

## Supporting Information

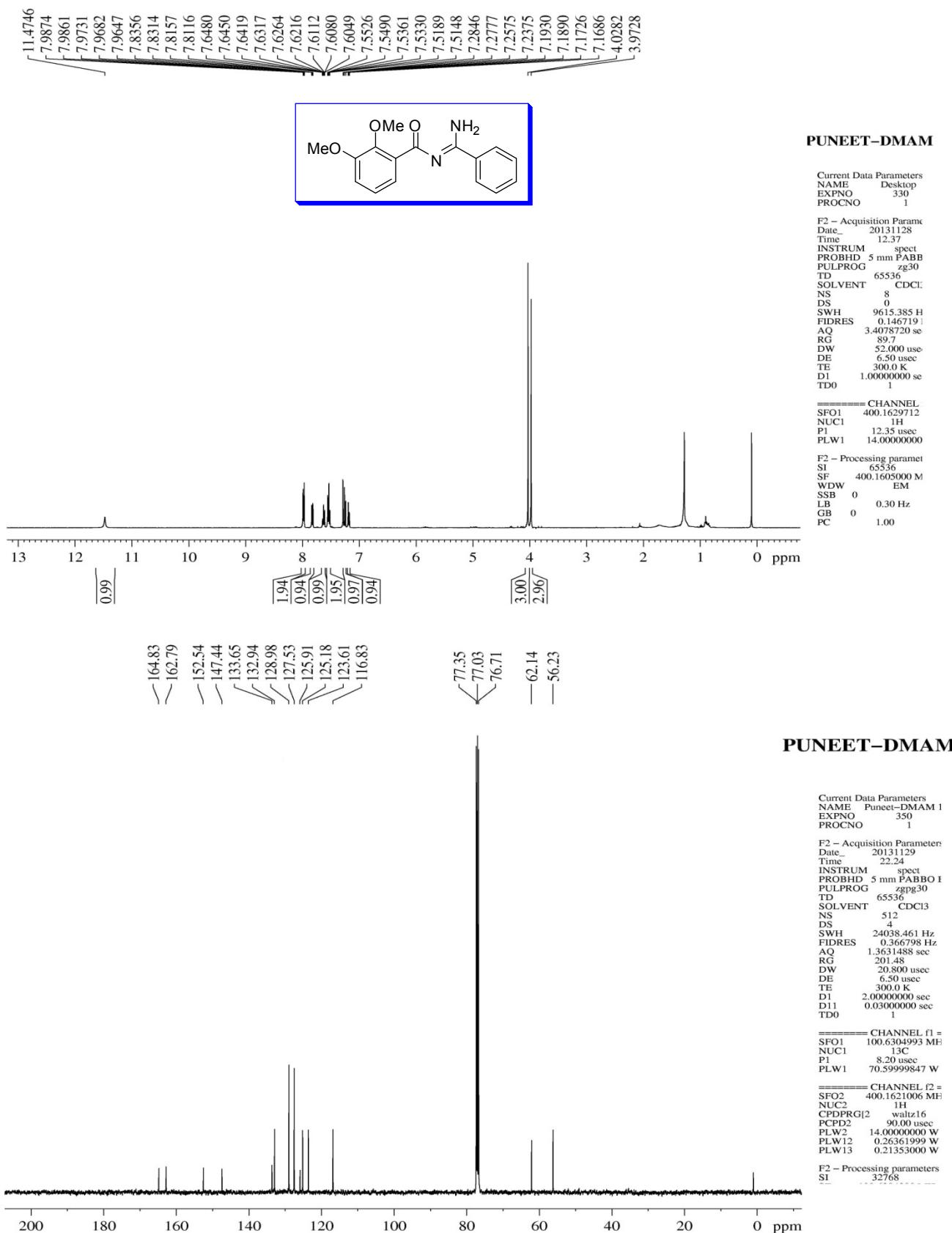
### Metal-Free Tandem Approach to Structurally Diverse N-Heterocycles: Synthesis of 1,2,4-Oxadiazoles and Pyrimidinones

Puneet K.Gupta,<sup>a</sup> Mohd. Kamil Hussain,<sup>a</sup> Mohd. Asad,<sup>a</sup> Ruchir Kant,<sup>b</sup> Rohit Mahar,<sup>c</sup> Sanjeev K. Shukla<sup>c</sup> & K. Hajela\*<sup>a</sup>

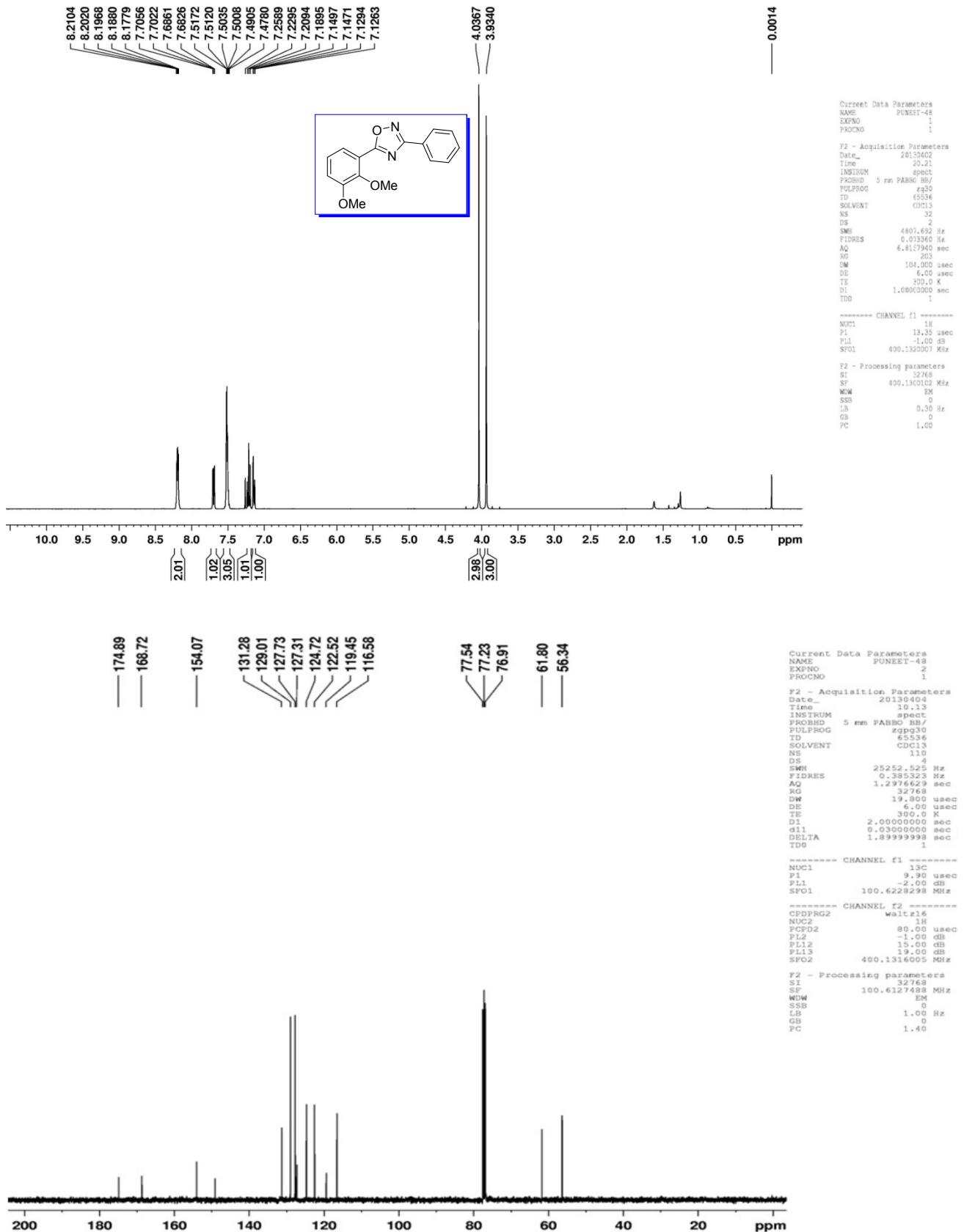
<sup>a</sup>Division of Medicinal and Process Chemistry, <sup>b</sup>Molecular and Structural Biology Division,  
<sup>c</sup>Sophisticated Analytical Instrument Facility, CSIR-Central Drug Research Institute, BS-10/1, Sector 10, Jankipuram extension, Sitapur Road, P.O. Box 173, Lucknow 226031, India

[kanchan\\_hajela@cdri.res.in](mailto:kanchan_hajela@cdri.res.in)

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**Figure 1:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of Acyl amidine**



**Figure 2:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3a**

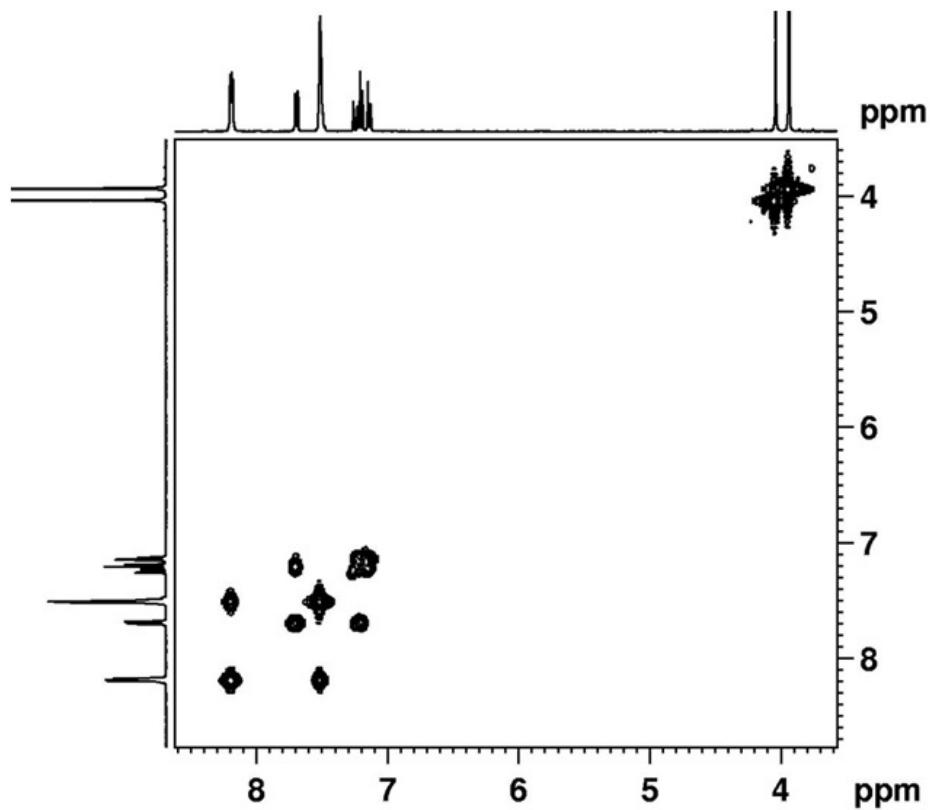


Figure 3: COSY spectrum of compound 3a

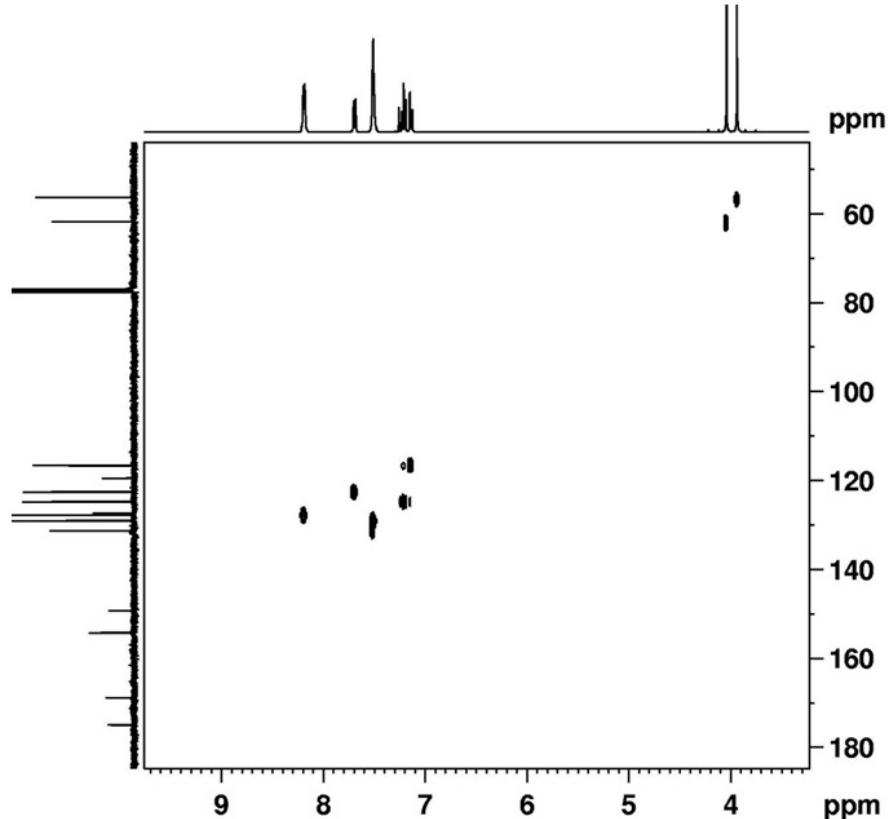


Figure 4: HSQC spectrum of compound 3a

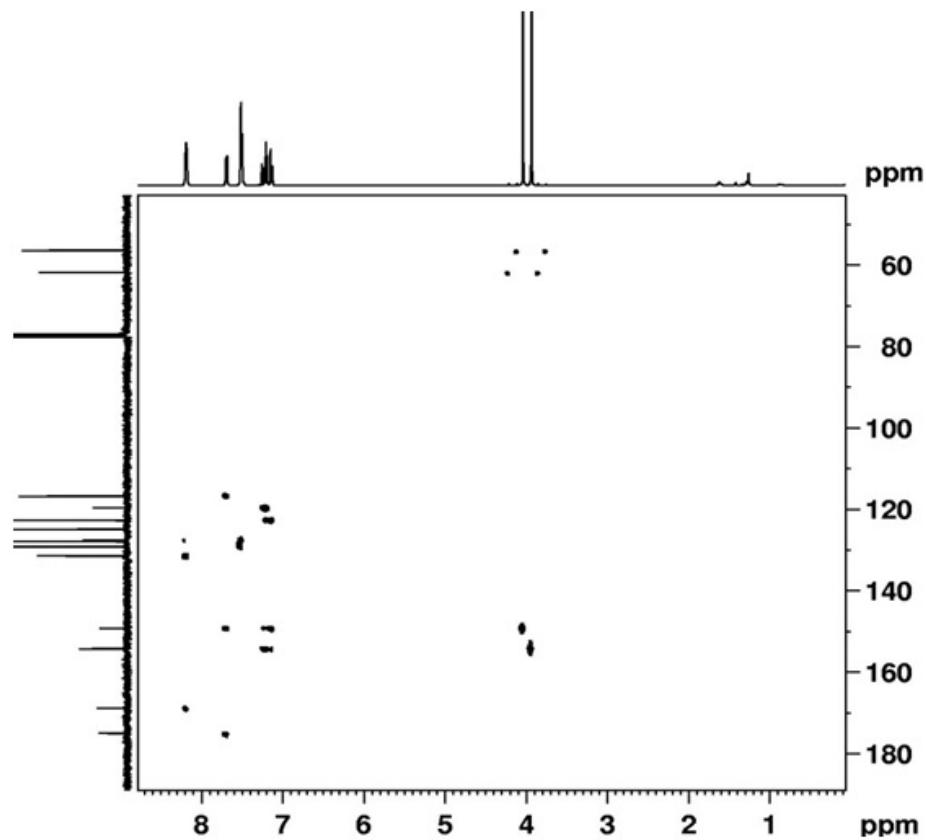
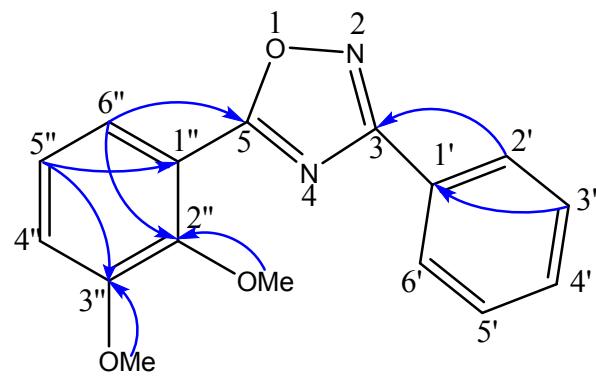


Figure 5: HMBC spectrum of compound 3a

#### Important HMBC correlations of 3a



Carbon position	<sup>13</sup> C Chemical shift (ppm)	<sup>1</sup> H Chemical shift (ppm)
C-3	168.7	-
C-5	174.8	-

C-1'	127.3	-
C-2', C-6'	127.4	8.19 (m)
C-3', C-5'	129.0	7.51(m)
C-4'	131.2	7.49 (m)
C-1"	119.4	-
C-2"	149.1	-
C-3"	154.0	-
C-4"	116.6	7.12 (dd, $J_1 = 8.0$ Hz, $J_2 = 1.2$ Hz)
C-5"	124.7	7.20 (t, $J = 8.0$ Hz)
C-6"	122.5	7.68 (dd, $J_1 = 7.8$ Hz, $J_2 = 1.6$ Hz)
C-2"-OMe	61.8	4.03 (s)
C-3"-OMe	56.3	3.93 (s)

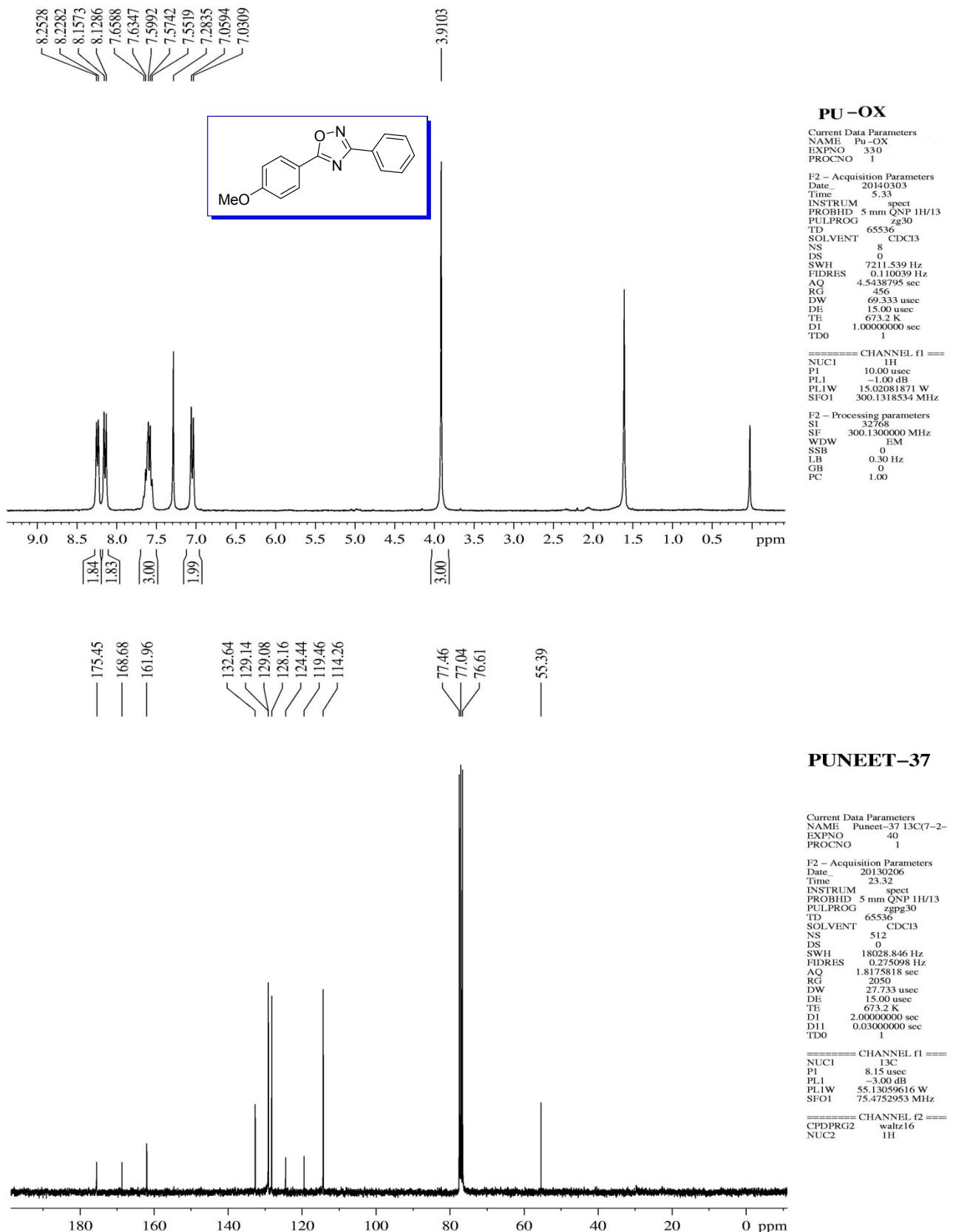
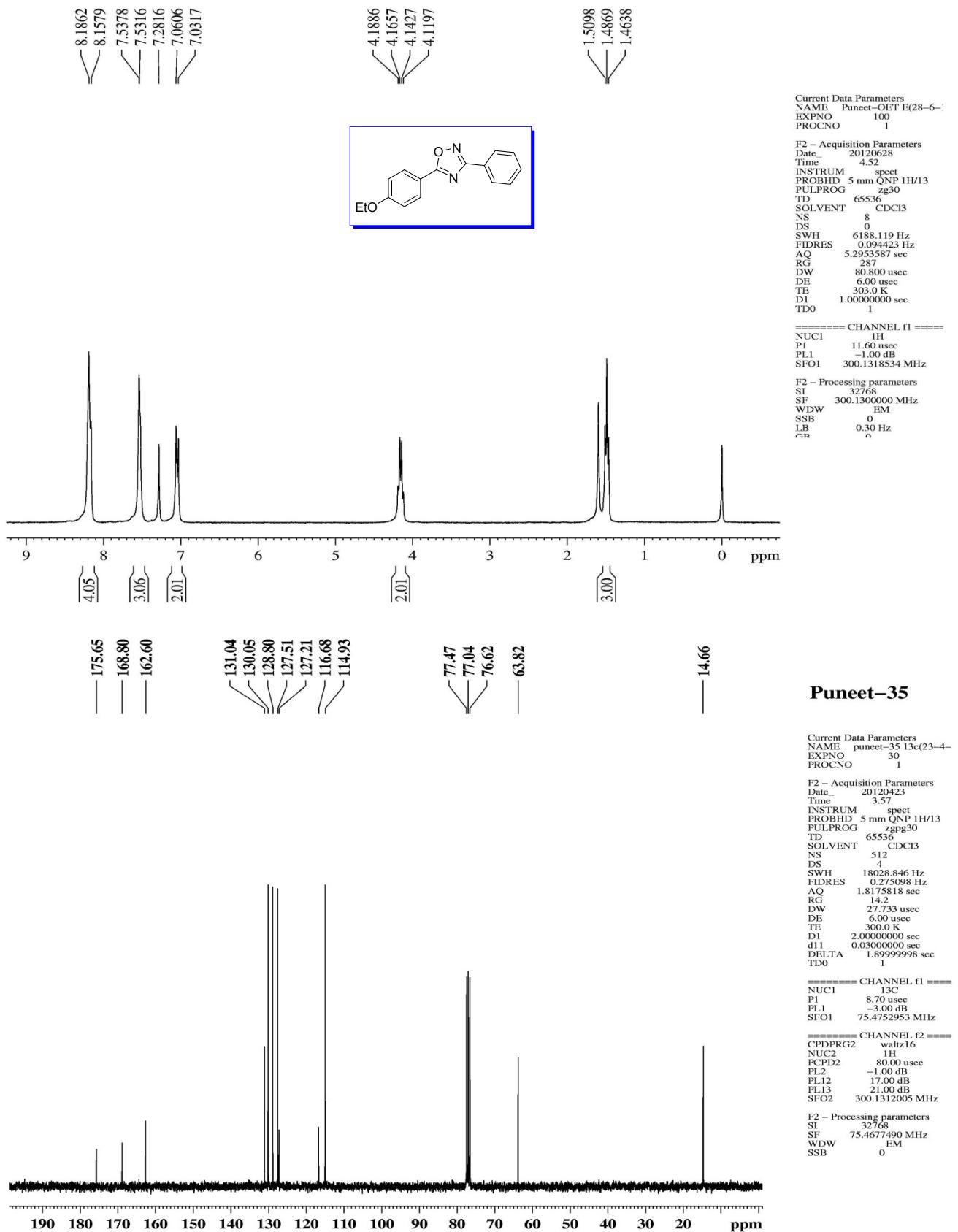
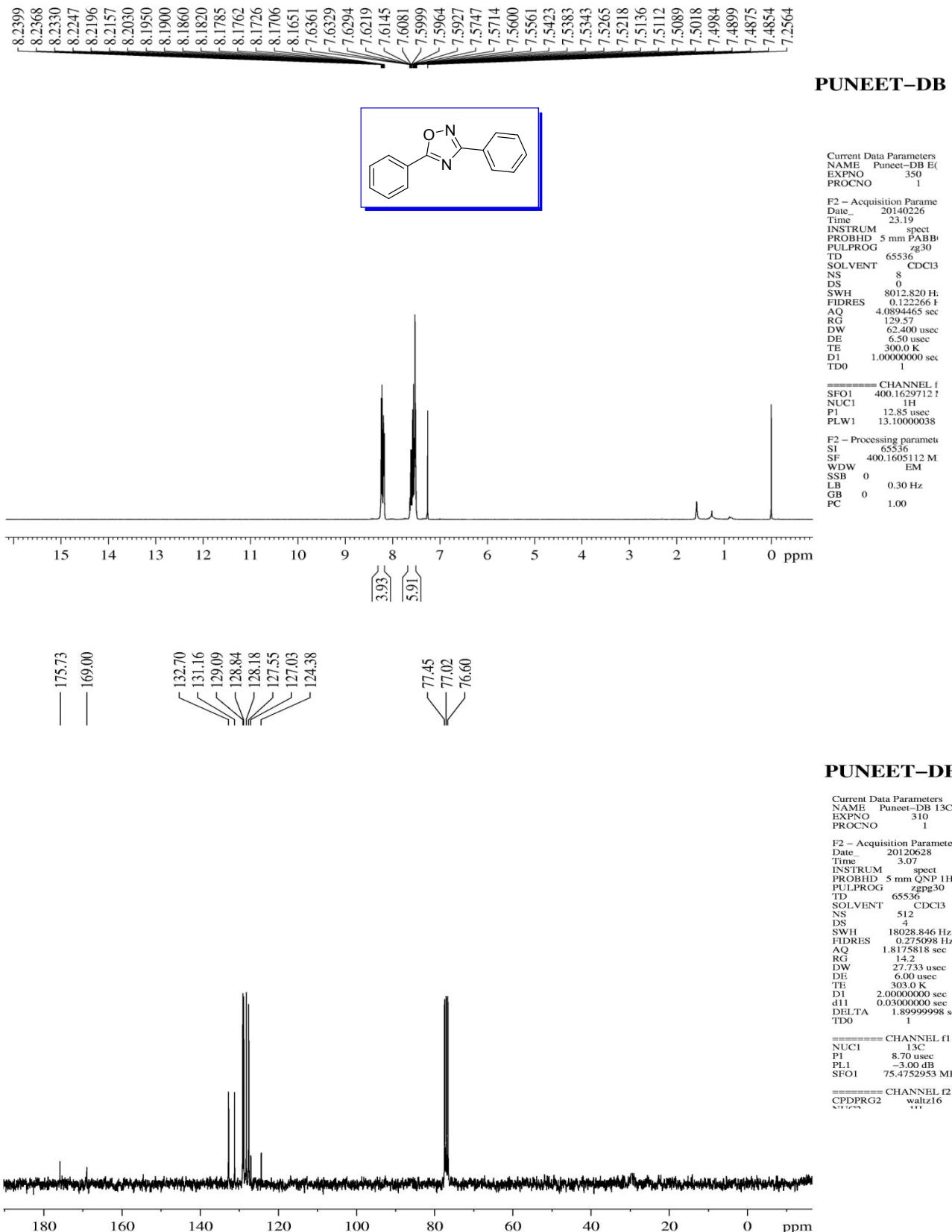


Figure 6:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3b



**Figure 7:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3c**



**Figure 8:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3d**

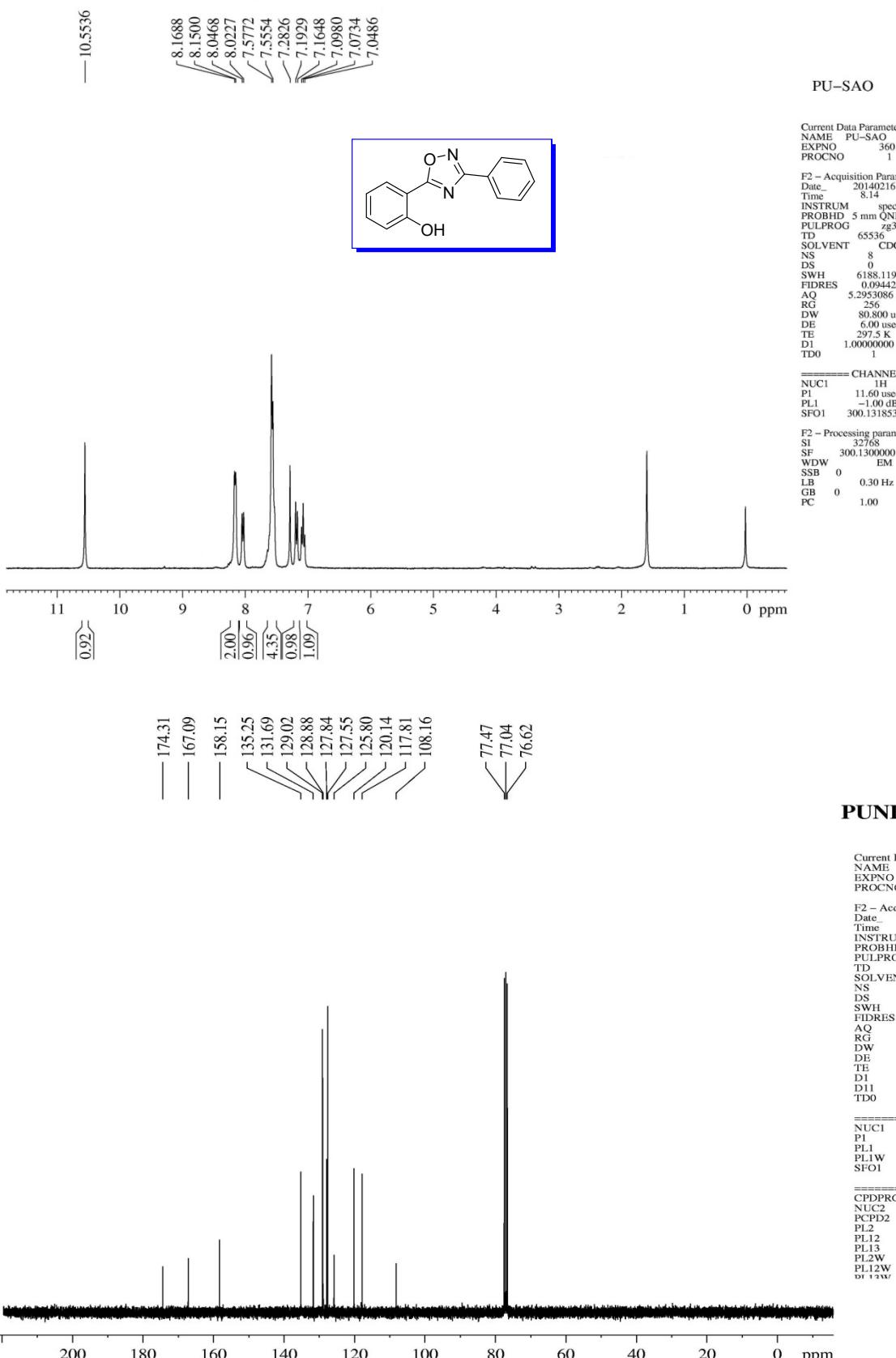
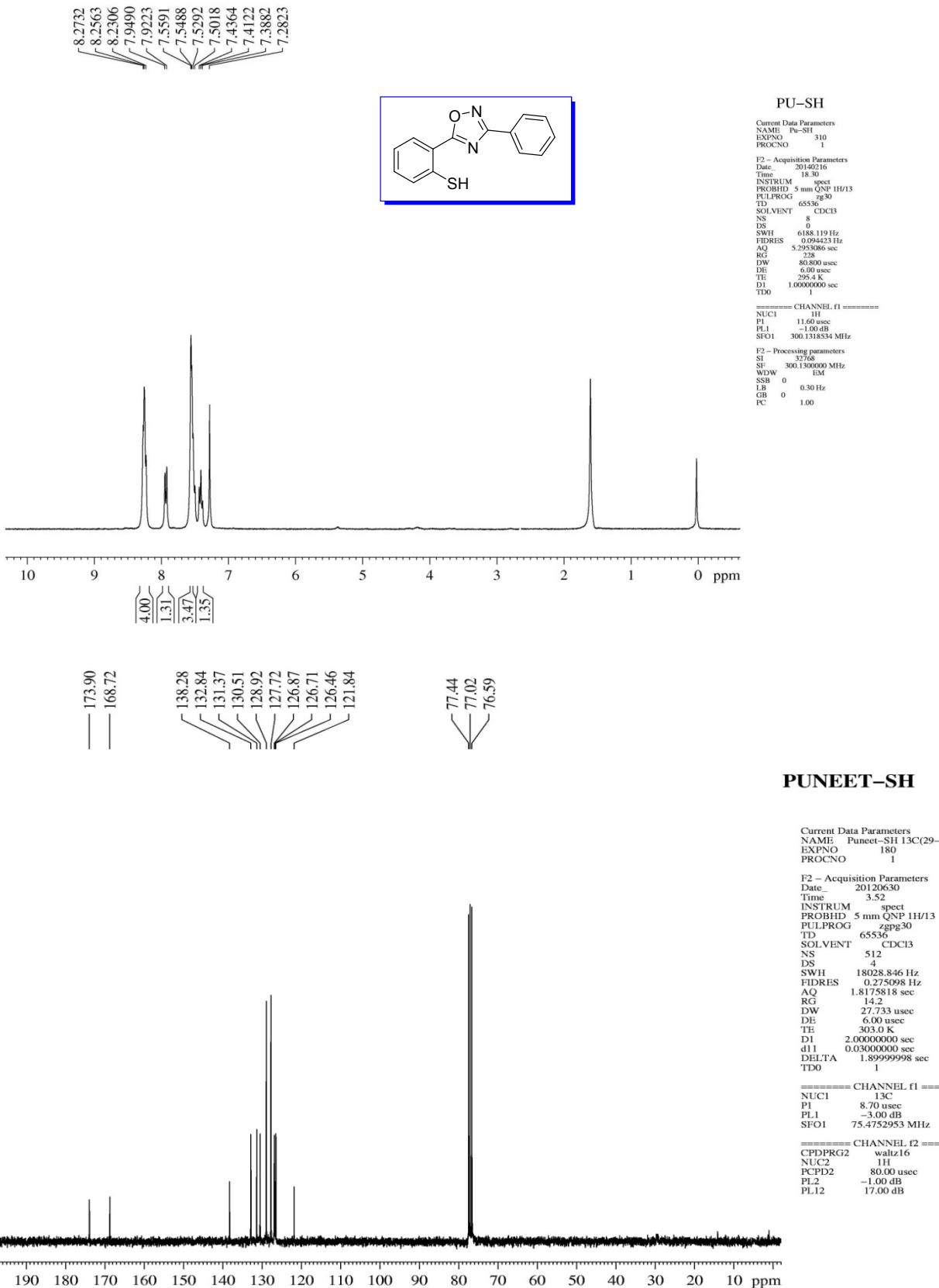


Figure 9:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3e



**Figure 10:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3f**

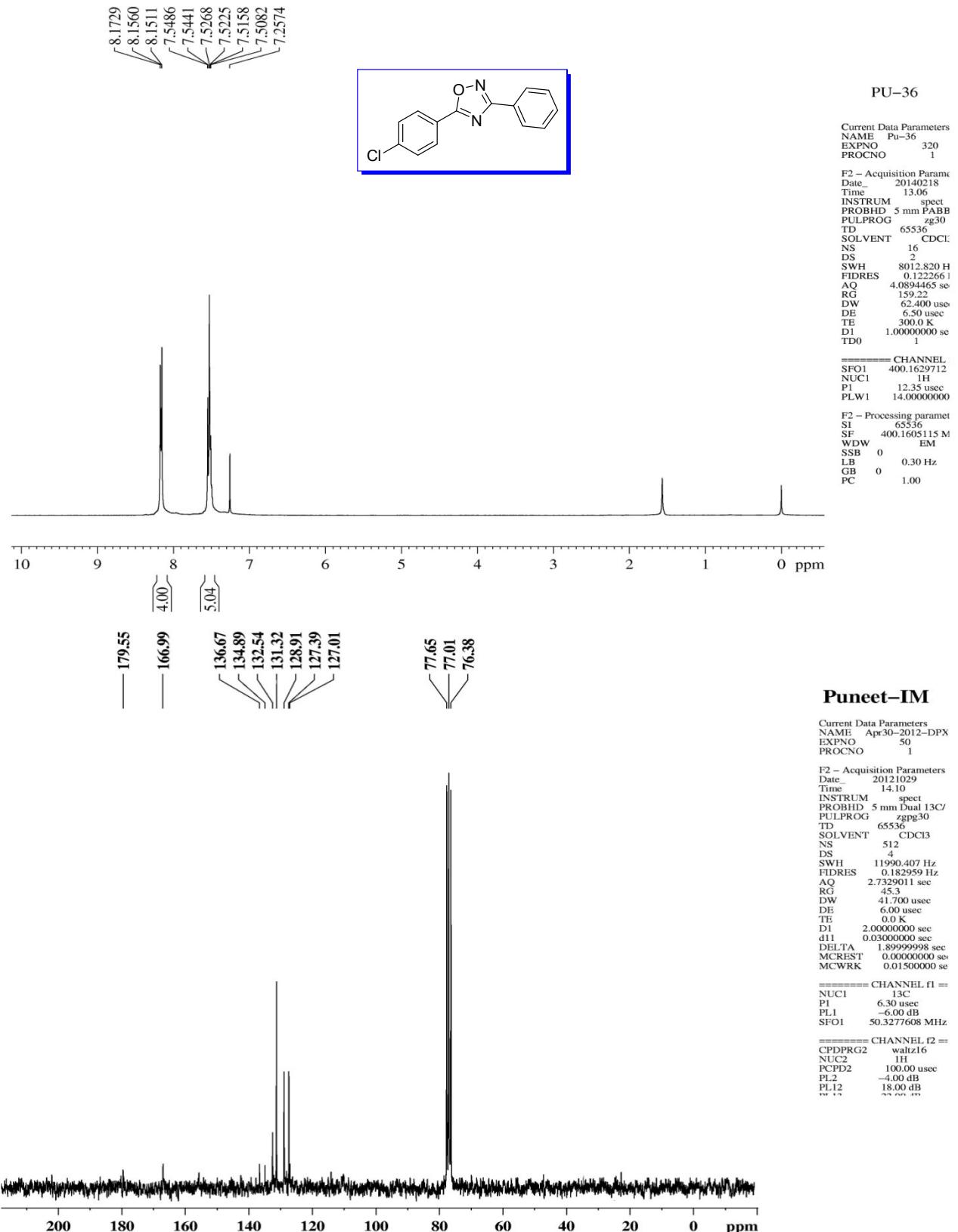


Figure11: <sup>1</sup>H and <sup>13</sup>C Spectra of compound 3g

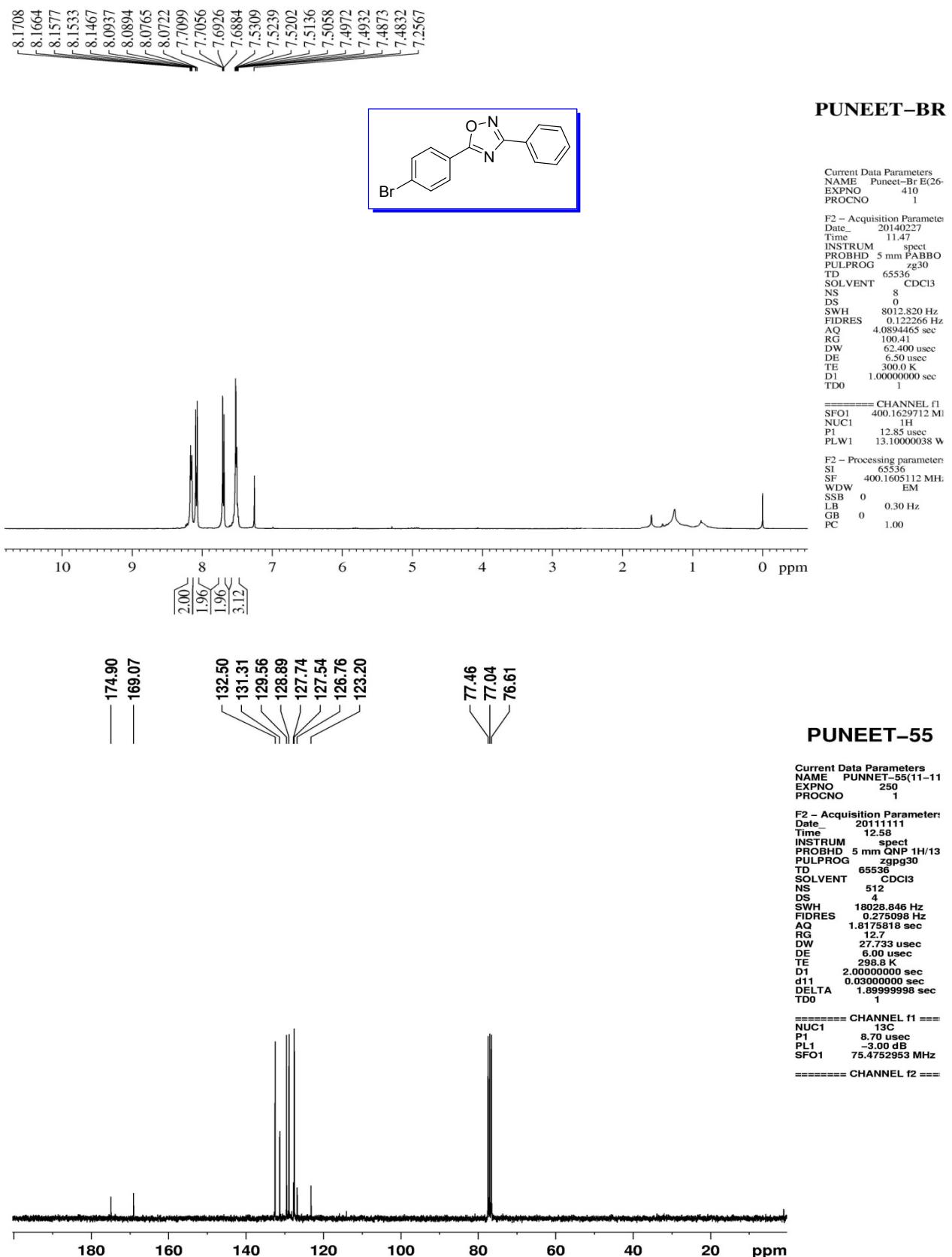


Figure 12:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3h

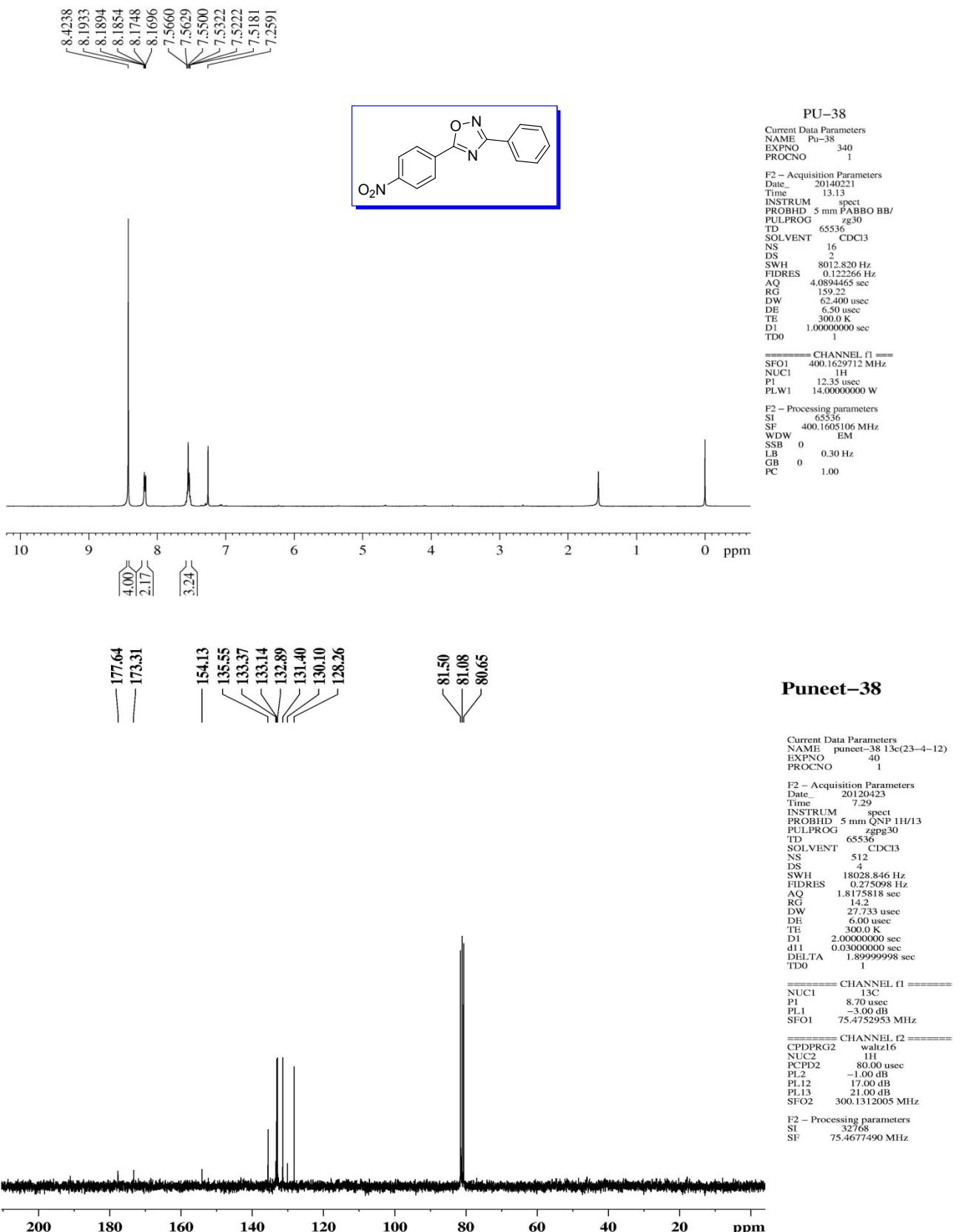
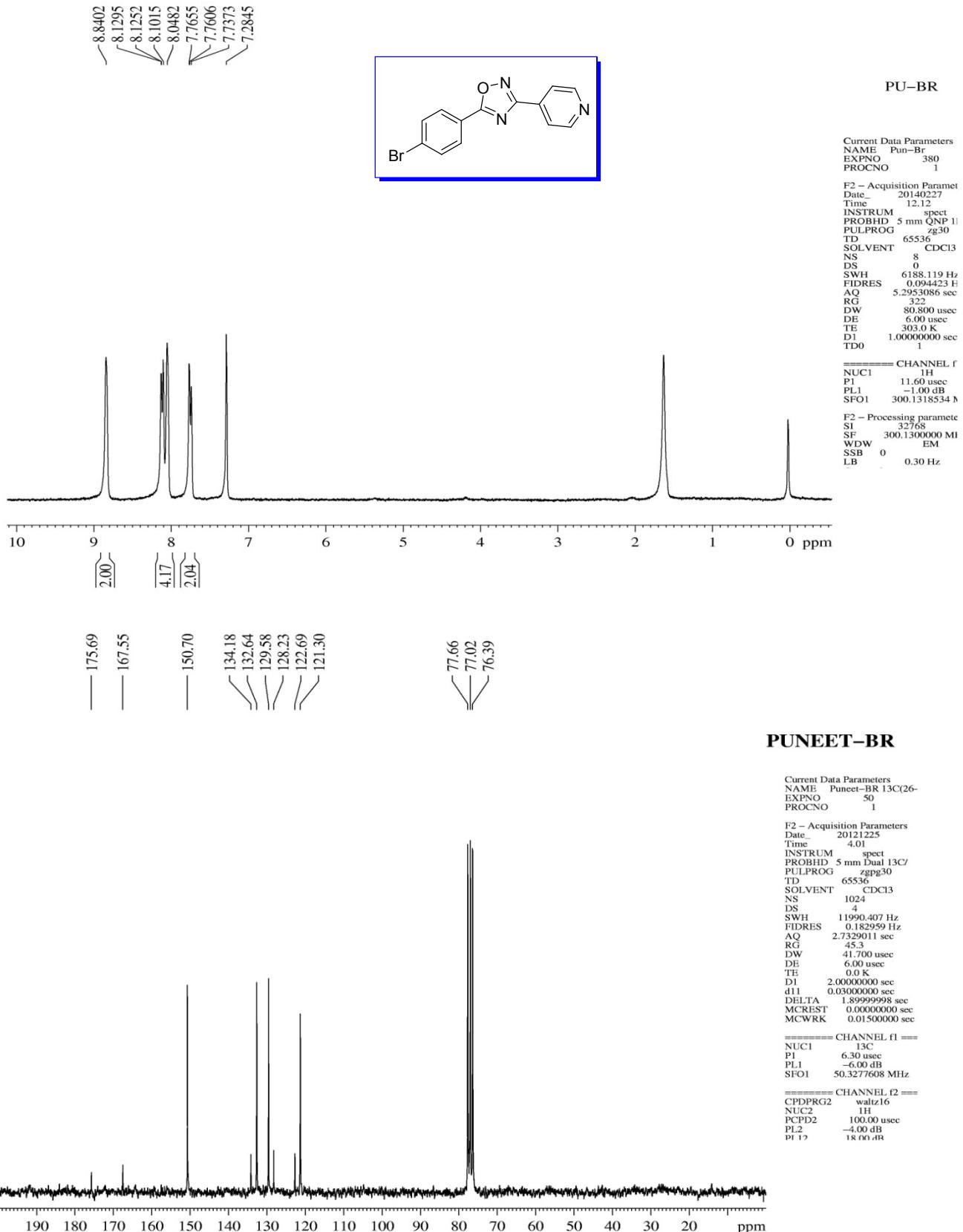
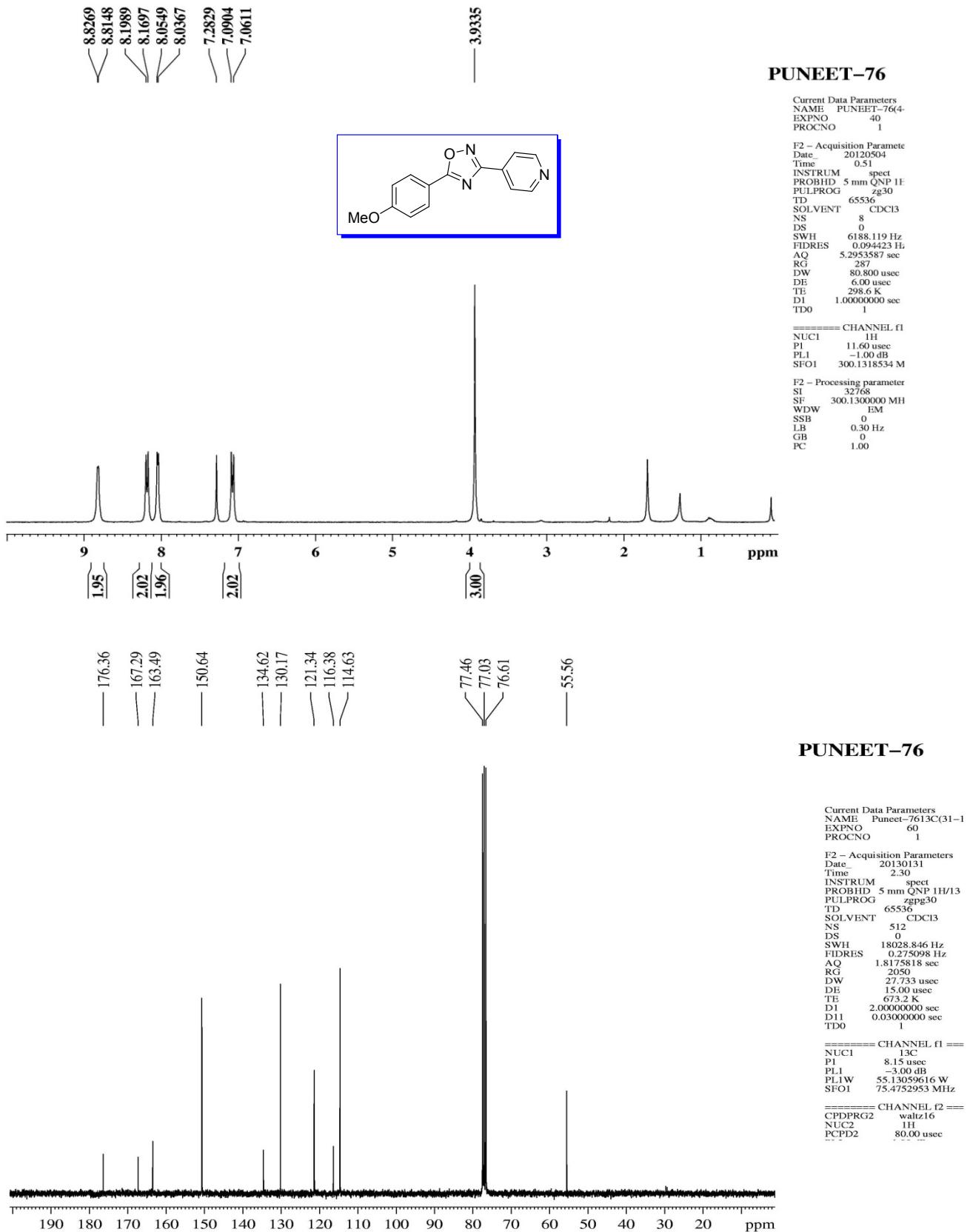


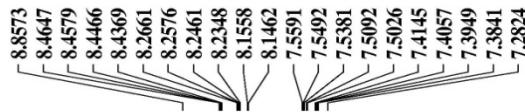
Figure 13:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3i



**Figure 14:**  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3j



**Figure 15:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3k**



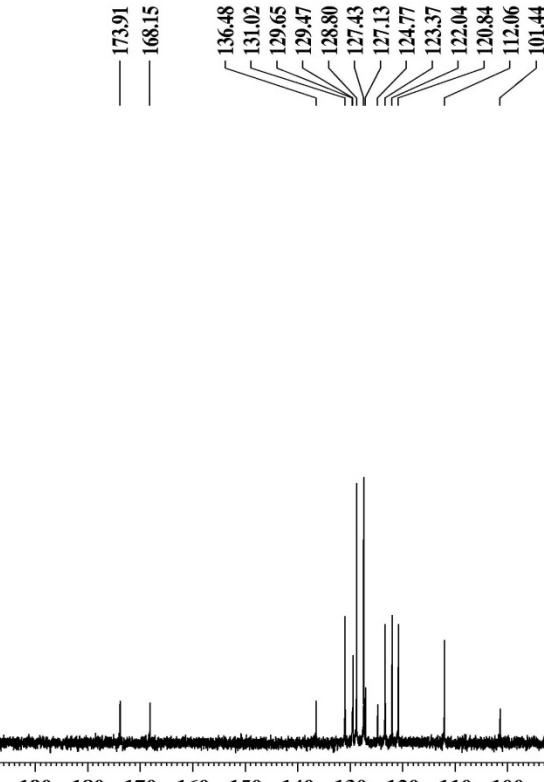
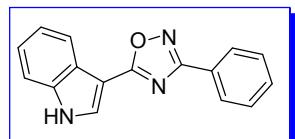
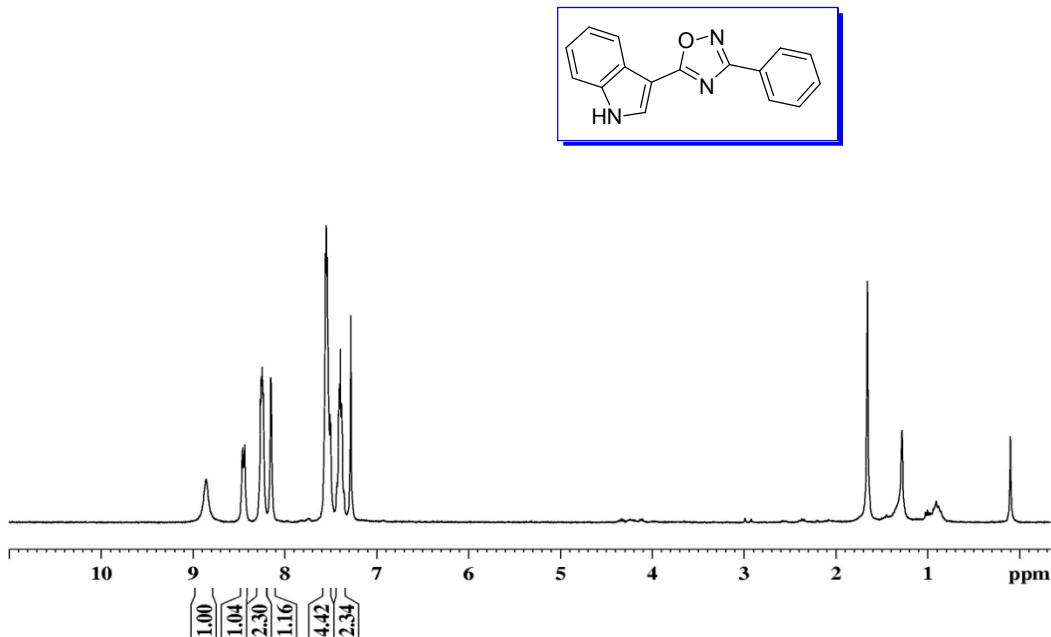
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PROCNO 1

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SOLVENT CDCl<sub>3</sub>  
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DS 0  
SWH 6188.119 Hz  
FIDRES 0.094423 Hz  
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RG 223  
DW 80.000 usec  
DE 6.00 usec  
TE 298.2 K  
D1 1.0000000 sec  
TD0 1

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PL1 -1.00 dB  
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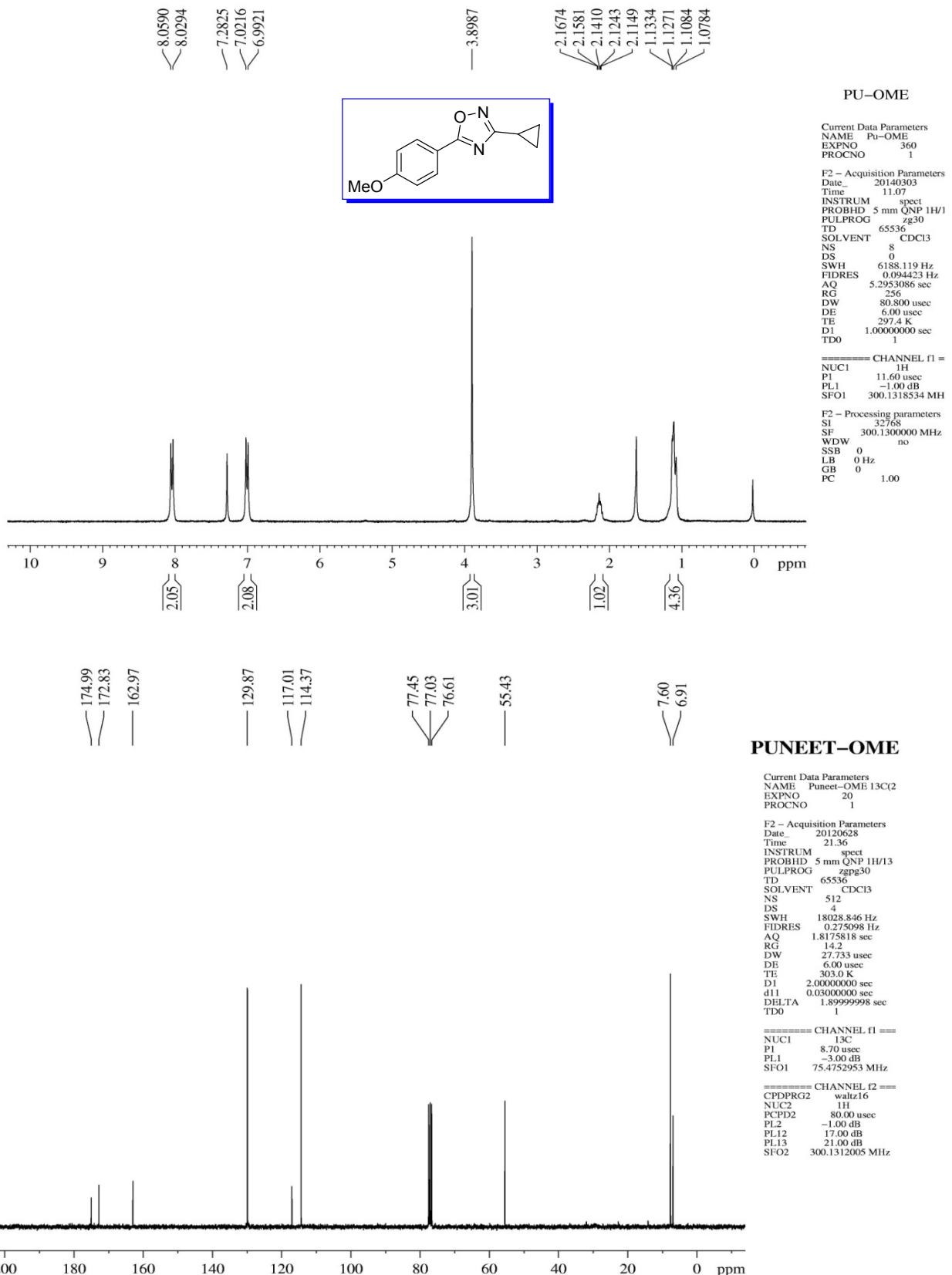
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CPDPG2 Waltz16  
NUC2 <sup>1</sup>H  
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PL12 17.00 dB  
PL13 21.00 dB  
SFO2 300.1312005 MHz

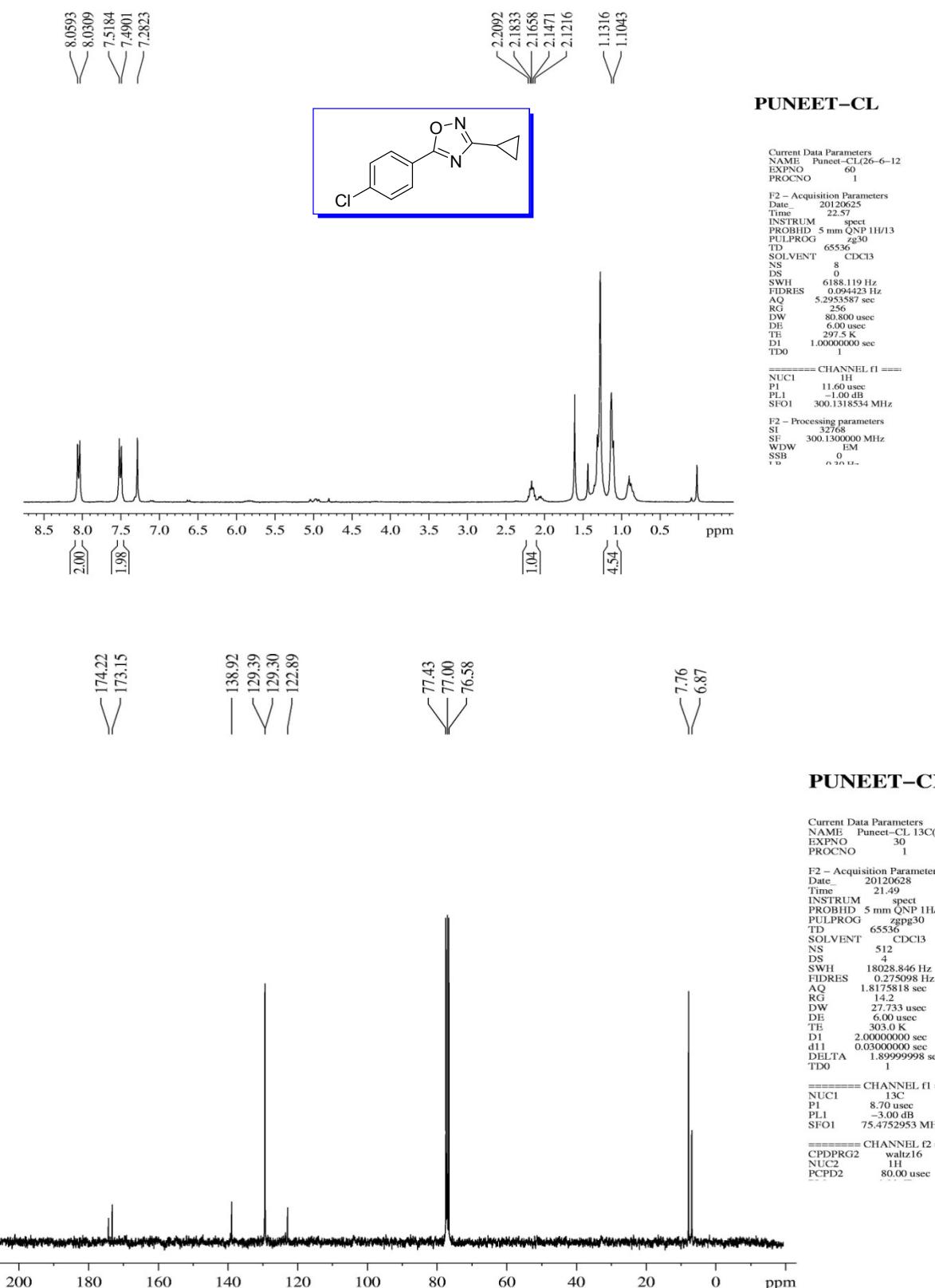
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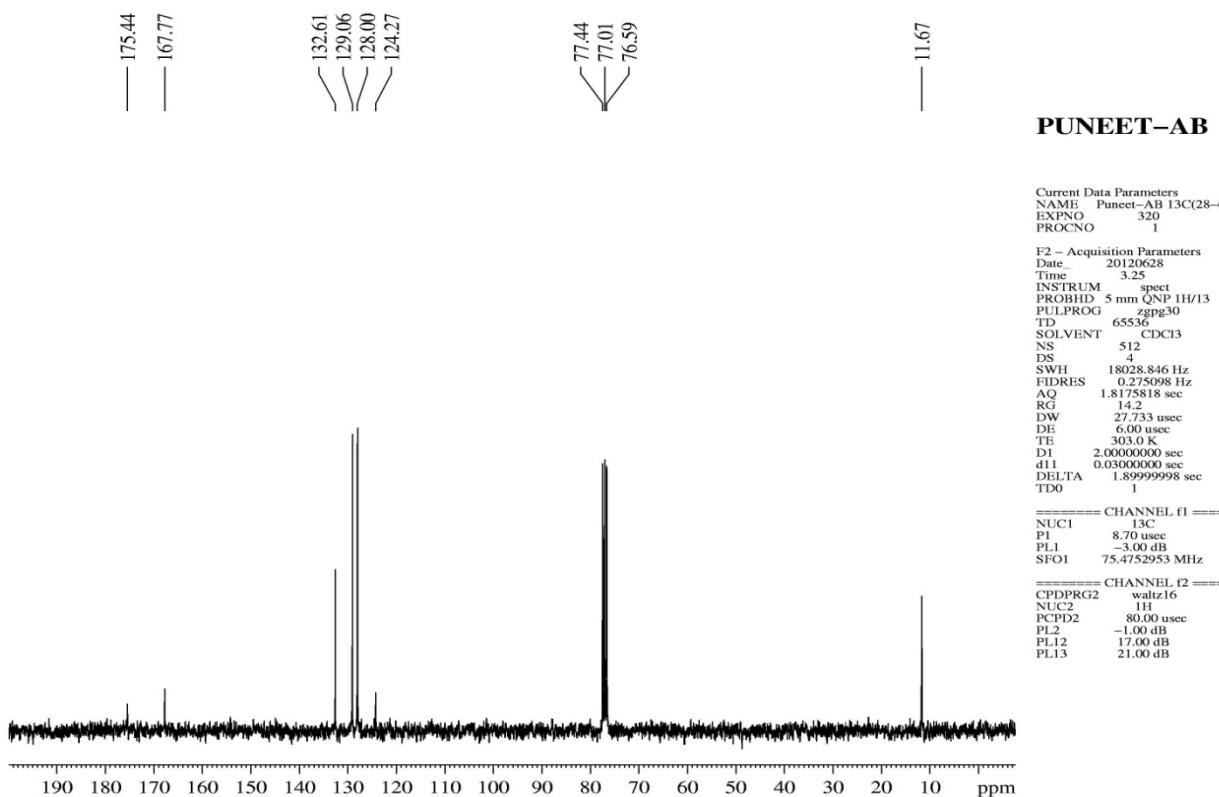
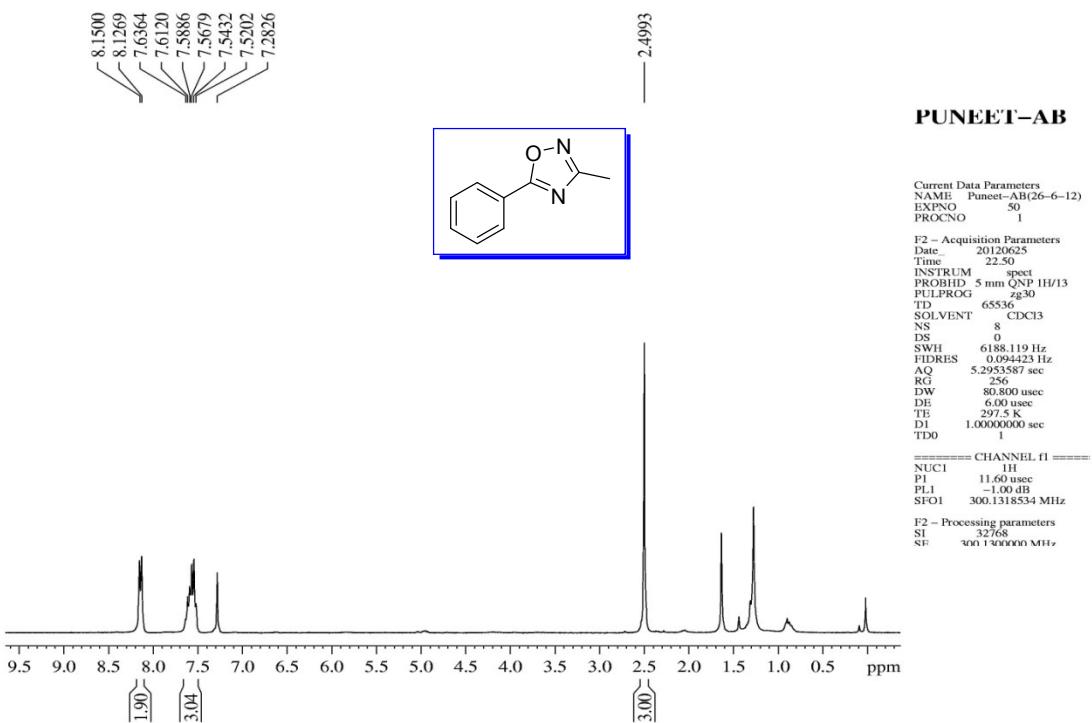
**Figure 16: <sup>1</sup>H and <sup>13</sup>C Spectra of compound 31**



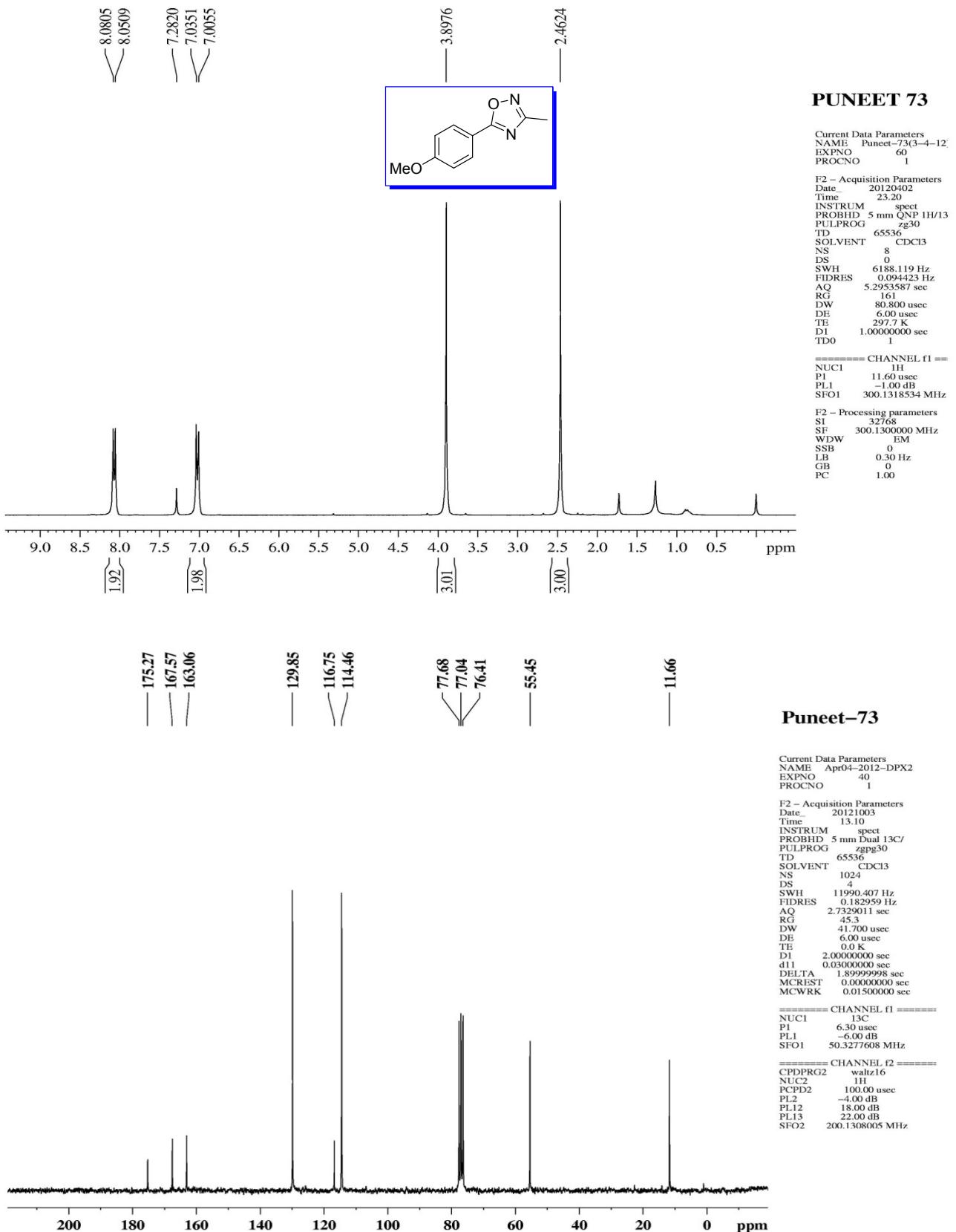
**Figure 17:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3m**



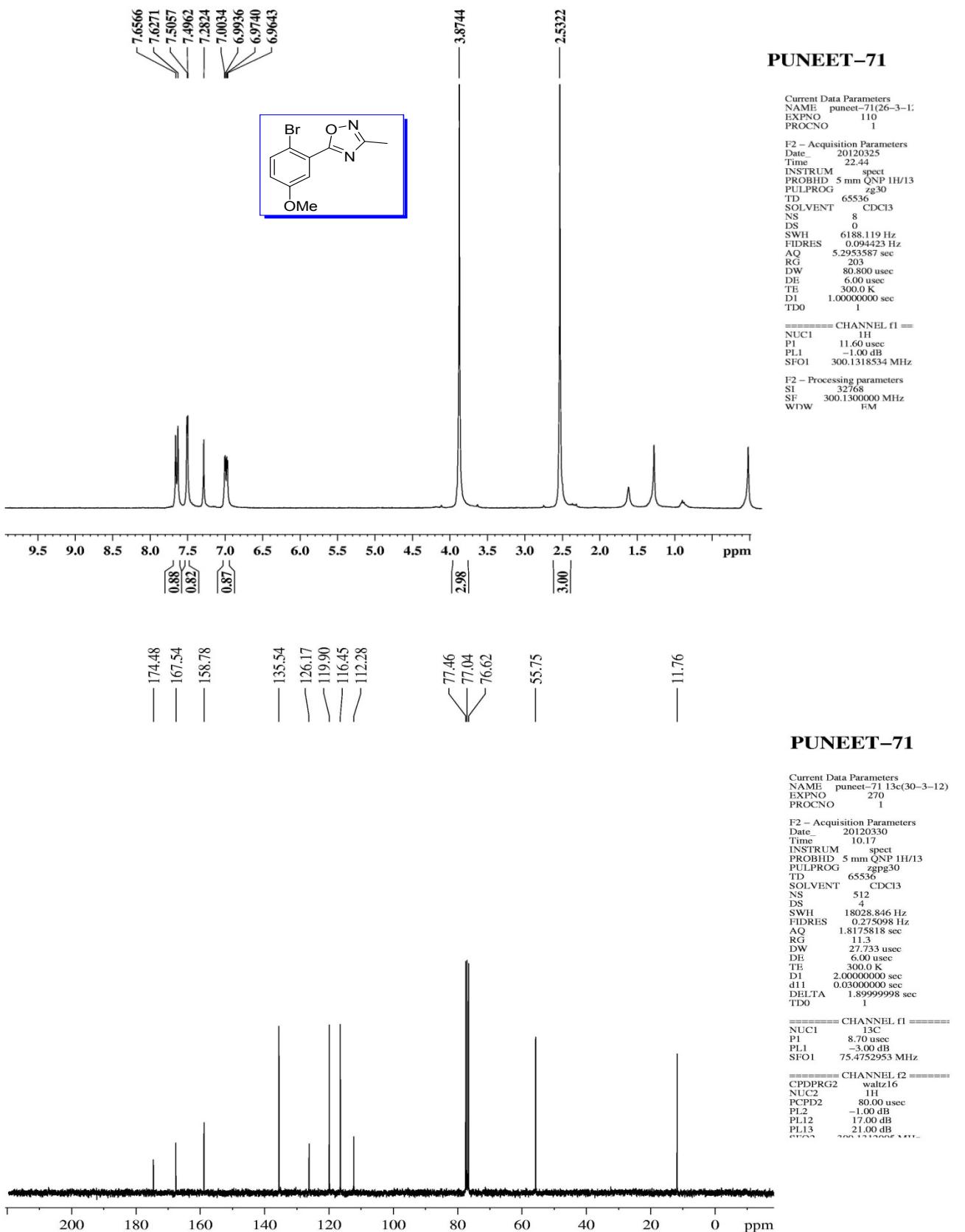
**Figure 18:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3n**



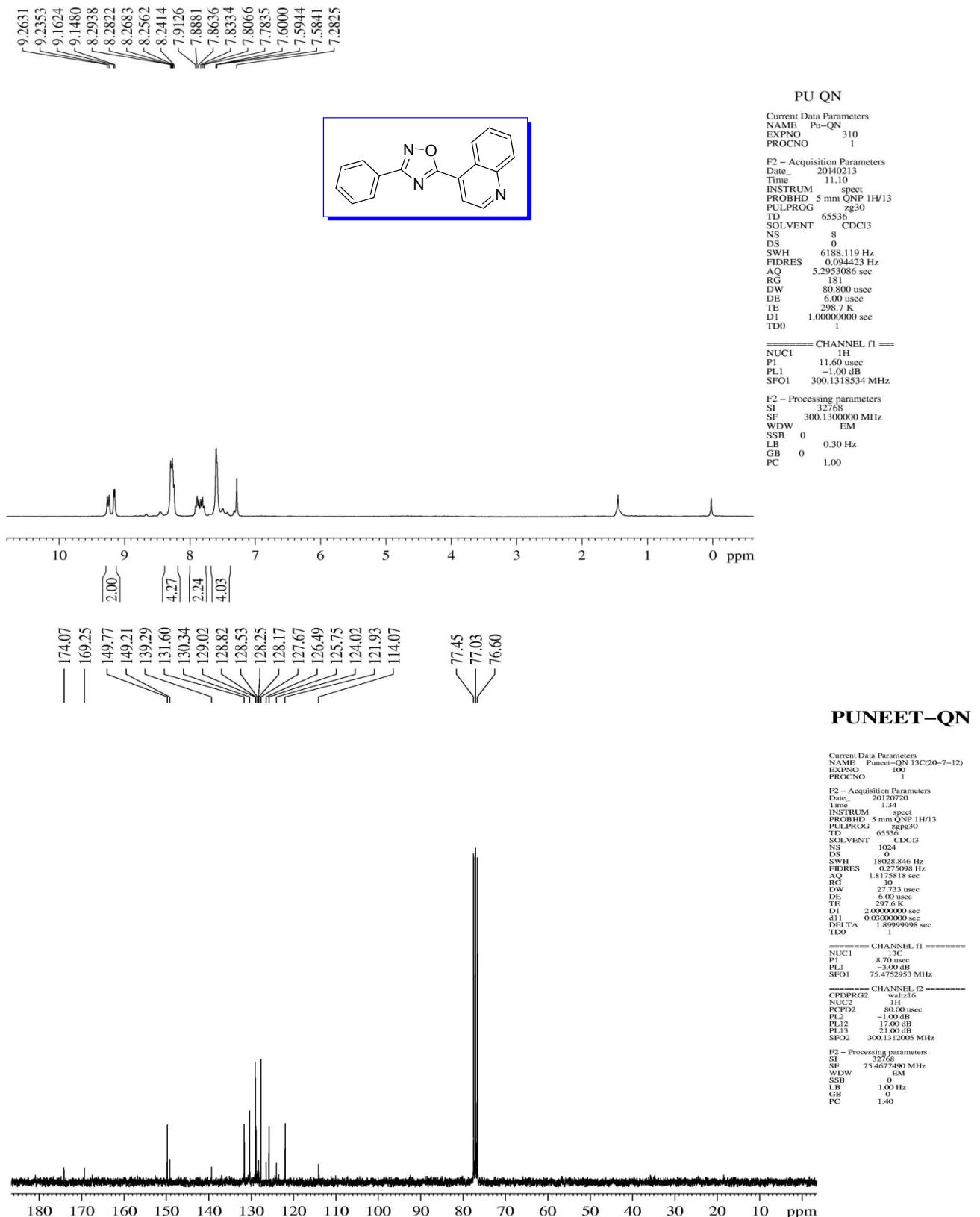
**Figure 19:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 30**



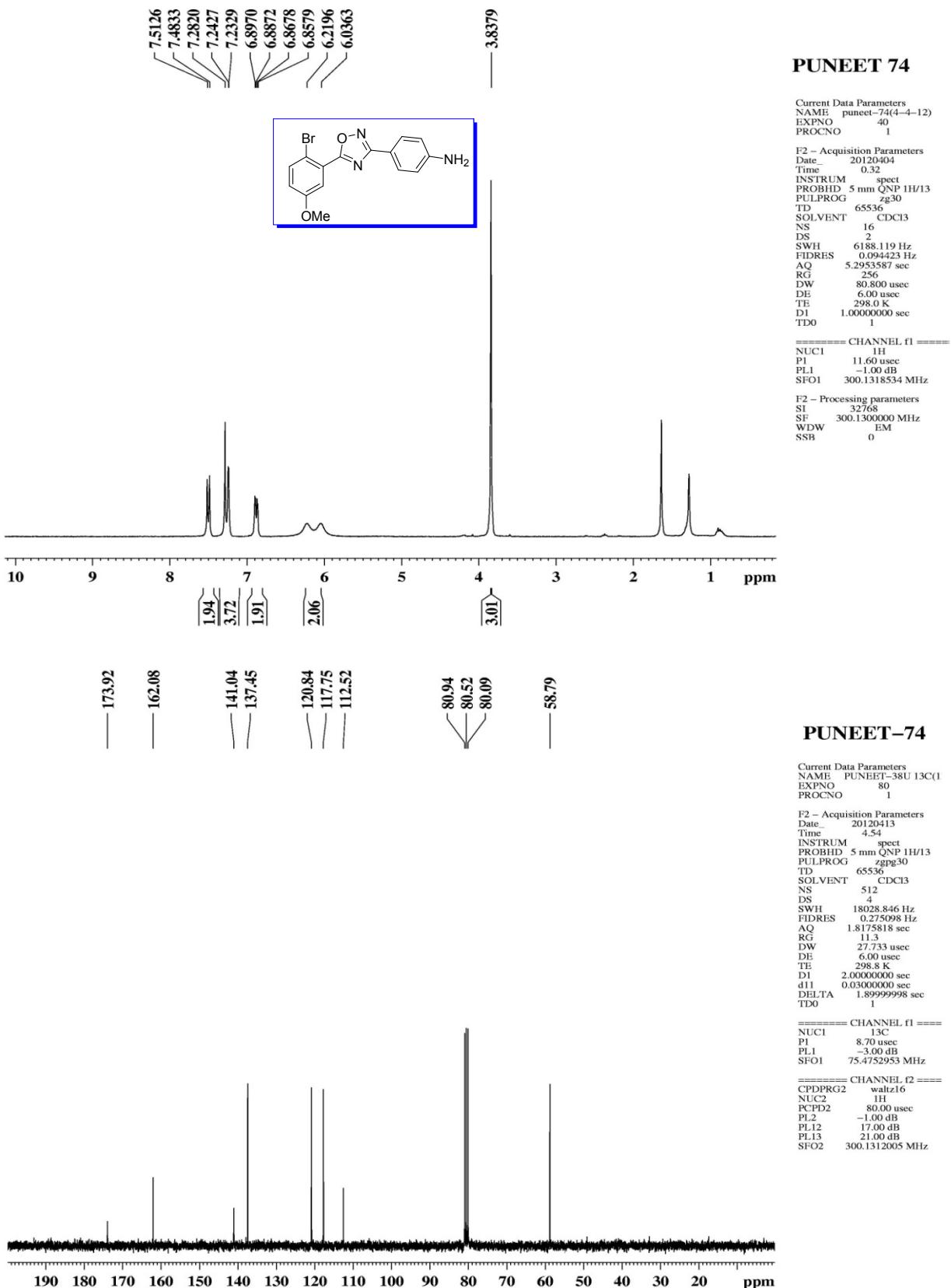
**Figure 20:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3p**



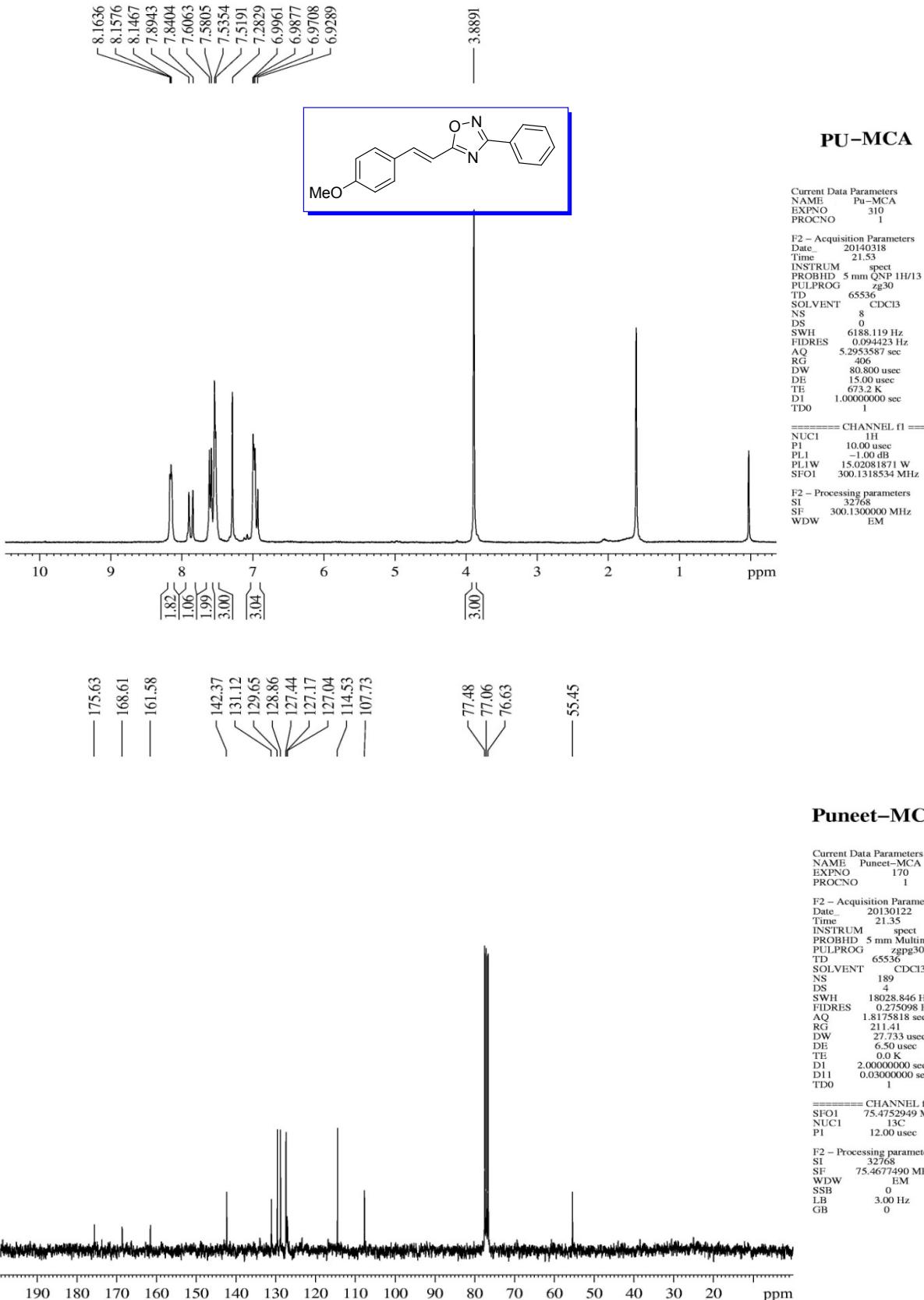
**Figure 21:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3q**



**Figure 22:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3r**



**Figure 23:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3s**



**Figure 24:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3t**

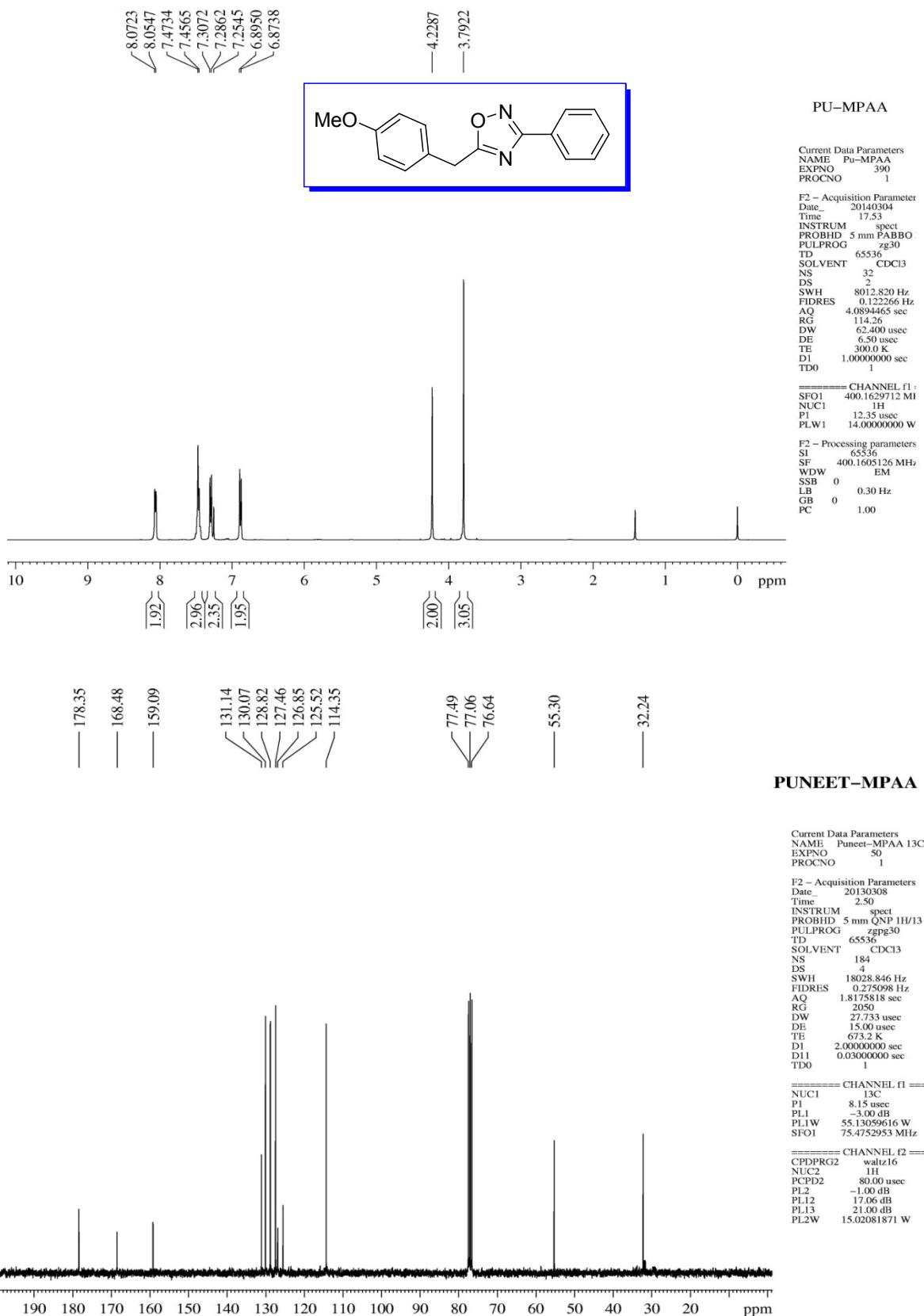
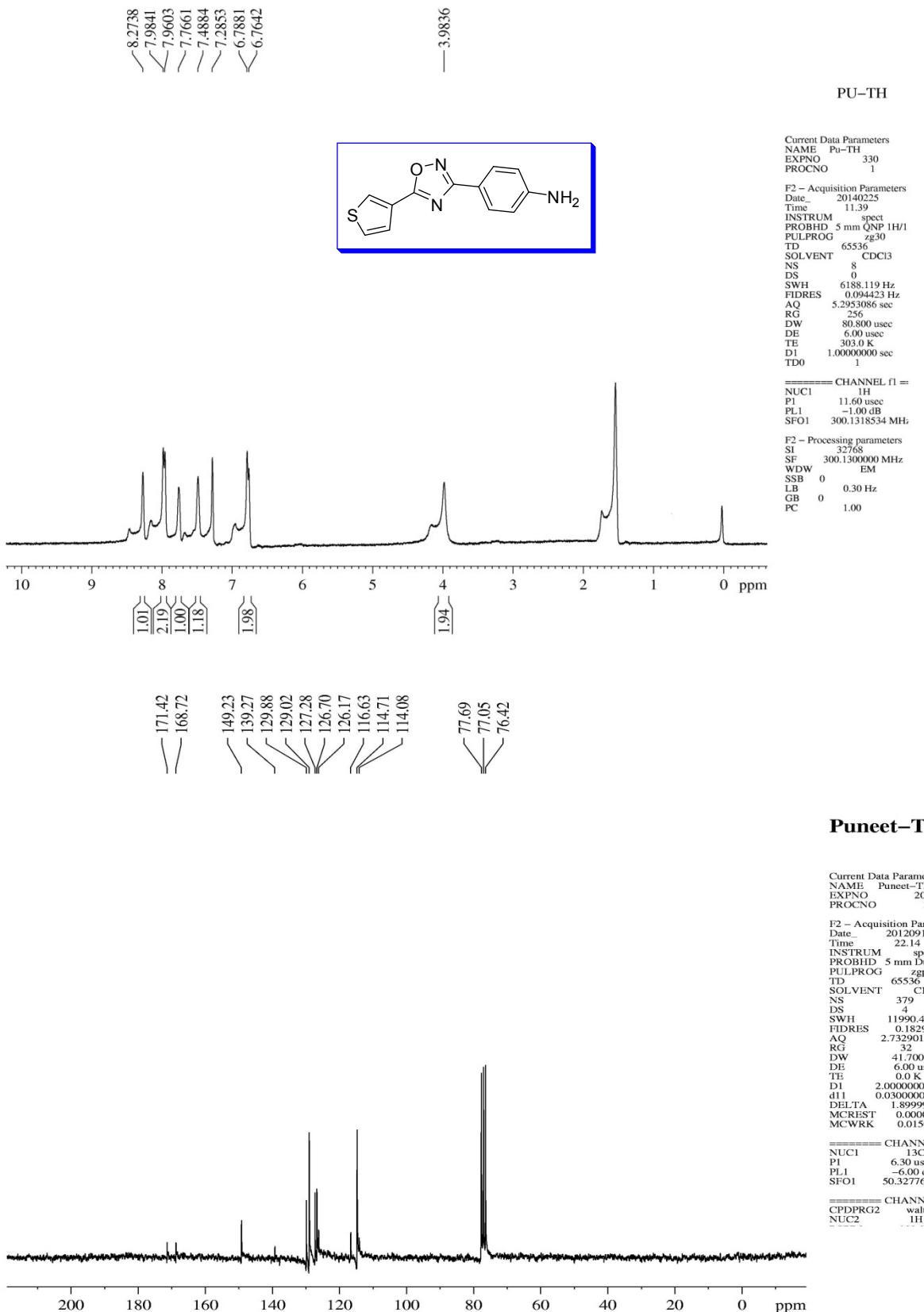


Figure 25:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3u



**Figure 26: <sup>1</sup>H and <sup>13</sup>C Spectra of compound 3v**

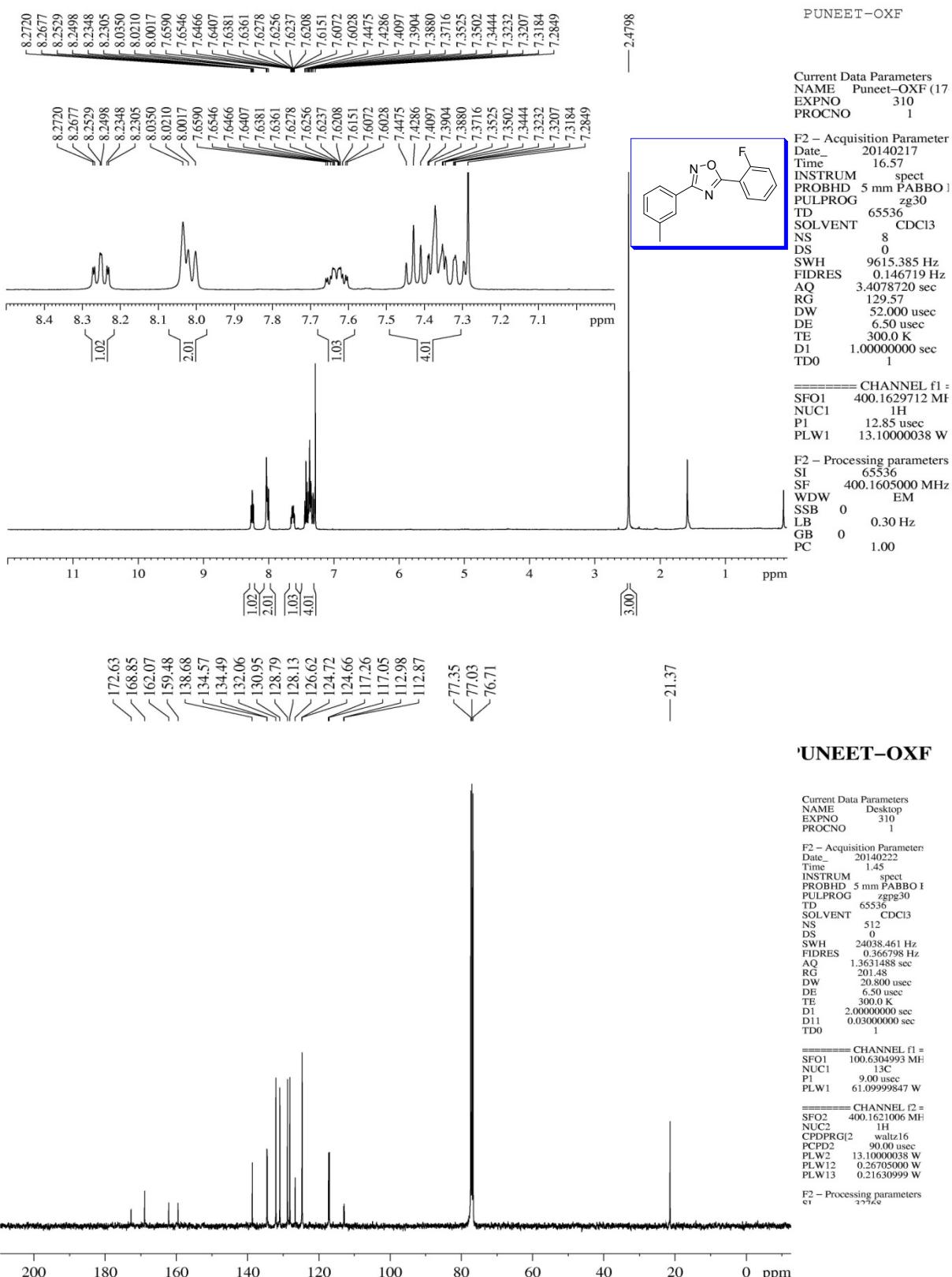
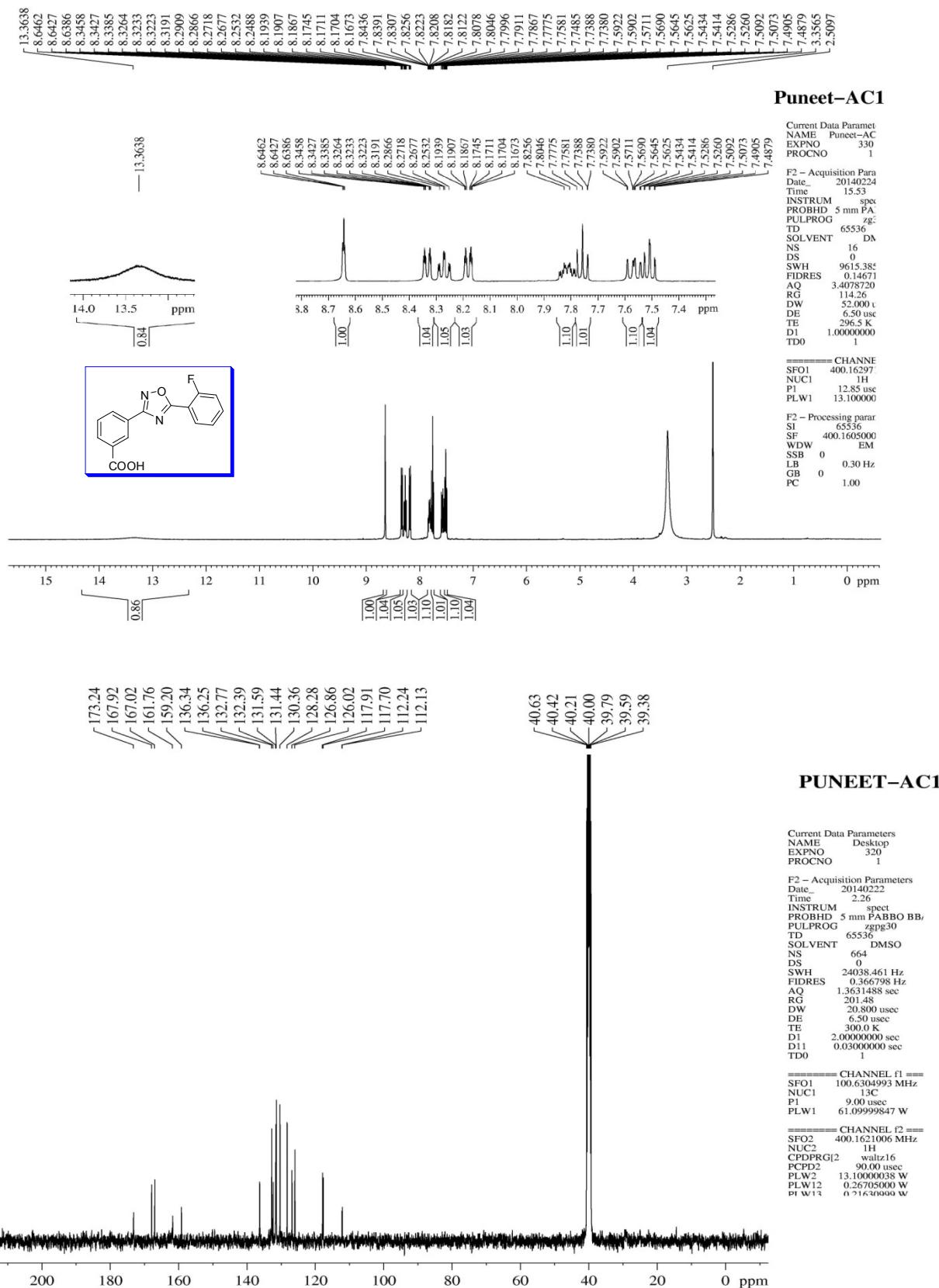
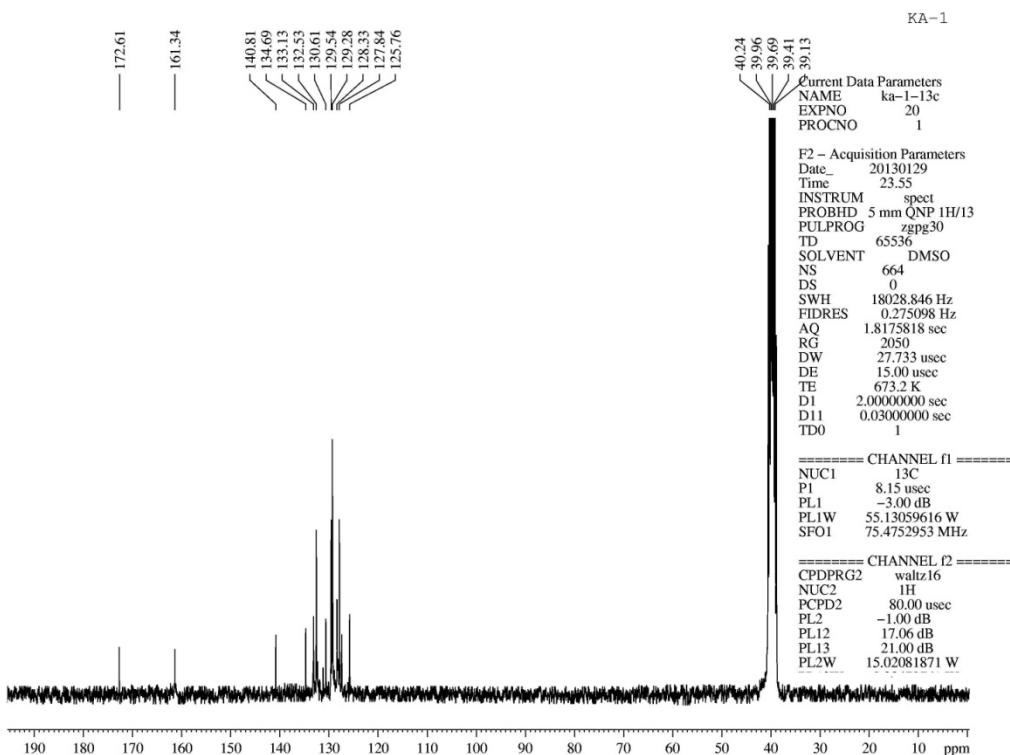
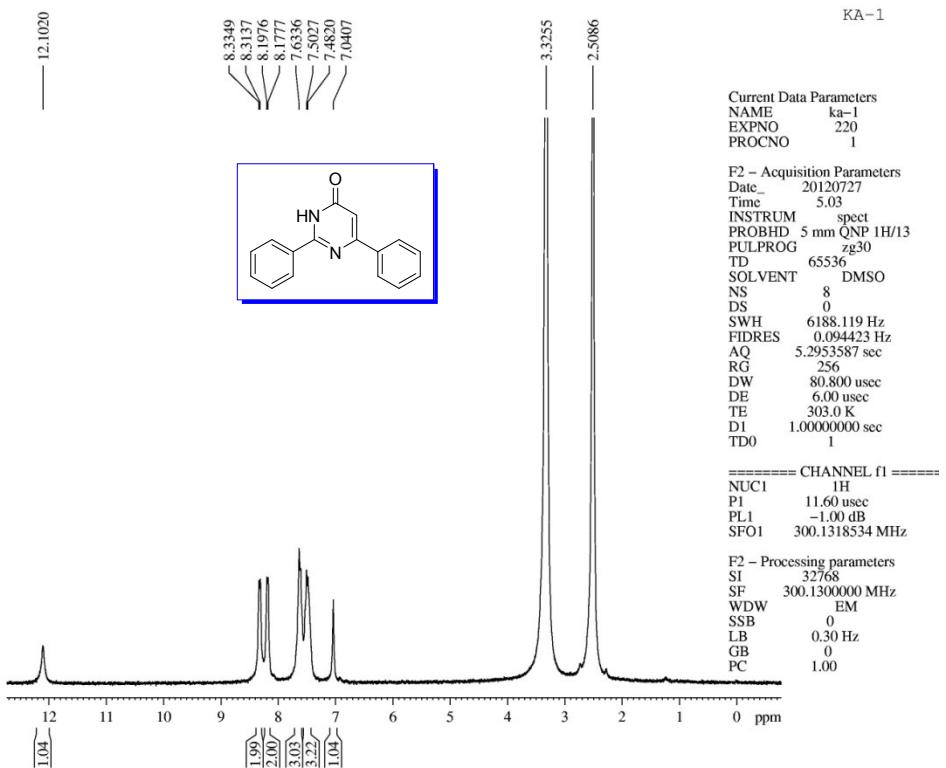


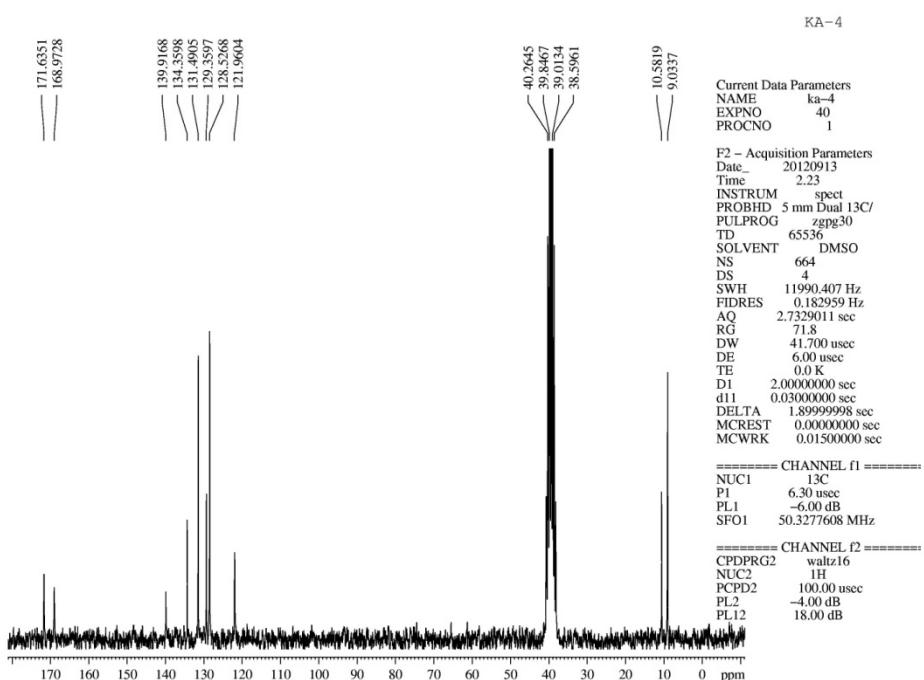
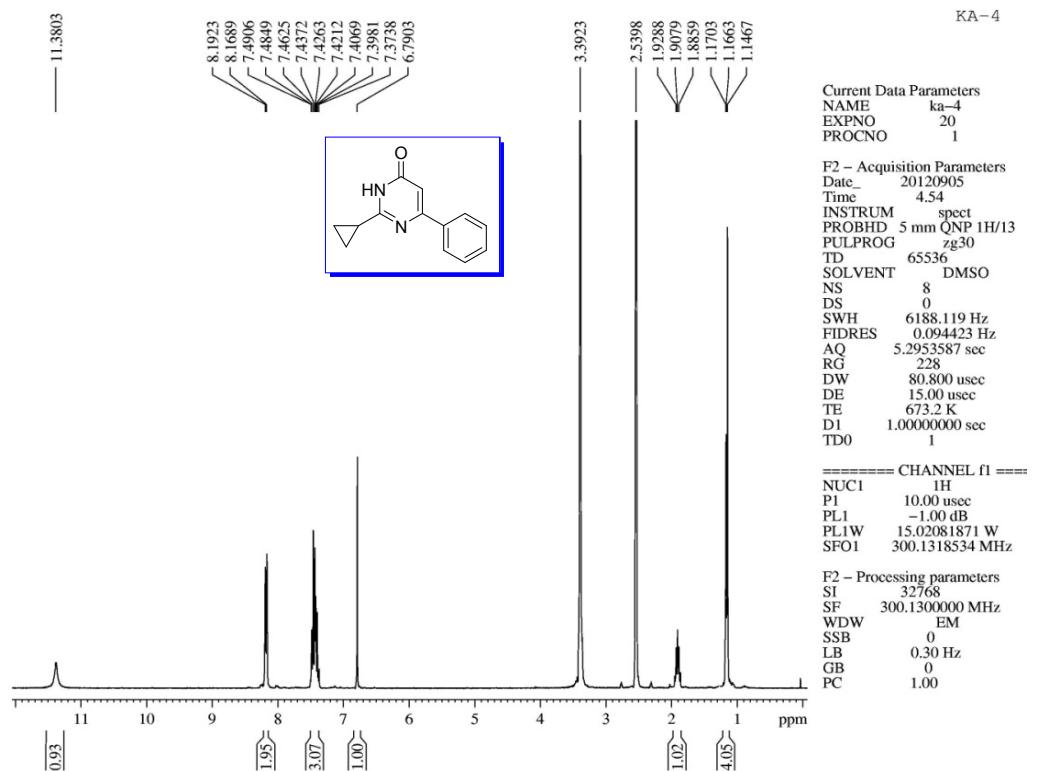
Figure 27:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3w



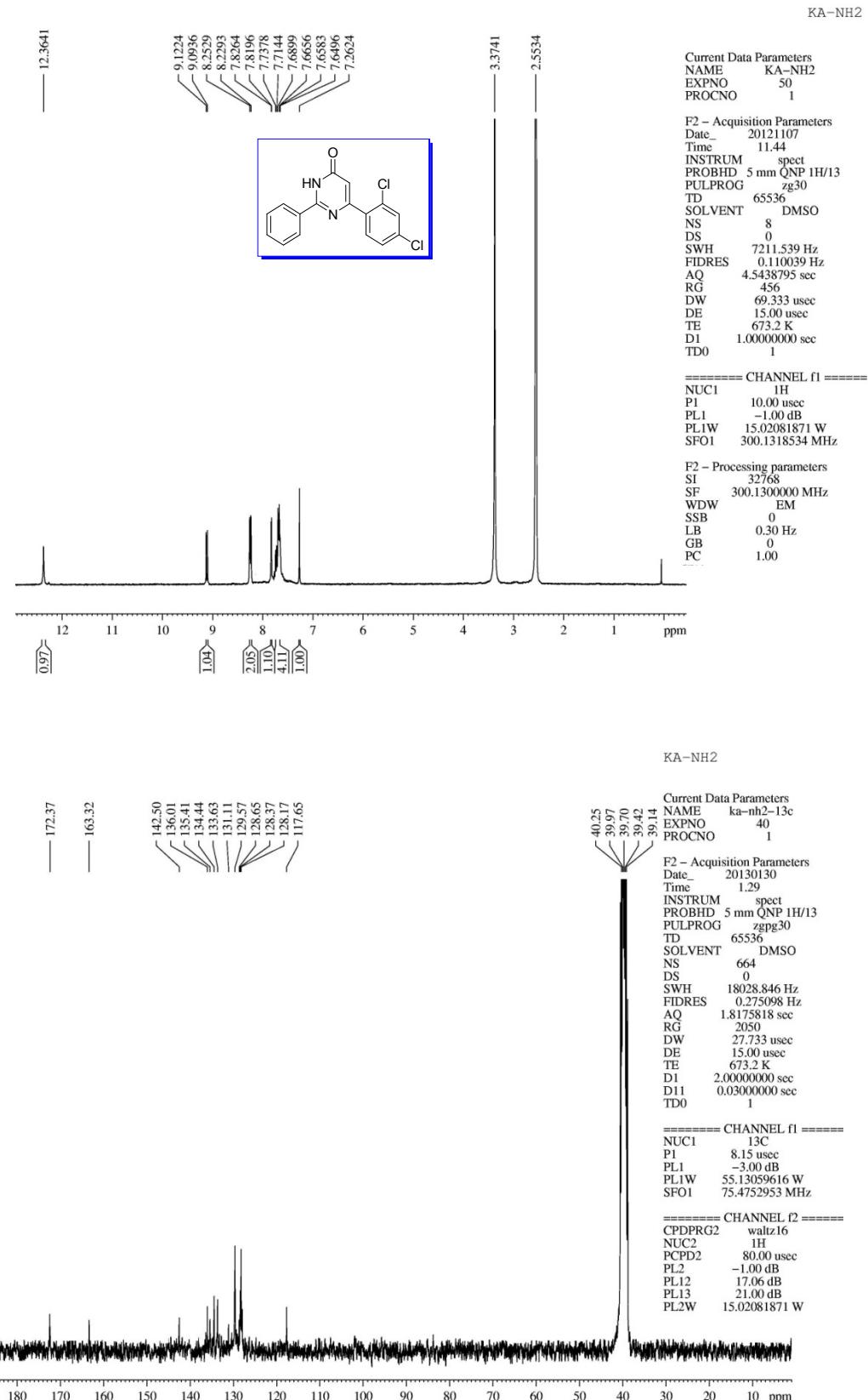
**Figure 28:**  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 3x



**Figure 29:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 5a**



**Figure 30:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 5b**



**Figure 31: <sup>1</sup>H and <sup>13</sup>C Spectra of compound 5c**

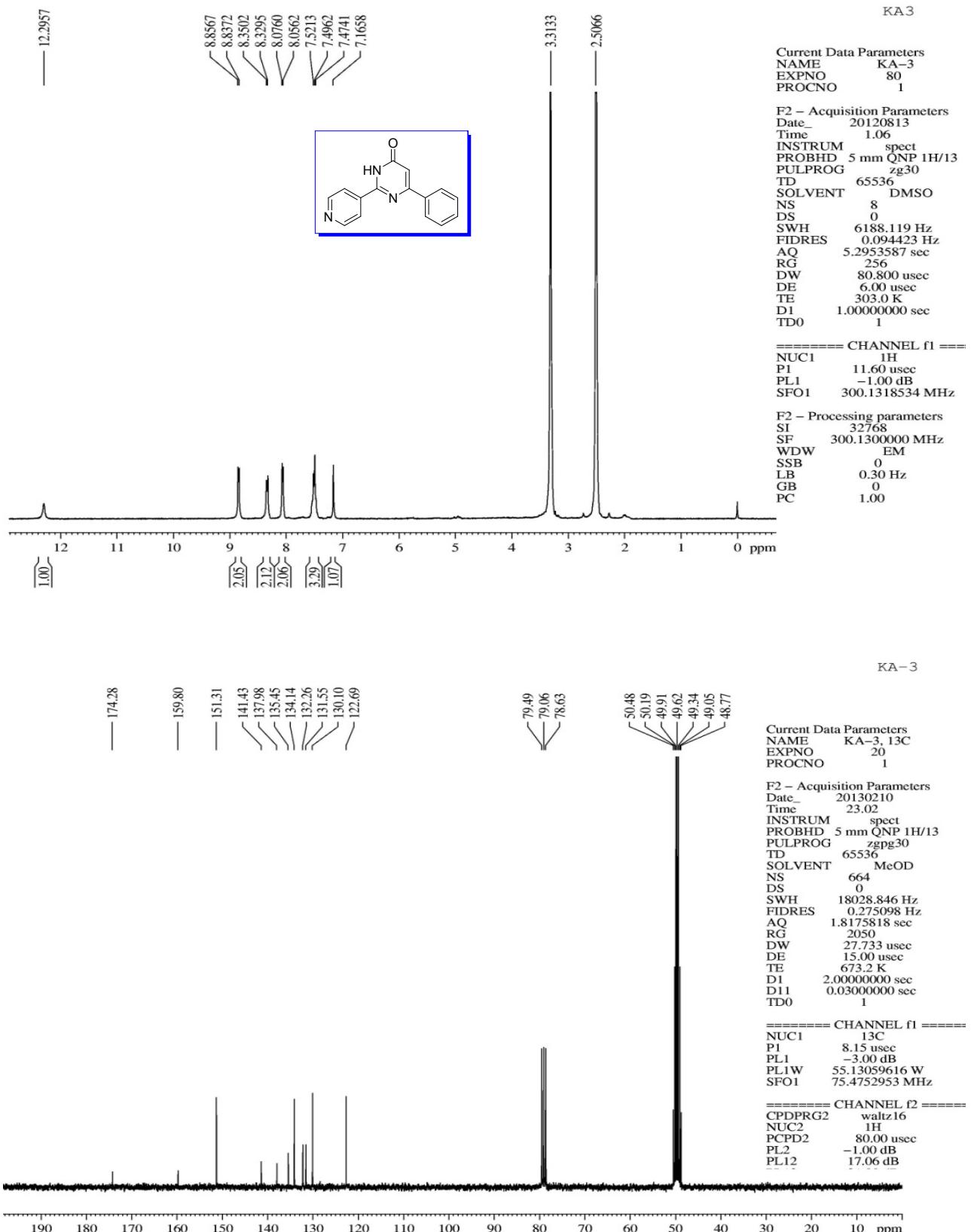


Figure 32:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 5d

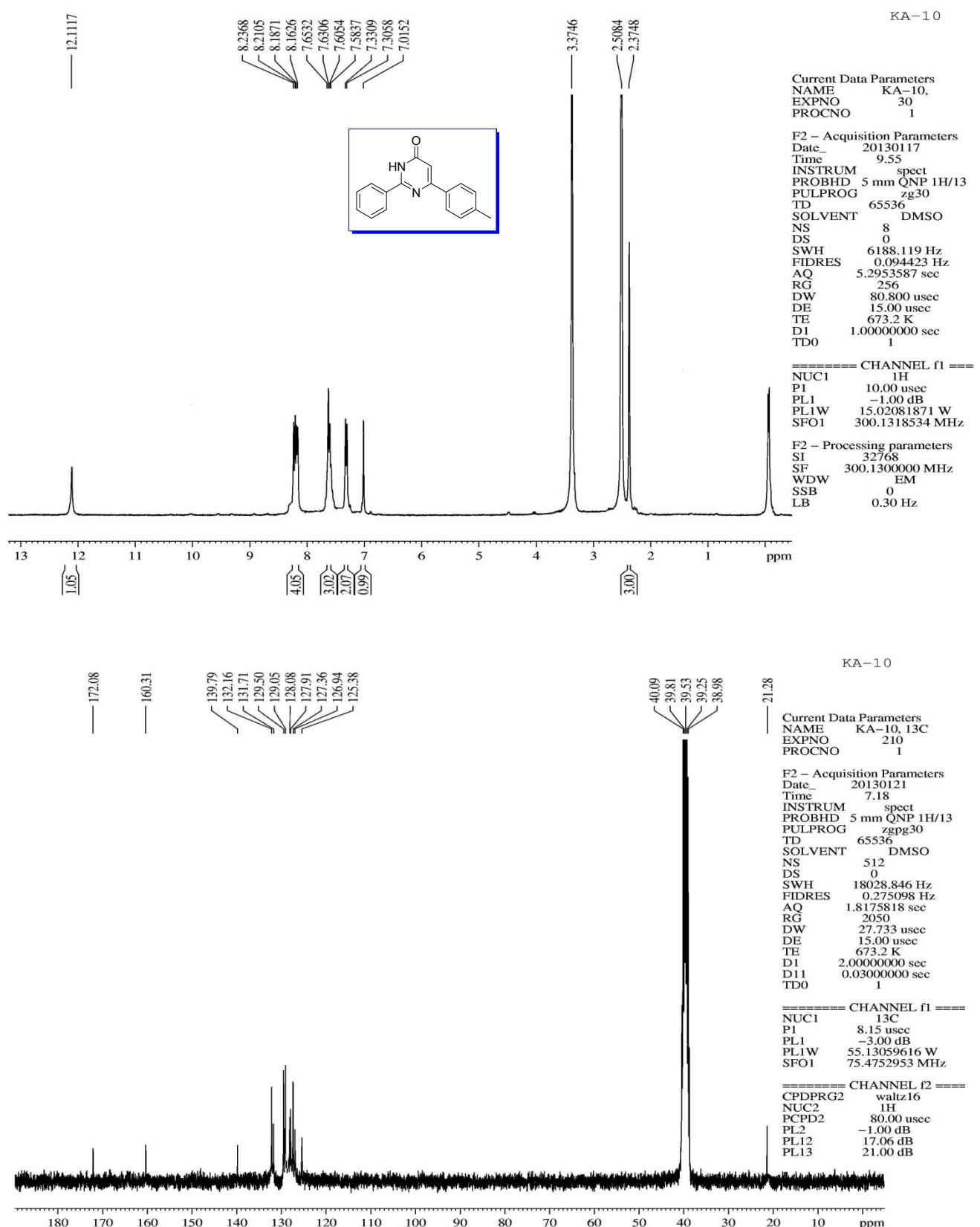
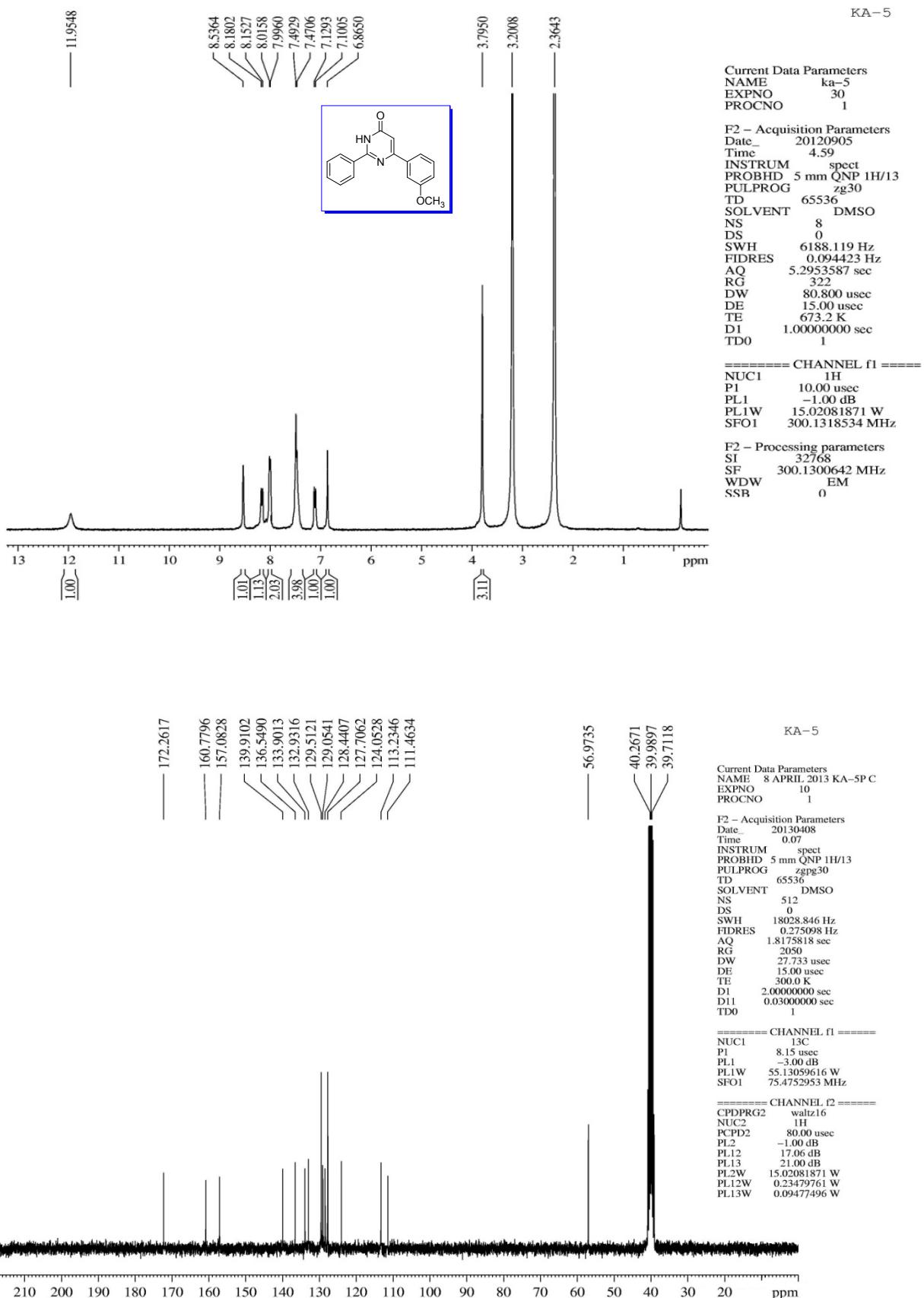
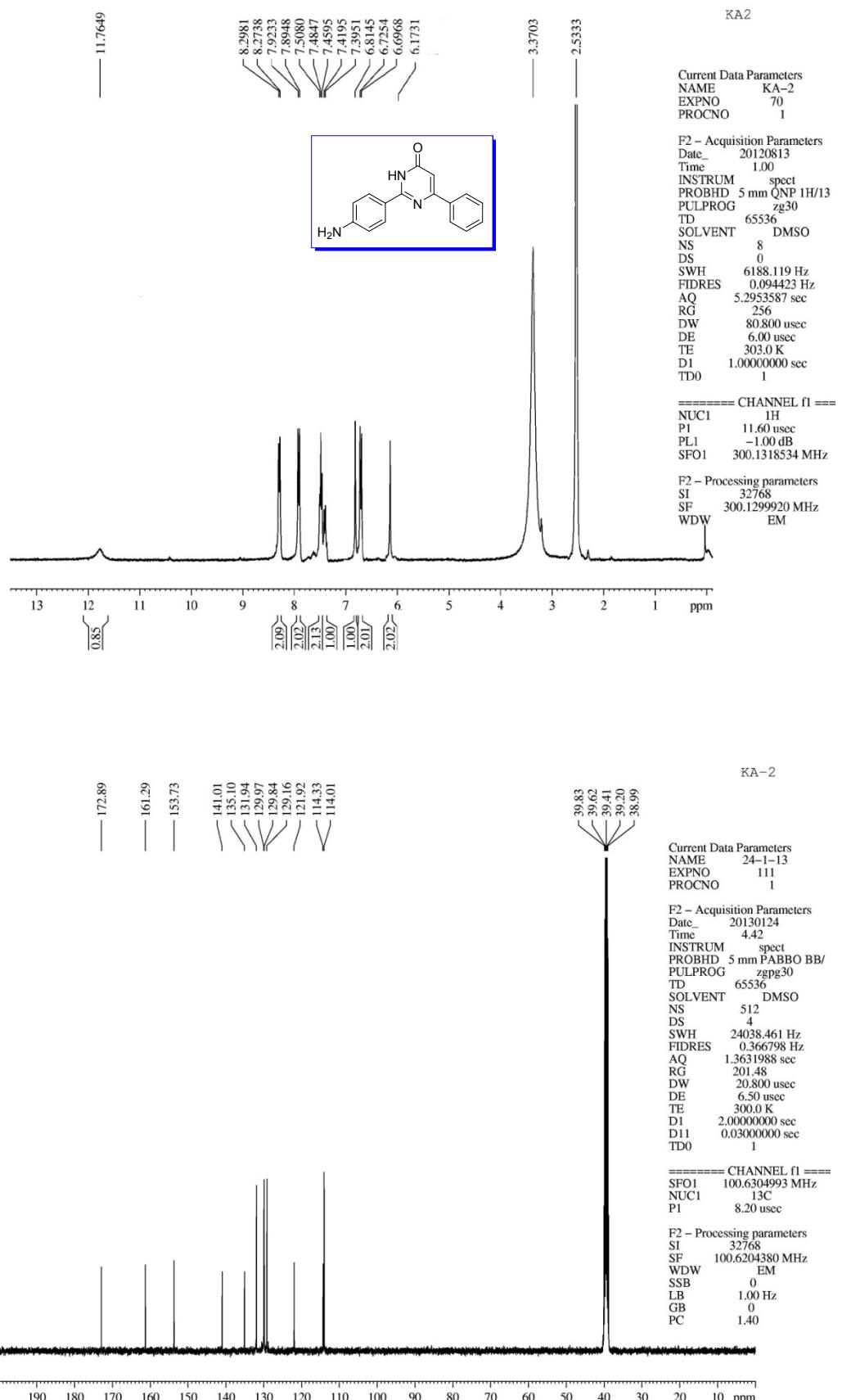


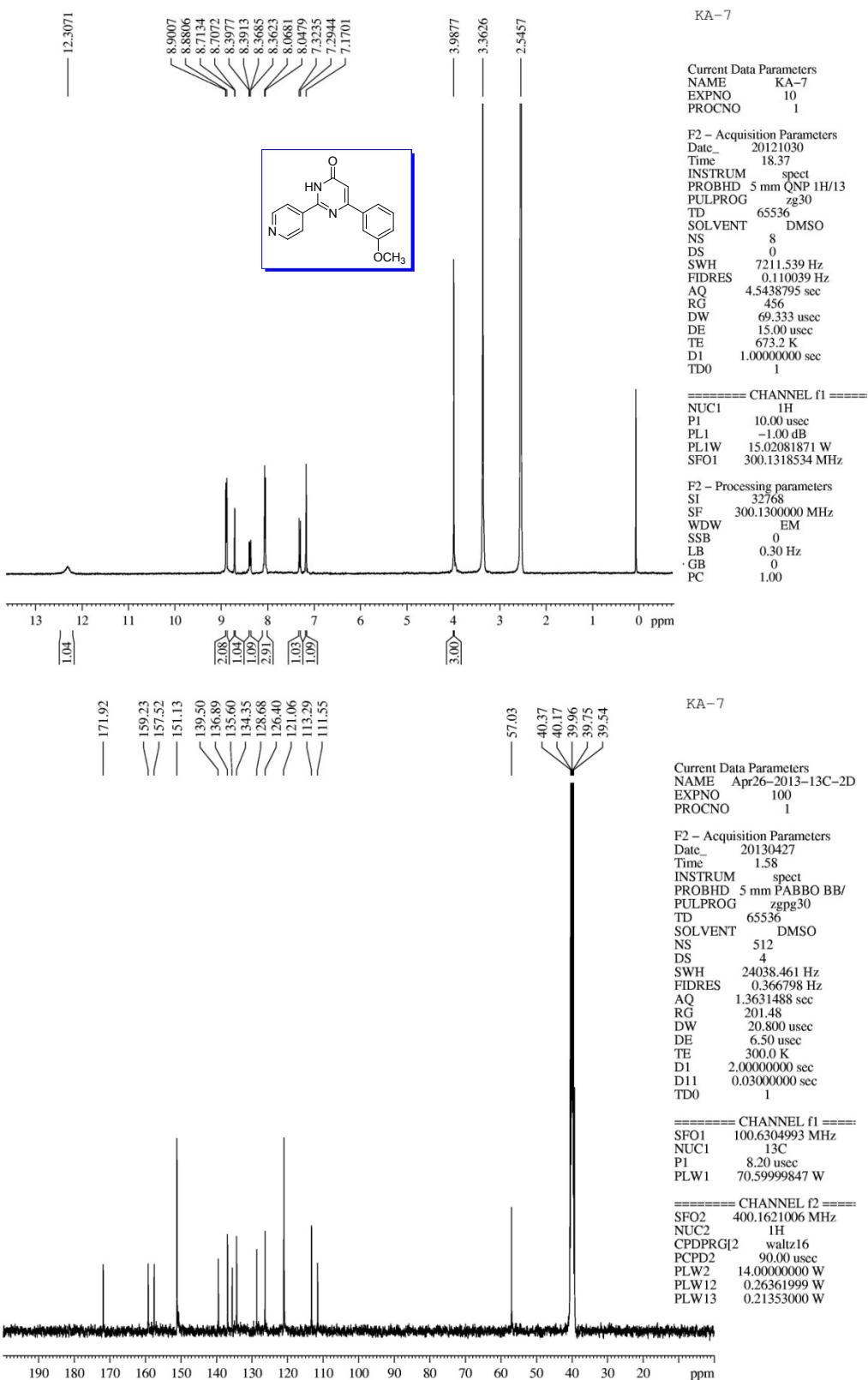
Figure 33:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 5e



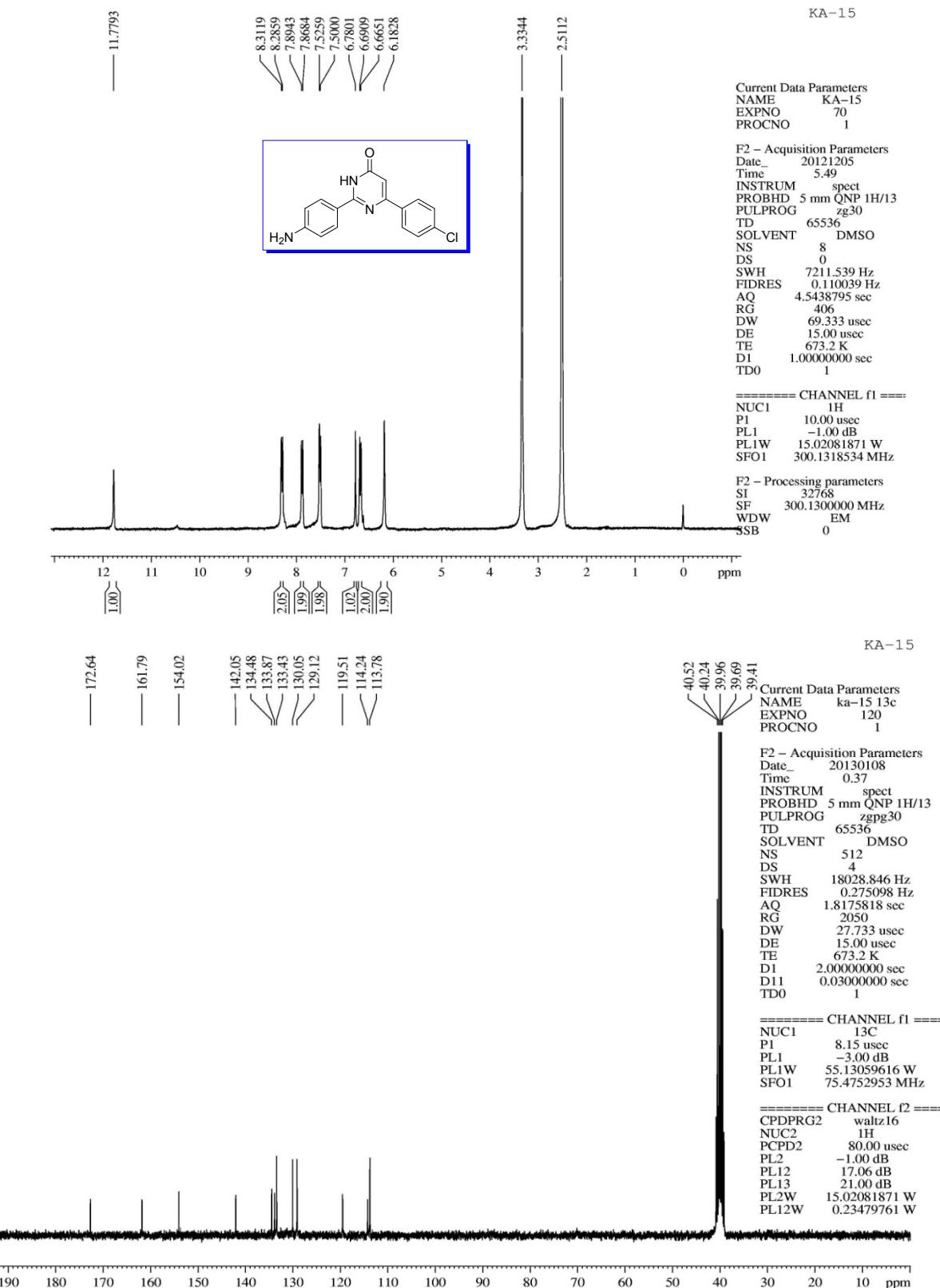
**Figure 34:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 5f**



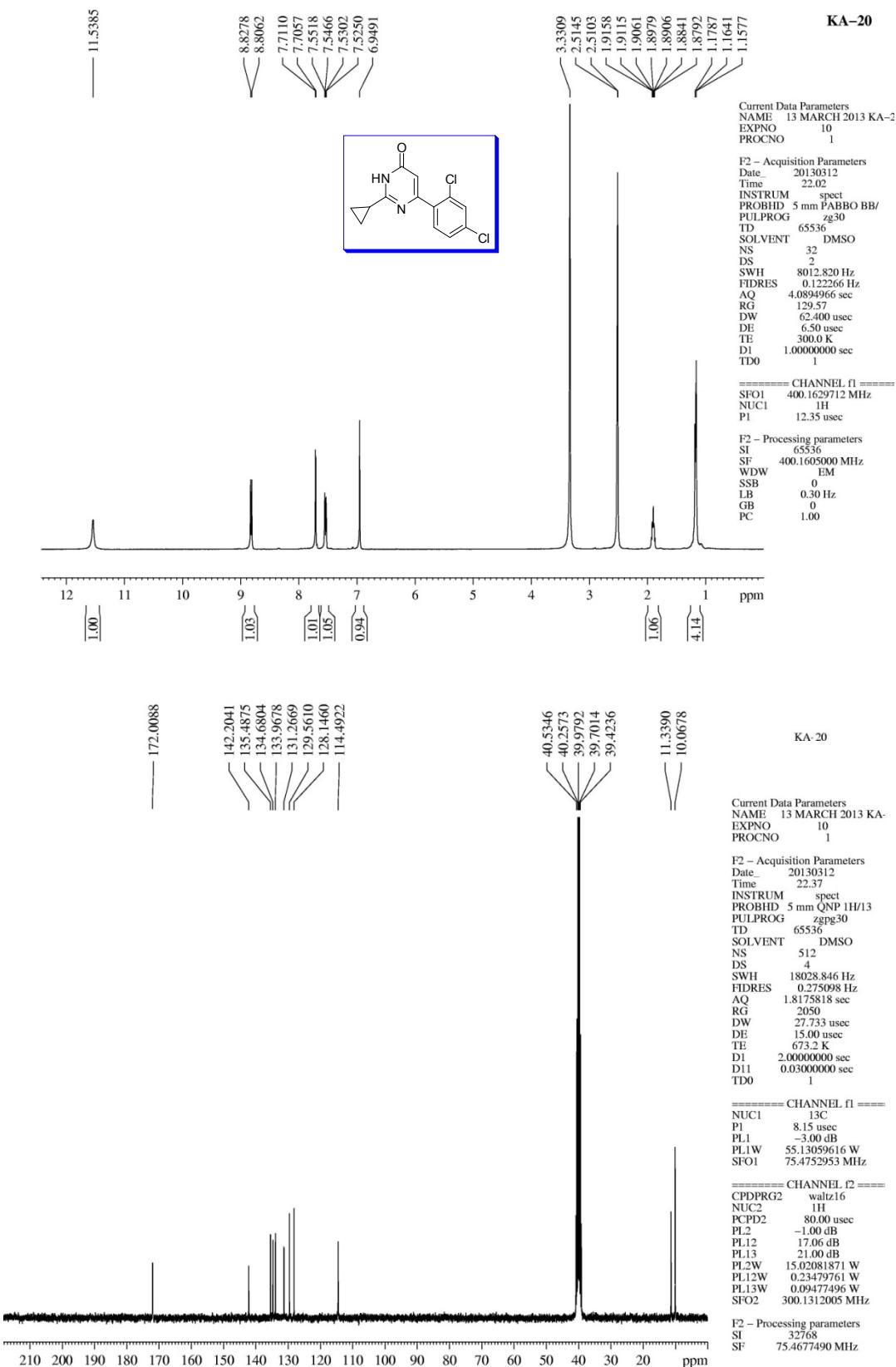
**Figure 35:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 5g**



**Figure 36:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 5h**



**Figure 37:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 5i**



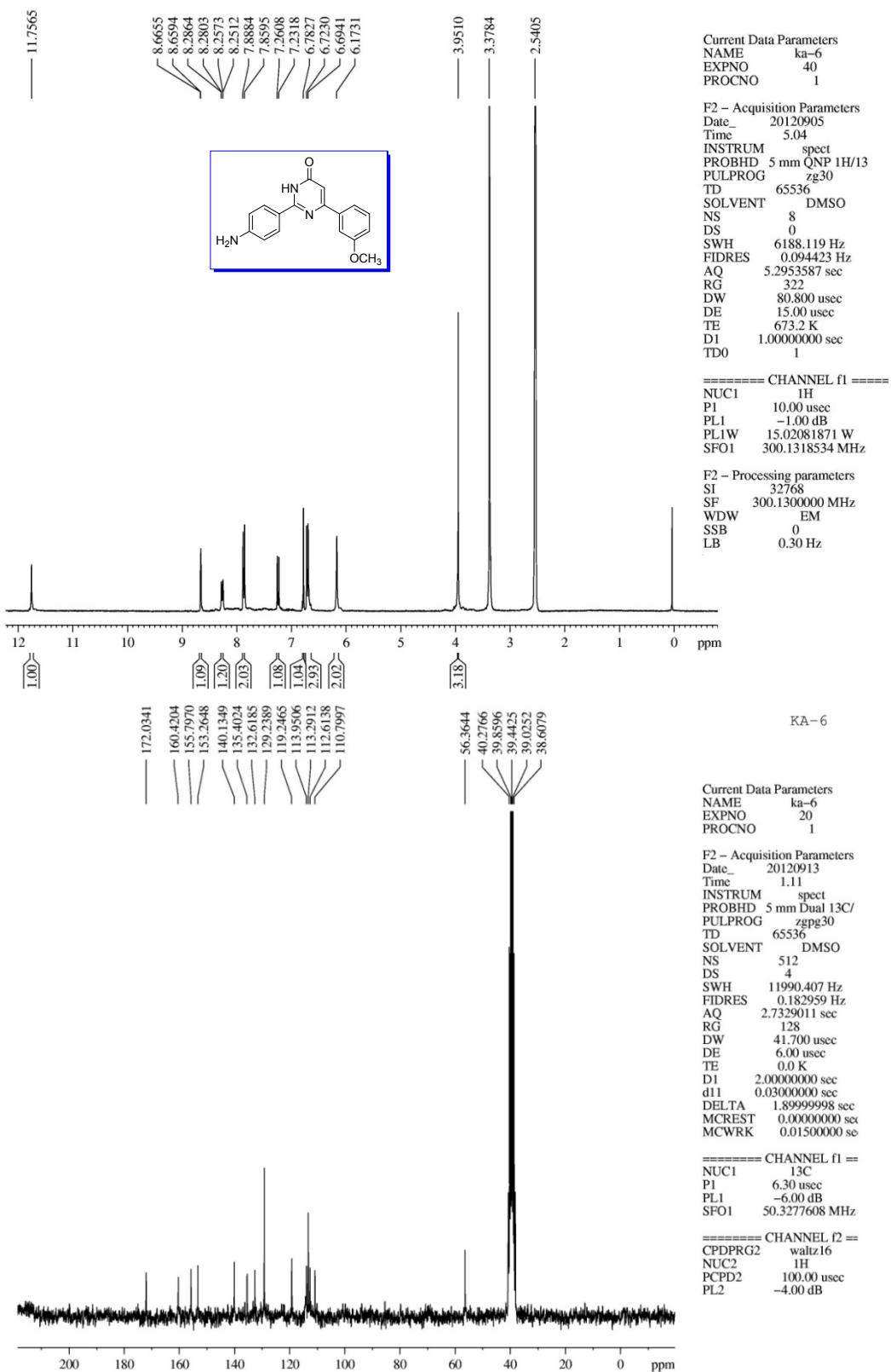


Figure 39:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 5k

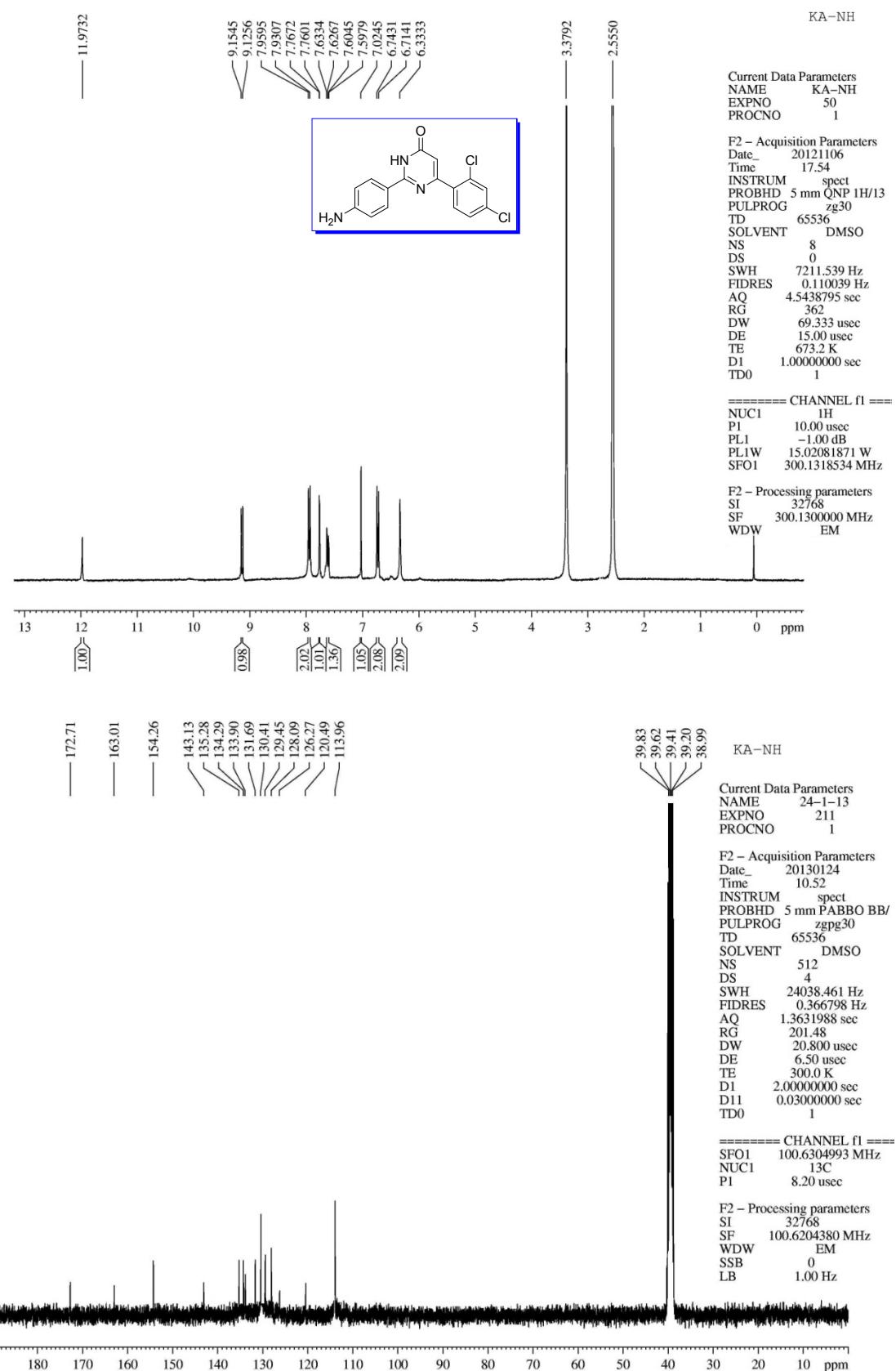


Figure 40:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 51

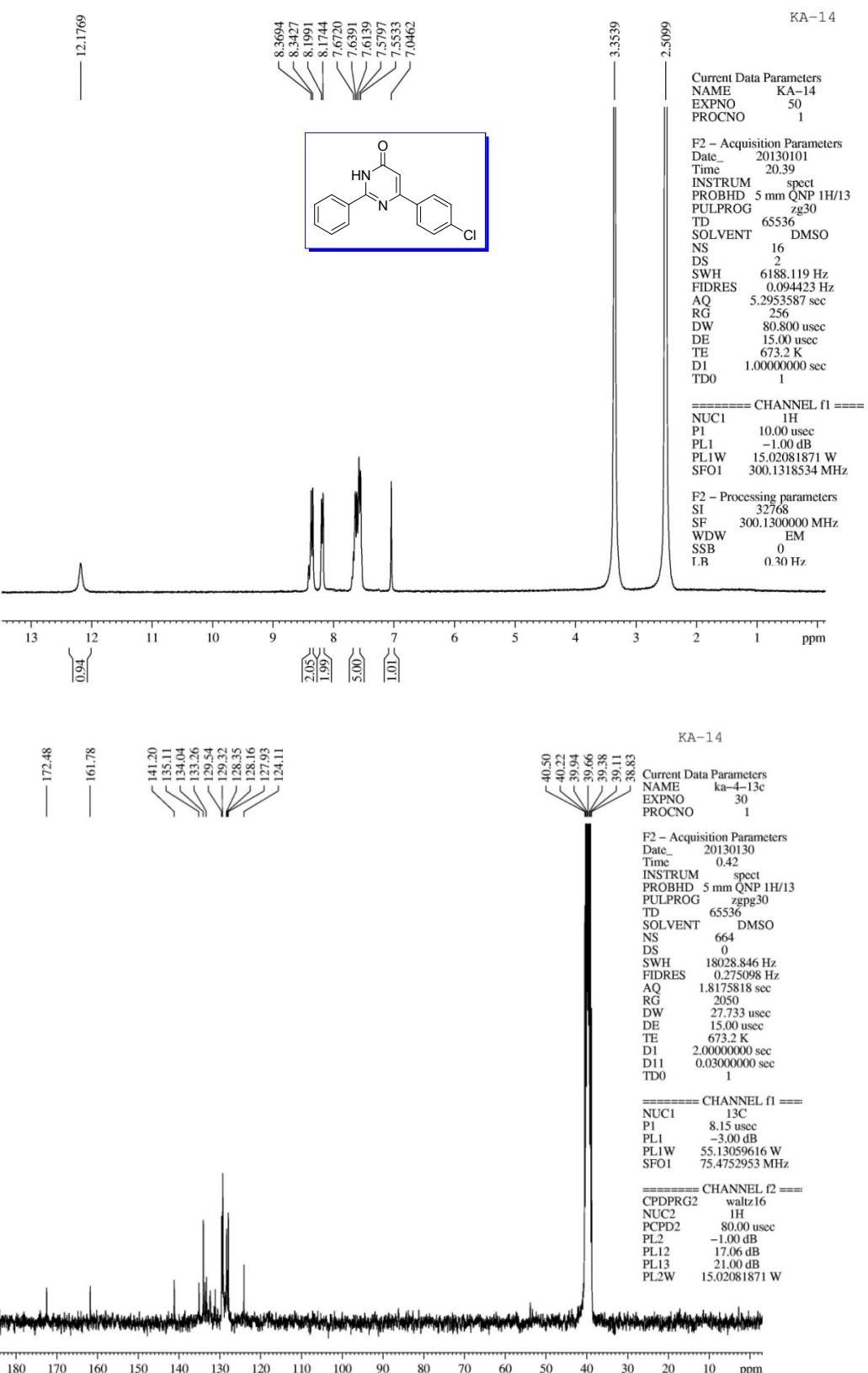


Figure 41:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 5m

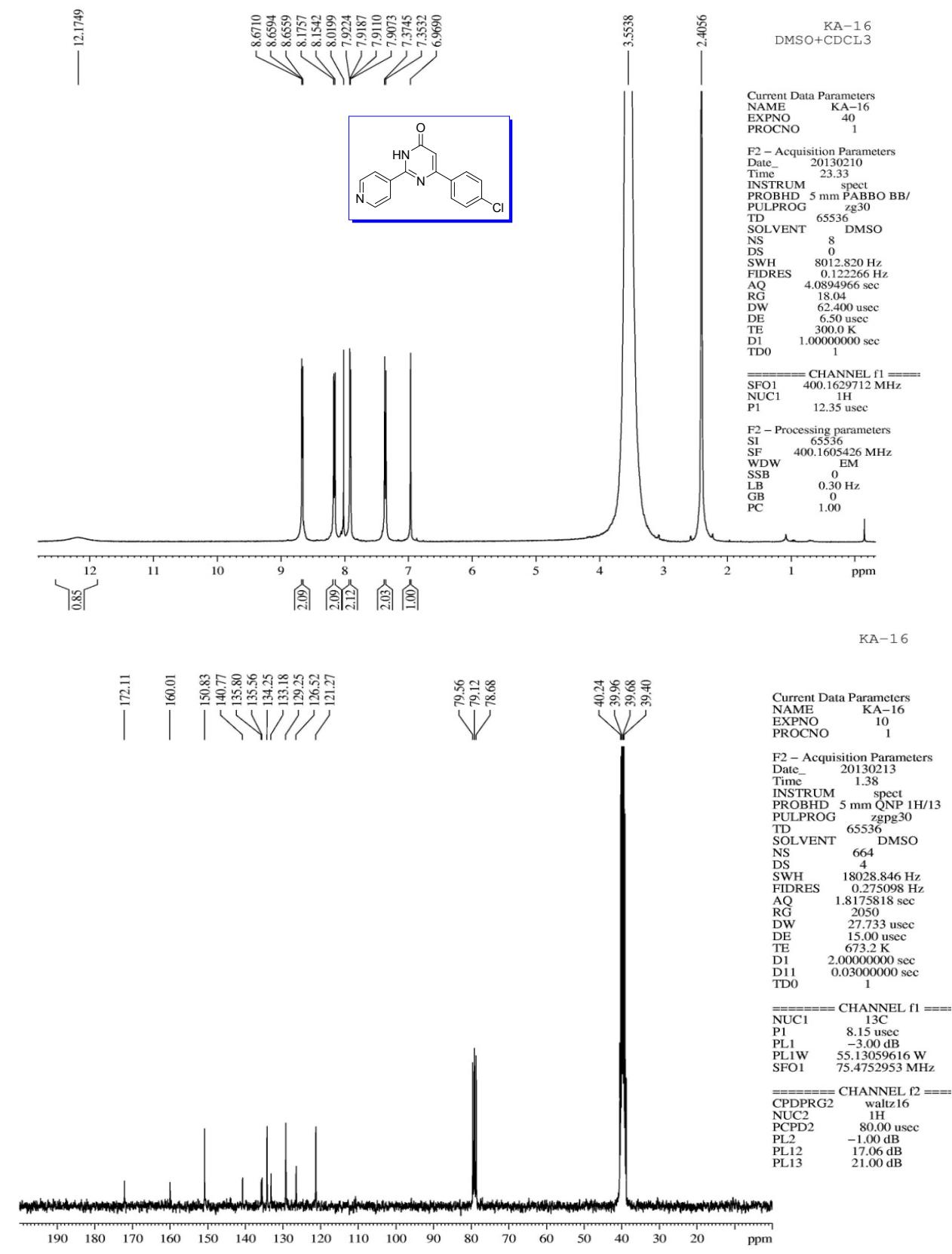
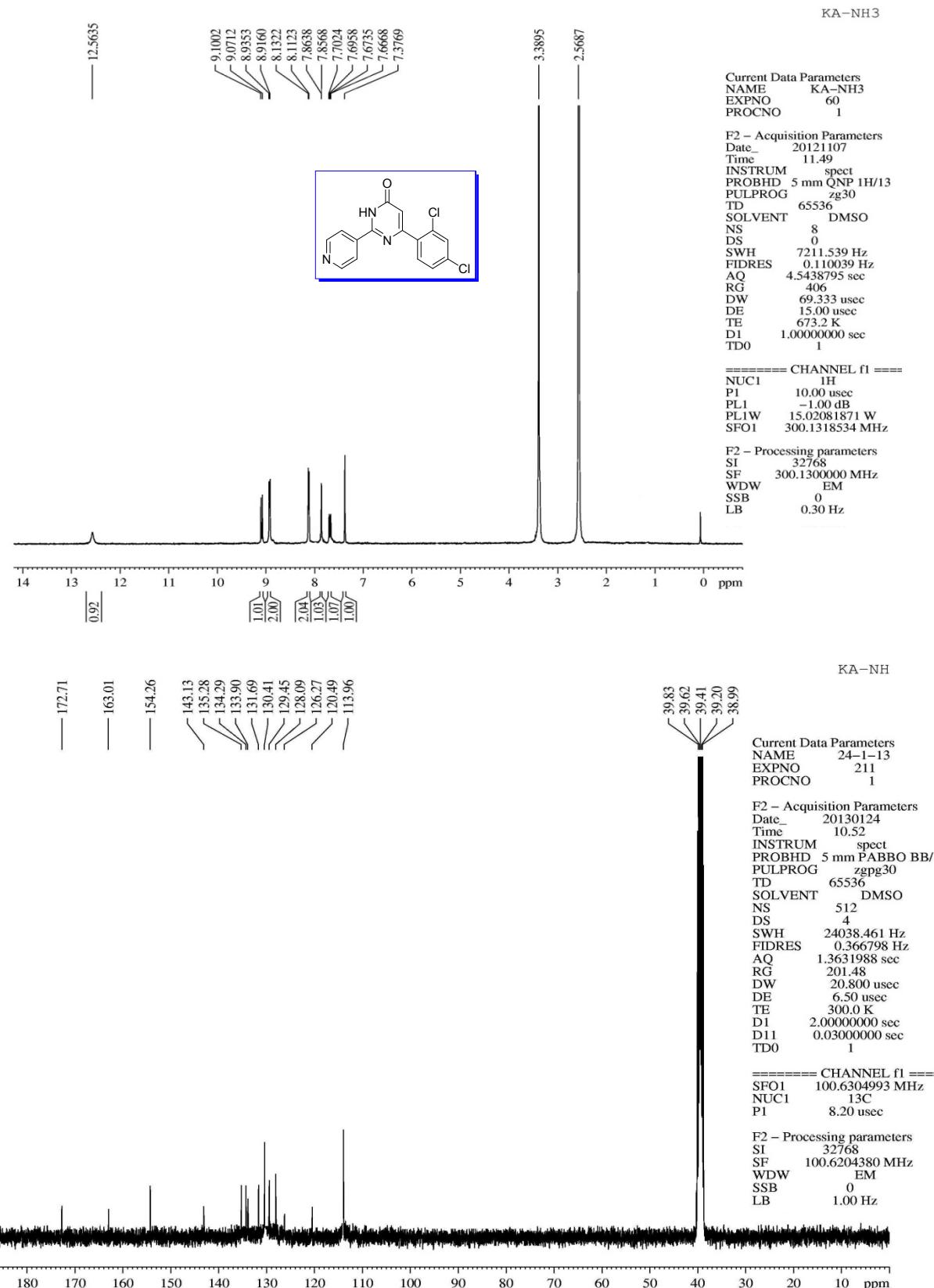
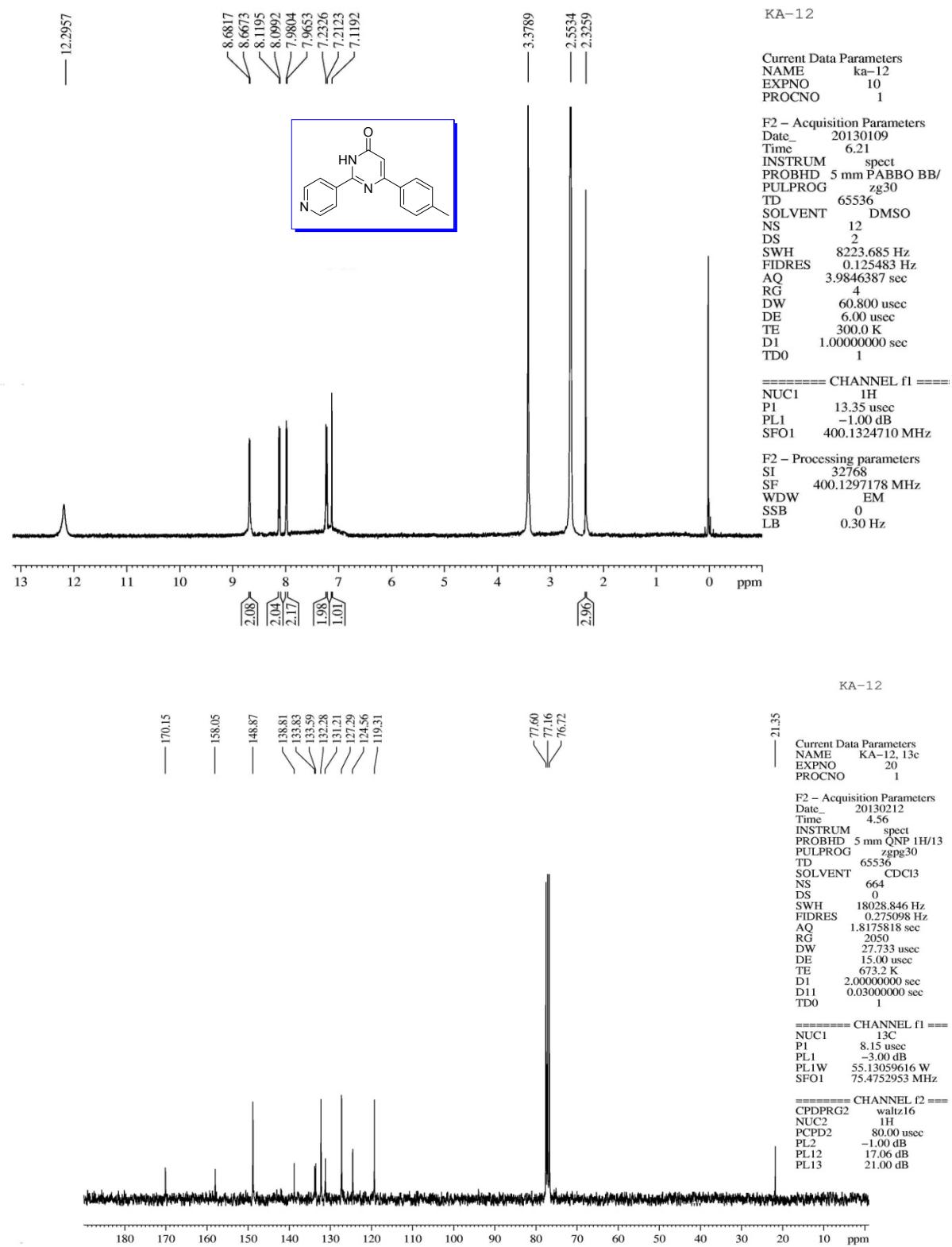
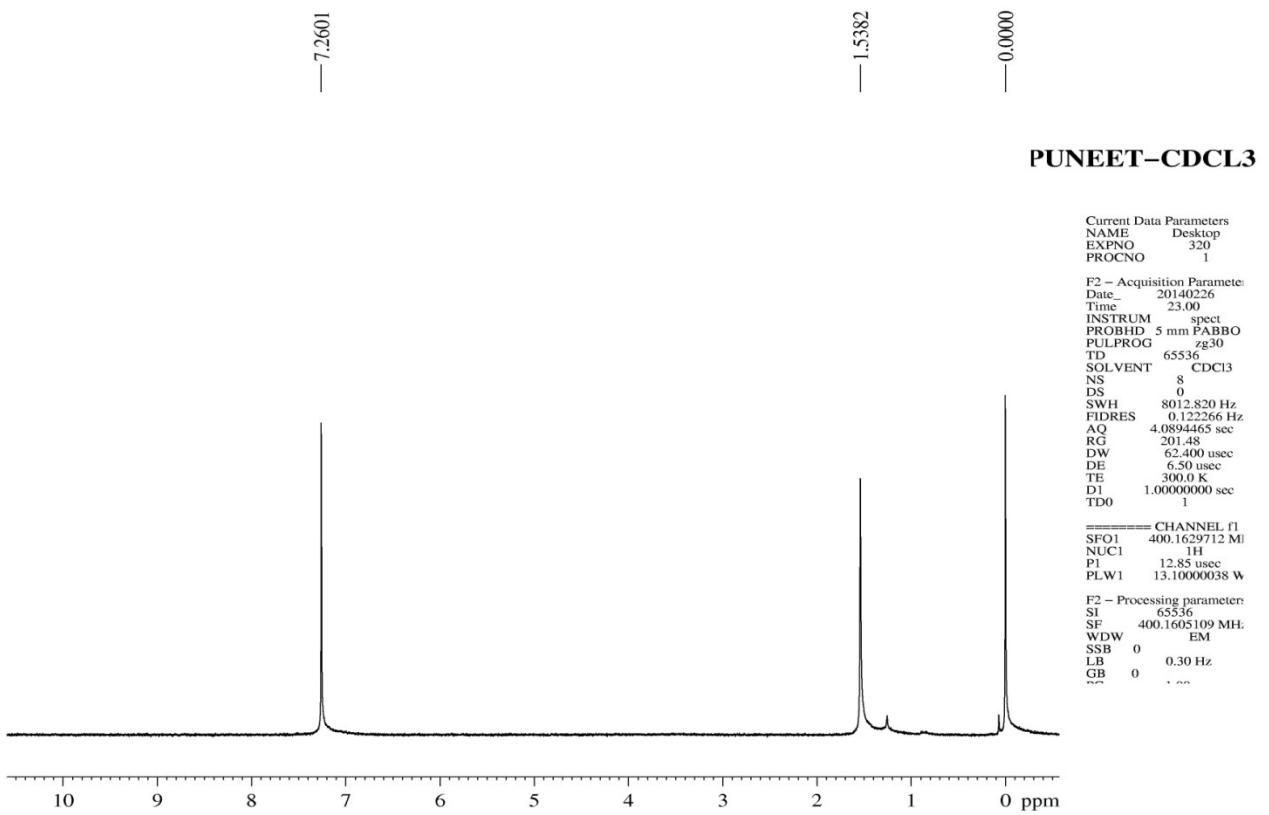


Figure 42: <sup>1</sup>H and <sup>13</sup>C Spectra of compound 5n



**Figure 43:  $^1\text{H}$  and  $^{13}\text{C}$  Spectra of compound 50**





**Figure 45:  $^1\text{H}$  Spectra of  $\text{CDCl}_3$**