**LIST OF SCHEMES, TABLES AND FIGURES**

**List of Schemes**

<table>
<thead>
<tr>
<th>Scheme No.</th>
<th>Caption</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Synthesis of 2-substituted-5- [2-(2-fluorophenoxy) phenyl]-1, 3,4-oxadiazoles</td>
</tr>
<tr>
<td>1.2</td>
<td>1-(1H-benzo[d]imidazol-2-yl)-3-(1,3,4-oxadiazol-5-substituted derivatives-2-yl)propan-1-ones</td>
</tr>
<tr>
<td>1.3</td>
<td>Synthesis of 5-aryl-3H-[1,3,4] oxadiazol-2-ones from (N') (chloro-aryl-methylene)-<em>tert</em>-butylcarbazates using basic alumina</td>
</tr>
<tr>
<td>1.4</td>
<td>Pyrazole oxime ethers derivatives</td>
</tr>
<tr>
<td>1.5</td>
<td>Synthesis of novel 1,5-diaryl pyrazoles</td>
</tr>
<tr>
<td>1.6</td>
<td>3-Trifluoromethylpyrazolesulfonylea and thiourea derivatives</td>
</tr>
<tr>
<td>1.7</td>
<td>Synthesis of 4-substituted 1,5-diaryl-1H-pyrazole-3-carboxylates via lithium <em>tert</em>-butoxide medium</td>
</tr>
<tr>
<td>1.8</td>
<td>1,2,4-triazoles, their Schiff and Mannich bases</td>
</tr>
<tr>
<td>1.9</td>
<td>Novel isoindoline-1,3-dione derivatives bearing 1,2,4-triazole derivatives</td>
</tr>
<tr>
<td>1.10</td>
<td>Synthesis of novel 1,2,4-triazoles from isocyanides and thiosemicarbazones</td>
</tr>
<tr>
<td>1.11</td>
<td>One pot synthesis of 2-Amino-5-aryl-5H-thiazaolo-[4,3-b]-1, 3,4-thiadiazoles</td>
</tr>
<tr>
<td>1.12</td>
<td>2,4-Thiazolidinediones bearing imidazo [2,1-b][1,3,4] thiaadazole derivatives</td>
</tr>
<tr>
<td>1.13</td>
<td>2, 6-Disubstituted imidazo [2,1-b] [1,3,4] thiaadiazoles</td>
</tr>
<tr>
<td>1.14</td>
<td>2-Amino-substituted 1,3,4-thiadiazole derivatives</td>
</tr>
<tr>
<td>1.15</td>
<td>Phenytoin derivatives</td>
</tr>
<tr>
<td>2.1</td>
<td>Synthesis of 2-amino-5-aryl-1,3,4-oxadiazoles</td>
</tr>
</tbody>
</table>
| 2.2 | Synthesis of 2-amino-5-substituted-1,3,4-oxadiazoles using 1,
2.3 One pot synthesis of 1,3,4-oxadiazoles from carboxylic acids and acyl hydrazides

2.4 5-Aryl (alkyl)-2-amino-1,3,4-oxadiazoles acylsemicarbazides acylthiosemicarbazides mediated by tosyl chloride.

2.5 Microwave-assisted acylation of 5-substituted tetrazoles

2.6 Trichloroisocyanuric acid-mediated one-pot synthesis of unsymmetrical 2, 5-disubstituted 1,3,4-oxadiazoles

2.7 Indole containing 1,3,4-Oxadiazole derivatives

2.8 One-pot preparation of 1,3,4-oxadiazoles using Burgess reagent.

2.9 Preparation of unsymmetrical 2,5-disubstituted 1,3,4-oxadiazoles promoted by Dess-Martin reagent

2.10 Synthesis of 5-Aryl-2-amino-1,3,4-oxadiazole using zinc bromide

2.11 Synthesis and antimicrobial activity of 3-(1,3,4-oxadiazol-2-il) quinazolin-4(3H)-ones

2.12 Synthesis of 5-substituted-2-amino-1,3,4-oxadiazoles

2.13 1,3,4-Oxadiazole based heterocycles

2.14 Synthetic route for the substituted 1,3,4-oxadiazoles 188 (a-m)

3.1 1-(2, 4-Dichlorophenyl)-6-methyl-N-piperidin-1-yl- 1,4-dihydroindeno [1, 2-c] pyrazole-3-carboxamide derivatives

3.2 One pot Synthesis of Pyrazoles from 1,3-diketones by acid chlorides and ketones

3.3 p-chlorophenyl substituted pyrazoles

3.4 One pot synthesis of N-Aryl pyrazoles from Aryl halides

3.5 Catalyst-free one-pot synthesis of 1,4,5-trisubstituted pyrazoles in 2,2,2-trifluoroethanol

3.6 4-Functionalized-pyrazoles derivaties

3.7 Synthesis of novel pyrazoles from hydroxyacetophenone

3.8 Conventional and microwave assisted synthesis of pyrazole
derivatives

3.9 Synthesis of 1H-pyrazole [3,4-e] [1,4] thiazepin-7-one

3.10 Synthetic route for the title compounds 241(a-n) and 243(a-h)

3.11 Synthetic route for the title compounds 246 (a-l) and 248 (a-h).

4.1 Pyridine containing 1,2,4-triazoles

4.2 Fatty acids substituted 1,2,4-triazoles

4.3 Pyridine containing Schiff base derived 1,2,4-triazoles

4.4 3, 5-di (Trifluoromethyl)-1,2,4-triazolesulfonyleurea and thiourea derivatives

4.5 Sulfonamide containing -1,2,4-triazoles

4.6 Different aryl substituted 1,2,4-triazole-3-thiol derivatives

4.7 Novel 1,3,5-trisubstituted-1,2,4-triazoles.

4.8 4-Alkyl-substituted-1,2,4-triazoles.

4.9 Synthetic route for the title compounds 292(a-l) and 293(a-l)

5.1 Pyrazolyl-substituted 1,3,4-Thiadiazole

5.2 Diphenyl substituted 1,3,4-thiadiazole-2-amine derivatives

5.3 2-Aryloxymethylene-6-arylimidazo [2,1-b] 1,3,4-thiadiazoles

5.4 Imidazo [2,1-b][1,3,4]-thiadiazole fused diazepinones

5.5 Different imidazo [2,1-b] [1,3,4]-thiadiazole derivatives

5.6 N-[5-(5-nitro-2-heteroaryl)-1,3,4-thiazol-2-yl] thiomorpholines

5.7 2-trifluoromethyl/sulfonamido-5,6-diaryl substituted imidazo [2,1-b]-1,3,4-thiadiazoles

5.8 Pyridine Imidazo [2,1-b]-1,3,4-thiadiazole derivatives

5.9 Synthetic route for the title compounds 299 (a-l) and 301 (a-l)