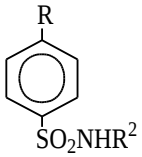
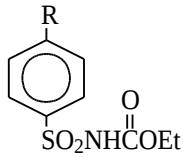
Table 2-2a: Reaction condition for the preparation sulphonamide& sulphonyl hydrazide (Intermediate)



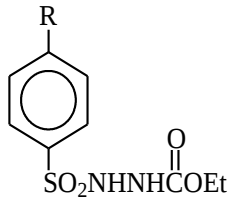
Comp No	Substituent		Reaction			Molar ratio of reactant	Yield Percentage	Crystallizing Solvent	Melting Point ^{0}C
	R_1	R_2	Time	Temp. ^{0}C	Solvent				
I	H	H	30 min.	R.T	-	1 :2	80%	Water	156-158
II	Br	H	40 min.	R.T	-	1 : 2	82%	Water	163-164
III	CH_3	H	35 min.	R.T	-	1 : 2	75%	Water	152-155
IV	$NHCOCH_3$	H	35 min.	R.T	-	1 : 2	63%	Water	218-219
XXI	H	NH_2	2hours	R.T	Water	1 : 4	57%	Dil.ethanol	180-182
XXII	Br	NH_2	2hours	R.T	Water	1 : 4	73%	Dil.ethanol	174-176
XXIII	CH_3	NH_2	2hours	R.T	Water	1 : 4	68%	Dil.ethanol	159-162

Table 2-2b: Reaction condition for the preparation carbamates (Intermediate)



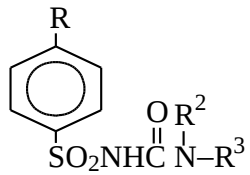
Comp No	R	Reaction			Molar ratio of reactant	Yield Percentage	Crystallizing Solvent	Melting Point ^{0}C
		Time	Temp. ^{0}C	Solvent				
V	H	21 hour	55-56	Acetone	1 : 1.5	70%	Water	109-110
VI	Br	21 hour	55-56	Acetone	1 : 1.5	66%	Water	135-138
VII	CH_3	21 hour	55-56	Acetone	1 : 1.5	72%	Water	128-130
VIII	$NHCOCH_3$	21 hour	55-56	Acetone	1 : 1.5	60%	Water	122-125

Table 2-2c: Reaction condition for the preparation of sulphonyl carbazate



Comp No.	Substituent R	Reaction			Molar ratio of reactant	Yield Percentage	Recrystalizating Solvents	Melting Point^{0}C
		Time	Temp.	Solvent				
XXIV	H	15 min.	Room temp.	Ethanol	1:1	75%	Dil. ethanol	150-152
XXV	Br	15 min.	Room temp.	Ethanol	1:1	37%	Dil. ethanol	156-158
XXVI	CH_3	15 min.	Room temp.	Ethanol	1:1	41%	Dil. ethanol	129-131

Table 2-2d: Reaction condition for the preparation of N-(aryl sulphonyl) N-alkyl or aryl ureas (Sulphonyl Ureas).



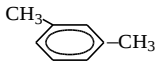
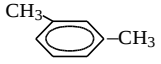
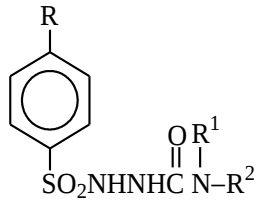
Comp. No	Substituents			reaction			Molar ratio of reactant	Yield %	Recrystalizating Solvents	Melting Point^{0}C
	R^1	R^2	R^3	Time	Temp.	Solvent				
IX	H	H	$-CH_3$	6 hours	85-90	-	1 : 4	80%	Dil-ethanol	126-127
X	H	H	$-CH_2CH_3$	6 hours	85-90	-	1 : 4	90%	Dil-ethanol	118-120
XI	H			6 hours	85-90	-	1 : 4	75%	Dil -ethanol	189-190
XII	H	H		6 hours	85-90	-	1 : 4	48%	Dil-ethanol	135-136
XIII	-Br	H	$-CH_3$	6 hours	85-90	-	1 : 4	60%	Dil-ethanol	127-130
XIV	-Br	H	$-CH_2CH_3$	6 hours	85-90	-	1 : 4	74%	Dil-ethanol	140-141
XV	-Br			6 hours	85-90	-	1 : 4	67%	Dil-ethanol	170-172
XVI	-Br	H		6 hours	85-90	-	1 : 4	36%	Dil-ethanol	158-160
XVII	CH_3	H	$-CH_3$	6 hours	85-90	-	1 : 4	53%	Dil-ethanol	113-115
XVIII	CH_3			6 hours	85-90	-	1 : 4	58%	Ethanol	143-145
XIX	NHCO CH_3	H	$-CH_3$	6 hours	85-90	-	1 : 4	71%	Dil-ethanol	158-160
XIX	NHCO CH_3			6 hours	85-90	-	1 : 4	63%	Dil-ethanol	172-174

Table 2-2e: Reaction conditions for the preparation of N-phenyl sulphonamide- N' alkyl &N-(substituted phenyl)urea.



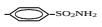
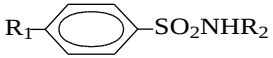
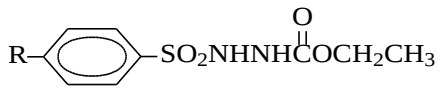
Comp No.	Substituents		Reaction			Molar ratio of reactant	Yield Percentage	Recrystalizating Solvents	Melting Point^{0}C
	R1	R2	Time	Temp. ^{0}C	Solvent				
XXVII			6 hours	60-70	Absolute ethanol	1:4	52%	Dil-ethanol	185-187
XXVIII	H		6 hours	60-70	Absolute ethanol	1:4	57%	Dil-ethanol	77-78

Table 2-4a: IR data of the prepared sulphonamides and sulphonyl hydrizide



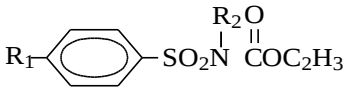
Comp. No	R_1	R_2	N-H Str-vib	C-H aliphatic Str-vib.	C-H aromatic Str. Vib.	C=O Str. vib	N-H bending	SO_2 St. vib.	C-H deform-ation	C=C
I	H	H	3250 sym. 3410 asym	-	3050 3040	-	1570 1550	1350 asym 1175 sym	700 775	1490 1500
II	Br	H	3234 sym 3326 asym	-	3008 3010	-	1579	1360 asym 1155 sym	811	1500 1510
III	CH_3	H	3200 asym 3100 sym	2860 2850	3010	-	1600	1450 asym 1150 sym	700 811 p-subst.	1576 1326
IV	$NHCOCH_3$	H	3293 3200 3367	300 2910 2900	3110	1658	1595 1527	1322 1155	731 687	1398 1385
XXI	H	NH_2	3600 asym 3575 sym 3250	-	3070	-	1585 1640	1310 1162	824	1448 1477
XXII	Br	NH_2	3044 NH 3082 3175 NH asym	-	3100	-	1590 1610	1370 1180	815	1510 1400
XXIII	CH_3	NH_3	3450 3258 3210	2910 2900 2850	3100	-	1600 1610	1308 1158	815	1490 1475

Table 2-4b: IR data of the prepared sulphonyl carbamates



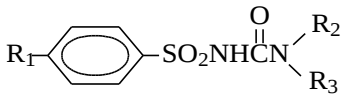
Comp. No	R_1	R_2	N-H Str-vib	C-H aliphatic Str-vib.	C-H aromatic Str. Vib.	C=O Str. vib	N-H bending	SO_2 St. vib.	C-H deform-ation	C=C
V	H-	H	3200	2850 2860	3010	1720	1580	1180 sym. 1360 asym.	595 820 Moo sub.	1490 1445
VI	Br-	H	3210	2860 1880	3010	1775	1580	1382 asym. 1175 sym	600 825 p. di sub-	1495 1490
VII	CH_3-	H	3354	2800	3100 3000	1758	1610	1323 asym 1156 sym	812 701	1596 1528
VIII	$CH_3\overset{O}{\overset{\|}{C}}NH-$	H	3354	2892	3054	1725 ester 1689 amide	1595	1351 aysm 1163 sym	838 721 disubstituted	1536 1487

Table 2-4c: IR data of the prepared sulphonyl carbazates



Comp. No	R_1	R_2	N-H Str-vib	C-H aliphatic Str-vib.	C-H aromatic Str. Vib.	C=O Str. vib	N-H bending	SO_2 St. vib.	C-H deform-ation	C---C
XXIV	H	NH	3342 3124	2986 2890	3090	1703	1584	1333 1160	727 758	1479 1416
XXV	Br	NH	3300 3290	2900 2850	3100	1650	1588	1290 1200	785 750	1390 1385
XXVI	CH_3	NH	3400 3251	2900 2850	3050	1655	1570	1209 1127	831	1407 1400

Table 2-4d: IR data of the prepared sulphonyl ureas

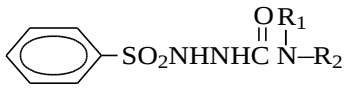


Comp. No	R_1	R_2	R_3	N-H Str- vib	C-H aliphatic Str-vib.	C-H aromatic Str. Vib.	C=O Str. vib	N-H bending	SO_2 St. vib.	C-H deform-ation	C---C
IX	-H	-H	$-CH_3$	3800 sym 3400 sym	2900	3100	1680	1560	1350 1180	680 700	1450 1390
X	-H	-H	$-CH_2CH_3$	3200 3350	2900 2950	3000	1710	1565	1160 sym 1350 asym	690 716 Monosubs	1440 1400
XI	-H			3160	2850 2920	3005 3050	1650	1500	1180 sym 1340 asym	715 695 Monsubs	1410 1380
XII	-H	-H		3250 3450	2850 2900	3050	1640	1610 1560	1250 sym 1400 asym	680 700 p-subs	1410 1375
XIII	-Br	-H	$-CH_3$	3210 sym 3300 asym	2850 2990	3050	1750	1680 1590	1170 sym 1350 asym	840 p-subst	1455 1390
XIV	-Br	-H	$-CH_2CH_3$	3270 sym 2800 asym	2850 2990	3050	1680	1580	1180 sym 1350 asym	820 p-subst	1447 1392

Table 2-4d continued

XV	-Br			3300 asym 3270	2850 2990	3050	1650	1550	1150 sym 1320 asym	820 p-subst	1470 1398
XVI	-Br	-H		3300	2860 2995	3020	1640	1550 1590	1210 sym 1310 asym	815 p-subst	1490 1472
XVII	$-CH_3$	-H	$-CH_3$	3300 sym 3270 asym	2850 2900	3050	1761	1564 1575	1230 asy 1163	769	
XVIII	$-CH_3$			3358 3200	2893 2706	3053	1758	1598 1435	1150 1230	720 p-subst	1447 1269
XIX	CH_3CONH	-H	$-CH_3$	3357 asym 3261 sym	2900	3105	1672 1750	1595	1265 sym 1373 asym	714 p-subst	1440 1399
XX	CH_3CONH			3358 3200	2893 2706	3053	1724 1688	1593 1535	1164 1244	720 p-subst	1487 1350

Table 2-4e: IR data of the prepared N-phenyl sulphonamide- N' alkyl &N-(substituted phenyl)urea. (Sulphonamideureas).



Comp. No	R_1	R_2	N-H Str-vib	C-H aliphatic Str-vib.	C-H aromatic Str. Vib.	C=O Str. vib	N-H bending	SO_2 St. vib.	C-H deform-ation	C---C
XXVII			3413 3395	2950 2841	3100	1631 1790	1574 1560	1435 1159	787	1472 1320
XXVIII	H		3477 3342 3242 3382	-	3125	1705	1626 1596	1331 1195	828	1479 1416

Table 2-5: ^{1}H-NMR data of the prepared sulphon

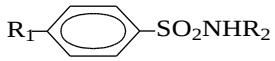
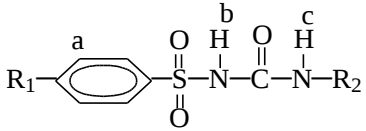
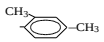


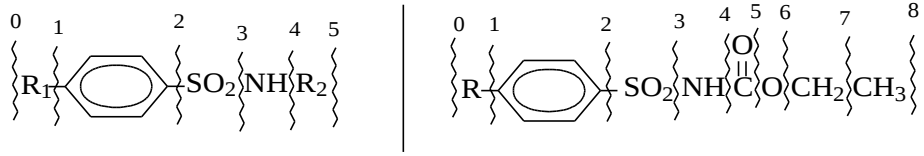
Table 2-5: ^{1}H-NMR data of the prepared sulphonyl urea



Comp. No	R_1	R_2	d-value, ppm- chemical shift (intensity, multiplicity)			
			a_1, a_2	b	c	R_2
XII	H-		7.4-8.2 (5H)m 7.4-8.2 (3H)m	6.6 (1H)S	7.21(H)S	2-2.2 (3H)S 2.2-2.4 (£H)S
XIII	Br-	$-CH_3$	7.7-7.8 (2H)d, J = 10 Hz 7.9-8 (2H)d J = 10	8.5 (1H)S 6.3 (1H)S	6.7 (1H)S	2.1 (3H)S

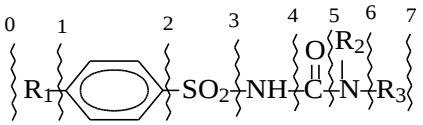
			Hz			
XIV	Br-	$-CH_2CH_3$	(7.8-7.9) (2H)d (m-sulpha group) J = 10 Hz 7.9-8 (2H)d	6.4 (1H)S (NH)	(2-2.2) (1H)T (NH)	3-3.2 (2H) Octat J = 10 Hz 1.1-1.3 (3H)T J = 10 Hz
XVIII	$-CH_3$		7.3-7.4 (4H)dd J = 9 Hz (2H ortho to CH_3), 2H meta to CH_3	6.4 (1H)S 4.4 (1H)S	2.4 (3H)S j = 10 Hz	2.5 (3H)S
XVII	$-CH_3$	CH_3	7.3-7.4 (4H)d.d J = 10 Hz	6.4 (1H)S	3.4 (1H) Quartet	2.5 3H)d CH_3
XIX	CH_3CONH-	$-CH_3$	6.7-7.8 (4H)d.d J = 10 Hz	6.7 (1H)S 3.6 (1H)S 10.3 (1H)S	2.5 (3H)S	1.9 (3H)S
XX	CH_3CONH-		7.5-79 (4H)d.d J = 10 Hz	4.4 (3H)S	2.5 (3H)S	1.3-2.8 (6H)m

Table 2-6a: Mass spectroscopy data of the prepared intermediate (sulphonamids and sulphonyl carbamate)



Comp. No	R_1	R_2	Molecular formula	Molecular weight	1	2	3	4	5	Others	
II	-Br	H	$C_6H_6BrNSO_2$	237 b-B	79 + 80	155-156 b-B	220-221	M.Wt	-		
VI	Br	$CO_2CH_2CH_3$	$C_9H_{11}BrNSO_4$	309	-	157	219-220	-	262	9-6 73-79	2-9 107

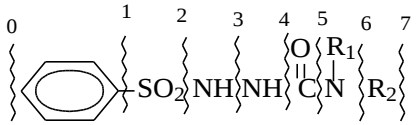
Table 2-6b: Mass spectroscopy data of the prepared sulphonyl ureas



Comp. No	R_1	R_2	R_3	Molecular formula	Molecular weight	1	2	3	4	5	6	7	1-2	others
XI	H			$C_{12}H_{16}N_2SO_3$	268	-	77 B-b	140	-	182, 183			76	5-7 8 4 ; 4-7 11 1 ; 3-7 127
XII	H	H		$C_{15}H_{16}N_2SO_3$	309 B-b, m/e		77	141	15 7	-				
XIII	Br	H	$-CH_3$	$C_8H_9BrN_2SO_3$	293	79	155 B-p 157	221, 219	23 5	263 261				4-7 58 ; 3-7 73
XIV	Br	H	$-CH_2CH_3$	$C_9H_{11}BrN_2SO_3$	307	79, 81	155 B-b	221, 219	23 7	261 263				4-7 58 ; 3-7 73
XV	Br			$C_{12}H_5BrN_2SO_3$	347	79, 81	155 , 157 B-b	221, 219	23 5				1-3 141	77
XVI	Br	H		$C_{15}H_{15}BrN_2SO_3$	383	-			-	265			1-2 77 ; 4-7 148	6-7 148 ; 5-7 120-121
XVII	CH_3	H	$-CH_3$	$C_9H_{12}N_2SO_3$	228 B-b, m/e	-	91	155				M.Wt		
XVIII	CH_3			$C_{13}H_{18}N_2SO_3$	297		91 B. b	155	-	198			2-9 108 ; 2-6 120	6-7 84
XIX	- $NHCOCH_3$	H	$-CH_3$	$C_{10}H_{13}N_3SO_4$	271	58	134	198	21 3				1-7 213 ; 2-7 137	1-7 , 171, -CH, -B.b

XX	-NHCOCH$_3$		$C_{14}H_{19}N_3SO_4$	340	58	134	197, 198	213	2193, 1240		1-4 155		

Table 2-6c: Mass spectroscopy data of the prepared sulphonamideurea.



Comp. No	R_1	R_2	Molecular formula	Molecular weight	1	2	3	4	7	1-4	2-5	2-6	2-7	4-7	6-7
XXVII			$C_{12}H_{17}SN_3O_3$	283	77	141	157-158	171			56-58	73	142	110-111	84
XXVIII	H		$C_{13}H_{14}S_2N_4O_5$	370		142	156	172	157	92	56-58	73	1-6 135		

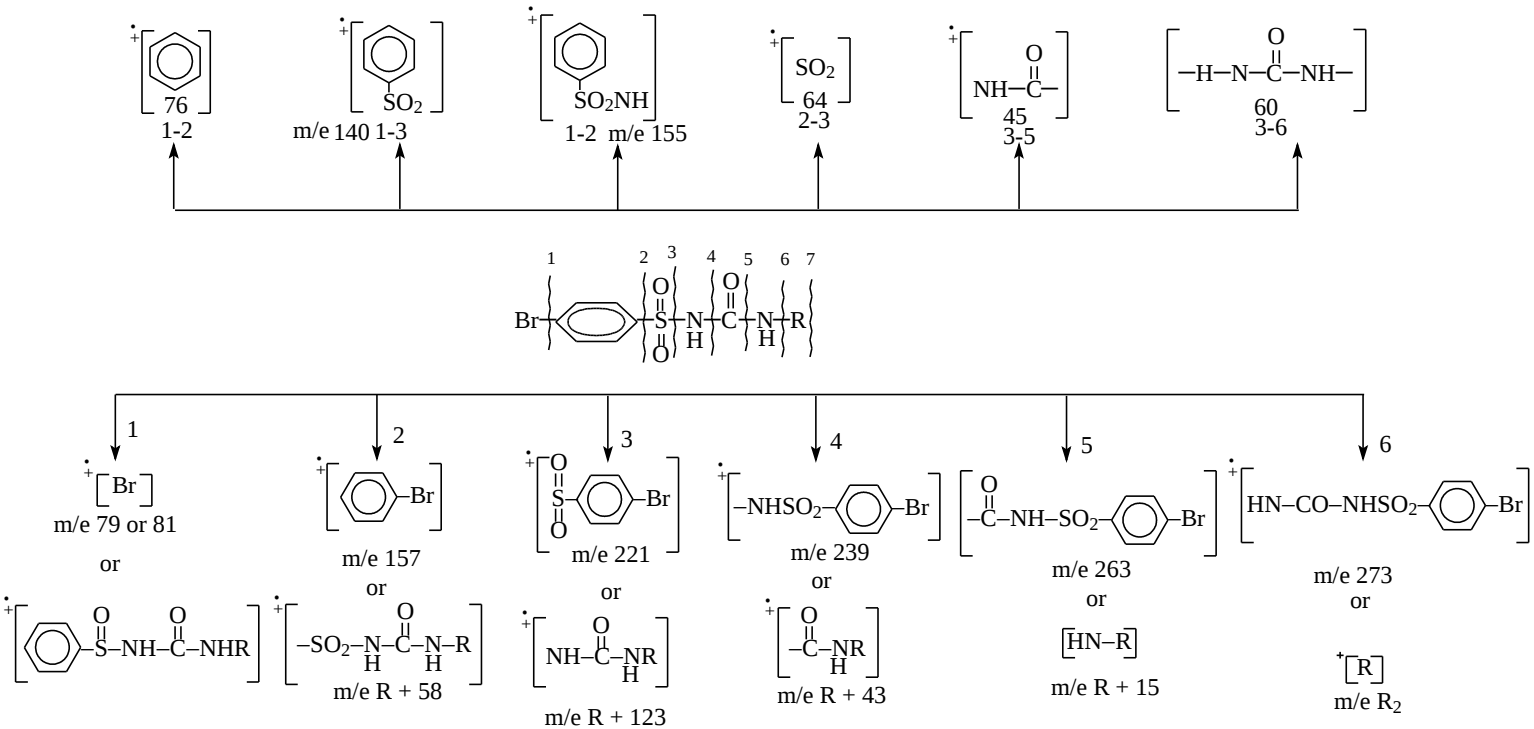

76
1-2
m/e 140 1-3
SO2NH
1-2 m/e 155
SO2
64
2-3
45
3-5
60
3-6
1
2
3
4
5
6
7
Br
S
N
H
C
R
1
m/e 79 or 81
or
2
m/e 157
or
m/e R + 58
3
m/e 221
or
m/e R + 123
4
m/e 239
or
m/e R + 43
5
m/e 263
or
m/e R + 15
6
m/e 273
or
m/e R2

Table 2-5c ^{1}H-NMR data of the compound sulphonamideurea.