

## *Supporting Information*

### **An Efficient Synthesis of 6-Arylbenzo[4,5]imidazo[2,1-*a*]isoquinolines via Sequential $\alpha$ -Arylation of Carbonyl and Deacylation Catalyzed by CuI**

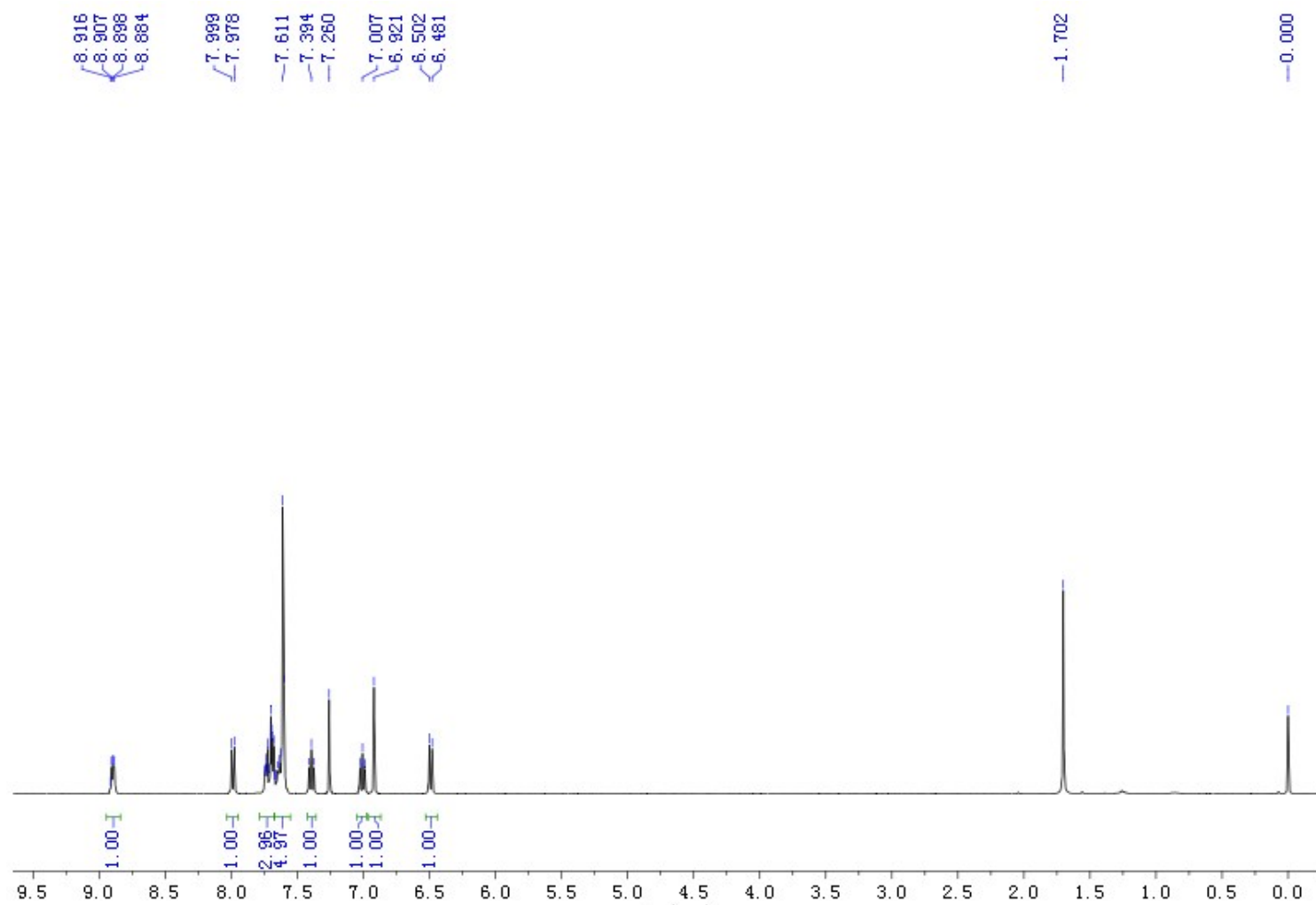
Wei-Qing Miao, Jian-Quan Liu, Xiang-Shan Wang\*

*School of Chemistry and Materials Science, Jiangsu Key Laboratory of Green Synthesis for Functional Materials, Jiangsu Normal University, Xuzhou Jiangsu 221116, P. R. China*

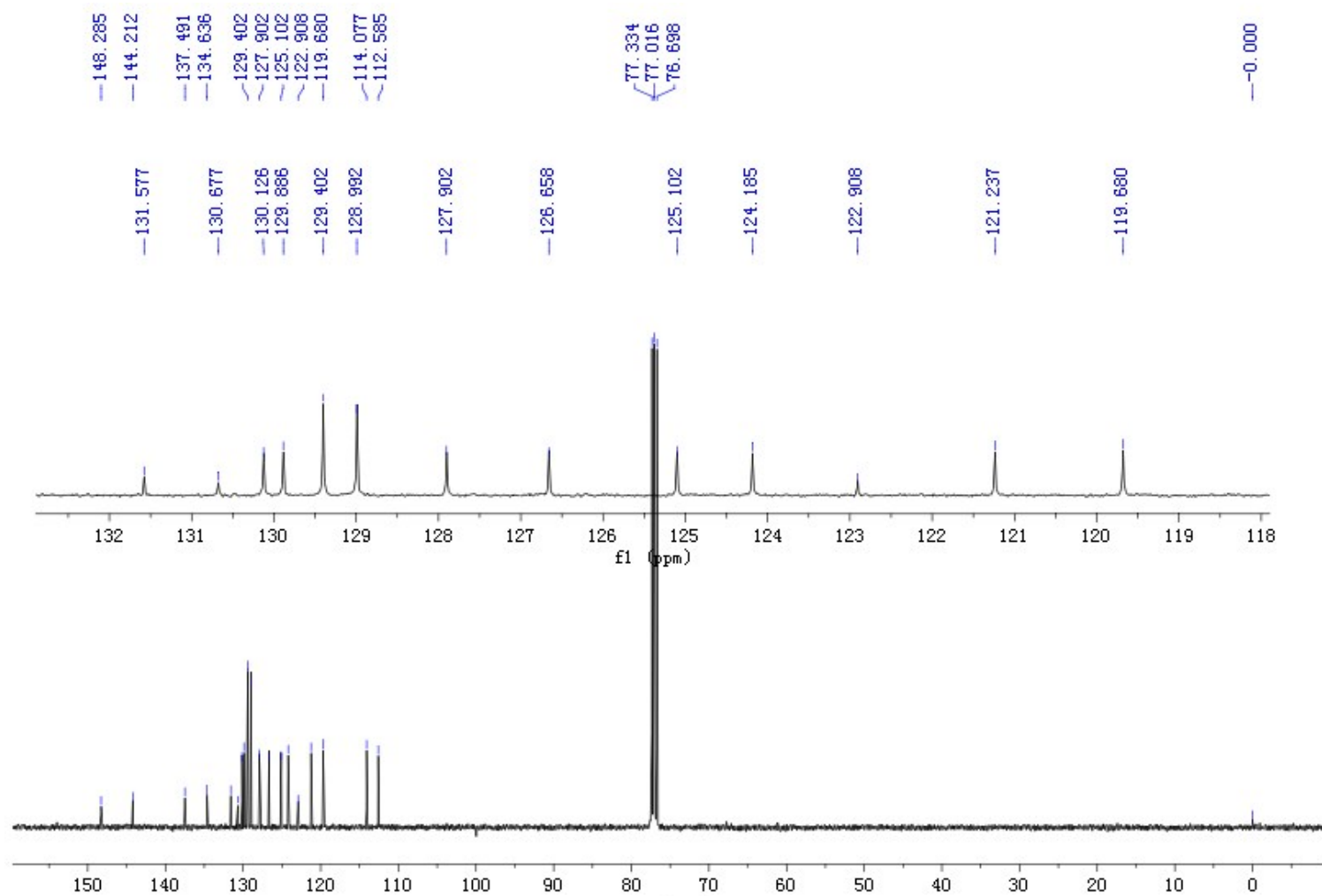
[xswang1974@yahoo.com](mailto:xswang1974@yahoo.com)

#### **Content**

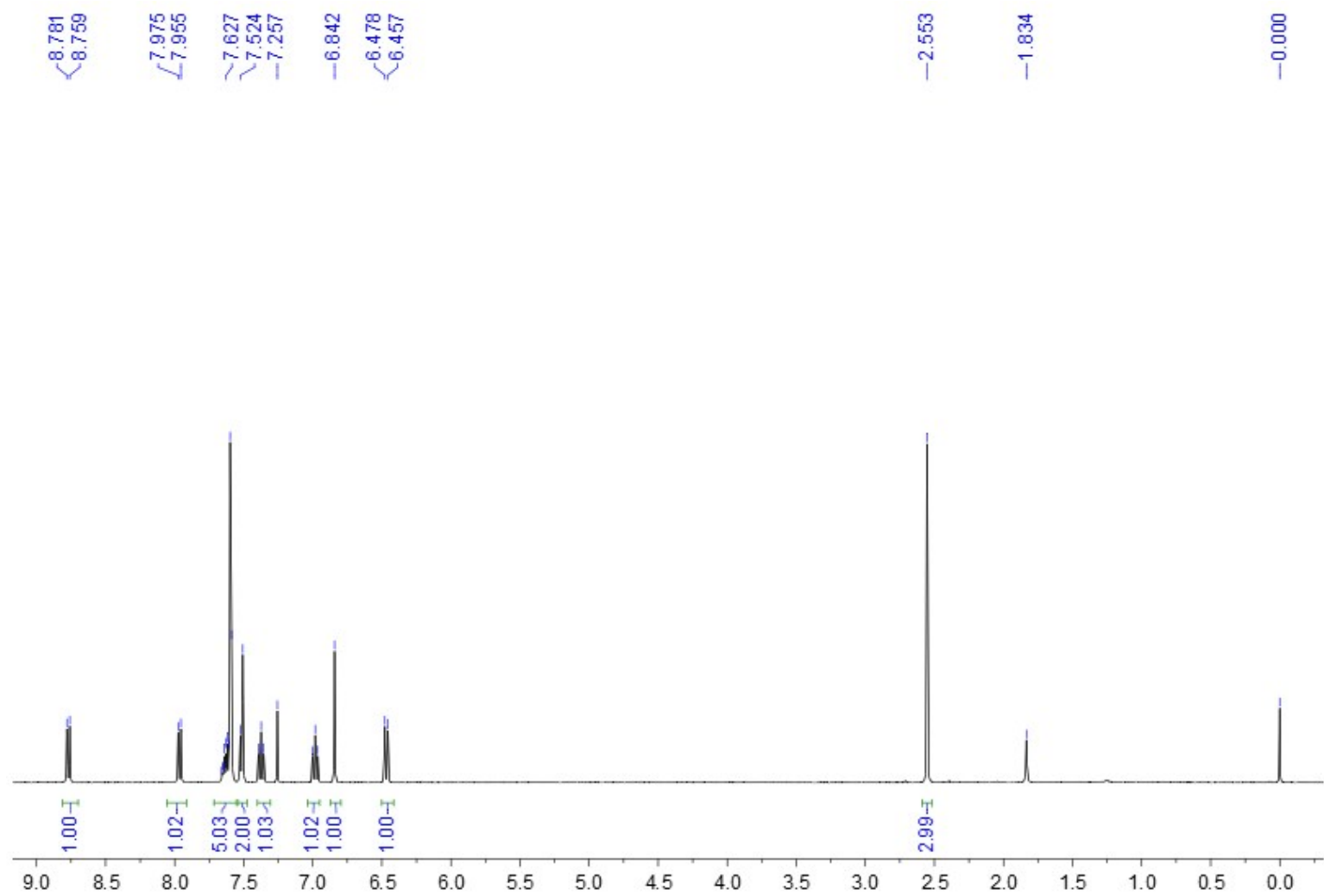
|                            |         |
|----------------------------|---------|
| NMR copies of <b>3a-3w</b> | S2-S46  |
| NMR copies of <b>4a-4b</b> | S47-S51 |



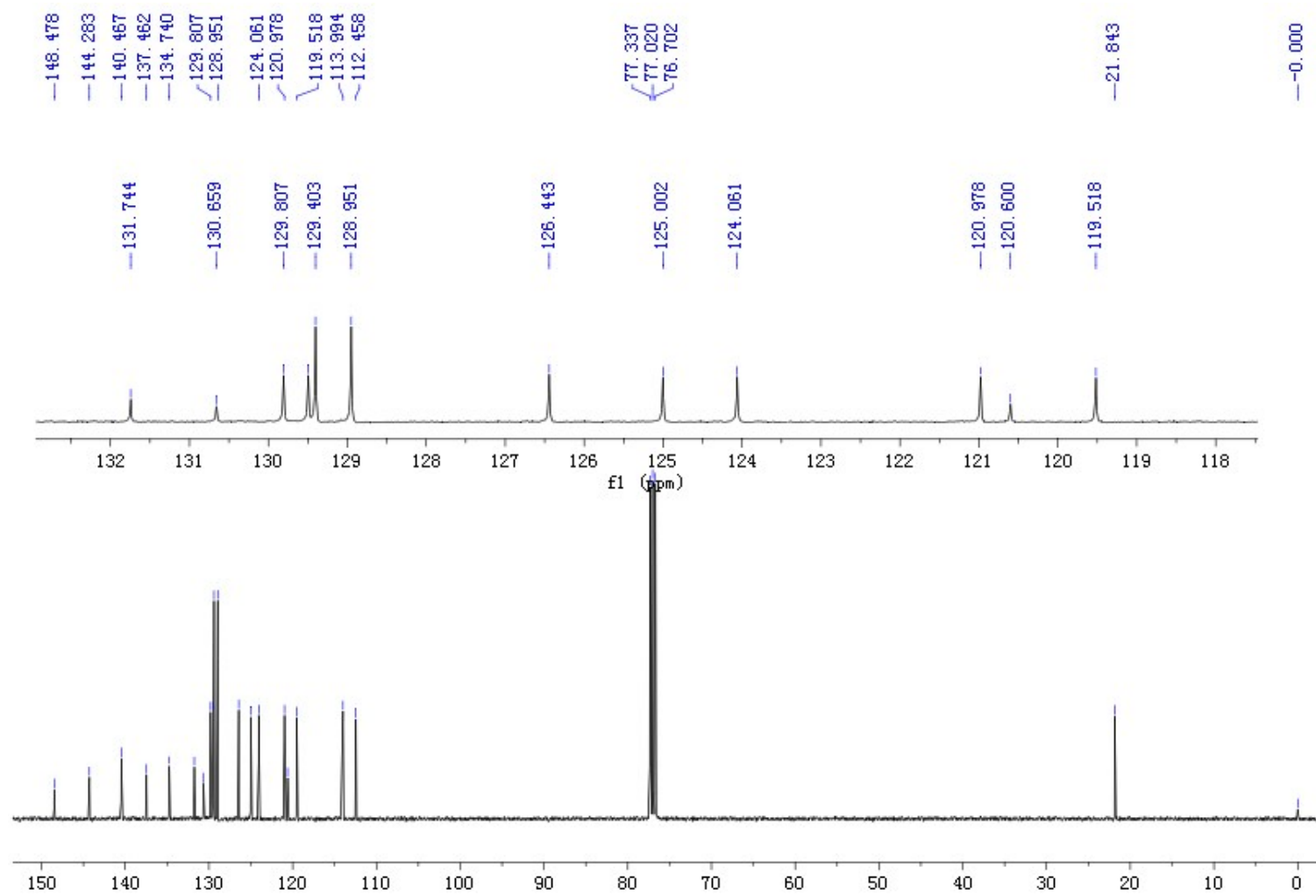
<sup>1</sup>H NMR of 6-Phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3a**)



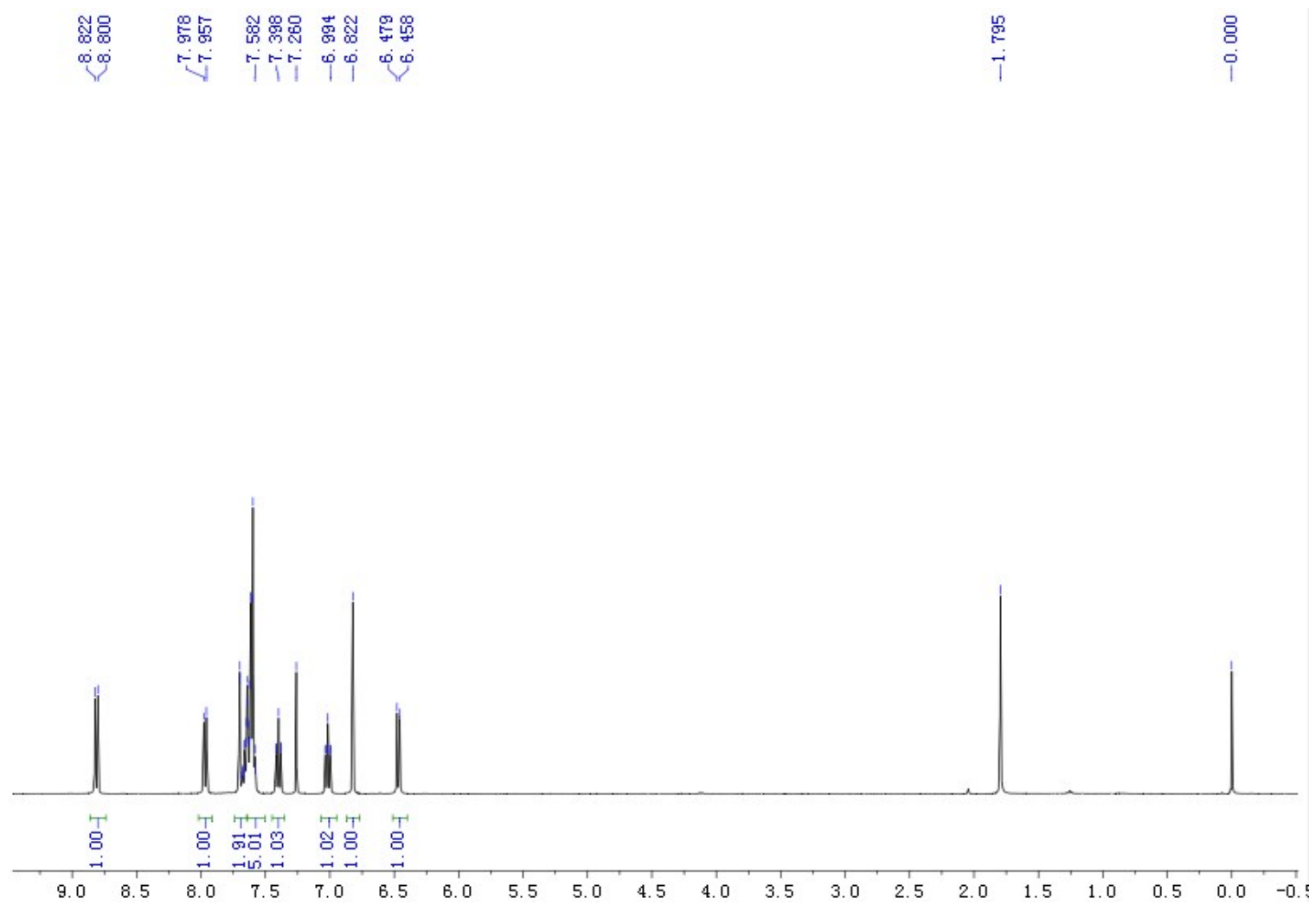
$^{13}\text{C}$  NMR of 6-Phenylbenzo[4,5]imidazo[2,1-a]isoquinoline (**3a**)



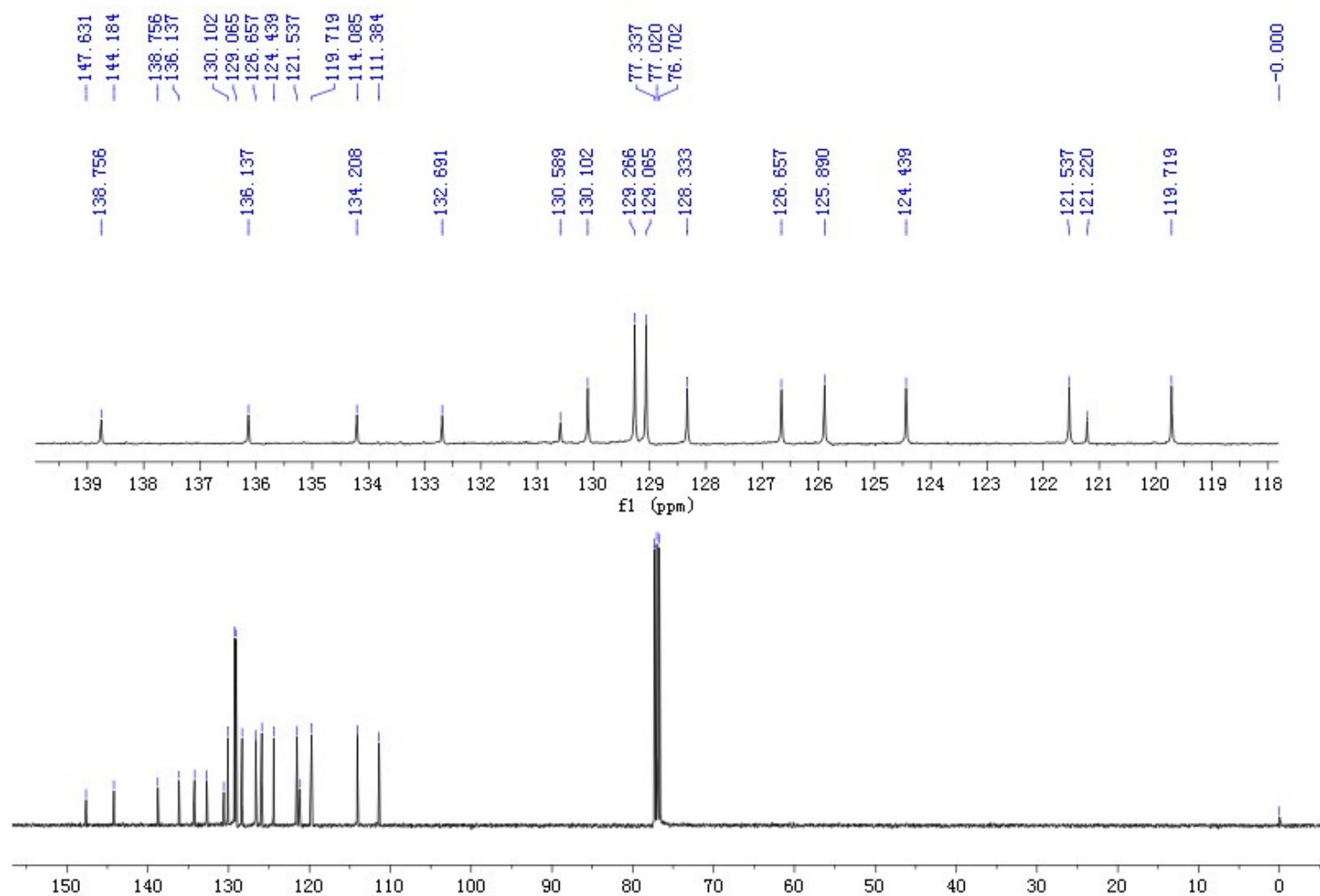
<sup>1</sup>H NMR of 3-Methyl-6-phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3b**)



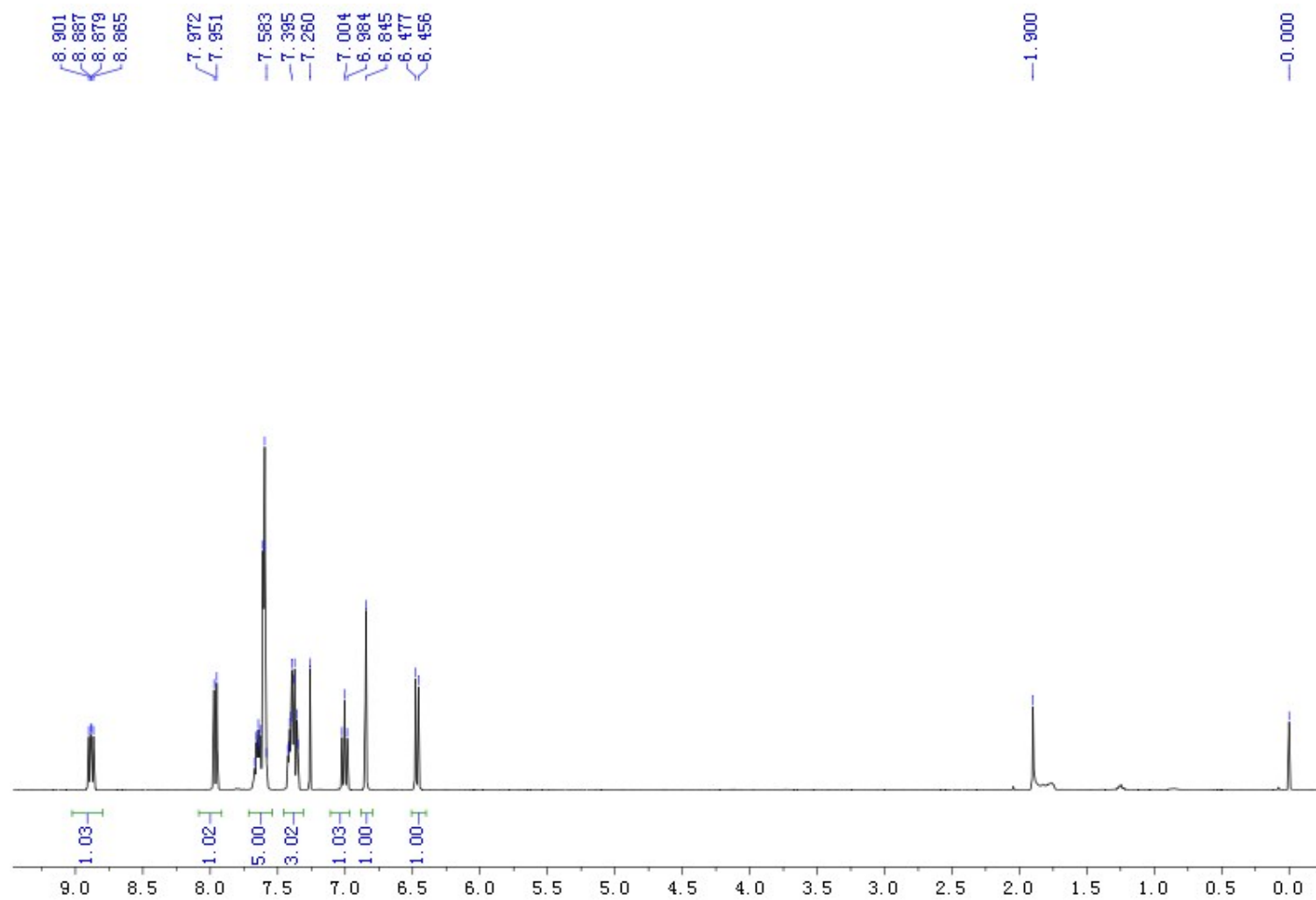
<sup>13</sup>C NMR of 3-Methyl-6-phenylbenzo[4,5]imidazo[2,1-a]isoquinoline (**3b**)



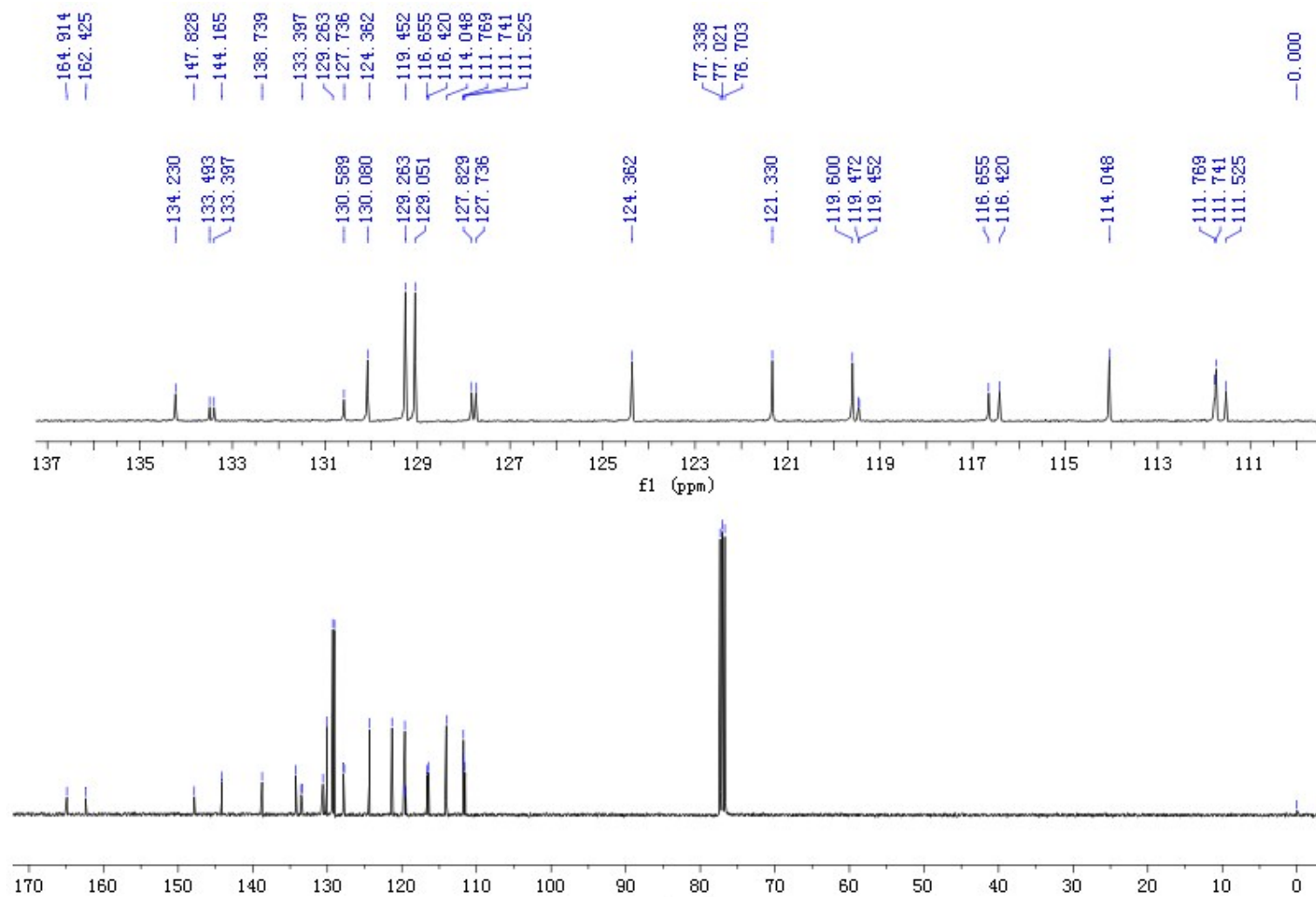
<sup>1</sup>H NMR of 3-Chloro-6-phenylbenzo[4,5]imidazo[2,1-a]isoquinoline (**3c**)



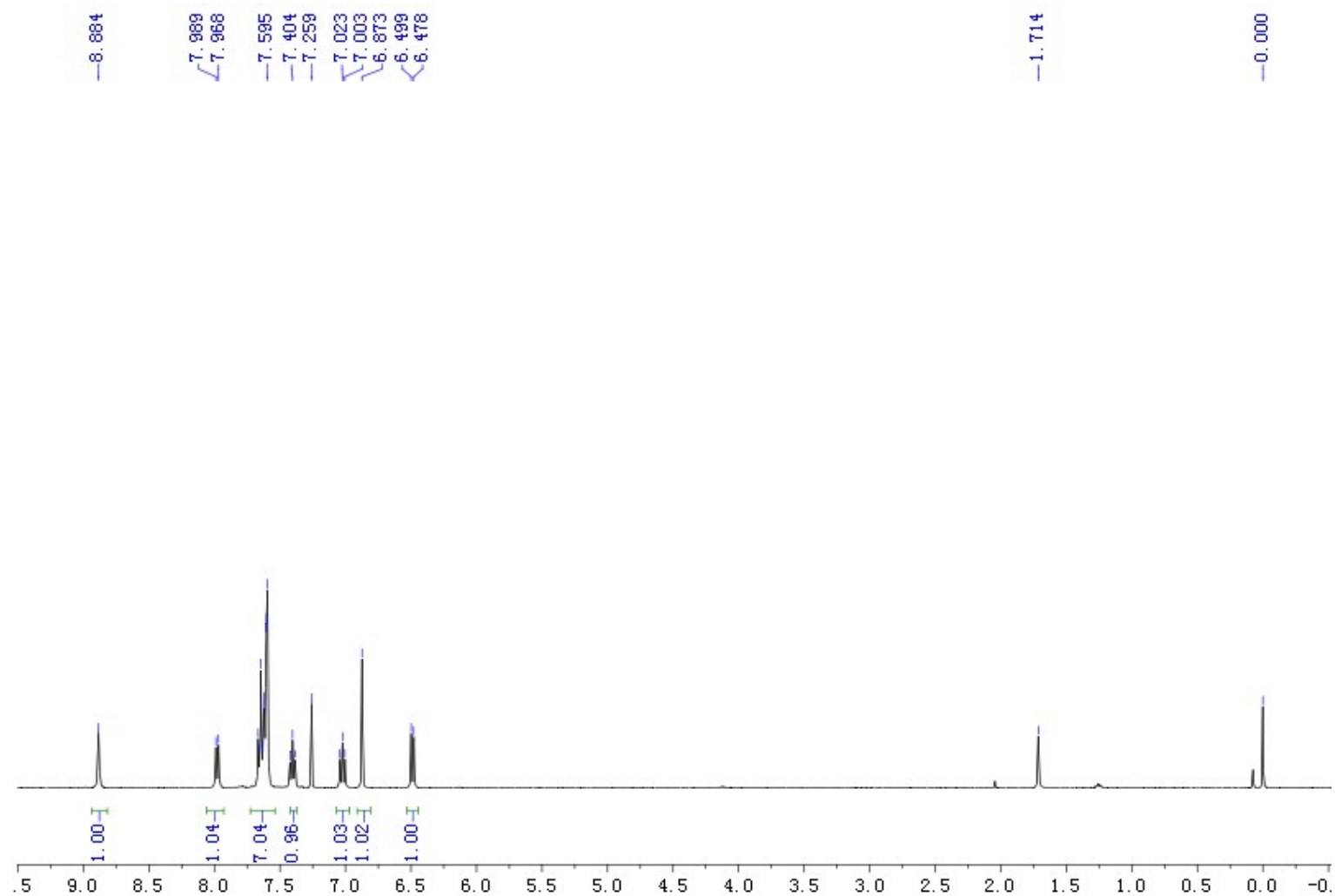
$^{13}\text{C}$  NMR of 3-Chloro-6-phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3c**)



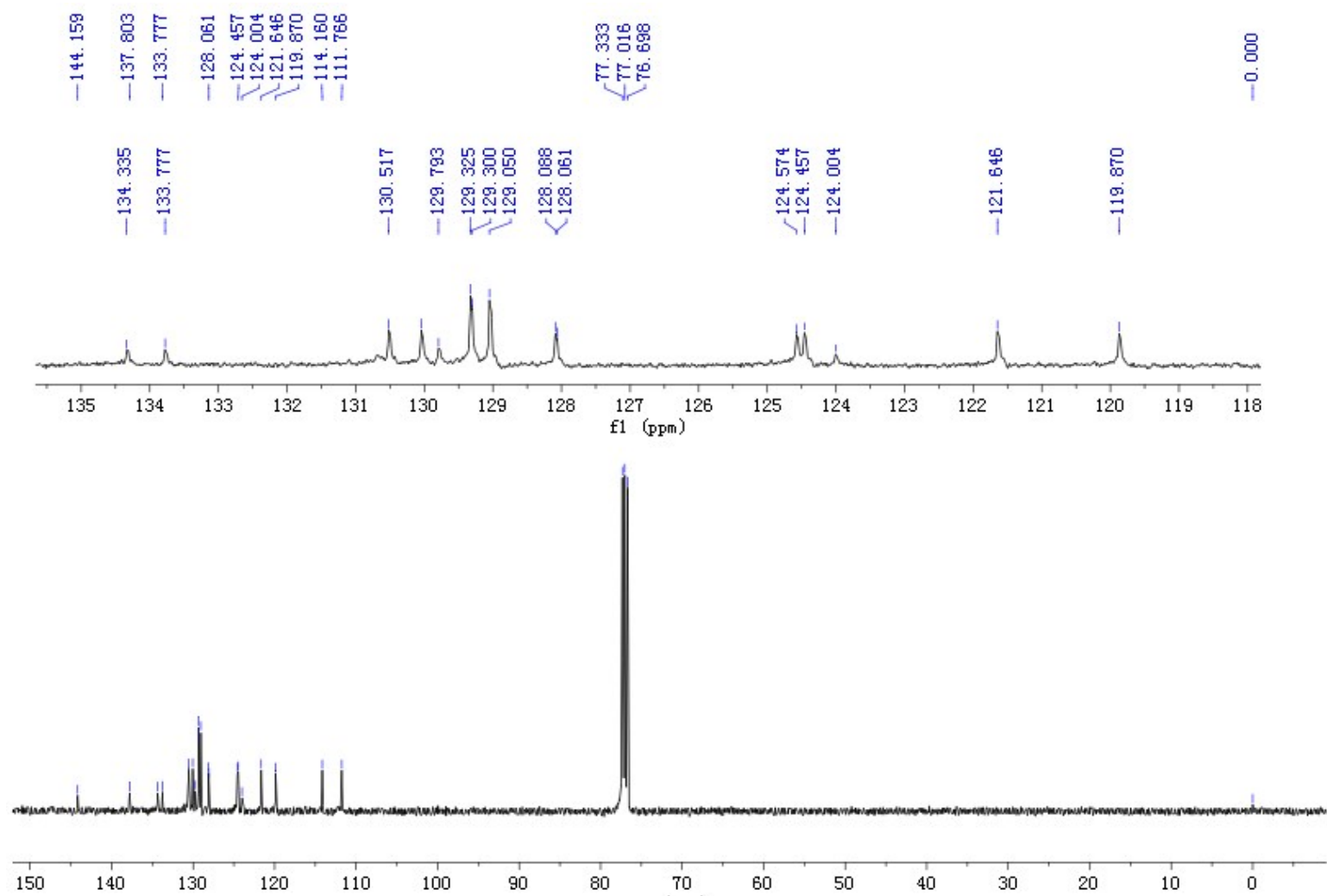
<sup>1</sup>H NMR of 3-Fluoro-6-phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3d**)



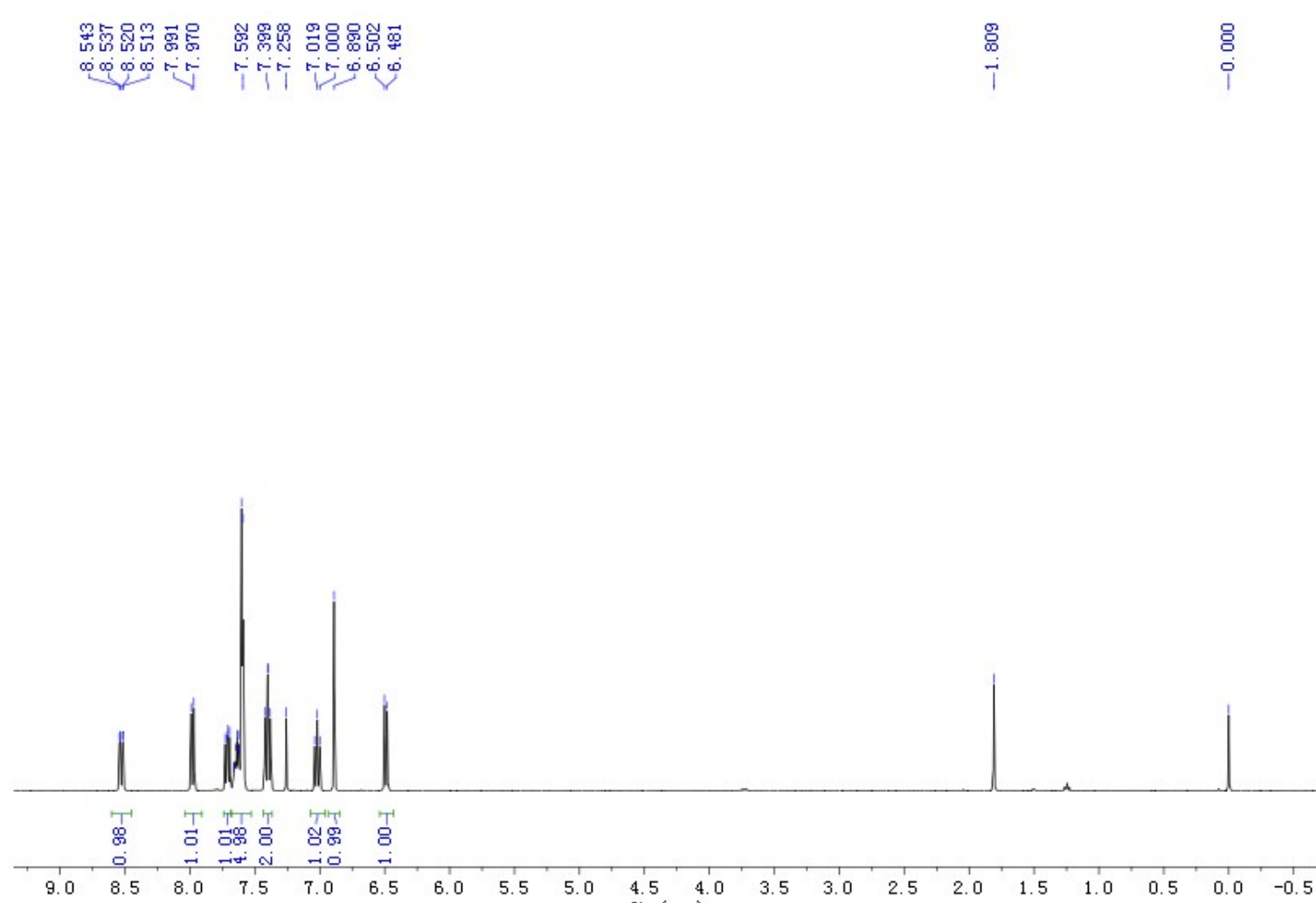
<sup>13</sup>C NMR of 3-Fluoro-6-phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3d**)



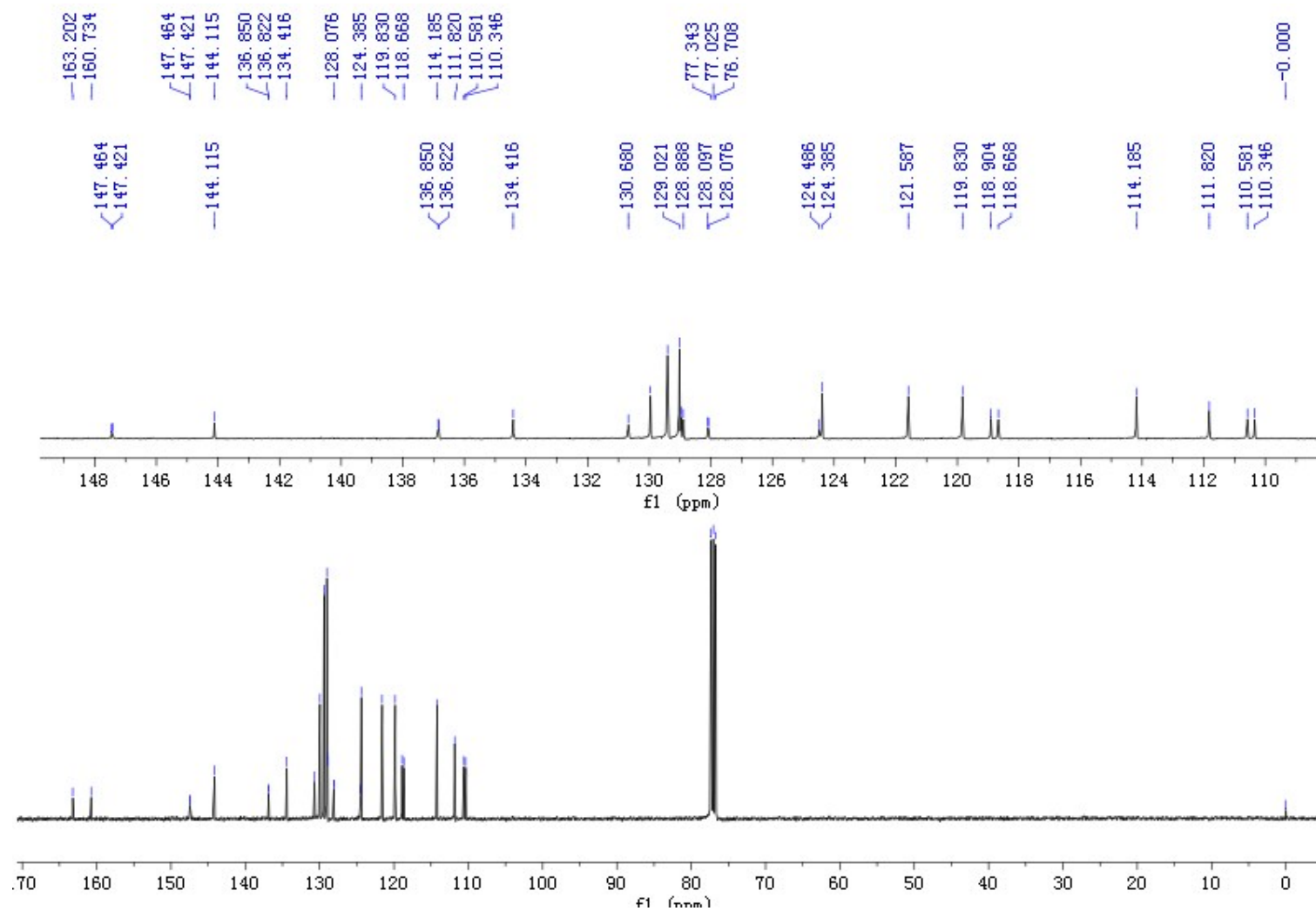
<sup>1</sup>H NMR of 2-Chloro-6-phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3e**)



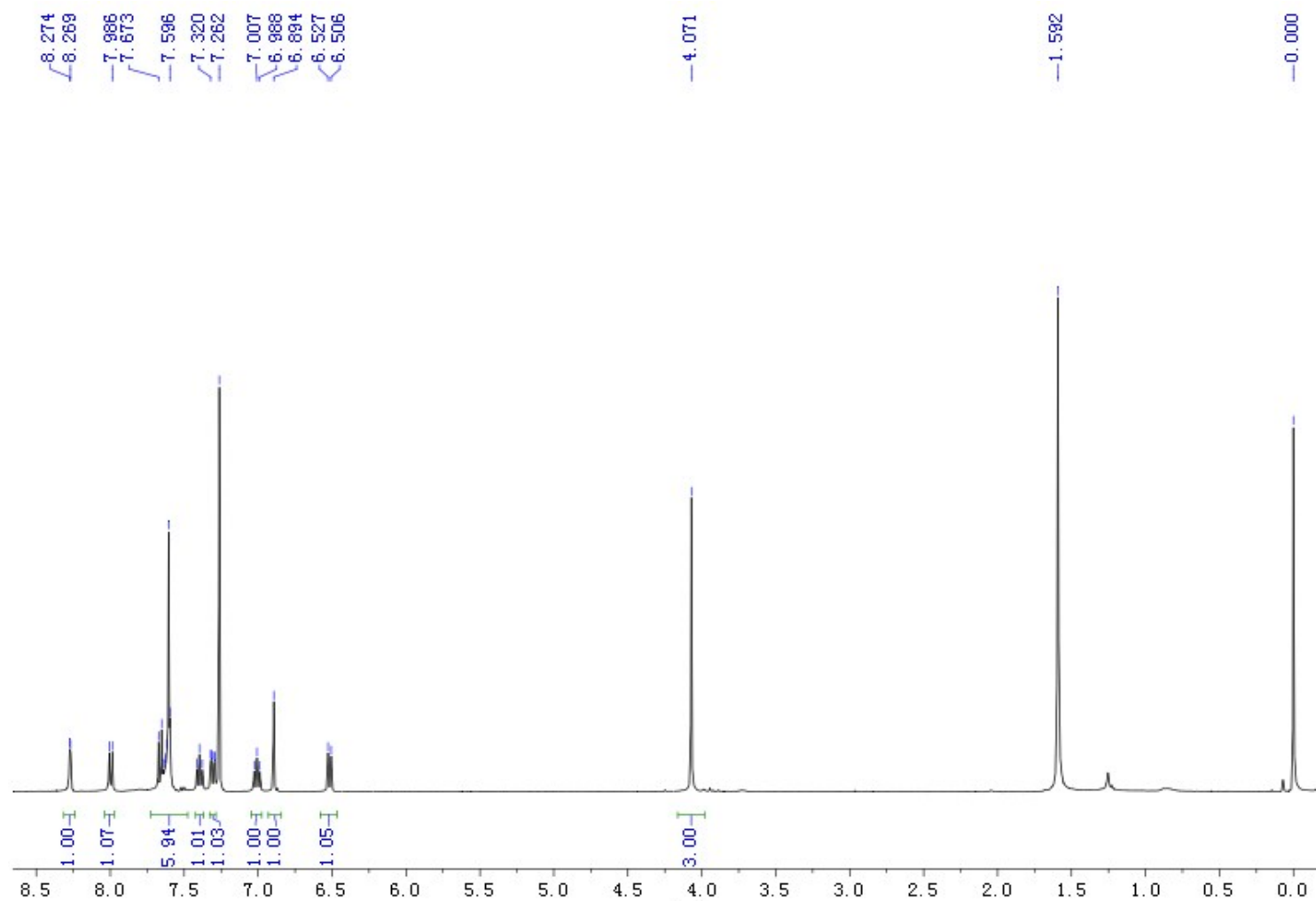
$^{13}\text{C}$  NMR of 2-Chloro-6-phenylbenzo[4,5]imidazo[2,1-a]isoquinoline (**3e**)



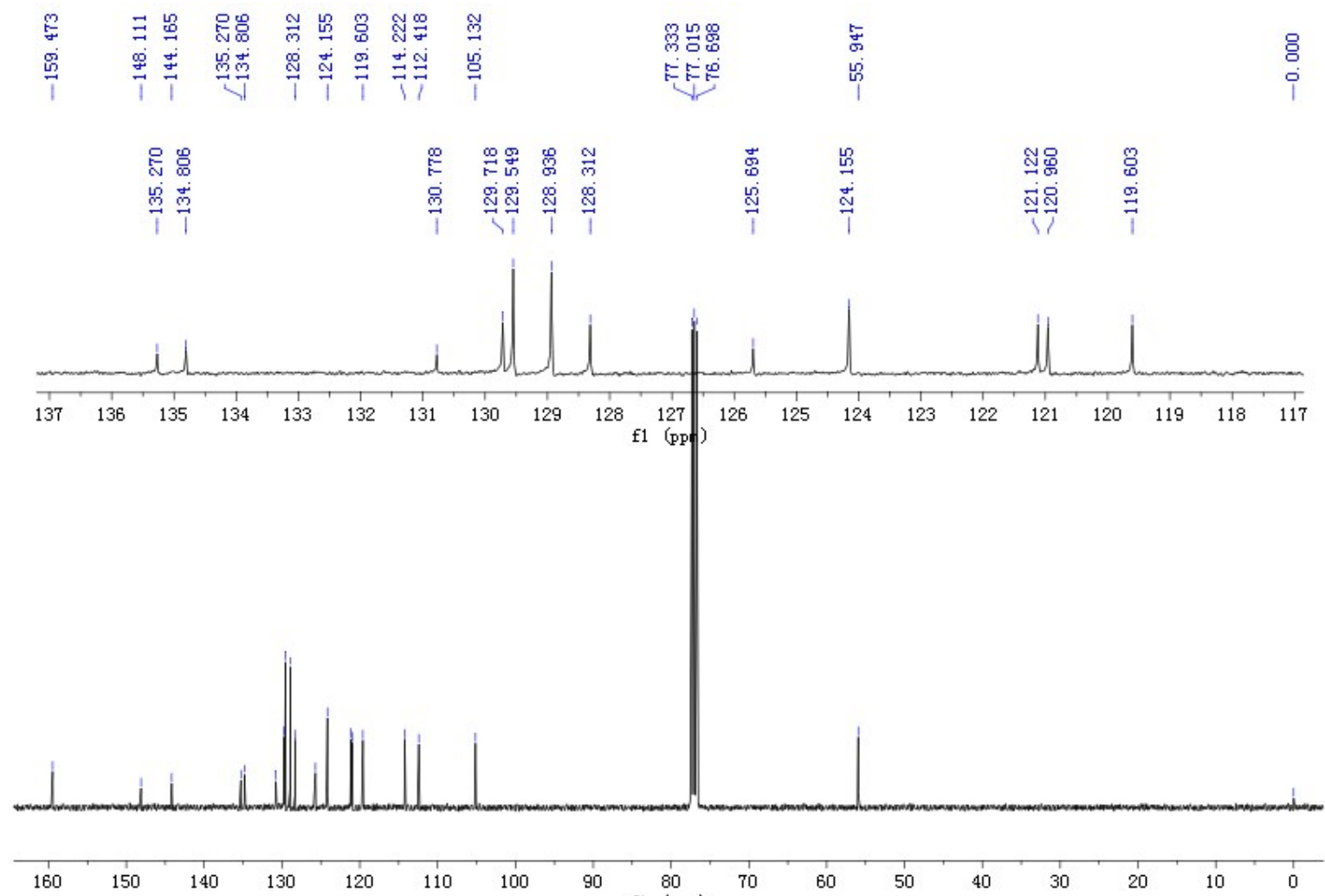
<sup>1</sup>H NMR of 2-Fluoro-6-phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3f**)



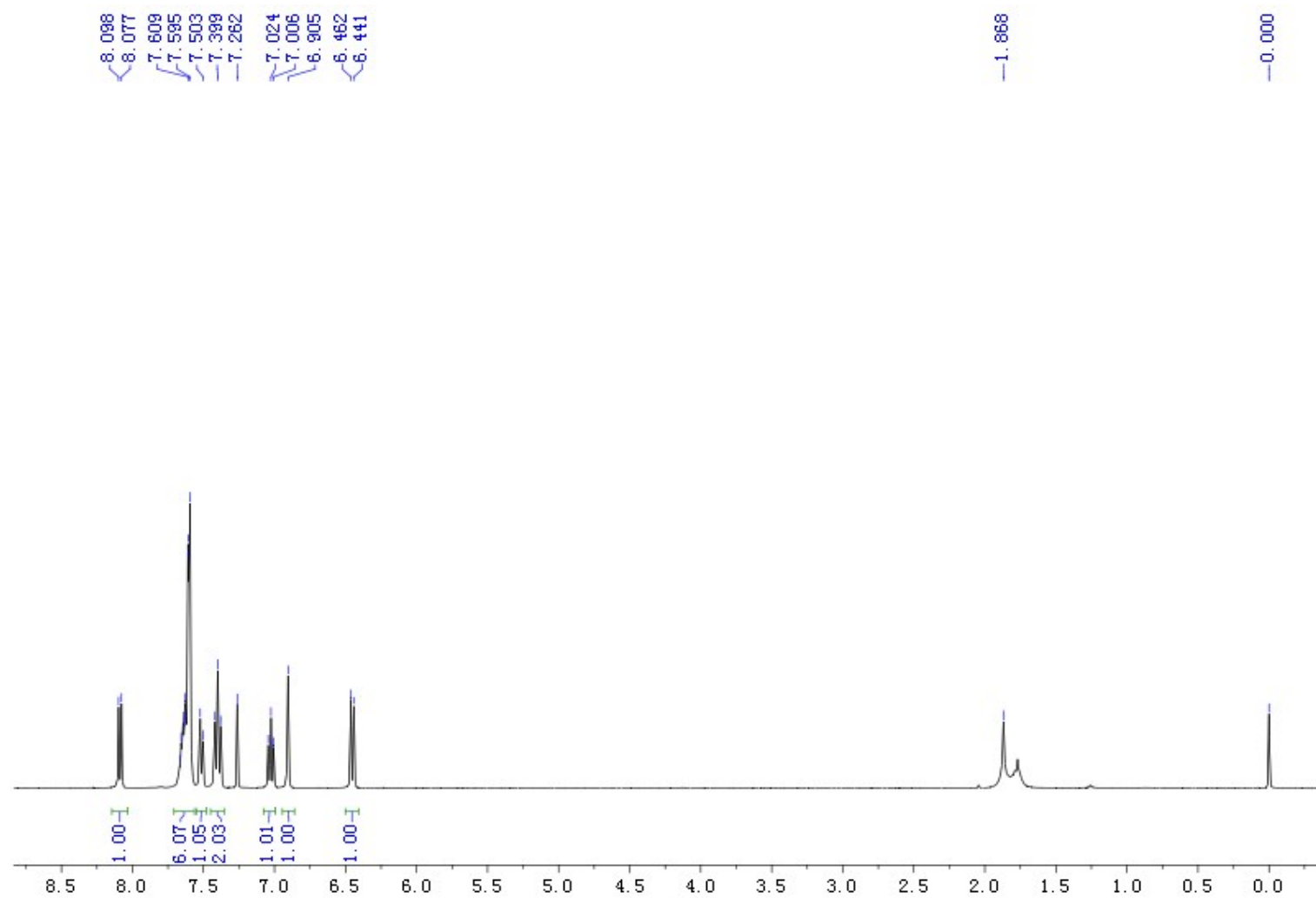
$^{13}\text{C}$  NMR of 2-Fluoro-6-phenylbenzo[4,5]imidazo[2,1-a]isoquinoline (**3f**)



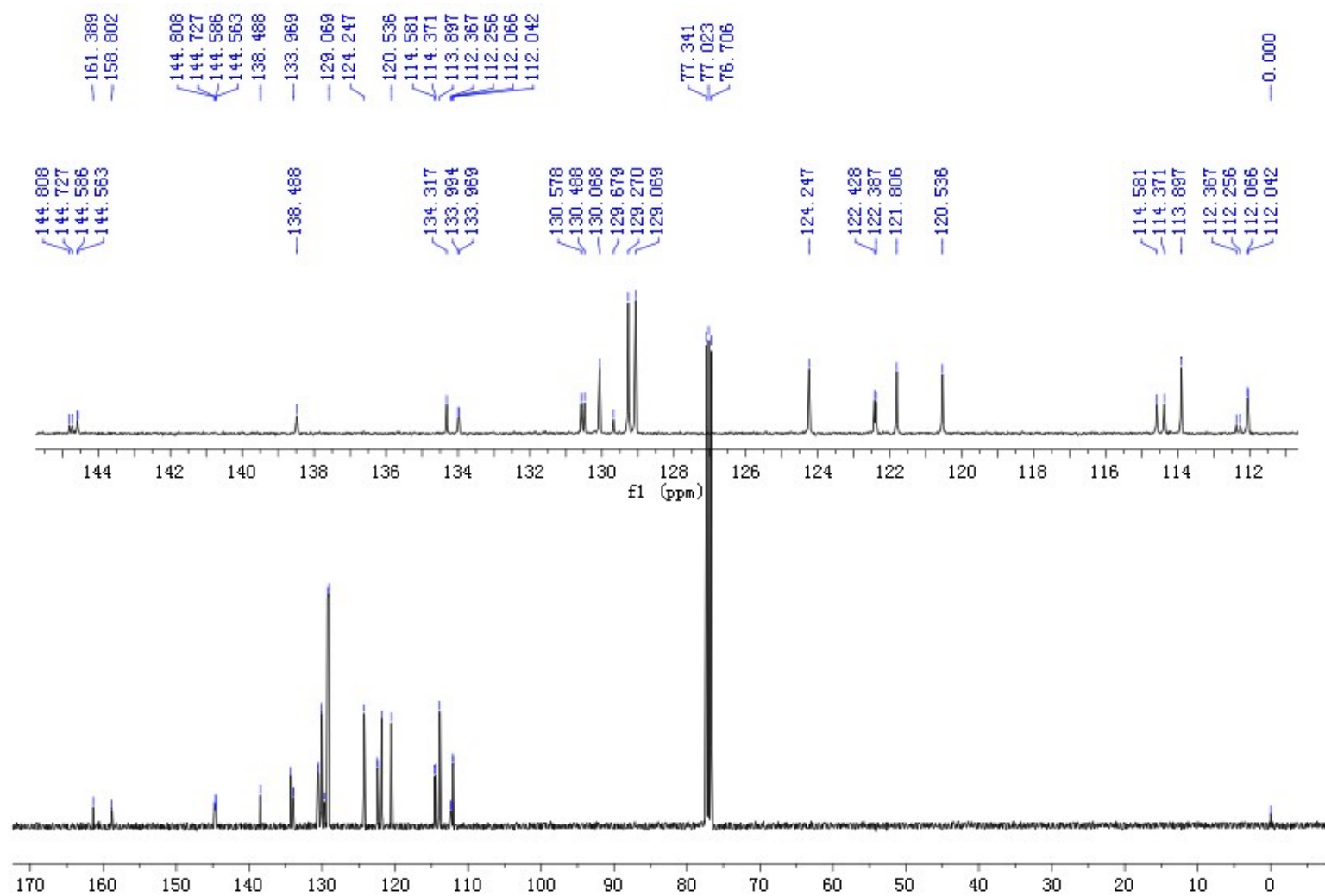
<sup>1</sup>H NMR of 2-Methoxy-6-phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3g**)



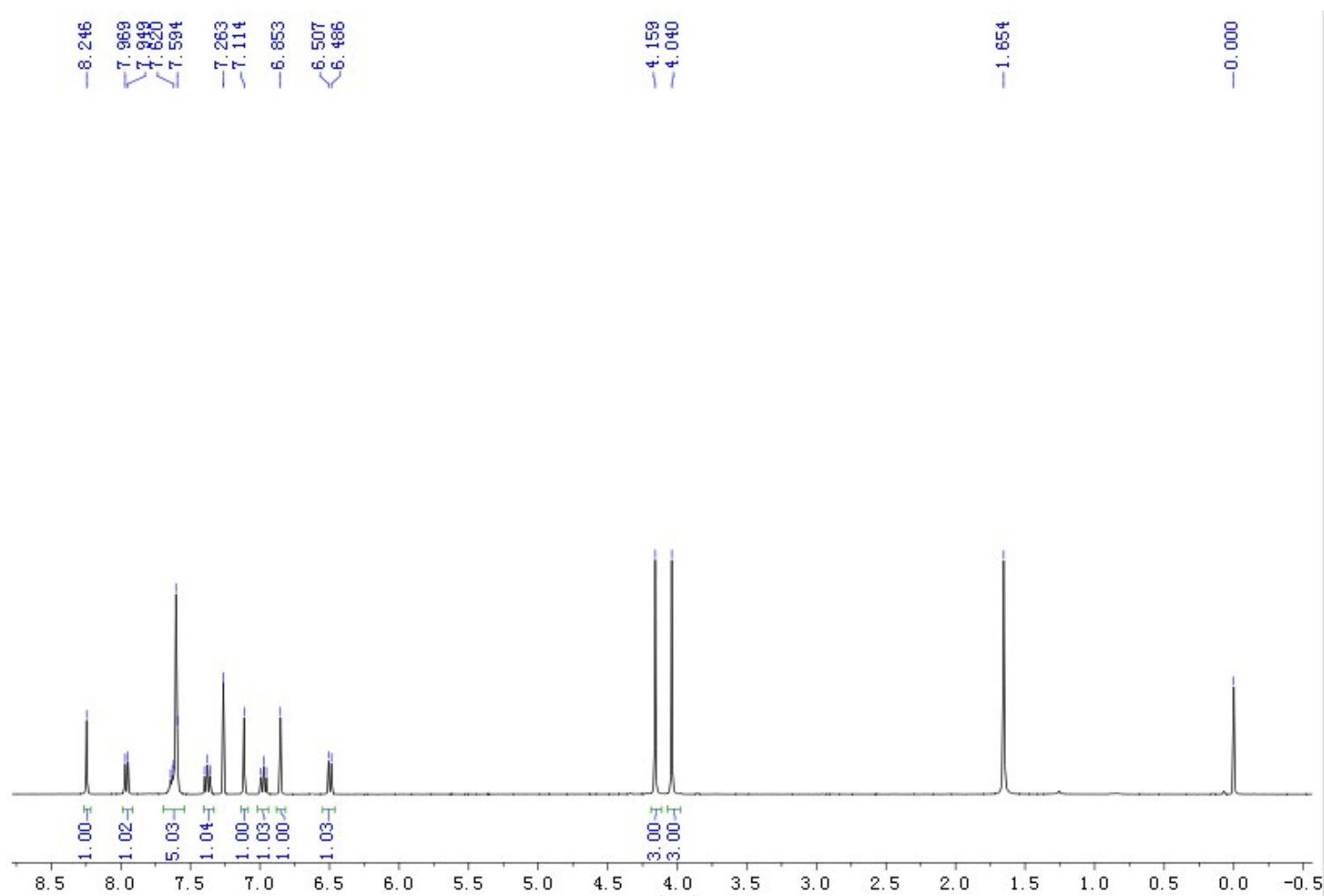
<sup>13</sup>C NMR of 2-Methoxy-6-phenylbenzo[4,5]imidazo[2,1-a]isoquinoline (**3g**)



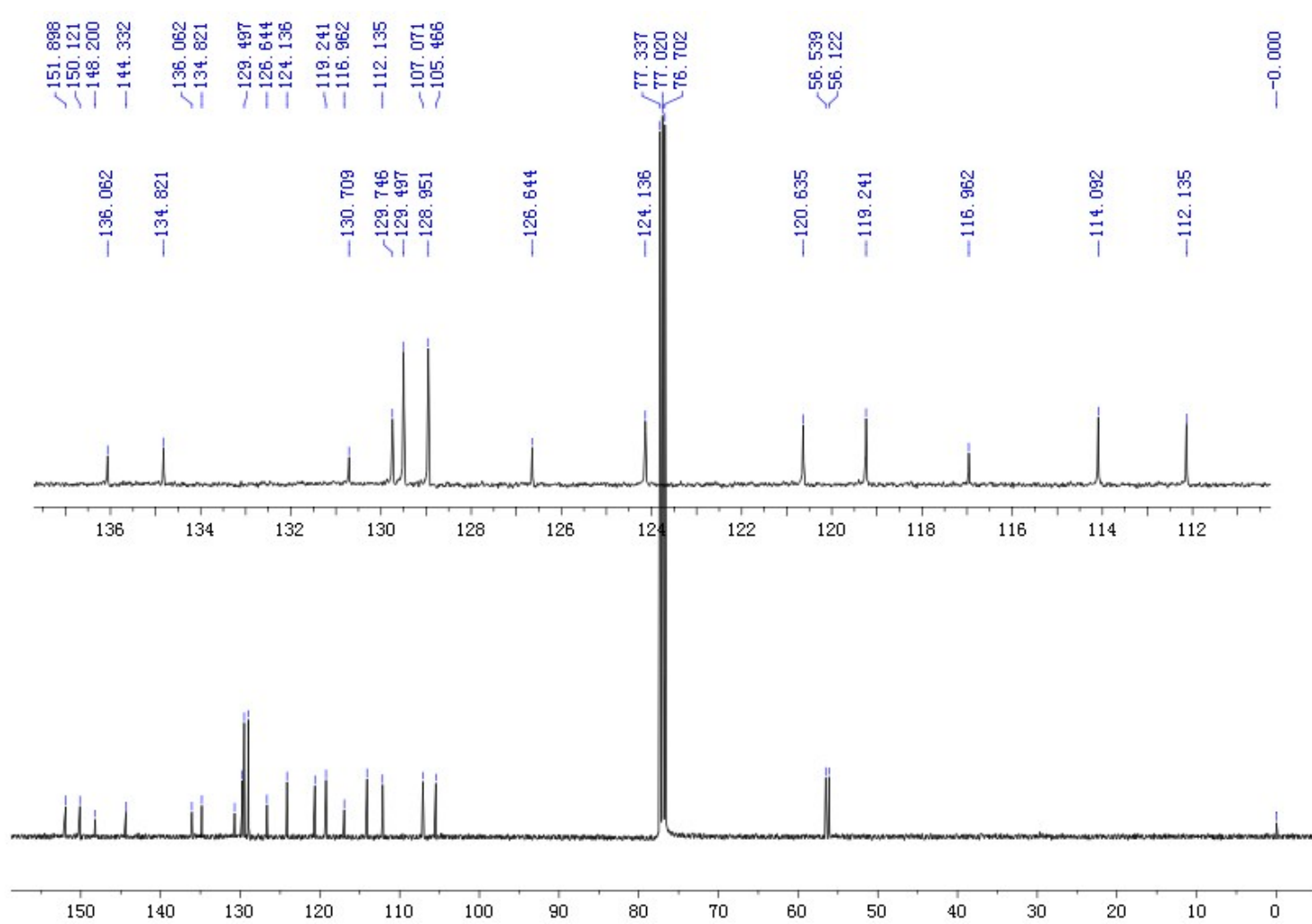
<sup>1</sup>H NMR of 1-Fluoro-6-phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3h**)



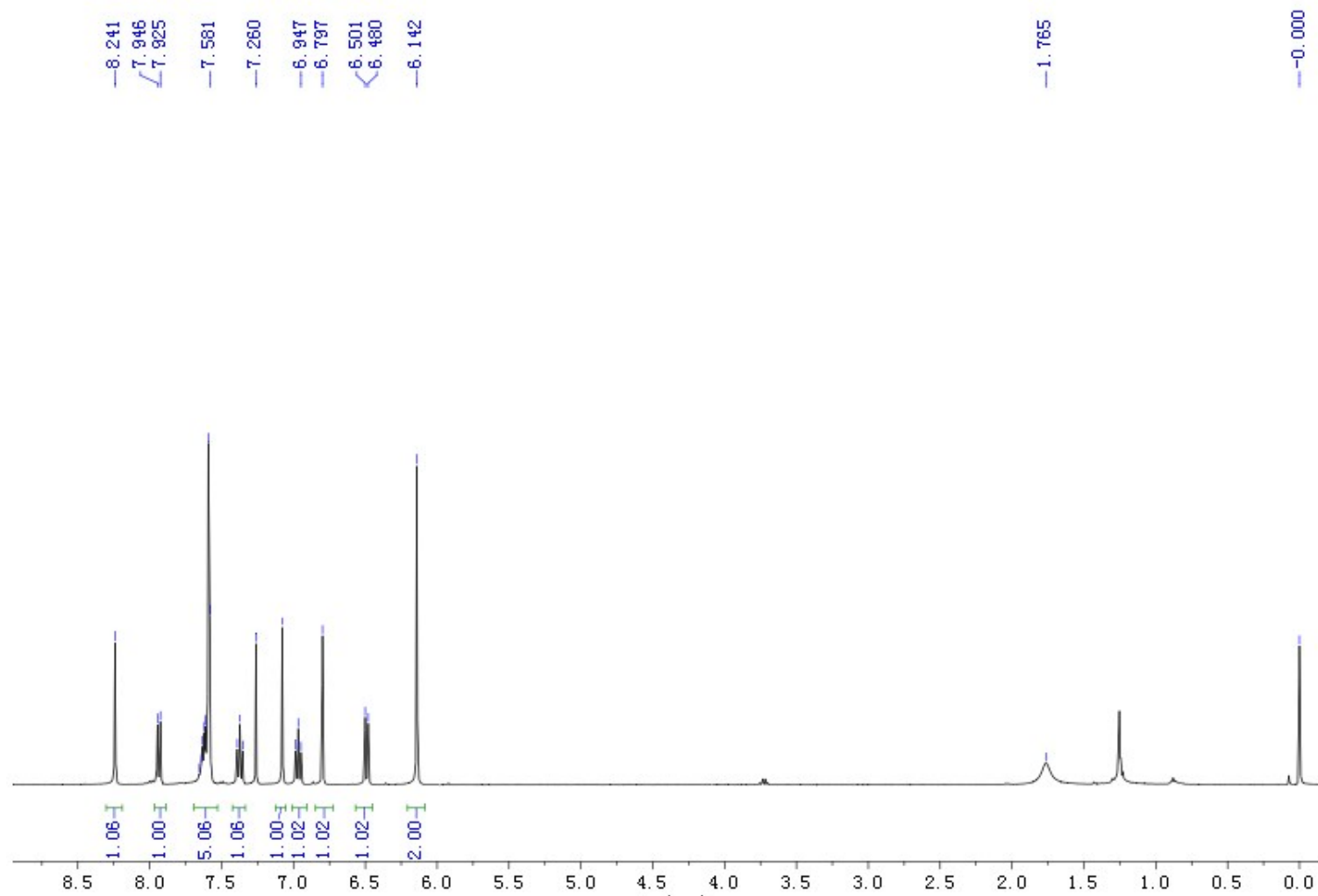
<sup>13</sup>C NMR of 1-Fluoro-6-phenylbenzo[4,5]imidazo[2,1-a]isoquinoline (**3h**)



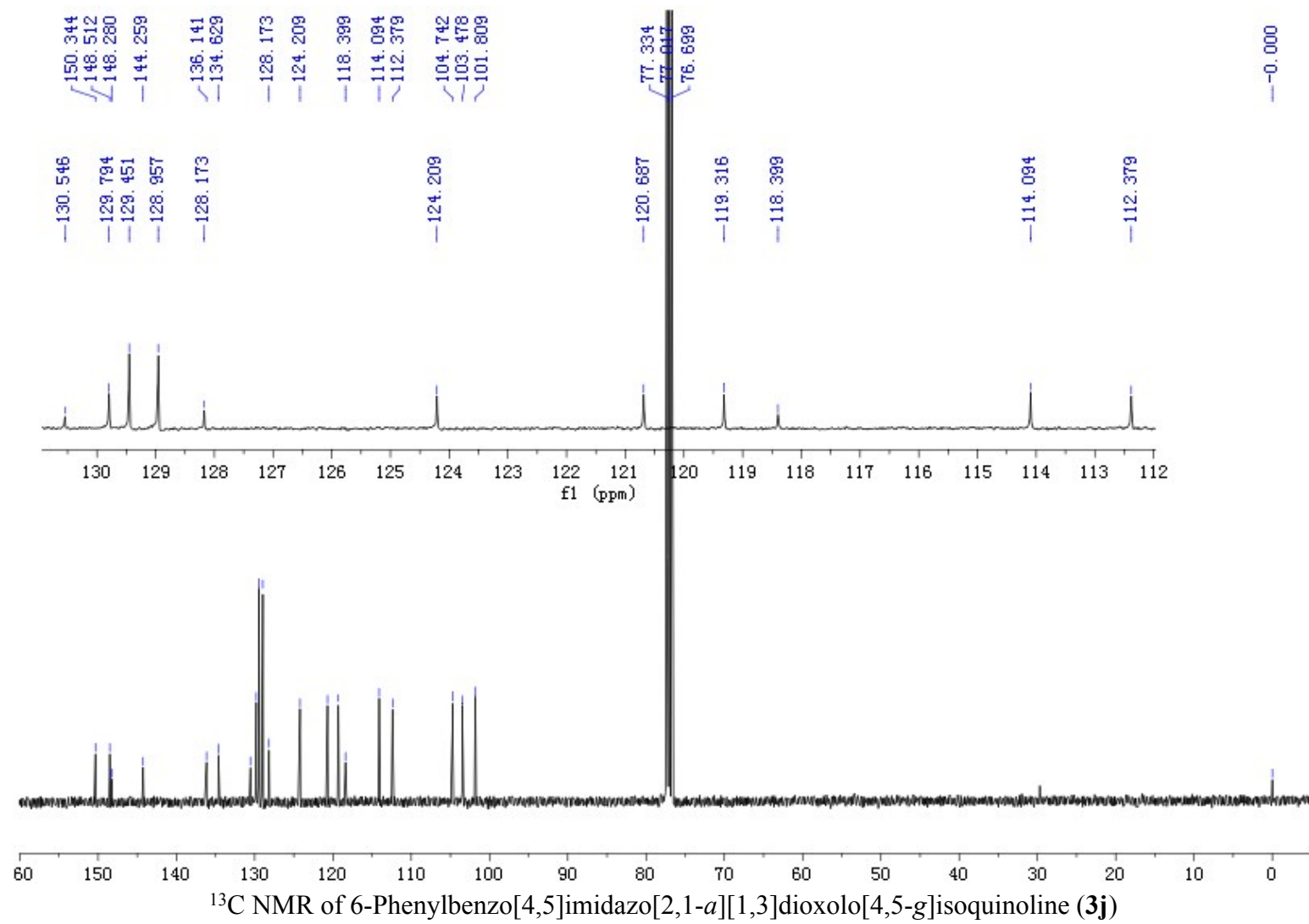
<sup>1</sup>H NMR of 2,3-Dimethoxy-6-phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3i**)

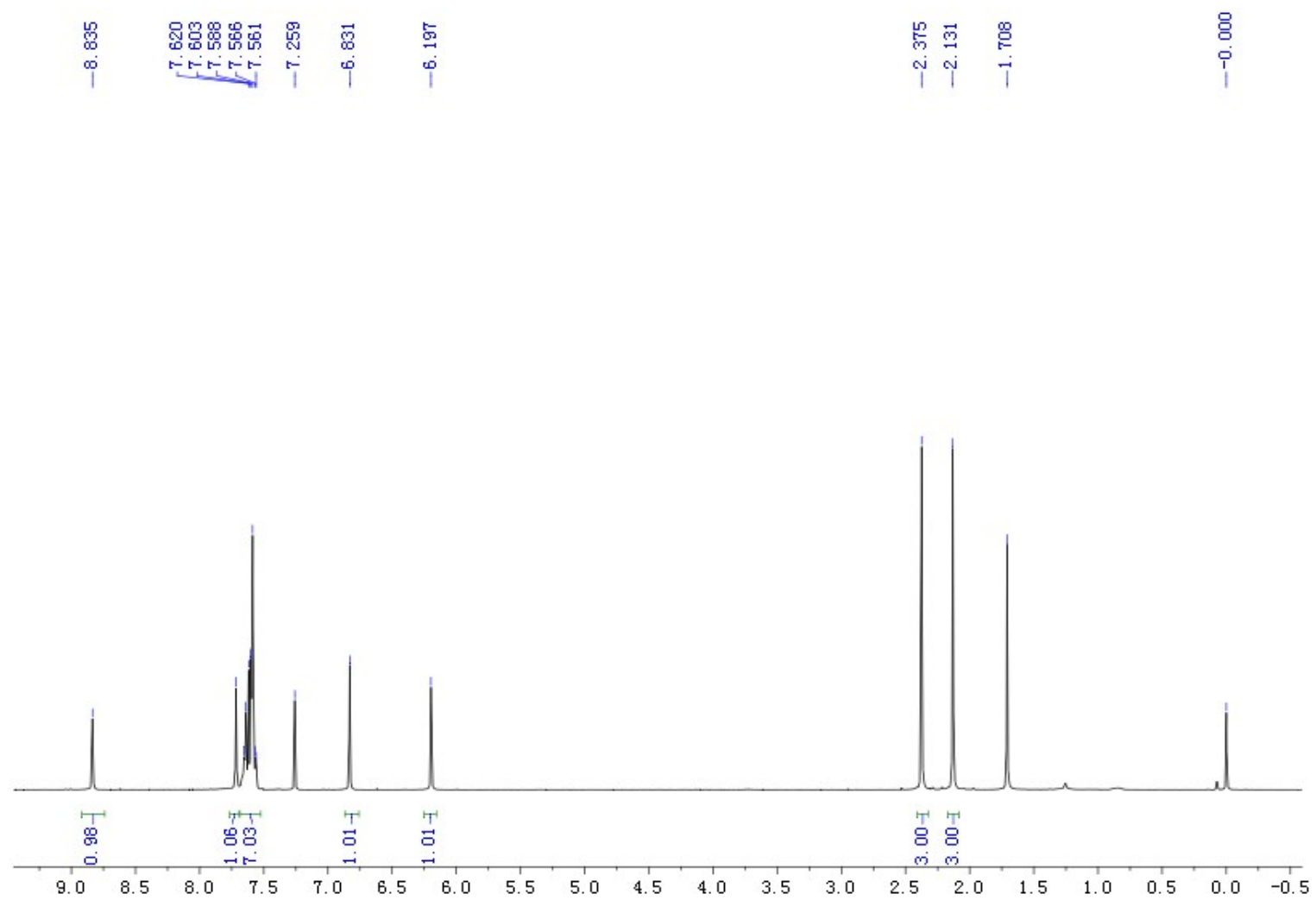


$^{13}\text{C}$  NMR of 2,3-Dimethoxy-6-phenylbenzo[4,5]imidazo[2,1-a]isoquinoline (**3i**)

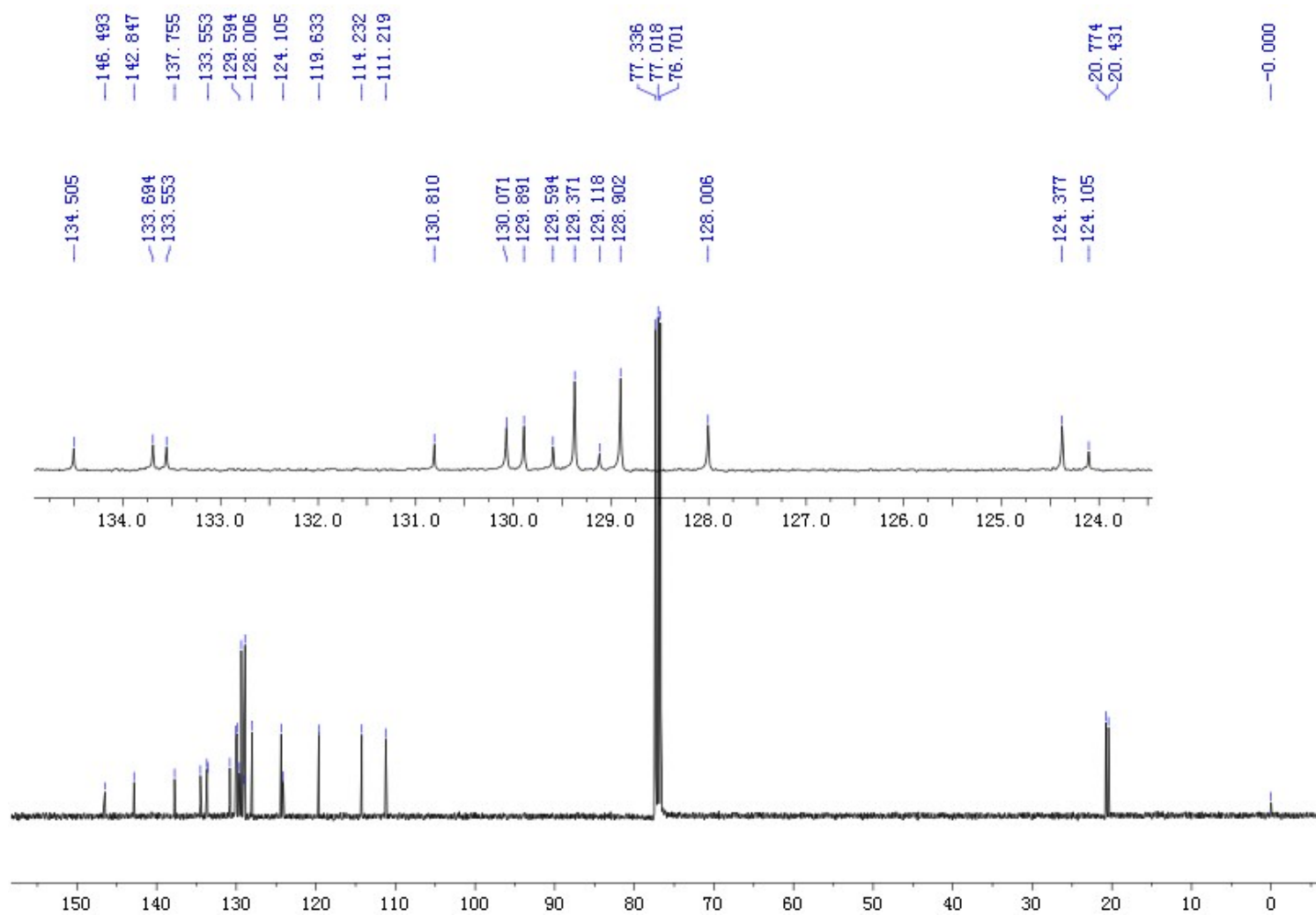


<sup>1</sup>H NMR of 6-Phenylbenzo[4,5]imidazo[2,1-*a*][1,3]dioxolo[4,5-*g*]isoquinoline (**3j**)

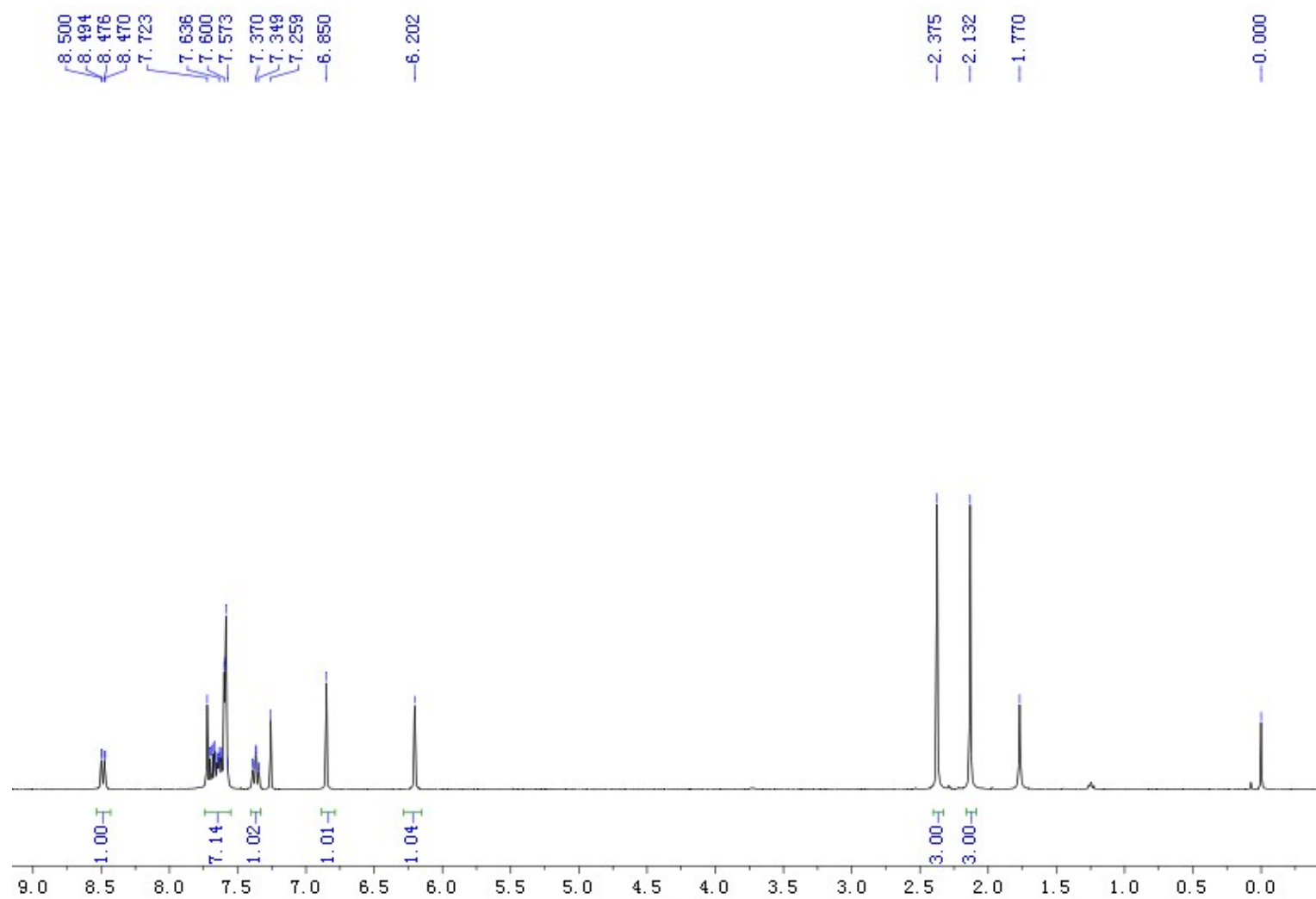




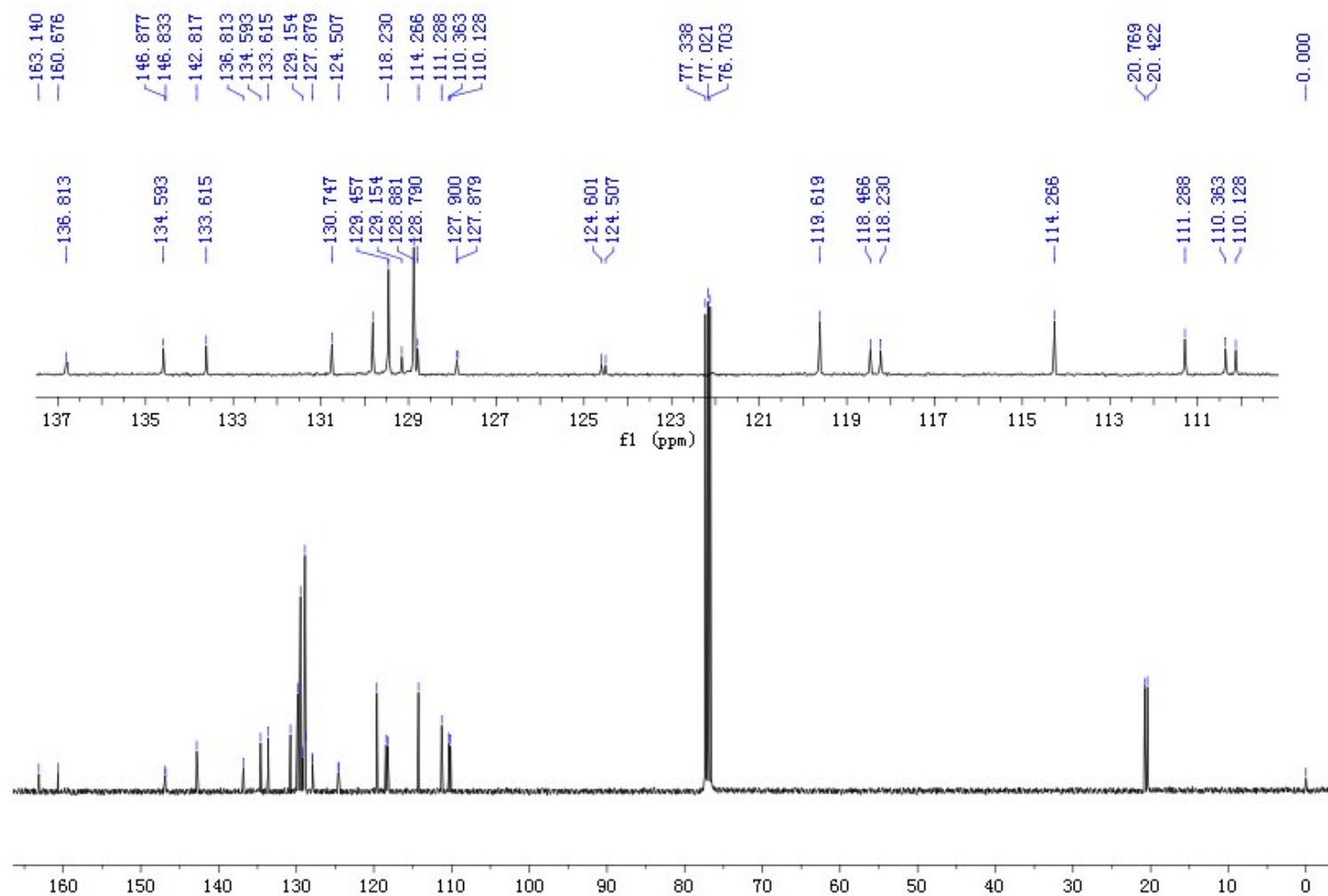
<sup>1</sup>H NMR of 2-Chloro-9,10-dimethyl-6-phenylbenzo[4,5]imidazo[2,1-a]isoquinoline (**3k**)



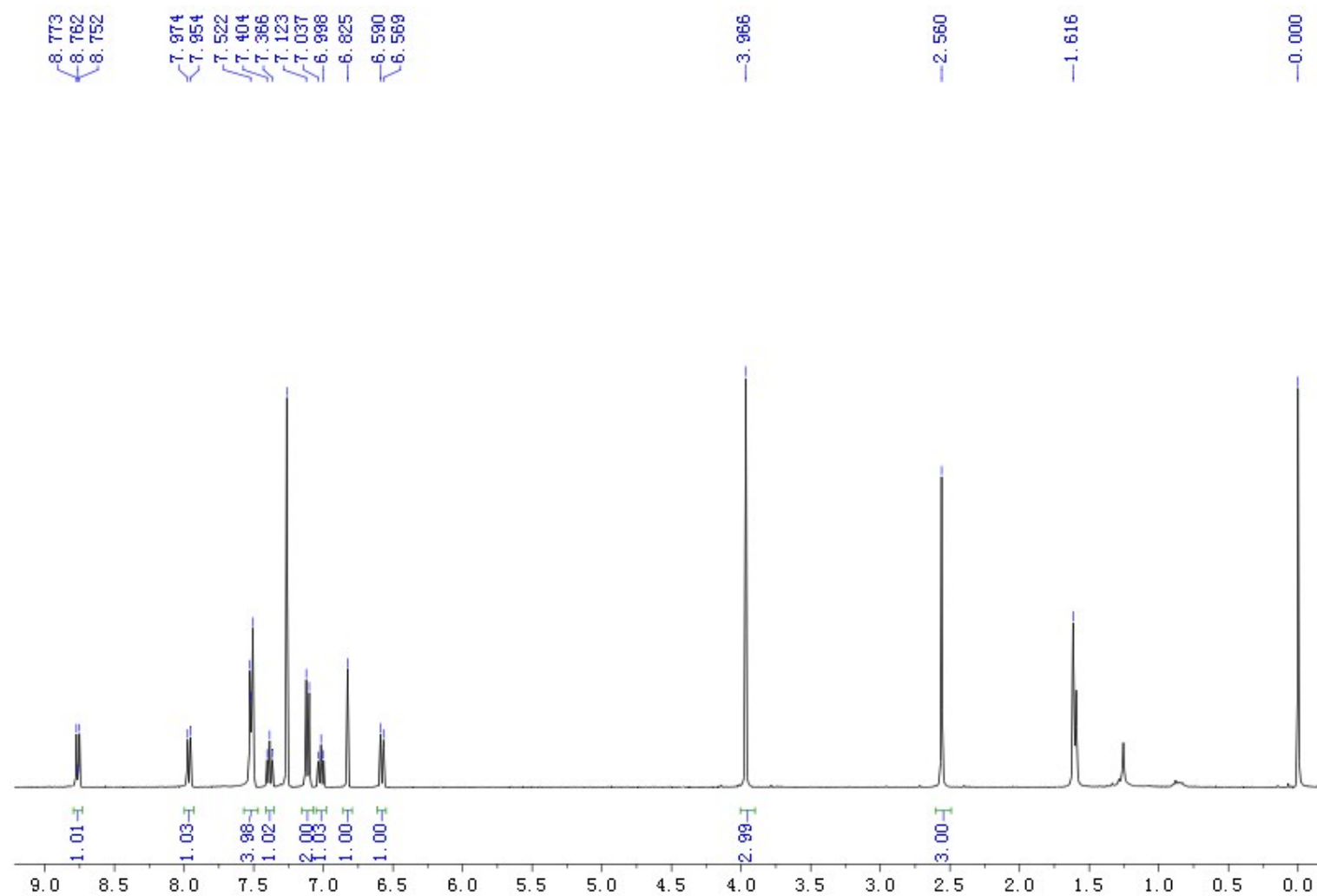
<sup>13</sup>C NMR of 2-Chloro-9,10-dimethyl-6-phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3k**)



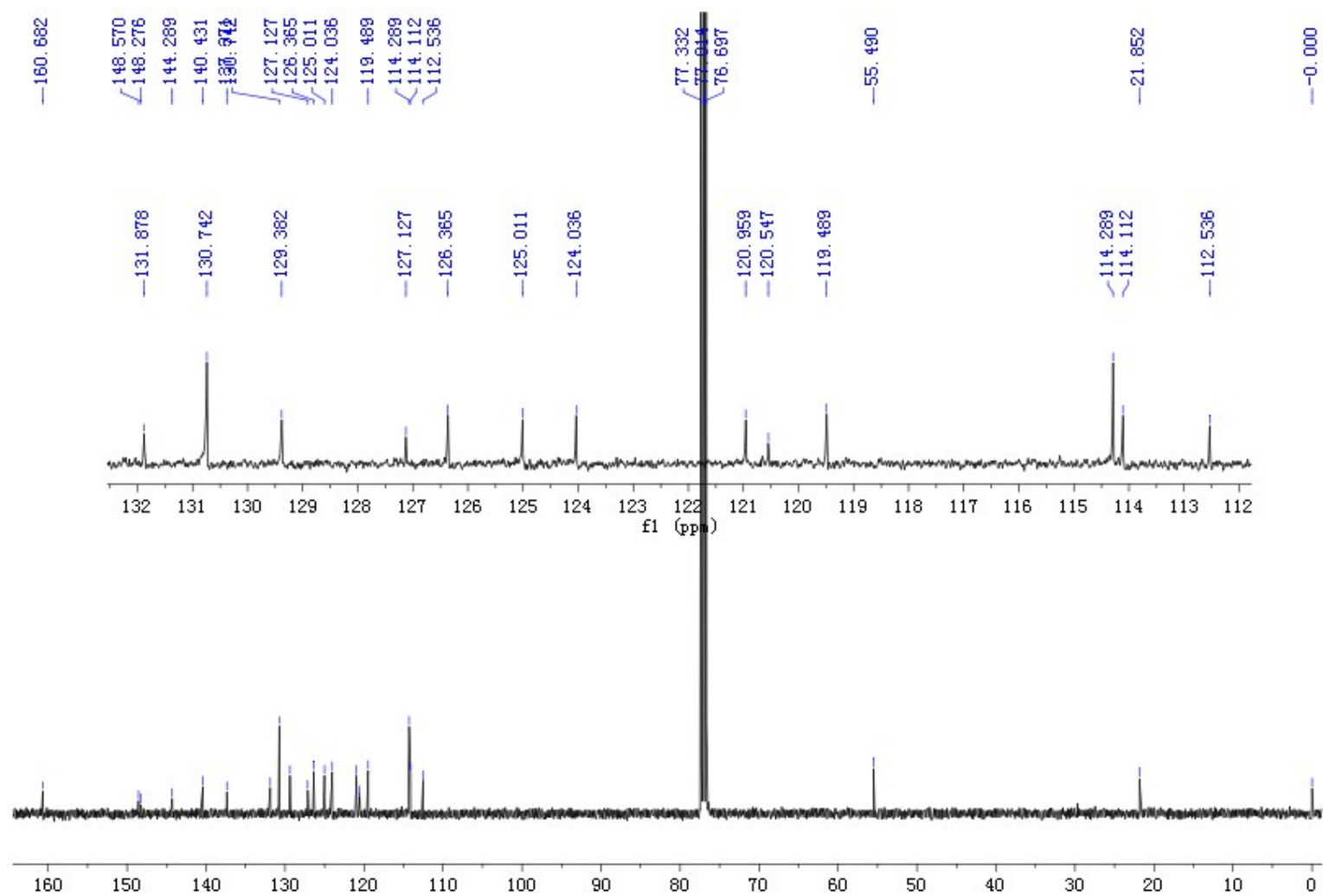
<sup>1</sup>H NMR of 2-Fluoro-9,10-dimethyl-6-phenylbenzo[4,5]imidazo[2,1-a]isoquinoline (**31**)



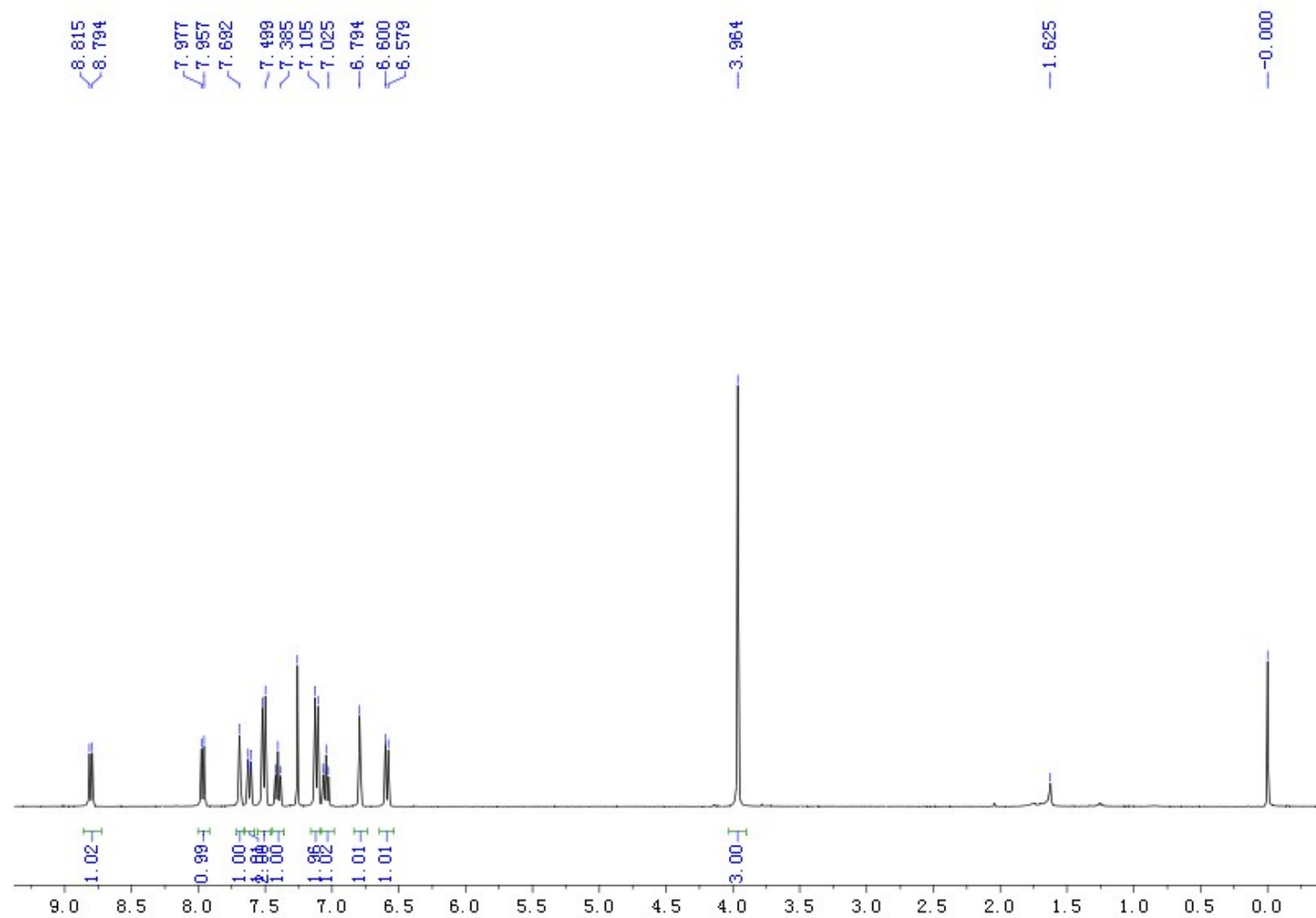
<sup>13</sup>C NMR of 2-Fluoro-9,10-dimethyl-6-phenylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3I**)



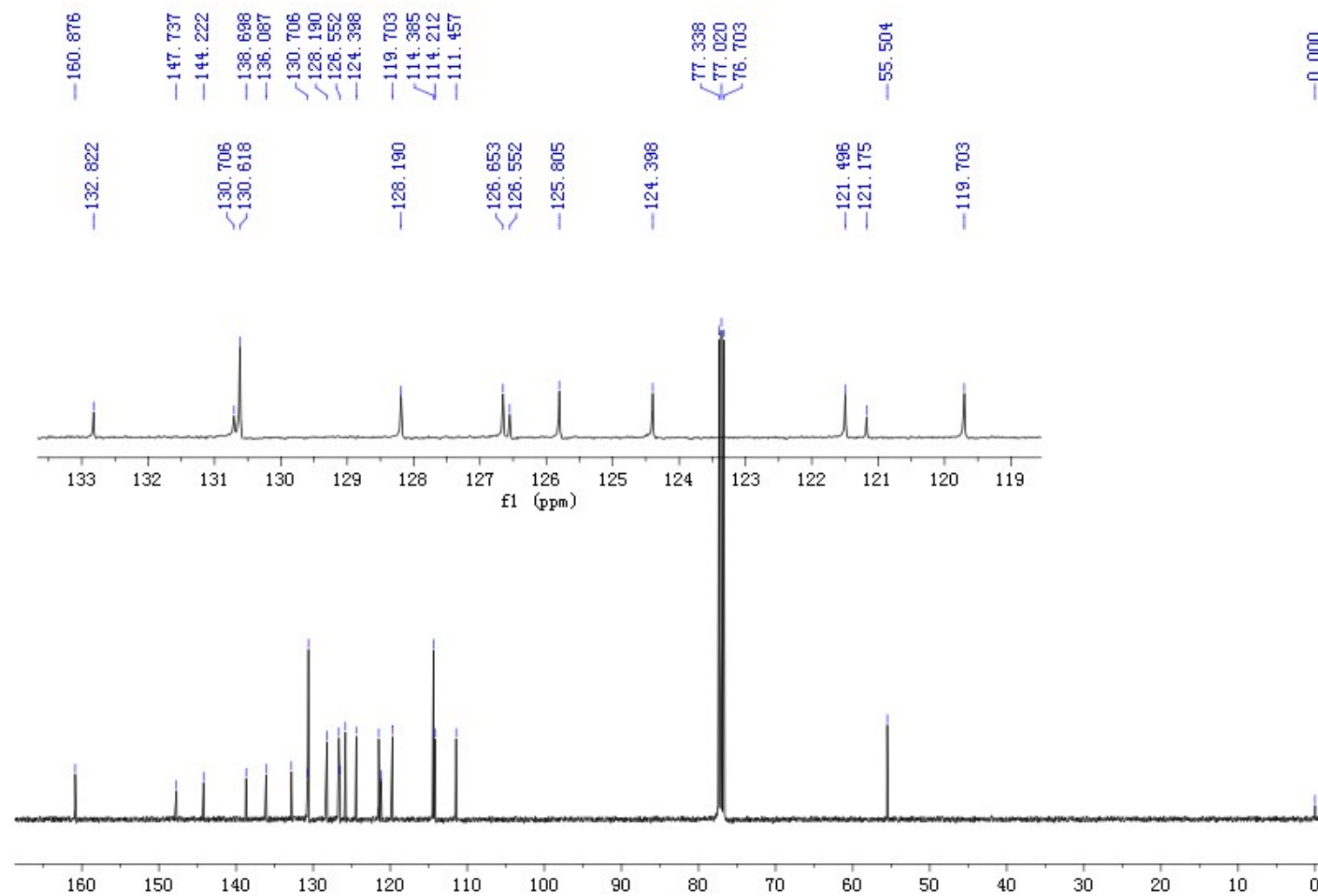
<sup>1</sup>H NMR of 6-(4-Methoxyphenyl)-3-methylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3m**)



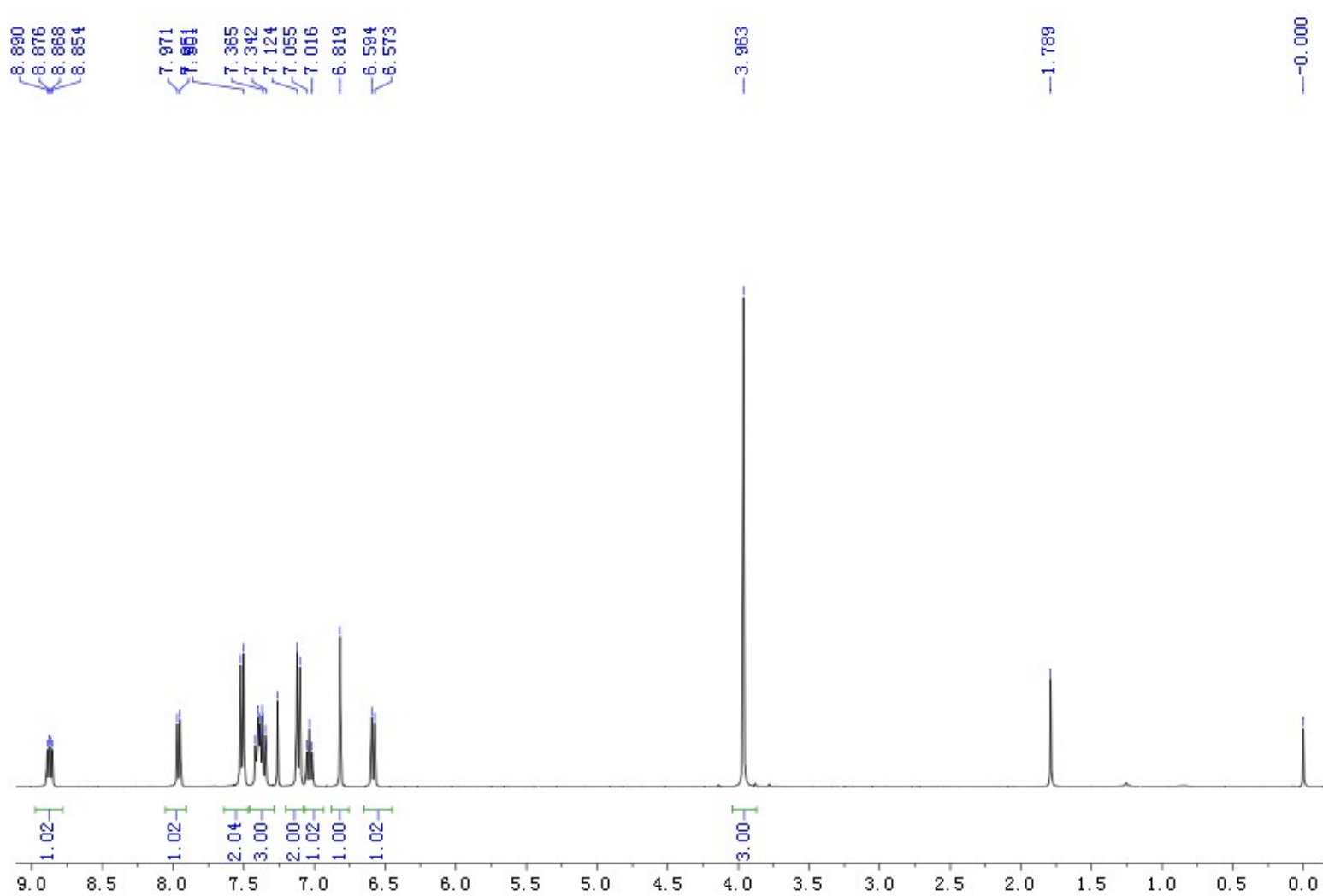
<sup>13</sup>C NMR of 6-(4-Methoxyphenyl)-3-methylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3m**)



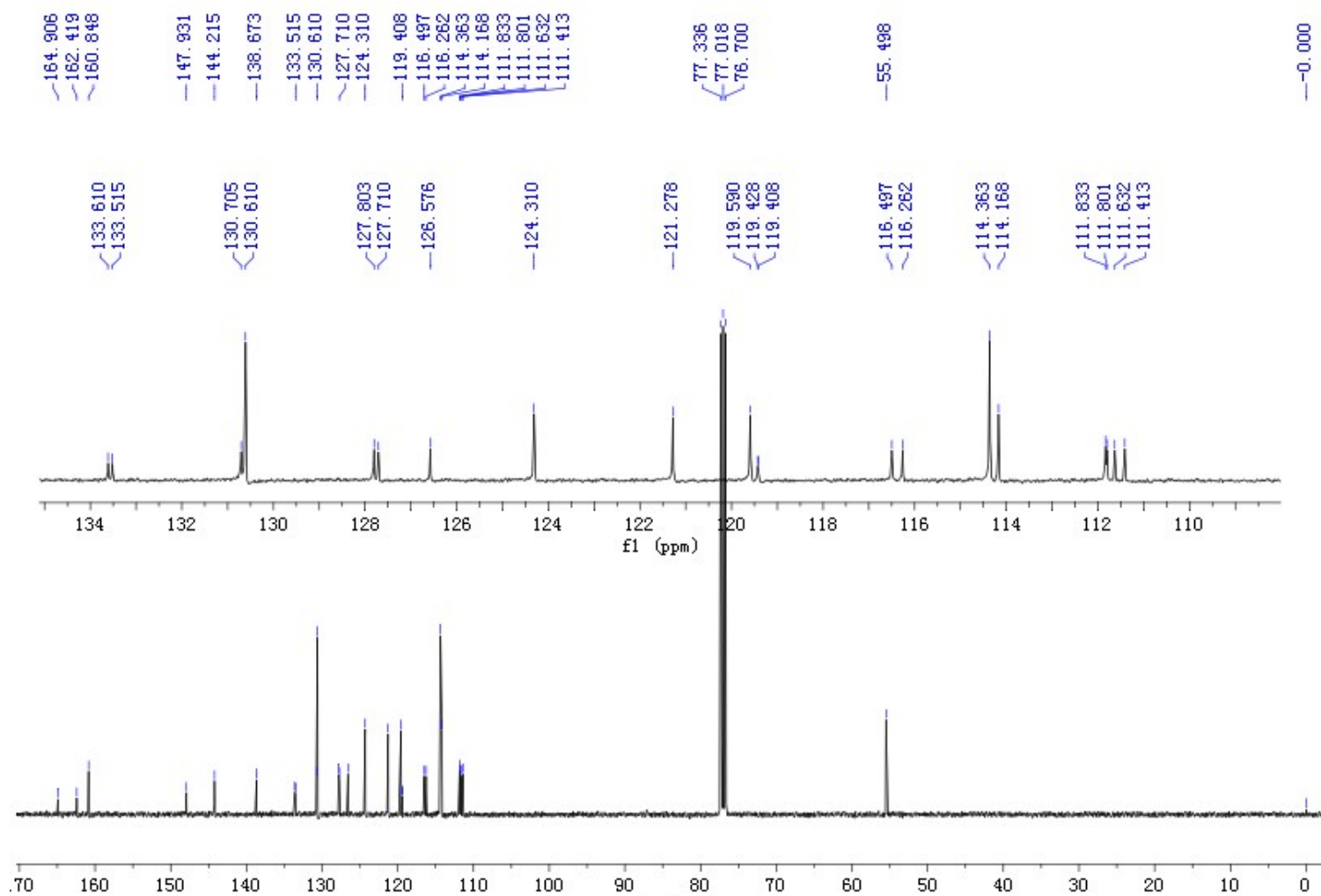
<sup>1</sup>H NMR of 3-Chloro-6-(4-methoxyphenyl)benzo[4,5]imidazo[2,1-*a*]isoquinoline (**3n**)



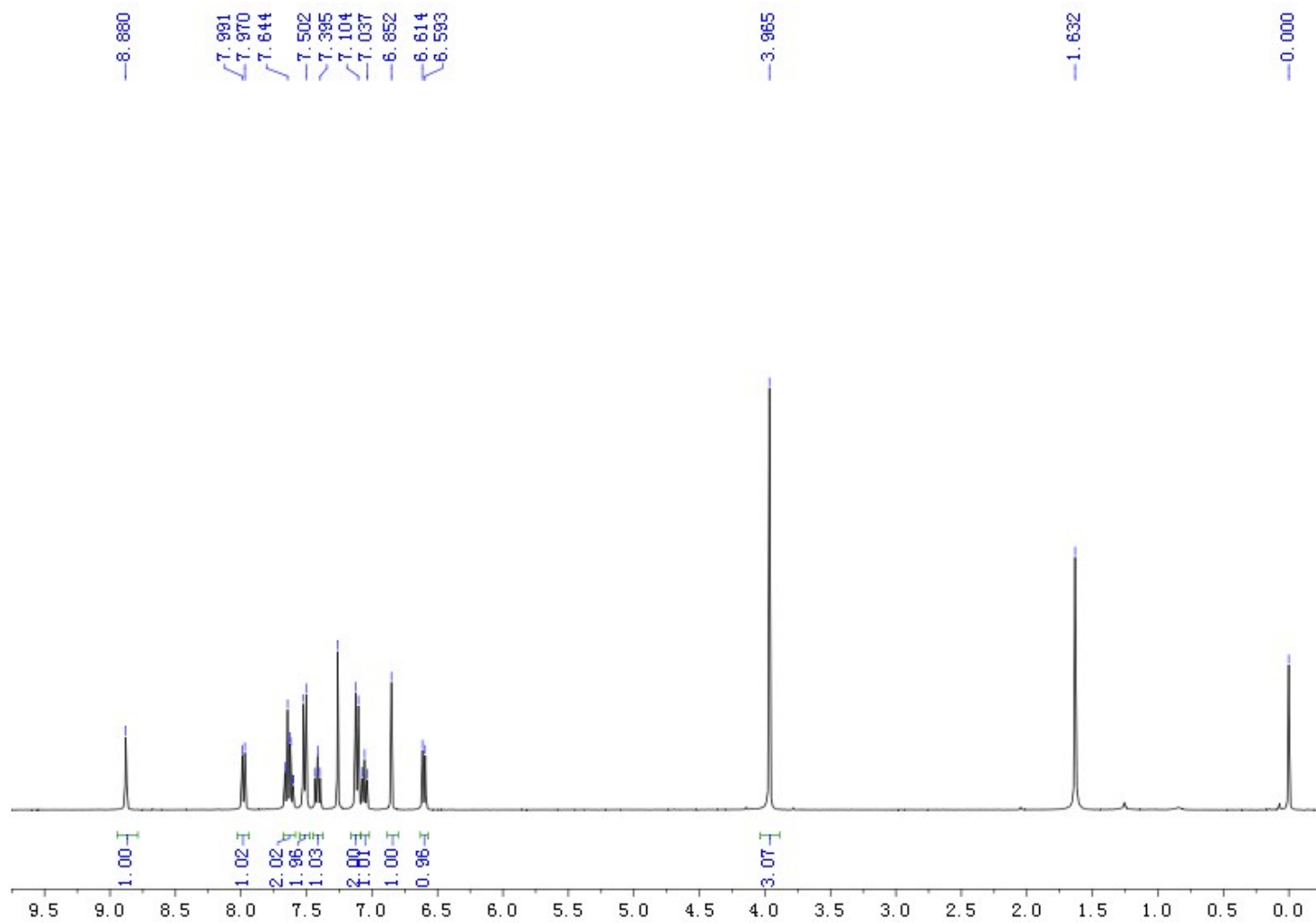
<sup>13</sup>C NMR of 3-Chloro-6-(4-methoxyphenyl)benzo[4,5]imidazo[2,1-*a*]isoquinoline (**3n**)



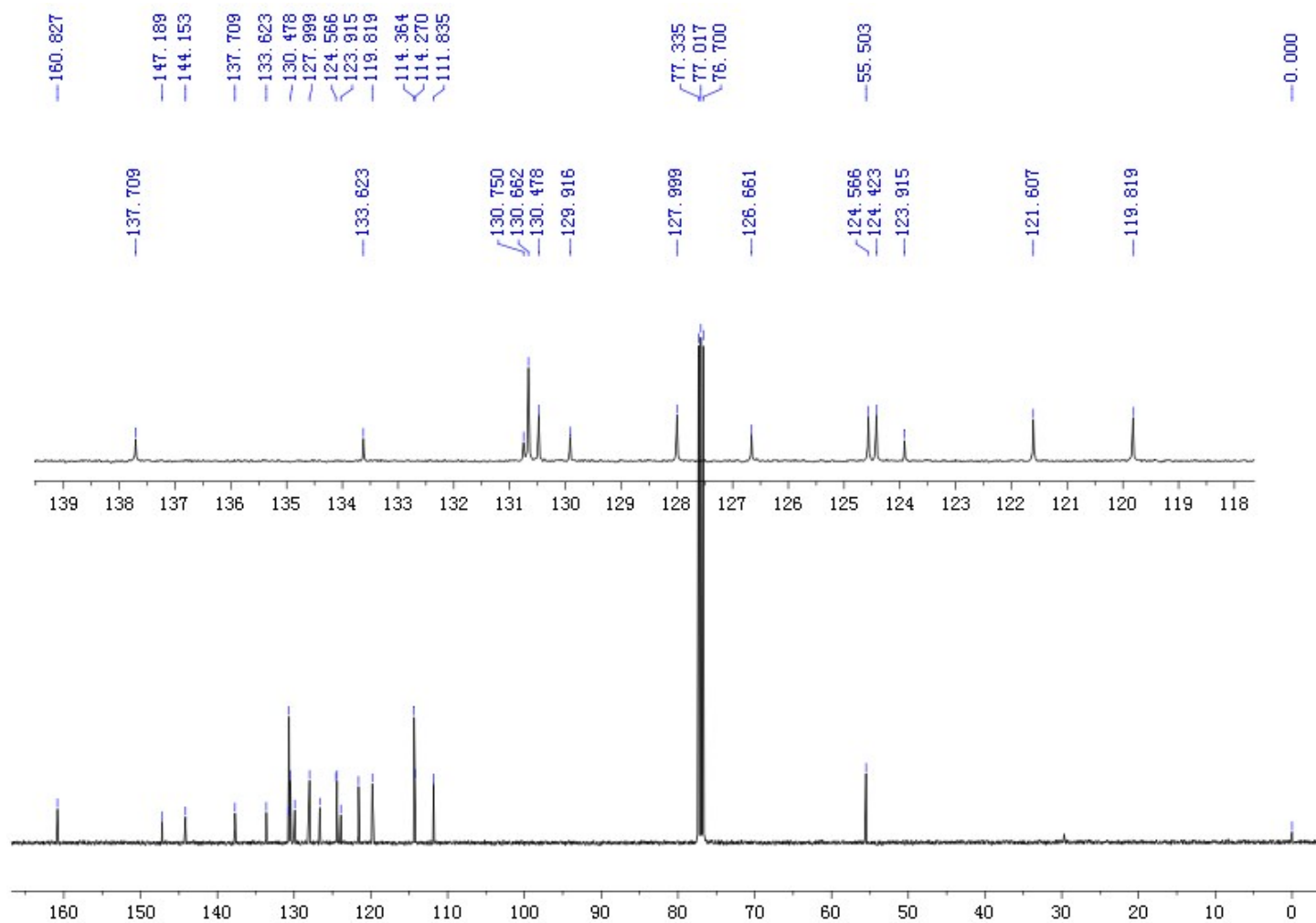
<sup>1</sup>H NMR of 3-Fluoro-6-(4-methoxyphenyl)benzo[4,5]imidazo[2,1-*a*]isoquinoline (**3o**)



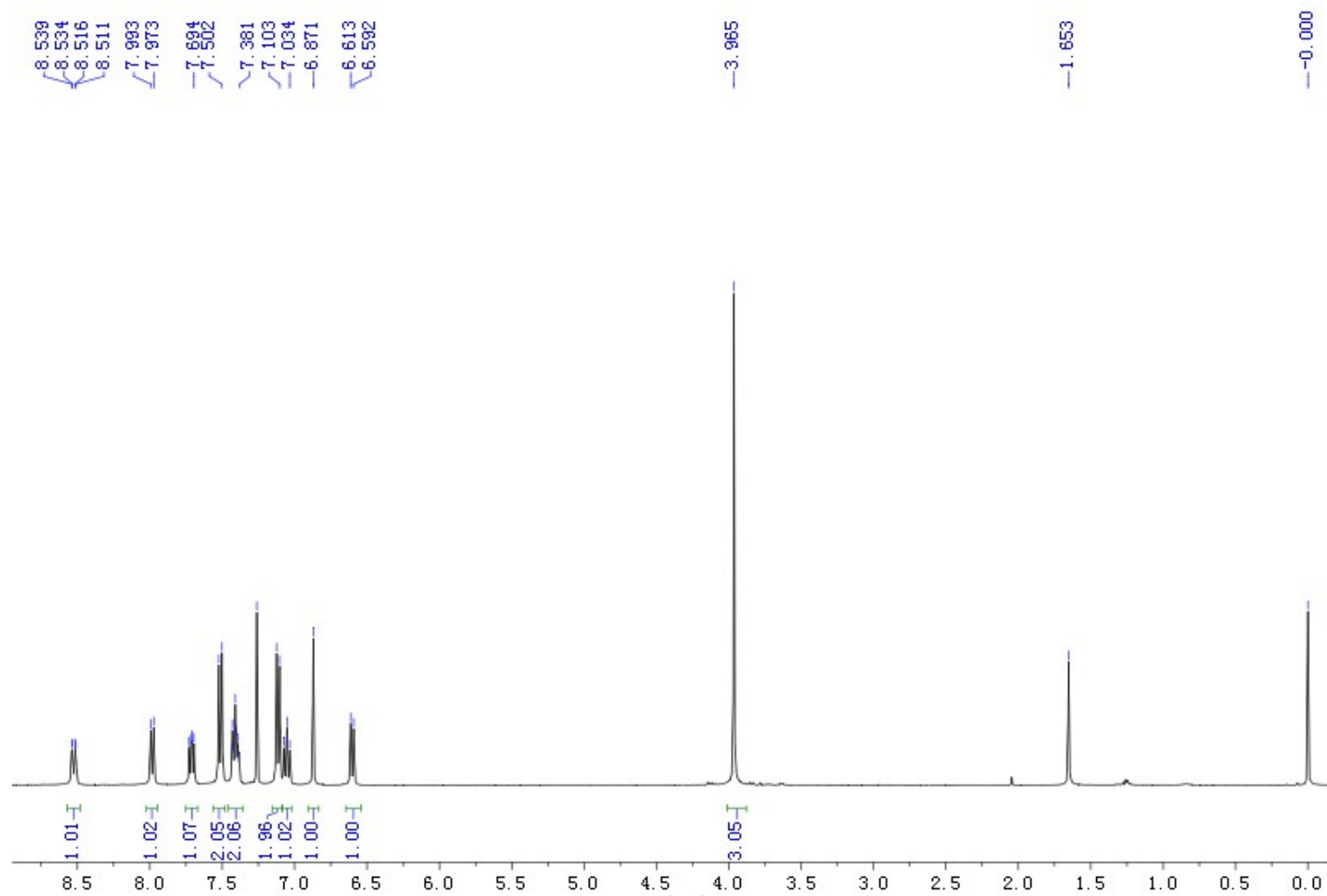
<sup>13</sup>C NMR of 3-Fluoro-6-(4-methoxyphenyl)benzo[4,5]imidazo[2,1-*a*]isoquinoline (**3o**)



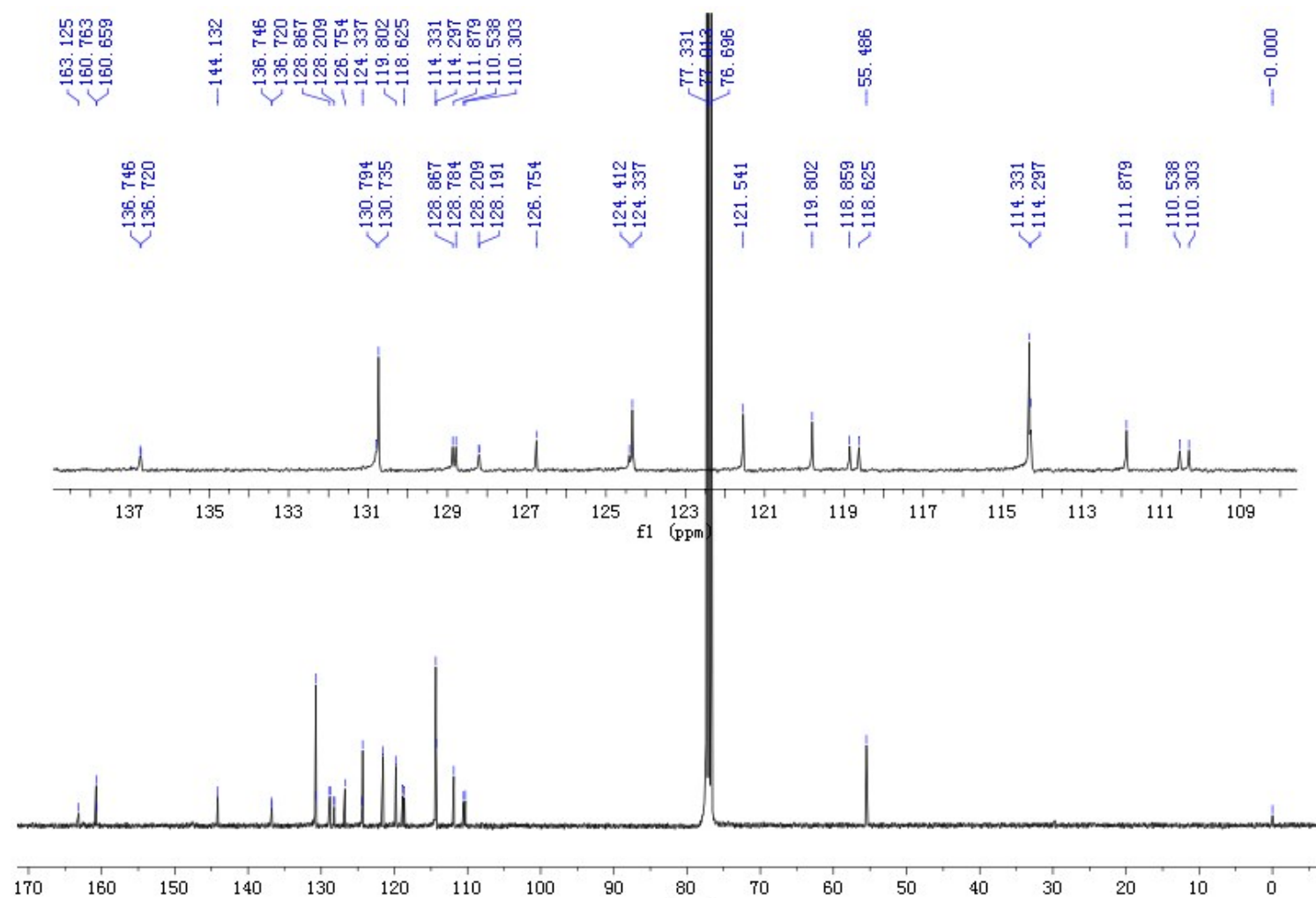
<sup>1</sup>H NMR of 2-Chloro-6-(4-methoxyphenyl)benzo[4,5]imidazo[2,1-*a*]isoquinoline (**3p**)



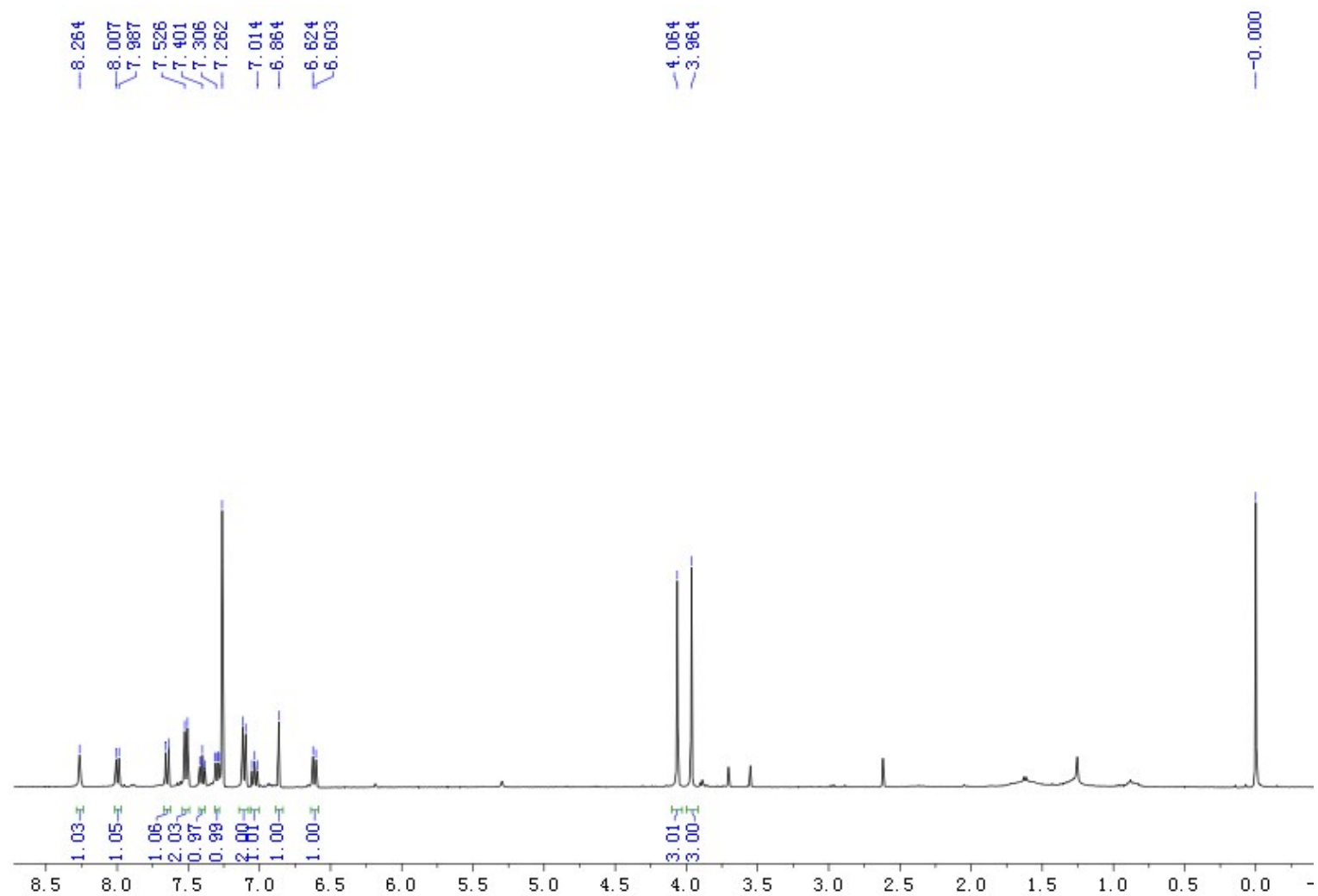
$^{13}\text{C}$  NMR of 2-Chloro-6-(4-methoxyphenyl)benzo[4,5]imidazo[2,1-*a*]isoquinoline (**3p**)



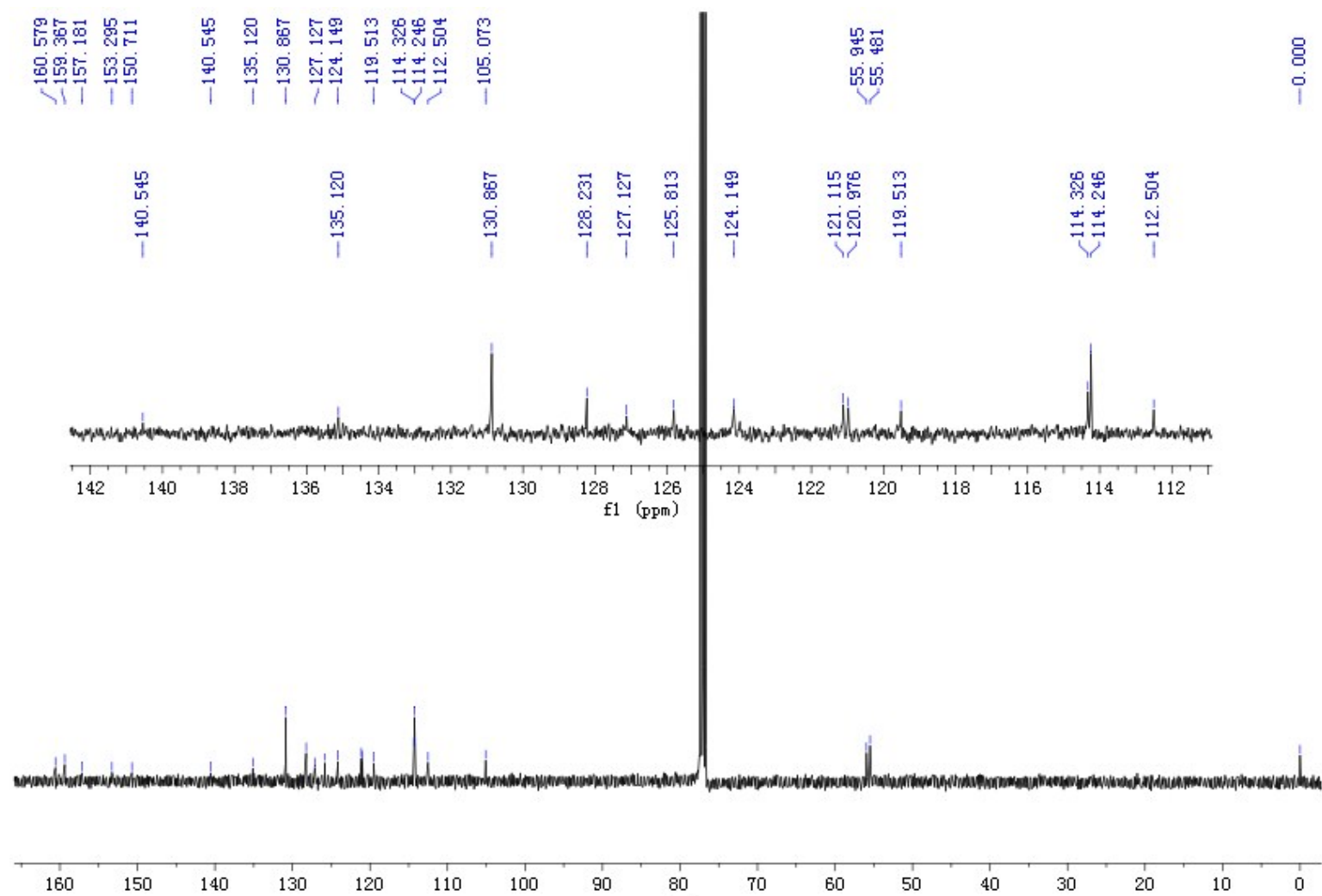
<sup>1</sup>H NMR of 2-Fluoro-6-(4-methoxyphenyl)benzo[4,5]imidazo[2,1-*a*]isoquinoline (**3q**)



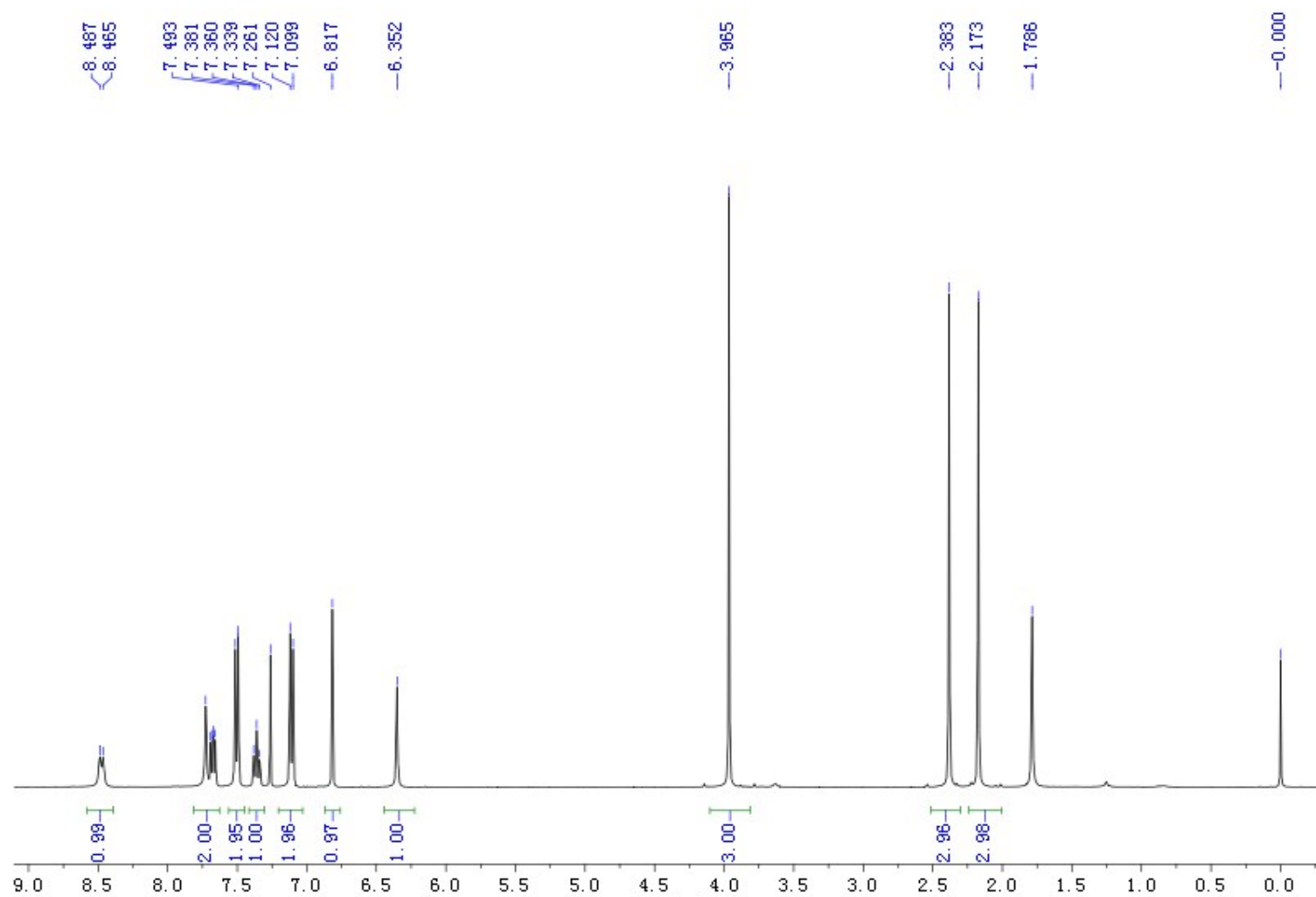
$^{13}\text{C}$  NMR of 2-Fluoro-6-(4-methoxyphenyl)benzo[4,5]imidazo[2,1-*a*]isoquinoline (**3q**)



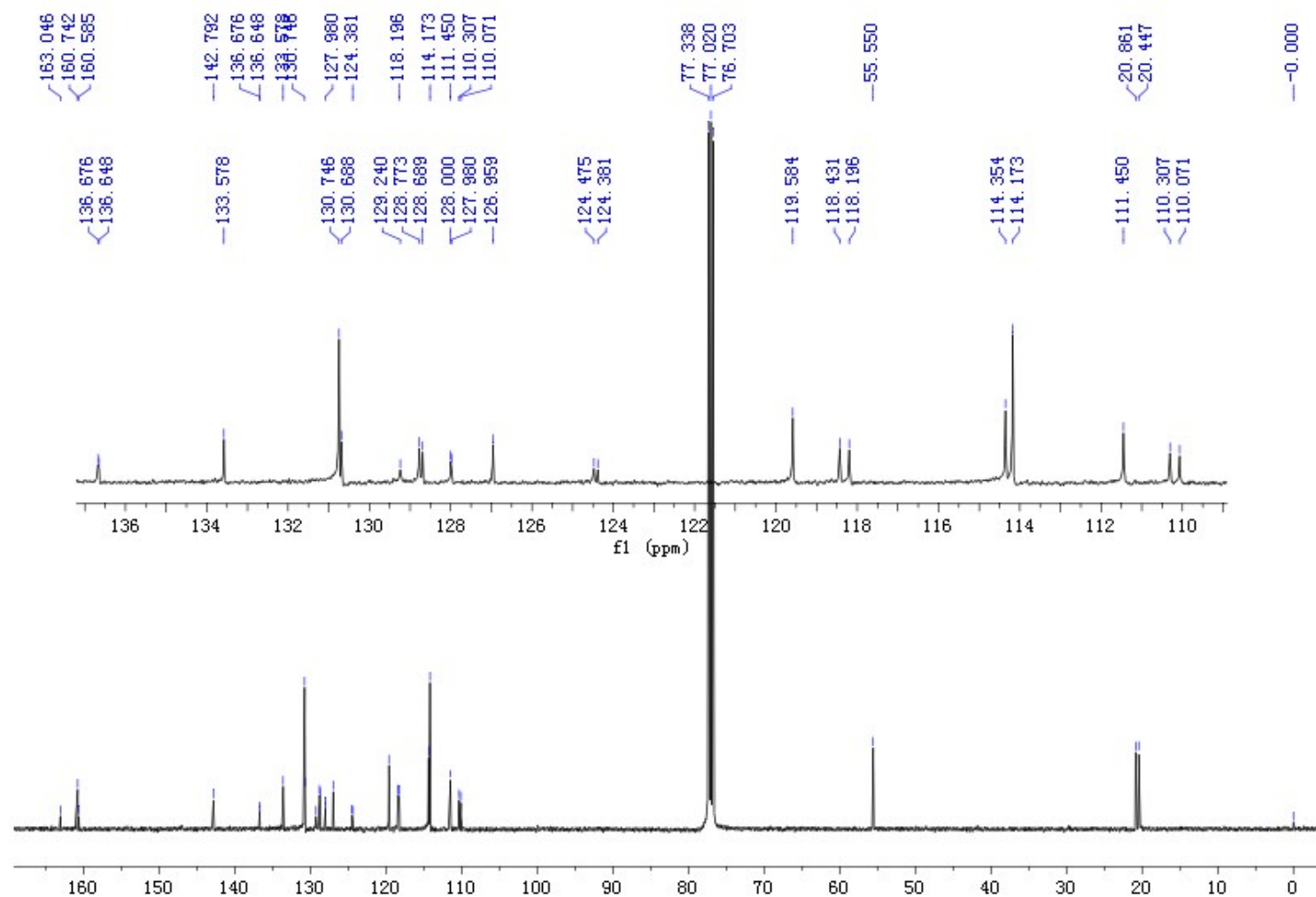
<sup>1</sup>H NMR of 2-Methoxy-6-(4-methoxyphenyl)benzo[4,5]imidazo[2,1-*a*]isoquinoline (**3r**)



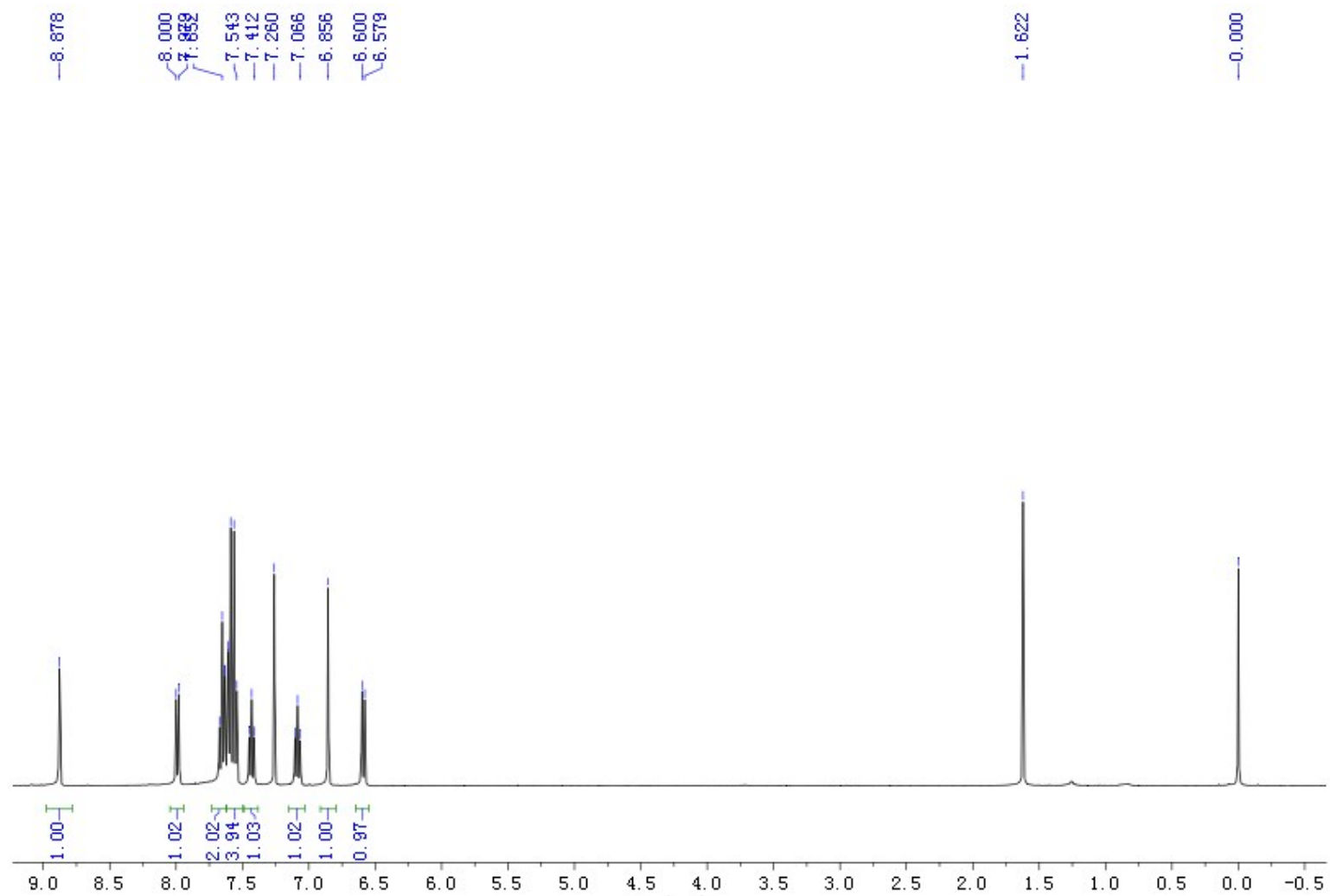
<sup>13</sup>C NMR of 2-Methoxy-6-(4-methoxyphenyl)benzo[4,5]imidazo[2,1-*a*]isoquinoline (**3r**)



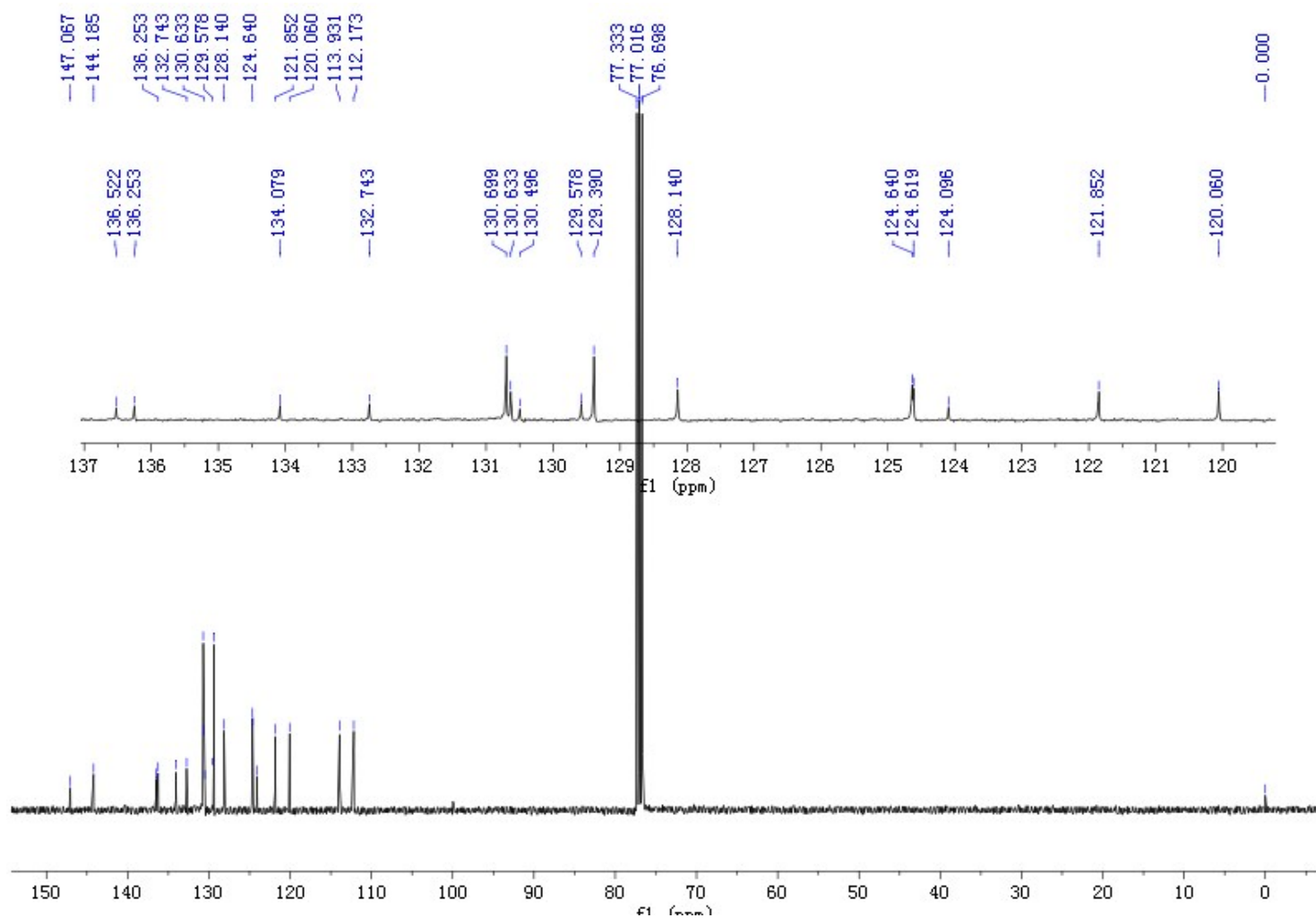
<sup>1</sup>H NMR of 2-Fluoro-6-(4-methoxyphenyl)-9,10-dimethylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3s**)



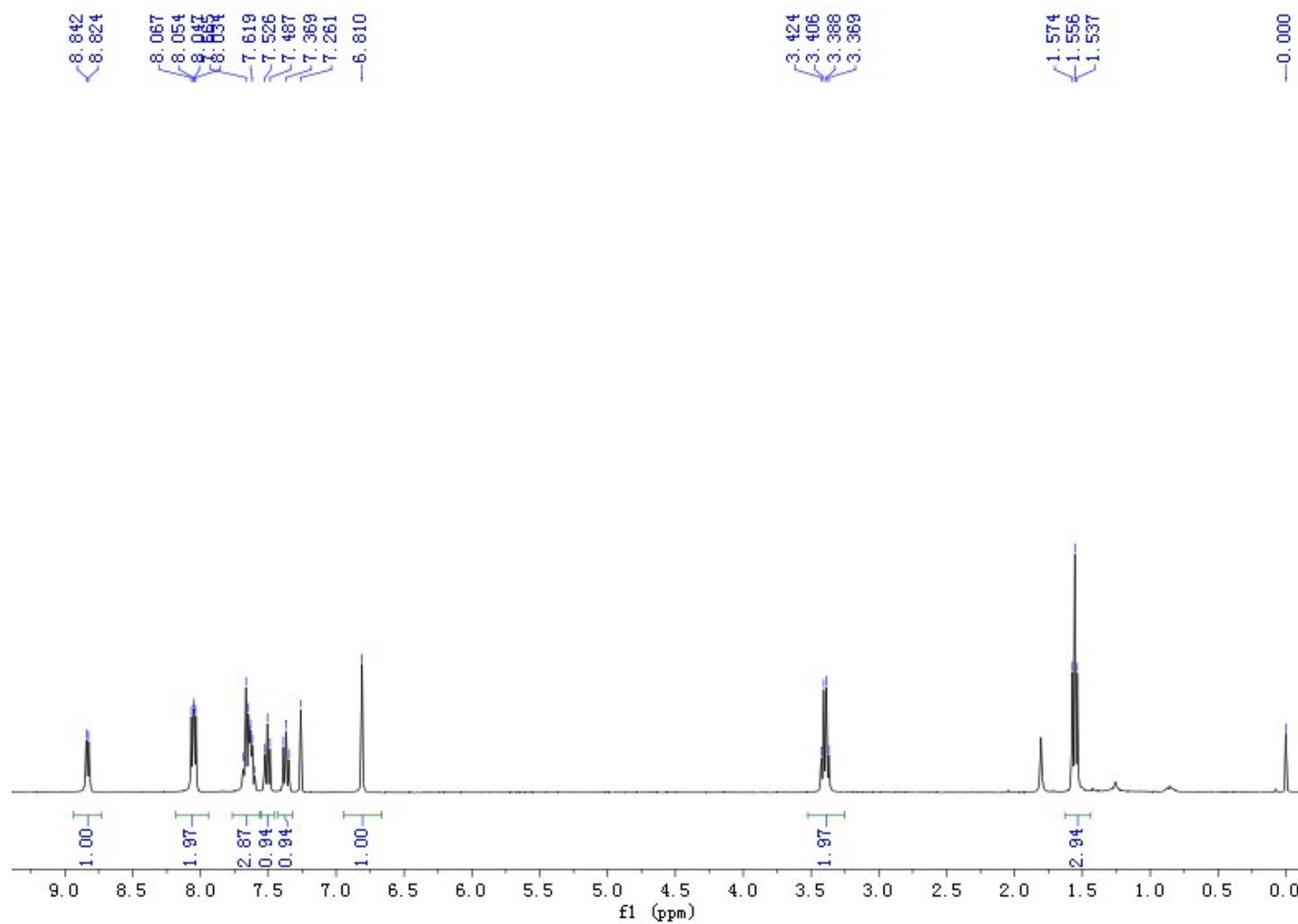
$^{13}\text{C}$  NMR of 2-Fluoro-6-(4-methoxyphenyl)-9,10-dimethylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3s**)



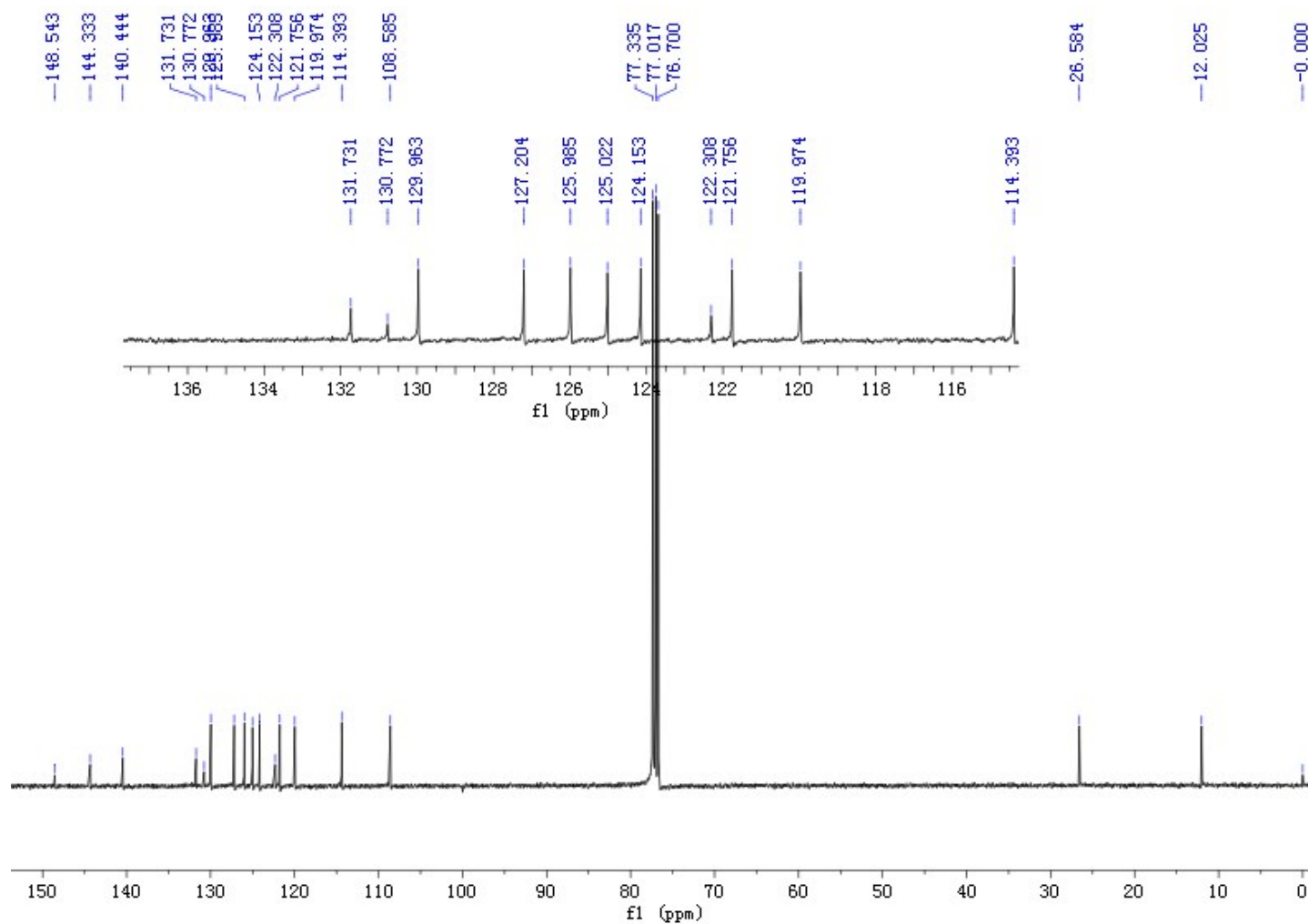
<sup>1</sup>H NMR of 2-Chloro-6-(4-chlorophenyl)benzo[4,5]imidazo[2,1-a]isoquinoline (**3t**)



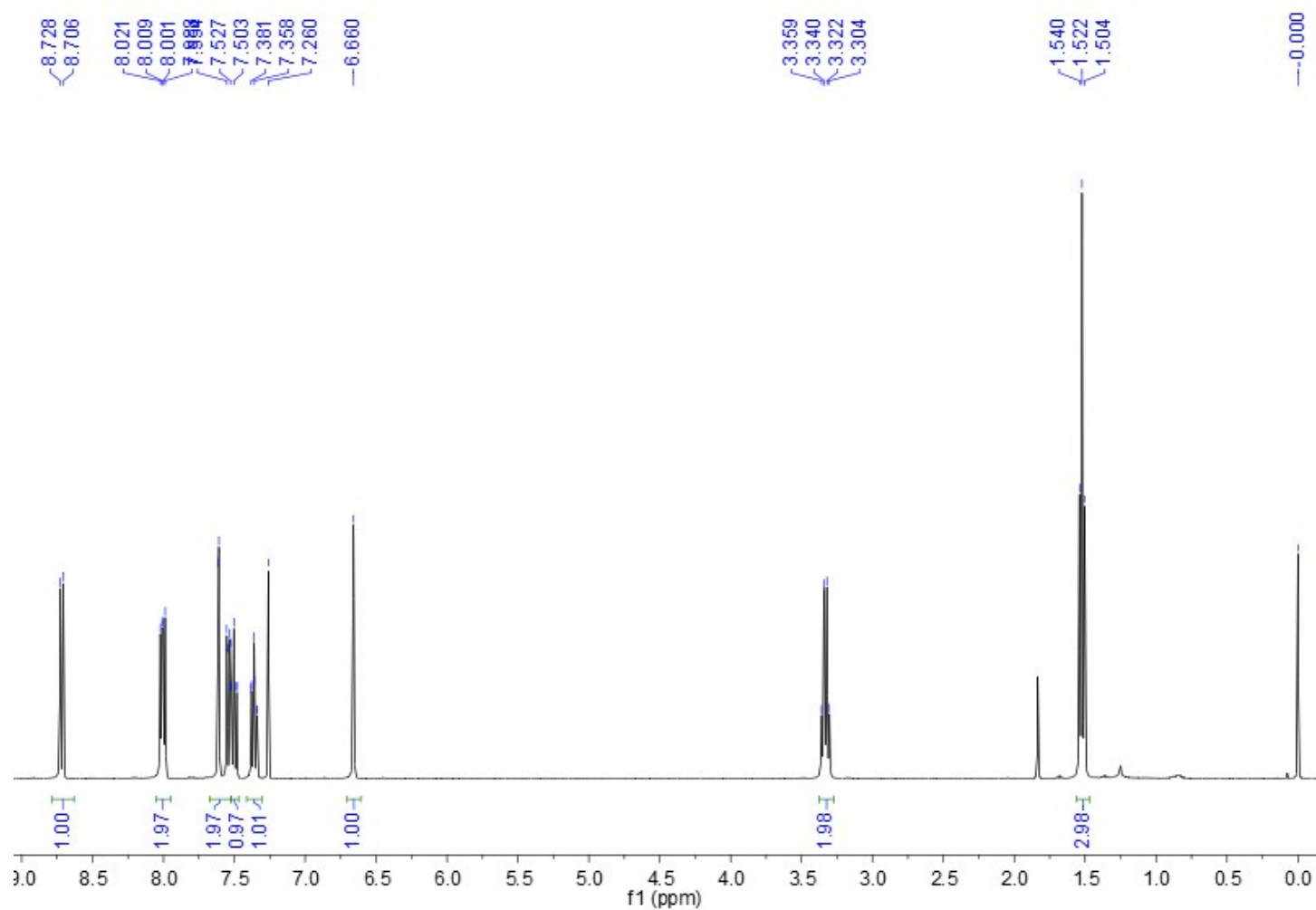
<sup>13</sup>C NMR of 2-Chloro-6-(4-chlorophenyl)benzo[4,5]imidazo[2,1-a]isoquinoline (**3t**)



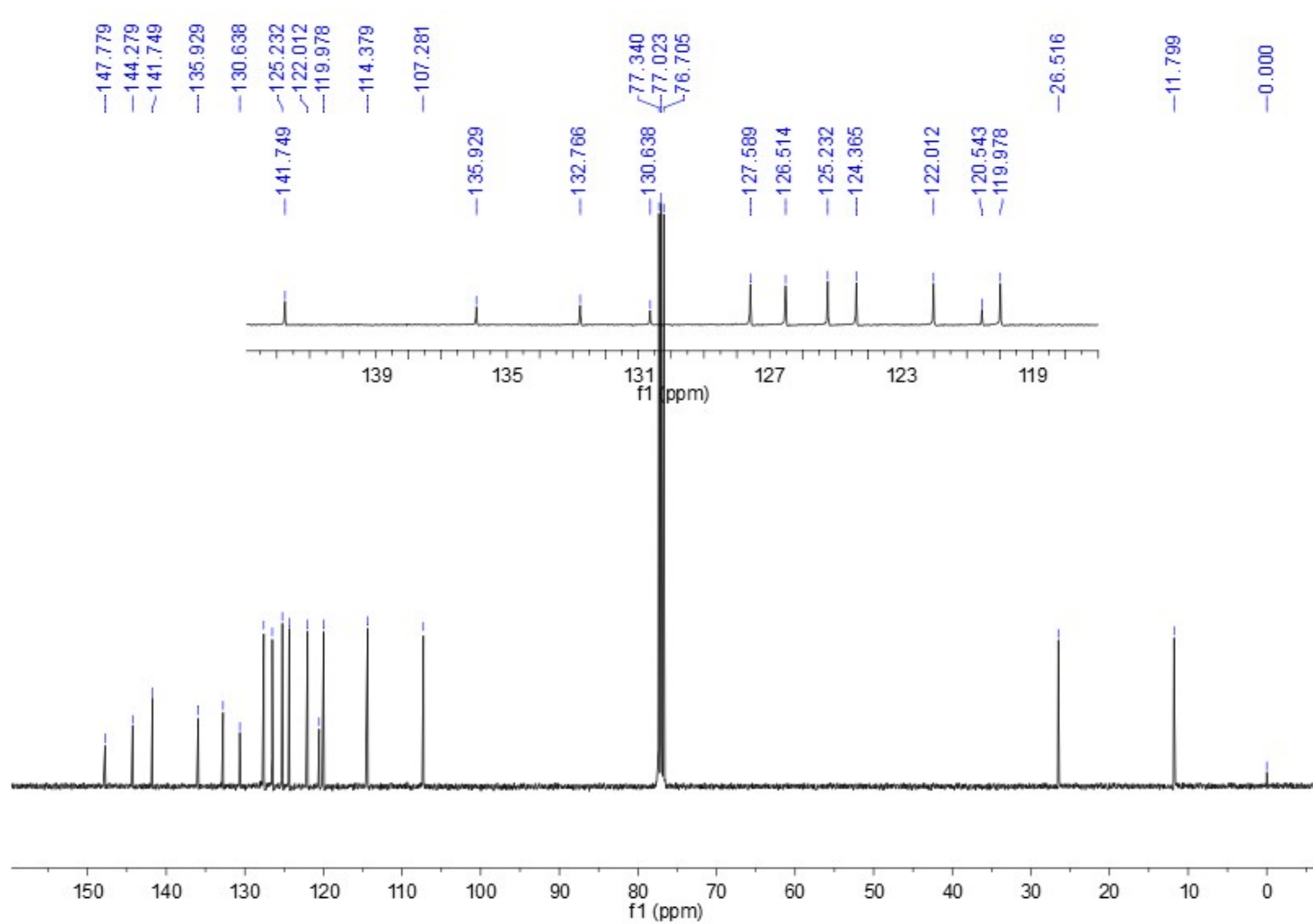
<sup>1</sup>H NMR of 6-Ethylbenzo[4,5]imidazo[2,1-a]isoquinoline (**3u**)



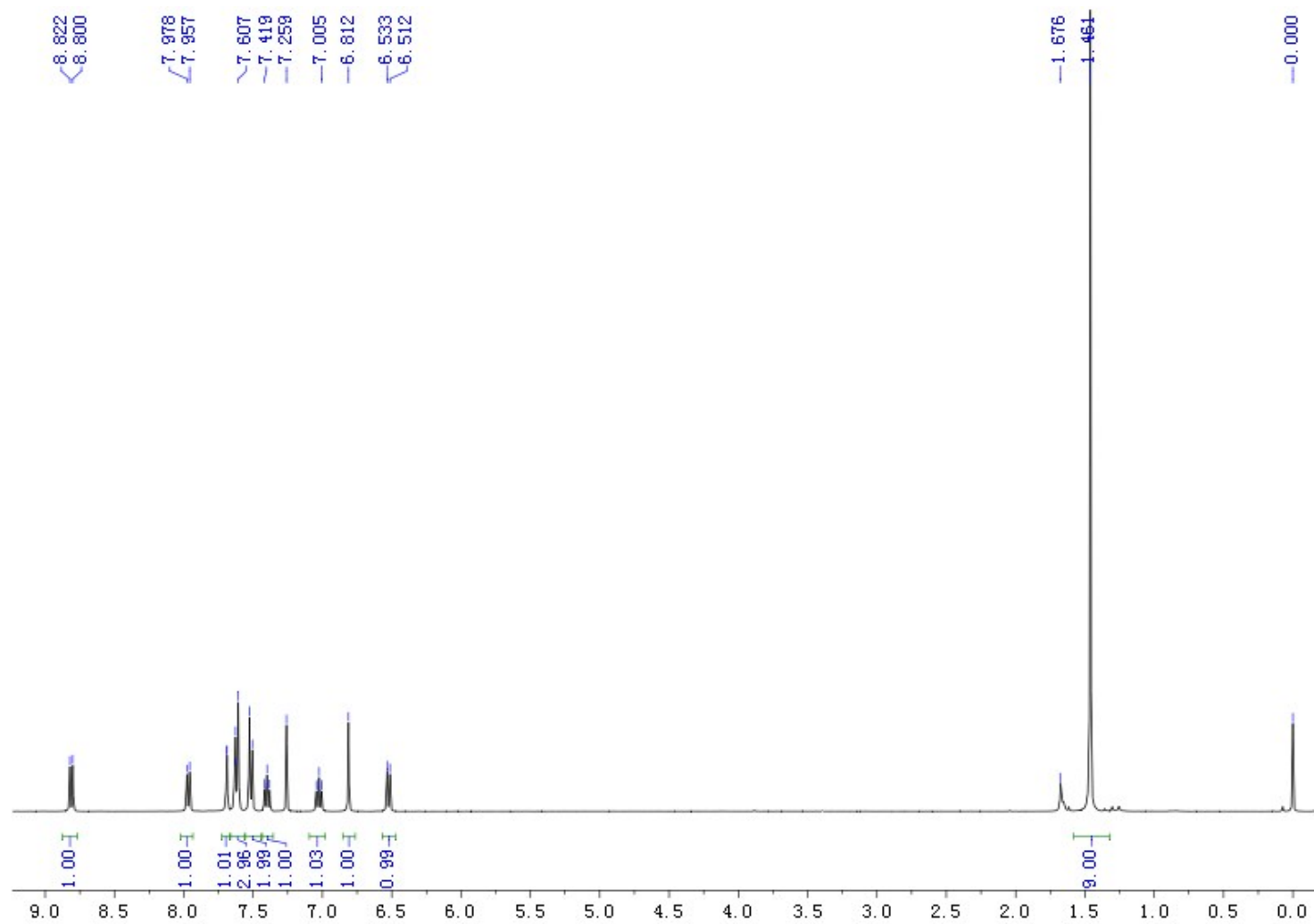
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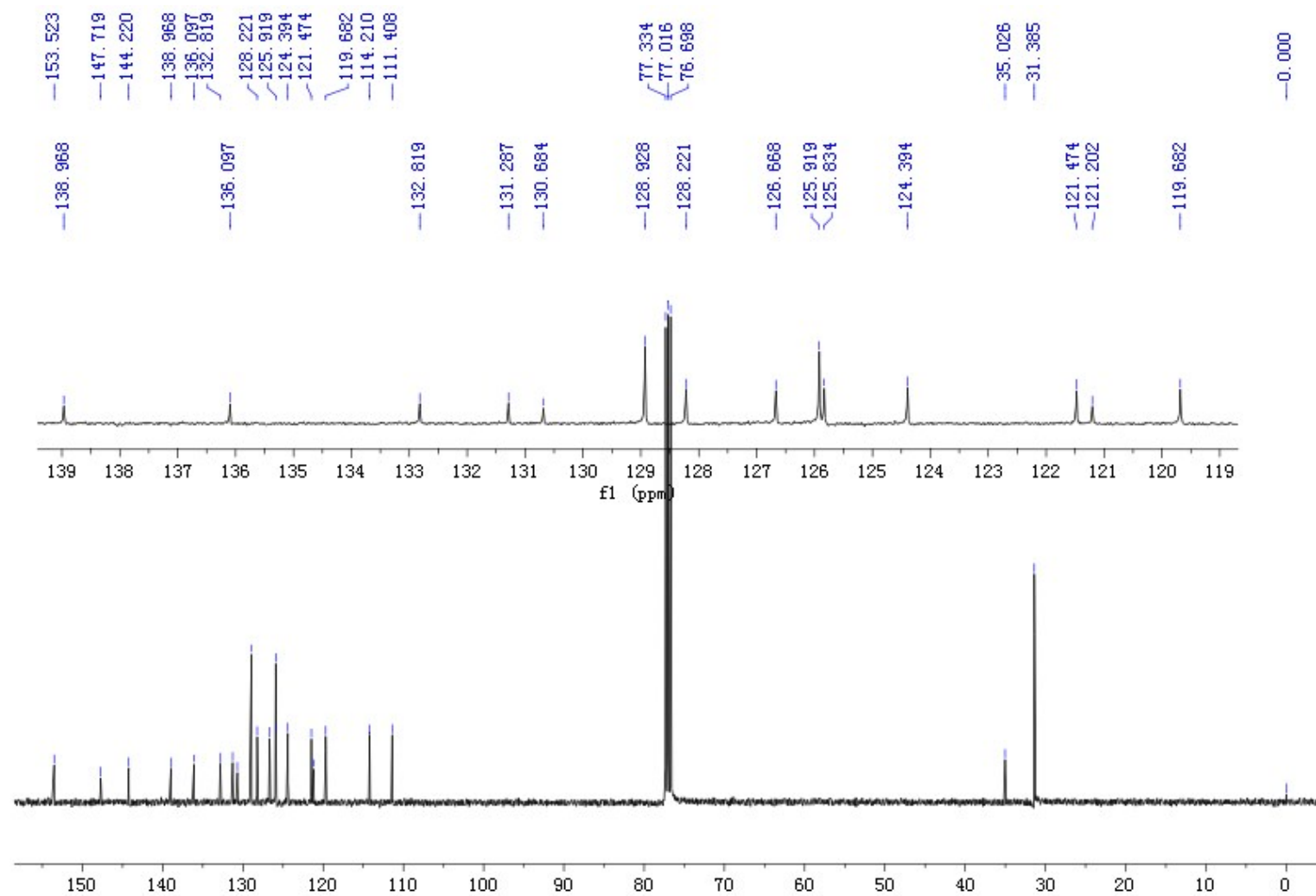
$^1\text{H}$  NMR of 3-Chloro-6-ethylbenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3v**)



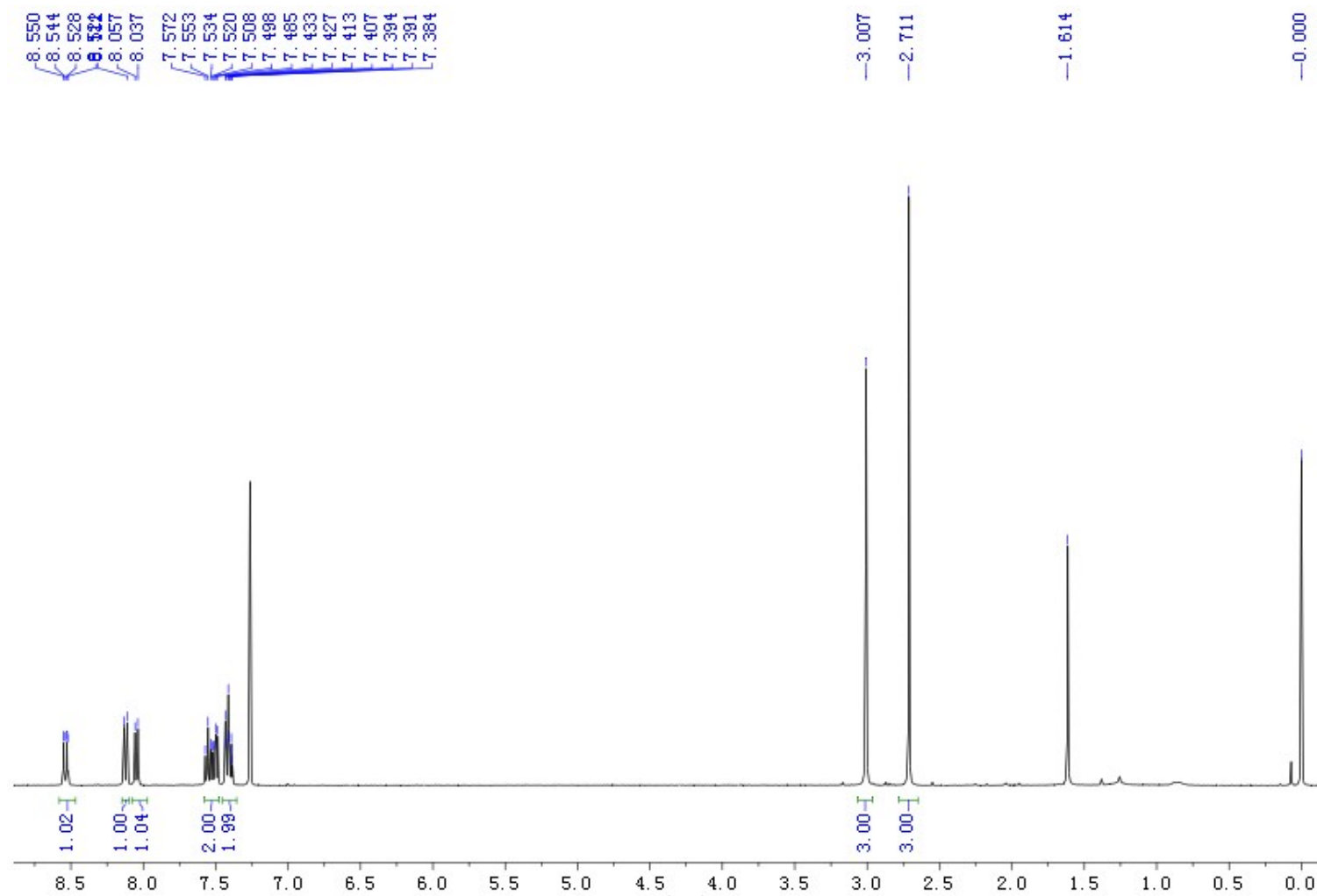
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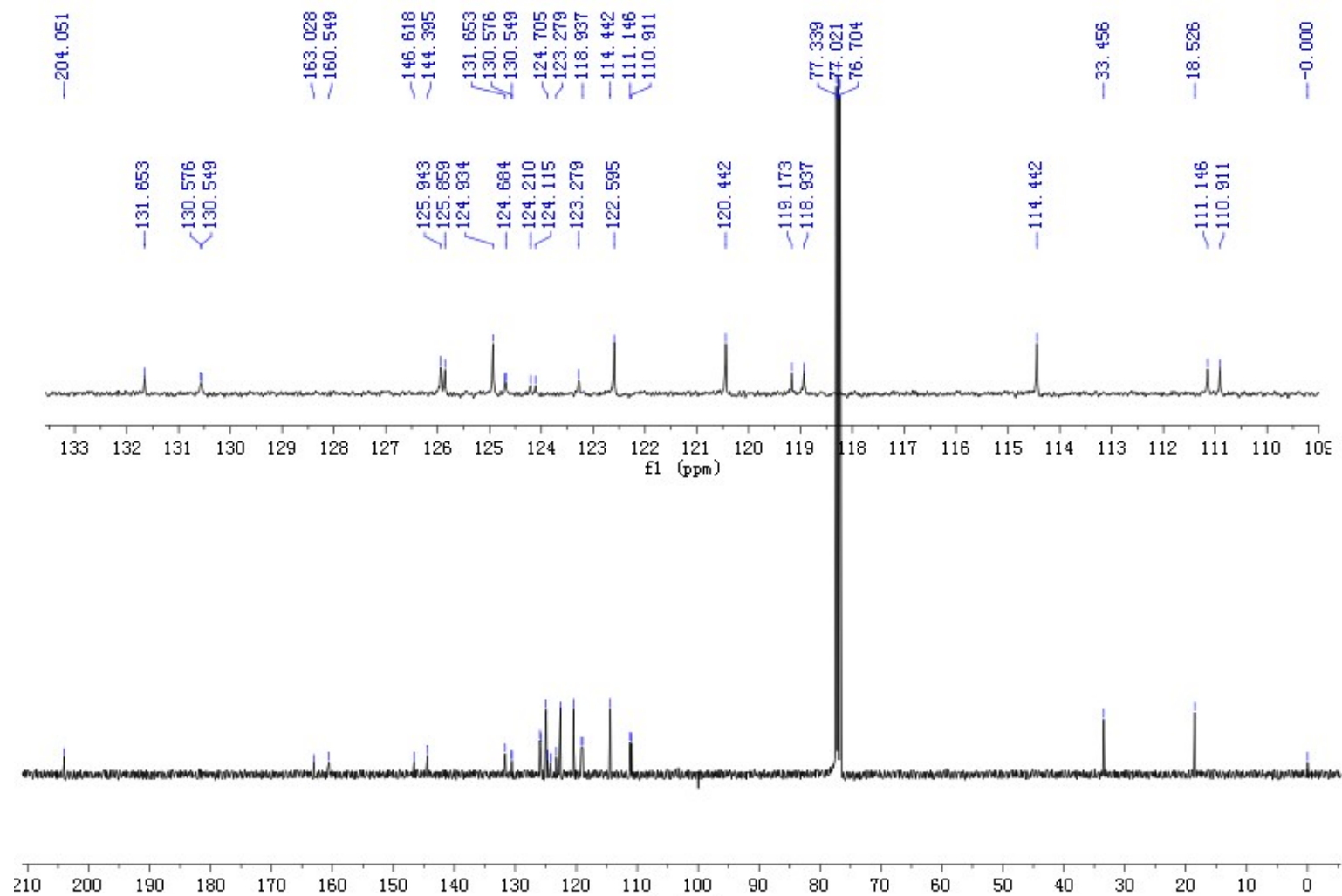
<sup>1</sup>H NMR of 6-(4-(tert-butyl)phenyl)-3-chlorobenzo[4,5]imidazo[2,1-*a*]isoquinoline (**3w**)



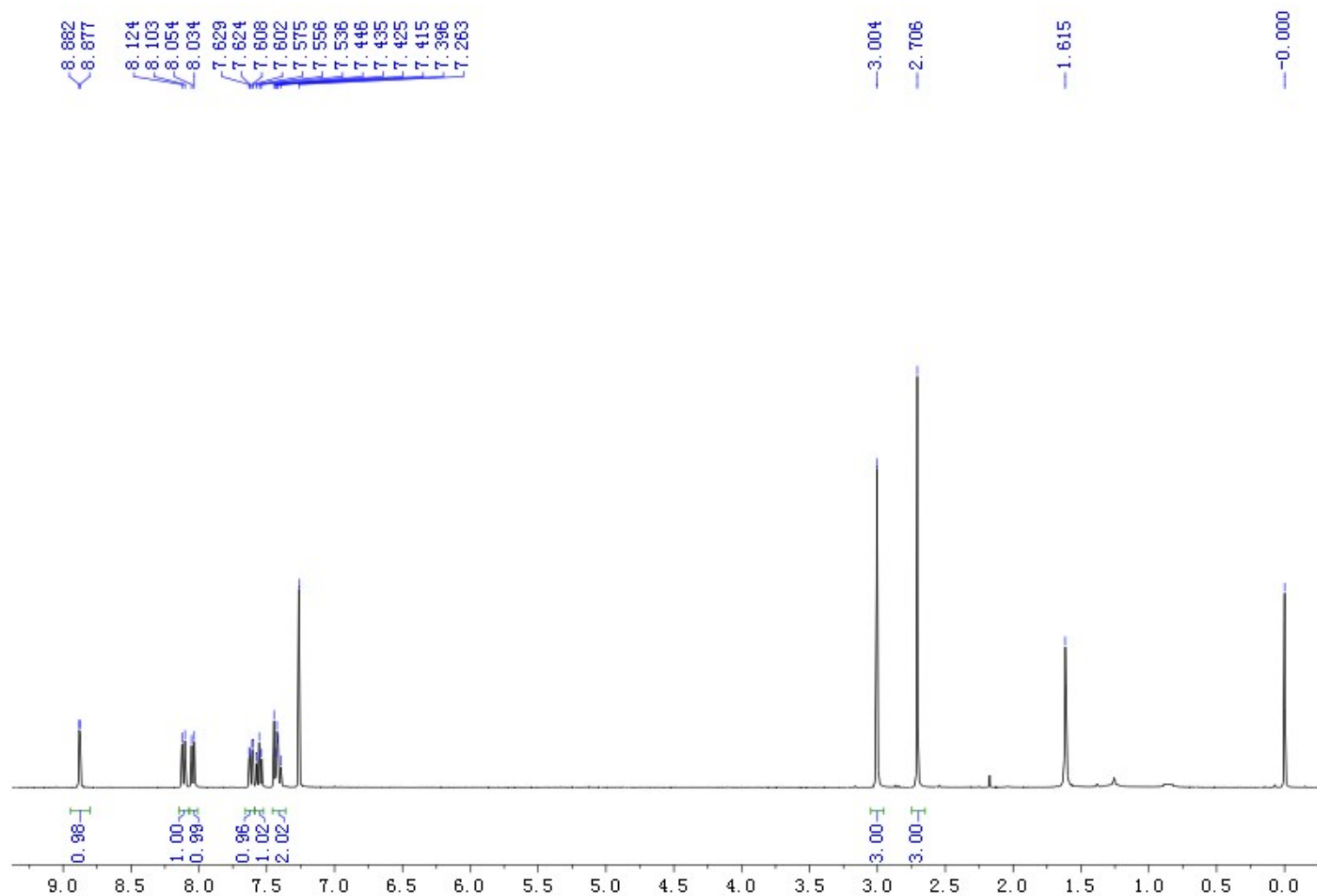
<sup>13</sup>C NMR of 6-(4-(tert-butyl)phenyl)-3-chlorobenzo[4,5]imidazo[2,1-a]isoquinoline (**3w**)



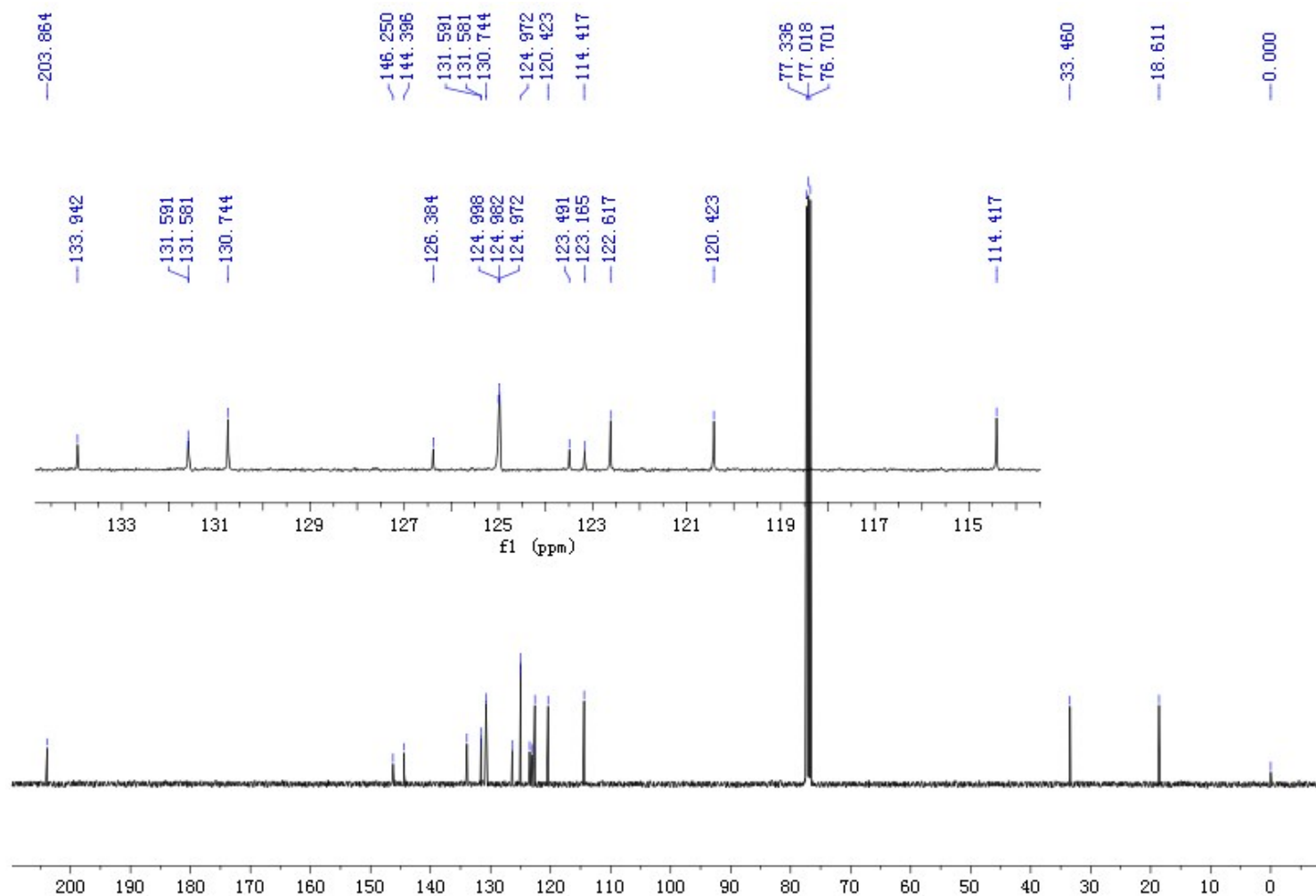
<sup>1</sup>H NMR of 1-(2-Fluoro-6-methylbenzo[4,5]imidazo[2,1-a]isoquinolin-5-yl)ethan-1-one (**4a**)



<sup>13</sup>C NMR of 1-(2-Fluoro-6-methylbenzo[4,5]imidazo[2,1-a]isoquinolin-5-yl)ethan-1-one (**4a**)



<sup>1</sup>H NMR of 1-(2-Chloro-6-methylbenzo[4,5]imidazo[2,1-a]isoquinolin-5-yl)ethan-1-one (**4b**)



<sup>13</sup>C NMR of 1-(2-Chloro-6-methylbenzo[4,5]imidazo[2,1-*a*]isoquinolin-5-yl)ethan-1-one (**4b**)