

Pao V. TOXICOLOGIC ORIENTATION ASSAY
FEMALE RAT : ORGAN WEIGHT

RECAPITULATION : MEAN, ERROR AND STANDARD DEVIATION, VARIANCE

KIDNEY					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	10	1.638	0.0647	0.2047	0.0419
<i>Pao V</i> : 73.2	10	1.582	0.0487	0.1541	0.0238
<i>Pao V</i> : 293	10	1.706	0.0495	0.1547	0.0245

ADRENALS					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	10	70.50	4.217	13.335	177.8333
<i>Pao V</i> : 73.2	10	68.40	3.023	9.559	91.3778
<i>Pao V</i> : 293	10	70.40	3.609	11.413	130.2667

THYMUS					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	10	517.8	48.30	152.75	23333.5111
<i>Pao V</i> : 73.2	10	489.9	37.64	119.03	14166.9889
<i>Pao V</i> : 293	10	505.2	40.04	126.61	16030.6222

BRAIN					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	10	1.330	0.0239	0.0757	0.0057
<i>Pao V</i> : 73.2	10	1.341	0.0159	0.0504	0.0025
<i>Pao V</i> : 293	10	1.306	0.0318	0.1006	0.0101

LIVER					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	10	6.56	0.348	1.100	1.2094
<i>Pao V</i> : 73.2	10	6.53	0.238	0.752	0.5656
<i>Pao V</i> : 293	10	7.45	0.317	1.001	1.0024

HEART					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	10	0.708	0.0261	0.0826	0.0068
<i>Pao V</i> : 73.2	10	0.669	0.0185	0.0586	0.0034
<i>Pao V</i> : 293	10	0.733	0.0253	0.0799	0.0064

FEMALE RAT

COVARIANCE ANALYSIS
 PER SERIES
 VERSUS BODY WEIGHT ON D 30

KIDNEYS

SOURCE OF VARIATION	SUM OF SQUARES	DDL	ESTIMATED VARIANCE	F	SIGNIF. OF F
Covariate : weight, D 30	0.504	1	0.504	42.626	0.000
Series	0.091	2	0.046	3.859	0.034
Explained	0.582	3	0.194	16.387	0.000
Residual	0.308	26	0.012		
Total	0.889	29	0.031		

ADRENALS

SOURCE OF VARIATION	SUM OF SQUARES	DDL	ESTIMATED VARIANCE	F	SIGNIF. OF F
Covariate : weight, D 30	680.632	1	680.632	6.072	0.021
Series	20.300	2	10.150	0.091	0.914
Explained	708.698	3	236.233	2.107	0.124
Residual	2914.668	26	112.103		
Total	3623.367	29	124.944		

THYMUS

SOURCE OF VARIATION	SUM OF SQUARES	DDL	ESTIMATED VARIANCE	F	SIGNIF. OF F
Covariate : weight, D 30	112213.787	1	112213.787	7.895	0.009
Series	903.510	2	451.755	0.032	0.969
Explained	116117.987	3	38705.996	2.723	0.065
Residual	369566.313	26	14214.089		
Total	485684.300	29	16747.734		

FEMALE RAT

COVARIANCE ANALYSIS

PER SERIES

VERSUS BODY WEIGHT ON D 30

BRAIN

SOURCE OF VARIATION	SUM OF SQUARES	DDL	ESTIMATED VARIANCE	F	SIGNIF. OF F
Covariate : weight, D 30	0.010	1	0.010	1.729	0.200
Series	0.007	2	0.003	0.560	0.578
Explained	0.017	3	0.006	0.935	0.438
Residual	0.155	26	0.006		
Total	0.172	29	0.006		

LIVER

SOURCE OF VARIATION	SUM OF SQUARES	DDL	ESTIMATED VARIANCE	F	SIGNIF. OF F
Covariate : weight, D 30	17.649	1	17.649	62.456	0.000
Series	7.576	2	3.788	13.405	0.000
Explained	23.096	3	7.699	27.244	0.000
Residual	7.347	26	0.283		
Total	30.443	29	1.050		

HEART

SOURCE OF VARIATION	SUM OF SQUARES	DDL	ESTIMATED VARIANCE	F	SIGNIF. OF F
Covariate : weight, D 30	0.063	1	0.063	18.653	0.000
Series	0.019	2	0.010	2.851	0.076
Explained	0.083	3	0.028	8.265	0.001
Residual	0.087	26	0.003		
Total	0.170	29	0.006		

FEMALE RAT

COVARIANCE ANALYSIS

PER SERIES

VERSUS BODY WEIGHT ON D 30

KIDNEYS

COMPARISON OF THE TWO SERIES : Controls

Pao V. 73.2 mg.kg P.O.

SOURCE OF VARIATION	SUM OF SQUARES	DDL	ESTIMATED VARIANCE	F	SIGNIF. OF F
Covariate : weight, D 30	0.390	1	0.390	33.012	0.000
Series	0.000	1	0.000	0.022	0.884
Explained	0.406	2	0.203	17.184	0.000
Residual	0.201	17	0.012		
Total	0.607	19	0.032		

COMPARISON OF THE TWO SERIES : Controls

Pao V. 292.8 mg.kg P.O.

SOURCE OF VARIATION	SUM OF SQUARES	DDL	ESTIMATED VARIANCE	F	SIGNIF. OF F
Covariate : weight, D 30	0.392	1	0.392	32.356	0.000
Series	0.075	1	0.075	6.170	0.024
Explained	0.415	2	0.207	17.121	0.000
Residual	0.206	17	0.012		
Total	0.621	19	0.033		

FEMALE RAT

COVARIANCE ANALYSIS
PER SERIES
VERSUS BODY WEIGHT ON D 30

LIVER

COMPARISON OF THE TWO SERIES : Controls
Pao V. 73.2 mg.kg P.O.

SOURCE OF VARIATION	SUM OF SQUARES	DDL	ESTIMATED VARIANCE	F	SIGNIF. OF F
Covariate : weight, D 30	10.953	1	10.953	37.078	0.000
Series	0.450	1	0.450	1.522	0.234
Explained	10.958	2	5.479	18.547	0.000
Residual	5.022	17	0.295		
Total	15.979	19	0.841		

COMPARISON OF THE TWO SERIES : Controls
Pao V. 292.8 mg.kg P.O.

SOURCE OF VARIATION	SUM OF SQUARES	DDL	ESTIMATED VARIANCE	F	SIGNIF. OF F
Covariate : weight, D 30	16.899	1	16.899	95.527	0.000
Series	7.661	1	7.661	43.304	0.000
Explained	20.840	2	10.420	58.902	0.000
Residual	0.007	17	0.177		
Total	23.847	19	1.255		

MALE RATS

APPENDIX A 1 to 17

Pao V. toxicologic orientation assay
Male rat : weight evolution

SERIES : Controls

Dose : 0 mg/kg P.O.

ANIMALS	D 1	D 4	D 8	D 11	D 15
S 1093	143.0	169.0	208.0	238.0	276.0
S 1097	145.0	174.0	207.0	234.0	267.0
S 1099	147.0	173.0	214.0	235.0	276.0
S 1102	149.0	175.0	216.0	241.0	276.0
S 1078	155.0	189.0	229.0	255.0	291.0
S 1080	153.0	187.0	232.0	260.0	296.0
S 1103	157.0	186.0	222.0	252.0	292.0
S 1108	157.0	185.0	220.0	247.0	285.0
S 1086	166.0	193.0	230.0	258.0	286.0
S 1098	159.0	191.0	234.0	254.0	299.0
MEAN :	153.1	182.2	221.2	247.4	284.4
S.E.M. :	2.25	2.72	3.12	3.08	3.28

ANIMALS	D 18	D 22	D 25	D 29	D 30
S 1093	307.0	343.0	374.0	415.0	365.0
S 1097	292.0	321.0	334.0	356.0	318.0
S 1099	302.0	342.0	363.0	398.0	338.0
S 1102	307.0	336.0	354.0	377.0	338.0
S 1078	314.0	346.0	375.0	400.0	367.0
S 1080	325.0	360.0	378.0	417.0	376.0
S 1103	322.0	361.0	385.0	423.0	373.0
S 1108	310.0	338.0	355.0	386.0	344.0
S 1086	327.0	351.0	376.0	390.0	348.0
S 1098	330.0	364.0	390.0	405.0	364.0
MEAN :	313.6	346.2	368.4	396.7	353.1
S.E.M. :	3.87	4.19	5.34	6.43	5.94

ANIMALS	D 29-D 1
S 1093	272.0
S 1097	211.0
S 1099	251.0
S 1102	228.0
S 1078	245.0
S 1080	264.0
S 1103	266.0
S 1108	229.0
S 1086	224.0
S 1098	246.0
MEAN :	243.6
S.E.M. :	6.40

Pao V toxicologic orientation assay
Male rat : weight evolution

SERIES : Pao V : 56.5s

Dose : 56.5 mg/kg P.O.

ANIMALS	D 1	D 4	D 8	D 11	D 15
S 1087	147.0	177.0	211.0	235.0	272.0
S 1091	143.0	166.0	200.0	223.0	250.0
S 1085	149.0	167.0	200.0	217.0	248.0
S 1101	151.0	174.0	216.0	240.0	274.0
S 1088	154.0	183.0	224.0	246.0	285.0
S 1105	154.0	177.0	213.0	236.0	270.0
S 1092	158.0	182.0	225.0	248.0	278.0
S 1106	156.0	181.0	222.0	251.0	285.0
S 1083	162.0	189.0	235.0	265.0	304.0
S 1089	160.0	188.0	233.0	256.0	294.0
MEAN :	153.4	178.4	217.9	241.7	276.0
S.E.M. :	1.89	2.48	3.86	4.63	5.57

ANIMALS	D 18	D 22	D 25	D 29	D 30
S 1087	297.0	340.0	359.0	391.0	348.0
S 1091	271.0	292.0	311.0	334.0	300.0
S 1085	276.0	308.0	332.0	353.0	323.0
S 1101	302.0	335.0	365.0	391.0	349.0
S 1088	312.0	354.0	373.0	408.0	364.0
S 1105	297.0	325.0	341.0	380.0	338.0
S 1092	304.0	332.0	351.0	373.0	335.0
S 1106	318.0	355.0	381.0	417.0	372.0
S 1083	334.0	371.0	394.0	425.0	388.0
S 1089	320.0	359.0	382.0	406.0	363.0
MEAN :	303.1	337.1	358.9	387.8	348.0
S.E.M. :	6.13	7.67	8.09	9.06	8.07

ANIMALS	D 29-D 1
S 1087	244.0
S 1091	191.0
S 1085	204.0
S 1101	240.0
S 1088	254.0
S 1105	226.0
S 1092	215.0
S 1106	261.0
S 1083	263.0
S 1089	246.0
MEAN :	234.4
S.E.M. :	7.76

Pao V toxicologic orientation assay
Male rat ; weight evolution

SERIES : Pao V. : 226

Dose : 226 mg/kg P.O.

ANIMALS	D 1	D 4	D 8	D 11	D 15
S 1090	145.0	165.0	200.0	226.0	256.0
S 1095	146.0	171.0	207.0	238.0	274.0
S 1096	149.0	176.0	213.0	242.0	277.0
S 1107	150.0	171.0	206.0	229.0	266.0
S 1100	156.0	180.0	221.0	251.0	294.0
S 1104	154.0	178.0	215.0	238.0	273.0
S 1079	158.0	174.0	203.0	226.0	255.0
S 1082	157.0	177.0	209.0	233.0	265.0
S 1077	163.0	185.0	220.0	250.0	280.0
S 1084	161.0	188.0	234.0	263.0	304.0
MEAN :	153.9	176.5	212.8	239.6	274.4
S.E.M. :	1.96	2.16	3.21	3.83	4.92

ANIMALS	D 18	D 22	D 25	D 29	D 30
S 1090	280.0	309.0	328.0	353.0	316.0
S 1095	299.0	331.0	357.0	391.0	348.0
S 1096	305.0	330.0	353.0	385.0	346.0
S 1107	292.0	312.0	345.0	375.0	331.0
S 1100	327.0	372.0	405.0	443.0	391.0
S 1104	298.0	330.0	363.0	391.0	350.0
S 1079	279.0	301.0	317.0	336.0	305.0
S 1082	288.0	315.0	327.0	358.0	321.0
S 1077	307.0	337.0	358.0	388.0	341.0
S 1084	337.0	378.0	408.0	444.0	396.0
MEAN :	301.2	331.5	356.1	386.4	344.5
S.E.M. :	5.97	8.11	9.68	11.14	9.42

ANIMALS	D 29-D 1
S 1090	208.0
S 1095	245.0
S 1096	236.0
S 1107	225.0
S 1100	287.0
S 1104	237.0
S 1079	178.0
S 1082	201.0
S 1077	225.0
S 1084	283.0
MEAN :	232.5
S.E.M. :	10.74

Pao V toxicologic orientation assay
Male rat : Weight evolution

SERIES : Controls

Dose : 0 mg/kg P.O.

ANIMAL	D 1 to D 4	D 4 to D8	D 8 to D11	D 11 to D 15	D 15 to D 18
S 1093	26.0	39.0	30.0	38.0	31.0
S 1097	29.0	33.0	27.0	33.0	25.0
S 1099	26.0	41.0	21.0	41.0	26.0
S 1102	26.0	41.0	25.0	35.0	31.0
S 1078	34.0	40.0	26.0	36.0	23.0
S 1080	34.0	45.0	28.0	36.0	29.0
S 1103	29.0	36.0	30.0	40.0	30.0
S 1108	28.0	35.0	27.0	38.0	25.0
S 1086	27.0	37.0	28.0	28.0	41.0
S 1098	32.0	43.0	20.	45.0	31.0
MEAN :	29.1	39.0	26.2	37.0	29.2
S.E.M. :	1.00	1.18	1.07	1.47	1.61

ANIMAL	D 18 to D 22	D 22 to D 25	D 25 to D 29
S 1093	36.0	31.0	41.0
S 1097	29.0	13.0	22.0
S 1099	40.0	21.0	35.0
S 1102	29.0	18.0	23.0
S 1078	32.0	29.0	25.0
S 1080	35.0	18.0	39.0
S 1103	39.0	24.0	38.0
S 1108	28.0	17.0	31.0
S 1086	24.0	25.0	14.0
S 1098	34.0	26.0	15.0
MEAN :	32.6	22.2	28.3
S.E.M. :	1.62	1.82	3.13

Pao V toxicologic orientation assay
Male rat : weight evolution

SERIES : Pao V : 56.5

Dose : 56.5 mg/kg P.O.

ANIMAL	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
S 1087	30.0	34.0	24.0	37.0	25.0
S 1091	23.0	34.0	23.0	27.0	21.0
S 1085	18.0	33.0	17.0	31.0	28.0
S 1101	23.0	42.0	24.0	34.0	28.0
S 1088	29.0	41.0	22.0	39.0	27.0
S 1105	23.0	36.0	23.0	34.0	27.0
S 1092	24.0	43.0	23.0	30.0	26.0
S 1106	25.0	41.0	29.0	34.0	33.0
S 1083	27.0	46.0	30.0	39.0	30.0
S 1089	28.0	45.0	23.0	38.0	26.0
MEAN :	25.0	39.5	23.8	34.3	27.1
S.E.M. :	1.14	1.53	1.14	1.28	0.99

ANIMAL	D 18 to D 22	D 22 to D 25	D 25 to D 29
S 1087	43.0	19.0	32.0
S 1091	21.0	19.0	23.0
S 1085	32.0	24.0	21.0
S 1101	33.0	30.0	26.0
S 1088	42.0	19.0	35.0
S 1105	28.0	16.0	39.0
S 1092	28.0	19.0	22.0
S 1106	37.0	26.0	36.0
S 1083	37.0	23.0	31.0
S 1089	39.0	23.0	24.0
MEAN :	34.0	21.8	28.9
S.E.M. :	2.20	1.32	2.06

Pao V toxicologic orientation assay
Male rat : weight evolution

SIR international 1993

SERIES : Pao V : 226

Dose : 226 mg/kg P.O.

ANIMAL	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
S 1090	20.0	35.0	26.0	30.0	24.0
S 1095	25.0	36.0	31.0	36.0	25.0
S 1096	27.0	37.0	29.0	35.0	28.0
S 1107	21.0	35.0	23.0	37.0	26.0
S 1100	24.0	41.0	30.0	43.0	33.0
S 1104	24.0	37.0	23.0	35.0	25.0
S 1079	16.0	29.0	23.0	29.0	24.0
S 1082	20.0	32.0	24.0	32.0	23.0
S 1077	22.0	35.0	30.0	30.0	27.0
S 1084	27.0	46.0	29.0	41.0	33.0
MEAN :	22.6	36.3	26.8	34.8	26.8
S.E.M. :	1.10	1.47	1.05	1.49	1.13

ANIMAL	D 18 to D 22	D 22 to D 25	D 25 to D 29
S 1090	29.0	19.0	25.0
S 1095	32.0	26.0	34.0
S 1096	25.0	23.0	32.0
S 1107	20.0	33.0	30.0
S 1100	45.0	33.0	38.0
S 1104	32.0	33.0	28.0
S 1079	22.0	16.0	19.0
S 1082	27.0	12.0	31.0
S 1077	30.0	21.0	30.0
S 1084	41.0	30.0	36.0
MEAN :	30.3	24.6	30.3
S.E.M. :	2.48	2.41	1.73

Pao V toxicologic orientation assay
Male rat : Food intake (g/d/rat)

SERIES : Controls

Dose : 0 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D8	D 8 to D11	D 11 to D 15	D 15 to D 18
1	23.50	26.90	27.80	28.60	31.00
2	24.30	27.90	26.50	29.50	31.70
3	26.80	27.50	28.00	29.10	30.80
4	26.00	27.00	28.50	30.00	32.70
5	26.20	28.50	27.80	29.50	32.80
MEAN :	25.36	27.56	27.72	29.34	31.80
S.E.M. :	0.623	0.296	0.331	0.234	0.416

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	31.80	31.30	32.60
2	32.30	33.00	32.40
3	30.80	35.30	32.50
4	33.00	29.70	34.40
5	33.80	32.50	30.30
MEAN :	32.34	32.36	32.44
S.E.M. :	0.511	0.929	0.650

Pao V toxicologic orientation assay
Male rat : Food intake (g/d/rat)

SERIES : Pao V : 56.5

Dose : 56.5 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	23.50	25.40	25.50	26.30	28.00
2	22.30	25.30	24.50	26.40	28.80
3	25.30	27.80	26.80	28.50	30.50
4	24.70	28.40	28.50	29.40	32.00
5	25.50	30.50	29.30	31.60	33.00
MEAN :	24.26	27.48	26.92	28.44	30.46
S.E.M. :	0.601	0.978	0.892	0.991	0.939

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	28.50	27.70	28.40
2	29.60	31.00	28.60
3	31.80	32.70	31.50
4	32.50	31.70	32.80
5	35.80	35.20	33.50
MEAN :	31.64	31.66	30.96
S.E.M. :	1.267	1.219	1.055

Pao V toxicologic orientation assay
Male rat : Food intake (g/d/rat)

SERIES : Pao V : 226

Dose : 226 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	23.30	26.90	28.00	28.30	30.80
2	22.70	26.50	26.50	28.10	31.00
3	24.30	28.40	28.20	30.80	32.20
4	23.00	24.80	24.50	26.00	28.50
5	25.00	28.30	28.70	29.30	32.80
MEAN :	23.66	26.98	27.18	28.50	31.06
S.E.M. :	0.430	0.661	0.764	0.787	0.740

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	31.30	31.00	31.30
2	29.60	30.50	32.10
3	34.90	36.50	35.60
4	28.10	26.70	27.60
5	33.30	33.70	34.90
MEAN :	31.44	31.68	32.30
S.E.M. :	1.225	1.643	1.428

Pao V toxicologic orientation assay
Male rat ; Water intake (ml/d/rat)

SERIES : Controls

Dose : 0 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D8	D 8 to D11	D 11 to D 15	D 15 to D 18
1	28.3	30.4	32.8	35.5	35.2
2	26.3	30.0	37.2	29.4	31.5
3	26.7	31.4	43.0	33.8	31.8
4	28.2	30.8	31.7	32.3	35.8
5	28.8	31.9	30.3	34.6	36.0
MEAN :	27.7	30.9	35.0	33.1	34.1
S.E.M. :	0.49	0.34	2.31	1.07	0.99

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	40.9	43.3	48.5
2	33.1	32.5	34.4
3	35.5	35.2	37.0
4	39.6	39.5	40.8
5	44.5	40.2	37.9
MEAN :	38.7	38.1	39.7
S.E.M. :	2.01	1.91	2.42

Pao V toxicologic orientation assay
Male rat : Water intake (ml/d/rat)

SERIES : Pao V : 56.5

Dose : 56.5 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	27.5	28.1	26.3	29.6	29.5
2	23.0	26.8	25.7	25.8	29.5
3	29.0	32.1	30.5	25.6	31.8
4	25.5	31.5	28.8	28.4	33.0
5	27.5	36.4	34.3	41.6	37.3
MEAN :	26.5	31.0	29.1	30.2	32.2
S.E.M. :	1.04	1.68	1.56	2.95	1.44

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	32.0	29.7	34.4
2	34.3	31.0	31.3
3	39.6	33.8	39.4
4	34.0	32.8	33.5
5	42.1	55.8	45.6
MEAN :	36.4	36.6	36.8
S.E.M. :	1.90	4.85	2.56

Pao V toxicologic orientation assay
Male rat ; Water intake (ml/d/rat)

SERIES : Pao V : 226

Dose : 226 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	26.3	36.4	35.7	37.6	43.2
2	23.8	28.8	31.2	33.6	39.8
3	23.5	29.0	31.7	36.0	38.7
4	24.3	26.9	24.5	26.6	33.7
5	30.2	34.1	39.8	48.8	53.5
MEAN :	25.6	31.0	32.6	36.5	41.8
S.E.M. :	1.24	1.79	2.55	3.60	3.30

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	43.3	49.5	50.9
2	30.8	40.8	41.5
3	41.0	43.0	46.5
4	37.0	34.0	34.0
5	62.3	55.7	52.1
MEAN :	42.9	44.6	45.0
S.E.M. :	5.30	3.72	3.32

Pao V toxicologic orientation assay
Male rat : Water/Food ratio

SERIES : Controls

Dose : 0 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D8	D 8 to D11	D 11 to D 15	D 15 to D 18
1	1.204	1.130	1.180	1.241	1.135
2	1.082	1.075	1.404	0.997	0.994
3	0.996	1.142	1.536	1.162	1.032
4	1.085	1.141	1.112	1.077	1.095
5	1.099	1.119	1.090	1.173	1.098
MEAN :	1.093	1.121	1.264	1.130	1.071
S.E.M. :	0.0331	0.0122	0.0877	0.0423	0.0254

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	1.286	1.383	1.488
2	1.025	0.985	1.062
3	1.153	0.997	1.138
4	1.200	1.330	1.186
5	1.317	1.237	1.251
MEAN :	1.196	1.186	1.225
S.E.M. :	0.0519	0.0832	0.0726

Pao V toxicologic orientation assay
Male rat : Water/Food ratio

SERIES : Pao V : 56.5

Dose : 56.5 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	1.170	1.106	1.031	1.125	1.054
2	1.031	1.059	1.049	0.977	1.024
3	1.146	1.155	1.138	0.898	1.043
4	1.032	1.109	1.011	0.966	1.031
5	1.078	1.193	1.171	1.316	1.130
MEAN :	1.092	1.125	1.080	1.057	1.056
S.E.M. :	0.0287	0.0229	0.0314	0.0748	0.0191

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	1.123	1.072	1.211
2	1.159	1.000	1.094
3	1.245	1.034	1.251
4	1.046	1.035	1.021
5	1.176	1.585	1.361
MEAN :	1.150	1.145	1.188
S.E.M. :	0.0327	0.1106	0.0596

Pao V toxicologic orientation assay
Male rat : Water/Food ratio

SERIES : Pao V : 226

Dose : 226 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	1.129	1.353	1.275	1.329	1.403
2	1.048	1.087	1.177	1.196	1.284
3	0.967	1.021	1.124	1.169	1.202
4	1.057	1.085	1.000	1.023	1.182
5	1.208	1.205	1.387	1.666	1.631
MEAN :	1.082	1.150	1.193	1.276	1.340
S.E.M. :	0.0406	0.0588	0.0658	0.1087	0.0824

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	1.383	1.597	1.626
2	1.041	1.338	1.293
3	1.175	1.178	1.306
4	1.317	1.273	1.232
5	1.871	1.653	1.493
MEAN :	1.357	1.408	1.390
S.E.M. :	0.1414	0.0926	0.0734

Pao V toxicologic orientation assay
Male rat : Hematology

SERIES : Controls

Dose : 0 mg/kg P.O.

ANIMAL	Erythrocytes	Hemoglobin	Hematocrit	M C V	M C C
S 1093	7.12	10.3	0.47	66.01	21.91
S 1097	7.01	10.1	0.48	68.47	21.04
S 1099	6.52	9.5	0.46	70.55	20.65
S 1102	7.21	10.7	0.50	69.35	21.40
S 1078	7.11	10.1	0.49	68.92	20.61
S 1080	6.75	10.0	0.48	71.11	20.83
S 1103	7.37	10.3	0.51	69.20	20.20
S 1108	7.35	11.1	0.52	70.75	21.35
S 1086	7.14	10.2	0.49	68.63	20.82
S 1098	6.73	10.1	0.45	66.86	22.44
MEAN :	7.03	10.2	0.48	68.99	21.13
S.E.M. :	0.089	0.13	0.007	0.516	0.211

ANIMAL	Leucocytes	Thrombocytes
S 1093	14.358	345
S 1097	11.998	378
S 1099	9.918	433
S 1102	11.704	330
S 1078	15.047	507
S 1080	10.300	998
S 1103	11.255	750
S 1108	11.763	899
S 1086	10.419	473
S 1098	18.760	968
MEAN :	12.552	608
S.E.M. :	0.8687	84.7

Pao V toxicologic orientation assay
Male rat : Hematology

SERIES : Pao V : 56.5

Dose : 56.5 mg/kg P.O.

ANIMAL	Erythrocytes	Hemoglobin	Hematocrit	M C V	M C C
S 1087	7.38	10.4	0.50	67.75	20.80
S 1091	7.52	11.0	0.50	66.49	22.00
S 1085	7.11	10.1	0.48	67.51	21.04
S 1101	7.17	10.7	0.50	69.74	21.40
S 1088	7.00	10.2	0.47	67.14	21.70
S 1105	6.38	9.5	0.43	67.40	22.09
S 1092	7.20	10.3	0.49	68.06	21.02
S 1106	7.51	11.0	0.51	67.91	21.57
S 1083	6.76	10.5	0.46	68.05	22.83
S 1089	6.96	11.1	0.46	66.09	24.13
MEAN :	7.10	10.5	0.48	67.61	21.86
S.E.M. :	0.111	0.16	0.008	0.314	0.316

ANIMAL	Leucocytes	Thrombocytes
S 1087	10.132	616
S 1091	10.379	561
S 1085	7.950	337
S 1101	10.412	467
S 1088	14.098	313
S 1105	9.068	720
S 1092	12.037	380
S 1106	9.102	973
S 1083	10.865	322
S 1089	10.657	998
MEAN :	12.552	608
S.E.M. :	0.8687	84.7

FEMALE RATS

APPENDIX A 58 to A 84

Pao V toxicologic orientation assay
Female rat : weight evolution

SERIES : Controls

DOSE : 0 mg/kg P.O.

ANIMAL	D 1	D 4	D 8	D 11	D 15
S 1053	122.0	138.0	153.0	161.0	174.0
S 1076	122.0	137.0	147.0	150.0	161.0
S 1065	124.0	141.0	139.0	153.0	163.0
S 1069	124.0	140.0	163.0	175.0	196.0
S 1062	126.0	135.0	148.0	154.0	162.0
S 1075	129.0	148.0	167.0	182.0	209.0
S 1058	133.0	147.0	167.0	175.0	189.0
S 1074	131.0	149.0	172.0	185.0	210.0
S 1045	134.0	153.0	172.0	189.0	220.0
S 1054	139.0	157.0	178.0	187.0	201.0
MEAN :	128.4	144.5	160.6	171.1	188.5
S.E.M. :	1.82	2.33	4.11	4.81	7.00

ANIMAL	D 18	D 22	D 25	D 29	D 30
S 1053	190.0	197.0	207.0	215.0	196.0
S 1076	176.0	184.0	190.0	196.0	177.0
S 1065	167.0	180.0	186.0	190.0	173.0
S 1069	209.0	228.0	244.0	258.0	230.0
S 1062	176.0	185.0	193.0	201.0	180.0
S 1075	230.0	233.0	231.0	242.0	225.0
S 1058	208.0	215.0	224.0	230.0	206.0
S 1074	231.0	251.0	261.0	274.0	250.0
S 1045	245.0	266.0	258.0	268.0	244.0
S 1054	209.0	217.0	234.0	245.0	218.0
MEAN :	204.1	215.6	222.8	231.9	209.9
S.E.M. :	8.36	9.31	8.76	9.61	8.83

ANIMAL	D 29-D 1
S 1053	93.0
S 1076	74.0
S 1065	66.0
S 1069	134.0
S 1062	75.0
S 1075	113.0
S 1058	97.0
S 1074	143.0
S 1045	134.0
S 1054	106.0
MEAN :	103.5
S.E.M. :	8.67

Pao V toxicologic orientation assay
Female rat : weight evolution

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SERIES : Pao V: 73.2

DOSE : 73.2 mg/kg P.O.

ANIMAL	D 1	D 4	D 8	D 11	D 15
S 1046	122.0	134.0	146.0	156.0	166.0
S 1047	123.0	135.0	147.0	151.0	163.0
S 1055	126.0	141.0	147.0	148.0	162.0
S 1073	123.0	133.0	140.0	152.0	163.0
S 1056	128.0	142.0	158.0	171.0	188.0
S 1064	131.0	142.0	158.0	167.0	179.0
S 1060	132.0	144.0	160.0	174.0	187.0
S 1068	133.0	148.0	172.0	178.0	199.0
S 1048	139.0	152.0	171.0	182.0	196.0
S 1072	135.0	149.0	166.0	175.0	189.0
MEAN :	129.2	142.0	156.5	165.4	179.2
S.E.M. :	1.81	2.07	3.53	3.96	4.60

ANIMAL	D 18	D 22	D 25	D 29	D 30
S 1046	175.0	183.0	193.0	200.0	178.0
S 1047	167.0	176.0	195.0	202.0	181.0
S 1055	173.0	177.0	191.0	202.0	178.0
S 1073	171.0	175.0	178.0	188.0	169.0
S 1056	200.0	212.0	223.0	236.0	212.0
S 1064	190.0	207.0	218.0	228.0	206.0
S 1060	195.0	198.0	213.0	217.0	200.0
S 1068	210.0	223.0	238.0	256.0	229.0
S 1048	208.0	221.0	245.0	250.0	225.0
S 1072	198.0	207.0	223.0	240.0	213.0
MEAN :	188.7	197.9	211.7	221.9	199.1
S.E.M. :	5.06	5.95	6.90	7.42	6.75

ANIMAL	D 29-D 1
S 1046	78.0
S 1047	79.0
S 1055	76.0
S 1073	65.0
S 1056	108.0
S 1064	97.0
S 1060	85.0
S 1068	123.0
S 1048	111.0
S 1072	105.0
MEAN :	92.75
S.E.M. :	5.93

Pao V toxicologic orientation assay
Female rat ; weight evolution

SERIES : Pao V: 293

DOSE : 293 mg/kg P.O.

ANIMAL	D 1	D 4	D 8	D 11	D 15
S 1052	122.0	134.0	147.0	156.0	174.0
S 1057	122.0	134.0	147.0	151.0	164.0
S 1050	123.0	133.0	149.0	150.0	161.0
S 1071	125.0	139.0	148.0	154.0	169.0
S 1059	127.0	143.0	160.0	171.0	187.0
S 1067	129.0	143.0	159.0	170.0	183.0
S 1061	133.0	150.0	168.0	181.0	196.0
S 1063	132.0	134.0	161.0	175.0	199.0
S 1051	136.0	152.0	165.0	180.0	190.0
S 1066	134.0	144.0	162.0	175.0	186.0
MEAN :	128.3	140.6	156.6	166.3	180.9
S.E.M. :	1.66	2.19	2.54	3.87	4.19

ANIMAL	D 18	D 22	D 25	D 29	D 30
S 1052	190.0	202.0	216.0	226.0	196.0
S 1057	181.0	191.0	199.0	210.0	187.0
S 1050	172.0	181.0	190.0	192.0	173.0
S 1071	185.0	188.0	199.0	209.0	181.0
S 1059	197.0	211.0	228.0	241.0	212.0
S 1067	192.0	206.0	214.0	223.0	205.0
S 1061	204.0	222.0	235.0	246.0	219.0
S 1063	203.0	215.0	234.0	254.0	222.0
S 1051	199.0	220.0	234.0	242.0	214.0
S 1066	197.0	205.0	220.0	228.0	201.0
MEAN :	192.0	204.1	216.9	227.1	201.0
S.E.M. :	3.23	4.36	5.18	6.12	5.25

ANIMAL	D 29-D 1
S 1052	104.0
S 1057	88.0
S 1050	69.0
S 1071	84.0
S 1059	114.0
S 1067	94.0
S 1061	113.0
S 1063	122.0
S 1051	106.0
S 1066	94.0
MEAN :	98.8
S.E.M. :	5.08

Pao V toxicologic orientation assay
Female rat ; weight evolution

SERIES : Controls

DOSE : 0 mg/kg P.O.

ANIMAL	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
S 1053	16.0	15.0	8.0	13.0	16.0
S 1076	15.0	10.0	3.0	11.0	15.0
S 1065	17.0	- 2.0	14.0	10.0	4.0
S 1069	16.0	23.0	12.0	21.0	13.0
S 1062	9.0	13.0	6.0	8.0	14.0
S 1075	19.0	19.0	15.0	27.0	21.0
S 1058	14.0	20.0	8.0	14.0	19.0
S 1074	18.0	23.0	13.0	25.0	21.0
S 1045	19.0	19.0	17.0	31.0	25.0
S 1054	18.0	21.0	9.0	14.0	8.0
MEAN :	16.1	16.1	10.5	17.4	15.6
S.E.M. :	0.95	2.42	1.39	2.53	2.00

ANIMAL	D 18 to D 22	D 22 to D 25	D 25 to D 29
S 1053	7.0	10.0	8.0
S 1076	8.0	6.0	6.0
S 1065	13.0	6.0	4.0
S 1069	19.0	16.0	14.0
S 1062	9.0	8.0	8.0
S 1075	3.0	- 2.0	11.0
S 1058	7.0	9.0	6.0
S 1074	20.0	10.0	13.0
S 1045	21.0	- 8.0	10.0
S 1054	8.0	17.0	11.0
MEAN :	11.5	7.2	9.1
S.E.M. :	2.01	2.38	1.03

Pao V toxicologic orientation assay
Female rat : weight evolution

SERIES : Pao V : 73.2

DOSE : 73.2 mg/kg P.O.

ANIMAL	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
S 1046	12.0	12.0	10.0	10.0	9.0
S 1047	12.0	12.0	4.0	12.0	4.0
S 1055	15.0	6.0	1.0	14.0	11.0
S 1073	10.0	7.0	12.0	11.0	8.0
S 1056	14.0	16.0	13.0	17.0	12.0
S 1064	11.0	16.0	9.0	12.0	11.0
S 1060	12.0	16.0	14.0	13.0	8.0
S 1068	15.0	24.0	6.0	21.0	11.0
S 1048	13.0	19.0	11.0	14.0	12.0
S 1072	14.0	17.0	9.0	14.0	9.0
MEAN :	12.8	14.5	8.9	13.8	9.5
S.E.M. :	0.53	1.71	1.30	1.01	0.78

ANIMAL	D 18 to D 22	D 22 to D 25	D 25 to D 29
S 1046	8.0	10.0	7.0
S 1047	9.0	19.0	7.0
S 1055	4.0	14.0	11.0
S 1073	4.0	3.0	10.0
S 1056	12.0	11.0	13.0
S 1064	17.0	11.0	10.0
S 1060	3.0	15.0	4.0
S 1068	13.0	15.0	18.0
S 1048	13.0	24.0	5.0
S 1072	9.0	16.0	17.0
MEAN :	9.2	13.8	10.2
S.E.M. :	1.46	1.78	1.50

Pao V toxicologic orientation assay
Female rat : weight evolution

SERIES : Pao V : 293

DOSE : 293 mg/kg P.O.

ANIMAL	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
S 1052	12.0	13.0	9.0	18.0	16.0
S 1057	12.0	13.0	4.0	13.0	17.0
S 1050	10.0	16.0	1.0	11.0	11.0
S 1071	14.0	9.0	6.0	15.0	16.0
S 1059	16.0	17.0	11.0	16.0	10.0
S 1067	14.0	16.0	11.0	13.0	9.0
S 1061	17.0	18.0	13.0	15.0	8.0
S 1063	2.0	27.0	14.0	24.0	4.0
S 1051	16.0	13.0	15.0	10.0	9.0
S 1066	10.0	18.0	13.0	11.0	11.0
MEAN :	12.3	16.0	9.7	14.6	11.1
S.E.M. :	1.38	1.51	1.47	1.31	1.30

ANIMAL	D 18 to D 22	D 22 to D 25	D 25 to D 29
S 1052	12.0	14.0	10.0
S 1057	10.0	8.0	11.0
S 1050	9.0	9.0	2.0
S 1071	3.0	11.0	10.0
S 1059	14.0	17.0	13.0
S 1067	14.0	8.0	9.0
S 1061	18.0	13.0	11.0
S 1063	12.0	19.0	20.0
S 1051	21.0	14.0	8.0
S 1066	8.0	15.0	8.0
MEAN :	12.1	12.8	10.2
S.E.M. :	1.62	1.19	1.43

Pao V toxicologic orientation assay
Female rat : Food intake (g/d/rat)

SERIES : Controls

Dose : 0 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D8	D 8 to D11	D 11 to D 15	D 15 to D 18
1	17.5	16.9	16.5	18.3	18.0
2	16.5	17.5	17.7	17.8	19.5
3	19.3	17.9	17.8	20.3	22.5
4	20.8	20.1	21.2	21.5	22.5
5	21.3	20.8	19.2	23.0	26.5
MEAN :	19.1	18.6	18.5	20.2	21.8
S.E.M. :	0.92	0.76	0.80	0.97	1.46

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	18.6	17.8	19.2
2	20.3	19.0	20.7
3	20.6	19.7	18.4
4	22.1	22.2	22.7
5	26.1	21.2	21.2
MEAN :	21.5	20.0	20.4
S.E.M. :	1.27	0.78	0.76

Pao V toxicologic orientation assay
Female rat : Food intake (g/d/rat)

SERIES : Pao V : 73.2

Dose : 73.2 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	16.3	17.0	15.7	15.9	18.3
2	17.5	18.0	16.7	16.4	18.3
3	18.0	20.3	18.7	18.5	20.0
4	18.5	19.1	18.8	19.4	20.8
5	20.5	20.0	19.3	20.3	23.7
MEAN :	18.2	18.9	17.8	18.1	20.2
S.E.M. :	0.69	0.62	0.70	0.85	1.00

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	17.4	17.2	18.1
2	17.6	18.0	18.2
3	20.1	21.2	21.4
4	20.5	18.8	21.0
5	22.1	22.3	22.9
MEAN :	19.5	19.5	20.3
S.E.M. :	0.90	0.97	0.94

Pao V toxicologic orientation assay
Female rat : Food intake (g/d/rat)

SERIES : Pao V: 293

Dose : 293 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	15.3	5.0	16.3	16.8	18.5
2	17.3	17.0	16.5	16.1	19.3
3	18.0	19.4	18.8	18.8	21.8
4	18.0	19.1	19.3	20.5	23.0
5	20.0	18.4	17.7	19.3	21.5
MEAN :	17.7	15.8	17.7	18.3	20.8
S.E.M. :	0.75	2.73	0.60	0.81	0.83

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	20.1	19.5	19.7
2	18.1	17.2	17.9
3	21.0	20.7	20.9
4	21.5	21.2	22.3
5	21.0	20.0	21.6
MEAN :	20.3	19.7	20.5
S.E.M. :	0.60	0.69	0.77

Pao V toxicologic orientation assay
Female rat : Water intake (ml/d/rat)

SERIES : Controls

Dose : 0 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D8	D 8 to D11	D 11 to D 15	D 15 to D 18
1	26.0	29.3	25.2	28.9	29.7
2	17.0	19.8	20.7	19.8	22.3
3	22.3	21.4	20.7	23.0	26.0
4	21.3	23.5	21.8	21.9	25.0
5	24.8	27.1	27.2	28.4	30.8
MEAN :	22.3	24.2	23.1	24.4	26.8
S.E.M. :	1.57	1.76	1.31	1.81	1.56

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	26.0	29.5	37.0
2	24.3	22.0	22.2
3	24.0	23.5	21.2
4	26.0	24.8	24.9
5	33.4	27.5	27.2
MEAN :	26.7	25.5	26.5
S.E.M. :	1.72	1.36	2.83

Pao V toxicologic orientation assay
Female rat : Water intake (ml/d/rat)

SERIES : Pao V : 73.2

Dose : 73.2 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	21.0	22.6	24.2	20.0	26.3
2	21.0	19.6	20.7	17.5	23.8
3	22.8	23.3	31.8	18.8	23.2
4	22.8	23.1	22.7	21.9	25.3
5	21.0	21.4	21.0	21.4	25.0
MEAN :	21.7	22.0	24.1	19.9	24.7
S.E.M. :	0.44	0.68	2.03	0.81	0.55

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	24.6	24.3	33.8
2	19.8	21.0	19.7
3	23.8	23.7	23.4
4	24.6	23.8	24.2
5	25.4	24.3	27.8
MEAN :	23.6	23.4	25.8
S.E.M. :	0.99	0.62	2.38

Pao V toxicologic orientation assay
Female rat : Water intake (ml/d/rat)

SERIES : Pao V : 293

Dose : 293 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	18.3	11.1	19.0	19.5	25.3
2	19.3	22.6	22.5	20.9	23.2
3	21.3	23.0	21.7	21.4	26.7
4	22.3	25.1	26.8	28.1	32.3
5	22.0	23.8	21.2	23.3	29.2
MEAN :	20.6	21.1	22.2	22.6	27.3
S.E.M. :	0.78	2.54	1.28	1.49	1.58

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	22.9	21.7	21.5
2	24.4	23.0	22.4
3	24.3	24.0	25.7
4	32.8	27.5	28.9
5	30.6	26.8	34.9
MEAN :	27.0	24.6	26.7
S.E.M. :	1.97	1.11	2.44

Pao V toxicologic orientation assay
Female rat ; Water/Food ratio

SERIES : Controls

Dose : 0 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D8	D 8 to D11	D 11 to D 15	D 15 to D 18
1	1.486	1.734	1.527	1.579	1.650
2	1.030	1.131	1.169	1.112	1.144
3	1.155	1.196	1.163	1.133	1.156
4	1.024	1.169	1.028	1.019	1.111
5	1.164	1.303	1.417	1.235	1.162
MEAN :	1.172	1.307	1.261	1.216	1.245
S.E.M. :	0.0839	0.1105	0.0915	0.0972	0.1018

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	1.398	1.657	1.927
2	1.197	1.158	1.072
3	1.165	1.193	1.152
4	1.176	1.117	1.097
5	1.280	1.297	1.283
MEAN :	1.243	1.284	1.306
S.E.M. :	0.0436	0.0979	0.1594

Pao V toxicologic orientation assay
Female rat : Water/Food ratio

SERIES : Pao V: 73.2

Dose : 73.2 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	1.288	1.329	1.541	1.258	1.437
2	1.200	1.089	1.240	1.067	1.301
3	1.267	1.148	1.701	1.016	1.160
4	1.232	1.209	1.207	1.129	1.216
5	1.024	1.070	1.088	1.054	1.055
MEAN :	1.202	1.169	1.355	1.105	1.234
S.E.M. :	0.0470	0.0469	0.1141	0.0423	0.0646

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	1.414	1.413	1.867
2	1.125	1.167	1.082
3	1.184	1.118	1.093
4	1.200	1.266	1.152
5	1.149	1.090	1.214
MEAN :	1.214	1.211	1.282
S.E.M. :	0.0515	0.0588	0.1482

Pao V toxicologic orientation assay
Female rat : Water/Food ratio

SERIES : Pao V : 293

Dose : 293 mg/kg P.O.

CAGE	D 1 to D 4	D 4 to D 8	D 8 to D 11	D 11 to D 15	D 15 to D 18
1	1.196	2.220	1.166	1.161	1.368
2	1.116	1.329	1.364	1.298	1.202
3	1.183	1.186	1.154	1.138	1.225
4	1.239	1.314	1.389	1.371	1.404
5	1.100	1.293	1.198	1.207	1.358
MEAN :	1.167	1.469	1.254	1.235	1.311
S.E.M. :	0.0259	0.1896	0.0505	0.0436	0.0409

CAGE	D 18 to D 22	D 22 to D 25	D 25 to D 29
1	1.139	1.113	1.091
2	1.348	1.337	1.251
3	1.157	1.159	1.230
4	1.526	1.297	1.296
5	1.457	1.340	1.616
MEAN :	1.325	1.249	1.297
S.E.M. :	0.0777	0.0474	0.0867

Pao Y toxicologic orientation assay
Female rat ; Hematology

SERIES : Controls

Dose : 0 mg/kg P.O.

ANIMAL	Erythrocytes	Hemoglobin	Hematocrit	M C V	M C C
S 1053	6.67	9.8	0.46	68.97	21.30
S 1076	6.72	10.3	0.45	66.96	22.89
S 1065	7.19	10.2	0.48	66.76	21.25
S 1069	7.02	10.0	0.46	65.53	21.74
S 1062	7.85	10.4	0.45	57.32	23.11
S 1075	7.33	9.5	0.45	61.39	21.11
S 1058	6.77	9.7	0.43	63.52	22.56
S 1074	7.07	10.0	0.46	65.06	21.74
S 1045	6.69	9.4	0.44	65.77	21.36
S 1054	7.36	10.8	0.48	65.22	22.50
MEAN :	7.07	10.0	0.46	64.65	21.96
S.E.M. :	0.120	0.14	0.005	1.035	0.234

ANIMAL	Leucocytes	Thrombocytes
S 1053	7.299	509
S 1076	6.066	520
S 1065	5.725	721
S 1069	7.188	336
S 1062	5.999	304
S 1075	8.680	480
S 1058	6.335	329
S 1074	11.479	677
S 1045	6.918	313
S 1054	7.101	347
MEAN :	7.279	454
S.E.M. :	0.5394	48.6

Pao V toxicologic orientation assay
Female rat ; Hematology

SERIES : Pao V : 73.2

Dose : 73.2 mg/kg P.O.

ANIMAL	Erythrocytes	Hemoglobin	Hematocrit	M C V	M C C
S 1046	6.79	11.2	0.46	67.75	24.35
S 1047	6.63	8.5	0.44	66.37	19.32
S 1055	7.91	10.6	0.48	60.68	22.08
S 1073	8.00	10.4	0.46	57.50	22.61
S 1056	6.88	9.3	0.44	63.95	21.14
S 1064	7.27	10.5	0.48	66.02	21.88
S 1060	7.03	9.9	0.45	64.01	22.00
S 1068	6.53	9.5	0.44	67.38	21.59
S 1048	6.52	9.2	0.42	64.42	21.90
S 1072	6.96	10.3	0.44	63.22	23.41
MEAN :	7.05	9.9	0.45	64.13	22.03
S.E.M. :	0.167	0.26	0.006	0.995	0.422

ANIMAL	Leucocytes	Thrombocytes
S 1046	7.841	602
S 1047	5.056	867
S 1055	8.020	354
S 1073	6.821	286
S 1056	6.739	950
S 1064	10.235	474
S 1060	6.847	608
S 1068	8.432	871
S 1048	7.905	452
S 1072	10.555	494
MEAN :	7.845	596
S.E.M. :	0.5216	72.7

Pao V toxicologic orientation assay
Female rat : Hematology

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SERIES : Pao V : 293

Dose : 293 mg/kg P.O.

ANIMAL	Erythrocytes	Hemoglobin	Hematocrit	M C V	M C C
S 1052	7.32	11.1	0.50	68.31	22.20
S 1057	6.94	10.2	0.45	64.84	22.67
S 1050	6.32	9.4	0.43	68.04	21.86
S 1071	7.77	10.4	0.47	60.49	22.13
S 1059	6.33	9.9	0.45	71.09	22.00
S 1067	6.98	9.8	0.46	65.90	21.30
S 1061	6.92	10.0	0.45	65.03	22.22
S 1063	6.25	9.0	0.42	67.20	21.43
S 1051	6.69	9.1	0.40	59.79	22.75
S 1066	7.32	10.0	0.46	62.84	21.74
MEAN :	6.88	9.9	0.45	65.35	22.03
S.E.M. :	0.158	0.20	0.009	1.125	0.149

ANIMAL	Leucocytes	Thrombocytes
S 1052	10.937	514
S 1057	10.611	370
S 1050	9.012	370
S 1071	8.983	662
S 1059	11.759	940
S 1067	5.889	302
S 1061	6.242	796
S 1063	10.852	1229
S 1051	7.473	337
S 1066	9.501	321
MEAN :	9.126	584
S.E.M. :	0.6420	100.0

Pao V Toxicologic orientation assay
Female rat ; Biochemical data

SERIES : Controls

Dose : 0 mg/kg P.O.

ANIMAL	Cholester.	Proteins	Calcium	Osmolarity	Urin creat
S 1053	3.18	65.6	2.87	1470	8.1
S 1076	2.98	68.0	2.78	1940	12.0
S 1065	4.02	70.9	2.76	2330	16.4
S 1069	4.88	71.3	2.97	1380	10.6
S 1062	2.94	63.7	2.63	1600	10.0
S 1075	4.97	65.2	2.79	2010	14.8
S 1058	3.32	65.2	2.93	1685	17.4
S 1074	2.83	72.2	2.47	1240	10.5
S 1045	3.36	61.9	2.85	1260	12.3
S 1054	3.69	71.8	2.78	1510	14.4
MEAN :	3.62	67.6	2.78	1643	12.7
S.E.M. :	0.245	1.19	0.046	111.8	0.95

ANIMAL	Serum creat	Creat. clear.	Urea	Bilirubin	ALAT
S 1053	67.8	0.632	6.61	6.30	106.0
S 1076	37.8	0.934	7.00	5.20	93.0
S 1065	84.7	0.494	7.47	5.90	113.0
S 1069	75.3	0.994	6.61	6.70	11.0
S 1062	75.3	0.651	7.16	7.00	113.0
S 1075	65.9	0.837	5.99	5.90	96.0
S 1058	71.6	0.953	6.85	5.60	93.0
S 1074	71.6	0.920	6.61	6.70	105.0
S 1045	73.4	1.051	6.73	6.70	76.0
S 1054	84.7	1.000	6.46	5.60	95.0
MEAN :	70.8	0.847	6.75	6.16	90.1
S.E.M. :	4.16	0.0597	0.128	1.191	9.46

ANIMAL	ASAT	Al Phosph.
S 1053	29.0	197
S 1076	20.0	137
S 1065	23.0	118
S 1069	18.0	11
S 1062	23.0	129
S 1075	21.0	100
S 1058	20.0	95
S 1074	21.0	93
S 1045	20.0	107
S 1054	19.0	173
MEAN :	21.4	116
S.E.M. :	0.98	15.9

Pao V toxicologic orientation assay
Female rat : Biochemical data

SERIES : Pao V : 73.2

Dose : 73.2 mg/kg P.O.

ANIMAL	Cholester.	Proteins	Calcium	Osmolarity	Urin creat
S 1046	3.18	67.1	2.93	1685	10.0
S 1047	3.01	71.4	2.86	2010	15.4
S 1055	3.58	65.6	2.66	1835	9.4
S 1073	3.14	67.5	2.63	2100	13.6
S 1056	3.18	67.5	2.85	1360	11.2
S 1064	3.18	66.9	2.72	1260	9.0
S 1060	2.67	66.9	2.86	1810	14.0
S 1068	4.00	65.7	2.98	1360	14.7
S 1048	4.29	66.9	2.83	1485	12.7
S 1072	4.02	66.5	2.97	1790	15.5
MEAN :	3.42	67.2	2.83	1670	12.6
S.E.M. :	0.165	0.51	0.039	91.7	0.79

ANIMAL	Serum creat	Creat. clear.	Urea	Bilirubin	ALAT
S 1046	73.4	0.668	7.04	5.60	91.0
S 1047	75.3	0.561	5.84	9.60	100.0
S 1055	81.0	0.364	7.24	5.20	96.0
S 1073	77.2	0.518	8.29	3.70	113.0
S 1056	79.1	0.777	7.39	3.30	113.0
S 1064	69.7	0.684	6.81	4.40	110.0
S 1060	77.2	0.747	6.34	5.20	103.0
S 1068	71.6	1.167	7.63	5.20	91.0
S 1048	81.0	0.830	7.51	5.60	90.0
S 1072	79.1	1.037	6.42	4.40	106.0
MEAN :	76.5	0.735	7.05	5.22	101.3
S.E.M. :	1.23	0.0754	0.228	0.546	2.88

ANIMAL	ASAT	Al Phosph.
S 1046	21.0	143
S 1047	27.0	143
S 1055	22.0	93
S 1073	20.0	84
S 1056	21.0	151
S 1064	21.0	147
S 1060	21.0	93
S 1068	22.0	174
S 1048	18.0	106
S 1072	21.0	171
MEAN :	21.4	131
S.E.M. :	0.72	10.6

Pao V toxicologic orientation assay
Female rat : Biochemical data

SERIES : Pao V : 293

Dose : 293 mg/kg P.O.

ANIMAL	Cholester.	Proteins	Calcium	Osmolarity	Urin creat
S 1052	3.29	66.5	2.87	1750	9.8
S 1057	4.53	67.6	2.92	1090	7.0
S 1050	3.29	63.8	2.59	1215	8.2
S 1071	3.45	65.6	2.70	1070	6.7
S 1059	3.80	66.5	3.01	1070	9.7
S 1067	3.85	68.8	2.89	1530	11.4
S 1061	4.22	72.8	2.92	1260	13.4
S 1063	4.53	68.0	2.76	1215	13.8
S 1051	3.34	65.2	2.75	1340	11.0
S 1066	4.00	65.9	2.83	930	7.1
MEAN :	3.83	67.1	2.82	1247	9.8
S.E.M. :	0.154	0.78	0.039	76.9	0.82

ANIMAL	Serum creat	Creat. clear.	Urea	Bilirubin	ALAT
S 1052	65.9	0.496	6.85	5.60	144.0
S 1057	71.6	0.613	6.07	6.30	126.0
S 1050	71.6	0.606	5.95	8.90	127.0
S 1071	67.8	0.736	6.96	7.40	115.0
S 1059	81.0	0.869	6.93	5.60	129.0
S 1067	75.3	0.801	6.85	4.80	209.0
S 1061	81.0	1.200	6.50	5.20	142.0
S 1063	73.4	1.475	7.32	7.40	147.0
S 1051	75.3	0.888	7.20	5.90	11.0
S 1066	77.2	0.667	8.37	5.60	160.0
MEAN :	74.0	0.835	6.90	6.27	131.0
S.E.M. :	1.59	0.0944	0.216	0.398	15.70

ANIMAL	ASAT	Al Phosph.
S 1052	26.0	118
S 1057	25.0	141
S 1050	21.0	122
S 1071	18.0	77
S 1059	24.0	115
S 1067	40.0	121
S 1061	29.0	185
S 1063	27.0	122
S 1051	20.0	121
S 1066	26.0	151
MEAN :	25.6	127
S.E.M. :	1.93	8.8

Pao V toxicologic orientation assay
Female rat : Urine excretion

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SERIES : Controls

Dose : 0 mg/kg P.O.

ANIMAL	Exc. vol. 7h	% exc. 7h	Vol 7-24h	Exc. vol. 24h	pH
S 1053	8.0	123.10	5.4	13.4	6.00
S 1076	7.4	125.40	3.0	10.4	6.00
S 1065	6.2	108.80	2.6	8.8	6.00
S 1069	9.0	116.90	7.2	16.2	6.50
S 1062	9.0	150.00	5.0	14.0	5.50
S 1075	5.6	76.70	3.8	9.4	6.00
S 1058	6.2	89.90	4.0	10.2	5.50
S 1074	10.6	129.30	6.4	17.0	6.50
S 1045	6.8	85.00	6.4	13.2	6.50
S 1054	9.2	124.30	6.0	15.2	6.50
MEAN :	7.8	112.94	5.0	12.8	6.10
S.E.M. :	0.51	7.216	0.50	0.92	0.125

Pao V toxicologic orientation assay
Female rat : Urine excretion

SERIES : Pao V : 73.2

Dose : 73.2 mg/kg P.O.

ANIMAL	Exc. vol. 7h	% exc. 7h	Vol 7-24h	Exc. vol. 24h	pH
S 1046	5.0	83.30	5.0	10.0	6.00
S 1047	6.8	11.50	2.8	9.6	6.00
S 1055	9.2	150.80	3.2	12.4	6.00
S 1073	4.8	85.70	3.0	7.8	5.50
S 1056	7.2	101.40	5.6	12.8	6.00
S 1064	8.8	129.40	5.4	14.2	6.00
S 1060	6.2	95.40	4.2	10.4	5.50
S 1068	7.2	93.50	5.8	13.0	6.00
S 1048	5.0	66.70	5.4	10.4	6.50
S 1072	7.8	108.30	5.4	13.2	6.00
MEAN :	6.8	92.60	4.6	11.4	5.95
S.E.M. :	0.49	11.764	0.37	0.64	0.090

Pao V toxicologic orientation assay
Female rat : Urine excretion

SERIES : Pao V : 293

Dose : 293 mg/kg P.O.

ANIMAL	Exc. vol. 7h	% exc. 7h	Vol 7-24h	Exc. vol. 24h	pH
S 1052	8.8	129.40	3.4	12.2	5.50
S 1057	5.0	79.40	6.4	11.4	6.00
S 1050	6.4	110.30	5.4	11.8	6.00
S 1071	7.7	122.20	7.6	15.3	6.50
S 1059	8.2	113.90	7.4	15.6	6.50
S 1067	7.4	110.50	5.4	12.8	6.00
S 1061	6.8	91.90	7.4	14.2	6.00
S 1063	8.2	107.90	8.0	16.2	6.00
S 1051	10.0	137.00	6.2	16.2	5.50
S 1066	6.2	91.20	7.4	13.6	7.00
MEAN :	7.5	109.37	6.5	13.9	6.10
S.E.M. :	0.45	5.664	0.45	0.58	0.145

Pao Y toxicologic orientation assay
Female rat : Organ weight

SERIES : Controls

Dose : 0 mg/kg P.O.

ANIMAL	Kidney	Adrenals	Thymus	Brain	Liver
S 1053	1.480	62.00	436.0	1.254	5.72
S 1076	1.541	55.00	437.0	1.284	5.42
S 1065	1.357	61.00	482.0	1.300	5.13
S 1069	1.717	101.00	635.0	1.411	7.47
S 1062	1.560	71.00	413.0	1.427	5.25
S 1075	1.828	69.00	713.0	1.291	7.73
S 1058	1.530	65.00	353.0	1.363	6.32
S 1074	0.032	79.00	824.0	1.440	7.74
S 1045	1.822	62.00	457.0	1.220	7.35
S 1054	1.517	80.00	428.0	1.310	7.48
MEAN :	1.638	70.50	517.8	1.330	6.56
S.E.M. :	0.0647	4.217	48.30	0.0239	0.348

ANIMAL	Heart
S 1053	0.676
S 1076	0.616
S 1065	0.622
S 1069	0.788
S 1062	0.588
S 1075	0.817
S 1058	0.705
S 1074	0.755
S 1045	0.806
S 1054	0.703
MEAN :	0.708
S.E.M. :	0.0261

Pao V toxicologic orientation assay
Female rat : Organ weight

SERIES : Pao V : 73.2

Dose : 73.2 mg/kg P.O.

ANIMAL	Kidney	Adrenals	Thymus	Brain	Liver
S 1046	1.354	63.00	573.0	1.244	5.91
S 1047	1.350	62.00	293.0	1.331	6.14
S 1055	1.542	57.00	525.0	1.305	5.69
S 1073	1.494	72.00	376.0	1.407	5.59
S 1056	1.551	56.00	510.0	1.340	6.93
S 1064	1.654	70.00	452.0	1.331	6.73
S 1060	1.734	78.00	579.0	1.341	7.63
S 1068	1.630	67.00	401.0	1.357	6.05
S 1048	1.816	72.00	477.0	1.425	7.18
S 1072	1.693	87.00	713.0	1.325	7.47
MEAN :	1.582	68.40	489.9	1.341	6.53
S.E.M. :	0.0487	3.023	37.64	0.0159	0.238

ANIMAL	Heart
S 1046	0.584
S 1047	0.649
S 1055	0.688
S 1073	0.623
S 1056	0.619
S 1064	0.634
S 1060	0.760
S 1068	0.673
S 1048	0.757
S 1072	0.702
MEAN :	0.669
S.E.M. :	0.0185

Paov V toxicologic orientation assay
Female rat : Organ weight

SERIES : PAO V : 293

Dose : 293 mg/kg P.O.

ANIMAL	Kidney	Adrenals	Thymus	Brain	Liver
S 1052	1.582	47.00	488.0	1.184	7.21
S 1057	1.609	60.00	498.0	1.218	6.54
S 1050	1.605	65.00	330.0	1.274	5.74
S 1071	1.546	76.00	491.0	1.304	6.66
S 1059	1.793	85.00	694.0	1.344	8.21
S 1067	1.603	65.00	468.0	1.470	6.84
S 1061	1.748	80.00	392.0	1.411	8.43
S 1063	1.859	73.00	701.0	1.267	8.73
S 1051	2.046	81.00	606.0	1.407	8.43
S 1066	1.669	72.00	384.0	1.178	7.72
MEAN :	1.706	70.40	505.2	1.306	7.45
S.E.M. :	0.0495	3.609	40.04	0.0318	0.317

ANIMAL	Heart
S 1052	0.675
S 1057	0.721
S 1050	0.642
S 1071	0.686
S 1059	0.726
S 1067	0.662
S 1061	0.812
S 1063	0.715
S 1051	0.783
S 1066	0.904
MEAN :	0.733
S.E.M. :	0.0253

PAO V MONOGRAPH

Pao Pereira Monograph

(1) Origin and Geographic Location

Pao V is derived from the bark of the Pao Pereira tree which can be found in Brazil.

The Latin name of Pao Pereira is *Geissospermum Vellosii*, which is one (1) of six (6) *Geissospermum* species. The *Geissospermum* genus was established in 1849 by Dr. Fr. Allemao and belongs to the Apocynaceae family. The *Geissospermum*, a tall tree discovered by Adolpho Ducke in high forest in Amazonas, is found in the Amazon basin from the Guyanas to Bolivia.

(2) Botanical information

The chief characters of *Geissospermum* genus, reside in its alternate leaves (spirally arranged, silky-haired leaves), in its extraaxillary inflorescence, the segments of the salver-shaped corolla having a dextrorse convolution, in its cordate anthers, and especially in the structure of the follicles and seeds.

The *Geissospermum Vellosii* is a tree of great height, the trunk covered with a very thick bark, and an inner lamellar bark, apparently not lactescent; branches flexuous, twice trichotomous, branchlets straight, cinereo-tomentose, becoming smooth; axils 1/2 in. apart; leaves alternate, subdistichous, elliptic, acute at the base, acuminate, very undulate on the margins, chartaceous, younger ones cinereo-sericeous, with nerves prominent on both sides, 2-3 in. long, 1-1 1/2 in. broad, on petioles 2-3 lines long; panicle placed 2 lines above or below the axils; peduncle stout, angular, 4 lines long, its 2 branchlets 2 lines long, bracteolated, bearing on their summits each 3-4 fasciculated flowers, on pedicels 1 line long; sepals lanceolate, 1 1/2 line long, connate at the base, cinereo-pilose; tube of corolla cylindrical, angular, pilose outside, glabrous within, except a narrow pilose ring in the contracted mouth, below which it is somewhat swollen, 4 lines long; segments oblong, obtuse, 3 lines long, slightly dextrorsely convolute in aestivation; anthers free, ovate,

cordate, on short pubescent filaments; disk very pilose, concealing the ovaries; follicles spreading, 2 in. long, 1 in. broad, with a pericarp 3 lines thick, 2 sutural placentae agglutinated together, nearly reaching the opposite side of the cell, each bearing on its outer face 4 or 5 seeds, their summits overlapping each other; seeds ovoid, 7 lines long, 4 lines broad, with a central hilum on one face, where they are attached to a fleshy funicle, in which they are half-imbedded; embryo in thin albumen, with 2 cordate cotyledons, and a radicle half their length, pointing to the apex of the follicle.

(3) **The Organoleptic Elements of Pao V**

The Organoleptic elements of Pao V, the extract of the bark of the Pao Pereira tree, are:

- lack of odor
- yellow ochre powder
- strong bitterness

(4) **Traditional Folk Use in South America**

For non-dietary purposes, the dense and strong timber is little used because of its scarcity and poor form, but is suitable for tool handles and wagon spokes.

For dietary purposes, however, the Pao Pereira tree bark is used in manifold ways by the different peoples of South America. In Guyana, the tree trunk's bark is used as a vermifuge, against paludism and diabetes. For example, the Creoles, after soaking the tree trunk's bark in rum or cognac, use it as a cure against paludism. Said bark is also given to children as a vermifuge and is used against diarrhea. The Palikur people drink a Pao Pereira concoction, prepared with water, cooked or uncooked, to fight against fever, intestinal worms and diabetes (a common disease in this community). The Brazilian Indians and some inland people use the Pao Pereira tree bark against intermittent fever, through infusion or bath. Finally, the Pao Pereira bark is a powerful febrifuge and has been used to recover from snake bites (particularly by eating the tree's leaves).

Extracts obtained from the Pao Pereira tree bark have long enjoyed a reputation as a tonic and febrifuge in Brazilian folk medicine and have been reported to have curare-like activity. Nowadays, extracts obtained from the Pao Pereira tree bark are sold for daily consumption in open air Brazilian markets as, among other things, a tonic.

Despite the fact that this plant has been used for centuries by different peoples in South America, its use only appears recently in Botanical and Ethnobotanical records. For example, the first time that this plant was mentioned in a scientific manner was in a report authored by a Dr. Richards in 1937. Nevertheless, because it has been used in Brazil for several centuries as a tonic and febrifuge, the Pao Pereira tree has been registered in the Brazilian Pharmacopoeia since 1926.

**DRAWING OF
GEISSOSPERMUM VELLOSI**



GEISSOSPERMUM *Vellosii*

**PHOTOGRAPH OF
PAO PEREIRA BARK**

PAO PEREIRA BARK



Pao V. TOXICOLOGIC ORIENTATION ASSAY
FEMALE RAT : WATER / FOOD RATIO

RECAPITULATION : MEAN, ERROR AND STANDARD DEVIATION, VARIANCE

D 1 to D 4					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	5	1.172	0.0839	0.1876	0.0352
<i>Pao V: 73.2</i>	5	1.202	0.0470	0.1050	0.0110
<i>Pao V: 293</i>	5	1.167	0.0259	0.0579	0.0034

D 4 to D 8					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	5	1.307	0.1105	0.2472	0.0611
<i>Pao V: 73.2</i>	5	1.169	0.0469	0.1049	0.0110
<i>Pao V: 293</i>	5	1.469	0.1896	0.4239	0.1797

D 8 to D 11					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	5	1.261	0.0915	0.2045	0.0418
<i>Pao V: 73.2</i>	5	1.355	0.1141	0.2552	0.0651
<i>Pao V: 293</i>	5	1.254	0.0505	0.1130	0.0128

D 11 to D 15					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	5	1.216	0.0972	0.2173	0.0472
<i>Pao V: 73.2</i>	5	1.105	0.0423	0.0947	0.0090
<i>Pao V: 293</i>	5	1.235	0.0436	0.0975	0.0095

D 15 to D 18					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	5	1.245	0.1018	0.2275	0.0518
<i>Pao V: 73.2</i>	5	1.234	0.0646	0.1446	0.0209
<i>Pao V: 293</i>	5	1.311	0.0409	0.0914	0.0084

D 18 to D 22					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	5	1.243	0.0436	0.0974	0.0095
<i>Pao V: 73.2</i>	5	1.214	0.0515	0.1152	0.0133
<i>Pao V: 293</i>	5	1.325	0.0777	0.1738	0.0302

Pao V. TOXICOLOGIC ORIENTATION ASSAY
FEMALE RAT : WATER / FOOD RATIO

RECAPITULATION : MEAN, ERROR AND STANDARD DEVIATION, VARIANCE

D 22 to D 25					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	5	1.284	0.0979	0.2188	0.0479
<i>Pao V</i> : 73.2	5	1.211	0.0588	0.1314	0.0173
<i>Pao V</i> : 293	5	1.249	0.0474	0.1060	0.0112

D 25 to D 29					
SERIES	N	MEAN	STANDARD ERROR	STANDARD DEVIATION	VARIANCE
CONTROLS:	5	1.306	0.1594	0.3564	0.1270
<i>Pao V</i> : 73.2	5	1.282	0.1482	0.3315	0.1099
<i>Pao V</i> : 293	5	1.297	0.0867	0.1940	0.0376

**INFORMATION REGARDING
THE CORPORATION,
LIVRON VITAMIN CO. INC. ,
PERFORMING
THE ENCAPSULATION OF PAO V**

**Information regarding Livron Vitamin Co. Inc., the corporation
performing the encapsulation of Pao V**

Livron Vitamin Co. Inc. located 3-Pearl Court, Allendale, New Jersey 07401 is licensed by the New Jersey Department of Health Services (Licence Permit # F-009 085, Expiration date 12/31/96) to encapsulate organic and therapeutic products.

The capsules used for Pao V are clear gelatin capsules manufactured by Capsugel, a division of Warner Lambert Company.

**CERTIFICATE OF COMPLIANCE
WITH FDA STANDARDS
FROM CAPSUGEL,
THE CAPSULE'S MANUFACTURER**

CAPSUGEL®

DIVISION OF WARNER-LAMBERT COMPANY
535 NORTH EMERALD ROAD - GREENWOOD, SOUTH CAROLINA 29646
TELEPHONE (803) 223-2278 • FAX (803) 242-3082
1-800-845-6973

TO: Mr. Gary Violo LIVRON INC

201-236-1166

FROM: A.G. CALDWELL

DATE: August 21, 1996 1:11 p.m.

SUBJECT: FDA STANDARD

Capsugel's capsules are manufactured in our FDA inspected facilities to meet the most exacting test of precision and to meet the fitness for use criteria that is required of the modern hard gelatin capsule. The care and control of the manufacturing process enables us to offer pure hard gelatin capsules of consistent quality.

PLEASE CALL ME IF YOU HAVE ANY QUESTIONS.



SAMPLE LABEL

Supplement Facts

Serving Size 1 Capsule

Amount Per Capsule

Pao Pereira, powdered (*Geissospermum Vellosii*) (bark) 125 mg*

* Daily Value not established

Other ingredients: Lactose, cellulose microcrystalline, magnesium stearate, corn starch and gelatin.