Supporting Information

Silver-mediated three-component cycloaddition reaction for direct synthesis of 1-N-vinyl-substituted 1,2,3-triazoles

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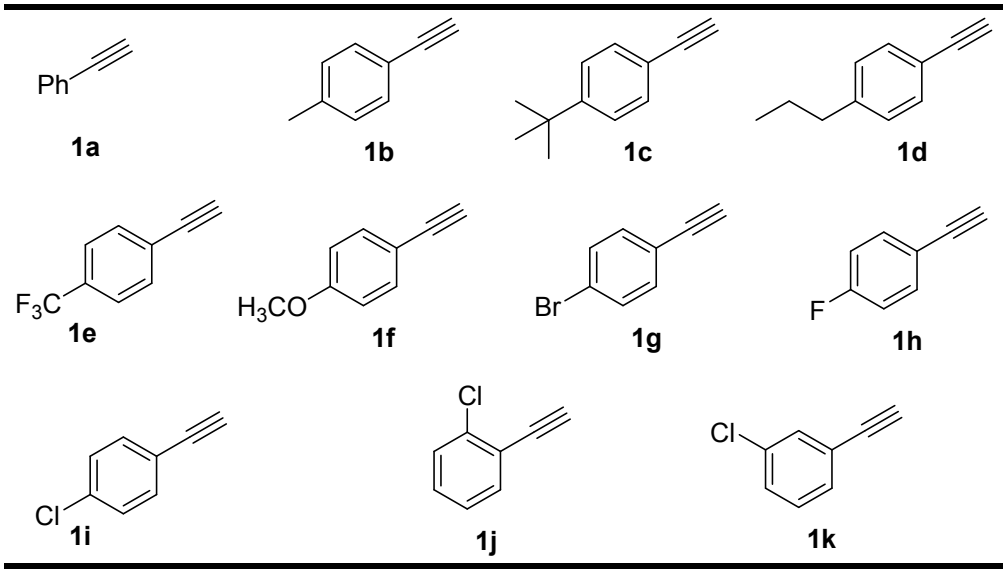
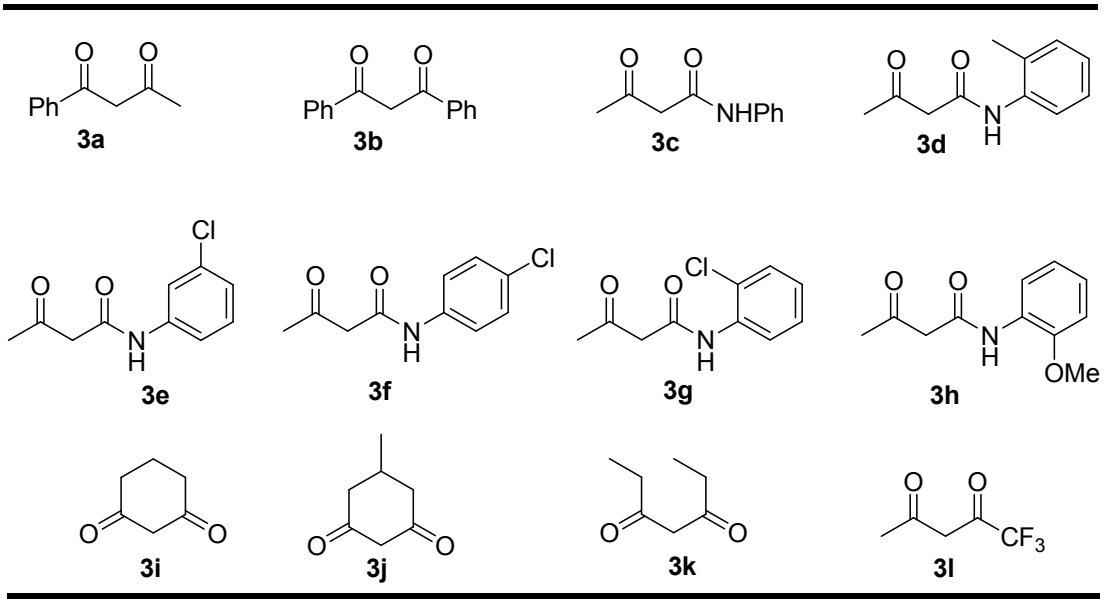
Substrates employed for the reaction



Scheme S1. Phenylacetylenes employed for the synthesis of 1-N-vinyl-1,2,3-triazoles.



Scheme S2. 1,3-Dicarbonyls employed for the synthesis of 1-N-vinyl-1,2,3-triazoles.

Single Crystal X-ray Diffraction of 4aa'

White block-like single crystals of **4aa'** were grown by layering a dichlormethane solution with n-hexane at ambient temperature. X-Ray diffraction data of one these crystals were collected on a Bruker SMART. The measurements were performed with Mo-Kα radiation (λ = 0.71073 Å). Data were collected at 296 (2) K, using the phi and

omega scans to a maximum θ value of 25.027°. The data were refined by full-matrix least-squares techniques on F^2 with SHELXL-2014. And the structures were solved by direct methods SHELXL-2014. All the non-hydrogen atoms were refined anisotropically. The hydrogen atoms were included at geometrically idealized positions. An ORTEP representation of the structure is shown below.

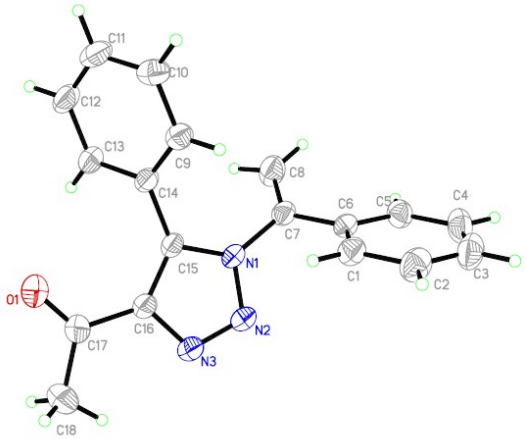


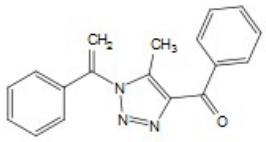
Figure S1. ORTEP drawing of **4aa'** with the numbering scheme

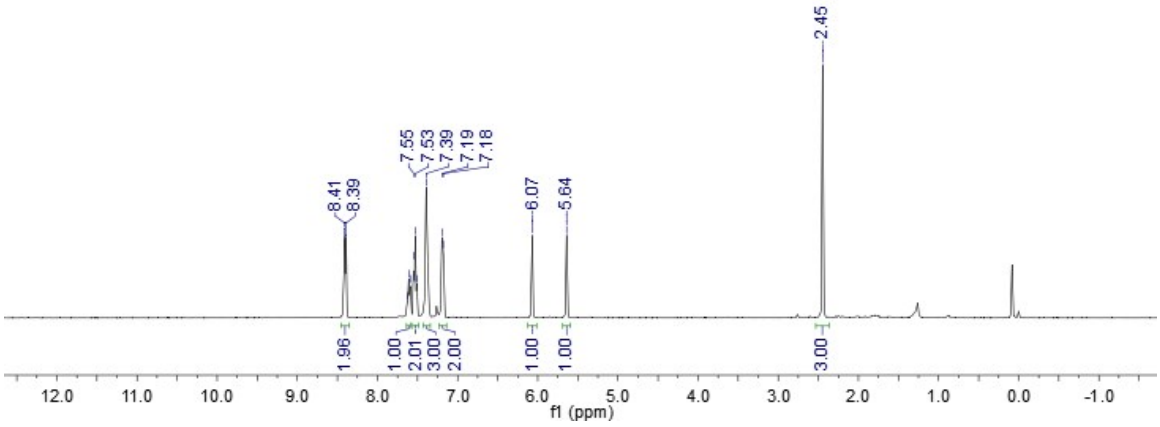
Table S5. Crystal data and structure refinement for **4aa'**

Identification code	**4aa'**	
Empirical formula	$C_{18}H_{15}N_3O$	
Formula weight	289.33	
Temperature	296 (2) K	
Wavelength	0.71073 Å	
Crystal system	Triclinic	
Space group	P-1	
Unit cell dimensions	a = 9.405(7) Å	a= 84.218(8)°.
	b = 9.471(7) Å	b= 63.798(7)°.
	c = 9.815(7) Å	g = 78.437(8)°.
Volume	768.5(10) $Å^3$	
Z	2	
Density (calculated)	1.250 Mg/m^3	
Absorption coefficient	0.080 mm^{-1}	
F(000)	304	
Crystal size	0.21 x 0.2 x 0.19 mm^3	
Theta range for data collection	2.992 to 25.027°.	
Index ranges	-11<=h<=11, -11<=k<=11, -11<=l<=11	
Reflections collected	7291	

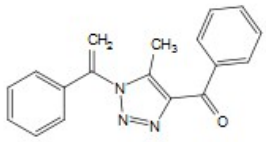
NMR spectra of the obtained compounds

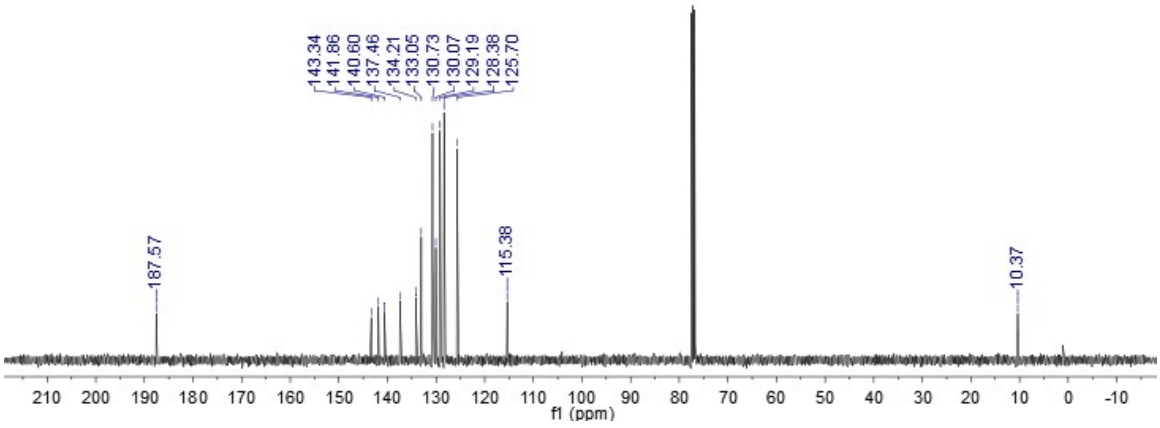
^{1}H-NMR spectrum of 4aa





^{13}C-NMR spectrum of 4aa





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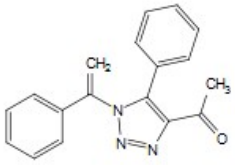
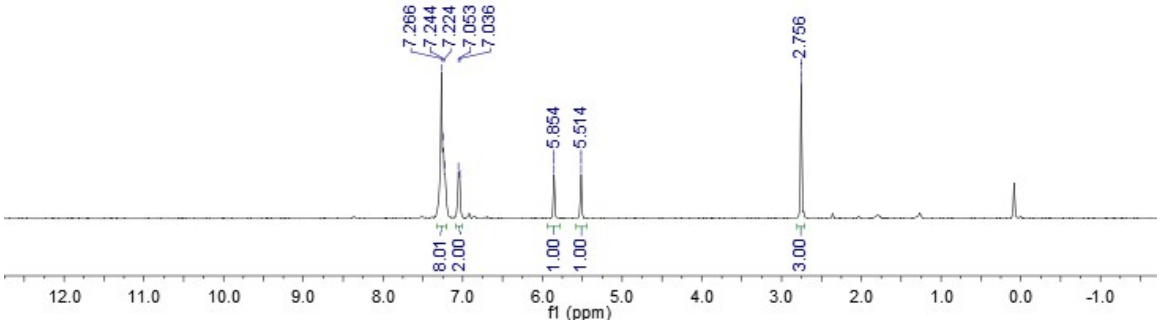
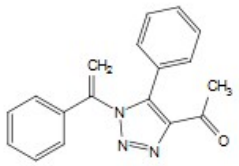
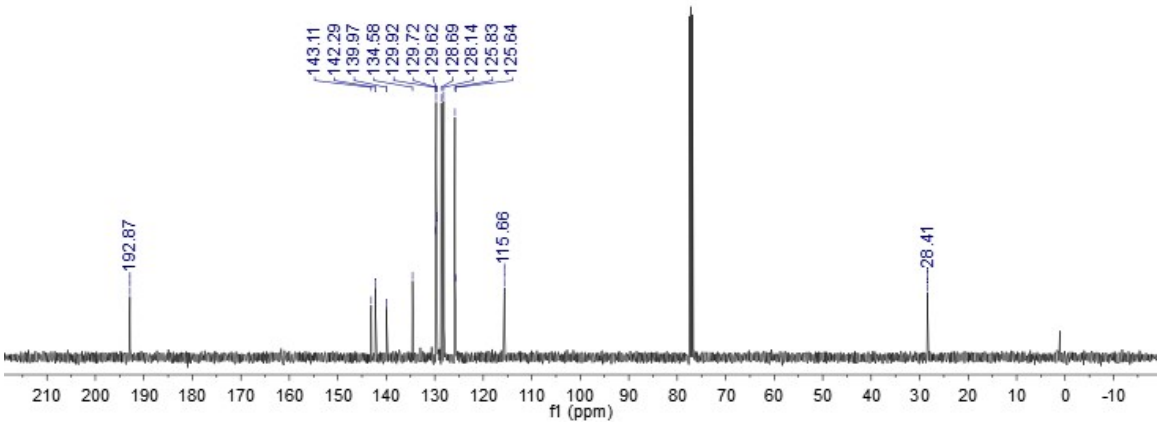


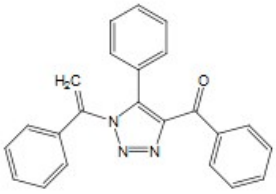


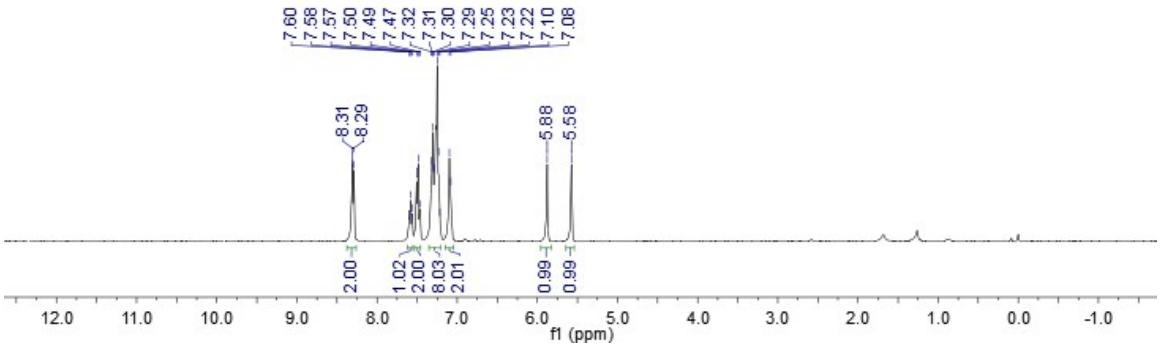
^{13}C-NMR spectrum of 4aa’



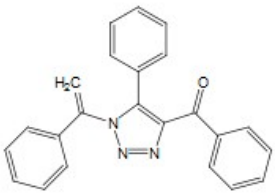


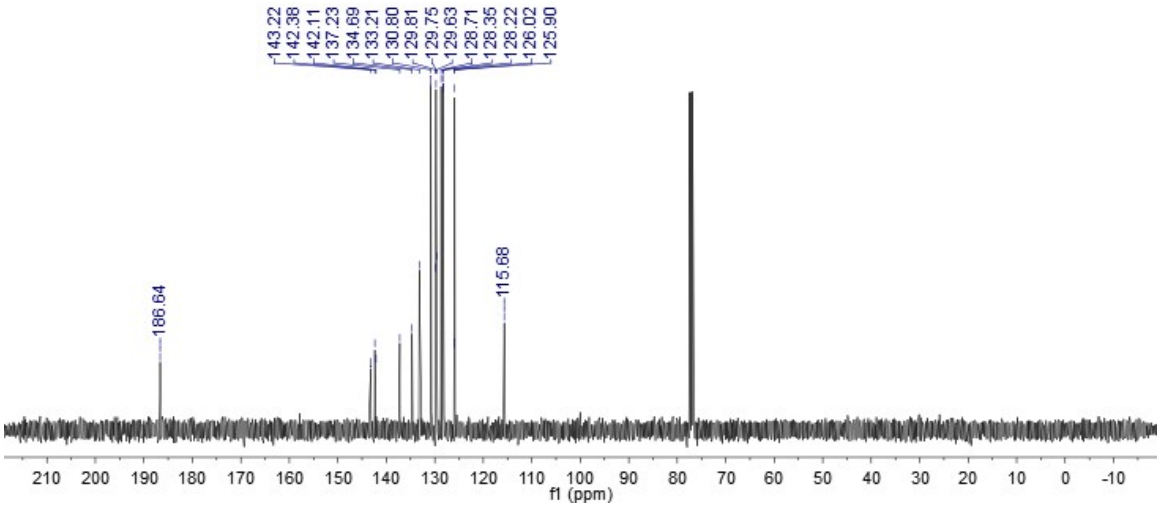
^{1}H-NMR spectrum of 4ab



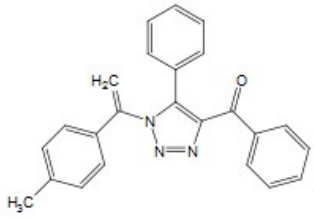


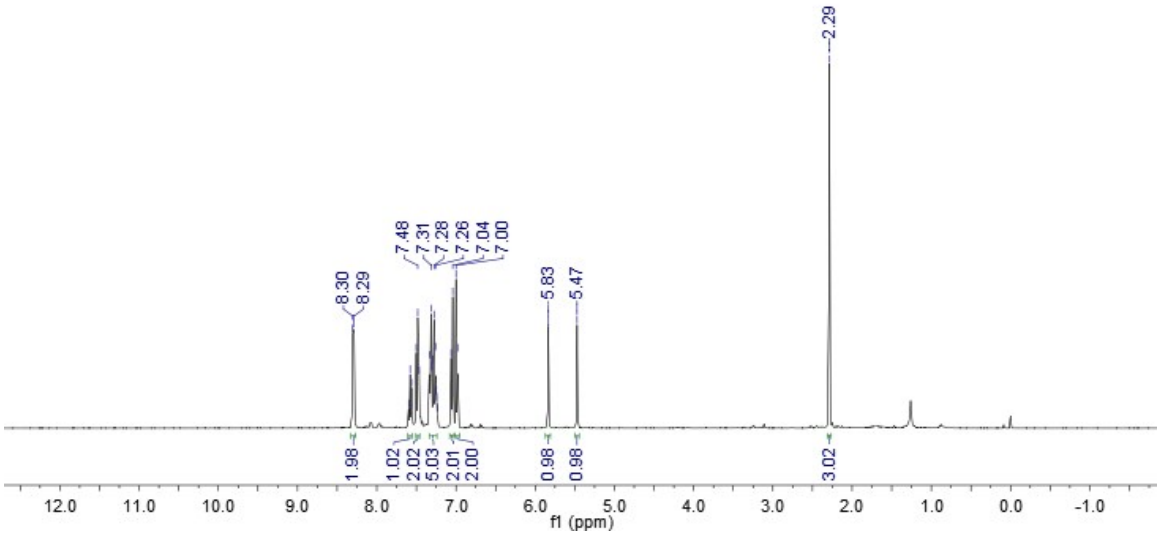
^{13}C-NMR spectrum of 4ab



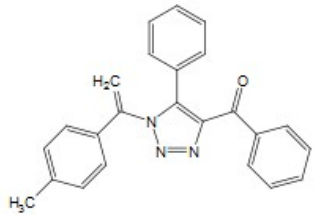


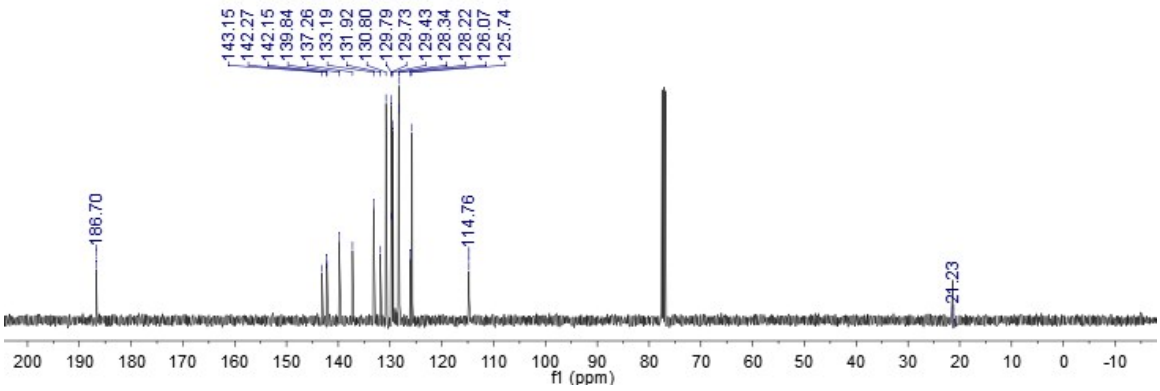
^{1}H-NMR spectrum of 4bb



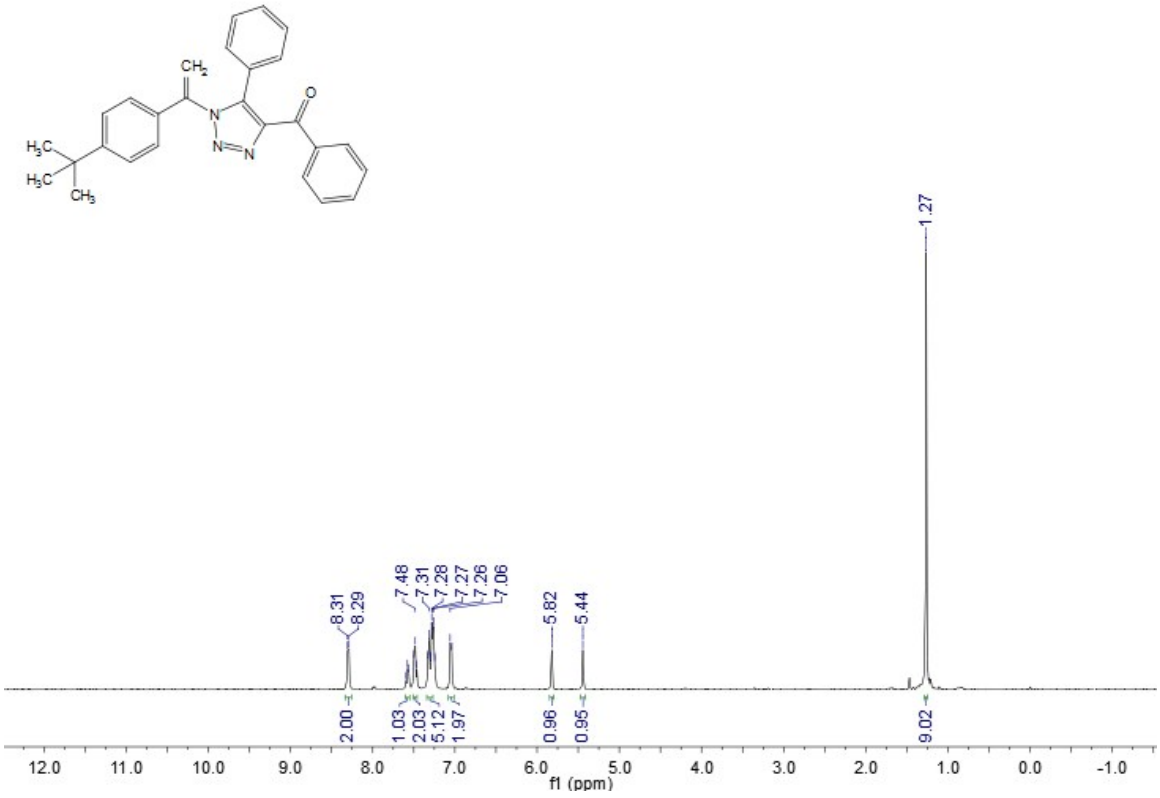


^{13}C-NMR spectrum of 4bb

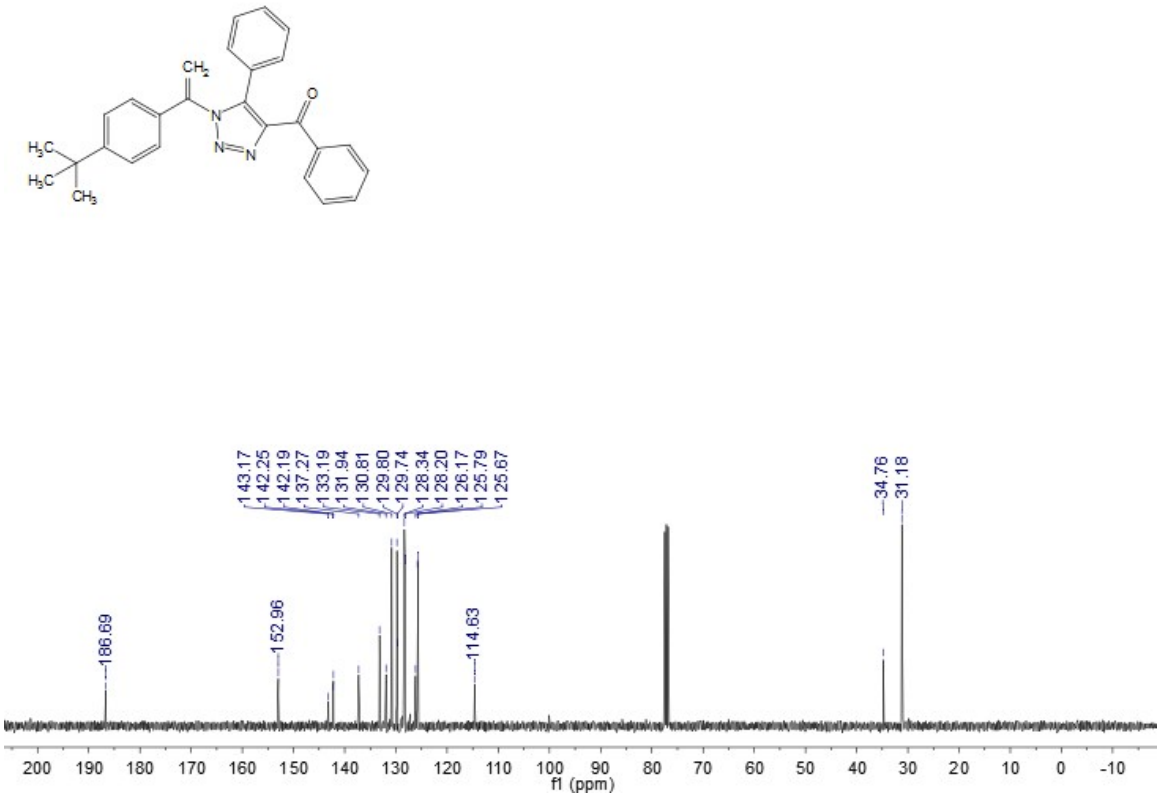




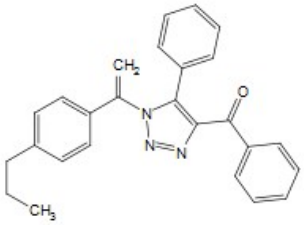
^{1}H-NMR spectrum of 4cb

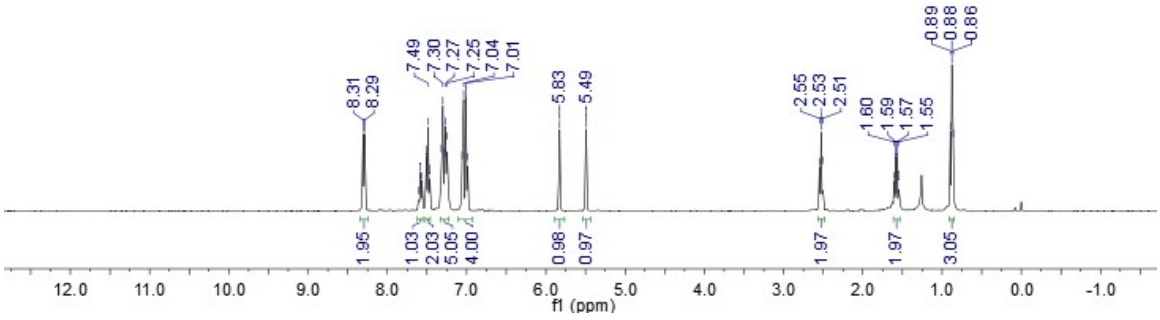


^{13}C-NMR spectrum of 4cb



^{1}H-NMR spectrum of 4db





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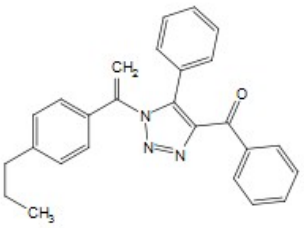

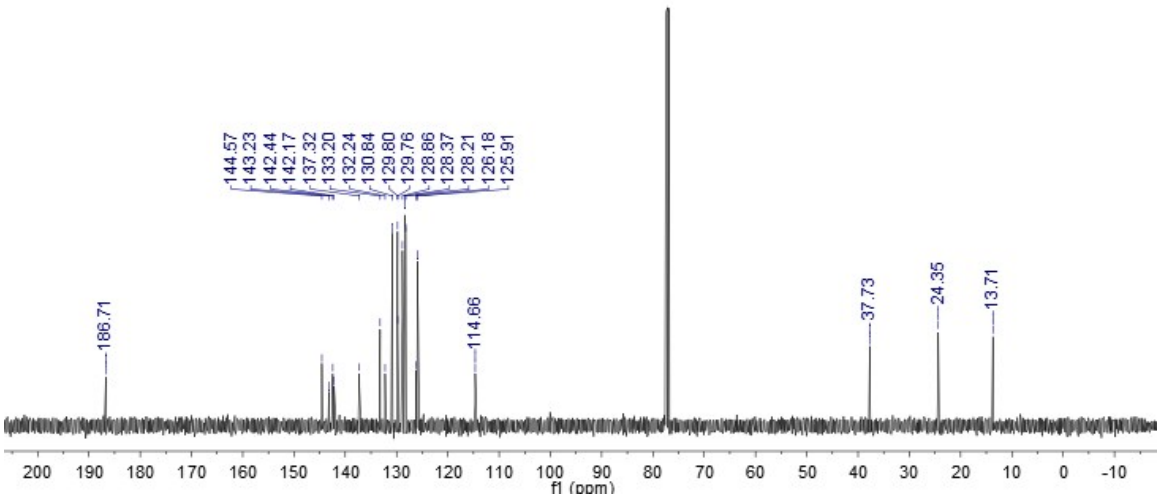

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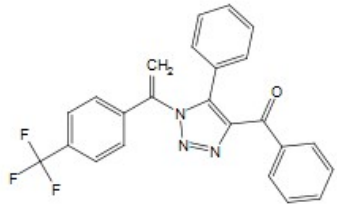
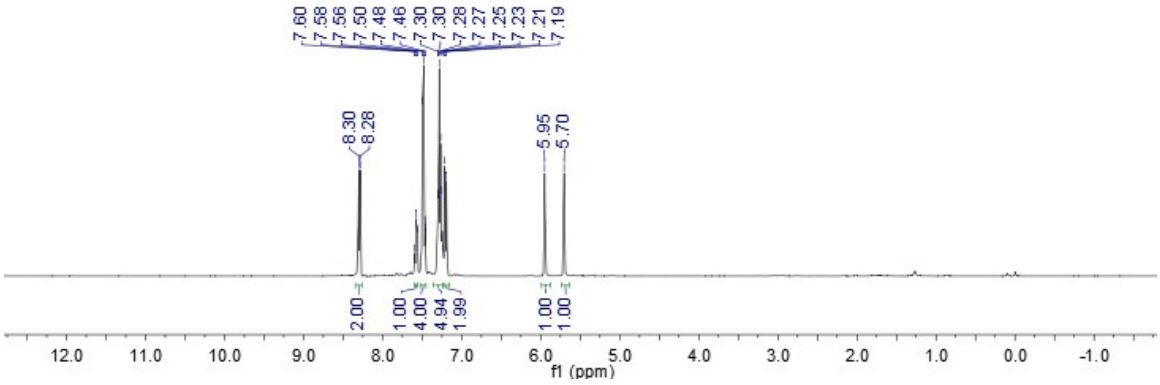
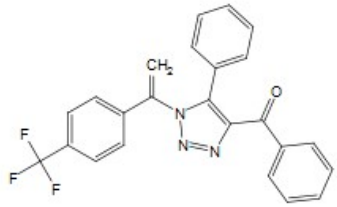
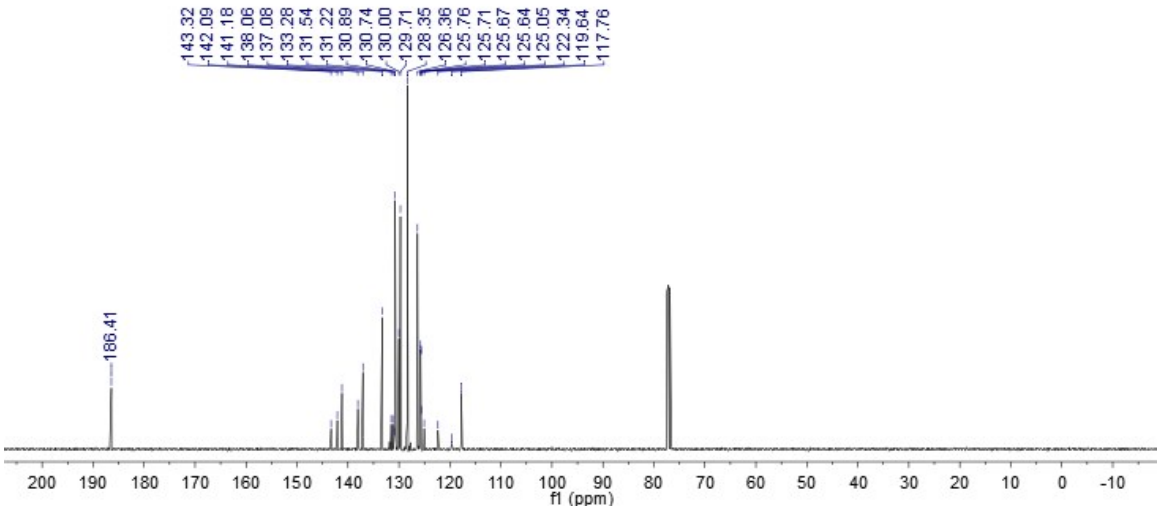


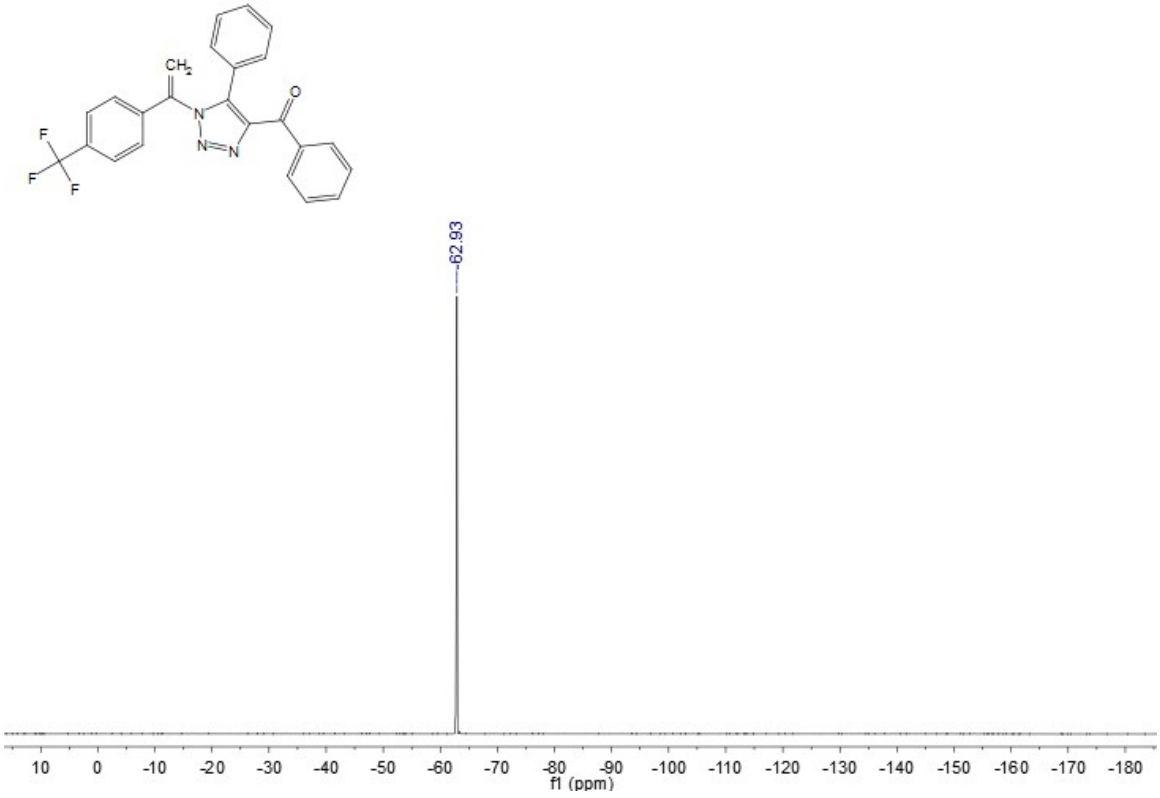


[13]C-NMR spectrum of 4eb

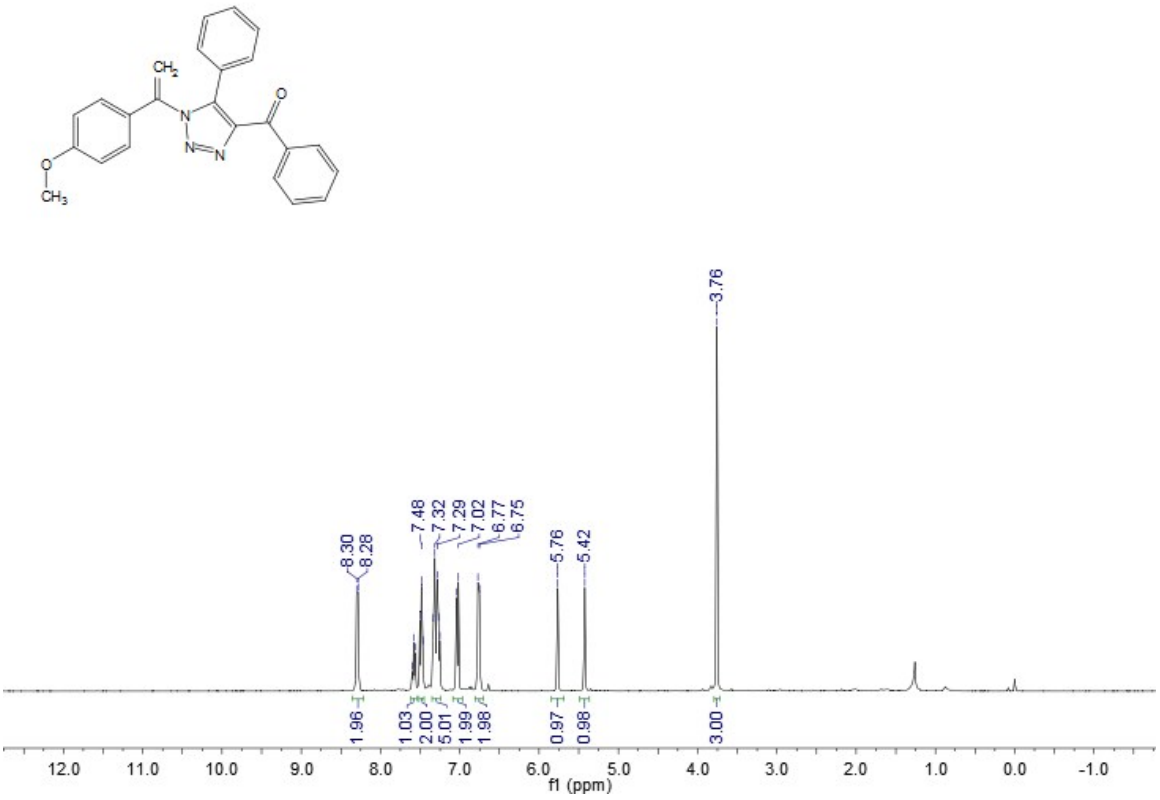




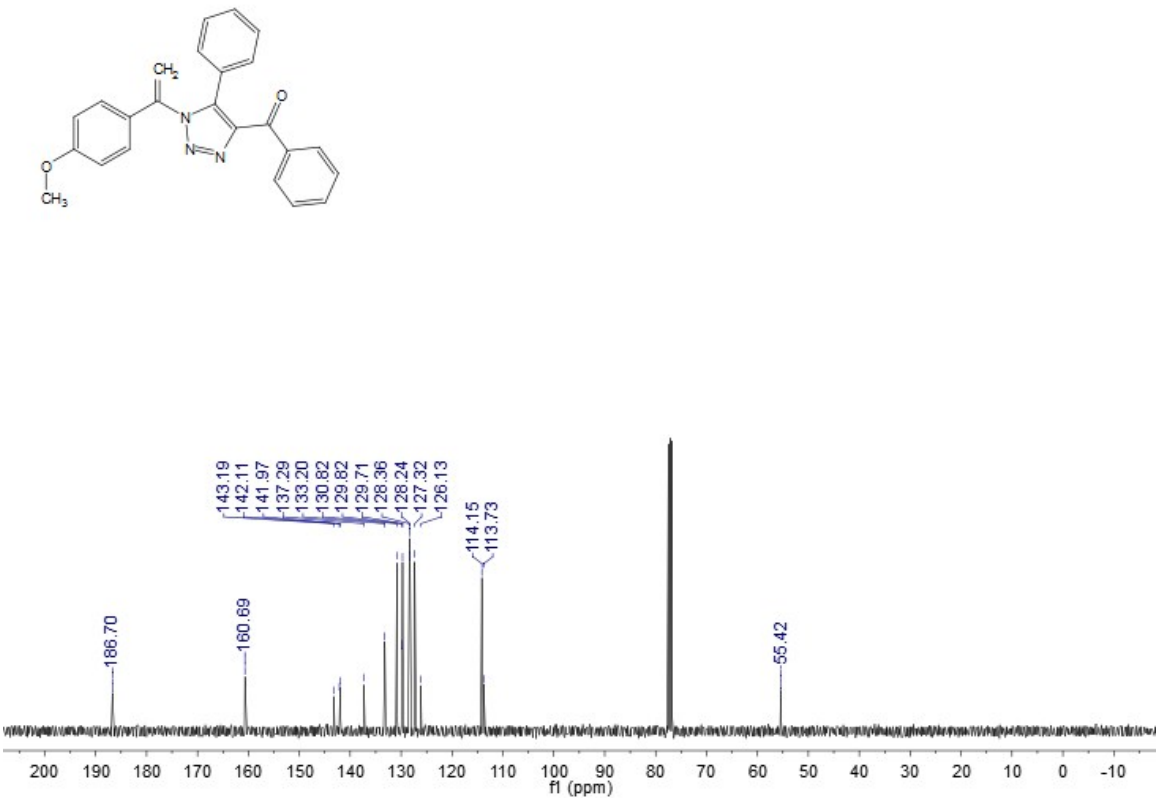
^{19}F-NMR spectrum of 4eb



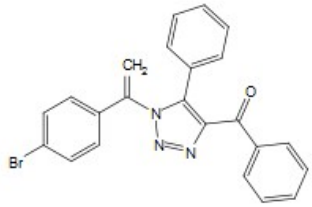
^{1}H-NMR spectrum of 4fb

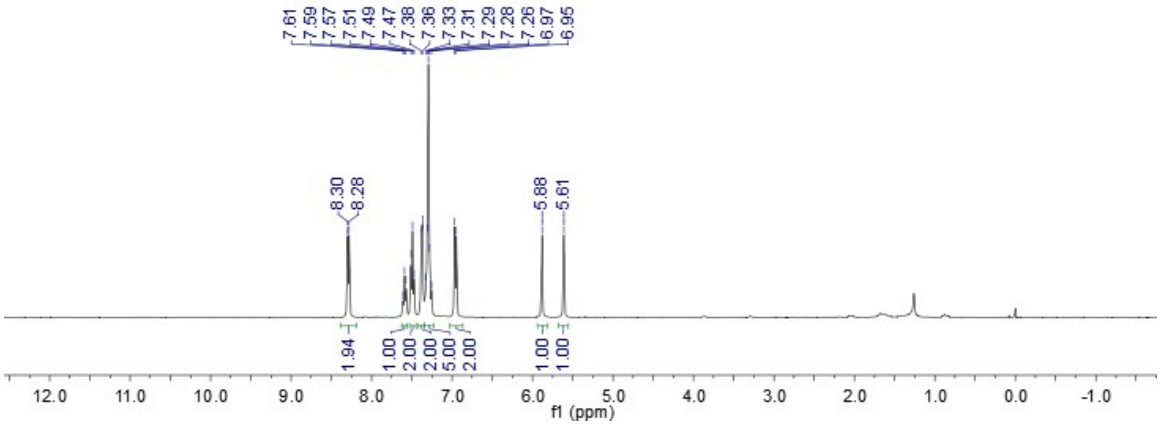


^{13}C-NMR spectrum of 4fb



^{1}H-NMR spectrum of 4gb





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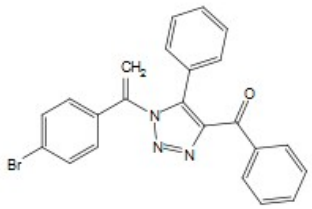

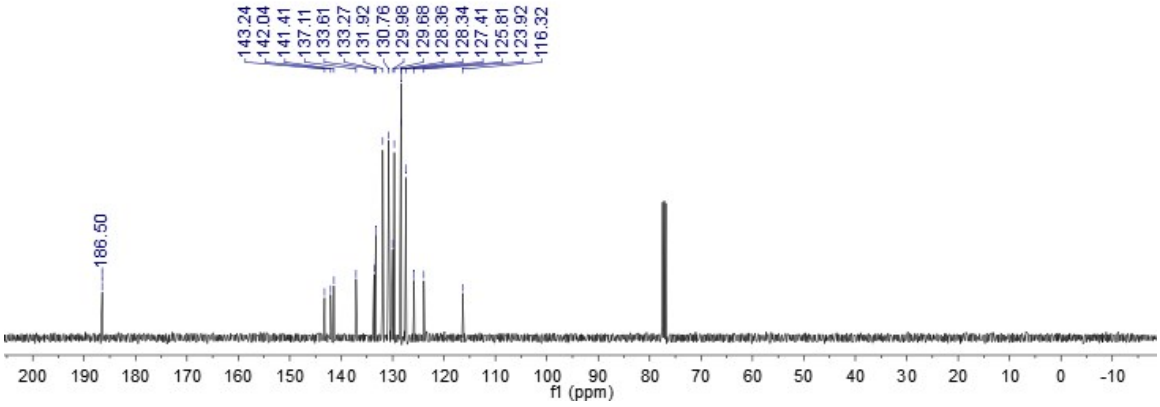

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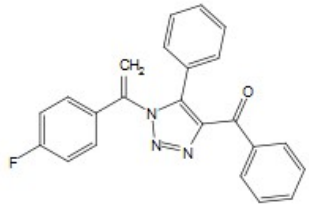

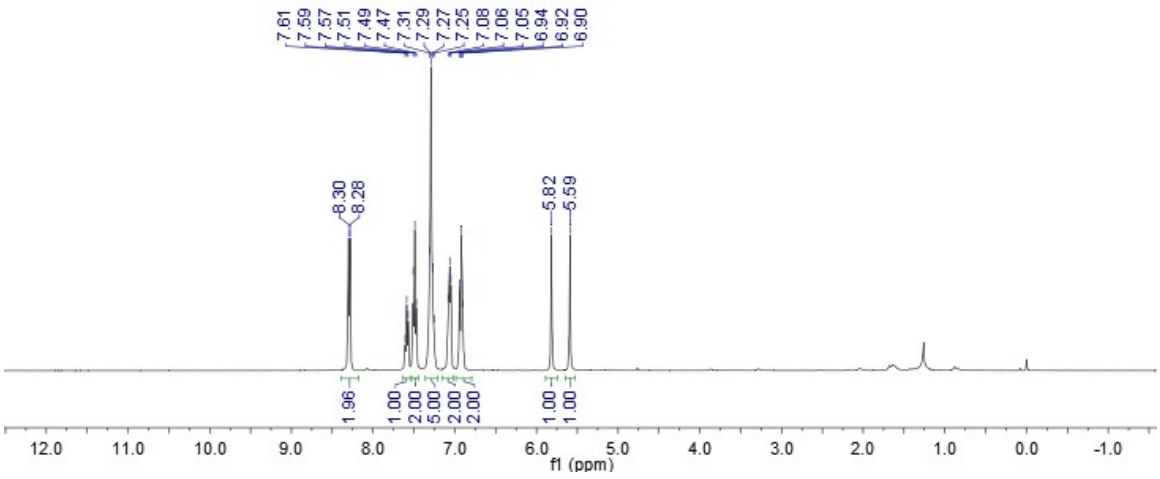

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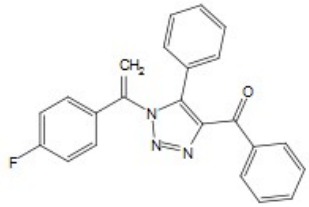
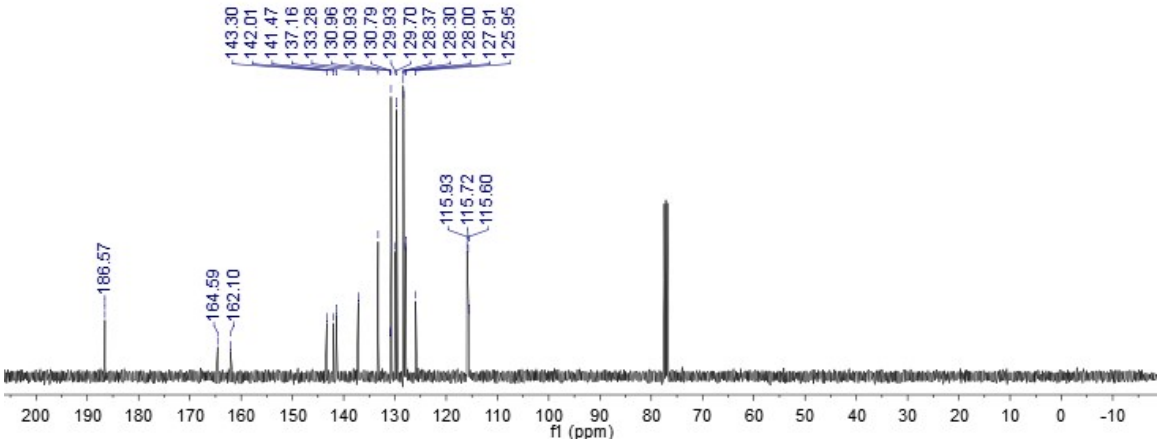
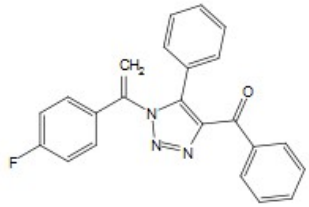
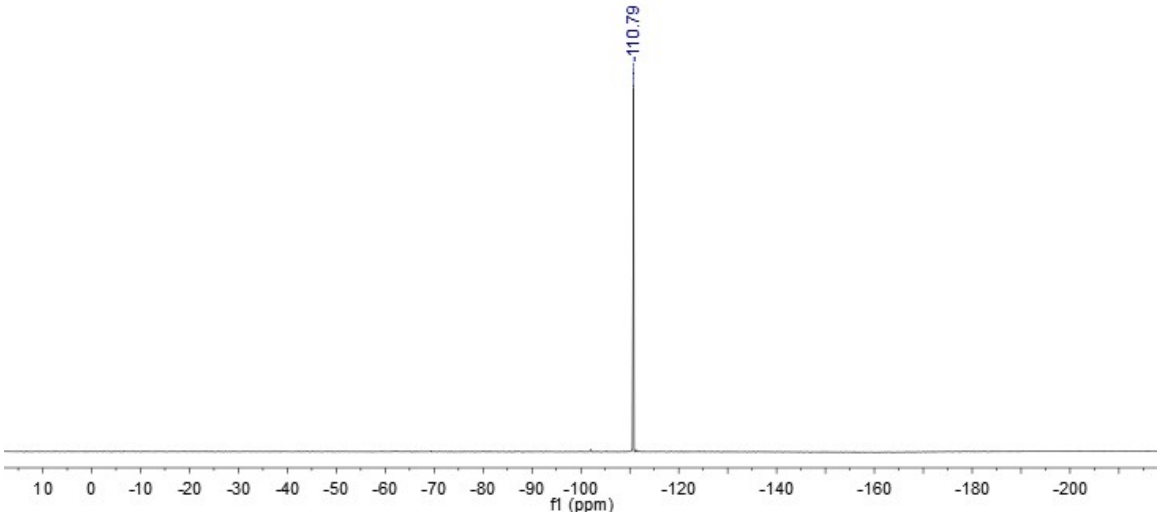




^{19}F-NMR spectrum of 4hb





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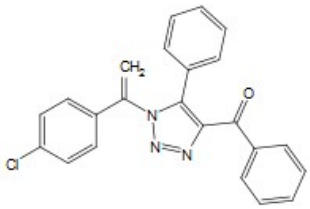
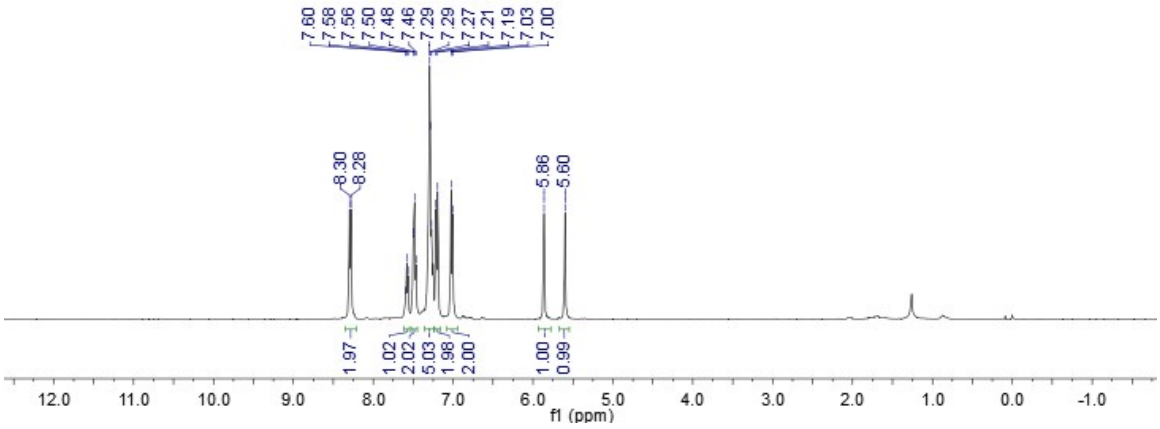
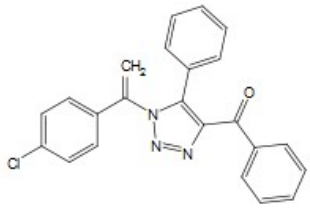
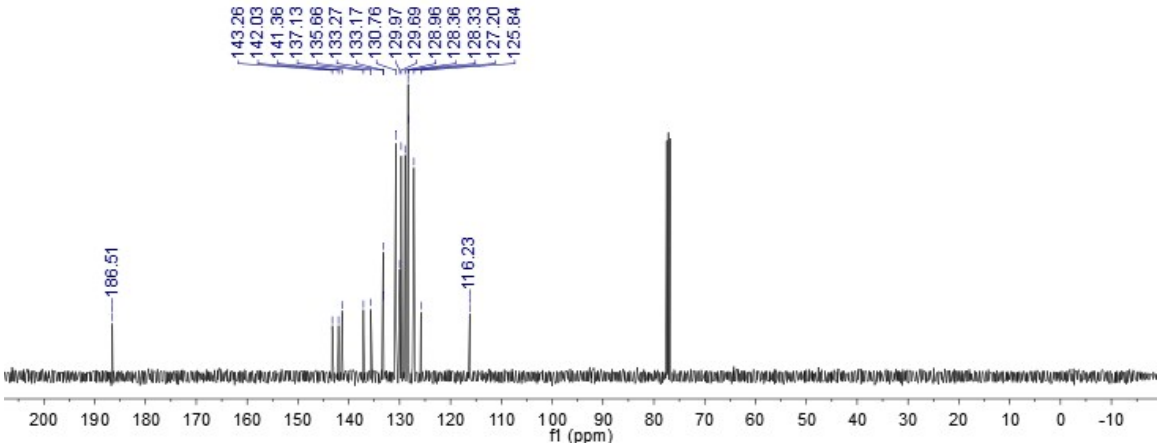




^{13}C-NMR spectrum of 4ib





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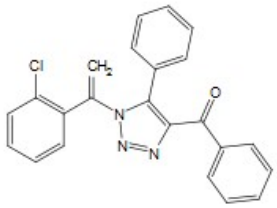

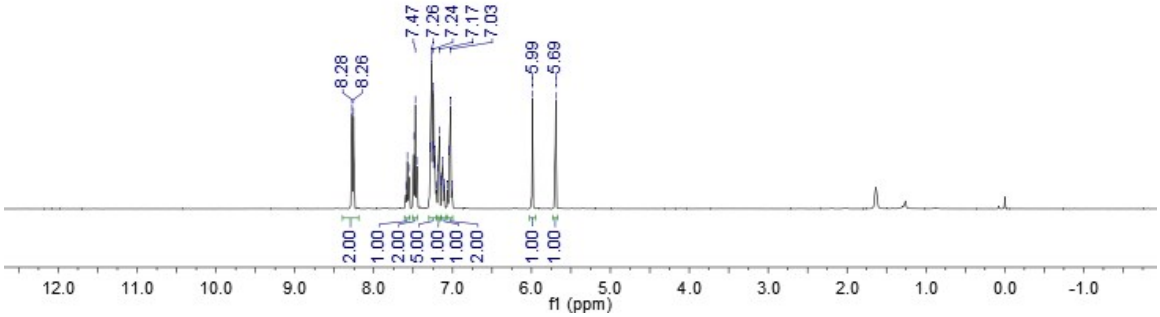

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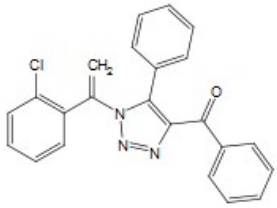
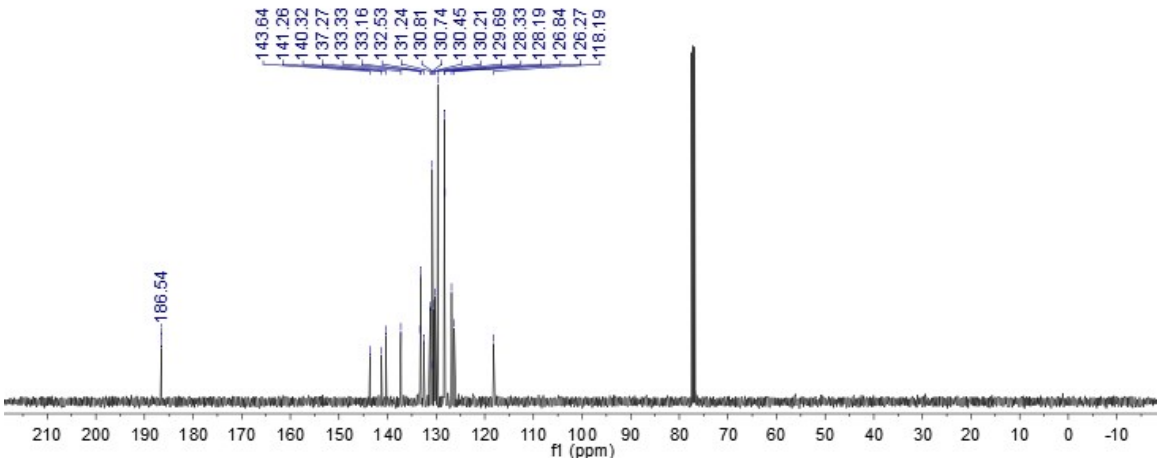
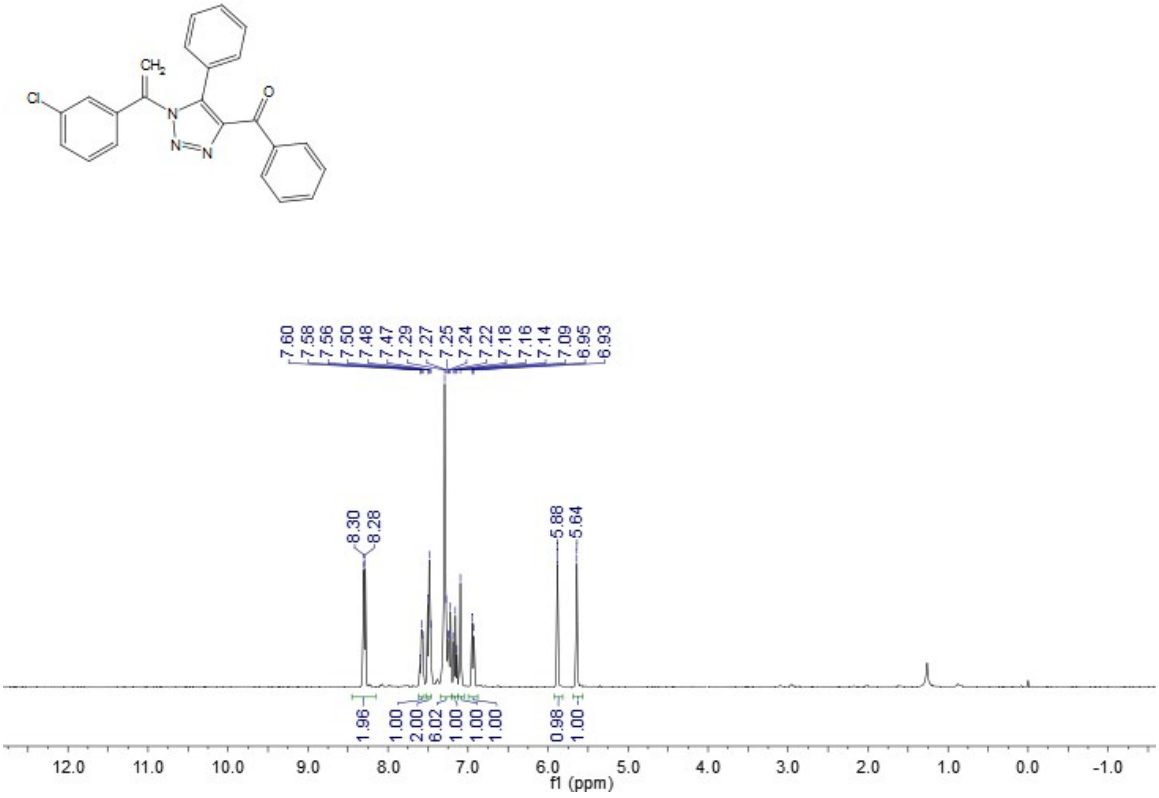
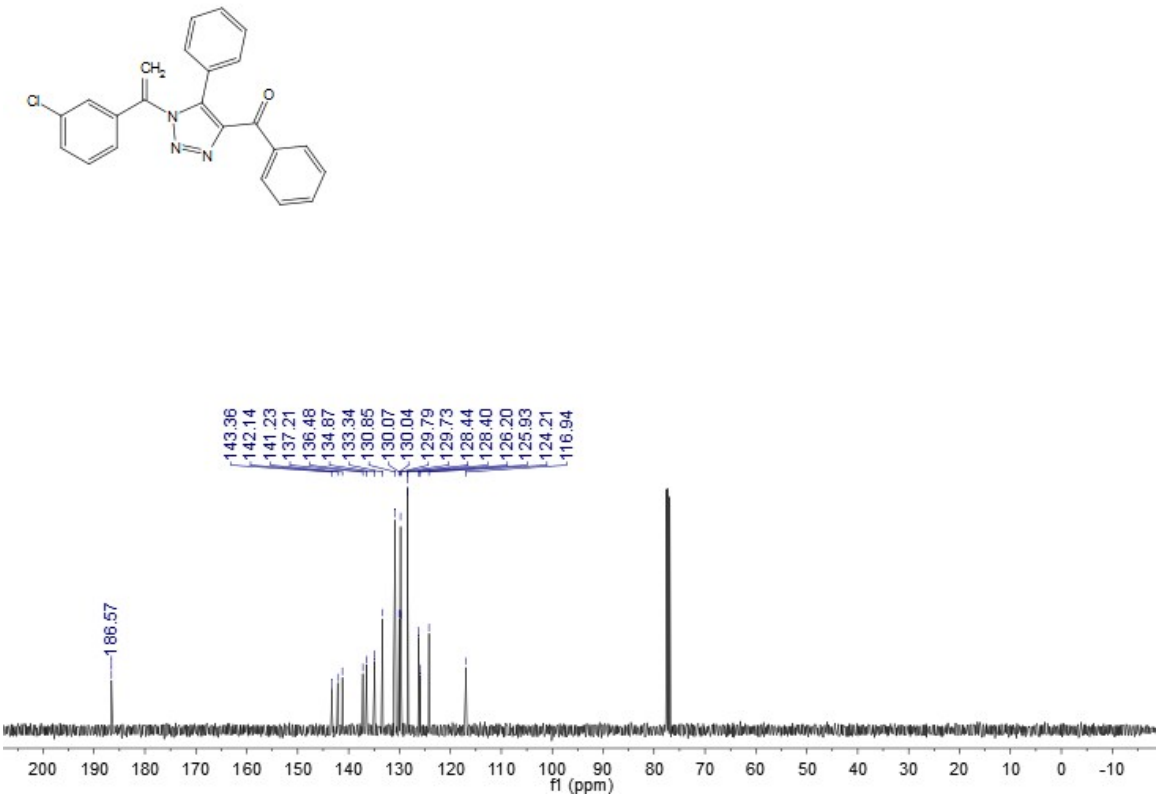




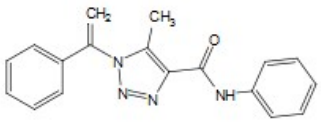
^{1}H-NMR spectrum of 4kb

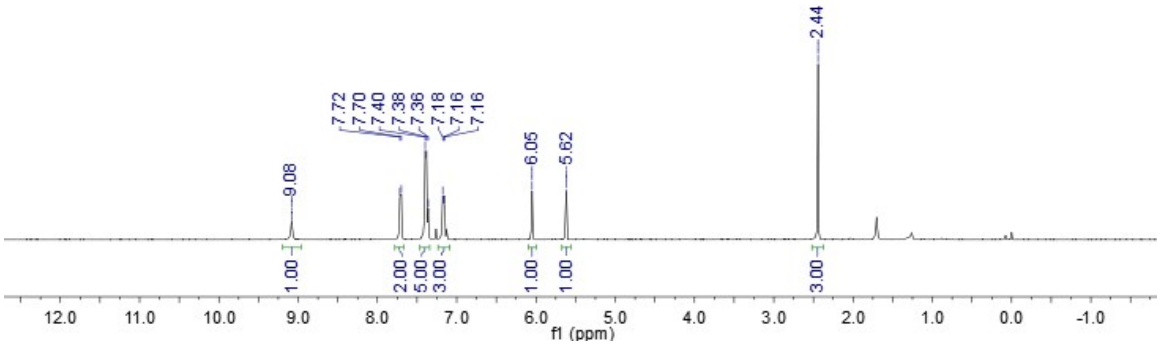


^{13}C-NMR spectrum of 4kb

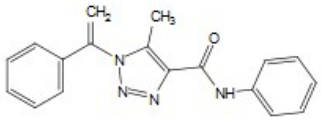


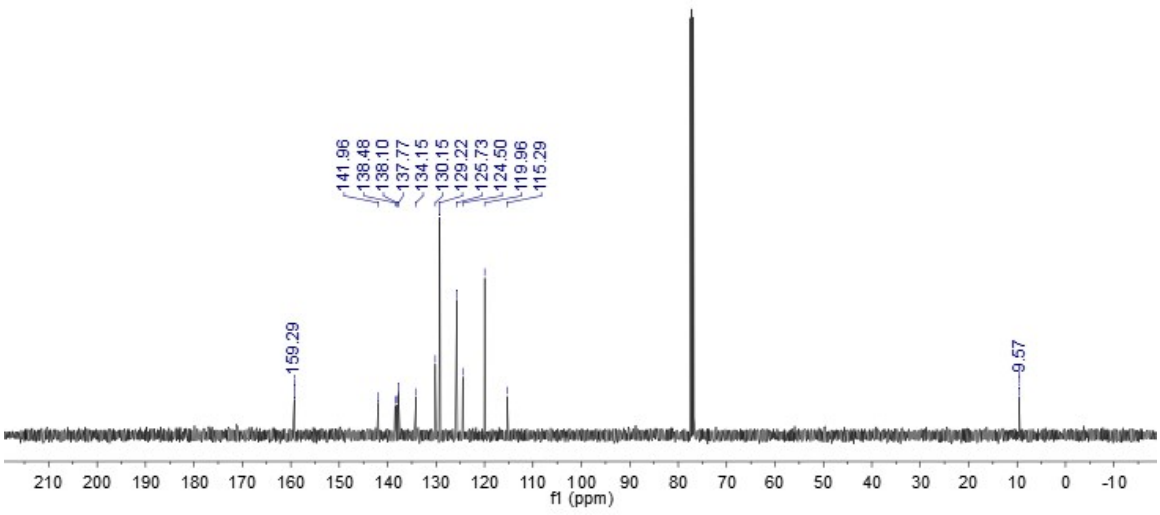
^{1}H-NMR spectrum of 4ac



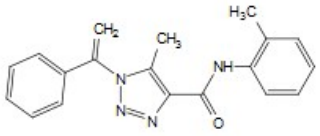


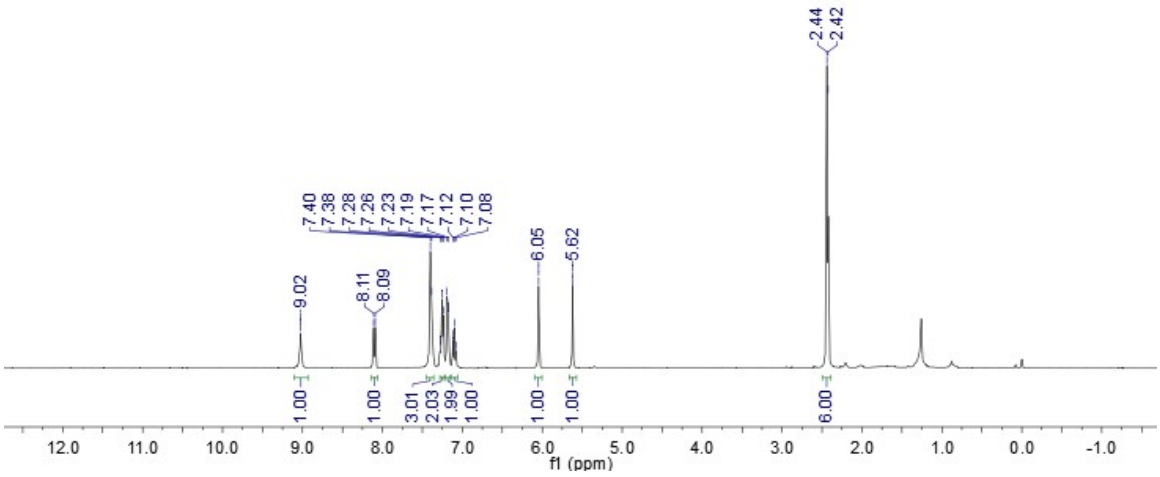
^{13}C-NMR spectrum of 4ac



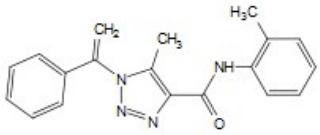


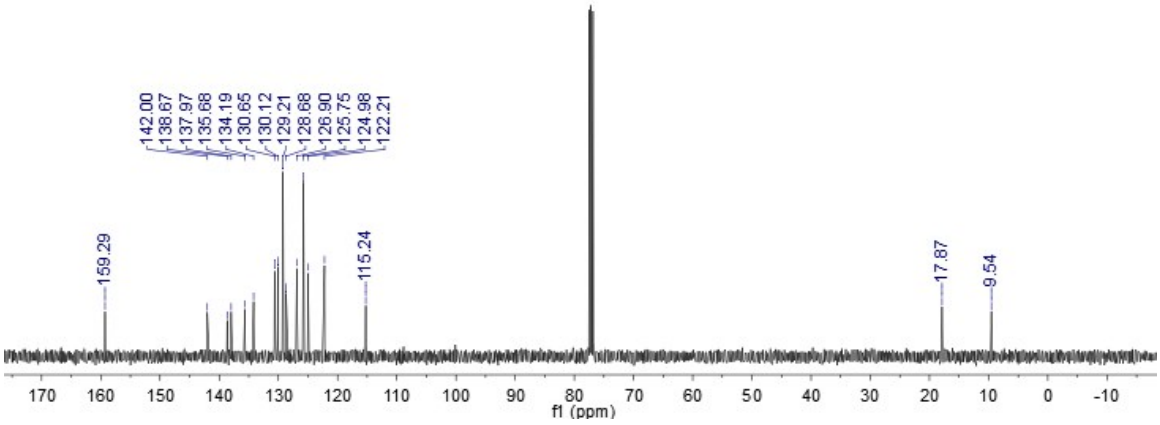
^{1}H-NMR spectrum of 4ad



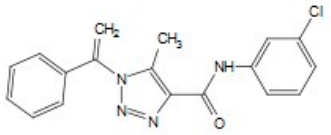


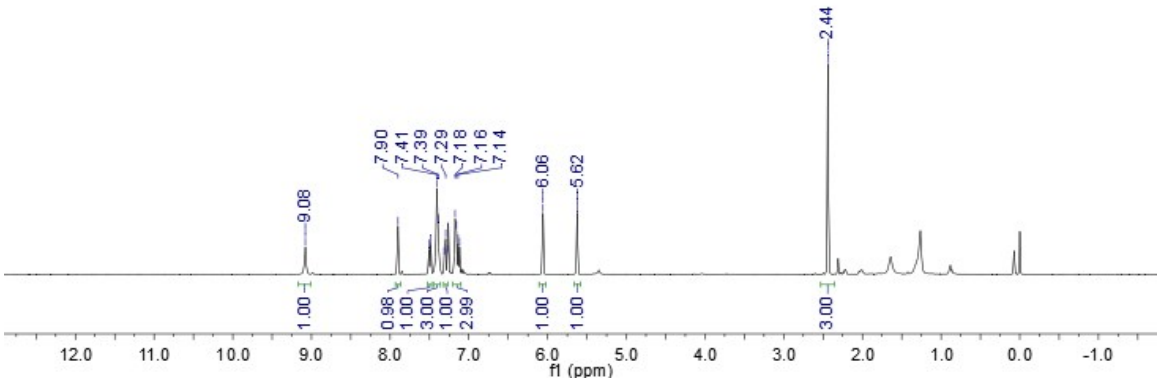
^{13}C-NMR spectrum of 4ad



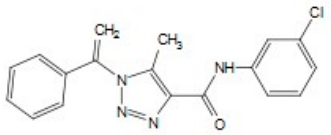


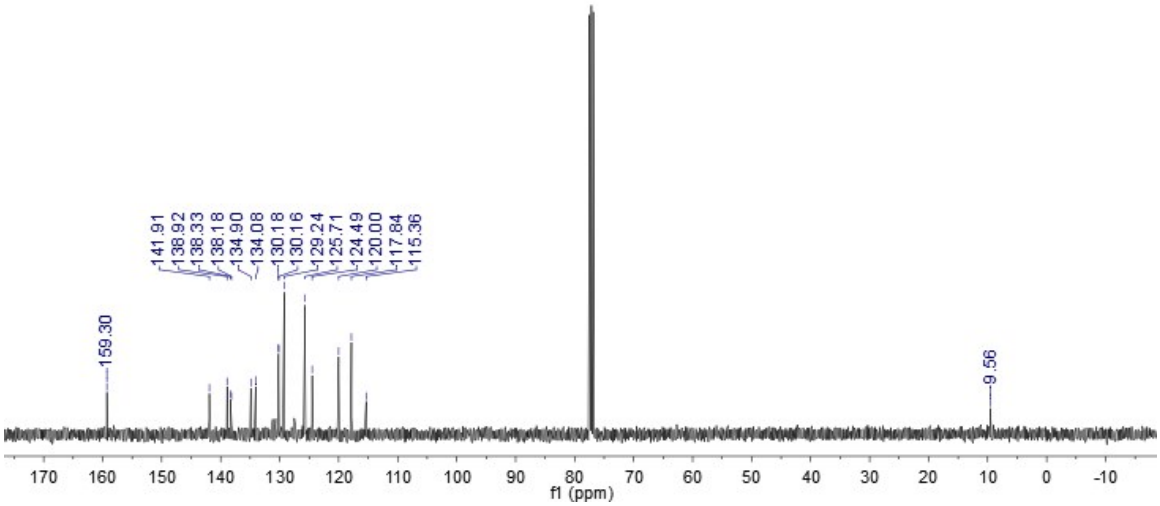
^{1}H-NMR spectrum of 4ae



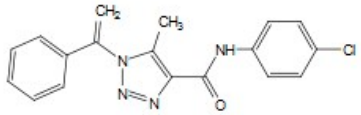


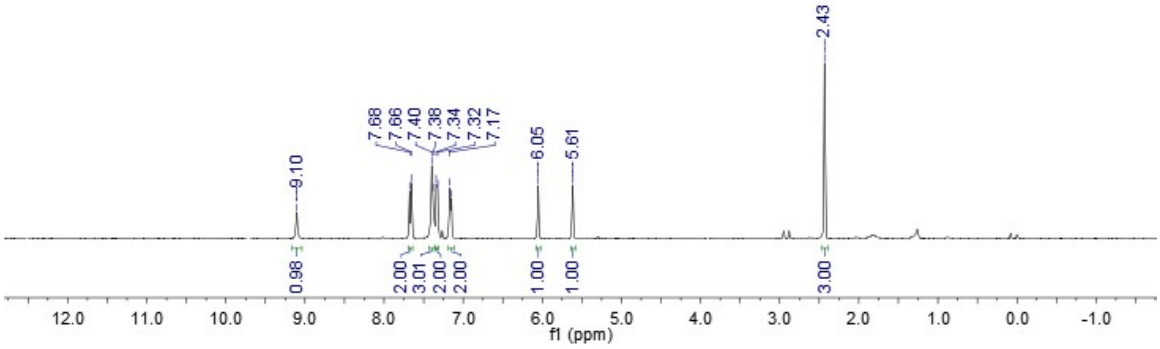
^{13}C-NMR spectrum of 4ae



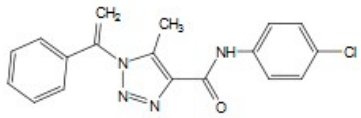


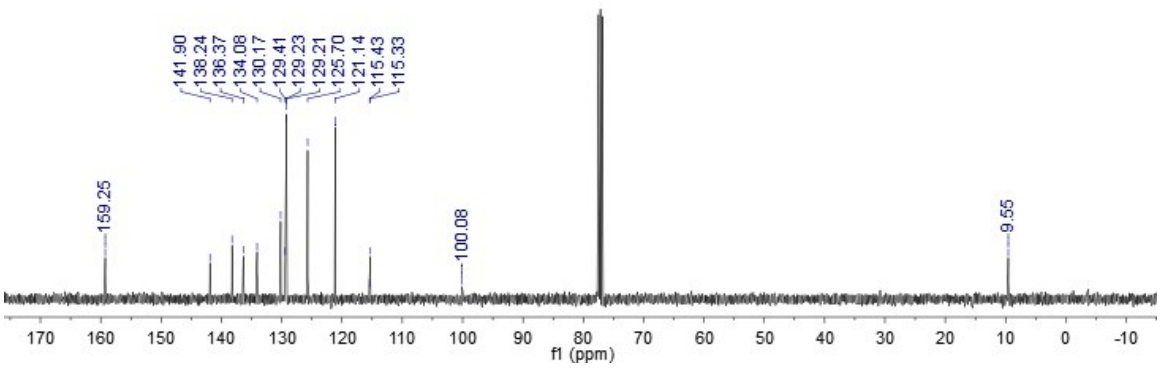
^{1}H-NMR spectrum of 4af



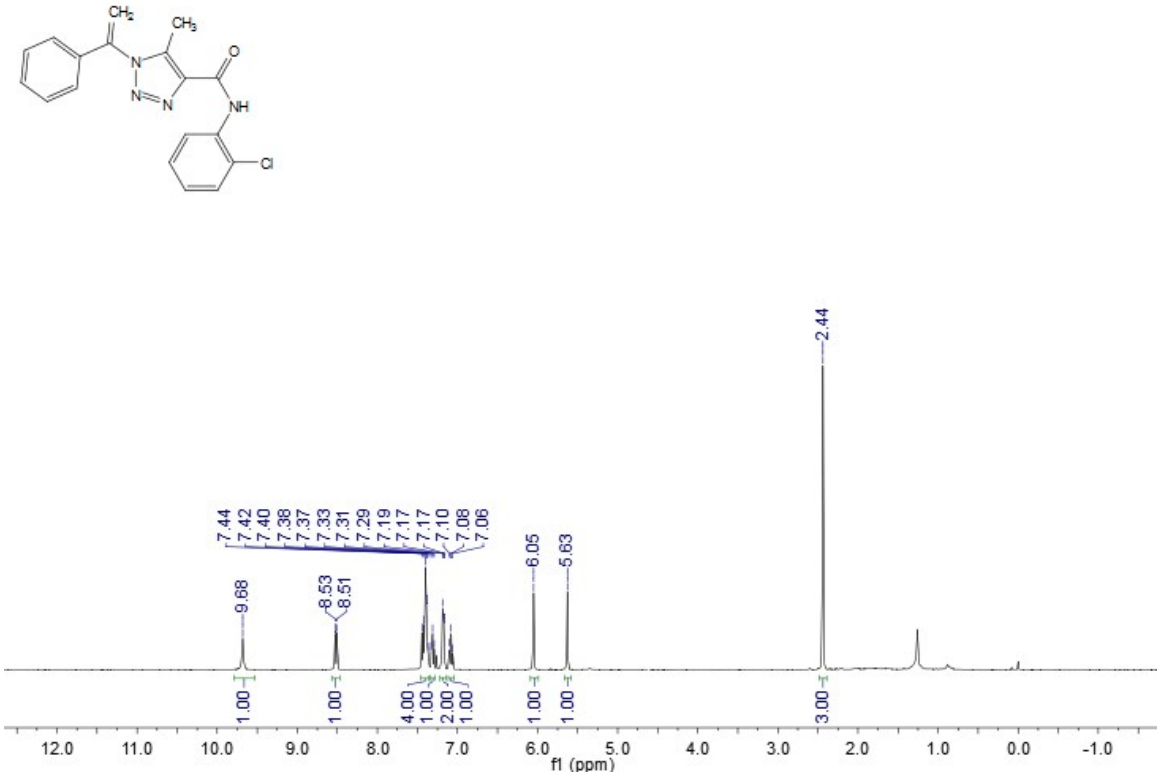


^{13}C-NMR spectrum of 4af

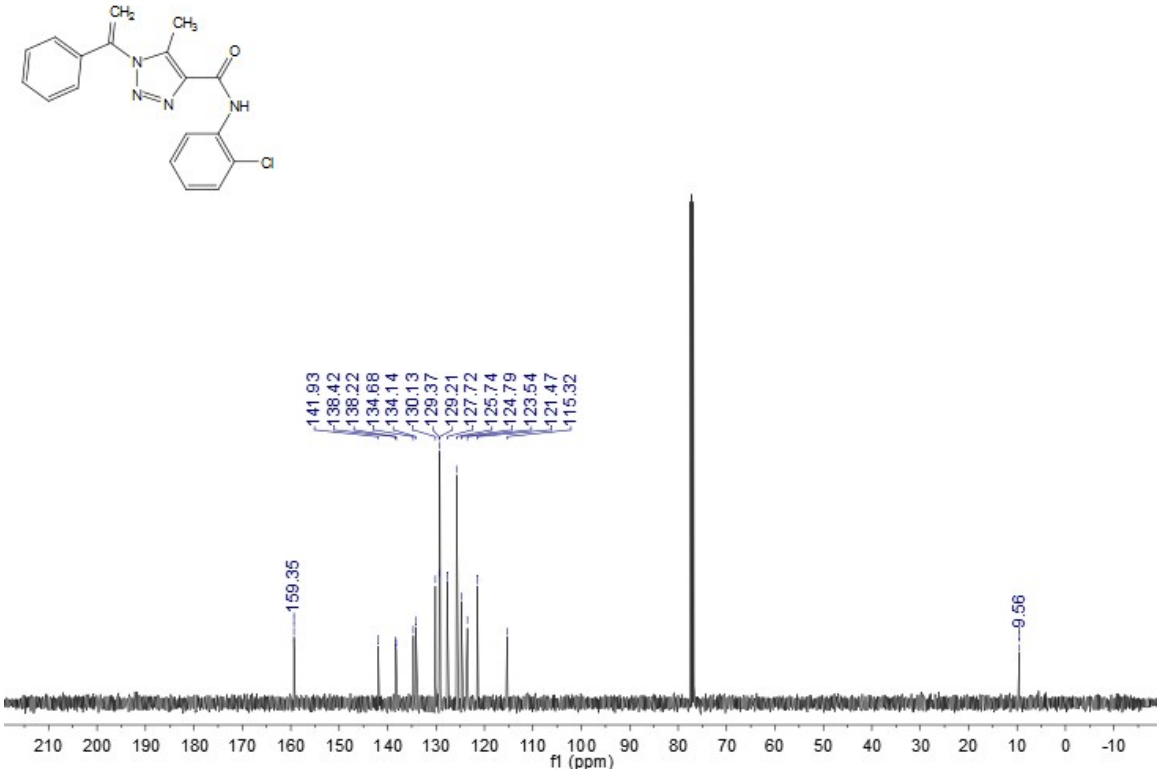




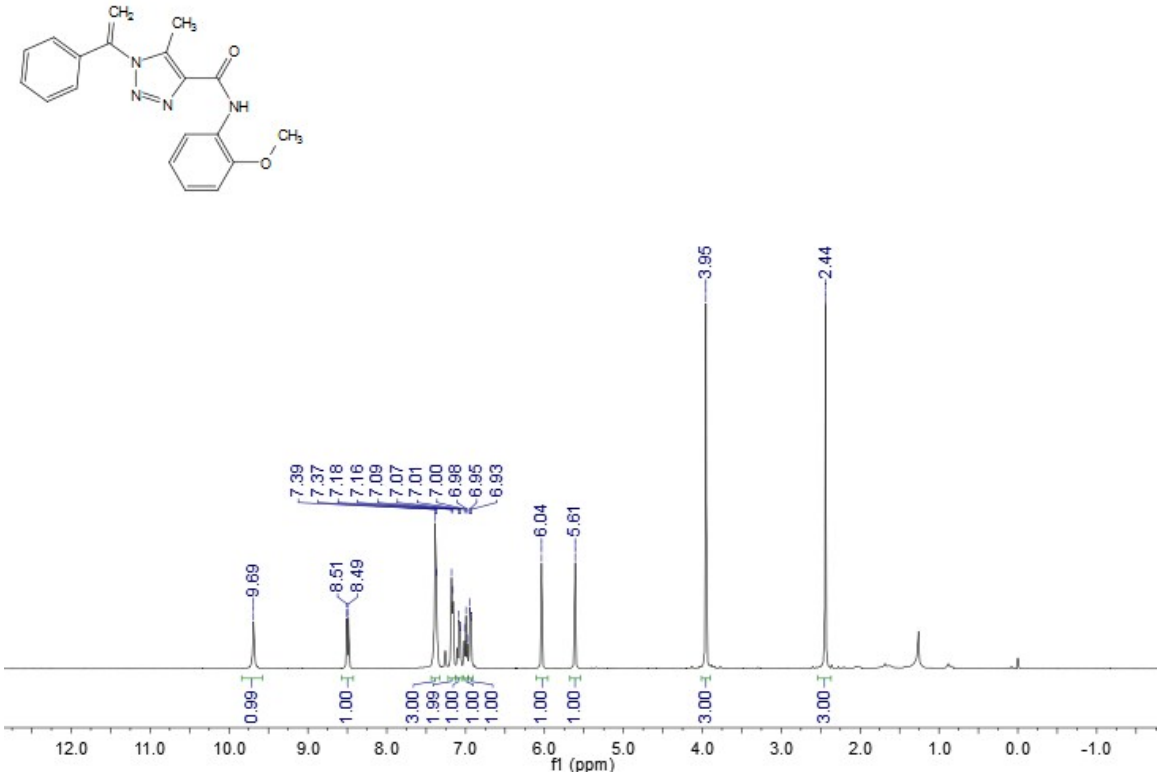
^{1}H-NMR spectrum of 4ag



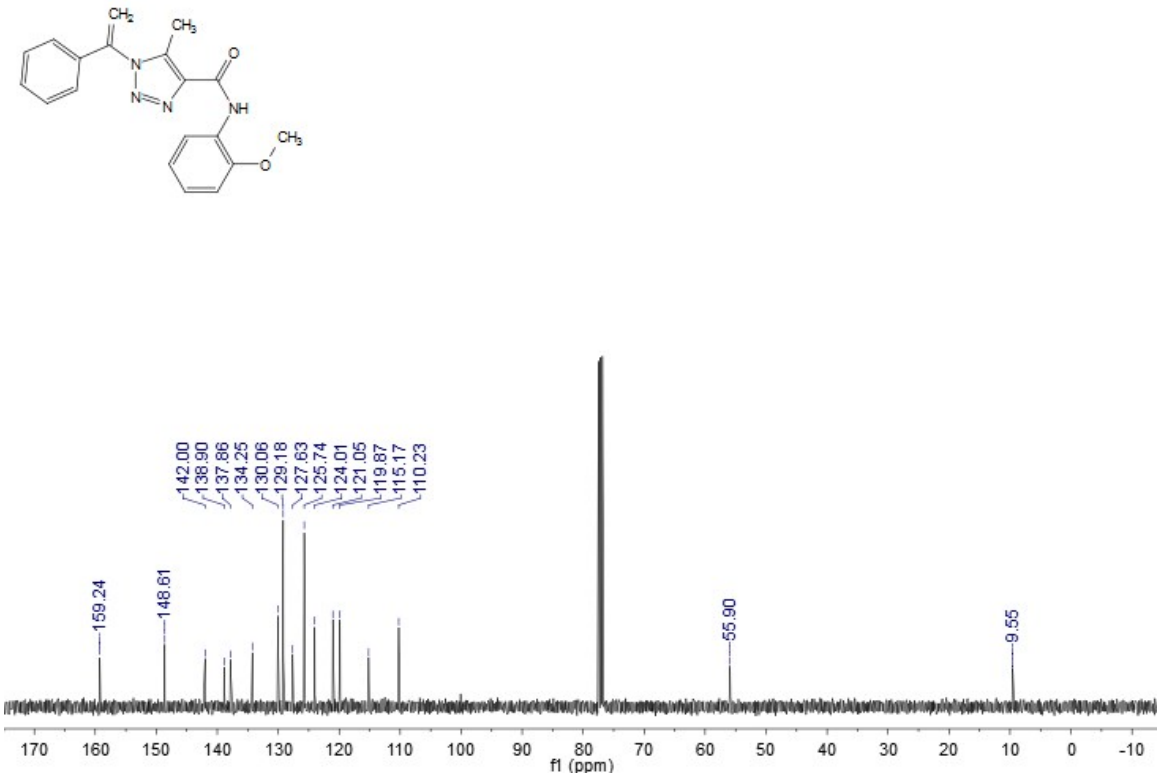
^{13}C-NMR spectrum of 4ag



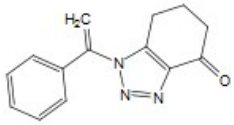
^{1}H-NMR spectrum of 4ah

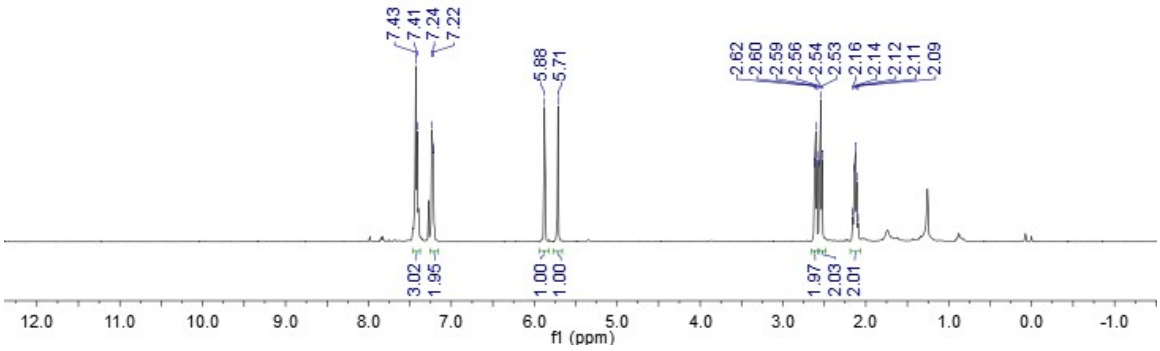


^{13}C-NMR spectrum of 4ah

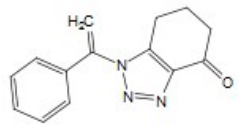


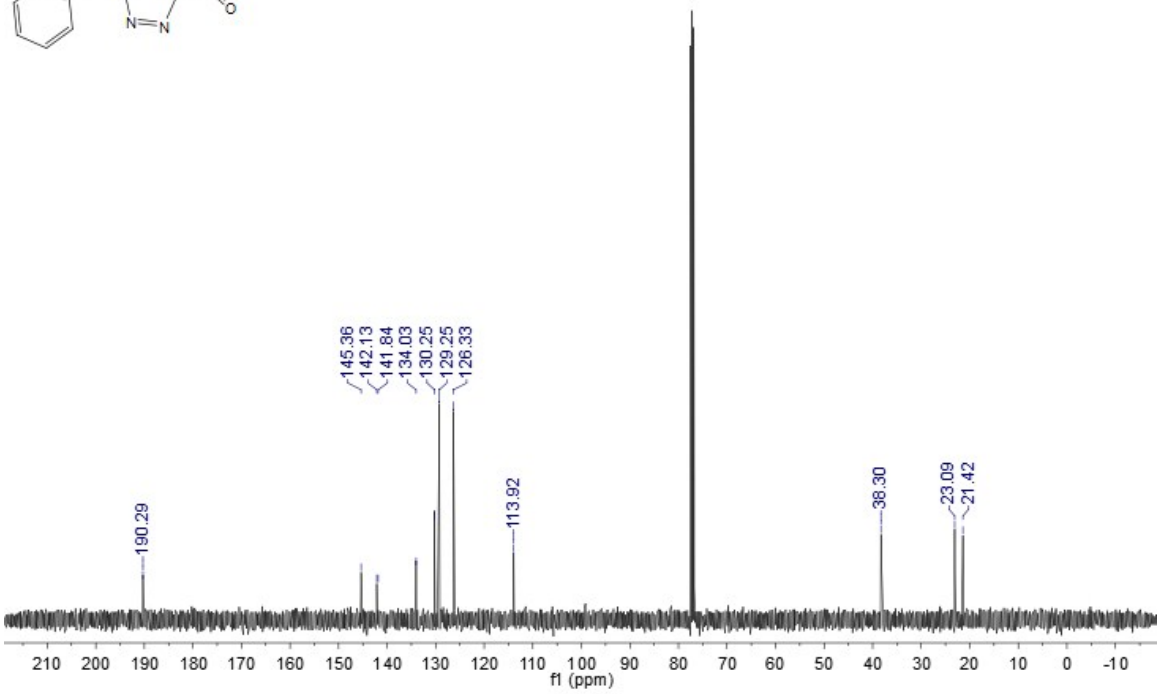
^{1}H-NMR spectrum of 4ai



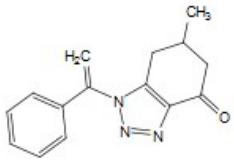


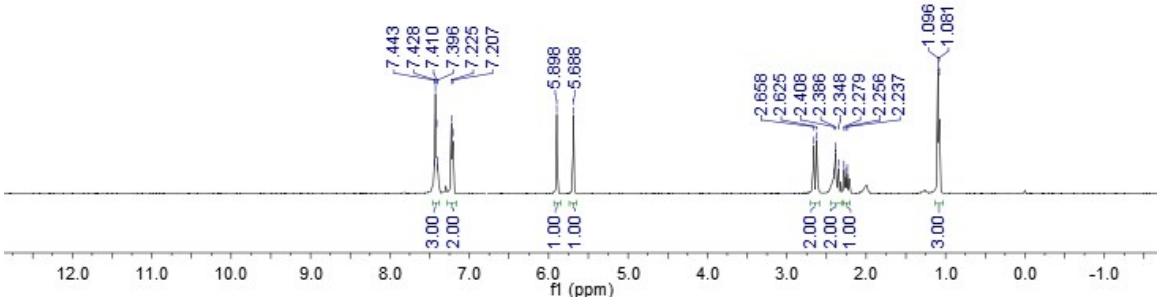
^{13}C-NMR spectrum of 4ai



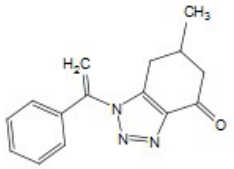


[1]H-NMR spectrum of 4aj

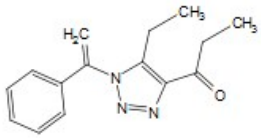


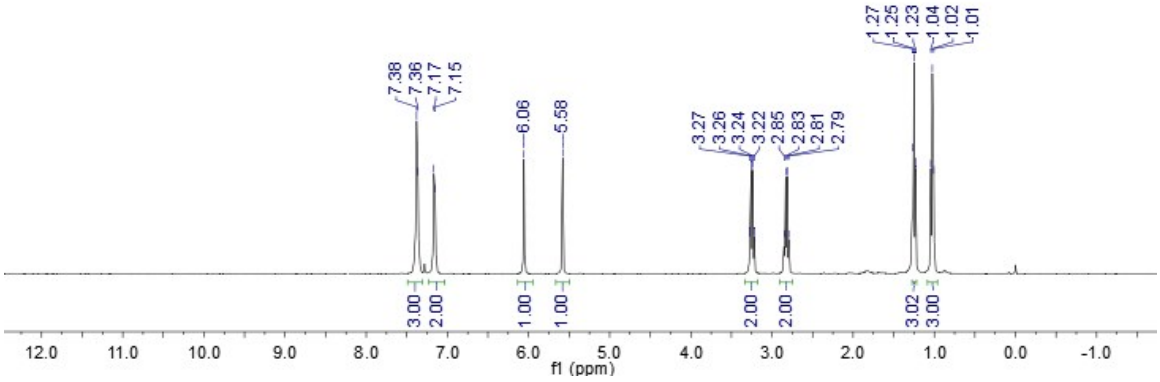


[13]C-NMR spectrum of 4aj

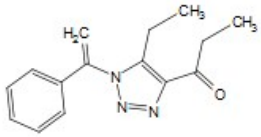


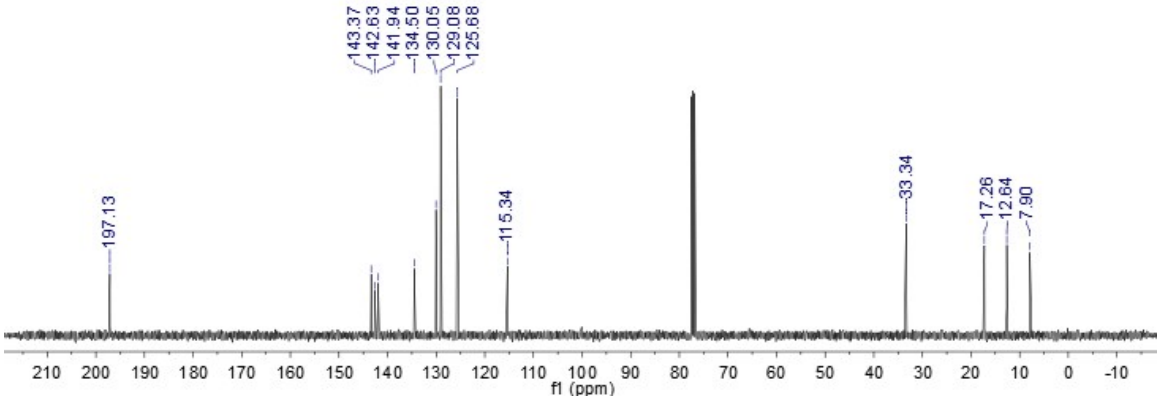
[1]H-NMR spectrum of 4ak



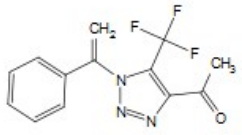


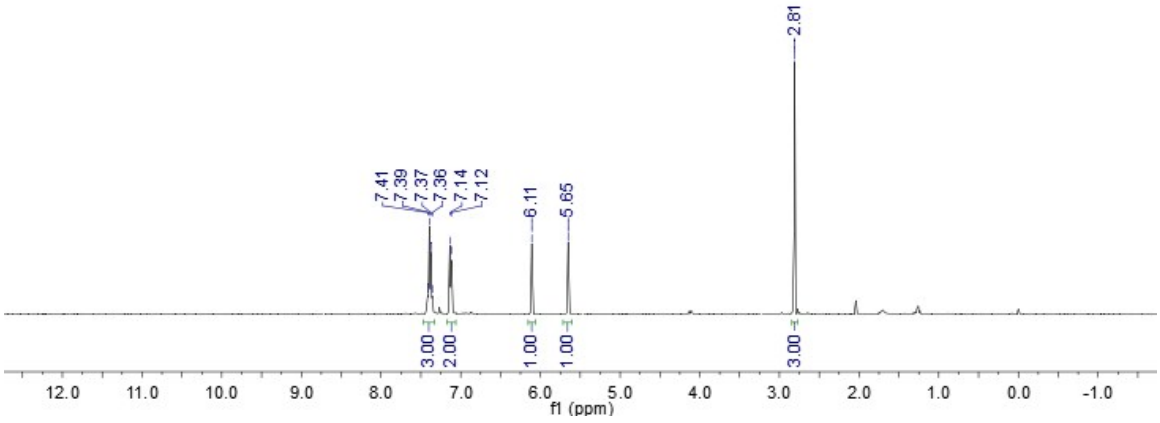
[13]C-NMR spectrum of 4ak



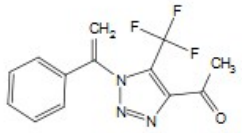


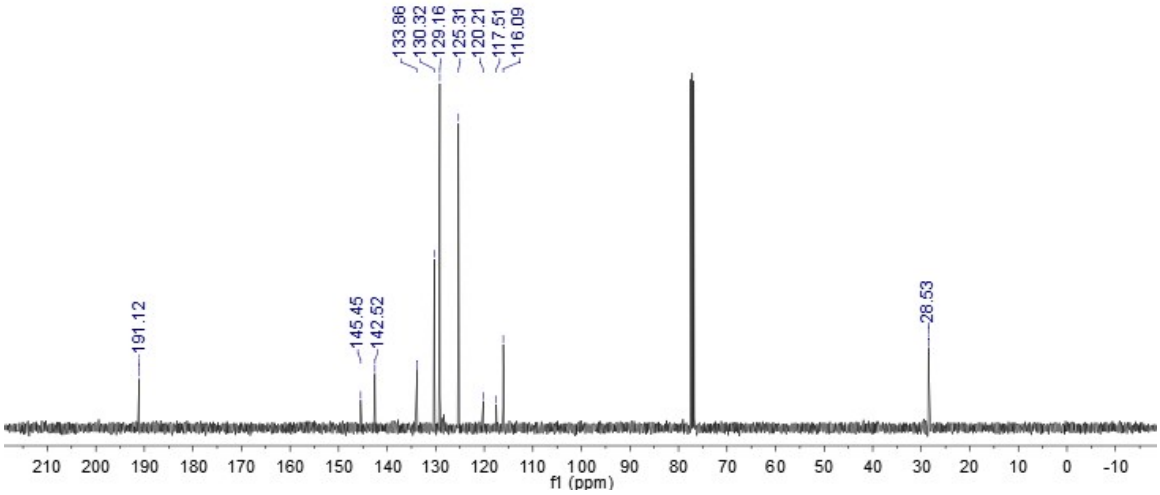
^{1}H-NMR spectrum of 4al





^{13}C-NMR spectrum of 4al





^{19}F-NMR spectrum of 4al