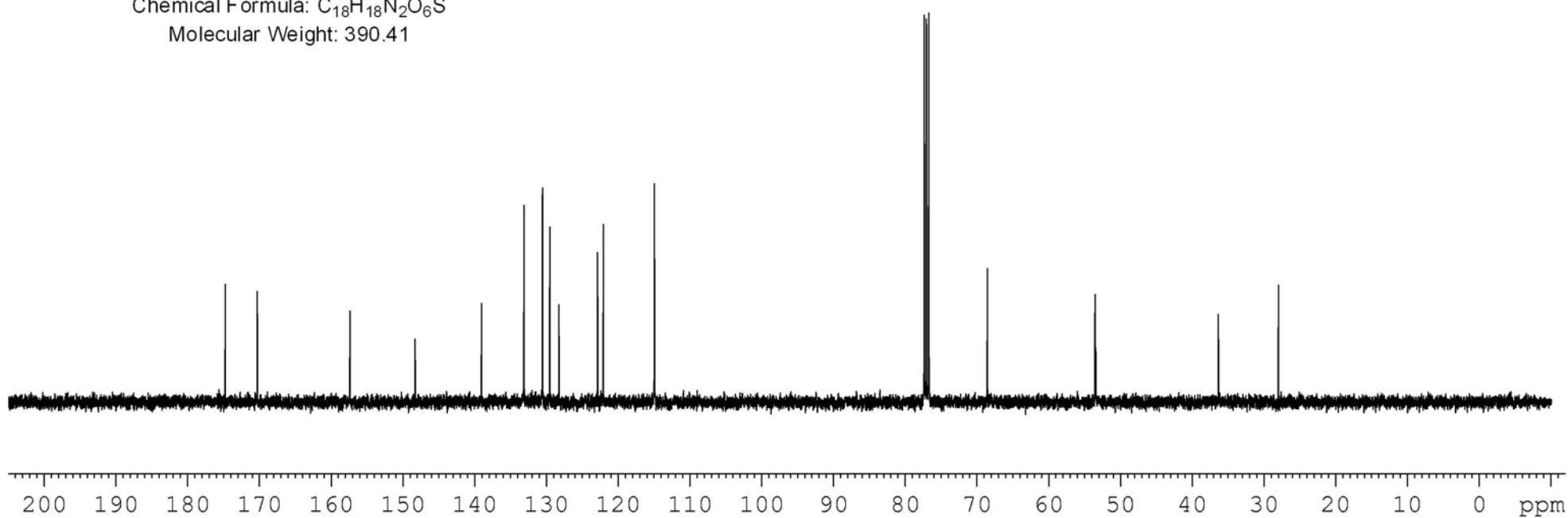
— 36.33

— 27.95

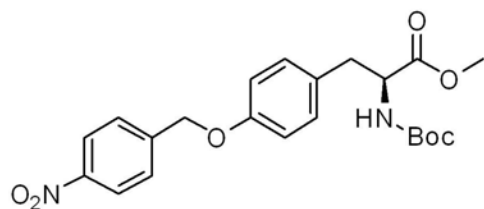


Chemical Formula: C₁₈H₁₈N₂O₆S

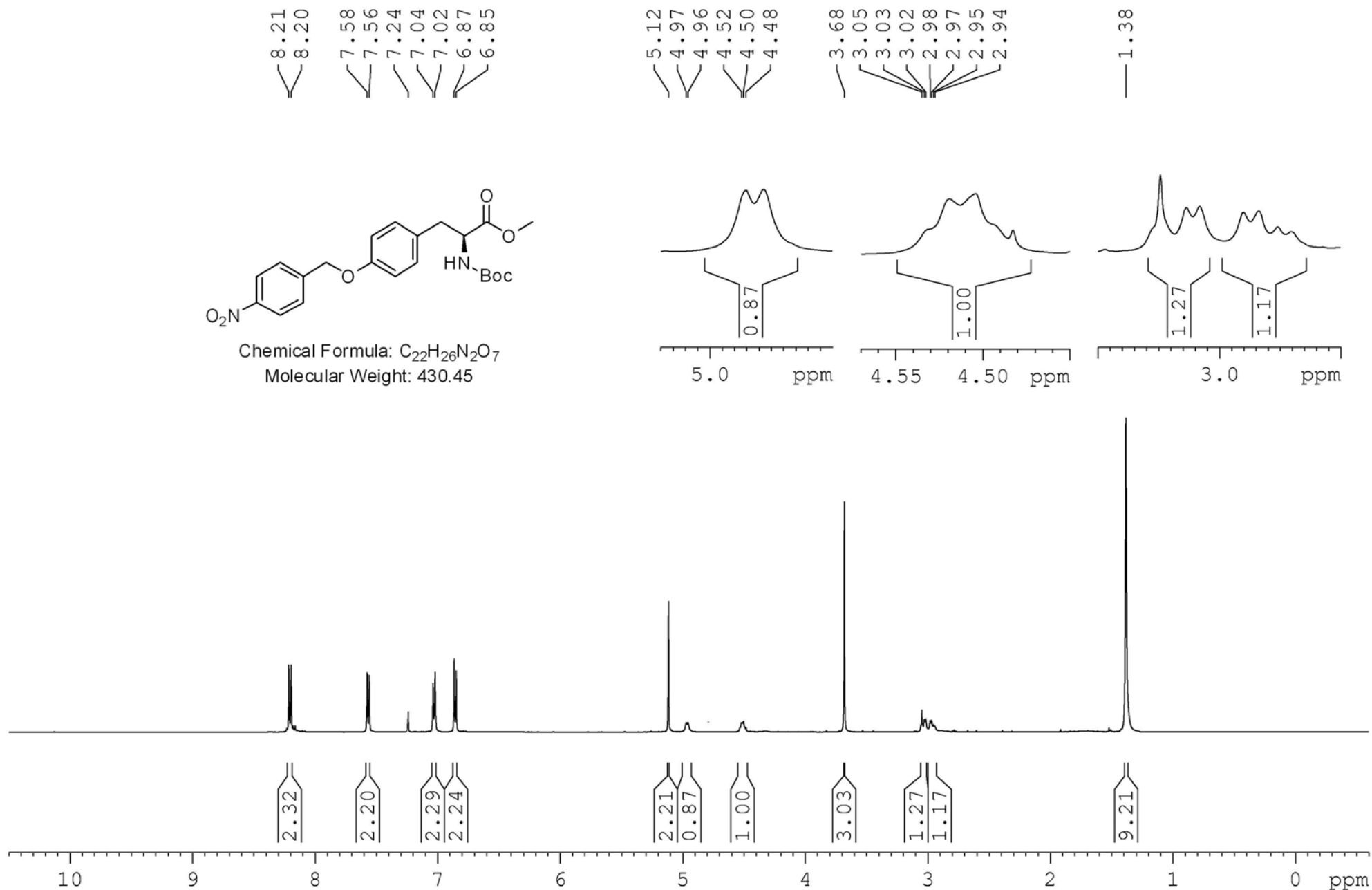
Molecular Weight: 390.41



Solvent: CDCl₃ & NMR: 500 MHz

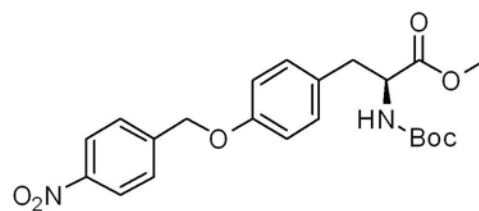


Chemical Formula: C₂₂H₂₆N₂O₇
Molecular Weight: 430.45

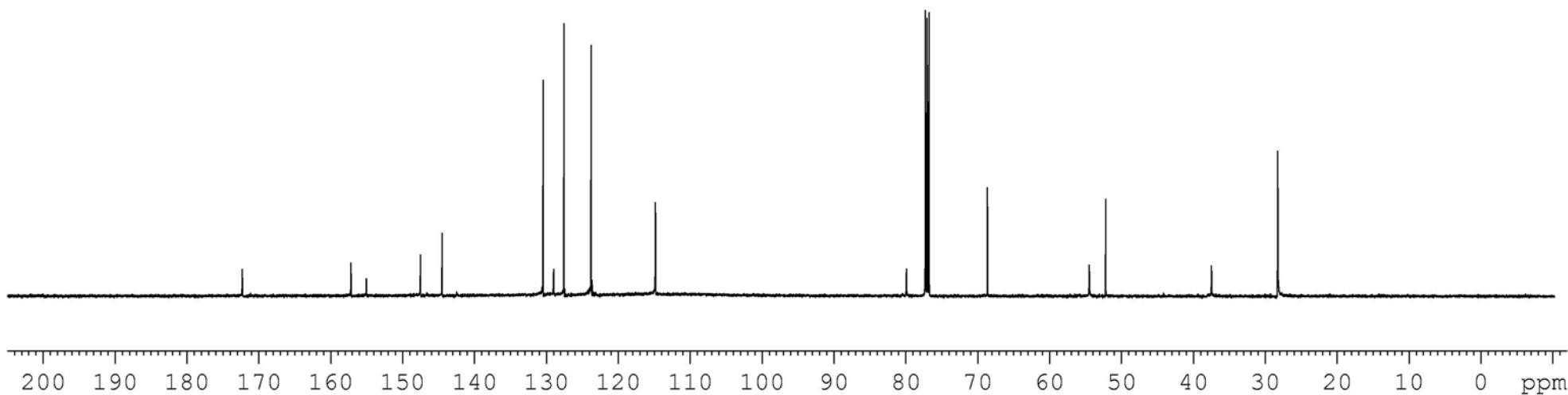


Solvent: CDCl₃ & NMR: 125 MHz

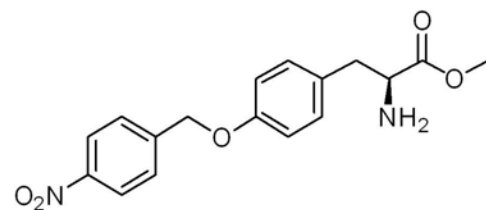
— 172.30
— 157.17
— 155.02
— 147.49
— 144.48
— 130.43
— 128.97
— 127.52
— 123.75
— 114.81
— 79.87
— 77.25
— 77.00
— 76.74
— 68.60
— 54.45
— 52.16
— 37.43
— 28.22



Chemical Formula: C₂₂H₂₆N₂O₇
Molecular Weight: 430.45



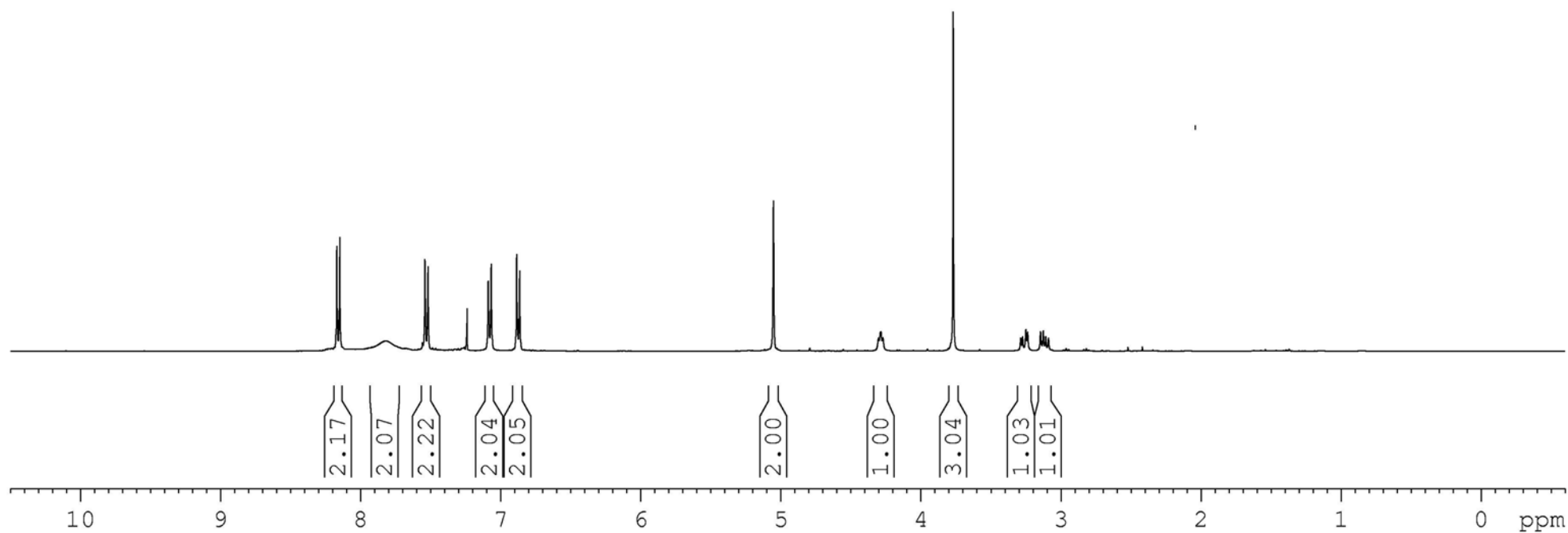
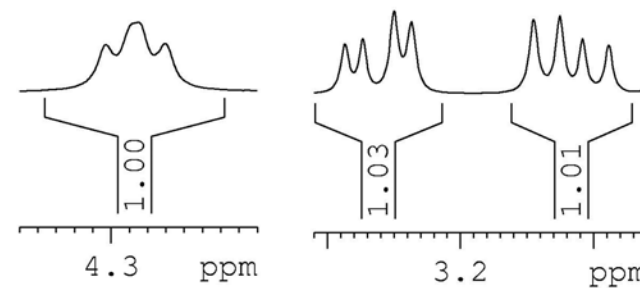
Solvent: CDCl₃ & NMR: 400 MHz



Chemical Formula: C₁₇H₁₈N₂O₅
Molecular Weight: 330.34

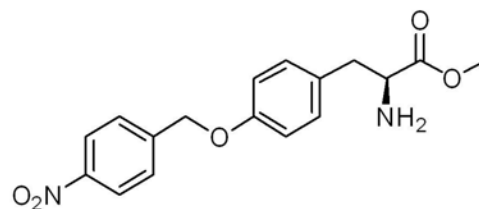
8.17
8.15
7.54
7.52
7.24
7.09
7.07
6.89
6.86

5.05
4.30
4.28
4.27
3.77
3.29
3.27
3.25
3.24
3.14
3.13
3.11
3.09

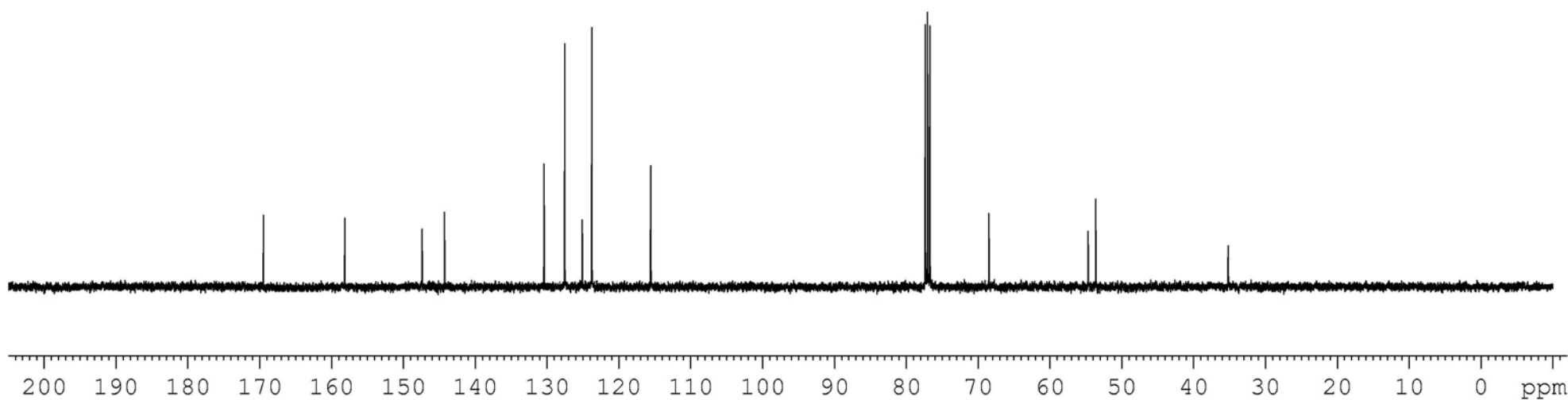


Solvent: CDCl₃ & NMR: 100 MHz

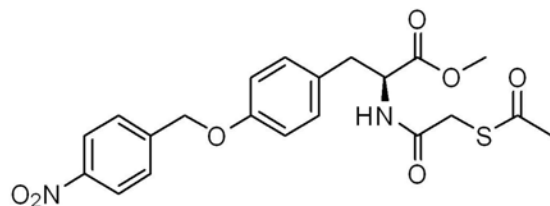
— 169.47
— 158.14
— 147.38
— 144.26
— 130.40
— 127.52
— 125.07
— 123.75
— 115.54
77.32
77.00
76.68
— 68.46
54.65
53.59
— 35.15



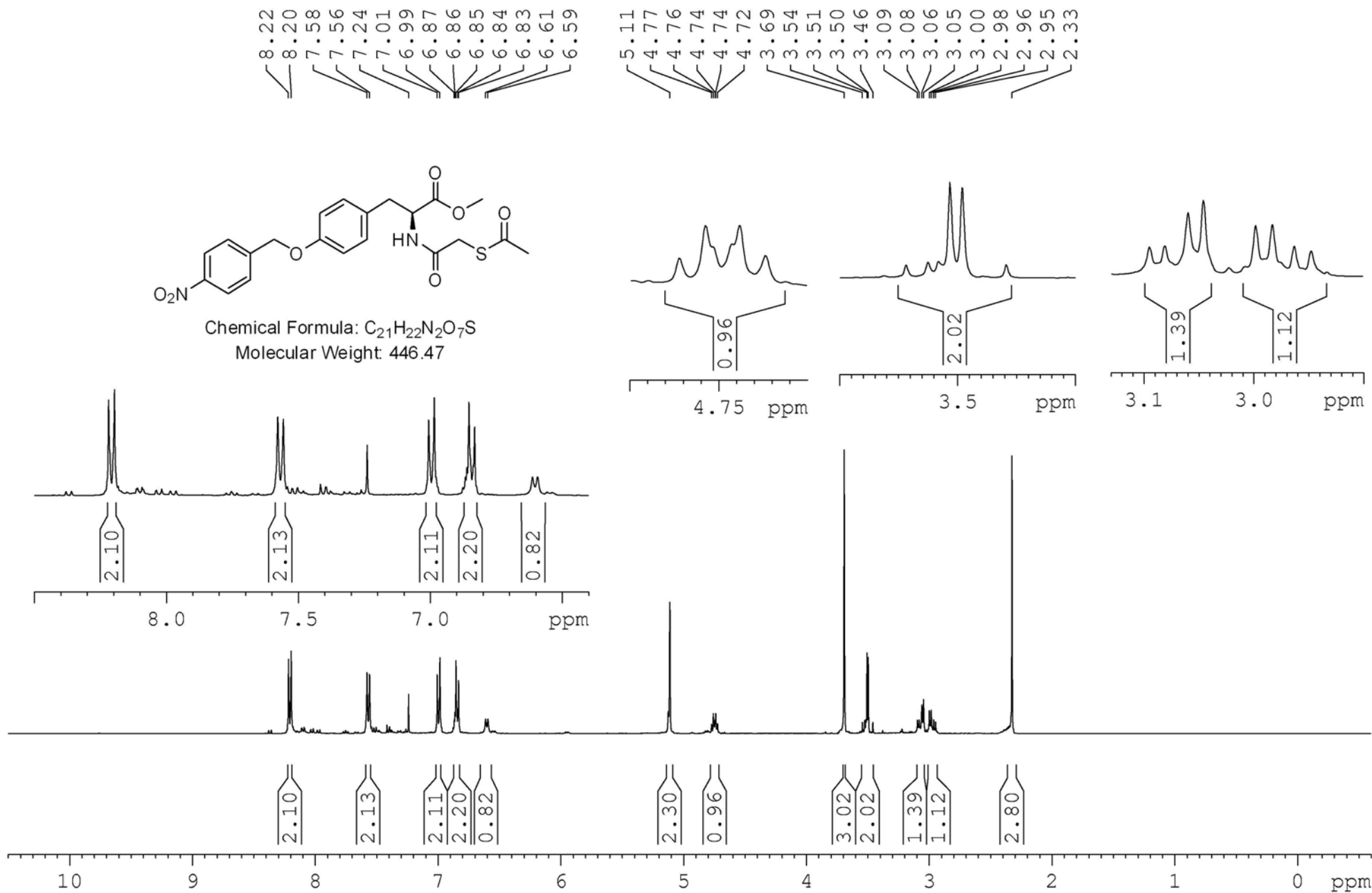
Chemical Formula: C₁₇H₁₈N₂O₅
Molecular Weight: 330.34



Solvent: CDCl₃ & NMR: 400 MHz



Chemical Formula: C₂₁H₂₂N₂O₇S
Molecular Weight: 446.47



Solvent: CDCl₃ & NMR: 100 MHz

— 195.14

— 171.49

— 167.53

— 157.20

— 147.49

— 144.40

— 130.44

— 128.57

— 127.54

— 123.75

— 114.76

— 68.58

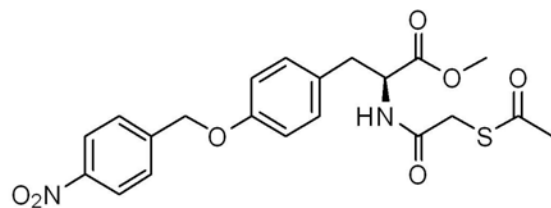
— 53.47

— 52.34

— 36.75

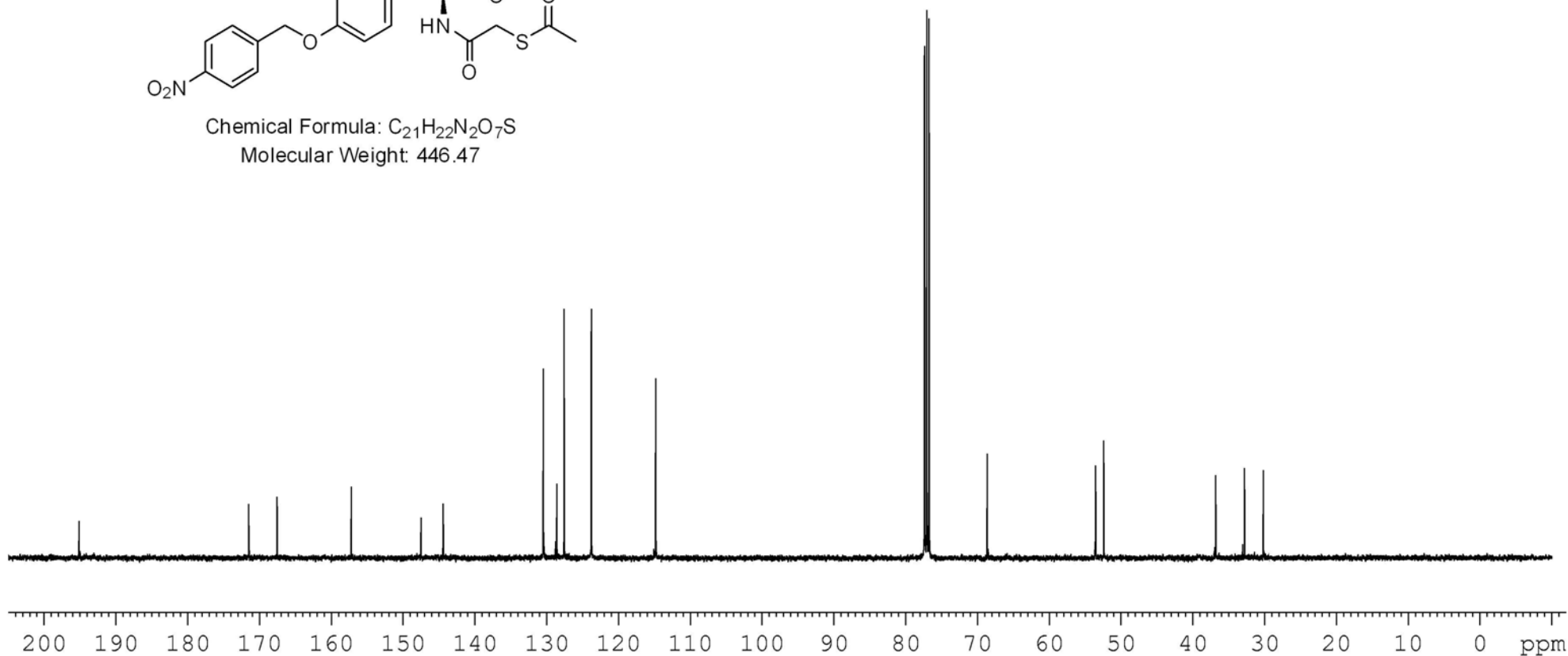
— 32.73

— 30.12

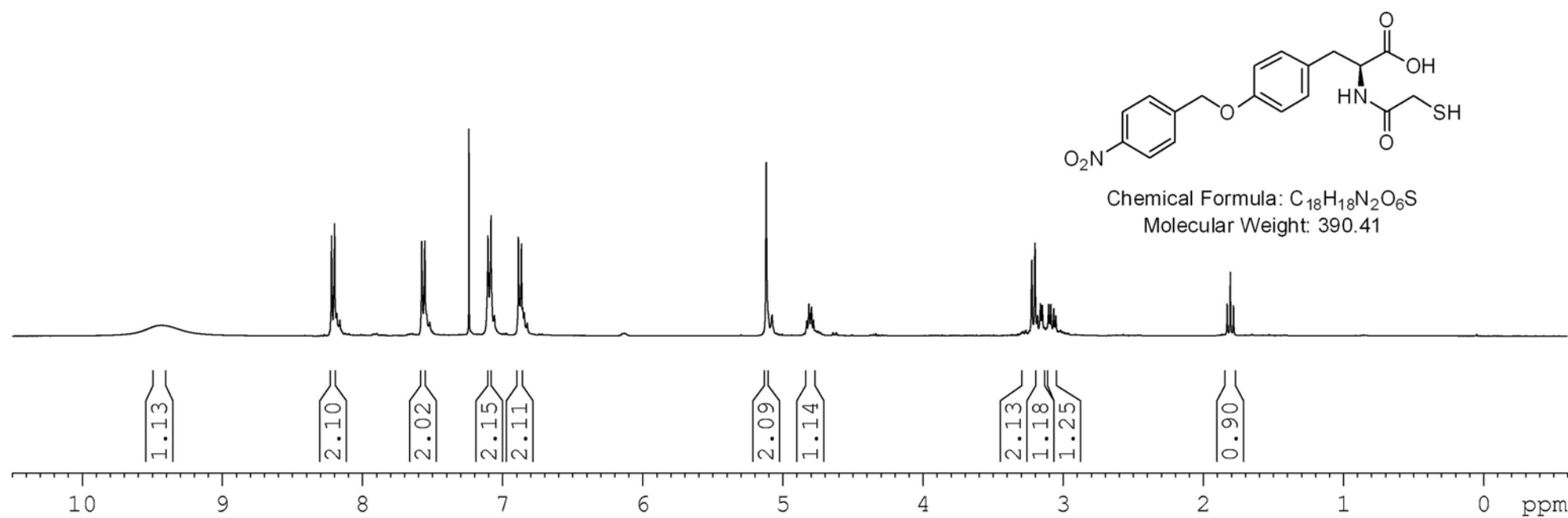
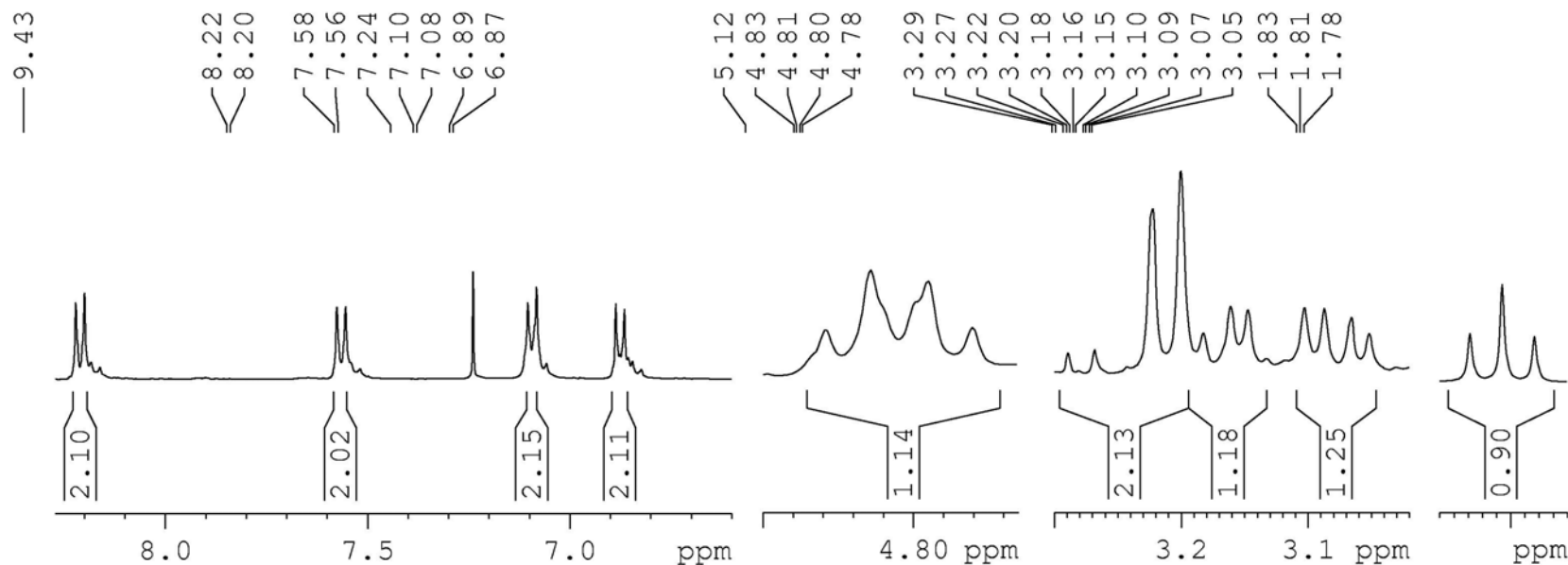


Chemical Formula: C₂₁H₂₂N₂O₇S

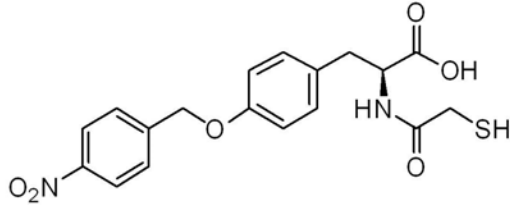
Molecular Weight: 446.47



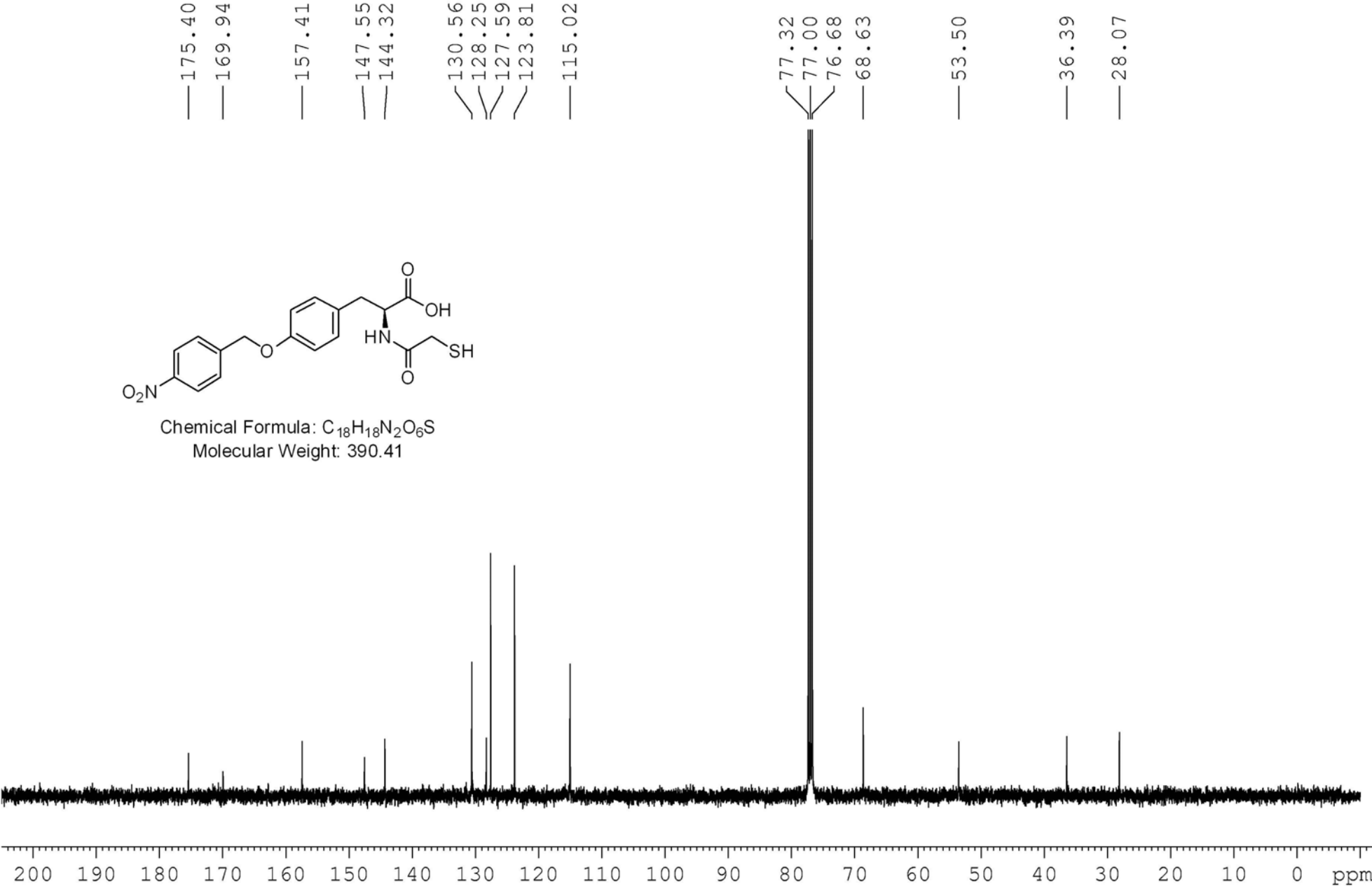
Solvent: CDCl₃ & NMR: 400 MHz



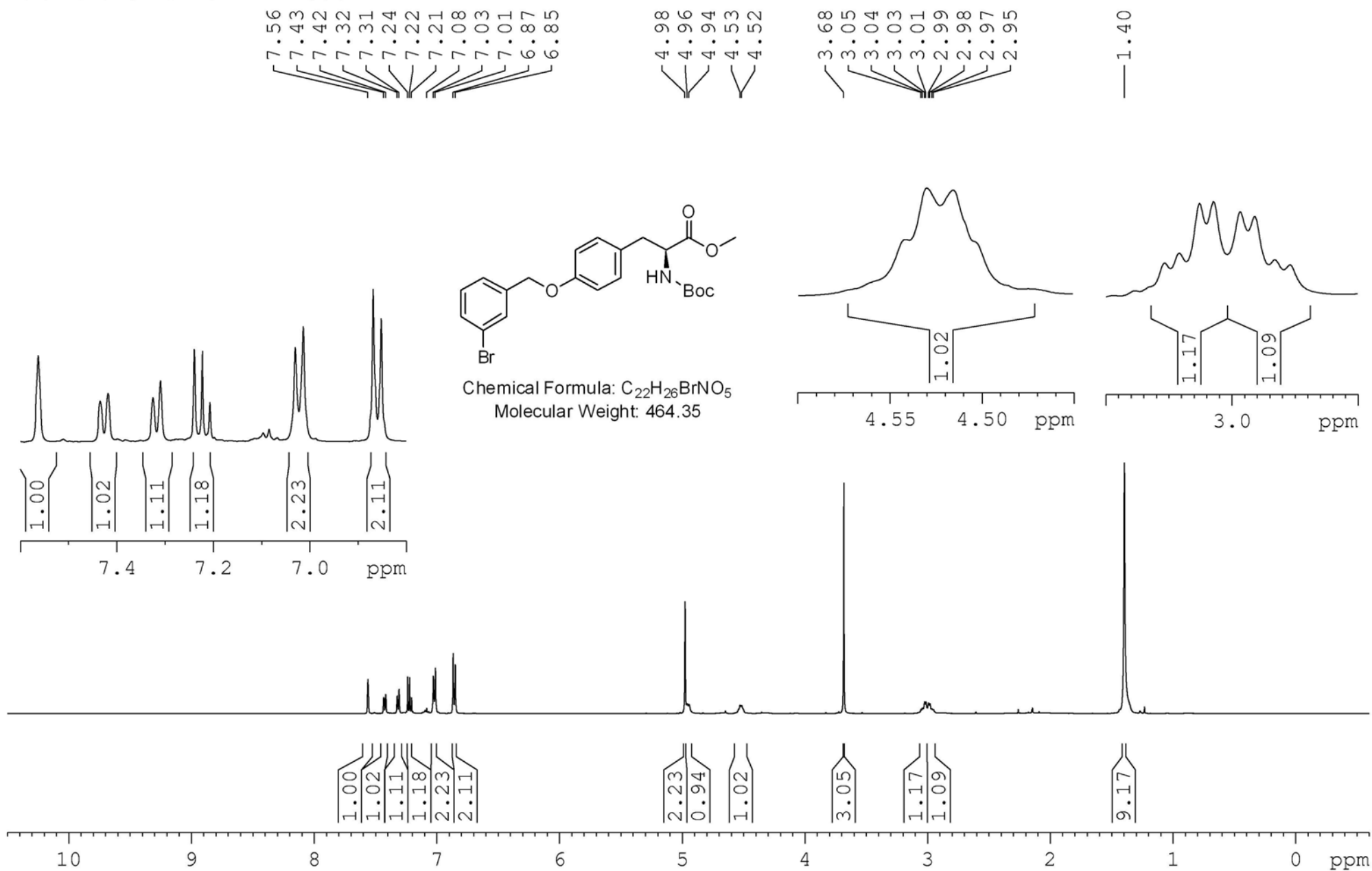
Solvent: CDCl₃ & NMR: 100 MHz



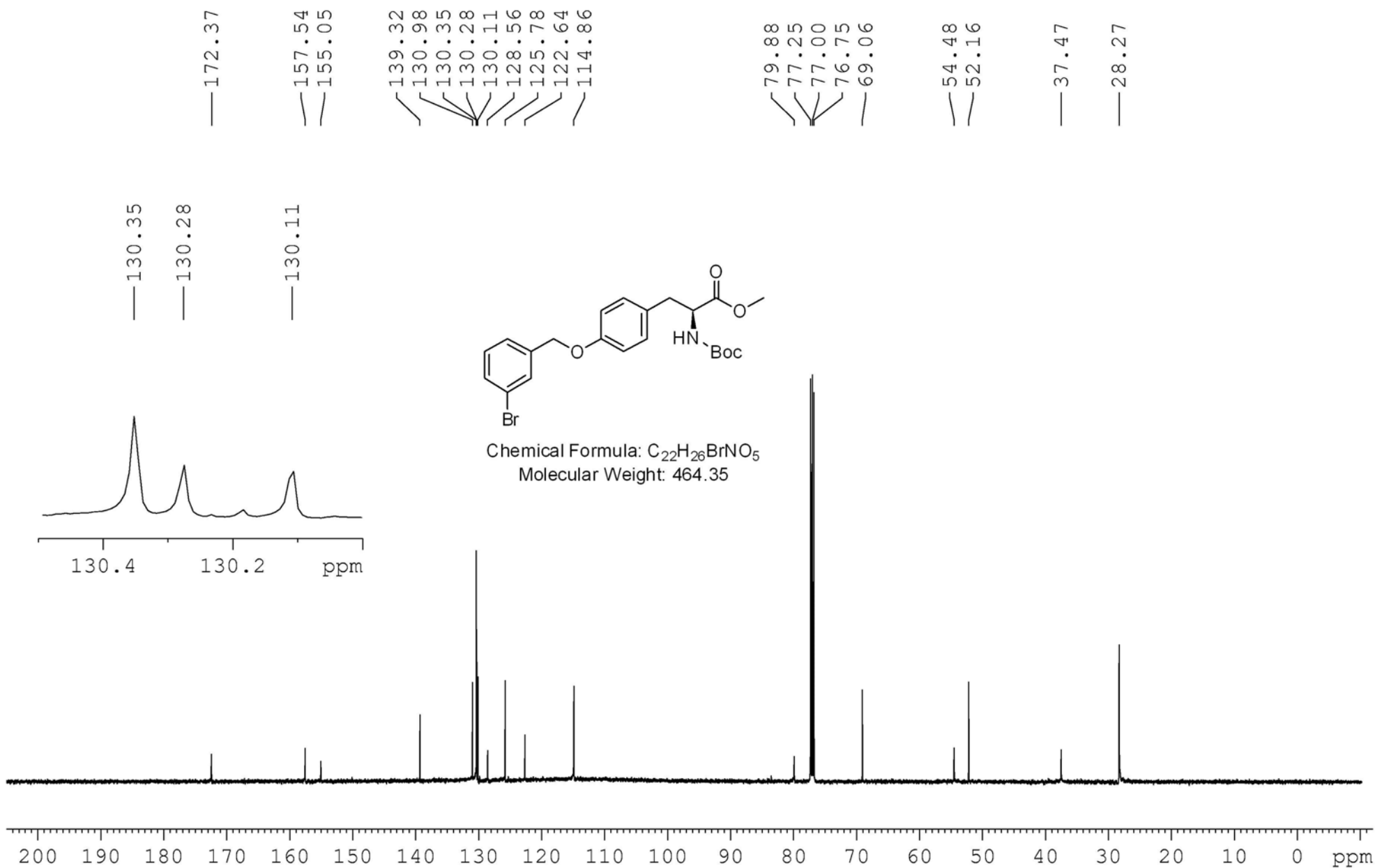
Chemical Formula: C₁₈H₁₈N₂O₆S
Molecular Weight: 390.41



Solvent: CDCl₃ & NMR: 500 MHz



Solvent: CDCl₃ & NMR: 125 MHz

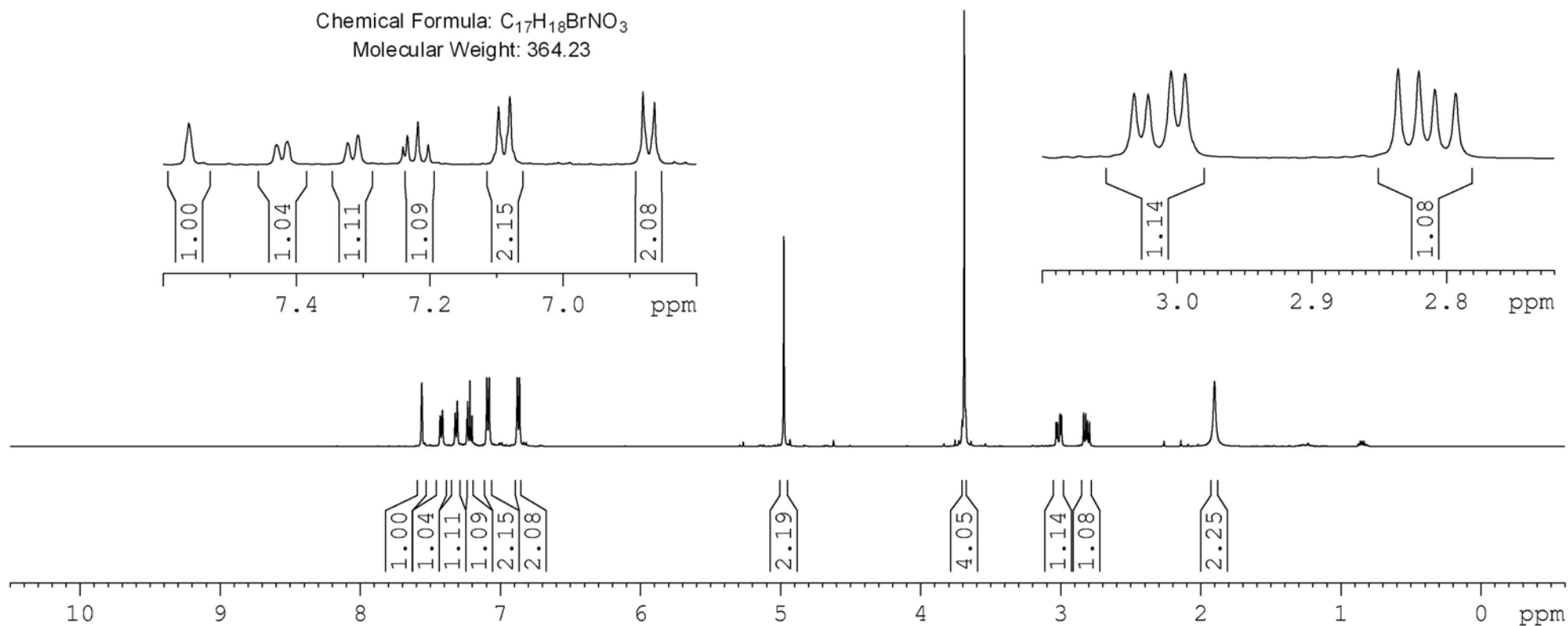
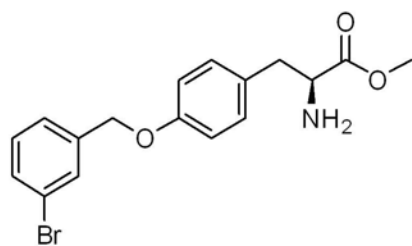


Solvent: CDCl₃ & NMR: 500 MHz

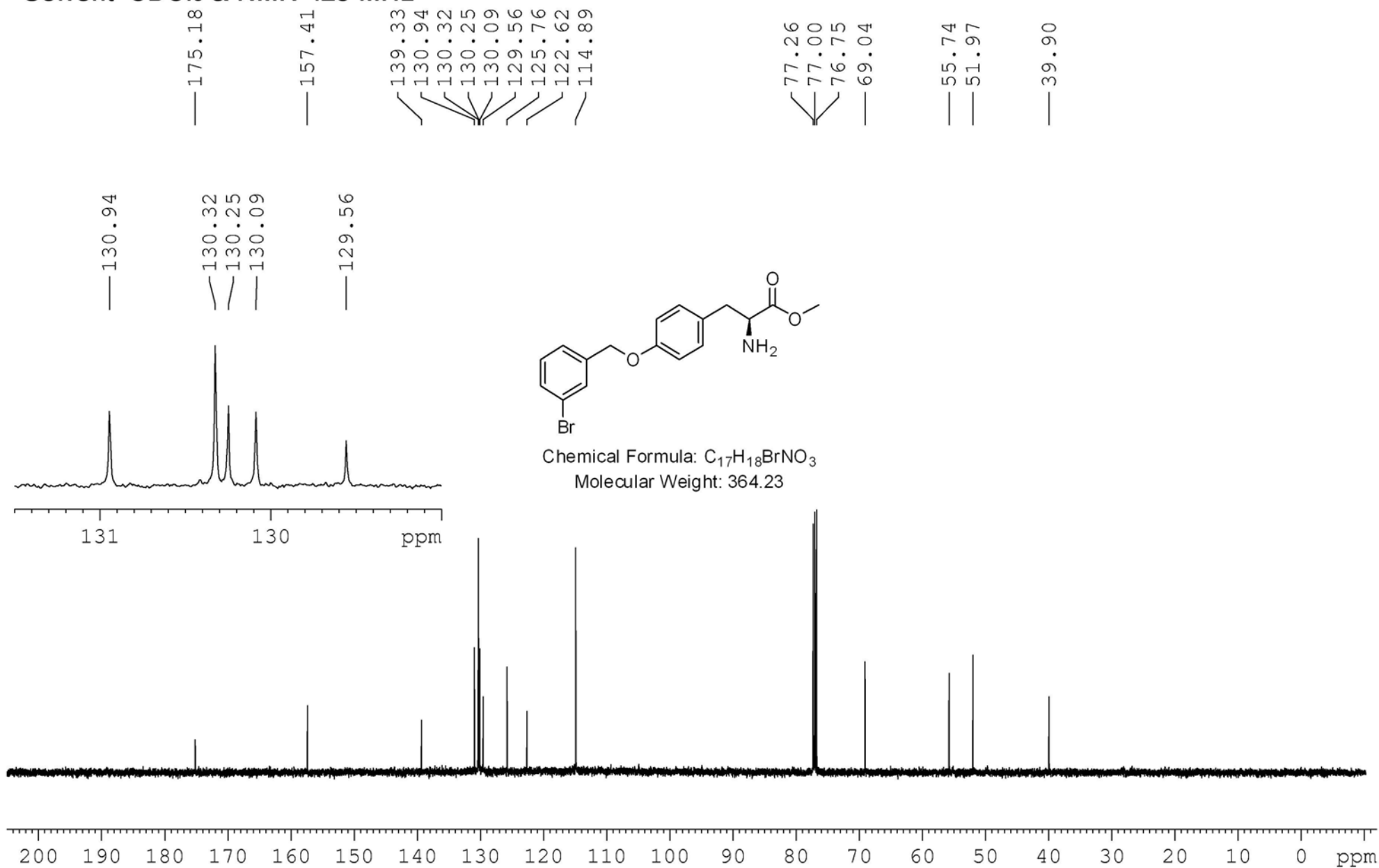
7.56
7.43
7.41
7.32
7.31
7.24
7.23
7.22
7.20
7.10
7.08
6.88
6.86

— 4.98

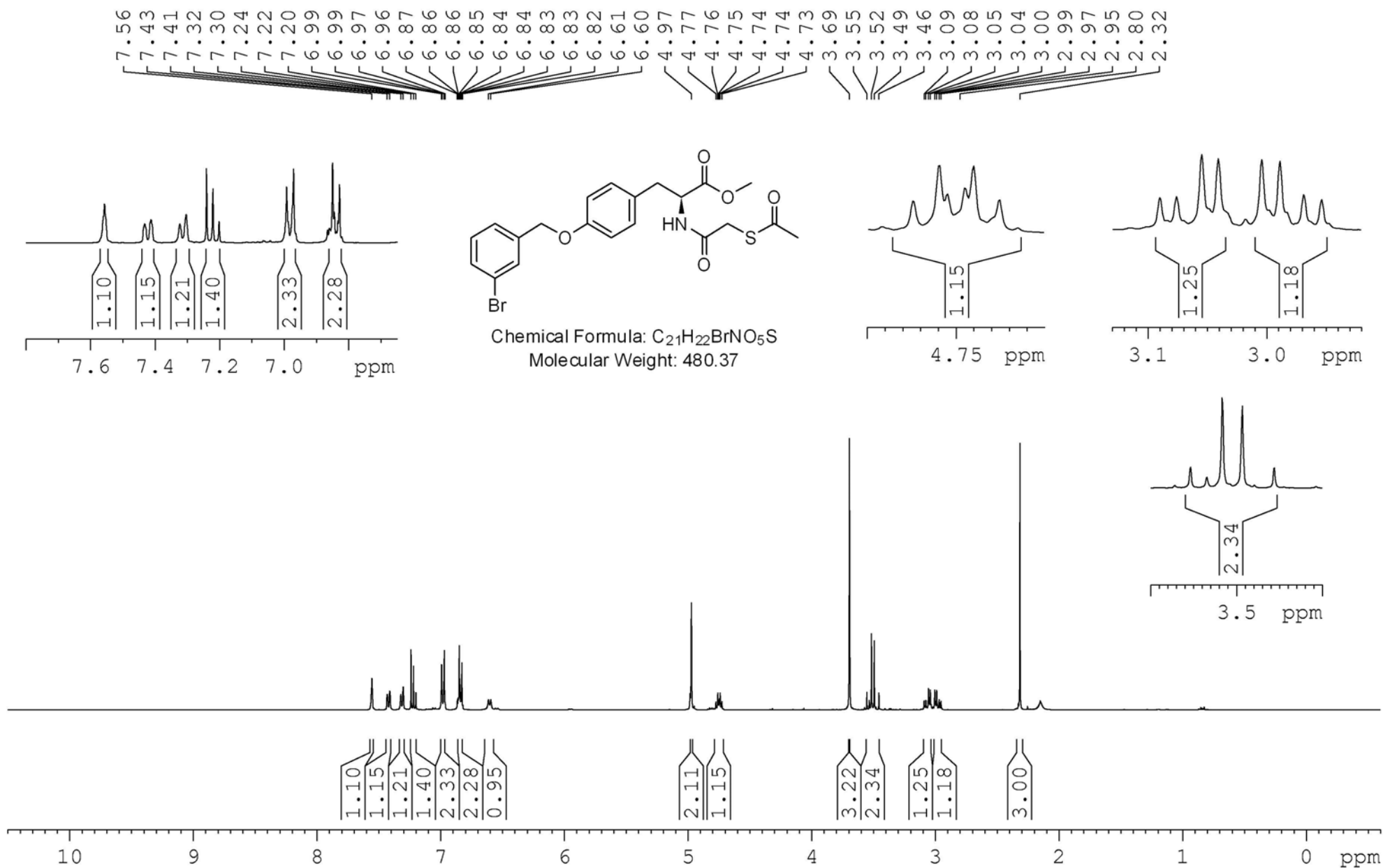
3.69
3.03
3.02
3.00
2.99
2.84
2.82
2.81
2.79
— 1.90



Solvent: CDCl₃ & NMR: 125 MHz



Solvent: CDCl_3 & NMR: 400 MHz



Solvent: CDCl₃ & NMR: 100 MHz

—195.16

—171.54

—167.55

—157.54

139.25

130.97

130.34

130.25

130.11

128.15

125.77

122.62

114.80

—69.00

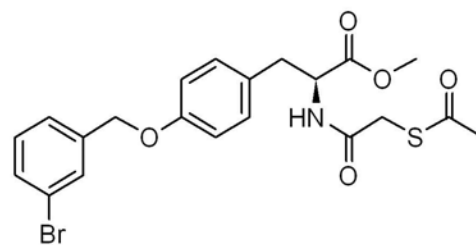
53.47

52.34

—36.74

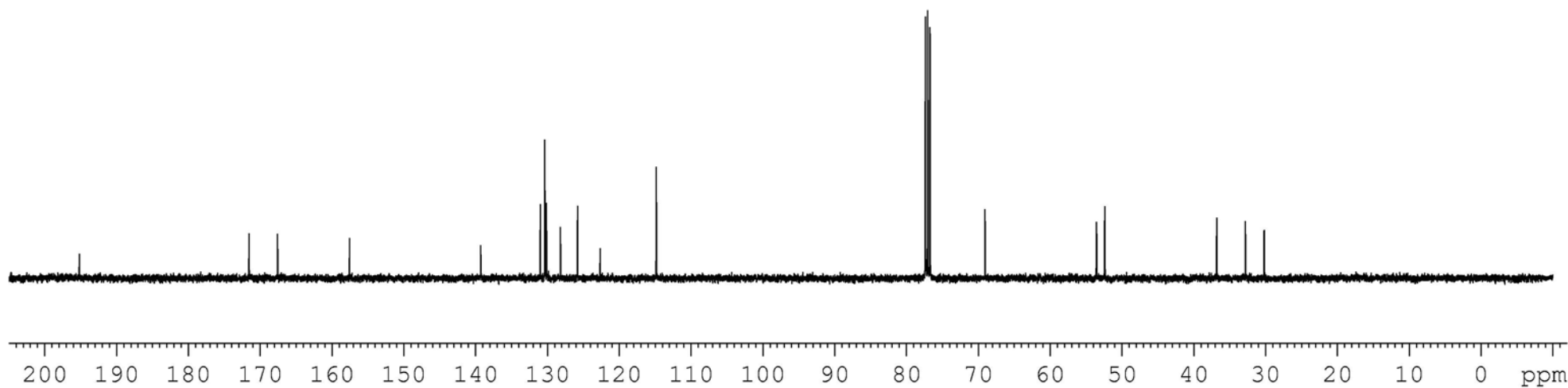
—32.73

—30.12

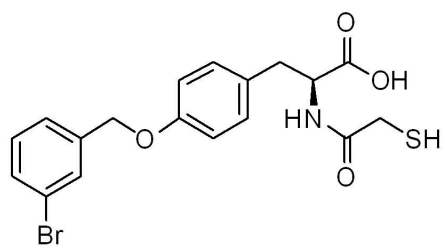
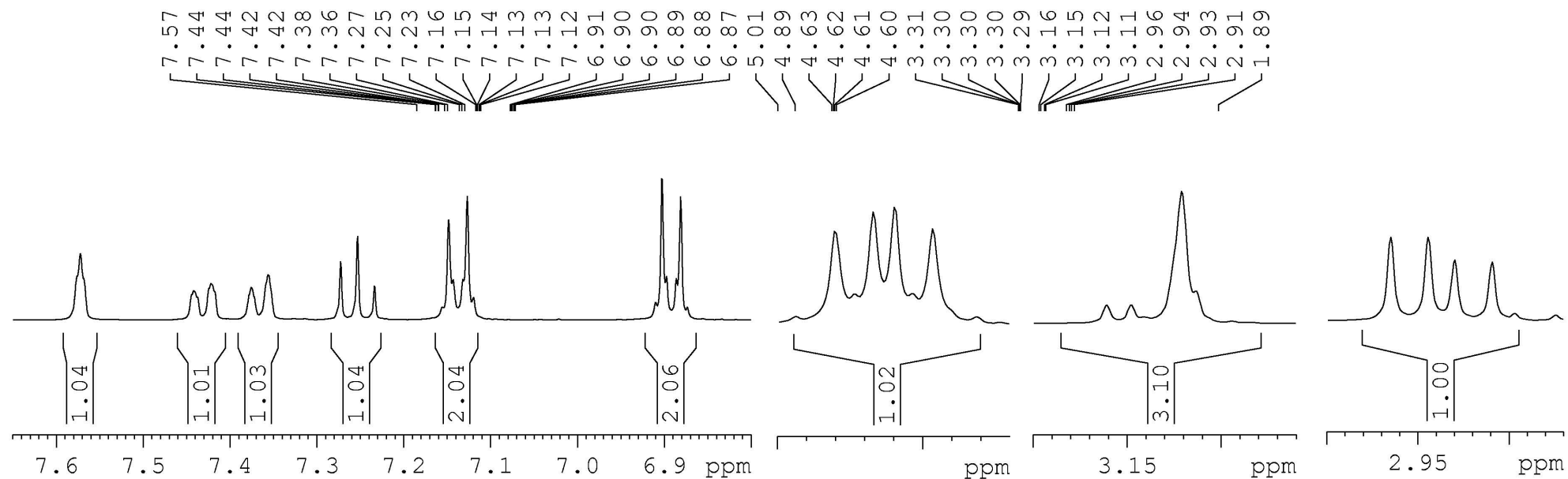


Chemical Formula: C₂₁H₂₂BrNO₅S

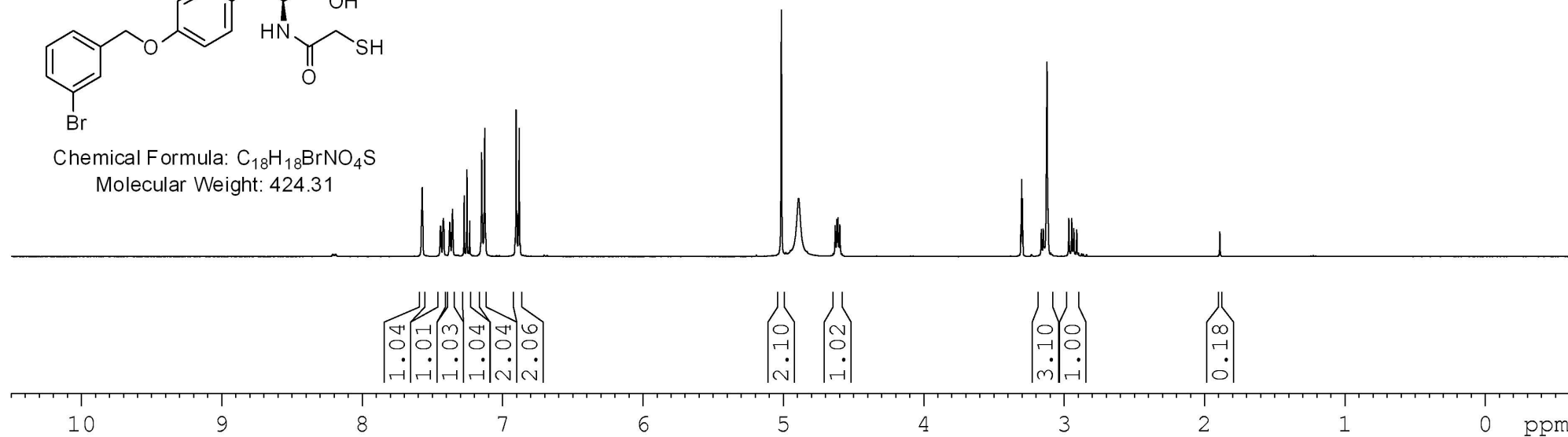
Molecular Weight: 480.37



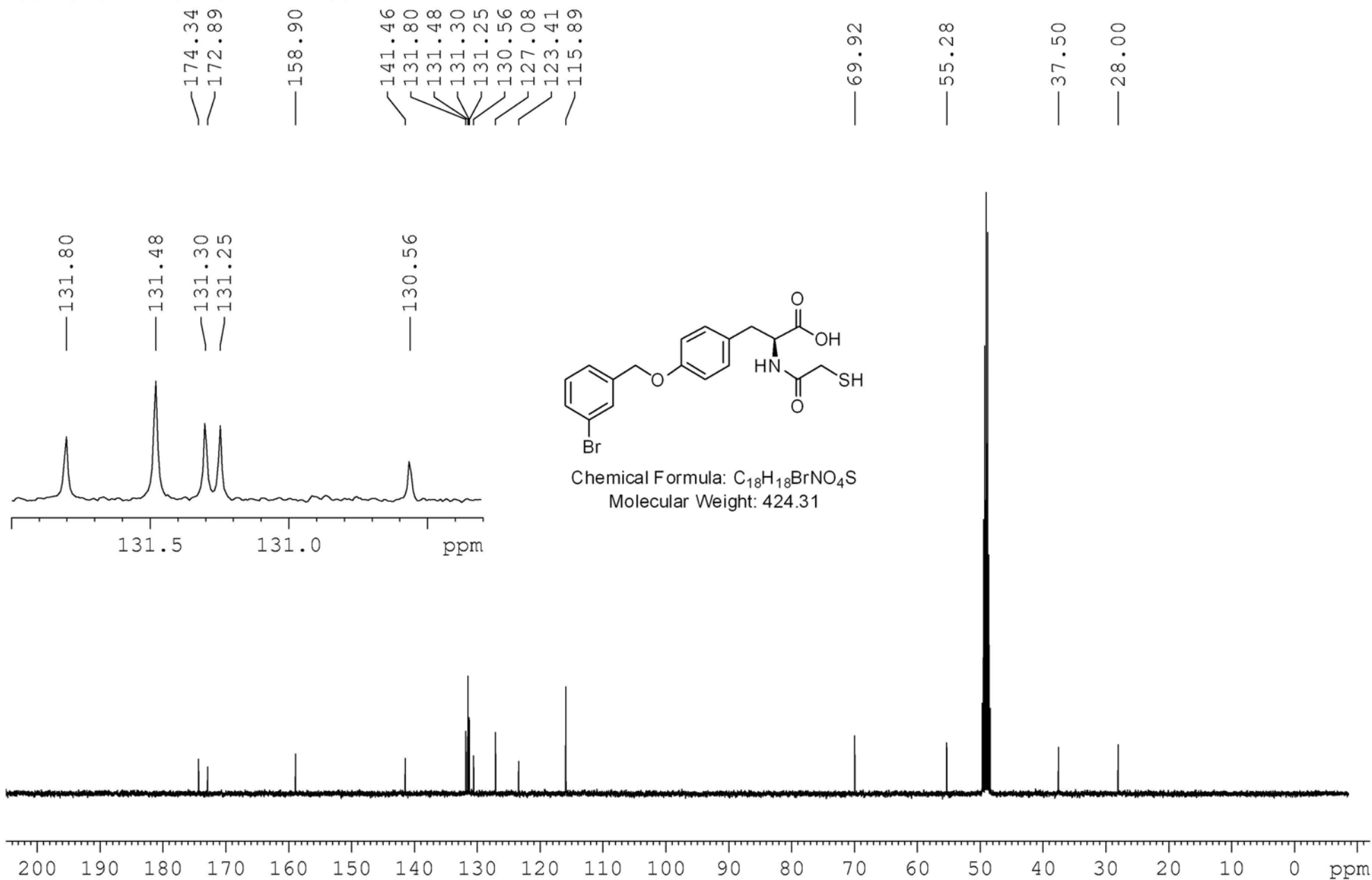
Solvent: CD₃OD & NMR: 400 MHz



Chemical Formula: C₁₈H₁₈BrNO₄S
Molecular Weight: 424.31



Solvent: CD₃OD & NMR: 100 MHz



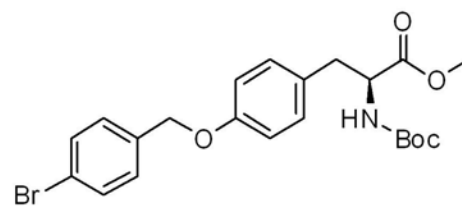
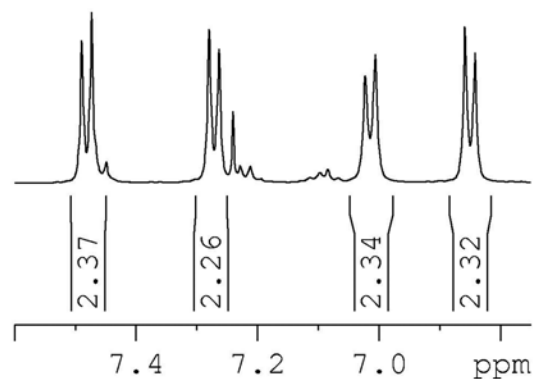
Solvent: CDCl₃ & NMR: 500 MHz

7.49
7.47
7.28
7.26
7.24
7.02
7.01
6.86
6.84

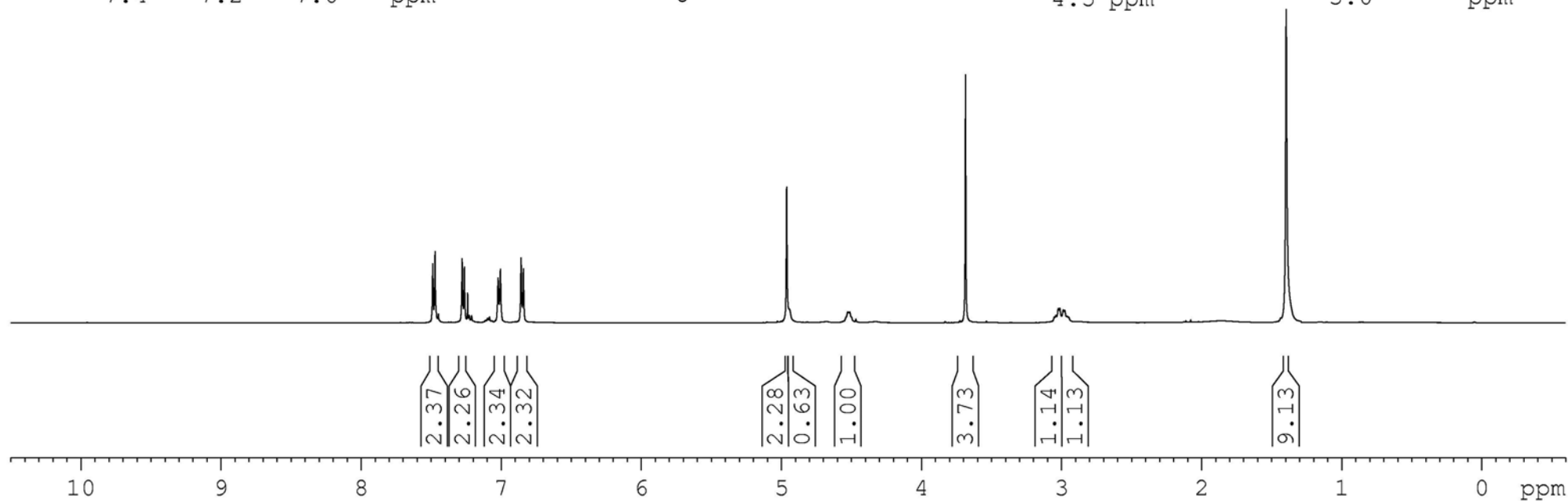
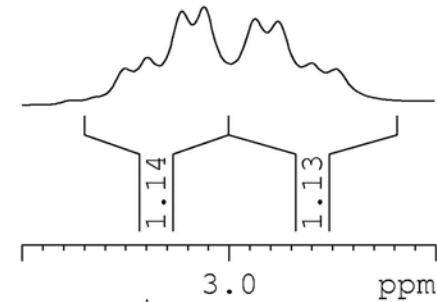
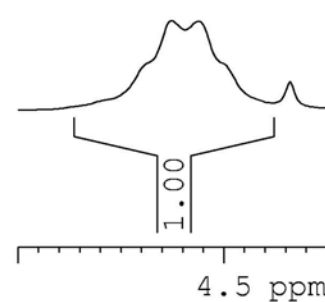
— 4.96
4.53
4.51

3.68
3.05
3.04
3.02
3.01
2.99
2.98
2.96
2.95

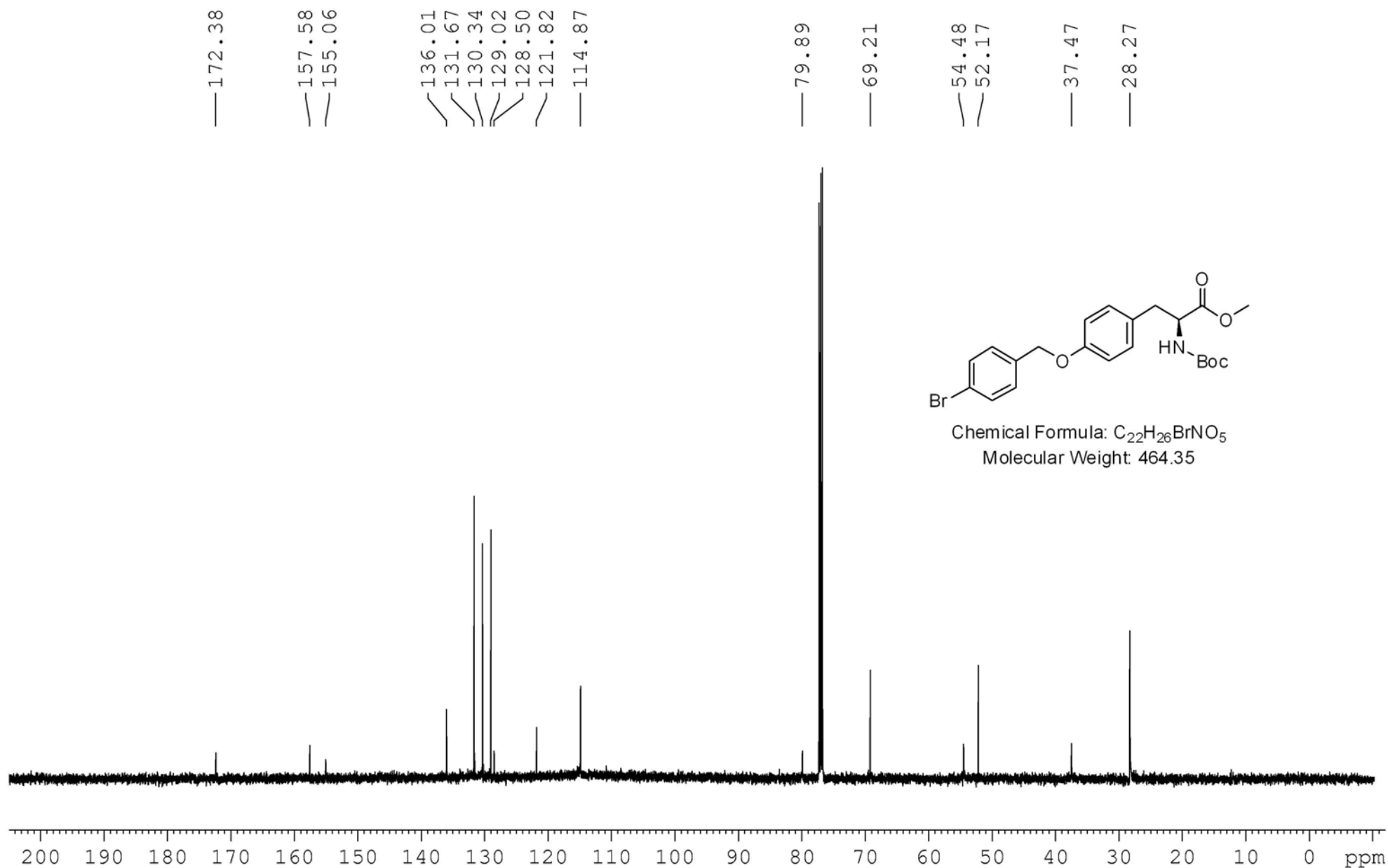
— 1.39



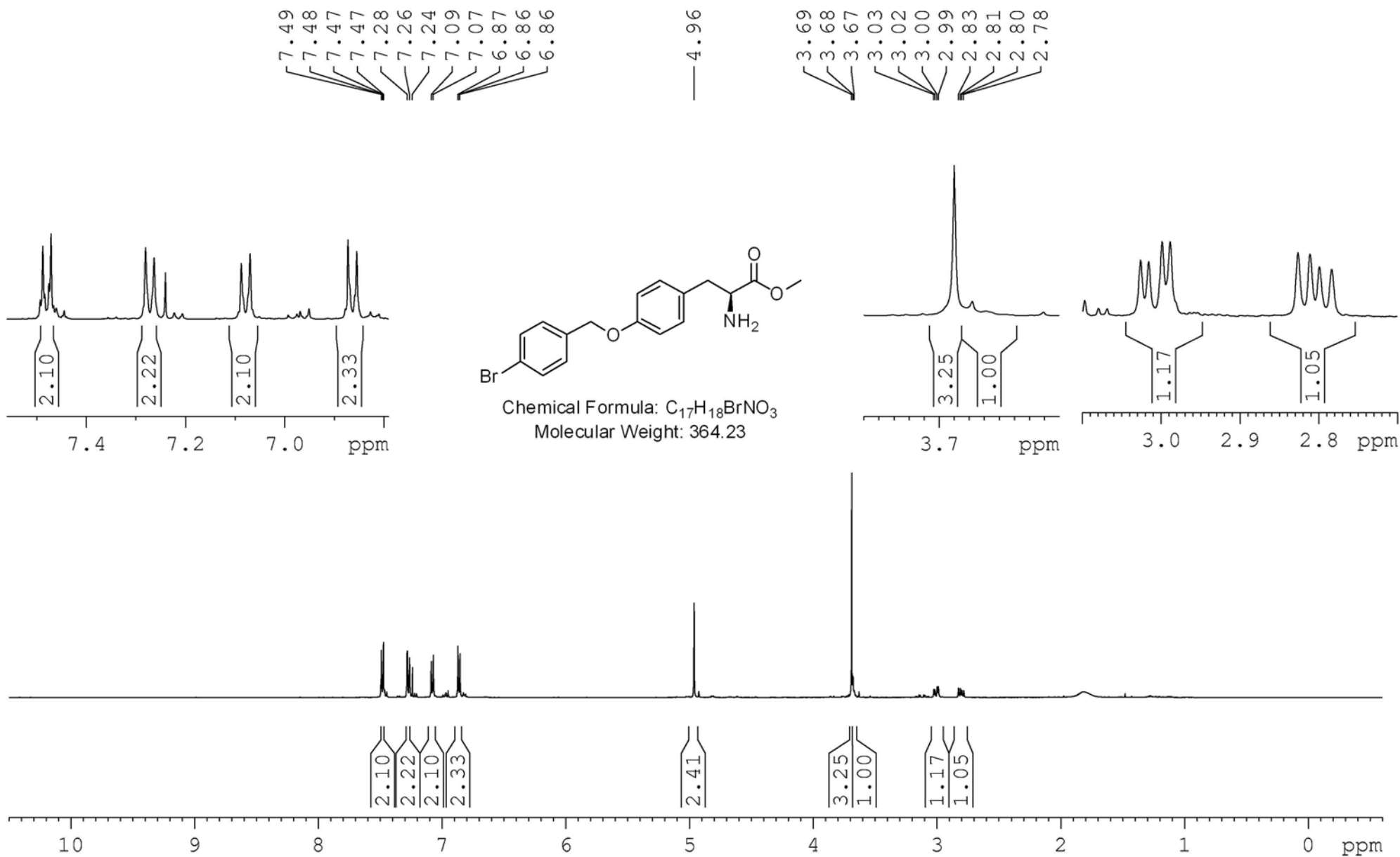
Chemical Formula: C₂₂H₂₆BrNO₅
Molecular Weight: 464.35



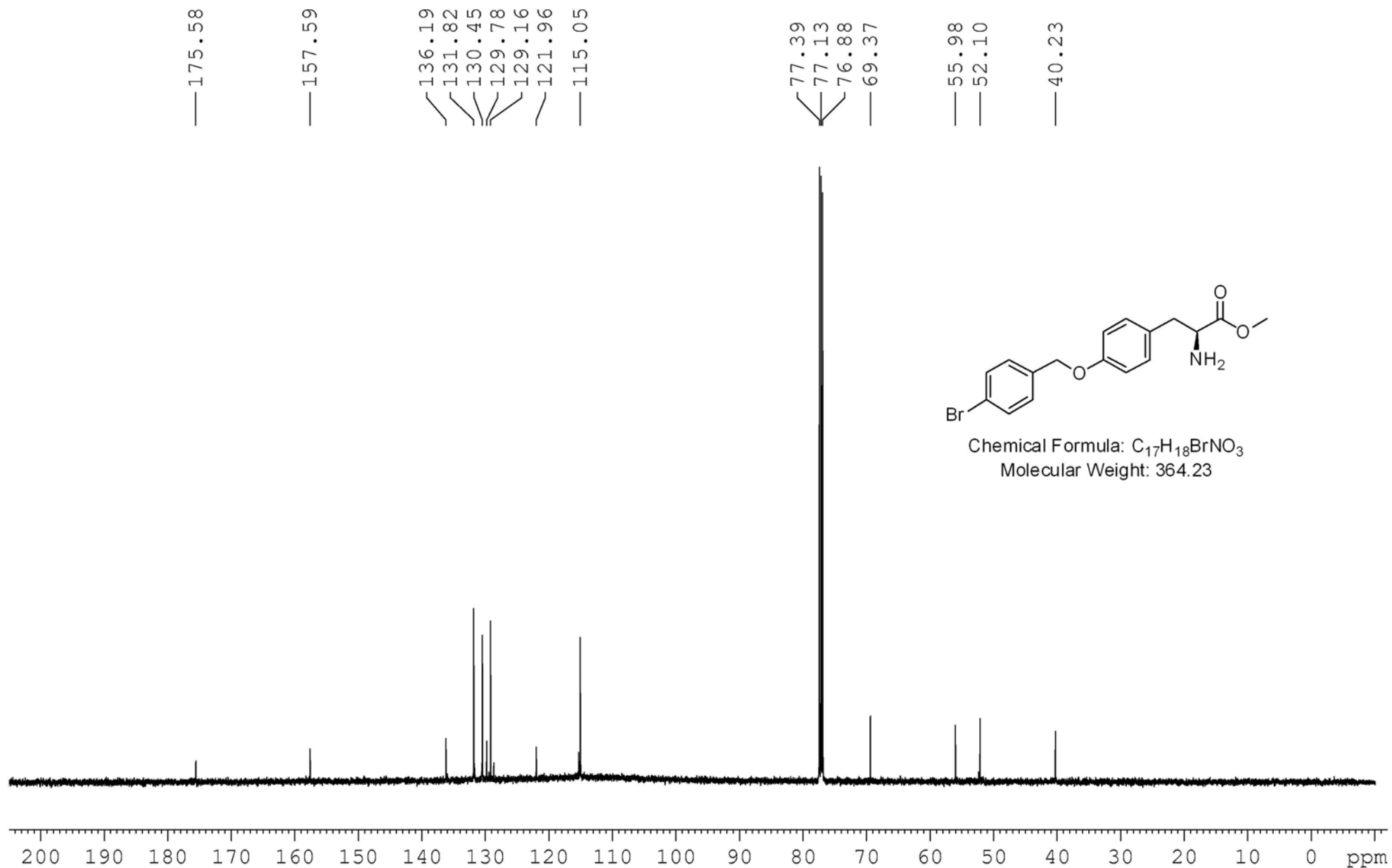
Solvent: CDCl₃ & NMR: 125 MHz



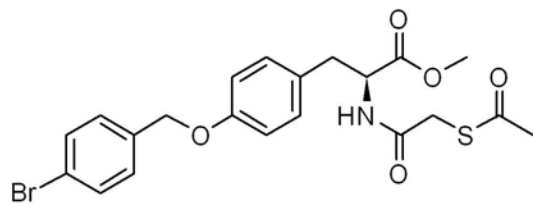
Solvent: CDCl₃ & NMR: 500 MHz



Solvent: CDCl₃ & NMR: 125 MHz

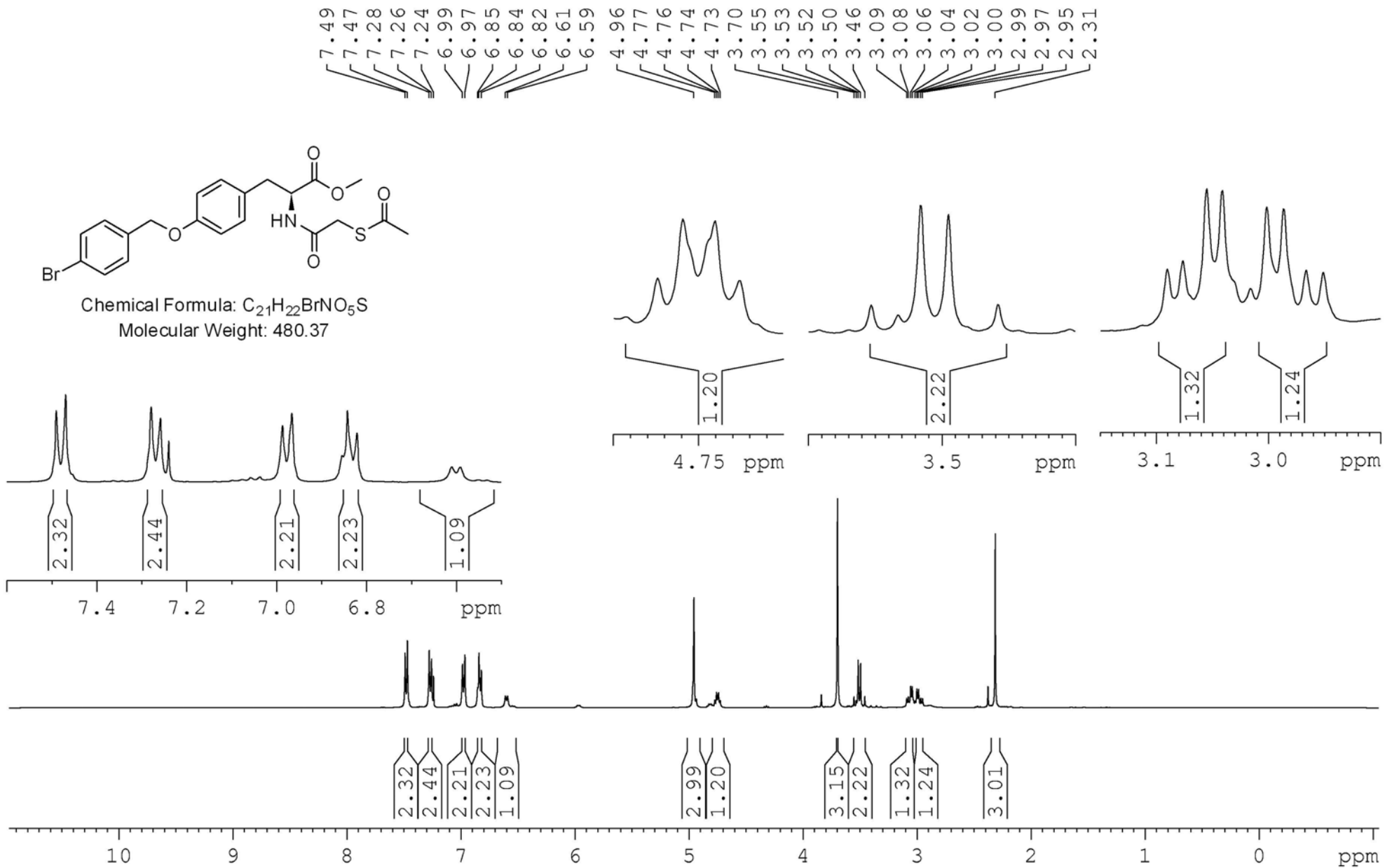


Solvent: CDCl₃ & NMR: 400 MHz



Chemical Formula: $C_{21}H_{22}BrNO_5S$

Molecular Weight: 480.37



Solvent: CDCl₃ & NMR: 100 MHz

—195.18

—171.54

—167.61

—157.59

—135.94

—131.67

—130.33

—129.01

—128.08

—121.83

—114.82

77.32

77.00

76.68

—69.16

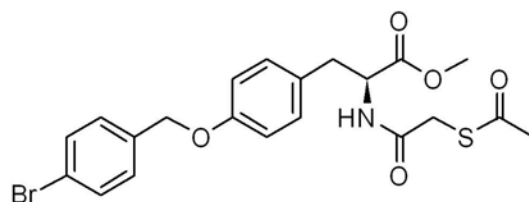
53.49

52.35

—36.74

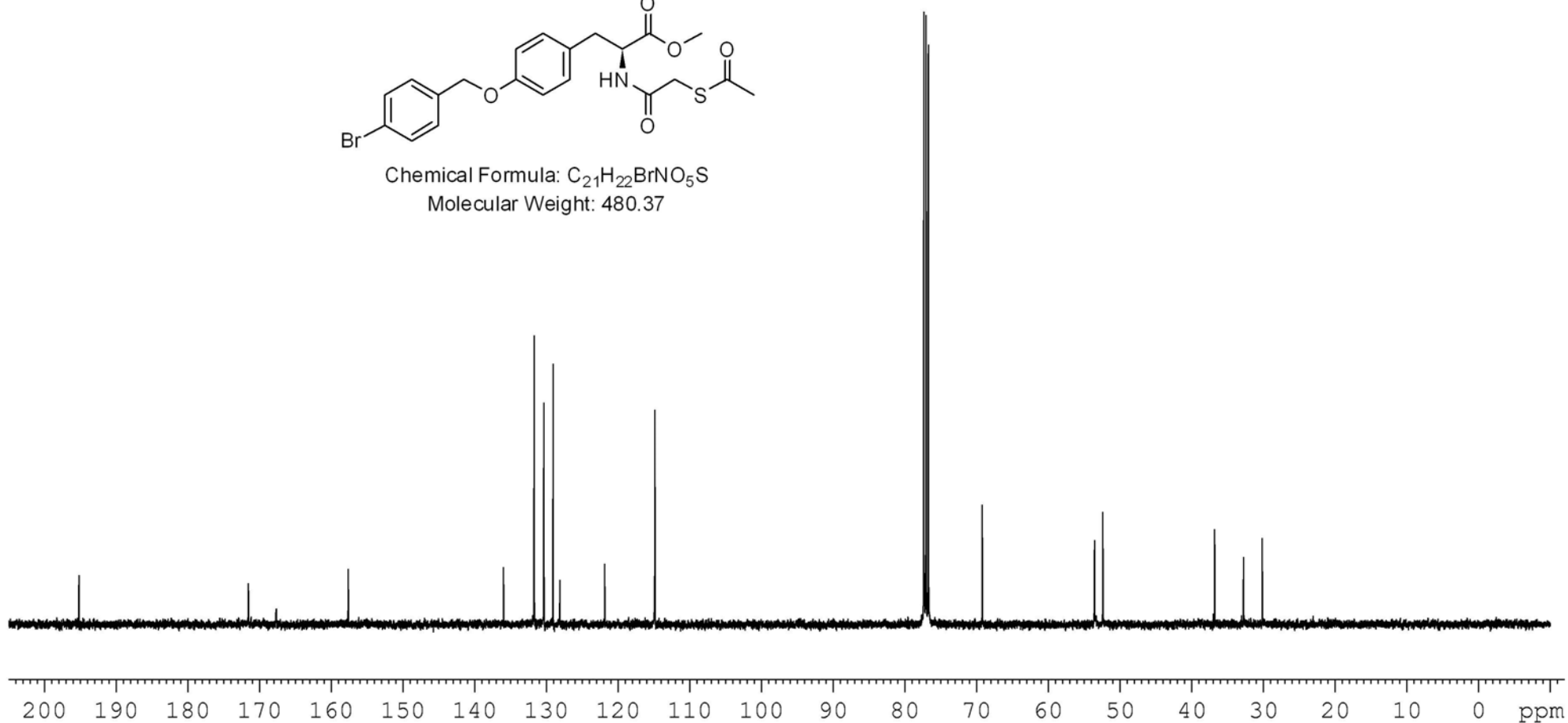
—32.73

—30.12

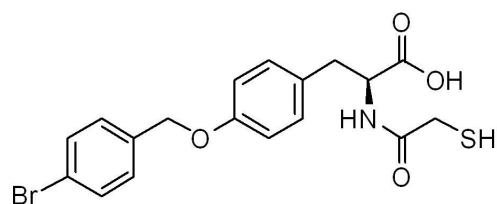
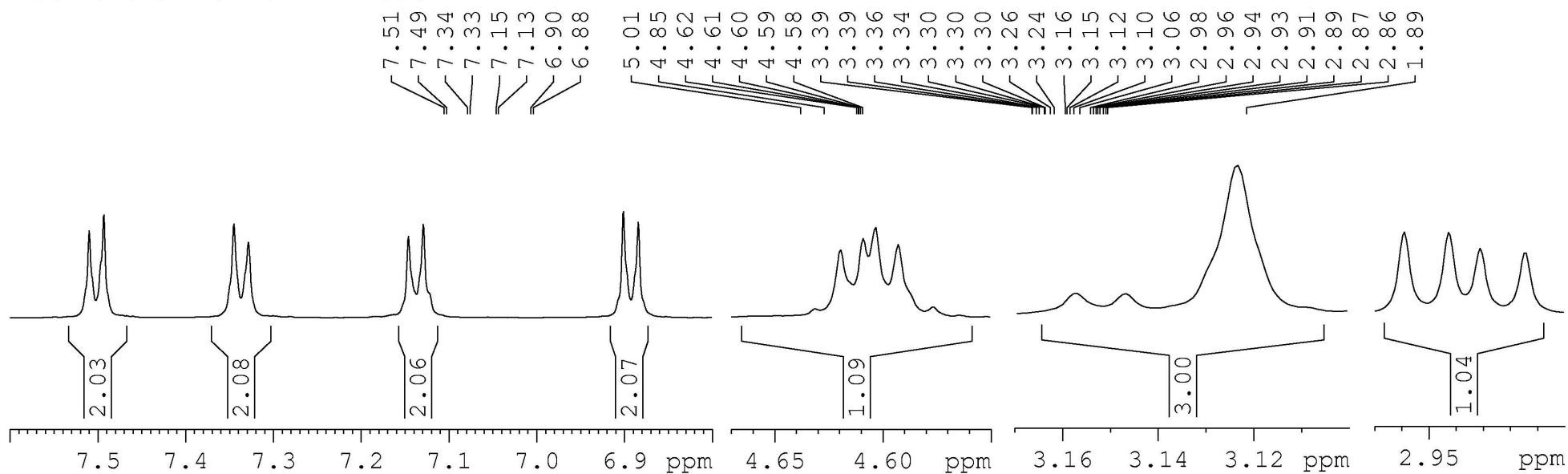


Chemical Formula: C₂₁H₂₂BrNO₅S

Molecular Weight: 480.37

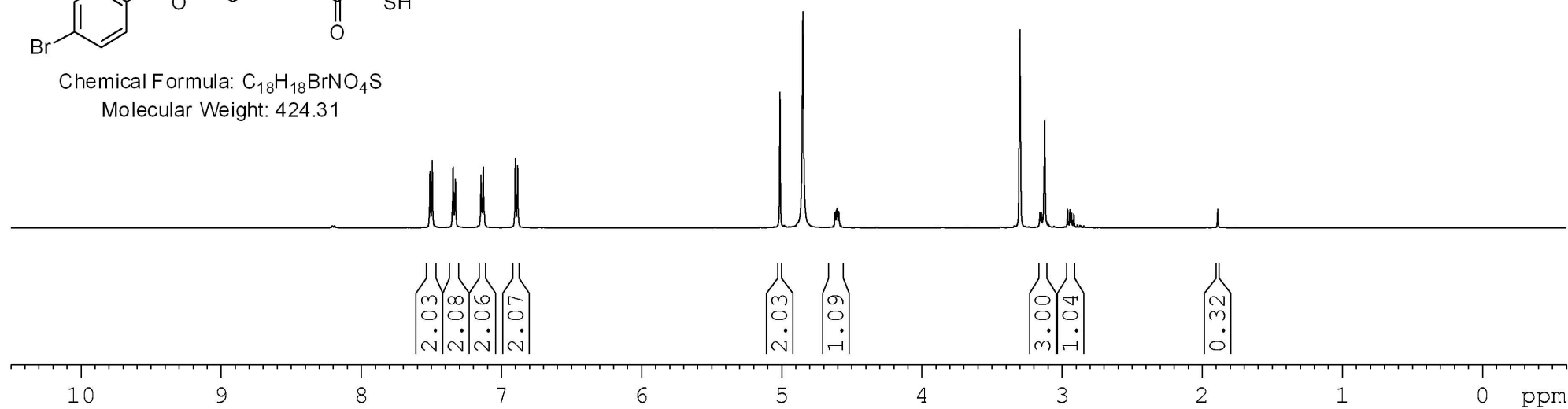


Solvent: CD₃OD & NMR: 500 MHz



Chemical Formula: C₁₈H₁₈BrNO₄S

Molecular Weight: 424.31



Solvent: CD₃OD & NMR: 125 MHz

174.37
172.91

159.02

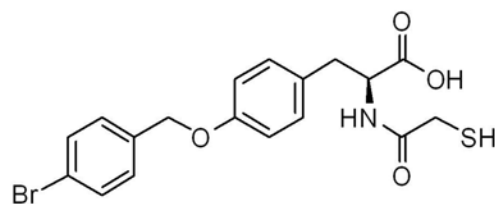
138.17
132.60
131.47
130.56
130.37
122.52
115.95

70.15

55.32

37.54

28.00



Chemical Formula: C₁₈H₁₈BrNO₄S

Molecular Weight: 424.31

