

New Journal of Chemistry Supplementary Information

Synthesis of Hybrids Thiazole-quinoline, Thiazole-indole and Analogs: *in vitro* Anti-proliferative Effects on Cancer Cell Lines, DNA Binding Properties and Molecular Modeling

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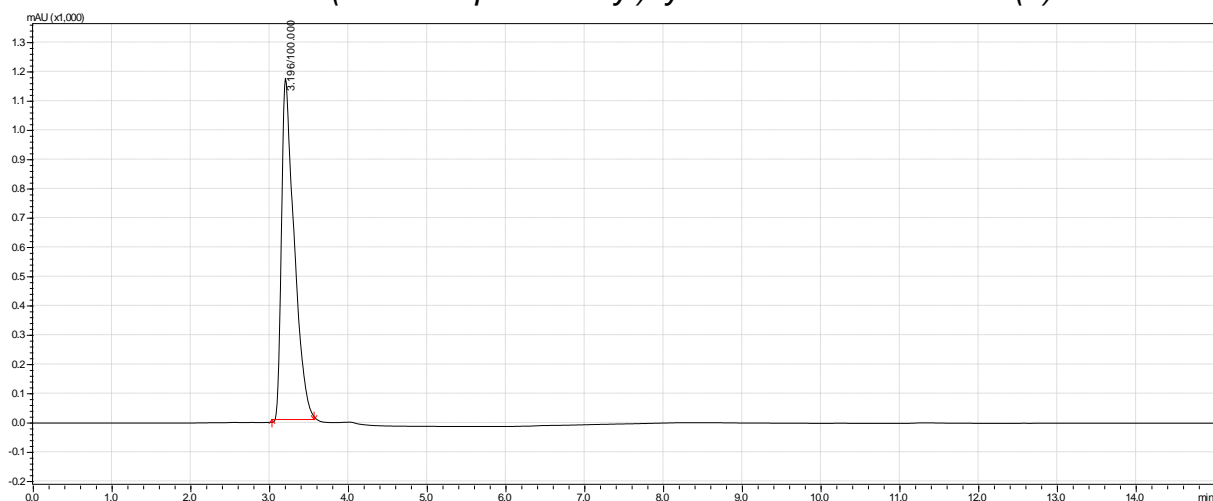
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*Corresponding author. E-mail adress: thiago.aquino@iqb.ufal.br (T. M. Aquino)

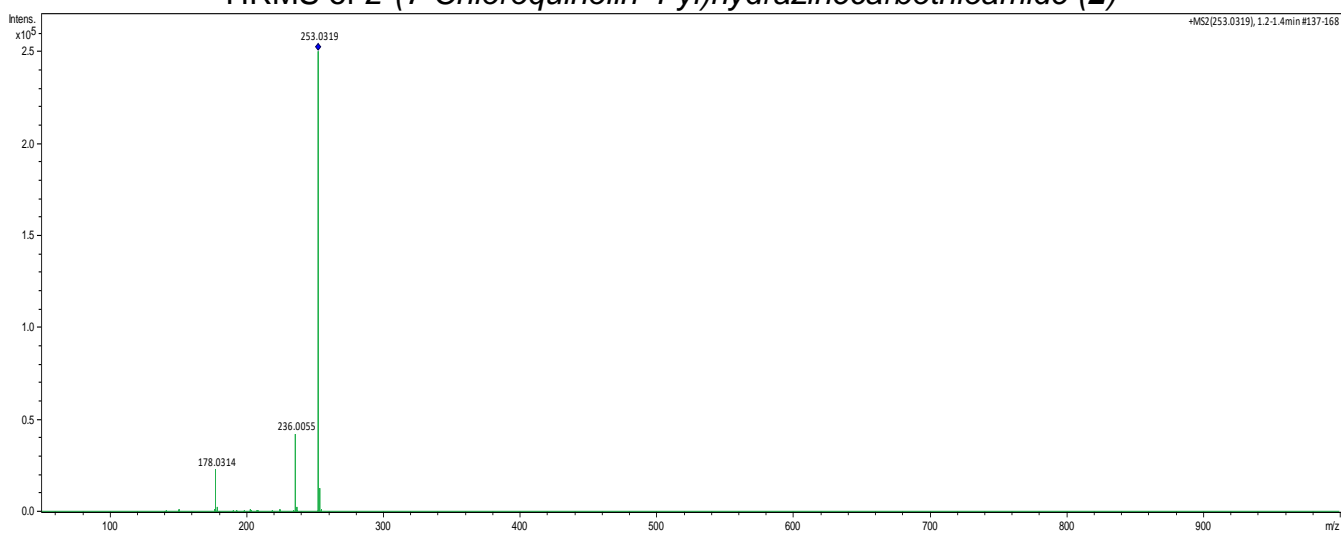
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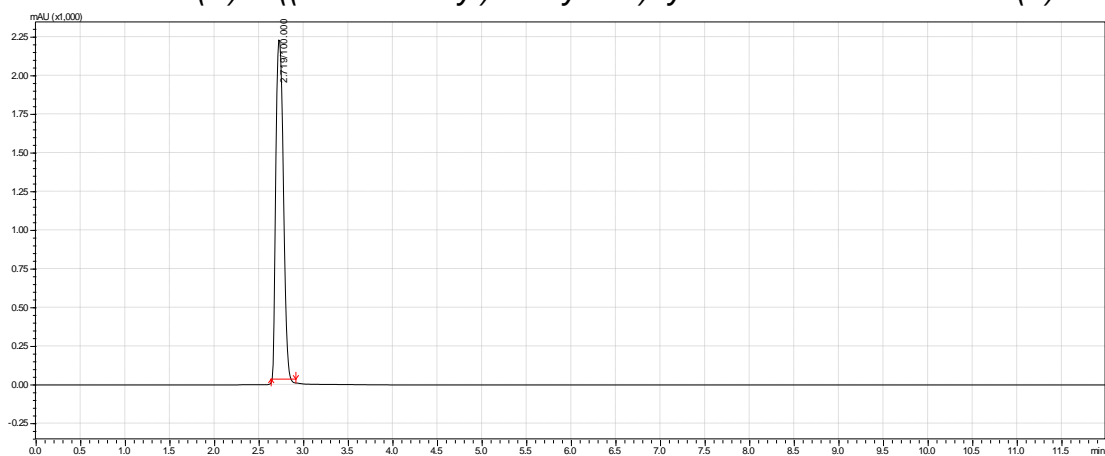
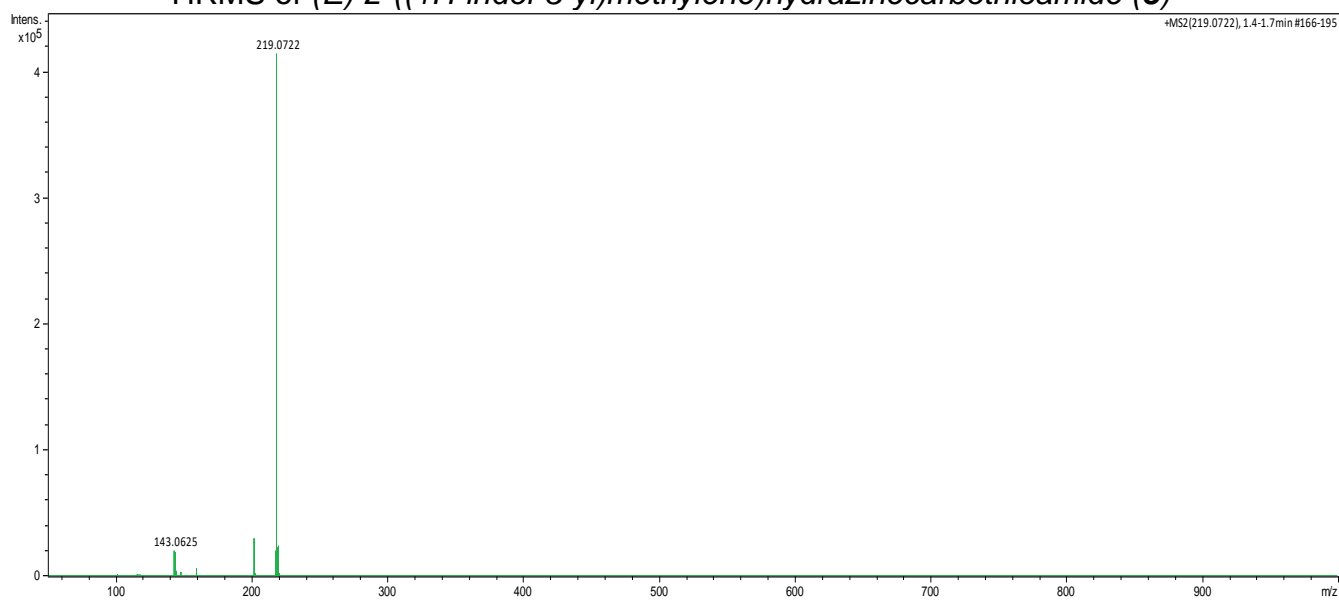
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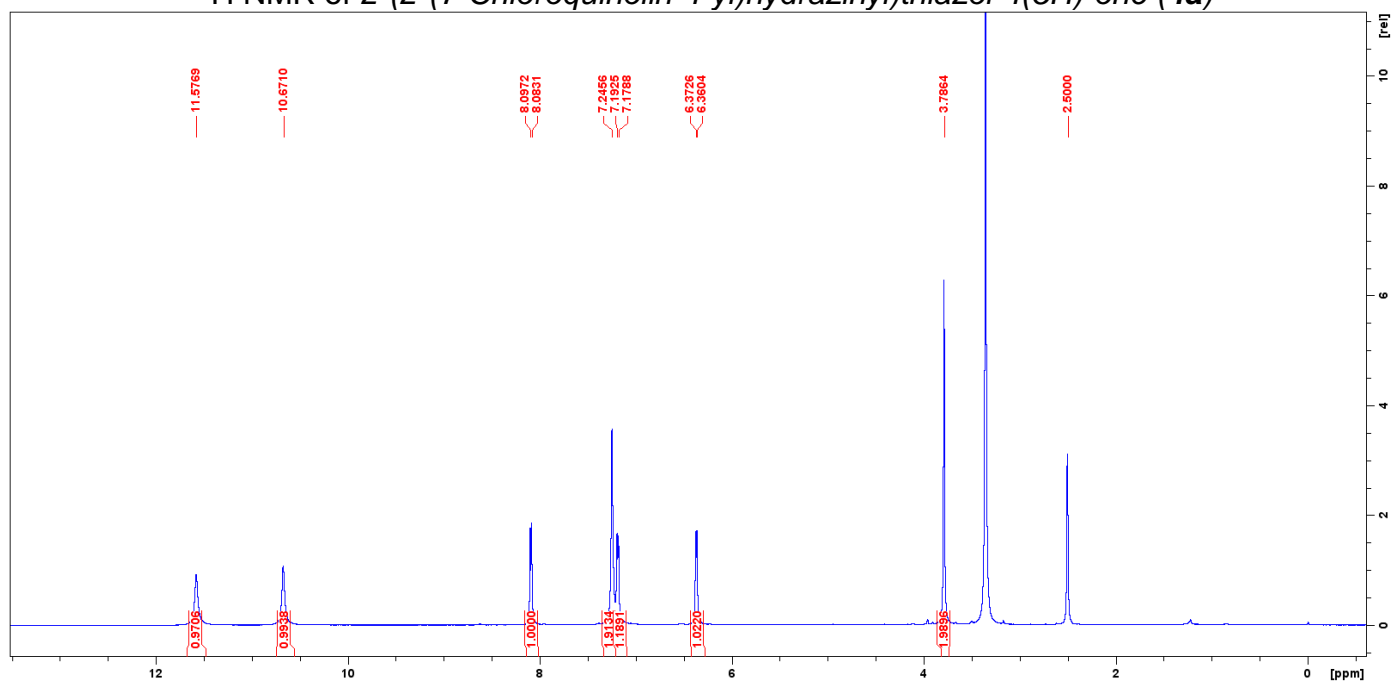
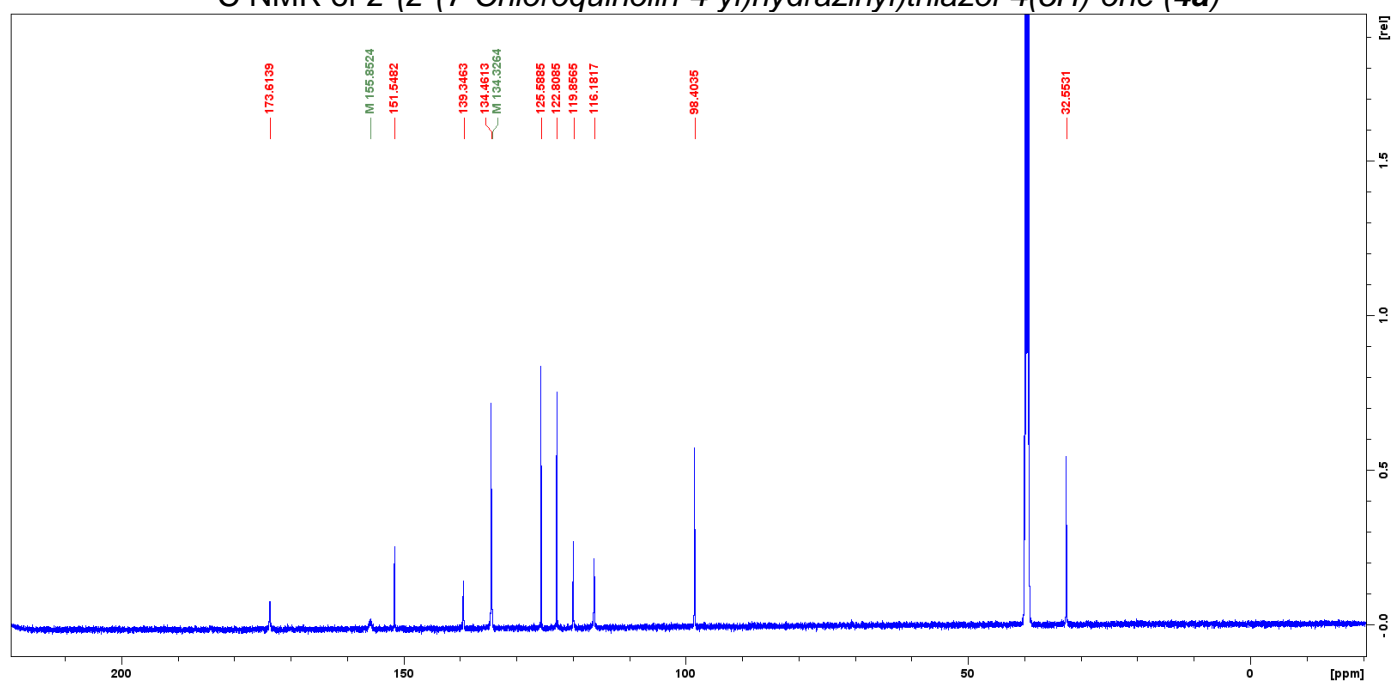
HPLC of 2-(7-Chloroquinolin-4-yl)hydrazinecarbothioamide (2)

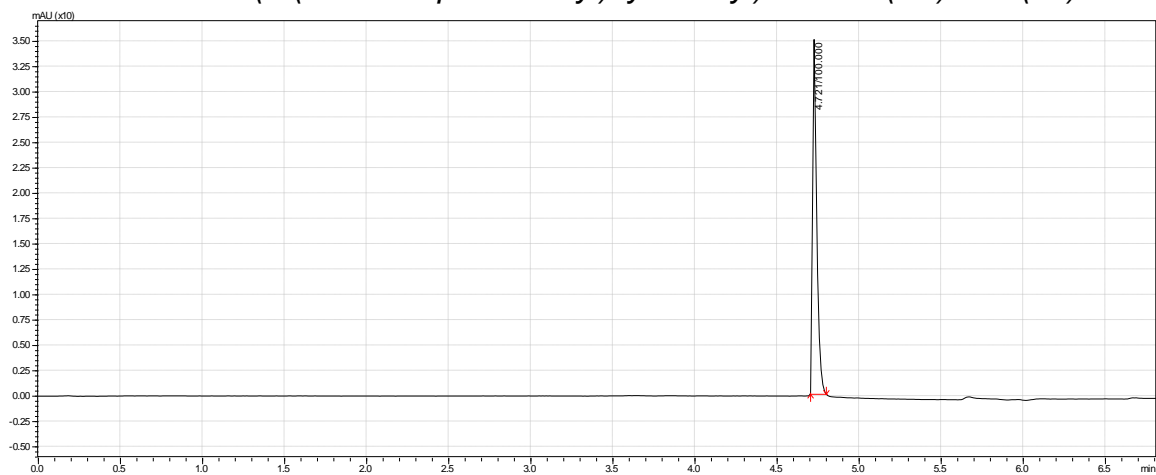
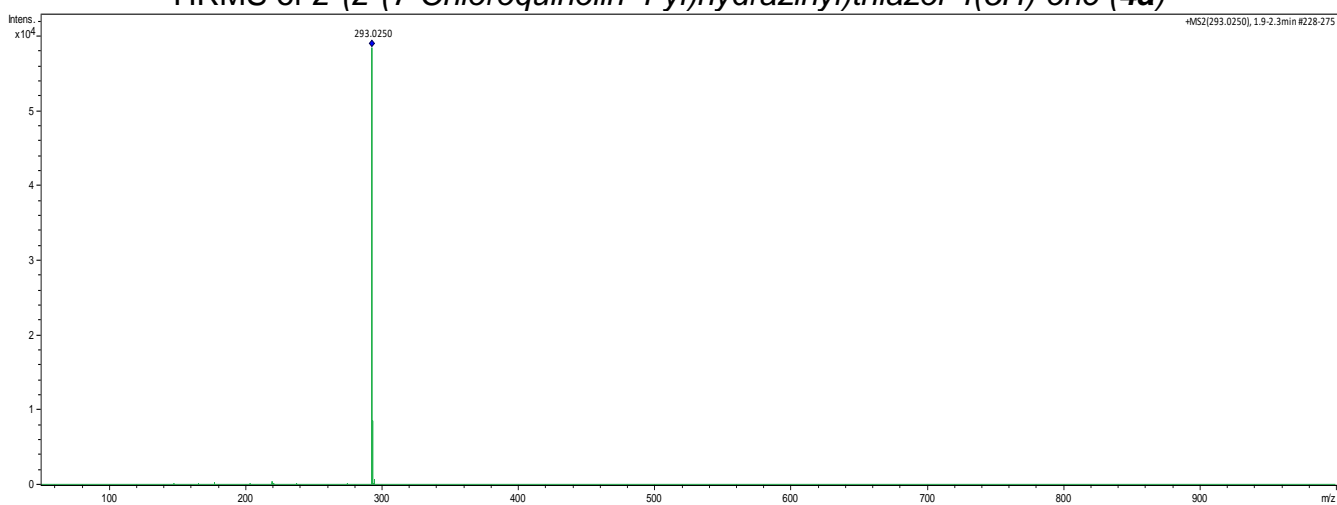


HRMS of 2-(7-Chloroquinolin-4-yl)hydrazinecarbothioamide (2)

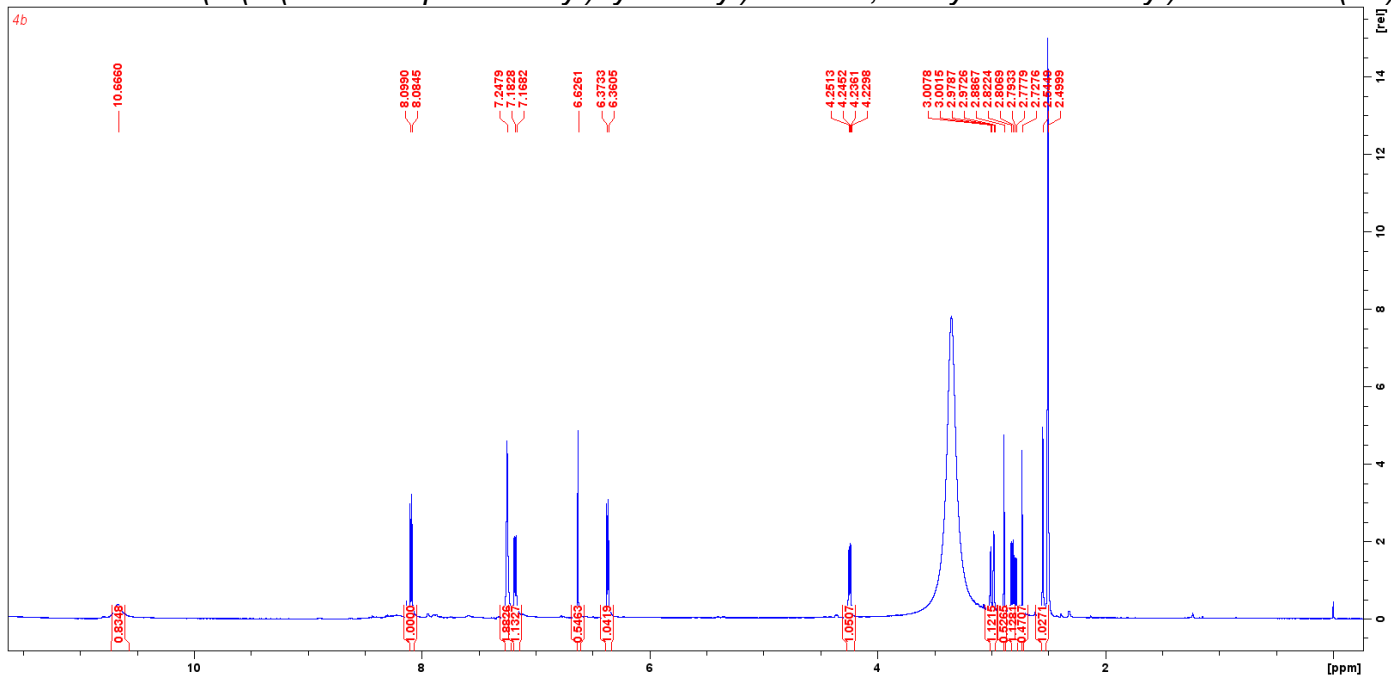


HPLC of (*E*)-2-((1*H*-indol-3-yl)methylene)hydrazinecarbothioamide (**3**)HRMS of (*E*)-2-((1*H*-indol-3-yl)methylene)hydrazinecarbothioamide (**3**)

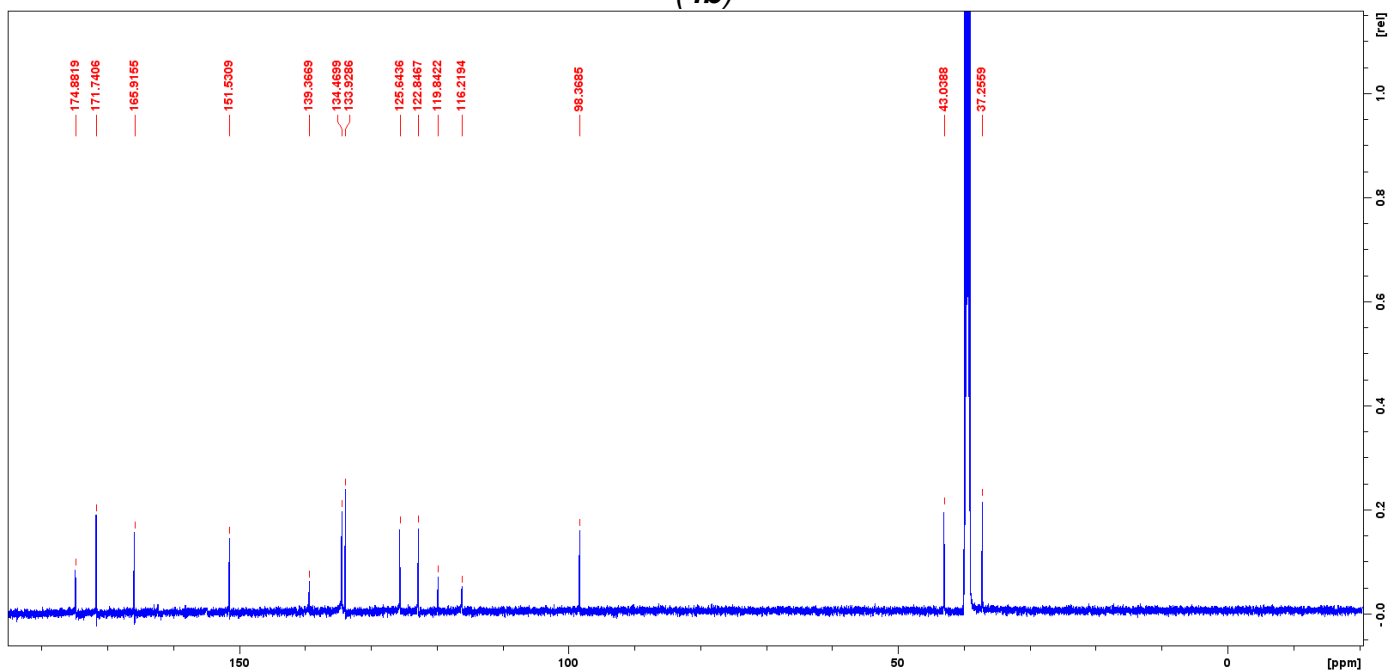
¹H NMR of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)thiazol-4(5H)-one (4a)**¹³C NMR of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)thiazol-4(5H)-one (4a)**

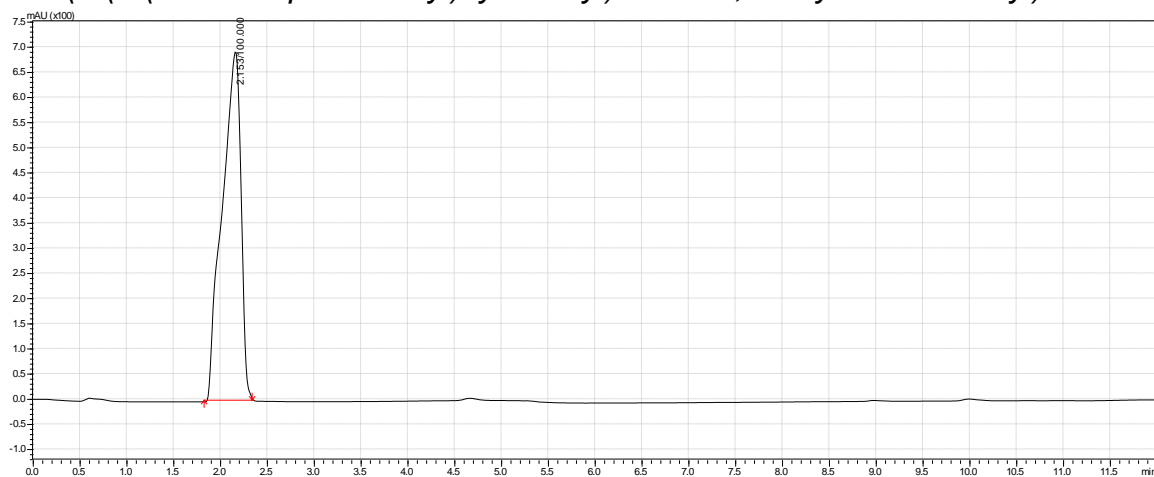
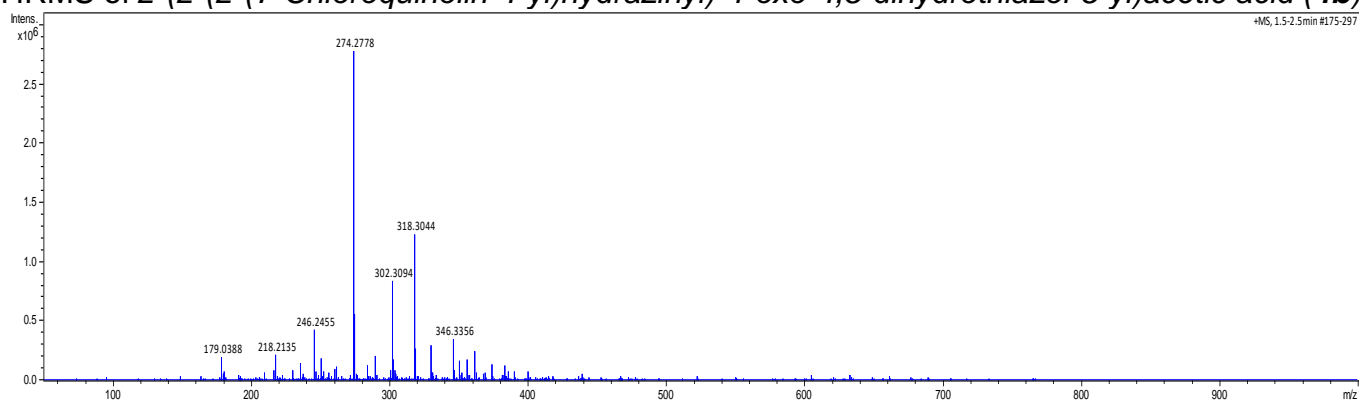
HPLC of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)thiazol-4(5H)-one (**4a**)HRMS of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)thiazol-4(5H)-one (**4a**)

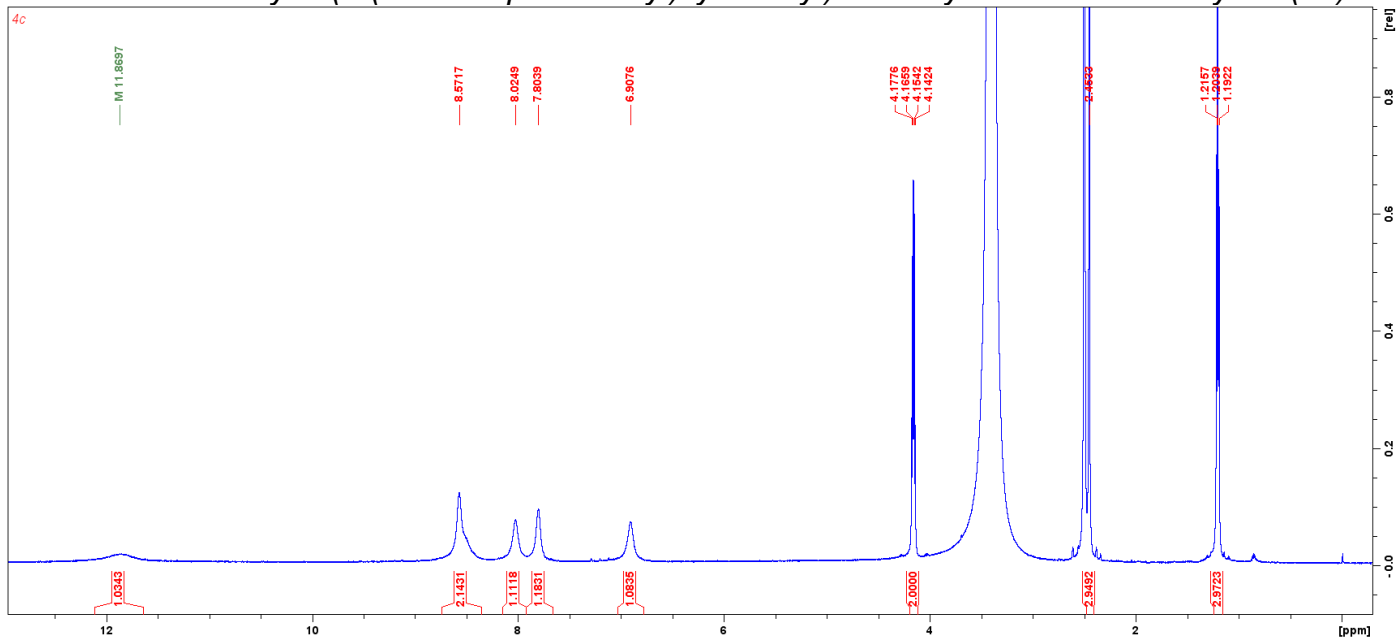
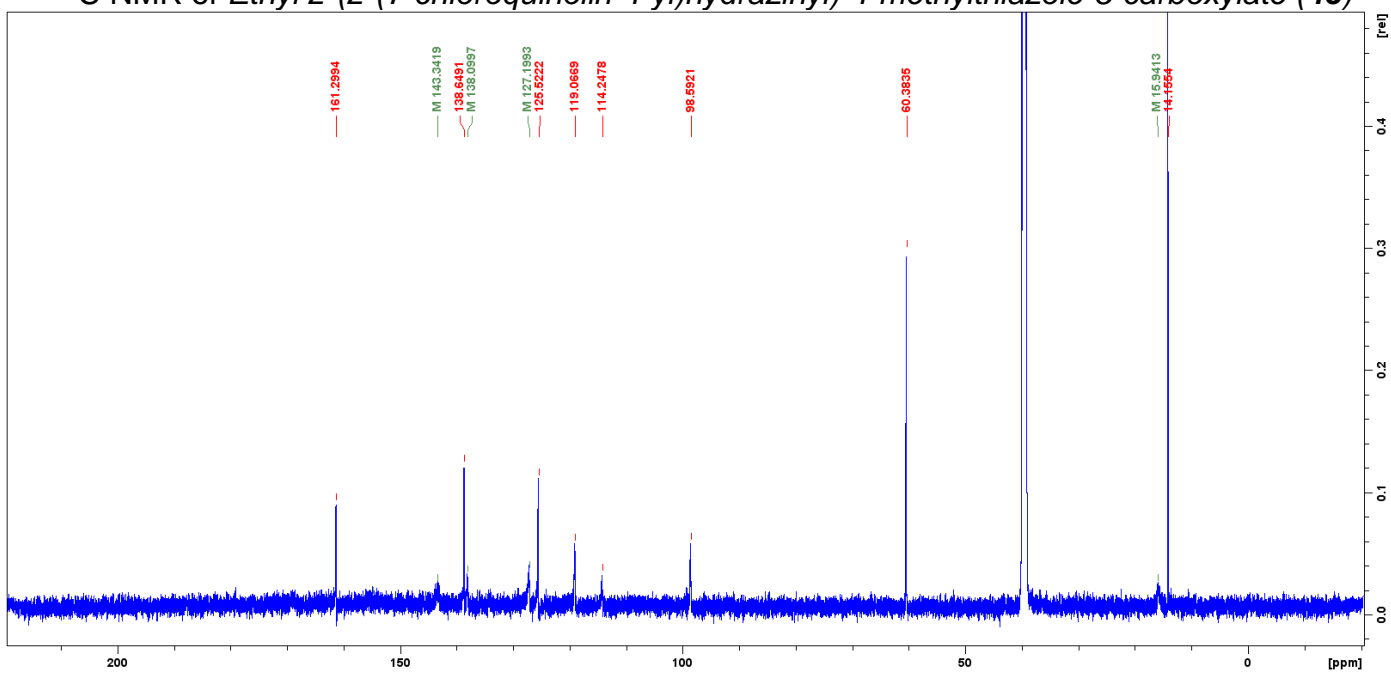
¹H NMR of 2-(2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4-oxo-4,5-dihydrothiazol-5-yl)acetic acid (**4b**)

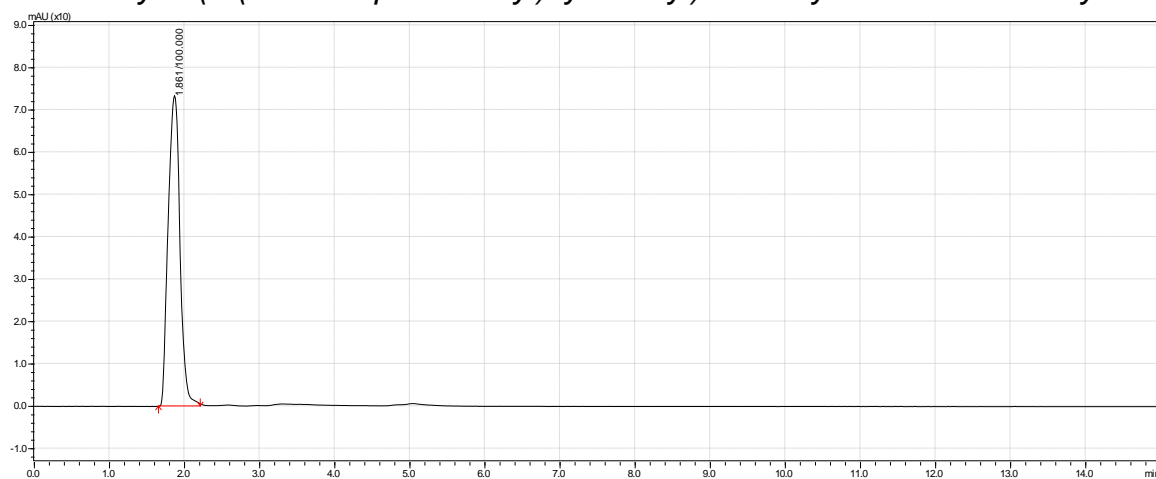
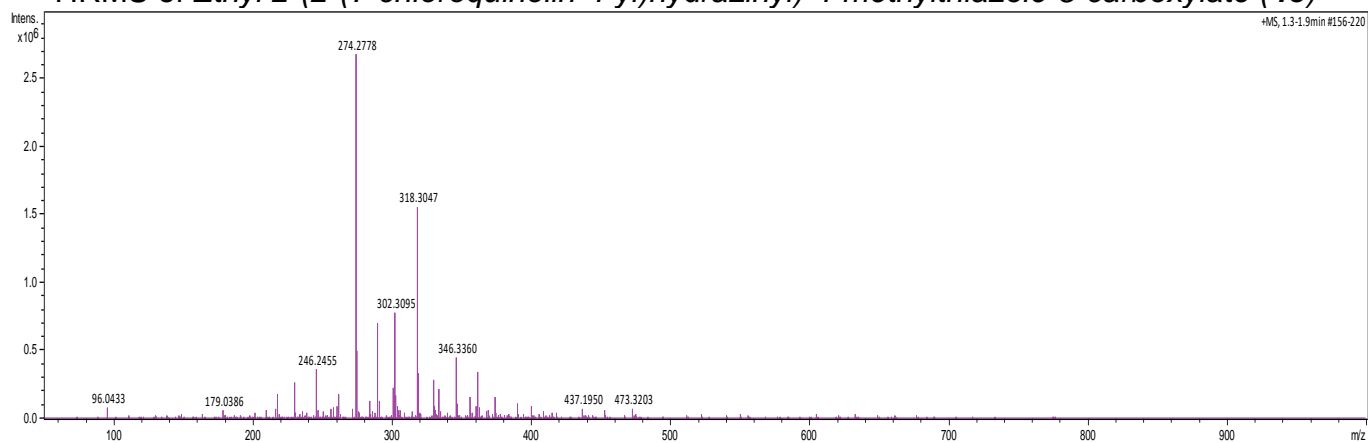


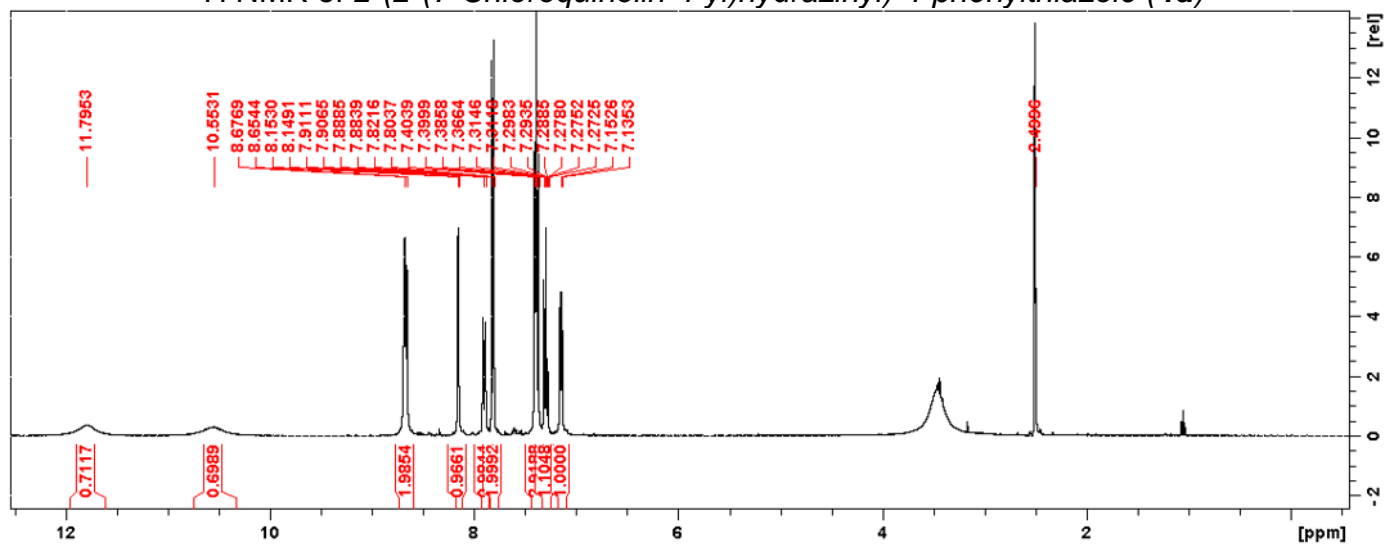
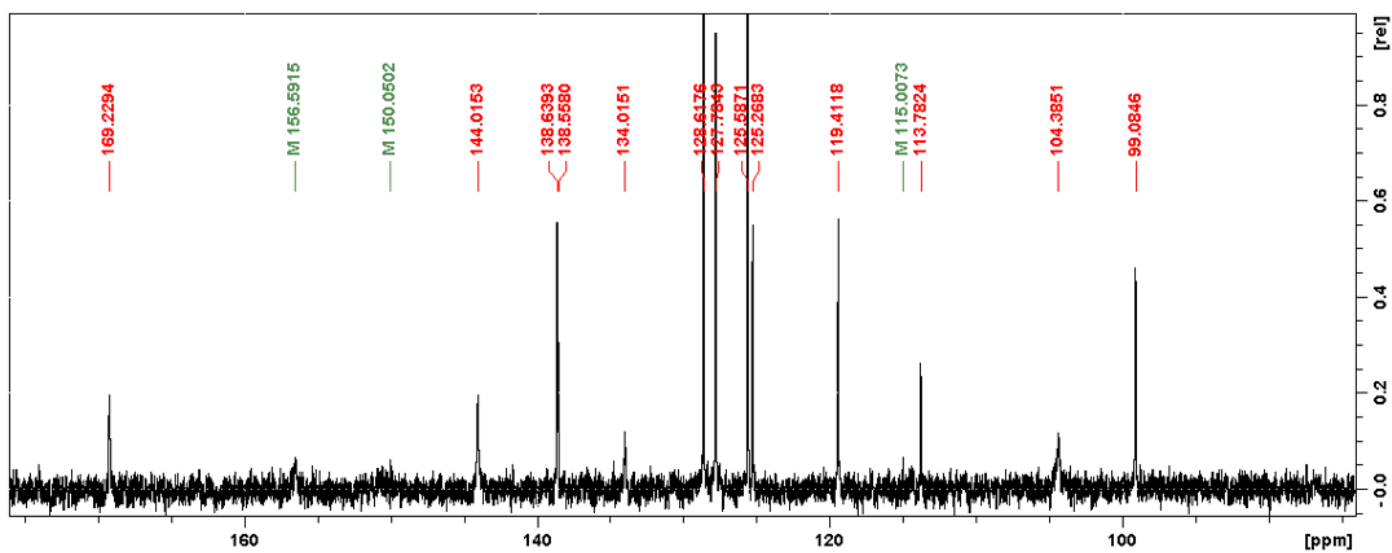
¹³C NMR of 2-(2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4-oxo-4,5-dihydrothiazol-5-yl)acetic acid (**4b**)

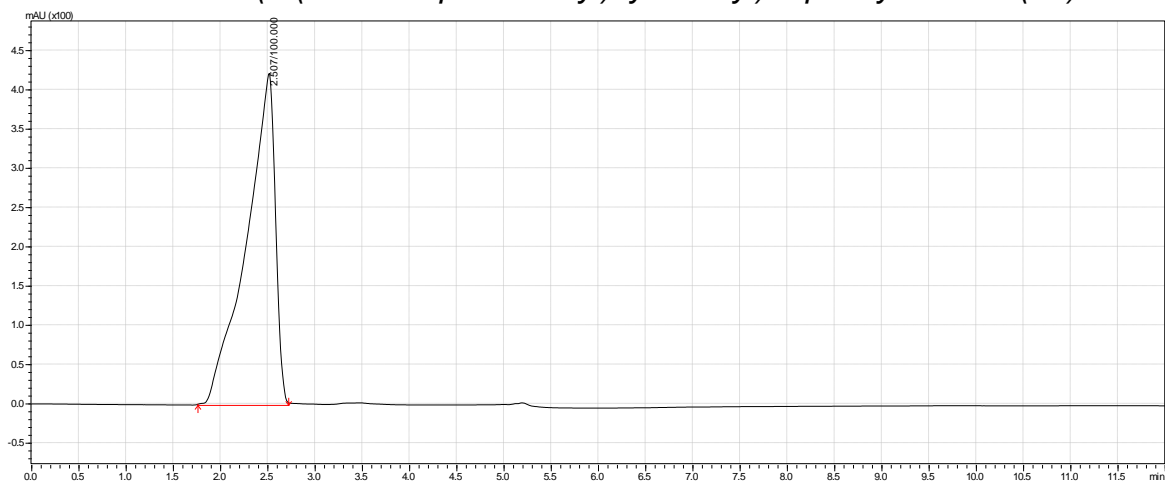
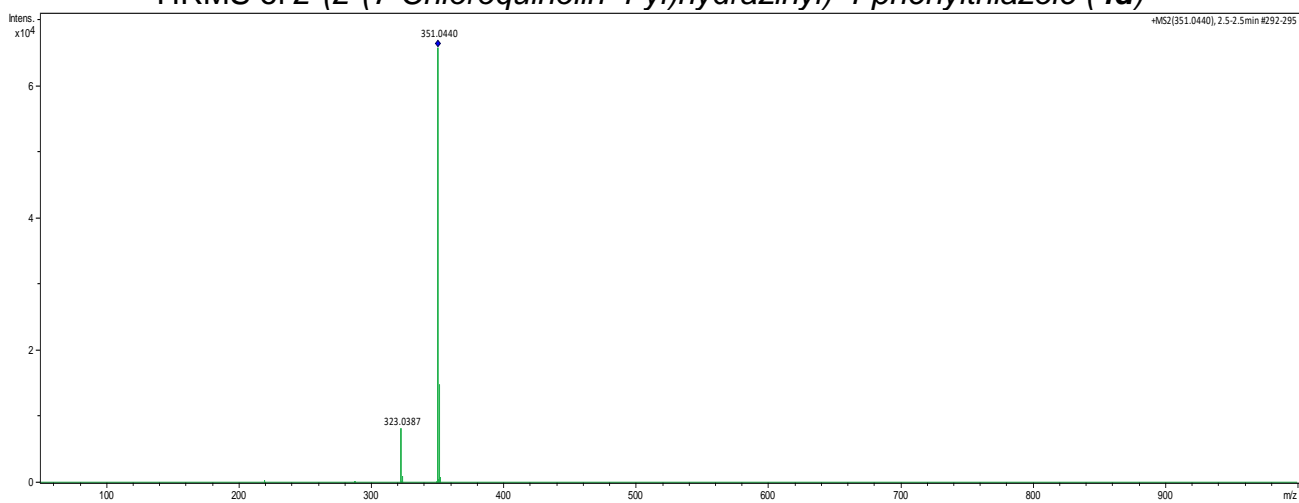


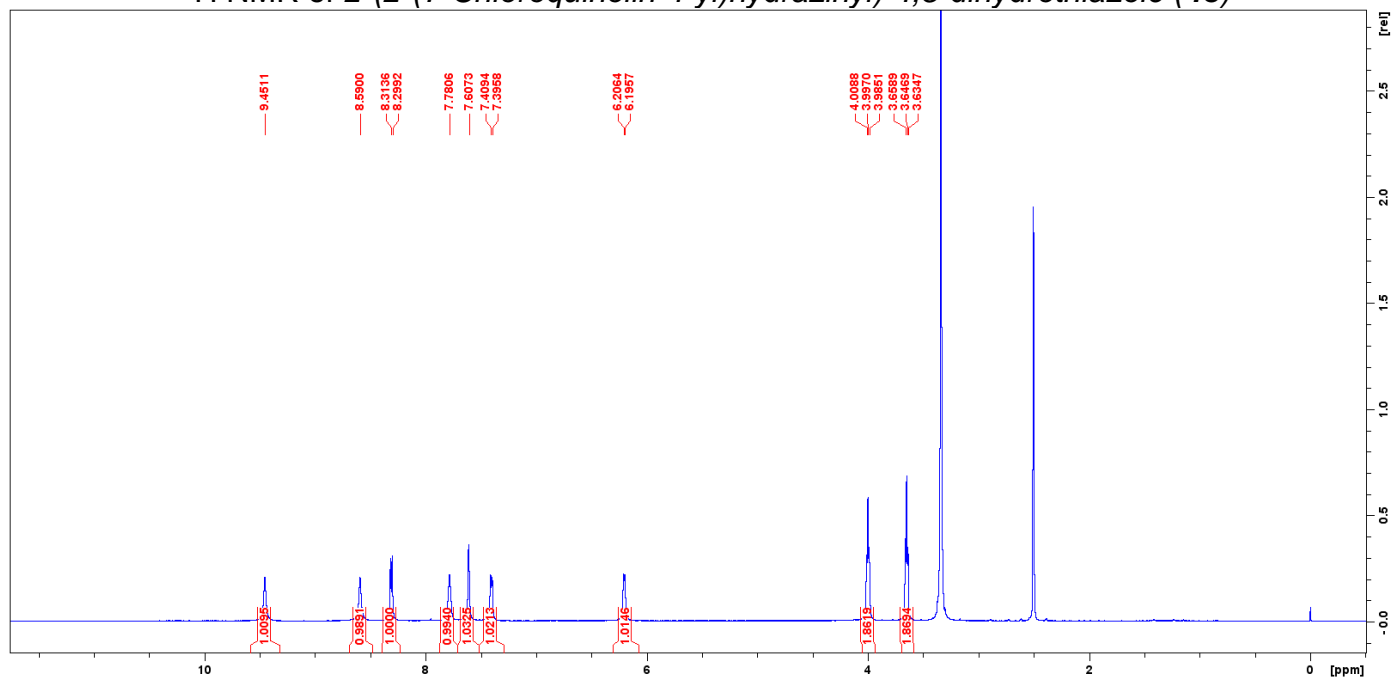
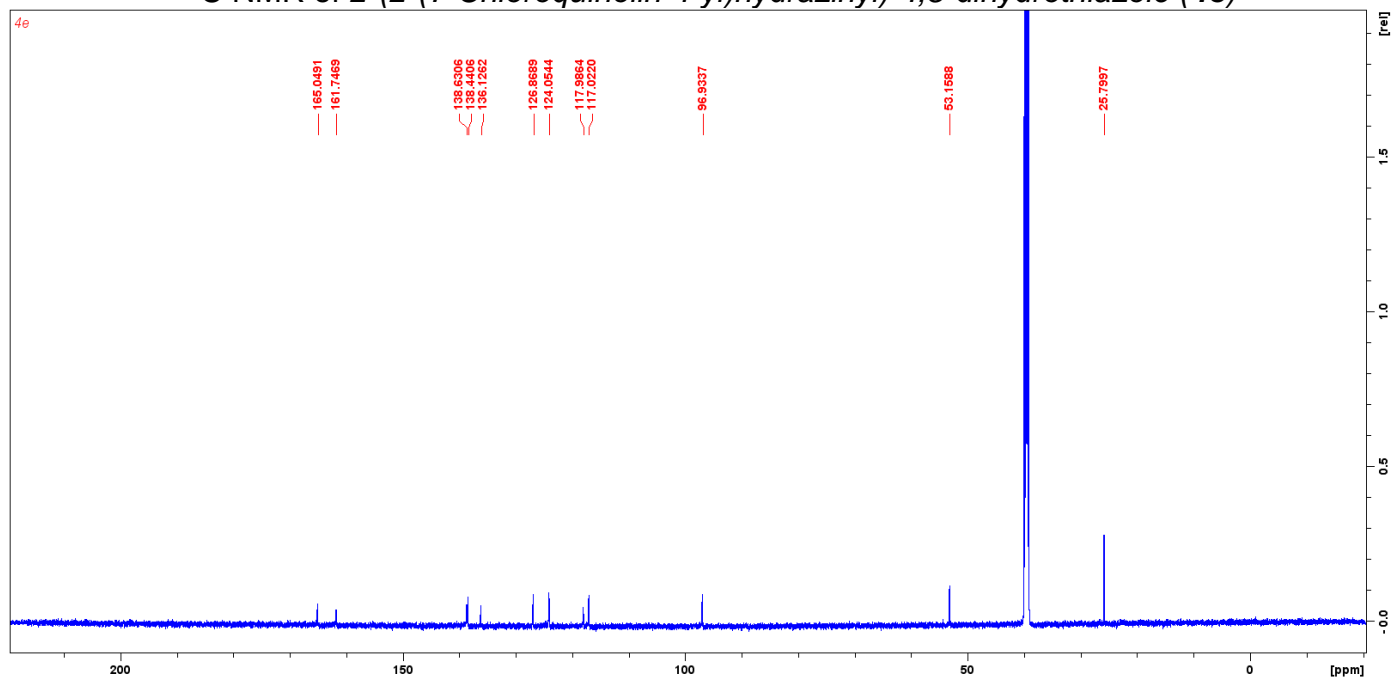
HPLC of 2-(2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4-oxo-4,5-dihydrothiazol-5-yl)acetic acid (**4b**)HRMS of 2-(2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4-oxo-4,5-dihydrothiazol-5-yl)acetic acid (**4b**)

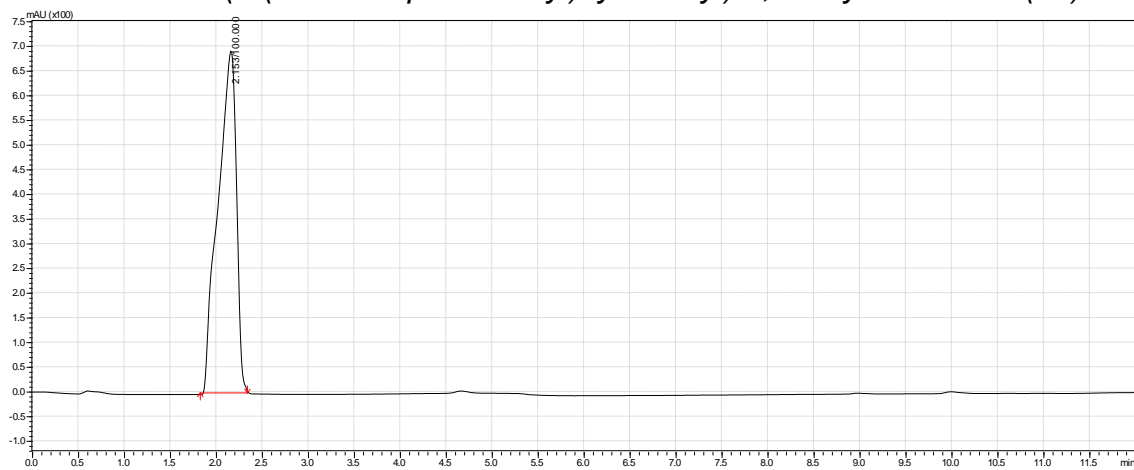
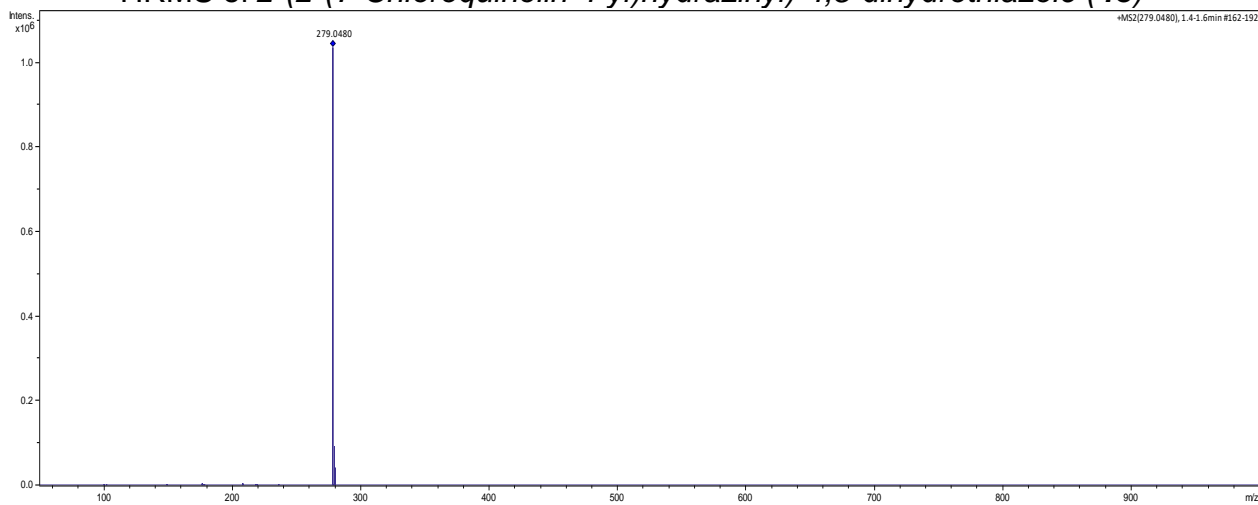
^1H NMR of Ethyl 2-(2-(7-chloroquinolin-4-yl)hydrazinyl)-4-methylthiazole-5-carboxylate (**4c**) ^{13}C NMR of Ethyl 2-(2-(7-chloroquinolin-4-yl)hydrazinyl)-4-methylthiazole-5-carboxylate (**4c**)

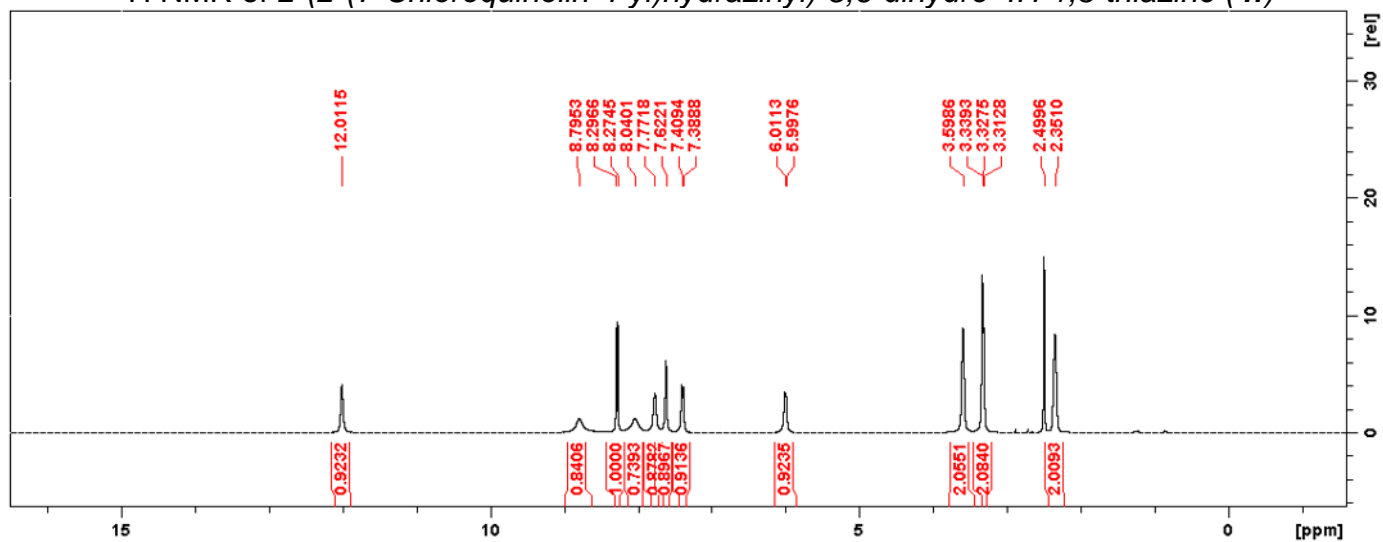
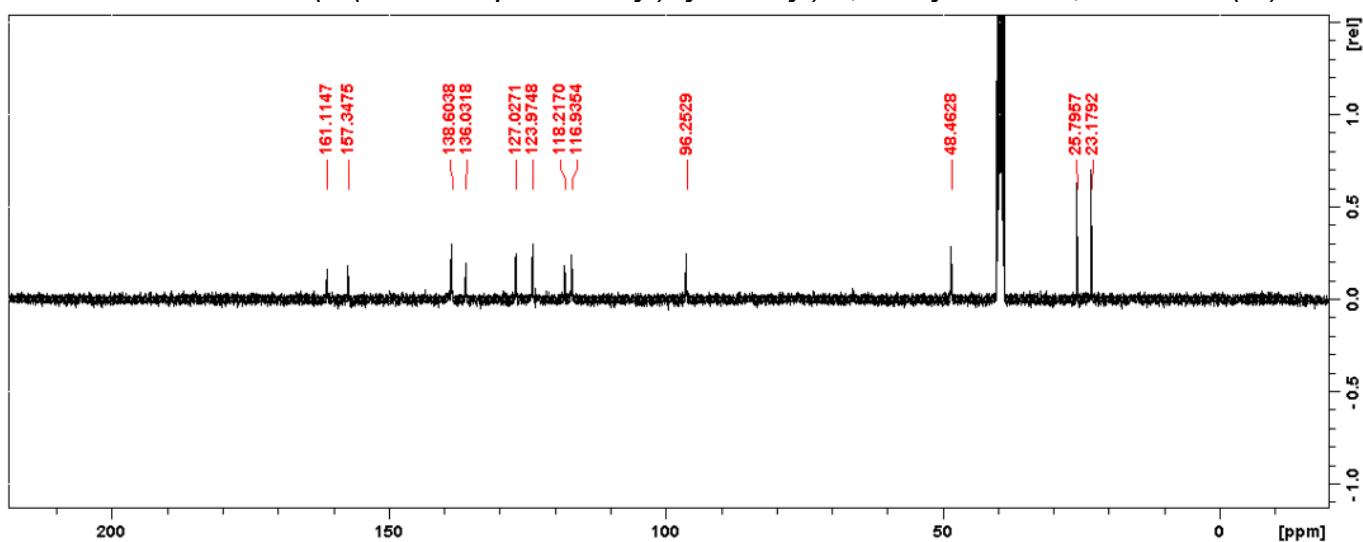
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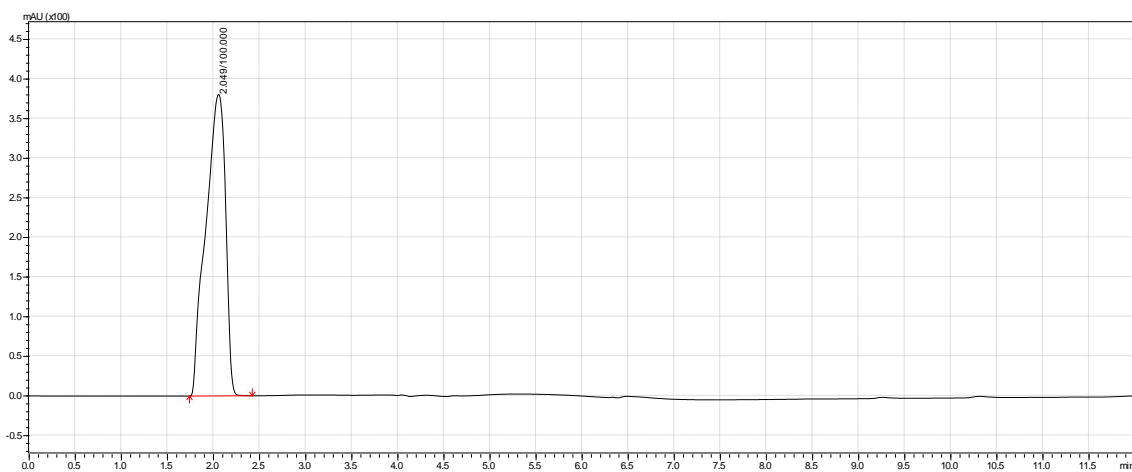
¹H NMR of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4-phenylthiazole (**4d**)¹³C NMR of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4-phenylthiazole (**4d**)

HPLC of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4-phenylthiazole (**4d**)HRMS of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4-phenylthiazole (**4d**)

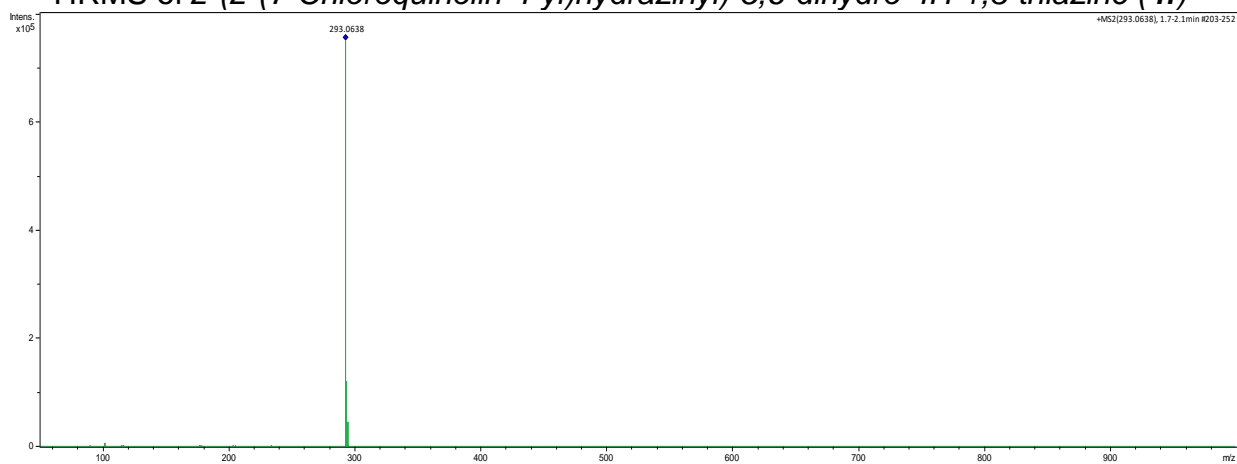
¹H NMR of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4,5-dihydrothiazole (4e)**¹³C NMR of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4,5-dihydrothiazole (4e)**

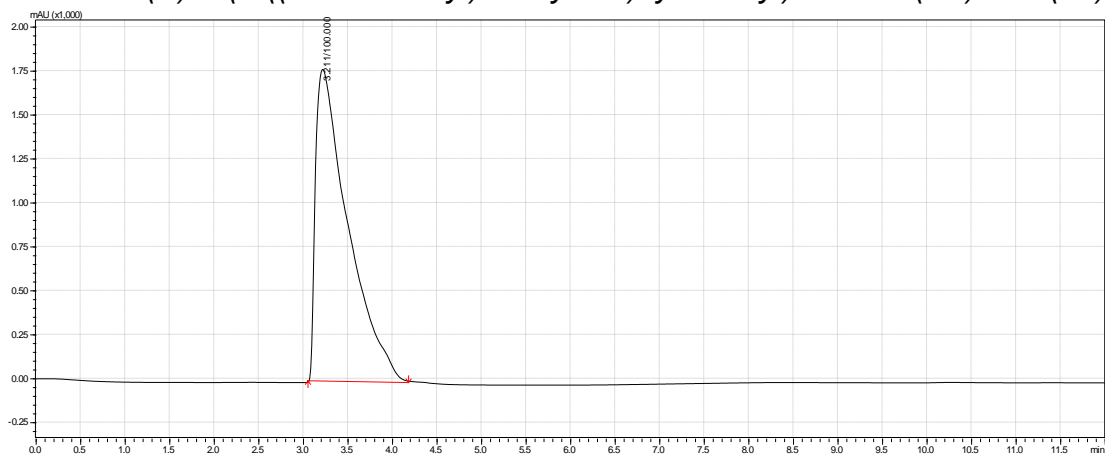
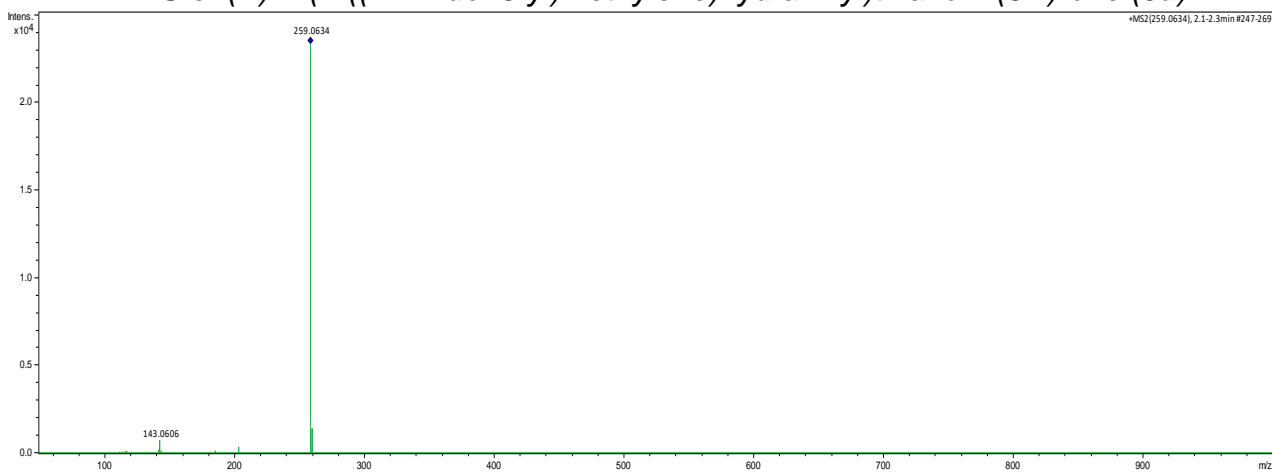
HPLC of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4,5-dihydrothiazole (**4e**)HRMS of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-4,5-dihydrothiazole (**4e**)

^1H NMR of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-5,6-dihydro-4H-1,3-thiazine (**4f**) ^{13}C NMR of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-5,6-dihydro-4H-1,3-thiazine (**4f**)HPLC of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-5,6-dihydro-4H-1,3-thiazine (**4f**)

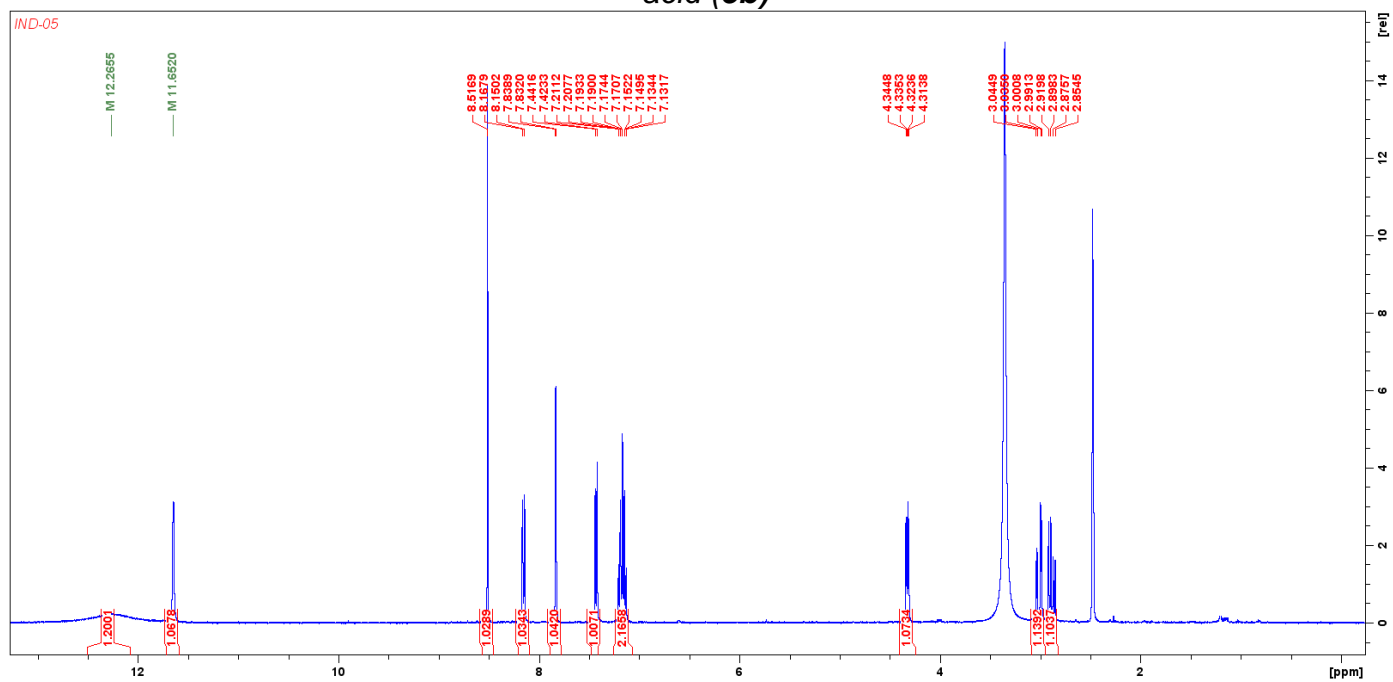


HRMS of 2-(2-(7-Chloroquinolin-4-yl)hydrazinyl)-5,6-dihydro-4H-1,3-thiazine (**4f**)

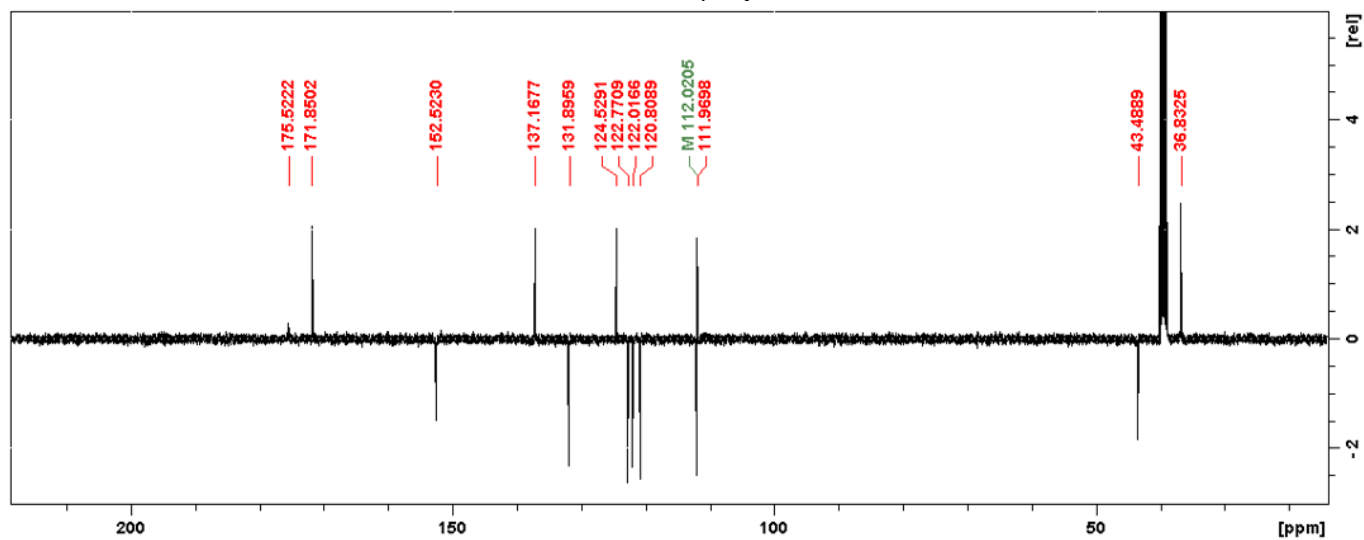


HPLC of *(E)*-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)thiazol-4(5*H*)-one (**5a**)HRMS of *(E)*-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)thiazol-4(5*H*)-one (**5a**)

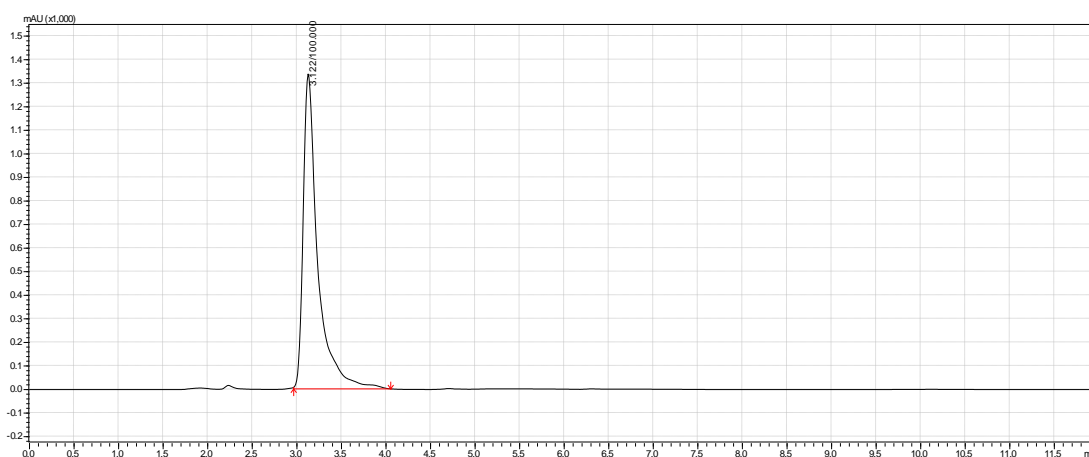
^1H NMR of (*E*)-2-(2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-4-oxo-4,5-dihydrothiazol-5-yl)acetic acid (**5b**)



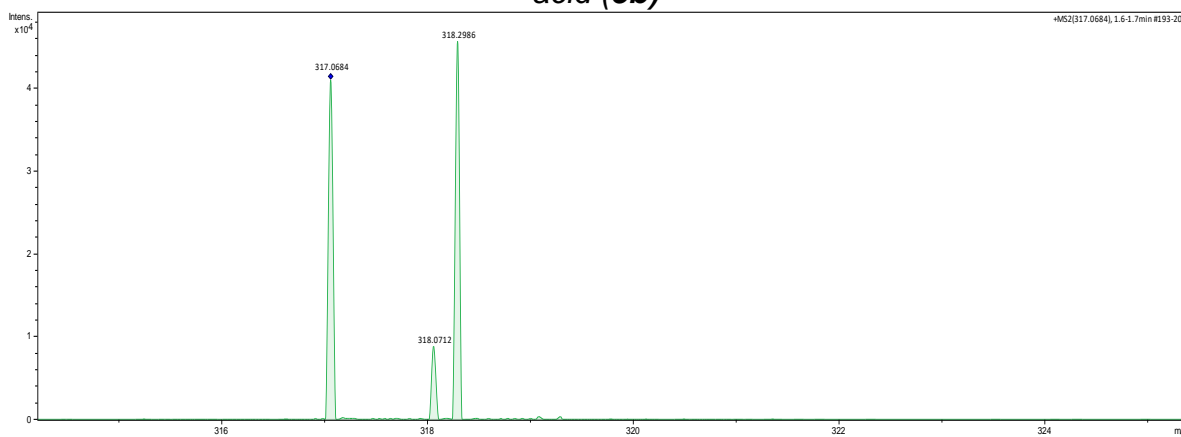
^{13}C NMR of (*E*)-2-(2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-4-oxo-4,5-dihydrothiazol-5-yl)acetic acid (**5b**)

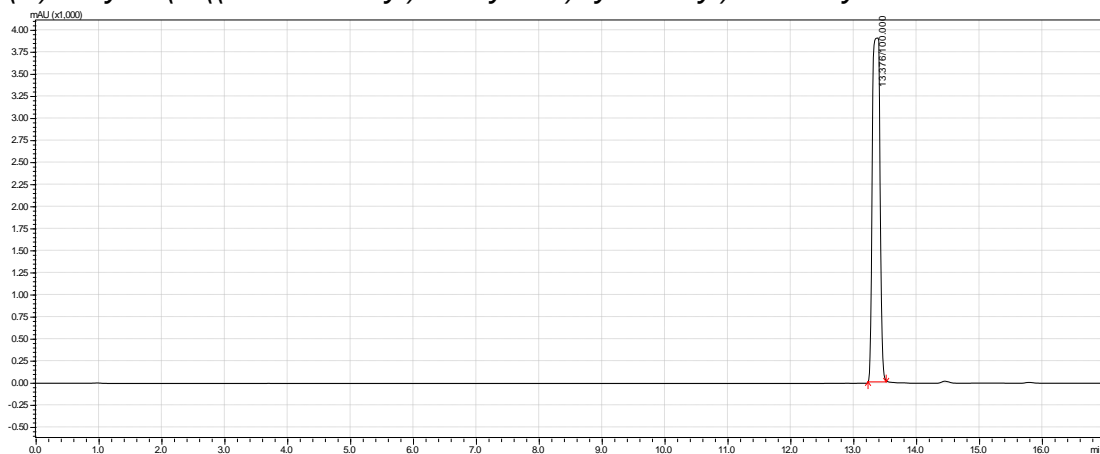
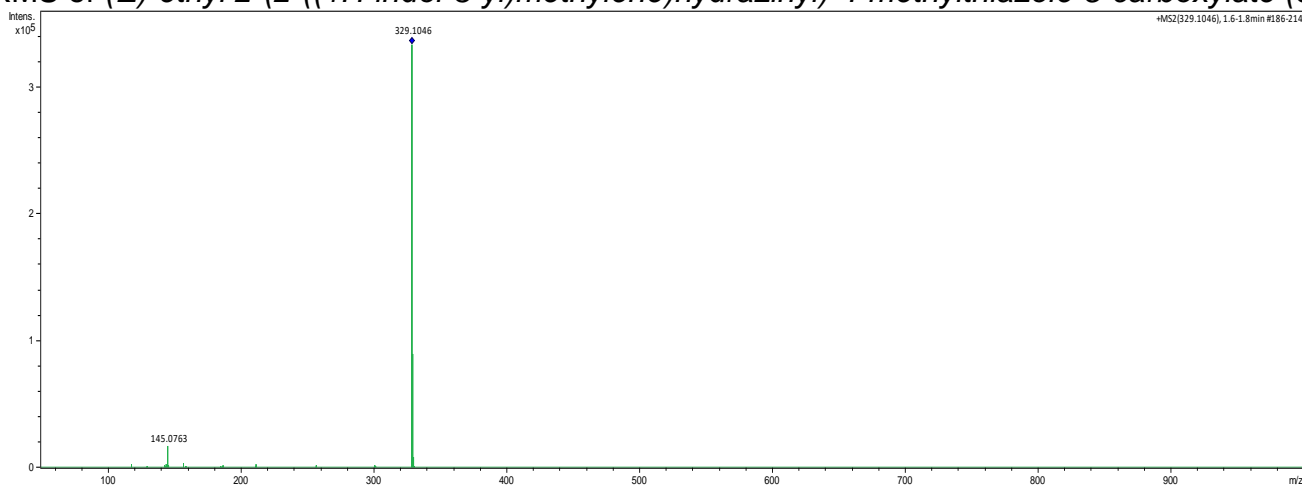


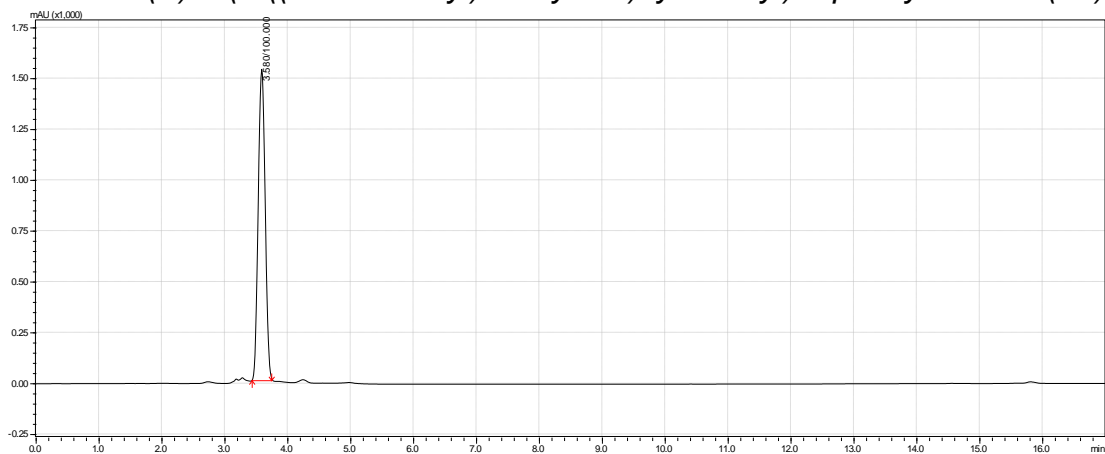
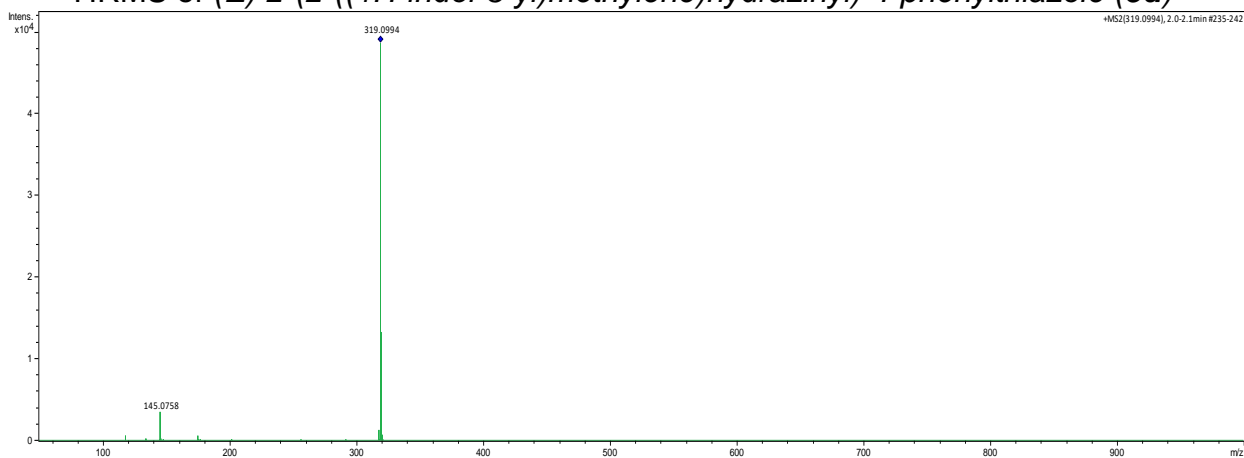
HPLC of *(E)*-2-(2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-4-oxo-4,5-dihydrothiazol-5-yl)acetic acid (**5b**)

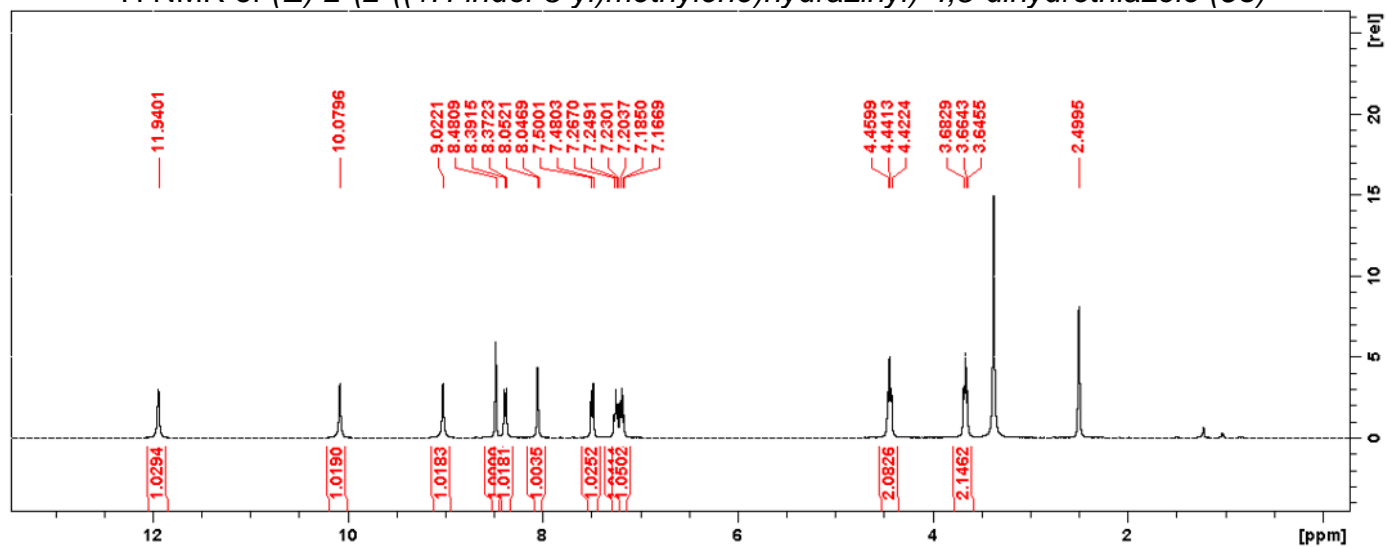
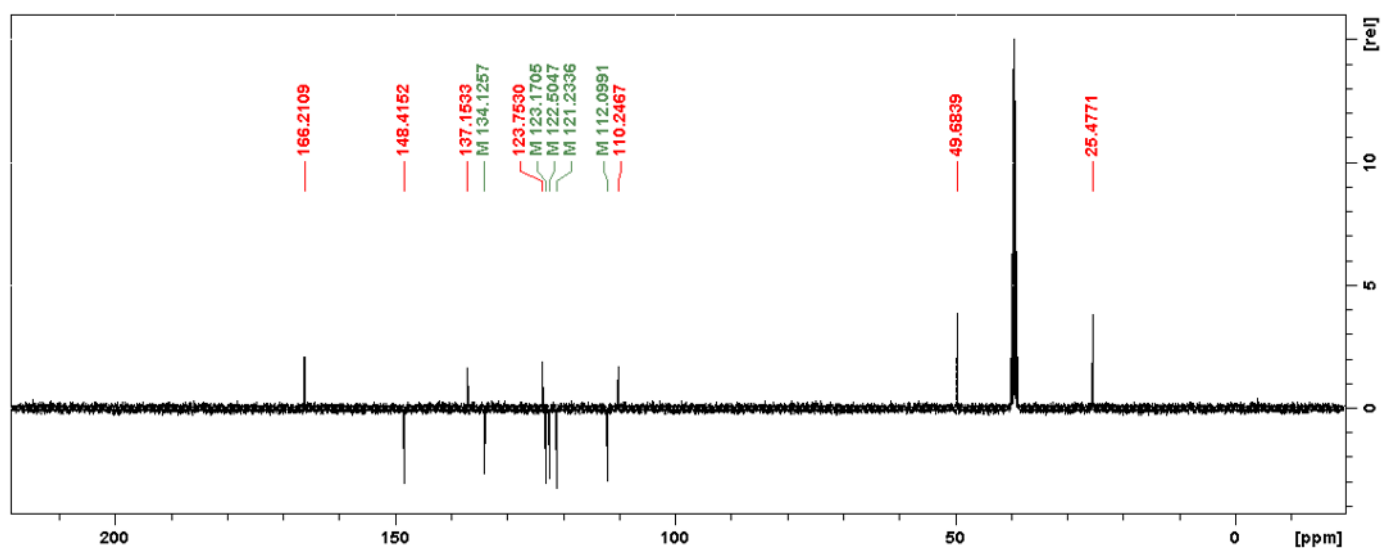


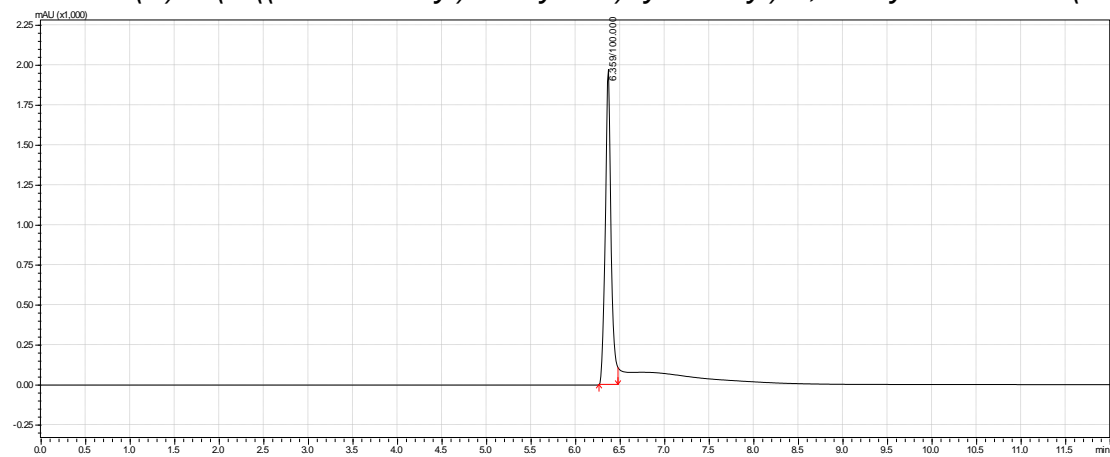
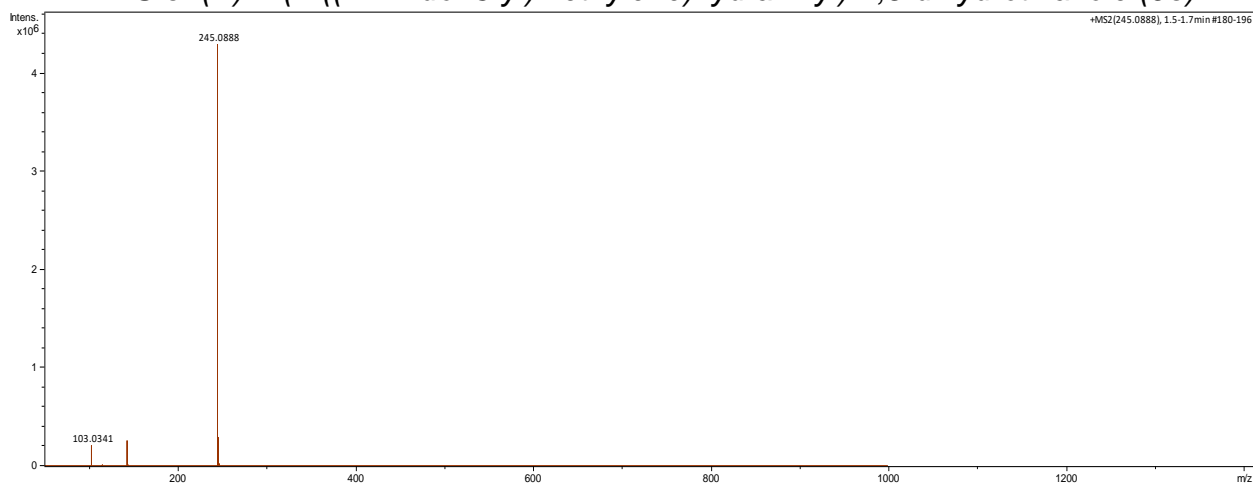
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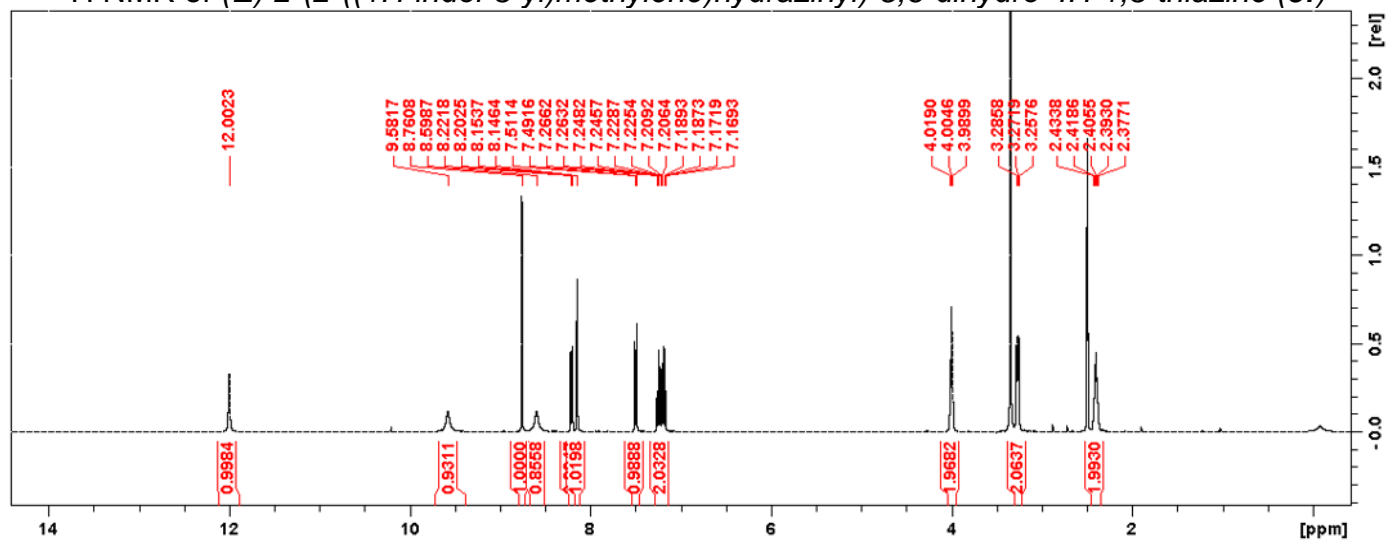
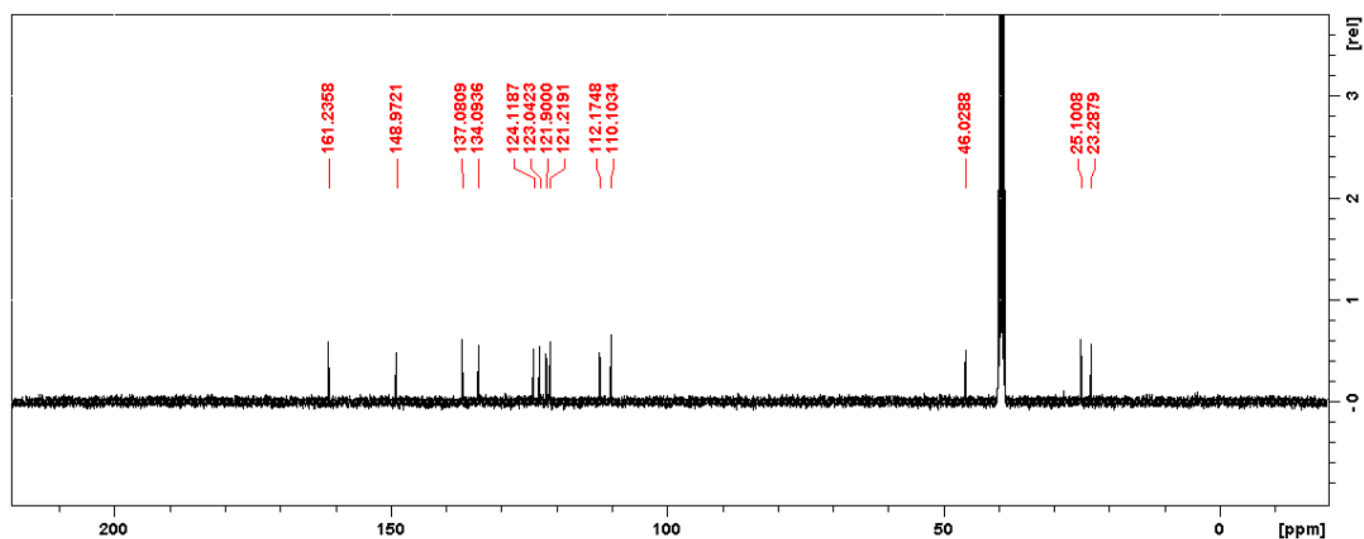


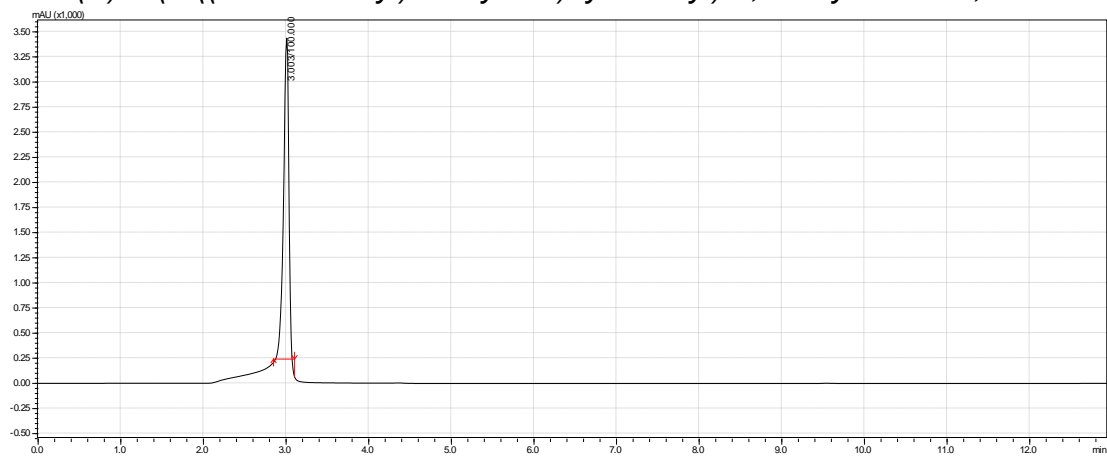
HPLC of (*E*)-ethyl 2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-4-methylthiazole-5-carboxylate (**5c**)HRMS of (*E*)-ethyl 2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-4-methylthiazole-5-carboxylate (**5c**)

HPLC of *(E)*-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-4-phenylthiazole (**5d**)HRMS of *(E)*-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-4-phenylthiazole (**5d**)

^1H NMR of (*E*)-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-4,5-dihydrothiazole (**5e**) ^{13}C NMR of (*E*)-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-4,5-dihydrothiazole (**5e**)

HPLC of *(E)*-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-4,5-dihydrothiazole (**5e**)HRMS of *(E)*-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-4,5-dihydrothiazole (**5e**)

^1H NMR of (*E*)-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-5,6-dihydro-4*H*-1,3-thiazine (**5f**) ^{13}C NMR of (*E*)-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-5,6-dihydro-4*H*-1,3-thiazine (**5f**)

HPLC of *(E)*-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-5,6-dihydro-4*H*-1,3-thiazine (**5f**)HRMS of *(E)*-2-(2-((1*H*-indol-3-yl)methylene)hydrazinyl)-5,6-dihydro-4*H*-1,3-thiazine (**5f**)