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APPENDICES

APPENDIX A

Table 21. Test Products.

TRADE NAME	MANUFACTURER	LOT NO.	Mfg. DATE
FUNGAZOLE	BIO. LAB	8015174	14-5-88
NIZORAL	JANSSEN	181148	30-11-88
KETAZON	SIAM BHASAJ	PX56703	27-8-87
KATSIN	M&H	62088	23-8-88
KAZINAL	ASIAN PHARMA.	T89056	3-89
FUNORA	KENTOWN	04689	28-3-89
KETON	PHARSPEC	P028729	30-11-88
KETOCOX	COX	305/2004	11-5-89
KATSIN	M&H	63132	23-11-89

APPENDIX B

Table 22. Demographic Data of 12 Subjects.

SUBJECT NO.	SEX	AGE (yr.)	WEIGHT (kg.)	HEIGHT (cm.)
1	M	27	54	153
2	M	24	59	179
3	M	21	50	165
4	M	29	63	177
5	M	37	62	170
6	M	22	60	163
7	M	21	54	168
8	M	24	68	170
9	M	22	68	176
10	M	22	61	167
11	M	23	58	169
12	M	22	53	165
MEAN		24.50	59.09	168.50
S.D.		4.62	5.99	7.01

APPENDIX C

STANDARD CURVES

Table 23. Standard curve data of ketoconazole in simulated gastric fluid without pepsin.

CONCENTRATION (mcg/ml)	ABSORBANCE[5] (231 nm)	% THEORY[4]
0	0.000	-
4	0.144	102.88
6	0.211	101.17
8	0.277	99.95
10	0.343	99.21
12	0.411	99.21
14	0.492	101.92
16	0.543	98.48
18	0.617	99.53
20	0.693	100.67

1. Mean percent theory (±S.D.) was 100.34±1.35 with 1.35%C.V.
2. Determination coefficient (r^2) = 0.999
3. Least square line : Abs = 0.034(conc)±0.0029
4. Percent theory = $\frac{(Abs - 0.0029)*100}{(0.034)(conc)}$
5. Each absorbance is based on means of four determinations on different days.

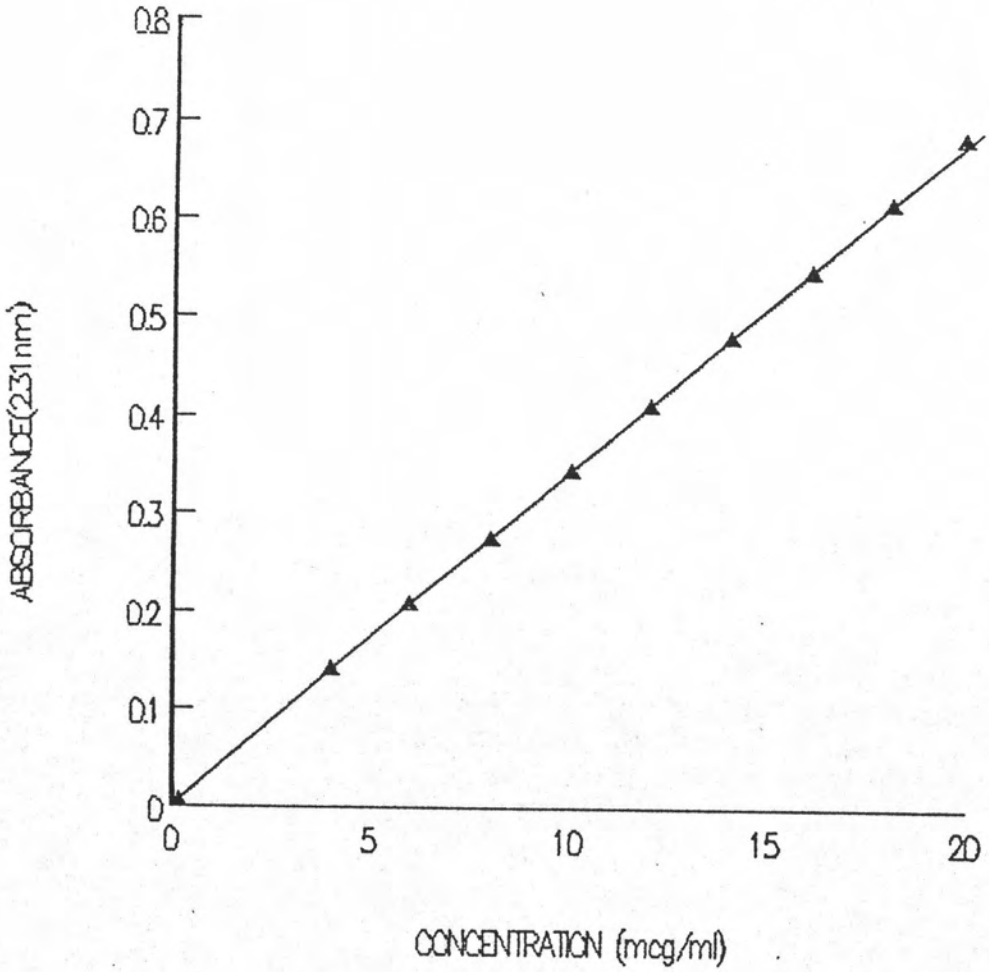


Figure 8. Standard curve of ketoconazole in simulated gastric fluid without pepsin.

Table 24. Standard curve data of ketoconazole in simulated intestinal fluid without pancreatin.

CONCENTRATION (mcg/ml)	ABSORBANCE[5] (231 nm)	% THEORY[4]
0	0.000	-
1	0.040	99.02
2	0.080	100.77
3	0.120	101.35
4	0.160	101.64
5	0.197	100.28
6	0.232	98.52
7	0.273	99.45
8	0.313	99.83
9	0.355	100.70
10	0.391	99.86

1. Mean percent theory (±S.D.) was 100.14±0.94 with 0.94%C.V.
2. Determination coefficient (r^2) = 0.999
3. Least square line : Abs = 0.039(conc)±0.0013
4. Percent theory = $\frac{(Abs-0.0013)*100}{(0.039)(conc)}$
5. Each absorbance is based on means of five determinations on different days.

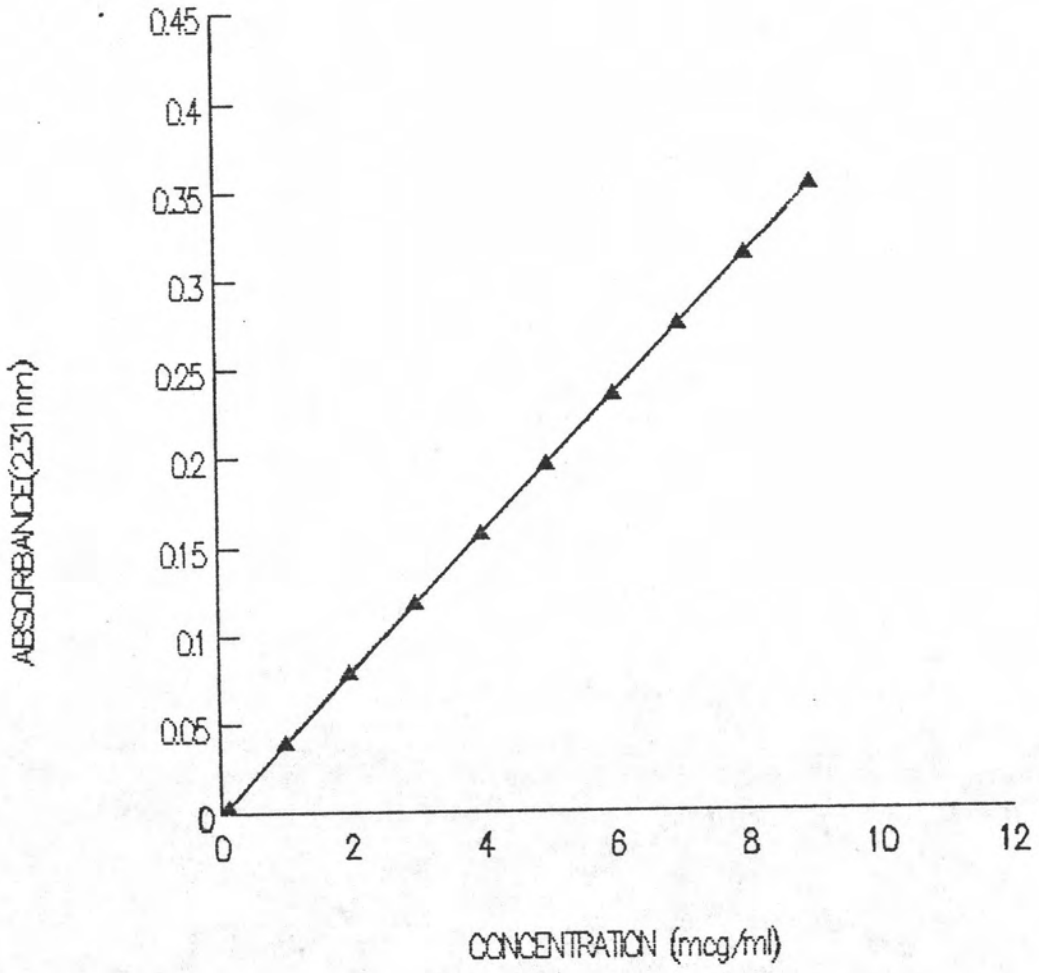


Figure 9. Standard curve of ketoconazole in simulated intestinal fluid without pancreatin.

Table 25. Standard curve data of ketoconazole spiked in drug-free plasma.

CONCENTRATION (mcg/ml)	PEAK HEIGHT RATIO[5] (PHR.)	% THEORY[4]
0.00	0.00	-
0.20	0.13	90.97
0.50	0.26	98.30
1.00	0.50	105.86
2.00	0.92	102.56
4.00	1.83	105.03
6.00	2.52	97.20
8.00	3.44	100.07

1. Mean percent theory (±S.D.) was 100.00±5.14 with 5.14%C.V.
2. Determination coefficient (r^2) = 0.999
3. Least square line : PHR. = 0.423(conc.)±0.052
4. Percent theory = $\frac{(PHR.-0.052)*100}{(0.423)(conc)}$
5. Each peak height ratio is based on means of four determinations on different days.

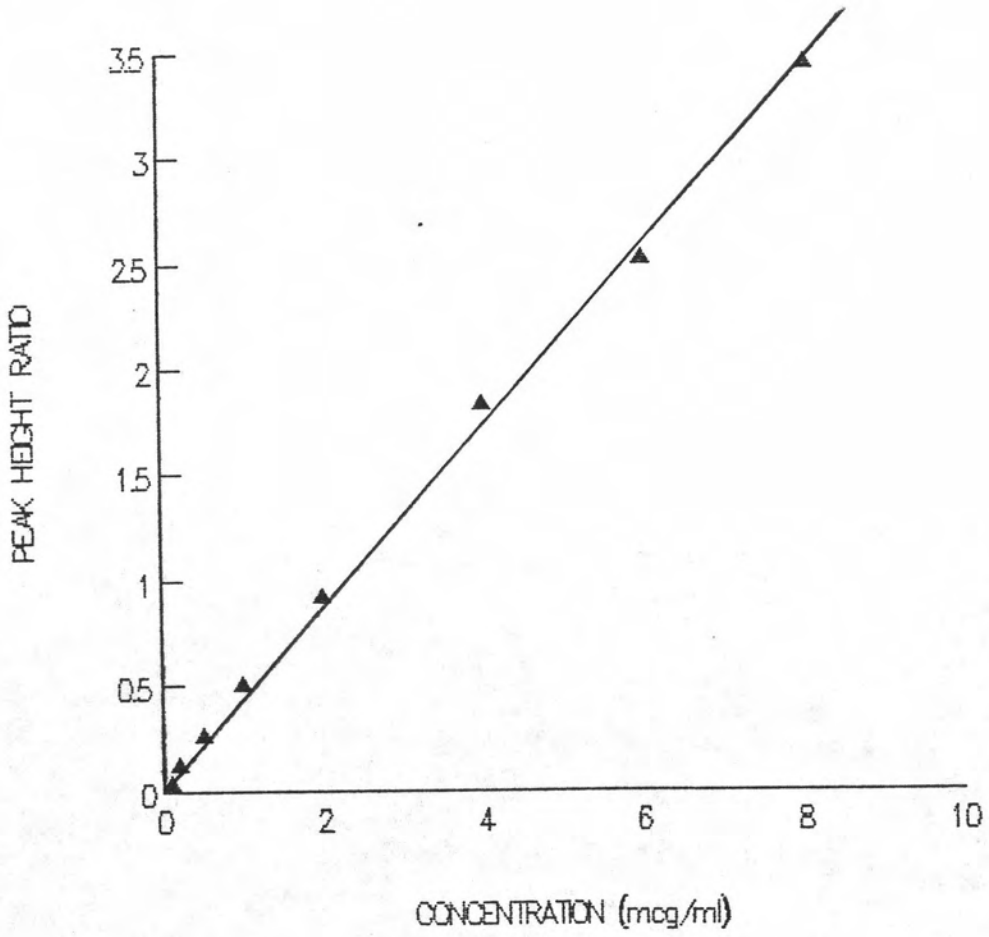


Figure 10. Standard curve of ketoconazole spiked in drug-free plasma

APPENDICES D

PLASMA CONCENTRATION DATA

AND

PHARMACOKINETIC DATA

Table 26. Plasma ketoconazole concentrations(mcg/ml) in 12 subjects following oral administration of a single 200 mg dose of brand A .

SUBJECT NO	TIME(hr) 0.5	1.0	1.5	2.0	3.0	4.0	6.0	8.0	10.0	12.0
1	0.2069	0.7398	3.2981	2.7056	1.7525	0.8509	0.4500	0.2883	0.2034	-‡‡
2	1.7137	3.4223	3.7559	3.2194	2.5305	1.9570	1.4478	0.9141	0.7919	0.4500
3	1.5427	3.7787	5.7800	5.0720	3.2650	2.1893	1.0109	0.7883	0.4370	0.2883
4	2.9934	6.6389	5.7479	5.1421	4.3433	3.1243	2.4524	0.8746	0.4835	0.2390
5	0.4813	2.4848	4.1696	5.7501	3.7708	2.8234	1.2154	0.6311	0.3195	0.2857
6	1.6605	2.5334	3.8402	2.3818	1.2527	0.7731	0.4133	0.3119	0.3303	0.2953
7	7.2344	5.7443	5.2104	4.4433	4.2741	1.8749	1.9167	1.1278	0.9283	0.4850
8	2.7864	4.9403	4.5539	4.1245	2.6072	2.3535	1.4191	0.7507	0.4500	0.2850
9	5.3120	5.9138	6.0080	5.4790	3.4452	2.7835	1.4799	0.8777	0.5236	0.3962
10	3.1425	6.6484	5.3488	3.1524	2.0573	1.5120	0.5060	0.2931	0.2031	-
11	0.6258	2.5645	2.9387	2.6120	1.9213	1.0250	0.7326	0.4500	0.2838	0.2016
12	0.9865	2.1416	2.7427	3.2915	3.1571	1.3053	1.1276	0.7279	0.4600	0.2416
MEAN	2.3905	3.9626	4.4495	3.9478	2.8648	1.8810	1.1810	0.6696	0.4512	0.2640
S.D.	2.0061	1.8824	1.1082	1.1523	0.9632	0.7671	0.5908	0.2652	0.2108	0.1437

‡‡ less than 0.20 mcg/ml.

Table 27. Pharmacokinetic parameters for ketoconazole in 12 individual subjects following oral administration of brand A.

SUBJECT NO.	PARAMETER Cmax (mcg/ml)	tmax (hr)	AUC (mcg hr/ml)	Ka (hr^{-1})	Kel (hr^{-1})	t1/2 (hr)
1	0.9129	2.2116	5.9647	0.6627	0.2918	2.3755
2	3.3488	1.2019	22.0675	2.2395	0.1909	3.6312
3	3.8190	1.5463	20.7166	1.2246	0.2876	2.4104
4	5.6501	1.4987	28.2285	1.1887	0.3265	2.1230
5	3.8839	1.5637	20.0595	1.1257	0.3187	2.1749
6	2.0415	1.1402	11.4070	2.2008	0.2336	2.9674
7	5.0079	1.4649	23.2991	1.1374	0.3691	1.8780
8	4.0721	1.2874	21.4265	1.7037	0.2685	2.5812
9	5.9321	0.8962	28.0899	2.9376	0.2687	2.5799
10	3.9076	1.0998	15.2041	1.7377	0.3983	1.7403
11	2.4842	1.0872	12.7138	2.2461	0.2589	2.6771
12	2.6637	1.5789	15.8776	1.2938	0.2483	2.7917
MEAN	3.6436	1.3814	18.7546	1.6415	0.2884	2.4942
S.D.	1.4737	0.3364	6.7162	0.6543	0.0583	0.5104

Table 28. Plasma ketoconazole concentrations(mcg/ml) in 12 subjects following oral administration of a single 200 mg dose of brand B.

SUBJECT NO	TIME(hr) 0.5	1.0	1.5	2.0	3.0	4.0	6.0	8.0	10.0	12.0
1	2.8926	6.6291	7.3105	5.2799	4.9687	3.8117	2.0165	0.9823	0.4915	0.2102
2	1.3654	1.3123	1.1232	1.1593	0.6900	0.4407	0.3564	0.2353	0.2100	-‡‡
3	0.5735	0.8378	1.0049	0.8658	1.1059	0.3066	0.2300	0.2100	-	-‡‡
4	9.0556	5.8599	5.0800	4.7390	3.9936	2.4196	1.4216	0.8511	0.4650	0.2970
5	0.5991	3.0096	4.8782	5.7429	4.9179	3.9161	2.0888	1.3671	0.7464	0.2931
6	0.4045	3.2213	2.1453	1.5695	0.6239	0.7570	0.4072	0.2512	0.2063	-‡‡
7	4.0920	7.6636	6.1489	4.9864	3.6161	1.9932	1.1564	0.8964	0.3535	0.2398
8	0.4991	1.3128	1.5838	2.2859	2.4396	1.9916	1.1542	0.6900	0.2497	0.2057
9	2.4053	3.9896	6.3368	4.7911	4.3967	2.6386	1.6897	0.5855	0.3802	0.2095
10	1.1632	3.2027	3.0601	3.9287	2.6729	2.3446	0.8778	0.4607	0.2629	-‡‡
11	5.8900	6.6200	6.3100	5.2700	4.9600	3.8100	2.0100	0.9820	0.4915	0.2100
12	0.7987	5.5995	4.6743	4.1530	3.6825	2.6630	1.3268	0.8473	0.3702	0.2884
MEAN	2.4783	4.1049	4.1380	3.7310	3.1723	2.2577	1.2280	0.6966	0.3523	0.1628
S.D.	2.5633	2.2314	2.1592	1.6914	1.5762	1.2048	0.6323	0.3434	0.1808	0.1194

‡‡ less than 0.20 mcg/ml

Table 29. Pharmacokinetic parameters for ketoconazole in 12 individual subjects following oral administration of brand B.

SUBJECT NO.	PARAMETER Cmax (mcg/ml)	tmax (hr)	AUC (mcg hr/ml)	Ka (hr^{-1})	Kel (hr^{-1})	t1/2 (hr)
1	6.2363	1.5758	30.5353	1.0216	0.3604	1.9234
2	5.3505	1.8039	29.5949	0.8726	0.3248	2.1338
3	0.8125	2.2151	5.3260	0.6640	0.2900	2.3903
4	0.8390	1.4822	5.6363	1.6037	0.2003	3.4601
5	0.9534	1.1102	4.6368	2.0877	0.2809	2.4680
6	5.0398	1.2475	23.1365	1.5970	0.3279	2.1137
7	2.4196	2.1117	14.4644	0.6216	0.3511	1.9741
8	5.9496	0.7745	26.0445	3.5380	0.2848	2.4336
9	3.6468	1.4004	16.7600	1.2462	0.3605	1.9228
10	5.2110	1.1748	24.0277	1.8025	0.3134	2.2116
11	4.6669	1.3062	23.3507	1.5855	0.2931	2.3650
12	6.9245	1.0108	30.3878	2.2773	0.3125	2.2179
MEAN	4.0042	1.4344	19.4917	1.5765	0.3083	2.3012
S.D.	2.2198	0.4330	9.9100	0.8154	0.0443	0.4139

Table 30. Plasma ketoconazole concentrations(mcg/ml) in 12 subjects following oral administration of a single 200 mg dose of brand C.

SUBJECT NO	TIME(hr) 0.5	1.0	1.5	2.0	3.0	4.0	6.0	8.0	10.0	12.0
1	1.2338	2.3228	2.2113	3.3819	2.0694	1.8511	0.9849	0.3075	0.4275	0.3656
2	0.1348	1.0882	1.8972	3.6459	3.1632	2.5789	1.4540	0.9758	0.4656	0.2474
3	2.2198	2.0368	1.9323	1.4523	1.0597	1.0016	0.8401	0.8084	0.3944	0.2458
4	1.6214	3.2839	4.9889	4.0971	3.8506	3.4442	2.0045	1.3388	0.7914	0.4600
5	1.1494	3.4537	5.4158	4.8174	3.6750	2.1140	1.3369	1.0760	0.8826	0.4800
6	2.8516	2.8905	2.2181	2.0335	1.0483	0.7246	0.2951	0.2147	-‡‡	-‡‡
7	2.0366	6.7635	4.8093	4.5561	3.0562	2.8463	1.8451	1.4389	0.9525	0.6363
8	0.8383	3.7341	2.7102	2.5249	1.7624	1.3155	0.4687	0.4015	0.3641	0.2458
9	2.6415	2.8634	4.8449	6.9644	4.1223	4.0638	2.2443	1.2016	0.7707	0.4800
10	1.4656	4.0709	3.8367	2.9669	1.7436	1.0119	0.6527	0.3994	0.2485	-‡‡
11	1.4774	1.7706	2.2614	4.0956	2.5123	1.8022	0.8983	0.6279	0.4000	0.2485
12	1.2564	3.1098	3.4109	3.7526	4.1061	3.5547	1.4921	0.9136	1.1500	0.3980
MEAN	1.5772	3.1157	3.3781	3.6907	2.6808	2.1924	1.2097	0.8087	0.5706	0.3173
S.D.	0.7323	1.3715	1.2859	1.3786	1.0900	1.0611	0.5945	0.3993	0.3203	0.1837

‡‡ less than 0.20 mcg/ml

Table 31. Pharmacokinetic parameters for ketoconazole in 12 individual subjects following oral administration of brand C.

SUBJECT NO.	PARAMETER Cmax (mcg/ml)	tmax (hr)	AUC (mcg hr/ml)	Ka (hr^{-1})	Kel (hr^{-1})	t1/2 (hr)
1	2.3032	1.6873	14.4820	1.1956	0.2374	2.9199
2	3.3260	1.8015	18.9567	0.9195	0.3027	2.2901
3	1.6811	1.0960	12.1020	2.7111	0.1668	4.1564
4	4.1329	2.1713	27.4561	0.7222	0.2713	2.5549
5	3.6048	1.7694	24.1496	1.1577	0.2205	3.1434
6	2.8652	0.5669	9.1392	4.8205	0.3914	1.7710
7	4.1224	1.1798	28.8380	2.3860	0.1759	3.9401
8	1.5662	2.0601	10.4971	0.8373	0.2494	2.7792
9	4.5729	1.9370	29.0991	0.9023	0.2601	2.6652
10	2.2372	1.5465	11.4674	1.1435	0.3200	2.1659
11	2.2944	1.9677	14.4722	0.8584	0.2693	2.5735
12	3.6503	1.9544	23.1238	0.8780	0.2649	2.6162
MEAN	3.0297	1.6448	18.6486	1.5443	0.2608	2.7980
S.D.	1.0026	0.4747	7.5510	1.2193	0.0614	0.6845

Table 32. Plasma ketoconazole concentrations(mcg/ml) in 12 subjects following oral administration of a single 200 mg dose of brand D.

SUBJECT NO	TIME(hr) 0.5	1.0	1.5	2.0	3.0	4.0	6.0	8.0	10.0	12.0
1	1.2149	3.0717	3.1629	4.7576	3.7019	2.8839	1.5380	1.0286	0.4752	0.2390
2	0.2268	0.3160	1.6076	1.8160	3.7052	2.6944	2.0957	1.2079	0.8982	0.6505
3	0.5581	3.4913	3.9000	4.7387	3.3195	1.7814	1.3109	0.9747	0.4215	0.2260
4	0.2069	1.6789	4.1675	7.1943	3.8562	3.6415	1.6789	1.7270	1.0054	0.5370
5	0.5064	0.8509	2.9509	4.3285	4.2224	2.3842	1.3339	1.0119	0.4853	0.2526
6	0.5476	1.4231	1.7400	1.4474	0.9302	0.4800	0.3070	0.2010	-‡‡	-‡‡
7	3.1529	2.6118	1.9725	1.7274	0.9695	0.6703	0.4687	0.3119	0.4687	0.2596
8	1.2930	1.9778	3.2104	3.9692	4.0099	3.0261	2.0365	0.7914	0.2502	0.2010
9	-‡‡	2.0673	3.0512	4.6563	5.8741	4.2319	2.5029	1.0986	0.5022	0.3506
10	3.1758	5.7559	5.5779	4.9468	3.2619	3.1656	1.7706	1.0098	0.7510	0.4500
11	2.1262	5.0152	4.5635	4.1235	2.6502	1.8992	0.6741	0.6624	0.3500	0.2883
12	3.0103	6.5530	5.5417	5.7881	4.0357	2.8140	1.4739	1.2293	1.1083	0.7340
MEAN	1.3349	2.9011	3.4538	4.1245	3.3781	2.4727	1.4326	0.9379	0.5597	0.3490
S.D.	1.1667	1.8826	1.2881	1.6390	1.3088	1.0652	0.6412	0.3936	0.3092	0.2010

‡‡ less than 0.20 mcg/ml

Table 33. Pharmacokinetic parameters for ketoconazole in 12 individual subjects following oral administration of brand D.

SUBJECT NO.	PARAMETER Cmax (mcg/ml)	tmax (hr)	AUC (mcg hr/ml)	Ka (hr^{-1})	Kel (hr^{-1})	t1/2 (hr)
1	4.1742	1.7296	22.7552	0.9521	0.3179	2.1805
2	2.8833	2.1452	22.7901	0.9298	0.1903	3.6425
3	3.8191	1.4089	19.9846	1.4270	0.2859	2.4245
4	4.0270	2.0239	24.8867	0.7722	0.2925	2.3700
5	3.9266	1.5050	20.8582	1.2668	0.2922	2.3718
6	1.3585	1.2006	6.0104	1.6615	0.3399	2.0390
7	0.8412	2.5577	7.0566	0.6819	0.1976	3.5080
8	4.2216	1.7521	21.1947	0.7766	0.4049	1.7118
9	4.1554	1.9805	24.2573	0.7363	0.3280	2.1131
10	4.5065	1.4419	26.8143	1.5333	0.2363	2.9335
11	3.1578	1.5101	17.2431	1.2957	0.2791	2.4831
12	4.5053	1.5866	30.6003	1.4351	0.2033	3.4101
MEAN	3.4647	1.7368	20.3710	1.1223	0.2807	2.5990
S.D.	1.2101	0.3813	7.3082	0.3497	0.0649	0.6467

Table 34. Plasma ketoconazole concentrations(mcg/ml) in 12 subjects following oral administration of a single 200 mg dose of brand E.

SUBJECT NO	TIME(hr) 0.5	1.0	1.5	2.0	3.0	4.0	6.0	8.0	10.0	12.0
1	3.4628	4.6287	4.9672	4.5059	2.6668	2.0335	0.6701	0.4192	0.3010	-‡‡
2	-‡‡	0.6190	1.8512	3.7426	5.1013	3.7489	2.9439	1.7009	0.9202	0.5523
3	2.5836	4.0405	4.6765	3.2801	2.4530	1.6864	0.8119	0.4580	0.3160	0.2011
4	0.6516	2.0286	4.3307	4.7026	4.7474	1.6361	1.2812	0.9391	0.4687	0.3140
5	0.3864	1.9279	3.2369	4.7706	3.6949	3.4376	1.3008	0.5219	0.4790	0.3932
6	1.4460	2.4712	1.9995	2.1669	1.1270	0.6016	0.4426	0.2700	0.2100	-‡‡
7	2.3707	2.9161	2.8340	2.3730	1.1976	0.8911	0.4685	0.2700	0.2100	-‡‡
8	1.5404	2.7729	4.1388	4.0204	3.8597	3.2114	1.8497	1.2459	0.8707	0.7859
9	3.0983	3.4376	4.5100	6.5034	4.2094	3.0660	1.4956	0.6505	0.3464	0.2215
10	3.2443	5.2476	5.2318	5.4318	3.6990	1.8800	1.2530	0.4690	0.3070	0.2260
11	3.4627	4.6287	4.9672	4.5000	2.6600	2.0300	0.6700	0.4190	0.2450	-‡‡
12	0.4690	1.9325	2.5570	3.9744	3.0546	1.2683	0.9982	0.3628	0.2458	0.2117
MEAN	1.8930	3.0543	3.7751	4.1643	3.2059	2.1242	1.1821	0.6439	0.4100	0.2421
S.D.	1.2469	1.3177	1.1644	1.1612	1.2048	0.9794	0.6726	0.4190	0.2328	0.2341

‡‡ less than 0.20 mcg/ml

Table 35. Pharmacokinetic parameters for ketoconazole in 12 individual subjects following oral administration of brand E.

SUBJECT NO.	PARAMETER Cmax (mcg/ml)	tmax (hr)	AUC (mcg hr/ml)	Ka (hr^{-1})	Kel (hr^{-1})	t1/2 (hr)
1	4.6014	1.0987	17.7957	1.7299	0.4023	1.7230
2	4.3892	2.2071	29.0131	0.6829	0.2817	2.4604
3	3.9628	0.9377	17.6406	2.6192	0.2967	2.3362
4	3.8668	1.4725	17.9767	1.1213	0.3720	1.8633
5	3.1339	1.8738	18.9434	0.9097	0.2791	2.4837
6	1.8155	1.1541	8.6824	1.9221	0.2933	2.3629
7	2.5841	0.8425	10.6811	2.9806	0.3156	2.1960
8	4.0428	1.5216	28.6696	1.5937	0.1876	3.6948
9	4.4972	1.9839	25.7349	0.6982	0.3497	1.9818
10	5.1134	1.0695	22.2122	2.0398	0.3264	2.1238
11	4.5780	1.0549	18.2422	1.9375	0.3713	1.8669
12	2.4768	1.6373	13.3206	1.0673	0.3077	2.2523
MEAN	3.7551	1.4045	19.0760	1.6085	0.3153	2.2788
S.D	0.9782	0.4279	6.2062	0.7080	0.0539	0.4883

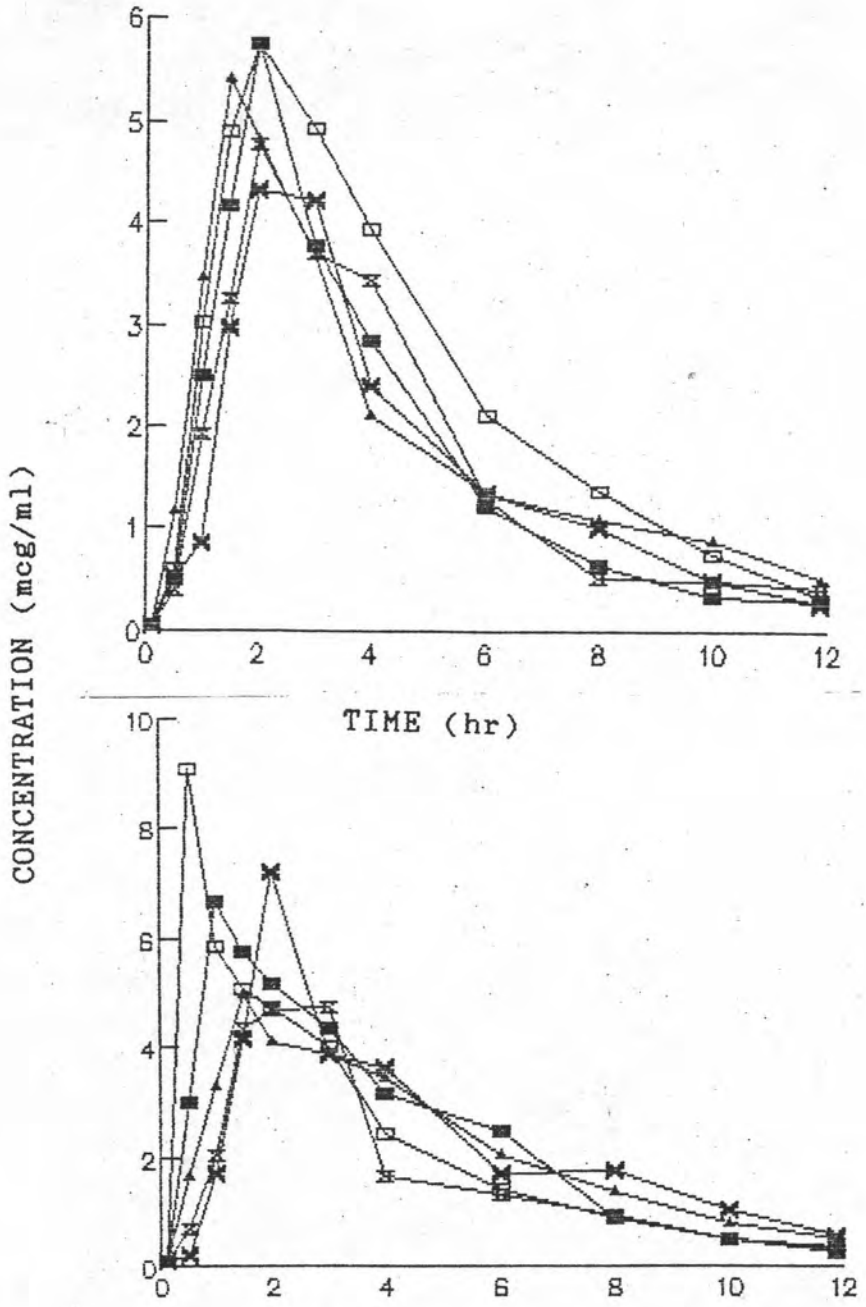
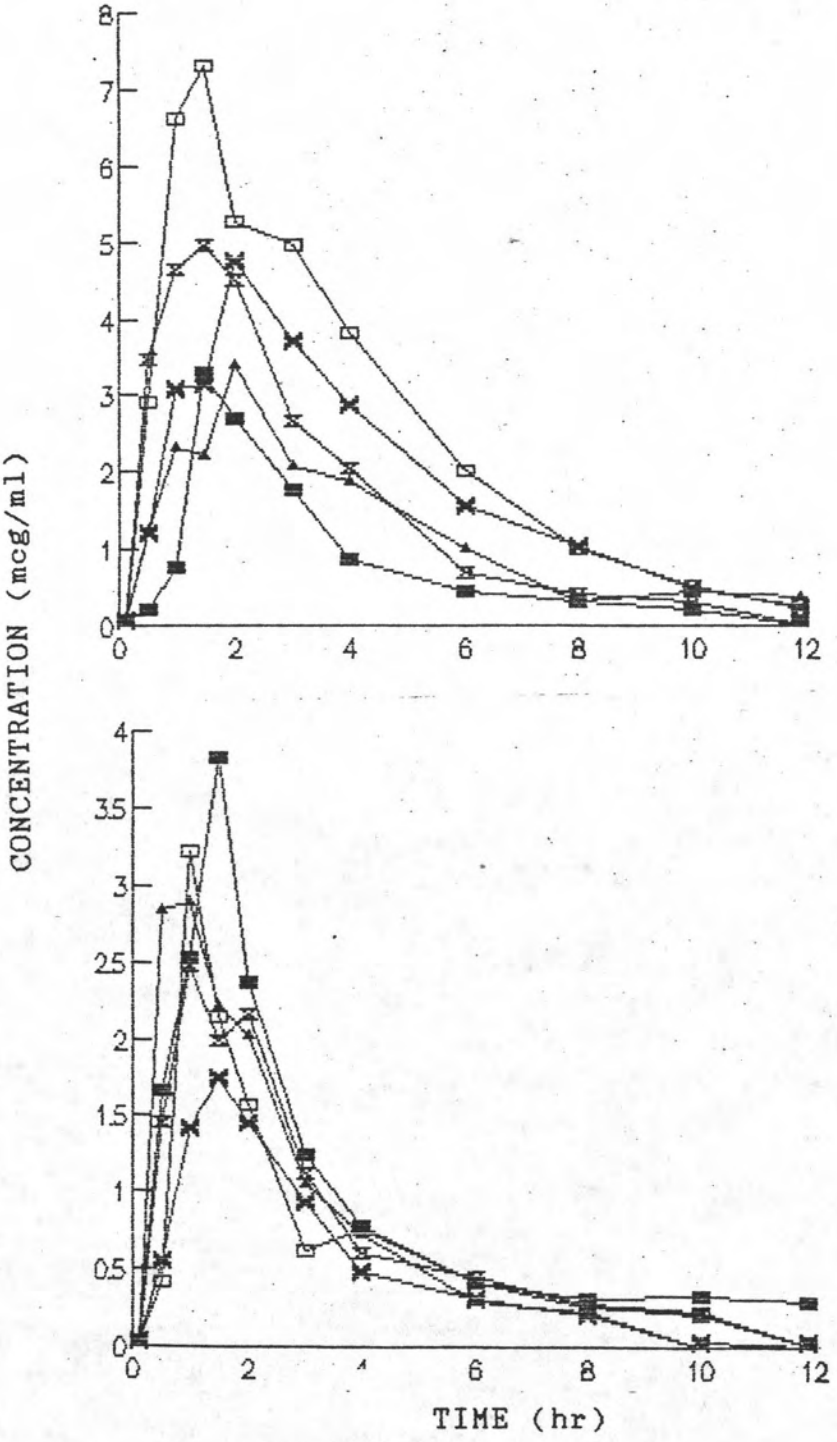


Figure 11. Plasma ketoconazole concentration-time profiles of the twelve individual subjects following peroral administration of brands

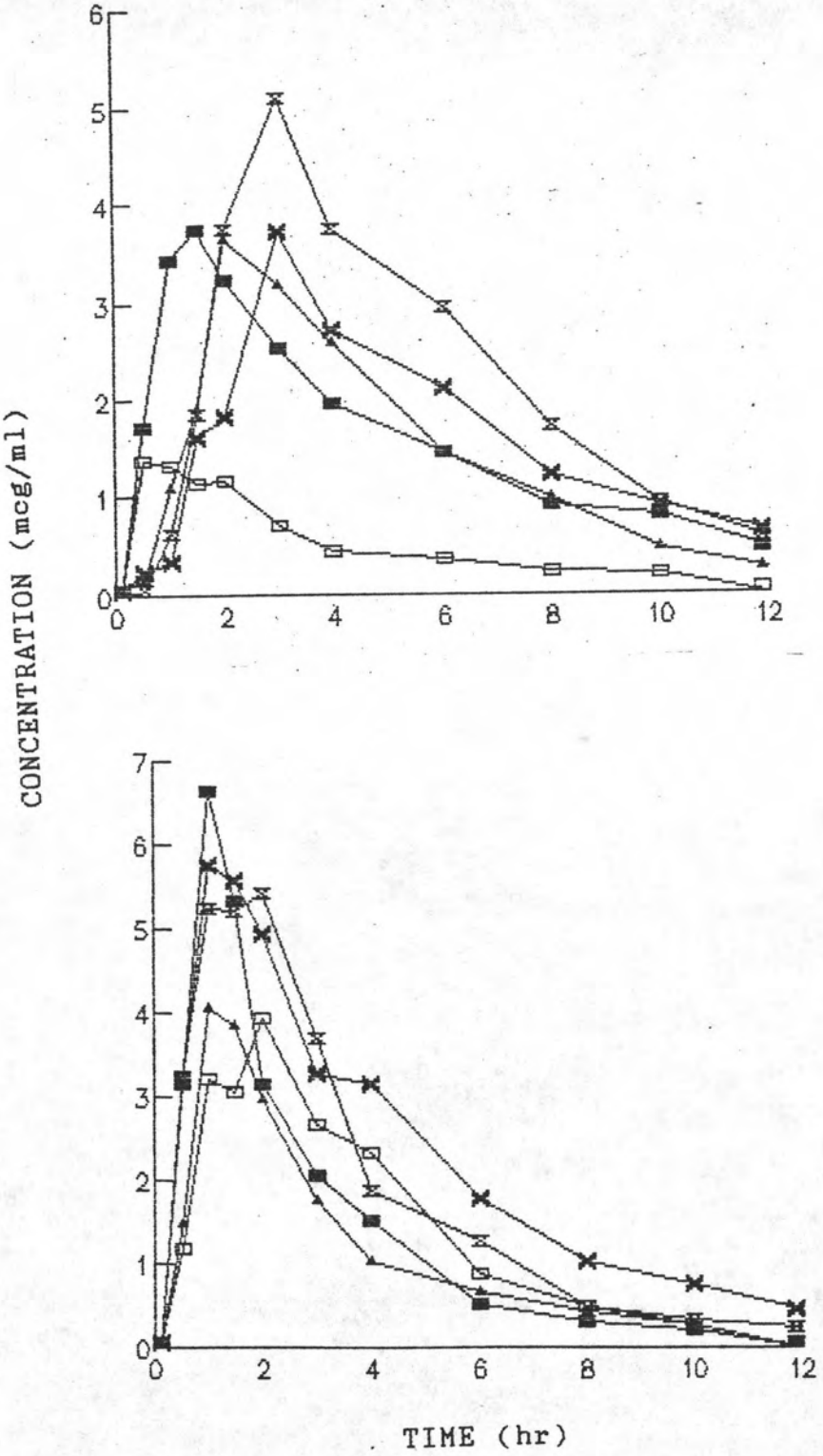
A (■) B (□) C (▲)

D (×) E (⧖)

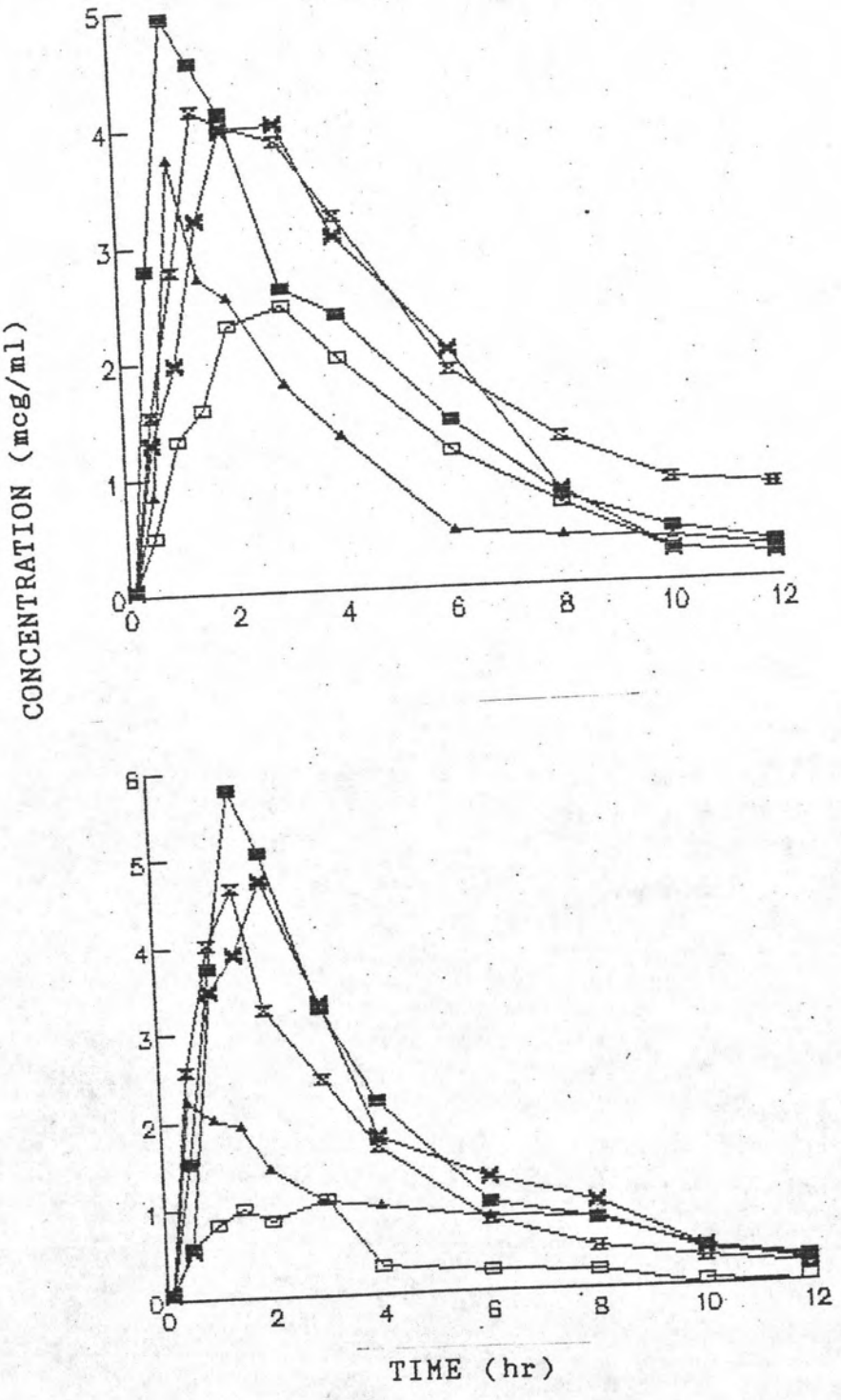
(continued)



(continued)


CONCENTRATION (mcg/ml)
0
1
2
3
4
5
6
0
2
4
6
8
10
12
0
1
2
3
4
5
6
7
0
2
4
6
8
10
12
TIME (hr)

(continued)



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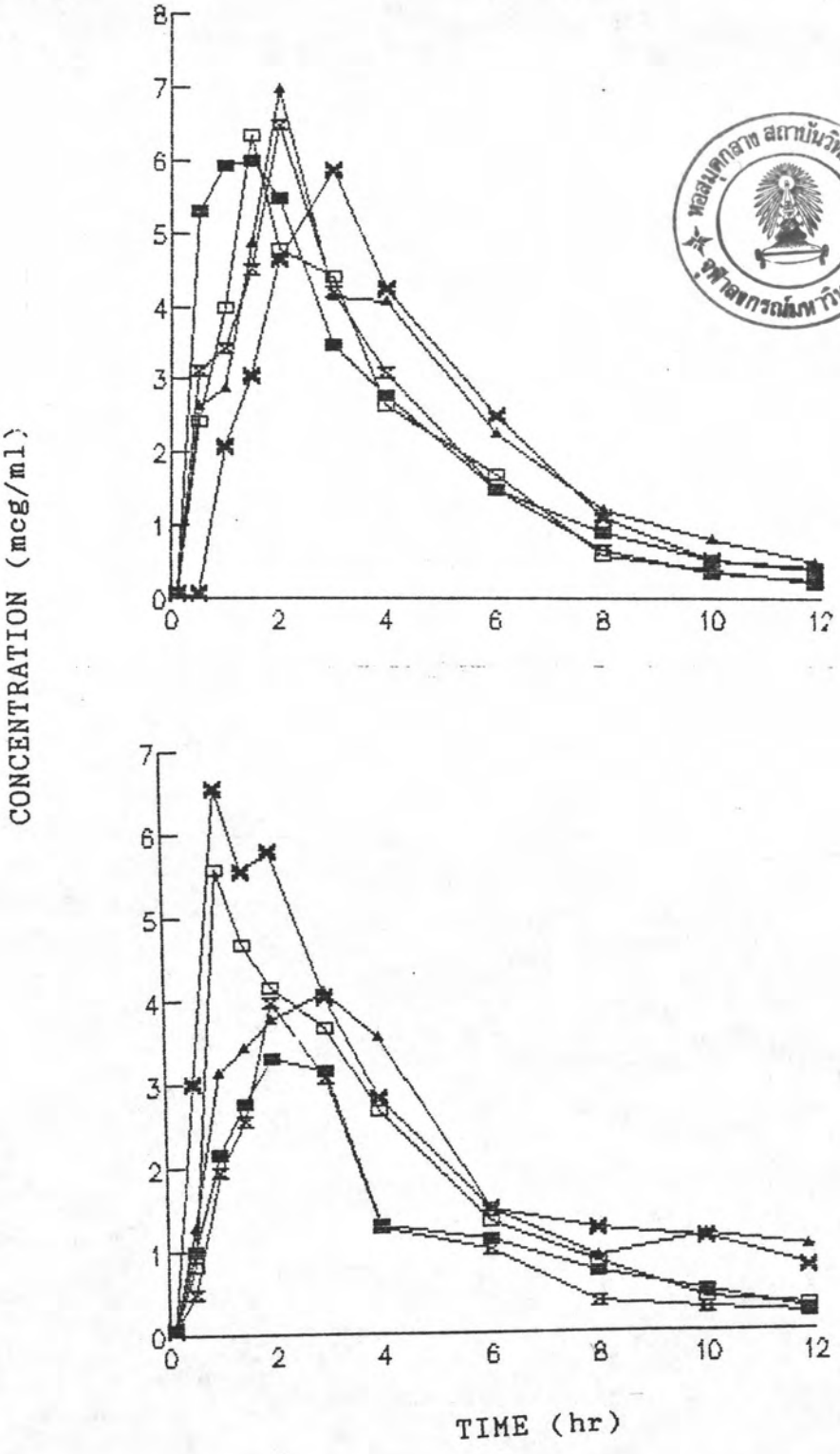

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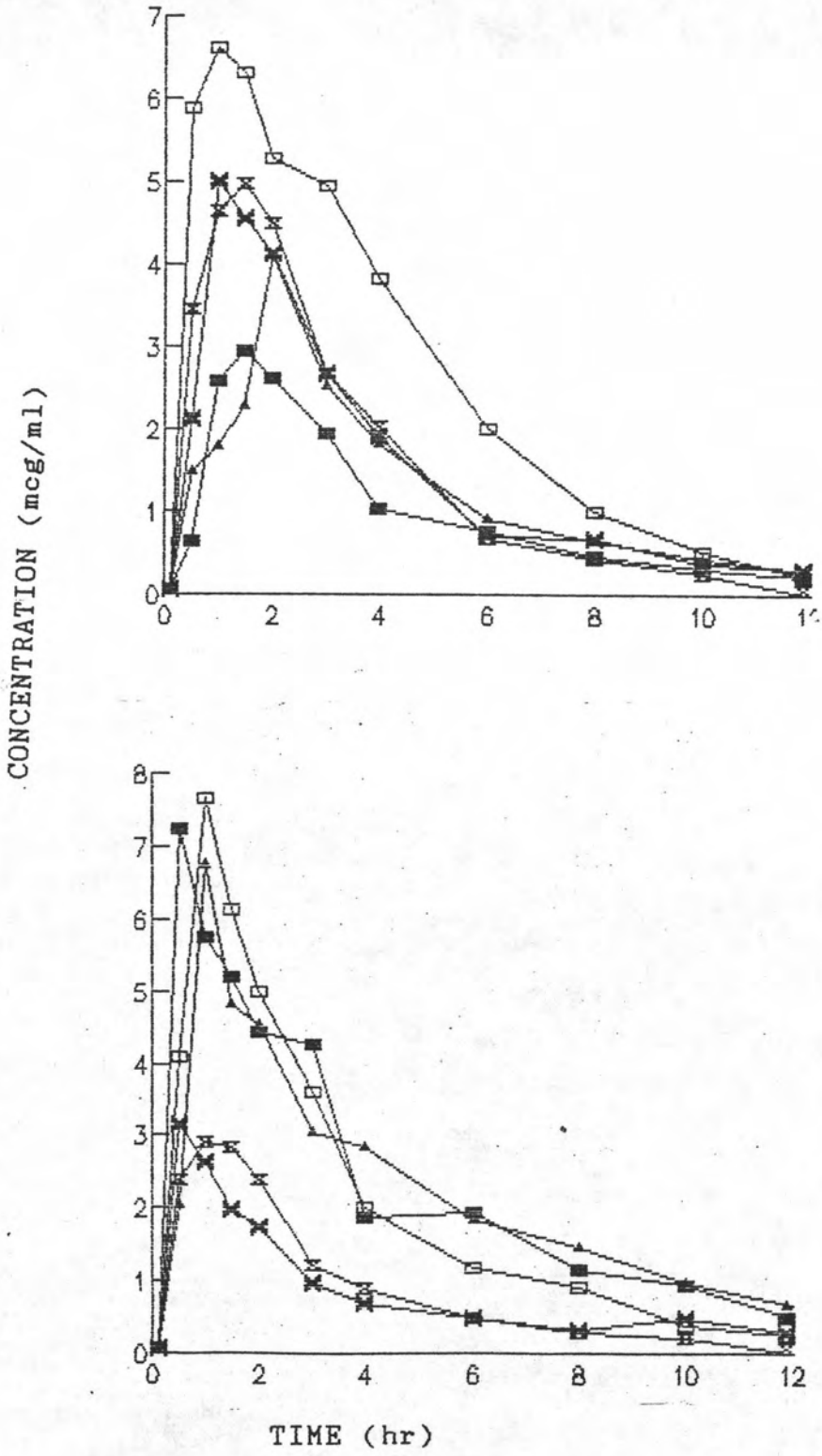
CONCENTRATION (mcg/ml)
0
1
2
3
4
5
6
7
8
0
2
4
6
8
10
12
TIME (hr)

Table 36. The computer output from the CSTRIP analysis of ketoconazole concentrattion-time data.

```
.........CURVE STRIPPING.........

DATA SET NUMBER  1

THE NUMBER OF EXPONENTIALS = 2
SUMMARY OF EXPONENTIAL STRIPPING

THE NUMBER OF POINTS IN THE EXPONENTIAL PHASES (LAST TO FIRST)
     L1=    9
     L2=    2

THE BEST ESTIMATES OF THE COEFFICIENTS AND EXPONENTS ARE
 A1= 0.574649E+01      B1= 0.198311E+00
 A2=-0.574649E+01      B2= 0.524365E+01
 F = 0.645651E+00

NO LAG TIME WAS NEEDED TO DESCRIBE THESE DATA
THEREFORE, THE SUM OF THE EXPONENTIAL TERMS WAS FORCED THROUGH ZERO

R SQUARE(2) =   0.98047

 NO.          TIME          C(OBS)          C(EST)          / DEV
   1        0.0000          0.0000          0.0000           0.00
   2        0.5000          4.7864          4.7864          -0.00
   3        1.0000          4.9403          4.6824           5.22
   4        1.5000          4.5539          4.2657           6.33
   5        2.0000          4.1245          3.8649           6.30
   6        3.0000          2.6072          3.1698         -21.58
   7        4.0000          2.3535          2.5996         -10.45
   8        6.0000          1.9167          1.7484           8.78
   9        8.0000          1.1278          1.1760          -4.27
  10       10.0000          0.9283          0.7910          14.80
  11       12.0000          0.4850          0.5320          -9.68

THE NUMBER OF EXPONENTIALS = 3
SUMMARY OF EXPONENTIAL STRIPPING

THE NUMBER OF POINTS IN THE EXPONENTIAL PHASES (LAST TO FIRST)
     L1=    6
     L2=    2
     L3=    3

THE BEST ESTIMATES OF THE COEFFICIENTS AND EXPONENTS ARE
 A1= 0.496290E+01      B1= 0.181971E+00
 A2= 0.117851E+01      B2= 0.278156E+00
 A3=-0.614141E+01      B3= 0.421530E+01
 F= 0.830074E+00

NO LAG TIME WAS NEEDED TO DESCRIBE THESE DATA
THEREFORE, THE SUM OF THE EXPONENTIAL TERMS WAS FORCED THROUGH ZERO

R SQUARE(3) =   0.97475

 NO.          TIME          C(OBS)          C(EST)          / DEV
   1        0.0000          0.0000          0.0000           0.00
   2        0.5000          4.7864          4.8105          -0.50
   3        1.0000          4.9403          4.9388           0.03
   4        1.5000          4.5539          4.5429           0.24
   5        2.0000          4.1245          4.1232           0.03
   6        3.0000          2.6072          3.3866         -29.89
   7        4.0000          2.3535          2.7841         -18.29
   8        6.0000          1.9167          1.8877           1.52
   9        8.0000          1.1278          1.2848         -13.92
  10       10.0000          0.9283          0.8773           5.49
  11       12.0000          0.4850          0.6008         -23.87
```

Table 37. Mean plasma concentrations of ketoconazole calculated from CSTRIP-generated equations for brands A, B, C, D and E.(Mean±S.D.)

TIME (hr)	CONCENTRATION (mcg/ml) A	B	C	D	E
0.00	0	0	0	0	0
0.50	2.33±1.10	2.59±1.69	1.70±0.71	1.84±0.70	2.33±0.83
1.00	3.28±1.39	3.57±2.13	2.44±0.89	2.80±1.03	3.29±1.01
1.50	3.57±1.45	3.84±2.14	2.82±1.03	3.28±1.19	3.60±1.00
2.00	3.55+1.42	3.85+2.11	2.91+1.09	3.42+1.22	3.59±0.98
3.00	3.14±1.23	3.40±1.81	2.80±1.12	3.27±1.17	3.21±0.94
4.00	2.62±1.00	2.82±1.48	2.50±1.05	2.87±1.03	2.70±0.90
6.00	1.72±0.62	1.81±0.92	1.81±0.81	2.01±0.73	1.78±0.74
8.00	1.11±0.39	1.13±0.55	1.26±0.59	1.34±0.51	1.14±0.56
10.0	0.71±0.26	0.70±0.33	0.86±0.42	0.89±0.37	0.73±0.41
12.0	0.46±0.18	0.43±0.19	0.59±0.30	0.59±0.27	0.46±0.30

VITAE

Mr. sanguan Lerkeithbundith was born on December 6th, 1966 in Hadyai. He obtained his degree in Bachelor of Science in Pharmacy, Prince of Songkhla University in the year 1987.