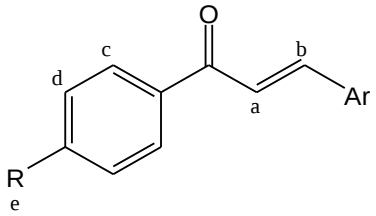
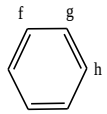
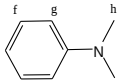
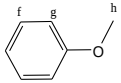
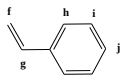
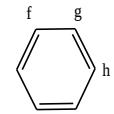
Tables 2.5: [1]HNMR Spectral data of the prepared compounds

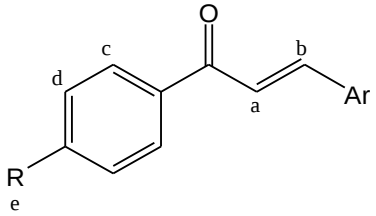
Table 2.5.1: [1]HNMR Spectral data 1-aryl-3-phenyl-2propen-1-ones



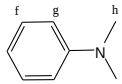
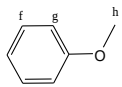
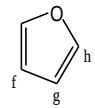
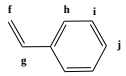
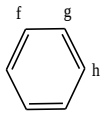
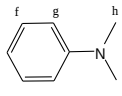
(f,g,h,i,j)

Num-ber	R	Ar	Chemical shift (intensity, multiplicity, J constant Hz)									
			a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**
I	H		7.56 (1H, d, J = 15.7 H_z)	7.84 (1H, d, J = 15.7 Hz)	8.04 (2H, d, J = 7.1 Hz)	7.66 (2H, dd, J = 4.3 & 7.7 Hz)	7.60 (1H, t, J = 7.4 Hz)	7.44 (2H, not resolved) overlapped with h	7.53 (2H, t, J = 7.4 Hz)	7.44 (1H, m, not resolved) overlapped with f	-	-
II	H		7.36 (1H, d, J = 15.4 Hz)	7.82 (1H, d, J = 15.4 Hz)	8.03 (2H, d, J = 8.3 Hz)	7.51 (2H, t, J = 7.7 Hz)	7.56 (1H, m, not resolved) overlapped with e	7.56 (2H, m, not resolved) overlapped with f	6.71 (2H, d, J = 8.9 Hz)	3.05 (6H, s)	-	-
III	H		1H, d, J) 7.51 (= 15.6 Hz	7.80 (1H, d, J = 15.6 Hz)	2H, d, J =) 8.03 (8.08 Hz	7.52 (2H, t, J = 7.7 Hz)	7.56 (1H, t, J = 7.4 Hz)	7.57 (2H, d, J = 8.6 Hz)	6.95 (2H, d, J = 8.7 Hz)	3.85 (3H, s)	-	-
IV	H		7.01 (1H, d, J = 14.9 Hz)	7.53 (1H, dd, J = 14.9, 7.9 Hz)	7.90 (2H, d, J = 8.04 Hz)	7.29 (2H, t, J = 7.65 Hz)	7.49 (1H, t, J = 7.4 Hz)	6.93 (1H, d, J = 13.7 Hz) *	6.97 (1H, d, J = 15.6 Hz)	7.42 (2H, m, not resolved) overlapped with i	7.42 (2H, m, not resolved) overlapped with h	7.24 (1H, d, J = 7.2 Hz)
V	Br		7.50 (1H, d, J=15.7 Hz)	7.83 (1H, d, J=15.7 Hz)	7.90 (2H, d, J= 8.6 Hz)	7.65 (2H, m, not resolved) overlapped with f	-	7.65 (2H, m, not resolved) overlapped with d	7.43 (2H, m, not resolved) overlapped with h	7.43 (1H, m, not resolved) overlapped with g	-	-

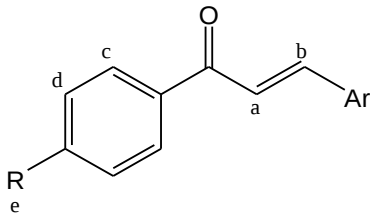
Continued... Table 2.5.1: [1]HNMR Spectral data 1-aryl-3-phenyl-2propen-1-ones



(f,g,h,i,j)

Num-ber	R	Ar	Chemical shift (intensity, multiplicity, J constant Hz)									
			a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**
VI	Br		7.28 (1H, d, J=15.4 Hz)	7.81 (1H, d, J=15.4 Hz)	7.88 (2H, d, J= 8.5 Hz)	7.63 (2H,d, J= 8.5 Hz)	-	7.55 (2H, d, J= 8.8 Hz)	6.70 (2H, d, J= 8.8 Hz)	3.06 (6H, s)	-	-
VII	Br		7.35 (1H, d, J = 15.6 Hz)	7.79 (1H, d, J=15.5 Hz)	7.87 (2H, d, J= 8.5 Hz)	7.61 (2H,d, J = 8.9 Hz)	-	7.59 (2H, d, J = 8.7 Hz)	6.93 (2H, d, J= 8.7 Hz)	3.85 (3H, s)	-	-
VIII	Br		7.41 (1H, d, J= 15.3 Hz)	7.60 (1H, d, J =15.2 Hz)	7.90 (2H, d, J = 8.6 Hz)	7.65 (2H, d, J = 8.5 Hz)	-	6.76 (1H, d, J = 3.4 Hz)	6.54 (1H, dd, J = 3.4 &1.8 Hz)	7.55 (1H,d, J= 1. 5 Hz)	-	-
IX	Br		7.02 (1H, d, J = 15.0 Hz) overlapped with f & g	7.61 (1H, dd, not resolved) overlapped with d	7.86 (2H, d, J = 8.5 Hz)	7.64 (2H, d, J = 8.6 Hz)	-	7.02 (1H, m, not resolved) overlapped with a & g	7.02 (1H, m, not resolved) overlapped with a & f	7.52 (2H, d, J = 8.6 Hz)	7.39 (2H, t, J = 7.6 Hz)	7.35 (1H, t, J = 7.3 Hz)
X	NO_2		7.45 (1H, d, J = 15.7 Hz)	7.85 (1H, d, J = 15.7 Hz)	8.13 (2H, d, J = 8.8 Hz)	8.35 (2H, d, J = 8.8 Hz)	-	7.44 (2H, m, not resolved) overlapped with h	7.66 (2H, dd, J = 5.5 & 2.0 Hz)	7.44 (1H, m, not resolved) overlapped with f	-	-
XI	NO_2		7.24 (1H, d, J = 15.4 Hz)	7.80 (1H, d, J = 15.4 Hz)	8.10 (2H, d, J = 8.8 Hz)	8.32 (2H, d, J = 8.8 Hz)	-	7.54 (2H, d, J = 8.9 Hz)	6.68 (2H, d, J = 8.9 Hz)	2.99 (6H, s)	-	-

Continued... Table 2.5.1: ^{1}HNMR Spectral data 1-aryl-3-phenyl-2propen-1-ones



(f,g,h,i,j)

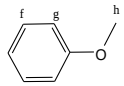
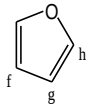
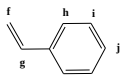
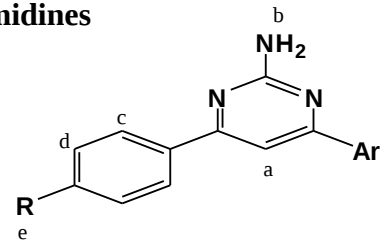
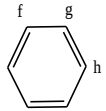
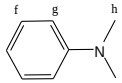
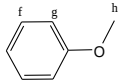
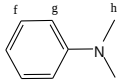
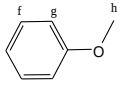
Num-ber	R	Ar	Chemical shift (intensity, multiplicity, J constant Hz)									
			a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**
XII	NO_2		7.37 (1H, d, J = 15.6 Hz)	7.83 (1H, d, J = 15.6 Hz)	8.14 (2H, d, J = 8.8 Hz)	8.35 (2H, d, J = 8.8 Hz)	-	7.64 (2H, d, J = 8.7 Hz)	6.98 (2H, d, J = 8.8 Hz)	3.89 (3H, s)	-	-
XIII	NO_2		7.40 (1H, d, J = 15.3 Hz)	7.63 (1H, d, J = 15.3 Hz)	8.14 (2H, d, J = 8.9 Hz)	8.34 (2H, d, J = 8.9 Hz)	-	7.56 (1H, d, J = 8.9 Hz)	6.54 (1H, dd, J = 3.4 & 1.8 Hz)	6.79 (1H, d, J = 3.4 Hz)	-	-
XIV	NO_2		7.05 (1H, m, not resolved) overlapped with f & h	7.64 (1H, dd, J = 15.0, 8.7 Hz)	8.09 (2H, d, J = 8.8 Hz)	8.34 (2H, d, J = 8.9 Hz)	-	7.05 (1H, m, not resolved) overlapped with a & g	7.05 (1H, m, not resolved) overlapped with a & f	7.51 (2H, d, J = 8.0 Hz)	7.38 (2H, m, not resolved) overlapped with j	7.38 (1H, m, not resolved) overlapped with i

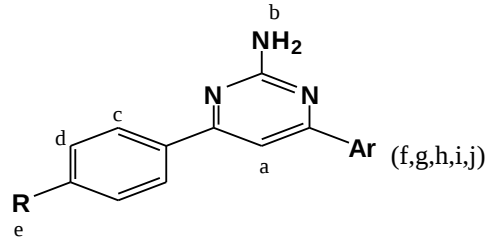
Table 2.5.2: [1]HNMR Spectral data 2-amino- 4-phenyl-6-aryl-pyrimidines



(f,g,h,i,j)

Num-ber	R	Ar	Chemical shift (intensity, multiplicity, J constant Hz)									
			a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**
XV	H		7.50 (1H, m, not resolved) overlapped with e, d, g & h	5.16 (2H, S)	8.05 (2H, m, not resolved) overlapped with f	7.50 (2H, m, not resolved) overlapped with a, e, g & h	7.50 (1H, m, not resolved) overlapped with a, d, g & h	8.05 (2H, m, not resolved) overlapped with c	7.50 (2H, m, not resolved) overlapped with a, e, d & h	7.50 (1H, m, not resolved) overlapped with a, e, d & g	-	-
XVI	H		**7.40 (1H, S)**	**5.07 (2H, S)**	**8.02 (2H, m, not resolved) overlapped with f**	**7.47 (2H, m, not resolved) overlapped with e**	**7.47 (1H, m, not resolved) overlapped with d**	**8.02 (2H, m, not resolved) overlapped with c**	**6.77 (2H, d, J = 9.08)**	**3.05, (6H, S)**	-	-
XVII	H		**7.42 (1H, S)**	**5.17 (2H, s)**	**8.28 (2H, m, not resolved) overlapped with f**	**7.01 (2H, d, j = 8.9)**	**6.53 (1H, m, not resolved) overlapped with g**	**8.28 (2H, m, not resolved) overlapped with c**	**6.53 (2H, m, not resolved) overlapped with e**	**3.87 (3H, s)**	-	-
XVIII	Br		**7.36 (1H,S)**	**5.10 (2H, s)**	**7.92 (2H, d, j = 8.4 Hz)**	**8.00 (2H, d, j = 8.4 Hz)**	-	**7.61 (2H, d ,j = 8.4 Hz)**	**6.76 (2H, d, j = 8.4Hz)**	**3.06 (6H, s)**	-	-
XIX	Br		**7.46 (1H, s)**	**5.17 (2H, s)**	**8.22 (2H ,d, j = 9.1Hz)**	**8.34 (2H ,d, j = 9.1Hz)**	-	**8.06 (2H, d, j = 8.9)**	**7.02 (2H, d, j = 8.9Hz)**	**3.89 (3H, s)**		

Continued... Table 2.5.2: ^{1}HNMR Spectral data 2-amino- 4-phenyl-6-aryl-pyrimidines



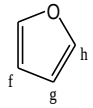
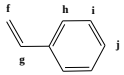
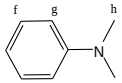
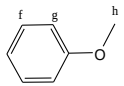
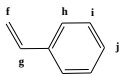
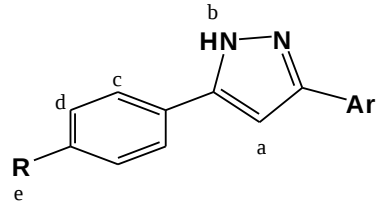
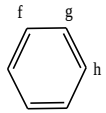
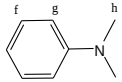
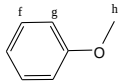
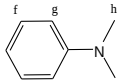
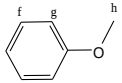
Num-ber	R	Ar	Chemical shift (intensity, multiplicity, J constant Hz)									
			a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**
XX	Br		7.38 (1H, s)	5.11 (2H, s)	7.59 (2H, m, not resolved) overlapped with h	7.94 (2H,d, j = 8.5 Hz)	-	7.19 (1H, d, j = 3.4)	1H, dd, j =) 6.57 (1.7 and 3.4 Hz	7.59 (1H, m, not resolved) overlapped with c	-	-
XXI	Br		7.08 (1H, S)	5.08 (2H, s)	7.61 (2H, d, j = 8.5 Hz)	7.92 (2H, d, j = 8.5 Hz)	-	7.00 (1H, d, j = 16.0 Hz)	7.81 (1H, d, j = 16.0 Hz)	7.59 (2H, d, j = 6.5 Hz)	7.39 (2H, m, not resolved) overlapped with j	7.39 (1H, m, not resolved) overlapped with i
XXII	NO_2		7.43 (1H, s)	5.10 (2H, s)	8.22 (2H, d, j = 9.0 Hz)	8.33 (2H, d, j = 9.0 Hz)	-	8.02 (2H, d, j = 9.1 Hz)	6.76 (2H, d, j = 9.1 Hz)	3.06 (6H, s)	-	-
XXIII	NO_2		7.45 (1H, s)	5.19 (2H, s)	8.22 ,2H, d, j = 8.9 Hz)	8.33 (2H, d, j = 8.9 Hz)	-	8.06 (2H, d, j = 8.9 Hz)	7.01 (2H,d, 8.9 Hz)	3.89 (3H, s)	-	-
XXIV	NO_2		7.15 (1H, s)	5.15 (2H, s)	8.21 (2H, d, j = 8.8 Hz)	8.34 (2H, d, j = 8.9 Hz)	-	7.03 (1H,d, j = 16.0 Hz)	7.85 (1H, d, 16.0 Hz)	7.60 (2H, d, j = 6.9 Hz)	7.37 (2H, m, not resolved) overlapped with j	7.37 (1H, m, not resolved) overlapped with i

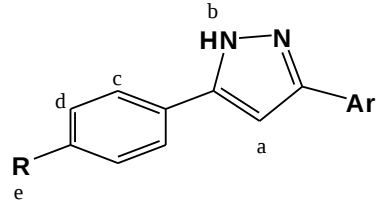
Table 2.5.3: ^{1}HNMR Spectral data of 3-aryl-5-phenyl-pyrazole



(f,g,h,i,j)

Num-ber	R	Ar	Chemical shift (intensity, multiplicity, J constant Hz)									
			a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**
XXV	H		7.34 (1H, m, not resolved) overlapped with d, e, g & h	6.83 (1H, s)	7.73 (2H, m, not resolved) overlapped with f	7.34 (2H, m, not resolved) overlapped with a, e,g & h	7.34 (1H, m, not resolved) overlapped with a, d,g & h	7.73 (2H, m, not resolved) overlapped with c	7.34 (2H, m, not resolved) overlapped with a, e, d & h	7.34 (1H, m, not resolved) overlapped with a, e, d & g	-	-
XXVI	H		7.42 (1H, overlapped with d)	6.73 (1H, s)	7.77 (2H, d, j = 7.5 Hz)	7.42 (2H, dd, j = 7.1 & 7.5 Hz)	7.33 (1H, t, j = 7.1 Hz)	7.55 (2H, d, j = 8.9 Hz)	6.77 (2H, d, j = 8.9 Hz)	3.00 (6H, s)	-	-
XXVII	H		7.33 (1H, m, not resolved) overlapped with d & e	6.73 (1H, s)	7.71 (2H, d, j = 6.8 Hz)	7.33 (2H, m, not resolved) overlapped with a & e	7.33 (1H, m, not resolved) overlapped with a & d	7.62 (2H, d, j = 8.7 Hz)	6.89 (2H, d, j = 8.8 Hz)	3.81 (3H, s)	-	-
XXVIII	Br		7.54 (1H, s)	6.70 (1H, s)	7.53 (2H, d, j = 8.7 Hz)	7.68 (2H, d, j = 8.5 Hz)	-	7.49 (2H, d, j = 8.9 Hz)	6.76 (2H, d, j = 8.9 Hz)	3.01 (6H, s)	-	-
XXIX	Br		7.57 (1H, m, not resolved) overlapped with c & d	6.69 (1H, s)	7.57 (2H, m, not resolved) overlapped with a & d	7.57 (2H, m, not resolved) overlapped with a & c	-	7.48 (2H, d, j = 8.4 Hz)	6.89 (2H, d, j = 8.6 Hz)	3.83 (3H, s)	-	-

Continued... Table 2.5.3: [1]HNMR Spectral data of 3-aryl-5-phenyl-pyrazole



(f,g,h,i,j)

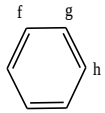
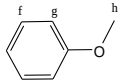
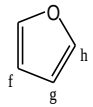
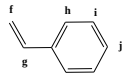
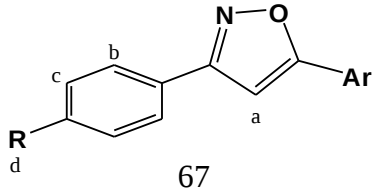
Num-ber	R	Ar	Chemical shift (intensity, multiplicity, J constant Hz)									
			a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**	**j**
XXX	NO_2		7.47 (1H, m, not resolved) overlapped with g & h	6.95 (1H, s)	7.99 (2H, d, j = 8.9 Hz)	8.30 (2H, d, j = 9.0 Hz)	-	7.64 (2H, d, j = 7.7 Hz)	7.47 (2H, m, not resolved) overlapped with a & h	7.47 (1H, m, not resolved) overlapped with a & g	-	-
XXXI	NO_2		7.25 (1H, s)	6.84 (1H, s)	7.95 (2H, d, j = 8.85 Hz)	8.26 (2H, d, j = 8.85 Hz)	-	7.55 (2H, d, j = 8.9 Hz)	6.96 (2H, d, j = 8.9 Hz)	3.85 (3H, s)	-	-
XXXII	NO_2		7.51 (1H, s)	6.88 (1H, s)	7.89 (2H, d, j = 8.8 Hz)	8.3 (2H, d, j = 8.9 Hz)	-	6.69 (1H, d, j = 4.9 Hz)	6.54 (1H, dd, J = 1.9 & 4.7 Hz)	7.26 (1H, overlapped with solvent peak)	-	-
XXXIII	NO_2		7.37 (1H, m, not resolved) overlapped with i & j	6.85 (1H, s)	7.97 (2H, d, j = 7.9 Hz)	8.29 (2H, d, j = 7.7 Hz)	-	7.11 (1H, d, j = 16.4 Hz)	6.99 (1H, d, j = 16.0 Hz)	7.50 (2H, d, j = 7.9 Hz)	7.37 (2H, m, not resolved) overlapped with a & j	7.37 (1H, m, not resolved) overlapped with a & i

Table 2.5.4: [1]HNMR Spectral data of isolated and purified isoxazoles



(f,g,h,i,j)

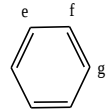
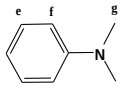
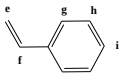
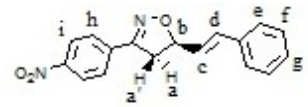
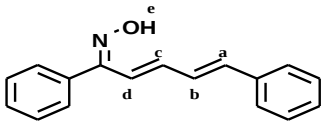
Num-ber	R	Ar	Chemical shift (intensity, multiplicity, J constant Hz)								
			a	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**
XXXIV	H		6.84 (1H, s)	7.84 (2H, d, J = 7.5 Hz)	7.84 (2H, not resolved) overlapped with d, f & g	7.84 (1H, not resolved) overlapped with c, f, & g	7.88 (2H, d, J = 7.5 Hz)	7.84 (2H, not resolved) overlapped with c, d, & g	7.84 (2H, not resolved) overlapped with c, d & f	-	-
XLIV	NO_2		7.24 (1H, overlapped with solvent peak)	7.86 (2H, d, J = 8.7 Hz)	8.27 (2H, d, J = 8.7 Hz)	-	7.24 (2H, overlapped with solvent peak)	6.72 (2H, d, J = 8.7 Hz)	2.96 (6H, s)	-	-
XLVII-a	NO_2		7.33 (1H, m, not resolved) overlapped with h & i	7.67 (2H, d, J = 8.5 Hz)	8.29 (2H, d, J = 8.3 Hz)	-	6.69 (1H, d, J =15.6 Hz)	7.16 (1H, d, J =16.0 Hz)	7.42 (2H, d, J = 7.4 Hz)	7.33 (2H, m, not resolved) overlapped with a & i	7.33 (1H, m, not resolved) overlapped with a & h

Table 2.5.5: [1]HNMR Spectral data of the prepared and isolated isoxazole intermediate



XXXVII-b



XLVII-b*

Number	Chemical shift (intensity, multiplicity, J constant Hz)									
	'a	a	b	c	d	e	f	g	h	i
XLVII-b	-	7.19 (1H, d, J = 15.6 Hz)	0.5H, dd, J) 6.61 = 10.7 & 15.6 (Hz	H, dd, J 0.7) 6.98 = 10.7 & 15.5 (Hz	0.5H, d, J =) 6.66 (15.5 Hz	-	-	-	-	-
XXXVII-b	3.24 (1H, dd, J = 8.7 &16.6 Hz)	3.60 (1H, dd, J = 10.7 & 16.6 Hz)	5.44 (1H, m)	6.28 (1H, dd, J = 7.54 & 15.8 Hz)	6.74 (1H, d, J = 15.8 Hz)	7.41 (2H, d, J = 7.91 Hz)	7.33 (2H, m, not resolved) overlapped with g)	7.33 (2H, m, not resolved) overlapped with f)	7.85 (2H, d, J = 9.0 Hz)	8.28 (2H, d, J = 9.0 Hz)

* Full characterization in discussion section