

List of Figures

Figure No.	Figure Caption	Page No.
Figure 1.1	Some important five membered heterocyclic compounds	2
Figure 1.2	Some important six membered heterocyclic compounds	3
Figure 1.3	Some important fused heterocyclic compounds	4
Figure 1.4	Some example of natural products and drugs containing different heterocyclic moieties	5
Figure 1.5	Some biological active compounds containing thiadiazole scaffold	7
Figure 1.6	Applications of coumarin in different fields	11
Figure 1.7	Coumarin containing biologically active compounds	12
Figure 1.8	Biological activities of imidazo[1,2-a]pyridines	18
Figure 1.9	Imidazo[1,2-a]pyridine scaffold containing drugs	19
Figure 1.10	Material science application of imidazo[1,2-a]pyridine	20
Figure 1.11	Synthesis of imidazo[1,2-a]pyridines by various starting material	21
Figure 1.12	Applications of 4 <i>H</i> -pyrans in different fields	26
Figure 1.13	Drugs containing 4 <i>H</i> -pyran moiety	27
Figure 2.1	Biologically active thiadiazoles	52
Figure 2.2	¹ H NMR of 1,2,4-thiadiazole (2a)	79
Figure 2.3	¹³ C NMR of 1,2,4-thiadiazole (2a)	79
Figure 2.4	¹ H NMR of 1,2,4-selenadiazole (4a)	80
Figure 2.5	¹³ C NMR of 1,2,4-selenadiazole (4a)	80
Figure 3.1	Biologically active molecules containing coumarin moiety	92
Figure 3.2	¹ H NMR spectrum of coumarin (3a)	114

Figure 3.3	¹³ C NMR spectrum of coumarin (3a)	114
Figure 3.4	¹ H NMR spectrum of 5a	115
Figure 3.5	¹³ C NMR spectrum of 5a	115
Figure 4.1	Drugs containing imidazo[1,2-a]pyridines moiety	126
Figure 4.2	¹ H NMR of model compound 3aa	148
Figure 4.3	¹³ C NMR of model compound 3aa	148
Figure 5.1	Examples of 2-amino-3-cyano-4 <i>H</i> -pyrans derivatives with pharmacological activities	158
Figure 5.2	¹ H NMR spectra of model compound 4a	186
Figure 5.3	¹³ C NMR spectra of model compound 4a	186