

## Supplementary Material

### New pyrazole derivatives of potential biological activity

Abdel-Rahman Farghaly,<sup>a,b</sup> Sabah Esmail,<sup>c</sup> Ali Abdel-Hafez,<sup>a</sup> Patrice Vanelle,<sup>d</sup>  
and Hussein El-Kashef<sup>a</sup>

<sup>a</sup> *Chemistry Department, Faculty of Science, Assiut University, Assiut 71516, Egypt*

<sup>b</sup> *Current address: Chemistry Department, Faculty of Science, Jazan University,  
Jazan 2097, KSA*

<sup>c</sup> *Chemistry Department, Faculty of Science, Ibb University, Yemen*

<sup>d</sup> *Laboratoire de Pharmaco-Chimie Radicalaire, Faculté de Pharmacie, Institut de Chimie  
Radicalaire ICR, UMR 7273, Aix-Marseille Univ., CNRS, 27 Bd Jean Moulin, CS 30064,  
13385 Marseille Cedex 05, France*

*E-mail: [elkashef15@hotmail.com](mailto:elkashef15@hotmail.com)*

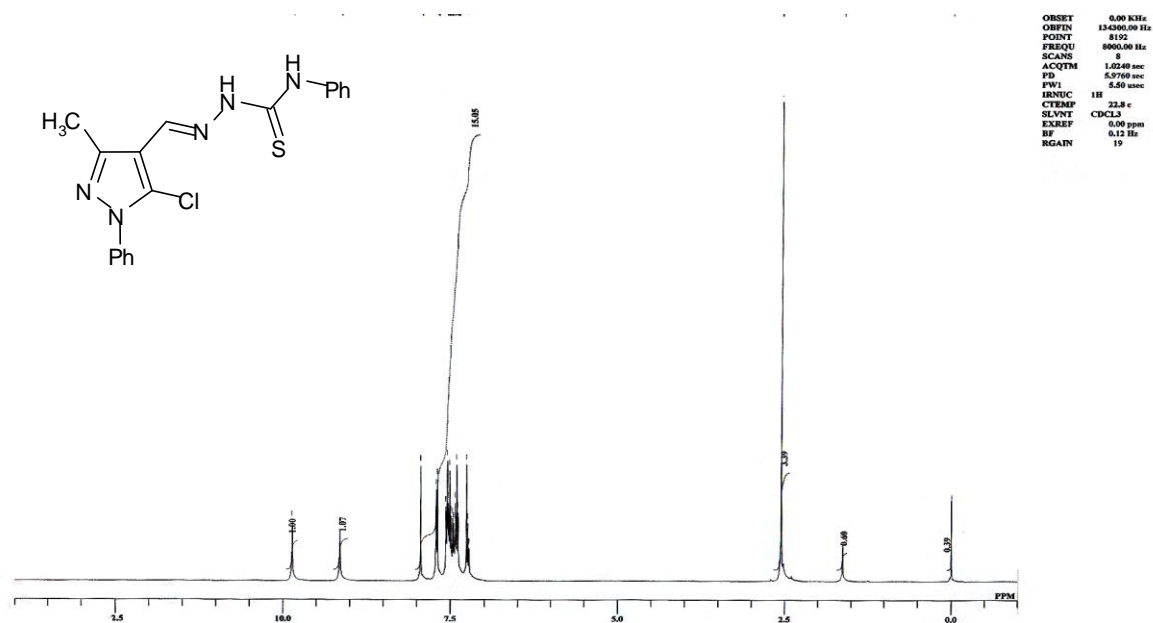
**Dedicated to Professor Keith Smith on the occasion of his 65th anniversary**

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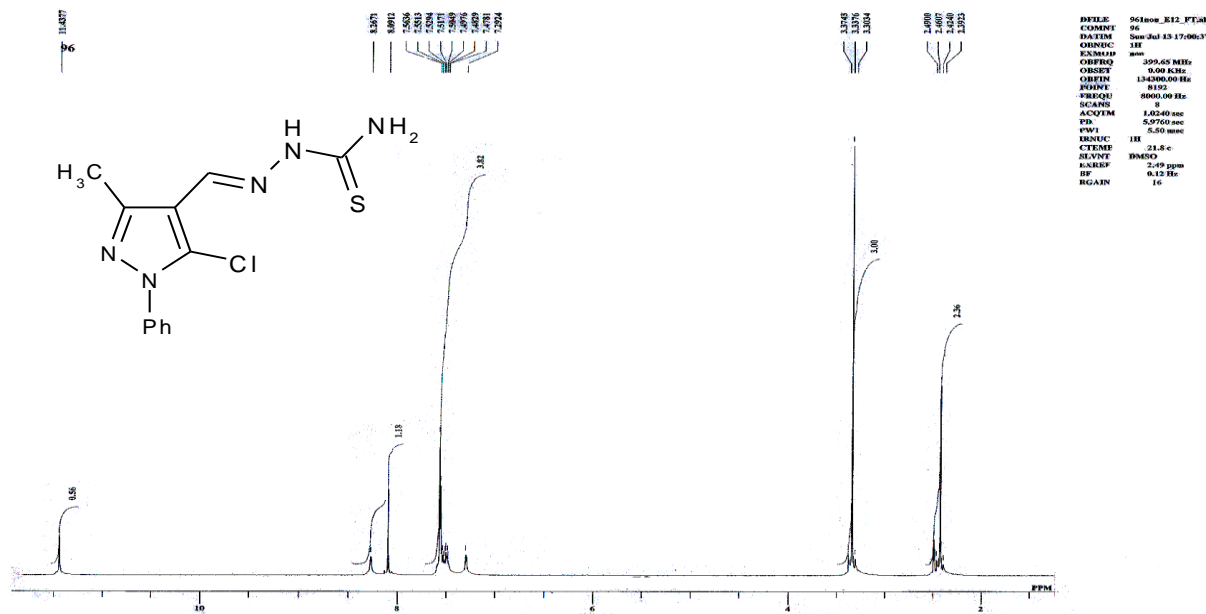
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## General Information

Melting points were measured on Stuart melting point apparatus (Bibby Scientific) SMP3. The IR spectra were recorded on a Shimadzu 470 IR-Spectrophotometer using KBr wafer technique. The  $^1\text{H}$  NMR spectra were recorded on a Bruker ARX 200 spectrometer (200 MHz for  $^1\text{H}$  and 50 MHz for  $^{13}\text{C}$ ) at the Faculty of Pharmacy, University of Aix Marseille, France, and on a Jeol LA 400 MHz (400 MHz for  $^1\text{H}$ , 100 MHz for the  $^{13}\text{C}$ ) at Assiut university,  $^1\text{H}$  and  $^{13}\text{C}$  NMR chemical shifts ( $\delta$ ) were reported in parts per million (ppm) and were referenced to the solvent peak;  $\text{CDCl}_3$  (7.26 ppm for  $^1\text{H}$  and 76.90 ppm for  $^{13}\text{C}$ ) and  $\text{DMSO-d}_6$  (2.50 ppm for  $^1\text{H}$  and 39.70 ppm for  $^{13}\text{C}$ ). Multiplicities are represented by s (singlet), d (doublet), t (triplet), q (quartet) and m (multiplet). Coupling constants ( $J$ ) are reported in Hertz (Hz). Mass spectra were obtained with a Jeol JMS-600 mass spectrometer (Assiut University). Elemental analyses were carried out using a Perkin-Elmer 240C Microanalyzer (Microanalytical Laboratory), Faculty of Science, Assiut University and the results were in an acceptable range ( $\pm 0.4\%$ ). All other solvents, reagents and chemicals were used as purchased unless stated otherwise.



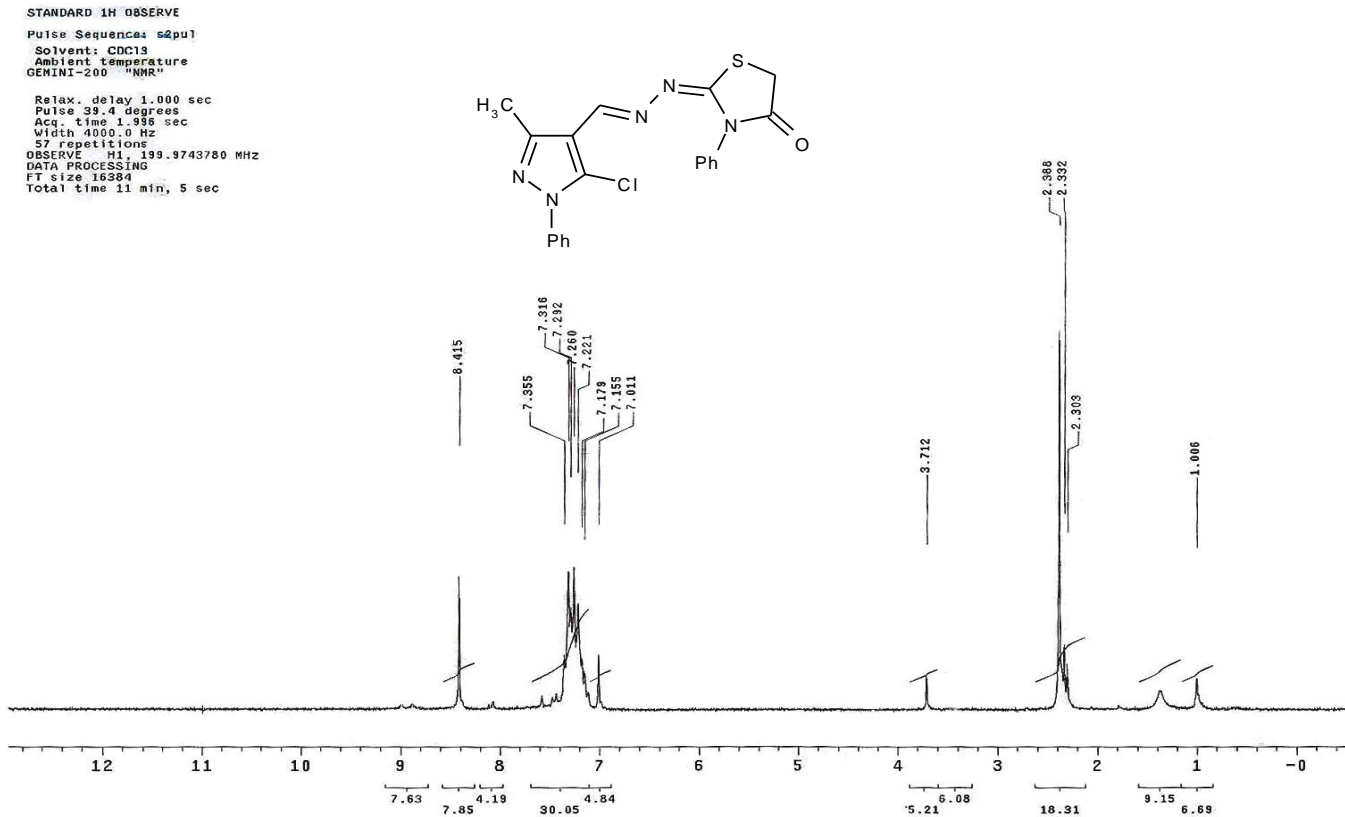
***N*<sup>1</sup>-((5-Chloro-3-methyl-1-phenyl-1*H*-pyrazol-4-yl)methylene)-*N*<sup>4</sup>-phenylthiosemicarbazone (3)**



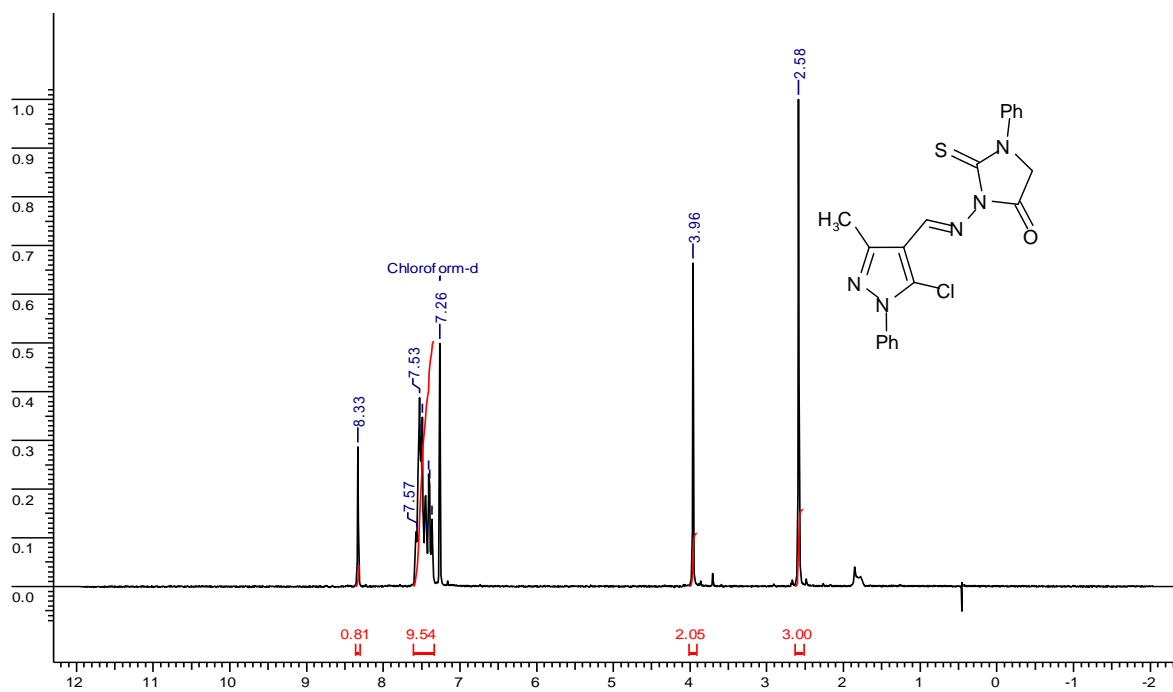
***N*<sup>1</sup>-((5-Chloro-3-methyl-1-phenyl-1*H*-pyrazol-4-yl)methylene)thiosemicarbazone (4)**



**2-(2-((5-chloro-3-methyl-1-phenyl-1*H*-pyrazol-4-yl)methylene)hydrazino)-4-phenyl-1,3-thiazole (5)**



**2-((5-Chloro-3-methyl-1-phenyl-1H-pyrazol-4-yl)methylenehydrazono)-3-phenylthiazolidin-4-one (6)**

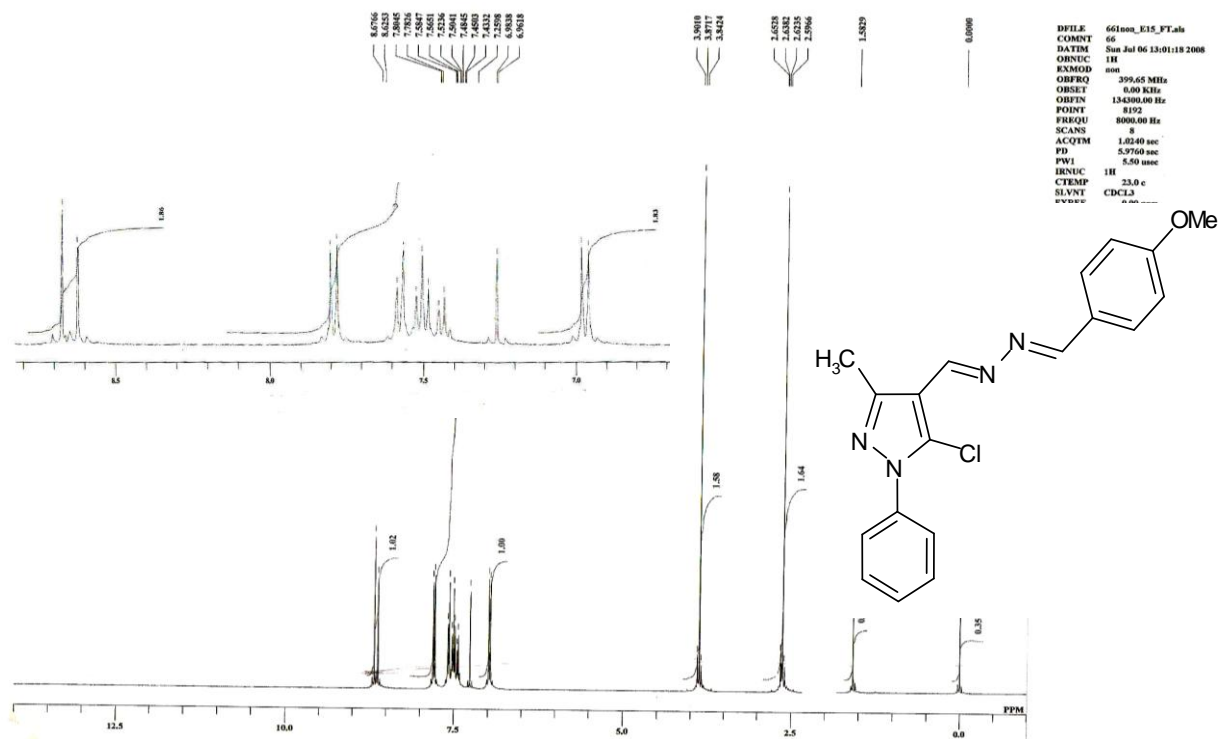


**3-((5-Chloro-3-methyl-1-phenyl-1H-pyrazol-4-yl)methyleneamino)-1-phenyl-2-thioxoimidazolidin-4-one (7)**

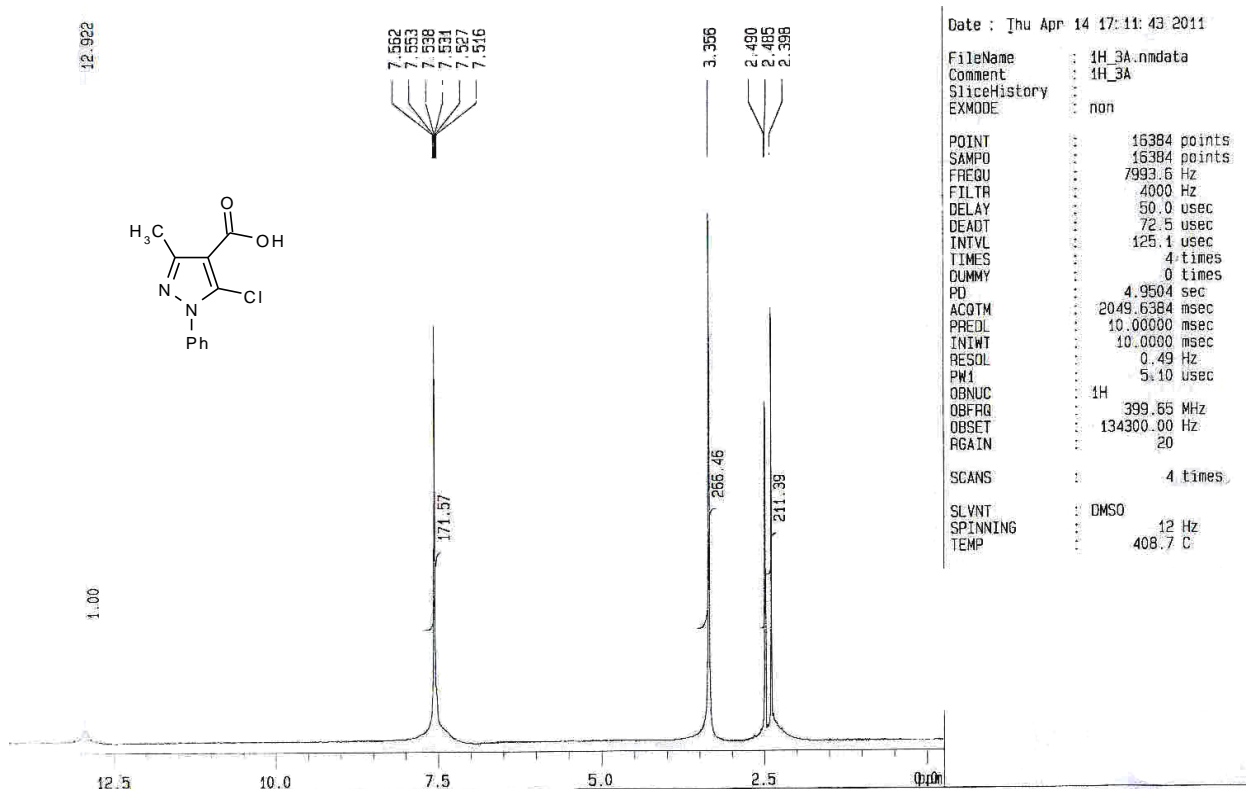






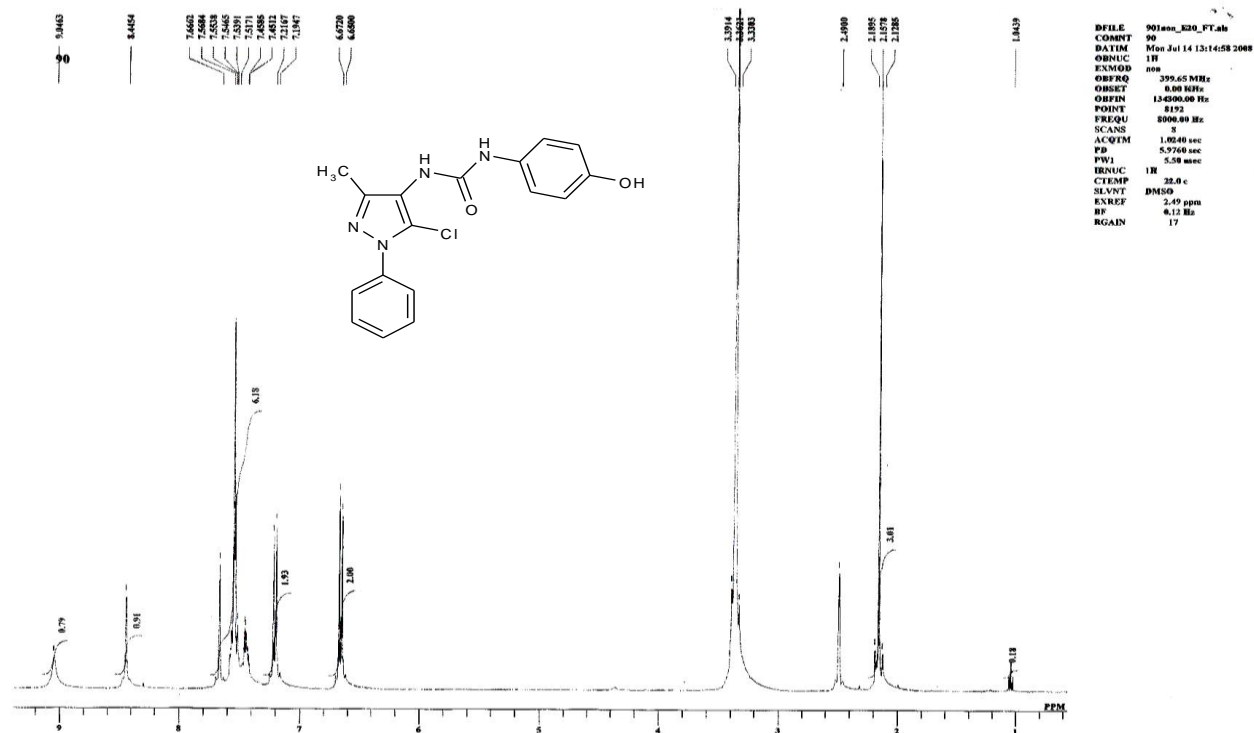


***N*-((5-Chloro-3-methyl-1-phenyl-1*H*-pyrazol-4-yl)methylene)-*N'*-(4-methoxybenzylidene)-hydrazine (**8d**)**

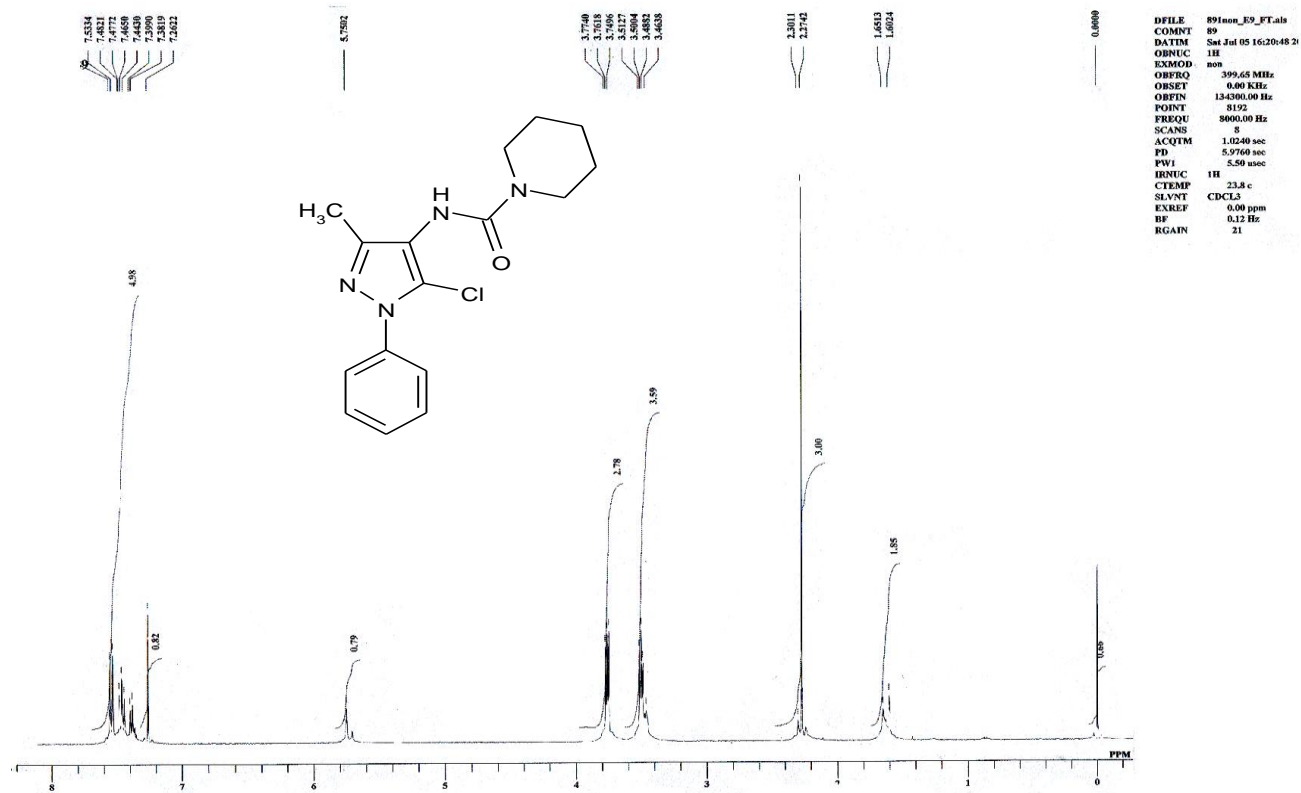


**5-Chloro-3-methyl-1-phenyl-1H-pyrazole-4-carboxylic acid (9)**

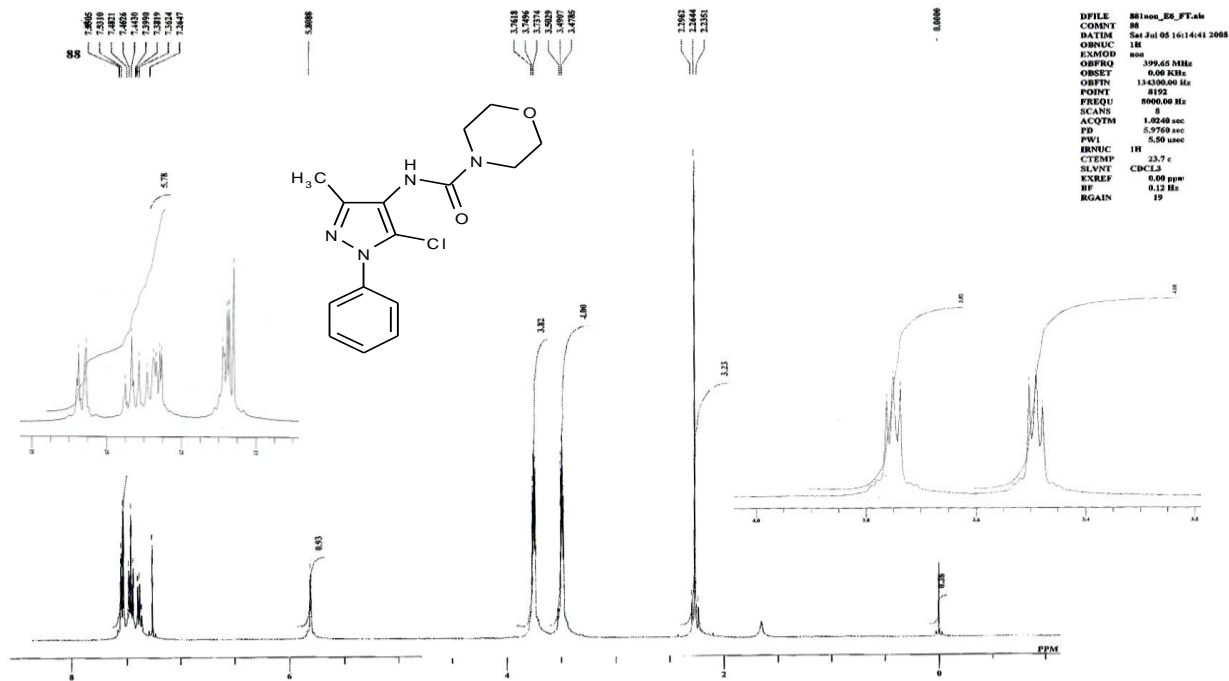




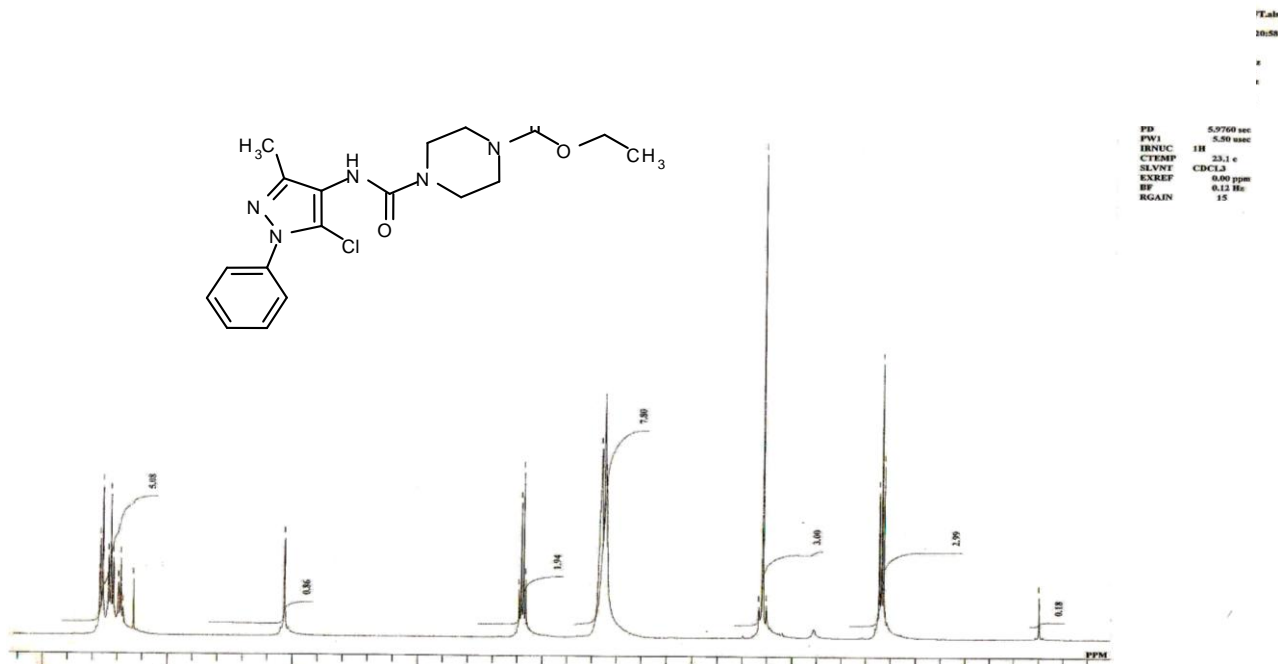
*N*<sup>1</sup>-(5-Chloro-3-methyl-1-phenyl-1*H*-pyrazol-4-yl)-*N*<sup>3</sup>-(4-hydroxyphenyl)urea (13d)



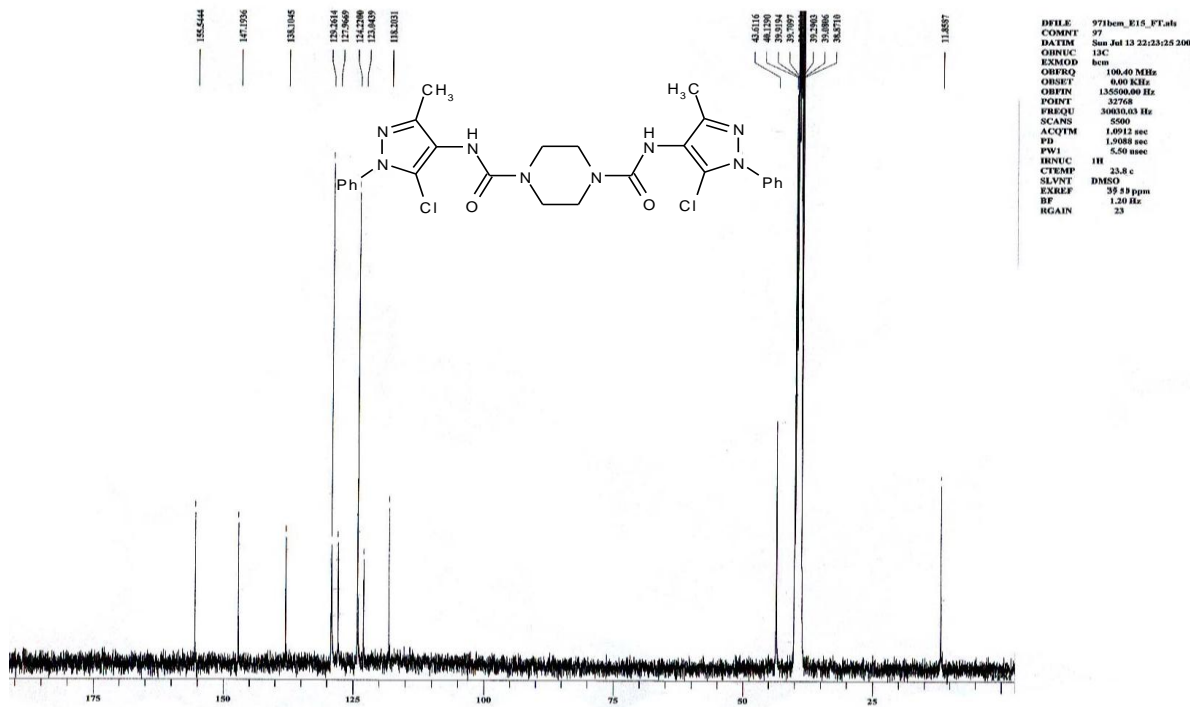
5-Chloro-3-methyl-1-phenyl-1H-4-(piperidinocarbonylamino)pyrazole (14a)



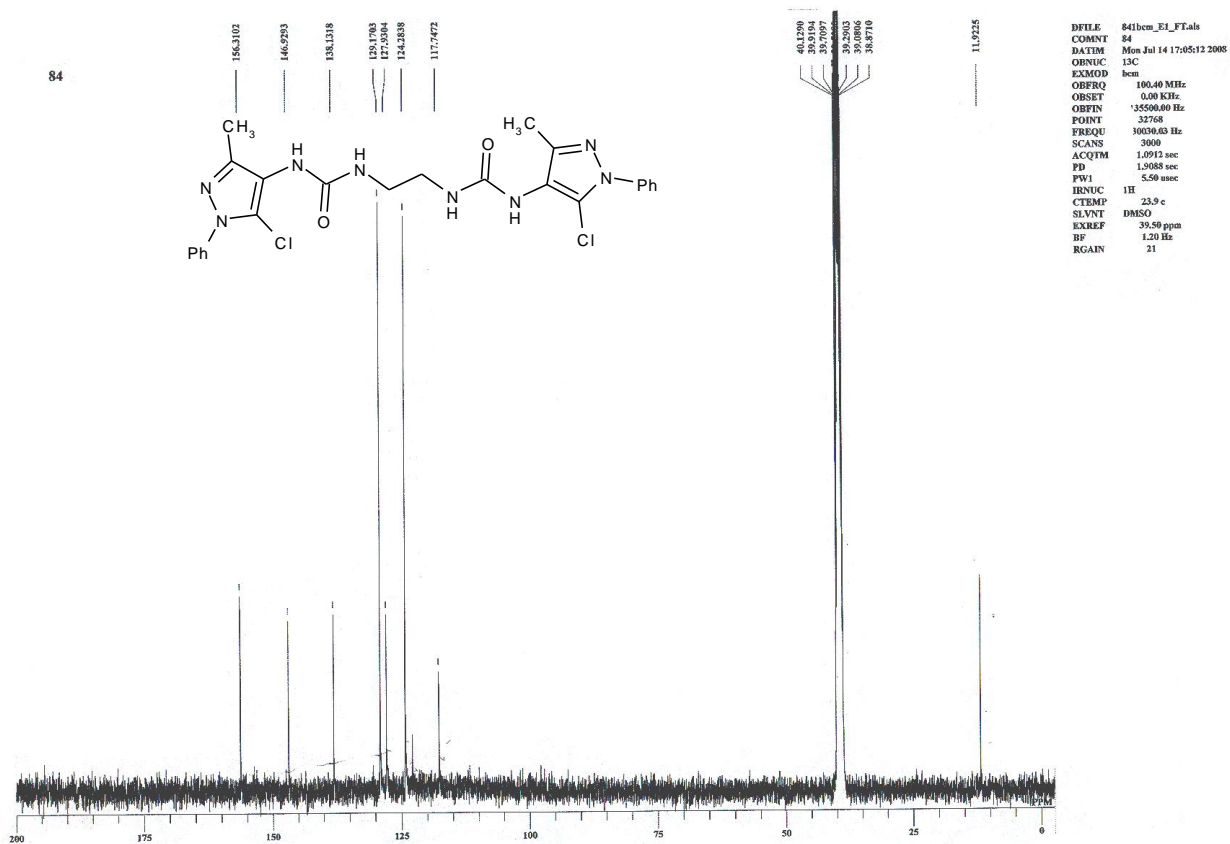
**5-Chloro-3-methyl-1-phenyl-1H-4-(morpholinocarbonylamino)pyrazole (14b).**



**Ethyl 4-(5-chloro-3-methyl-1-phenyl-1H-pyrazol-4-ylcarbamoyl)piperazine-1-carboxylate (14c)**

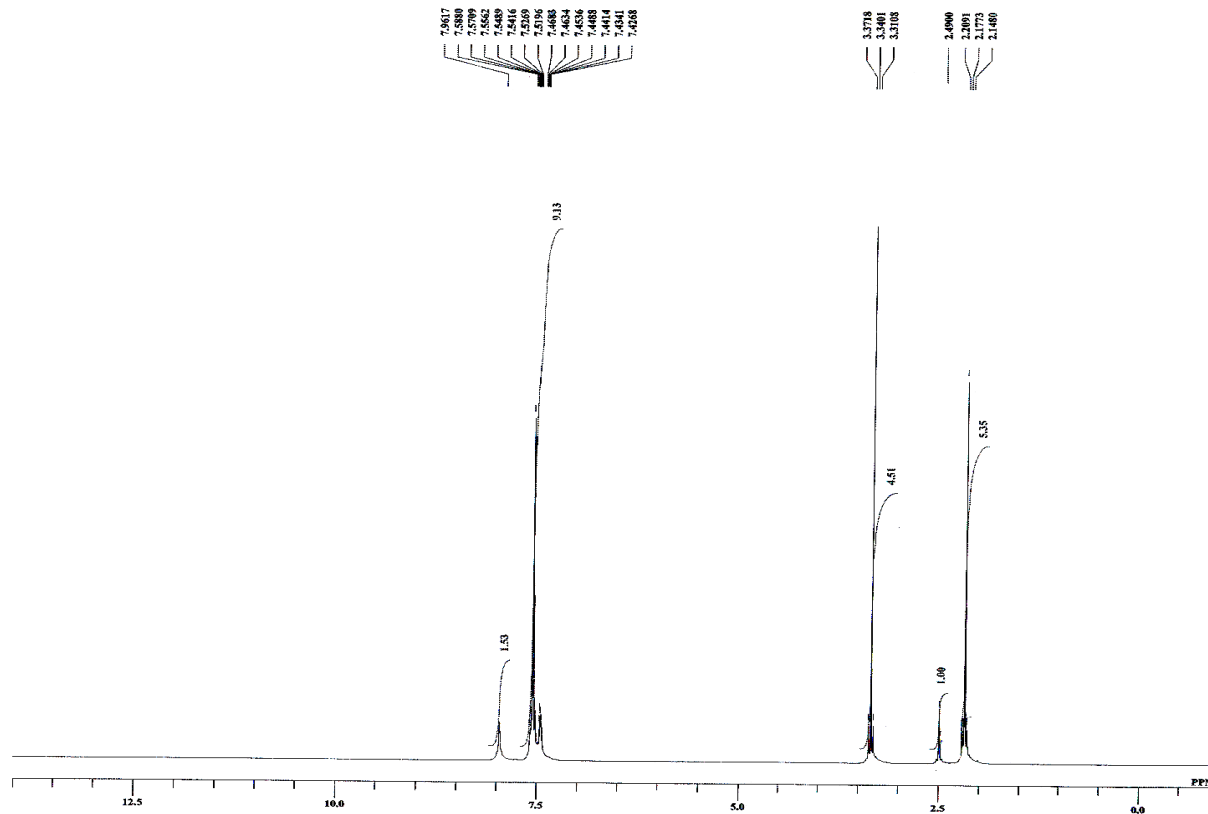


$N^1,N^4$ -Bis-(5-chloro-3-methyl-1-phenyl-1H-pyrazol-4-yl)piperazine-1,4-dicarboxamide (15)



1,4-Di(3-(5-chloro-3-methyl-1-phenyl-1H-pyrazol-4-yl)ureido)ethane (17)





$N^1, N^3$ -Bis(5-chloro-3-methyl-1-phenyl-1H-pyrazol-4-yl)urea (18)