CHAPTER III

SUMMARY OF THE WORK

Starting Materials:

4-Benzensulphonamidoacetophenone, 3-benzenesulphonamidoacetophenone, 1-(4-benzenesulphonamidophenyl)-3-aryl prop-2-en-1-ones (1a-e) and 1-(3-benzenesulphonamidophenyl)-3-aryl prop-2-en-1-ones (2a-e) were prepared by the procedure as described in Chapter-IV of Part-I of this thesis. The precursors of the pyrazoles 1-(4-benzenesulphonamidophenyl)-3-aryl-2,3-dibromopropanone (7a-e) and 1-(3-benzenesulphonamidophenyl)-3-aryl-2,3-dibromopropanone (8a-e) were prepared by the procedure as described in Chapter-IV of Part-II of this thesis.

1-Isonicotinoyl/Carboxamido-3-(4-benzenesulphonamidophenyl)-5-aryl pyrazoles (9a-e/10a-e):

Pyrazoles (9a-e/10a-e) were prepared by refluxing 1-(4-benzenesulphonamidophenyl)-3-aryl-2,3-dibromopropanone (7a-e) with isonicotinic acid hydrazide/semicarbazide hydrochloride in pyridine medium for 8 hrs. Thus the following pyrazoles were synthesized.

1. (9a) 1-isonicotinoyl-3-(4-benzenesulphonamidophenyl)-5-phenyl pyrazole, m.p. 260°C.

2. (9b) 1-isonicotinoyl-3-(4-benzenesulphonamidophenyl)-5-(4-methoxyphenyl) pyrazole, m.p. 240°C.

3. (9c) 1-isonicotinoyl-3-(4-benzenesulphonamidophenyl)-5-(4-dimethylaminophenyl) pyrazole, m.p. 175°C.
4. (9d) 1-isonicotinoyl-3-(4-benzenesulphonamidophenyl)-5-(4-hydroxyphenyl) pyrazole, m.p. >275°C.

5. (9e) 1-isonicotinoyl-3-(4-benzenesulphonamidophenyl)-5-(4-hydroxy-3-methoxyphenyl) pyrazole, m.p. 145°C.

6. (10a) 1-carboxamido-3-(4-benzenesulphonamidophenyl)-5-phenyl pyrazole, m.p. 225°C.

7. (10b) 1-carboxamido-3-(4-benzenesulphonamidophenyl)-5-(4-methoxyphenyl) pyrazole, m.p. 230°C.

8. (10c) 1-carboxamido-3-(4-benzenesulphonamidophenyl)-5-(4-dimethyl aminophenyl) pyrazole, m.p. 180°C.

9. (10d) 1-carboxamido-3-(4-benzenesulphonamidophenyl)-5-(4-hydroxyphenyl) pyrazole, m.p. >275°C.

10. (10e) 1-carboxamido-3-(4-benzenesulphonamidophenyl)-5-(4-hydroxy-3-methoxyphenyl) pyrazole, m.p. 150°C.

1-isonicotinoyl/Carboxamido-3-(3-benzenesulphonamidophenyl)-5-aryl pyrazoles (11a-e/12a-e):

Pyrazoles (11a-e/12a-e) were prepared by refluxing 1-(3-benzenesulphonamidophenyl)-3-aryl-2,3-dibromopropanone (8a-e) with isonicotinic acid hydrazide/semicarbazide hydrochloride in pyridine medium for 8 hrs. Thus the following pyrazoles were synthesized.

1. (11a) 1-isonicotinoyl-3-(3-benzenesulphonamidophenyl)-5-phenyl pyrazole, m.p. 222°C.

2. (11b) 1-isonicotinoyl-3-(3-benzenesulphonamidophenyl)-5-(4-methoxyphenyl) pyrazole, m.p. 215°C.

3. (11c) 1-isonicotinoyl-3-(3-benzenesulphonamidophenyl)-5-(4-dimethyl aminophenyl) pyrazole, m.p. 120°C.
4. (11d) 1-isonicotinoyl-3-(3-benzenesulphonamidophenyl)-5-(4-hydroxyphenyl) pyrazole, \textit{m.p.} 148°C.

5. (11e) 1-isonicotinoyl-3-(3-benzenesulphonamidophenyl)-5-(4-hydroxy-3-methoxyphenyl) pyrazole, \textit{m.p.} 121°C.

6. (12a) 1-carboxamido-3-(3-benzenesulphonamidophenyl)-5-phenyl pyrazole, \textit{m.p.} 210°C.

7. (12b) 1-carboxamido-3-(3-benzenesulphonamidophenyl)-5-(4-methoxyphenyl) pyrazole, \textit{m.p.} 220°C.

8. (12c) 1-carboxamido-3-(3-benzenesulphonamidophenyl)-5-(4-dimethylaminophenyl) pyrazole, \textit{m.p.} 138°C.

9. (12d) 1-carboxamido-3-(3-benzenesulphonamidophenyl)-5-(4-hydroxyphenyl) pyrazole, \textit{m.p.} 142°C.

10. (12e) 1-carboxamido-3-(3-benzenesulphonamidophenyl)-5-(4-hydroxy-3-methoxyphenyl) pyrazole, \textit{m.p.} 109°C.

The structures of the synthesized compounds were confirmed on the basis of elemental analysis, chemical properties and spectral analysis (IR, and \textsuperscript{1}HNMR). The plausible mechanisms for the formation of pyrazoles have been discussed.