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APPENDICES

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

APPENDIX 1

The modified Noyes-Whitney equation

The major factors involved in the rate of dissolution are incorporated and represented in the Noyes-Whitney equation: (Fincher, 1968)

$$\text{Dissolution rate} = dA / dt = KS (C_s - C) \quad \text{--- (equation 1)}$$

where

- A = amount of drug in solution
- t = time
- K = intrinsic dissolution rate constant
- S = surface area
- C_s = Concentration of the drug-solvent boundary on the surface of the particle which is approximately equal to the solubility of the drug in the solvent
- C = concentration of the drug in the dissolution medium at time t.

According to the dissolution layer theory, the dissolution rate constant is a function of two parameters (Ogato et al., 1979)

$$K = D / h \quad \text{--- (equation 2)}$$

Where D and h represent the diffusion coefficient and diffusion layer thickness, respectively.

From equation 1 and 2, the dissolution can be defined by

$$dA / dt = DS (C_s - C) / h \text{ --- (equation 3)}$$

In examining equation 3, the dissolution rate is noted to increase with

- a) increasing diffusion coefficient
- b) increased surface area
- c) increased solubility
- d) decreased diffusion layer thickness



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จุฬาลงกรณ์มหาวิทยาลัย

APPENDIX 2

Fluorescence of ergoloid mesylate standard solution in 0.1 N HCl at an excitation wavelength at 290 n.m. and an emission wavelength at 360 n.m.

Concentration (mcg/ml)	Fluorescence Intensity
0.0	0.0
0.5	3.4
1.0	7.7
2.5	20.1
5.0	43.0
7.5	61.2
10.0	80.4
12.5	99.5
15.0	118.4

Regression Output:

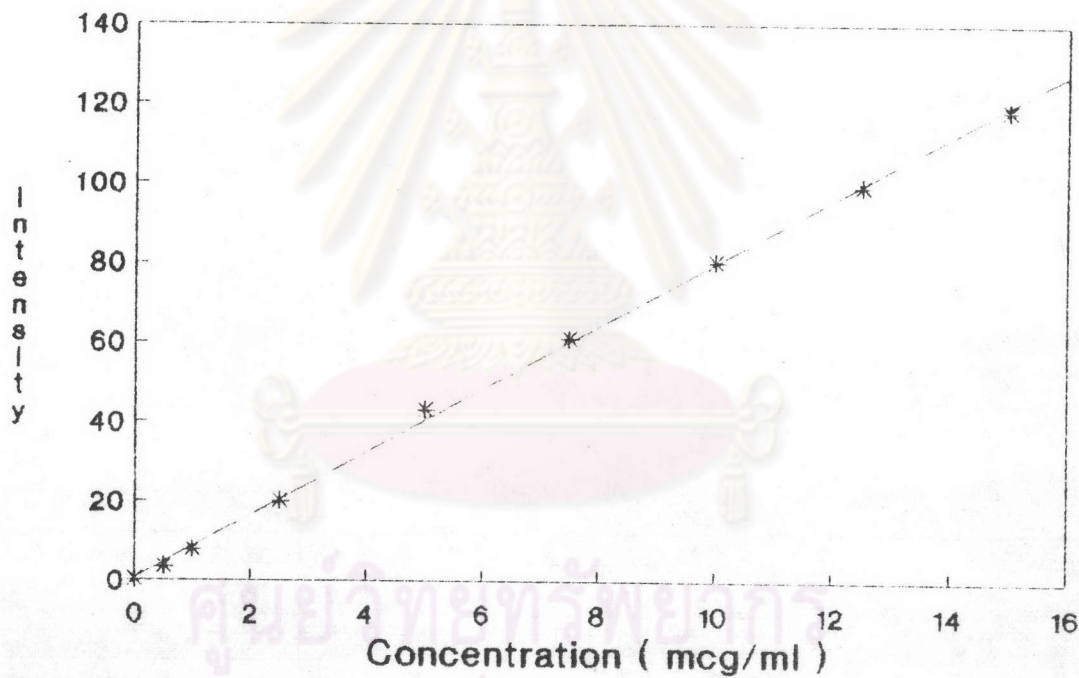
Constant	0
Std Err of Y Est	1.316156
R Squared	0.999108
No. of Observations	9
Degrees of Freedom	8
X Coefficient(s)	7.995438
Std Err of Coef.	0.055127

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APPENDIX 3

The calibration curve of ergoloid mesylate in 0.1 N. HCl

CALIBRATION CURVE OF ERGOLOID MESYLATE IN 0.1 N. HYDROCHLORIC ACID



APPENDIX 4

Dissolution data of ergoloid mesylate from pure and treated drug
in 0.1 N HCl at 37 °C

	Time (min)	% ergoloid mesylate dissolved				S.D.	R.S.D.
		#1	#2	#3	Mean		
P	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
U	1	27.1736	24.5928	30.1193	27.2952	2.7652	10.1308
R	2	38.2236	41.9930	40.9236	40.3801	1.9426	4.8107
E	3	48.1989	50.5140	51.5317	50.0815	1.7080	3.4104
	4	55.8880	58.4915	54.5715	56.3170	1.9949	3.5423
D	5	61.4289	63.1246	60.1613	61.5716	1.4868	2.4148
R	7	68.0113	68.4834	64.8506	67.1151	1.9753	2.9431
U	9	72.0236	73.6980	74.3189	73.3468	1.1873	1.6187
G	11	75.0992	75.8749	76.7300	75.9014	0.8157	1.0747
	13	77.7103	81.0576	76.9076	78.5585	2.2012	2.8020
	15	80.1650	83.6900	77.9903	80.6151	2.8764	3.5680

	Time (min)	% ergoloid mesylate dissolved				S.D.	R.S.D.
		#1	#2	#3	Mean		
T	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R	1	29.6025	32.6386	25.6400	29.2937	3.5095	11.9804
E	2	38.0961	42.6807	39.7976	40.1915	2.3175	5.7662
A	3	49.8673	50.2164	53.0655	51.0497	1.7544	3.4367
T	4	56.9673	58.0330	57.8305	57.6103	0.5660	0.9824
E	5	64.6275	66.3080	62.8195	64.5850	1.7446	2.7013
D	7	70.7757	72.1587	71.0552	71.3299	0.7313	1.0252
	9	74.0244	73.5826	73.1450	73.5840	0.4397	0.5976
D	11	76.7888	78.4541	75.7909	77.0113	1.3455	1.7472
R	13	80.1559	81.3871	77.6706	79.7379	1.8932	2.3742
U	15	83.9845	85.8183	78.9248	82.9092	3.5703	4.3063
G							

APPENDIX 5

Dissolution data of ergoloid mesylate from ergoloid mesylate-PVP K-30 physical mixture in 0.1 N HCl at 37 °C

Time (min) :		% ergoloid mesylate dissolved :				S.D.	R.S.D.
(min) :		#1	#2	#3	Mean	:	
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R	1	36.0554	34.3695	33.8942	34.7731	1.1357	3.2661
A	2	45.4299	44.7219	42.0402	44.0640	1.7880	4.0578
T	3	56.7264	55.0196	53.7337	55.1599	1.5013	2.7217
I	4	61.2236	60.2203	59.3719	60.2720	0.9269	1.5379
O	5	65.1653	64.4259	64.3780	64.6564	0.4414	0.6827
1:1	7	73.4873	72.2100	71.6633	72.4536	0.9361	1.2920
	9	76.3718	75.3089	74.7824	75.4877	0.8096	1.0725
	11	79.2014	78.7383	78.0499	78.6632	0.5794	0.7366
	13	80.9347	80.2831	80.1769	80.4649	0.4103	0.5100
	15	83.0225	81.9978	81.5307	82.1837	0.7631	0.9285
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R	1	32.9344	32.3083	34.5571	33.2666	1.1606	3.4889
A	2	46.4125	46.2810	47.1336	46.6090	0.4590	0.9848
T	3	57.6891	57.9383	59.6809	58.4361	1.0852	1.8571
I	4	62.4339	61.5598	63.2997	62.4311	0.8699	1.3934
O	5	65.7361	64.6003	67.4116	65.9160	1.4142	2.1455
1:3	7	70.2768	69.1385	71.7235	70.3796	1.2955	1.8408
	9	74.3291	73.5665	75.4548	74.4501	0.9500	1.2760
	11	77.3746	76.4905	78.5980	77.4877	1.0583	1.3657
	13	79.5335	77.7716	80.3763	79.2271	1.3291	1.6776
	15	81.3080	80.4138	81.7528	81.1582	0.6819	0.8402
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R	1	36.5888	35.1192	34.3905	35.3661	1.1198	3.1662
A	2	55.3128	53.9142	53.3132	54.1801	1.0260	1.8937
T	3	64.0380	62.8153	62.1954	63.0162	0.9376	1.4879
I	4	68.0755	66.9450	66.0376	67.0194	1.0210	1.5234
O	5	71.4297	70.0172	69.6328	70.3599	0.9462	1.3448
1:5	7	75.5424	74.0901	73.8190	74.4838	0.9268	1.2442
	9	78.7704	76.7834	76.4299	77.3279	1.2617	1.6316
	11	80.8421	79.7154	79.8156	80.1244	0.6236	0.7783
	13	83.1572	81.6394	81.4303	82.0757	0.9425	1.1483
	15	84.8375	83.3006	83.0273	83.7218	0.9758	1.1656
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R	1	37.6776	36.0955	37.4539	37.0757	0.8562	2.3093
A	2	53.5761	51.2051	52.3831	52.3881	1.1855	2.2629
T	3	66.4991	64.5488	65.1426	65.3968	0.9997	1.5287
I	4	70.0065	67.9798	69.3441	69.1101	1.0334	1.4953
O	5	74.1711	72.2822	73.4601	73.3044	0.9540	1.3015
1:7	7	78.2180	76.2061	77.1880	77.2040	1.0060	1.3031
	9	81.6377	79.5439	80.3299	80.5039	1.0577	1.3138
	11	83.9247	82.0997	83.4659	83.1635	0.9493	1.1415
	13	86.5759	84.2596	85.2435	85.3597	1.1625	1.3619
	15	87.4784	85.2513	86.4254	86.3850	1.1141	1.2897

APPENDIX 6

Dissolution data of ergoloid mesylate from ergoloid mesylate-PVP K-30 solid dispersions in 0.1 N HCl at 37 °C

	Time (min)	% ergoloid mesylate dissolved			Mean	S.D.	R.S.D.
		#1	#2	#3			
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	40.2238	42.3117	36.0852	39.5402	3.1690	8.0147
R	2	61.8350	66.9331	56.6821	61.8167	5.1255	8.2915
A	3	80.9157	77.0808	79.1016	79.0327	1.9184	2.4273
T	4	90.3193	87.2271	85.4087	87.6517	2.4827	2.8325
I	5	94.7996	91.5729	91.5545	92.6423	1.8682	2.0166
O	7	95.8673	95.0116	94.5871	95.1553	0.6521	0.6853
1:1	9	97.4865	96.0361	97.0225	96.8484	0.7407	0.7648
	11	98.5265	97.8857	97.8956	98.1026	0.3671	0.3742
	13	98.8293	98.7532	97.3380	98.3068	0.8398	0.8543
	15	98.8322	98.9032	97.1909	98.3087	0.9687	0.9854
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	65.5016	61.9476	57.3219	61.5904	4.1016	6.6594
R	2	74.7909	73.9209	77.0504	75.2540	1.6153	2.1465
A	3	81.4274	80.6076	85.7394	82.5915	2.7568	3.3379
T	4	87.8942	89.4376	90.0011	89.1110	1.0908	1.2240
I	5	94.8061	94.9034	93.2114	94.3070	0.9500	1.0074
O	7	97.5542	97.7458	96.2676	97.1892	0.8039	0.8271
1:3	9	98.4742	98.7696	98.7463	98.6634	0.1642	0.1665
	11	99.2275	98.5804	98.1946	98.6675	0.5219	0.5289
	13	98.9372	99.5743	99.0530	99.1882	0.3394	0.3422
	15	99.0831	99.3851	98.9177	99.1286	0.2370	0.2391
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	83.2094	80.3048	78.2844	80.5995	2.4757	3.0716
R	2	91.0931	90.1238	89.4308	90.2159	0.8350	0.9255
A	3	95.5513	93.7784	92.2449	93.8582	1.6546	1.7629
T	4	98.2591	99.4752	96.4174	98.0506	1.5395	1.5702
I	5	99.8528	99.9512	98.6910	99.4983	0.7009	0.7044
O	7	100.1819	99.7457	99.0322	99.6533	0.5804	0.5824
1:5	9	100.4984	99.7436	98.7165	99.6529	0.8944	0.8975
	11	99.5614	99.5340	98.8728	99.3227	0.3899	0.3925
	13	100.1788	99.9512	99.0338	99.7213	0.6061	0.6078
	15	99.4015	99.3264	99.0354	99.2544	0.1934	0.1948
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	95.6524	96.5296	97.1372	96.4397	0.7465	0.7740
R	2	98.2545	98.8335	99.6727	98.9202	0.7131	0.7209
A	3	98.6824	99.8880	99.8448	99.4717	0.6839	0.6876
T	4	99.9207	99.7497	99.6899	99.7868	0.1198	0.1200
I	5	100.1388	99.8969	100.0012	100.0123	0.1213	0.1213
O	7	99.7294	99.6009	99.8479	99.7261	0.1235	0.1239
1:7	9	99.5196	99.7467	100.1592	99.8085	0.3243	0.3249
	11	99.5175	99.8969	99.6931	99.7025	0.1899	0.1904
	13	99.7232	100.0472	99.8448	99.8717	0.1636	0.1638
	15	99.9310	99.7512	99.6899	99.7907	0.1253	0.1256

APPENDIX 7

Dissolution data of ergoloid mesylate from ergoloid mesylate-PVP K-90 physical mixture in 0.1 N HCl at 37 °C

Time (min)		% ergoloid mesylate dissolved				S.D.	R.S.D.
		#1	#2	#3	Mean		
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	27.5418	28.6663	26.2607	27.4896	1.2036	4.3785
R	2	42.0407	43.1859	41.3577	42.1948	0.9238	2.1894
A	3	53.1738	54.5542	51.9301	53.2194	1.3126	2.4664
T	4	57.0335	58.8762	56.2441	57.3846	1.3507	2.3538
I	5	63.0190	65.1327	62.9015	63.6844	1.2556	1.9716
O	7	68.8972	70.6073	68.3802	69.2949	1.1656	1.6821
1:1	9	75.5499	76.2744	74.2478	75.3574	1.0270	1.3628
	11	78.3312	79.9389	77.5133	78.5945	1.2340	1.5701
	13	80.2979	81.7792	79.5500	80.5424	1.1345	1.4086
	15	81.4811	82.5991	80.7729	81.6177	0.9207	1.1281
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	32.3399	33.3506	31.5318	32.4074	0.9113	2.8120
R	2	45.4225	46.1905	43.7939	45.1356	1.2238	2.7114
A	3	53.8877	54.5269	52.1390	53.5179	1.2361	2.3098
T	4	56.1187	57.7672	54.9632	56.2830	1.4092	2.5038
I	5	64.4778	64.6205	63.2163	64.1049	0.7728	1.2056
O	7	70.4986	71.2578	68.9782	70.2448	1.1608	1.6525
1:3	9	76.7480	77.3872	75.1063	76.4138	1.1766	1.5398
	11	79.5891	80.8587	78.1048	79.5175	1.3784	1.7334
	13	80.5012	81.6508	79.3092	80.4871	1.1708	1.4547
	15	81.3943	82.6690	80.6919	81.5851	1.0022	1.2285
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	31.9913	29.7419	30.6106	30.7813	1.1344	3.6852
R	2	45.6826	43.0358	44.2847	44.3344	1.3241	2.9866
A	3	53.8142	51.7885	52.7491	52.7839	1.0133	1.9197
T	4	59.6426	57.6231	58.6446	58.6368	1.0097	1.7220
I	5	67.8229	65.5535	66.2585	66.5450	1.1615	1.7454
O	7	74.5273	73.0052	73.3086	73.6137	0.8056	1.0944
1:5	9	79.4672	77.9526	78.4156	78.6118	0.7761	0.9873
	11	81.3905	80.0008	80.5971	80.6628	0.6971	0.8643
	13	84.7833	82.5202	83.3307	83.5447	1.1466	1.3725
	15	86.9415	84.9195	85.8764	85.9125	1.0115	1.1773
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	36.4999	35.2967	33.4291	35.0752	1.5473	4.4114
R	2	48.1883	47.4152	46.0892	47.2309	1.0616	2.2477
A	3	59.6249	58.5514	58.3515	58.8426	0.6848	1.1638
T	4	65.3998	64.4510	64.2623	64.7044	0.6096	0.9422
I	5	70.7568	69.7380	68.9891	69.8279	0.8873	1.2706
O	7	76.3510	75.5797	74.6384	75.5230	0.8577	1.1357
1:7	9	81.4658	80.3064	80.1103	80.6275	0.7326	0.9086
	11	84.4075	83.5280	82.9658	83.6337	0.7266	0.8688
	13	85.6410	85.4272	83.7409	84.9364	1.0408	1.2254
	15	86.9781	86.3797	85.4291	86.2623	0.7811	0.9055

APPENDIX 8

Dissolution data of ergoloid mesylate from ergoloid mesylate-PVP K-90 solid dispersions in 0.1 N HCl at 37 °C

Time (min) :		% ergoloid mesylate dissolved :				S.D.	R.S.D.
(min) :		#1	#2	#3	Mean		

	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	39.8491	40.1730	38.0672	39.3631	1.1339	2.8807
R	2	48.1850	48.3502	47.1952	47.9101	0.6246	1.3037
A	3	58.7936	59.6051	56.8400	58.4129	1.4213	2.4332
T	4	69.9140	70.4081	67.9507	69.4243	1.2998	1.8723
I	5	75.0458	76.0226	73.5685	74.8790	1.2355	1.6500
O	7	84.6533	85.3110	83.5048	84.4897	0.9141	1.0819
1:1	9	87.6647	88.3191	87.1674	87.7171	0.5777	0.6585
	11	89.1517	89.3202	88.9849	89.1523	0.1677	0.1881
	13	90.4622	91.1118	90.2986	90.6242	0.4301	0.4746
	15	90.9611	91.1296	90.9595	91.0168	0.0977	0.1074

	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	53.3770	53.9923	52.3002	53.2232	0.8565	1.6092
R	2	60.0637	60.9928	59.1300	60.0622	0.9314	1.5507
A	3	65.9706	67.2104	65.4999	66.2269	0.8836	1.3342
T	4	73.1049	73.2711	73.8694	73.4151	0.4021	0.5477
I	5	77.4828	78.4073	75.6446	77.1782	1.4063	1.8221
O	7	82.6020	83.2266	81.1992	82.3426	1.0383	1.2610
1:3	9	89.7287	90.0425	88.3305	89.3672	0.9115	1.0199
	11	90.5686	91.4946	89.3242	90.4625	1.0891	1.2039
	13	91.4992	92.1238	90.2563	91.2931	0.9506	1.0413
	15	92.2776	92.5914	91.6500	92.1730	0.4793	0.5200

	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	58.1438	57.2060	59.2379	58.1959	1.0170	1.7475
R	2	69.0410	67.9376	69.6772	68.8853	0.8802	1.2778
A	3	75.8651	75.2290	78.5285	76.5409	1.7505	2.2870
T	4	80.4650	79.3647	82.0546	80.6281	1.3524	1.6773
I	5	87.2313	86.4388	88.8099	87.4934	1.2071	1.3796
O	7	91.3623	90.2604	92.7846	91.4691	1.2655	1.3835
1:5	9	93.5912	92.6424	94.6993	93.6443	1.0295	1.0994
	11	94.5508	93.9163	95.8122	94.7598	0.9651	1.0184
	13	95.3417	94.8666	96.2920	95.5001	0.7258	0.7600
	15	96.5999	95.5011	97.0782	96.3931	0.8086	0.8389

	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	59.0015	60.1269	61.8953	60.3413	1.4588	2.4175
R	2	81.9382	82.9140	84.3786	83.0769	1.2284	1.4786
A	3	85.6985	87.3158	88.2949	87.1031	1.3112	1.5053
T	4	90.8784	92.0199	92.9941	91.9641	1.0589	1.1515
I	5	94.7883	96.7287	97.0599	96.1923	1.2272	1.2757
O	7	96.5953	97.5792	97.9040	97.3595	0.6814	0.6999
1:7	9	97.2561	98.2303	98.5551	98.0138	0.6760	0.6897
	11	97.9056	98.7190	98.8830	98.5025	0.5235	0.5314
	13	98.2335	98.7239	99.0470	98.6681	0.4096	0.4151
	15	98.3975	98.5631	99.0486	98.6697	0.3384	0.3430

Dissolution data of ergoloid mesylate from ergoloid mesylate-PEG 4000 physical mixture in 0.1 N HCl at 37 °C

		Time	% ergoloid mesylate dissolved					
		(min)	#1	#2	#3	Mean	S.D.	R.S.D.

		0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		1	30.4342	28.3299	29.0231	29.2624	1.0724	3.6647
R		2	41.5134	39.0829	40.1971	40.2644	1.2166	3.0216
A		3	53.7192	51.2996	52.1973	52.4054	1.2231	2.3340
T		4	59.7002	57.1688	58.1612	58.3434	1.2755	2.1861
I		5	64.8626	64.2062	65.2739	64.7809	0.5385	0.8313
O		7	73.0421	71.0505	72.3986	72.1637	1.0164	1.4084
1:1		9	76.1479	75.0187	76.2986	75.8217	0.6995	0.9226
		11	78.4465	76.9053	77.1431	77.4983	0.8297	1.0706
		13	80.9266	79.3873	80.1744	80.1628	0.7697	0.9602
		15	83.4086	81.6701	82.4217	82.5001	0.8719	1.0569

		0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		1	33.5069	34.1142	32.4779	33.3663	0.8272	2.4790
R		2	44.1225	44.9997	43.1550	44.0924	0.9227	2.0927
A		3	55.4577	56.2698	54.2198	55.3157	1.0324	1.8663
T		4	60.1392	61.1367	58.7951	60.0237	1.1751	1.9577
I		5	65.3251	66.1463	64.7264	65.3993	0.7129	1.0901
O		7	73.5629	74.6728	72.4987	73.5781	1.0871	1.4775
1:3		9	75.3581	76.2049	74.8087	75.4572	0.7033	0.9321
		11	78.4214	79.9409	77.0639	78.4754	1.4393	1.8340
		13	81.4979	82.2524	80.7400	81.4967	0.7562	0.9279
		15	83.6225	84.3426	82.8064	83.5905	0.7686	0.9195

		0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		1	33.4032	32.1536	32.3774	32.6447	0.6663	2.0411
R		2	45.5043	44.6358	44.2356	44.7919	0.6486	1.4480
A		3	53.5932	52.1774	52.4452	52.7386	0.7521	1.4260
T		4	61.4543	60.9084	60.8229	61.0618	0.3425	0.5610
I		5	67.6054	66.3539	66.5719	66.8437	0.6686	1.0002
O		7	75.0680	74.4459	74.3182	74.6107	0.4012	0.5377
1:5		9	79.1276	78.2363	78.6446	78.6695	0.4462	0.5672
		11	81.2552	80.5406	80.3060	80.7006	0.4944	0.6127
		13	84.6923	83.0366	83.5599	83.7629	0.8463	1.0103
		15	86.4346	85.3286	85.0088	85.5906	0.7481	0.8741

		0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		1	36.6614	35.3904	34.3510	35.4676	1.1571	3.2625
R		2	45.5453	44.1898	43.3809	44.3720	1.0936	2.4647
A		3	53.5923	52.7197	51.5620	52.6246	1.0185	1.9354
T		4	62.7446	61.4506	60.3294	61.5082	1.2087	1.9651
I		5	67.4643	66.1620	65.3517	66.3260	1.0658	1.6069
O		7	76.5834	75.0558	73.6927	75.1106	1.4461	1.9253
1:7		9	80.1921	79.3670	78.3162	79.2918	0.9402	1.1858
		11	82.8195	81.0179	80.3358	81.3911	1.2832	1.5766
		13	85.2525	84.4524	82.9220	84.2090	1.1842	1.4062
		15	86.7578	86.2963	85.1193	86.0578	0.8449	0.9818

APPENDIX 10

Dissolution data of ergoloid mesylate from ergoloid mesylate-PEG 4000 solid dispersions in 0.1 N HCl at 37 °C

Time		% ergoloid mesylate dissolved						
(min)		#1	#2	#3	Mean	S.D.	R.S.D.	
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
	1	40.8723	38.2691	35.5453	38.2289	2.6637	6.9678	
R	2	48.6267	47.9127	42.8464	46.4619	3.1514	6.7828	
A	3	55.8575	58.7642	58.0329	57.5515	1.5119	2.6271	
T	4	65.7234	70.1755	68.9430	68.2806	2.2988	3.3666	
I	5	72.4136	76.4170	74.3619	74.3975	2.0019	2.6909	
O	7	80.2020	83.2877	86.6720	83.3873	3.2362	3.8809	
1:1	9	84.7996	85.5349	90.3355	86.8900	3.0065	3.4601	
	11	87.6701	86.9185	90.6433	88.4107	1.9697	2.2279	
	13	89.7702	89.2474	90.5098	89.8425	0.6343	0.7060	
	15	90.3560	91.3134	91.0532	90.9075	0.4950	0.5445	
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
	1	49.5802	56.5953	48.1726	51.4494	4.5117	8.7693	
R	2	63.4395	59.0429	55.7962	59.4262	3.8360	6.4551	
A	3	68.2212	66.0095	64.4098	66.2135	1.9139	2.8905	
T	4	71.5602	73.4610	67.9962	71.0058	2.7743	3.9071	
I	5	77.2096	78.4561	71.8122	75.8260	3.5315	4.6574	
O	7	83.6570	84.8741	83.6130	84.0480	0.7157	0.8516	
1:3	9	86.8196	90.7276	87.9318	88.4930	2.0135	2.2753	
	11	88.5937	92.8119	89.7943	90.3999	2.1734	2.4042	
	13	90.3542	92.8322	90.6527	91.2797	1.3528	1.4820	
	15	91.5336	93.1217	91.7814	92.1456	0.8544	0.9272	
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
	1	60.2988	63.5086	57.0983	60.3019	3.2051	5.3152	
R	2	69.0561	70.0775	73.3402	70.8246	2.2377	3.1594	
A	3	77.7211	76.3915	75.3589	76.4905	1.1842	1.5482	
T	4	82.3132	81.2653	81.8941	81.8242	0.5274	0.6446	
I	5	85.7917	86.6058	87.8553	86.7509	1.0395	1.1982	
O	7	91.1906	92.7530	94.1206	92.6881	1.4661	1.5817	
1:5	9	93.6047	95.2195	95.8894	94.9046	1.1744	1.2375	
	11	95.1305	95.5643	96.9926	95.8958	0.9743	1.0160	
	13	96.6476	95.8883	97.4689	96.6683	0.7905	0.8178	
	15	97.5209	95.7311	97.6287	96.9603	1.0658	1.0992	
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
	1	63.8512	69.2555	65.8212	66.3093	2.7350	4.1247	
R	2	72.4961	76.9537	75.1558	74.8685	2.2426	2.9954	
A	3	80.3824	79.8260	80.7776	80.3287	0.4781	0.5951	
T	4	90.0682	86.0590	88.3126	88.1466	2.0098	2.2800	
I	5	93.9673	96.1291	94.3711	94.8225	1.1494	1.2121	
O	7	96.6074	97.4301	97.1237	97.0537	0.4158	0.4284	
1:7	9	98.8352	98.0426	97.3002	98.0593	0.7677	0.7828	
	11	98.6571	97.8484	97.3017	97.9357	0.6819	0.6963	
	13	98.8552	98.2468	97.3017	98.1346	0.7828	0.7977	
	15	99.0574	98.2508	97.3017	98.2033	0.8788	0.8949	

APPENDIX 11

Dissolution data of ergoloid mesylate from ergoloid mesylate-PEG 6000 physical mixture in 0.1 N HCl at 37 °C

Time (min) :		% ergoloid mesylate dissolved :				S.D.	R.S.D.
(min) :		#1	#2	#3	Mean	:	
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	29.6491	27.8920	27.8920	28.4777	1.0144	3.5622
R	2	42.2207	40.6813	40.6813	41.1945	0.8887	2.1574
A	3	52.5412	50.8558	50.8558	51.4176	0.9731	1.8925
T	4	57.3644	55.4682	55.4682	56.1003	1.0947	1.9514
I	5	63.0770	61.8711	61.8711	62.2731	0.6963	1.1181
O	7	68.4214	66.8568	66.8568	67.3783	0.9033	1.3407
1:1	9	76.0282	74.0841	74.0841	74.7321	1.1224	1.5019
	11	78.3699	76.6169	76.6169	77.2013	1.0121	1.3110
	13	80.8476	78.2823	78.2823	79.1374	1.4811	1.8716
	15	82.3829	80.5546	80.5546	81.1641	1.0556	1.3005
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	30.6005	30.9185	30.9185	30.8125	0.1836	0.5958
R	2	41.5586	42.5855	42.5855	42.2432	0.5929	1.4035
A	3	52.8982	52.5845	52.5845	52.6891	0.1811	0.3437
T	4	58.8207	59.6243	59.6243	59.3564	0.4639	0.7816
I	5	63.5270	64.1106	64.1106	63.9161	0.3369	0.5272
O	7	69.5774	69.8337	69.8337	69.7482	0.1480	0.2122
1:3	9	77.5780	78.0933	78.0933	77.9216	0.2975	0.3818
	11	79.4005	80.0683	80.0683	79.8457	0.3856	0.4829
	13	81.5483	82.4009	82.4009	82.1167	0.4922	0.5994
	15	83.8937	83.8963	83.8963	83.8955	0.0015	0.0018
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	32.7414	30.5373	30.5373	31.2720	1.2725	4.0693
R	2	43.4691	41.5099	41.5099	42.1629	1.1312	2.6828
A	3	54.9363	52.2837	52.2837	53.1679	1.5315	2.8805
T	4	58.5166	56.7827	56.7827	57.3607	1.0011	1.7453
I	5	64.5218	62.2648	62.2648	63.0171	1.3031	2.0678
O	7	71.3224	69.4306	69.4306	70.0612	1.0922	1.5590
1:5	9	77.1677	75.1490	75.1490	75.8219	1.1655	1.5371
	11	78.9588	78.1337	78.1337	78.4088	0.4764	0.6076
	13	82.0577	79.8363	79.8363	80.5768	1.2825	1.5917
	15	83.4367	81.9446	81.9446	82.4420	0.8615	1.0449
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	32.2787	33.4146	33.4146	33.0360	0.6558	1.9852
R	2	44.4936	45.4336	45.4336	45.1203	0.5427	1.2029
A	3	55.1833	56.4153	56.4153	56.0046	0.7113	1.2701
T	4	60.0081	61.0339	61.0339	60.6920	0.5923	0.9759
I	5	65.3407	66.4090	66.4090	66.0529	0.6168	0.9338
O	7	72.0003	73.6372	73.6372	73.0915	0.9451	1.2930
1:7	9	76.0304	77.1939	77.1939	76.8061	0.6718	0.8746
	11	80.4116	80.9187	80.9187	80.7497	0.2928	0.3626
	13	82.1539	83.2106	83.2106	82.8583	0.6101	0.7363
	15	83.3035	84.0531	84.0531	83.8032	0.4328	0.5165

APPENDIX 12

Dissolution data of ergoloid mesylate from ergoloid mesylate-PEG 6000 solid dispersions in 0.1 N HCl at 37 °C

Time (min)		% ergoloid mesylate dissolved				S.D.	R.S.D.
		#1	#2	#3	Mean		
R A T I O 1:1	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	33.3601	29.9283	31.2579	31.5154	1.7304	5.4905
	2	43.1664	42.8838	41.0069	42.3523	1.1737	2.7714
	3	54.5871	52.9864	51.7172	53.0969	1.4381	2.7085
	4	61.7018	60.5310	59.4904	60.5744	1.1064	1.8265
	5	67.7437	66.2636	62.9582	65.6552	2.4501	3.7317
	7	76.2464	74.0628	75.2299	75.1797	1.0927	1.4534
	9	82.0968	80.2450	80.6602	81.0007	0.9717	1.1996
	11	87.9204	85.2196	84.1045	85.7482	1.9621	2.2882
	13	89.8314	86.0133	85.0231	86.9559	2.5390	2.9199
	15	90.2618	86.1696	85.6217	87.3510	2.5356	2.9028
R A T I O 1:3	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	39.8660	36.5635	40.2334	38.8876	2.0211	5.1974
	2	51.8448	47.2593	50.2863	49.7968	2.3316	4.6822
	3	57.8456	53.3433	57.7227	56.3039	2.5647	4.5551
	4	66.2573	61.8304	66.2234	64.7704	2.5462	3.9311
	5	73.9344	68.9827	72.1524	71.6898	2.5081	3.4985
	7	78.9461	76.9369	79.4148	78.4326	1.3163	1.6783
	9	87.5382	82.5886	85.4675	85.1981	2.4857	2.9176
	11	89.9016	90.6639	90.9642	90.5099	0.5478	0.6052
	13	91.0635	91.0159	91.6982	91.2592	0.3810	0.4175
	15	92.4037	91.1545	92.2487	91.9357	0.6809	0.7406
R A T I O 1:5	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	46.8823	44.2617	46.3411	45.8284	1.3835	3.0188
	2	59.1754	58.5176	59.8751	59.1894	0.6789	1.1470
	3	67.3839	69.2013	67.8779	68.1544	0.9397	1.3788
	4	74.3105	74.6538	72.7095	73.8913	1.0377	1.4044
	5	78.5278	79.7572	78.6982	78.9944	0.6661	0.8432
	7	84.3777	83.3725	82.1738	83.3080	1.1034	1.3244
	9	88.3772	88.3096	87.1094	87.9321	0.7132	0.8111
	11	90.4911	90.4380	90.1290	90.3527	0.1955	0.2164
	13	91.7565	91.0529	91.4955	91.4350	0.3557	0.3890
	15	92.5987	91.9500	92.2515	92.2668	0.3246	0.3518
R A T I O 1:7	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	50.1636	55.9535	51.5935	52.5702	3.0160	5.7370
	2	65.4828	62.4717	61.5561	63.1702	2.0544	3.2522
	3	74.1202	73.7220	71.2426	73.0283	1.5592	2.1351
	4	85.4727	84.8793	82.2385	84.1968	1.7217	2.0448
	5	90.3702	91.3844	89.4689	90.4078	0.9583	1.0600
	7	92.8876	93.1924	91.5748	92.5516	0.8595	0.9287
	9	94.3015	94.3725	93.4845	94.0528	0.4935	0.5247
	11	95.2415	95.9828	94.3754	95.1999	0.8045	0.8451
	13	95.2507	95.8534	95.2561	95.4534	0.3464	0.3629
	15	95.5594	96.2880	95.5555	95.8010	0.4218	0.4403

APPENDIX 13

Dissolution data of ergoloid mesylate from ergoloid mesylate-poloxamer
188 physical mixture in 0.1 N HCl at 37 °C

Time (min) :		% ergoloid mesylate dissolved :				S.D.	R.S.D.
(min) :		#1	#2	#3	Mean	:	
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	33.2012	31.5494	32.1815	32.3107	0.8334	2.5794
R	2	46.1722	44.5666	45.3759	45.3716	0.8029	1.7695
A	3	55.1648	53.5028	54.3546	54.3407	0.8311	1.5294
T	4	61.6674	58.9174	60.6782	60.4210	1.3929	2.3053
I	5	67.5794	65.3215	66.5735	66.4915	1.1312	1.7012
O	7	73.1086	71.7359	72.0625	72.3023	0.7171	0.9918
1:1	9	78.6339	76.1016	77.5474	77.4276	1.2704	1.6408
	11	81.7069	79.4225	80.4176	80.5157	1.1454	1.4225
	13	83.2462	81.2990	82.2560	82.2671	0.9736	1.1835
	15	85.1478	83.7759	84.6877	84.5371	0.6982	0.8259
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	33.1026	32.5542	34.1181	33.2583	0.7935	2.3859
R	2	46.8586	45.8615	47.4007	46.7069	0.7807	1.6715
A	3	54.9007	53.1812	54.0008	54.0276	0.8601	1.5919
T	4	61.0486	60.2433	61.5166	60.9362	0.6441	1.0569
I	5	66.4425	65.3061	66.6892	66.1460	0.7377	1.1152
O	7	73.1164	72.7457	73.0148	72.9589	0.1916	0.2625
1:3	9	78.1480	77.4131	78.1756	77.9122	0.4325	0.5551
	11	82.4274	81.2537	82.7365	82.1392	0.7823	0.9524
	13	85.0444	85.2860	85.3307	85.2204	0.1540	0.1808
	15	86.1735	85.3260	86.9248	86.1414	0.7999	0.9286
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	35.6195	36.0221	37.1744	36.2720	0.8070	2.2249
R	2	51.4297	49.4812	50.4065	50.4391	0.9747	1.9323
A	3	66.0959	64.3485	65.0030	65.1491	0.8828	1.3551
T	4	70.1988	68.1799	69.5684	69.3157	1.0329	1.4901
I	5	73.4422	71.4915	72.6268	72.5202	0.9797	1.3509
O	7	79.3166	77.8691	78.2833	78.4897	0.7455	0.9498
1:5	9	81.4481	79.3652	79.9471	80.2535	1.0747	1.3392
	11	84.4843	82.4496	83.1783	83.3707	1.0309	1.2365
	13	86.5875	83.9130	85.2199	85.2401	1.3374	1.5690
	15	87.3621	85.1553	86.0437	86.1871	1.1103	1.2883
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	36.2255	34.9697	34.5371	35.2441	0.8770	2.4885
R	2	56.1381	55.0939	54.5011	55.2444	0.8288	1.5002
A	3	67.2587	66.7400	65.5285	66.5091	0.8879	1.3351
T	4	71.3930	70.1850	69.3153	70.2978	1.0434	1.4843
I	5	74.6917	73.3406	72.0088	73.3470	1.3414	1.8289
O	7	80.6660	79.2001	78.7793	79.5484	0.9904	1.2451
1:7	9	83.6004	82.3806	81.9121	82.6311	0.8716	1.0548
	11	85.7376	84.7015	83.1690	84.5360	1.2923	1.5287
	13	87.6753	86.5978	85.0205	86.4312	1.3353	1.5449
	15	88.4612	87.4492	86.2650	87.3918	1.0992	1.2578

APPENDIX 14

Dissolution data of ergoloid mesylate from ergoloid mesylate-poloxamer 188 solid dispersions in 0.1 N HCl at 37 °C

Time (min)		% ergoloid mesylate dissolved				S.D.	R.S.D.
		#1	#2	#3	Mean		
R A T I O 1:1	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	68.4950	72.1746	68.7536	69.8077	2.0539	2.9422
	2	75.6013	79.9309	76.4622	77.3315	2.2920	2.9638
	3	84.2274	85.2068	87.5276	85.6540	1.6949	1.9788
	4	91.4033	91.1679	92.8041	91.7918	0.8845	0.9636
	5	94.1498	94.3222	96.4325	94.9682	1.2711	1.3384
	7	96.9860	97.1670	98.1904	97.4478	0.6495	0.6665
	9	98.0843	98.3207	98.8700	98.4250	0.4031	0.4096
	11	98.4963	98.7540	99.1416	98.7973	0.3248	0.3287
	13	99.0355	99.0396	99.0117	99.0289	0.0150	0.0152
	15	98.6395	99.1831	99.1429	98.9885	0.3029	0.3060
R A T I O 1:3	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	83.8066	85.1760	81.6190	83.5339	1.7941	2.1478
	2	89.7114	90.5467	88.7533	89.6705	0.8974	1.0008
	3	95.9243	96.6172	96.0371	96.1929	0.3718	0.3865
	4	97.0815	97.4991	97.0119	97.1975	0.2635	0.2711
	5	98.8726	98.3290	98.0524	98.4180	0.4173	0.4240
	7	99.5751	98.8849	99.3521	99.2707	0.3522	0.3548
	9	99.7189	99.3012	98.7203	99.2468	0.5015	0.5053
	11	99.5833	99.1684	99.2296	99.3271	0.2240	0.2255
	13	99.9928	99.4409	99.2348	99.5562	0.3919	0.3937
	15	99.8599	100.2653	99.3637	99.8297	0.4515	0.4523
R A T I O 1:5	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	92.3988	90.7464	90.8914	91.3455	0.9151	1.0018
	2	96.2146	94.1325	95.0418	95.1296	1.0438	1.0973
	3	98.9975	97.0490	96.6301	97.5589	1.2634	1.2950
	4	99.4382	98.0419	97.1643	98.2148	1.1468	1.1676
	5	99.4423	98.7400	98.0771	98.7532	0.6827	0.6913
	7	99.5800	99.2977	98.6048	99.1609	0.5018	0.5061
	9	99.3060	99.3032	99.3880	99.3324	0.0481	0.0485
	11	99.5786	99.4409	99.7847	99.6014	0.1730	0.1737
	13	99.4437	99.3046	100.1776	99.6420	0.4690	0.4707
	15	99.4423	99.5786	99.9222	99.6477	0.2473	0.2481
R A T I O 1:7	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	94.4772	93.9182	94.4984	94.2979	0.3291	0.3490
	2	98.8253	97.2912	97.1959	97.7708	0.9145	0.9353
	3	99.5400	99.0336	98.0222	98.8653	0.7728	0.7816
	4	99.4107	98.9076	98.9740	99.0974	0.2733	0.2758
	5	99.6816	99.3356	99.3878	99.4684	0.1865	0.1875
	7	99.8205	99.6263	99.6615	99.7027	0.1035	0.1038
	9	99.6857	99.6291	99.6642	99.6597	0.0285	0.0286
	11	99.5482	99.4860	99.5294	99.5212	0.0319	0.0321
	13	99.8191	99.6277	99.9324	99.7931	0.1540	0.1543
	15	99.8218	99.7723	99.9365	99.8435	0.0842	0.0843

APPENDIX 15

Dissolution data of ergoloid mesylate from ergoloid mesylate-3% poloxamer 188 in PVP K-30 physical mixture in 0.1 N HCl at 37 °C

Time (min) :		% ergoloid mesylate dissolved :				S.D.	R.S.D.
(min) :		#1	#2	#3	Mean	:	
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	32.2167	30.7802	34.0635	32.3535	1.6459	5.0872
R	2	44.4405	43.6054	45.6902	44.5787	1.0493	2.3537
A	3	52.3572	51.5282	54.4215	52.7690	1.4900	2.8236
T	4	59.8224	57.9674	61.8950	59.8949	1.9648	3.2804
I	5	66.4628	64.3923	68.3301	66.3950	1.9698	2.9668
O	7	72.4793	71.6380	74.1394	72.7522	1.2728	1.7496
1:1	9	77.6688	77.0450	79.5321	78.0820	1.2940	1.6572
	11	79.5669	77.9192	82.0478	79.8446	2.0783	2.6029
	13	81.6374	79.9794	82.8933	81.5034	1.4616	1.7932
	15	83.9152	82.6675	85.3639	83.9822	1.3494	1.6068
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	34.7222	33.2755	35.9623	34.6533	1.3447	3.8806
R	2	46.4369	45.3890	47.8960	46.5740	1.2591	2.7035
A	3	60.1914	58.7343	61.2393	60.0550	1.2580	2.0948
T	4	65.0815	63.8269	66.5386	65.1490	1.3571	2.0830
I	5	69.0559	68.0101	70.5171	69.1944	1.2592	1.8199
O	7	75.9156	75.0786	77.5835	76.1926	1.2752	1.6737
1:4	9	80.5308	79.2824	82.6141	80.8091	1.6832	2.0829
	11	83.4698	82.6307	84.7305	83.6103	1.0570	1.2642
	13	85.5655	84.1105	87.2314	85.6358	1.5616	1.8236
	15	86.8263	85.7784	88.7029	87.1025	1.4817	1.7011
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	34.9763	35.9699	35.5725	35.5062	0.5001	1.4086
R	2	51.4231	52.6254	50.0379	51.3621	1.2948	2.5209
A	3	64.8989	66.3019	63.8913	65.0307	1.2107	1.8617
T	4	68.6091	70.2129	67.6056	68.8092	1.3151	1.9113
I	5	73.0170	74.4240	71.8146	73.0852	1.3060	1.7869
O	7	78.0289	79.4339	76.4271	77.9633	1.5045	1.9297
1:6	9	82.4506	83.8556	80.8449	82.3837	1.5065	1.8286
	11	84.4816	85.6879	83.6708	84.6134	1.0150	1.1996
	13	86.2901	87.4944	85.0897	86.2914	1.2023	1.3933
	15	87.3016	88.3072	86.2960	87.3016	1.0056	1.1518

APPENDIX 16

Dissolution data of ergoloid mesylate from ergoloid mesylate-3% poloxamer 188 in PVP K-30 solid dispersions in 0.1 N HCl at 37 °C

Time (min) :		% ergoloid mesylate dissolved :					
(min) :		#1	#2	#3	Mean	S.D.	R.S.D.
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	50.7671	49.5187	52.2235	50.8364	1.3537	2.6629
R	2	67.5036	66.2427	68.9746	67.5736	1.3673	2.0234
A	3	81.3979	79.9290	82.4528	81.2599	1.2675	1.5599
T	4	89.4416	88.3867	90.7004	89.5096	1.1583	1.2941
I	5	94.7222	93.4634	95.9831	94.7229	1.2598	1.3300
O	7	96.2307	95.1779	97.2835	96.2307	1.0528	1.0940
1:1	9	97.0775	96.0268	98.9604	97.3549	1.4864	1.5268
	11	98.1261	96.6593	100.0174	98.2676	1.6835	1.7132
	13	98.9688	97.7058	100.4439	99.0395	1.3704	1.3837
	15	99.3932	98.1324	100.8642	99.4633	1.3673	1.3747
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	75.1253	76.3273	74.3240	75.2589	1.0083	1.3398
R	2	84.2906	84.9036	83.4812	84.2251	0.7134	0.8471
A	3	88.5817	89.5894	87.1714	88.4475	1.2146	1.3732
T	4	93.6322	94.6439	93.0171	93.7644	0.8214	0.8760
I	5	96.0863	97.0980	95.2789	96.1544	0.9114	0.9479
O	7	98.1136	98.7247	97.9053	98.2479	0.4259	0.4334
1:4	9	98.9350	99.1414	98.5323	98.8696	0.3097	0.3133
	11	99.5440	99.3457	99.1394	99.3430	0.2024	0.2037
	13	99.5500	99.3477	99.3457	99.4145	0.1174	0.1181
	15	99.7504	99.9487	99.5480	99.7490	0.2003	0.2008
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	1	94.5434	93.3049	95.3691	94.4058	1.0390	1.1006
R	2	96.5210	95.6829	97.1485	96.4508	0.7353	0.7624
A	3	98.1827	97.3488	98.6018	98.0444	0.6379	0.6506
T	4	99.0249	98.8103	99.0291	98.9548	0.1252	0.1265
I	5	99.4461	99.4440	99.2396	99.3766	0.1186	0.1193
O	7	99.4502	99.4502	99.4481	99.4495	0.0012	0.0012
1:6	9	99.6566	99.4502	99.4502	99.5190	0.1192	0.1198
	11	99.2458	99.2438	99.6566	99.3821	0.2378	0.2392
	13	99.6545	99.6545	99.6587	99.6559	0.0024	0.0024
	15	99.4522	99.6587	99.4522	99.5211	0.1192	0.1198

APPENDIX 17

Fluorescence of ergoloid mesylate standard solution in water at an excitation wavelength at 290 n.m. and an emission wavelength at 360 n.m.

Concentration (mcg/ml)	Fluorescence Intensity
0.0	0.0
0.1	22.5
0.1	39.8
0.5	191.0
1.0	382.5
2.0	798.3
3.0	1186.0
4.0	1596.0
5.0	2005.0

Regression Output:

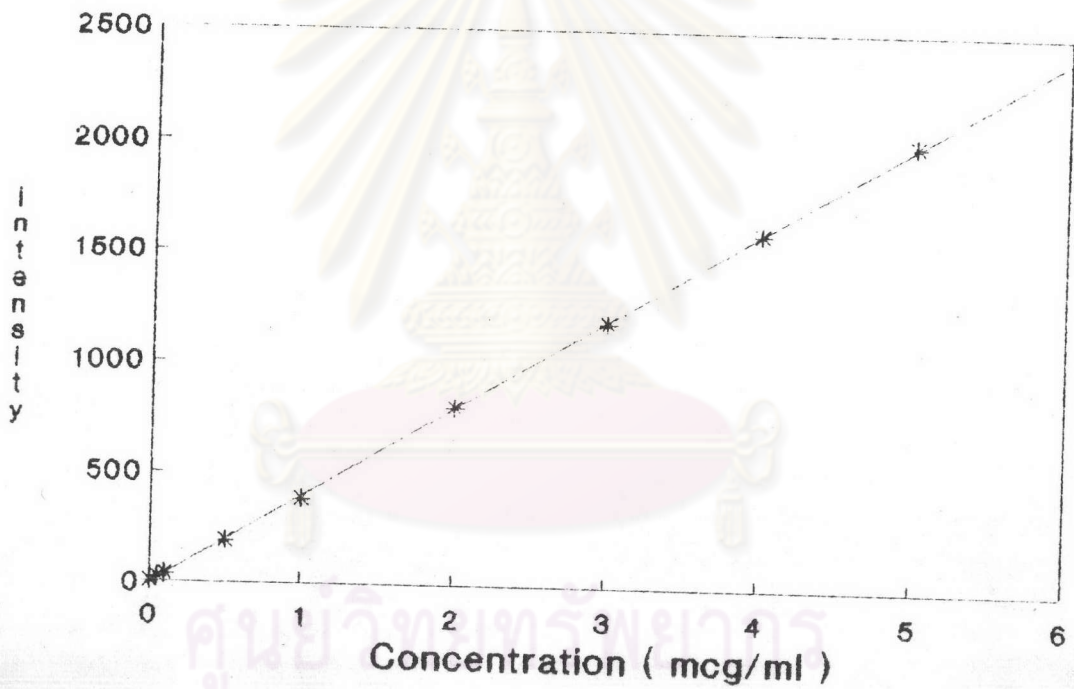
Constant	0
Std Err of Y Est	8.455294
R Squared	0.999872
No. of Observations	9
Degrees of Freedom	8
X Coefficient(s)	398.9451
Std Err of Coef.	1.137400

ศูนย์วิทยทรัพยากร
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APPENDIX 18

The calibration curve of ergoloid mesylate in water

CALIBRATION CURVE OF ERGOLOID MESYLATE IN WATER



ศูนย์วิจัยทางการแพทย์
จุฬาลงกรณ์มหาวิทยาลัย

Dissolution data of ergoloid mesylate from the prepared ergoloid mesylate tablets

Time (min)	% ergoloid mesylate dissolved						Mean	S.D.	R.S.D.
	#1	#2	#3	#4	#5	#6			
F	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
o	2	11.6783	7.3781	9.0982	8.9171	6.7444	9.9582	8.9624	1.7786
r	5	29.8557	20.5334	22.9949	25.8448	19.6671	27.3942	24.3817	4.0035
m	10	53.1665	46.0125	45.3127	47.9665	42.7448	55.7674	48.4951	4.9869
u	15	73.8575	62.7423	67.8047	73.4438	58.5453	78.7723	69.1943	7.5961
l	20	86.7362	71.5979	77.0803	82.3872	80.4281	82.8018	80.1719	5.2545
a	30	98.2696	88.1611	95.0957	90.4406	91.5089	95.5139	93.1650	3.7551
A	60	102.9102	94.6629	110.1217	95.5900	101.0326	107.9526	102.0450	6.2940
F	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
o	2	16.0690	13.2173	19.3733	14.5752	11.5425	14.2584	14.8393	2.6824
r	5	37.3683	31.9985	37.5824	30.7447	31.8007	42.1482	35.2738	4.4783
m	10	62.9279	53.2783	67.6372	65.3061	58.3462	60.2600	61.2926	5.1578
u	15	83.0073	77.8417	83.9596	75.7894	80.2461	78.4537	79.8830	3.1458
l	20	88.8184	84.6033	97.8803	81.8657	92.5934	89.4973	89.2097	5.6924
a	30	101.9107	100.0585	98.1990	97.4965	99.5950	97.9347	99.1991	1.6581
B	60	101.6790	100.9366	98.9251	97.2901	100.2070	98.5611	99.5998	1.6339
F	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
o	2	31.2779	33.3148	25.3935	36.0760	31.0968	31.0063	31.3609	3.5174
r	5	58.6137	61.1689	54.9337	57.2132	58.5213	64.4954	59.1577	3.3124
m	10	76.6277	88.6029	75.5051	80.7775	84.2312	86.6447	82.0649	5.3416
u	15	100.8859	100.6433	93.6327	97.4875	99.3324	95.7348	97.9528	2.8825
l	20	101.4888	107.6412	105.0376	105.9809	104.1884	99.8068	104.0240	2.9045
a	30	101.4925	107.5290	104.7877	106.6074	104.2355	100.5709	104.2038	2.7468
C	60	101.3114	107.5272	104.9652	106.4318	104.0545	100.2160	104.0843	2.8563
F	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
o	2	37.0265	32.4095	34.7633	36.2117	27.9736	29.6936	33.0130	3.6382
r	5	81.1225	72.9286	72.0469	84.3734	82.2993	85.7567	79.7546	5.8602
m	10	104.9163	90.7122	101.3856	99.6982	101.8510	102.9717	100.2558	4.9861
u	15	107.5036	104.6465	106.2018	108.5375	102.0411	104.4057	105.5560	2.3497
l	20	107.1650	104.9652	105.8850	109.1675	102.4032	104.2373	105.6372	2.3550
a	30	107.7046	104.7859	106.2435	108.8109	101.8636	104.5976	105.6677	2.4801
D	60	107.5290	104.9652	106.0660	108.6262	102.2203	104.0581	105.5775	2.3365
F	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
o	2	41.1619	45.5043	42.3380	39.1717	30.9393	35.1912	39.0511	5.2463
r	5	83.9115	93.0016	83.0187	82.3537	86.7947	85.9326	85.8355	3.8998
m	10	99.9855	101.2520	103.5951	91.1950	102.9103	102.2680	100.2010	4.5911
u	15	108.2839	101.9631	106.5108	104.5776	104.3324	104.4165	105.0141	2.1565
l	20	108.7272	102.3313	107.4426	104.8915	104.6165	105.8839	105.6488	2.2537
a	30	108.8213	102.1540	107.6326	104.7124	104.5287	106.1698	105.6698	2.3922
E	60	108.7317	102.3331	107.5439	104.9819	104.5278	106.2629	105.7302	2.2860

APPENDIX 20

Dissolution data of ergoloid mesylate from the commercial ergoloid mesylate tablets

Time (min)	% ergoloid mesylate dissolved						Mean	S.D.	R.S.D.	
	#1	#2	#3	#4	#5	#6				
B r a n d	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
	2	15.2295	11.7825	14.6654	11.9078	9.3383	16.7963	13.2866	2.7476	20.6795
	5	31.1753	26.1897	40.6960	29.8887	27.4814	30.7523	31.0306	5.1157	16.4861
	10	64.2365	61.3040	93.4120	61.7171	67.0831	74.1344	70.3145	12.2521	17.4247
	15	94.0218	89.4805	99.7024	94.4981	92.6718	101.3908	95.2942	4.4616	4.6819
	20	99.4555	94.3966	103.0191	103.2209	98.1883	102.5365	100.1361	3.4868	3.4821
E	30	101.2617	100.2088	104.3051	104.5583	103.7561	102.5453	102.7726	1.7557	1.7083
	60	102.0314	102.2720	104.8190	105.0722	104.0620	103.0467	103.5505	1.2948	1.2504
B r a n d	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2	16.6710	33.8433	31.3991	27.2627	24.5677	44.9991	29.7905	9.5509	32.0604
	5	39.7759	68.2758	57.0956	65.8284	52.7655	73.6518	59.5655	12.3084	20.6637
	10	63.4450	95.5660	81.9171	96.6703	82.1252	90.1035	84.9712	12.2985	14.4737
	15	84.8628	99.7212	91.3130	100.2339	94.5745	94.1509	94.1427	5.7015	6.0562
	20	96.1050	100.5122	97.6718	102.2720	100.2113	95.6939	98.7444	2.6512	2.6849
C	30	99.4743	102.2745	98.9880	102.7935	102.0213	96.2103	100.2936	2.5380	2.5306
	60	100.7603	103.2948	103.7636	103.0492	102.2896	96.9674	101.6875	2.5397	2.4975
B r a n d	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2	4.4122	3.9108	4.7130	4.3871	4.0361	3.6100	4.1782	0.3997	9.5674
	5	7.3392	7.2339	7.5428	7.5897	5.2547	6.1530	6.8522	0.9428	13.7593
	10	12.5824	11.3531	12.5092	12.9359	9.2776	9.6125	11.3785	1.5929	13.9994
	15	15.0914	14.1766	19.5780	17.1004	14.3315	13.2317	15.5849	2.3485	15.0689
	20	18.9264	18.2405	22.6314	19.0342	17.6908	16.0252	18.7581	2.1901	11.6755
A	30	23.8781	24.7487	31.1221	27.2006	24.4925	19.6502	25.1820	3.8032	15.1030
	60	38.9687	54.5203	51.4500	42.4489	39.4764	30.9046	42.9615	8.7107	20.2756
B r a n d	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2	62.7748	59.3973	47.4014	66.1523	81.1764	69.6463	64.4248	11.2130	17.4048
	5	83.2017	79.3246	93.2969	92.2033	85.3656	85.9491	86.5569	5.3416	6.1712
	10	95.9779	87.4375	98.7591	95.6018	92.1544	89.8321	93.2938	4.2421	4.5471
	15	97.3848	90.7778	99.3915	96.2155	94.6677	92.8974	95.2225	3.1149	3.2712
	20	97.6306	91.6256	99.8632	97.0366	94.9251	93.9759	95.8428	2.9291	3.0561
B	30	98.0988	93.2643	100.2173	97.2777	95.1604	95.1510	96.5282	2.4923	2.5820
	60	97.8705	93.7465	100.4537	97.1636	96.3273	97.0261	97.0980	2.1769	2.2419
B r a n d	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	2	22.9437	12.9277	17.0039	17.1786	23.4678	18.5180	18.6733	3.9820	21.3244
	5	40.2935	30.9926	36.2743	37.0913	38.4353	47.3537	38.4068	5.3825	14.0144
	10	60.0309	54.8144	56.2644	58.1360	58.9641	73.3790	60.2648	6.6928	11.1057
	15	74.4353	68.3279	68.3419	73.0191	67.5534	81.3231	72.1668	5.2983	7.3418
	20	88.9027	76.4968	76.3803	80.5032	74.7417	89.2032	81.0380	6.4926	8.0118
D	30	95.3351	86.5932	87.2908	95.8335	91.4672	93.1245	91.6074	3.9459	4.3075
	60	95.1650	94.6130	94.9694	95.8696	96.1759	94.6770	95.2450	0.6421	0.6741

APPENDIX 21

The relation of K value and molecular weight of PVP

K value PVP	PVP weight average molecular weight
12	2.5×10^3
17	9.5×10^3
25	27.0×10^3
30	40.0×10^3
90	1.1×10^6

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VITAE

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