

**7-Chloroquinolinehydrazones as First-in-Class Anticancer
Experimental Drugs in the NCI-60 Screen among Different
Investigated Series of Aryl, Quinoline, Pyridine, Benzothiazole and Imidazolehydrazones**

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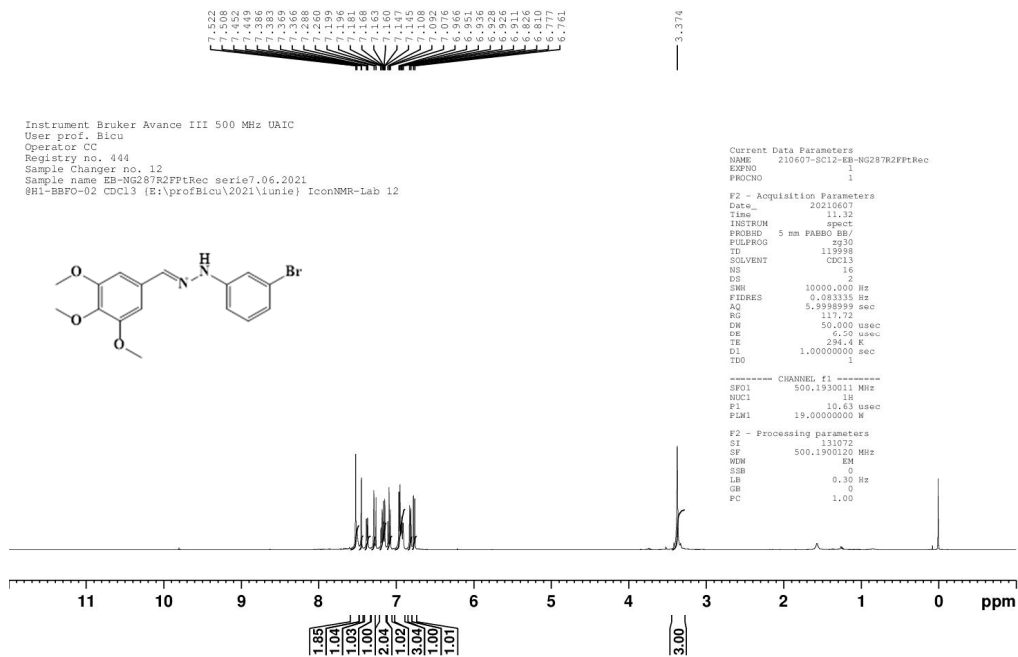
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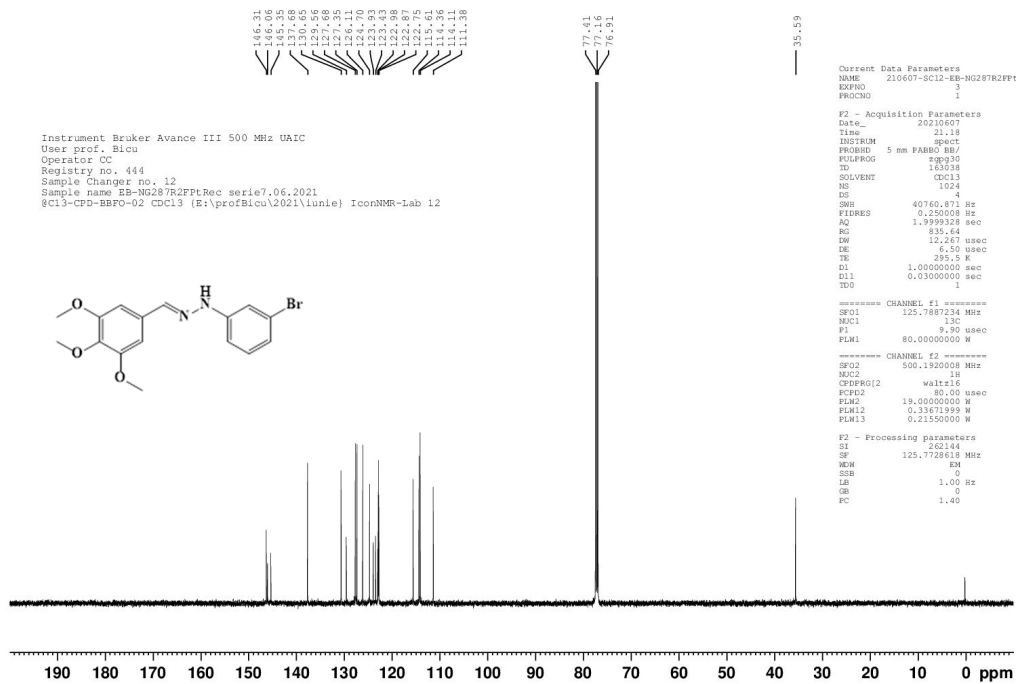
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-Supplementary material-

1-(3-Bromophenyl)-2-(3,4,5-trimethoxybenzylidene)hydrazine (**1**).

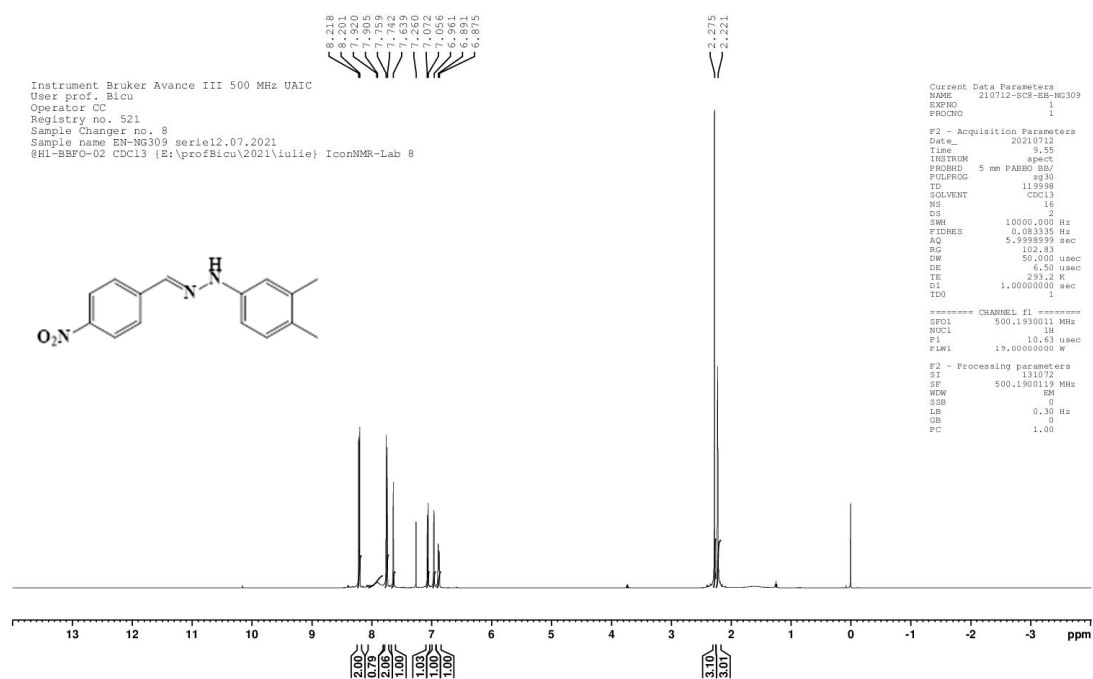
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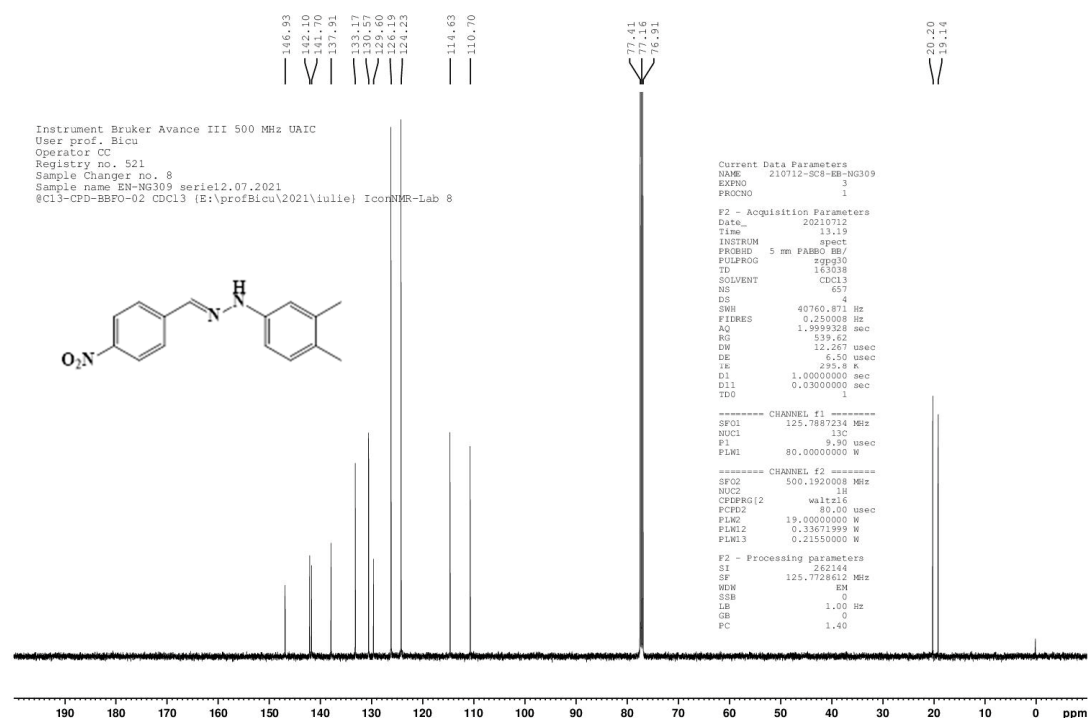
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Figure S1. (a) ^1H -NMR and (b) ^{13}C -NMR spectra for hydrazone **1**

1-(3,4-dimethylphenyl)-2-(4-nitrobenzylidene)hydrazine (2).

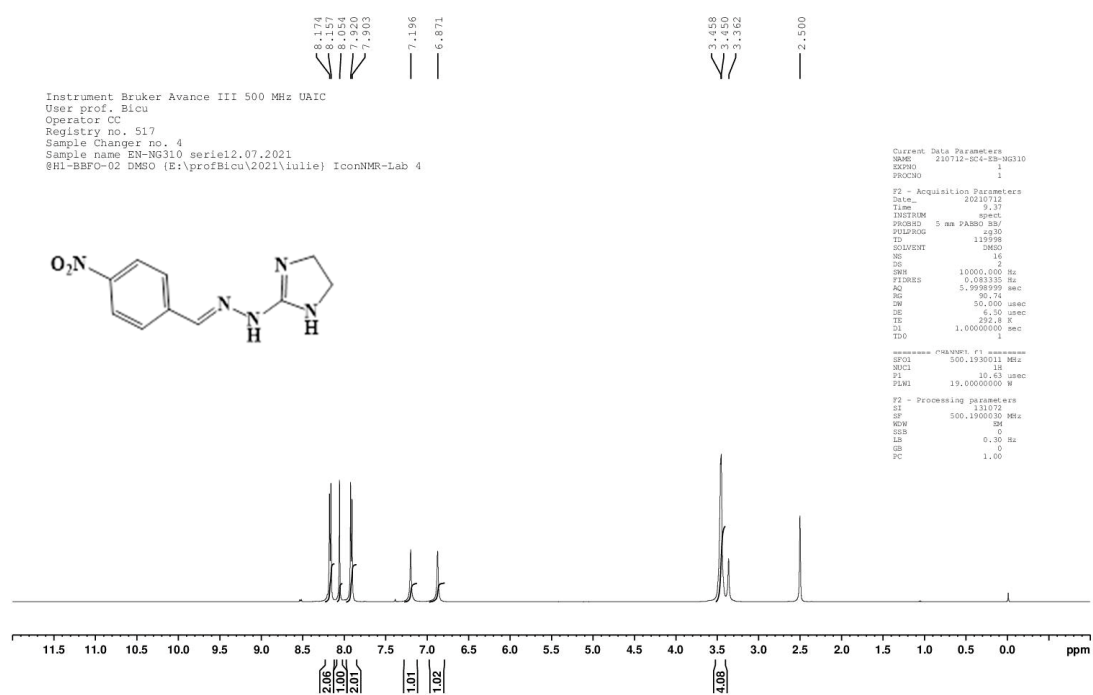


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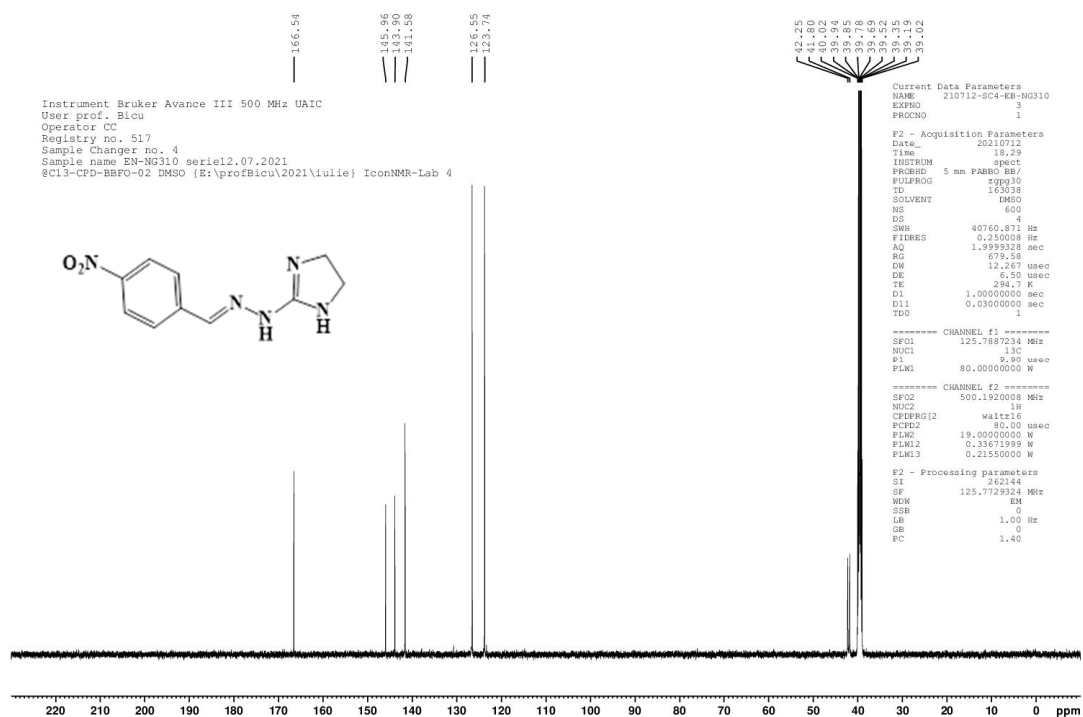


(b)

Figure S2. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone 2

2-(2-(4-nitrobenzylidene)hydrazinyl)-4,5-dihydro-1*H*-imidazole (**3**)

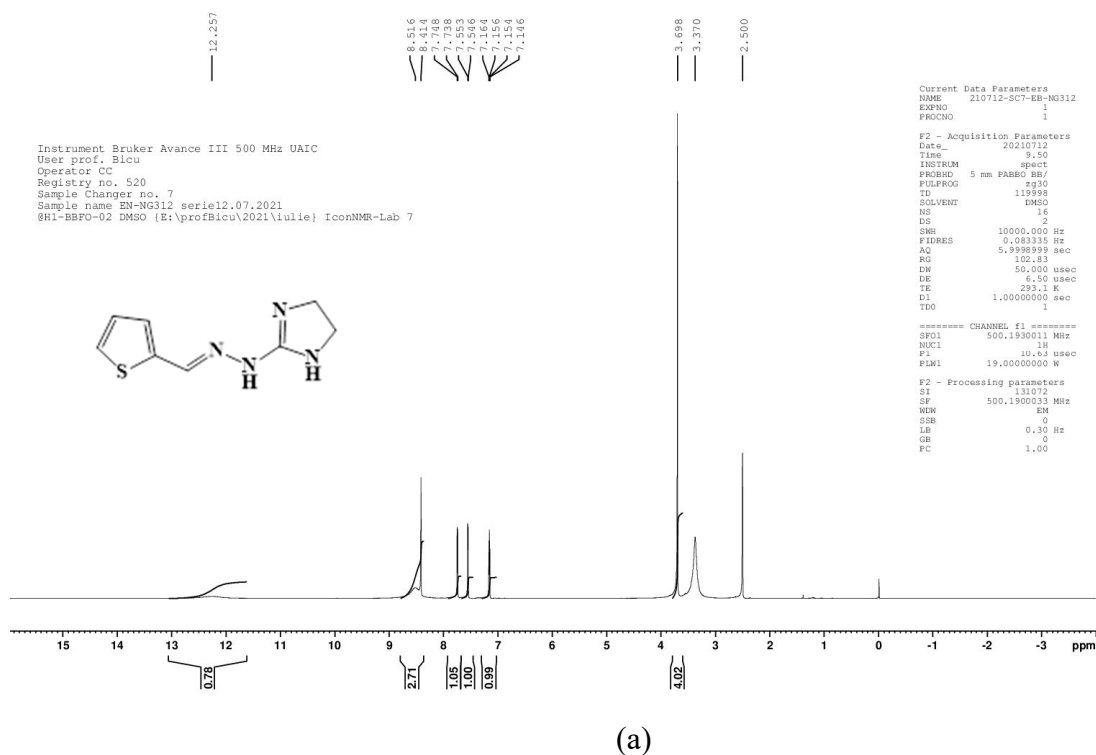
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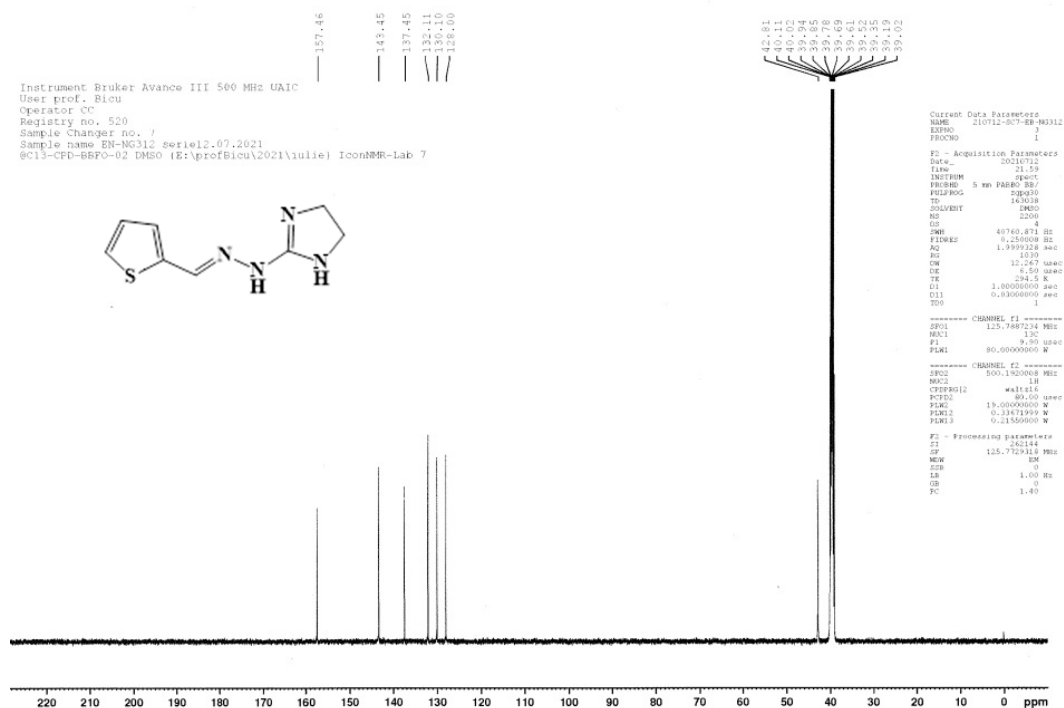
(b)

Figure S3. (a) ^1H -NMR and (b) ^{13}C -NMR spectra for hydrazone **3**

2-(2-(thiophen-2-ylmethylene)hydrazinyl)-4,5-dihydro-1H-imidazole (4).



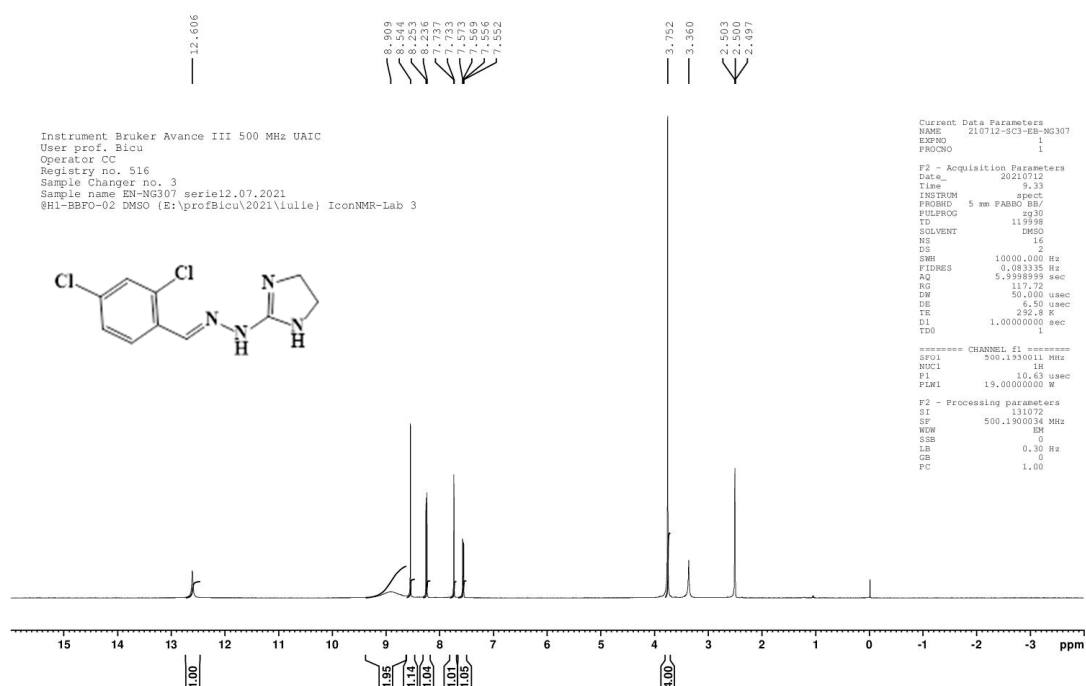
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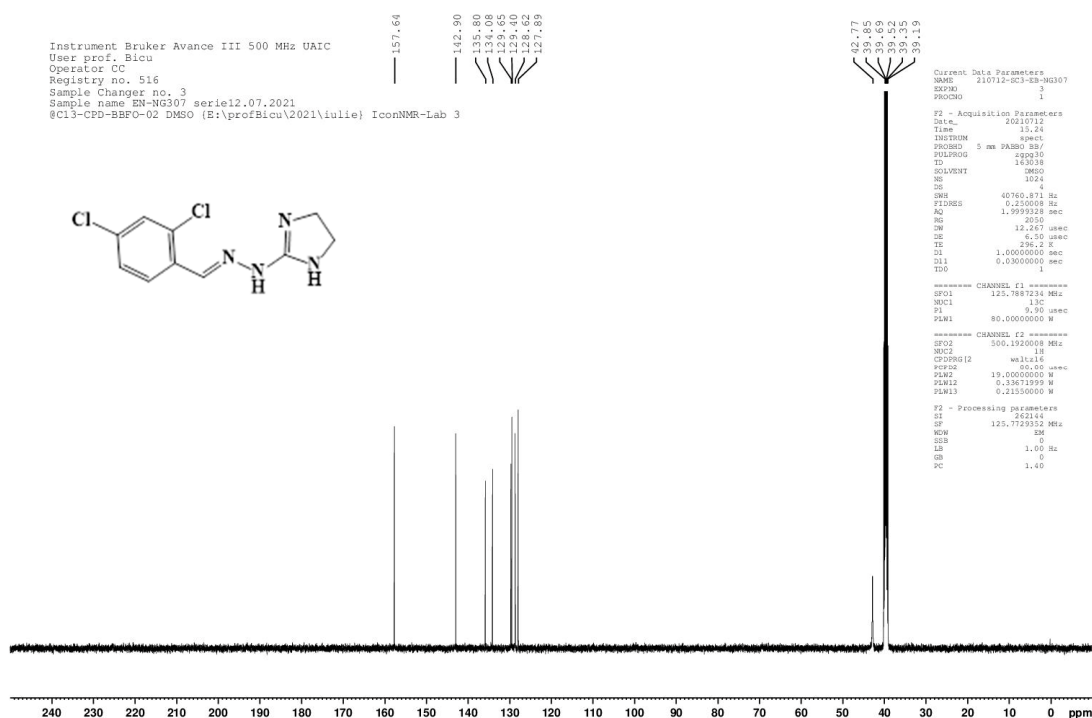
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Figure S4. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone 4

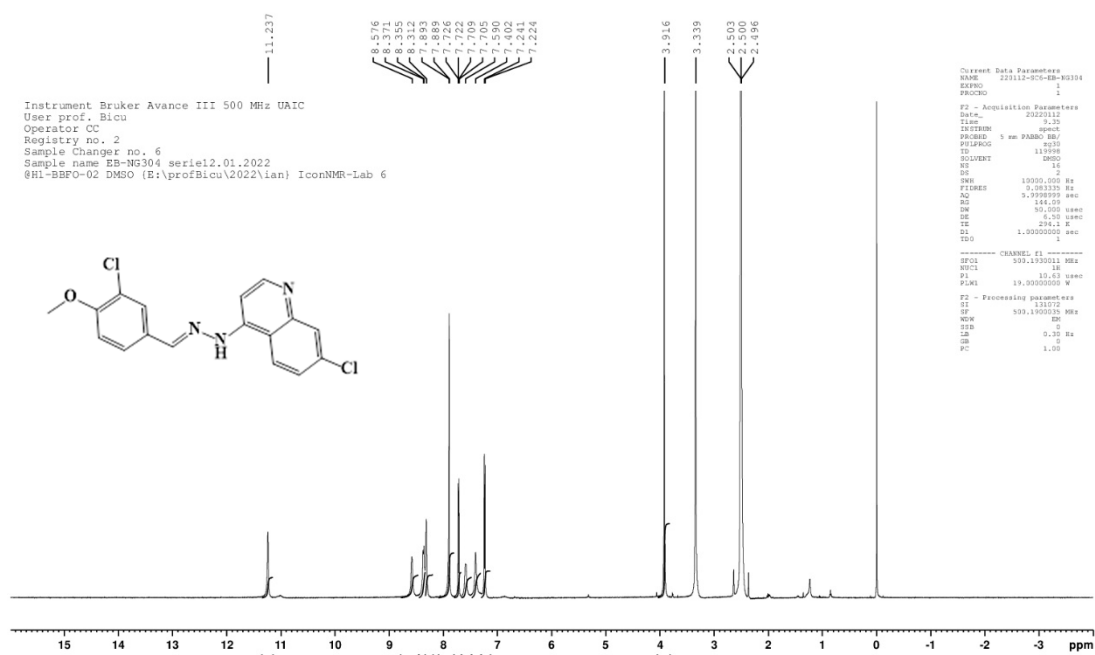
2-(2-(2,4-dichlorobenzylidene)hydrazinyl)-4,5-dihydro-1H-imidazole (5).



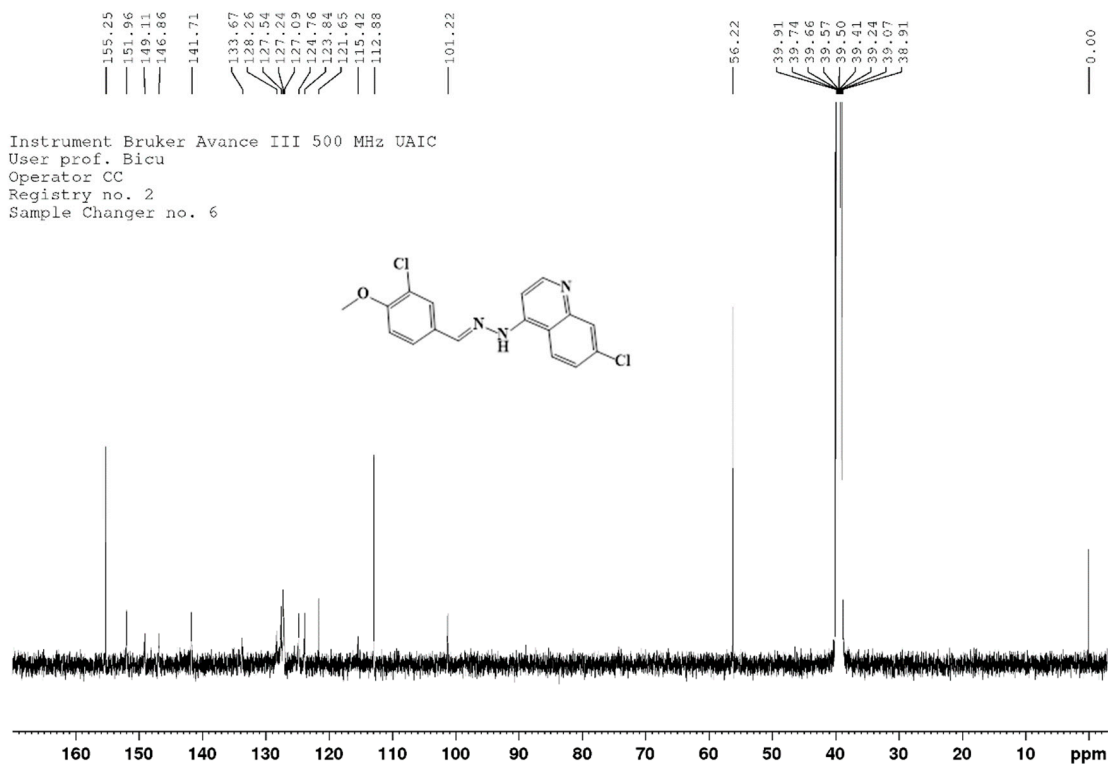
(a)



7-chloro-4-(2-(3-chloro-4-methoxybenzylidene)hydrazinyl)quinoline (6).



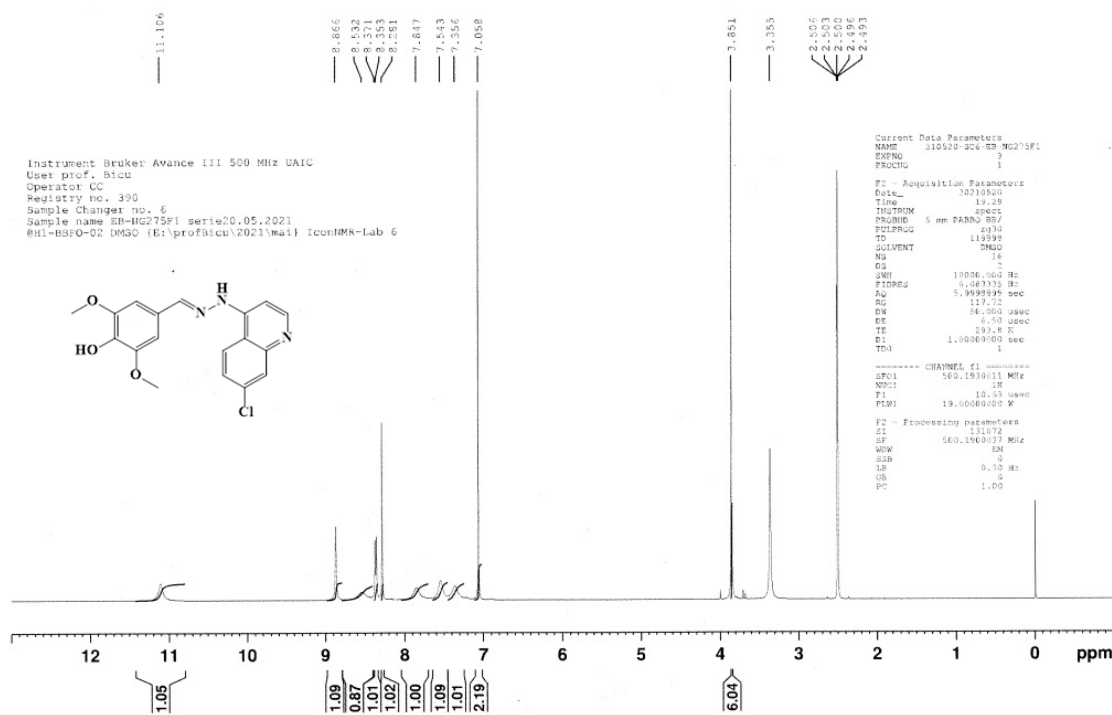
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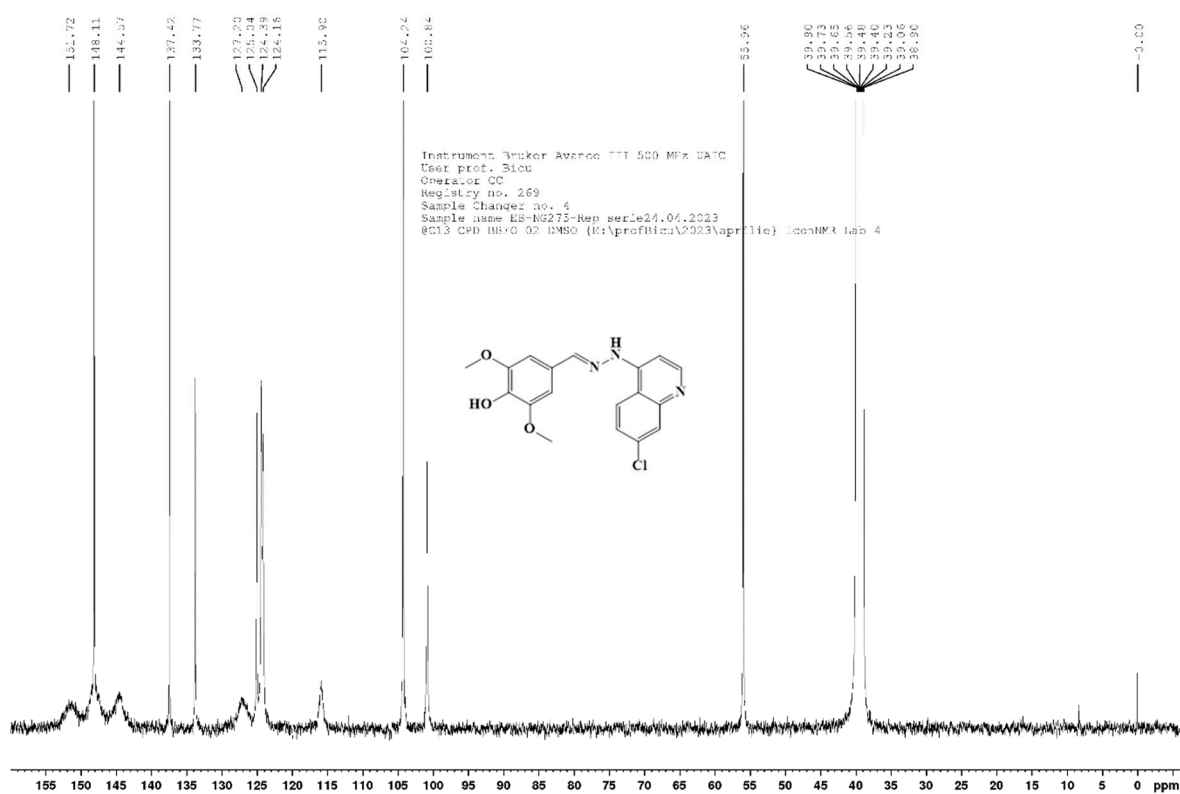
(b)

Figure S6. (a) ^1H -NMR and (b) ^{13}C -NMR spectra for hydrazone 6

4-((2-(7-chloroquinolin-4-yl)hydrazono)methyl)-2,6-dimethoxyphenol (7).



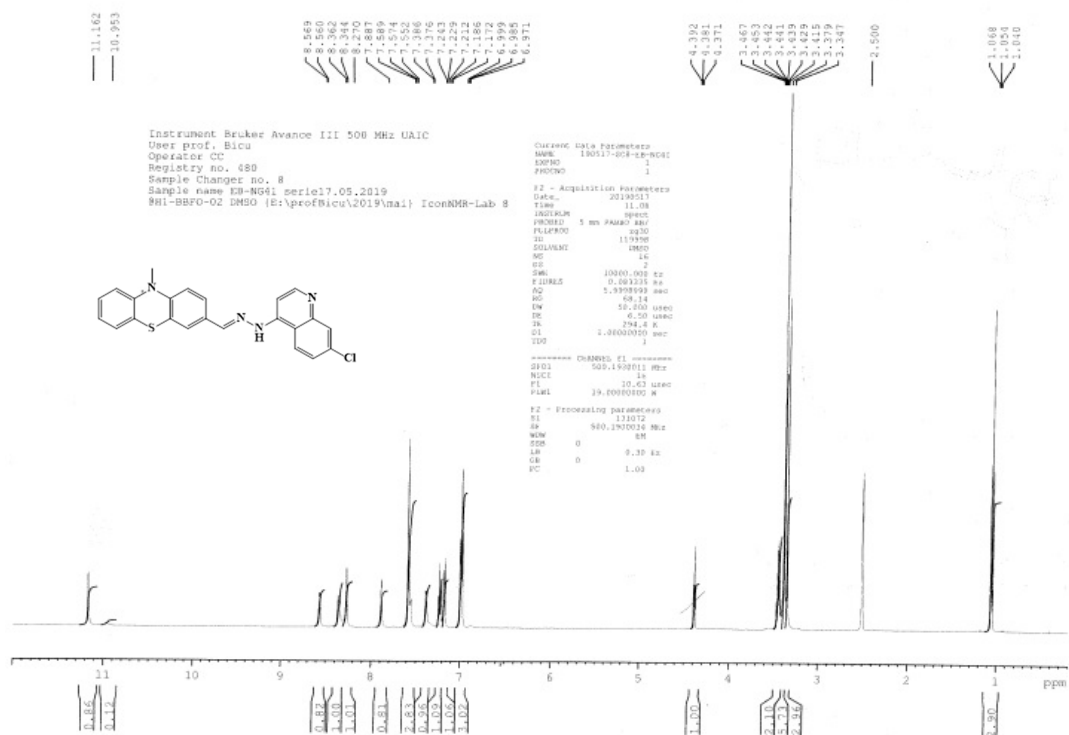
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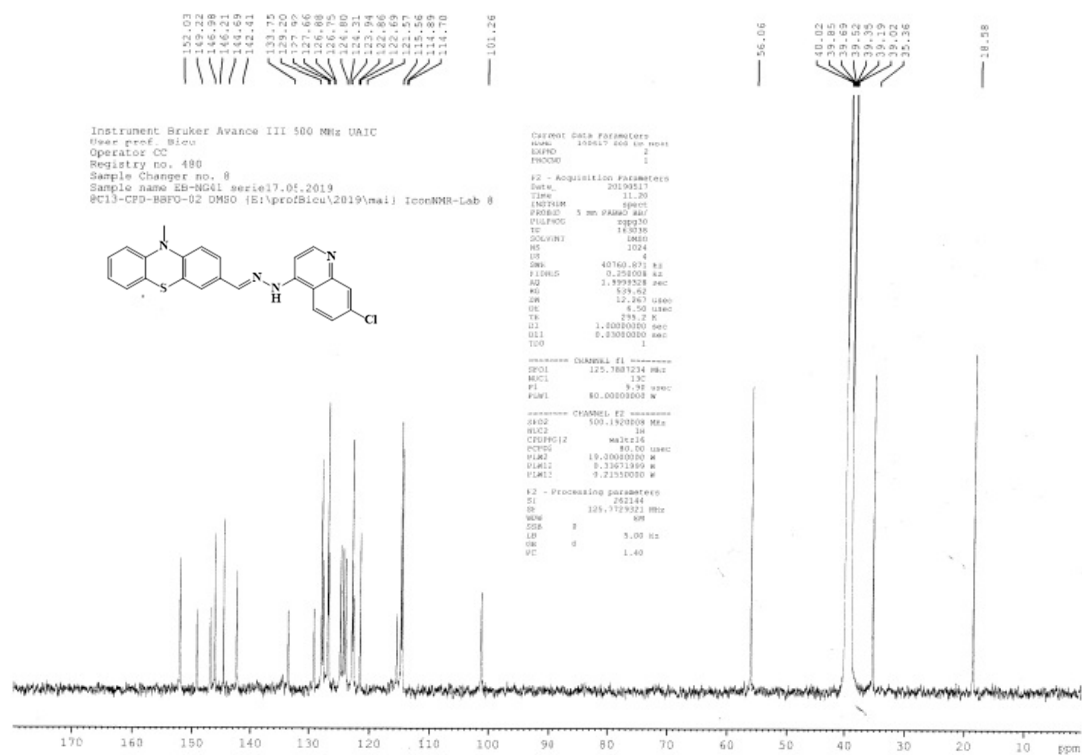
(b)

Figure S7. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone 7

3-((2-(7-chloroquinolin-4-yl)hydrazono)methyl)-10-methyl-10H-phenothiazine (8).



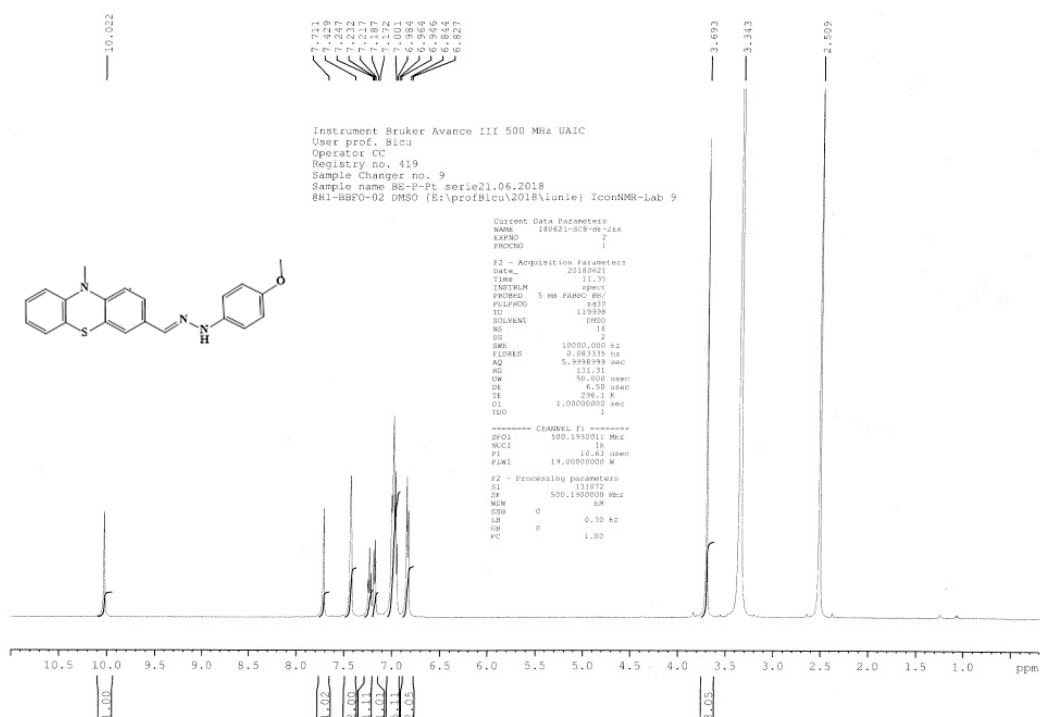
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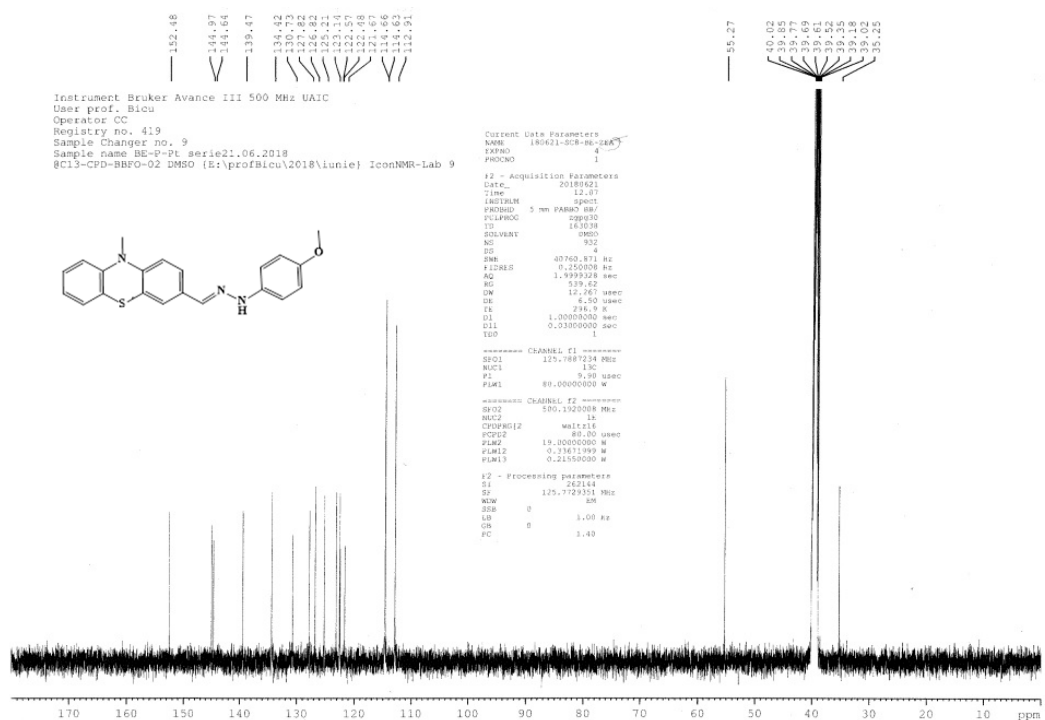
(b)

Figure S8. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone 8

3-((2-(4-methoxyphenyl)hydrazono)methyl)-10-methyl-10*H*-phenothiazine (**9**).



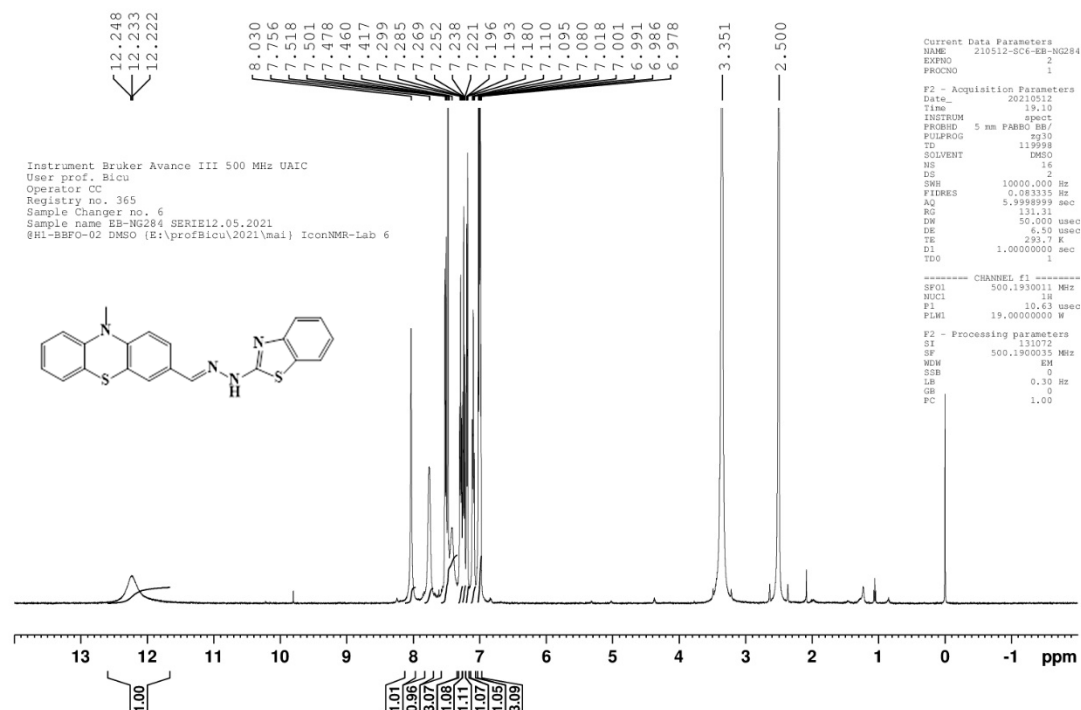
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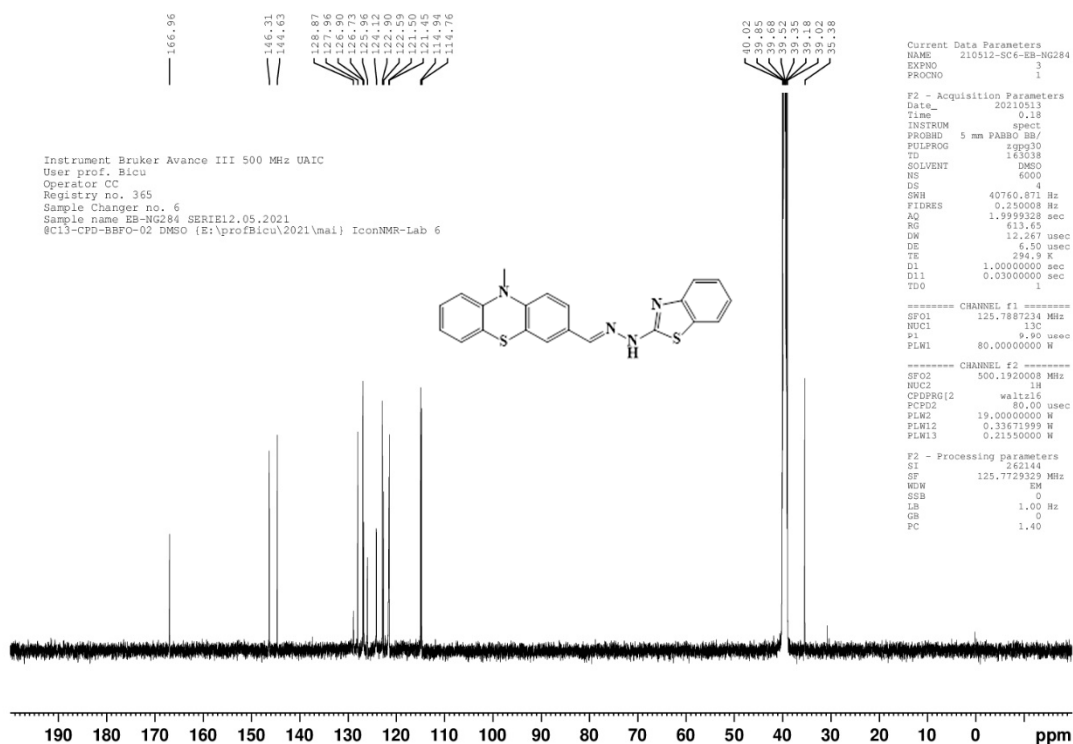
(b)

Figure S9. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone **9**

3-((2-(benzo[*d*]thiazol-2-yl)hydrazono)methyl)-10-methyl-10*H*-phenothiazine (**10**).



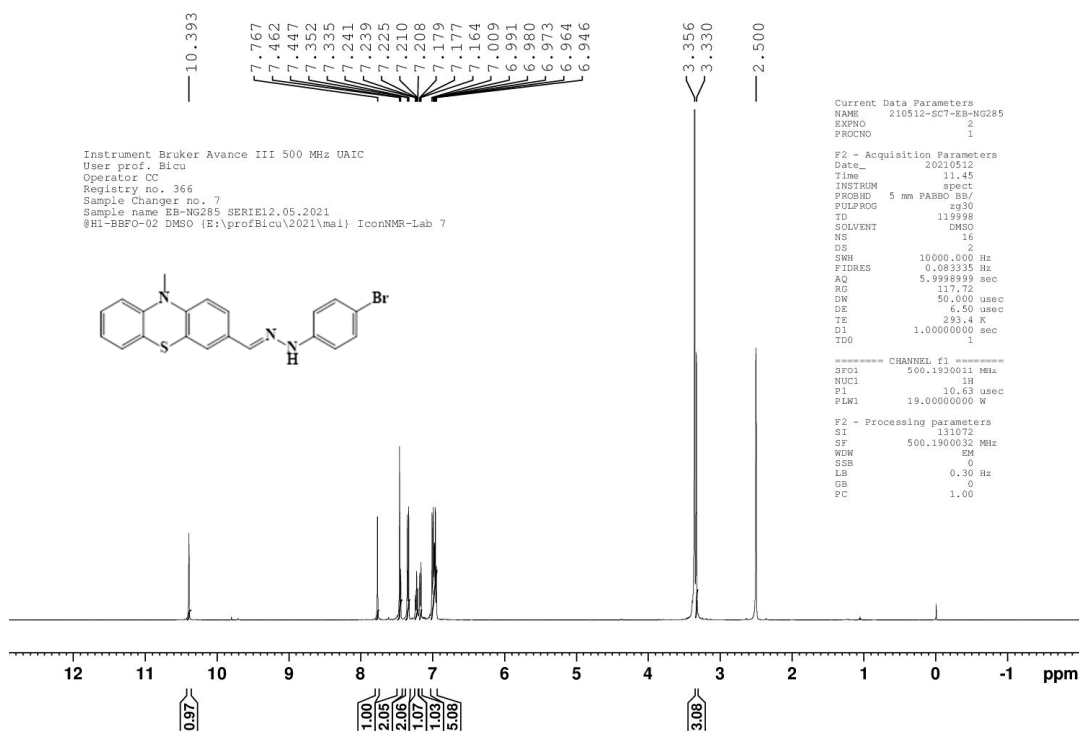
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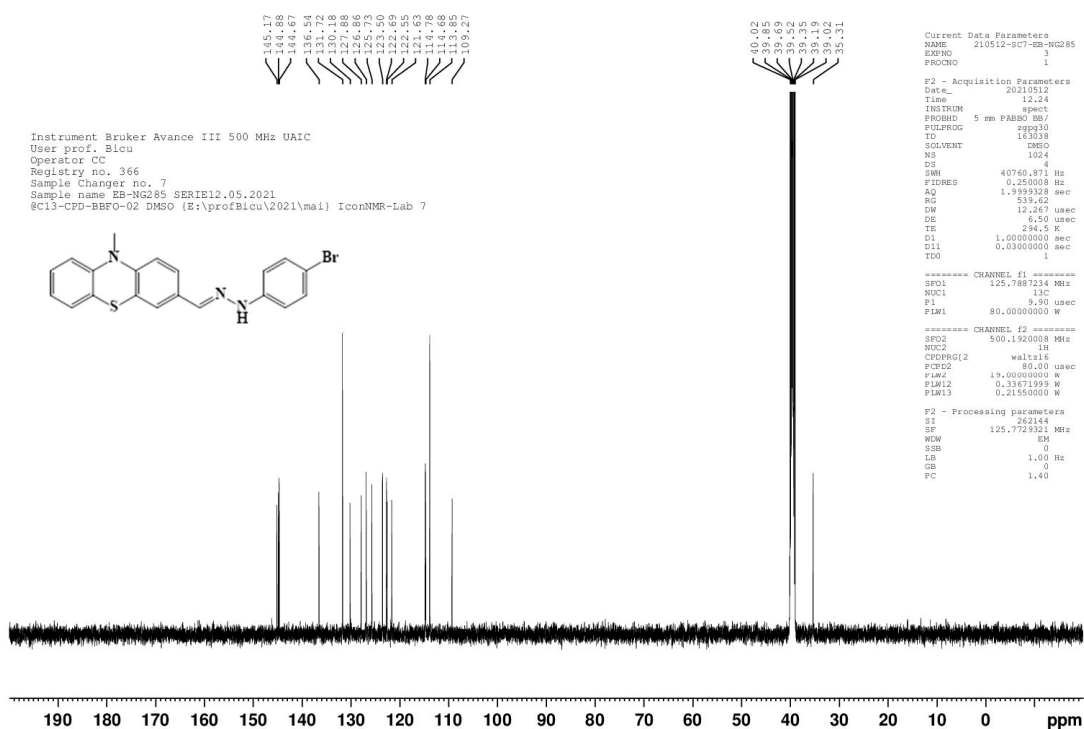
(b)

Figure S10. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone **10**

3-((2-(4-bromophenyl)hydrazono)methyl)-10-methyl-10*H*-phenothiazine (**11**).



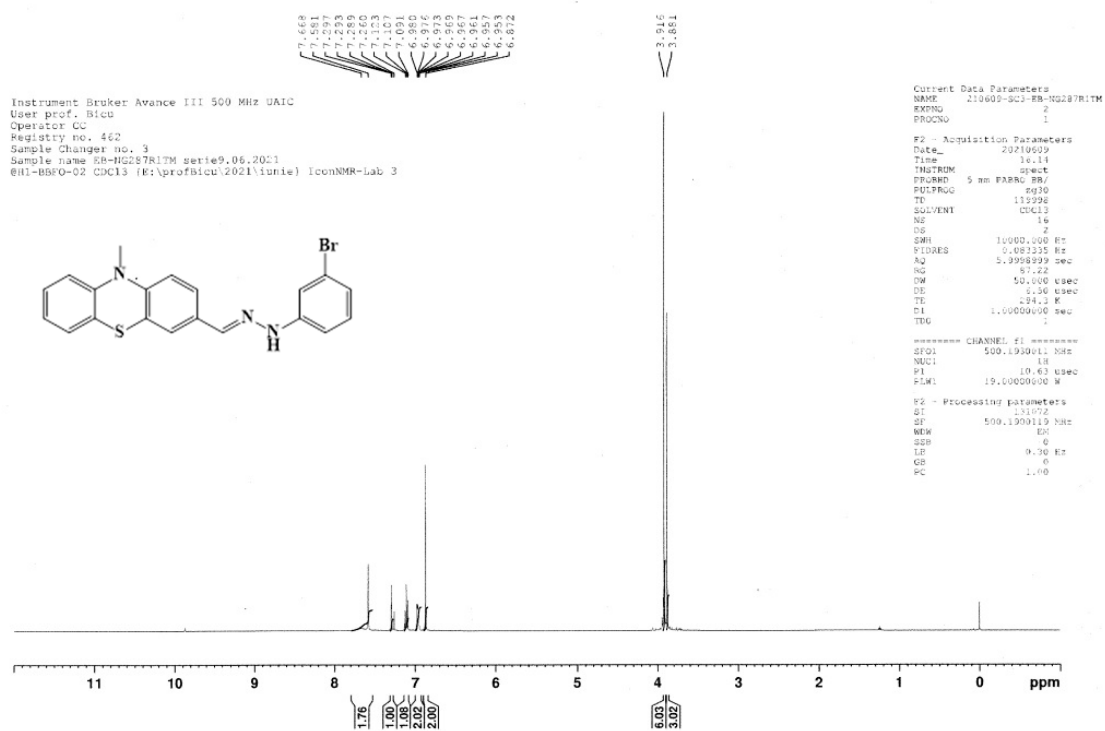
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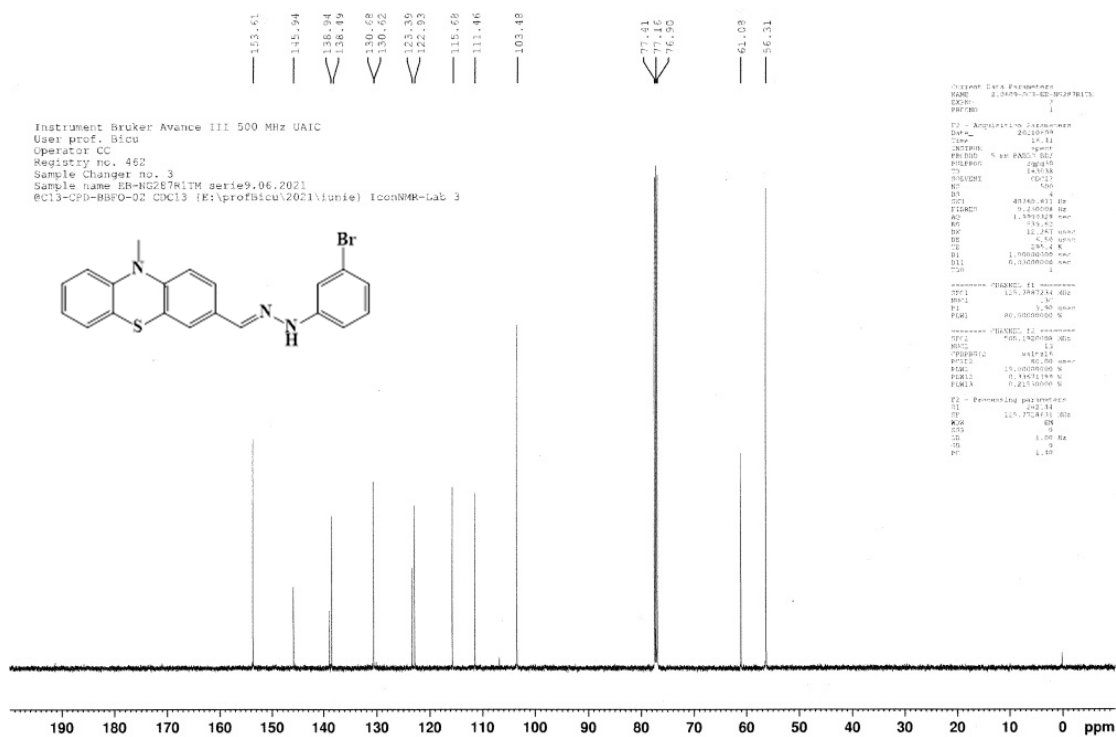
(b)

Figure S11. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone **11**

3-((2-(3-bromophenyl)hydrazono)methyl)-10-methyl-10H-phenothiazine (12).



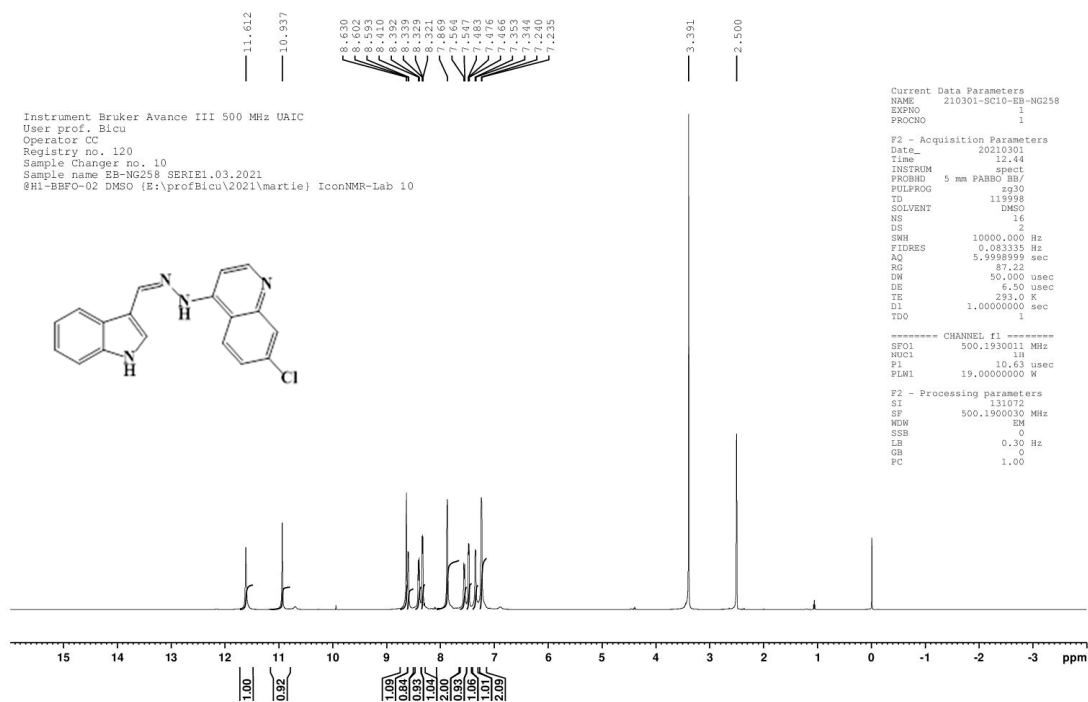
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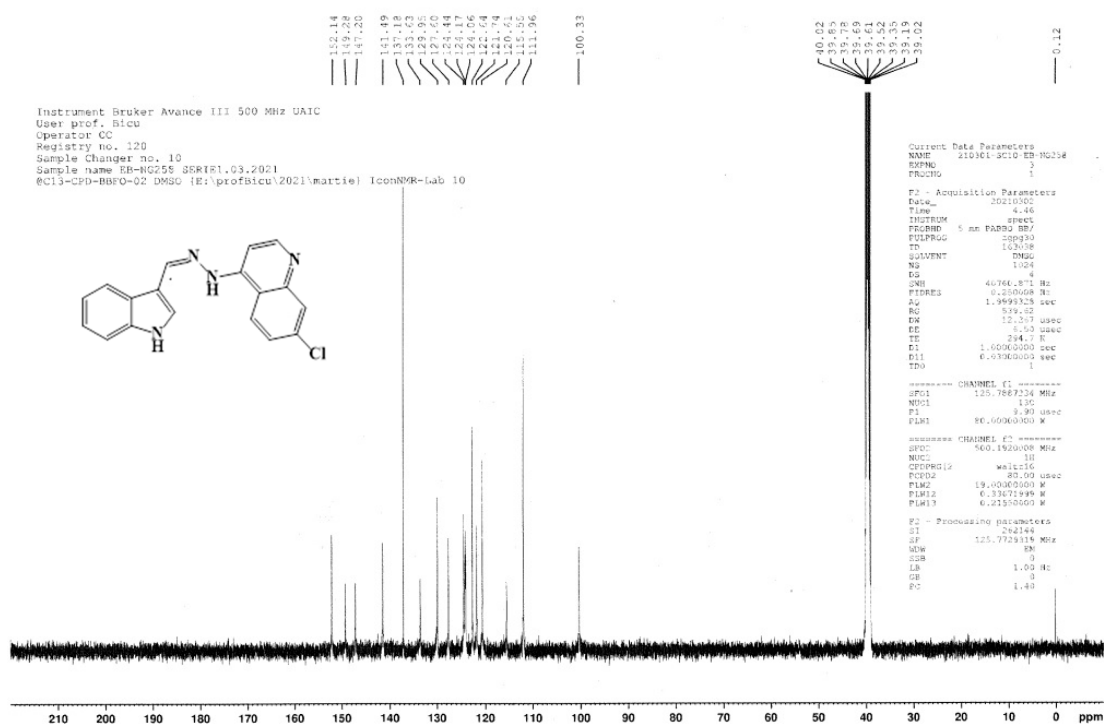
(b)

Figure S12. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone 12

4-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-7-chloroquinoline (13).



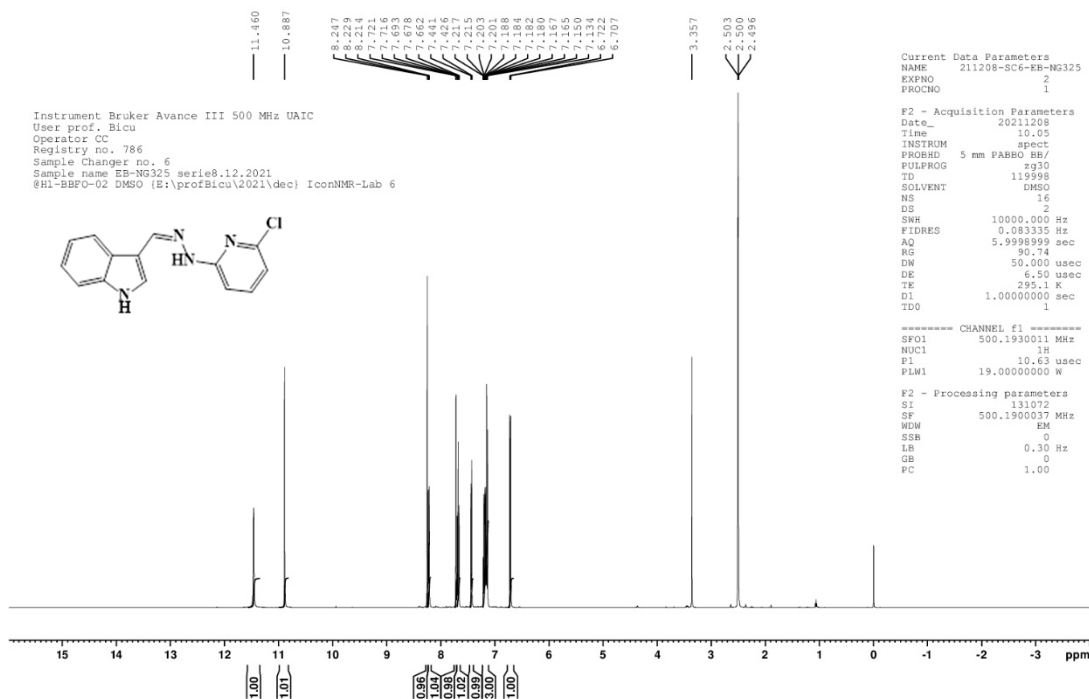
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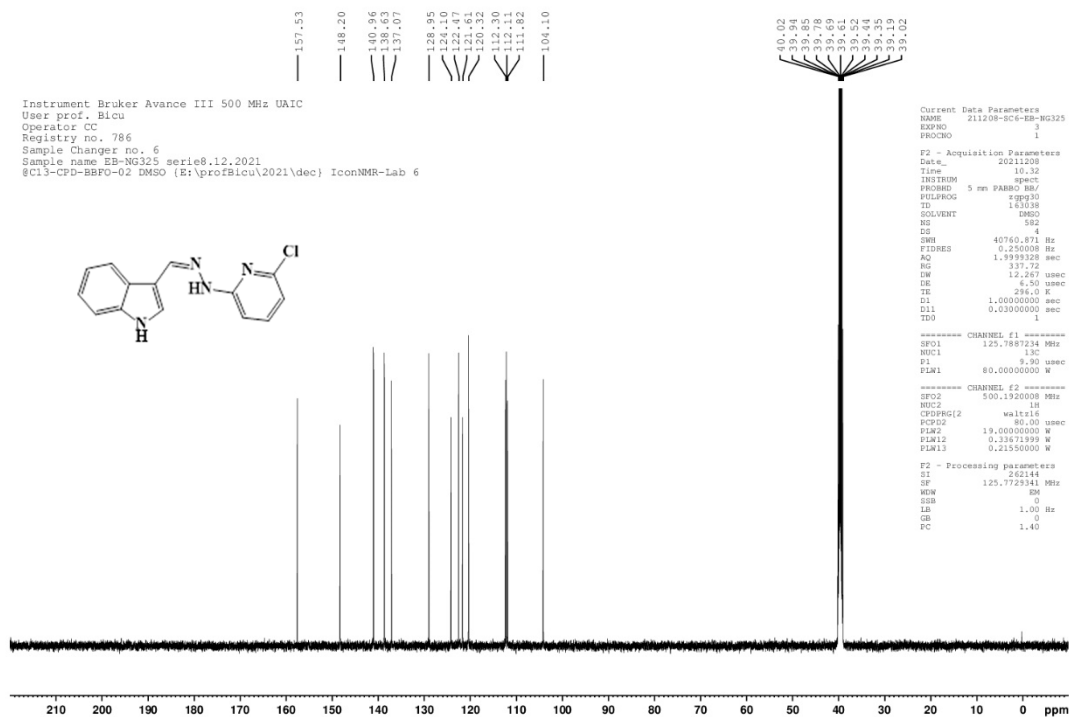
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Figure S13. (a) ^1H -NMR and (b) ^{13}C -NMR spectra for hydrazone **13**

3-((2-(6-chloropyridin-2-yl)hydrazono)methyl)-1*H*-indole (14).



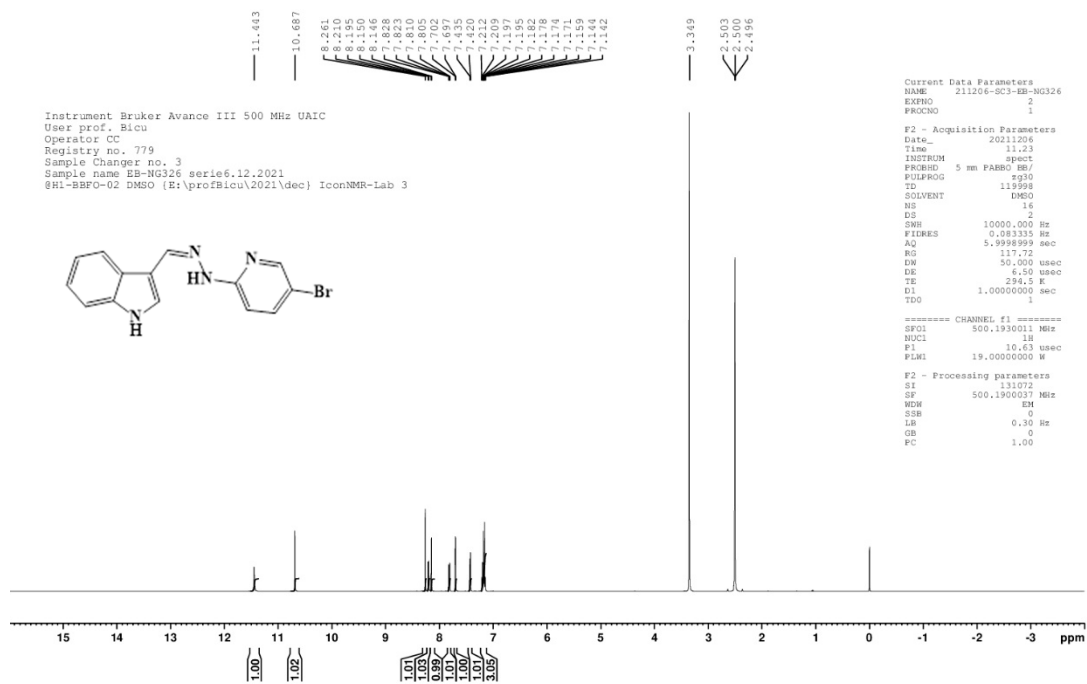
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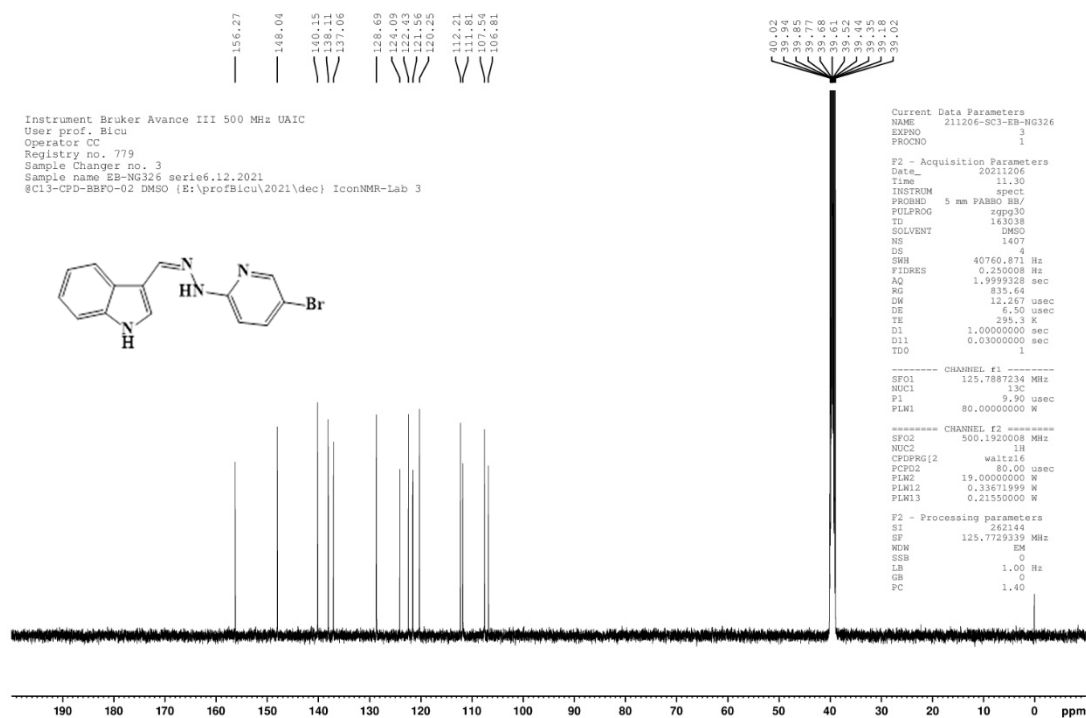
(b)

Figure S14. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone **14**

3-((2-(5-bromopyridin-2-yl)hydrazono)methyl)-1*H*-indole (15).



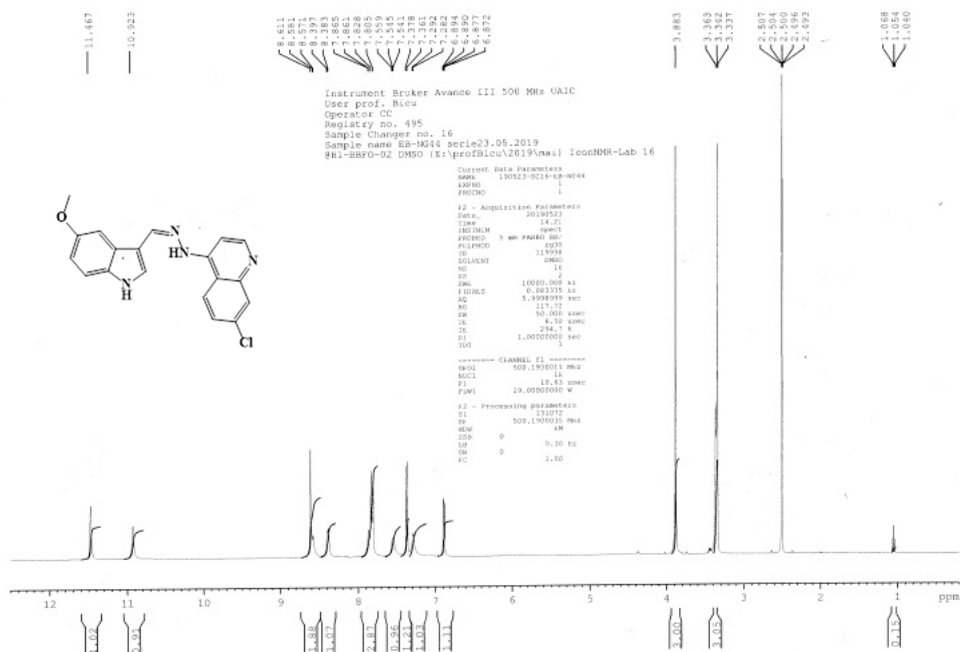
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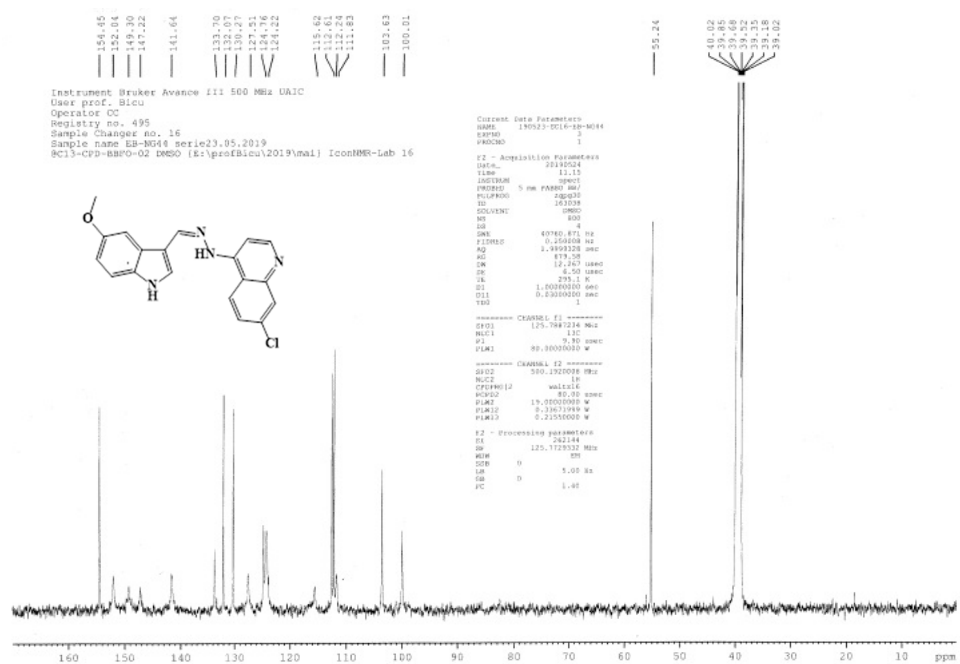
(b)

Figure S15. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone **15**

7-chloro-4-(2-((5-methoxy-1*H*-indol-3-yl)methylene)hydrazinyl)quinoline (16).



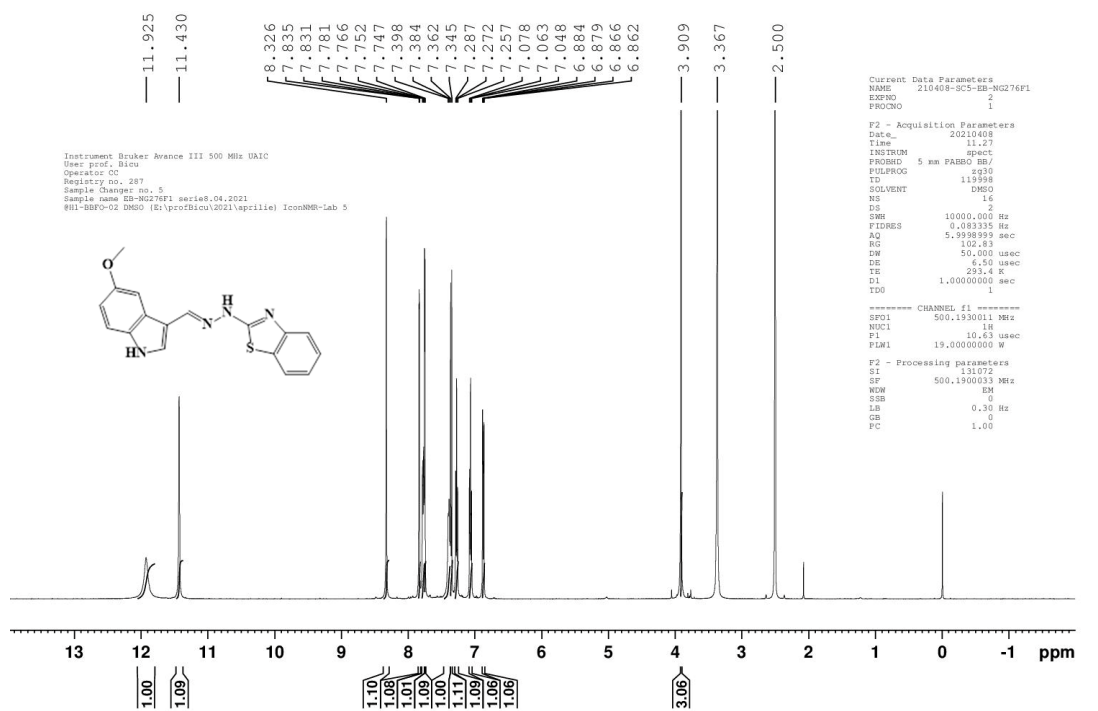
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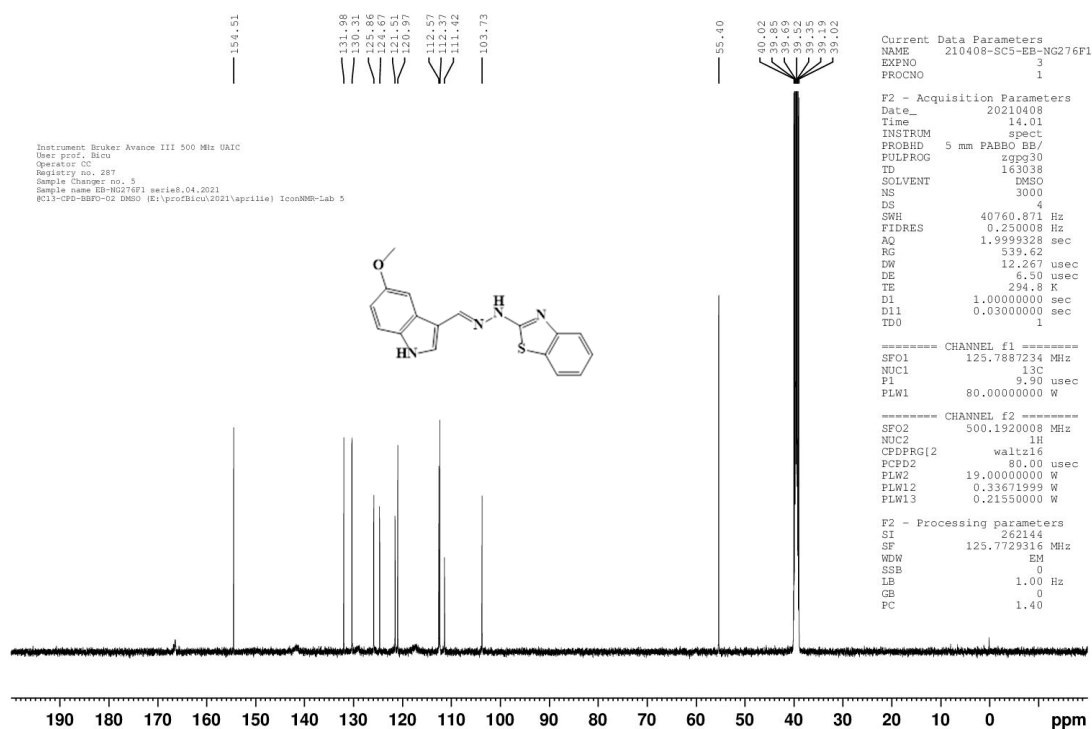
(b)

Figure S16. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone 16

2-(2-((5-methoxy-1*H*-indol-3-yl)methylene)hydrazinyl)benzo[*d*]thiazole (**17**).



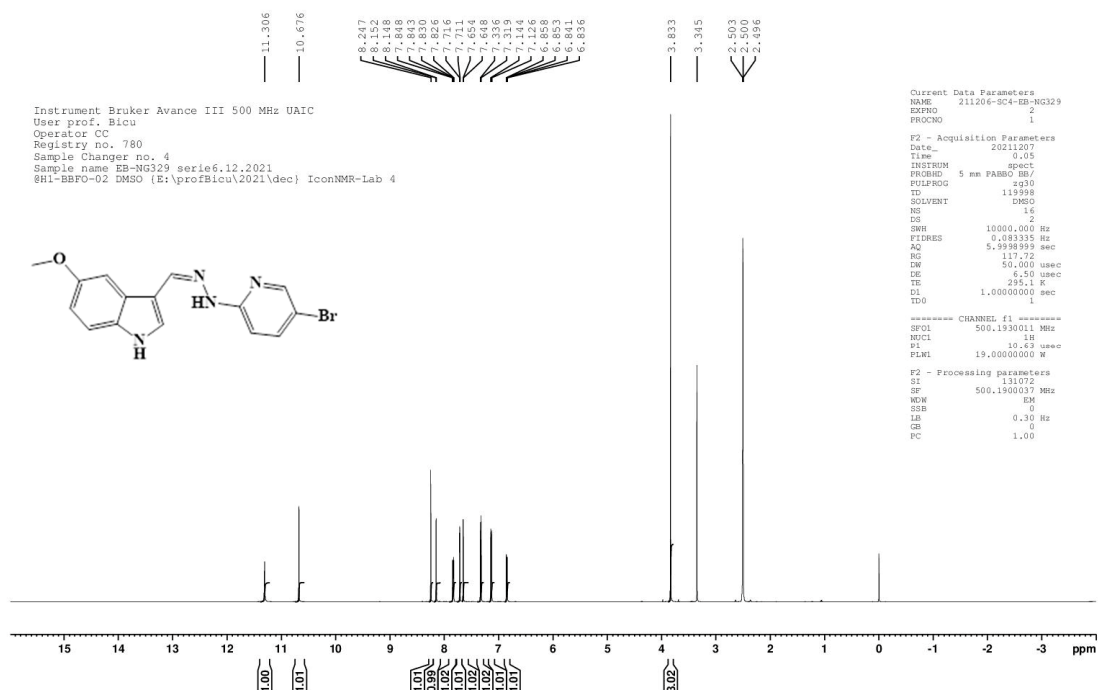
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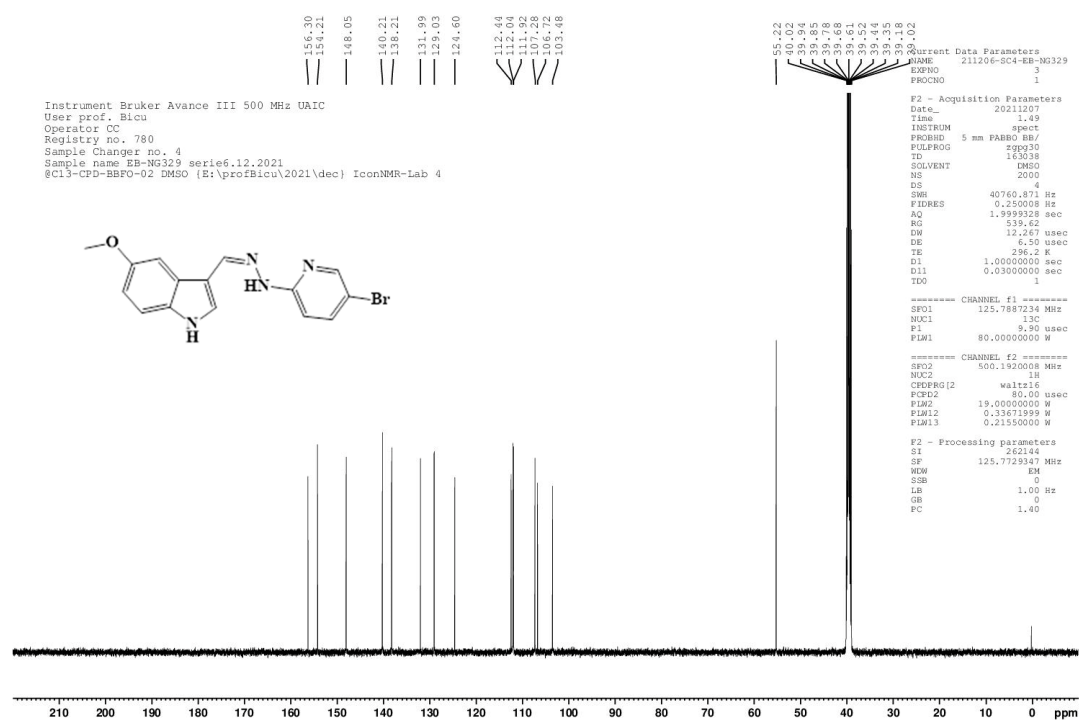
(b)

Figure S17. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone **17**

3-((2-(5-bromopyridin-2-yl)hydrazono)methyl)-5-methoxy-1*H*-indole (**18**).



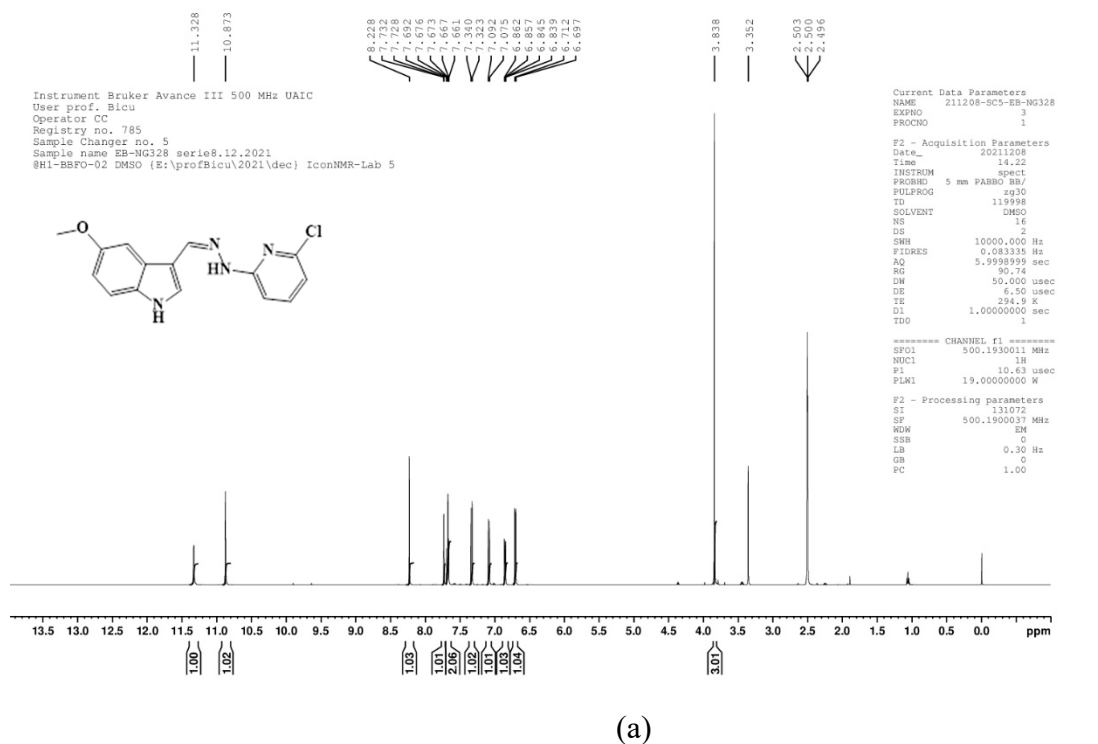
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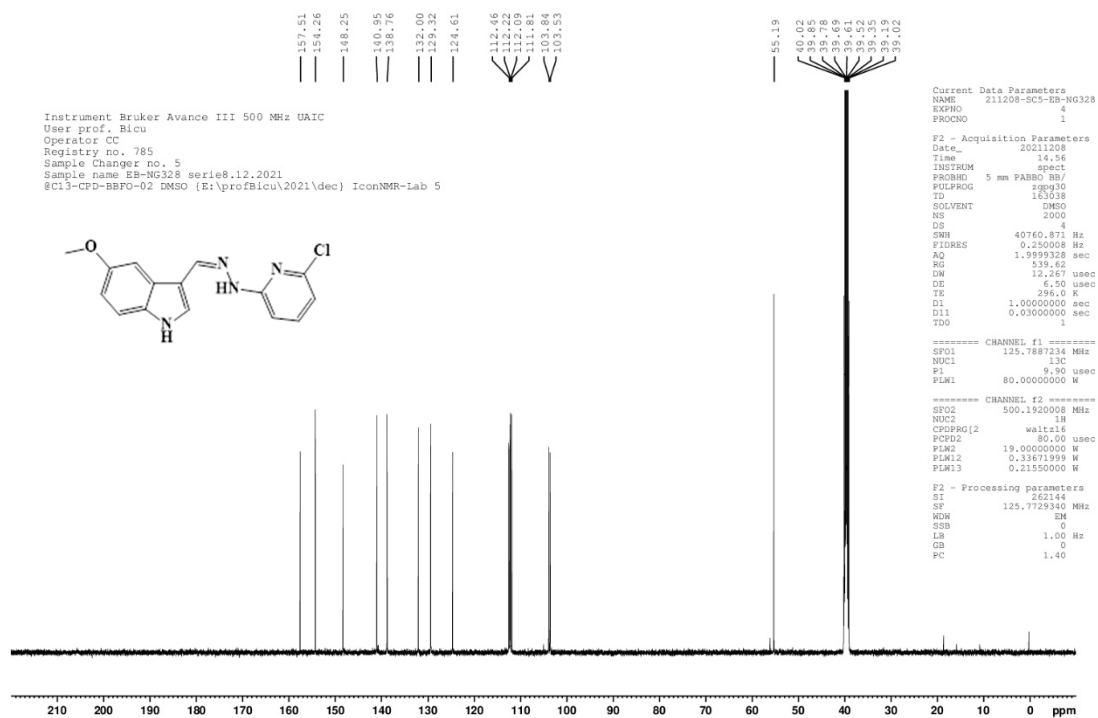
(b)

Figure S18. (a) ^1H -NMR and (b) ^{13}C -NMR spectra for hydrazone **18**

3-((2-(6-chloropyridin-2-yl)hydrazono)methyl)-5-methoxy-1*H*-indole (19).



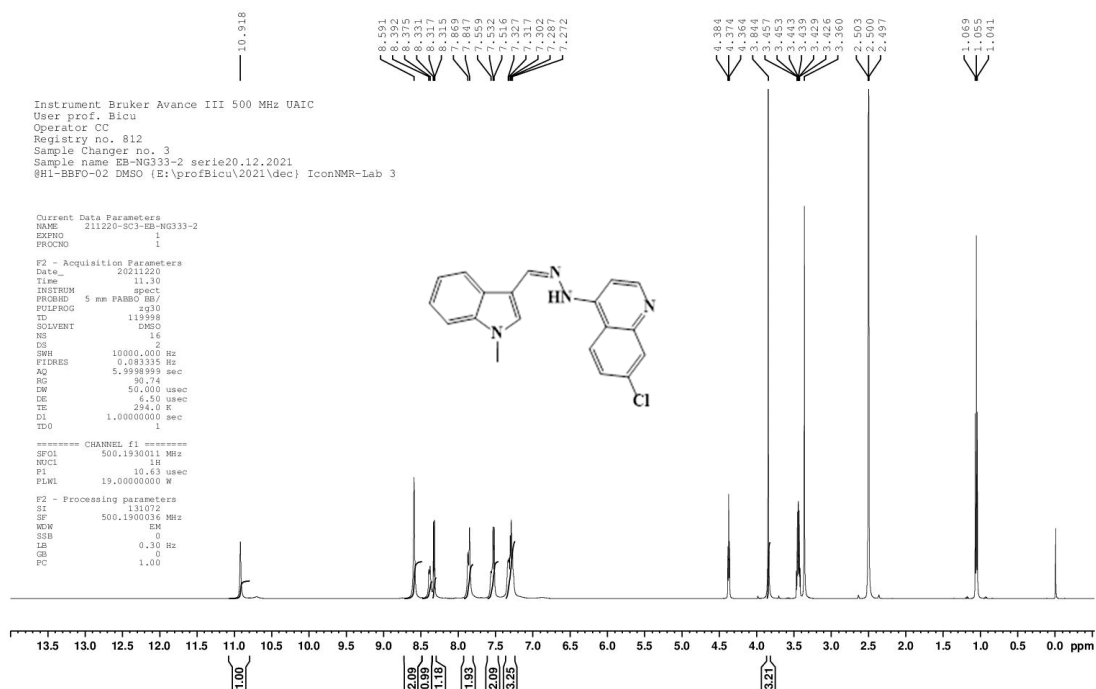
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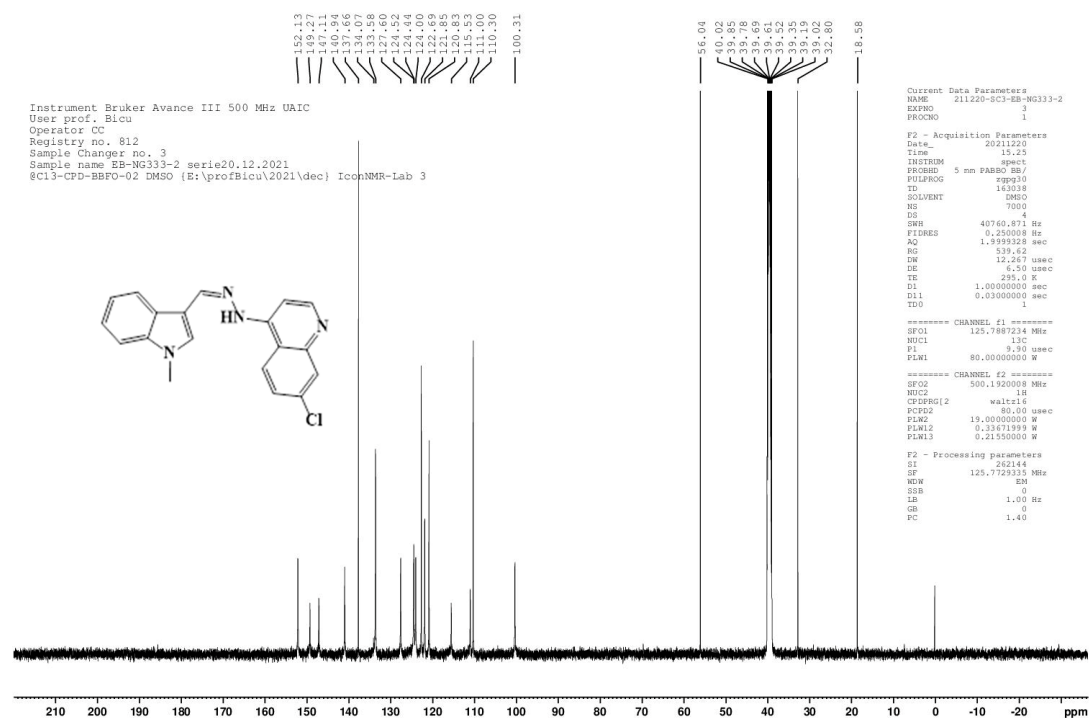
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Figure S19. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone 19

7-chloro-4-((1-methyl-1*H*-indol-3-yl)methylene)hydrazinyl)quinoline (20).



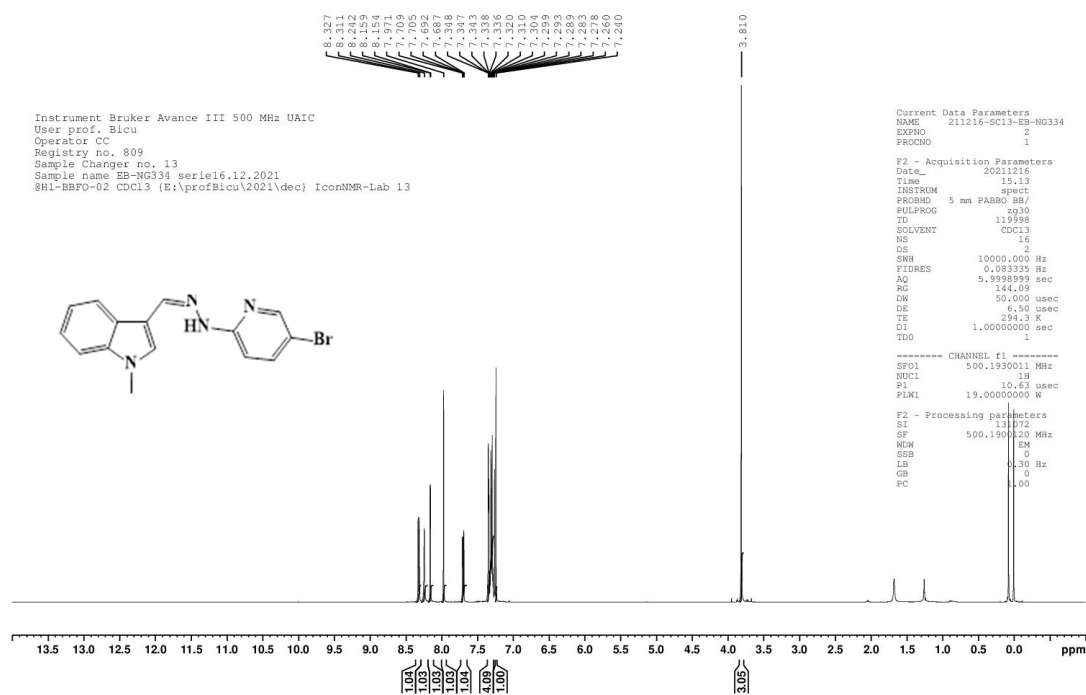
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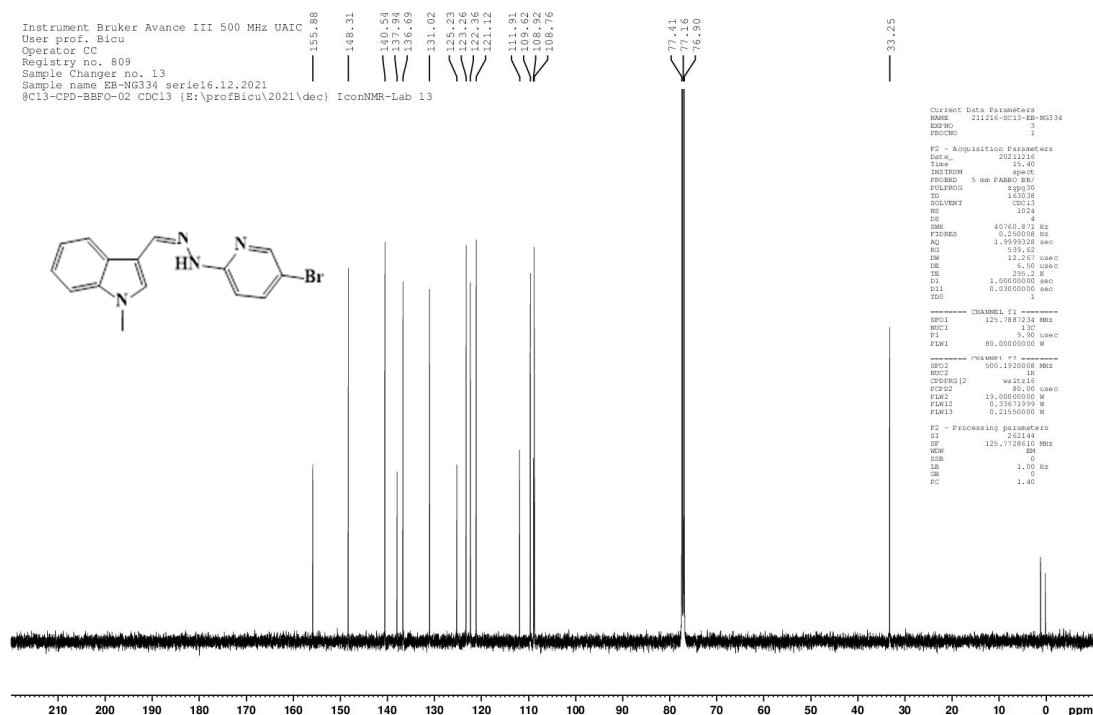
(b)

Figure S20. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone 20

3-((2-(5-bromopyridin-2-yl)hydrazono)methyl)-1-methyl-1*H*-indole (**21**).



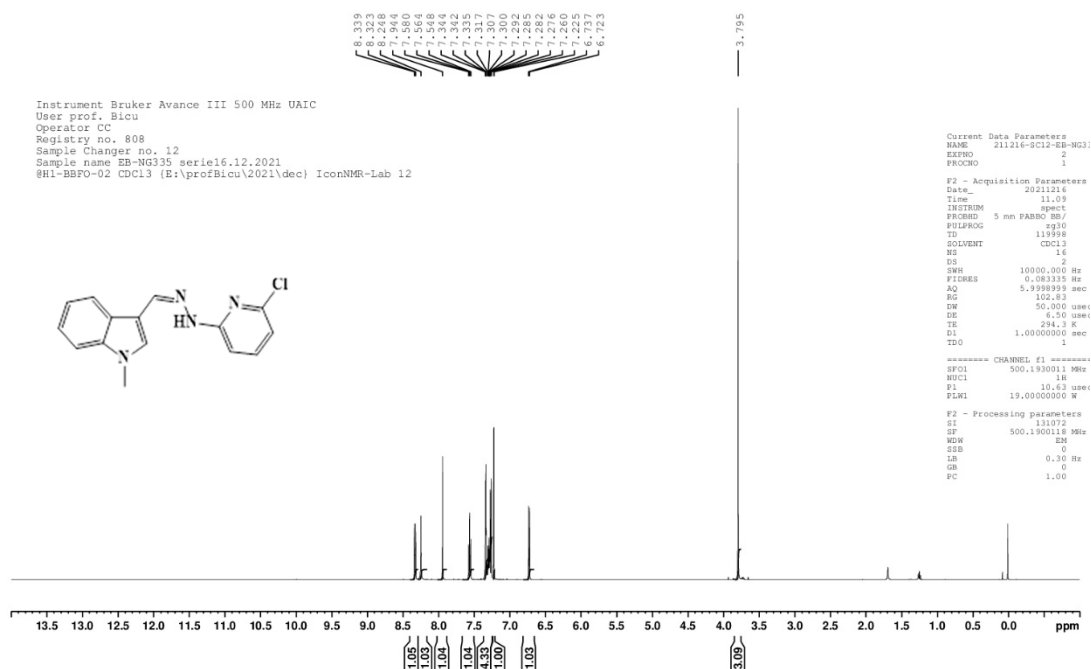
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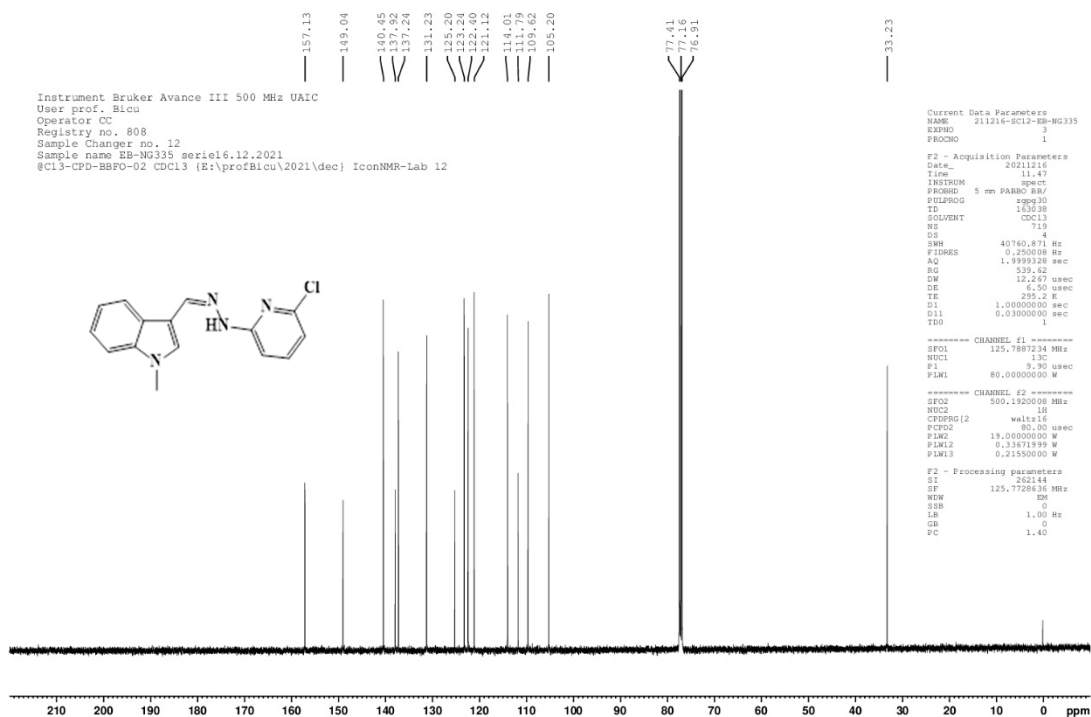
(b)

Figure S21. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone **21**

3-((2-(6-chloropyridin-2-yl)hydrazono)methyl)-1-methyl-1*H*-indole (22).



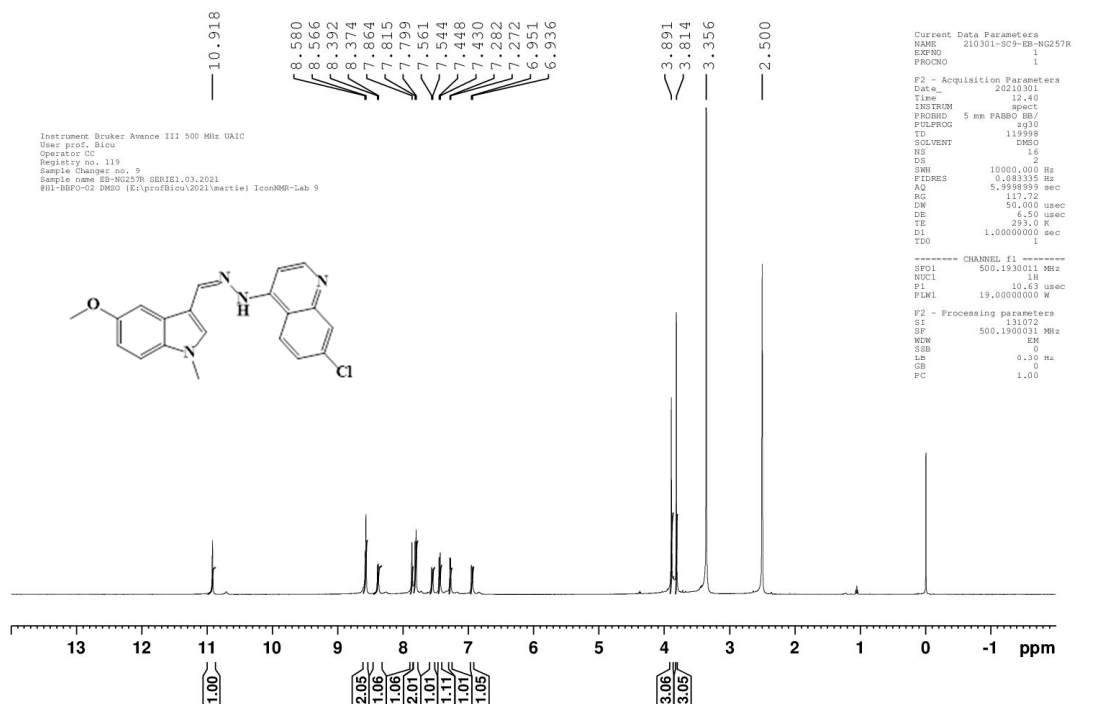
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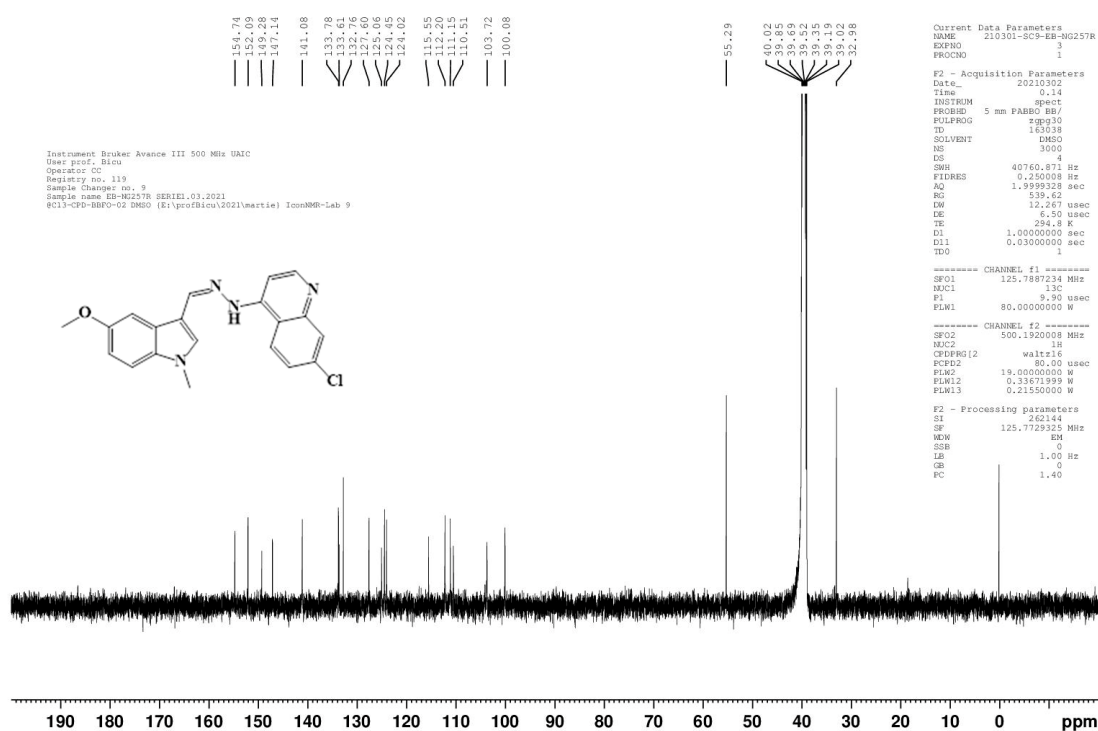
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Figure S22. (a) ^1H -NMR and (b) ^{13}C -NMR spectra for hydrazone **22**

7-chloro-4-(2-((5-methoxy-1-methyl-1*H*-indol-3-yl)methylene)hydrazinyl)quinoline (**23**).



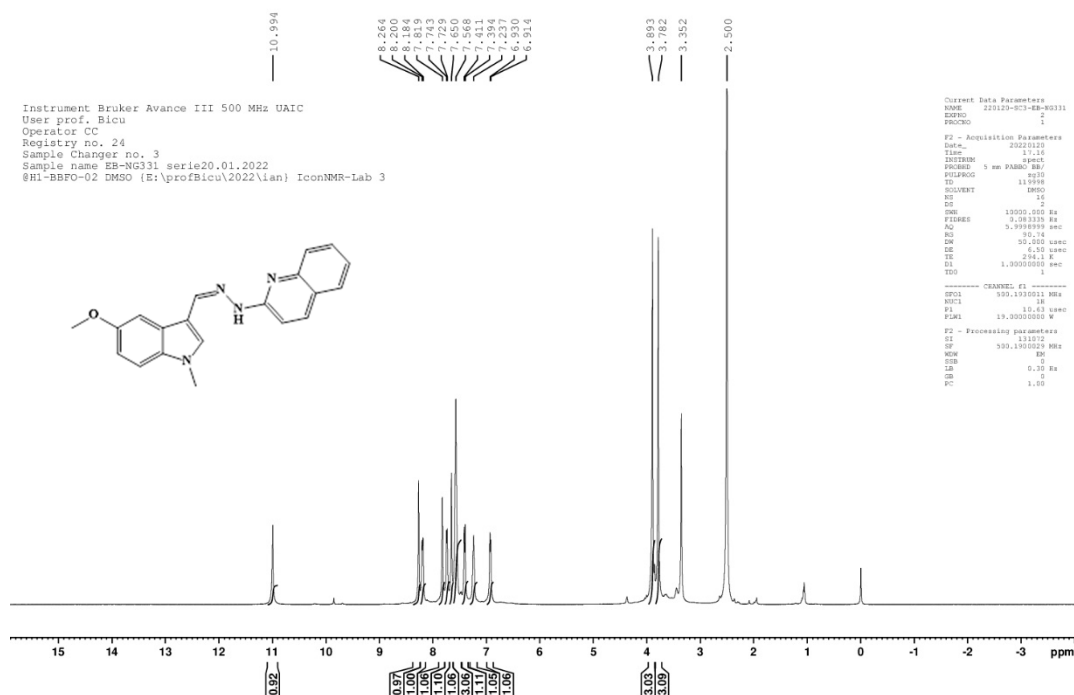
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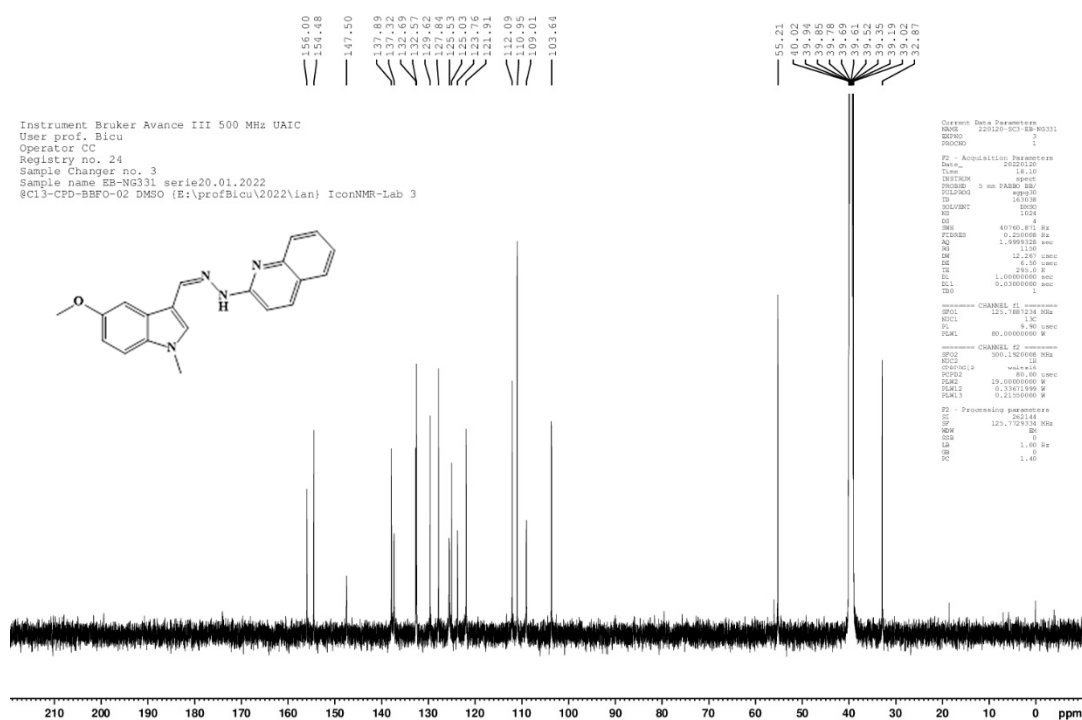
(b)

Figure S23. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone **23**

2-(2-((5-methoxy-1-methyl-1*H*-indol-3-yl)methylene)hydrazinyl)quinoline (24).



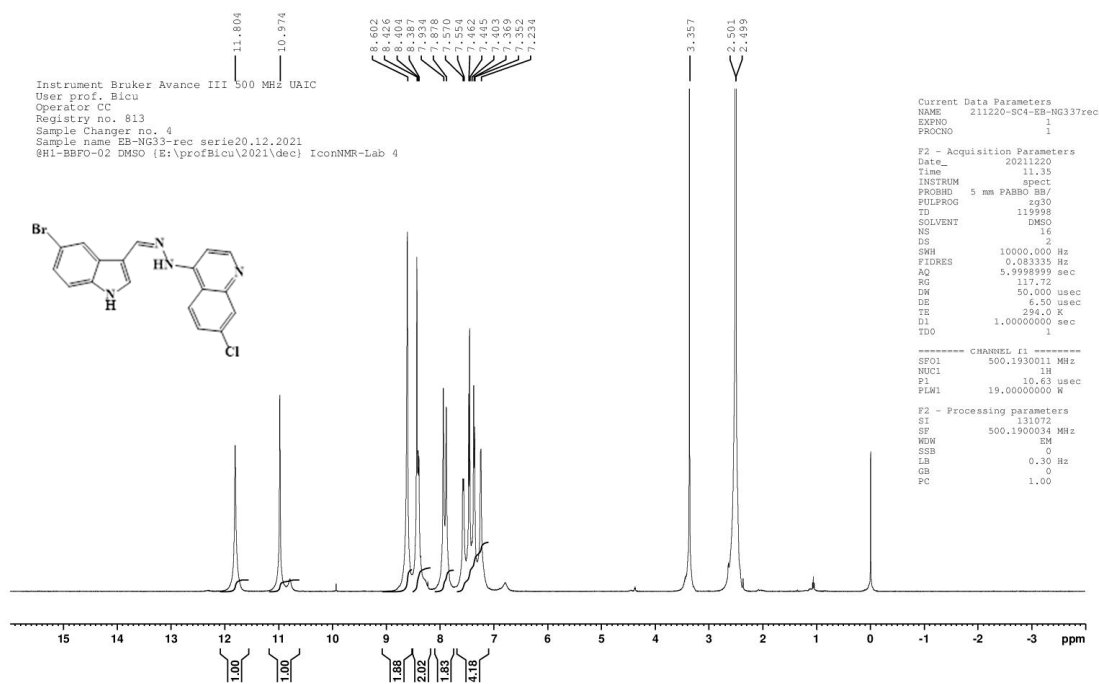
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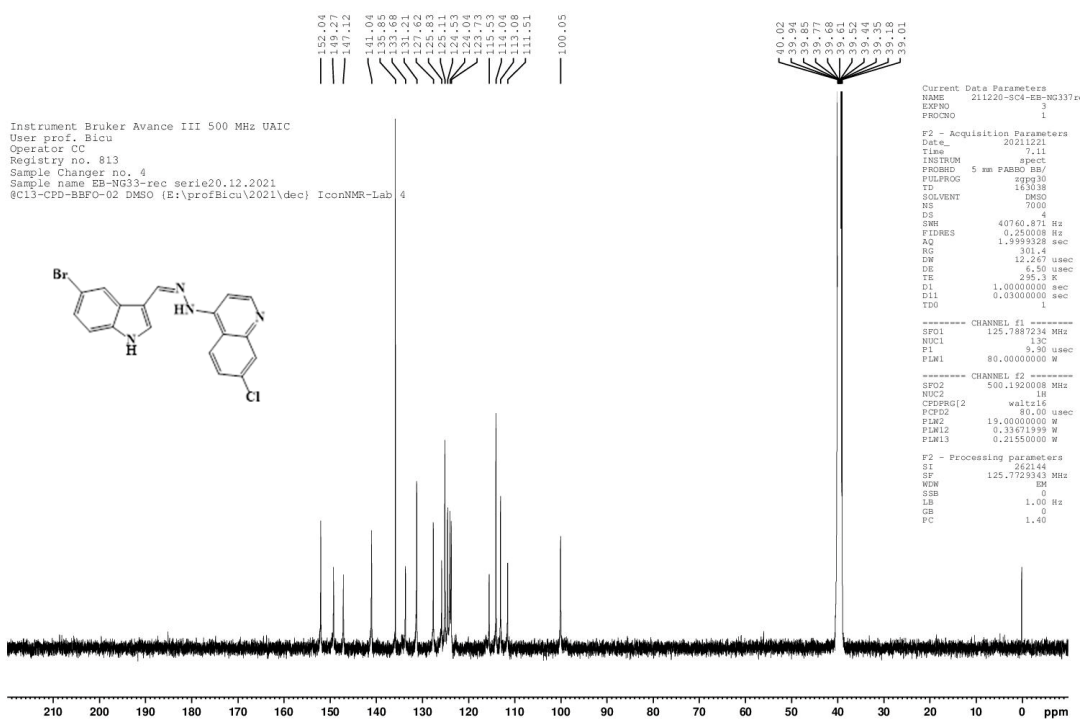
(b)

Figure S24. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone 24

4-(2-((5-bromo-1*H*-indol-3-yl)methylene)hydrazinyl)-7-chloroquinoline (**25**).



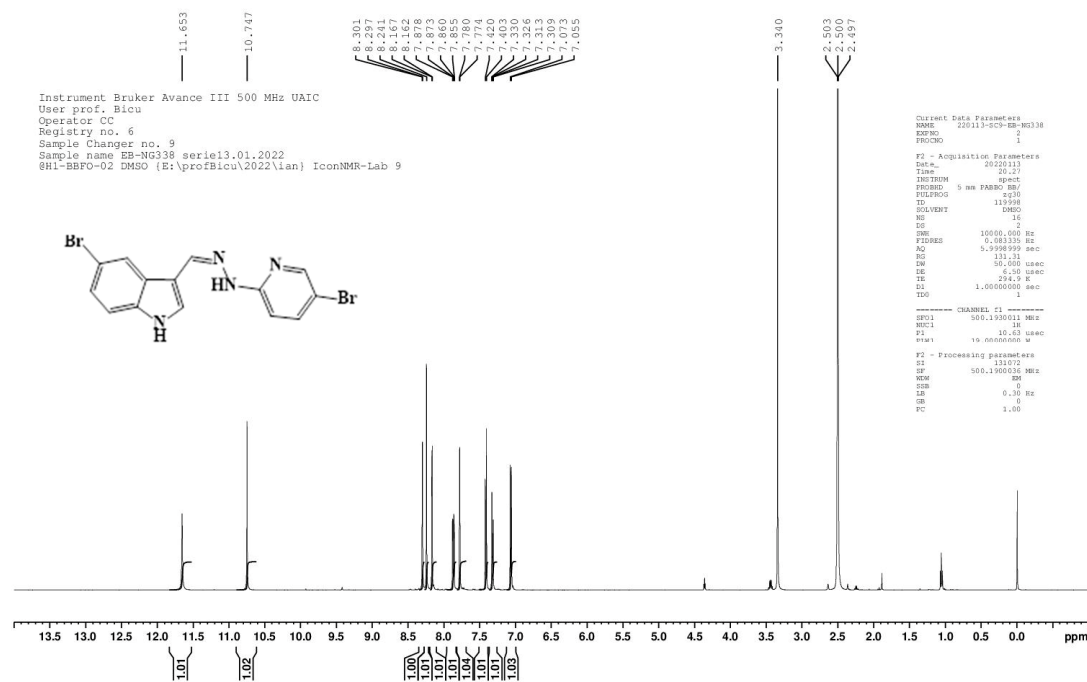
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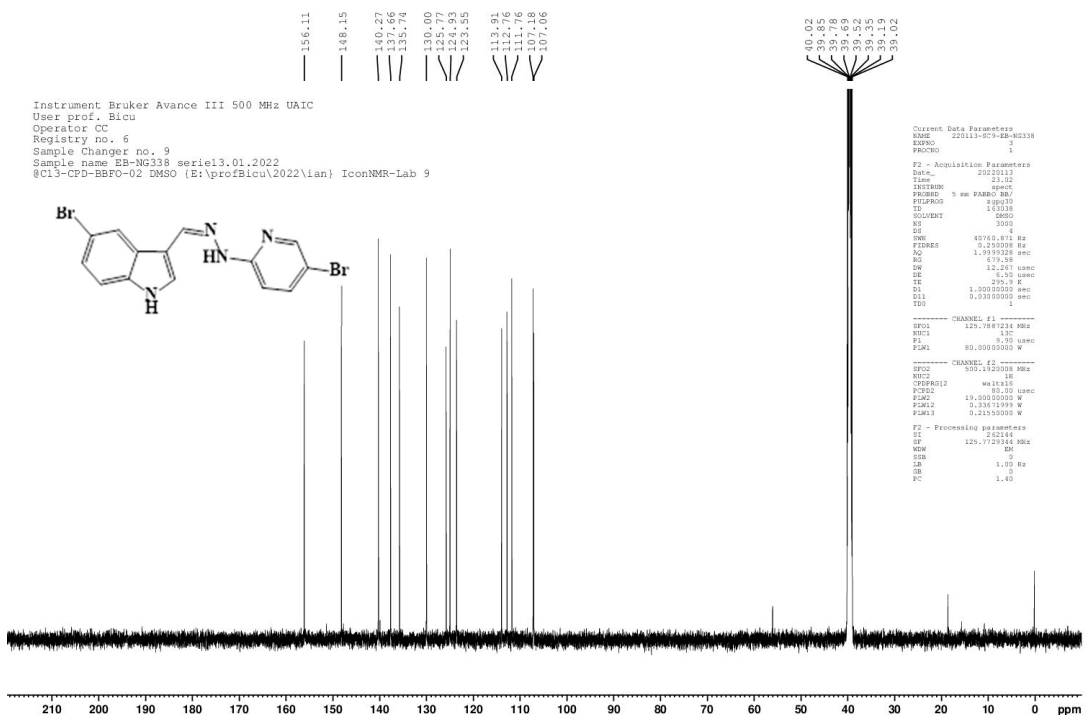
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Figure S25. (a) ^1H -NMR and (b) ^{13}C -NMR spectra for hydrazone **25**

5-bromo-3-((2-(5-bromopyridin-2-yl)hydrazono)methyl)-1*H*-indole (**26**).



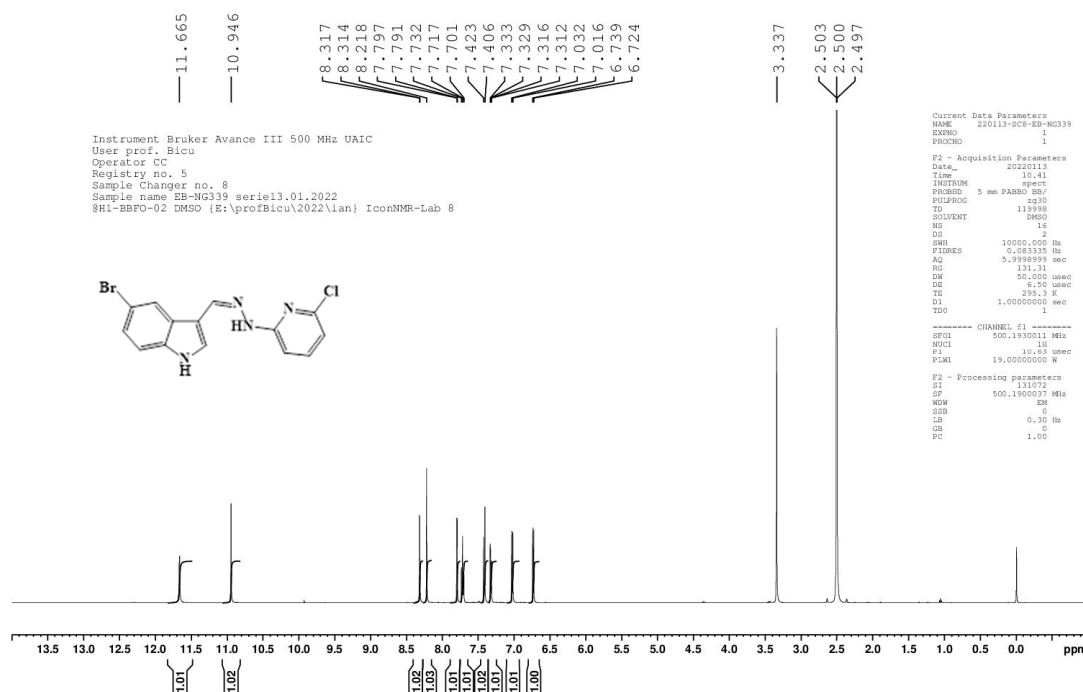
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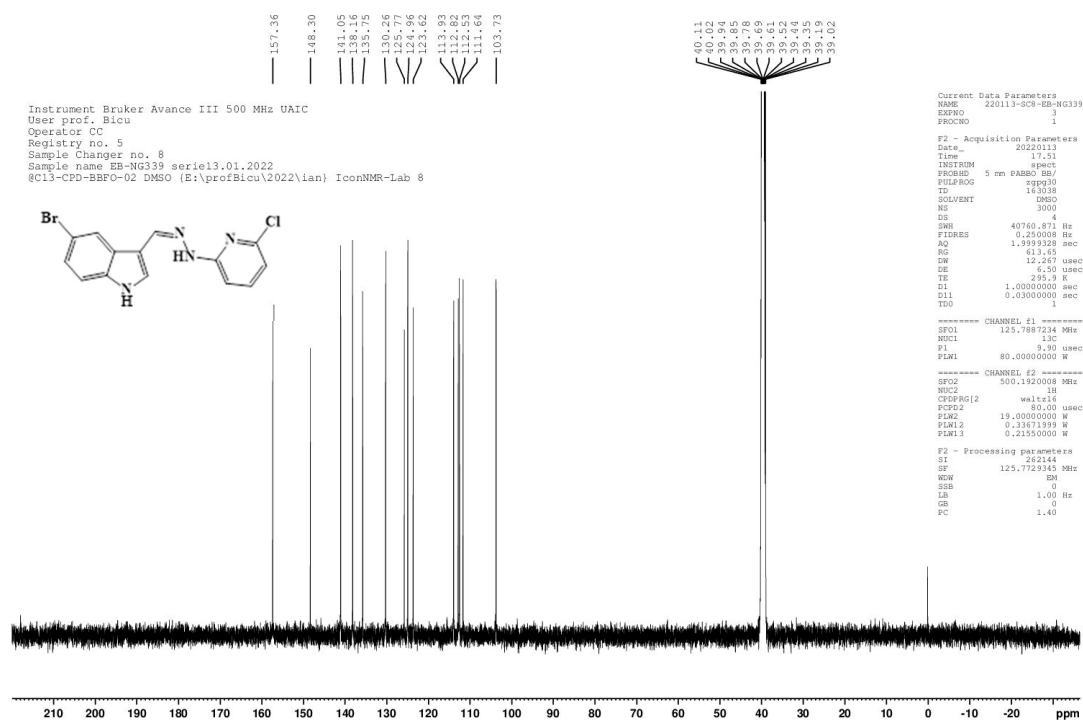
(b)

Figure S26. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone **26**

5-bromo-3-((2-(6-chloropyridin-2-yl)hydrazono)methyl)-1*H*-indole (**27**).



(a)



(b)

Figure S27. (a) ¹H-NMR and (b) ¹³C-NMR spectra for hydrazone **27**