

## *Electronic Supplementary Information (ESI)*

### **RSC ADVANCES**

# **Lanthanum loaded CuO nanoparticles: synthesis and characterization of a recyclable catalyst for the synthesis of 1, 4-disubstituted 1, 2, 3-triazoles and propargylamines**

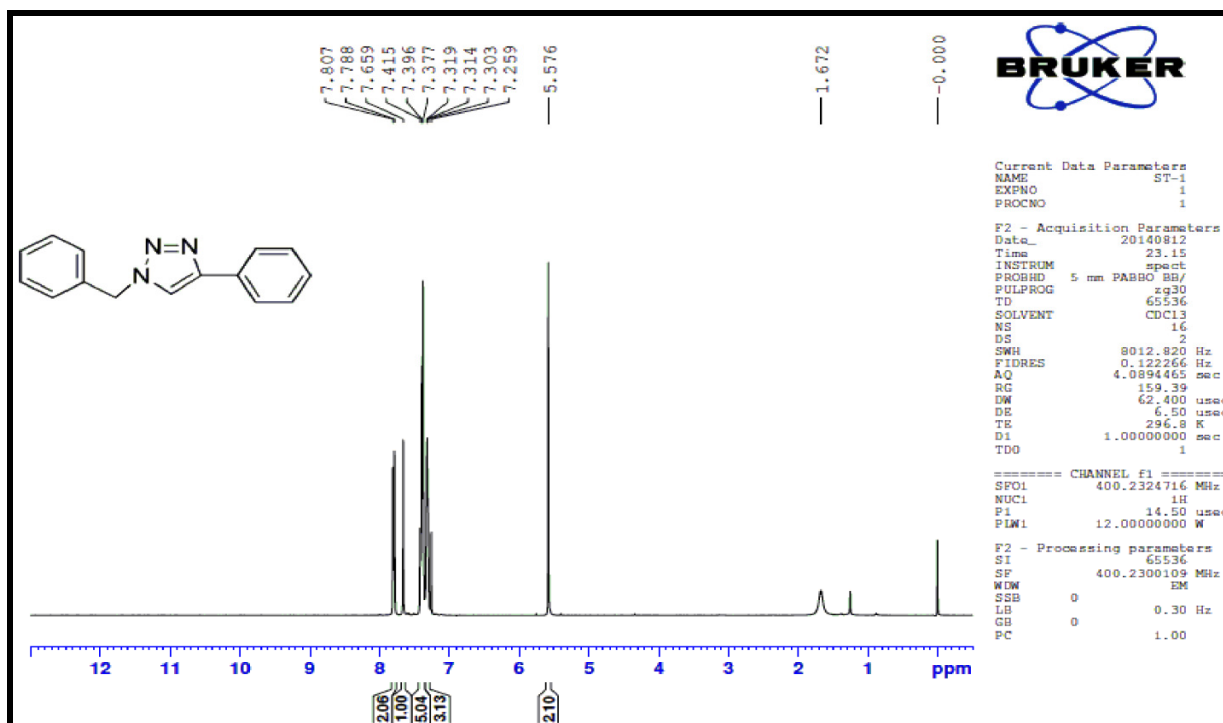
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*Department of Chemistry, B.S. Abdur Rahman University, Vandalur, Chennai-600048, India,*

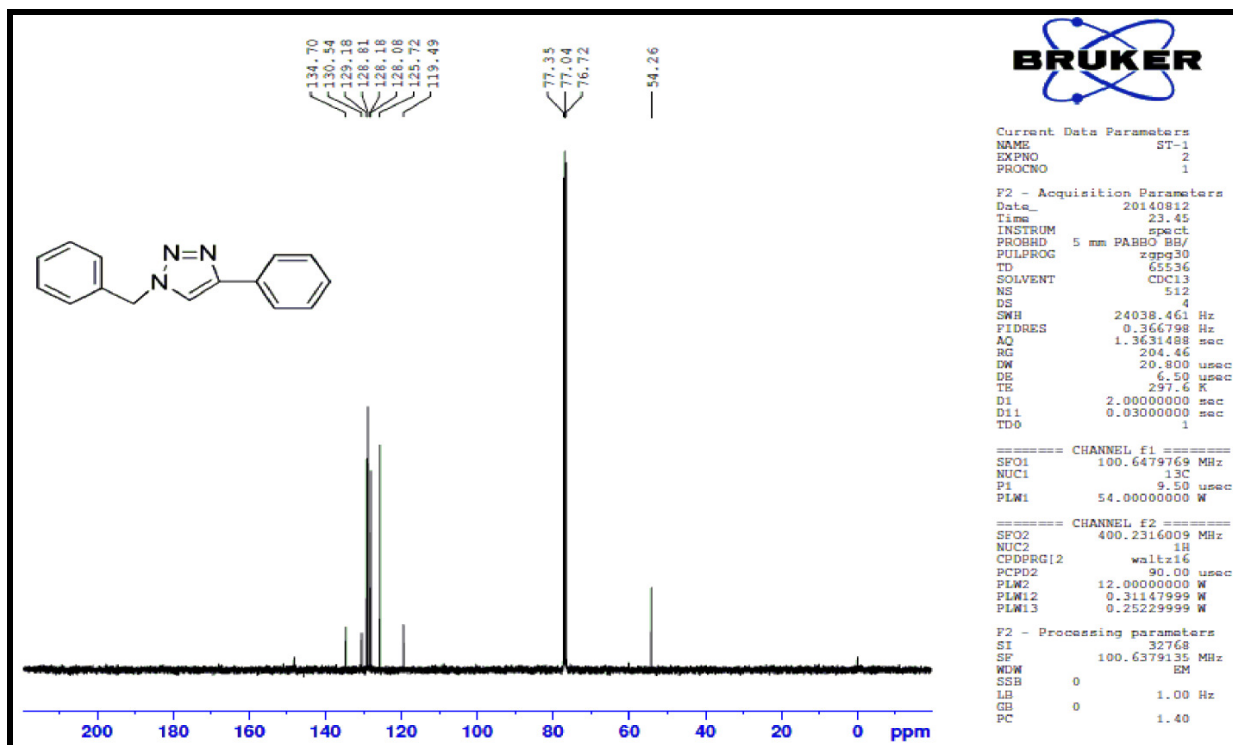
*Email: [karthiclri@gmail.com](mailto:karthiclri@gmail.com), [skrani@bsauniv.ac.in](mailto:skrani@bsauniv.ac.in)*

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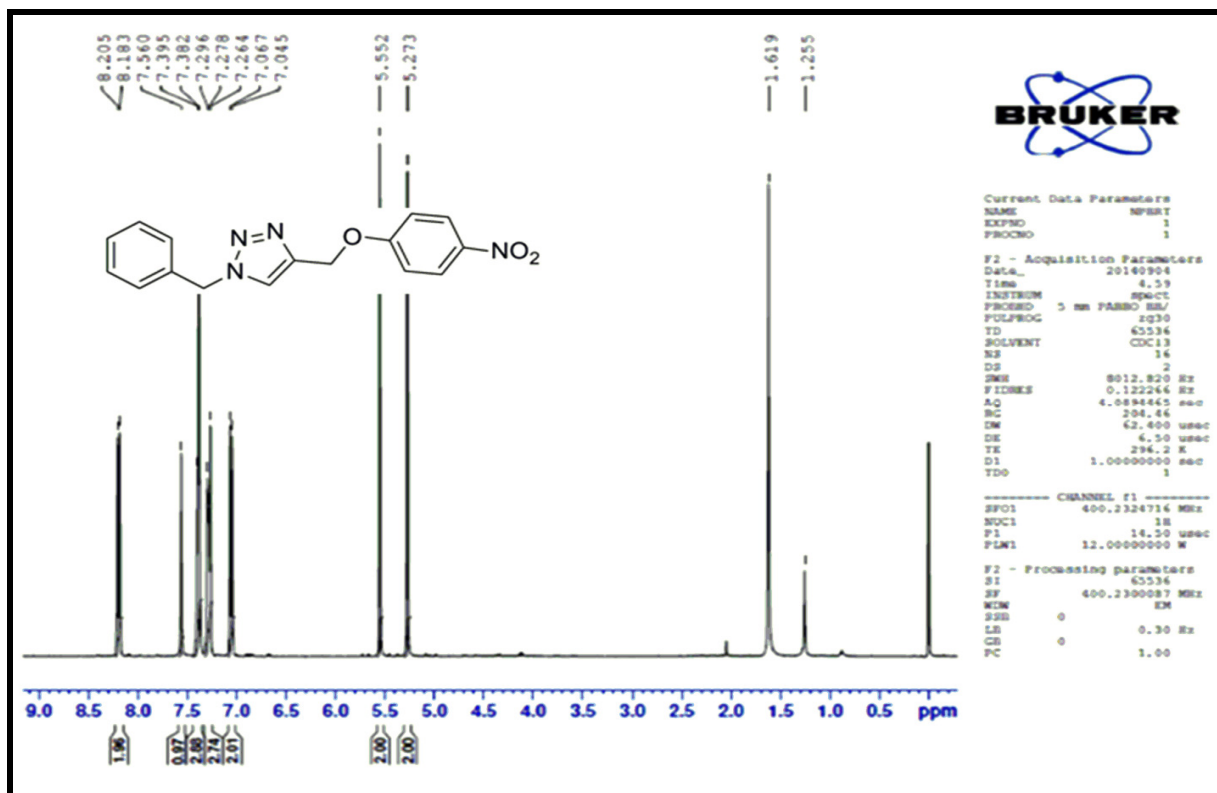
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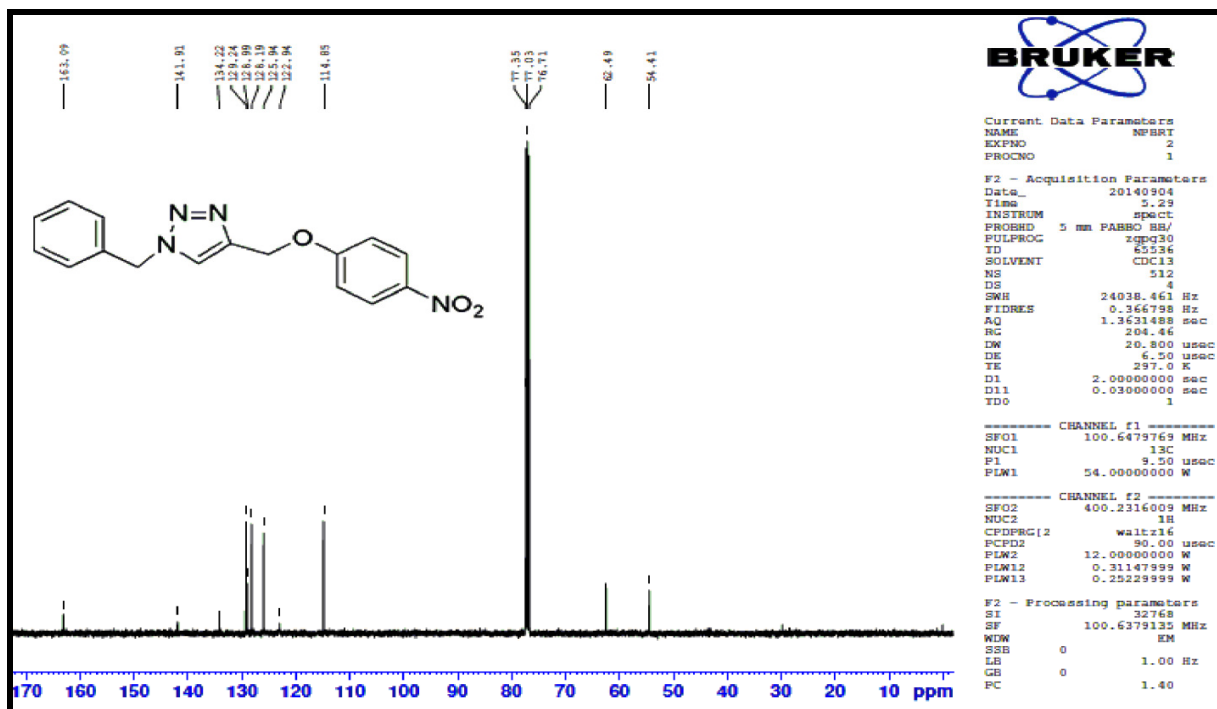
<sup>1</sup>H NMR spectrum of compound 3a



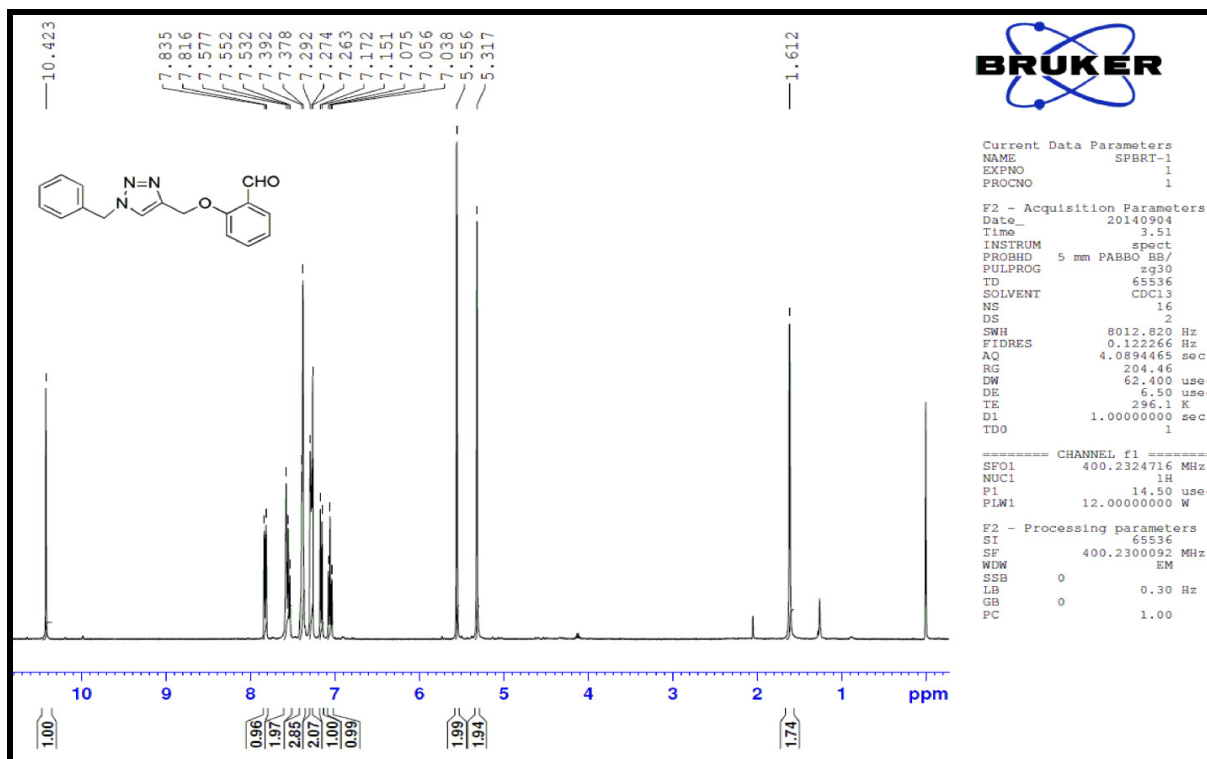
<sup>13</sup>C NMR spectrum of compound 3a



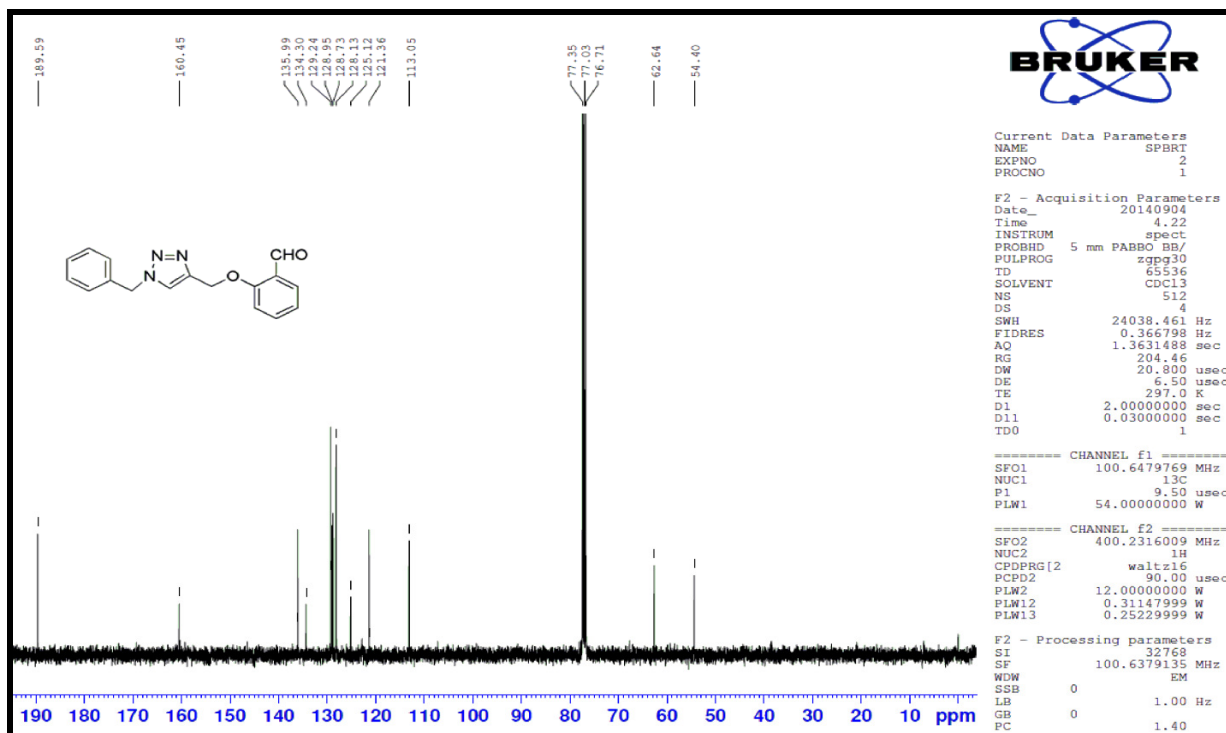
<sup>1</sup>H NMR spectrum of compound **3b**



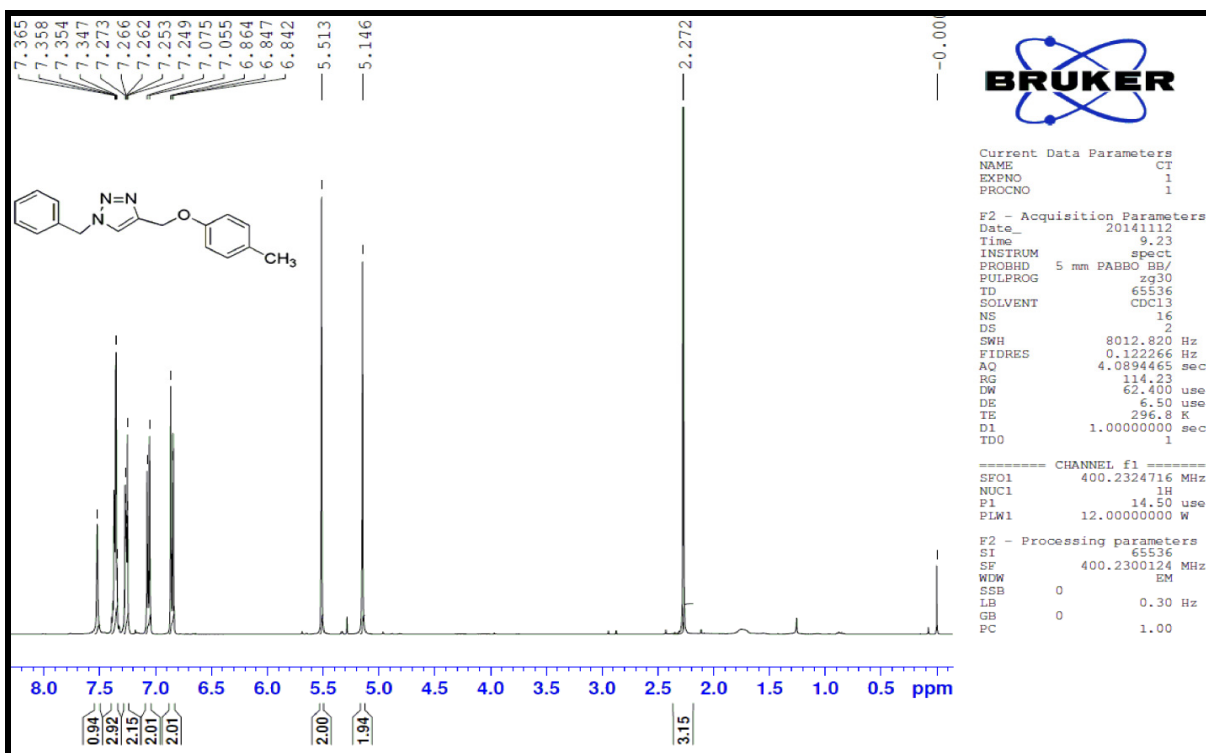
<sup>13</sup>C NMR spectrum of compound **3b**



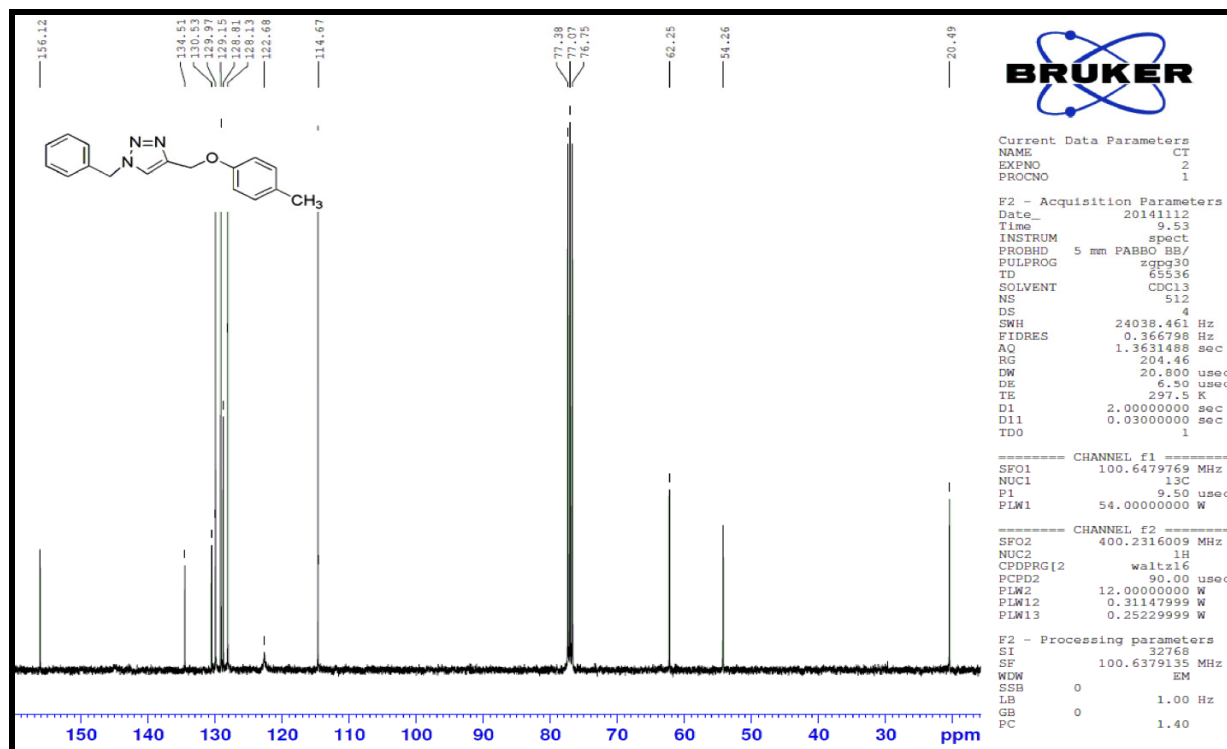
<sup>1</sup>H NMR spectrum of compound **3c**



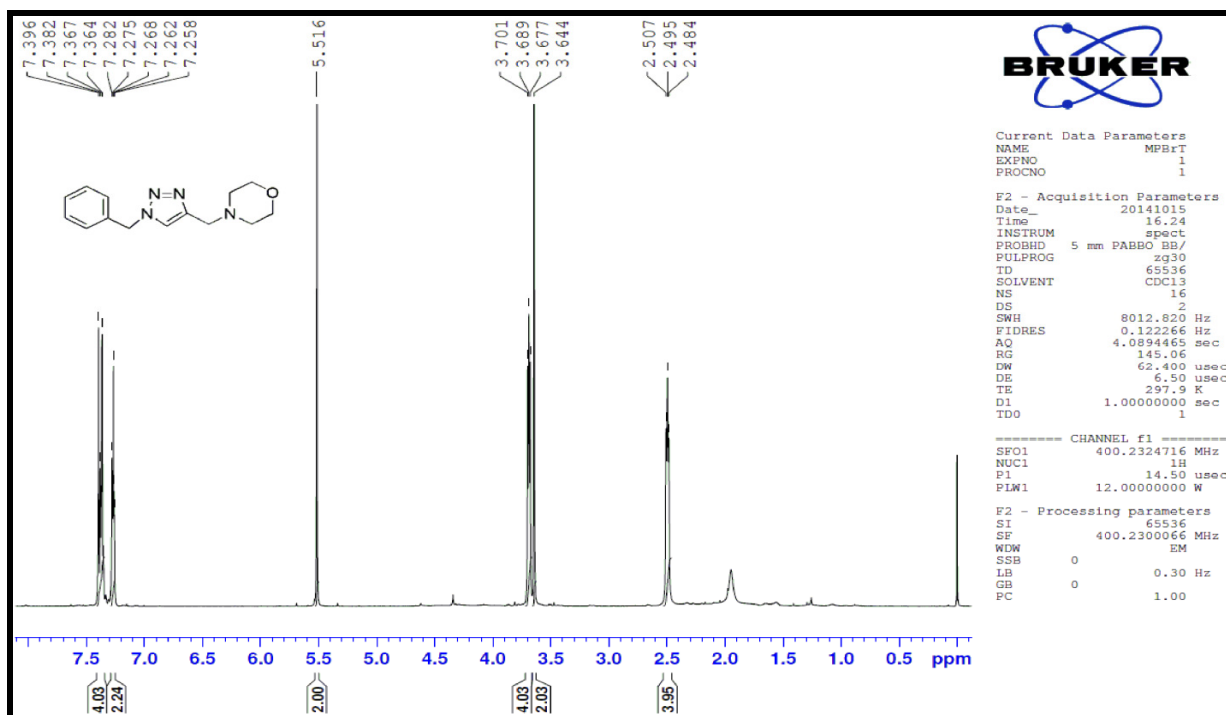
<sup>13</sup>C NMR spectrum of compound **3c**



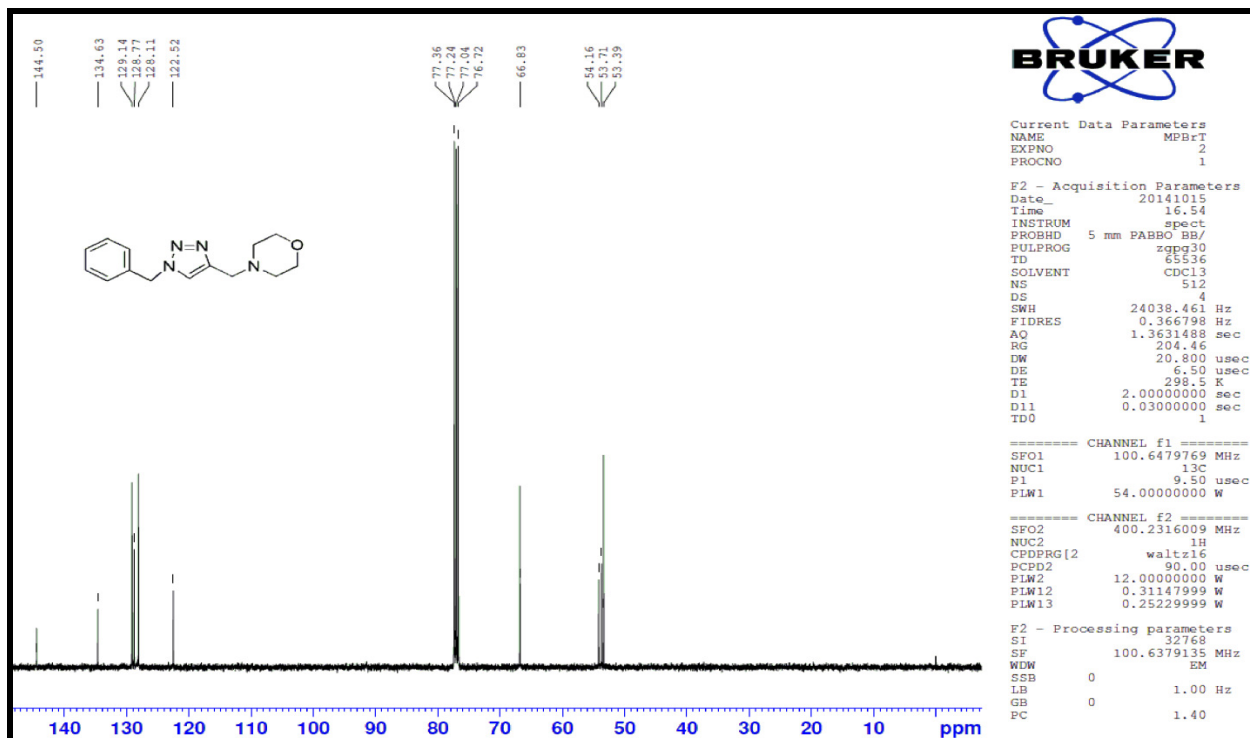
<sup>1</sup>H NMR spectrum of compound **3d**



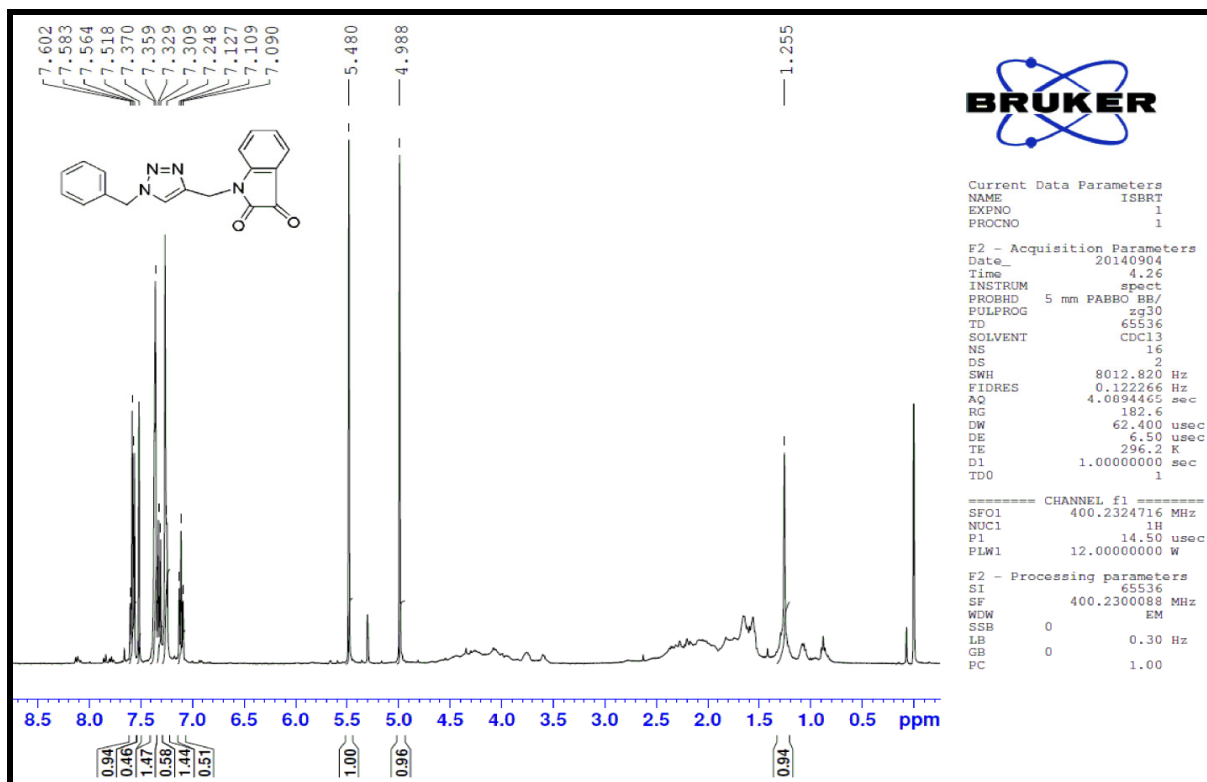
<sup>13</sup>C NMR spectrum of compound **3d**



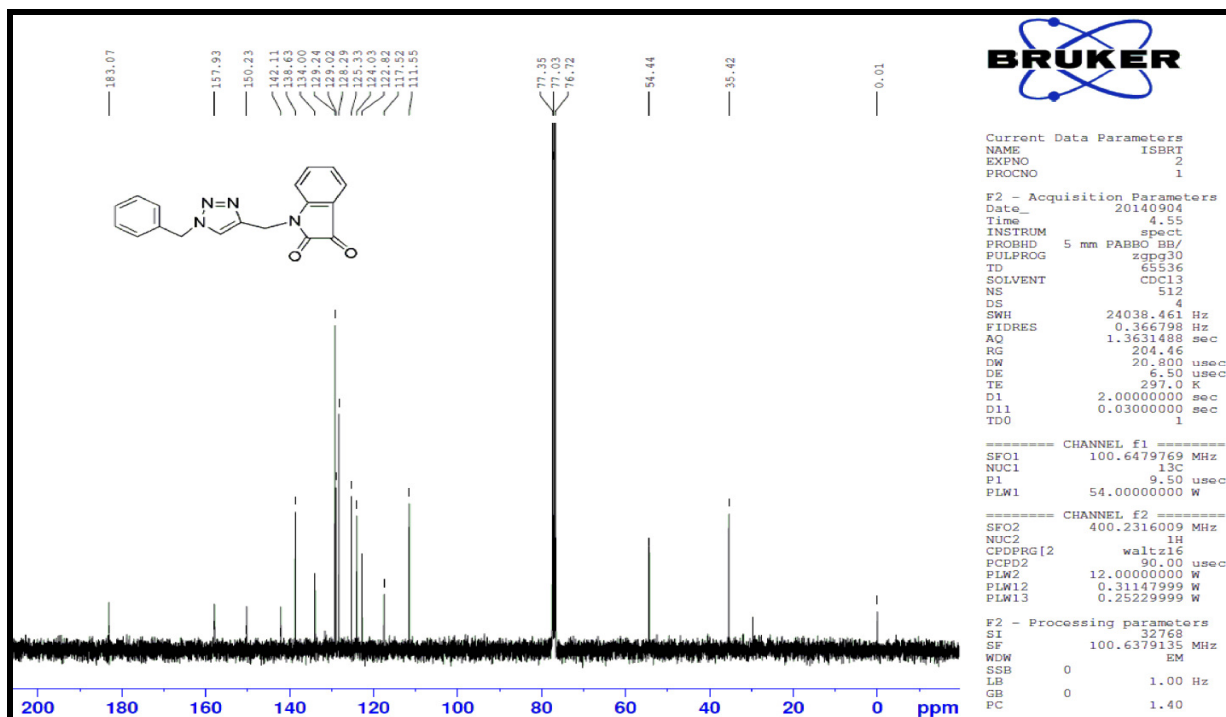
$^1\text{H}$  NMR spectrum of compound **3e**



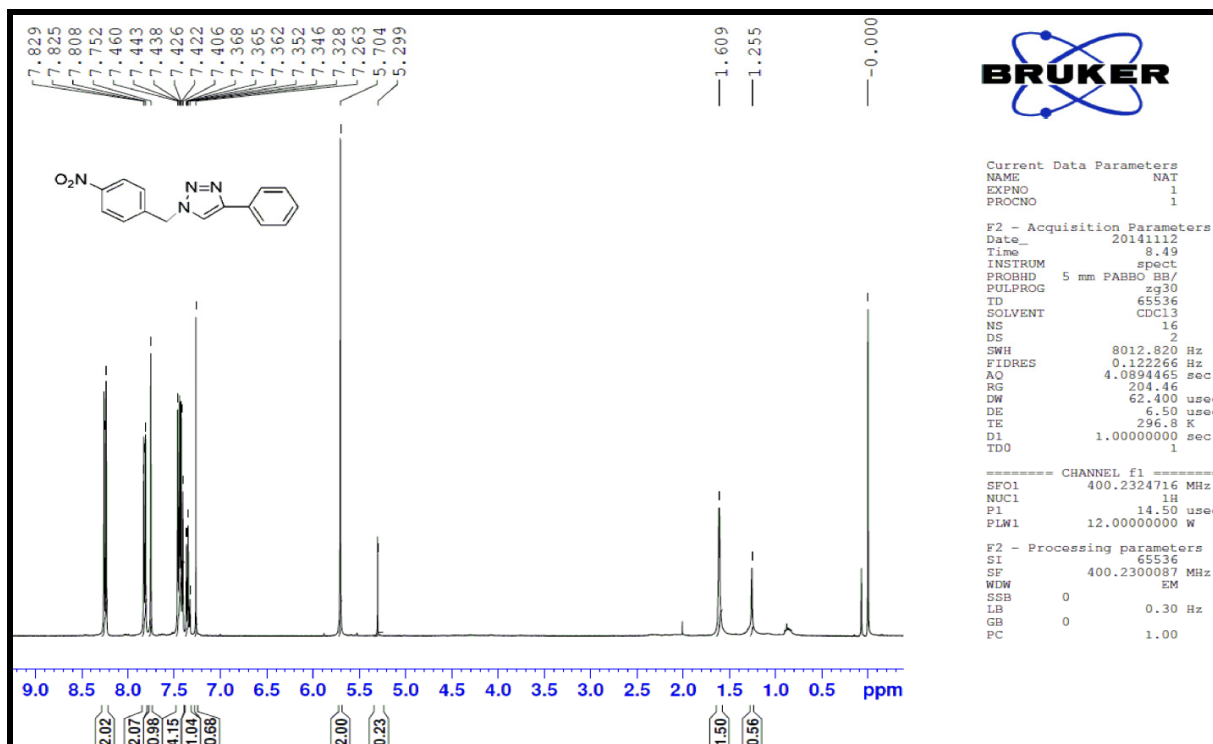
$^{13}\text{C}$  NMR spectrum of compound **3e**



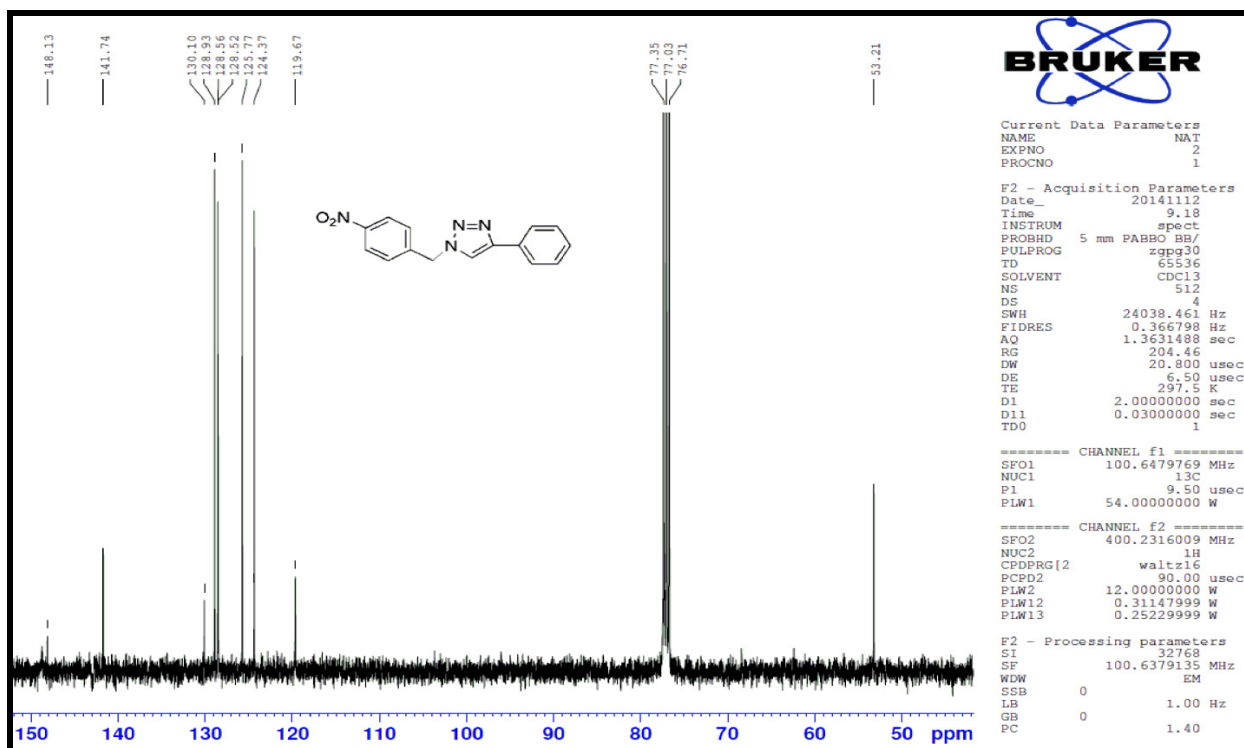
<sup>1</sup>H NMR spectrum of compound 3f



<sup>13</sup>C NMR spectrum of compound 3f

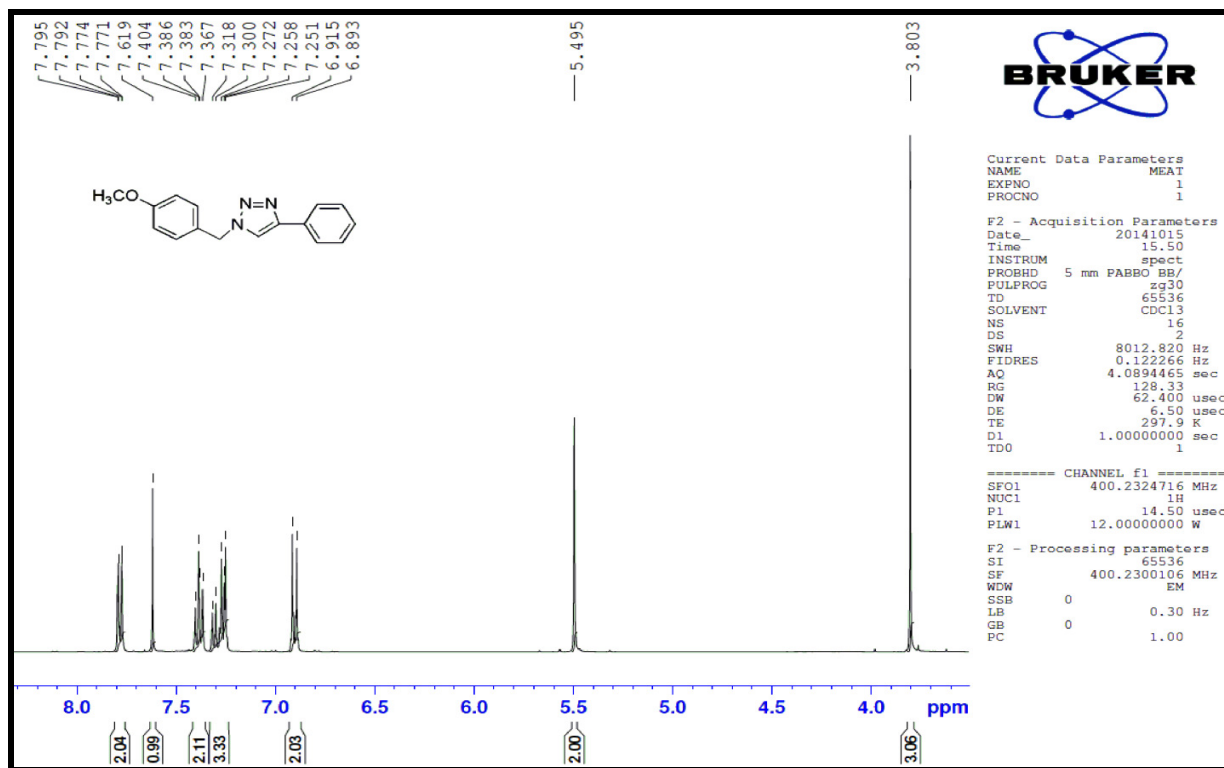


<sup>1</sup>H NMR spectrum of compound **3g**

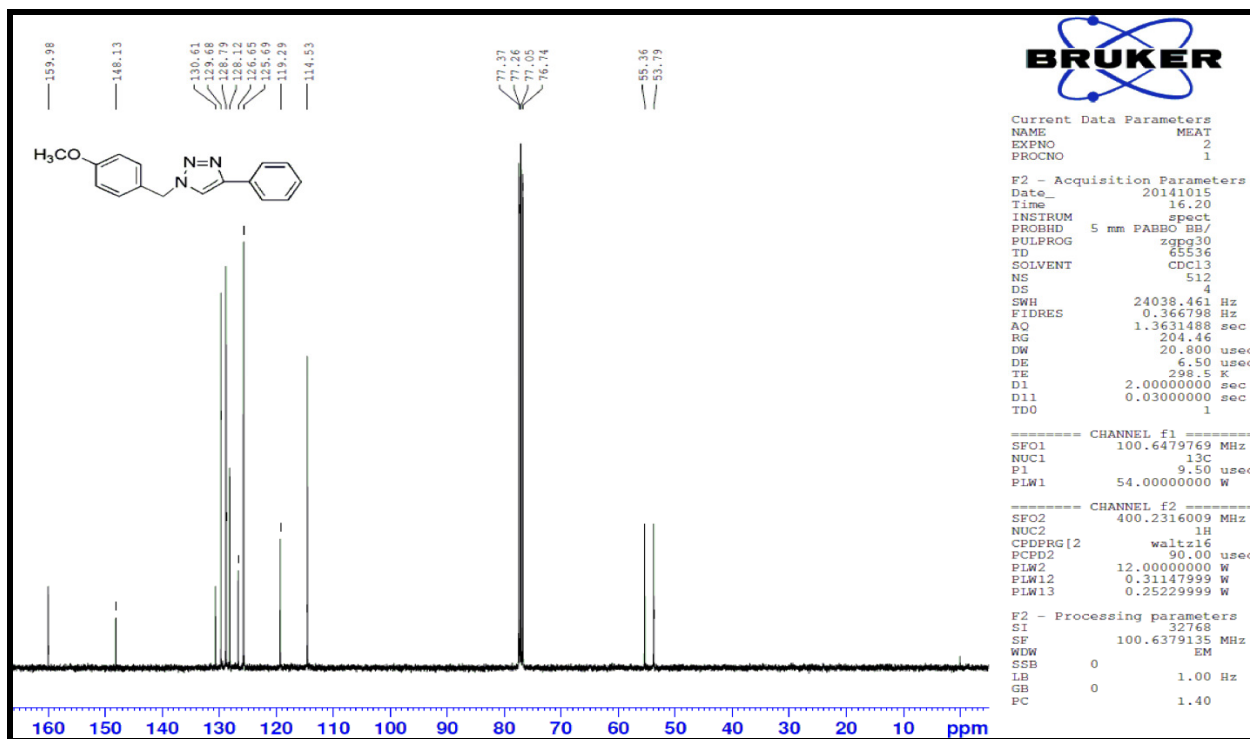


<sup>13</sup>C NMR spectrum of compound **3g**

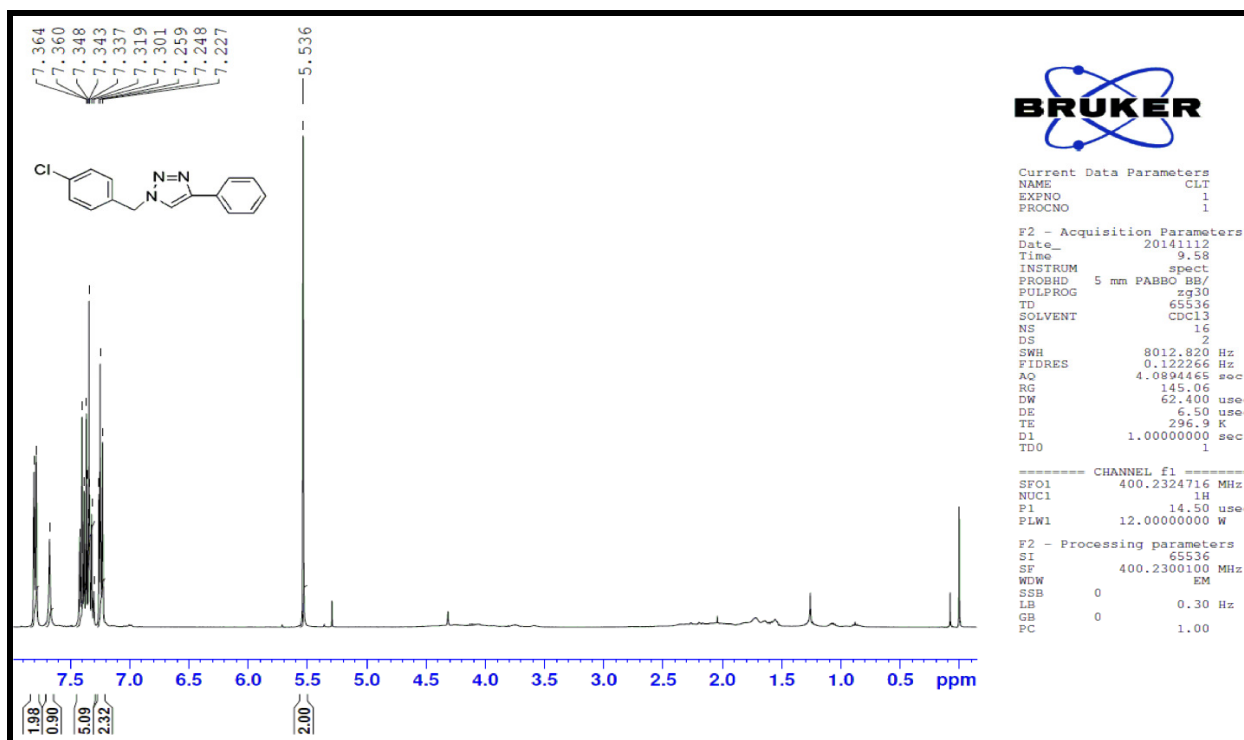




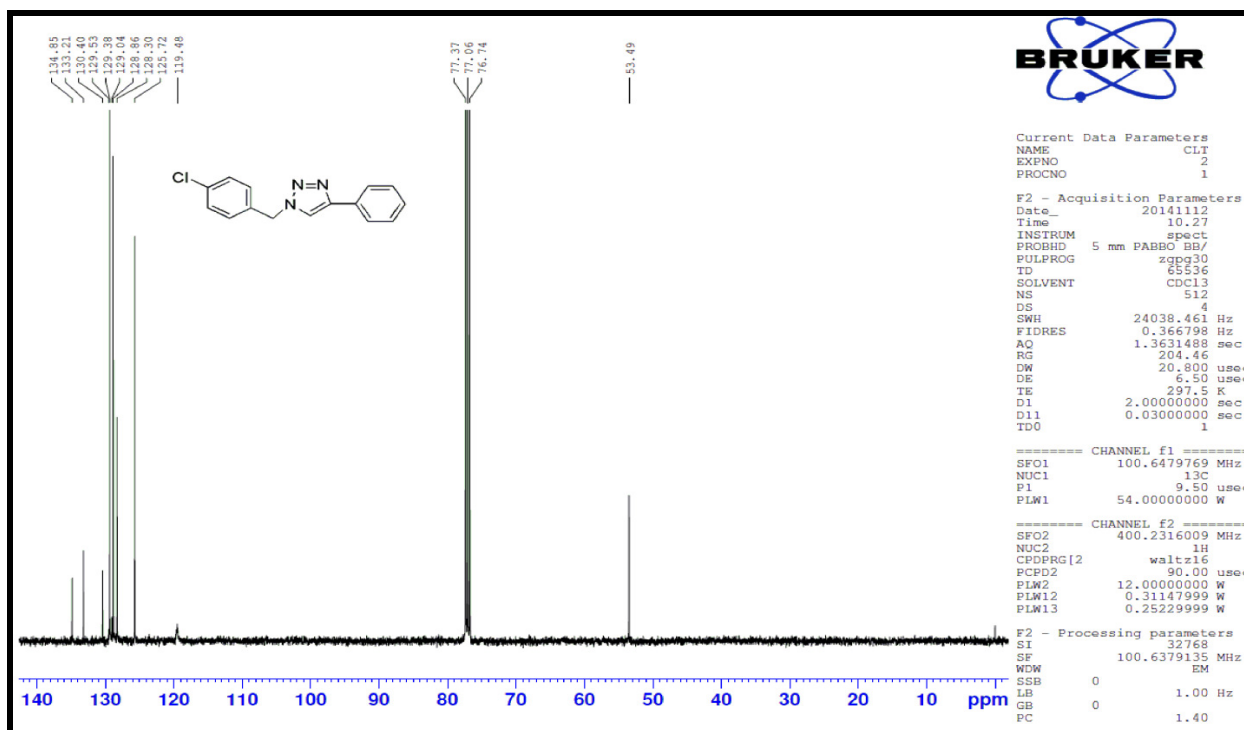
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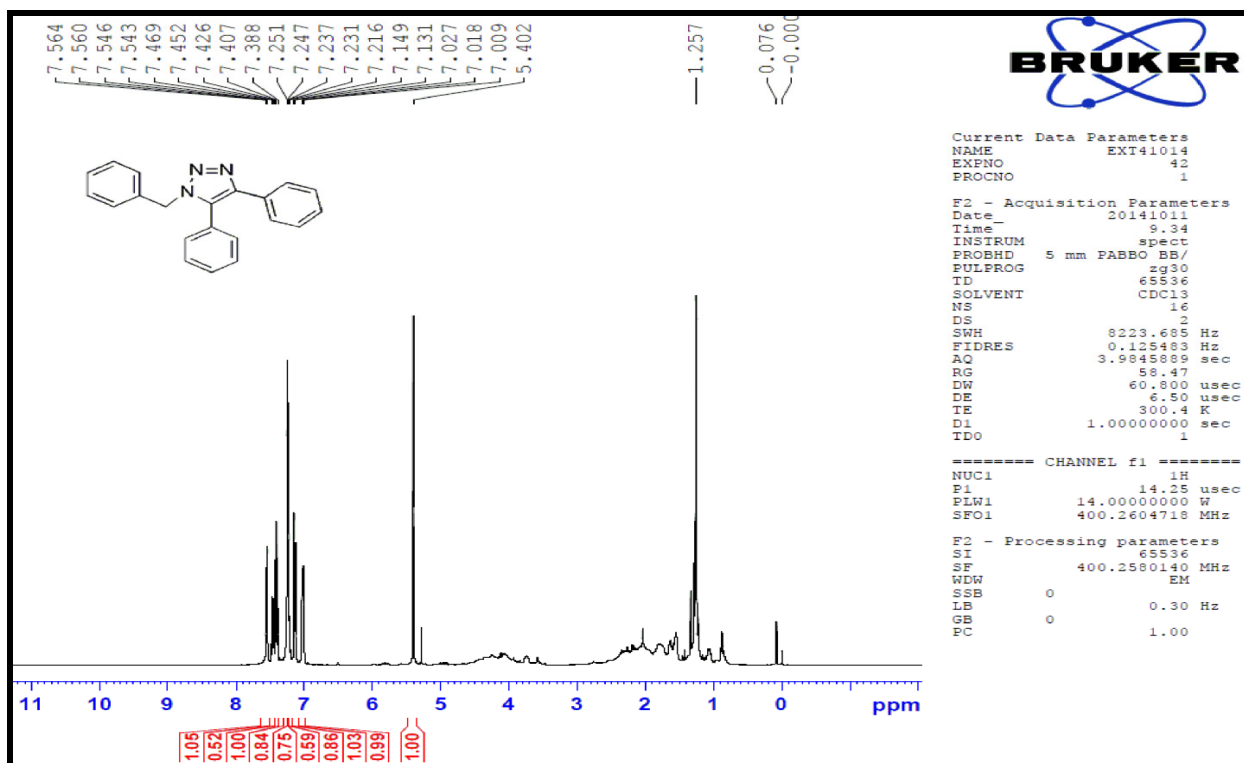
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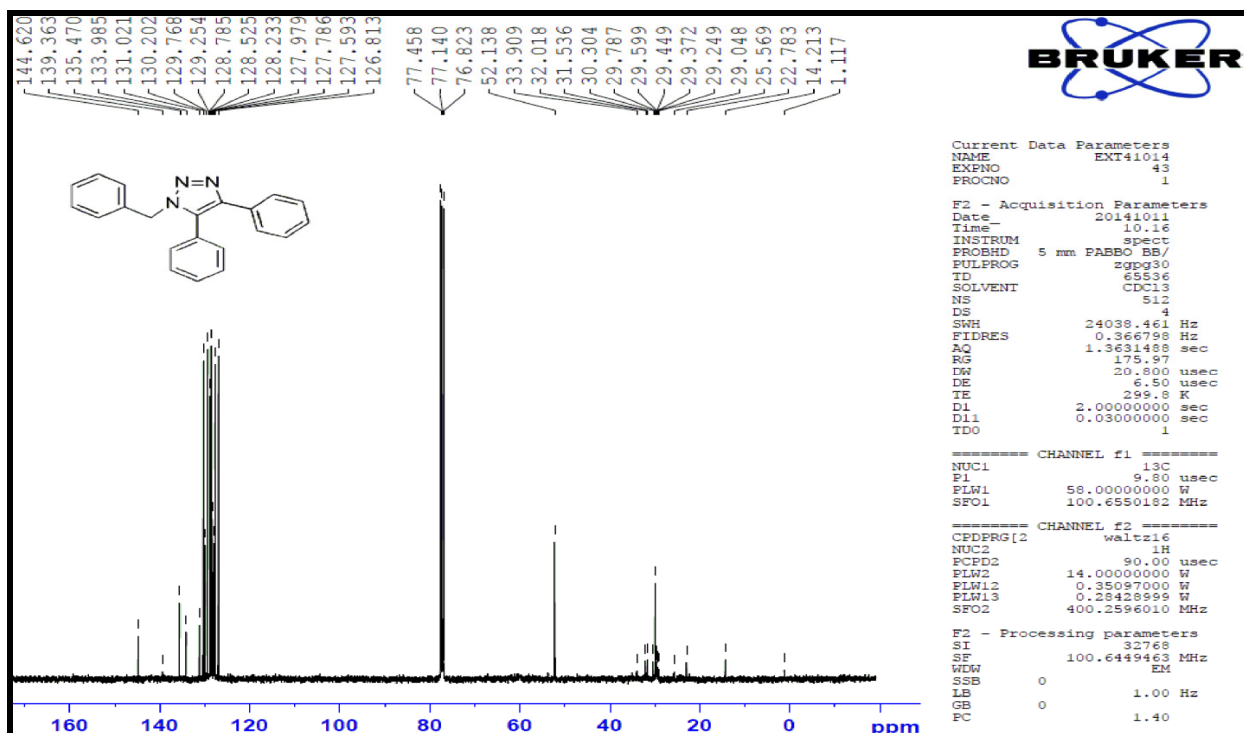
$^1\text{H}$  NMR spectrum of compound **3i**



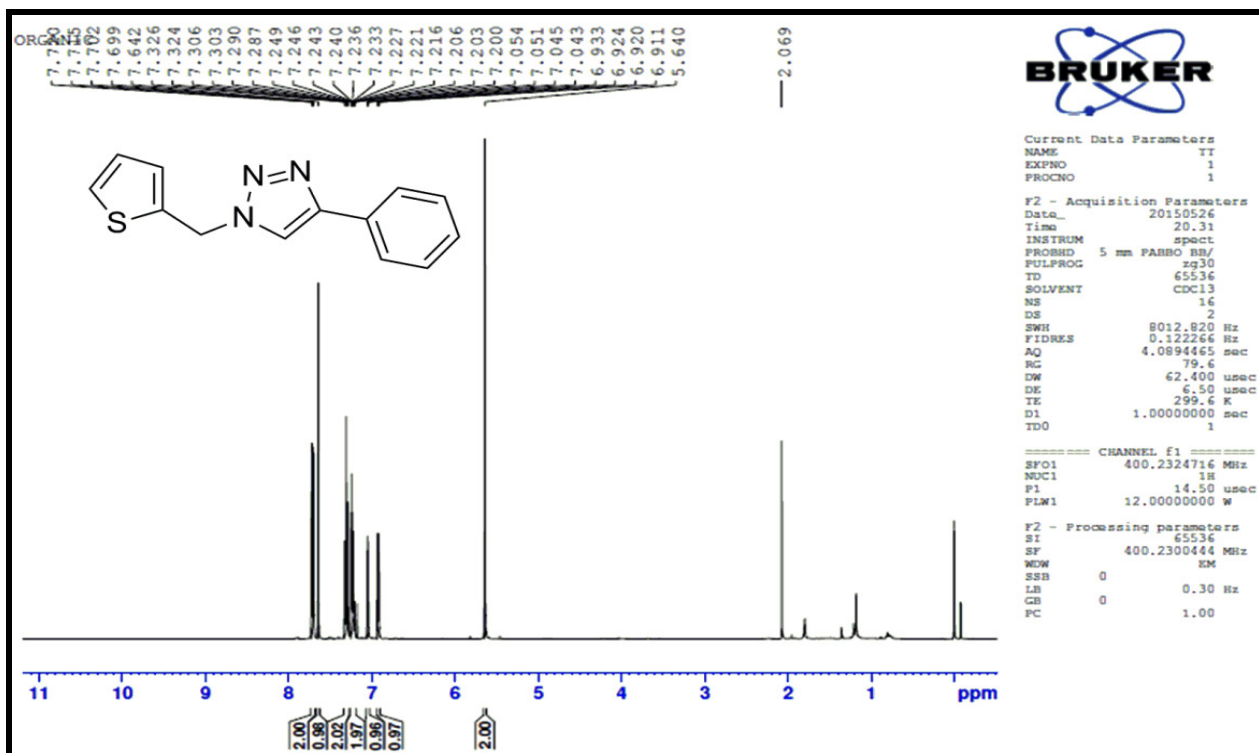
$^{13}\text{C}$  NMR spectrum of compound **3i**



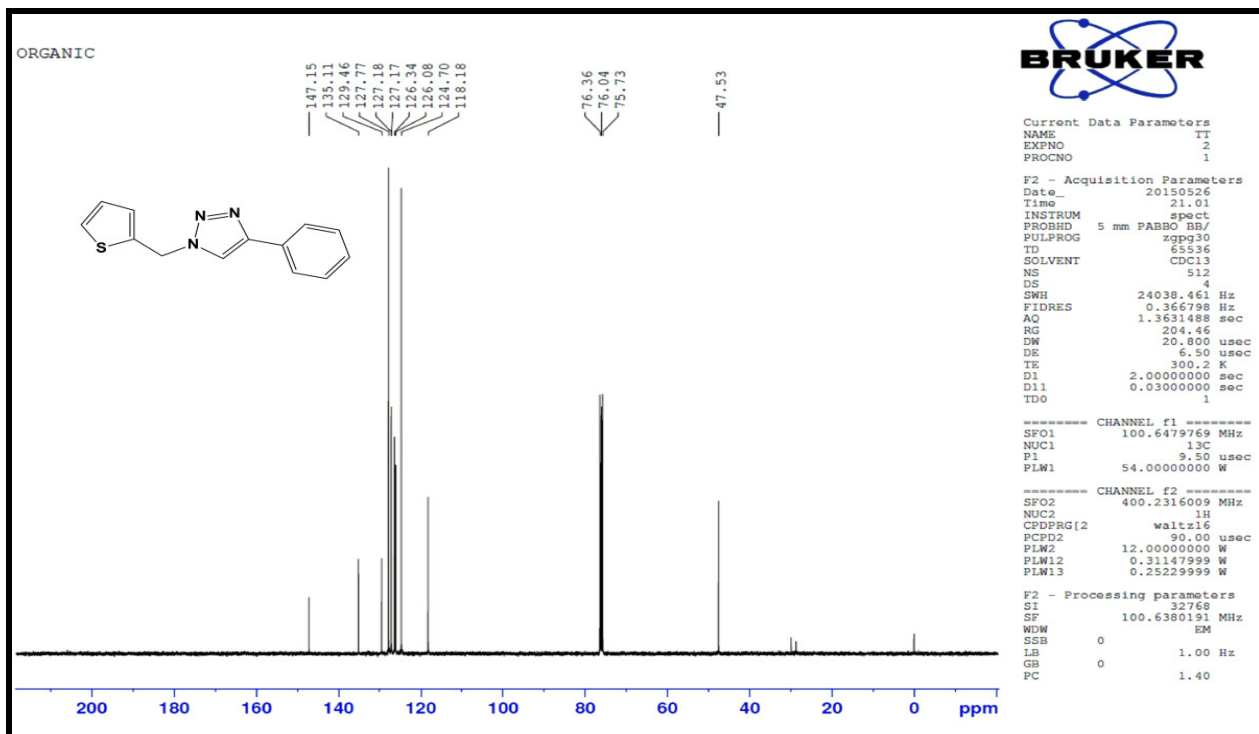
<sup>1</sup>H NMR spectrum of compound **3j**



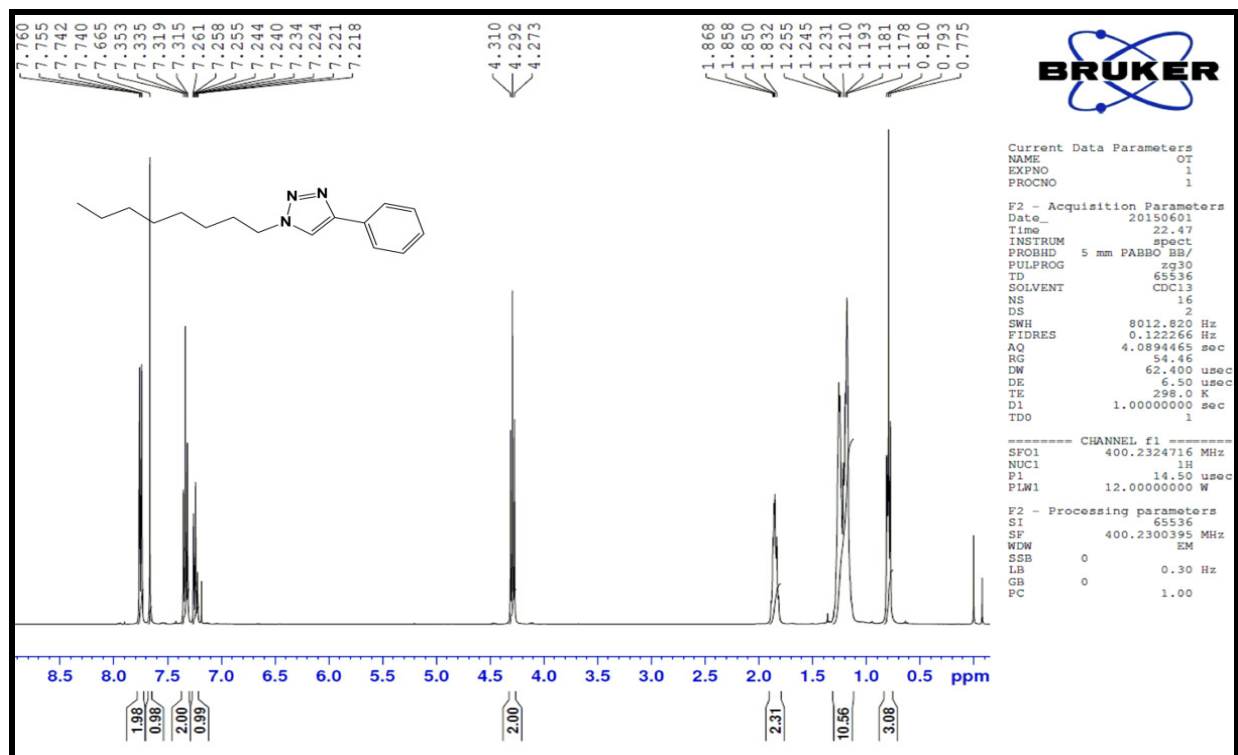
<sup>13</sup>C NMR spectrum of compound **3j**



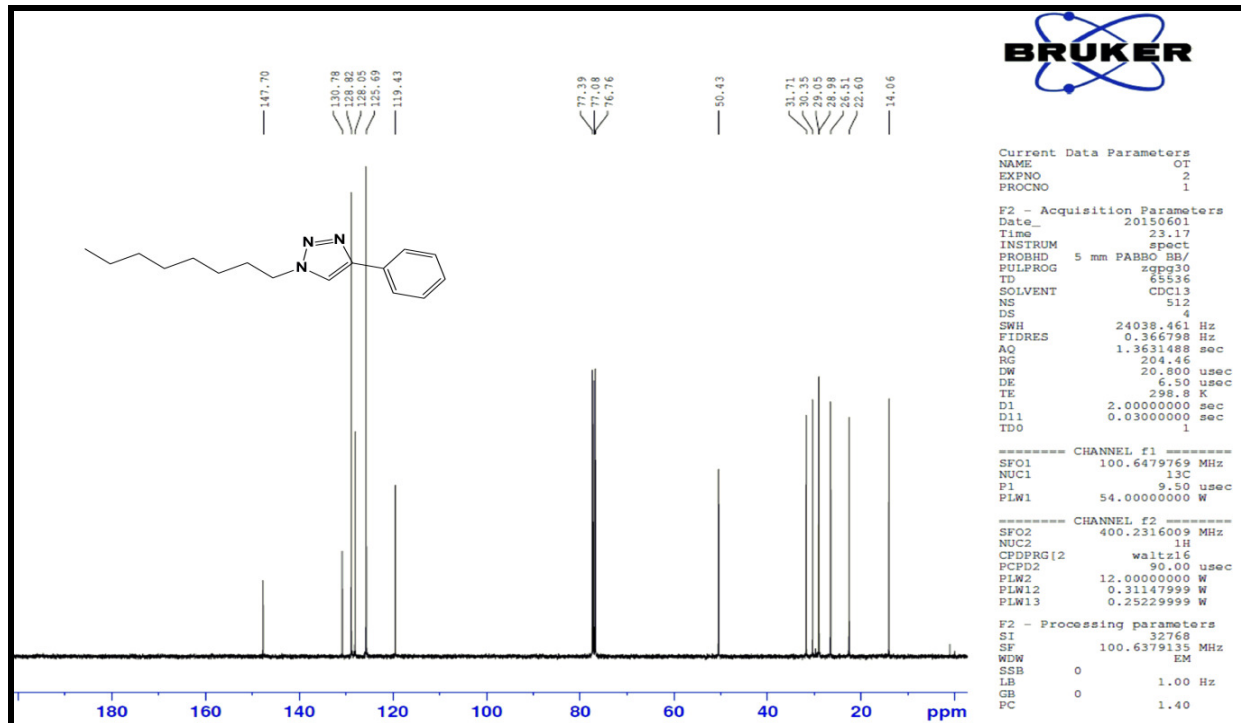
$^1\text{H}$  NMR spectrum of compound **3k**



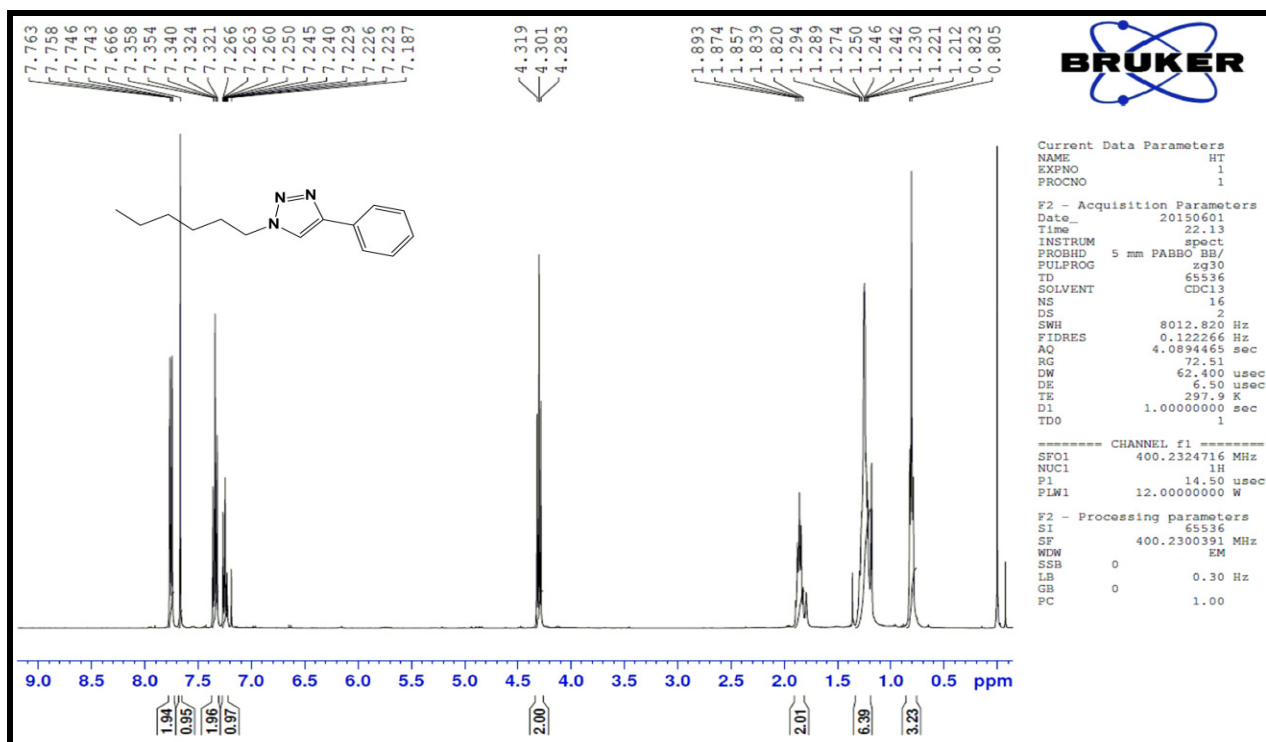
$^{13}\text{C}$  NMR spectrum of compound **3k**



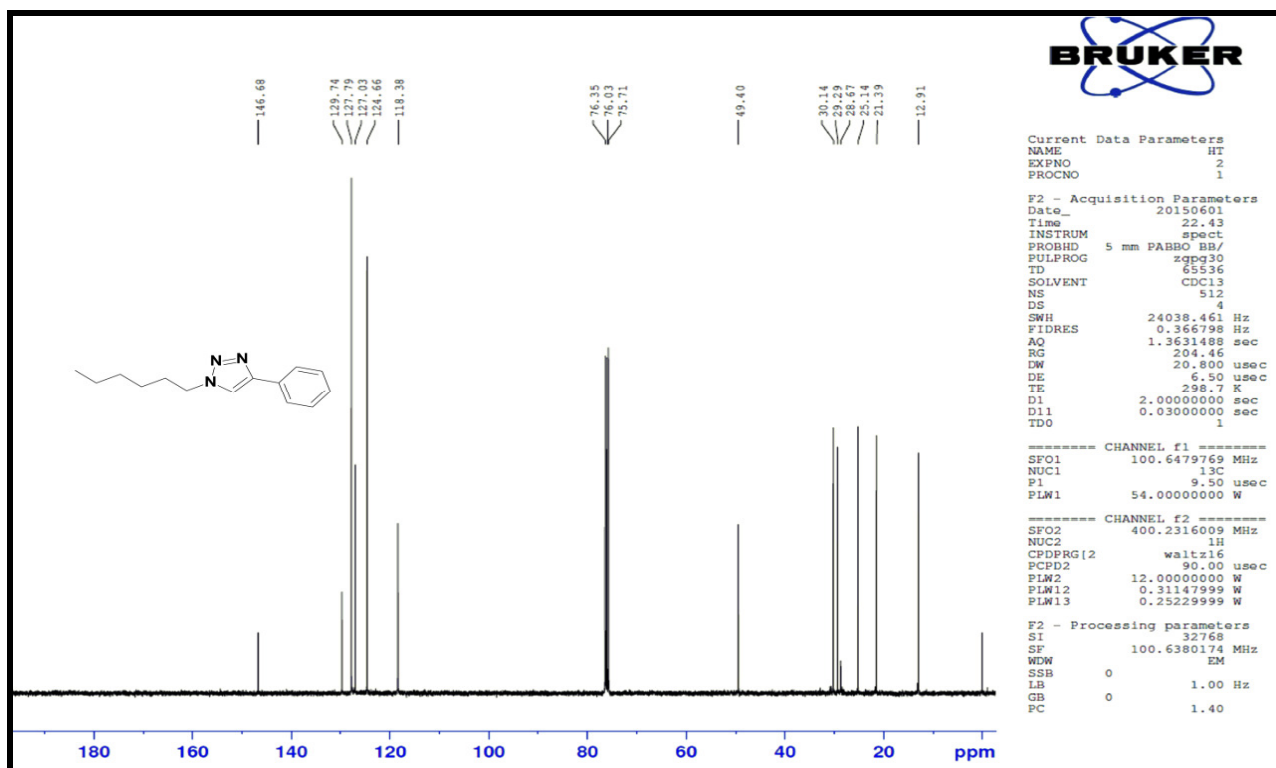
<sup>1</sup>H NMR spectrum of compound 31



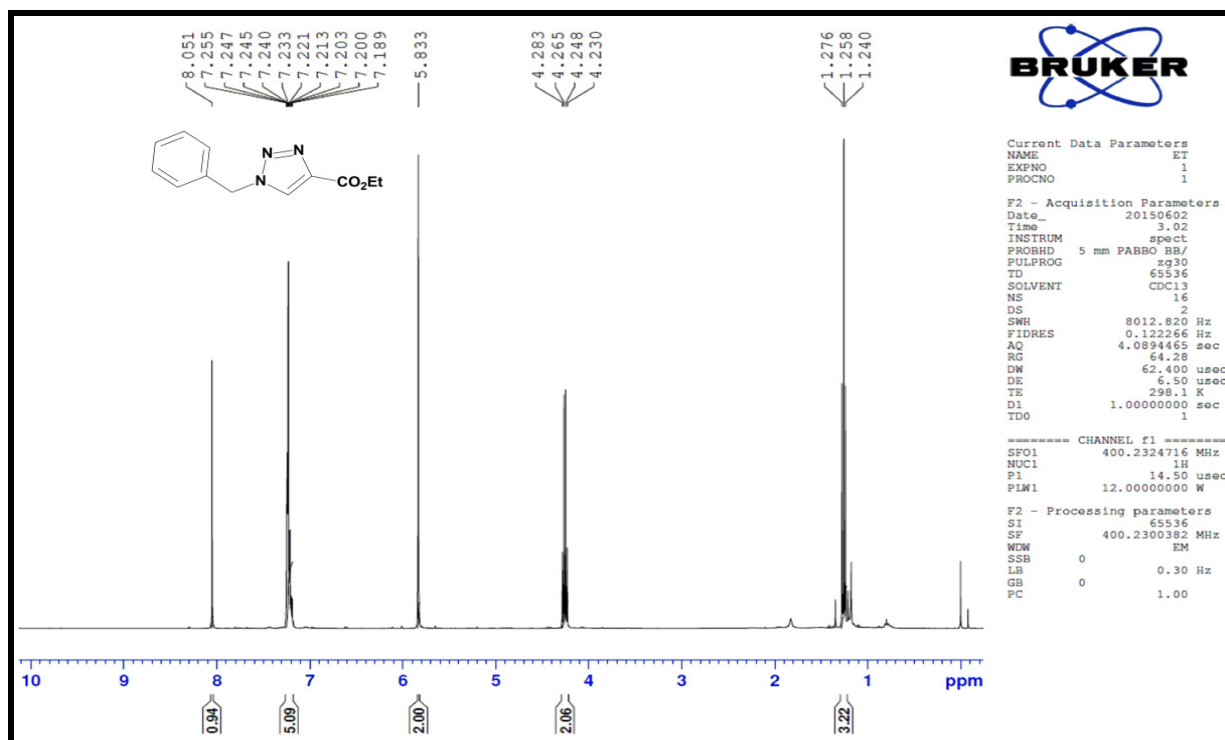
<sup>13</sup>C NMR spectrum of compound 31



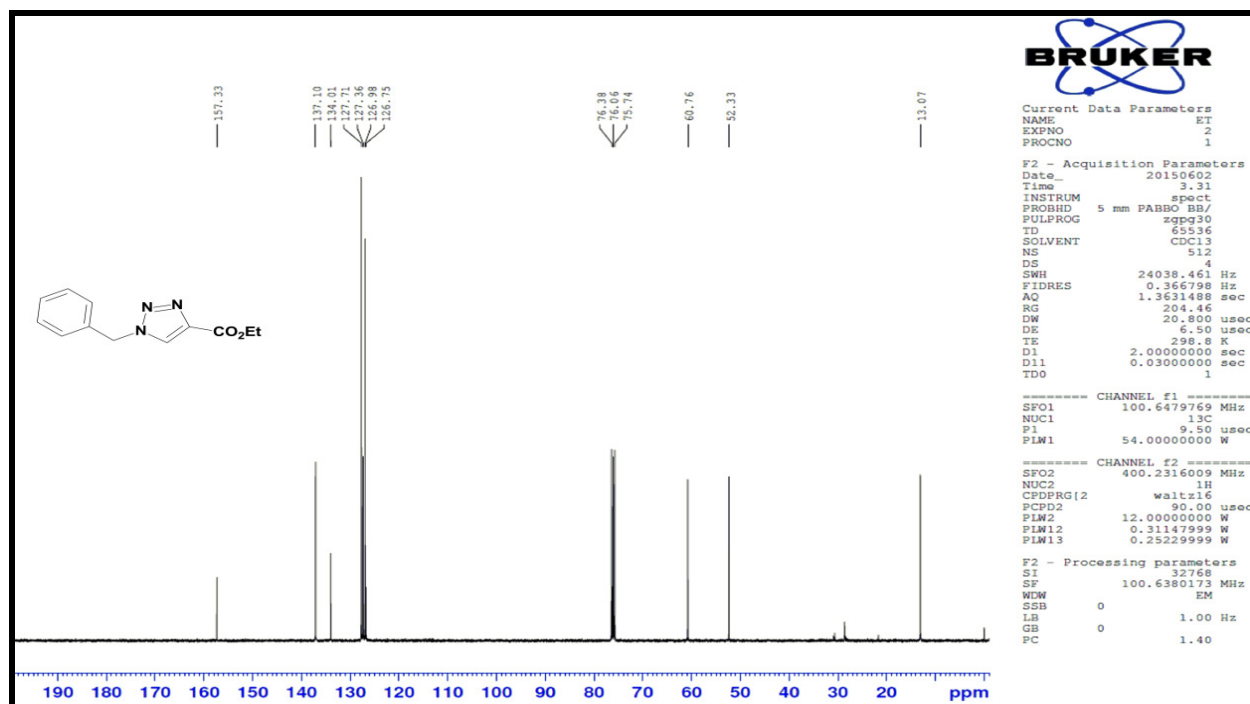
<sup>1</sup>H NMR spectrum of compound **3m**



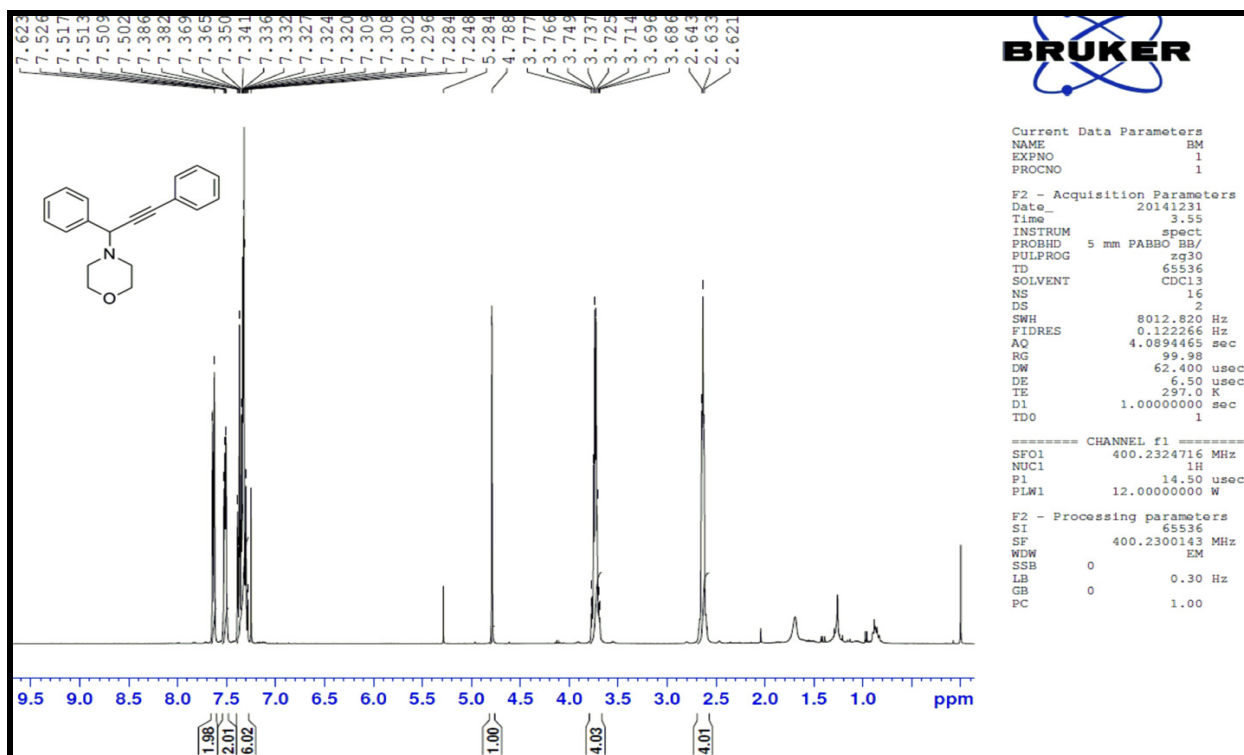
<sup>13</sup>C NMR spectrum of compound **3m**



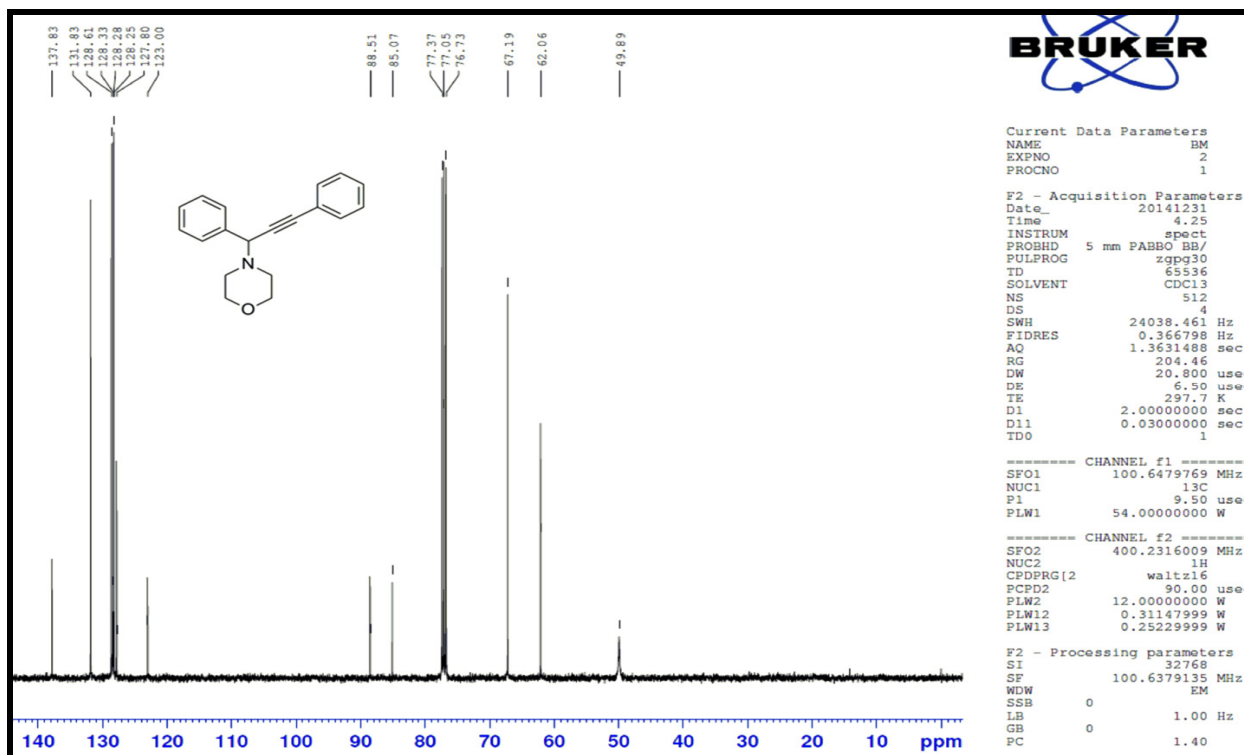
<sup>1</sup>H NMR spectrum of compound **3n**



<sup>13</sup>C NMR spectrum of compound **3n**

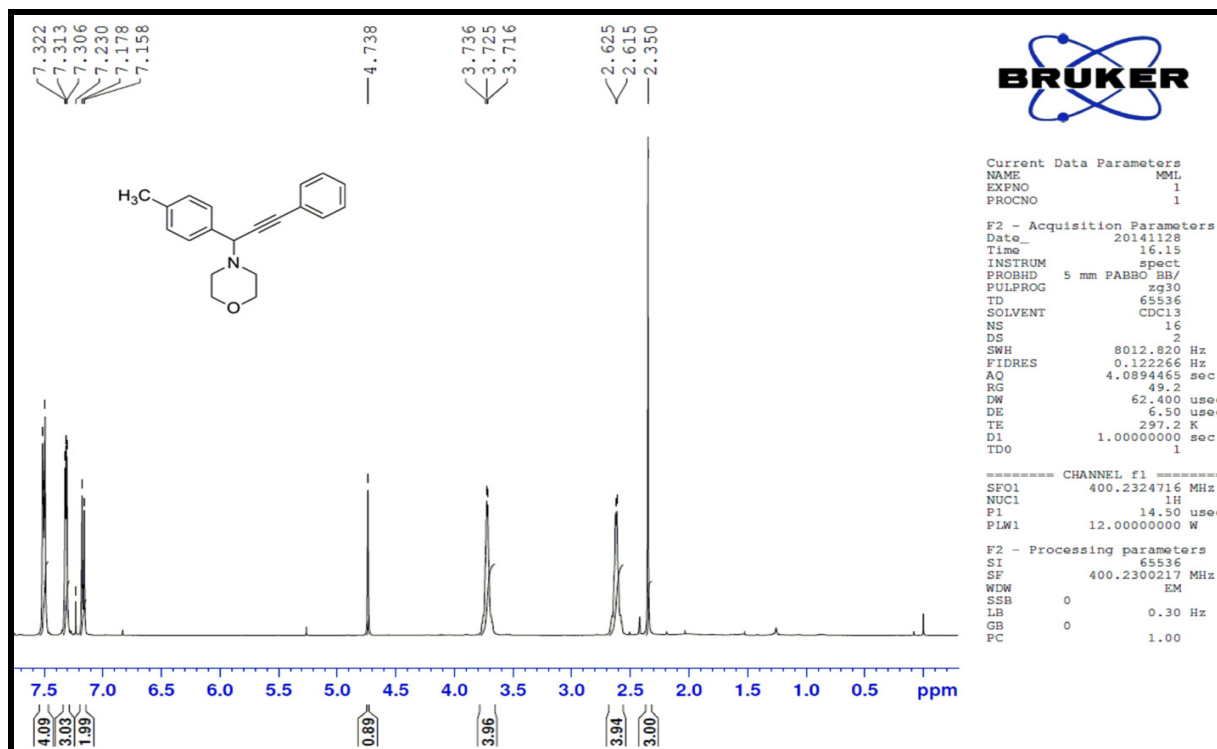


<sup>1</sup>H NMR spectrum of compound 7a

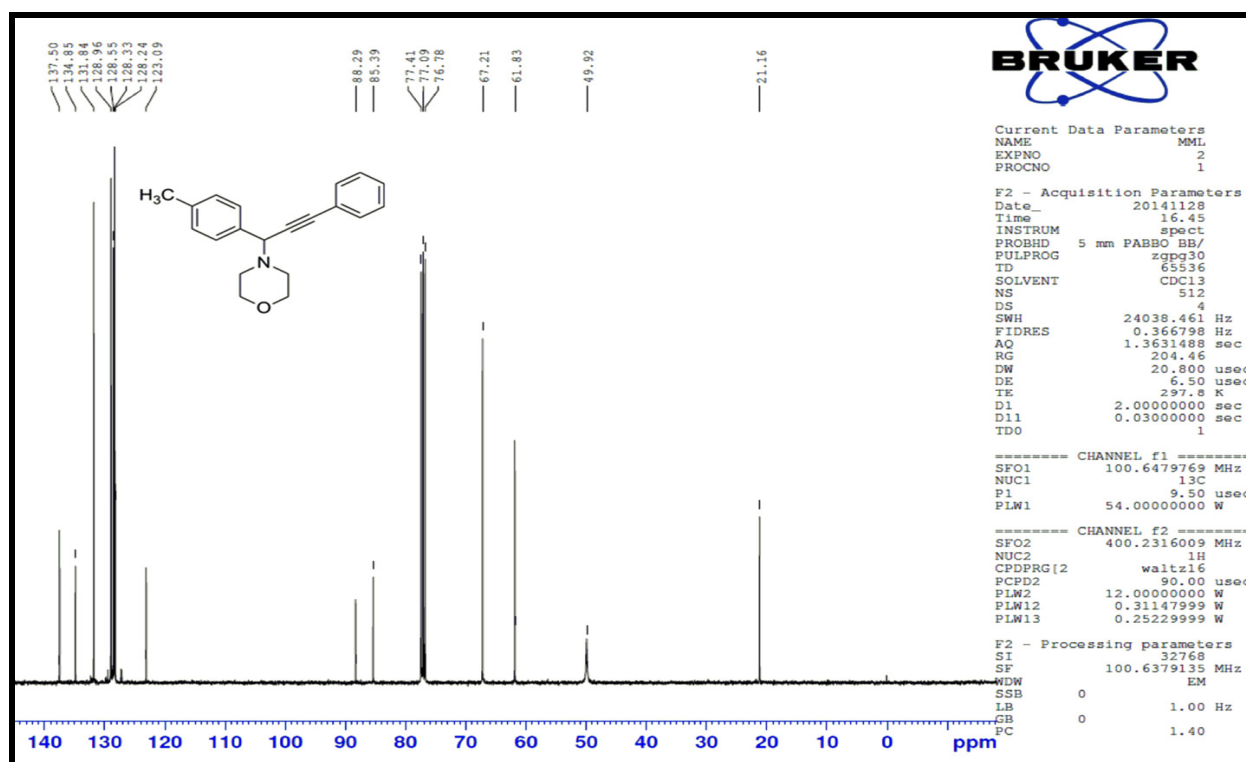


<sup>13</sup>C NMR spectrum of compound 7a

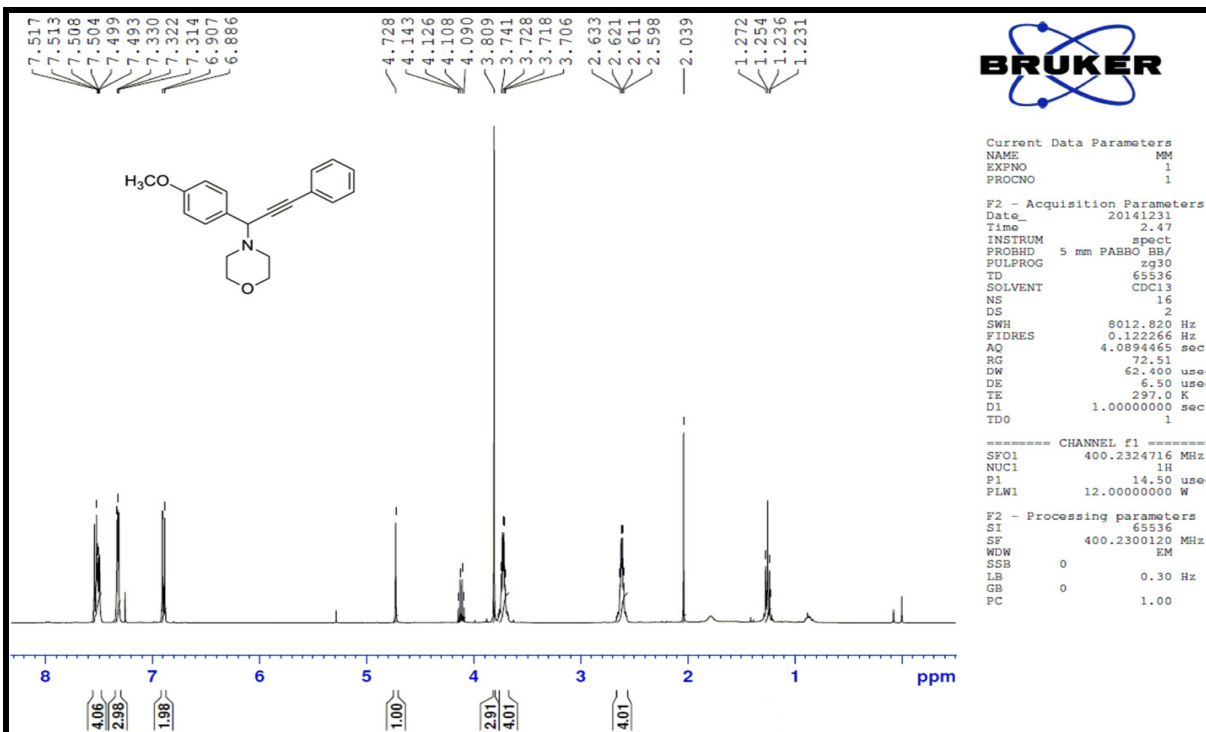




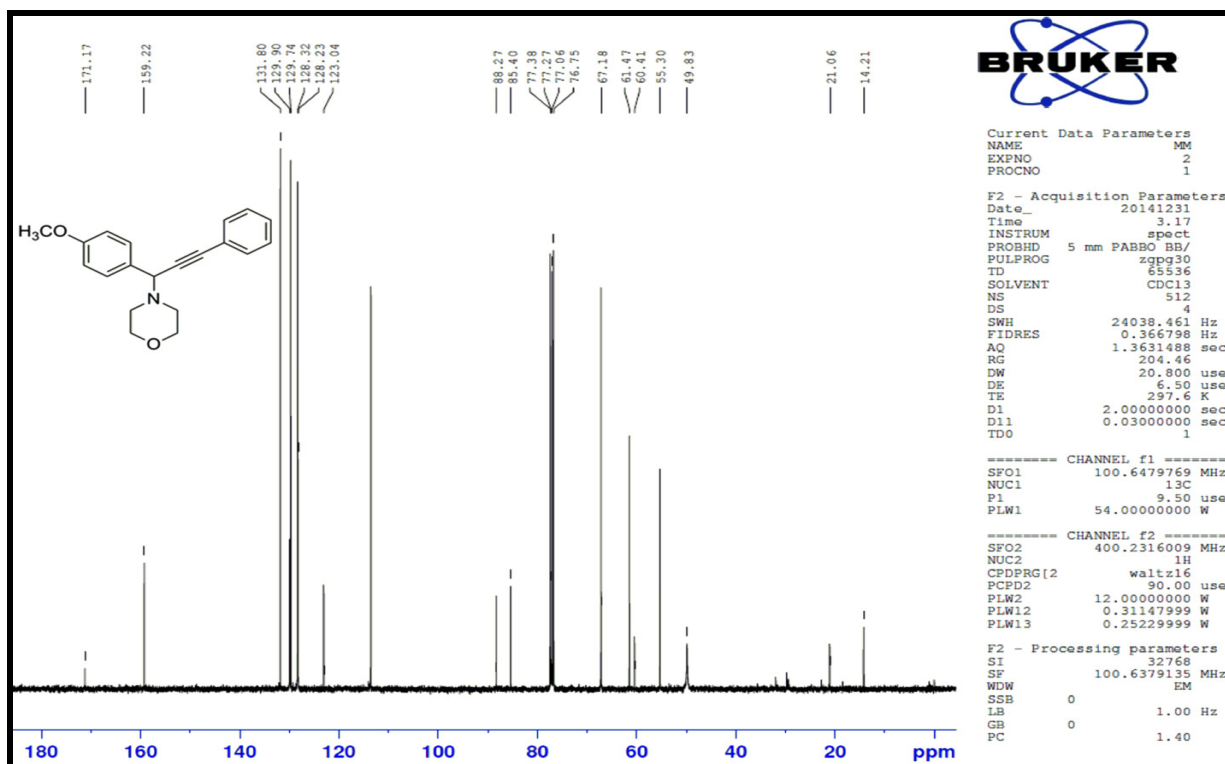
<sup>1</sup>H NMR spectrum of compound 7b



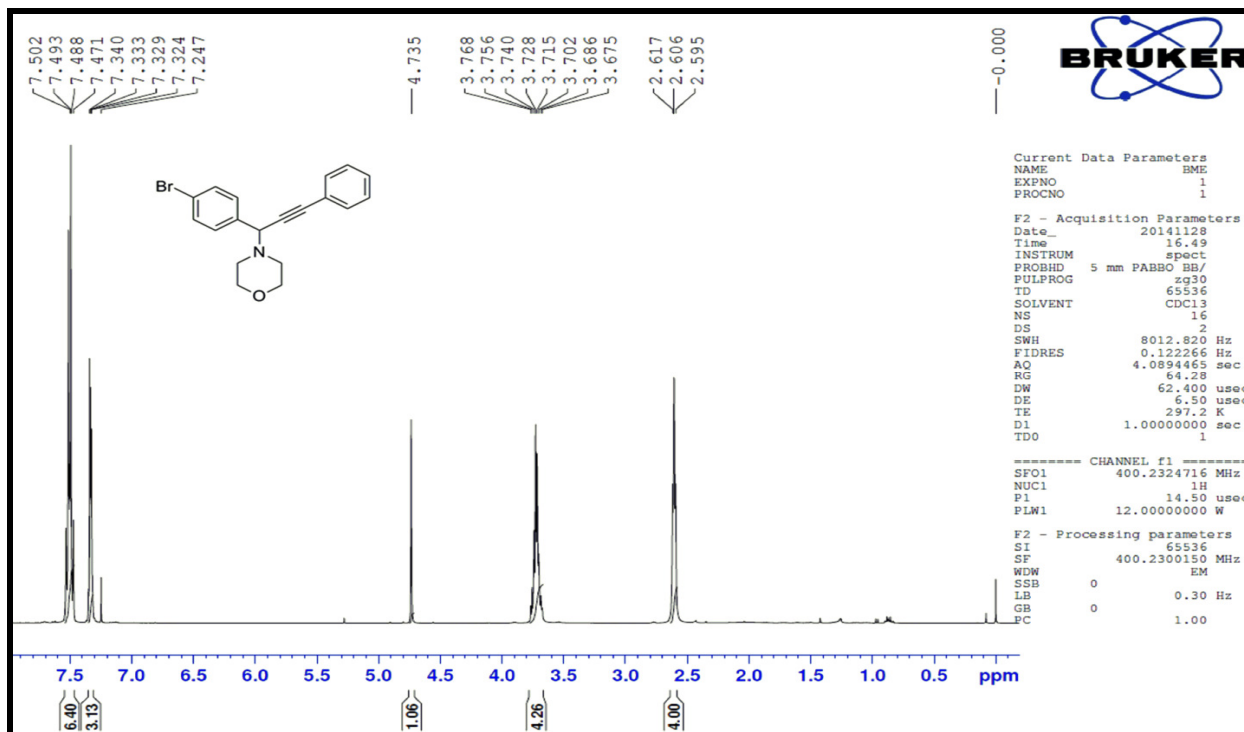
<sup>13</sup>C NMR spectrum of compound 7b



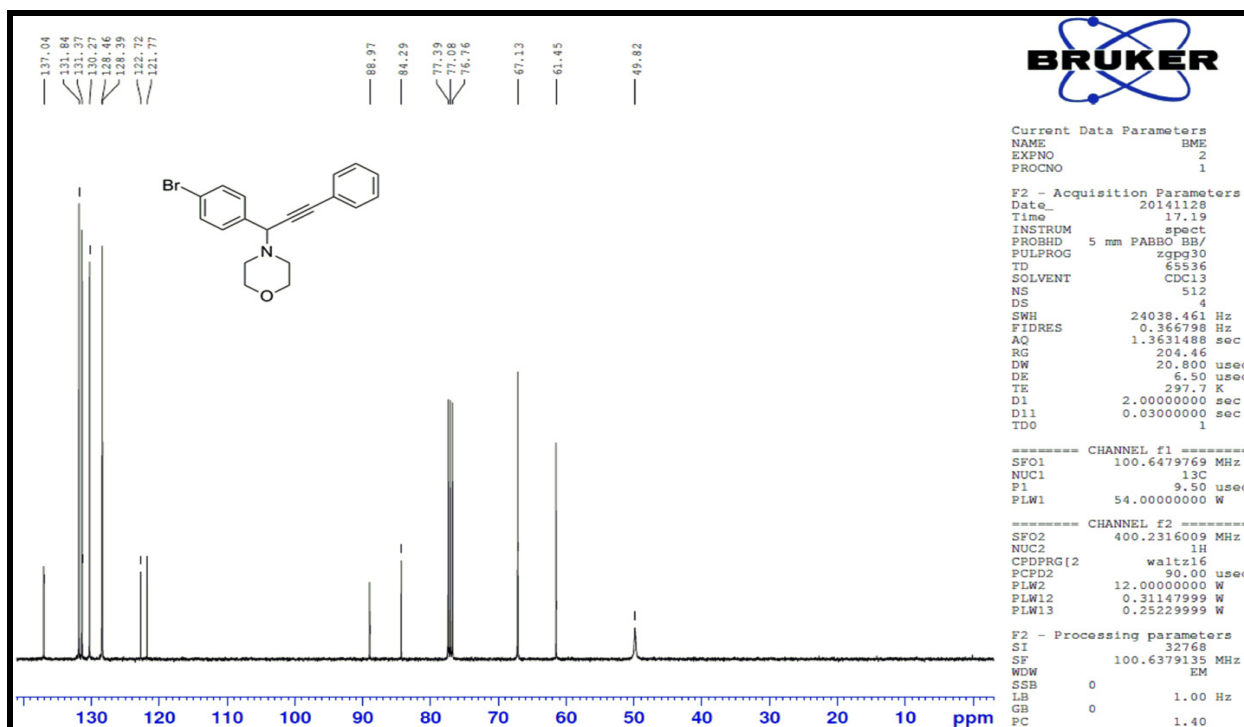
$^1\text{H}$  NMR spectrum of compound **7c**



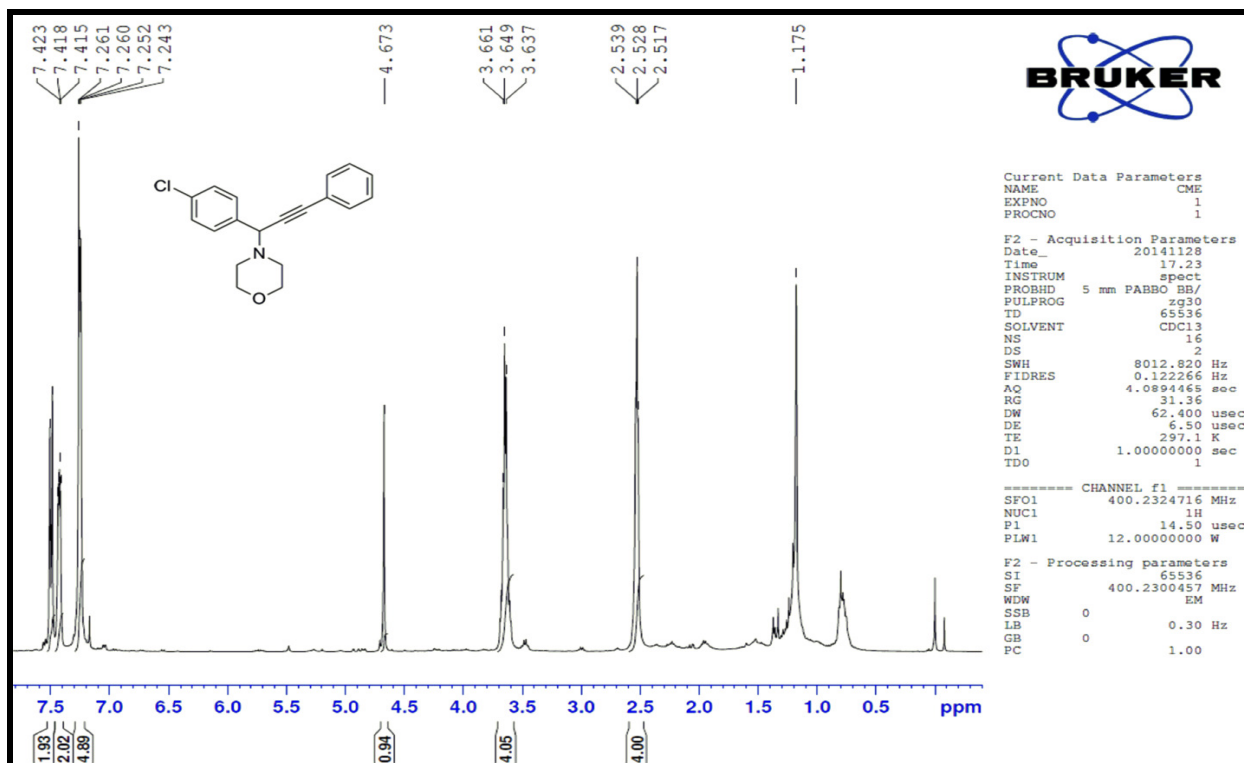
$^{13}\text{C}$  NMR spectrum of compound **7c**



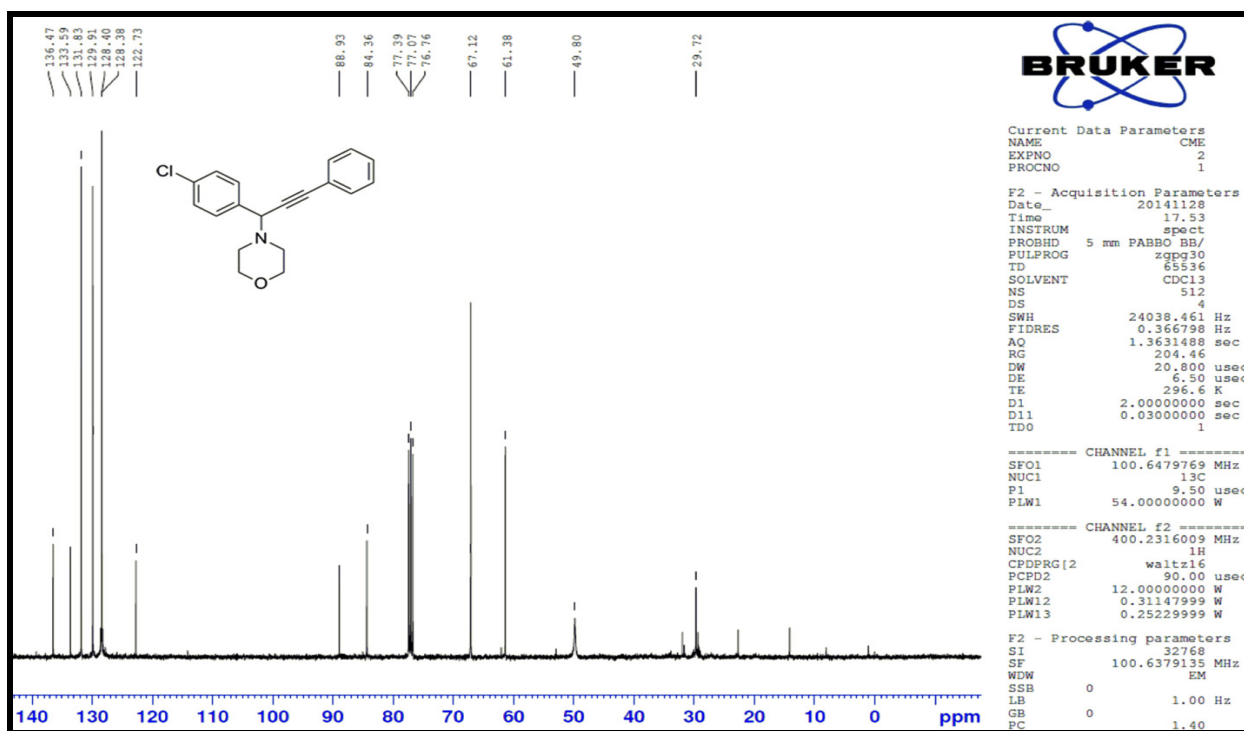
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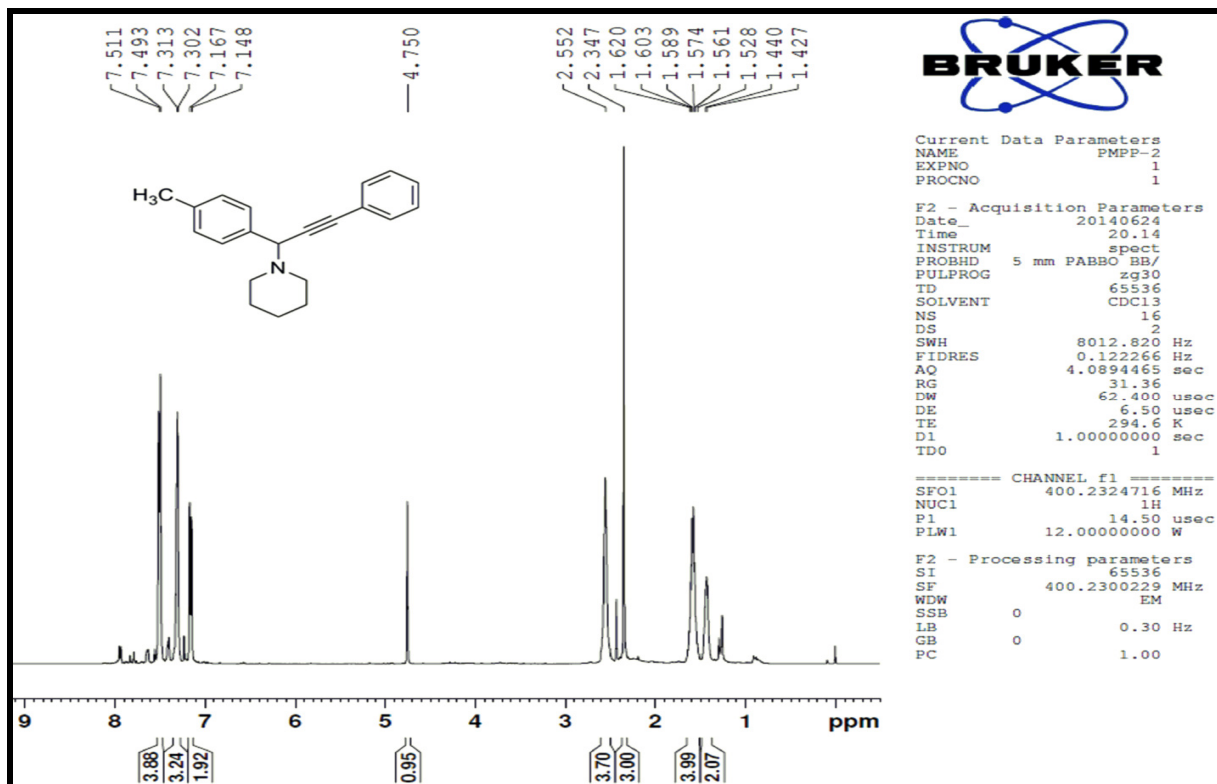
<sup>13</sup>C NMR spectrum of compound 7d



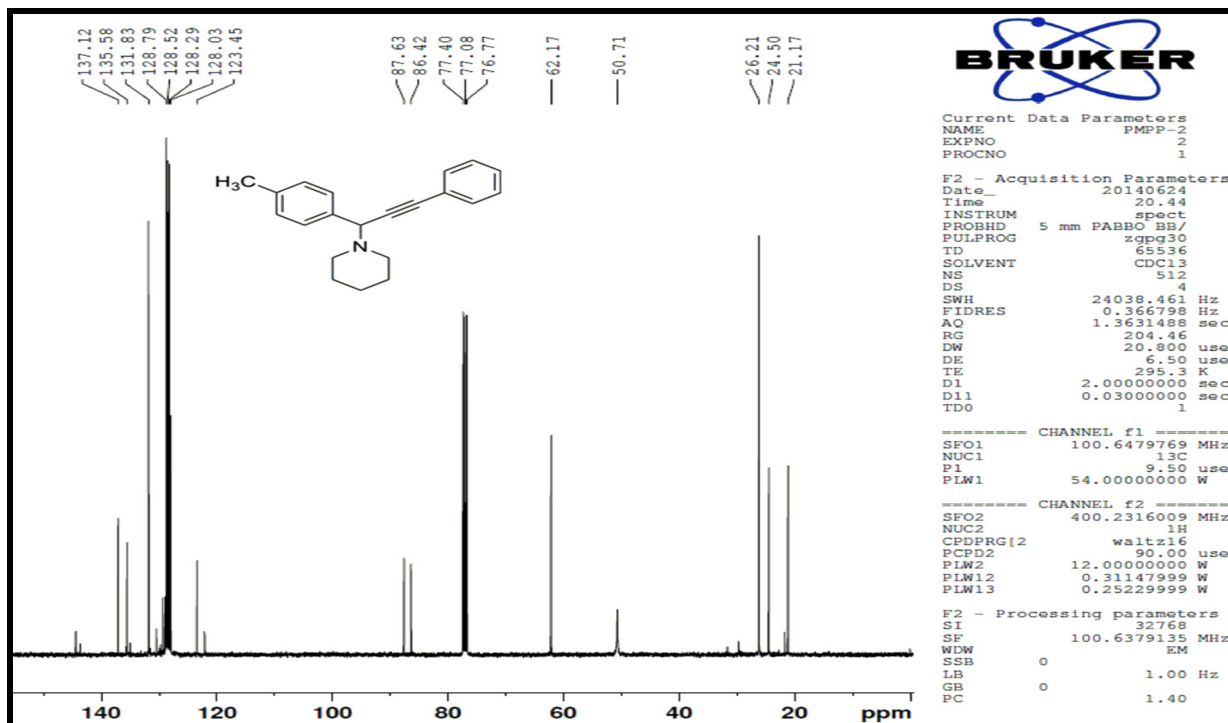
$^1\text{H}$  NMR spectrum of compound **7e**



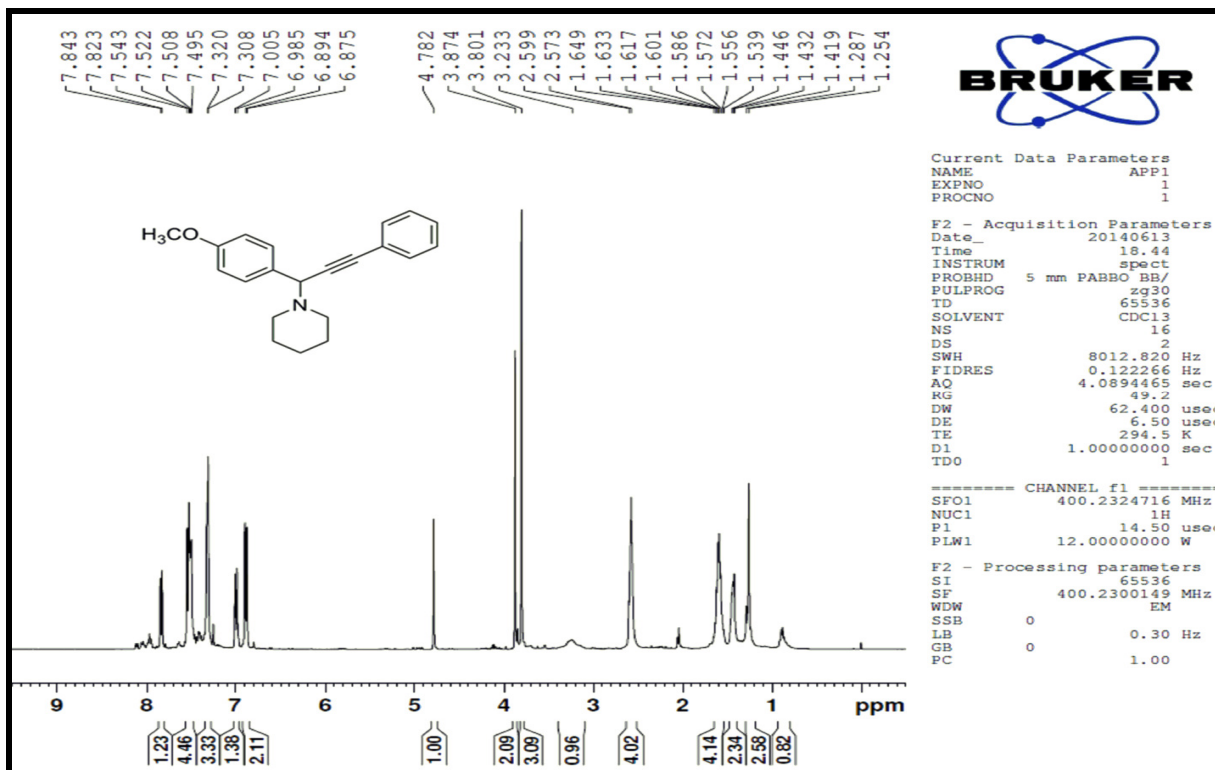
$^{13}\text{C}$  NMR spectrum of compound **7e**



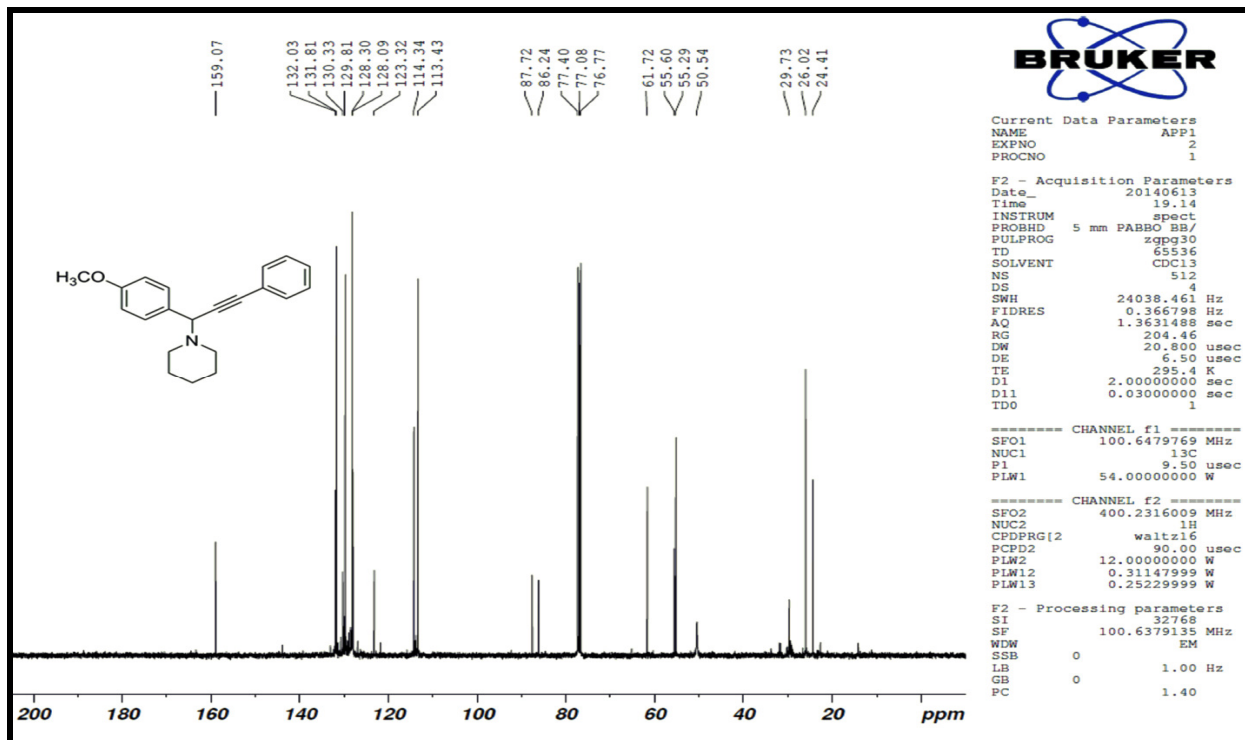
<sup>1</sup>H NMR spectrum of compound **7g**



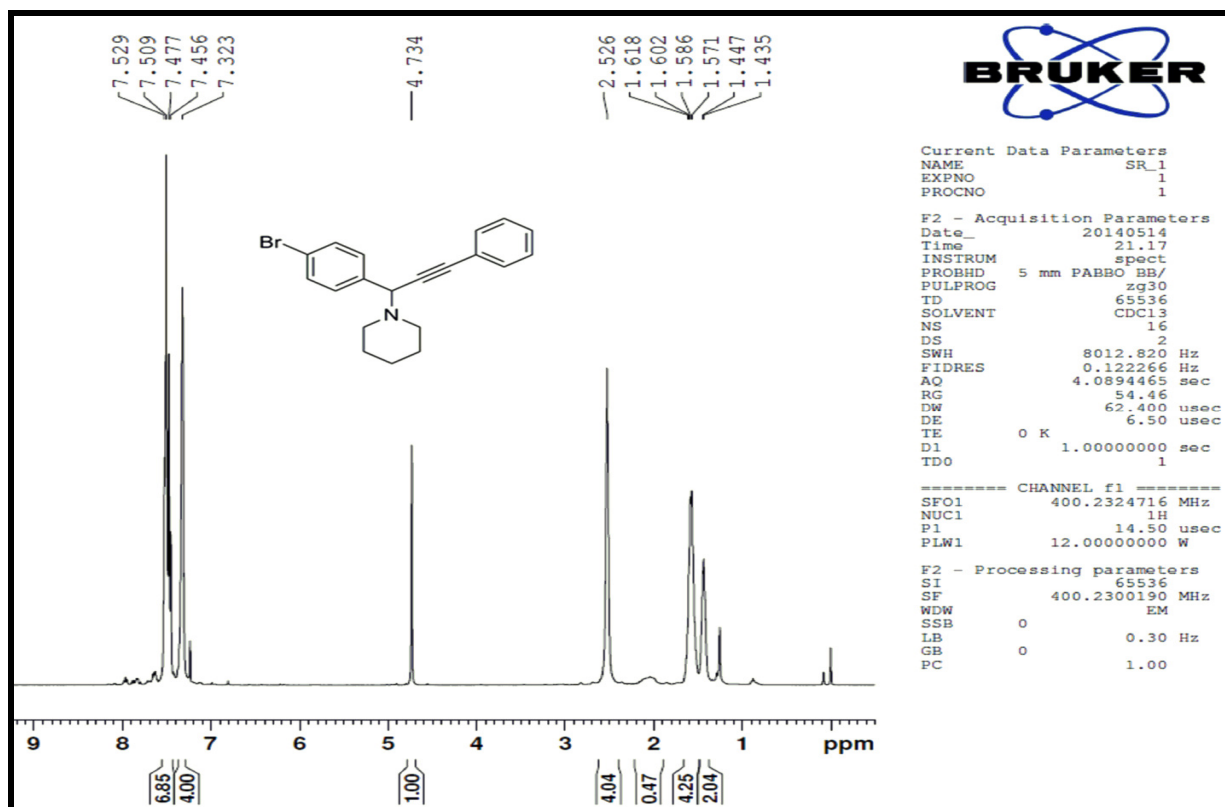
<sup>13</sup>C NMR spectrum of compound **7g**



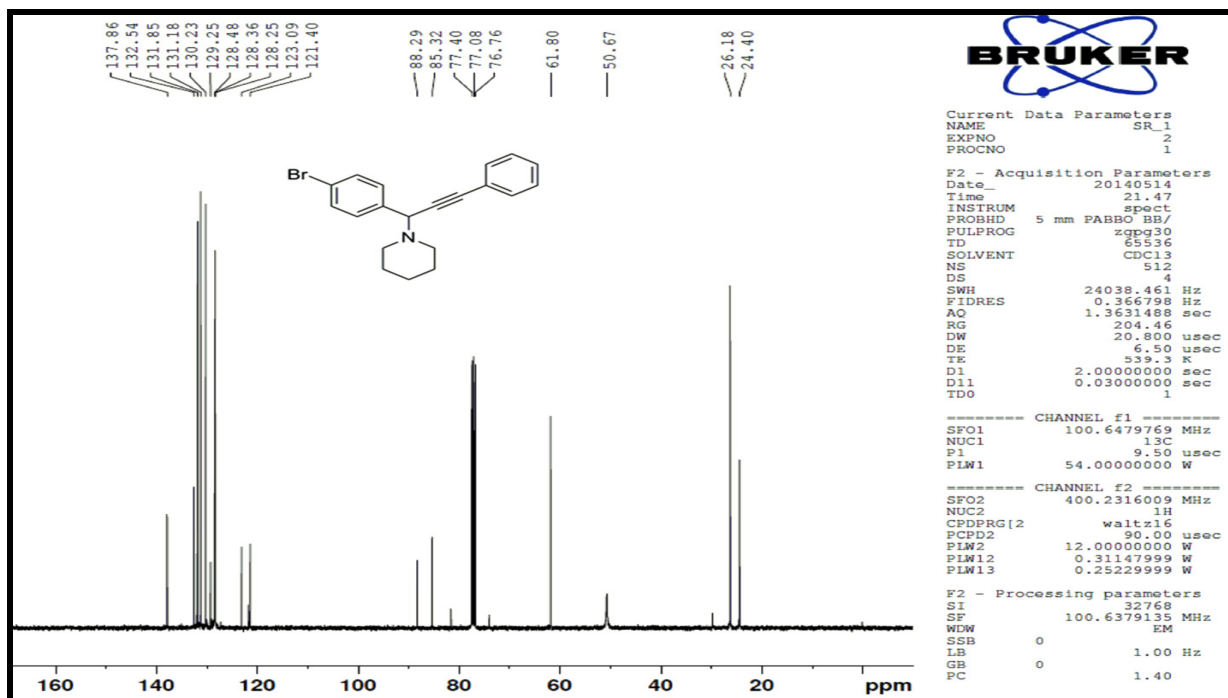
<sup>1</sup>H NMR spectrum of compound 7h



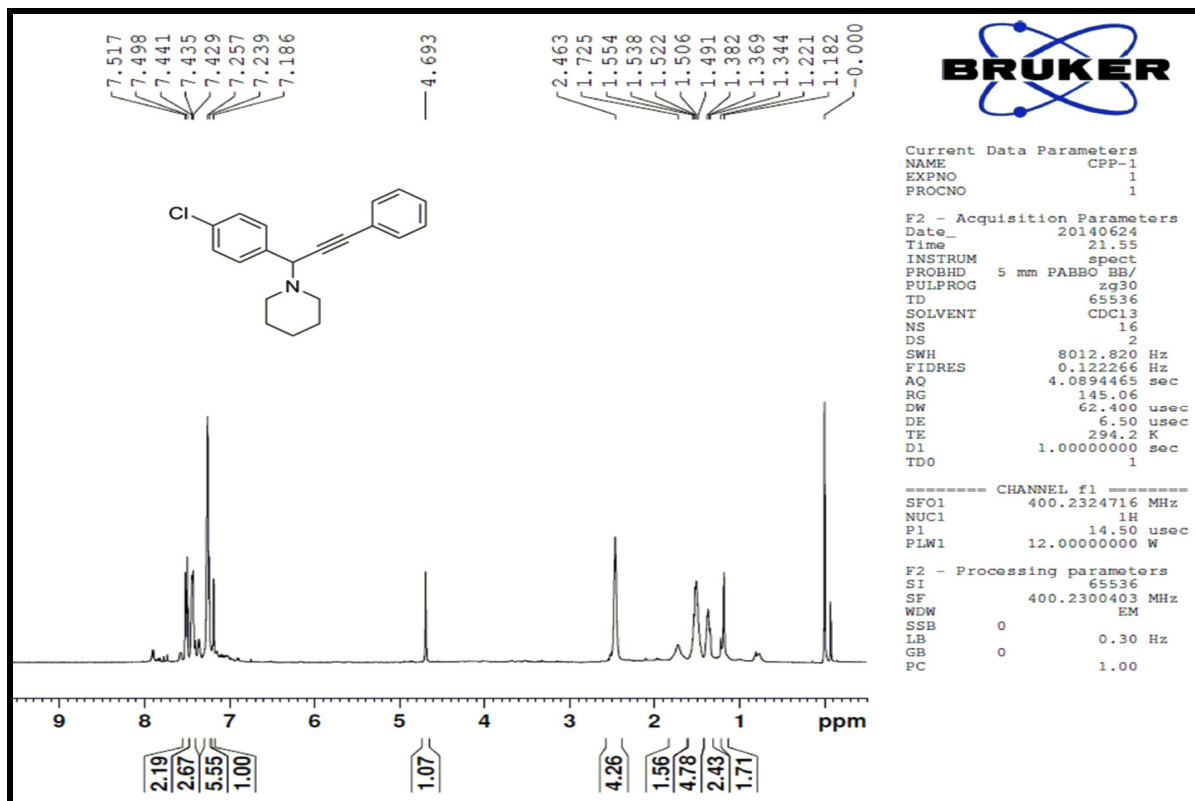
<sup>13</sup>C NMR spectrum of compound 7h



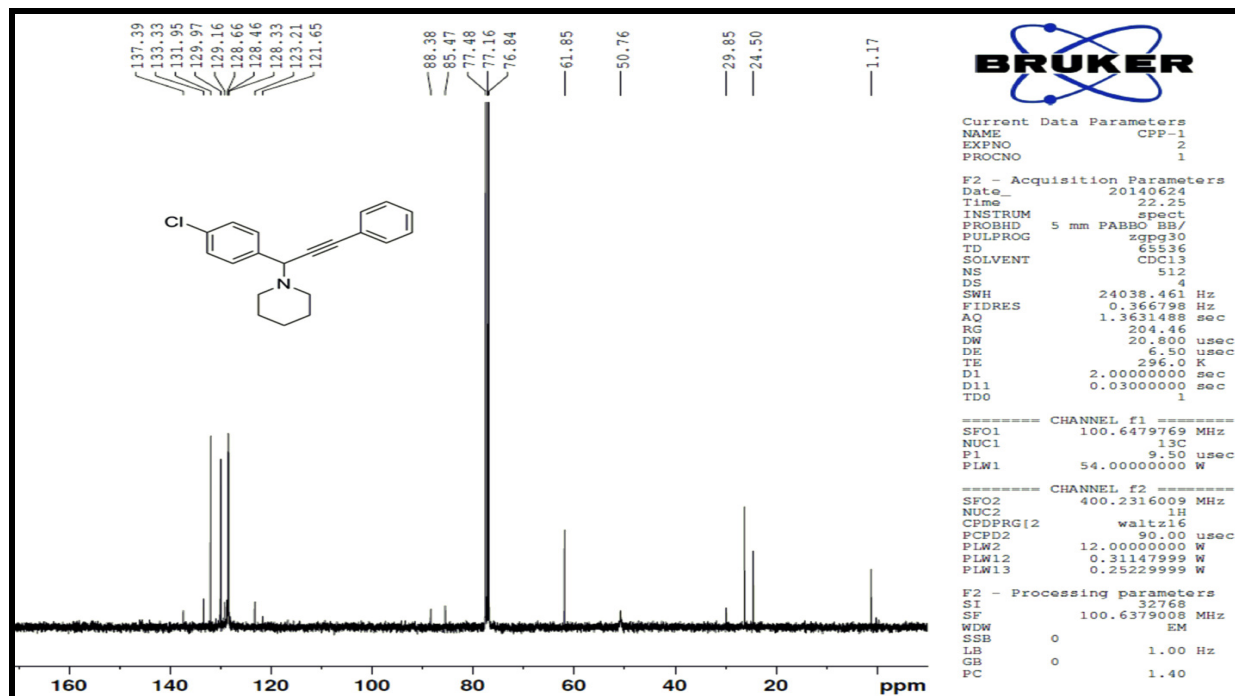
$^1\text{H}$  NMR spectrum of compound **7i**



$^{13}\text{C}$  NMR spectrum of compound **7i**



<sup>1</sup>H NMR spectrum of compound 7j



<sup>13</sup>C NMR spectrum of compound 7j