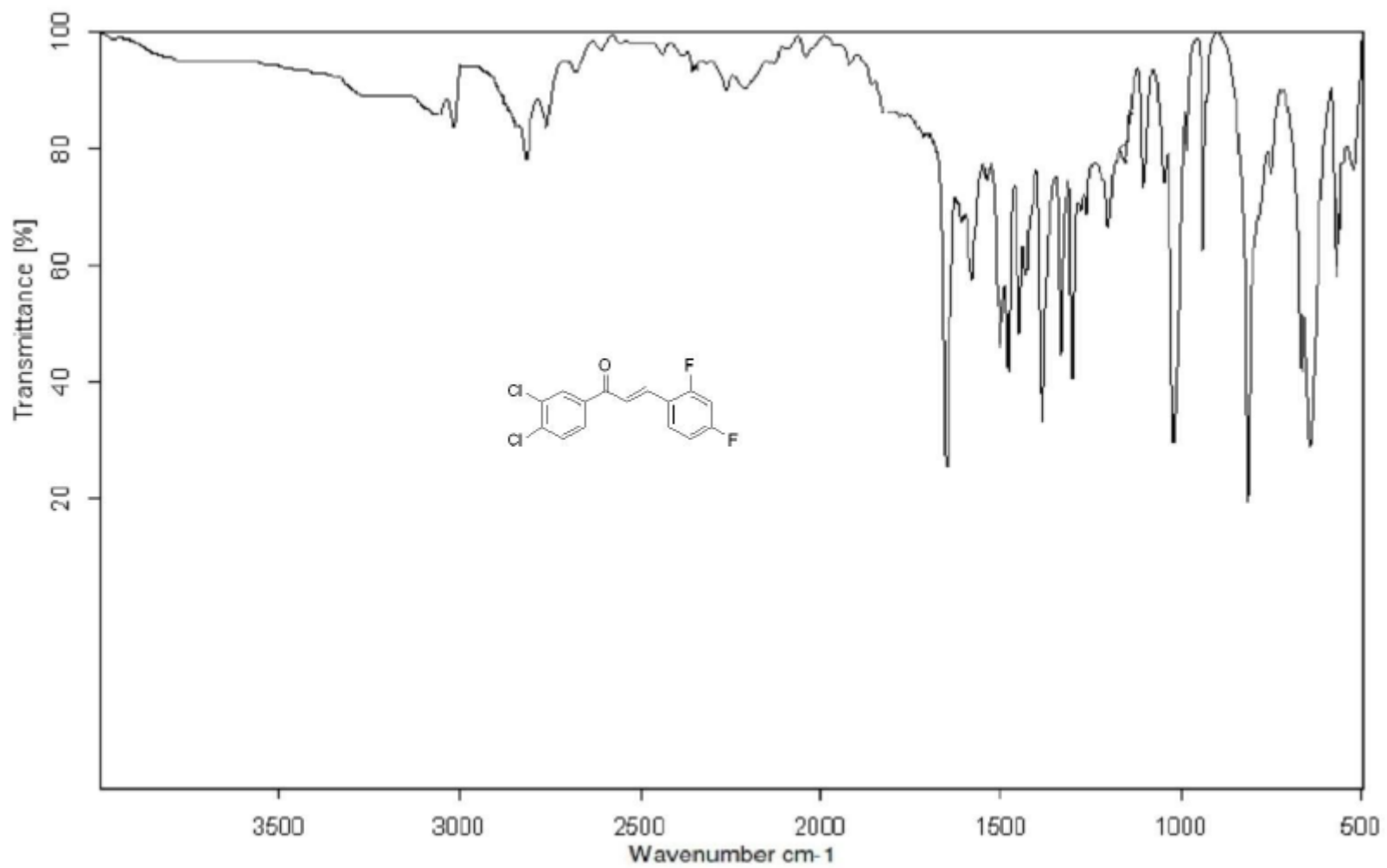


**Design, Facile Synthesis and Characterization of Dichloro-Substituted Chalcones and Dihydropyrazole Derivatives for Their Antifungal, Antitubercular and Antiproliferative Activities**

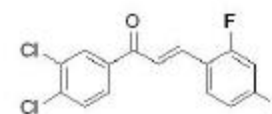
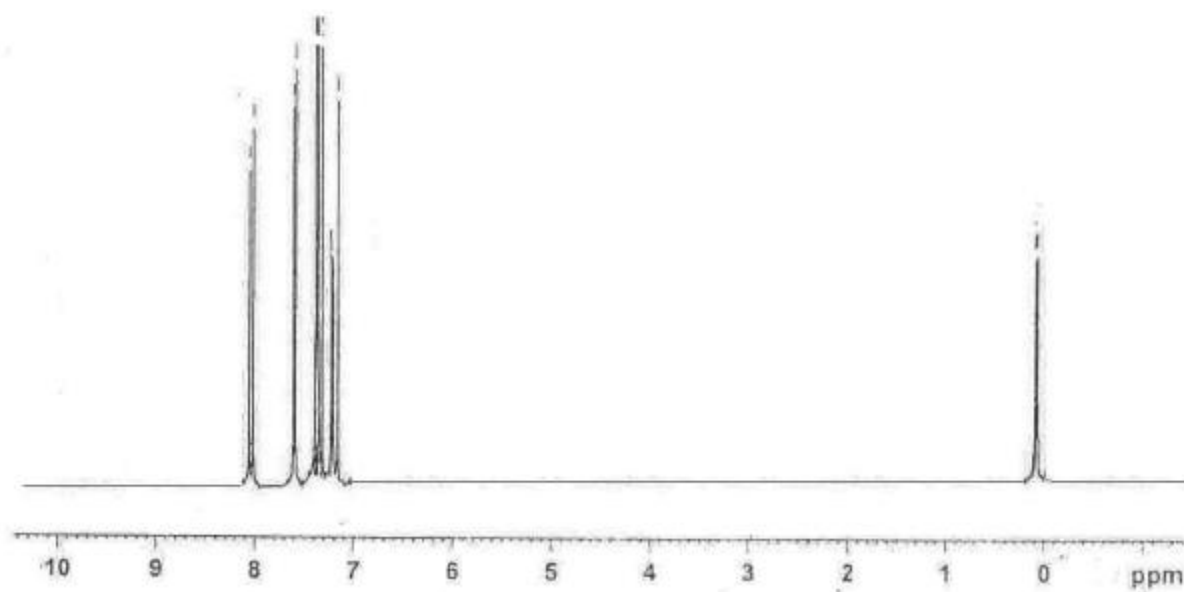
**Supporting Information**

**FT-IR, <sup>1</sup>H-NMR, <sup>13</sup>C-NMR, and MS Spectral Data and *R<sub>f</sub>* values**

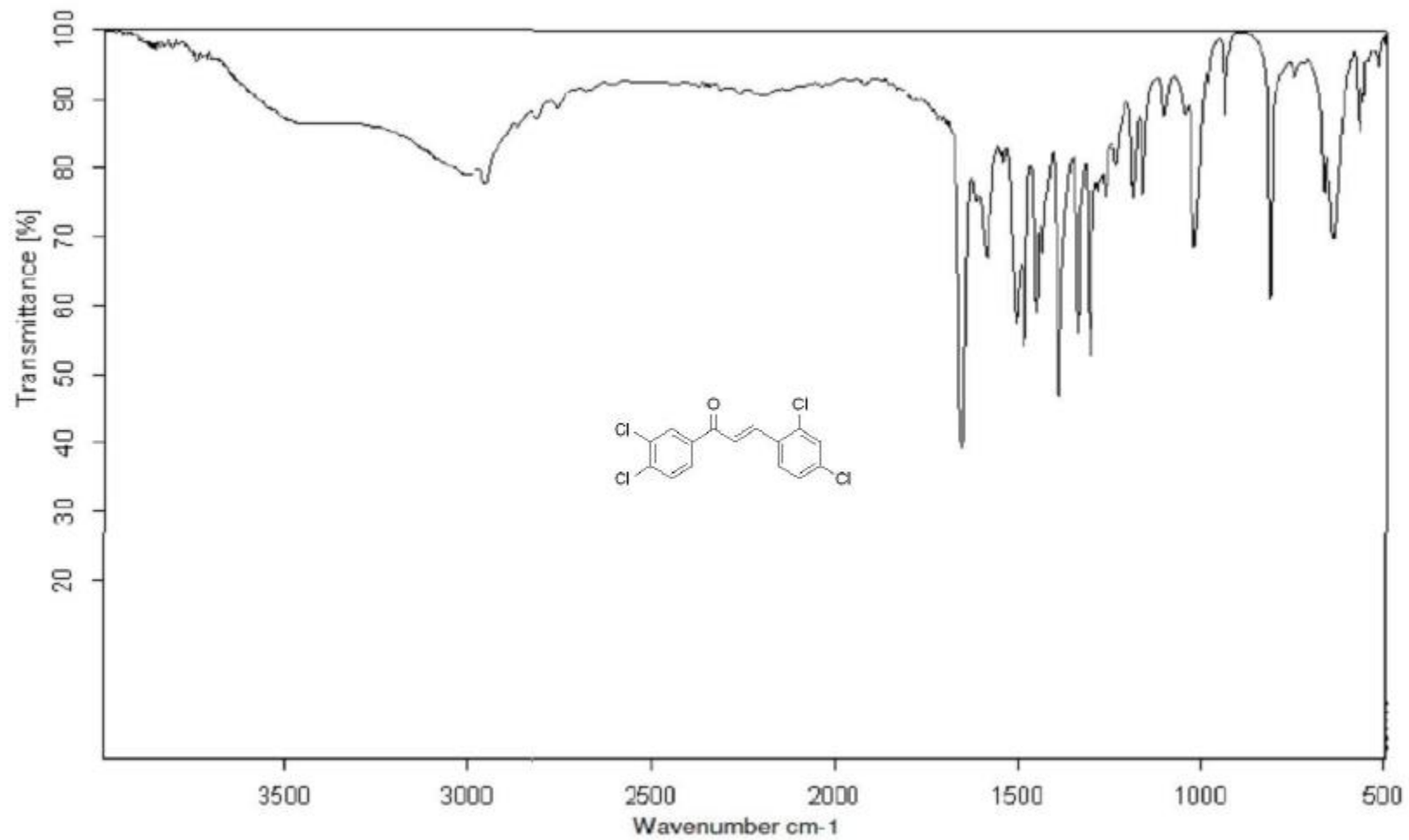


IR spectrum of (E)-1-(3,4-dichlorophenyl)-3-(2,4-difluorophenyl)prop-2-en-1-one (7).

<sup>1</sup>H CDC13

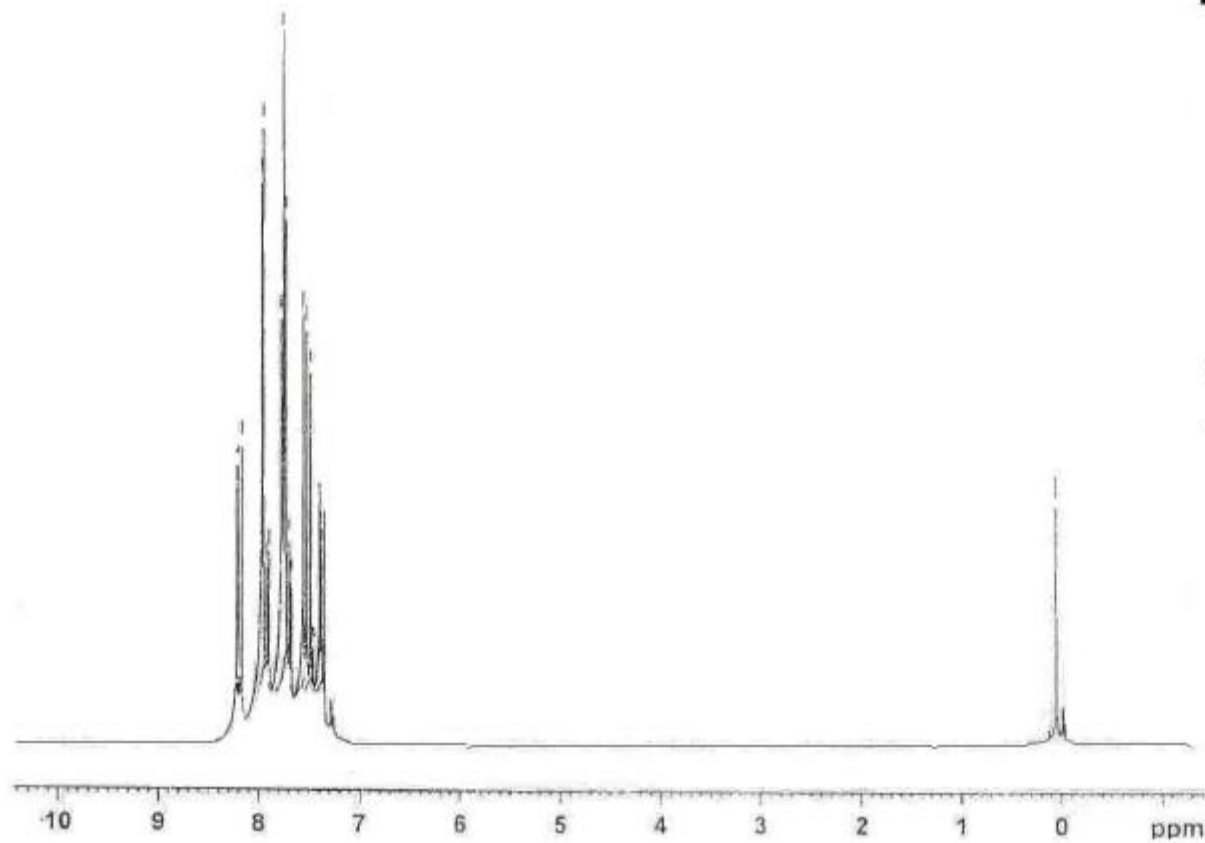


<sup>1</sup>H-NMR spectrum of (*E*)-1-(3,4-dichlorophenyl)-3-(2,4-difluorophenyl)prop-2-en-1-one (7).

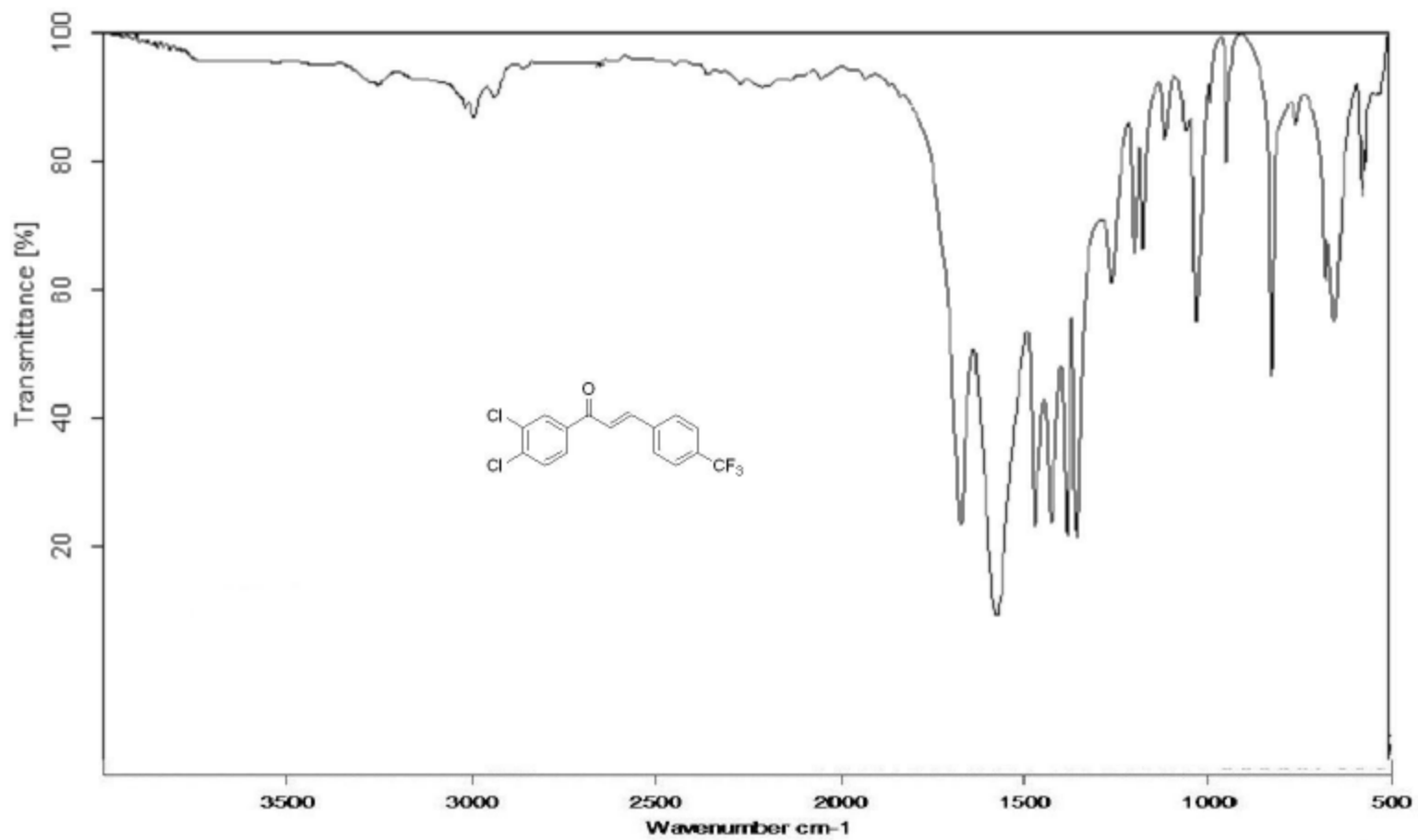


IR spectrum of (*E*)-1-(3,4-dichlorophenyl)-3-(2,4-dichlorophenyl)prop-2-en-1-one (**8**).

$^1\text{H}$  CDC13

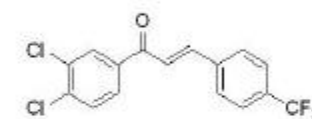
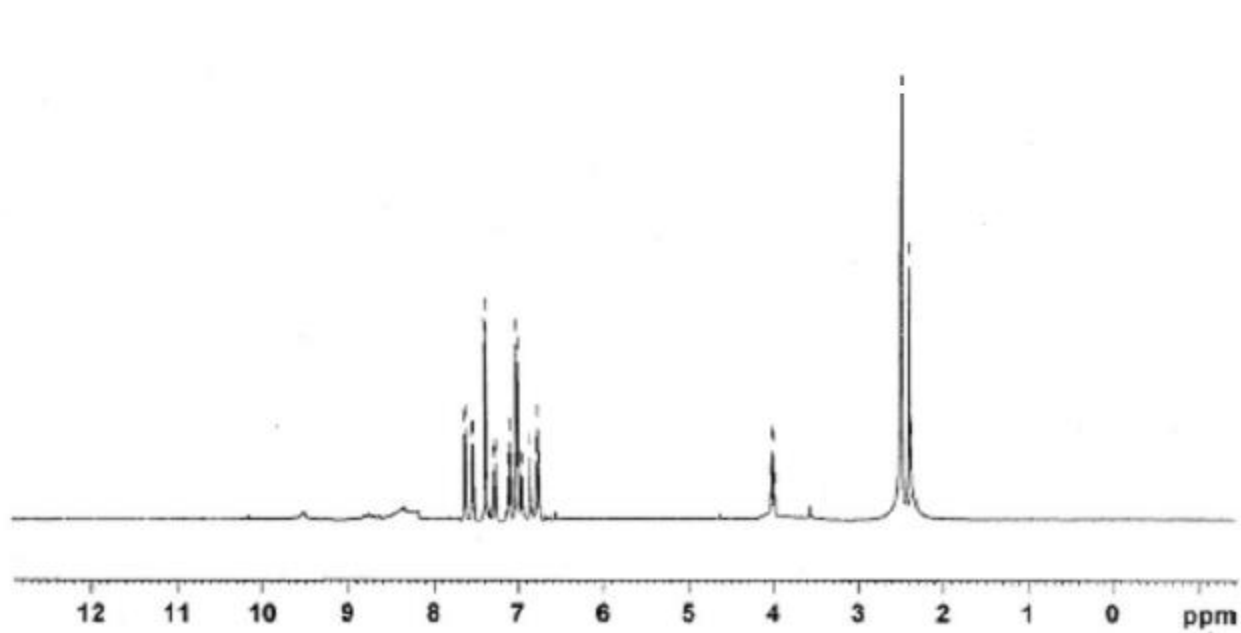


$^1\text{H}$ -NMR spectrum of (*E*)-1-(3,4-dichlorophenyl)-3-(2,4-dichlorophenyl)prop-2-en-1-one (**8**).

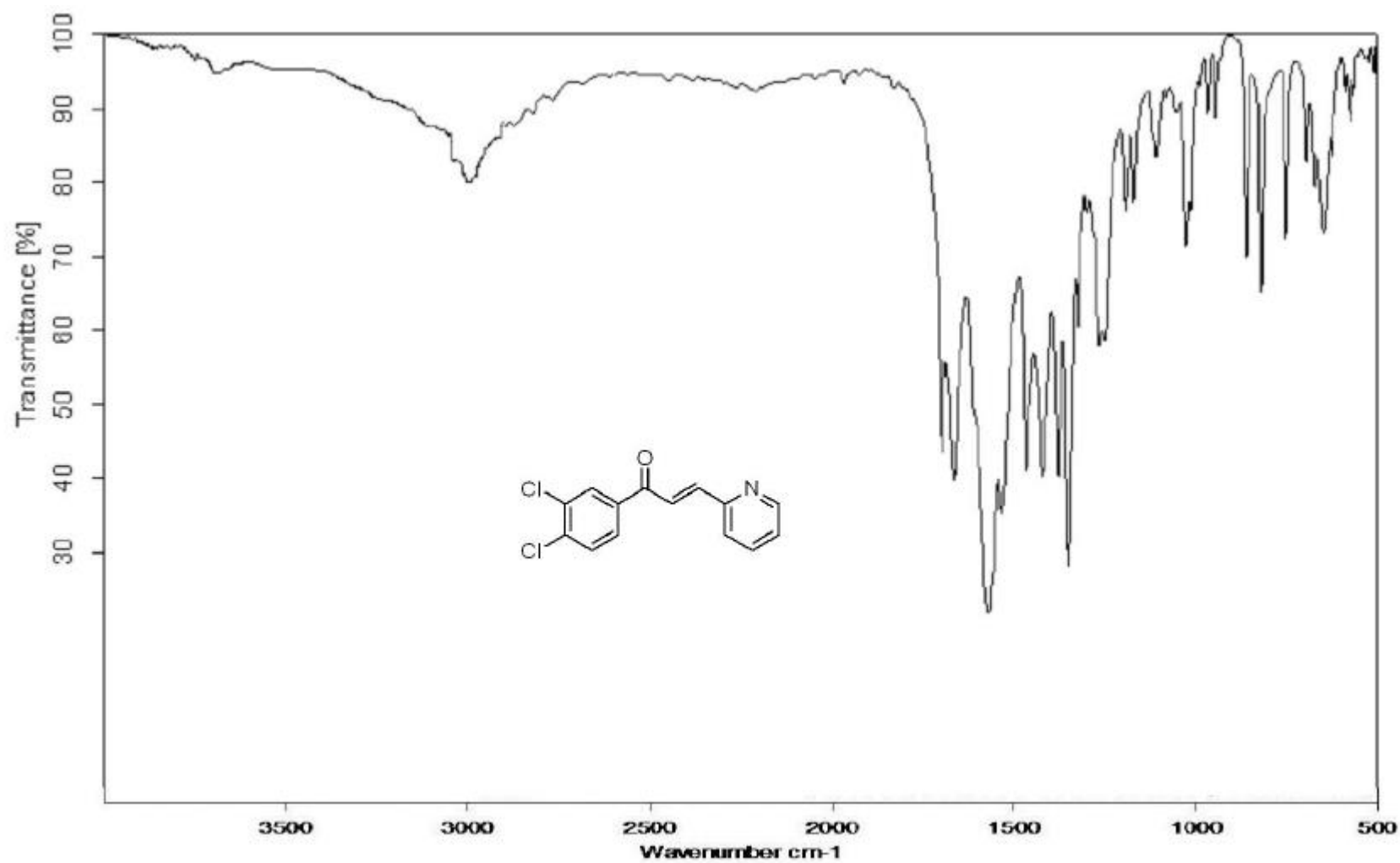


IR spectrum of (*E*)-1-(3,4-dichlorophenyl)-3-(4-(trifluoromethyl)phenyl)prop-2-en-1-one (9).

$^1\text{H}$   $\text{CDCl}_3$



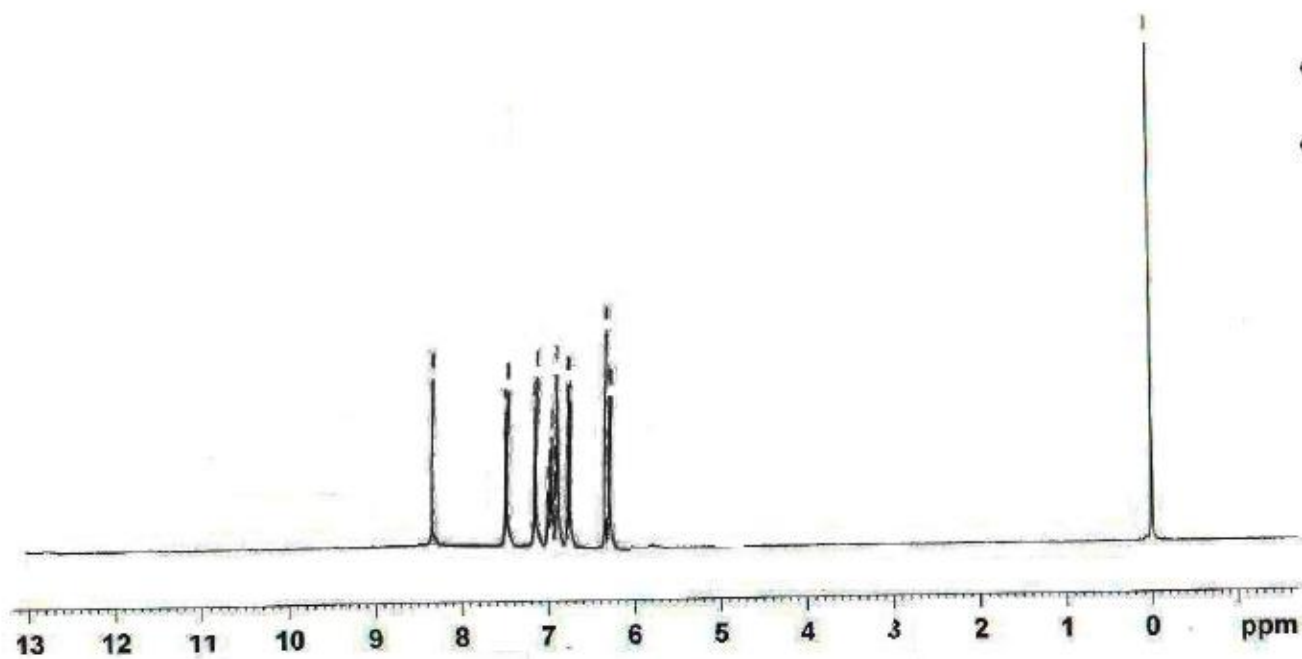
$^1\text{H}$ -NMR spectrum of (*E*)-1-(3,4-dichlorophenyl)-3-(4-(trifluoromethyl)phenyl)prop-2-en-1-one (9).



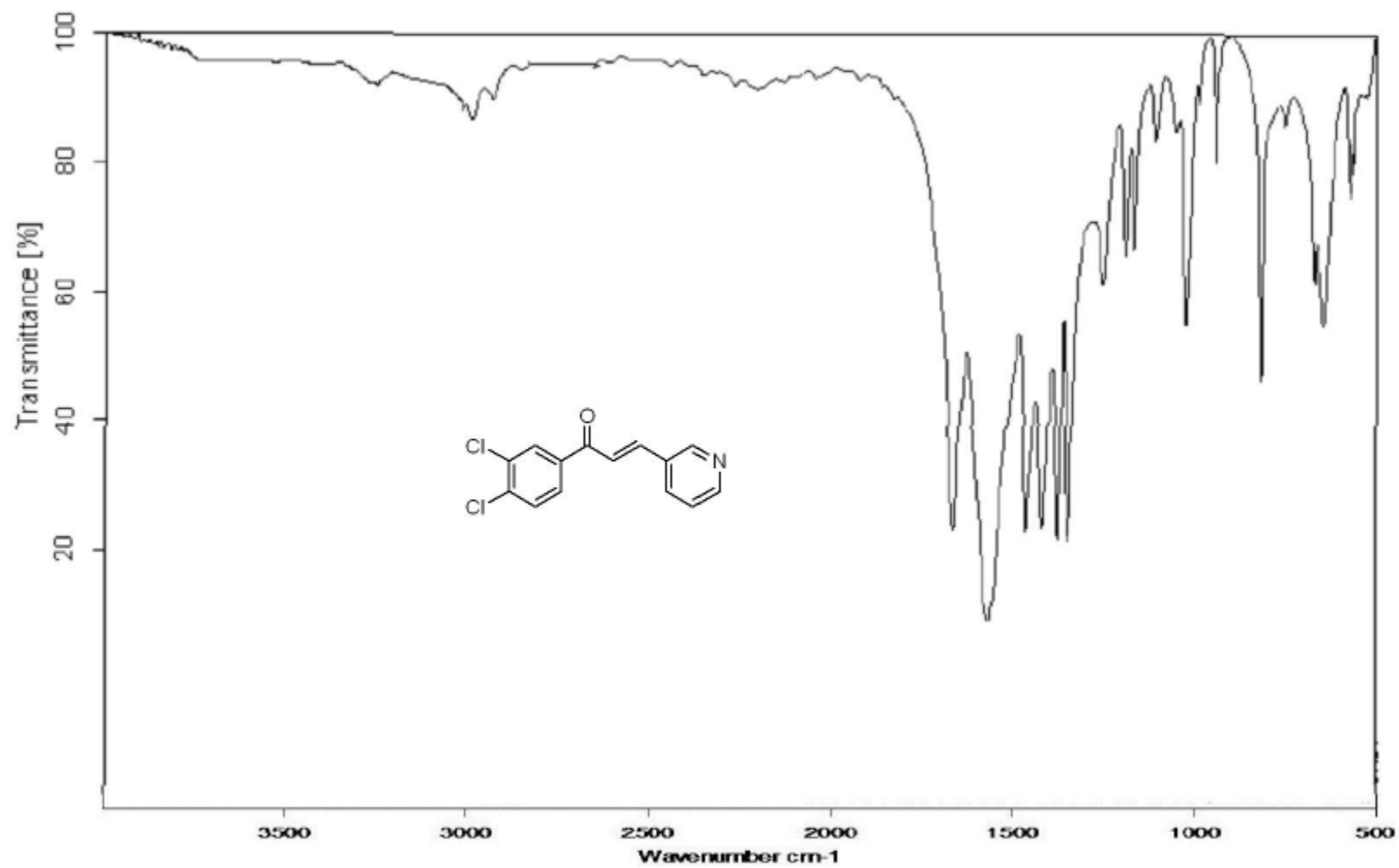
IR spectrum of (*E*)-1-(3,4-dichlorophenyl)-3-(pyridin-2-yl)prop-2-en-1-one (11).



<sup>1</sup>H CDCl<sub>3</sub>

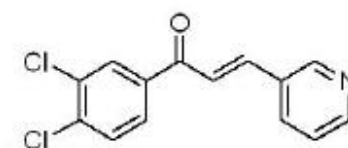
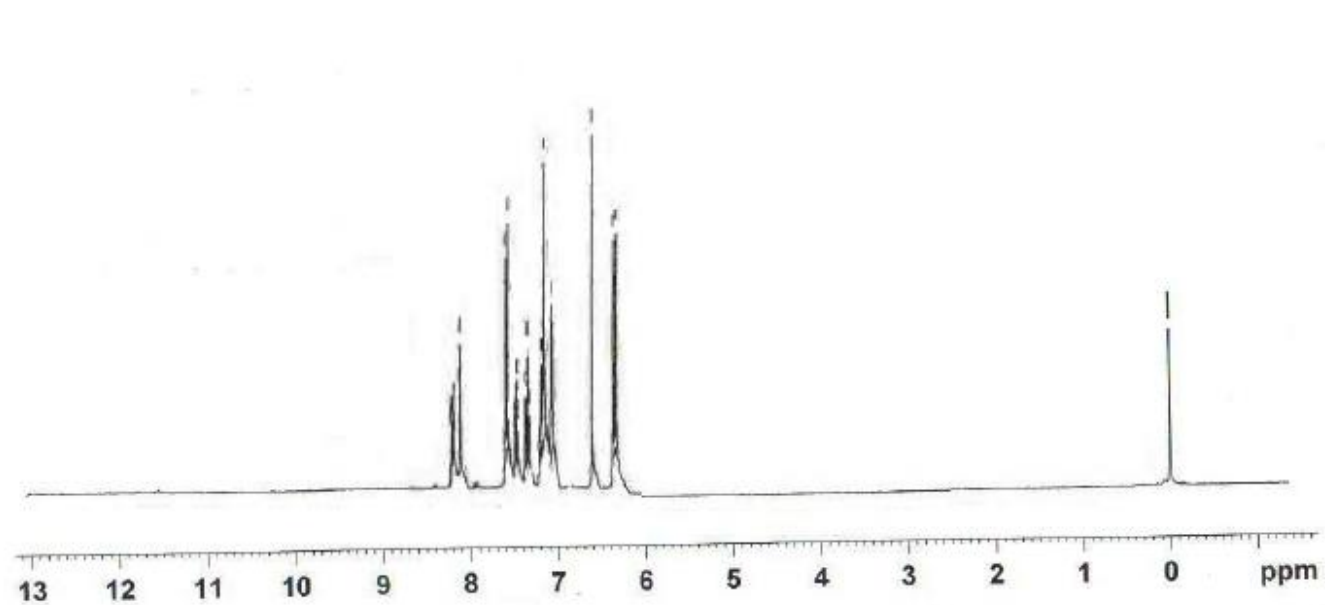


<sup>1</sup>H-NMR spectrum of (*E*)-1-(3,4-dichlorophenyl)-3-(pyridin-2-yl)prop-2-en-1-one (11).

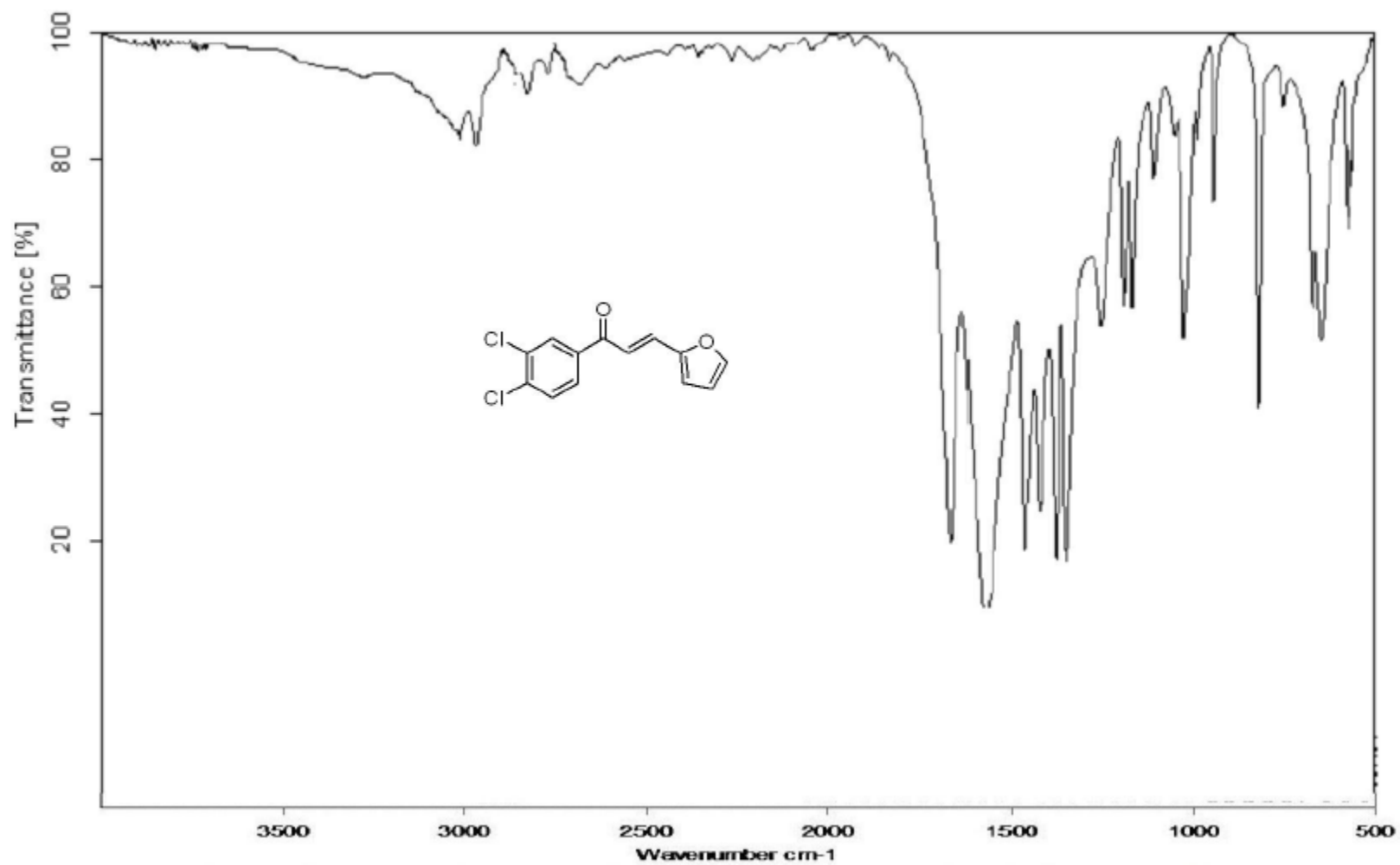


IR spectrum of (E)-1-(3,4-dichlorophenyl)-3-(pyridin-3-yl)prop-2-en-1-one (12).

$^1\text{H}$  CDCl<sub>3</sub>

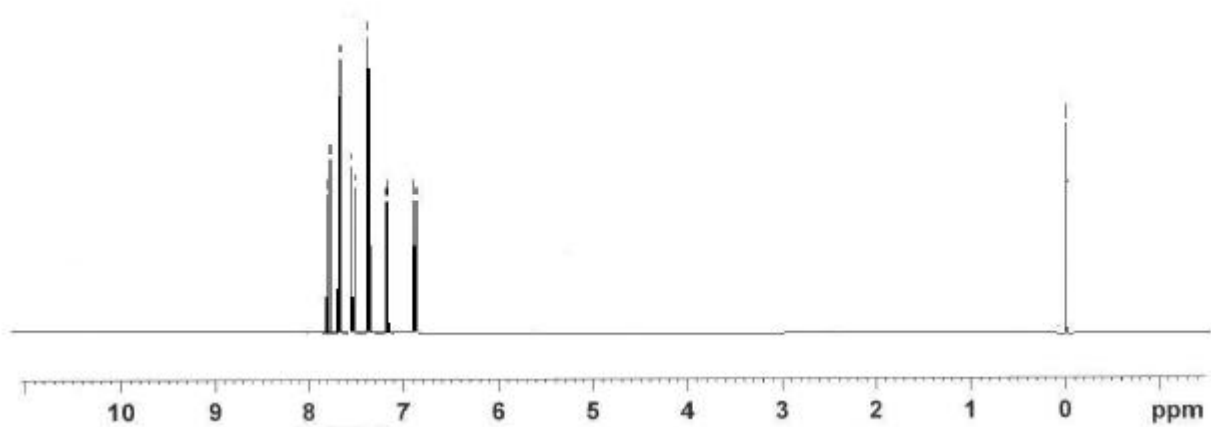
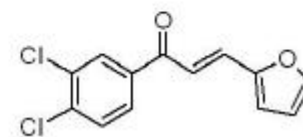


$^1\text{H}$ -NMR spectrum of (*E*)-1-(3,4-dichlorophenyl)-3-(pyridin-3-yl)prop-2-en-1-one (12).

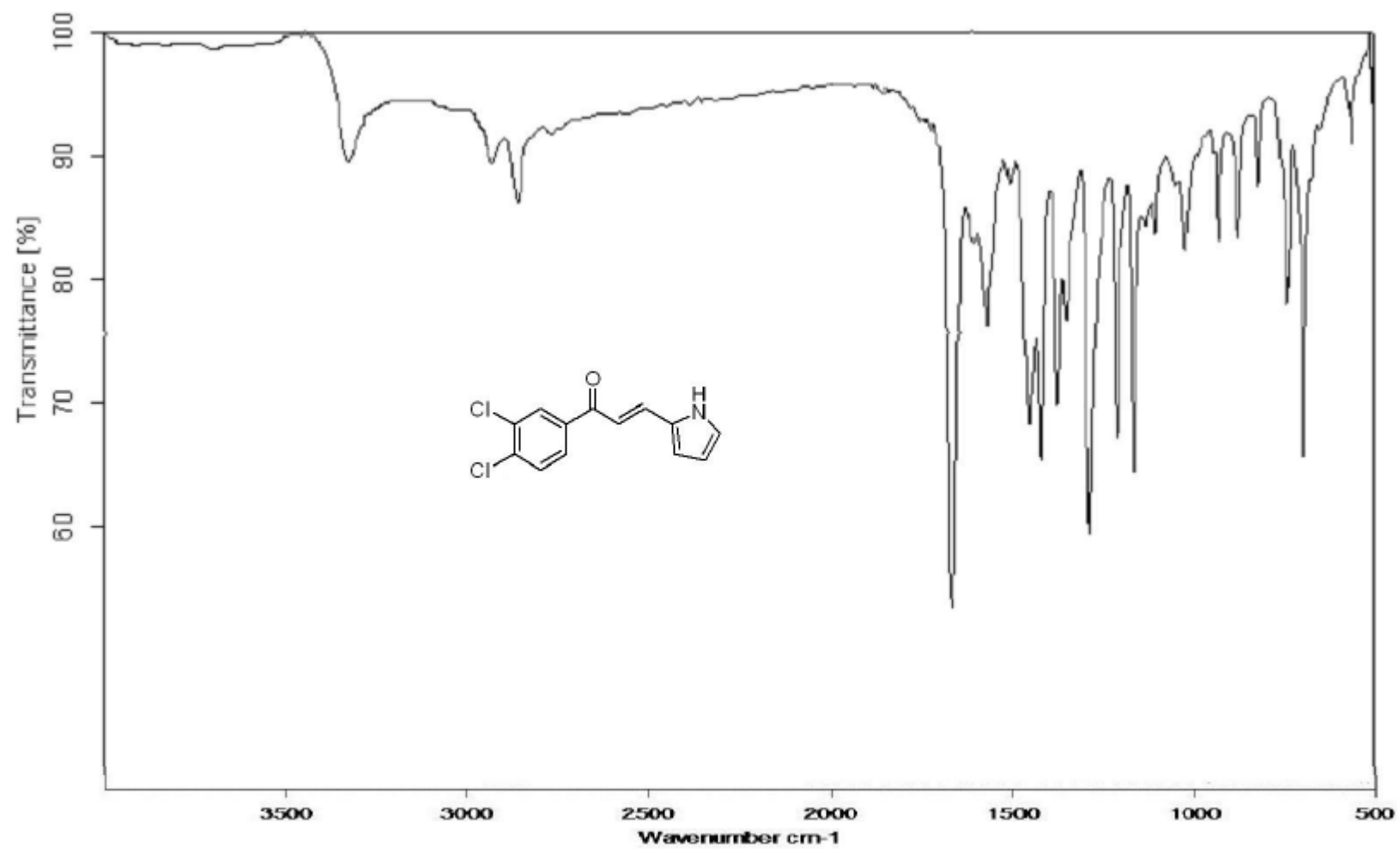


IR spectrum of (*E*)-1-(3,4-dichlorophenyl)-3-(furan-2-yl)prop-2-en-1-one (14).

<sup>1</sup>H CDCl<sub>3</sub>

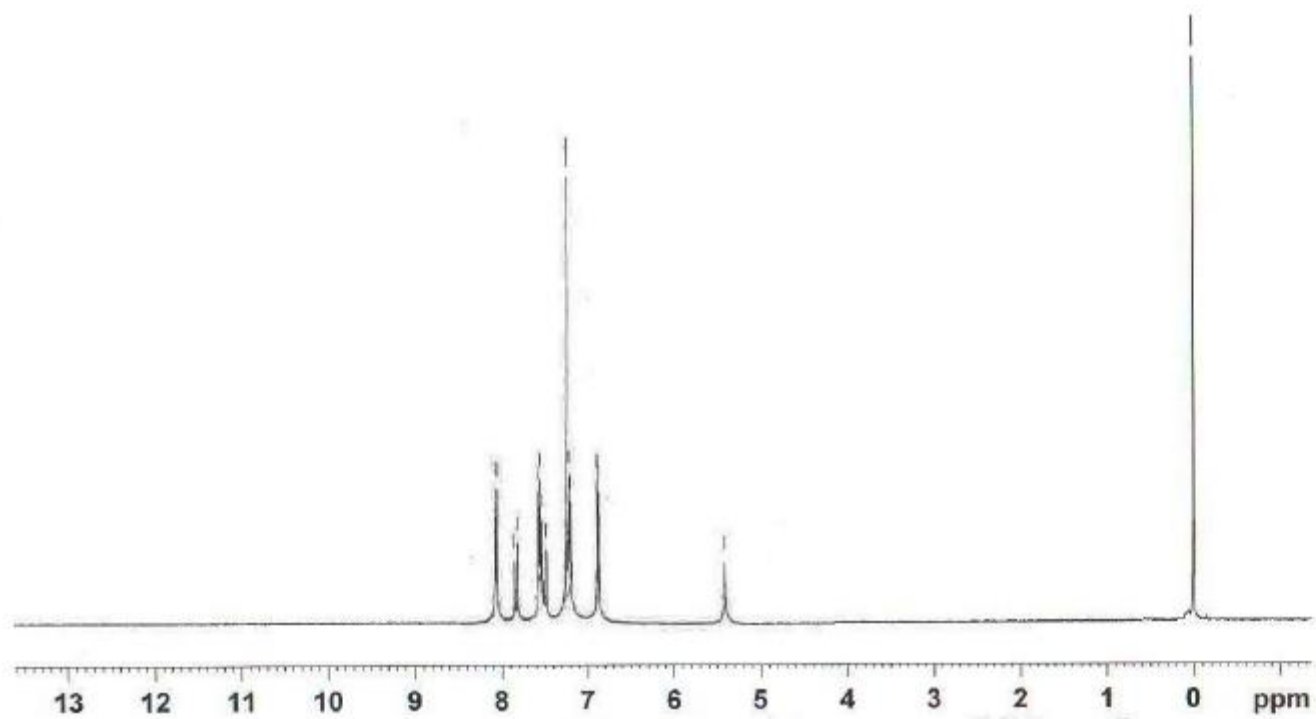
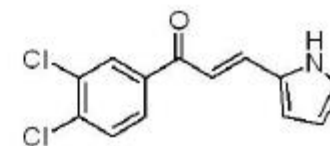


<sup>1</sup>H-NMR spectrum of (E)-1-(3,4-dichlorophenyl)-3-(furan-2-yl)prop-2-en-1-one (14).

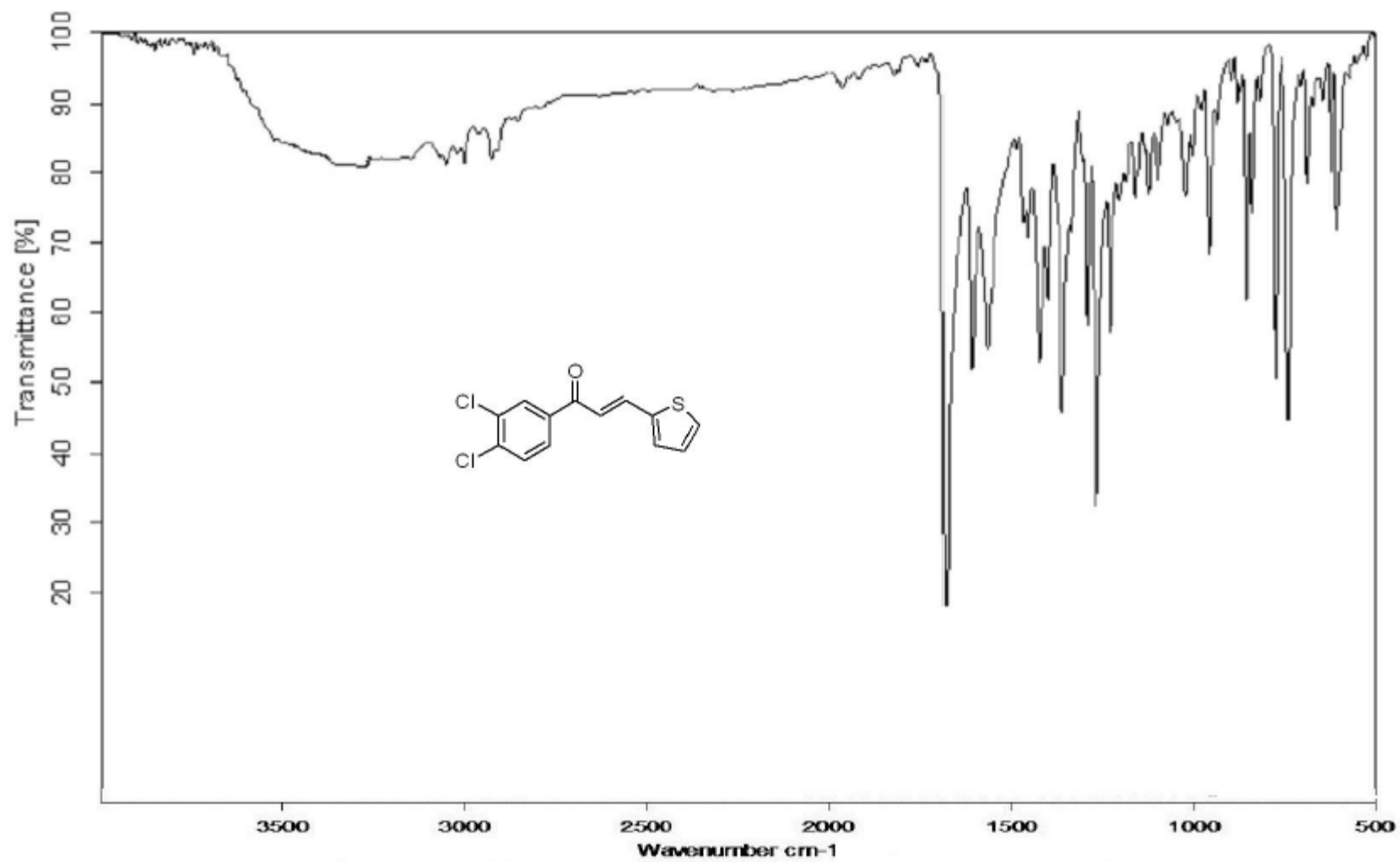


IR spectrum of (E)-1-(3,4-dichlorophenyl)-3-(1H-pyrrol-2-yl)prop-2-en-1-one (15).

$^1\text{H}$   $\text{CDCl}_3$



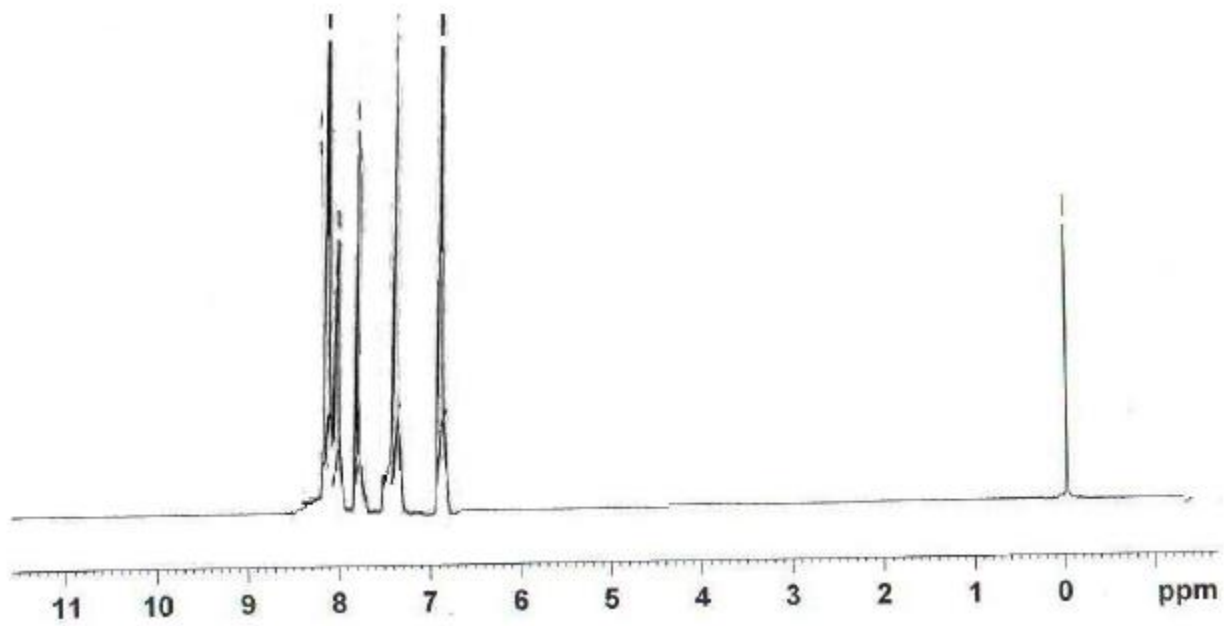
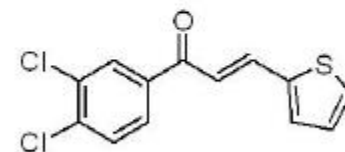
$^1\text{H}$ -NMR spectrum of (E)-1-(3,4-dichlorophenyl)-3-(1H-pyrrol-2-yl)prop-2-en-1-one (15).



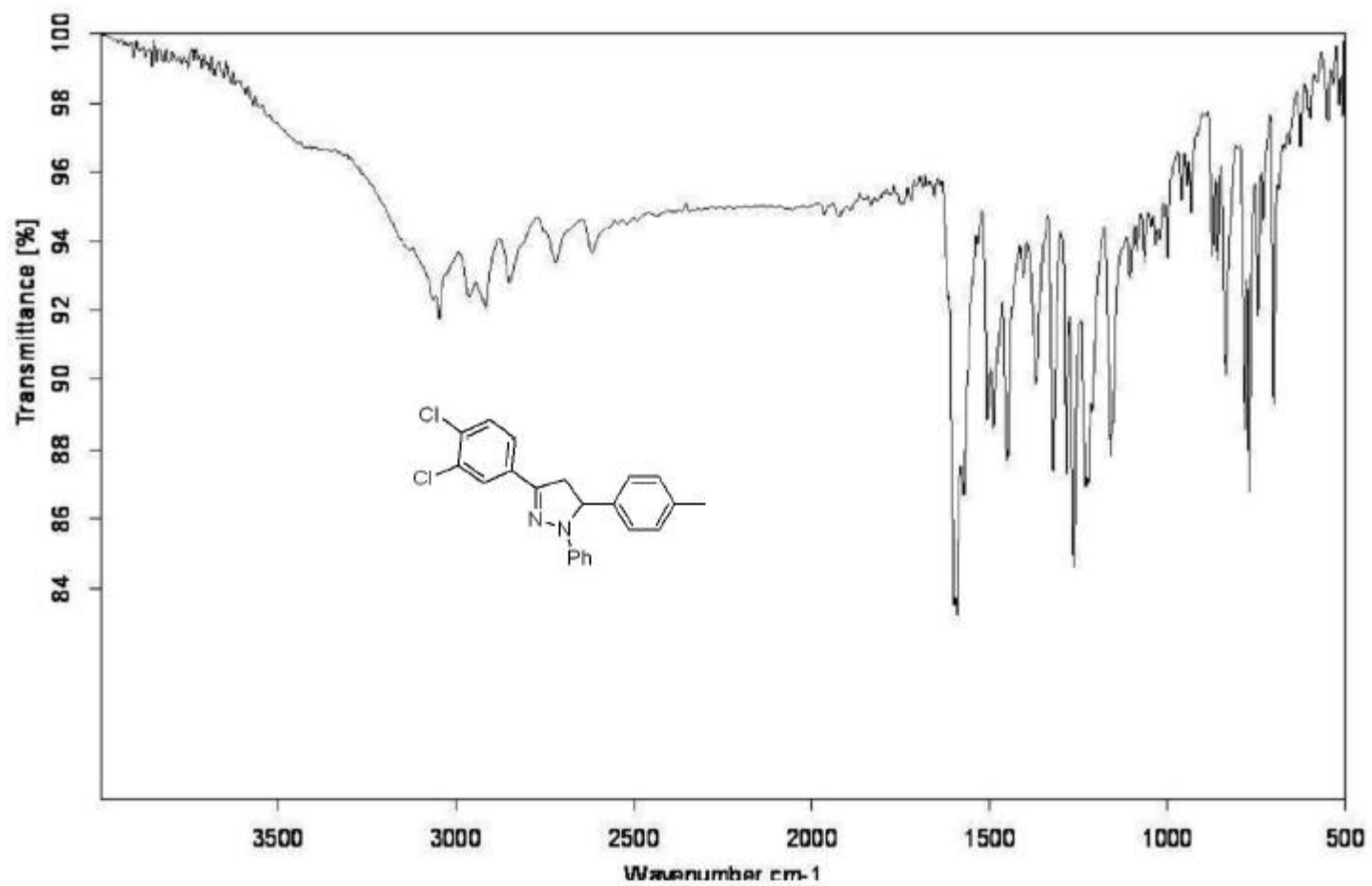
IR spectrum of (*E*)-1-(3,4-dichlorophenyl)-3-(thiophen-2-yl)prop-2-en-1-one (**16**).



$^1\text{H}$   $\text{CDCl}_3$

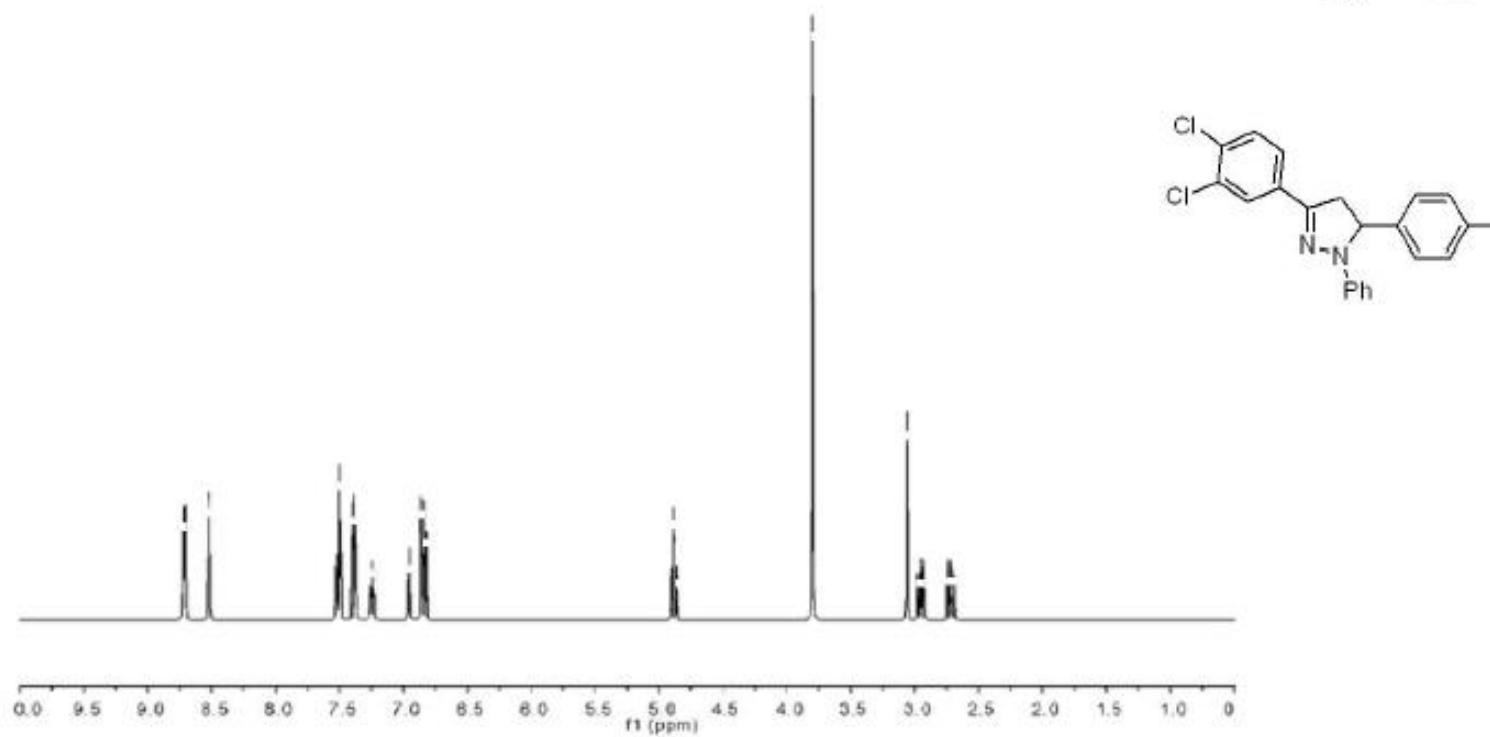


$^1\text{H}$ -NMR spectrum of (E)-1-(3,4-dichlorophenyl)-3-(thiophen-2-yl)prop-2-en-1-one (16).

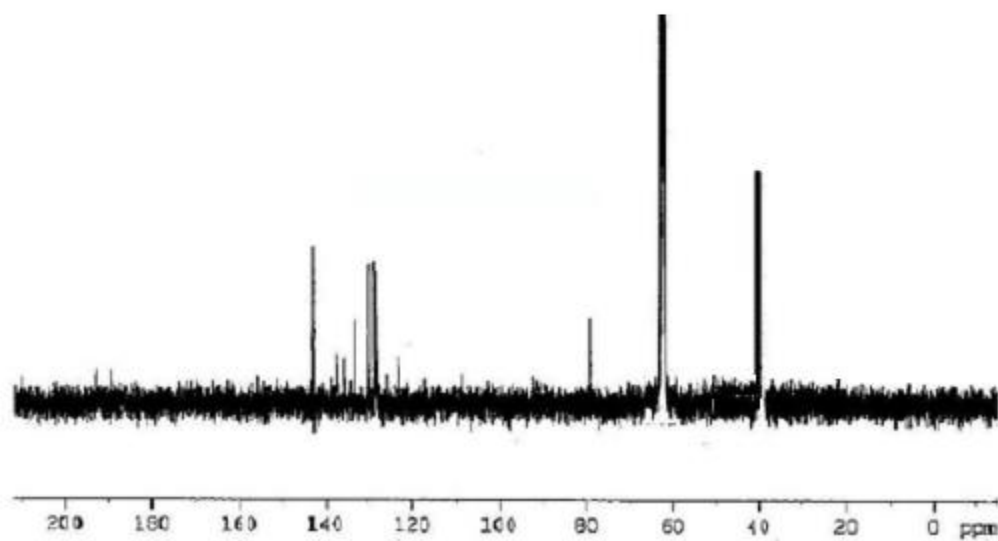
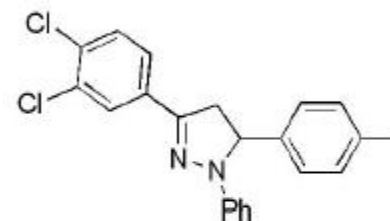


IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(p-tolyl)-4,5-dihydro-1H-pyrazole (17).

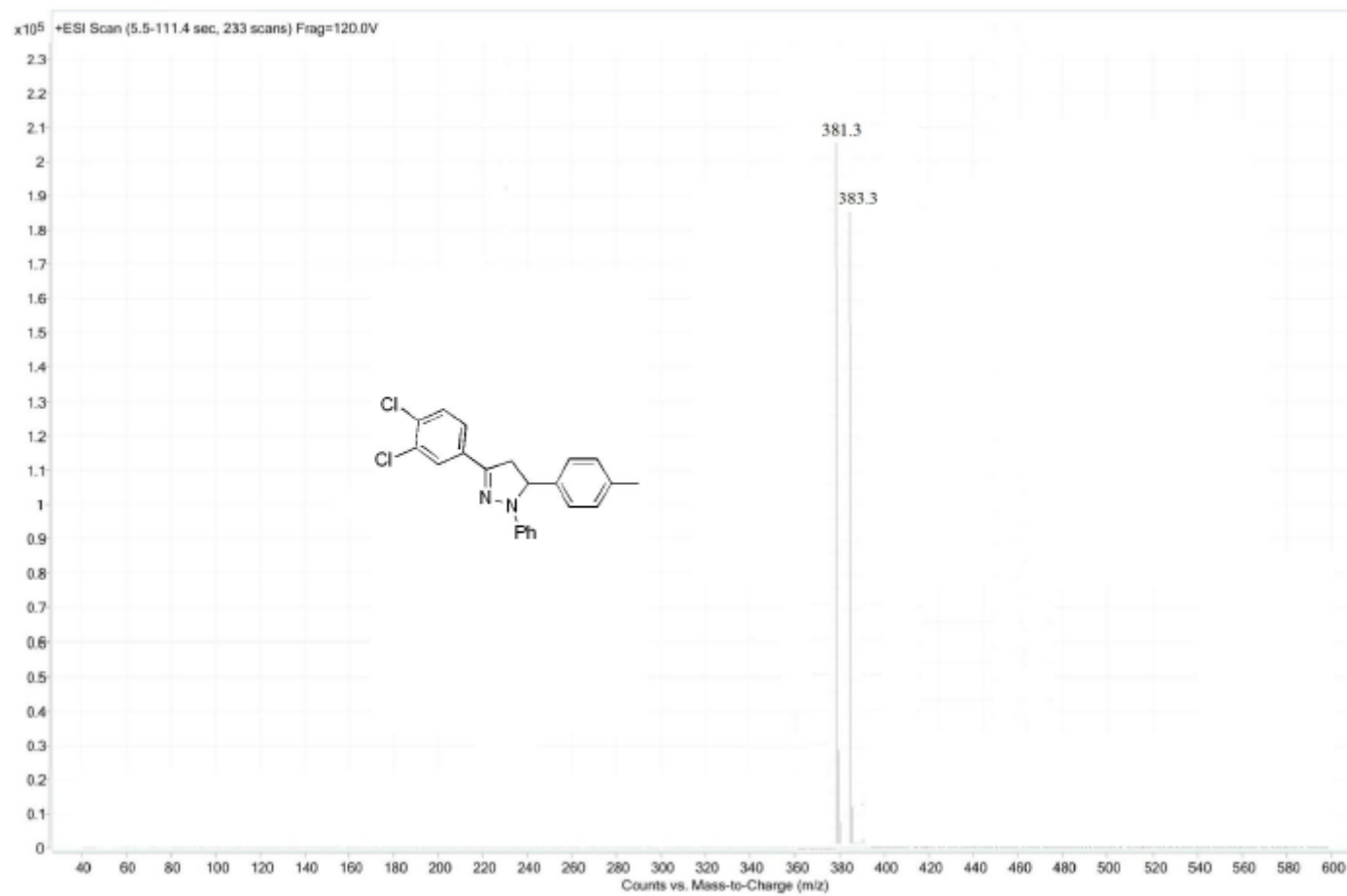
$^1\text{H}$  CDC13



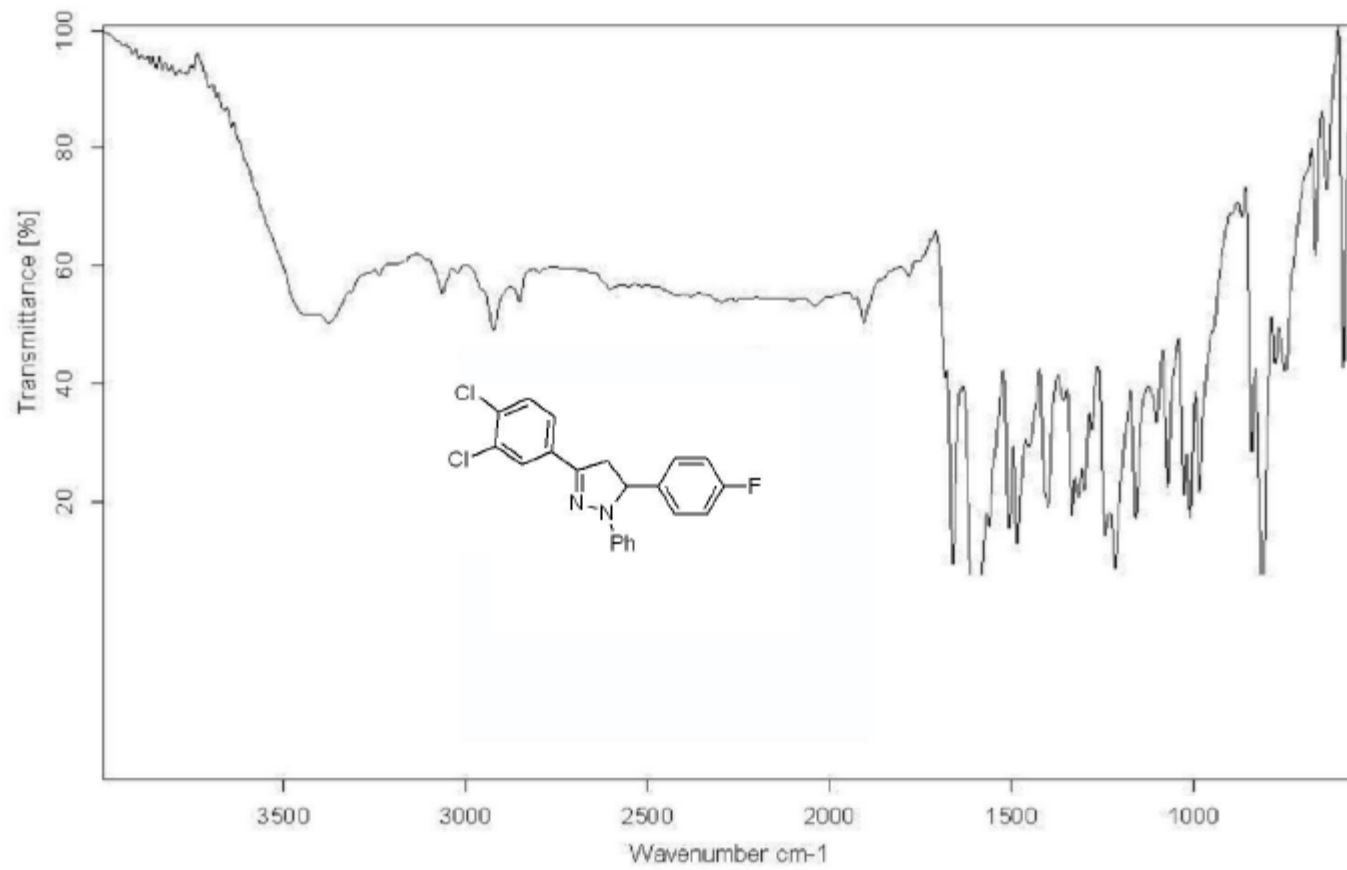
$^1\text{H}$ -NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(p-tolyl)-4,5-dihydro-1H-pyrazole (17).



<sup>13</sup>C-NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(p-tolyl)-4,5-dihydro-1H-pyrazole (17).

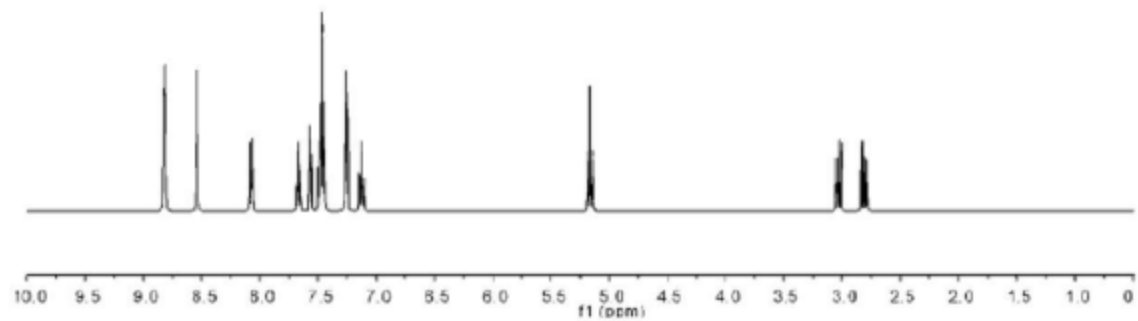
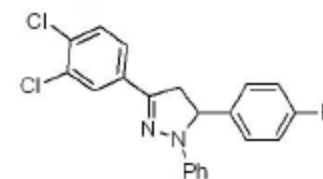


Mass spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(p-tolyl)-4,5-dihydro-1H-pyrazole (17).

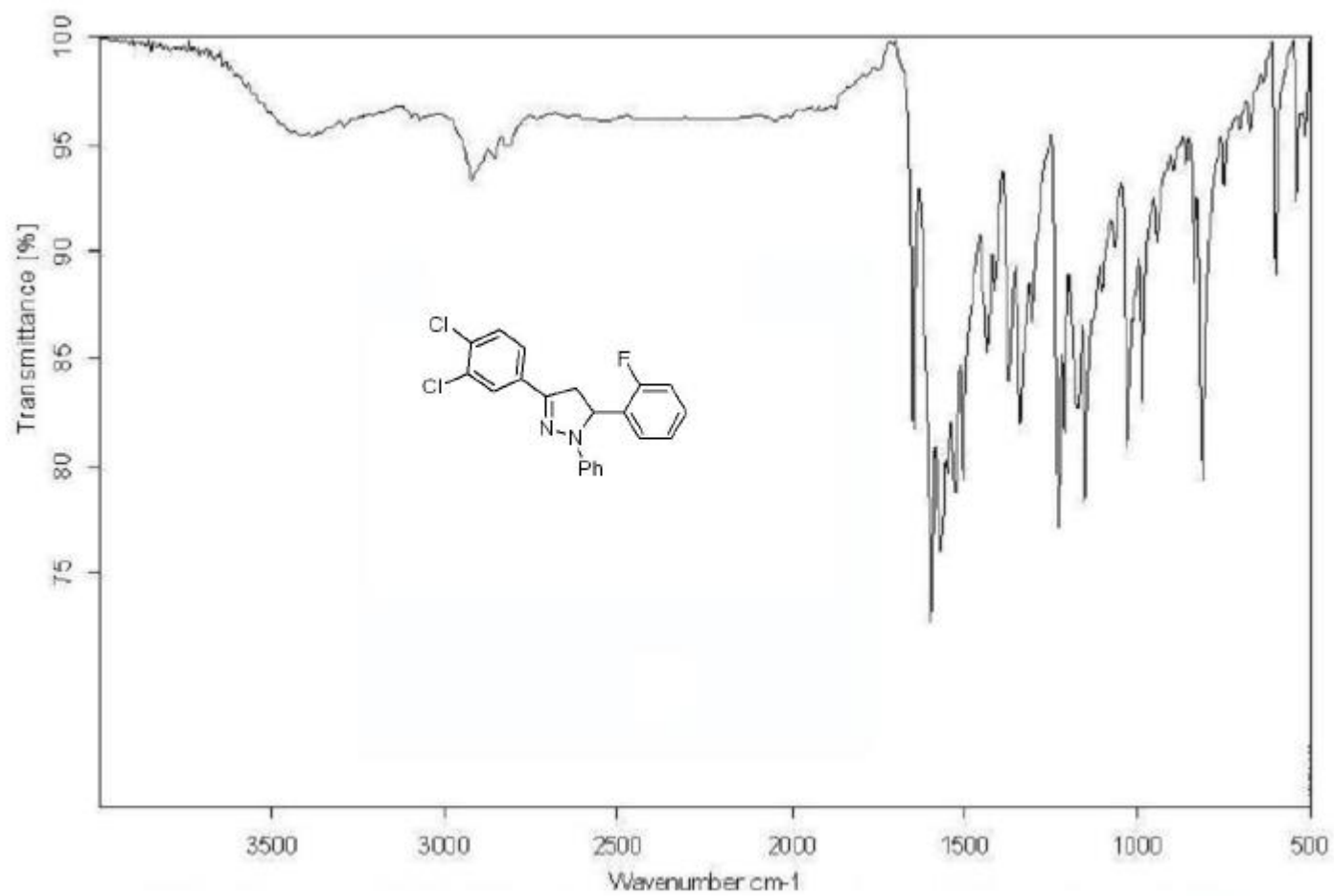


IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(4-fluorophenyl)-4,5-dihydro-1H-pyrazole (**18**).

$^1\text{H}$  CDC13



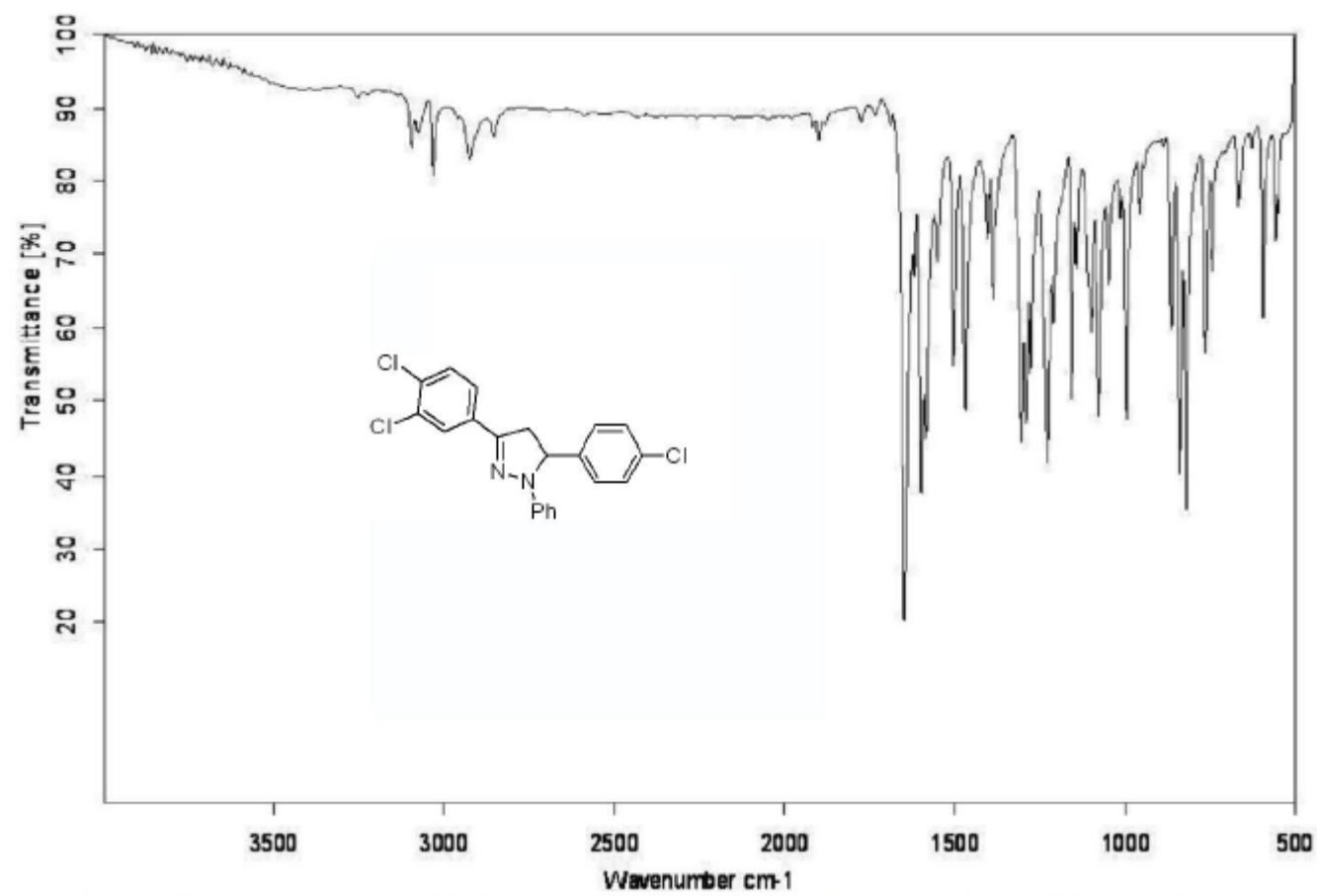
$^1\text{H}$ -NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(4-fluorophenyl)-4,5-dihydro-1H-pyrazole (18).



IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(2-fluorophenyl)-4,5-dihydro-1H-pyrazole (19).

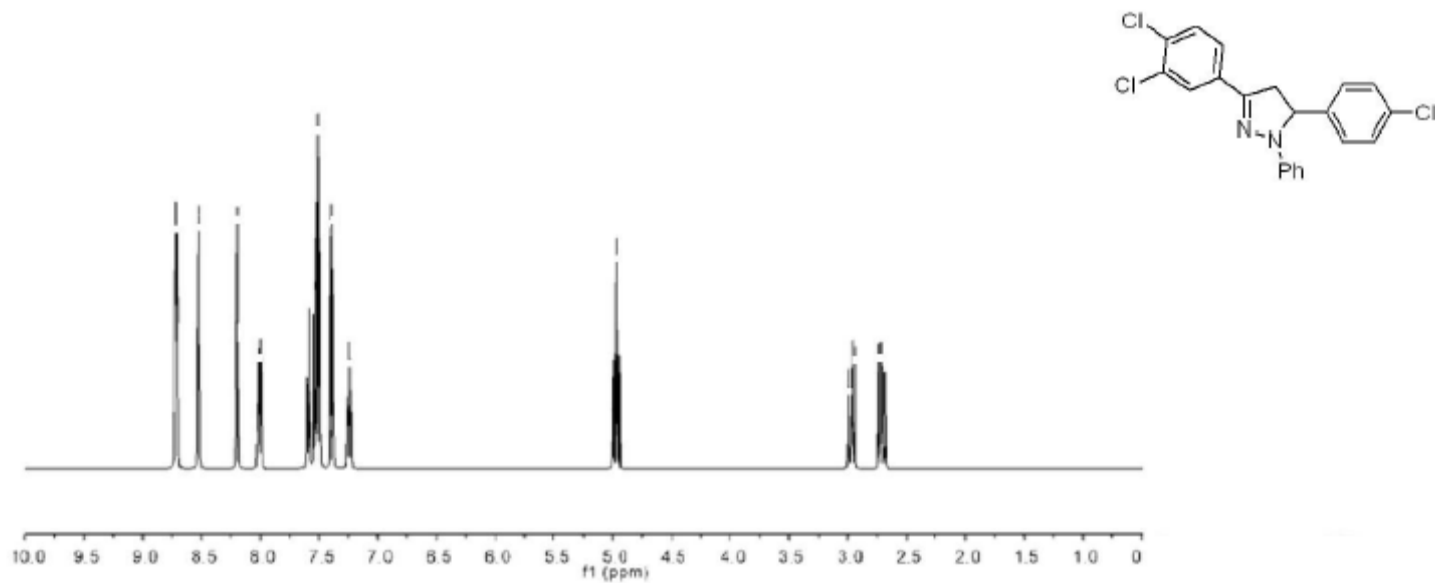




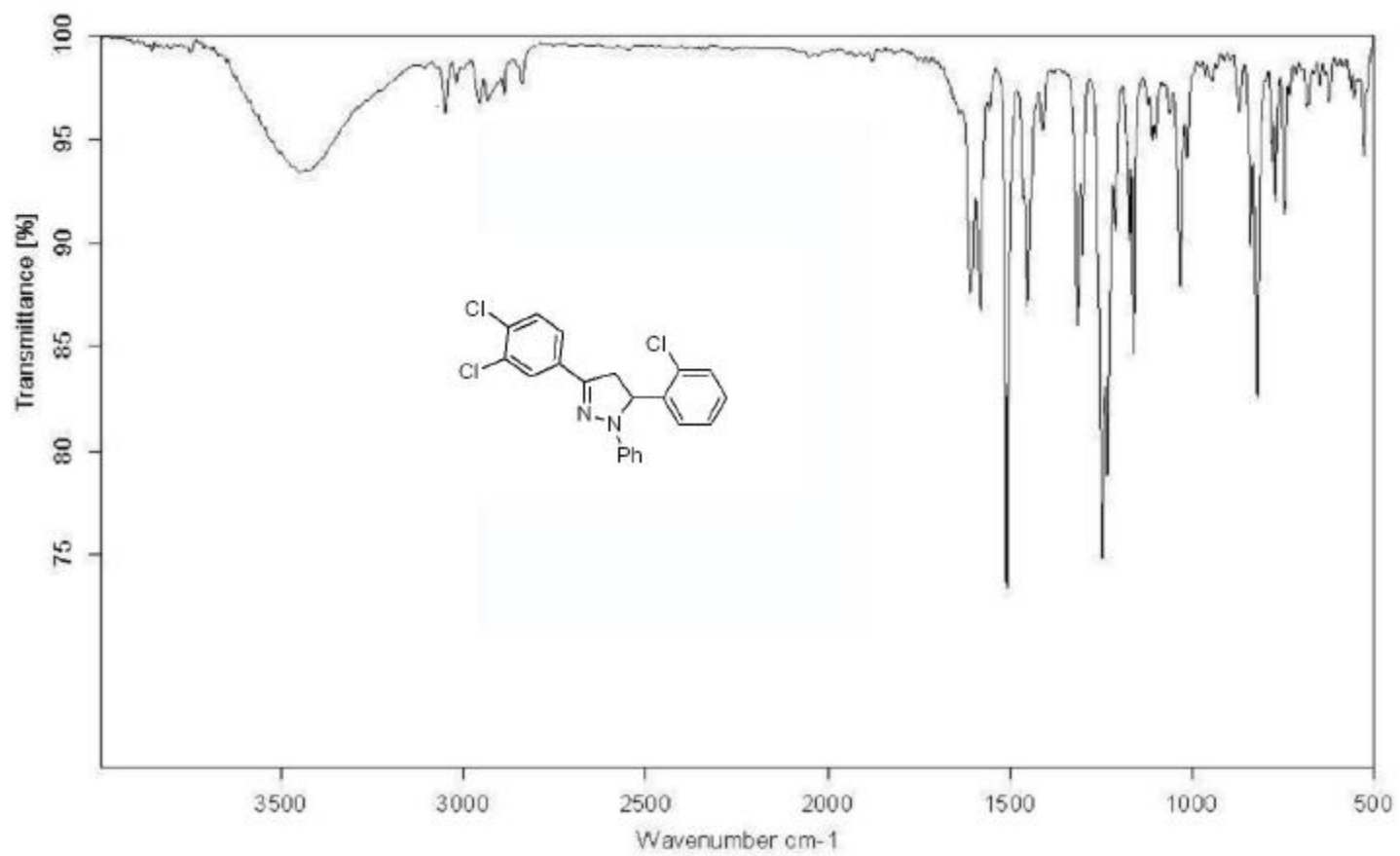


IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(4-chlorophenyl)-4,5-dihydro-1H-pyrazole (20).

<sup>1</sup>H CDC13

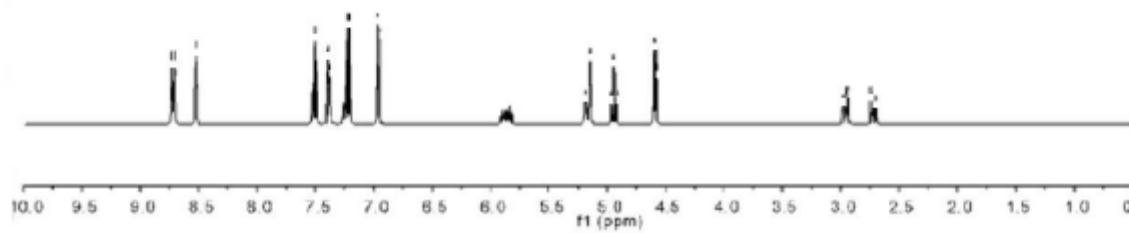
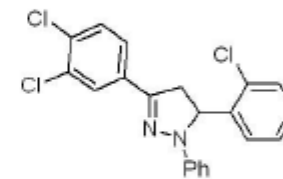


<sup>1</sup>H-NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(4-chlorophenyl)-4,5-dihydro-1H-pyrazole (20).

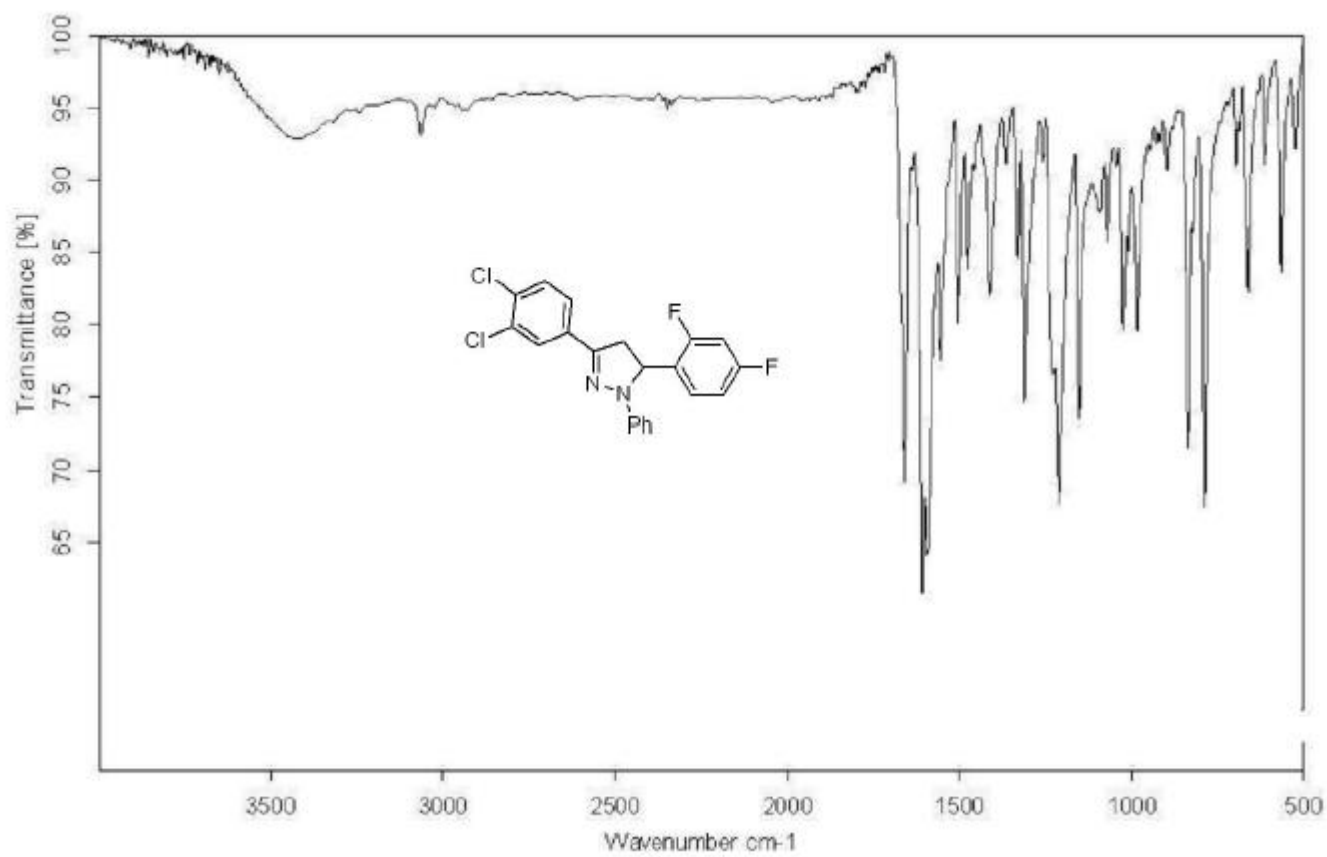


IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(2-chlorophenyl)-4,5-dihydro-1H-pyrazole (**21**).

$^1\text{H}$  CDCl<sub>3</sub>

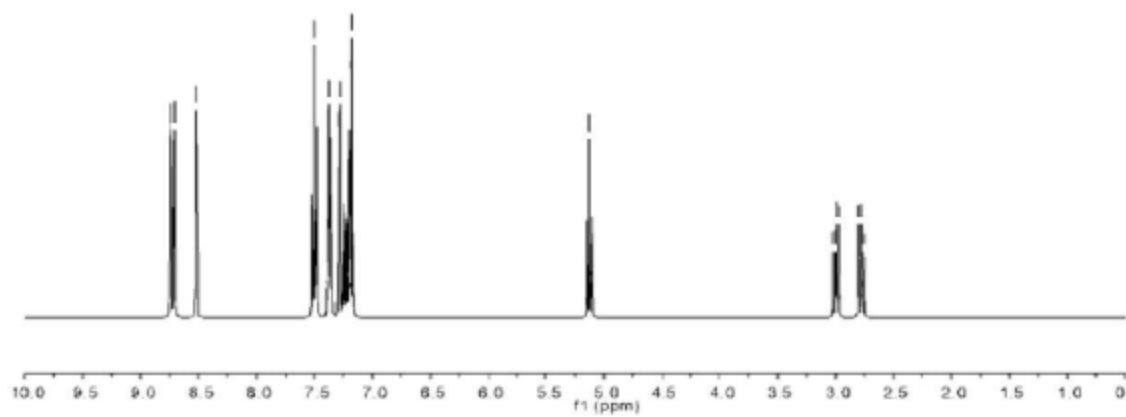
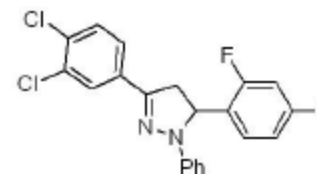


$^1\text{H}$ -NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(2-chlorophenyl)-4,5-dihydro-1H-pyrazole (21).

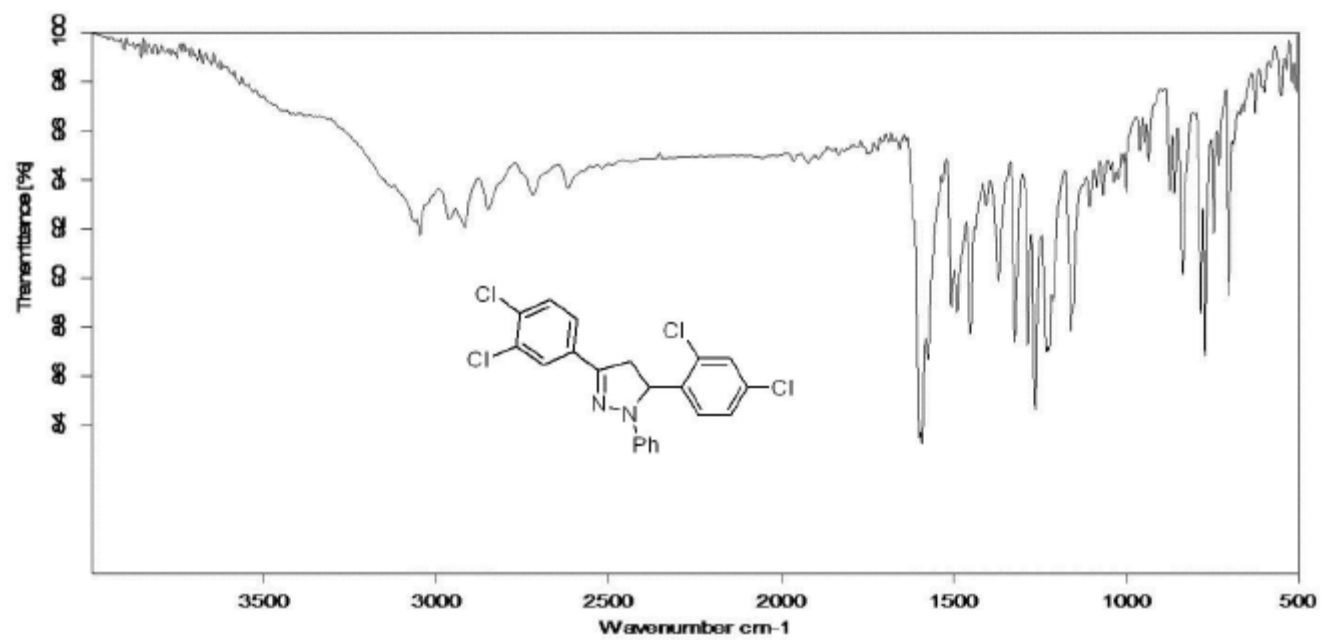


IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(2,4-difluorophenyl)-4,5-dihydro-1H-pyrazole (**22**).

<sup>1</sup>H CDCl<sub>3</sub>



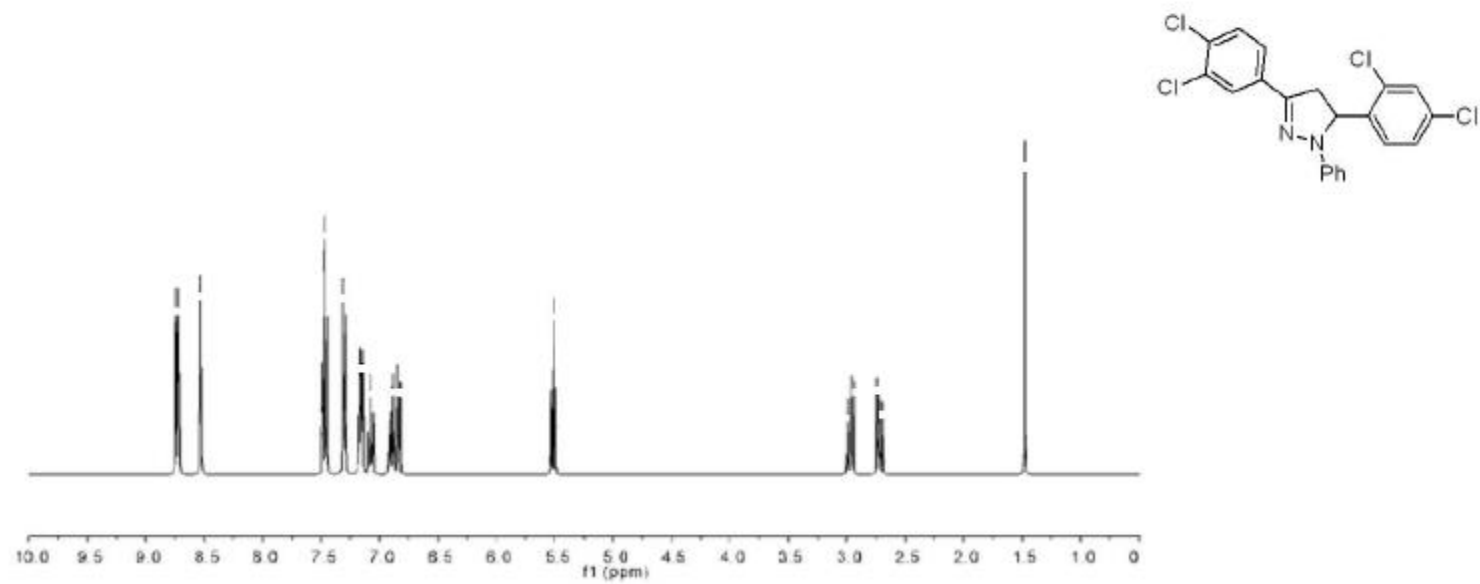
<sup>1</sup>H-NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(2,4-difluorophenyl)-4,5-dihydro-1H-pyrazole (22).



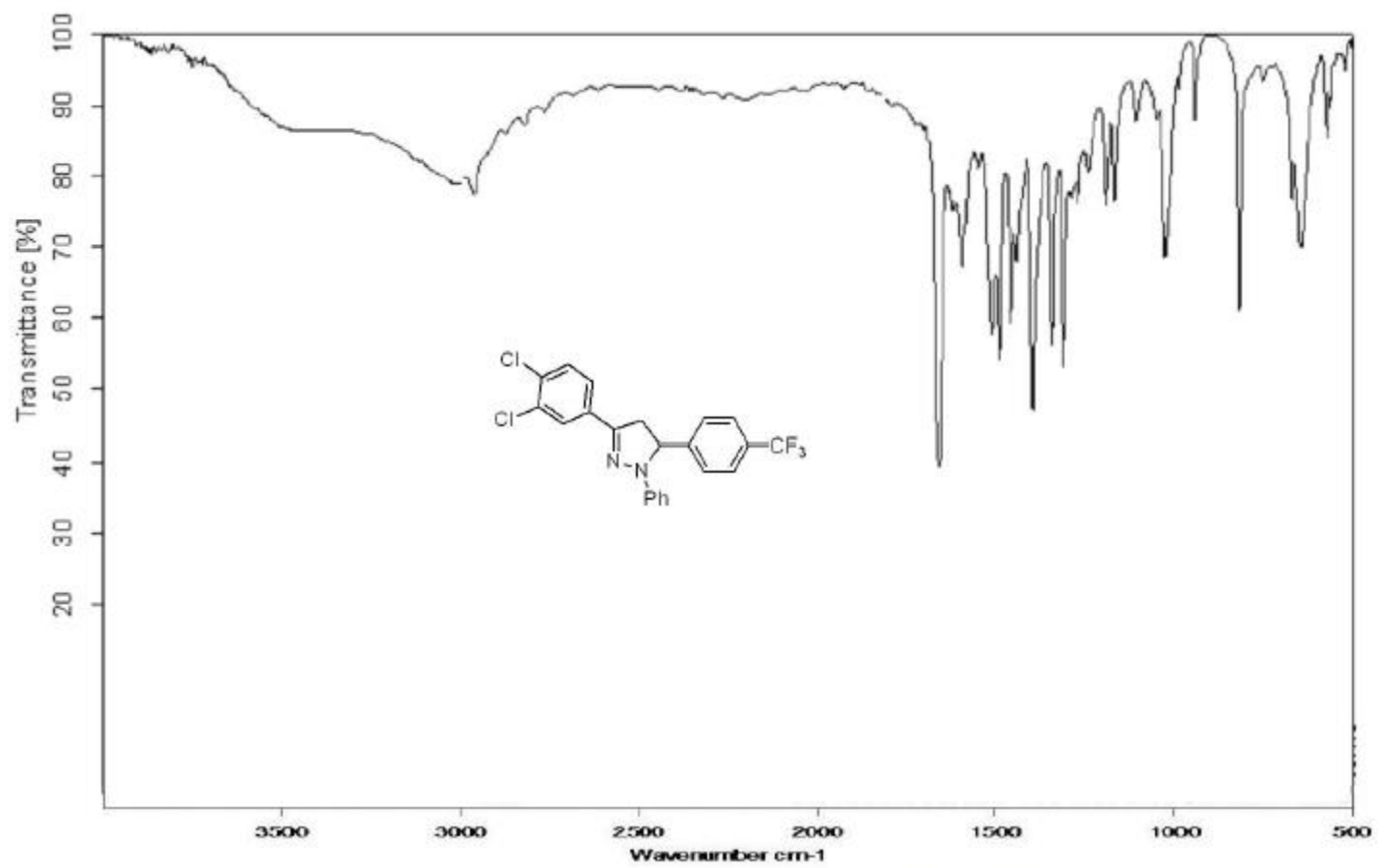
IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(2,4-dichlorophenyl)-4,5-dihydro-1H-pyrazole (23).



<sup>1</sup>H CDC13

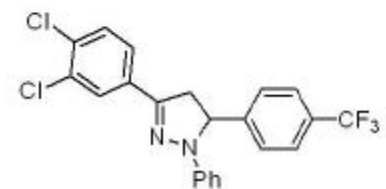
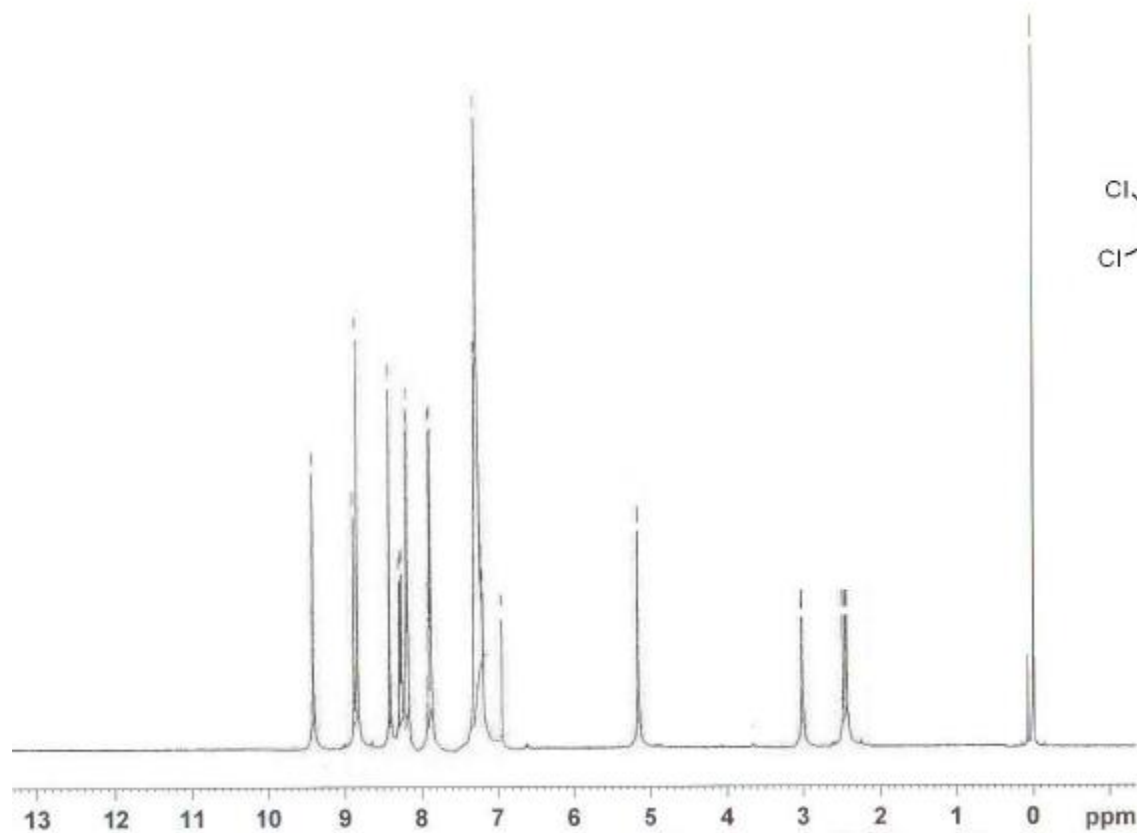


<sup>1</sup>H-NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(2,4-dichlorophenyl)-4,5-dihydro-1H-pyrazole (**23**).

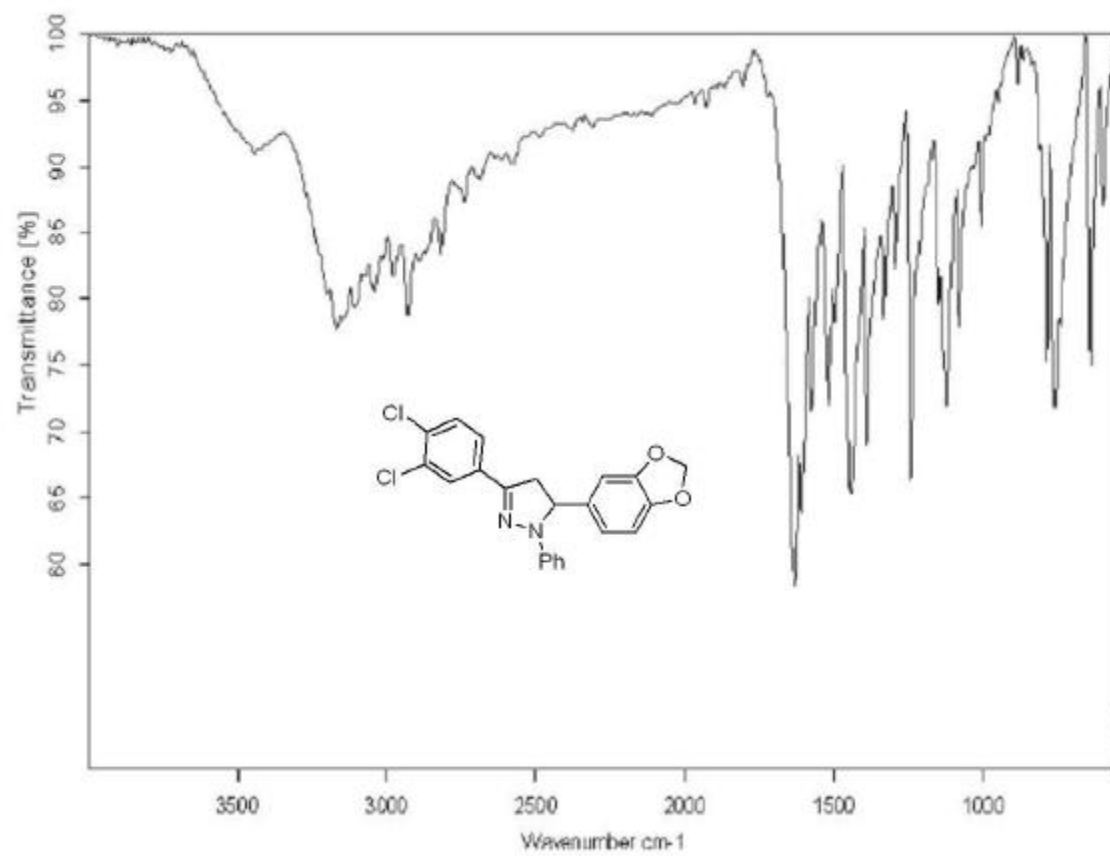


IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(4-trifluoromethylphenyl)-4,5-dihydro-1H-pyrazole (**24**).

$^1\text{H}$  CDCl<sub>3</sub>

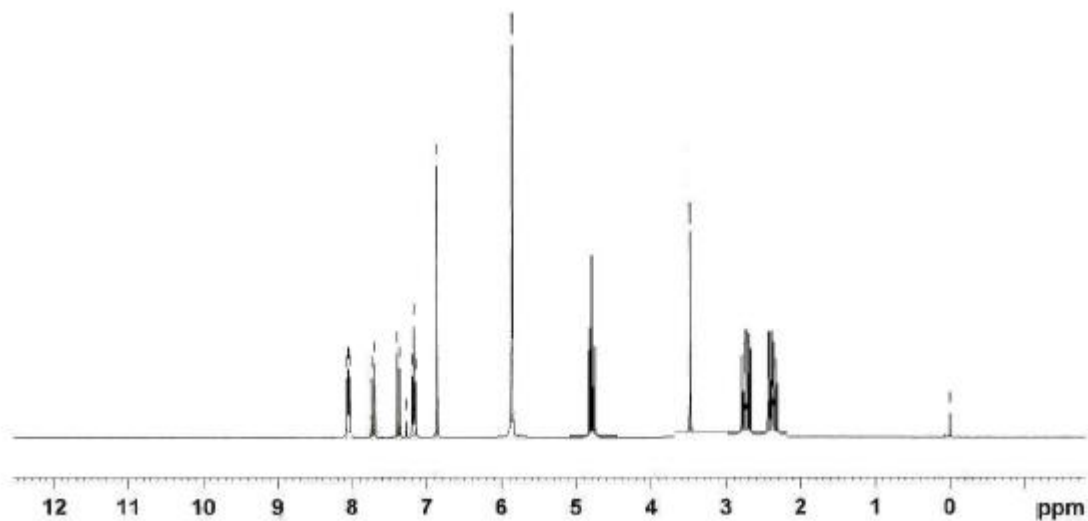
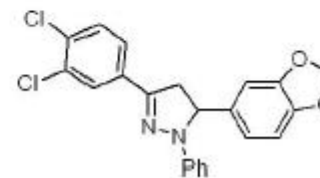


$^1\text{H}$ -NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(4-trifluoromethylphenyl)-4,5-dihydro-1H-pyrazole (**24**).

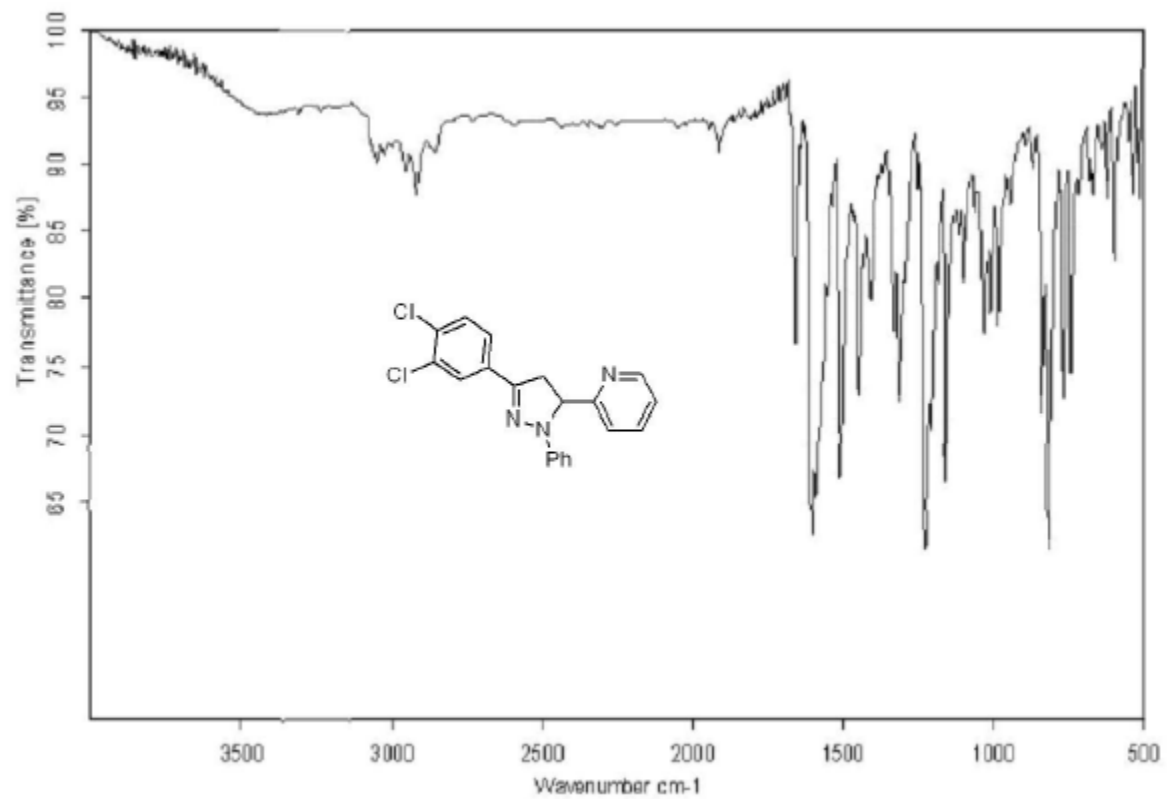


IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(benzo[d][1,3]dioxol-5-yl)-4,5-dihydro-1H-pyrazole (**25**).

$^1\text{H}$  CDCl<sub>3</sub>

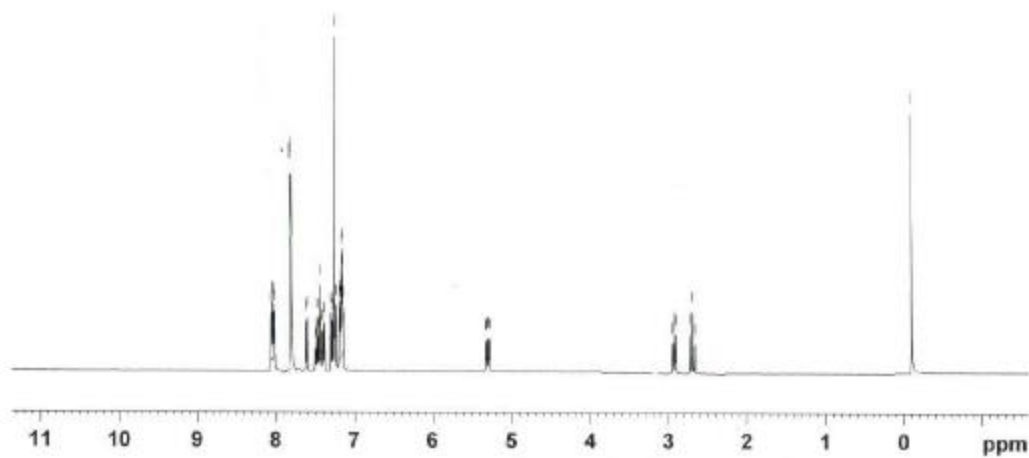
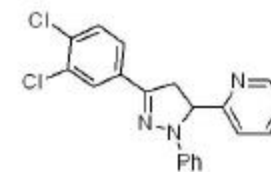


$^1\text{H}$ -NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(benzo[d][1,3]dioxol-5-yl)-4,5-dihydro-1H-pyrazole (25).

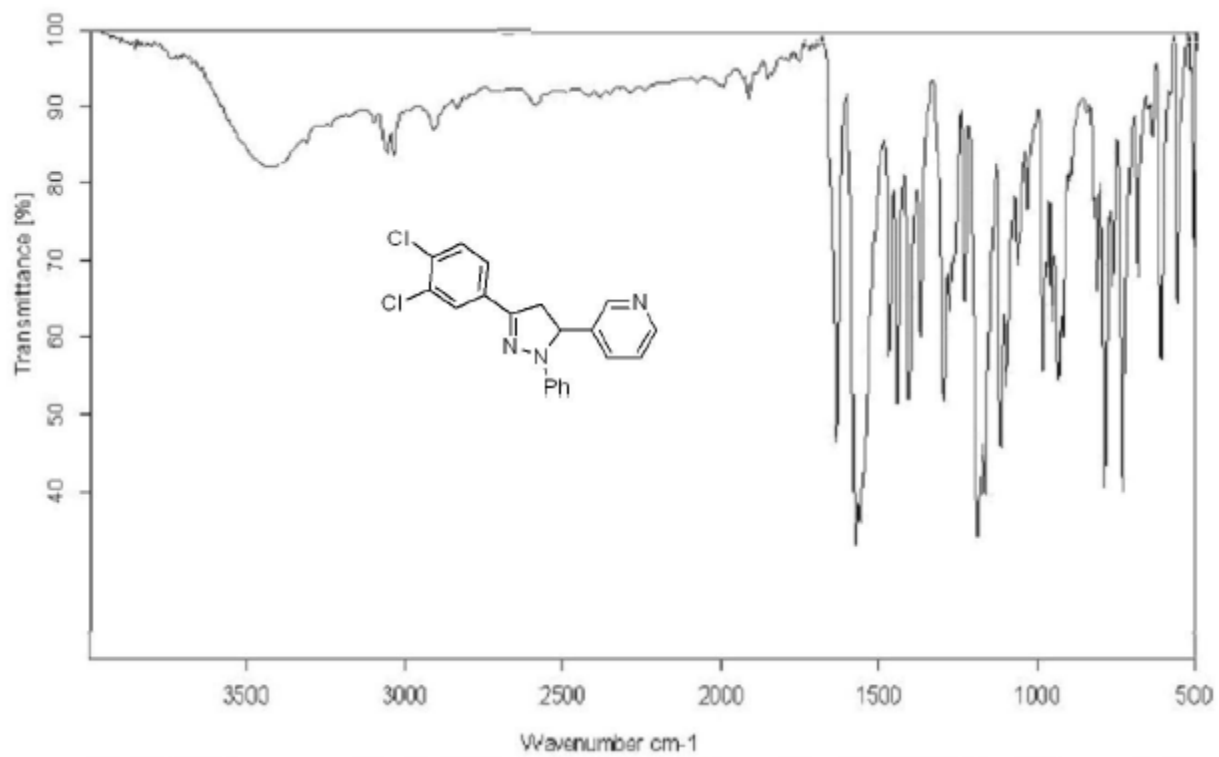


IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(pyridin-2-yl)-4,5-dihydro-1H-pyrazole (**26**).

$^1\text{H}$  CDCl<sub>3</sub>



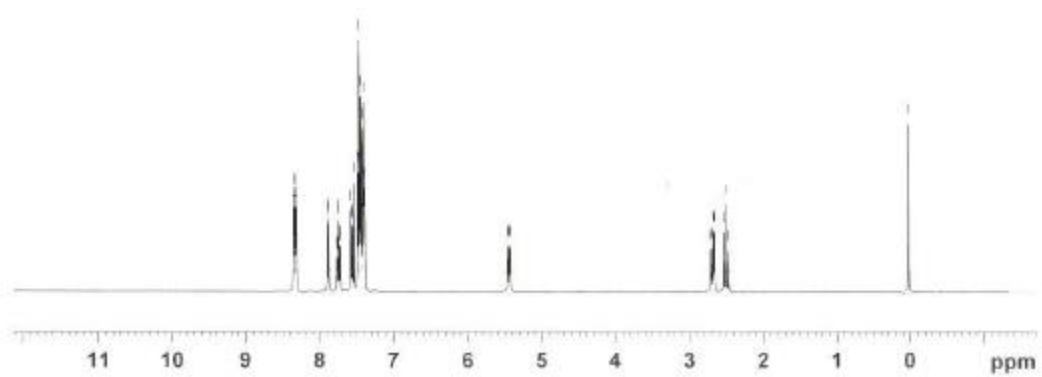
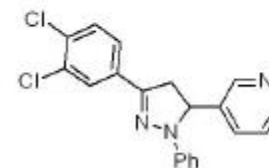
$^1\text{H}$ -NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(pyridin-2-yl)-4,5-dihydro-1H-pyrazole (26).



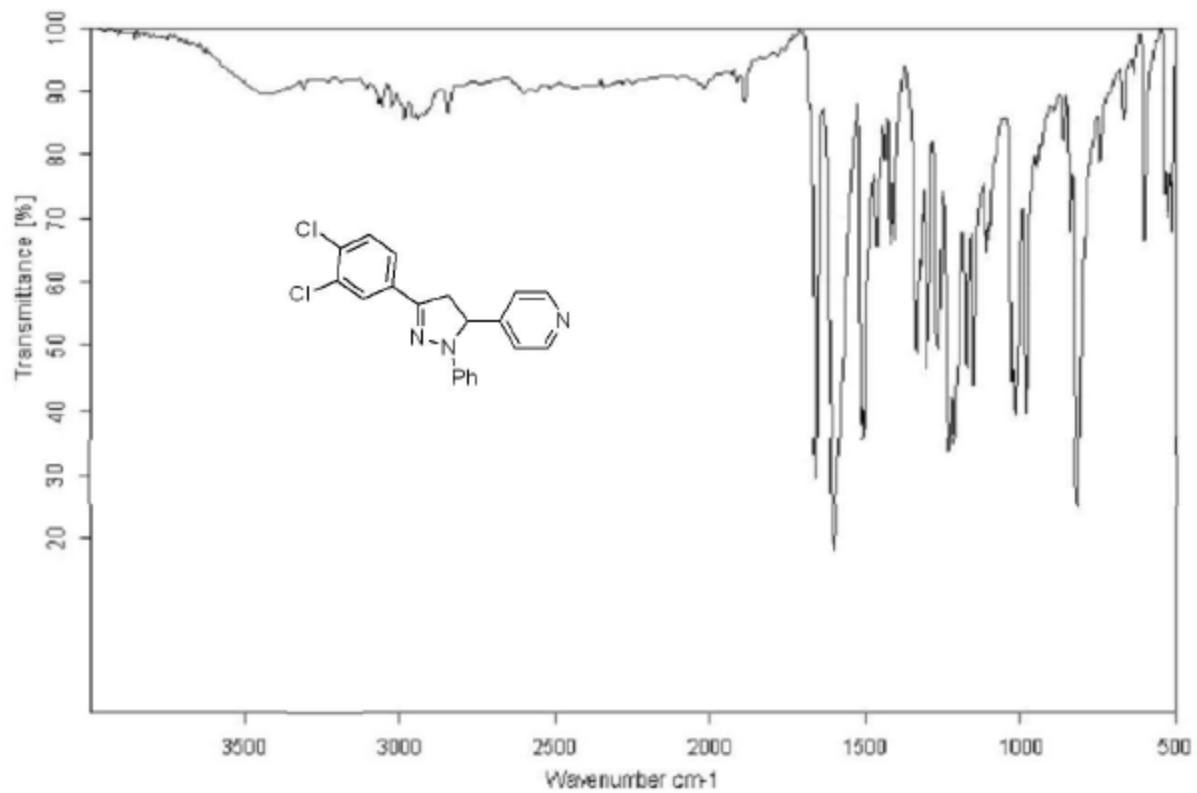
IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(pyridin-3-yl)-4,5-dihydro-1H-pyrazole (27).



$^1\text{H}$  CDC13

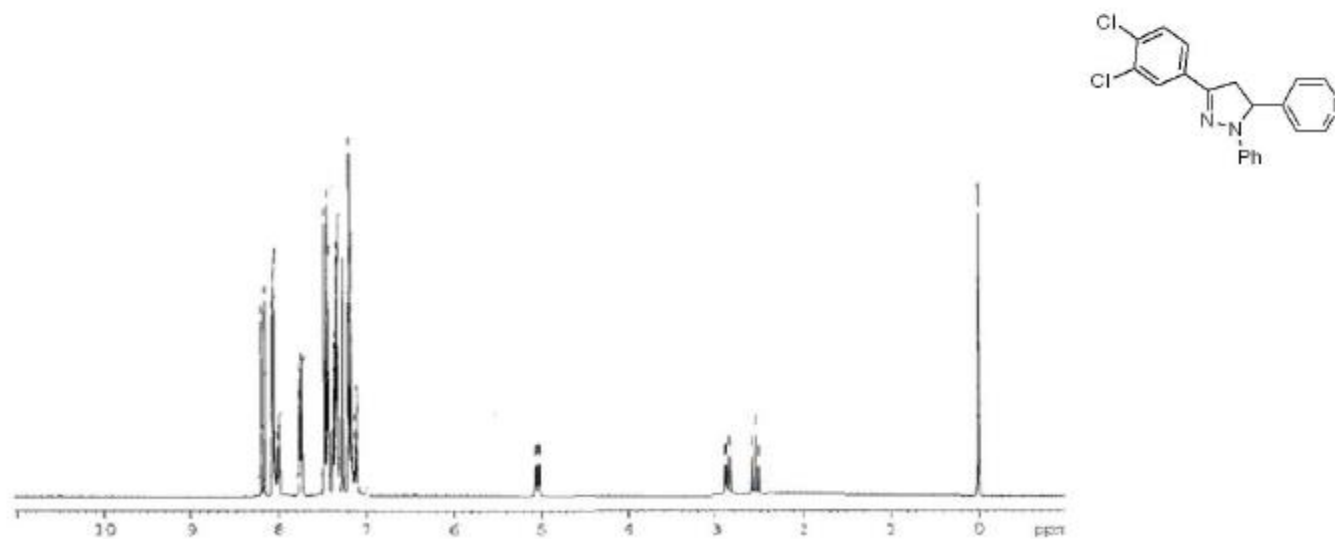


$^1\text{H}$ -NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(pyridin-3-yl)-4,5-dihydro-1H-pyrazole (27).

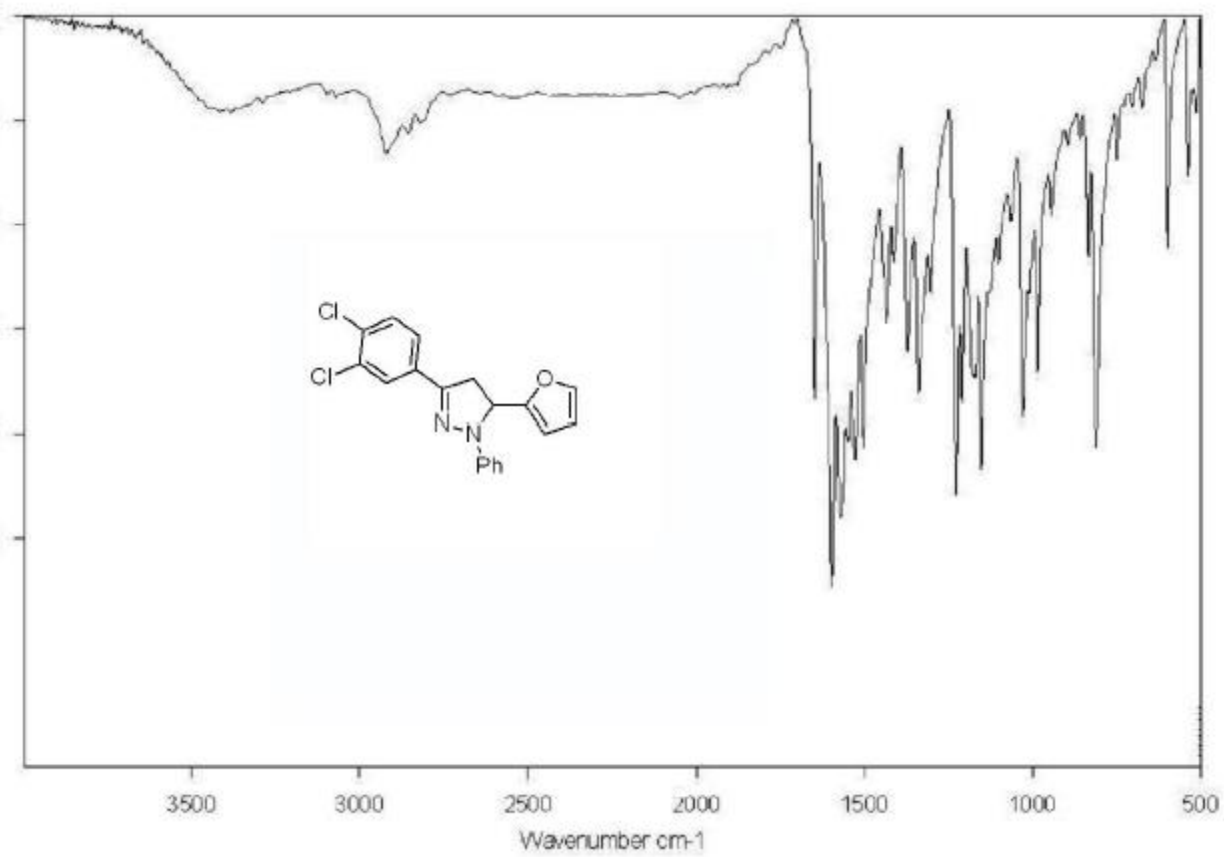


IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(pyridin-4-yl)-4,5-dihydro-1H-pyrazole (**28**).

$^1\text{H}$   $\text{CDCl}_3$

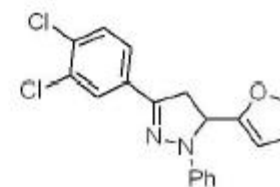
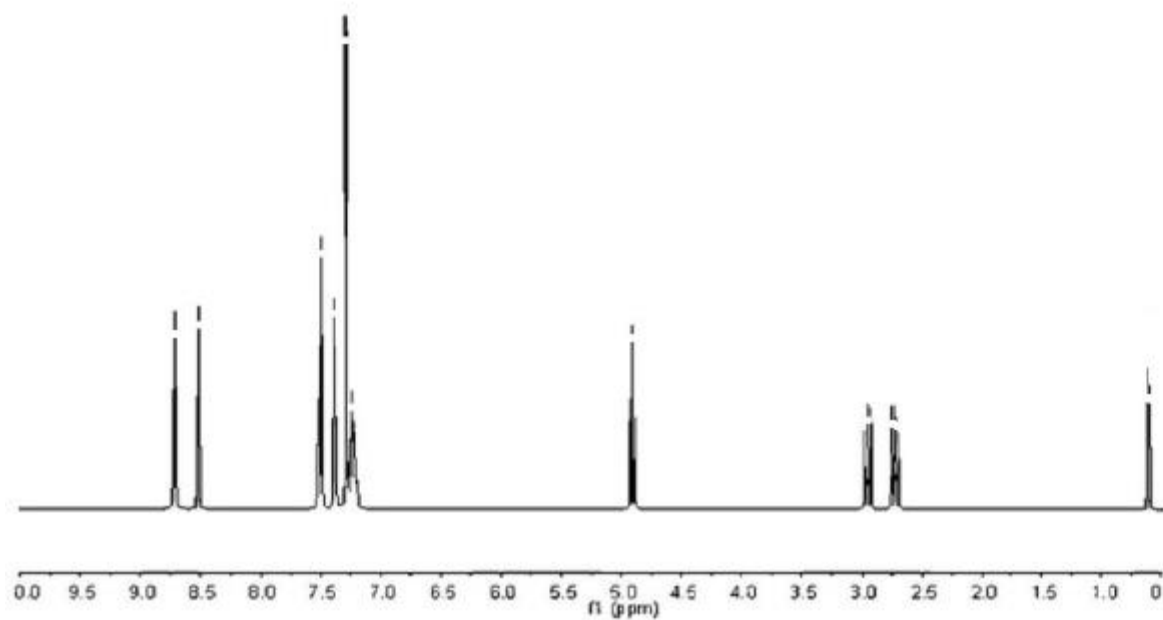


$^1\text{H}$ -NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(pyridin-4-yl)-4,5-dihydro-1H-pyrazole (28).

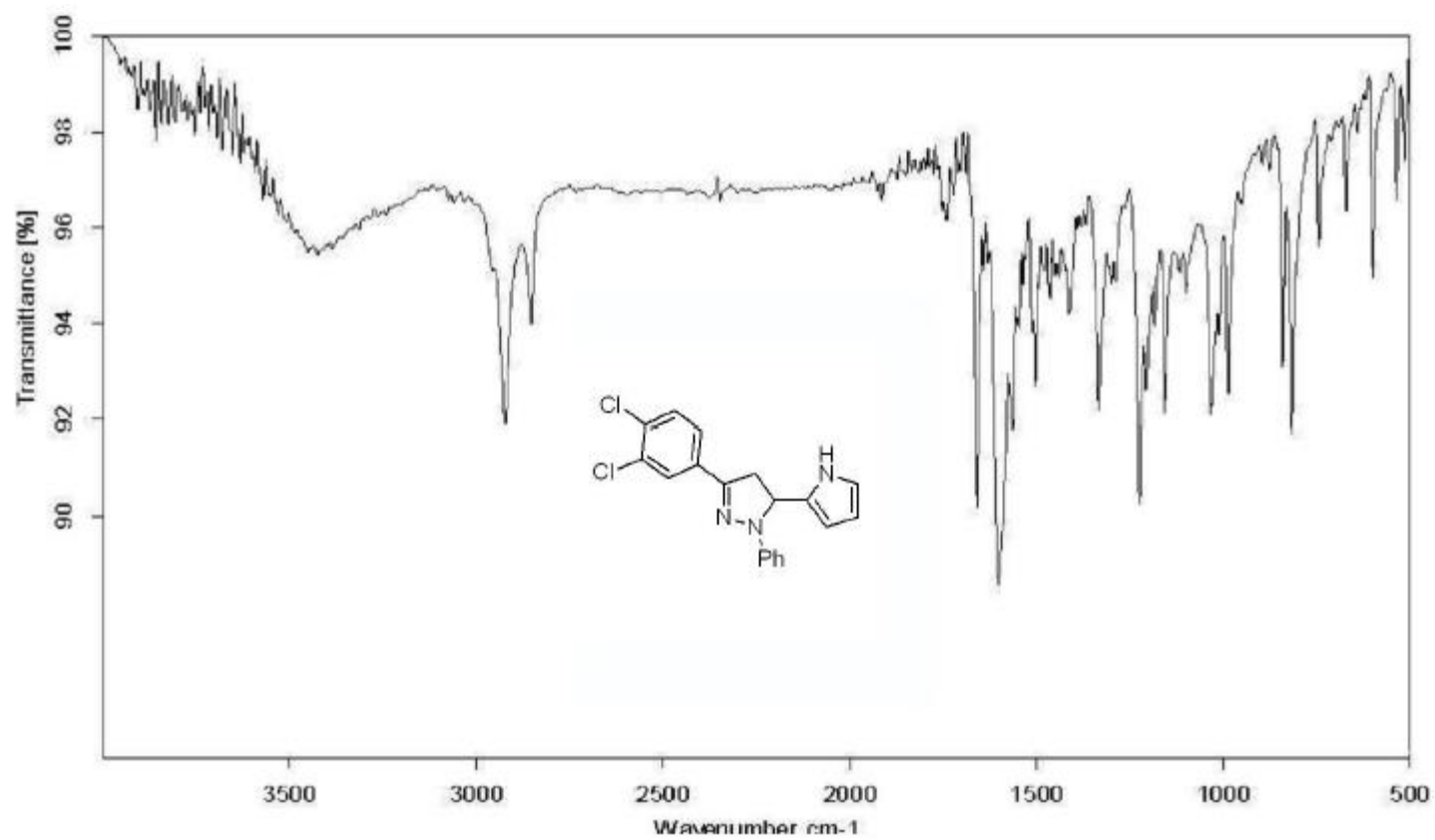


IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(furan-2-yl)-4,5-dihydro-1H-pyrazole (**29**).

<sup>1</sup>H CDC13

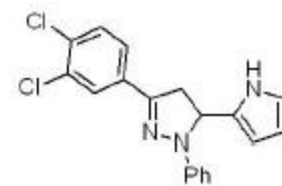
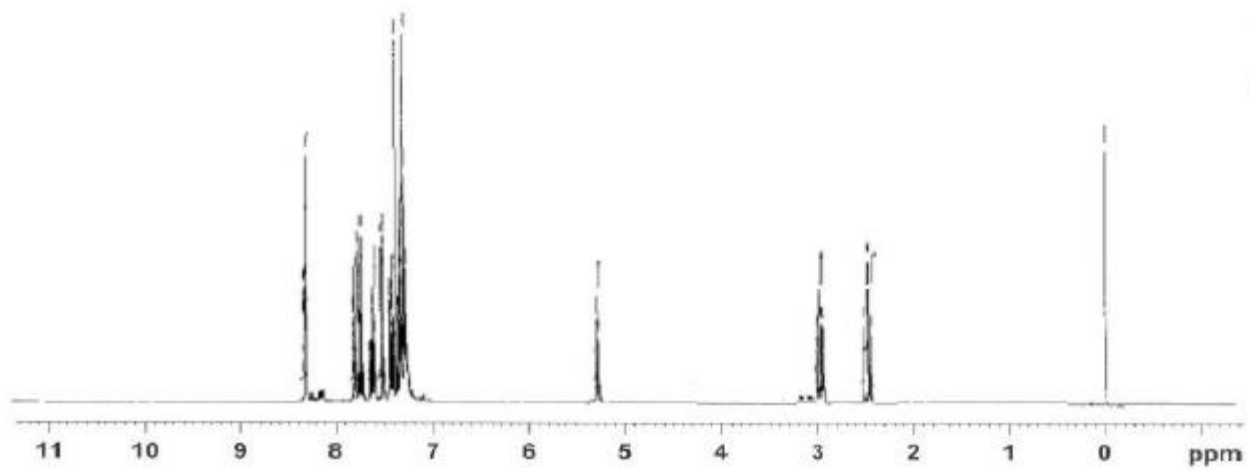


<sup>1</sup>H-NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(furan-2-yl)-4,5-dihydro-1H-pyrazole (**29**).

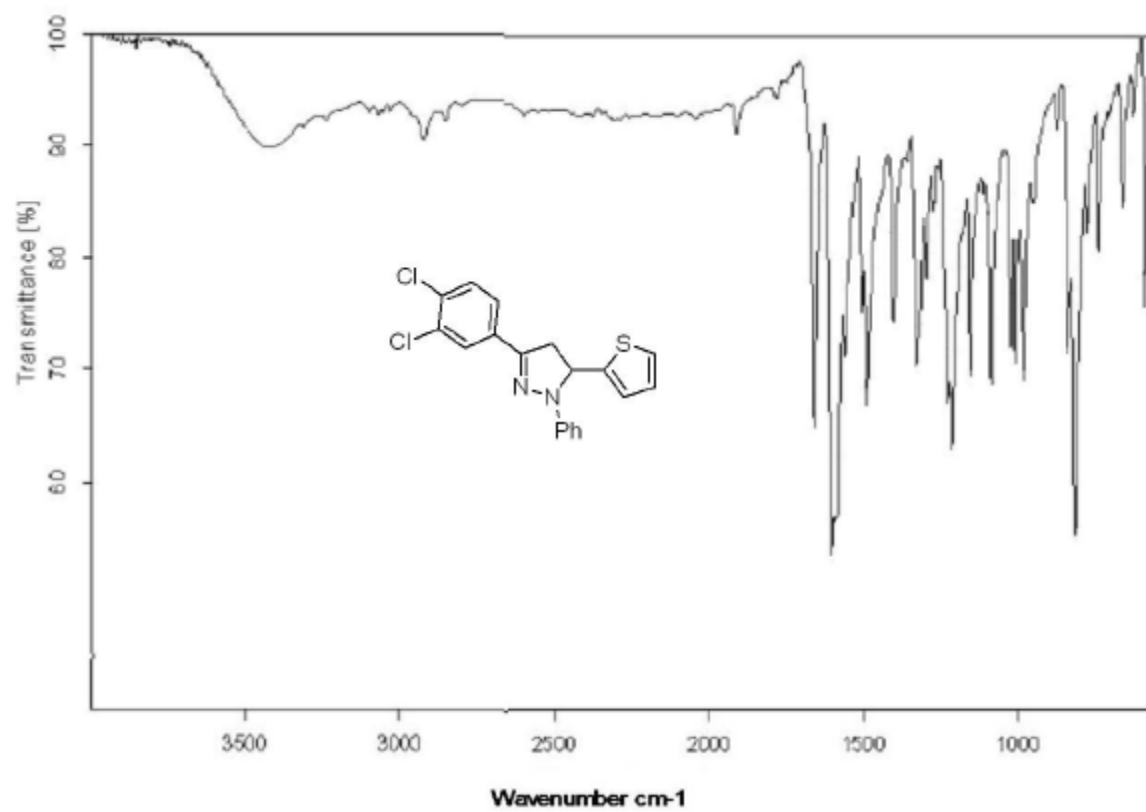


IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(1H-pyrrol-2-yl)-4,5-dihydro-1H-pyrazole (30).

<sup>1</sup>H CDCl<sub>3</sub>



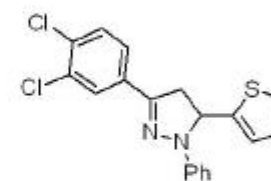
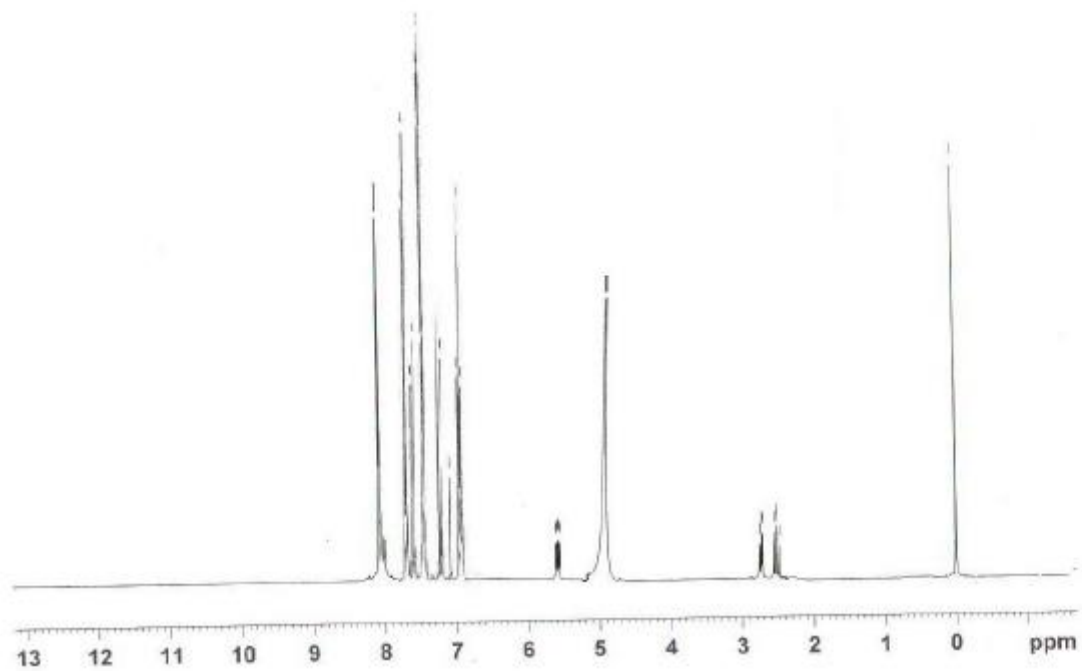
<sup>1</sup>H-NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(1H-pyrrol-2-yl)-4,5-dihydro-1H-pyrazole (30).



IR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(thiophen-2-yl)-4,5-dihydro-1H-pyrazole (**31**).



<sup>1</sup>H CDC13



<sup>1</sup>H-NMR spectrum of 3-(3,4-dichlorophenyl)-1-phenyl-5-(thiophen-2-yl)-4,5-dihydro-1H-pyrazole (31).

## *R<sub>f</sub>* values of chalcones and dihydropyrazoles

Chalcones and dihydropyrazole TLC Profiles (20% ethyl acetate in hexane)	
Compound No.	<i>R<sub>f</sub></i> value
7	0.70
8	0.66
9	0.69
11	0.53
12	0.55
14	0.62
15	0.56
16	0.67
17	0.46
18	0.49
19	0.50
20	0.58
21	0.59
22	0.57
23	0.61
24	0.64
25	0.44
26	0.35
27	0.31
28	0.38
29	0.51
30	0.39
31	0.52