

APPENDIX  
APPENDIX-1

Effect of fresh *P. speciosa* seeds on paracetamol-induced hepatotoxicity  
at 12 hours

Group	Treatment	Rat number	Body weight (g)	Liver weight (g)	AST IU/L	ALT IU/L	ALP IU/L
1	0.9 % NaCl 1.5 ml/kg (i.p.)	1	294	11.37	74	34	269
		2	273	11.28	66	38	281
		3	293	11.55	86	40	271
		4	252	8.8	89	39	212
		5	263	8.9	140	39	181
		6	212	7.5	88	29	126
		7	284	8.2	101	30	117
		8	168	5.5	98	39	119
		9	164	5.0	93	37	174
		10	166	5.2	102	30	192
2	<i>P. speciosa</i> 6 g/kg (p.o.)	1	236	7.28	82	41	163
		2	254	7.9	84	39	132
		3	245	7.56	122	49	154
		4	218	6.8	155	50	142
		5	192	5.9	125	37	144
		6	198	8.5	140	33	169
		7	298	6.6	110	35	109
		8	183	6.06	147	50	210
		9	172	5.51	144	34	204
		10	155	4.37	117	48	157
3	<i>P. speciosa</i> 6 g/kg 7 days (p.o.)	1	221	7.13	81	35	132
		2	258	8.61	91	37	156
		3	268	8.89	85	39	161
		4	215	6.27	96	37	158
		5	211	6.2	133	48	161
		6	216	6.5	131	39	124
		7	297	7.8	119	35	120
		8	197	6.2	124	43	127
		9	206	6.2	98	40	114

## APPENDIX-1(continued)

Effect of fresh *P. speciosa* seeds on paracetamol-induced hepatotoxicity  
at 12 hours

Group	Treatment	Rat number	Body weight (g)	Liver weight (g)	AST IU/L	ALT IU/L	ALP IU/L
4	Paracetamol 500 mg/kg (i.p.)	1	246	8.13	456	166	193
		2	240	8.08	440	140	239
		3	248	8.58	99	49	161
		4	278	7.9	256	93	155
		5	293	8.5	109	45	225
		6	275	8.6	288	96	237
		7	199	5.9	522	169	189
		8	235	7.9	358	91	143
		9	230	8.7	423	122	173
		10	181	6.0	271	77	206
		11	158	5.3	301	95	219
5	<i>P. speciosa</i> 1 hour 6 g/kg + paracetamol 500 mg/kg	1	258	8.72	297	97	175
		2	261	8.72	106	53	157
		3	265	8.83	240	86	185
		4	260	8.34	123	69	156
		5	237	7.6	398	126	181
		6	243	8.6	313	103	254
		7	241	8.3	418	158	217
		8	197	6.84	169	42	161
		9	263	7.42	673	169	159
		10	187	7.89	377	101	194
		11	162	5.87	285	77	194
		12	171	6.03	170	51	177
6	<i>P. speciosa</i> 7 days 6 g/kg + paracetamol 500 mg/kg	1	254	8.73	366	106	215
		2	241	7.91	331	111	205
		3	230	7.55	400	114	184
		4	265	8.3	490	189	216
		5	270	8.2	466	149	185
		6	244	7.1	453	171	178
		7	261	8.1	816	214	146
		8	210	6.2	122	56	153
		9	214	7.3	565	139	187
		10	206	6.0	127	41	129
		11	209	6.2	611	140	189

## APPENDIX-2

Effect of boiled *P. speciosa* seeds on paracetamol-induced hepatotoxicity  
at 12 hours

Group	Treatment	Rat number	Body weight (g)	Liver weight (g)	AST IU/L	ALT IU/L	ALP IU/L
1	0.9 % NaCl 1.5 ml/kg (i.p.)	1	288	9.61	190	45	136
		2	209	7.79	102	43	115
		3	305	11.01	92	43	128
		4	235	6.77	107	32	151
		5	225	7.54	115	45	200
		6	238	7.1	155	36	129
		7	185	5.8	100	21	142
		8	219	7.2	144	31	133
		9	205	6.5	129	30	137
		10	163	6.0	121	32	166
2	<i>P. speciosa</i> 6 g/kg (p.o.)	1	269	8.6	194	45	181
		2	211	5.7	92	33	176
		3	192	6.1	257	57	205
		4	264	9.0	122	56	142
		5	177	4.9	123	26	156
		6	236	7.1	145	44	150
		7	201	6.6	92	21	111
		8	215	5.8	143	32	162
		9	192	5.6	90	26	158
		10	183	7.1	485	303	186
3	<i>P. speciosa</i> 6 g/kg 7 days (p.o.)	1	206	6.1	129	40	143
		2	221	6.2	127	56	144
		3	213	6.1	94	34	132
		4	189	7.7	208	83	265
		5	204	6.3	137	46	136
		6	224	6.3	107	32	190
		7	232	7.1	100	29	171
		8	188	6.9	100	290	204
		9	194	6.2	139	33	180
		10	186	5.0	111	43	145

## APPENDIX-2 (continued)

Effect of fresh *P. speciosa* seeds on paracetamol-induced hepatotoxicity  
at 12 hours

Group	Treatment	Rat number	Body weight (g)	Liver weight (g)	AST IU/L	ALT IU/L	ALP IU/L
4	Paracetamol 500 mg/kg (i.p.)	1	223	7.33	272	76	143
		2	275	7.74	559	144	166
		3	224	7.44	257	168	216
		4	169	6.00	332	72	260
		5	164	5.22	389	81	208
		6	229	8.0	482	141	164
		7	198	7.4	326	81	152
		8	172	4.9	477	129	164
		9	206	7.1	538	132	192
		10	166	6.2	265	76	176
5	<i>P. speciosa</i> 1 hour 6 g/kg + paracetamol 500 mg/kg	1	249	9.49	154	83	189
		2	203	6.32	549	149	207
		3	297	8.26	600	146	170
		4	180	9.02	570	159	261
		5	278	6.05	403	98	199
		6	221	8.2	379	103	189
		7	193	6.6	380	90	143
		8	213	7.1	131	32	184
		9	210	8.0	106	141	206
		10	184	6.5	529	135	207
6	<i>P. speciosa</i> 7 days 6 g/kg + paracetamol 500 mg/kg	1	186	5.4	537	144	204
		2	221	7.7	509	126	153
		3	205	7.0	505	149	157
		4	210	6.9	662	178	196
		5	195	6.6	457	142	206
		6	219	6.9	559	165	174
		7	213	6.6	436	114	146
		8	206	6.2	539	120	168
		9	194	5.9	411	125	188
		10	197	5.8	503	145	211

## APPENDIX-3

Effect of fresh *P. speciosa* seeds on hepatic reduced glutathione contents and lipid peroxidation in liver at 3 hours after paracetamol treated rats.

Group	Treatment	Rat number	Body weight (g)	Liver weight (g)	GSH	MDA
					( $\mu$ mole/g liver)	(nmole/g liver)
1	0.9 % NaCl 1.5 ml/kg (i.p.)	1	288	9.6	2.04	23.35
		2	209	7.8	2.48	21.58
		3	305	11.0	1.98	18.78
		4	235	6.8	2.88	22.59
		5	225	7.5	2.44	21.07
2	<i>P. speciosa</i> 6 g/kg (p.o.)	1	223	7.3	1.26	16.50
		2	275	7.7	1.55	18.78
		3	224	7.4	1.35	25.38
		4	169	6.0	1.32	22.59
		5	164	5.2	1.27	22.34
3	<i>P. speciosa</i> 6 g/kg 7 days (p.o.)	1	269	8.6	2.28	23.86
		2	211	5.7	2.60	20.56
		3	192	6.1	2.12	23.10
		4	264	9.0	2.12	26.40
		5	177	4.9	2.24	20.05
4	Paracetamol 500 mg/kg (i.p.)	1	206	6.1	2.07	20.82
		2	221	6.2	2.09	25.38
		3	213	7.0	2.44	26.91
		4	189	6.9	2.12	21.07
		5	204	6.6	2.24	25.13
5	<i>P. speciosa</i> 1 hour 6 g/kg + paracetamol 500 mg/kg	1	249	9.4	1.28	22.59
		2	203	6.3	1.26	22.34
		3	297	8.3	1.32	20.82
		4	180	9.0	1.51	21.32
		5	278	6.0	1.33	19.29
6	<i>P. speciosa</i> 7 days 6 g/kg + paracetamol 500 mg/kg	1	194	6.3	1.56	22.34
		2	232	6.5	1.29	21.83
		3	205	7.0	1.24	21.32
		4	210	6.9	1.24	18.78
		5	195	6.6	1.33	22.59

## APPENDIX-4

Effect of fresh *P. speciosa* seeds on hepatic reduced glutathione contents and lipid peroxidation in liver at 12 hours after paracetamol treated rats.

Group	Treatment	Rat number	Body weight (g)	Liver weight (g)	GSH	MDA
					( $\mu$ mole/g liver)	(nmole/g liver)
1	0.9 % NaCl 1.5 ml/kg (i.p.)	1	212	7.5	2.19	22.08
		2	284	8.2	2.60	19.55
		3	168	5.5	1.69	22.34
		4	164	5.0	1.48	18.28
		5	166	5.2	1.76	18.28
2	<i>P. speciosa</i> 6 g/kg (p.o.)	1	199	5.9	1.96	21.07
		2	235	7.9	2.00	23.86
		3	230	8.7	1.93	21.58
		4	181	6.0	1.59	22.59
		5	169	5.3	1.36	15.99
3	<i>P. speciosa</i> 6 g/kg 7 days (p.o.)	1	198	8.5	2.35	19.80
		2	208	6.6	2.09	19.55
		3	183	6.1	1.67	21.07
		4	172	5.5	1.44	19.80
		5	175	5.3	1.51	20.82
4	Paracetamol 500 mg/kg (i.p.)	1	211	7.0	1.75	25.64
		2	216	7.5	2.35	24.62
		3	297	7.8	2.20	18.53
		4	197	6.2	2.35	19.29
		5	206	6.2	2.11	22.34
5	<i>P. speciosa</i> 1 hour 6 g/kg + paracetamol 500 mg/kg	1	197	6.8	2.03	20.56
		2	253	7.4	2.21	25.89
		3	187	6.9	2.69	20.56
		4	162	5.8	1.59	24.12
		5	171	6.1	1.63	25.13
6	<i>P. speciosa</i> 7 days 6 g/kg + paracetamol 500 mg/kg	1	261	7.5	2.37	23.10
		2	210	6.2	2.02	24.88
		3	214	7.3	2.17	22.08
		4	206	6.0	2.47	27.42
		5	209	6.1	2.08	23.10

## APPENDIX-5

Effect of boiled *P. speciosa* seeds on hepatic reduced glutathione contents and lipid peroxidation in liver at 3 hours after paracetamol treated rats.

Group	Treatment	Rat number	Body weight (g)	Liver weight (g)	GSH	MDA
					( $\mu$ mole/g liver)	(nmole/g liver)
1	0.9 % NaCl 1.5 ml/kg (i.p.)	1	196	6.9	1.96	19.20
		2	247	6.7	2.72	20.30
		3	226	7.0	2.29	19.75
		4	183	6.2	2.43	20.85
		5	215	5.7	2.50	19.47
2	<i>P. speciosa</i> 6 g/kg (p.o.)	1	195	5.8	1.30	18.65
		2	244	7.7	1.15	19.47
		3	198	5.9	1.13	19.20
		4	214	6.4	0.94	21.12
		5	180	5.2	0.95	18.65
3	<i>P. speciosa</i> 6 g/kg 7 days (p.o.)	1	185	5.5	1.91	20.57
		2	220	6.9	2.64	16.45
		3	195	6.1	2.38	19.75
		4	219	6.5	2.12	19.75
		5	194	6.0	2.07	18.37
4	Paracetamol 500 mg/kg (i.p.)	1	229	6.9	1.92	16.45
		2	223	6.3	1.95	21.40
		3	209	6.0	2.04	19.20
		4	186	5.3	2.15	20.30
		5	204	5.9	2.23	19.75
5	<i>P. speciosa</i> 1 hour 6 g/kg + paracetamol 500 mg/kg	1	195	6.0	1.34	17.82
		2	226	7.2	1.26	16.17
		3	185	5.5	.72	20.02
		4	230	7.7	1.12	20.85
		5	189	6.8	1.14	16.72
6	<i>P. speciosa</i> 7 days 6 g/kg + paracetamol 500 mg/kg	1	203	6.1	.96	20.02
		2	223	6.6	.82	21.12
		3	188	5.8	1.17	22.77
		4	198	5.8	1.11	18.37
		5	224	6.1	1.12	17.27

## APPENDIX-6

Effect of boiled *P. speciosa* seeds on hepatic reduced glutathione contents and lipid peroxidation in liver at 12 hours after paracetamol treated rats.

Group	Treatment	Rat number	Body weight (g)	Liver weight (g)	GSH	MDA
					( $\mu$ mole/g liver)	(nmole/g liver)
1	0.9 % NaCl 1.5 ml/kg (i.p.)	1	238	7.1	1.99	22.94
		2	185	5.8	2.15	20.30
		3	219	7.2	2.18	24.26
		4	205	6.5	2.16	18.32
		5	163	6.0	2.13	27.23
2	<i>P. speciosa</i> 6 g/kg (p.o.)	1	229	8.0	2.02	20.96
		2	198	7.4	1.65	22.28
		3	182	5.9	1.56	24.92
		4	206	7.1	1.69	21.29
		5	186	6.2	1.97	28.22
3	<i>P. speciosa</i> 6 g/kg 7 days (p.o.)	1	236	7.1	1.95	24.26
		2	201	6.6	2.13	24.92
		3	215*	5.8	2.12	30.20
		4	192	5.6	2.17	24.26
		5	183	7.1	1.90	26.90
4	Paracetamol 500 mg/kg (i.p.)	1	224	6.3	2.14	28.55
		2	232	7.1	2.17	22.94
		3	188	6.9	2.33	26.57
		4	194	6.2	2.17	26.90
		5	186	5.0	2.72	27.89
5	<i>P. speciosa</i> 1 hour 6 g/kg + paracetamol 500 mg/kg	1	221	8.2	1.50	27.89
		2	193	6.6	1.37	24.59
		3	213	7.1	1.21	23.27
		4	210	8.0	1.42	23.27
		5	184	6.5	1.41	23.60
6	<i>P. speciosa</i> 7 days 6 g/kg + paracetamol 500 mg/kg	1	219	6.9	1.68	23.93
		2	213	6.6	1.28	22.61
		3	206	6.2	1.34	18.32
		4	194	5.9	1.41	19.97
		5	197	5.8	1.29	24.26



## APPENDIX-7

Effect of boiled *P. speciosa* seeds on hepatic reduced glutathione contents and lipid peroxidation in liver at 24 hours after paracetamol treated rats.

Group	Treatment	Rat number	Body weight (g)	Liver weight (g)	GSH	MDA
					( $\mu$ mole/g liver)	(nmole/g liver)
1	0.9 % NaCl 1.5 ml/kg (i.p.)	1	210	7.0	2.58	17.60
		2	208	7.1	2.36	17.88
		3	210	7.1	1.98	15.40
		4	200	6.9	2.58	16.23
		5	203	6.4	2.52	18.98
2	<i>P. speciosa</i> 6 g/kg (p.o.)	1	204	8.3	2.40	17.05
		2	199	6.8	2.32	18.70
		3	190	6.5	2.69	19.80
		4	206	7.4	2.41	17.33
		5	211	7.2	2.14	14.30
3	<i>P. speciosa</i> 6 g/kg 7 days (p.o.)	1	205	6.8	2.24	17.60
		2	205	7.1	2.36	16.78
		3	203	6.7	2.06	17.05
		4	195	6.3	2.48	18.15
		5	193	6.3	2.26	18.15
4	Paracetamol 500 mg/kg (i.p.)	1	215	7.1	2.77	16.23
		2	196	6.2	2.11	16.50
		3	198	6.1	2.33	16.78
		4	205	6.7	2.50	16.50
		5	208	6.1	2.25	17.88
5	<i>P. speciosa</i> 1 hour 6 g/kg + paracetamol 500 mg/kg	1	198	7.2	2.41	17.33
		2	210	8.1	2.55	17.33
		3	201	6.7	2.67	17.60
		4	189	6.8	2.48	15.68
		5	192	6.1	2.67	18.70
6	<i>P. speciosa</i> 7 days 6 g/kg + paracetamol 500 mg/kg	1	205	7.5	2.37	18.15
		2	195	6.5	2.43	17.05
		3	210	6.9	2.82	19.25
		4	209	7.8	2.24	14.85
		5	197	6.2	2.51	16.50

## APPENDIX-8

Standard solution of reduced glutathione was prepared by dissolving 3.1 mg reduced glutathione in 0.5% sulfosalicylic acid. The stock solution was used for preparing the working standard reduced glutathione (1.56-100  $\mu\text{M}$ ).

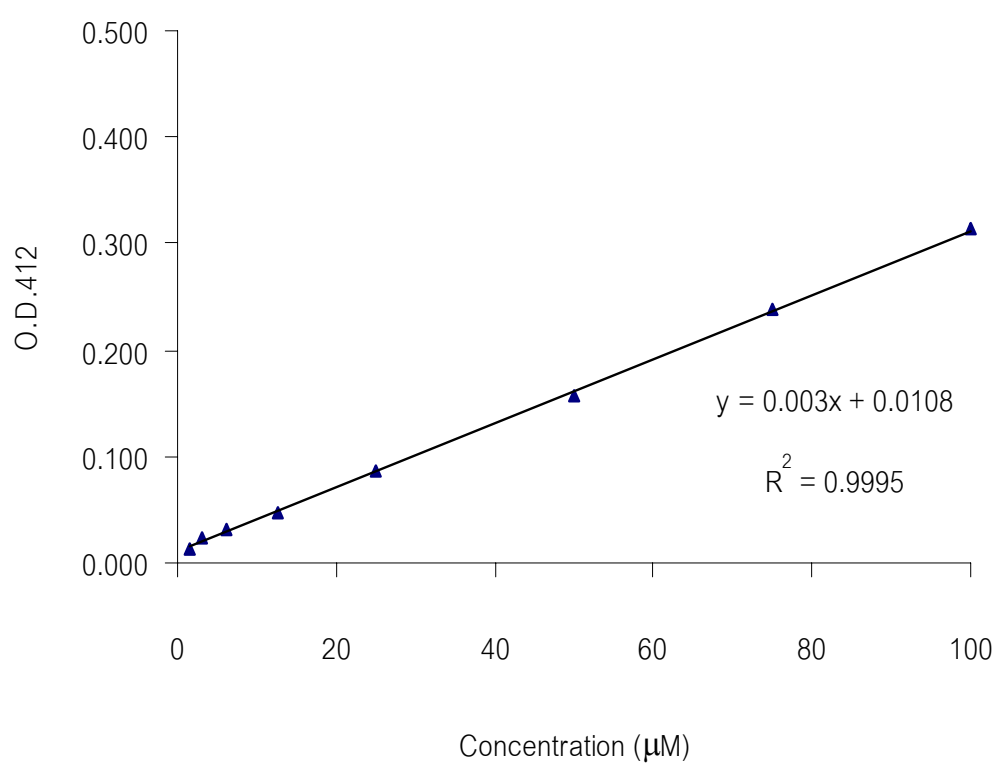


Figure 14 Reduced glutathione standard curve

## APPENDIX-9

Standard solution of 1,1,3,3 tetramethoxypropane (TMP) was prepared by pipet 10  $\mu\text{l}$  of TMP add in 990  $\mu\text{l}$  distilled water. The stock solution was used for preparing the working standard TMP in concentration 1.56, 3.13, 6.25, 12.5, 25 and 50 nmole/ml.

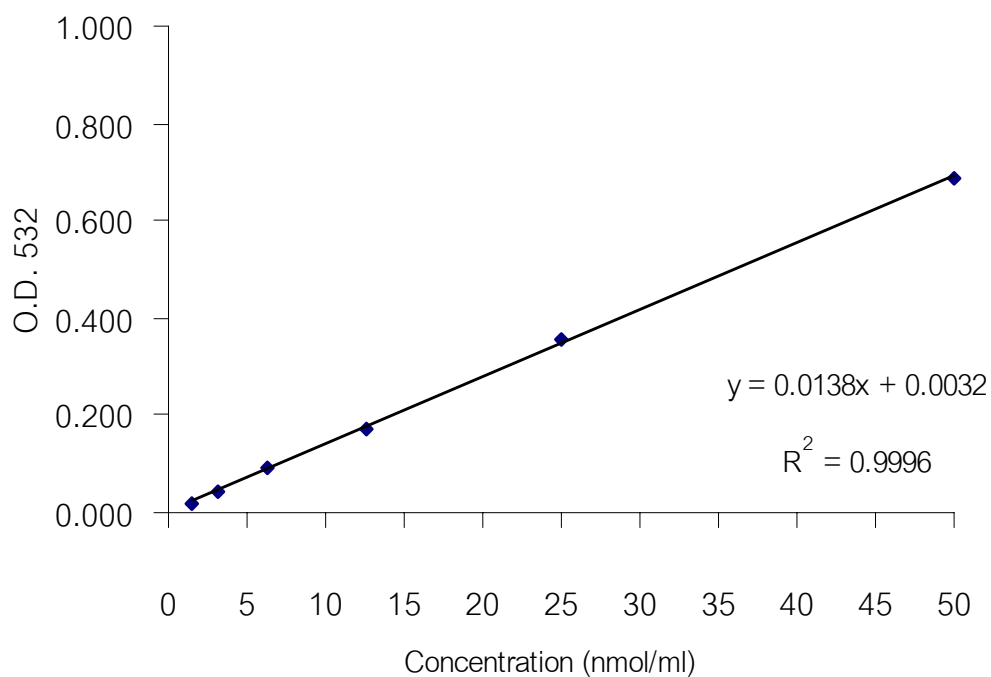


Figure 15 1,1,3,3 tetramethoxypropane standard curve of malondialdehyde