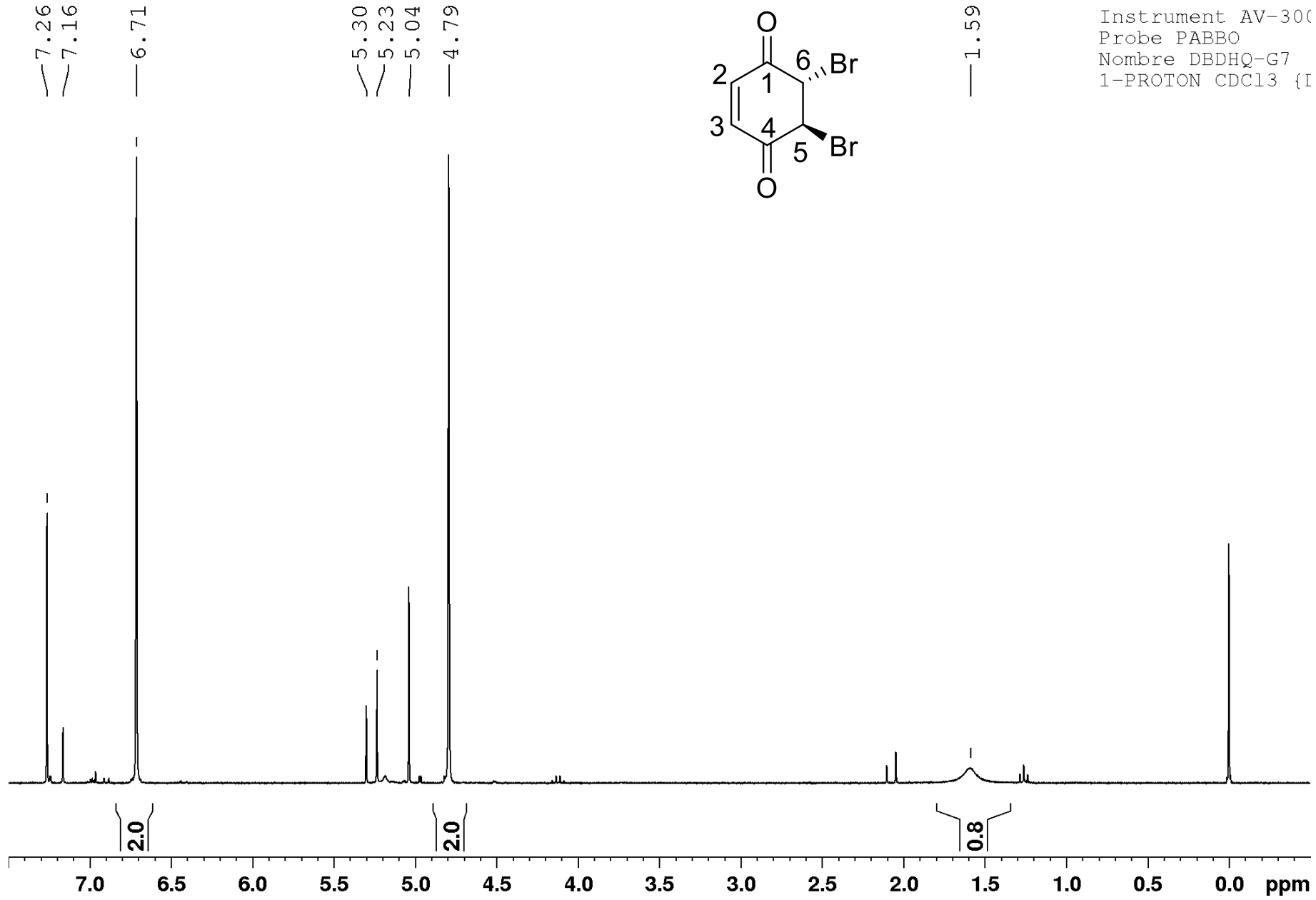
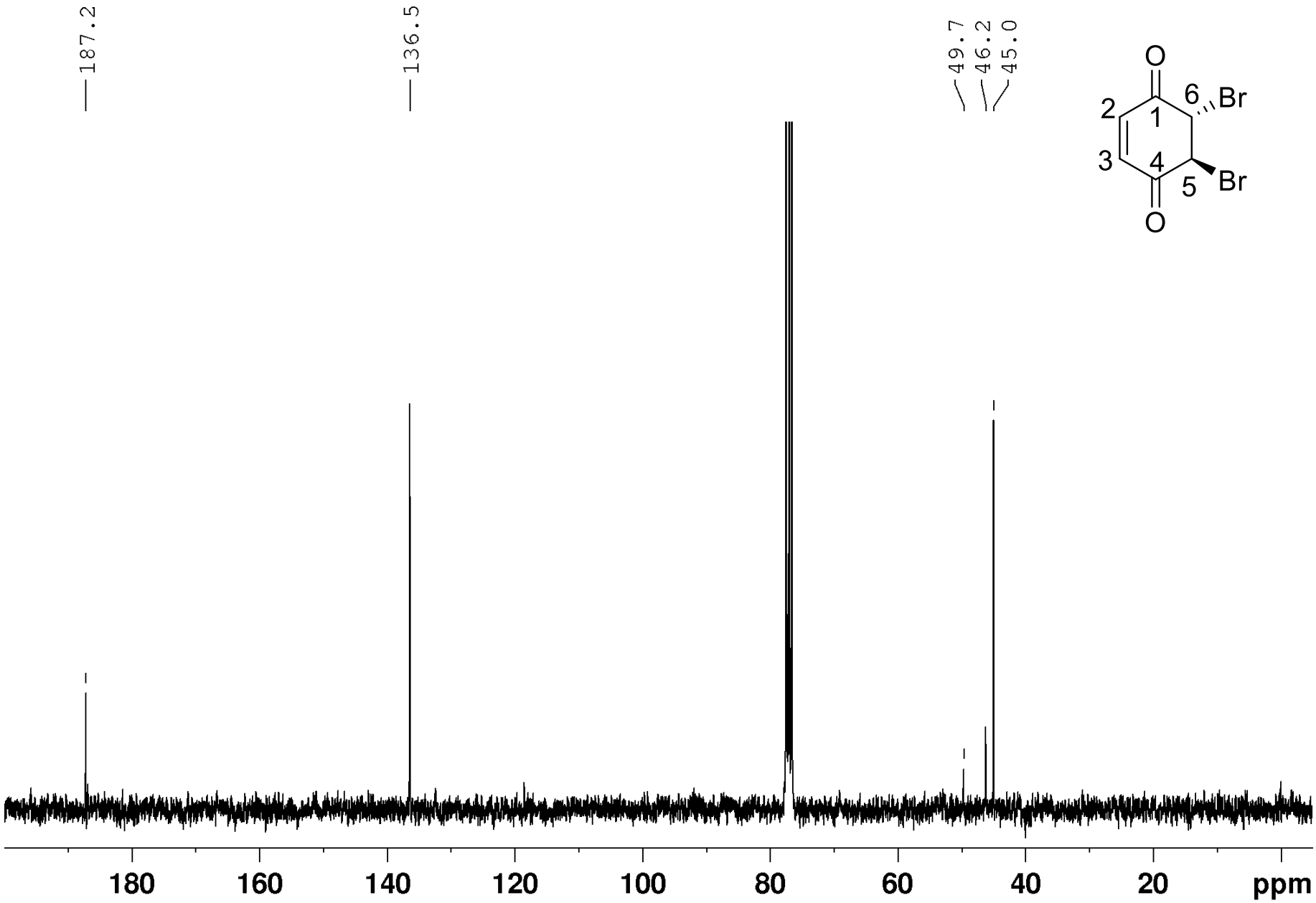
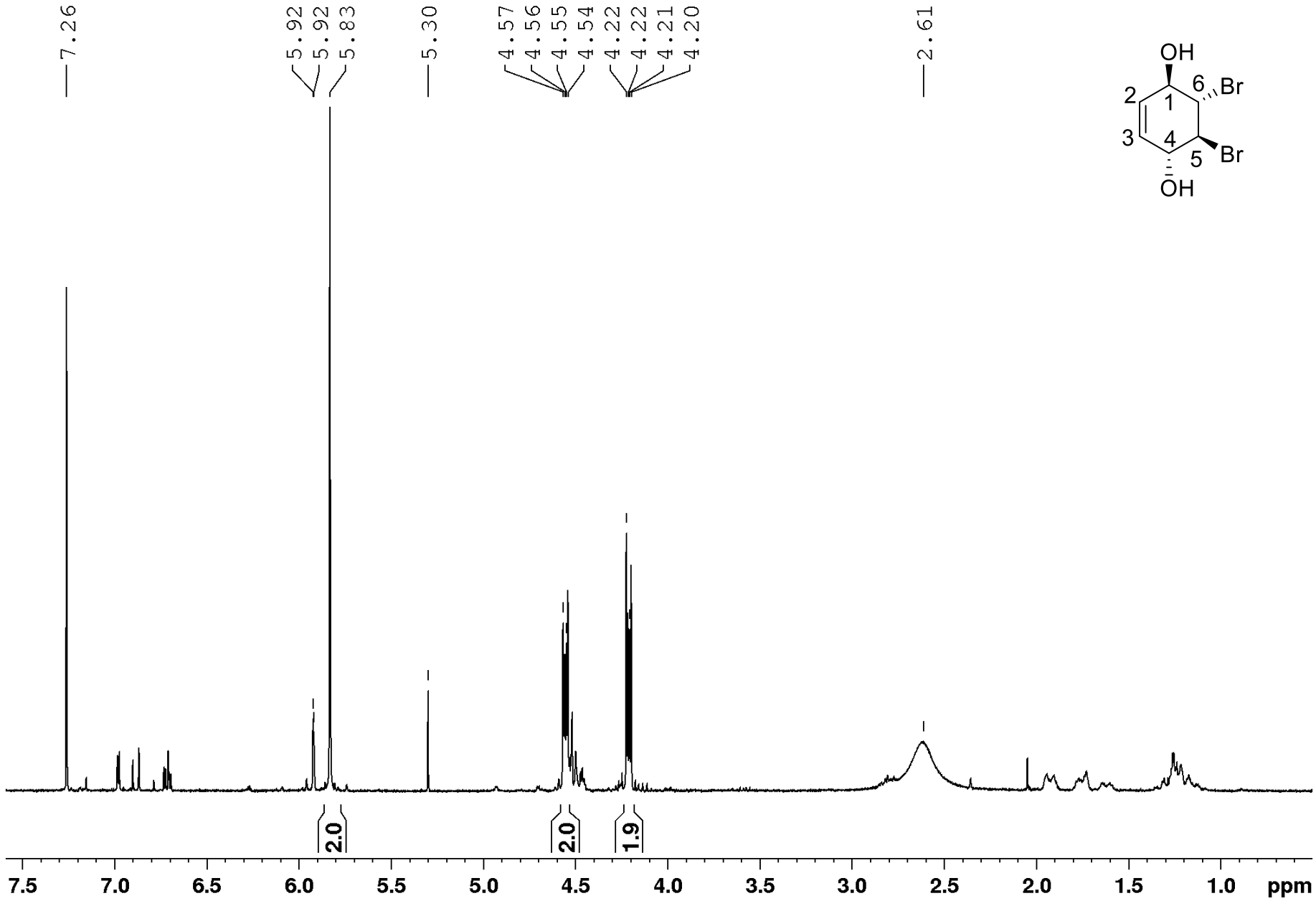
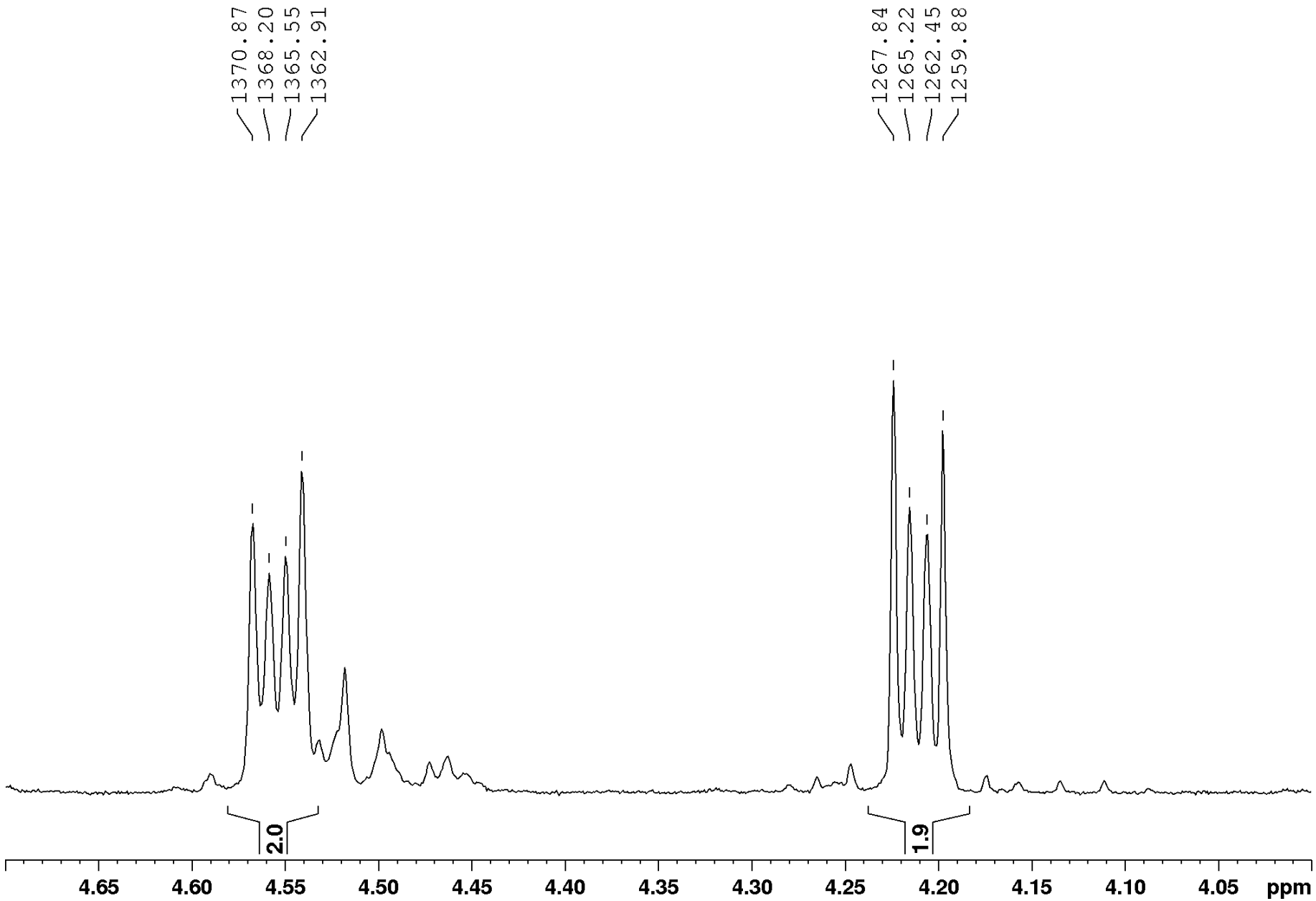
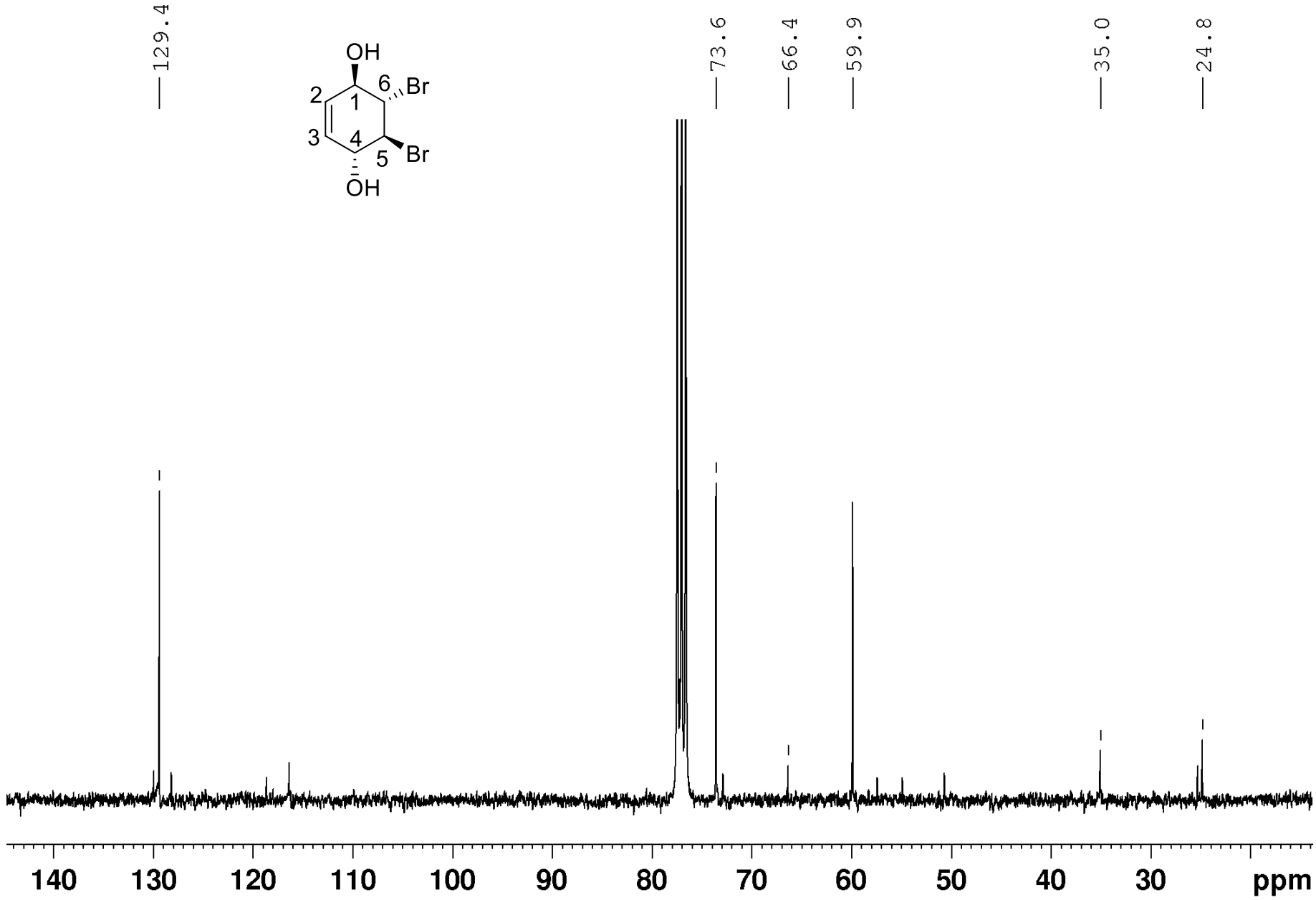
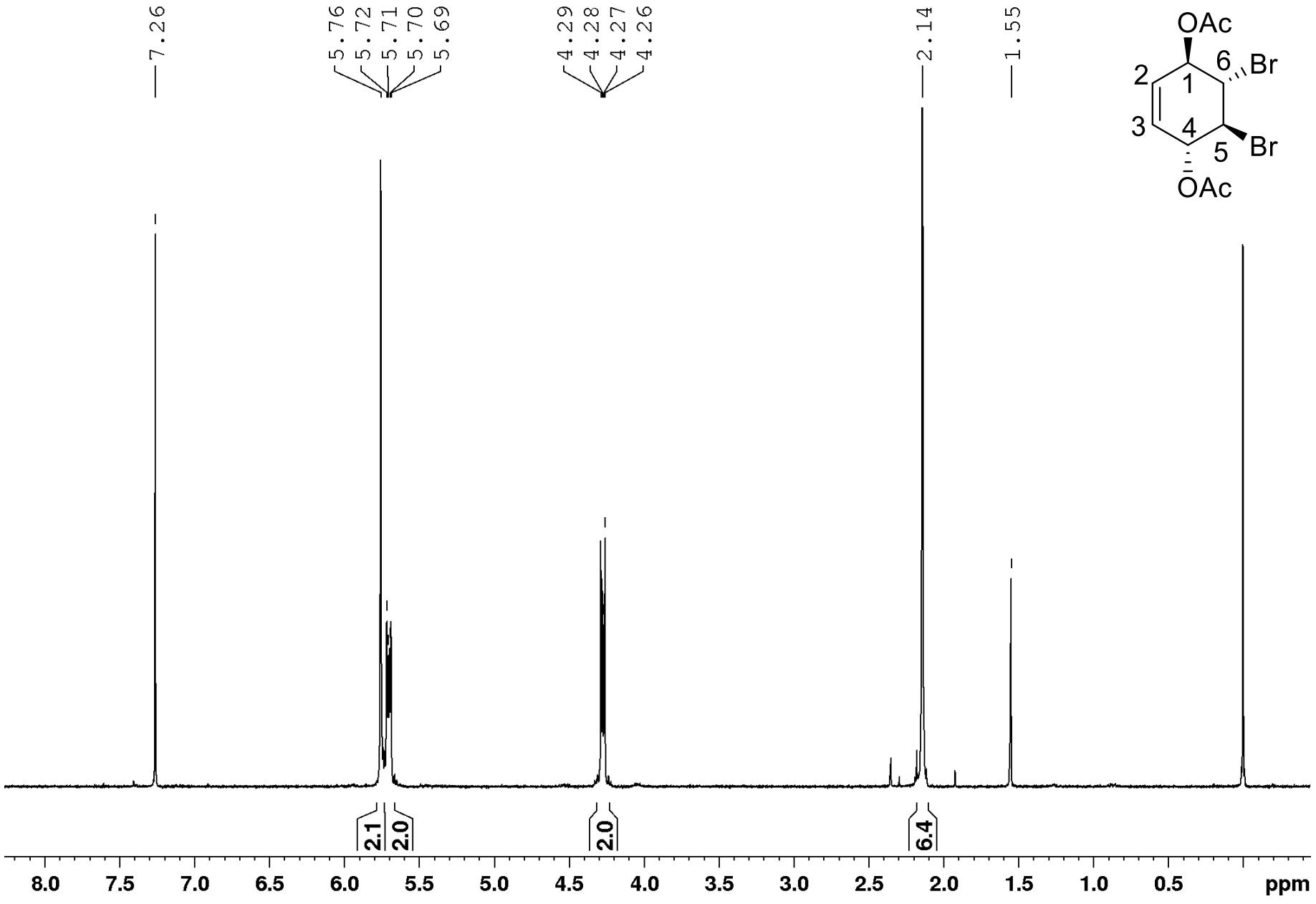

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7.16
6.71
5.30
5.23
5.04
4.79
1.59
O
6
Br
2
1
3
4
5
Br
O
Instrument AV-30(
Probe PABBO
Nombre DBDHQ-G7
1-PROTON CDCl3 {I
2.0
2.0
0.8
7.0
6.5
6.0
5.5
5.0
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4.0
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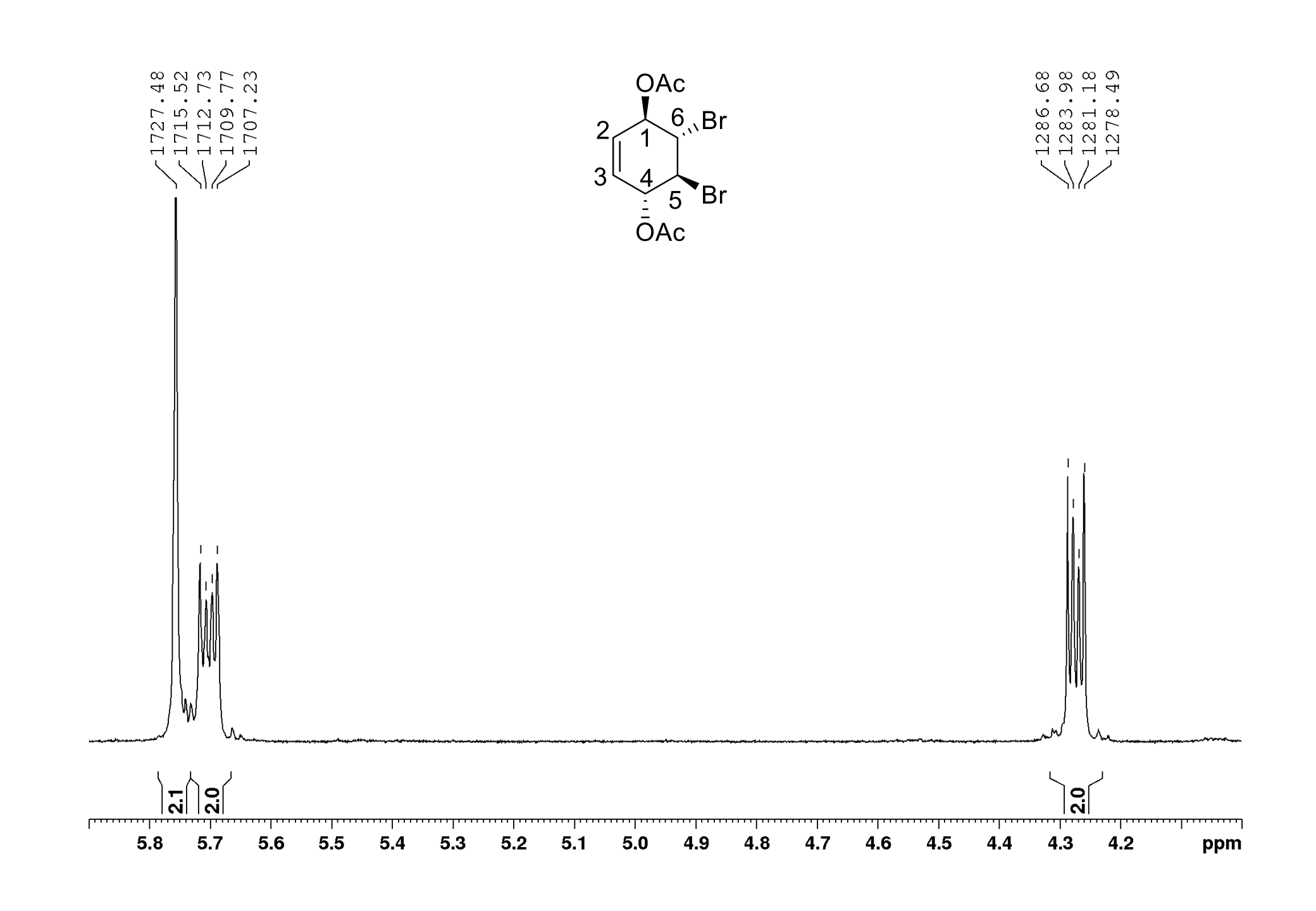

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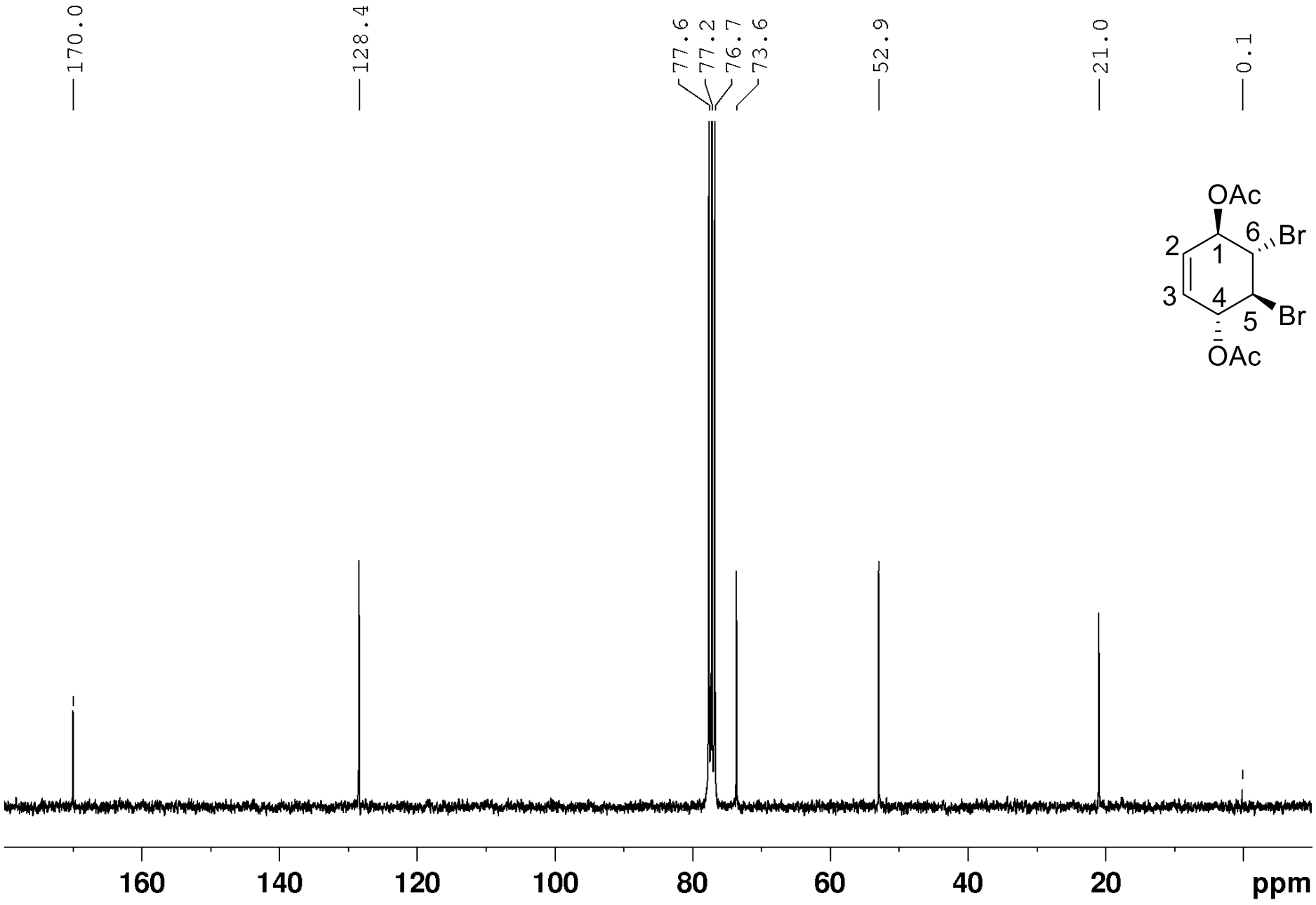

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4.20
2.61
OH
6
Br
2
1
3
4
5
Br
OH
2.0
2.0
1.9
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
ppm


1370.87
1368.20
1365.55
1362.91
1267.84
1265.22
1262.45
1259.88
2.0
1.9
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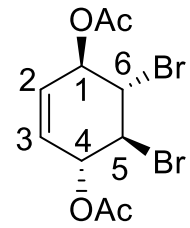

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130
120
110
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90
80
70
60
50
40
30
ppm


7.26
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5.69
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4.28
4.27
4.26
2.14
1.55
OAc
6
Br
2
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4
5
Br
OAc
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2.0
6.4
8.0
7.5
7.0
6.5
6.0
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5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
ppm


1727.48
1715.52
1712.73
1709.77
1707.23
1286.68
1283.98
1281.18
1278.49
OAc
Br
Br
OAc
1
2
3
4
5
6
2.1
2.0
2.0
5.8
5.7
5.6
5.5
5.4
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5.0
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4.5
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4.3
4.2
ppm

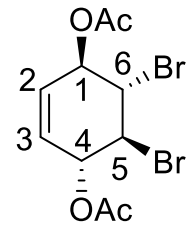

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77.6
77.2
76.7
73.6
52.9
21.0
0.1
OAc
6
Br
2
1
3
4
5
Br
OAc
160
140
120
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80
60
40
20
ppm

COSY H-H


OAc
6
Br
2
1
3
4
5
Br
OAc

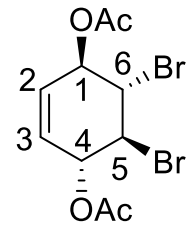
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6.0
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5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
ppm

HSQC


OAc
6
Br
2
1
3
4
5
Br
OAc

ppm
10
20
30
40
50
60
70
80
90
100
110
120
130
140
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
ppm

HMBC


OAc
6
Br
2
1
3
4
5
Br
OAc

ppm
20
40
60
80
100
120
140
160
180
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
ppm