

Molecular keypad controlled circuit for Ce(III) and NO₃⁻ ions recognition by μw synthesized silicon-embedded organic luminescent sensor

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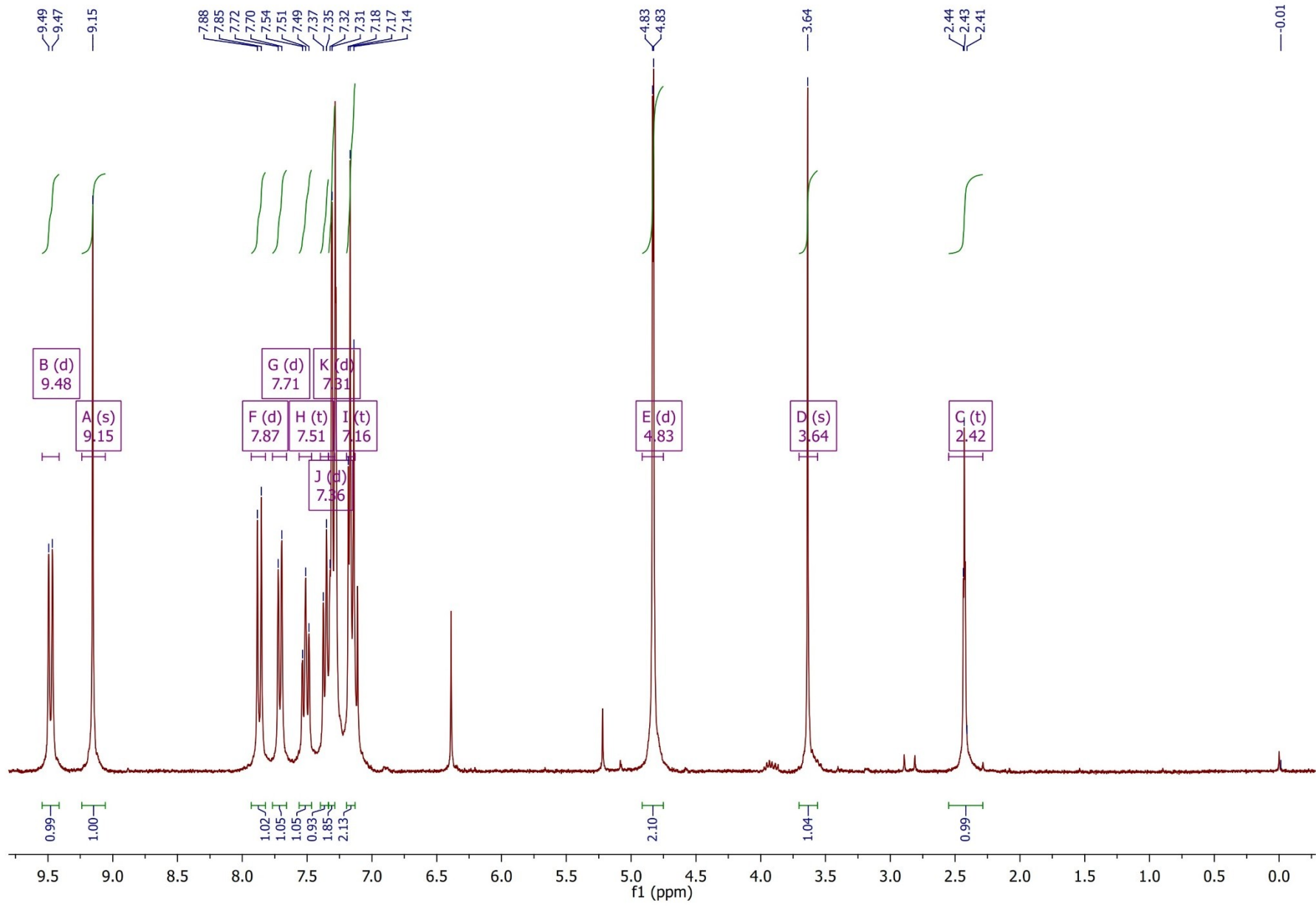
Panjab University, Chandigarh-160014

c Department of Chemistry

Gujranwala Guru Nanak Khalsa College, Civil lines, Ludhiana-141001

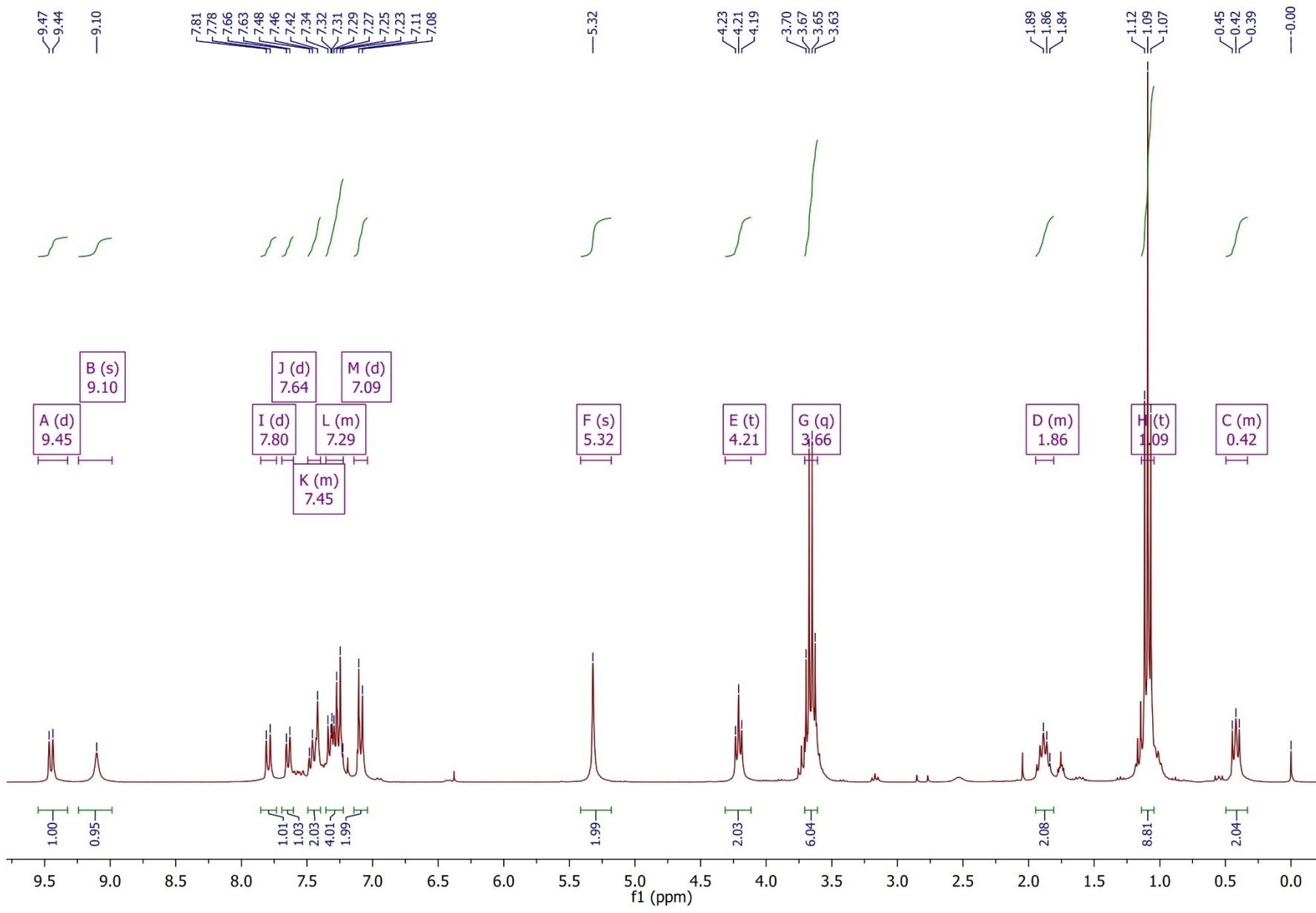
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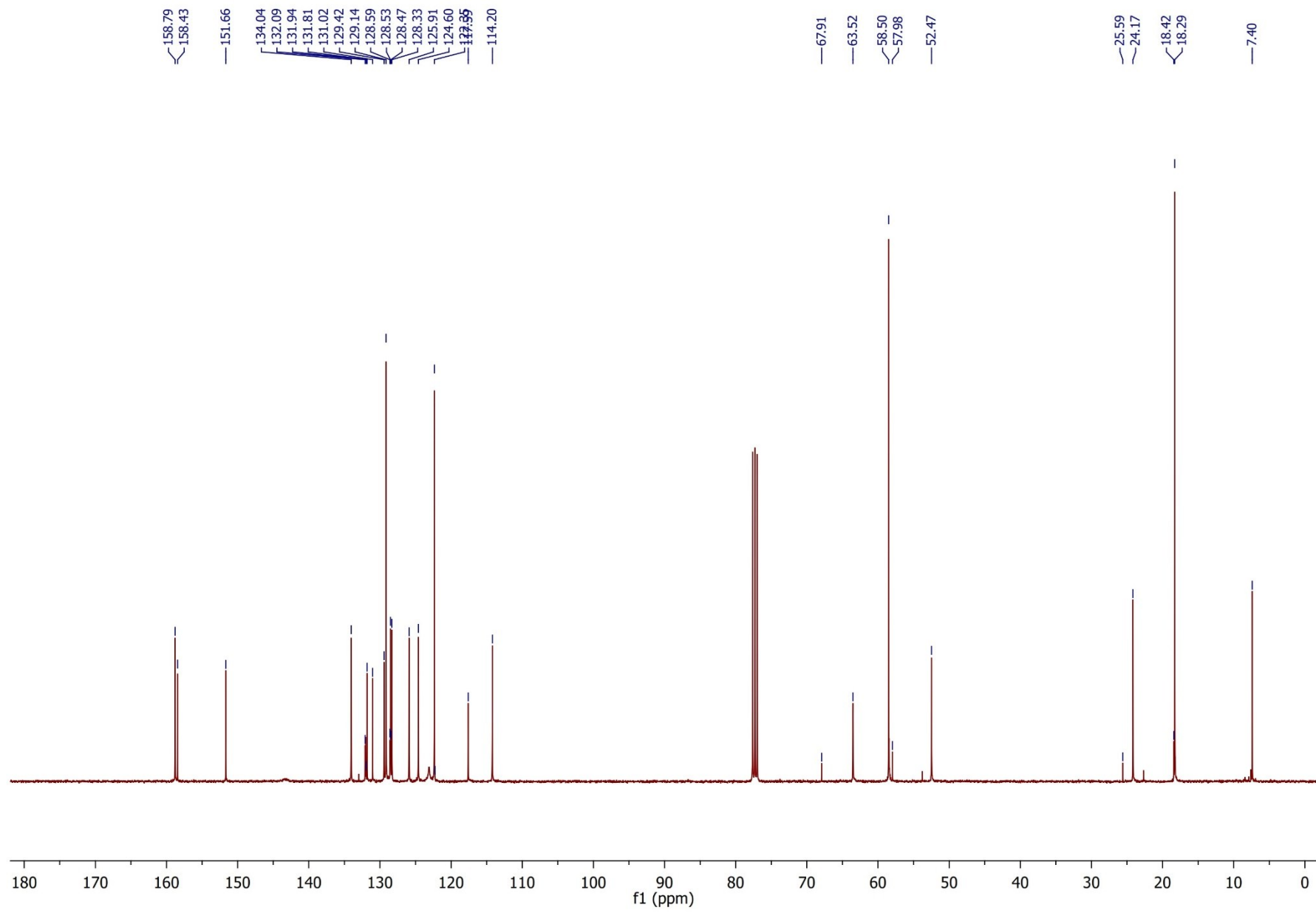


compound 3

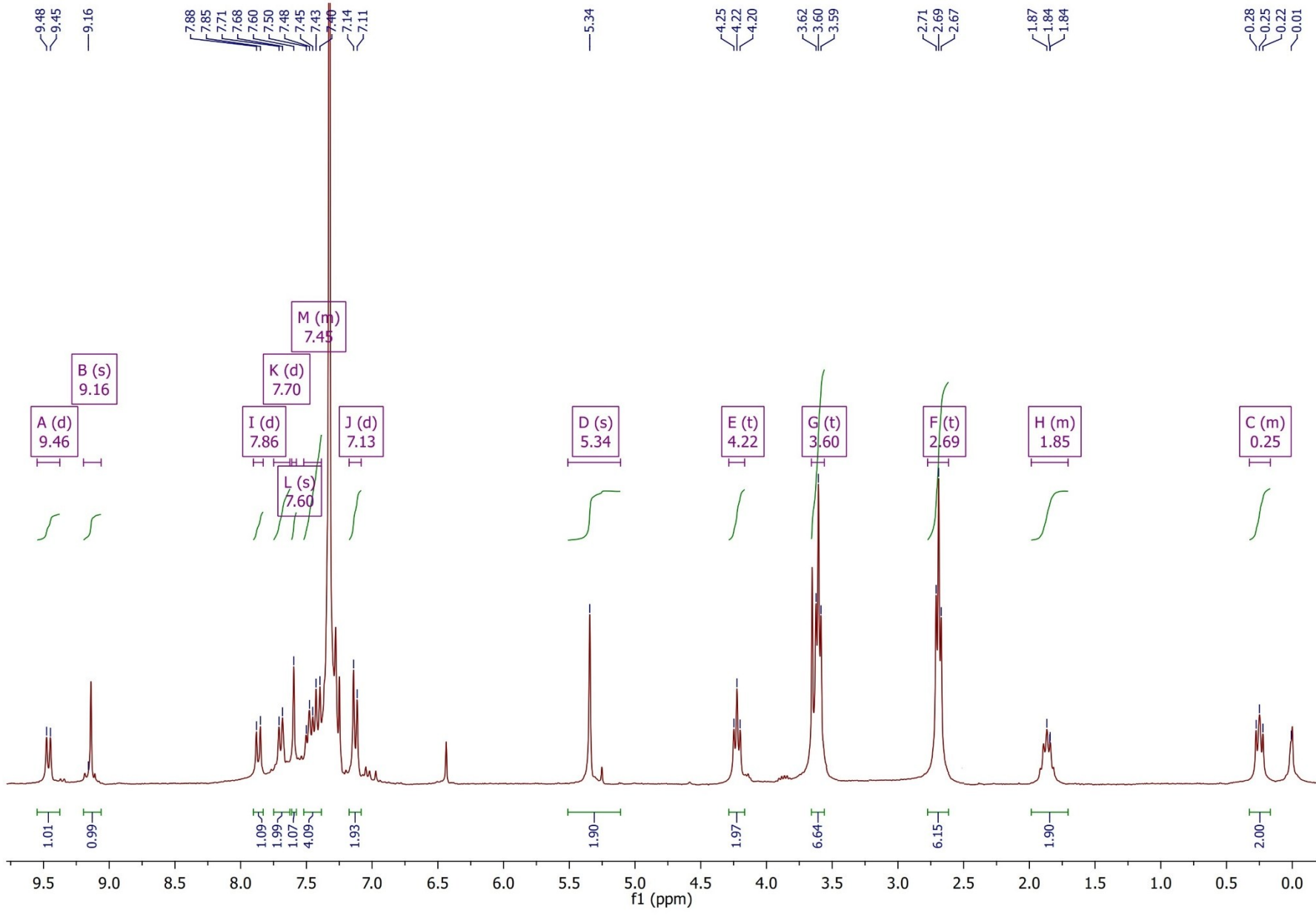
1H NMR of



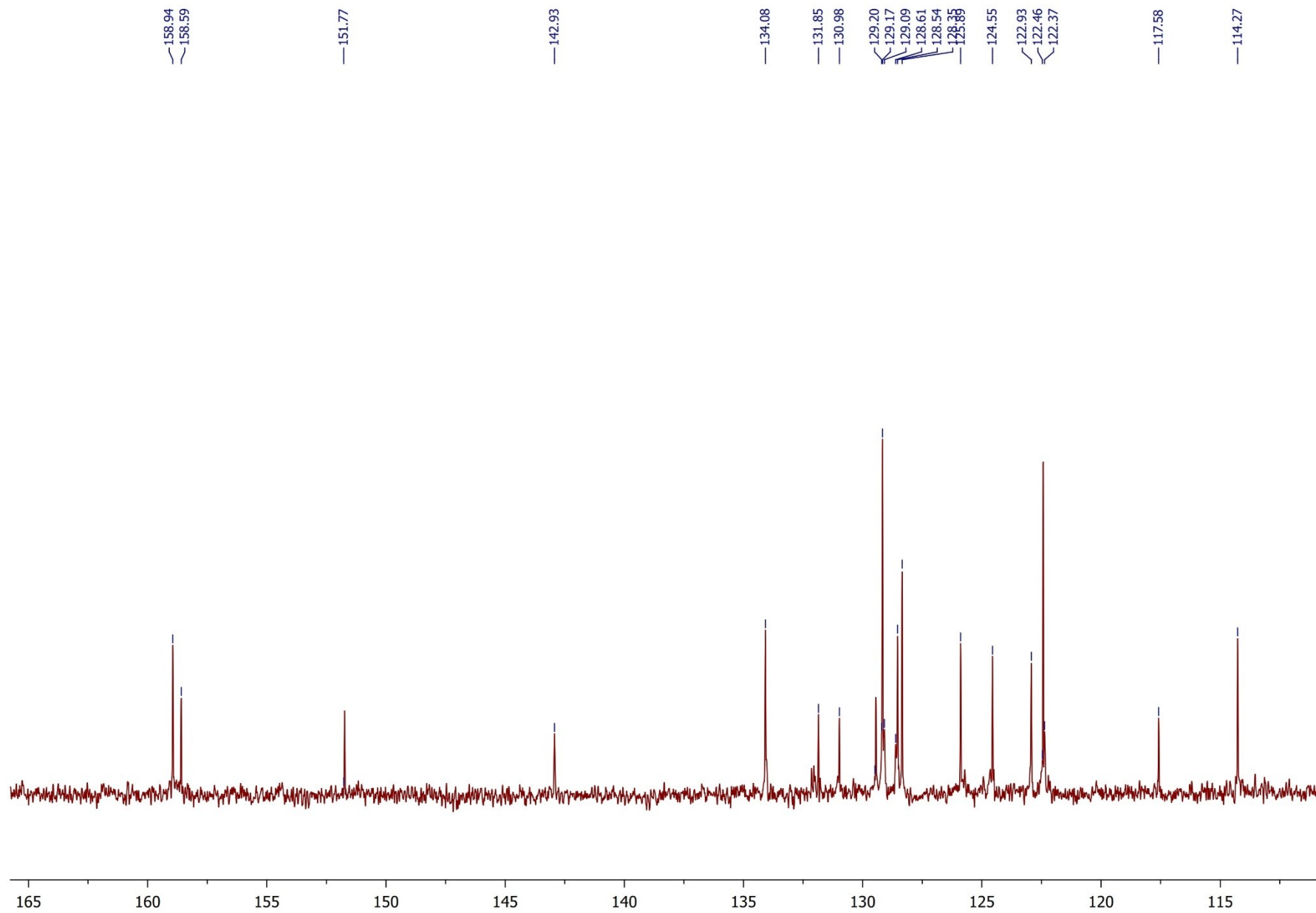
1H NMR of compound 4



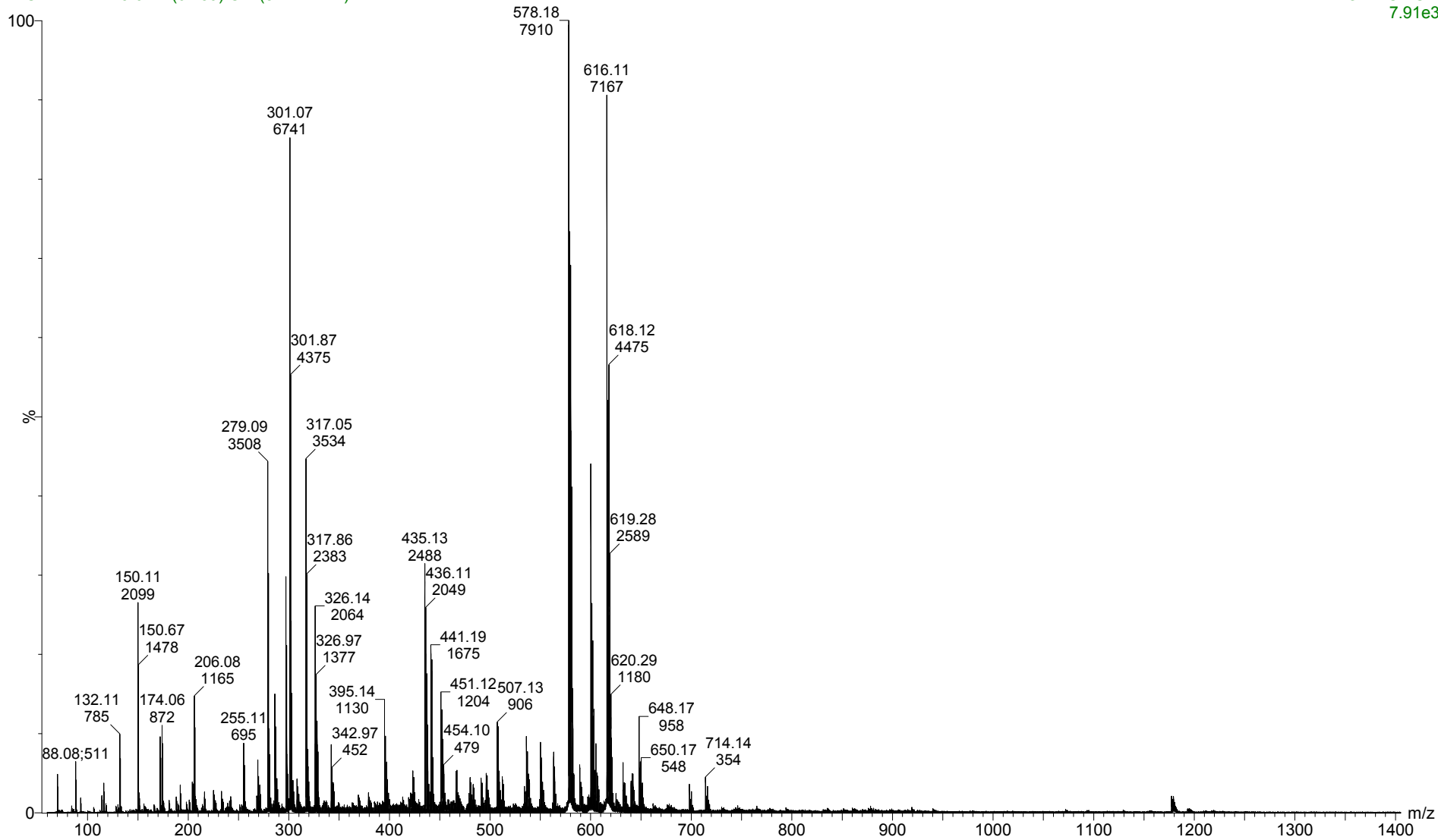
13C NMR of compound 4



¹H NMR of compound 5



13C NMR of compound 5



MS of compound 5

Cartesian coordinate

| | | | |
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| C | 5.619984000 | -1.746517000 | -0.860862000 |
| N | 6.527714000 | -1.161233000 | 0.127787000 |
| C | 5.865933000 | -0.782164000 | 1.381335000 |
| O | 4.933051000 | 0.368801000 | 1.169200000 |
| Si | 4.905196000 | 0.788479000 | -0.521719000 |
| O | 4.582073000 | -0.749991000 | -1.293673000 |
| O | 6.591377000 | 1.055742000 | -0.886438000 |
| C | 7.394217000 | -0.113447000 | -0.421051000 |
| H | 8.082157000 | 0.234992000 | 0.350995000 |
| H | 7.943503000 | -0.499299000 | -1.280794000 |
| H | 5.280962000 | -1.622823000 | 1.755806000 |
| H | 6.609958000 | -0.467354000 | 2.113921000 |
| H | 6.183857000 | -2.042687000 | -1.746529000 |
| H | 5.091800000 | -2.595536000 | -0.429686000 |
| C | 3.779732000 | 2.204859000 | -1.013182000 |
| C | 2.444464000 | 2.281602000 | -0.239654000 |
| H | 3.597036000 | 2.103206000 | -2.091562000 |
| H | 4.357200000 | 3.128610000 | -0.877643000 |
| C | 1.599851000 | 3.442787000 | -0.791290000 |
| H | 1.892522000 | 1.338946000 | -0.336640000 |
| H | 2.629461000 | 2.433052000 | 0.829314000 |
| H | 2.115183000 | 4.396127000 | -0.647954000 |
| H | 1.432438000 | 3.307409000 | -1.867319000 |
| N | 0.304291000 | 3.604179000 | -0.134389000 |
| C | -0.767778000 | 2.757890000 | -0.083304000 |
| C | -1.744784000 | 3.475167000 | 0.581935000 |
| H | -0.796409000 | 1.752065000 | -0.469181000 |
| N | 0.002271000 | 4.813734000 | 0.485011000 |
| N | -1.250309000 | 4.716407000 | 0.918586000 |
| C | -3.152150000 | 3.080101000 | 0.864246000 |
| H | -3.429804000 | 3.272575000 | 1.907398000 |
| H | -3.844386000 | 3.628496000 | 0.212707000 |
| C | -4.404154000 | 1.008459000 | 0.325549000 |
| C | -4.337241000 | -0.348511000 | -0.037297000 |
| C | -5.649918000 | 1.670209000 | 0.476821000 |
| C | -5.572500000 | -1.043311000 | -0.325742000 |
| C | -3.090511000 | -1.111940000 | -0.016904000 |
| C | -6.826647000 | 0.998979000 | 0.235648000 |
| H | -5.678219000 | 2.701955000 | 0.802000000 |
| C | -6.828561000 | -0.359098000 | -0.178821000 |
| C | -5.613359000 | -2.392654000 | -0.787540000 |
| H | -3.222668000 | -2.182464000 | 0.181175000 |
| H | -7.776576000 | 1.510162000 | 0.360632000 |
| C | -8.046741000 | -1.041267000 | -0.452406000 |

| | | | |
|----|--------------|--------------|--------------|
| C | -6.812980000 | -3.028556000 | -1.047228000 |
| H | -4.691482000 | -2.930309000 | -0.970633000 |
| C | -8.046326000 | -2.354642000 | -0.872857000 |
| H | -8.981047000 | -0.501046000 | -0.328544000 |
| H | -6.808811000 | -4.054932000 | -1.400244000 |
| H | -8.979049000 | -2.867780000 | -1.081194000 |
| O | -3.213819000 | 1.649774000 | 0.576776000 |
| N | -1.888745000 | -0.647471000 | -0.171413000 |
| C | -0.774944000 | -1.486619000 | 0.070506000 |
| C | 0.378771000 | -1.307926000 | -0.717153000 |
| C | -0.748190000 | -2.438501000 | 1.110635000 |
| C | 1.528407000 | -2.071006000 | -0.497606000 |
| H | 0.356728000 | -0.569510000 | -1.511136000 |
| C | 0.394990000 | -3.208841000 | 1.340274000 |
| H | -1.603975000 | -2.546133000 | 1.767963000 |
| C | 1.508921000 | -3.014922000 | 0.528804000 |
| H | 2.421806000 | -1.905156000 | -1.089197000 |
| H | 0.420960000 | -3.932621000 | 2.145827000 |
| Cl | 3.007365000 | -4.024903000 | 0.850675000 |

