

**Supporting information for:****Reversible *trans-cis* photoisomerization of new pyrrolidene heterocyclic imines**

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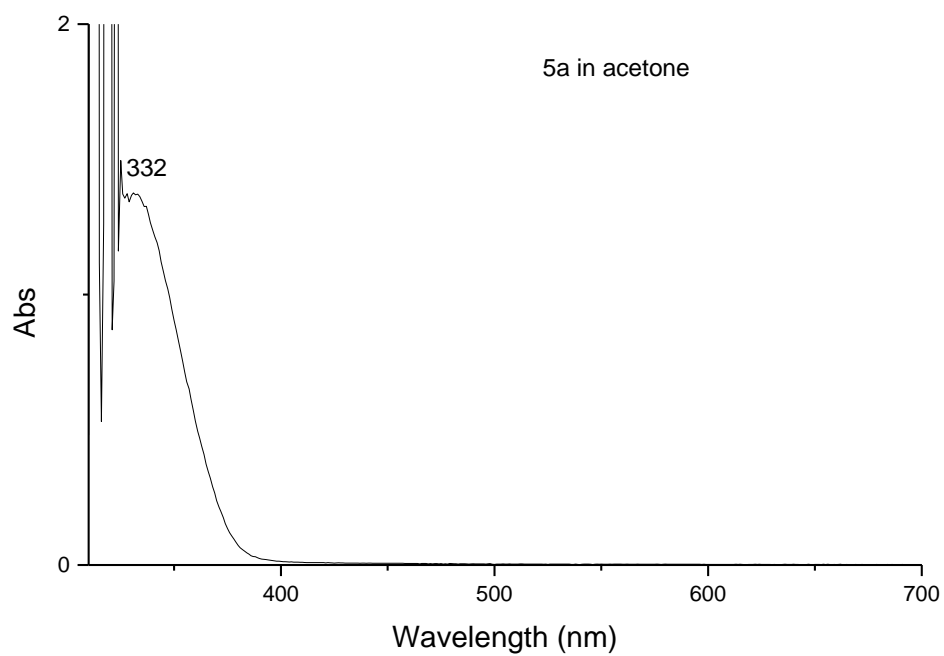
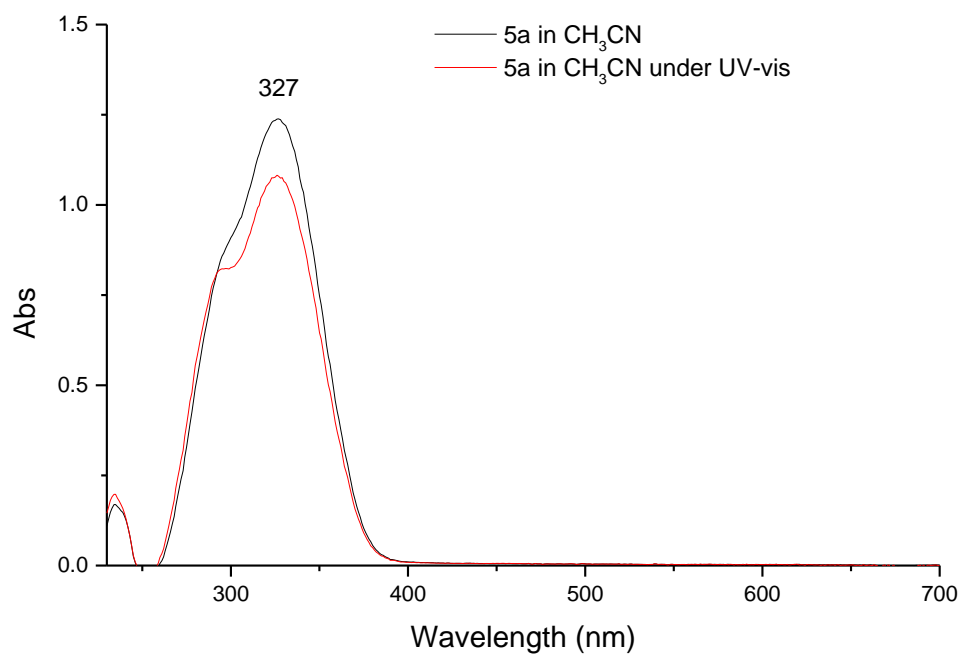
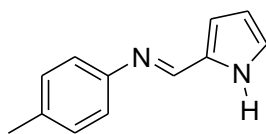
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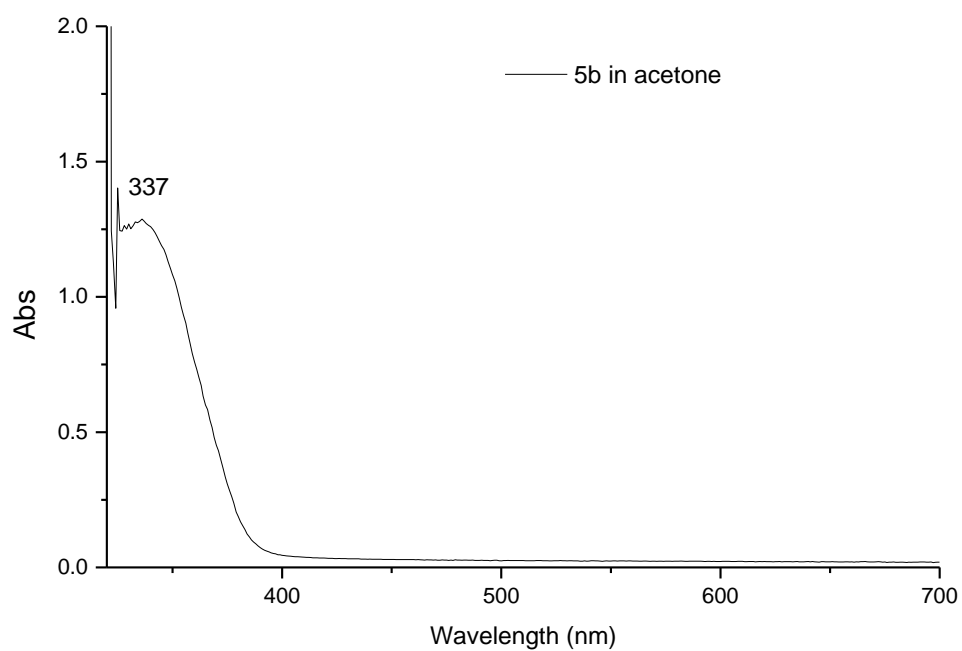
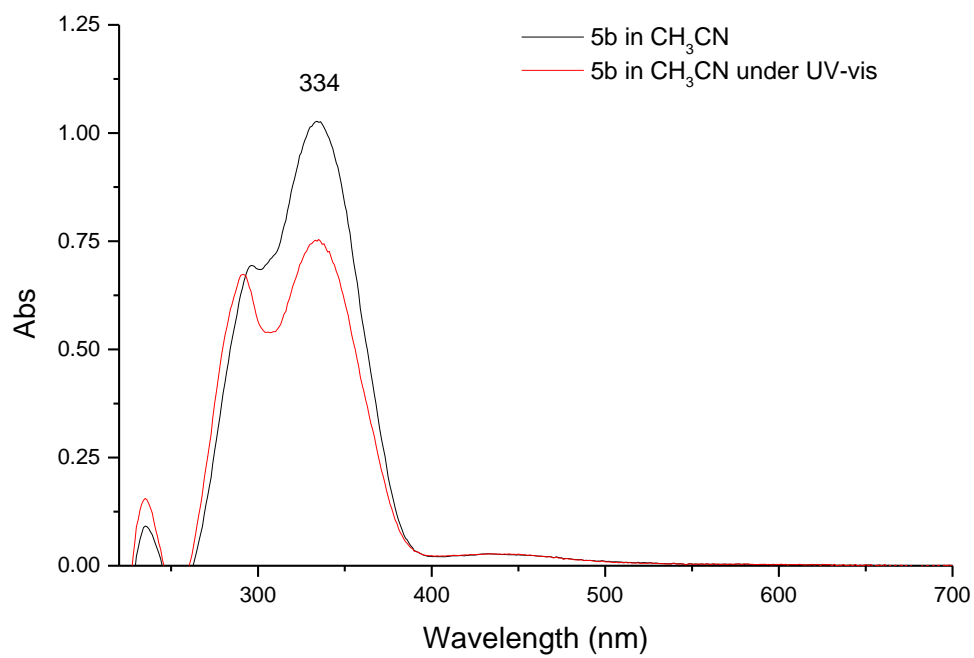
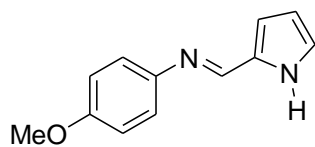
\* Corresponding author Tel.: +351 253 604381; Fax: 253 604382; e-mail address: mfox@quimica.uminho.pt

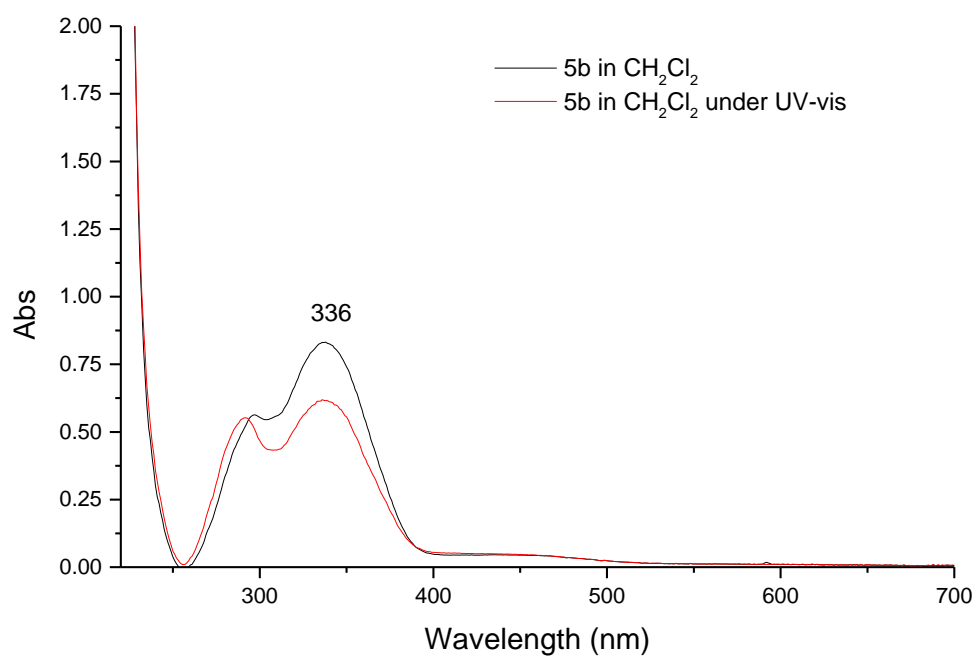
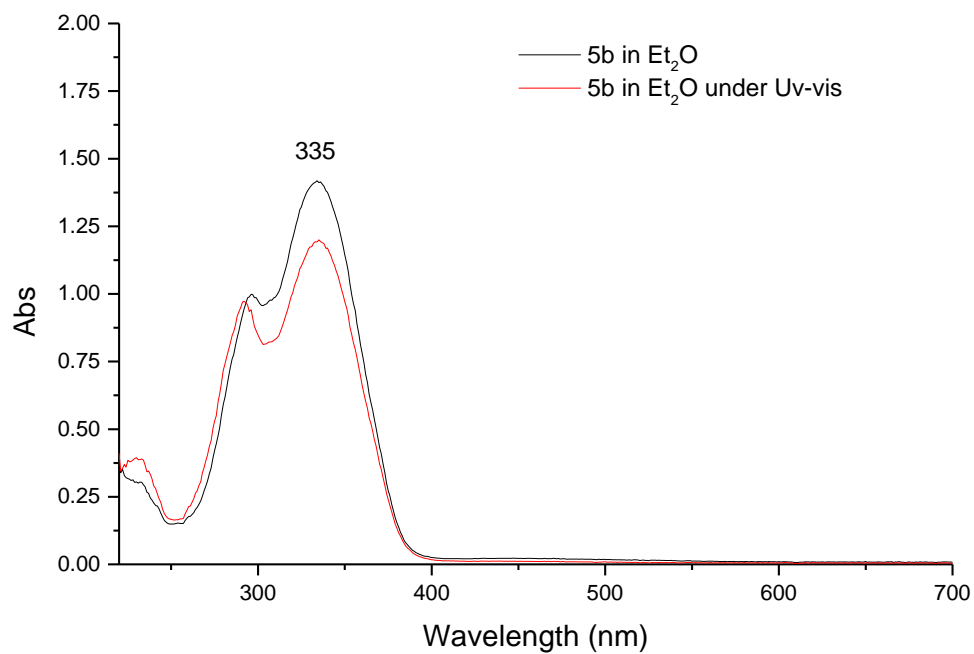
# 1. UV/vis Spectra of compounds 5-7 in different solvents

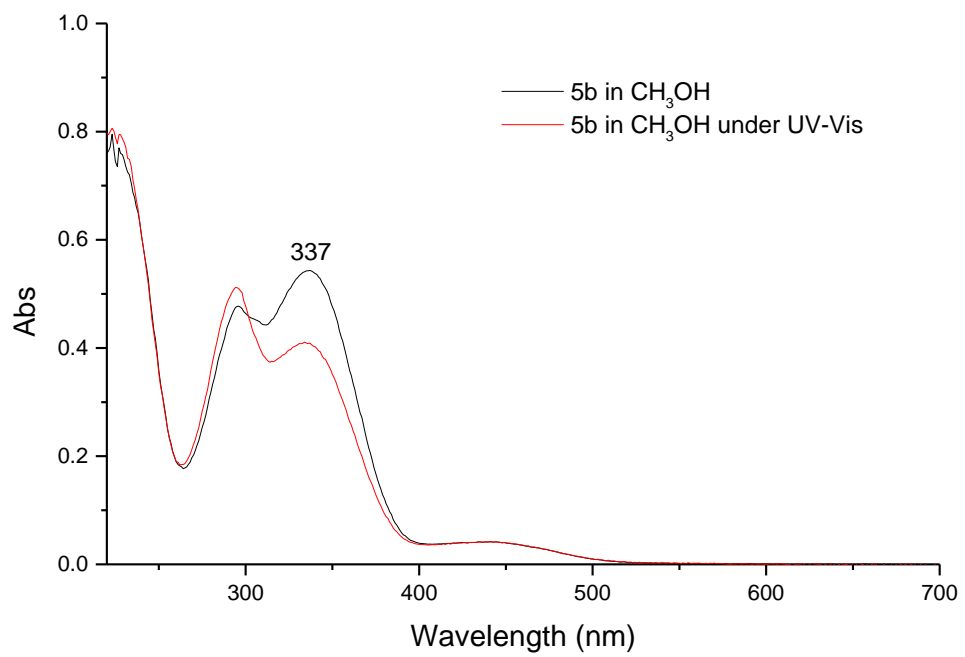
## 1.1. Imine 5a



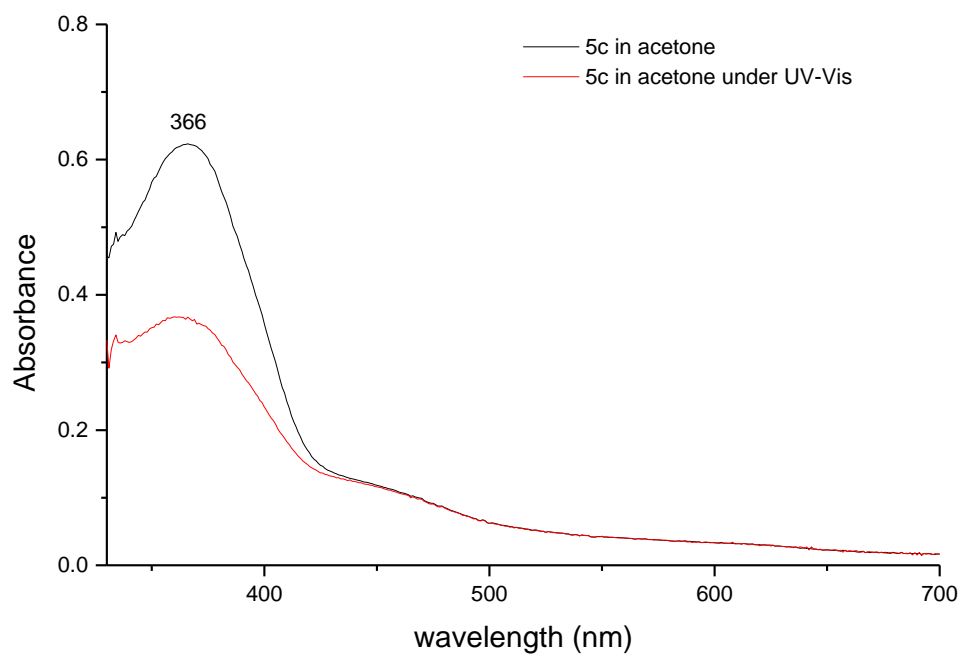
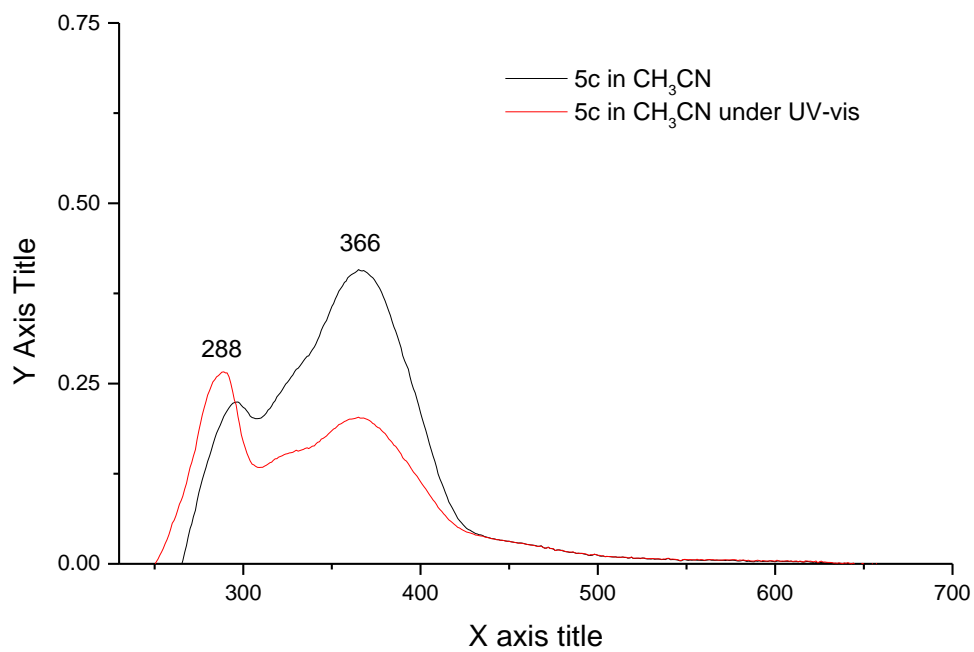
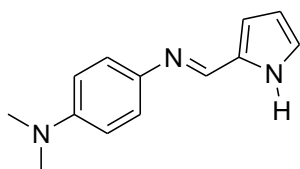
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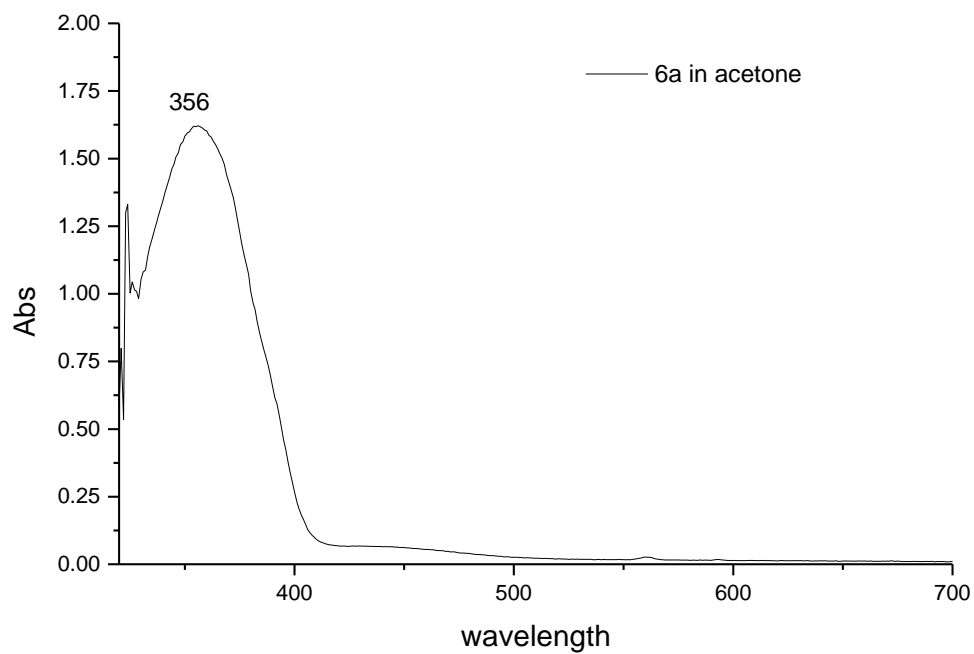
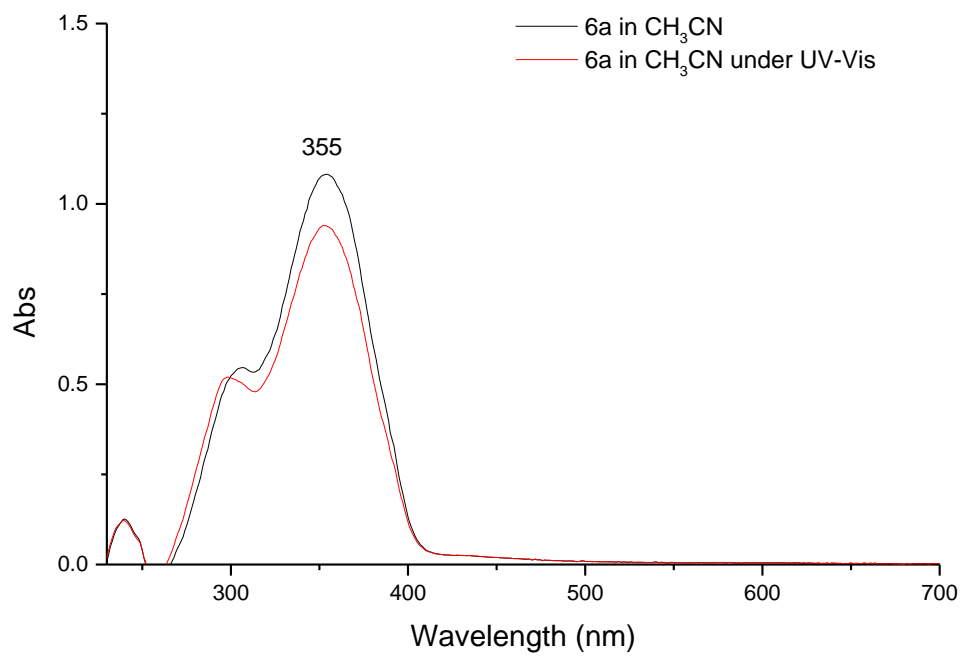
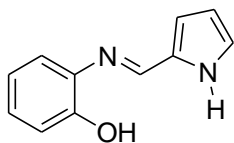




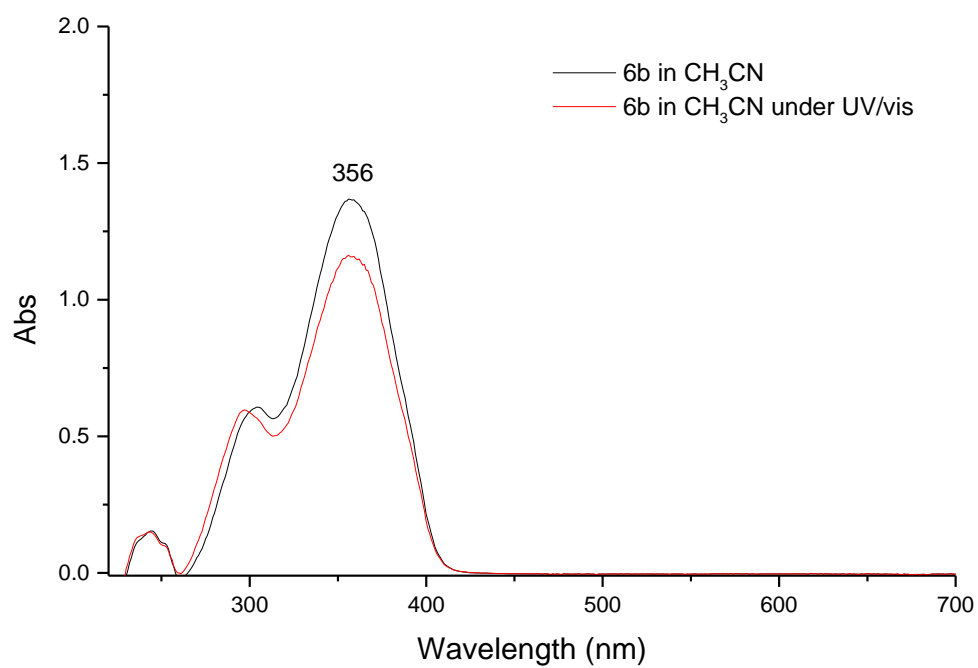
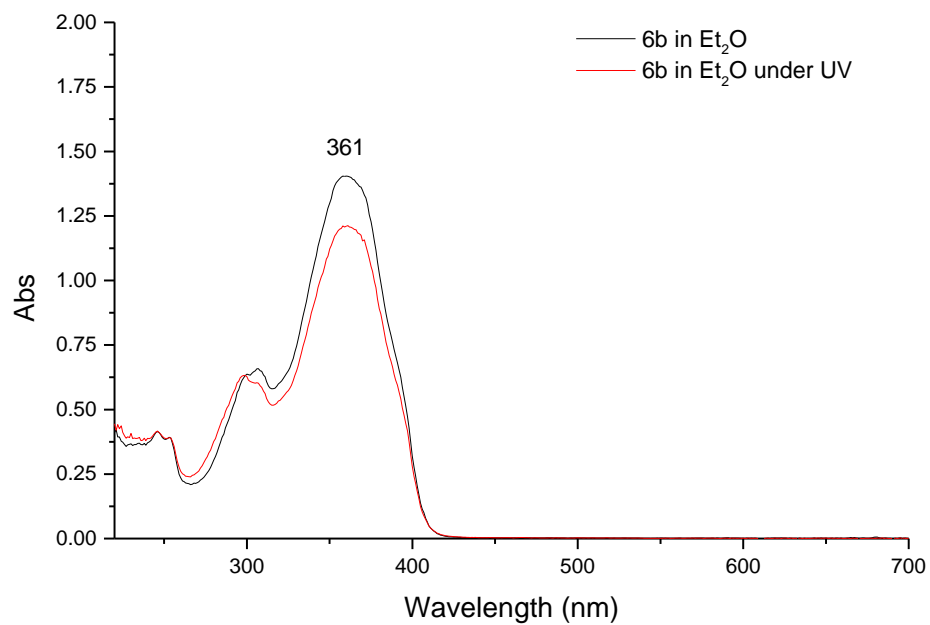
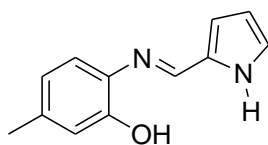
### 1.3. Imine 5c



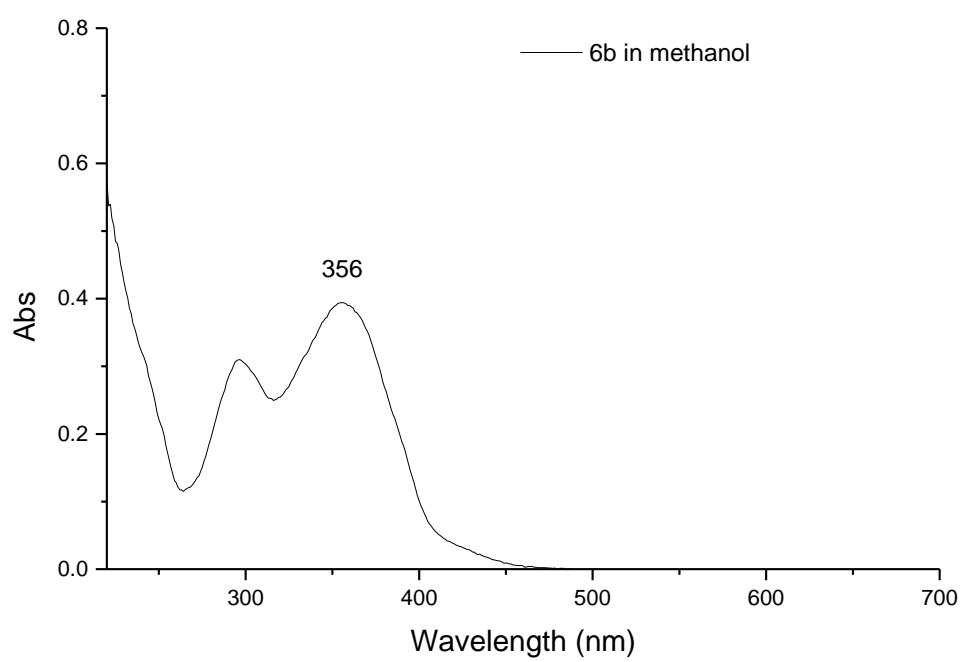
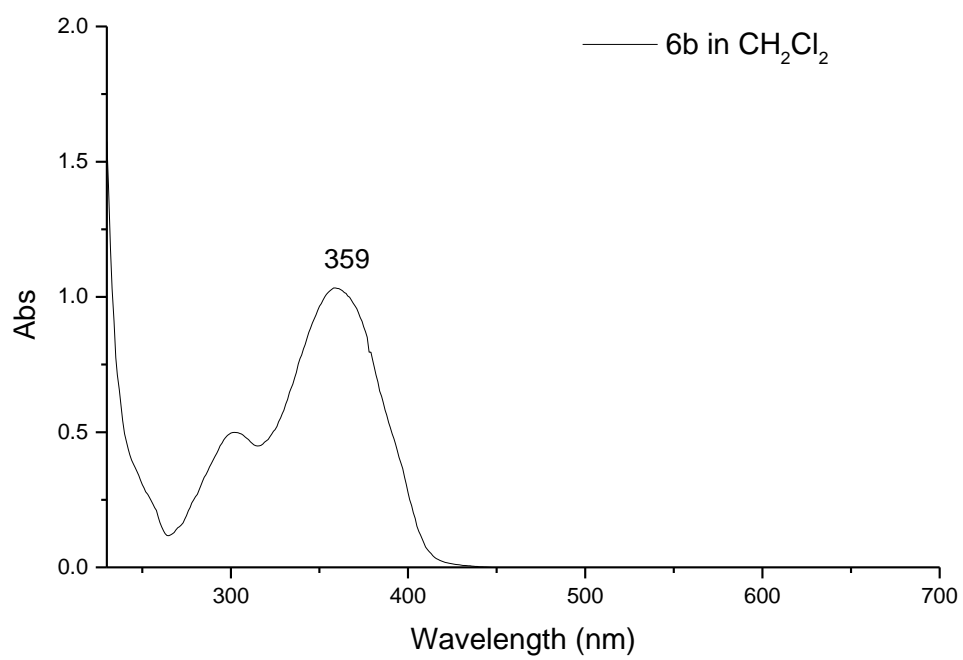
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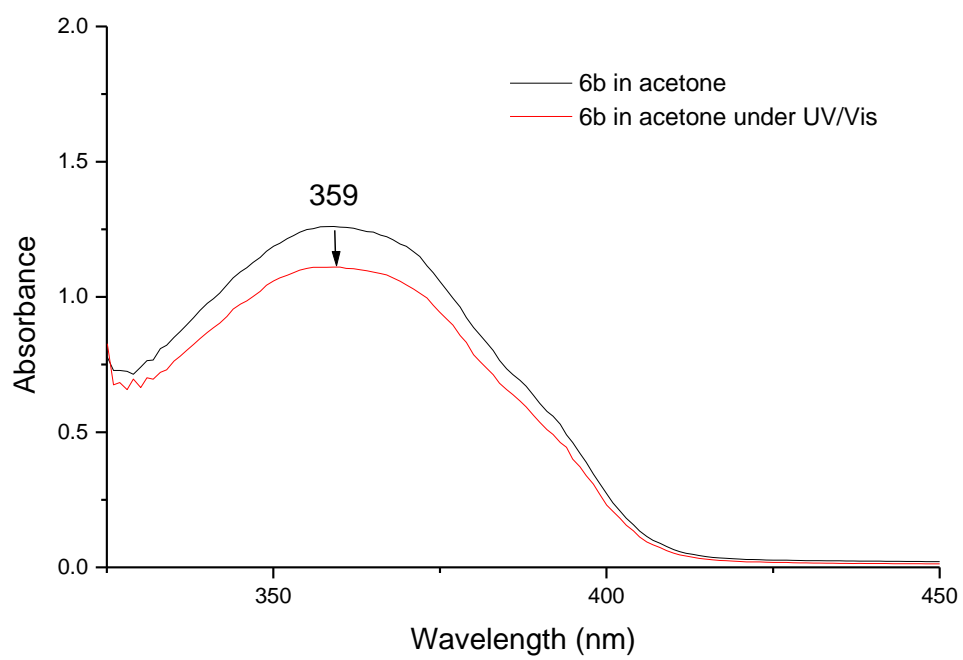


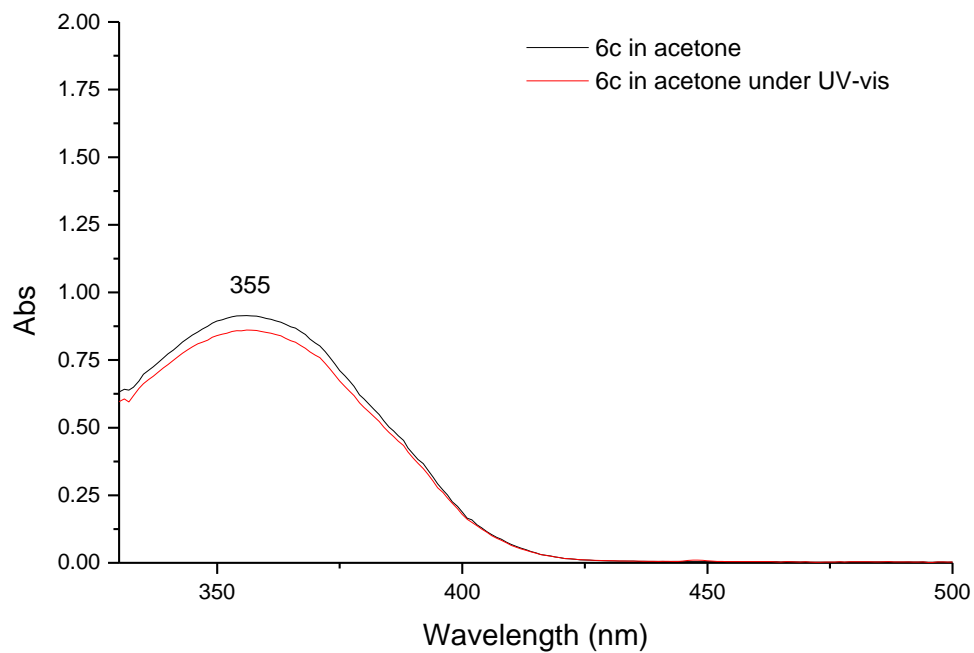
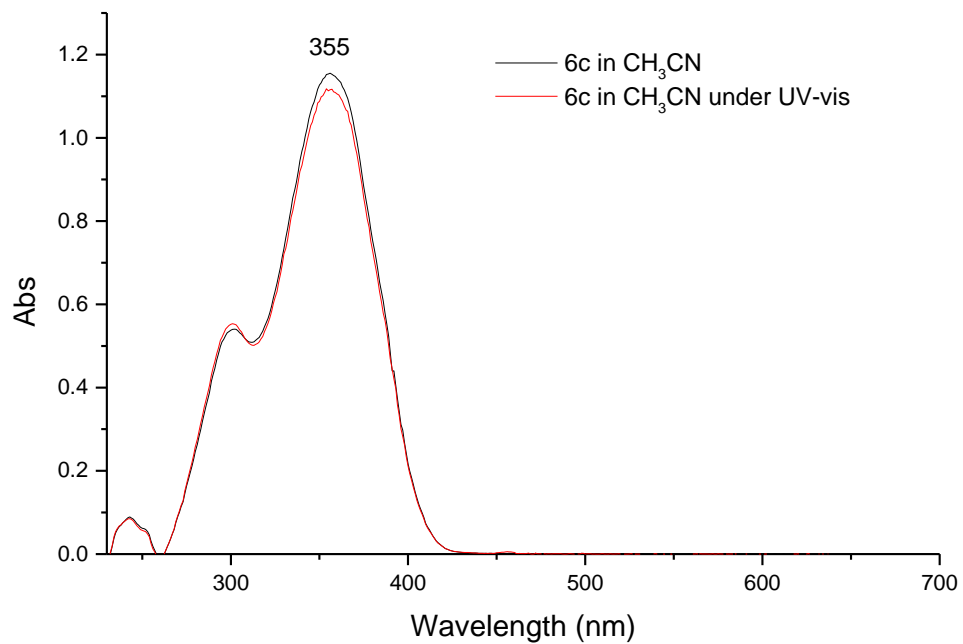
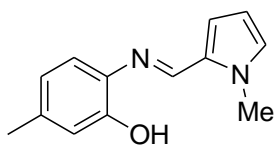
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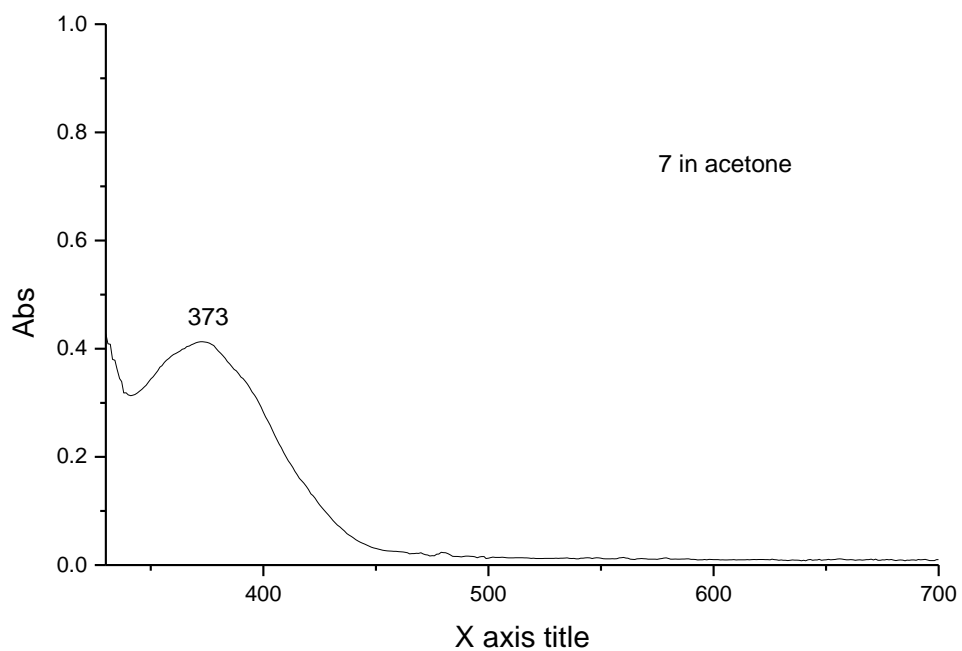
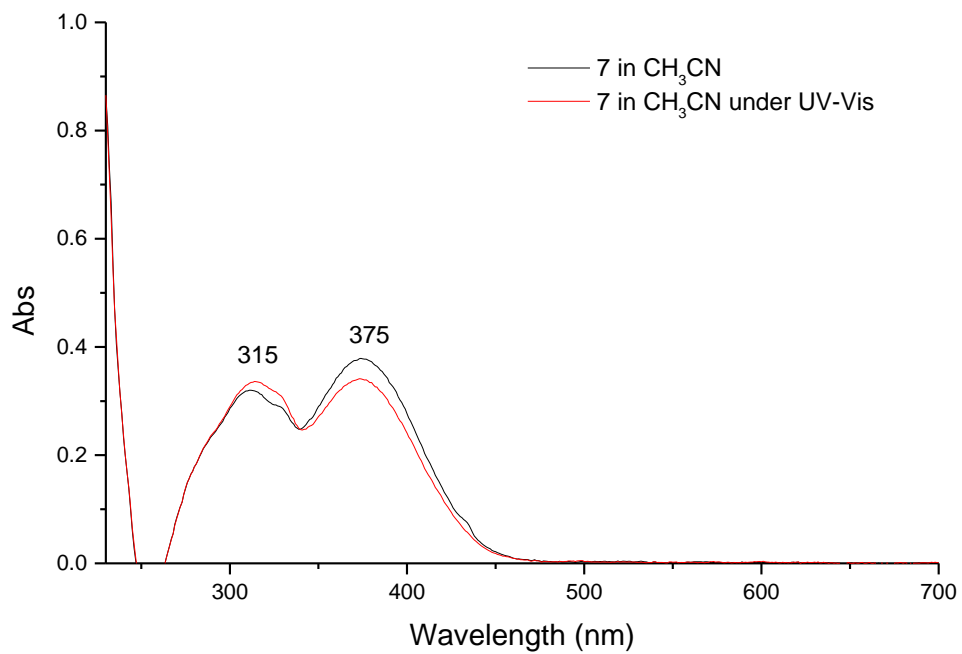
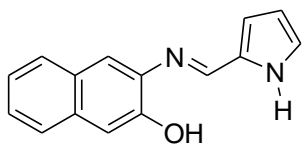






**1.6. Imine 6c**

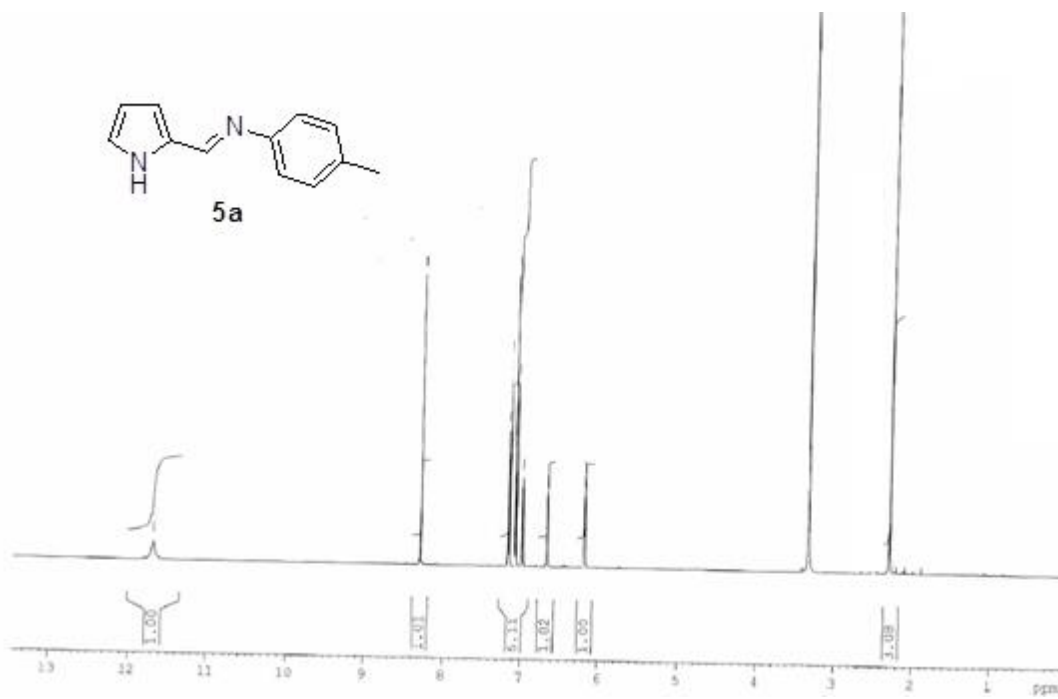
## 1.7. Imine 7



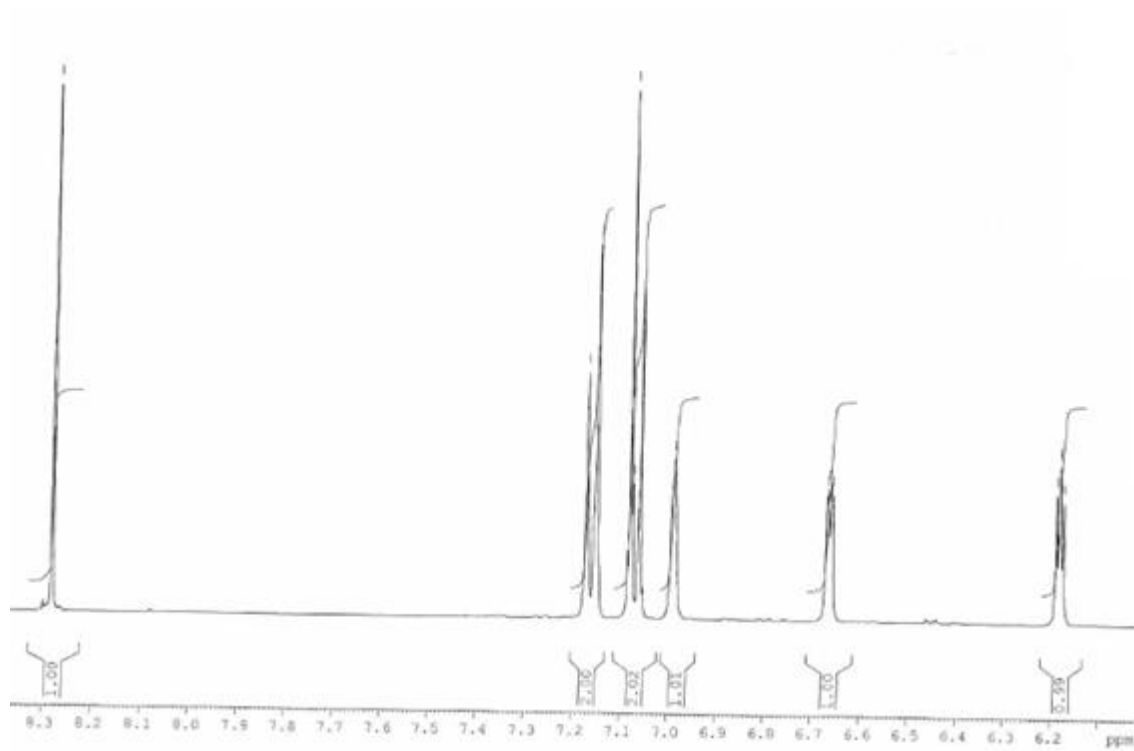
## 2. $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of compounds 5-7

### 2.1. $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of compound 5a.

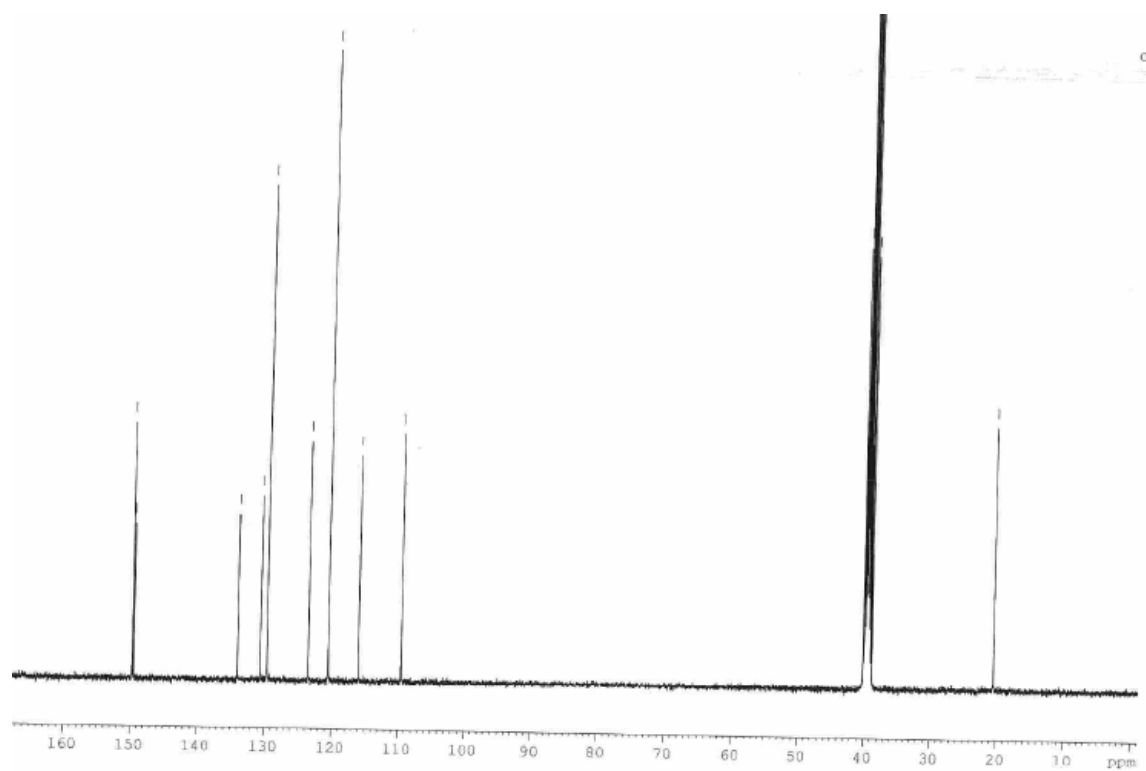
$^1\text{H}$  NMR data for compound 5a.



Expansion of aromatic zone

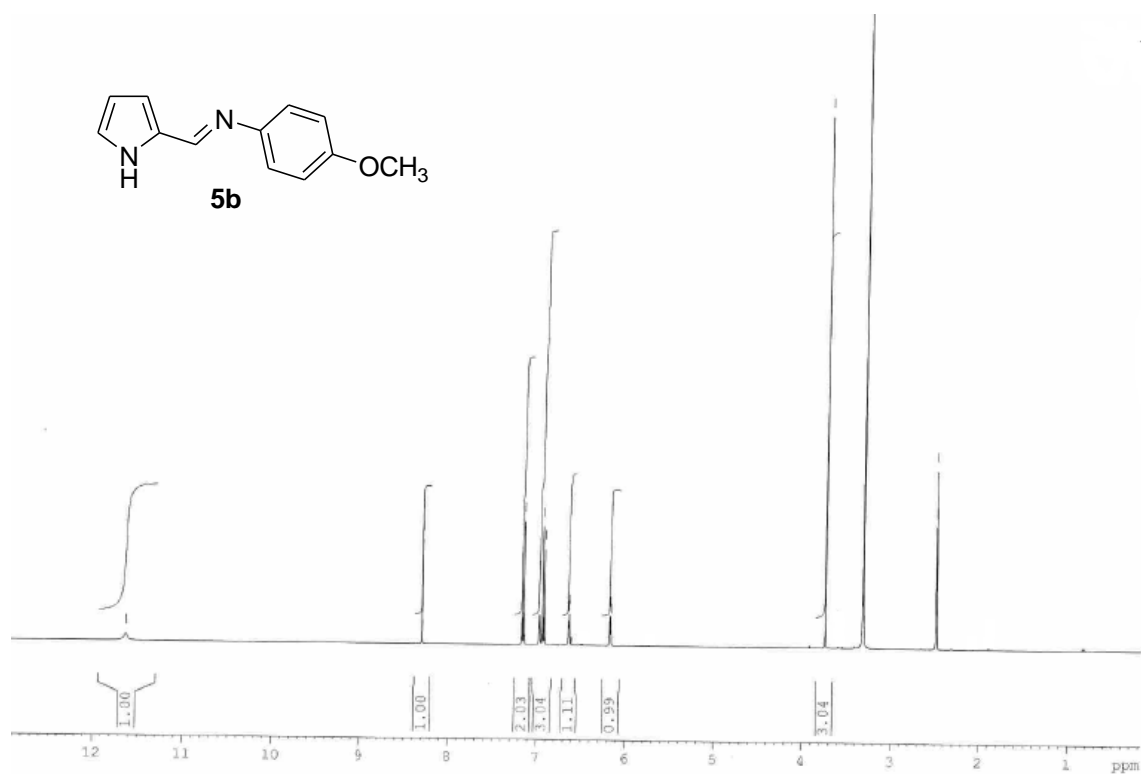


$^{13}\text{C}$  NMR data for compound **5a**.

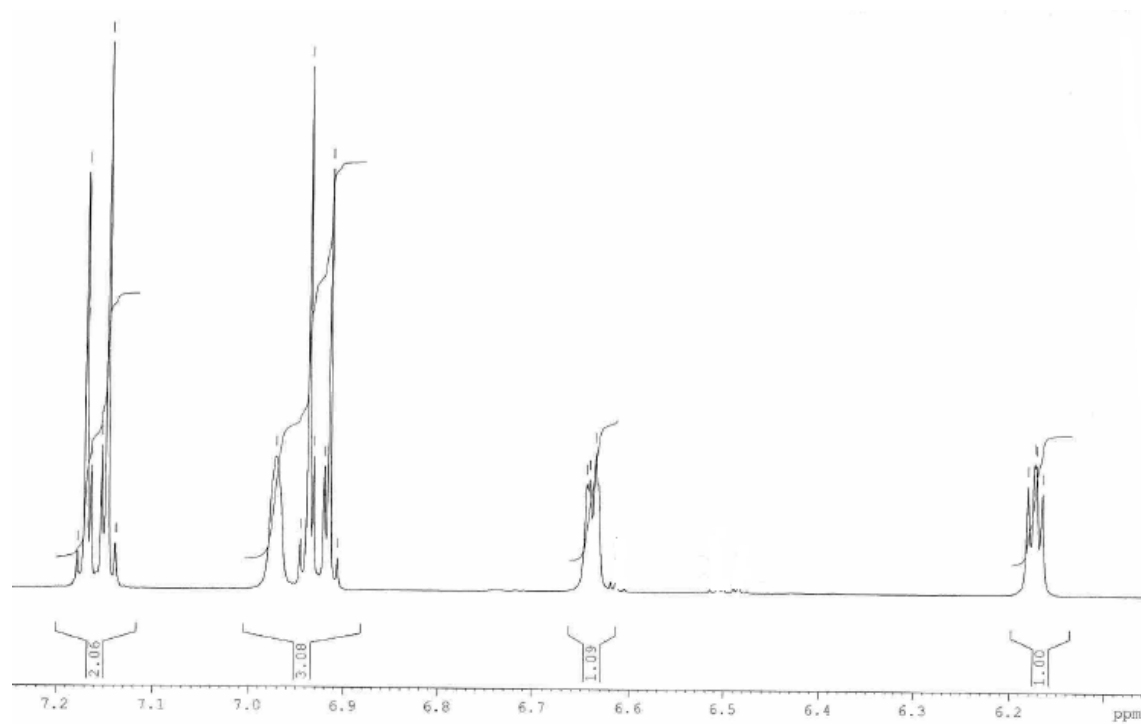


## 2.2. $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of compound 5b.

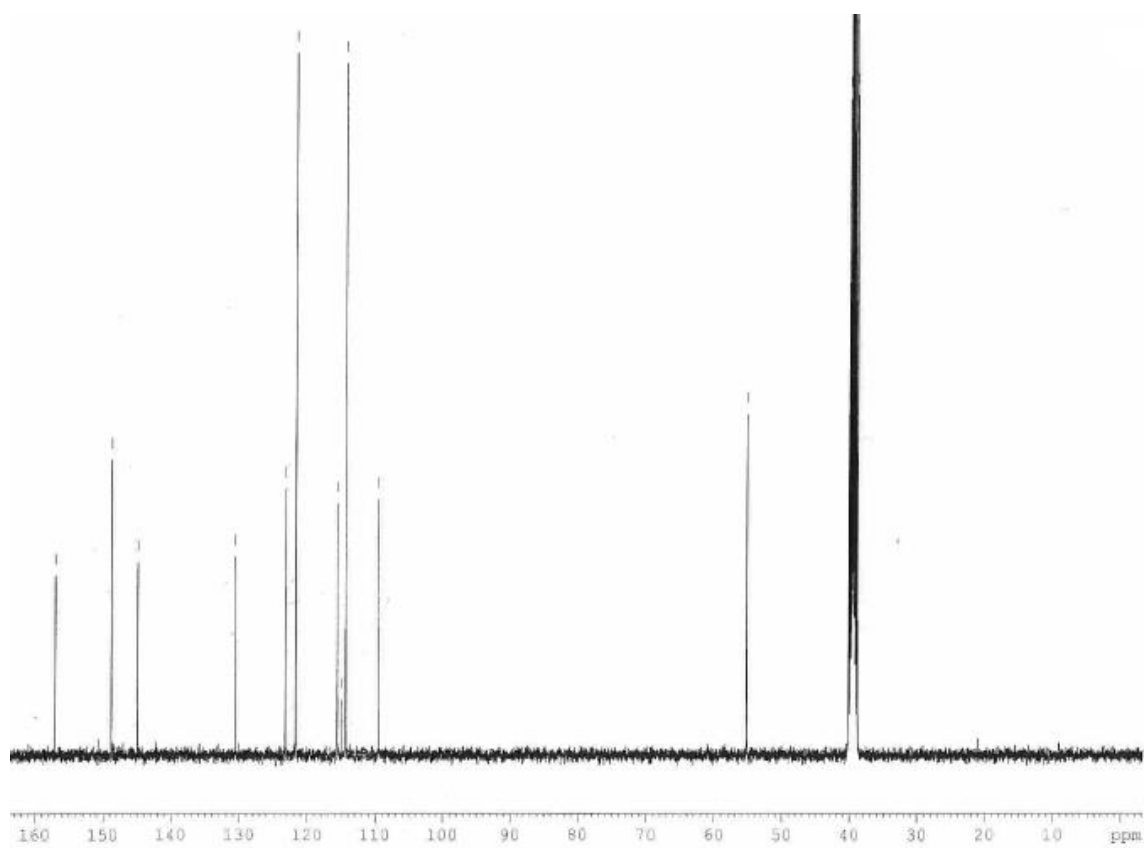
$^1\text{H}$  NMR data for compound 5b.



Expansion of aromatic zone



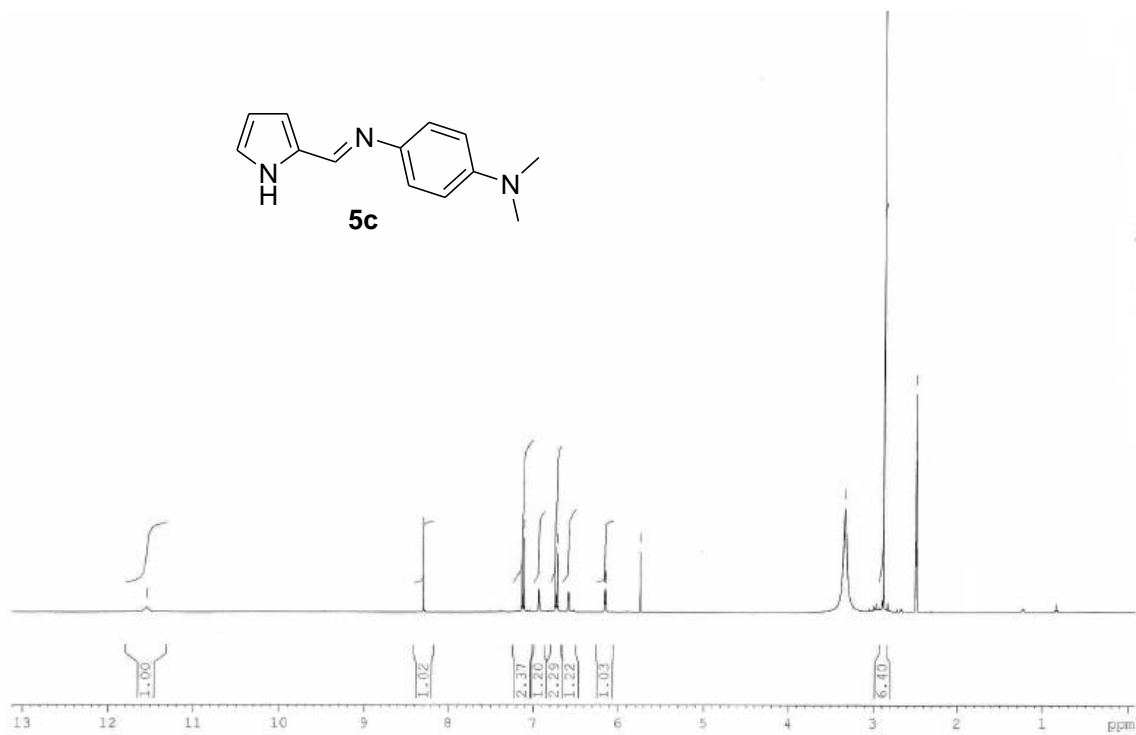
$^{13}\text{C}$  NMR data for compound **5b**.



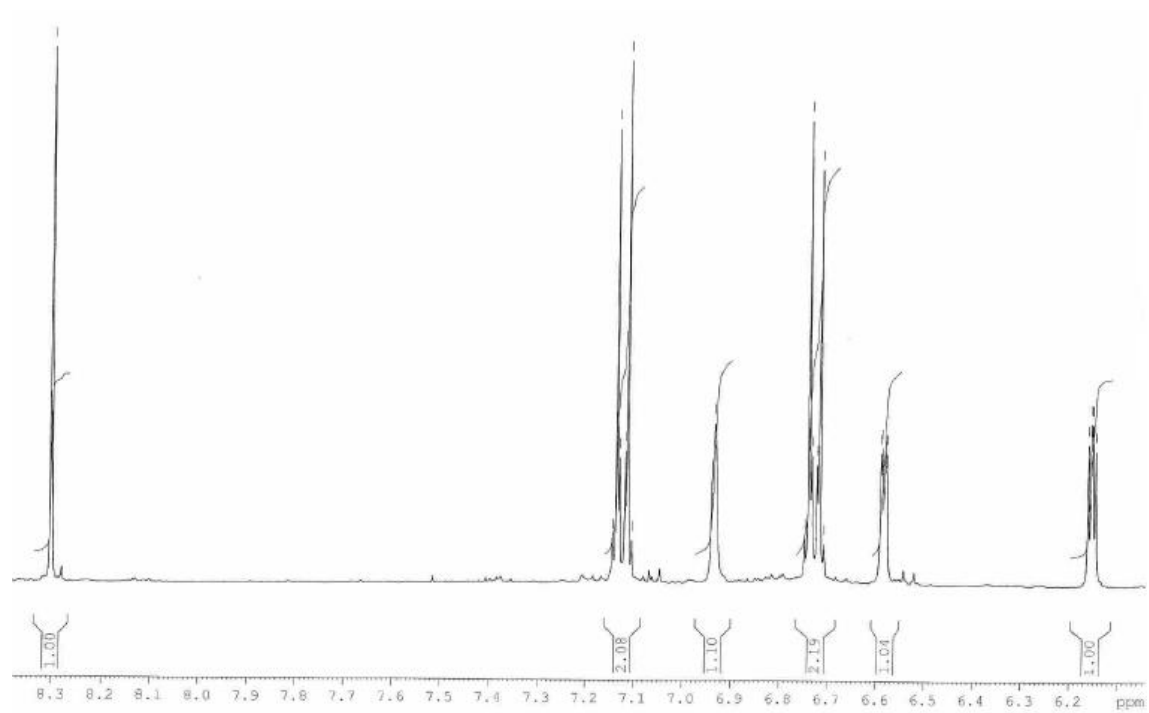


### 2.3. $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of compound 5c.

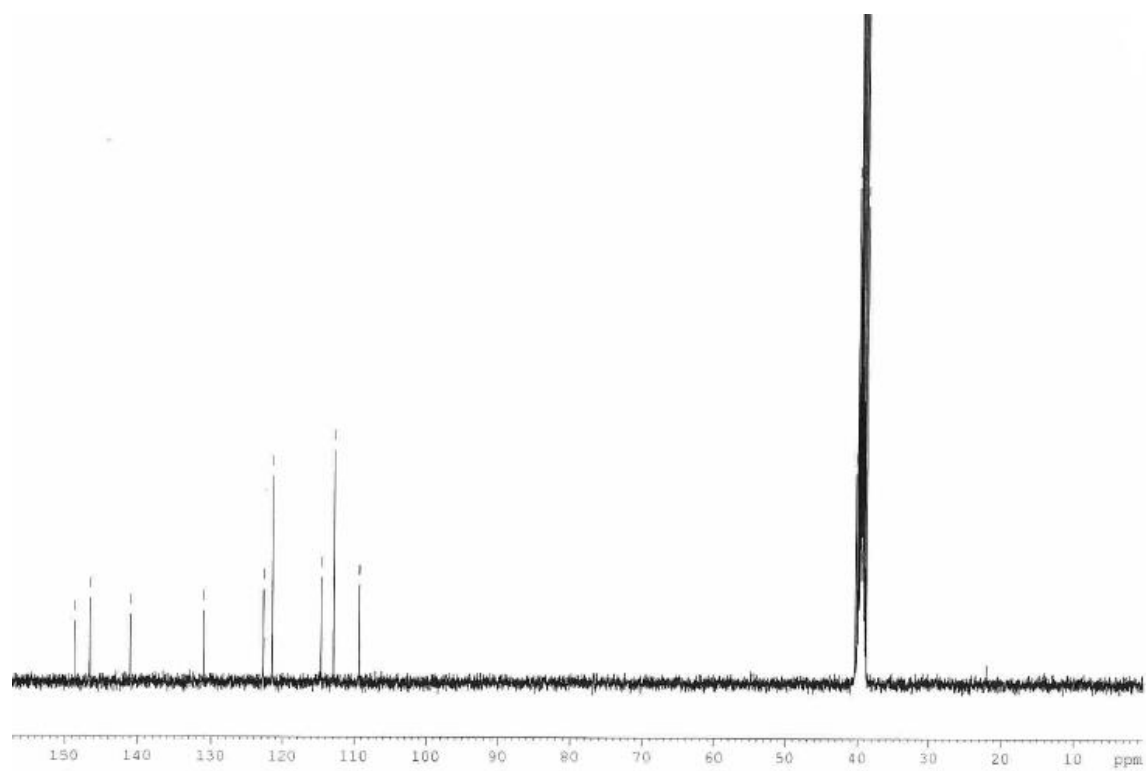
$^1\text{H}$  NMR data for compound 5c.



Expansion of aromatic zone

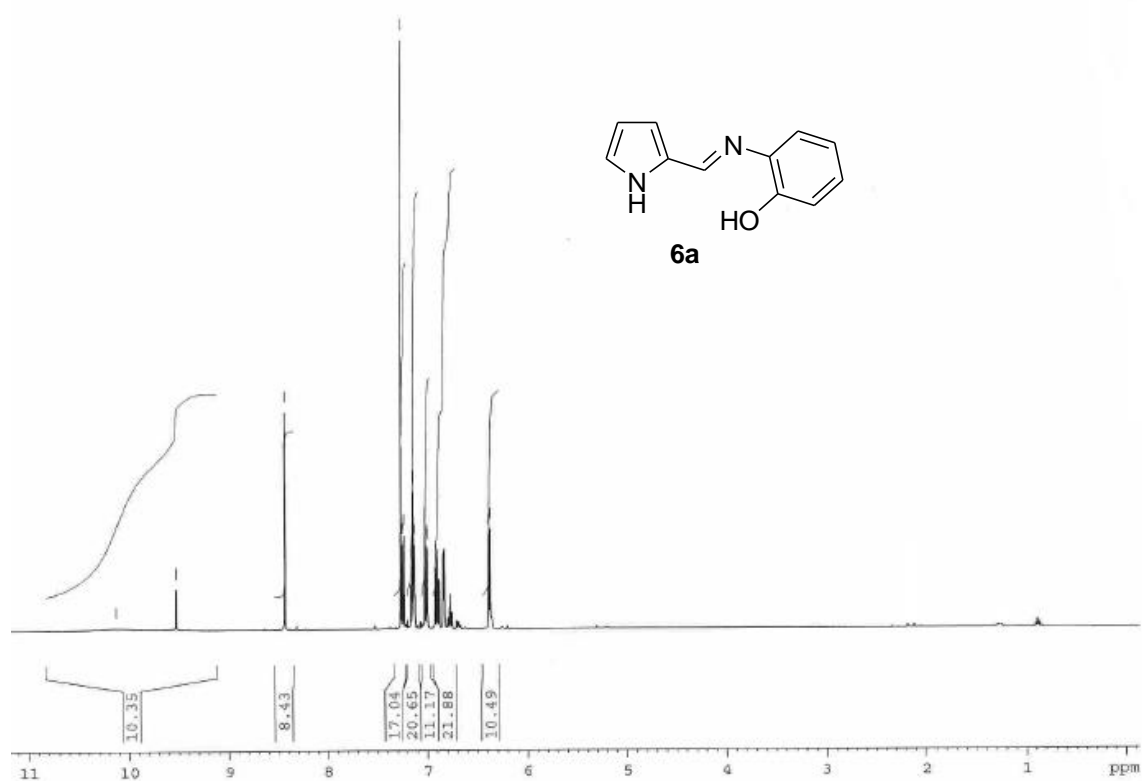


$^{13}\text{C}$  NMR data for compound **5c**.

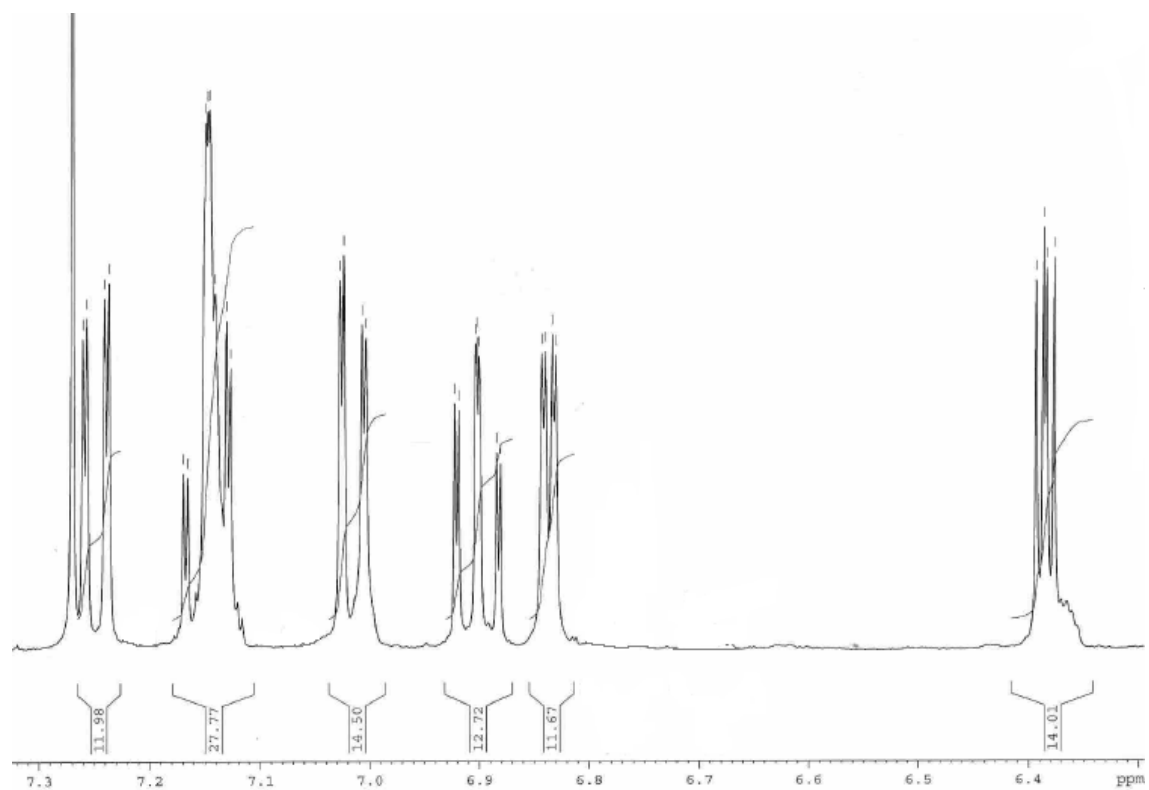


## 2.4. $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of compound 6a.

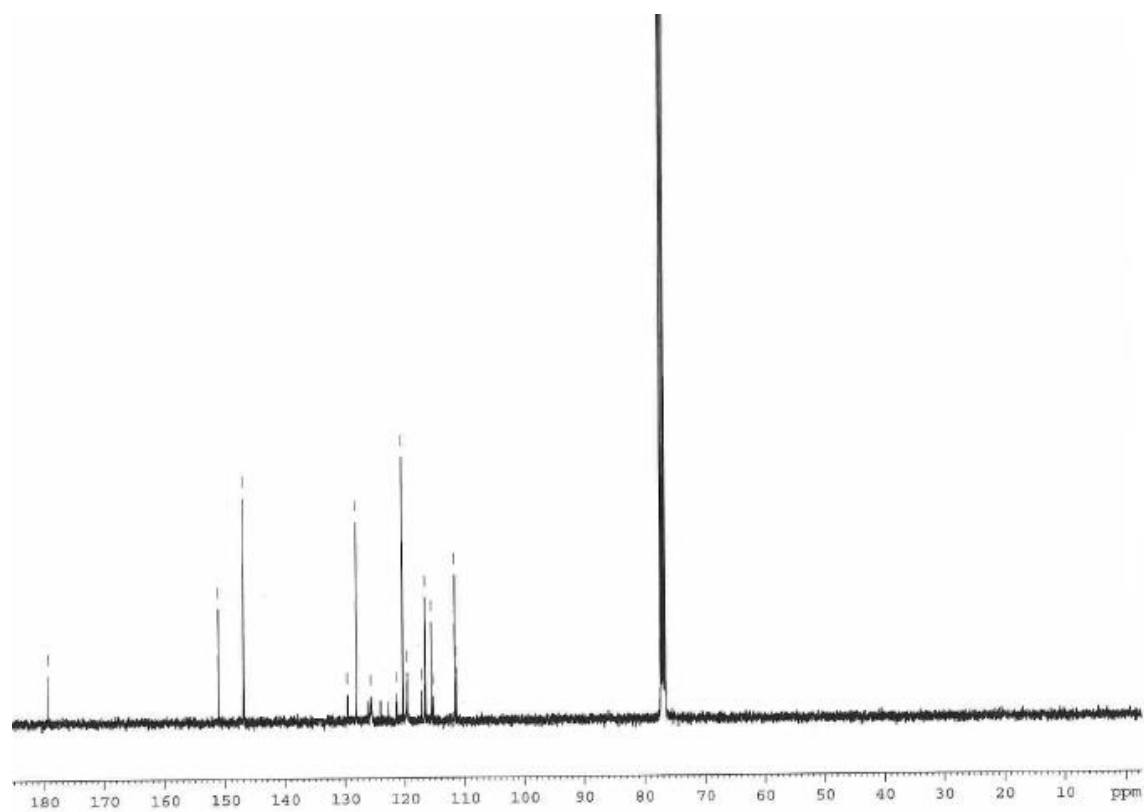
$^1\text{H}$  NMR data for compound 6a.



Expansion of aromatic zone

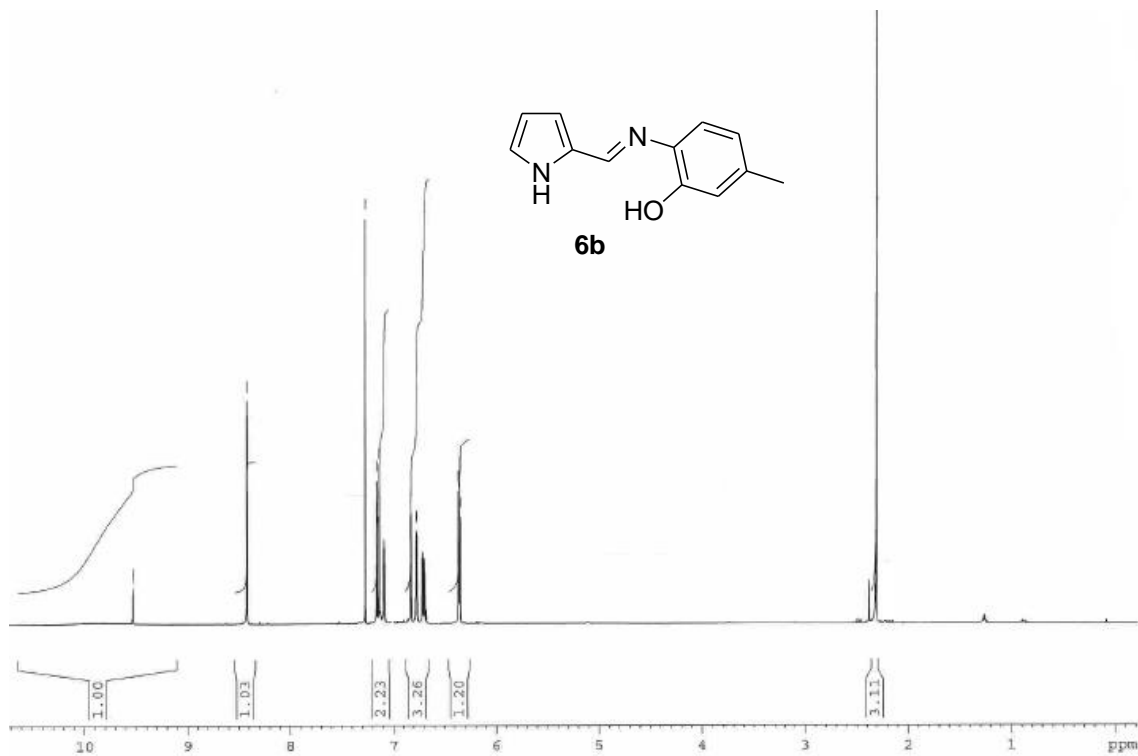


$^{13}\text{C}$  NMR data for compound **6a**.

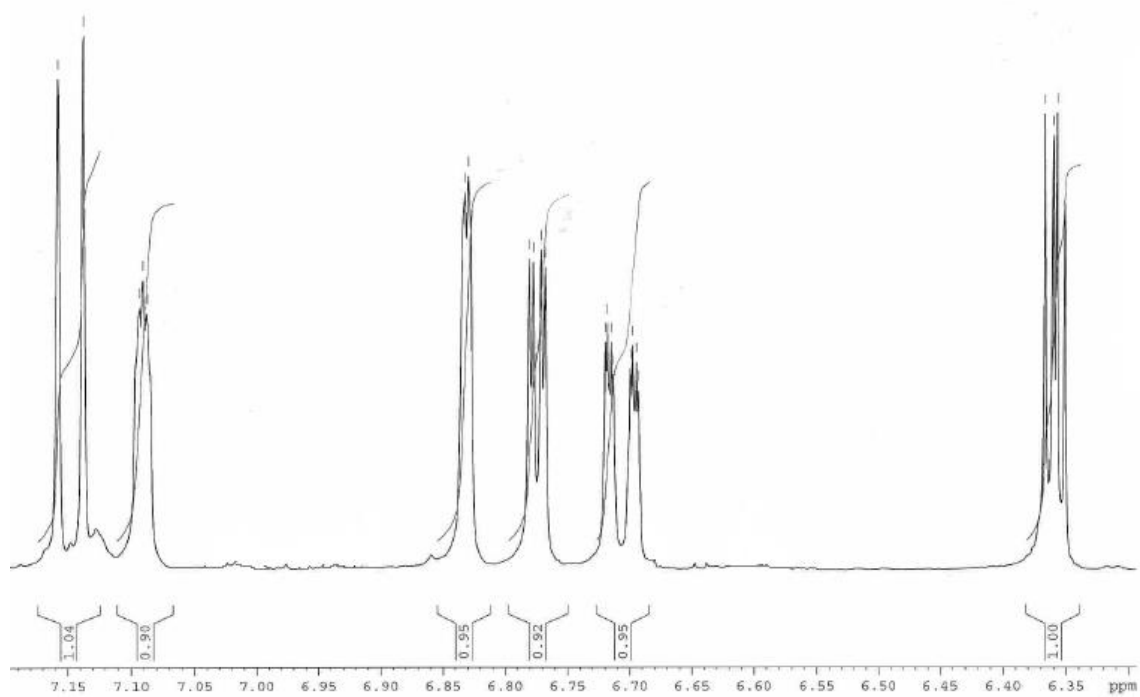


## 2.5. $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of compound 6b.

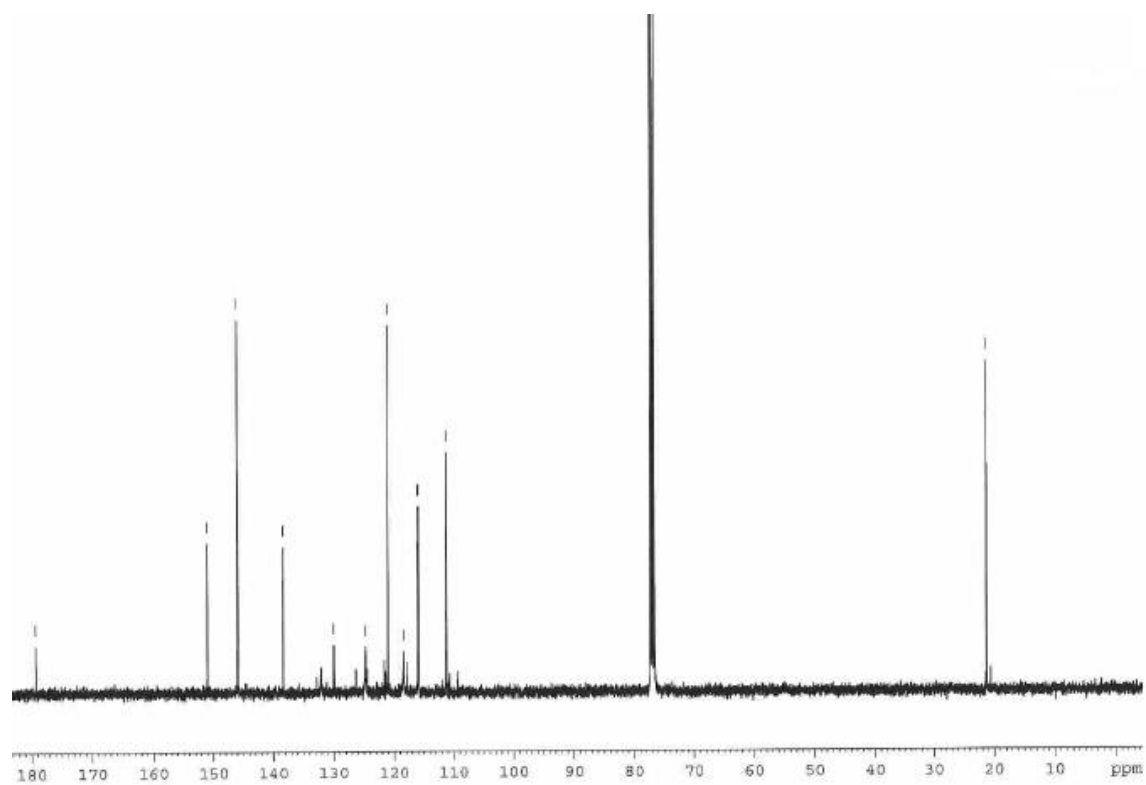
$^1\text{H}$  NMR data for compound 6b.



Expansion of aromatic zone

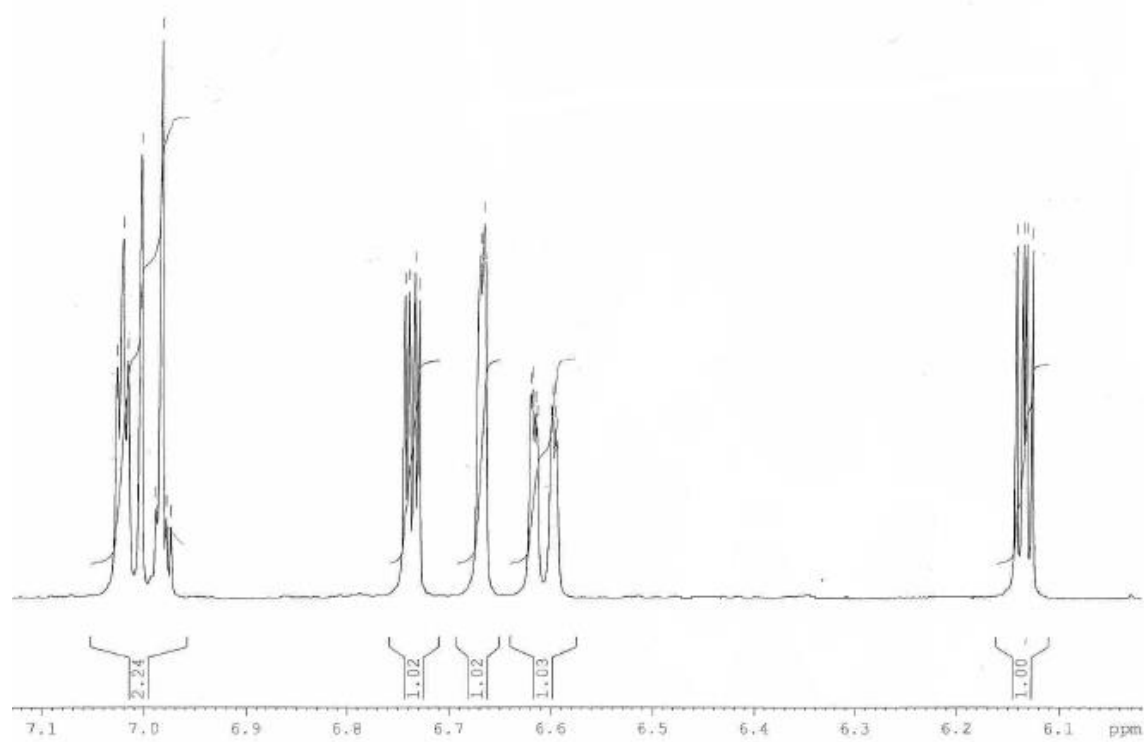
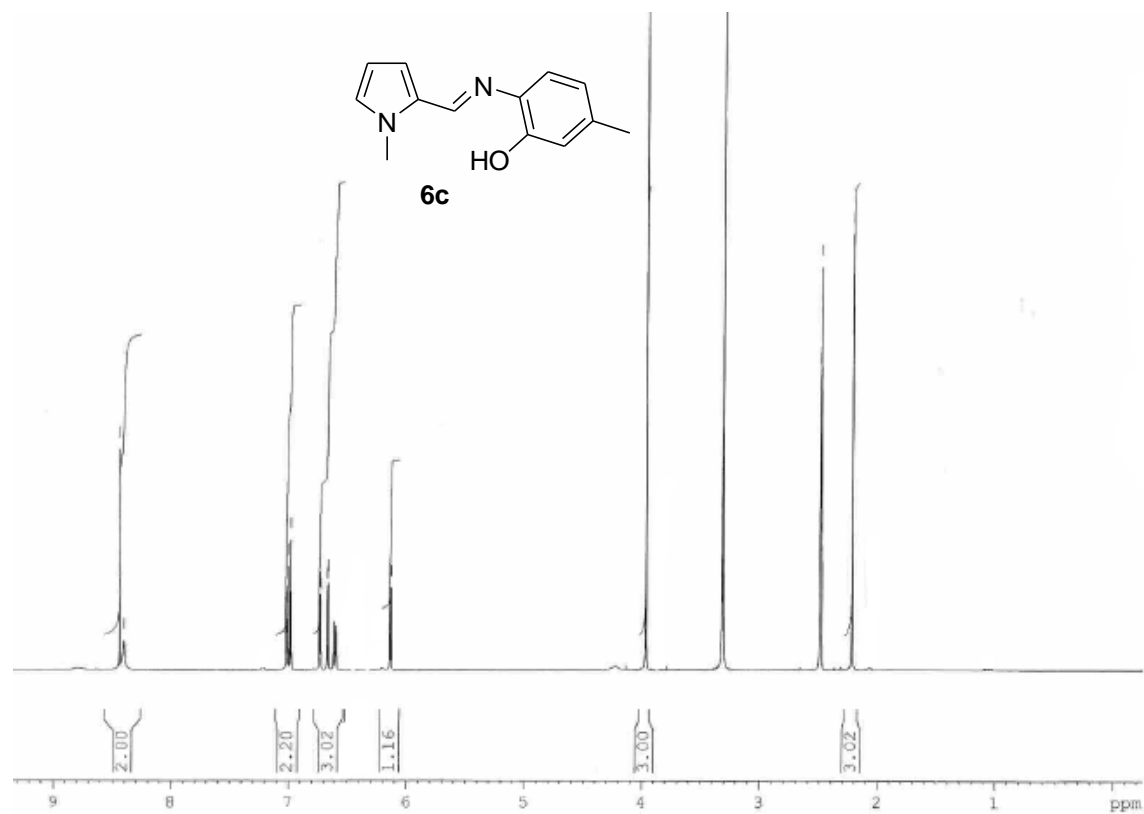


$^{13}\text{C}$  NMR data for compound **6b**.

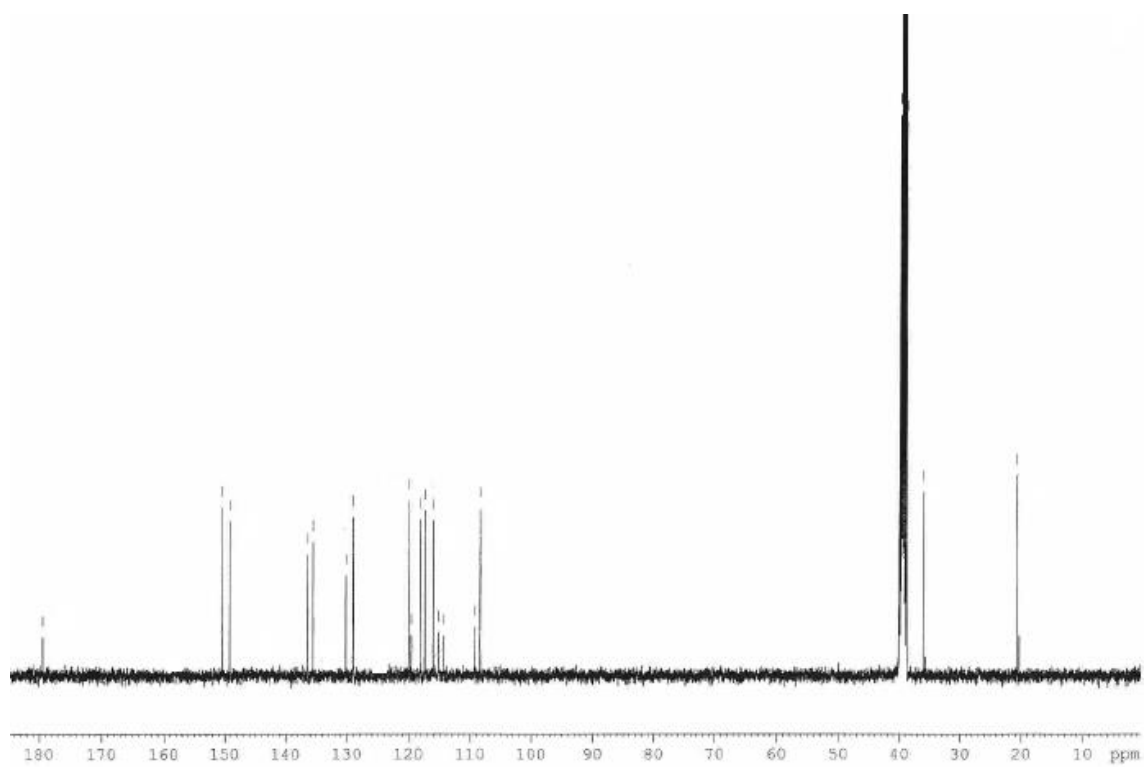


## 2.6. $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of compound **6c**.

$^1\text{H}$  NMR data for compound **6c**.



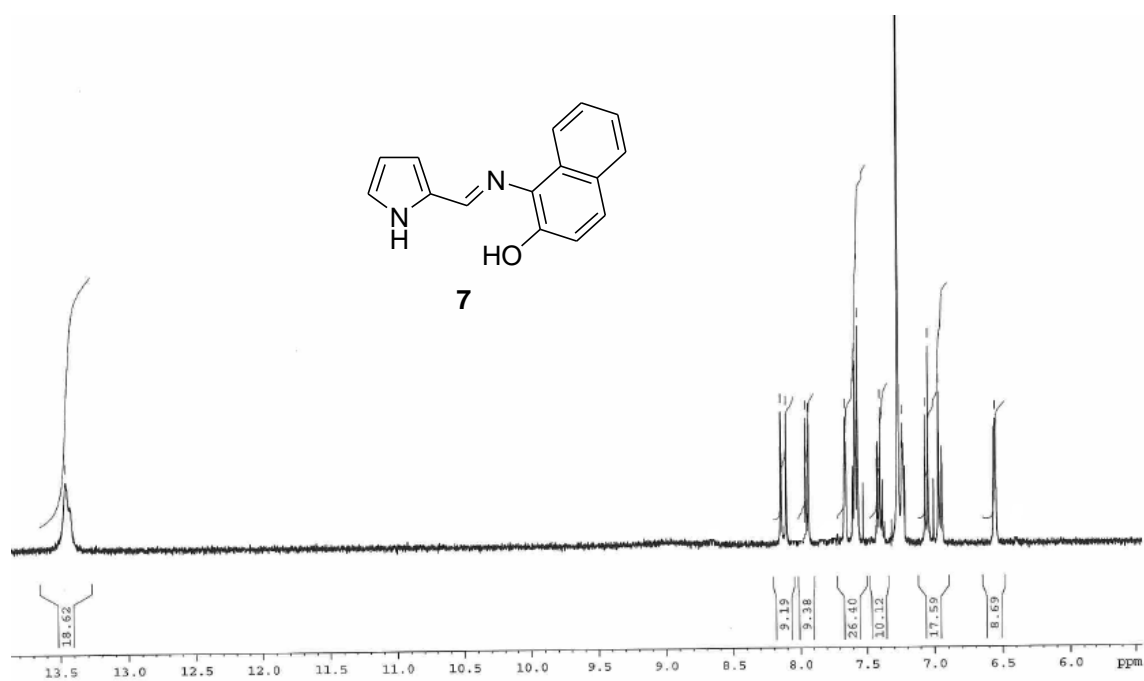
$^{13}\text{C}$  NMR data for compound **6c**.



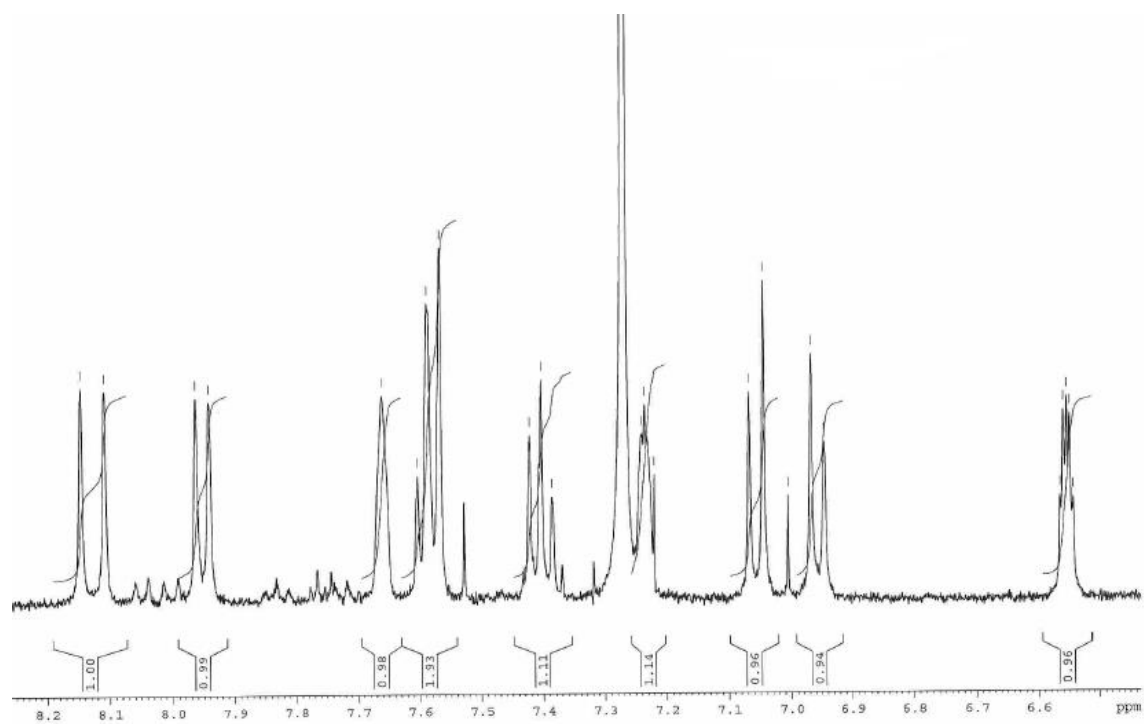


## 2.7. $^1\text{H}$ and $^{13}\text{C}$ NMR spectra of compound 7

$^1\text{H}$  NMR data for compound 7 .

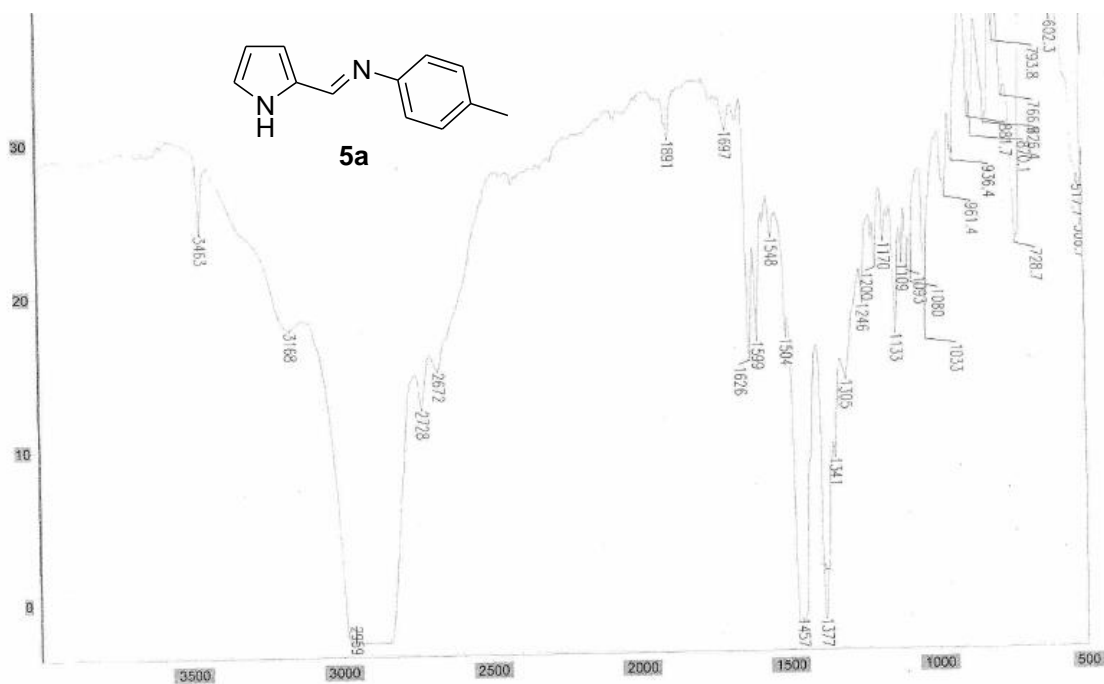


Expansion of aromatic zone

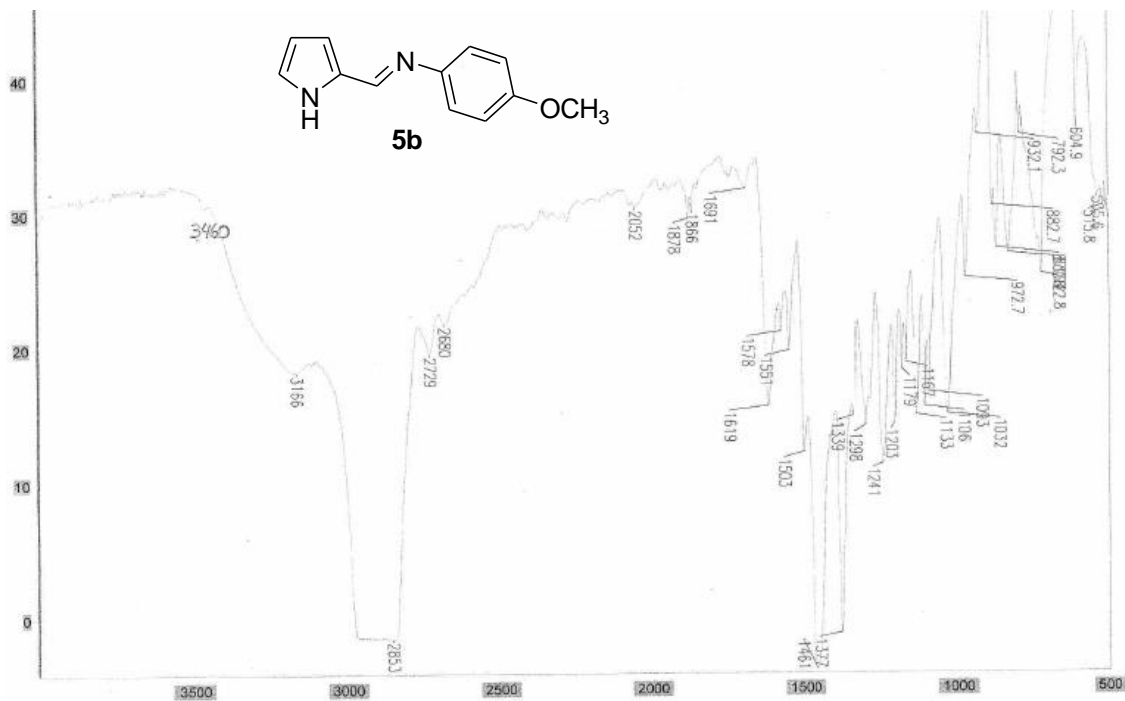


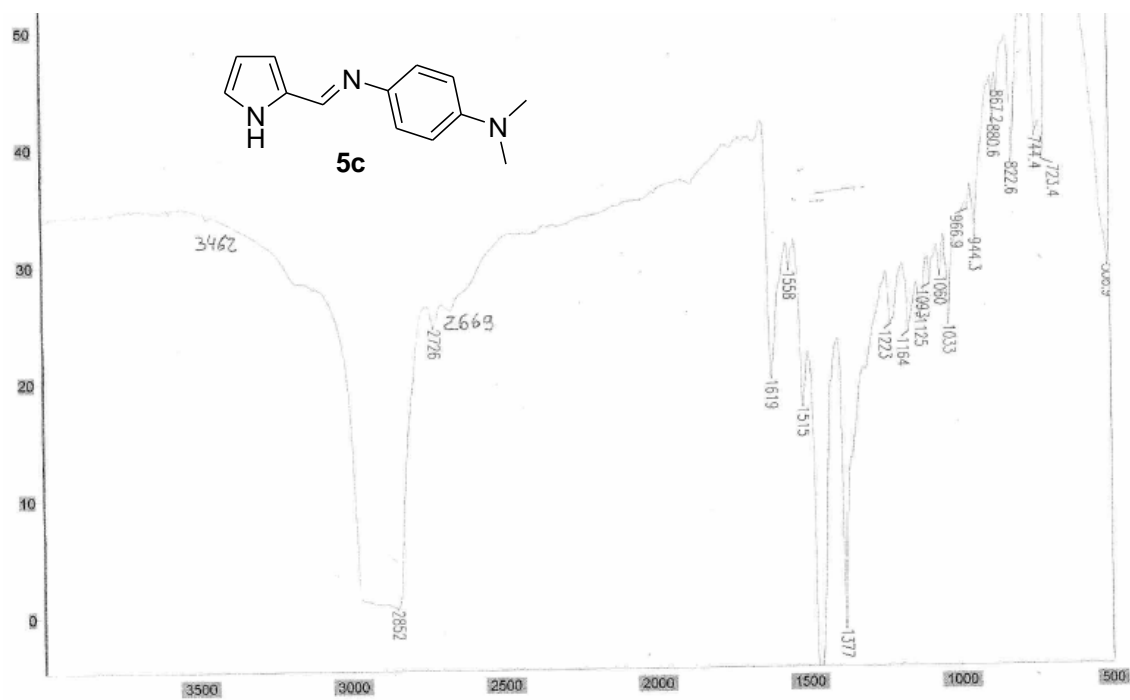
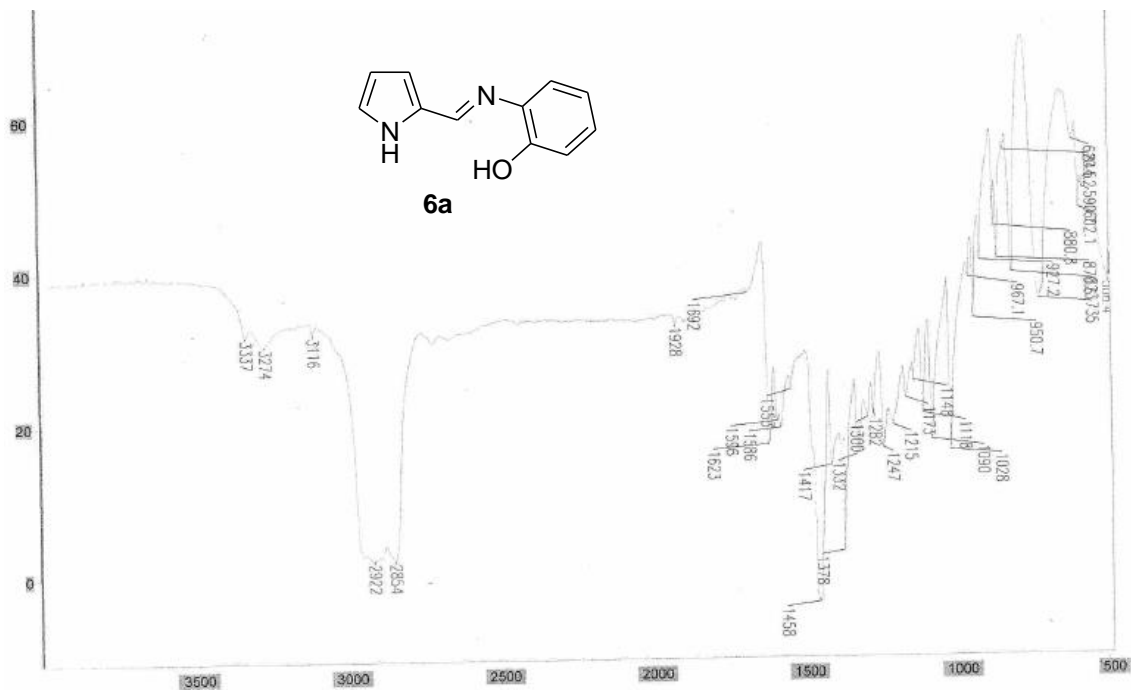
### 3. IR spectra of compounds 5-7.

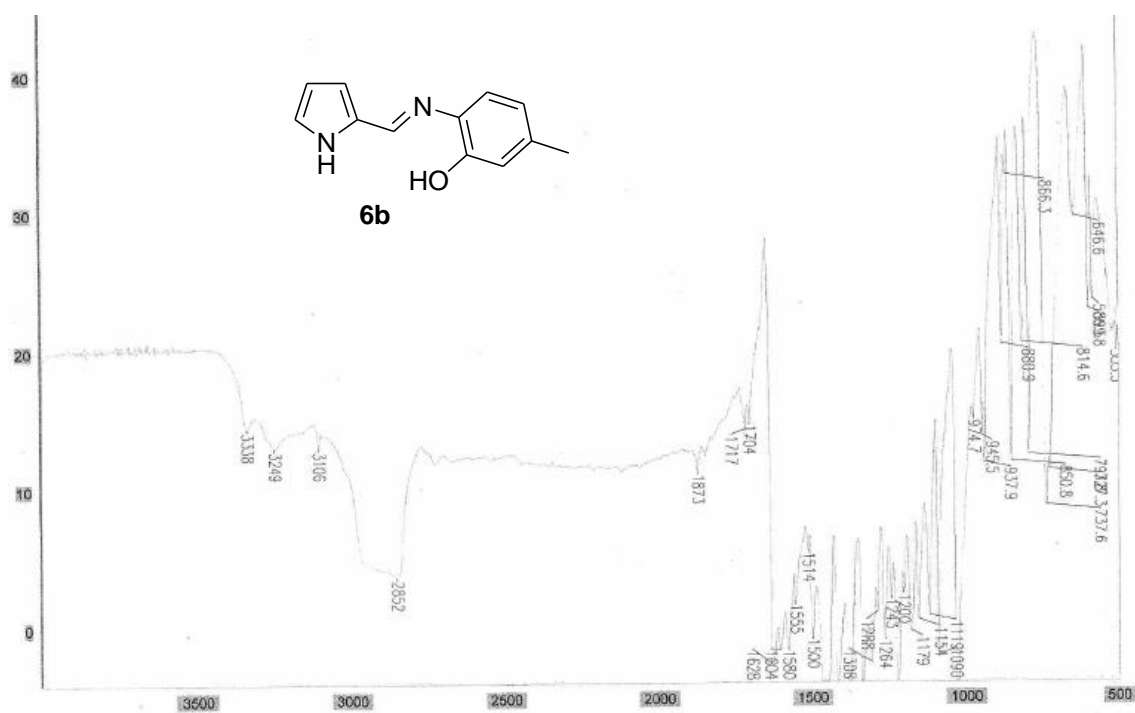
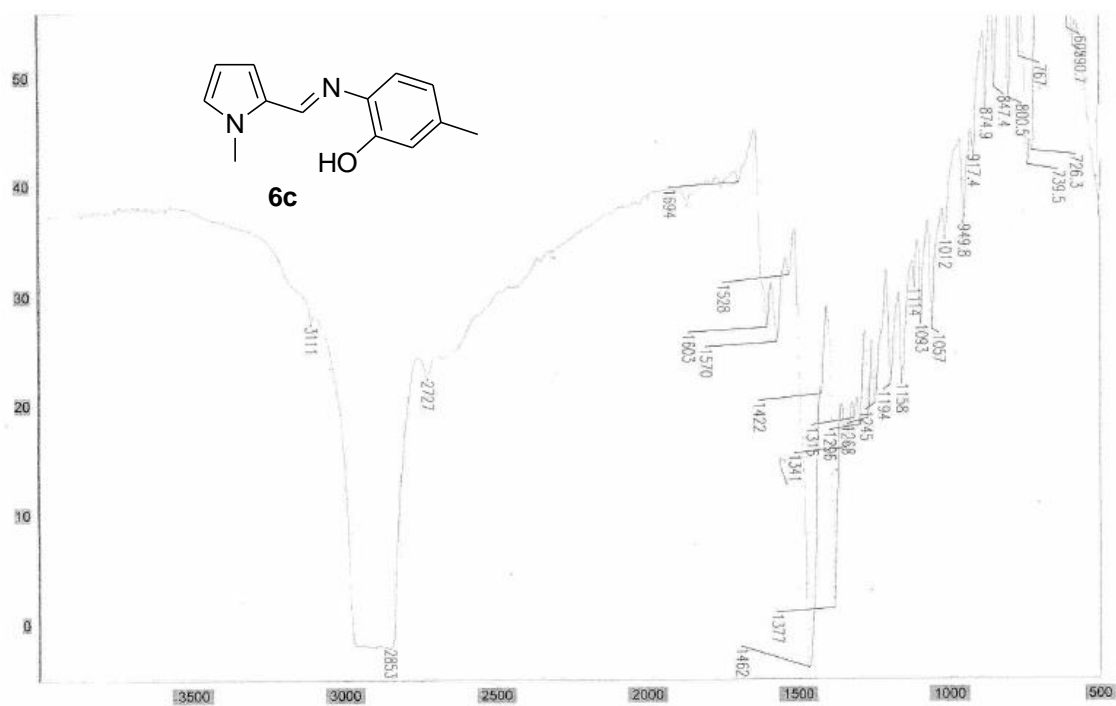
IR data for compound **5a**.



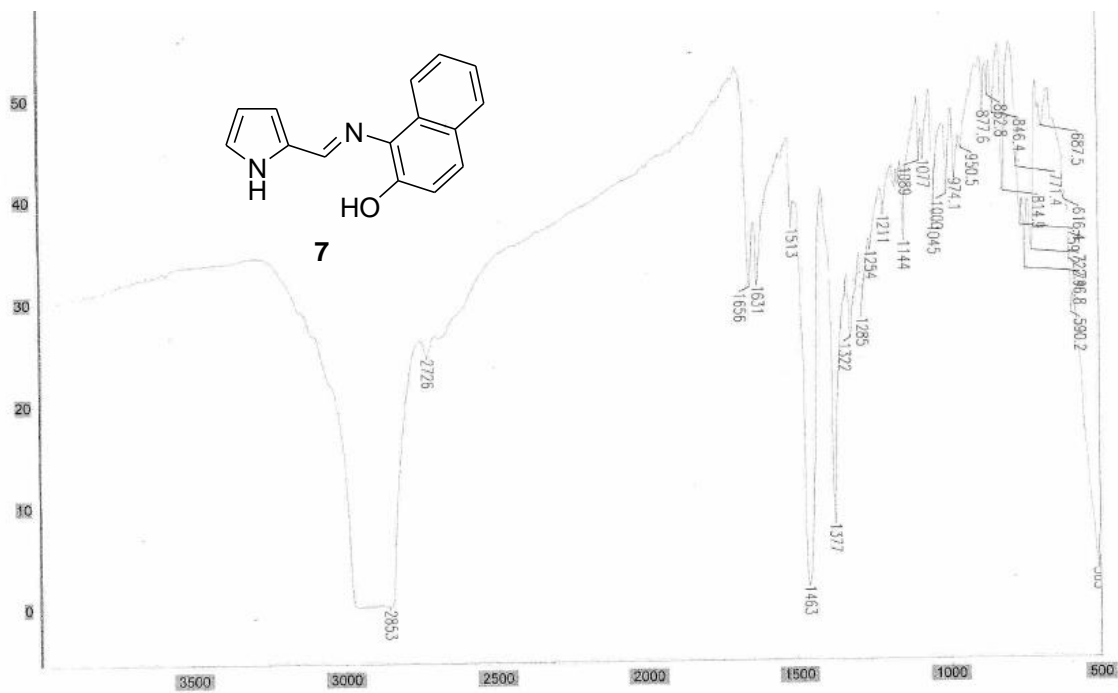
IR data for compound **5b**.



IR data for compound **5c**.IR data for compound **6a**.

IR data for compound **6b**.IR data for compound **6c**.

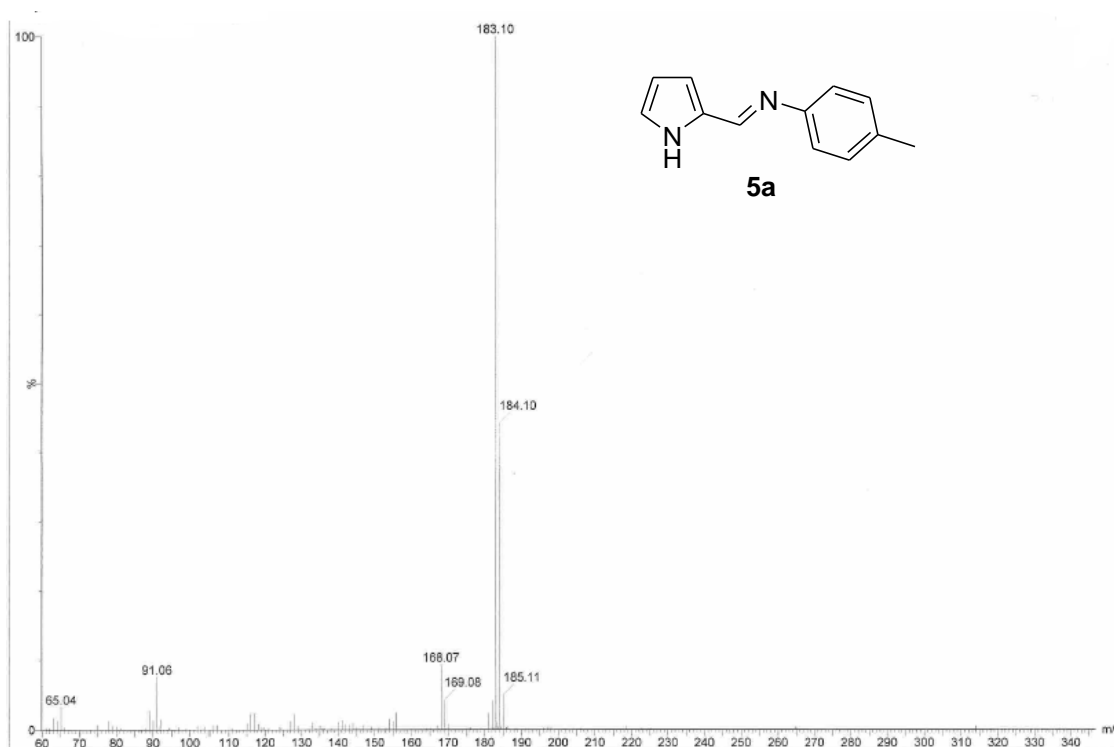
IR data for compound 7.



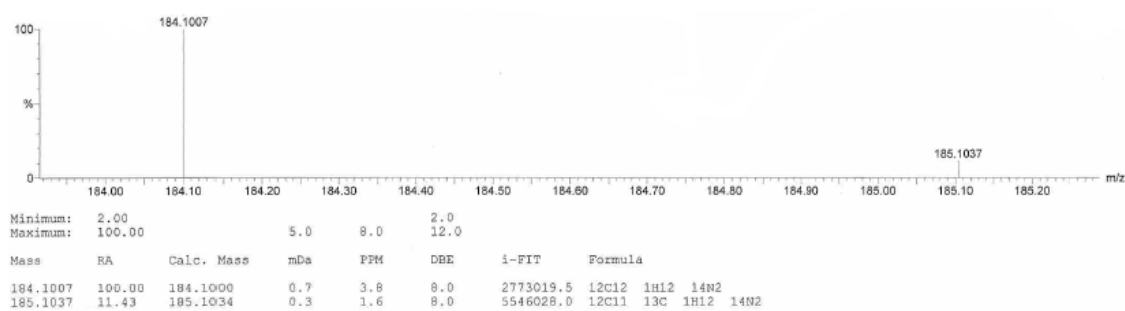
## 4. Mass spectra of compounds 5 and 6-7.

### 4.1. MS data for compound 5a.

EI (TOF) data for compound **5a**.

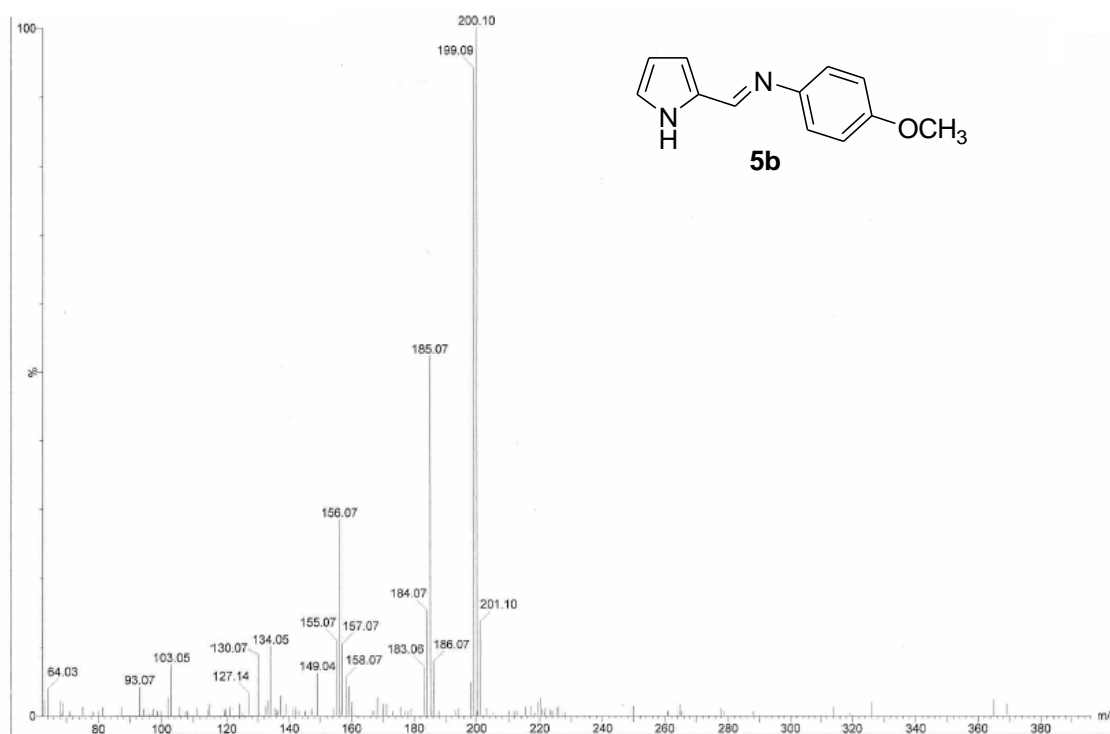


HRMS EI (TOF) data for compound **5a**.

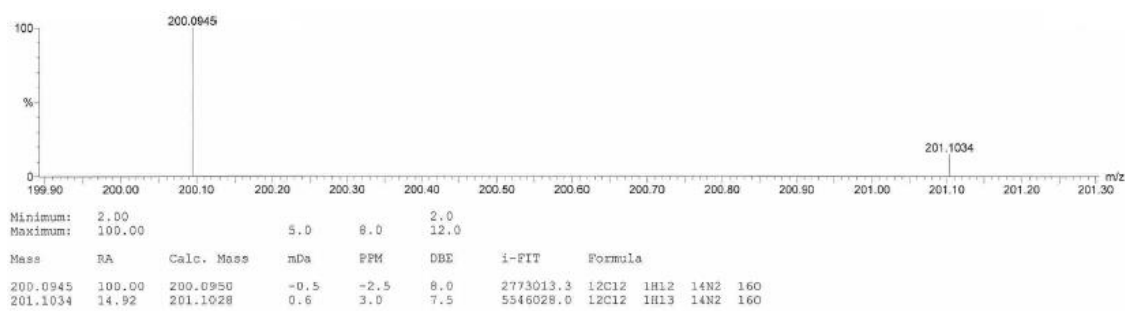


## 4.2. MS data for compound 5b.

EI (TOF) data for compound **5b**.

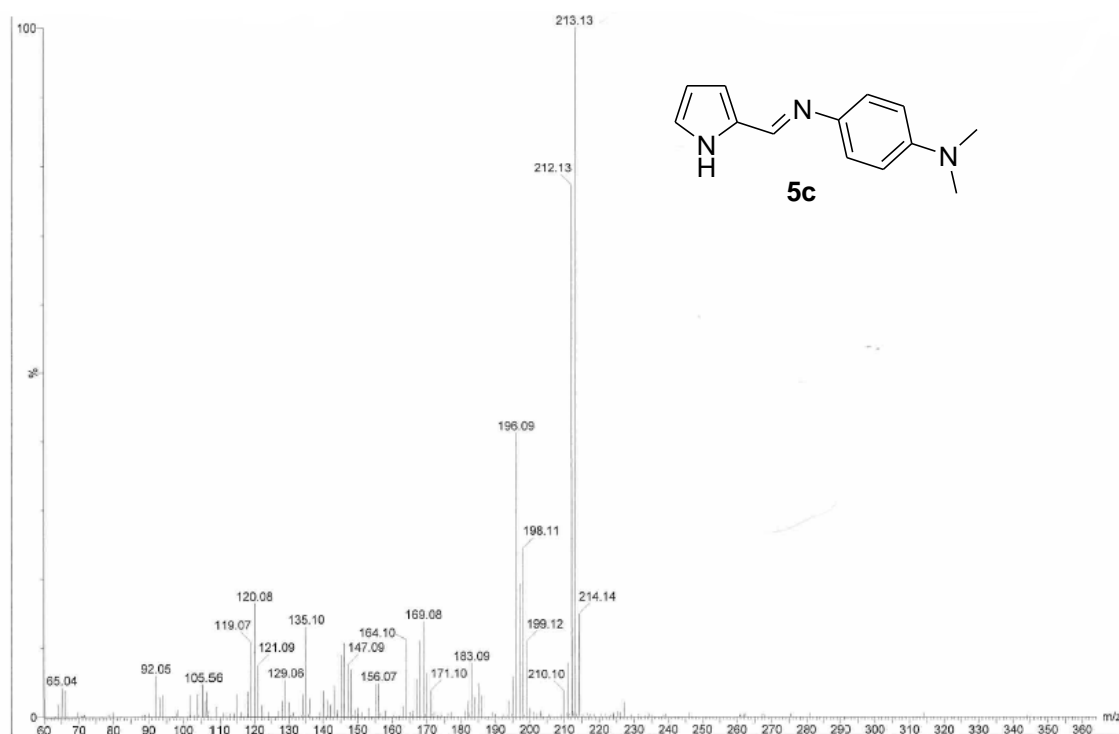


HRMS EI (TOF) data for compound **5b**.

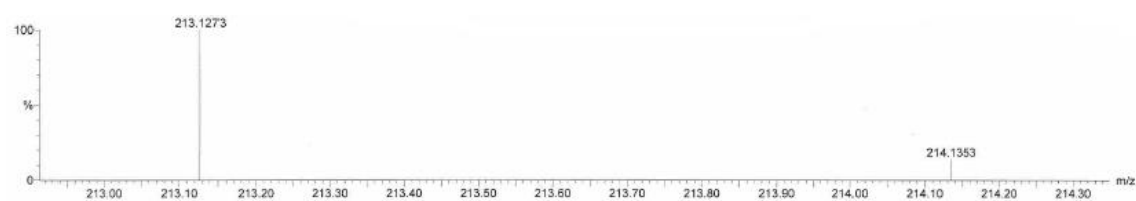


### 4.3. MS data for compound 5c.

EI (TOF) data for compound 5c.



HRMS EI (TOF) data for compound 5c.

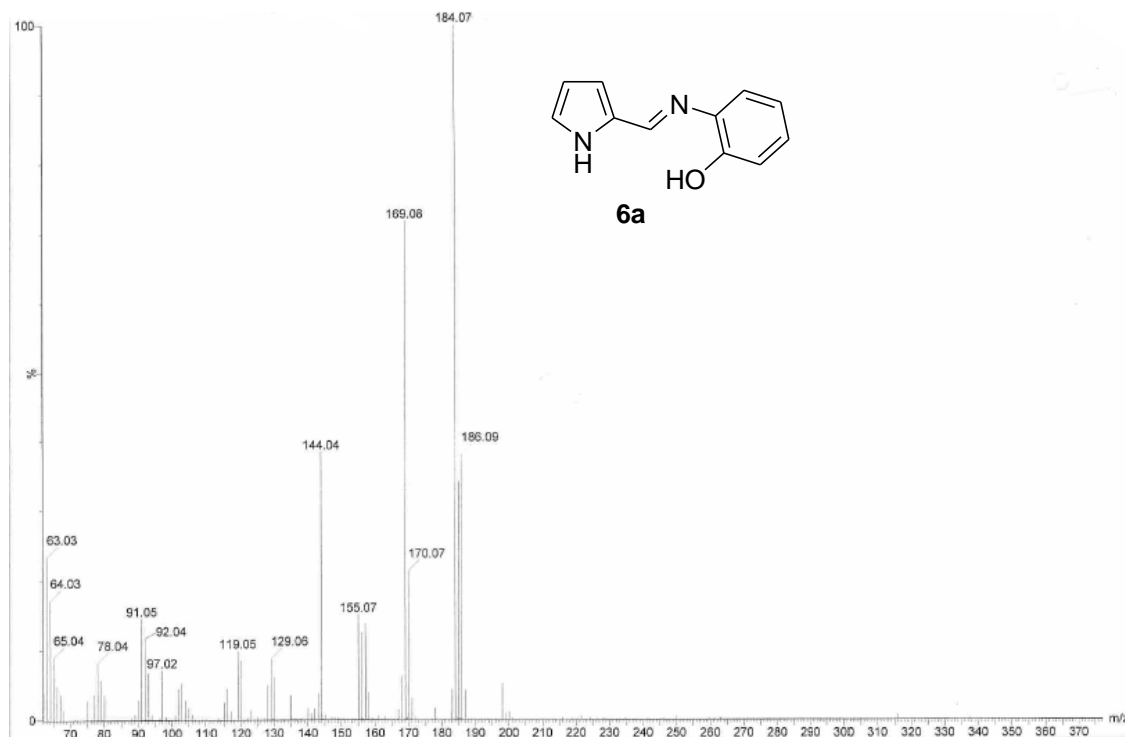


Mass	RA	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
213.1273	100.00	213.1266	0.7	3.3	8.0	2773066.0	C <sub>12</sub> H <sub>13</sub> N
214.1353	13.86	214.1344	0.9	4.2	7.5	5546077.5	C <sub>12</sub> H <sub>14</sub> N <sub>2</sub>

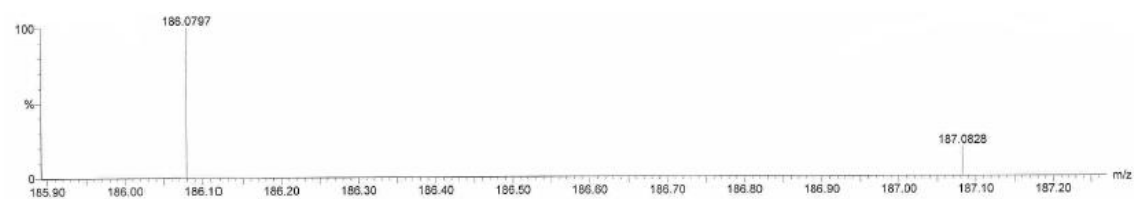


#### 4.4. MS data for compound 6a.

EI (TOF) data for compound 6a.



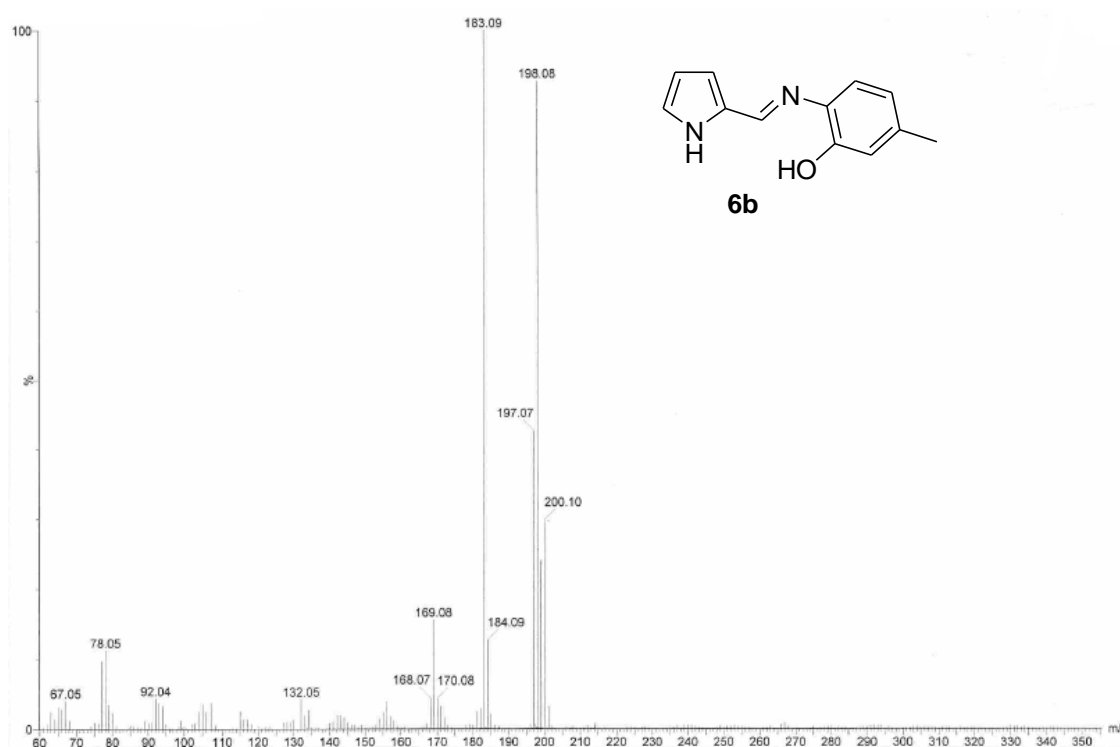
HRMS EI (TOF) data for compound 6a.



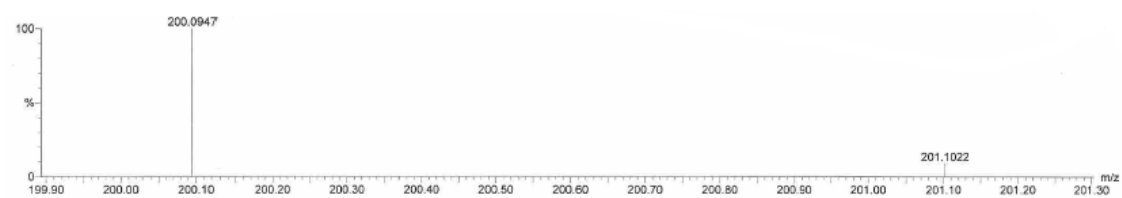
Mass	RA	Calc. Mass	mDa	PPM	DRE	i-FIT	Formula
186.0797	100.00	186.0793	0.4	2.1	8.0	2773013.0	C <sub>12</sub> H <sub>10</sub> N <sub>2</sub> O
187.0828	19.36	187.0827	0.1	0.5	8.0	5546025.5	C <sub>12</sub> H <sub>10</sub> N <sub>2</sub> O

#### 4.5. MS data for compound 6b.

EI (TOF) data for compound **6b**.



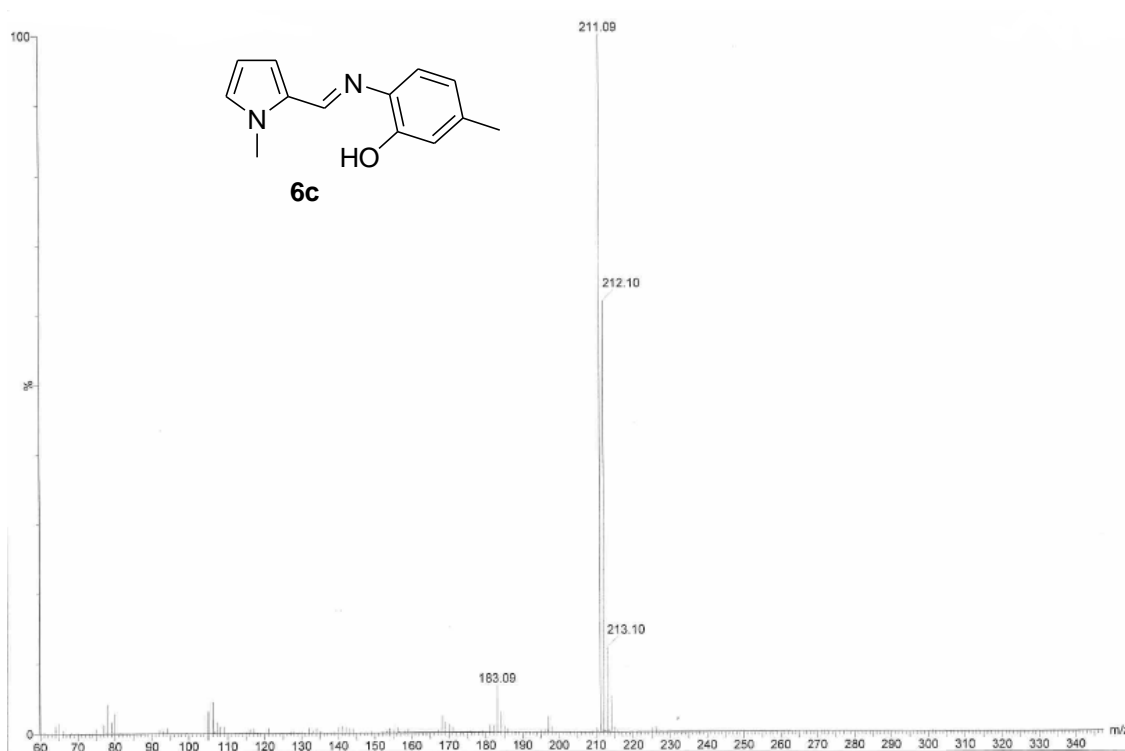
HRMS EI (TOF) data for compound **6b**.



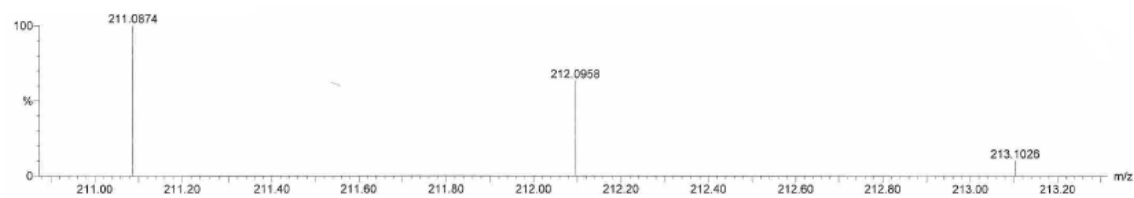
Mass	RA	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
200.0947	100.00	200.0950	-0.3	-1.5	8.0	2780898.3	C <sub>12</sub> H <sub>12</sub> N <sub>2</sub> O
201.1022	8.92	201.1028	-0.6	-3.0	7.5	5546926.5	C <sub>12</sub> H <sub>13</sub> N <sub>2</sub> O

#### 4.6. MS data for compound 6c.

EI (TOF) data for compound 6c.



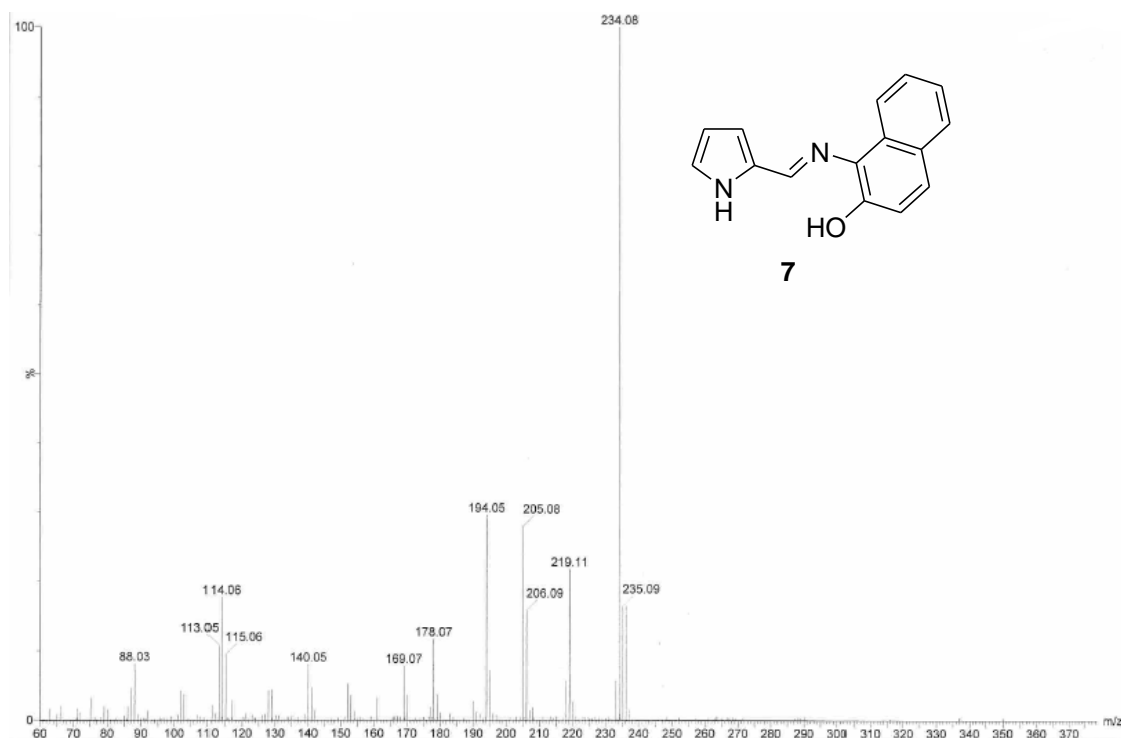
HRMS EI (TOF) data for compound 6c.



Mass	RA	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
211.0874	100.00	211.0871	0.3	1.4	9.5	1117.0	C <sub>12</sub> H <sub>11</sub> N <sub>2</sub> O
212.0958	63.17	212.0950	0.8	3.8	9.0	2773618.5	C <sub>12</sub> H <sub>12</sub> N <sub>2</sub> O
213.1026	10.10	213.1028	-0.2	-0.9	8.5	5546264.5	C <sub>12</sub> H <sub>13</sub> N <sub>2</sub> O

## 4.7. MS data for compound 7.

EI (TOF) data for compound 7.



HRMS EI (TOF) data for compound 7.

