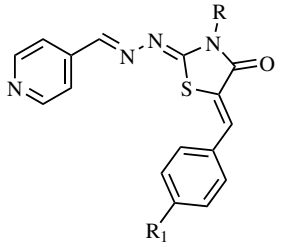
SYNTHESIS, ANTIMICROBIAL AND CYTOTOXIC ACTIVITIES OF 5-BENZYLIDENE-2-[(PYRIDINE-4-YLMETHYLENE)HYDRAZONO]-THIAZOLIDIN-4-ONE AND 2-[(PYRIDINE-4-YLMETHYLENE) HYDRAZONO]-THIAZOLIDIN-4-ONE DERIVATIVES

Danniel Delmondes Feitoza, Antônio José Alves e José Gildo de Lima*
Departamento de Ciências Farmacêuticas, Universidade Federal de Pernambuco, Cidade Universitária, 50470-521 Recife – PE, Brasil
Janete Magali Araújo, Jaciana Santos Aguiar, Maria do Desterro Rodrigues, Teresinha Gonçalves Silva, Silene Carneiro do Nascimento e Alexandre José da Silva Góes
Departamento de Antibióticos, Universidade Federal de Pernambuco, Cidade Universitária, 50670-901 Recife – PE, Brasil

Infrared and ^{1}H NMR spectra



4a- R = H ; R_1 = H
4b- R = H ; R_1 = NO_2
4c- R = H ; R_1 = $N(CH_3)_2$
4d- R = CH_3 ; R_1 = H
4e- R = CH_3; R_1 = NO_2
4f- R = CH_3; R_1 = $N(CH_3)_2$
4g- R = C_2H_5 ; R_1 = H
4h- R = C_2H_5 ; R_1 = NO_2
4i- R = C_2H_5 ; R_1 = $N(CH_3)_2$
4j- R = C_6H_5 ; R_1 = H
4k- R = C_6H_5 ; R_1 = NO_2
4l- R = C_6H_5 ; R_1 = $N(CH_3)_2$

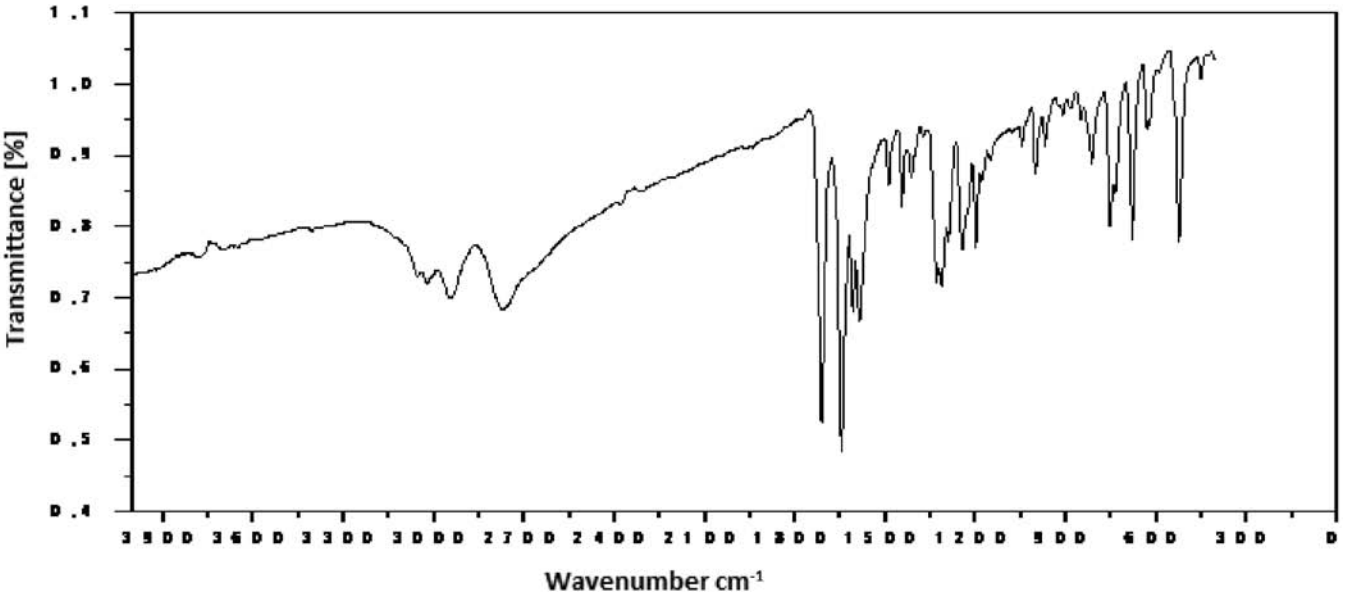


Figure 1S. *IR spectrum of 5-Benzylidene-2-(2-(pyridin-4-yl-methylene)hydrazono)thiazolidin-4-one (**4a**) (KBr, cm^{-1})*

*e-mail: jgildolima@gmail.com

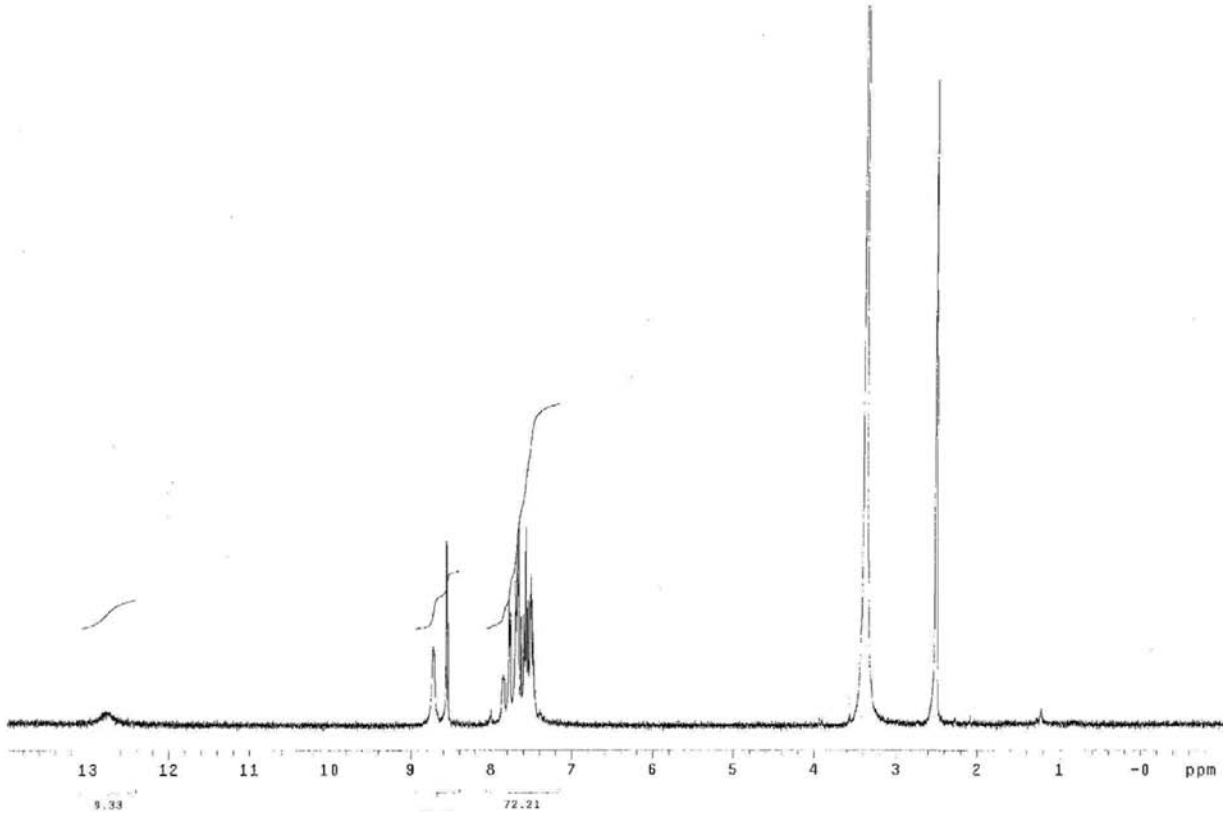


Figure 2S. *[1]H NMR spectrum of 5-Benzylidene-2-(2-(pyridin-4-yl-methylene)hydrazono)thiazolidin-4-one (**4a**) (*δ, *DMSO-*d_6, 300 *MHz)*

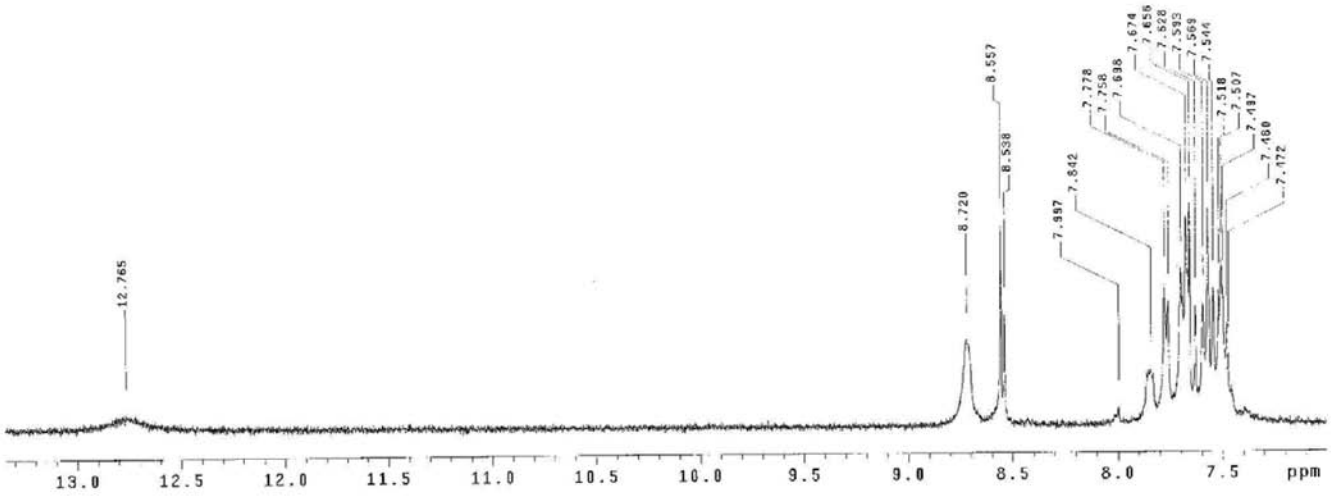


Figure 3S. *Expansion of the [1]H NMR spectrum of 5-Benzylidene-2-(2-(pyridin-4-yl-methylene)hydrazono)thiazolidin-4-one (**4a**) (*δ, *DMSO-*d_6, 300 *MHz)*

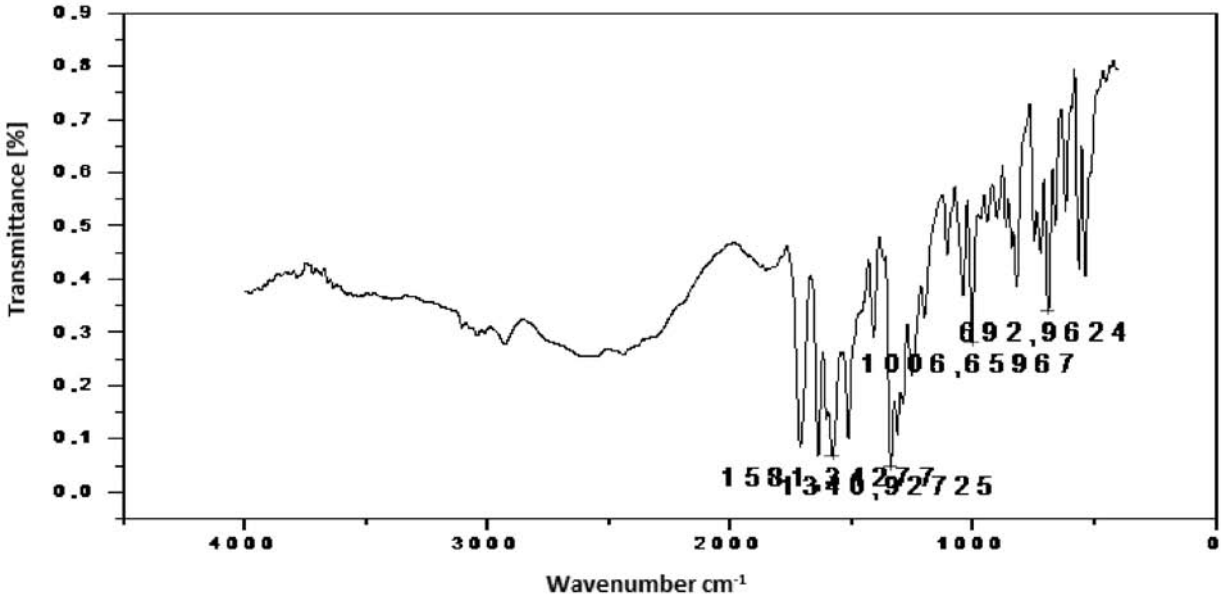


Figure 4S. *IR spectrum of 5-(4-Nitrobenzylidene)-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4b**) (KBr, cm^{-1})*

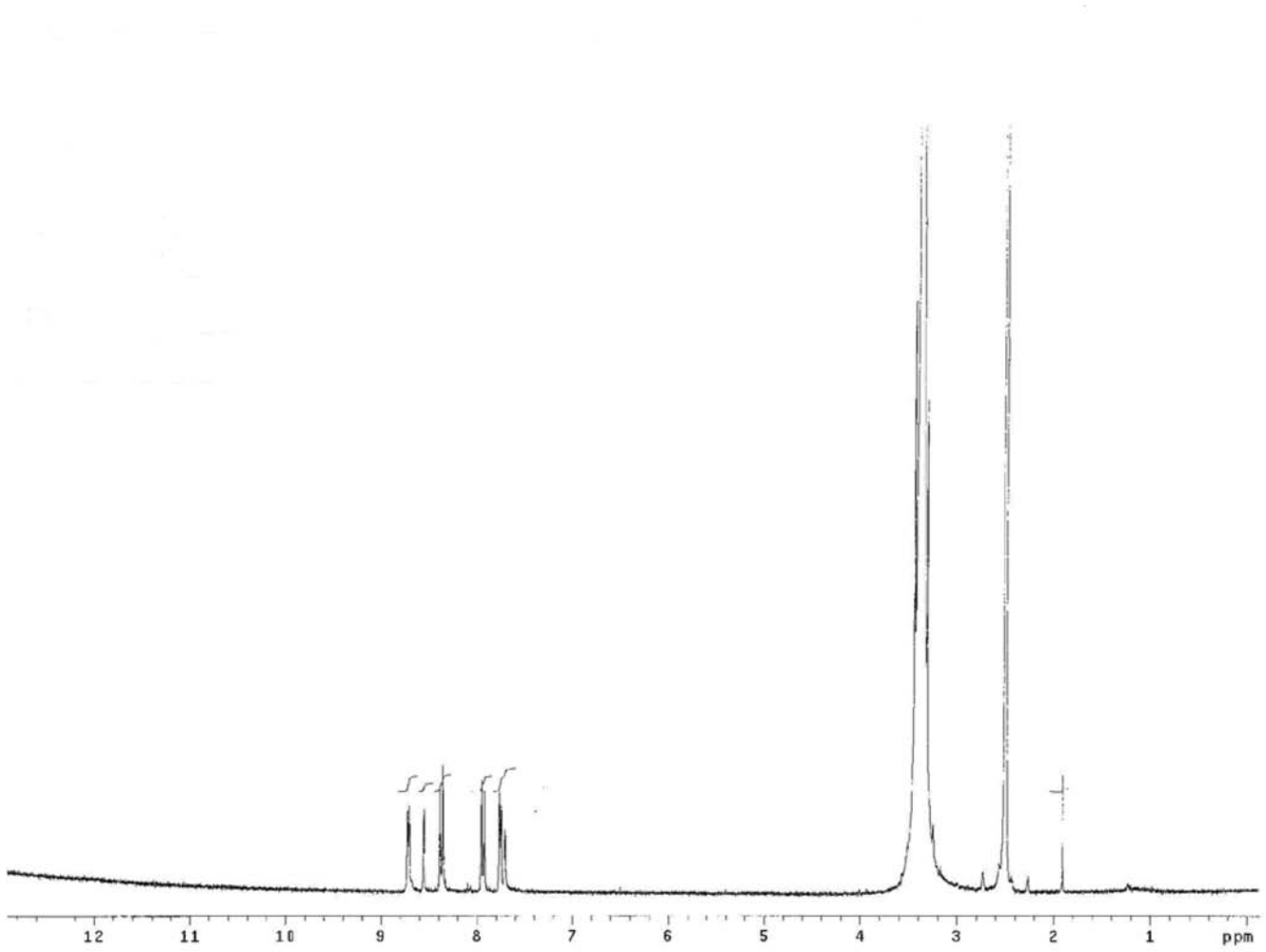


Figure 5S. *^{1}H NMR spectrum of 5-(4-Nitrobenzylidene)-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4b**) (δ, DMSO-d_6, 300 MHz)*

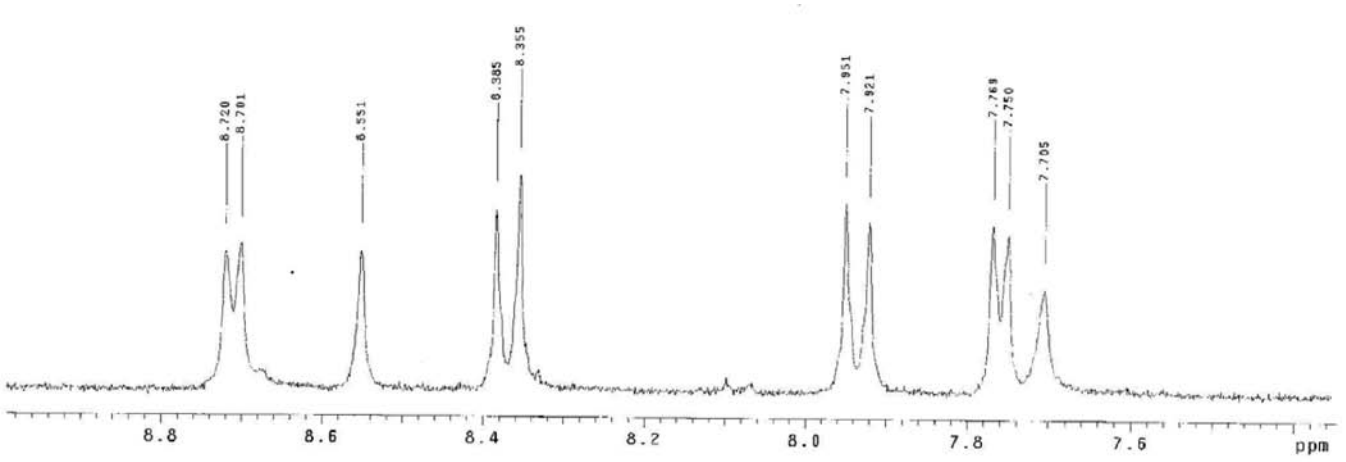


Figure 6S. *Expansion of the ^{1}H NMR spectrum of 5-(4-Nitrobenzylidene)-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4b**) (δ, DMSO-d_6, 300 MHz)*

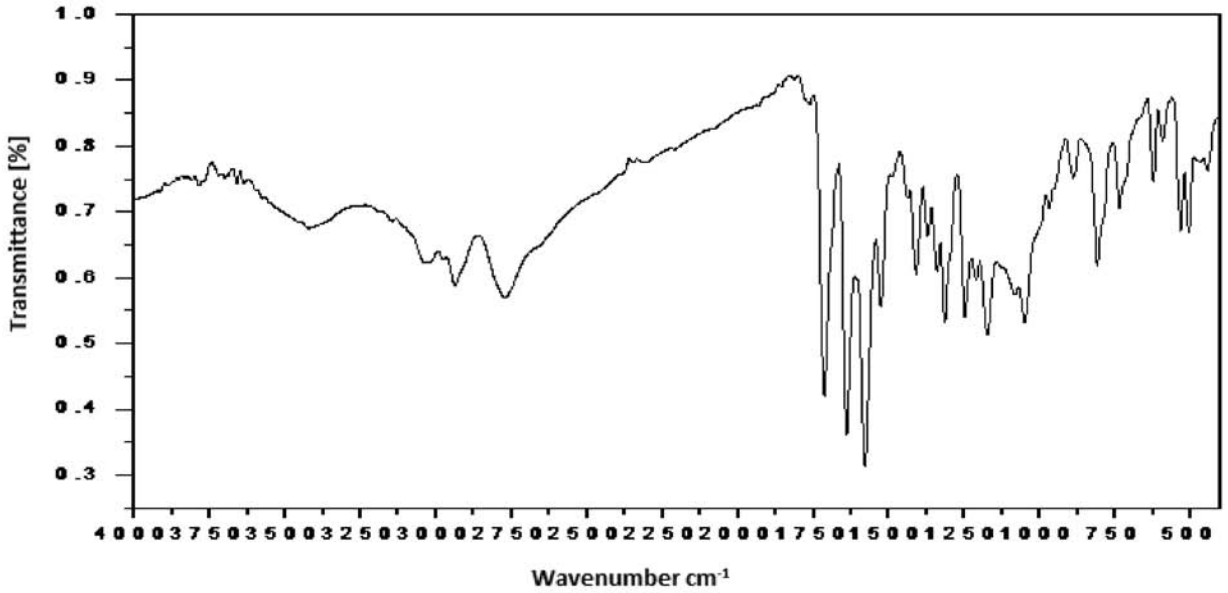


Figure 7S. *IR spectrum of 5-(4-(Dimethylamino)benzylidene)-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4c**) (KBr, cm^{-1})*

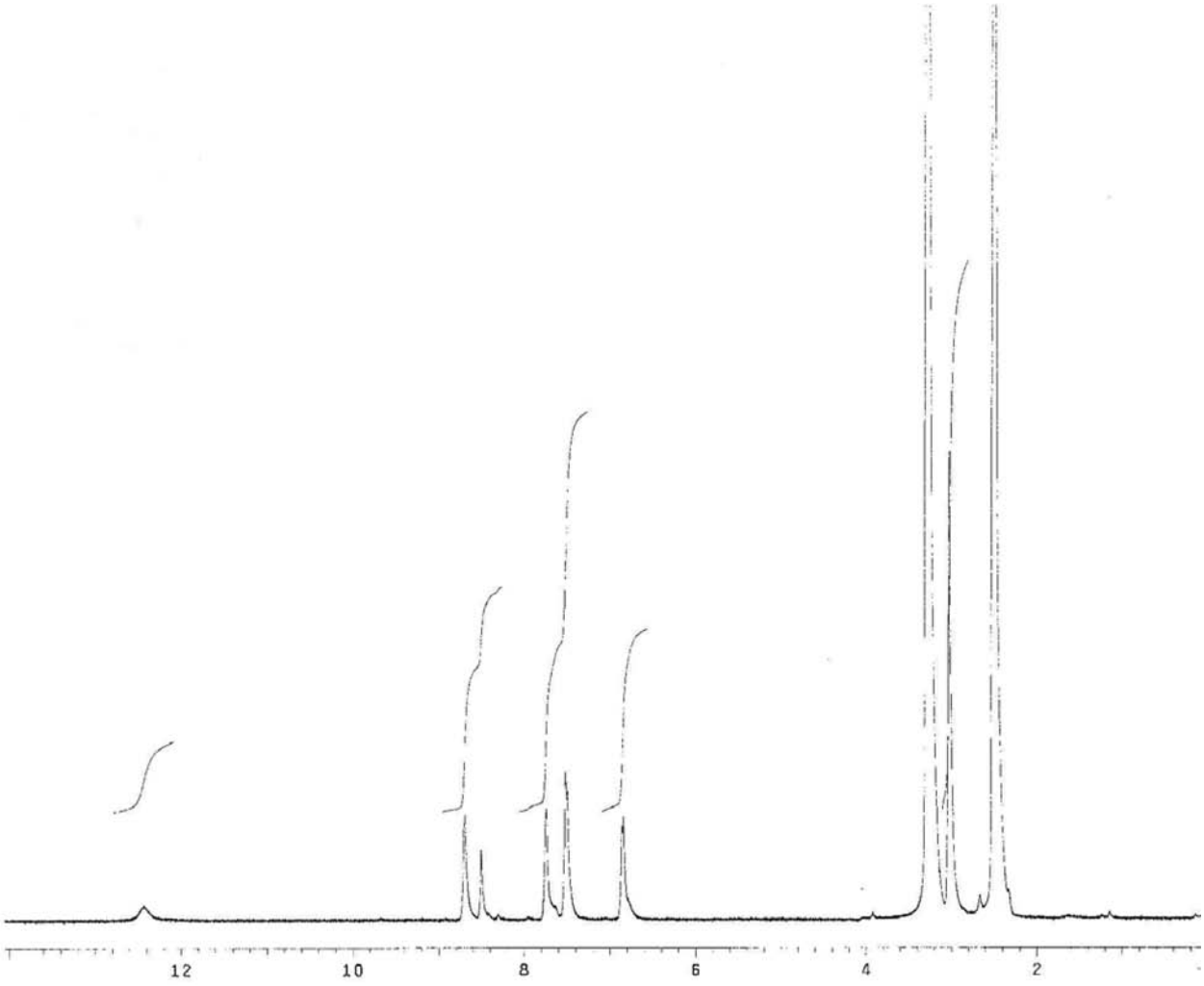


Figure 8S. *^{1}H NMR spectrum of 5-(4-(Dimethylamino)benzylidene)-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4c**) (δ, DMSO-d_6, 400 MHz)*

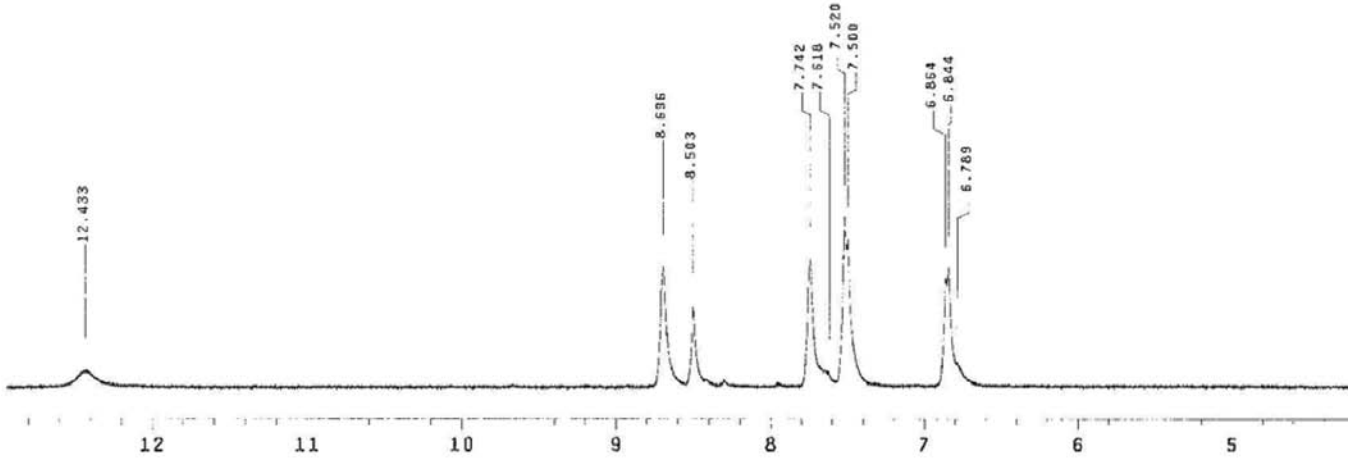


Figure 9S. *Expansion of the ^{1}H NMR spectrum of 5-(4-(Dimethylamino)benzylidene)-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4c**) (δ, DMSO--d_6, 400 MHz)*

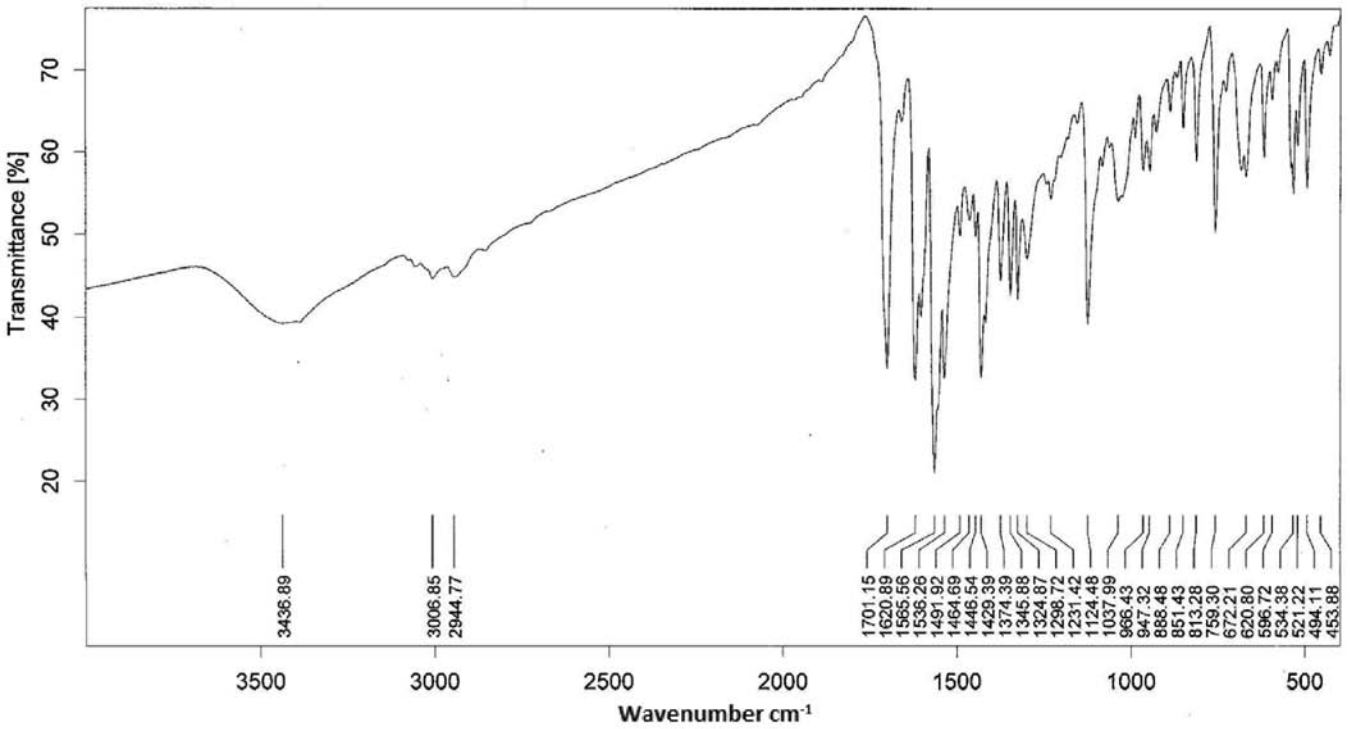


Figure 10S. *IR spectrum of 5-Benzylidene-3-methyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4d**) (KBr, cm^{-1})*

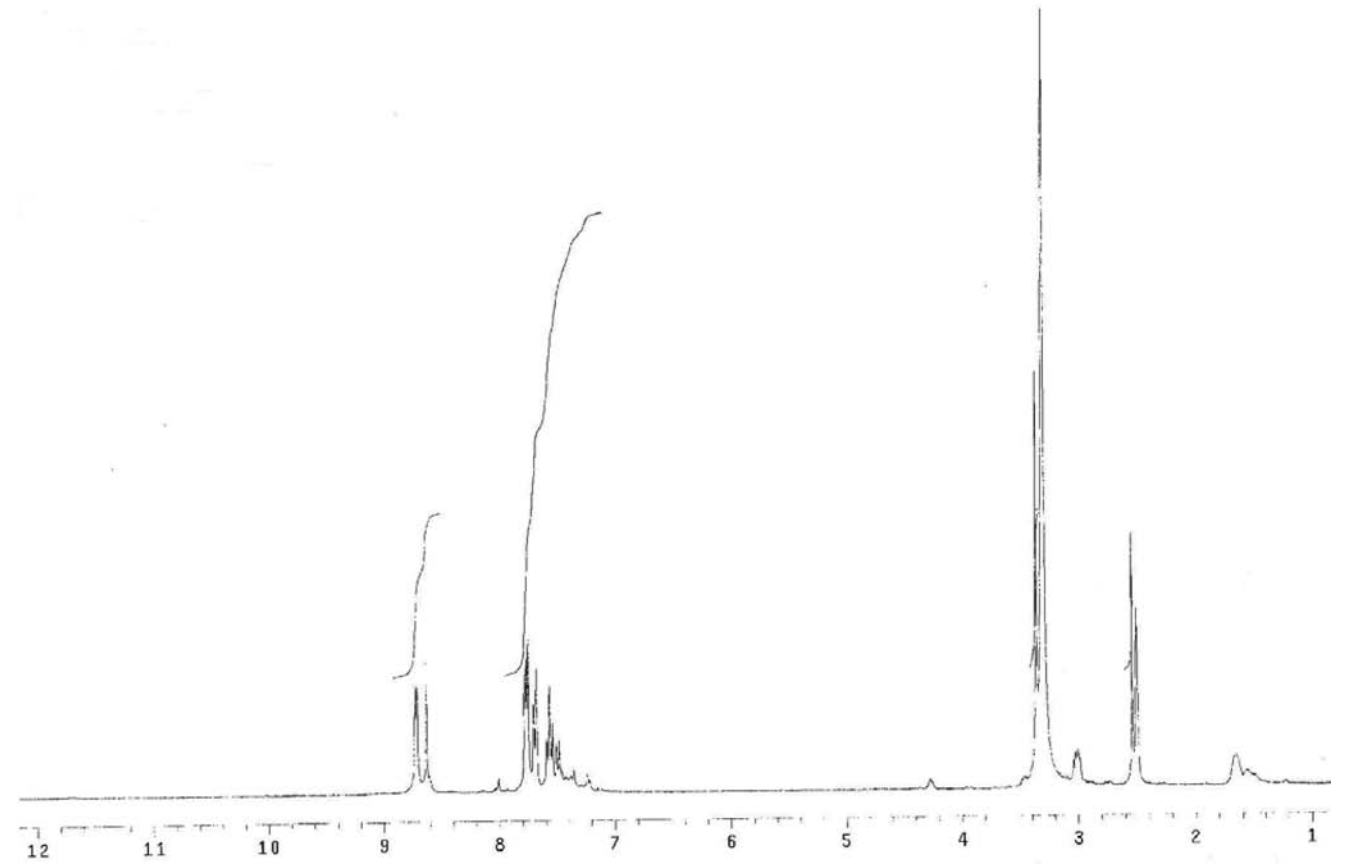


Figure 11S. *^{1}H NMR spectrum of 5-Benzylidene-3-methyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4d**) (**4d**) (δ, DMSO-d_6, 300 MHz)*

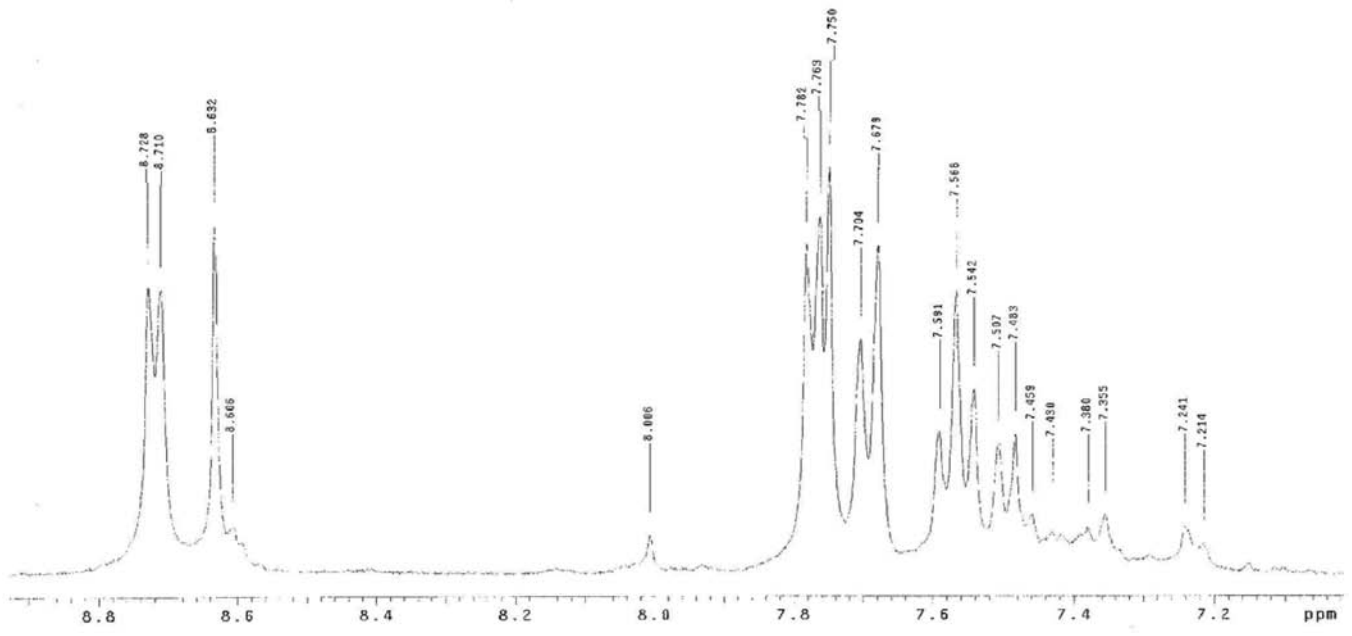


Figure 12S. *Expansion of the ^{1}H NMR spectrum of 5-Benzylidene-3-methyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4d**) (δ, DMSO-d_6, 300 MHz)*

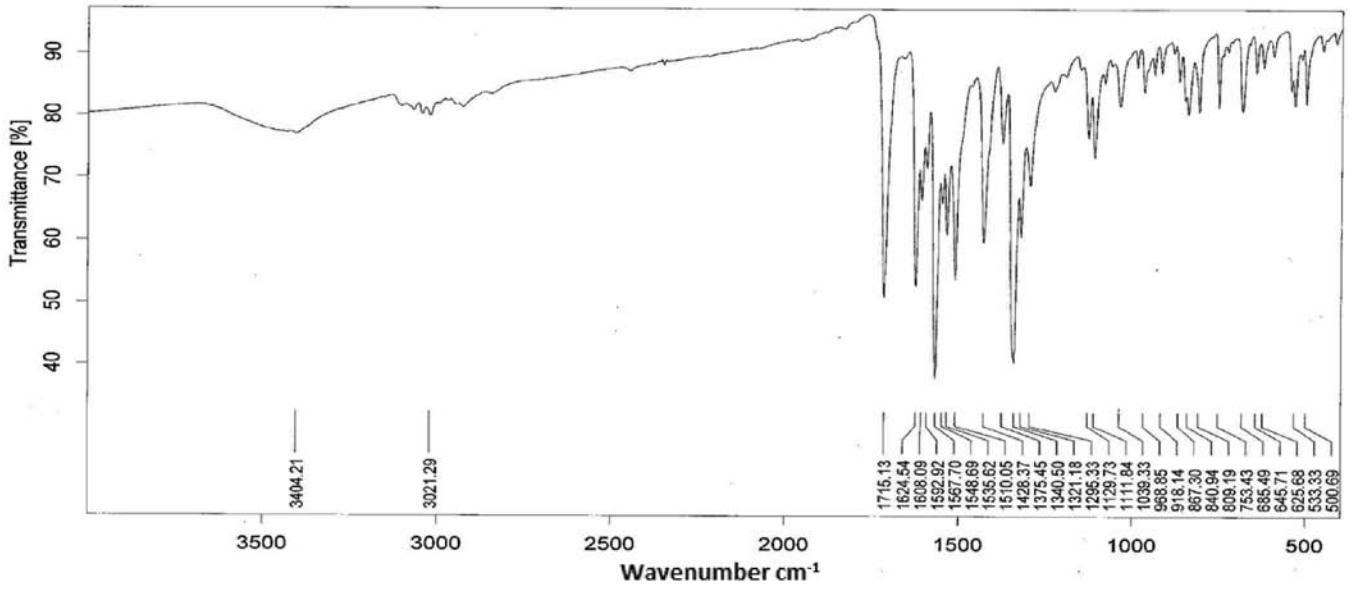


Figure 13S. *IR spectrum of 5-(4-Nitrobenzylidene)-3-methyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4e**) (KBr, cm^{-1})*

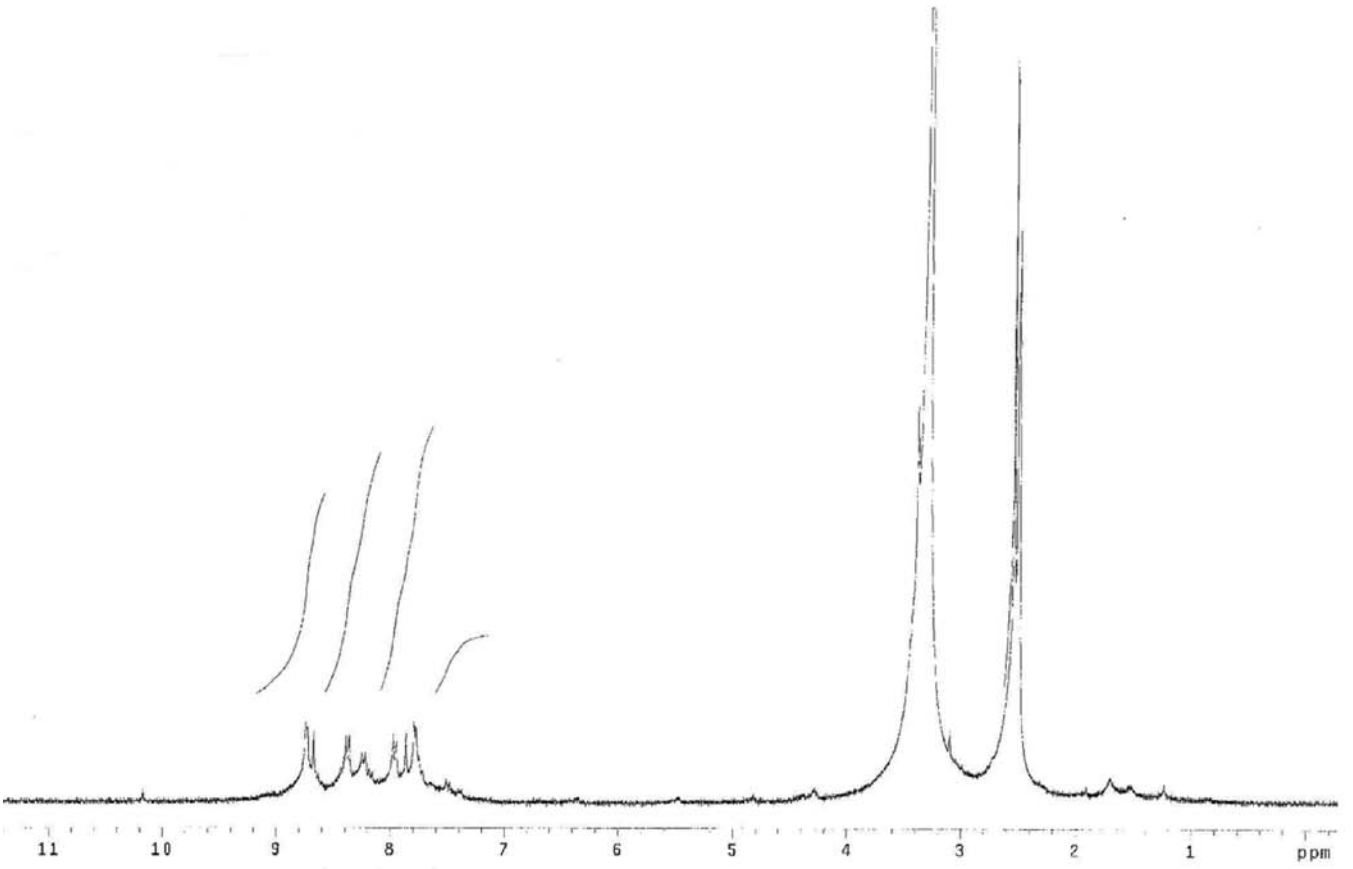


Figure 14S. *^{1}H NMR spectrum of 5-(4-Nitrobenzylidene)-3-methyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4e**) (δ, DMSO-d_6, 300 MHz)*

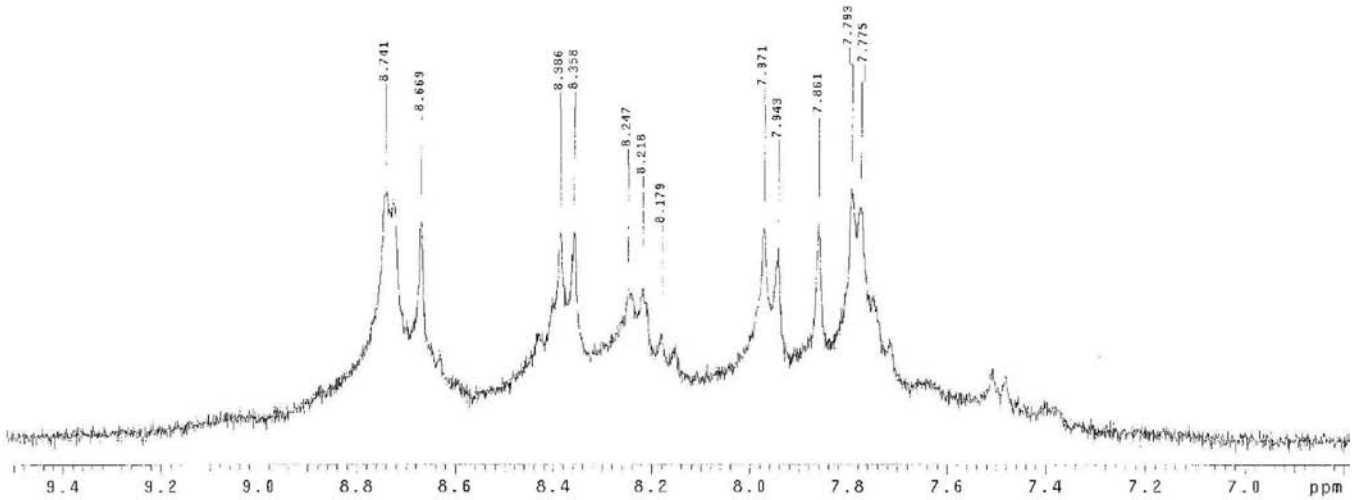


Figure 15S. *Expansion of the ^{1}H NMR spectrum of 5-(4-Nitrobenzylidene)-3-methyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4e**) (δ, DMSO--d_6, 300 MHz)*

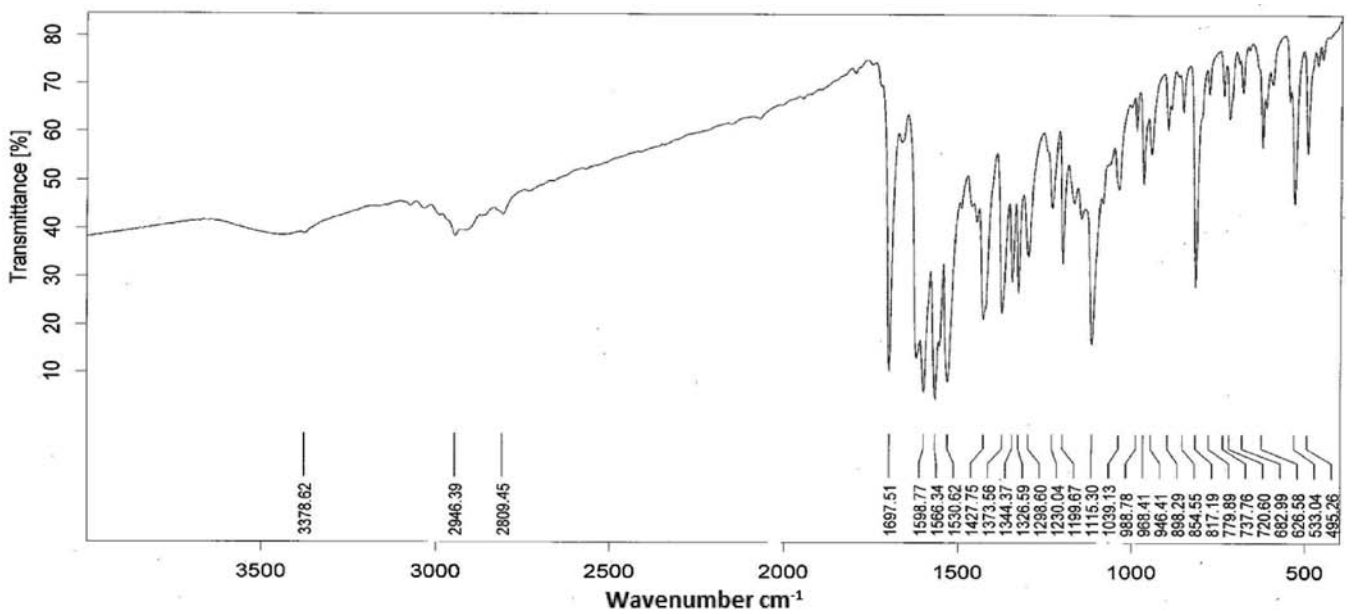


Figure16S. IR *spectrum of 5-(4-(Dimethylamino)benzylidene)-3-methyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4f**) (KBr, cm^{-1})*

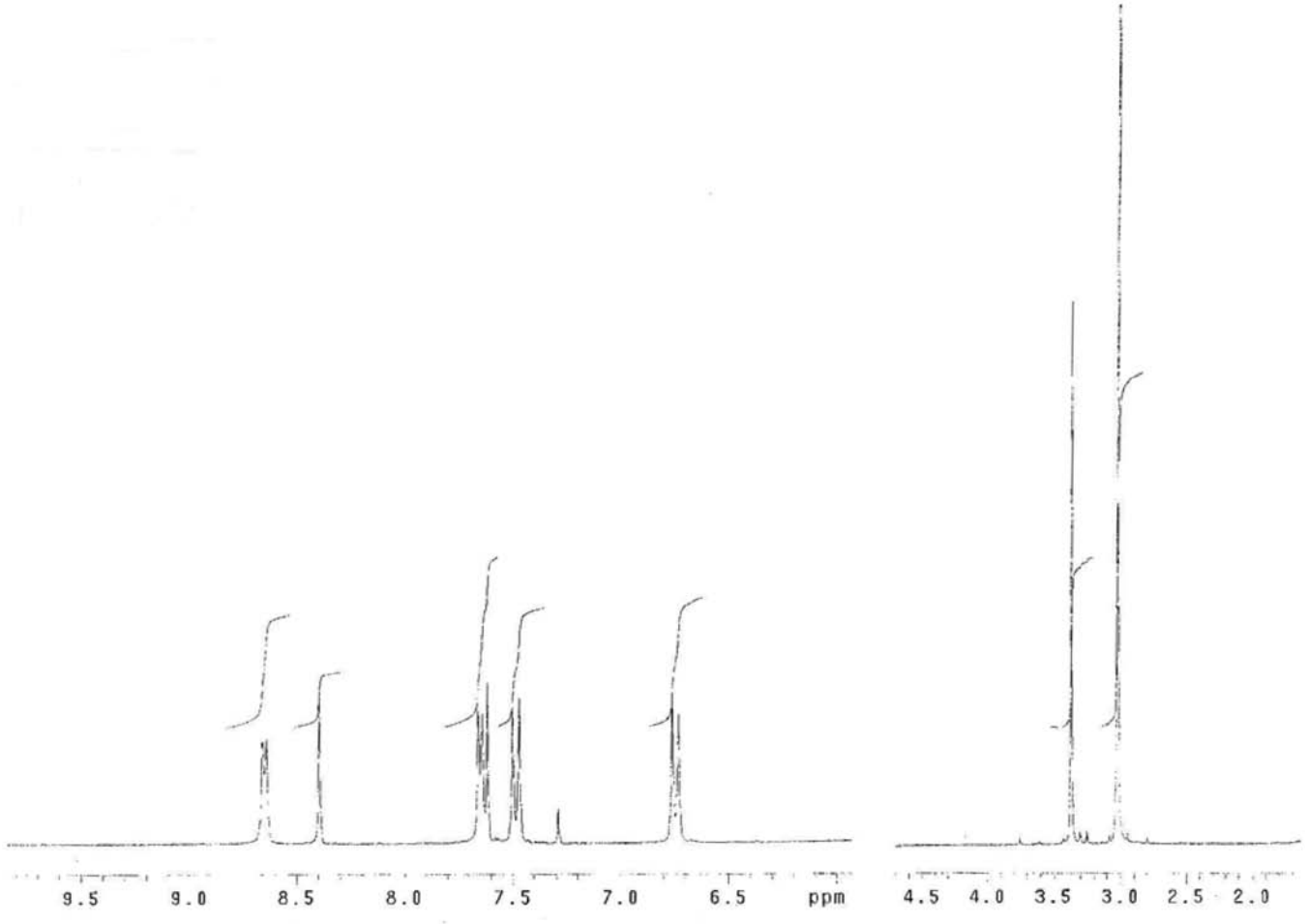


Figure 17S. *^{1}H NMR spectrum of 5-(4-(Dimethylamino)benzylidene)-3-methyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4f**) (δ, DMSO-d_6, 300 MHz)*

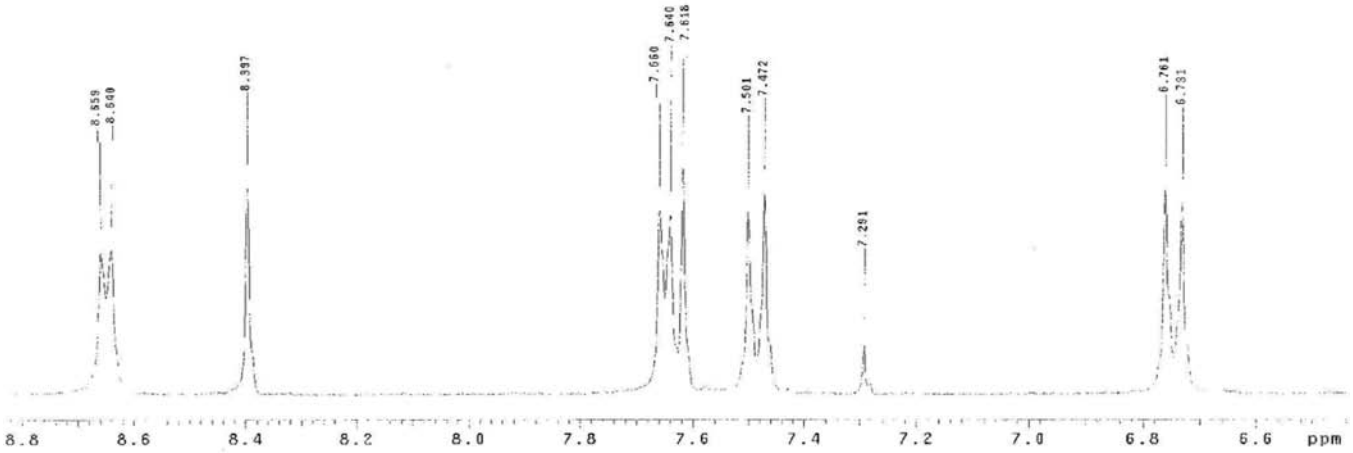


Figure 18S. *Expansion of the ^{1}H NMR spectrum of 5-(4-(Dimethylamino)benzylidene)-3-methyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4f**) (δ, DMSO-d_6, 300 MHz)*

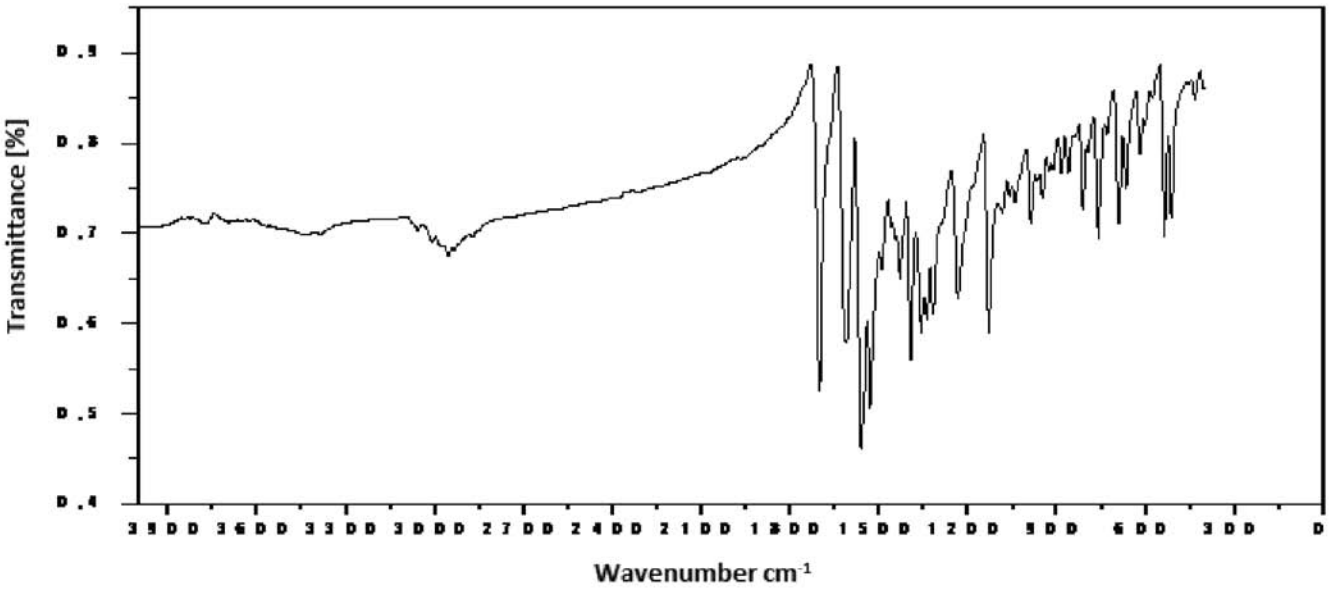


Figure 19S. *IR spectrum of 5-Benzylidene-3-ethyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4g**) (KBr, cm^{-1})*

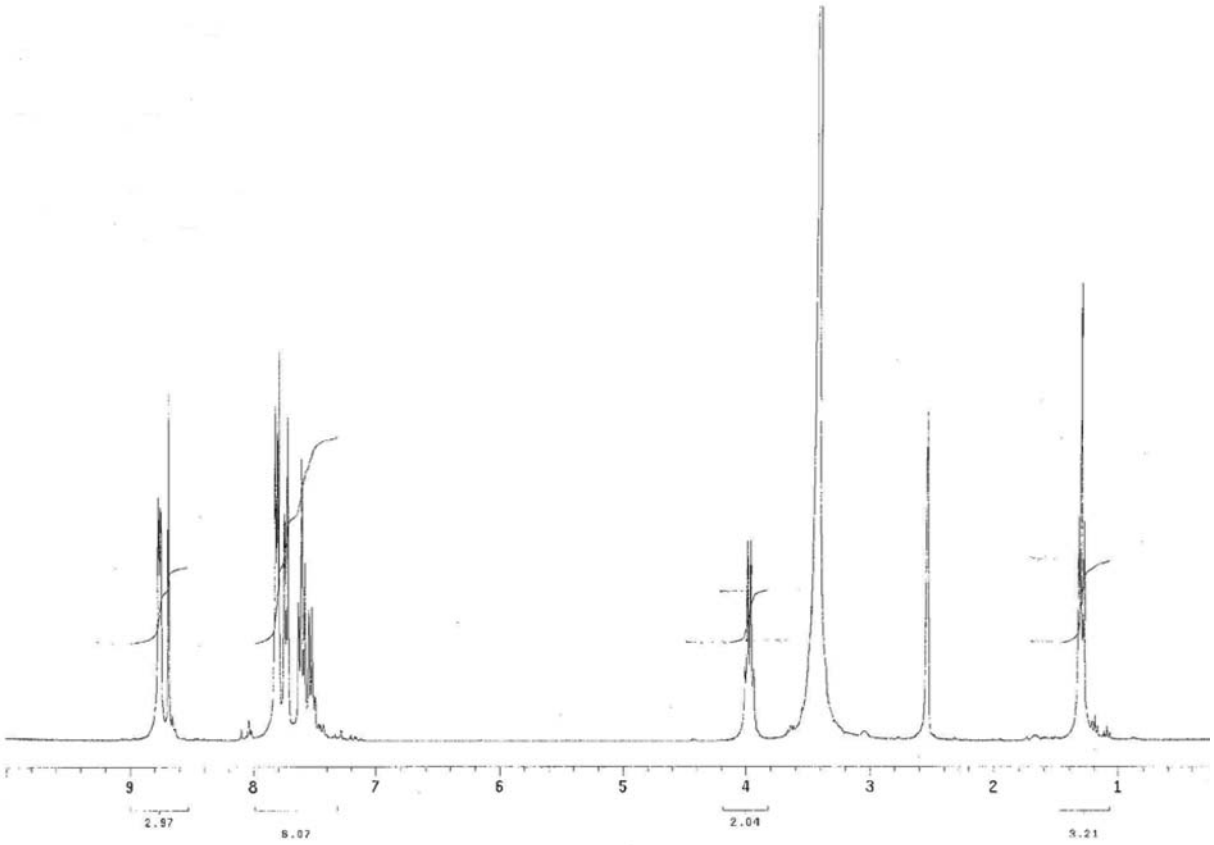


Figure 20S. *^{1}H NMR spectrum of 5-Benzylidene-3-ethyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4g**) (δ, DMSO-d_6, 300 MHz)*

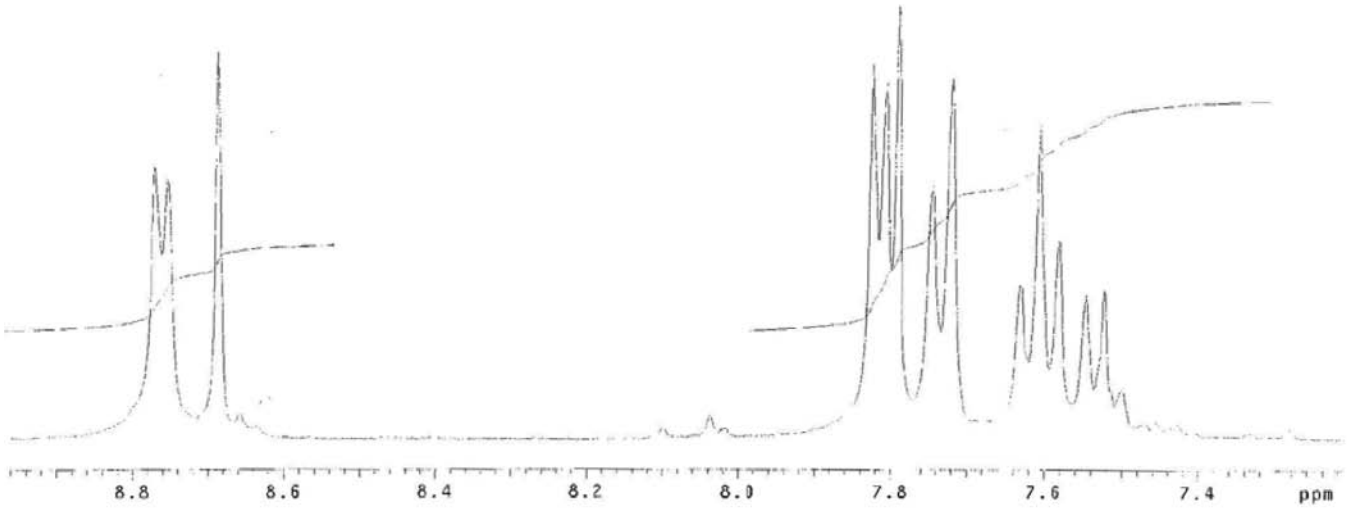


Figure 21S. *Expansion of the ^{1}H NMR spectrum of 5-Benzylidene-3-ethyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4g**) (δ, DMSO-d_6, 300 MHz)*

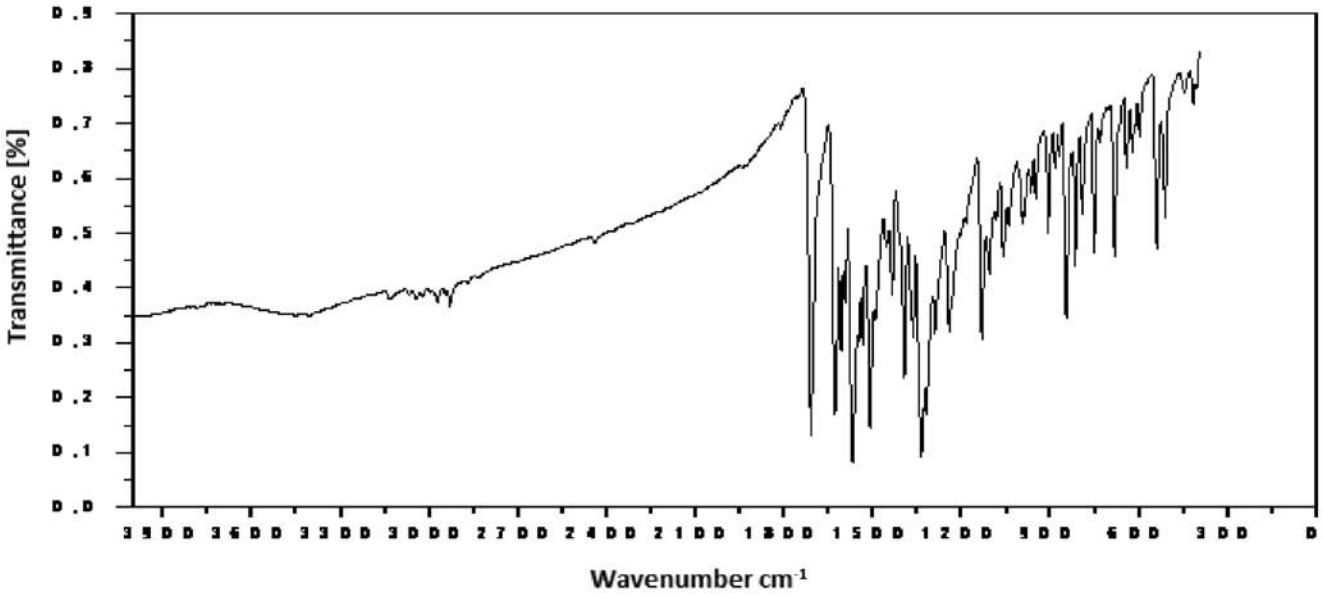


Figure 22S. *IR spectrum of 5-(4-Nitrobenzylidene)-3-ethyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4h**) (KBr, cm^{-1})*

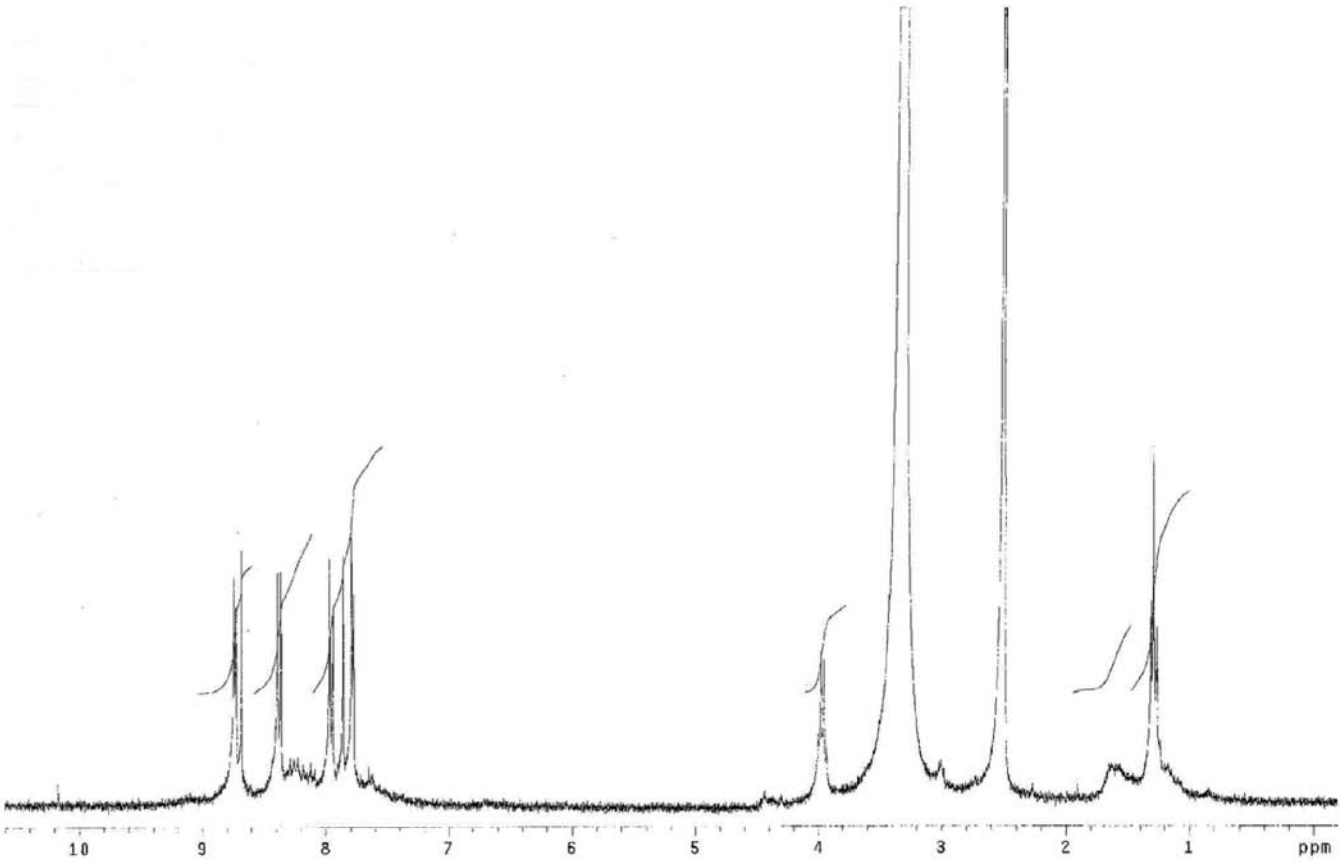


Figure 23S. *^{1}H NMR spectrum of 5-(4-Nitrobenzylidene)-3-ethyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4h**) (δ, DMSO-d_6, 300 MHz)*

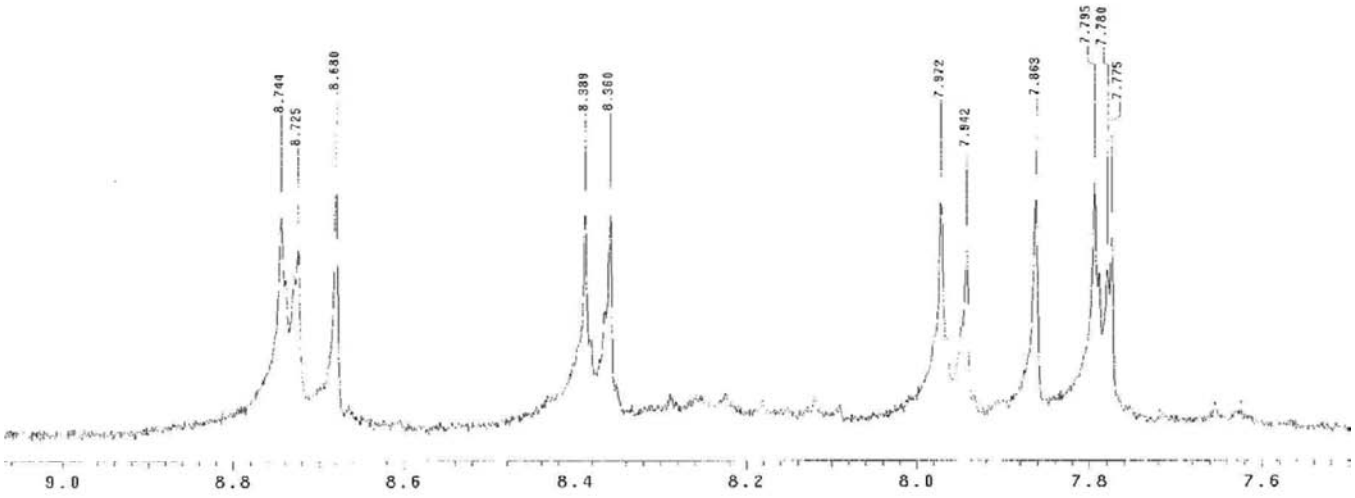


Figure 24S. *Expansion of the ^{1}H NMR spectrum of 5-(4-Nitrobenzylidene)-3-ethyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4h**) (δ, DMSO-d_6, 300 MHz)*

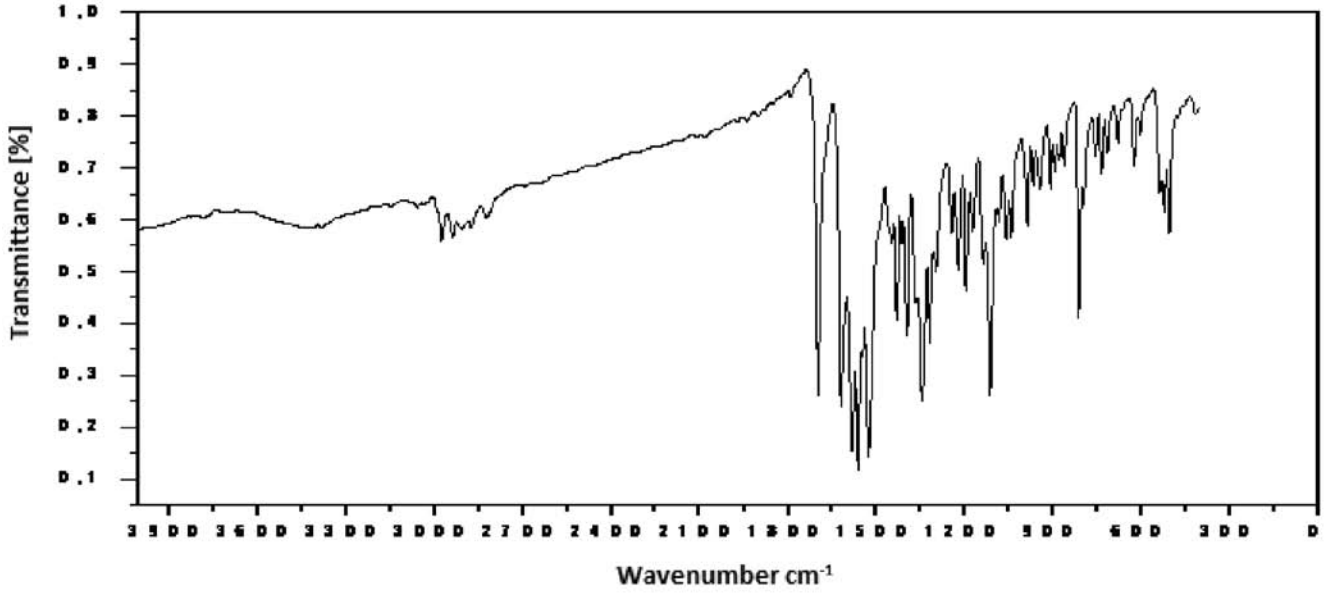


Figure 25S. *IR spectrum of 5-(4-(Dimethylamino)benzylidene)-3-ethyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4i**) (KBr, cm^{-1})*

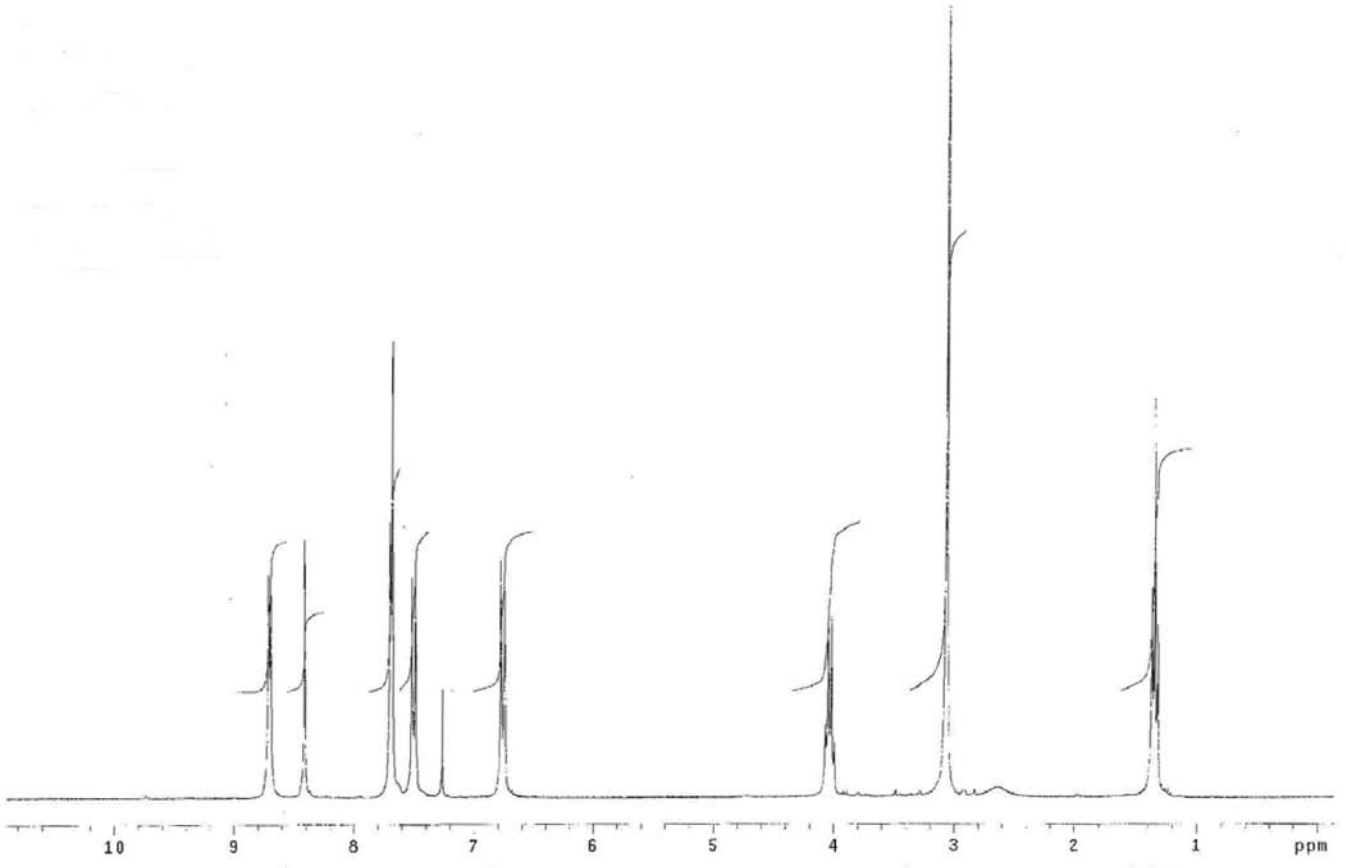


Figure 26S. *^{1}H NMR spectrum of 5-(4-(Dimethylamino)benzylidene)-3-ethyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4i**) (δ, $CDCl_3$, 300 MHz)*

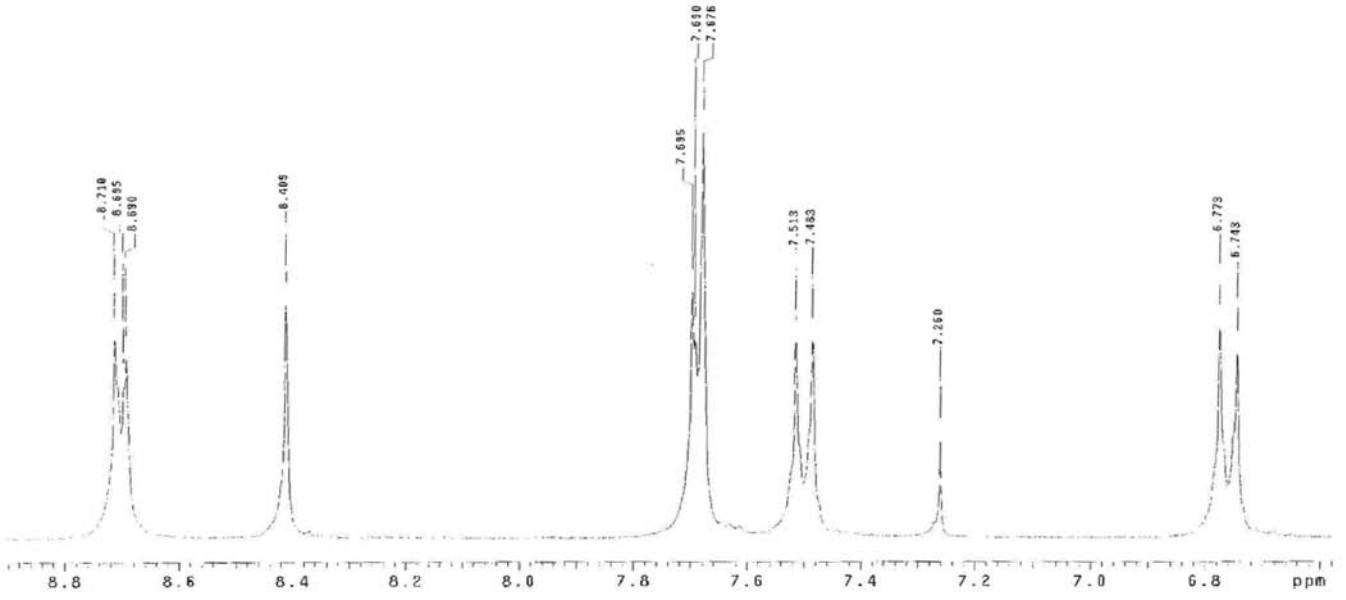


Figure 27S. *Expansion of the ^{1}H NMR spectrum of 5-(4-(Dimethylamino)benzylidene)-3-ethyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4i**) (δ, $CDCl_3$, 300 MHz)*

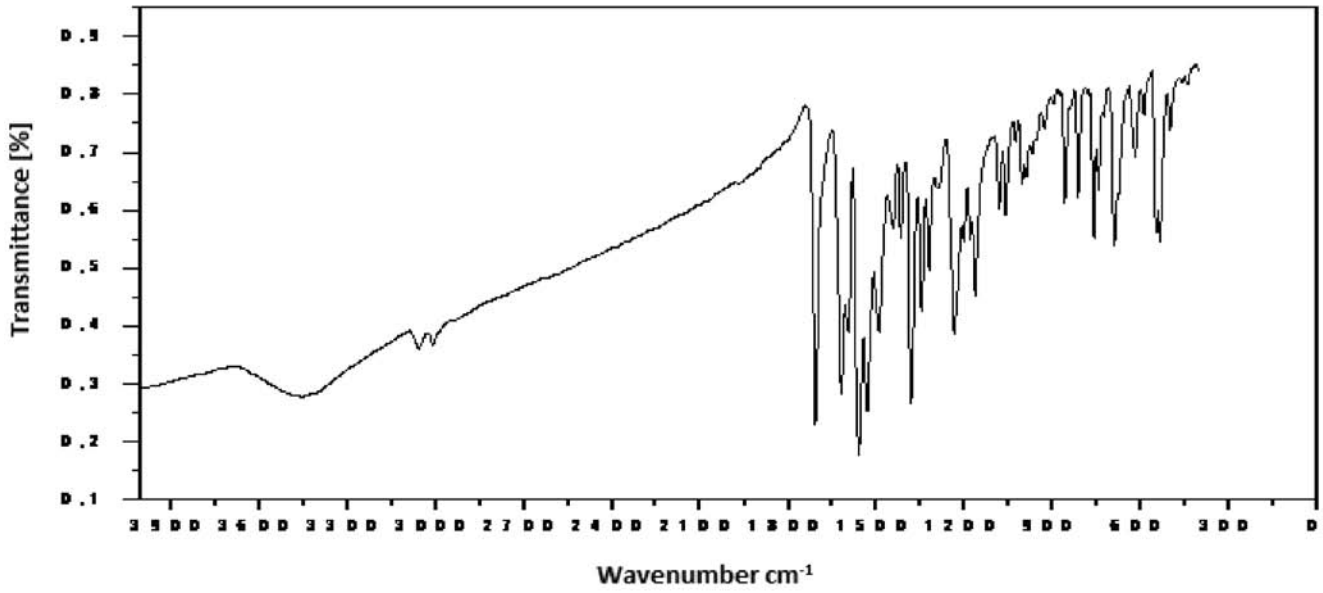


Figure 28S. *IR spectrum of 5-Benzylidene-3-phenyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4j**) (KBr, cm^{-1})*

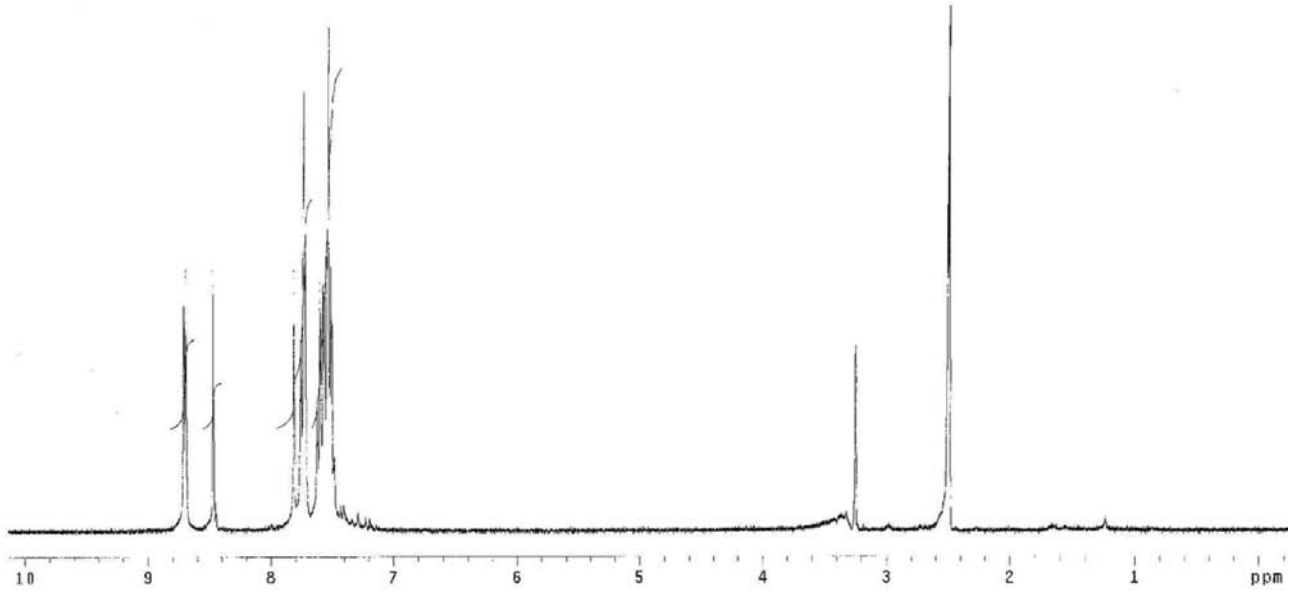


Figure 29S. *^{1}H NMR spectrum of 5-Benzylidene-3-phenyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4j**) (δ, DMSO-d_6, 300 MHz)*

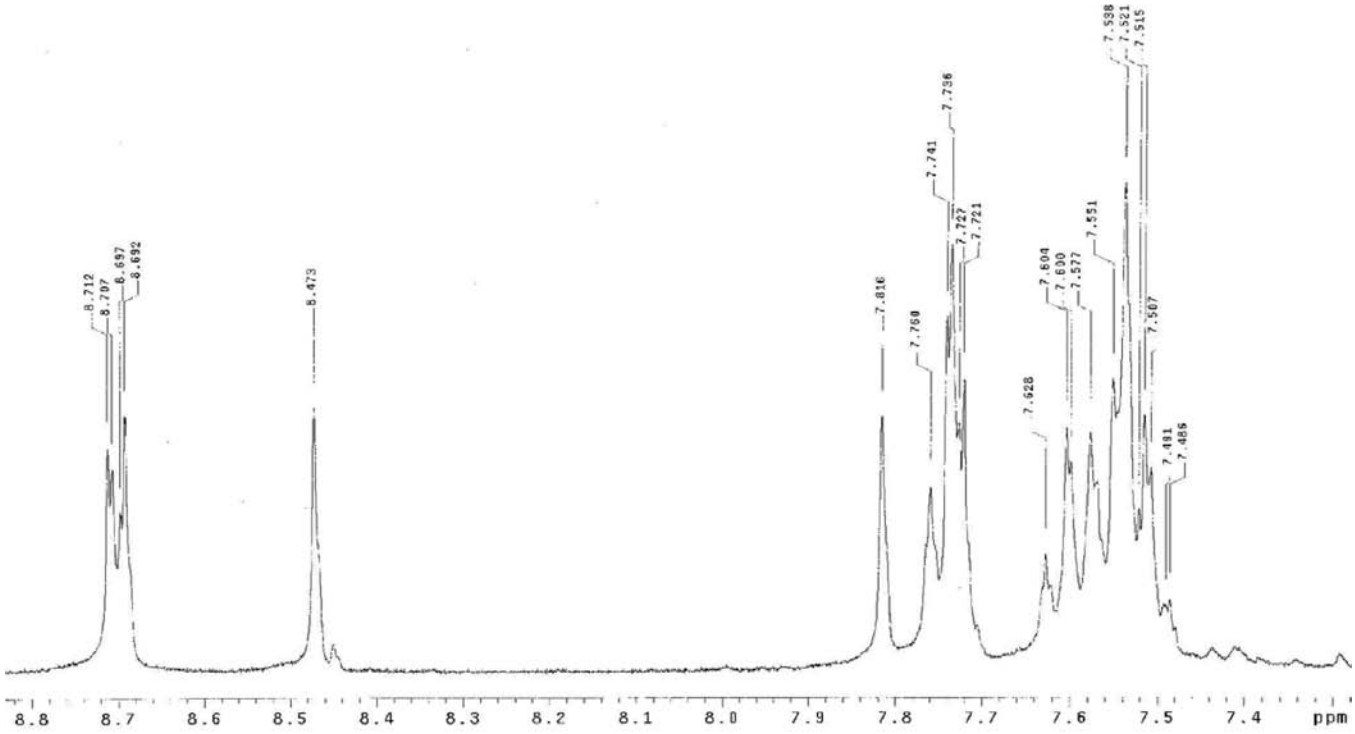


Figure 30S. *Expansion of the ^{1}H NMR spectrum of 5-Benzylidene-3-phenyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4j**) (δ, DMSO-d_o, 300 MHz)*

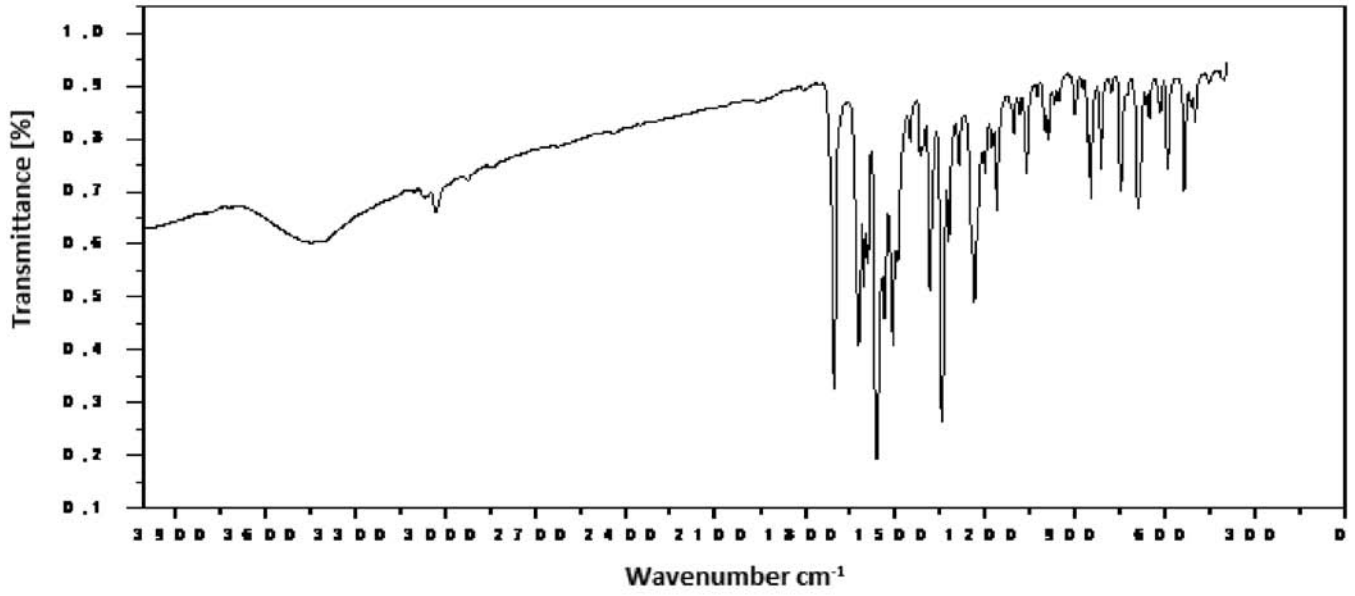


Figure 31S. *IR spectrum of 5-(4-Nitrobenzylidene)-3-phenyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4k**) (KBr, cm^{-1})*

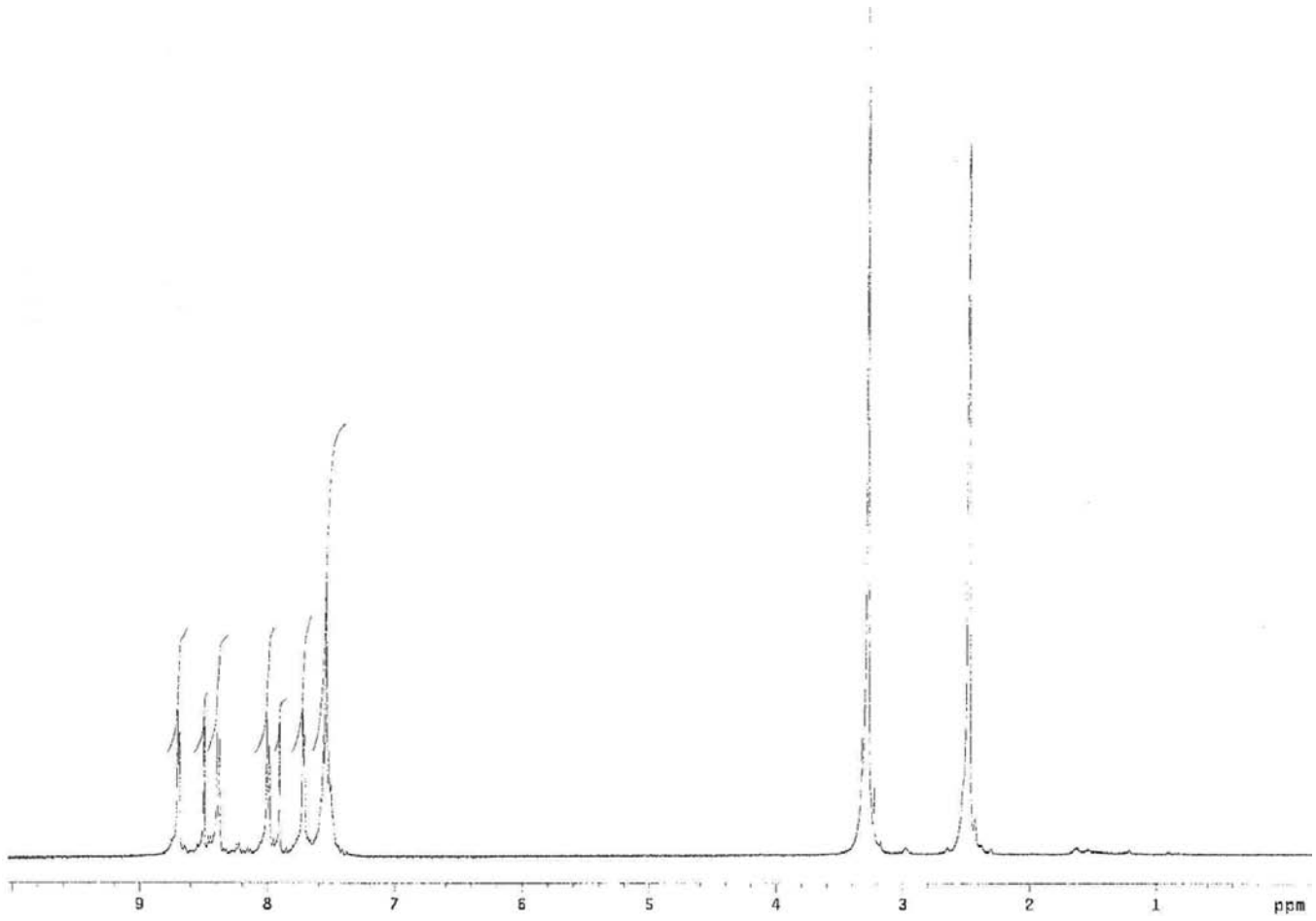


Figure 32S. *^{1}H NMR spectrum of 5-(4-Nitrobenzylidene)-3-phenyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4k**) (δ, DMSO-d_6, 300 MHz)*

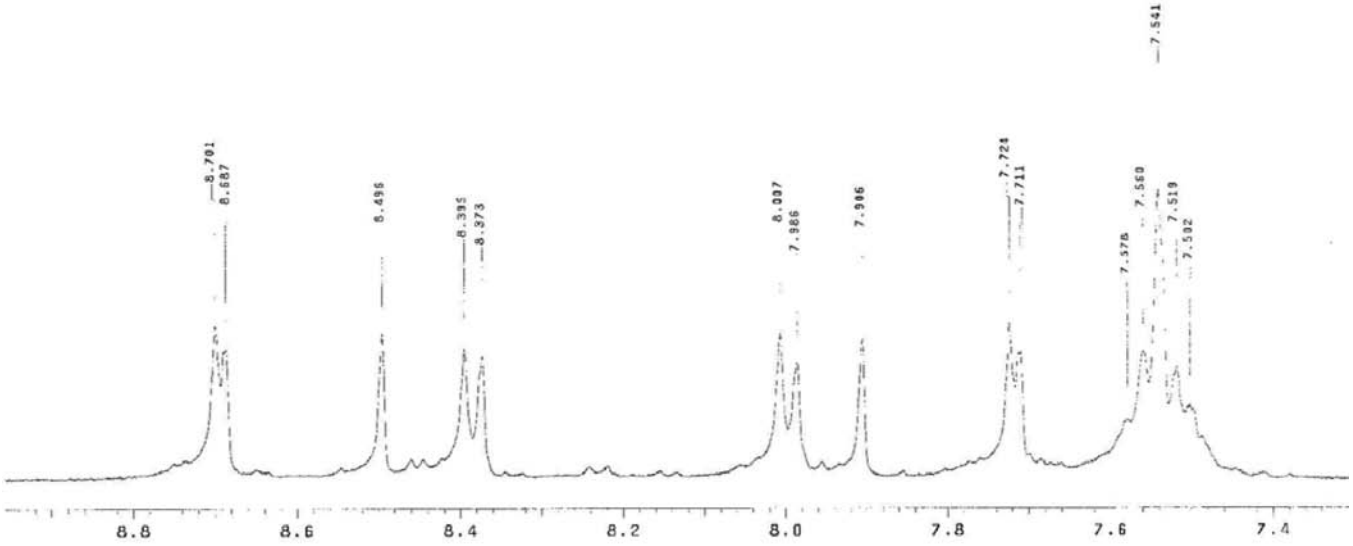


Figure 33S. *Expansion of the ^{1}H NMR spectrum of 5-(4-Nitrobenzylidene)-3-phenyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4k**) (δ, DMSO-d_6, 300 MHz)*

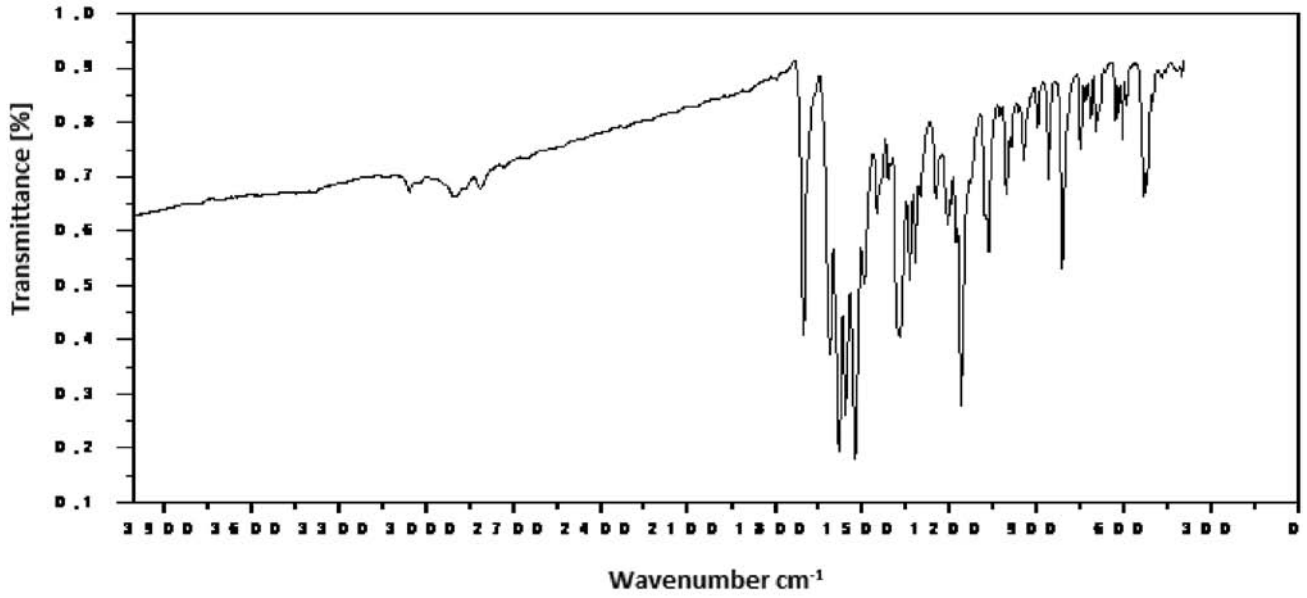


Figure 34S. *IR spectrum of 5-(4-(Dimethylamino)benzylidene)-3-phenyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4l**) (KBr, cm^{-1})*

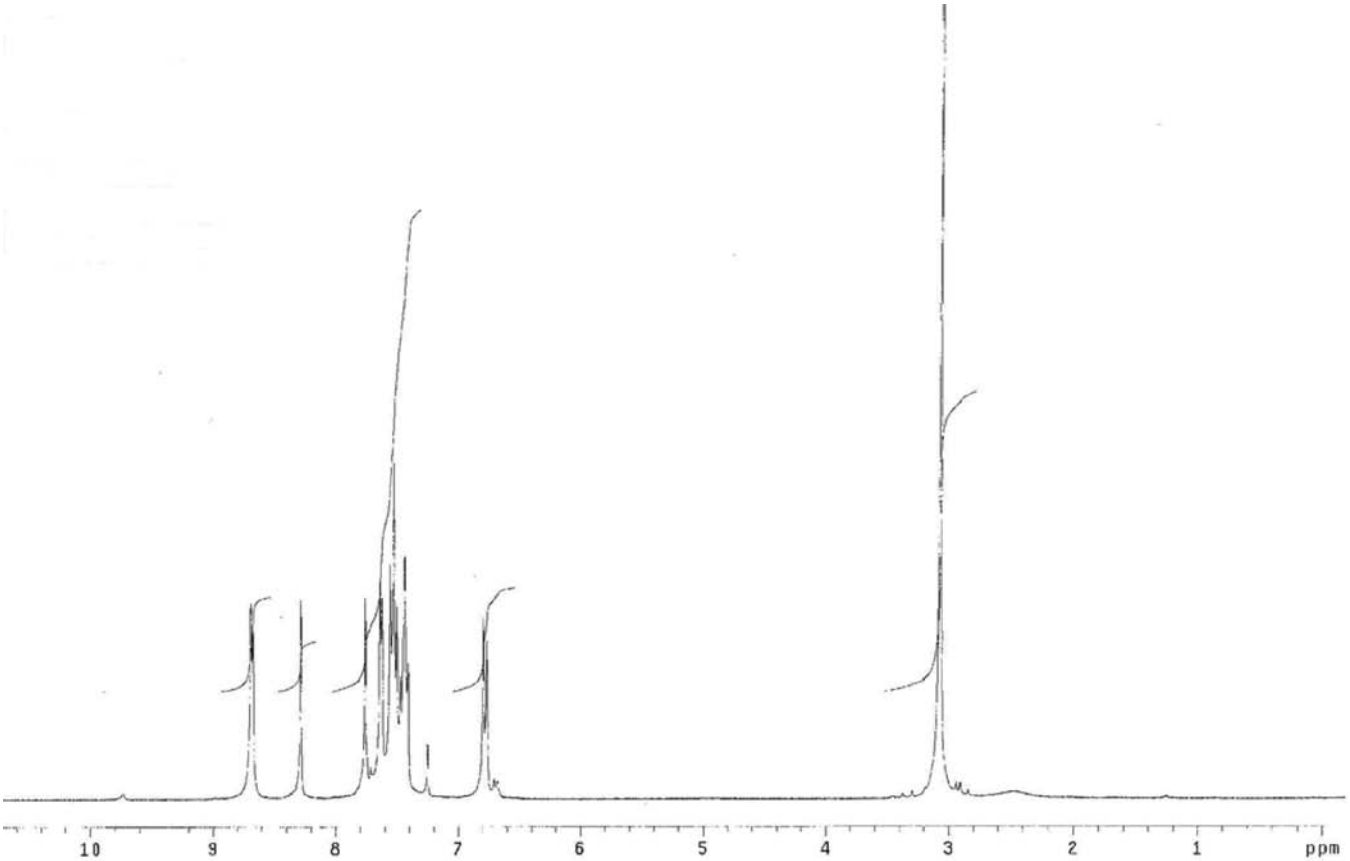


Figure 35S. *^{1}H NMR spectrum of 5-(4-(Dimethylamino)benzylidene)-3-phenyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4l**) (δ,$CDCl_3$, 300 MHz)*

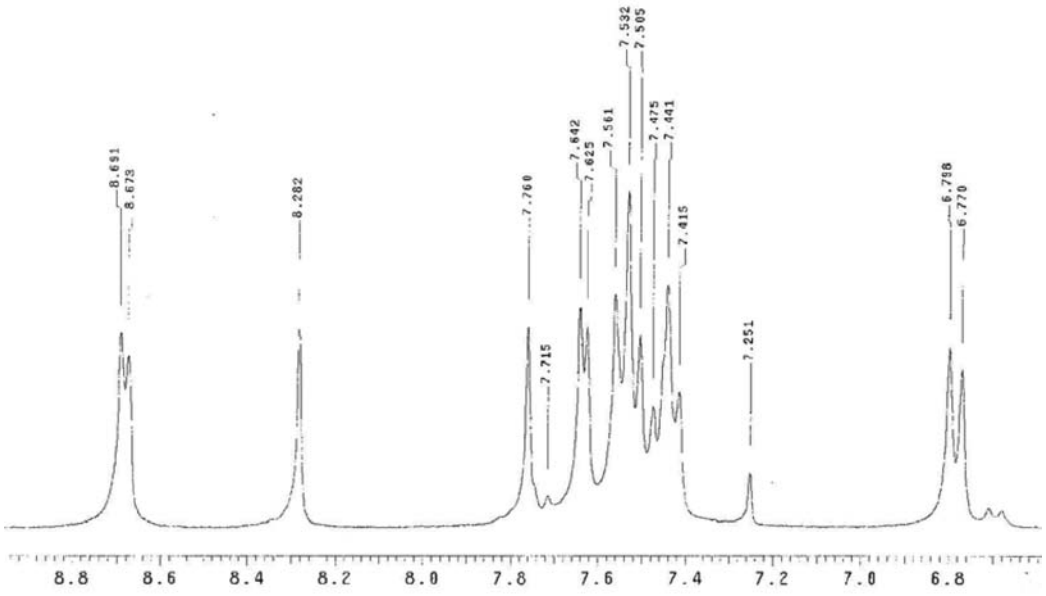


Figure 36S. *Expansion of the ^{1}H NMR spectrum of 5-(4-(Dimethyamino)benzylidene)-3-phenyl-2-(2-(pyridin-4-ylmethylene)hydrazono)thiazolidin-4-one (**4l**) (δ, $CDCl_3$, 300 MHz)*