

# Pyridine and thiazole based hydrazides with promising anti-inflammatory and antimicrobial activities along with their *in silico* studies

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### 1. Spectral data

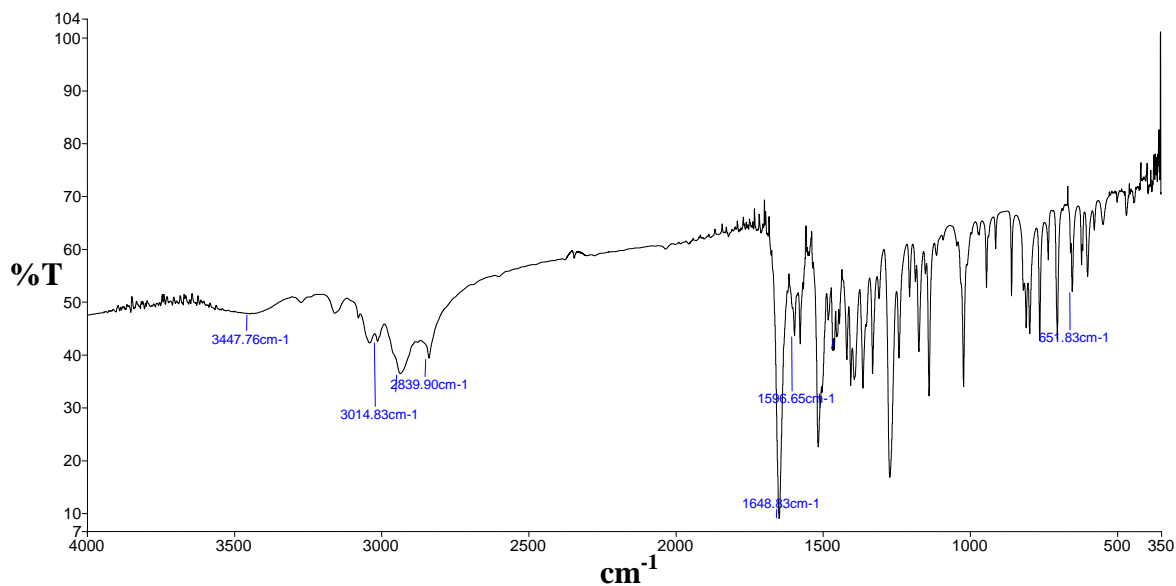
- 1.1. IR spectra of **5b**, **5d** and **5h** - Figure S1 - 3.
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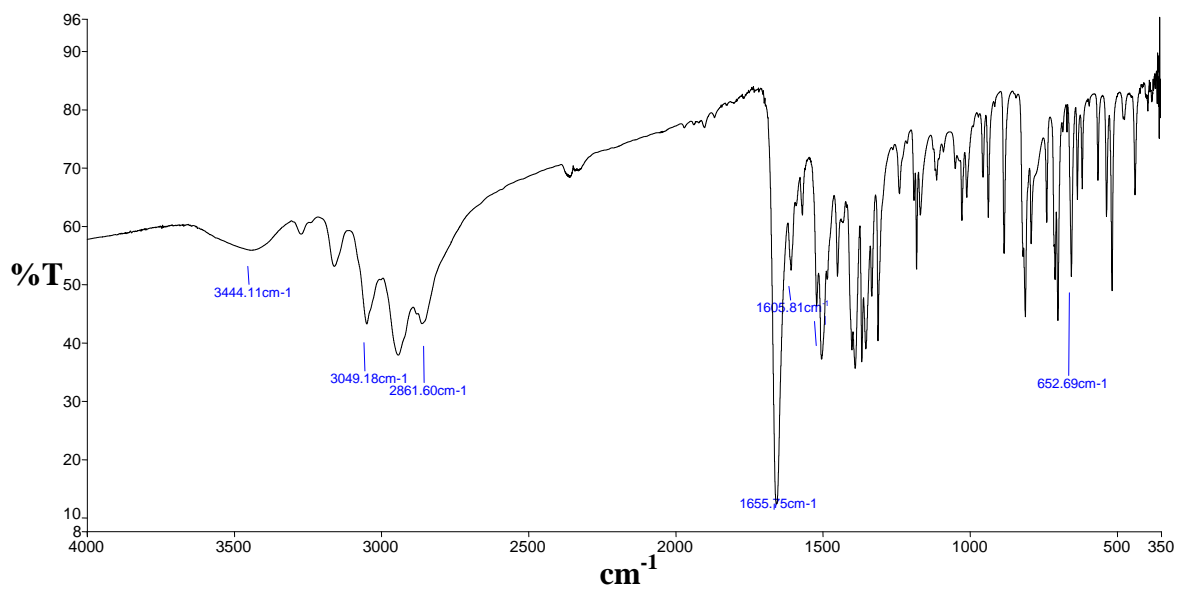
Figures S11-S12 are graphical representations of results of the antibacterial and antifungal evaluation of the compounds.

## 1. Spectral data

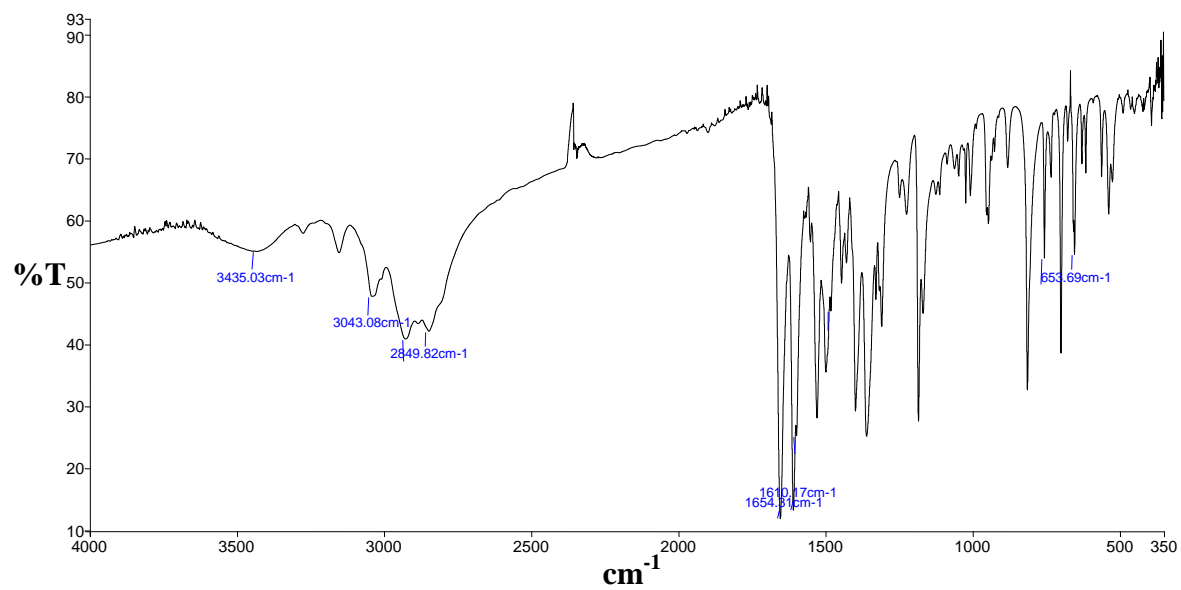
### 1.1. IR spectra of compounds 5b, 5d and 5h.



**Figure S1.** IR Spectrum of *N'*-(3,4-dimethoxybenzylidene)-5-methyl-2-(pyridin-3-yl)thiazole-4-carbohydrazide (5b).

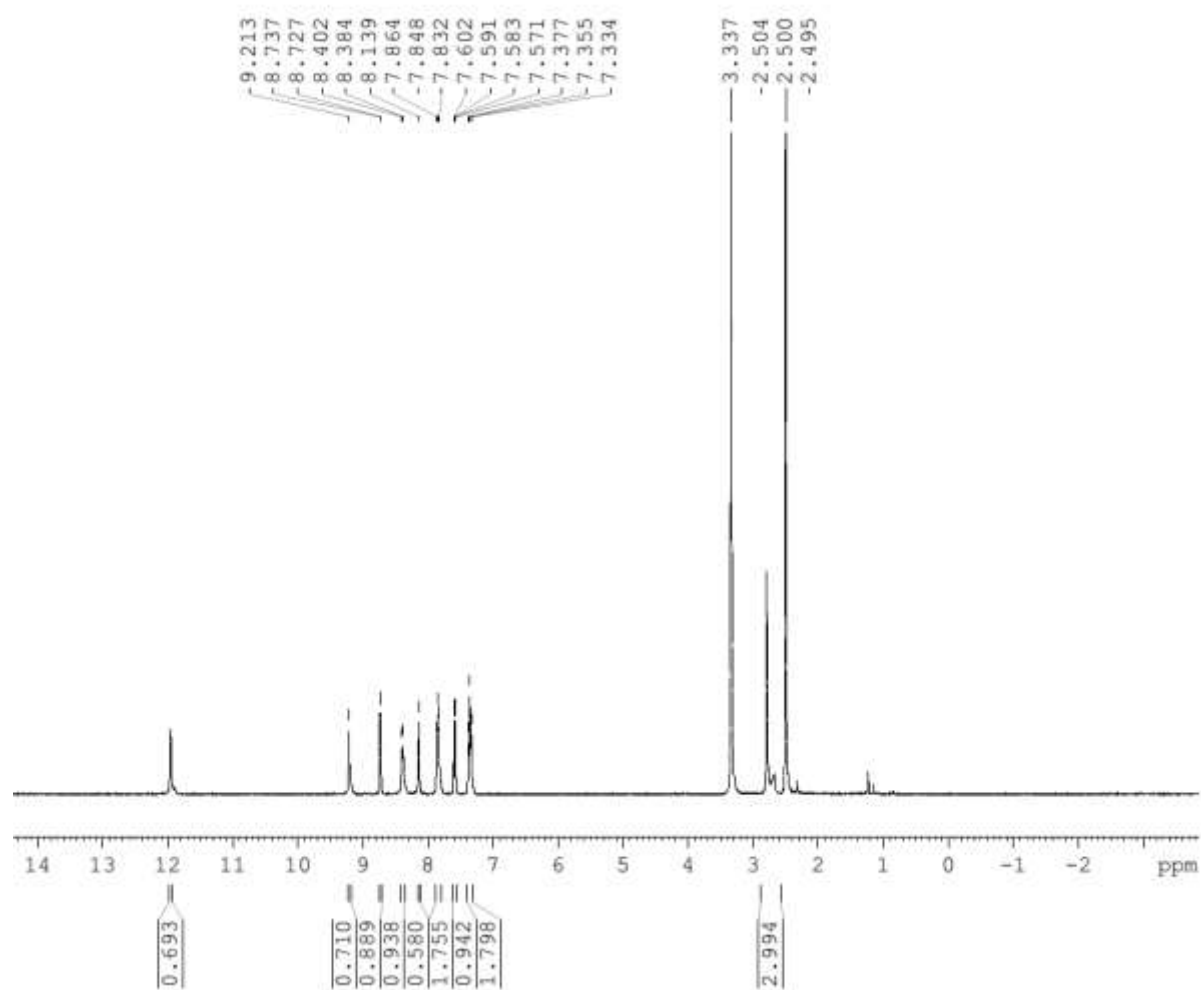


**Figure S2.** IR Spectrum of **5-Methyl-N'-(4-methylbenzylidene)-2-(pyridin-3-yl)thiazole-4-carbohydrazide (5d)**.



**Figure S3.** IR Spectrum of *N'*-(4-dimethylaminobenzylidene)-5-methyl-2-(pyridine-3-yl)thiazole-4-carbohydrazide (5h).

## 1.2. $^1\text{H}$ NMR spectra of compounds 5a and 5b.



**Figure S4.**  $^1\text{H}$  NMR spectrum of *N'*-(4-chlorobenzylidene)-5-methyl-2-(pyridin-3-yl)thiazole-4-carbohydrazide (5a).

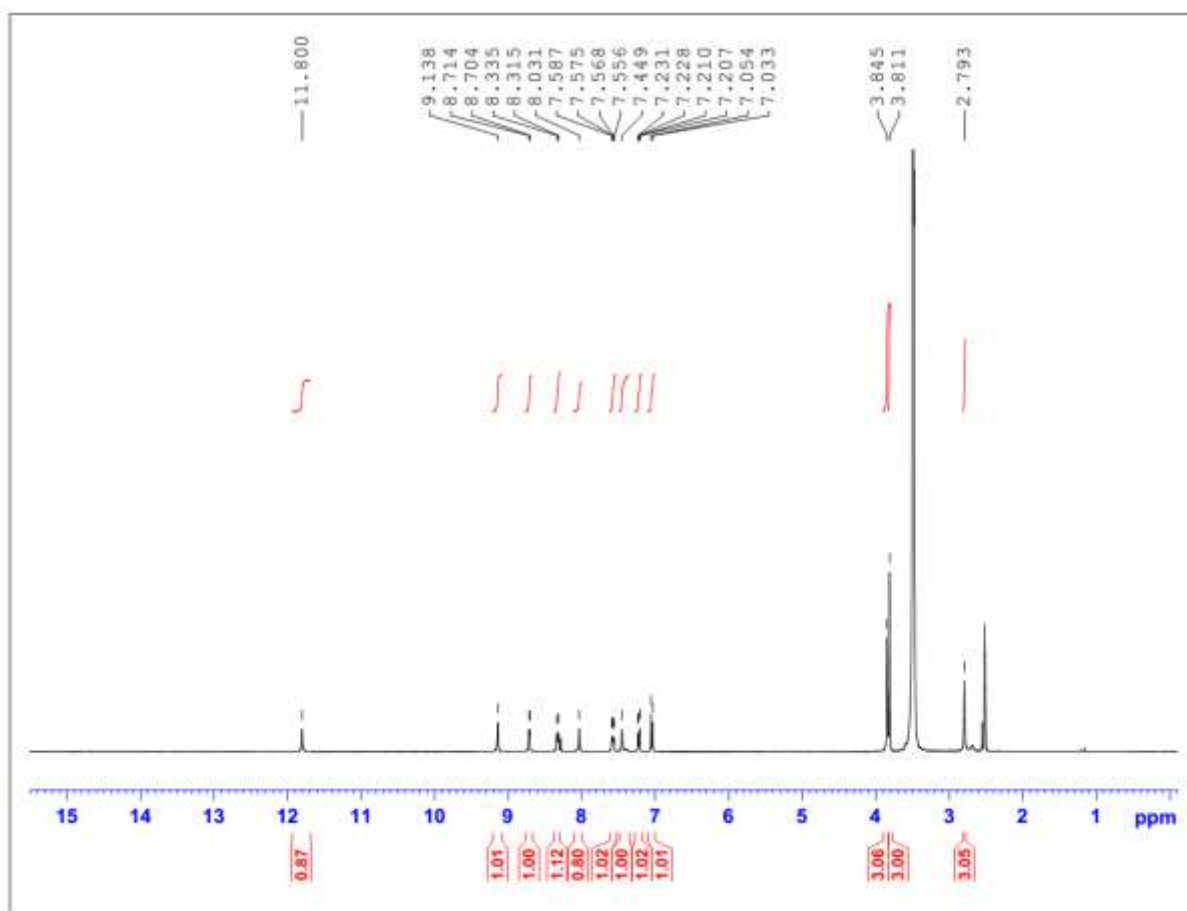


Figure S5.  $^1\text{H}$  NMR spectrum of *N'*-(3,4-dimethoxybenzylidene)-5-methyl-2-(pyridin-3-yl)thiazole-4-carbohydrazide (5b).

### 1.3. $^{13}\text{C}$ NMR spectra of compounds 5a and 5b.

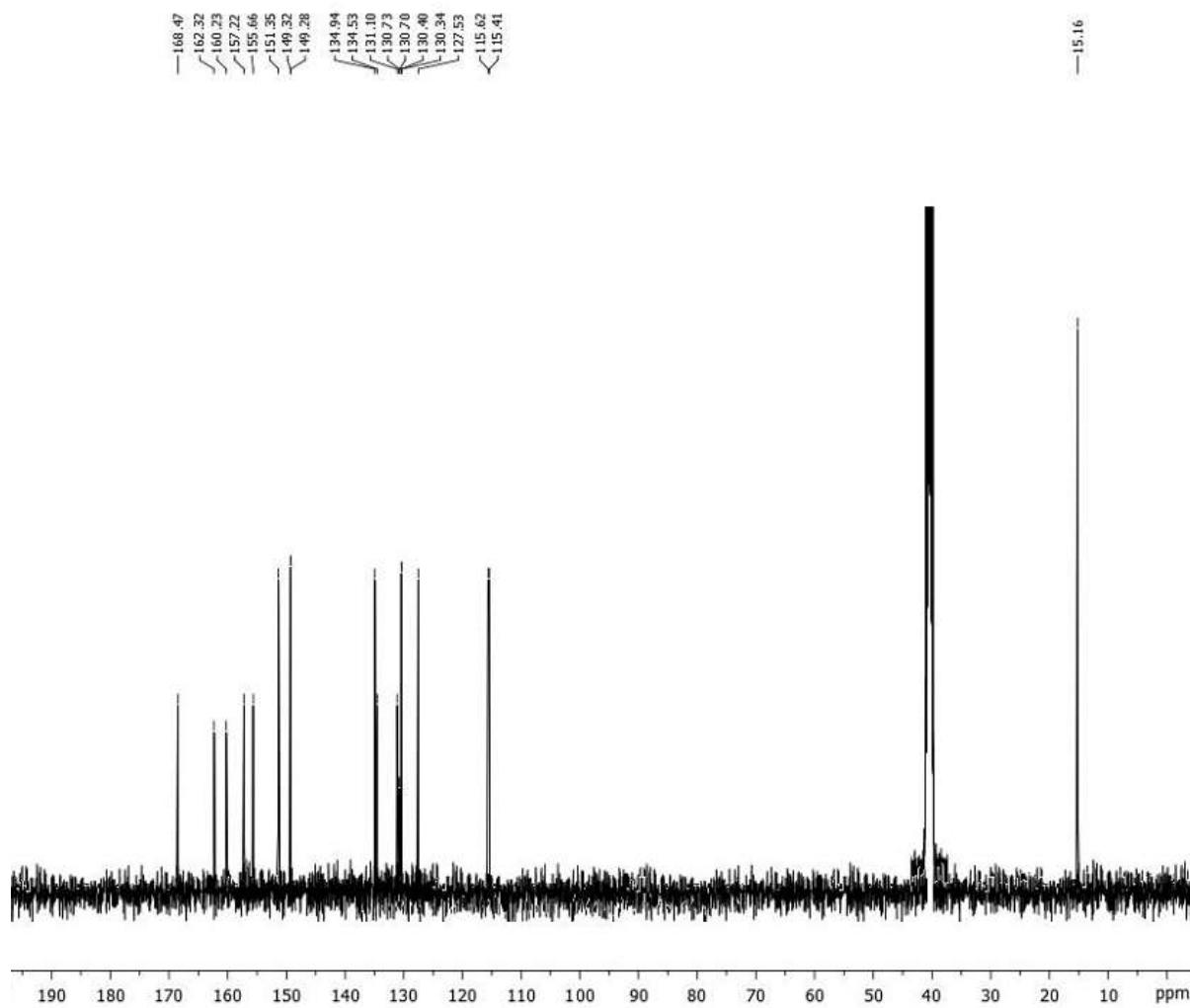


Figure S6.  $^{13}\text{C}$  NMR spectrum of *N'*-(4-chlorobenzylidene)-5-methyl-2-(pyridin-3-yl)thiazole-4-carbohydrazide (5a).

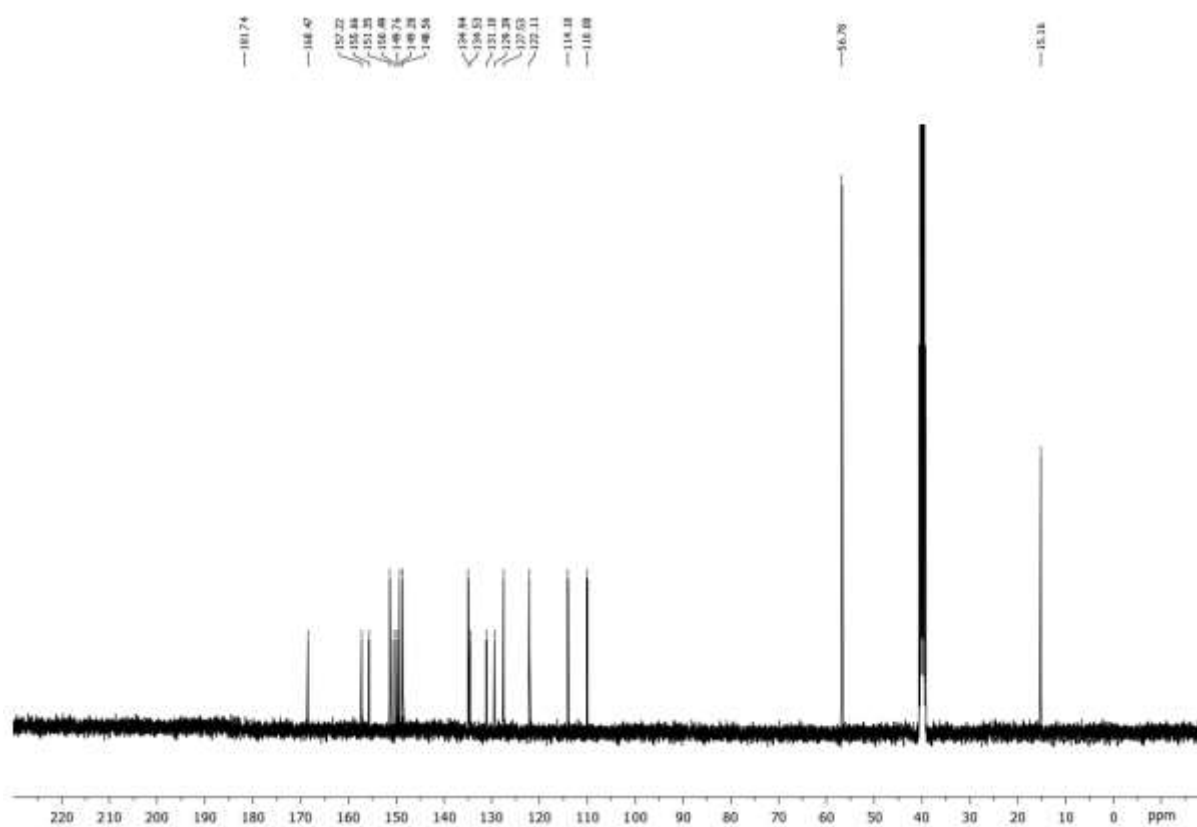


Figure S7.  $^{13}\text{C}$  NMR spectrum of  $N'$ -(3,4-dimethoxybenzylidene)-5-methyl-2-(pyridin-3-yl)thiazole-4-carbohydrazide (5b).



#### 1.4. ES-MS spectra of compounds 5b, 5d and 5h

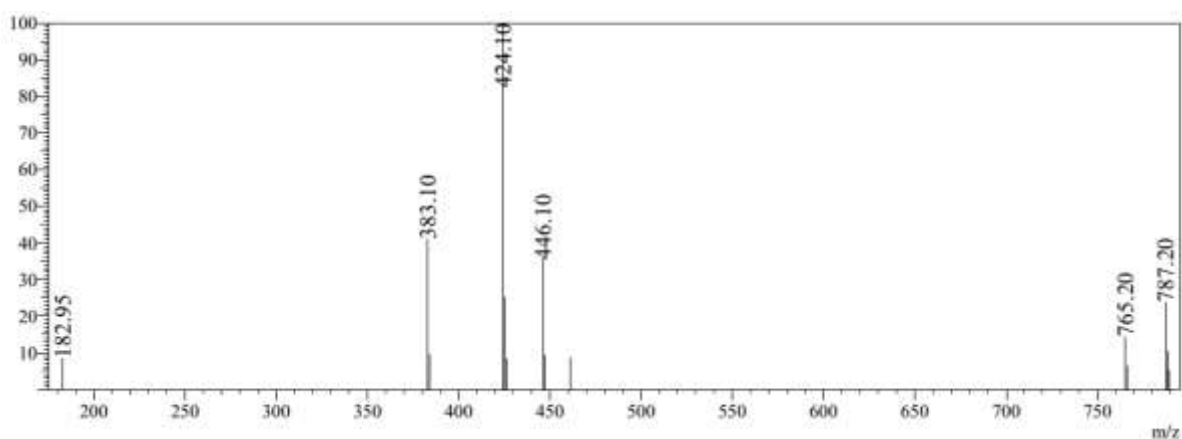


Figure S8. ES-Mass spectrum of *N'*-(3,4-dimethoxybenzylidene)-5-methyl-2-(pyridin-3-yl)thiazole-4-carbohydrazide (5b).

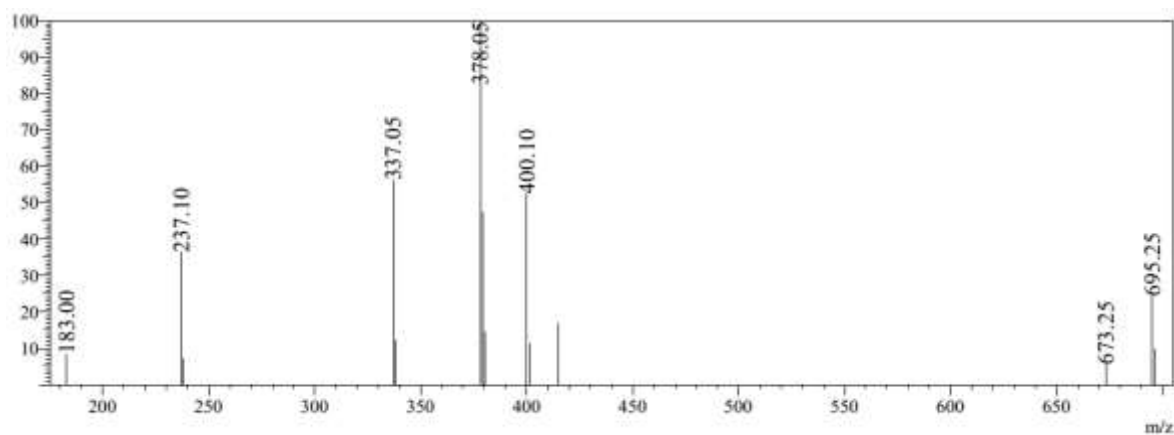


Figure S9. ES-Mass spectrum of 5-Methyl-*N'*-(4-methylbenzylidene)-2-(pyridin-3-yl)thiazole-4-carbohydrazide (5d).

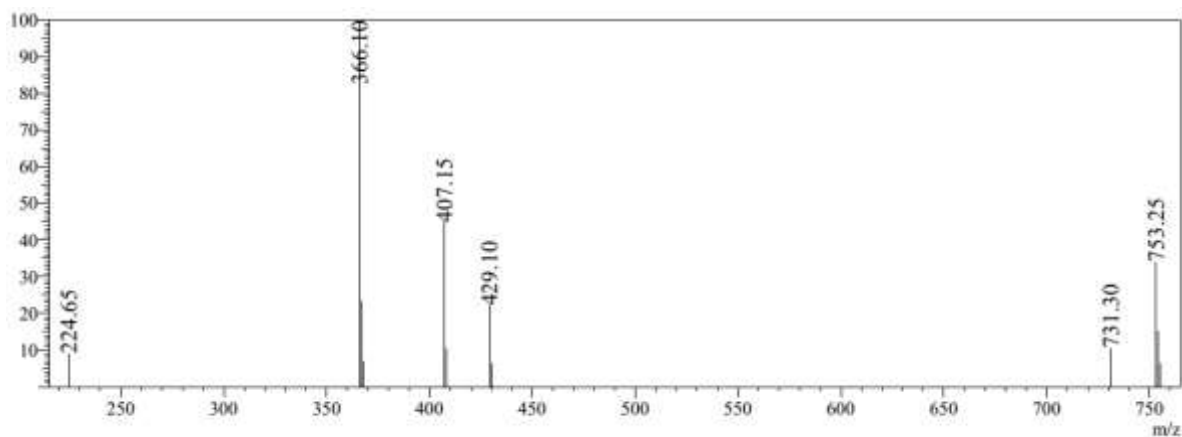
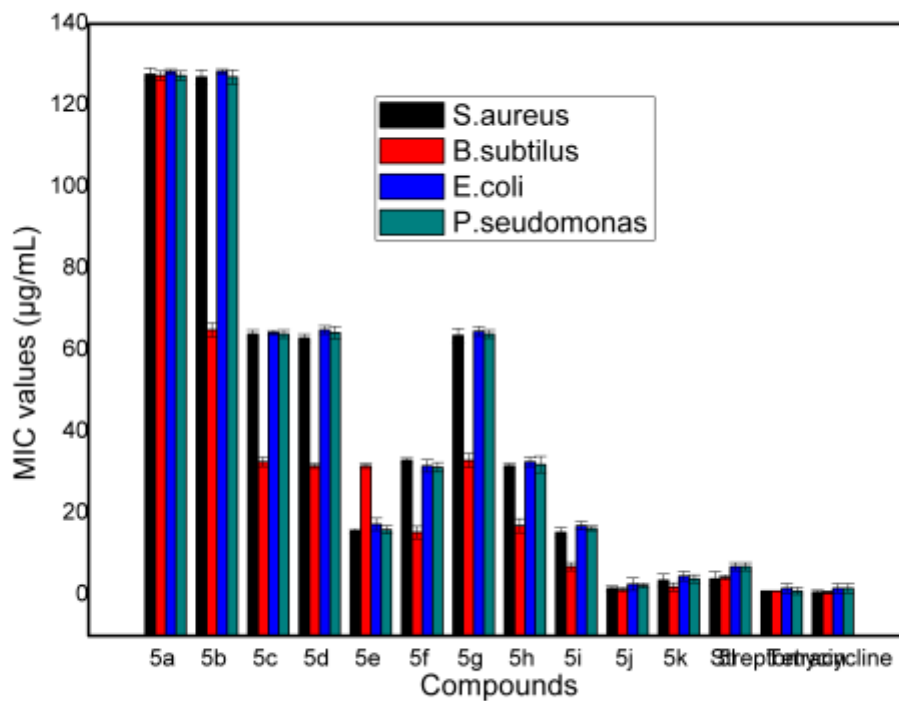
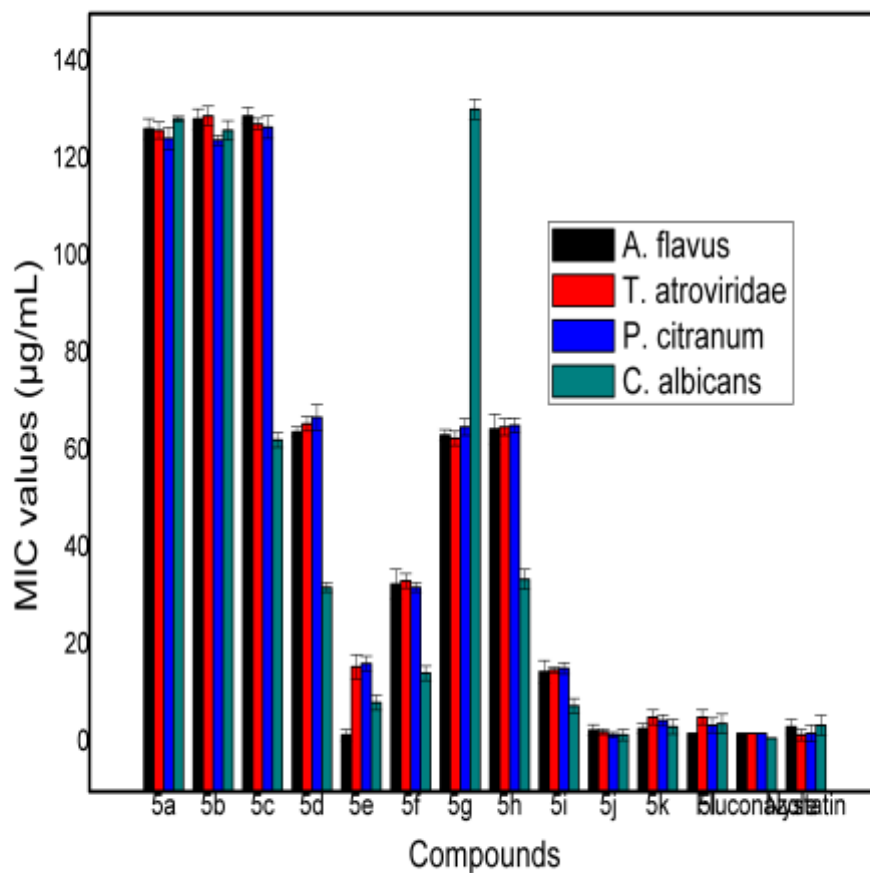


Figure S10. ES-Mass spectrum of *N'*-(4-dimethylaminobenzylidene)-5-methyl-2-(pyridine-3-yl)thiazole-4-carbohydrazide (5h).



**Figure S11:** Graphical representation of results of the anti-bacterial evaluation of the compounds



**Figure S12:** Graphical representation of results of the antifungal evaluation of the compounds