Appendix

Table A: List of compounds have been discussed in this thesis.

Compd No.	Class of Compound	Antioxidant Activity Antiradical/ XO inhibition	Page
2	Triterpenenoid	Antiradical	36
2a	Triterpenenoid	-	36
3-4	Triterpenenoid	-	36
8-11	Cinnamic acid derivative	Antiradical/ XO inhibitor	40
12-14	Cinnamic acid derivative	Antiradical/ ND	41
15-17	Phenylethanoid glycoside	Antiradical/ XO inhibitor	46
18-20	Phenylethanoid glycoside	Antiradical/ XO inhibitor	47
23	Isocoumarin	Antiradical/ XO inhibitor	50
24	Isocoumarin	XO inhibitor	50
25-26	Isocoumarin	-	50
27-29	Furocoumarin	Antiradical/ XO inhibitor	51
30-32	Furocoumarin	-	52
33-34	Aurone	Antiradical/ XO inhibitor	56
35	Ferulate	Antiradical/ ND	56
36-37	Salireposide	Antiradical	57
38-39	Stilbene glycoside	XO inhibitor	59
40-41	Ellagic acid	Antiradical/ ND	61
42	Ellagic acid	-	61
45-58	Acyl hydrazide	Antiradical	70-73
59	Oxadiazole oxone	-	69
60-65	Oxadiazole thione	Antiradical/ XO inhibitor	81-82
66	Oxadiazole thione	Antiradical	82
67	Oxadiazole thione	Antiradical/ XO inhibitor	83
68-72	Oxadiazole thione	Antiradical	83-84
73-80	Thiadiazole thione	Antiradical/ XO inhibitor	88-89
81-87	Triazole thione	Antiradical/ XO inhibitor	94
85-87	Coumarin	Antiradical/ XO inhibitor	100
88-91	Coumarin	XO inhibitor	100-101
92-94	Coumarin	-	101
95-98	Coumarin	Antiradical/ XO inhibitor	102
99-102	Benzothiazepine derivative	Antiradical	106
103-106	Benzothiazepine derivative	-	107

Table B: Effect of various compounds on the serum levels of AST, ALT and bilirubins.

Groups	sAST (IU/mL)	sALT (IU/mL)	Total Bilirubin (mg %)	Direct Bilirubin (mg %)	Indirect Bilirubin (mg %)
Pathological Control	1715.5 ± 144.5	1557 ± 48.71	0.824 ± 0.0810	0.254 ± 0.0310	0.576 ± 0.0890
Normal Control	157.50 ± 13.20	71.80 ± 3.043	0.126 ± 0.0600	0.023 ± 0.0150	0.103 ± 0.0660
Propyl gallate (Standard)	559.00 ± 84.69	607.5 ± 127.9	0.318 ± 0.0560	0.145 ± 0.0120	0.173 ± 0.0300
2	728.75 ± 24.65	338.50 ± 40.49	0.288 ± 0.0230	0.100 ± 0.0050	0.188 ± 0.0250
8	196.30 ± 5.490	83.710 ± 9.481	0.048 ± 0.0100	0.018 ± 0.0040	0.030 ± 0.0090
9	1564.0 ± 235.8	869.75 ± 194.5	0.338 ± 0.0850	0.070 ± 0.0035	0.2675 ± 0.086
11	433.25 ± 16.53	207.00 ± 11.62	0.210 ± 0.0170	0.090 ± 0.0050	0.120 ± 0.0150
23	2254.0 ± 78.28	2290.0 ± 112.0	0.245 ± 0.0140	0.145 ± 0.0220	0.100 ± 0.0240
27	185.00 ± 20.60	280.00 ± 64.30	0.550 ± 0.1240	0.170 ± 0.0160	0.380 ± 0.0600
28	1504.0 ± 45.75	2066.8 ± 70.30	0.193 ± 0.0184	0.063 ± 0.0674	0.130 ± 0.0230
33	199.25 ± 12.20	89.000 ± 15.73	0.085 ± 0.0055	0.033 ± 0.0041	0.053 ± 0.0054
34	214.25 ± 10.67	149.50 ± 16.49	0.093 ± 0.0041	0.020 ± 0.0035	0.073 ± 0.0022
45	1484.0 ± 61.02	813.75 ± 27.77	0.168 ± 0.0073	0.075 ± 0.0103	0.093 ± 0.0074
49	746.25 ± 43.64	564.50 ± 8.189	0.188 ± 0.0316	0.103 ± 0.0316	0.085 ± 0.0075
51	132.00 ± 14.00	160.75 ± 23.06	0.203 ± 0.0360	0.045 ± 0.0065	0.198 ± 0.0150
52	391.20 ± 10.49	208.20 ± 10.47	0.228 ± 0.0120	0.164 ± 0.0500	0.074 ± 0.0390
53	292.20 ± 47.77	131.20 ± 14.35	0.142 ± 0.0160	0.063 ± 0.0170	0.082 ± 0.0230

Table B: Effect of various compounds on the serum levels of AST, ALT and bilirubins.

Groups	sAST (IU/mL)	sALT (IU/mL)	T. Bilirubin (mg %)	Direct Bilirubin (mg %)	Indirect Bilirubin (mg %)
Pathological Control	1715.5 ± 144.5	1557 ± 48.71	0.824 ± 0.0810	0.254 ± 0.0310	0.576 ± 0.0890
Normal Control	157.50 ± 13.20	71.80 ± 3.043	0.126 ± 0.0600	0.023 ± 0.0150	0.103 ± 0.0660
Propyl gallate (Standard)	559.00 ± 84.69	607.5 ± 127.9	0.318 ± 0.0560	0.145 ± 0.0120	0.173 ± 0.0300
54	135.75 ± 11.38	317.00 ± 104.6	0.193 ± 0.0400	0.110 ± 0.0520	0.165 ± 0.0429
55	441.40 ± 55.04	210.60 ± 49.32	0.176 ± 0.0380	0.065 ± 0.0100	0.110 ± 0.0530
56	173.75 ± 10.26	516.00 ± 63.20	0.155 ± 0.0064	0.033 ± 0.0060	0.125 ± 0.0094
58	313.50 ± 17.76	170.75 ± 6.702	0.115 ± 0.0043	0.068 ± 0.0089	0.048 ± 0.0073
60	1007.6 ± 115.4	1705.0 ± 178.1	0.780 ± 0.0700	0.360 ± 0.0300	0.420 ± 0.0400
61	1087.5 ± 64.01	1005.5 ± 54.36	0.320 ± 0.0180	0.063 ± 0.0074	0.257 ± 0.0180
63	212.60 ± 11.30	629.30 ± 152.2	0.500 ± 0.0500	0.205 ± 0.0200	0.295 ± 0.0400
66	964.25 ± 94.70	608.25 ± 89.31	0.258 ± 0.0054	0.138 ± 0.0201	0.120 ± 0.0183
68	778.25 ± 27.53	849.25 ± 39.86	0.185 ± 0.0130	0.062 ± 0.0096	0.088 ± 0.0210
69	1391.2 ± 133.4	1461.8 ± 99.68	0.160 ± 0.0150	0.067 ± 0.0041	0.093 ± 0.0120
86	1541.3 ± 51.47	1931.0 ± 96.38	0.435 ± 0.0110	0.073 ± 0.0140	0.358 ± 0.0041
87	1428.0 ± 108.8	1238.6 ± 228.3	0.260 ± 0.0640	0.053 ± 0.0270	0.210 ± 0.0710
97	217.00 ± 42.70	200.60 ± 32.04	0.560 ± 0.0760	0.170 ± 0.0460	0.390 ± 0.2000
102	466.30 ± 45.22	192.33 ± 20.77	0.106 ± 0.0150	0.050 ± 0.0081	0.056 ± 0.0110

List of Tables

Table **Page**

List of Figures

Abbreviations

AAPH	2, 2'-Azinobis (2-amidino propane hydrochloride)
AC	Absorbance of control
ANOVA	Analysis of variance
ALT	Alanine aminotransferase
AS	Absorbance with sample
AST	Aspartate aminotransferase
BHA	Butylated hydroxyanisole
CAT	Catalase
CB	Chain breaking
CBA	Chain breaking antioxidant
CHD	Coronary heart diseases
CoA	Coenzyme A
CuZnSOD	Copper zinc superoxide dismutases
CVD	Cardiovascular diseases
4-CL	4-Coumarate CoA ligase
DHF	Dihydroxy flavone
DMSO	Dimethylsulfoxide
DNA	Deoxyribonucleic acid
DPPH	1,1-Diphenyl-2-picrylhydrazyl radical
EC	Enzyme Classification
ED_{50}	Effective dose of sample at which 50% cells survive
GOT	Glutamic oxaloacetic transaminase
G-6-PDH	Glucose-6-phosphate dehydrogenase
GPT	Glutamic pyruvic transaminase
GSH	Glutathione
GSHPx	Glutathione peroxidase
GSHPx-GI	Glutathione peroxidase-gastrointestinal
HDL	High density lipoprotein
i.p.	Intra-peritonial
IC_{50}	The concentration of sample that scavenge the radicals or inhibits the enzyme activity by 50%
IUPAC	*I*nternational *U*nion of *P*ure and *A*pplied *C*hemistry

Ki	The dissociation constant of the enzyme inhibitor complex into free enzyme and inhibitor
LDH	Lactate dehydrogenase
LDL	Low density lipoprotein
LPG	Light petroleum gas
MDH	Malate dehydrogenase
MHS	Modified Hank's solution
MTQ	Methyl tocopherylquinone
NAD^+	Nicotinamide adenine dinucleotide
NADH	β-Nicotinamide adenine dinucleotide reduced
NADPH	Nicotinamide adenine dinucleotide phosphate
NBT	Nitroblue tetrazolium salt
NC	Normal Control
PAL	Phenylalanine ammoinalyase
PBS	Phosphate buffer saline
PC	Pathological control
PG	Propyl gallate
PM	Phenazinemethosulfate
PUFA	Poly unsaturated fatty acid
RBCs	Red blood cells
ROS	Reactive oxygen species
RSA	Radical scavenging activity
SAR	Structure-activity relationship
SEM	Standard error mean
SODs	Superoxide dismutases
TAL	Tyrosine ammonialyase
TBHQ	*t*-Butyl hydroquinone
$TH^{\bullet}$	Tocopheryl radical
TH_2	Tocopherol
UV	Ultraviolet
WST-1	Water soluble tetrazolium salt
XO	Xanthine oxidase