Fig. 1.

Formulation	Drug	[Drug] mM	Acid	[Acid] mM	Salt	[Salt] mM	pH	Phase Stability Pre-Autoclave	Phase Stability Post-Autoclave
P01	-	-	-	-	-	-	4.6	separates	
P02	-	-	citric	0.1	-	-	4.1	separates	
P03	-	-	citric	0.5	-	-	3.6	stable	separates
P04	-	-	maleic	1.5	-	-	3.0	stable	stable
P04	-	-	phosphoric	0.1	-	-	4.1	separates	
P06	-	-	phosphoric	0.5	-	-	3.6	stable	
P07	-	-	citric	1.5	-	-	3.2	stable	separates
P08	-	-	-	-	monosodium malate	1.5	4.6	separates	
P09	-	-	-	-	potassium phosphate	1.5	4.7	separates	
P10	-	-	-	-	potassium tartrate	1.5	5.7	separates	
P11	-	-	-	-	sodium acetate	1.5	6.2	separates	
P12	-	-	-	-	sodium bicarbonate	1.5	7.6	stable	
P13	-	-	-	-	sodium chloride	150	5.5	separates	
P14	-	-	-	-	sodium citrate	1.5	7.3	separates	
P15	-	-	-	-	sodium phosphate	1.5	9.6	stable	
P16	-	-	-	-	sodium pyrophosphate	1.5	9.2	stable	
P17	-	-	-	-	sodium tartrate	1.5	5.7	separates	
P18	Fentanyl	1.5	-	-	-	-	7.9	separates	separates
P19	Fentanyl	1.5	citric	0.1	-	-	7.5	separates	separates
P20	Fentanyl	1.5	citric	0.5	-	-	6.5	separates	separates
P21	Fentanyl	1.5	citric	1.5	-	-	4.2	stable	stable
P22	Fentanyl	3	citric	3	-	-	4.1	stable	stable
P23	Fentanyl	4.5	citric	4.5	-	-	4.0	stable	stable
P24	Fentanyl	1.5	citric	1	-	-	4.6	stable	stable
P25	Fentanyl	1.5	citric	2	-	-	3.7	stable	stable
P26	Ondansetron	1.5	hydrochloric	1.5	-	-	4.3	stable	
P27	Fentanyl	1.5	maleic	0.1	-	-	7.6	separates	separates
P28	Fentanyl	1.5	maleic	0.5	-	-	7.0	separates	separates
P29	Fentanyl	1.5	maleic	1	-	-	6.3	stable	stable
P30	Fentanyl	1.5	maleic	1.5	-	-	5.1	stable	stable
P31	Fentanyl	1.5	maleic	2	-	-	3.4	stable	stable
P32	Prochlorperazine	1.5	maleic	3	-	-	3.4	stable	
P33	Dihydroergotamine	1.5	methanesulfonic	1.5	-	-	4.0	stable	
P34	Doxylamine	1.5	succinic	1.5	-	-	5.0	stable	
P35	Sumatriptan	1.5	succinic	1.5	-	-	5.0	stable	
P36	Fentanyl	1.5	citric	1.5	monosodium malate	1.5	4.1	stable	
P37	Fentanyl	1.5	citric	1.5	potassium tartrate	1.5	4.6	stable	
P38	Fentanyl	1.5	citric	1.5	sodium acetate	1.5	6.0	stable	
P39	Fentanyl	1.5	citric	1.5	sodium acetate	75	6.1	stable	
P40	Fentanyl	1.5	citric	1.5	sodium chloride	75	6.8	separates	
P41	Fentanyl	1.5	citric	1.5	sodium chloride	150	5.5	separates	
P42	Fentanyl	1.5	citric	1.5	sodium citrate	1.5	3.9	stable	
P43	Fentanyl	1.5	citric	1.5	sodium citrate	75	3.9	stable	
P44	Fentanyl	1.5	citric	1.5	sodium tartrate	1.5	4.5	stable	

Fig. 2

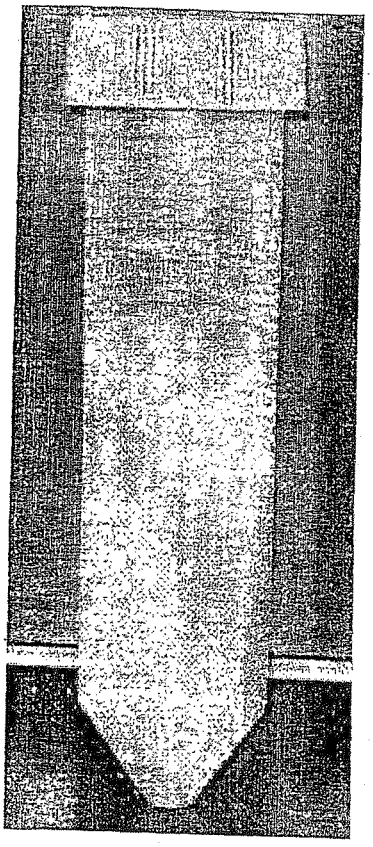


Fig. 2a

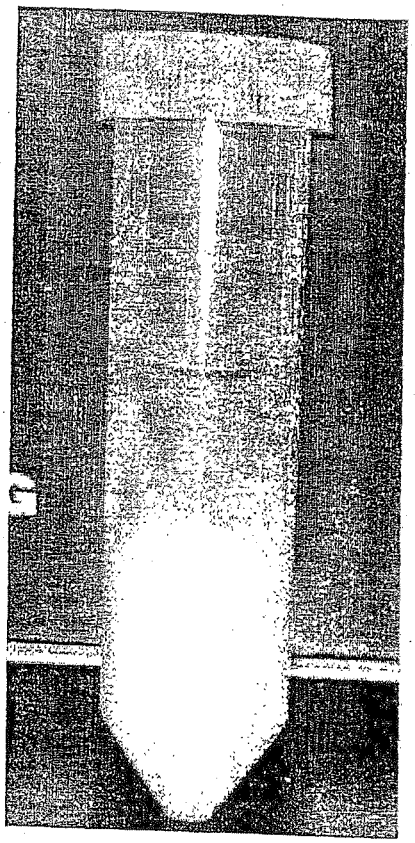


Fig. 2b

Fig. 3a

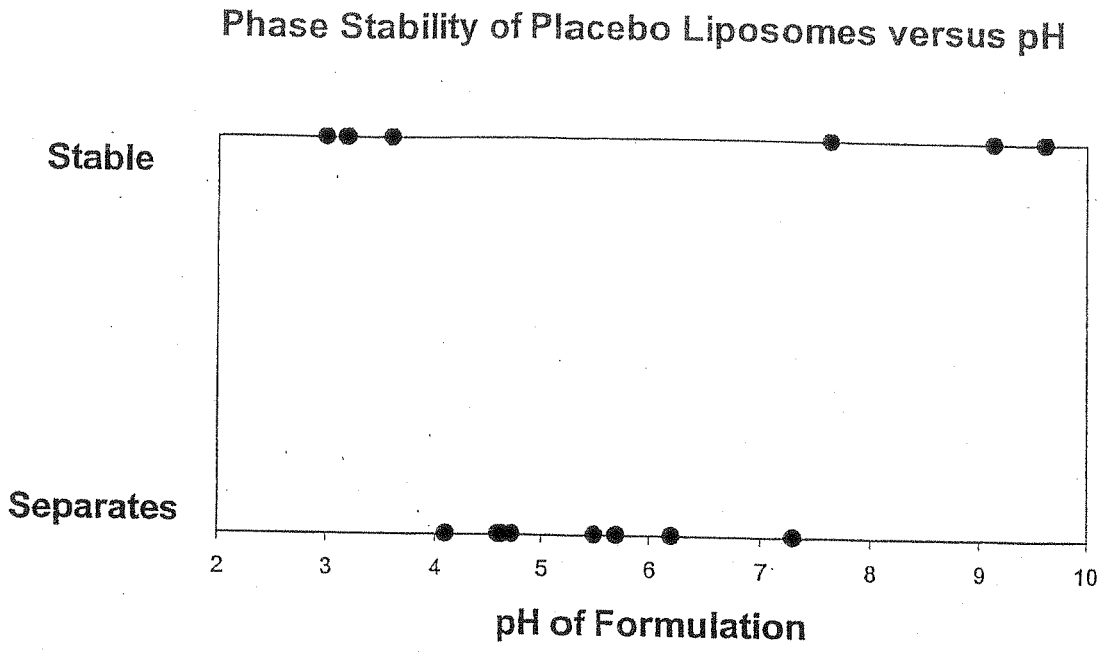

Phase Stability of Placebo Liposomes versus pH
Stable
Separates
2
3
4
5
6
7
8
9
10
pH of Formulation

Fig. 3b

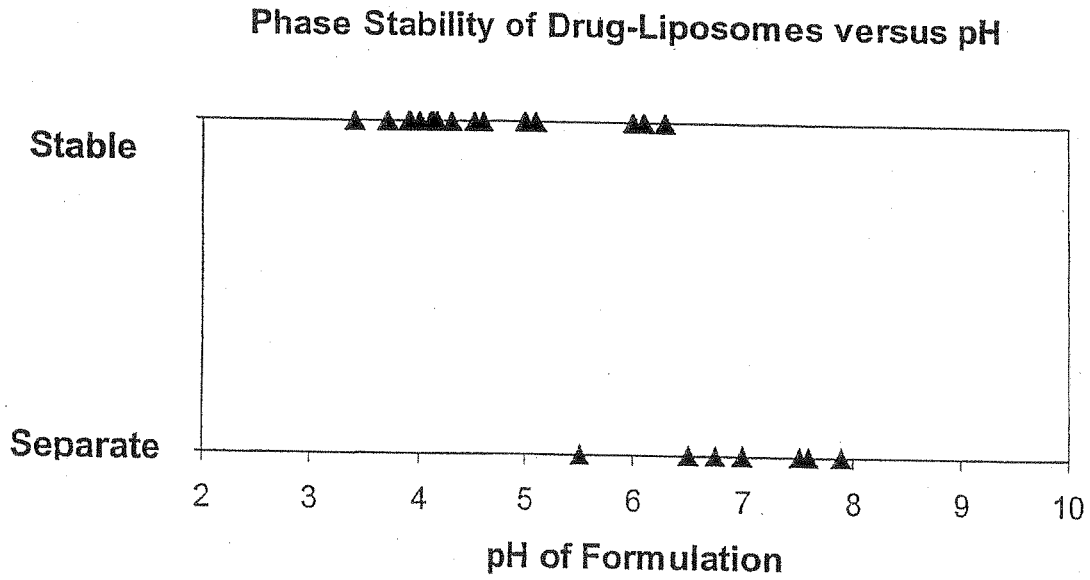

Phase Stability of Drug-Liposomes versus pH
Stable
Separate
2
3
4
5
6
7
8
9
10
pH of Formulation

Fig. 4

ID Number	Drug	[Drug] mM	Acid	[Acid] mM	pH	d(0.50) (microns) Pre-autoclave	d(0.5) (microns) Post-autoclave	Phase Stability Index: Pre-Autoclave	Phase Stability Index: Post-Autoclave
B01	Fentanyl	1.5	-	-	8.00	3.18	4.59	0.00	0.00
B02	Ondansetron	1.5	-	-	7.40	3.21	0.00	0.00	0.00
B03	Ondansetron	2.4	-	-	7.60	3.24	4.32	0.05	0.00
B04	Sumatriptan	1.5	-	-	9.50	3.52	4.95	0.95	0.99
B05	Prochlorperazine	1.5	-	-	7.80	9.18	0.00	0.99	0.00
B06	Ondansetron	2.4	Palmitic	0.2	7.20	10.31	10.14	0.00	0.00
B07	Ondansetron	2.4	Succinic	2.4	4.90	3.96	4.65	0.00	0.05
B08	Ondansetron	2.4	Succinic	0.2	6.50	3.77	4.60	0.00	0.50
B09	Ondansetron	1.5	Succinic	0.75	5.60	3.89	4.77	0.04	0.76
B10	Ondansetron	1.5	Sodium Phosphate	15.0	11.50	6.09	6.10	0.04	0.06
B11	Fentanyl	1.5	Acetic	0.75	6.10	3.93	4.89	0.04	0.89
B12	Ondansetron	1.5	Succinic	1.5	5.00	3.85	4.66	0.04	0.83
B13	Ondansetron	2.4	Succinic	24.0	3.40	4.49	5.62	0.04	0.90
B14	Sumatriptan	1.5	Phosphoric	1.5	3.80	3.84	4.88	0.04	0.55
B15	Ondansetron	2.4	Maleic	0.2	6.70	3.60	4.65	0.04	0.05
B16	Sumatriptan	1.5	Citric	1.0	4.50	3.56	4.55	0.04	0.41
B17	Sumatriptan	1.5	Maleic	1.0	5.90	3.47	4.86	0.05	0.06
B18	Sumatriptan	1.5	Citric	0.75	5.10	3.19	4.23	0.05	0.05
B19	Sumatriptan	1.5	Maleic	1.5	3.90	3.92	5.25	0.05	0.91
B20	Ondansetron	1.5	Phosphoric	0.75	6.20	3.53	4.10	0.05	0.70
B21	Fentanyl	1.5	Citric	0.2	7.50	3.41	4.36	0.06	0.00
B22	Ondansetron	2.4	Citric	0.2	6.70	3.33	4.25	0.06	0.08
B23	Sumatriptan	1.5	Citric	1.5	4.00	3.33	5.07	0.06	0.80
B24	Sumatriptan	1.5	Succinic	0.75	5.70	3.50	4.60	0.06	0.23
B25	Ondansetron	1.5	Phosphoric	1.5	3.90	3.55	4.37	0.06	0.98
B26	Fentanyl	1.5	Acetic	1.5	5.40	3.86	4.75	0.06	0.96
B27	Ondansetron	1.5	Sodium Phosphate	1.5	10.60	4.05	5.11	0.06	0.16
B28	Ondansetron	1.5	Maleic	0.75	6.20	3.84	4.80	0.07	0.90
B29	Ondansetron	2.4	Maleic	2.4	5.40	3.80	4.55	0.08	0.29
B30	Fentanyl	1.5	Phosphoric	0.75	6.70	3.56	4.51	0.08	0.94
B31	Ondansetron	1.5	Sodium Phosphate	0.2	8.80	3.56	4.82	0.10	0.80
B32	Sumatriptan	1.5	Maleic	0.75	8.10	3.15	0.00	0.11	0.00
B33	Ondansetron	2.4	Citric	24.0	2.70	4.33	5.87	0.13	0.99
B34	Ondansetron	1.5	Citric	1.0	4.30	3.48	4.61	0.13	0.82
B35	Ondansetron	2.4	Citric	2.4	3.90	3.59	4.61	0.13	0.52
B36	Fentanyl	1.5	Phosphoric	1.5	4.30	3.42	4.62	0.13	0.97
B37	Fentanyl	1.5	Citric	15.0	2.80	4.22	6.22	0.14	0.92
B38	Ondansetron	2.4	HCl	2.4	3.60	3.58	4.70	0.15	0.84
B39	Ondansetron	1.5	Maleic	1.0	5.50	3.84	4.64	0.15	0.96
B40	Sumatriptan	1.5	Succinic	1.5	4.70	3.84	4.99	0.15	0.69
B41	Ondansetron	2.4	HCl	0.2	6.50	3.57	4.52	0.16	0.92
B47	Ondansetron	1.5	Citric	1.5	4.00	3.67	4.95	0.17	0.94
B48	Fentanyl	1.5	Citric	1.0	4.80	3.48	4.68	0.18	0.63
B49	Fentanyl	1.5	Citric	1.5	4.00	3.60	5.05	0.22	0.91
B50	Sumatriptan	1.5	Phosphoric	0.75	7.10	3.39	0.00	0.26	0.00
B60	Ondansetron	1.5	Citric	0.75	5.20	3.23	4.17	0.29	0.72
B61	Ondansetron	1.5	Maleic	1.5	3.90	3.60	3.73	0.36	0.98
B62	Ondansetron	2.4	Maleic	24.0	2.00	5.00	7.19	0.65	0.98
B63	Prochlorperazine	1.5	Citric	0.75	4.80	5.37	5.19	0.68	0.99
B64	Ondansetron	2.4	Palmitic	2.4	7.10	3.36	5.70	0.77	0.87
B65	Ondansetron	2.4	HCl	24.0	1.80	5.47	0.00	0.83	0.00
B66	Prochlorperazine	1.5	Succinic	1.5	4.60	4.77	6.17	0.86	0.87
B67	Prochlorperazine	1.5	Maleic	0.75	5.90	3.44	28.70	0.96	0.20
B68	Prochlorperazine	1.5	Citric	1.0	4.10	4.19	5.97	0.98	0.96
B69	Prochlorperazine	1.5	Phosphoric	0.75	5.70	3.51	6.71	0.98	0.76
B70	Prochlorperazine	1.5	Citric	1.5	3.90	3.84	6.70	1.01	0.85
B71	Prochlorperazine	1.5	Succinic	0.75	5.50	4.01	6.16	1.02	0.95
B72	Prochlorperazine	1.5	Maleic	1.0	5.00	3.24	5.30	1.05	0.91
B73	Ondansetron	2.4	Palmitic	24.0	6.30	8.71	10.26	1.16	1.17
B74	Prochlorperazine	1.5	Maleic	1.5	4.20	3.26	5.39	1.34	0.86
B75	Prochlorperazine	1.5	Phosphoric	1.5	4.20	4.00	8.11	1.88	0.75

Fig. 5

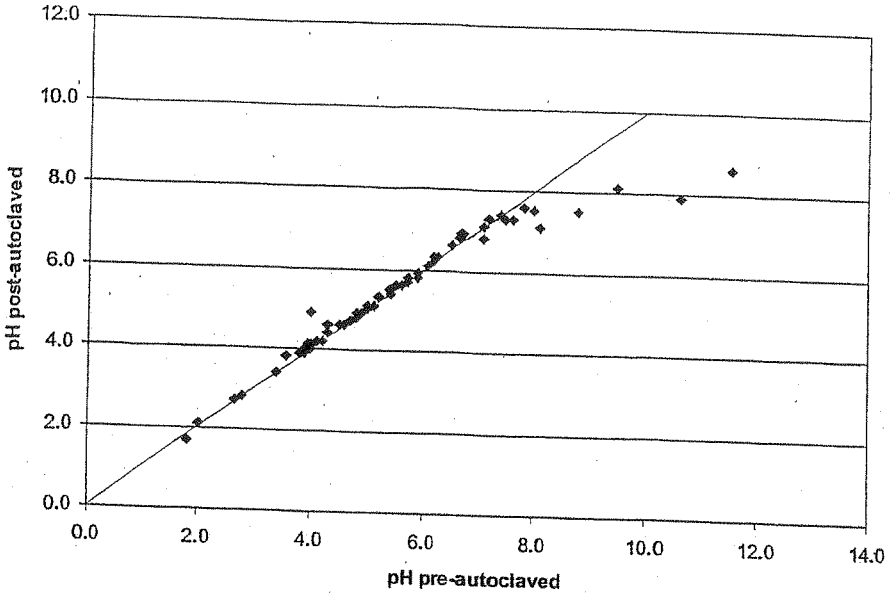

12.0
10.0
8.0
6.0
4.0
2.0
0.0
pH post-autoclaved
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
pH pre-autoclaved

Fig. 6

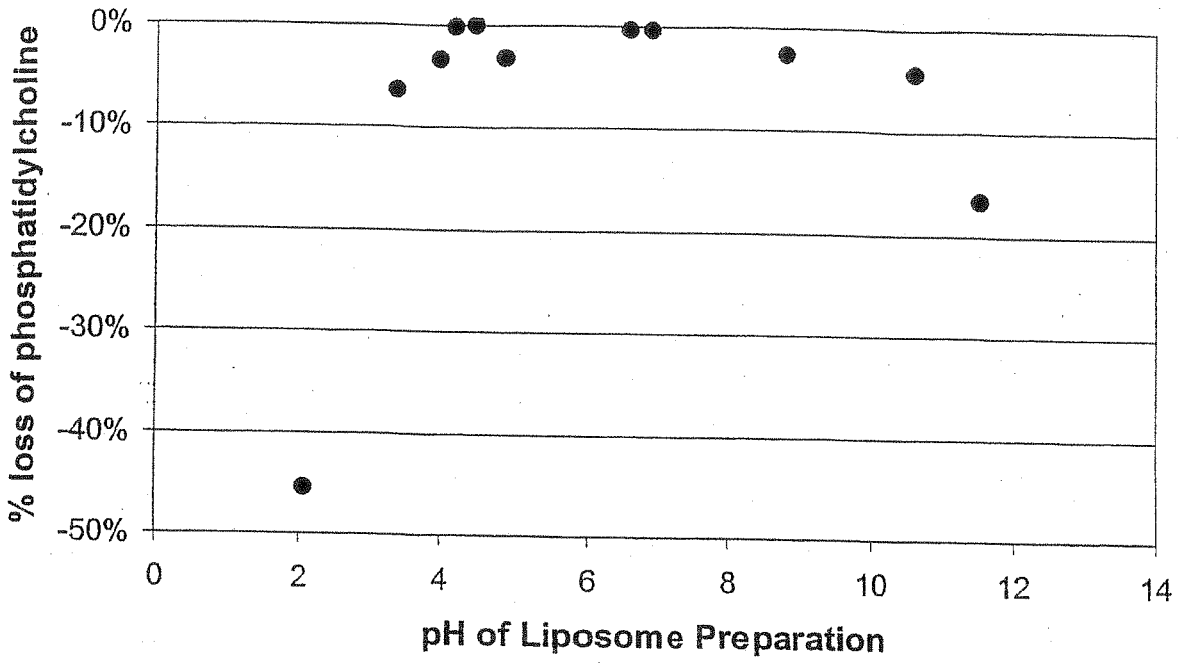

% loss of phosphatidylcholine
0%
-10%
-20%
-30%
-40%
-50%
0
2
4
6
8
10
12
14
pH of Liposome Preparation

Fig. 7

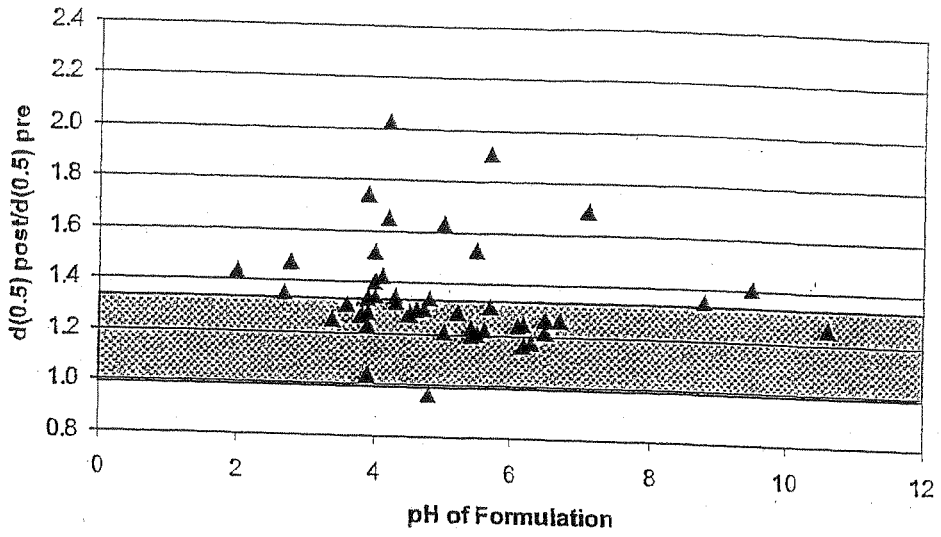

2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
d(0.5) post/d(0.5) pre
0
2
4
6
8
10
12
pH of Formulation

Fig. 8



Fig. 8a

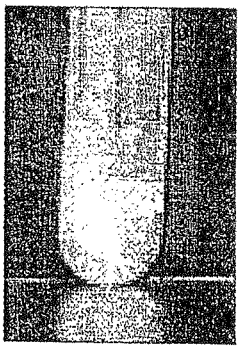


Fig. 8b

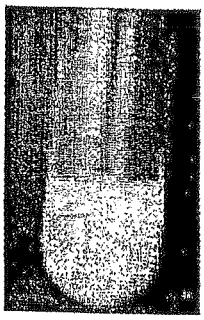


Fig. 8c

Fig. 9

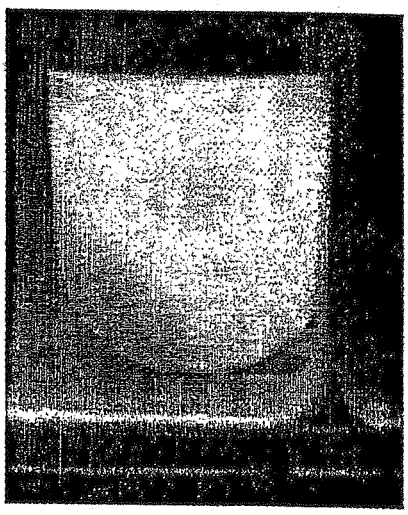


Fig. 10

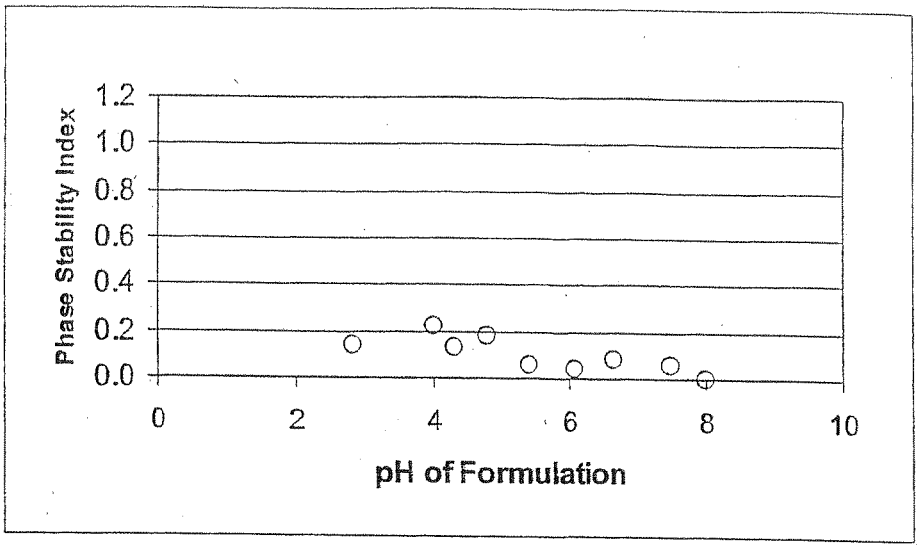

Phase Stability Index
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
2
4
6
8
10
pH of Formulation

Fig. 11

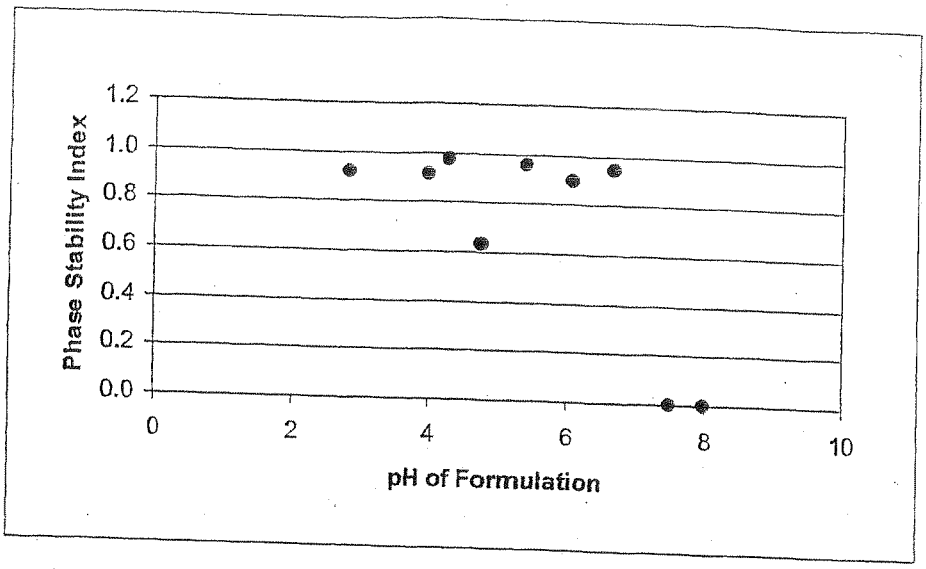

Phase Stability Index
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
2
4
6
8
10
pH of Formulation

Fig. 12

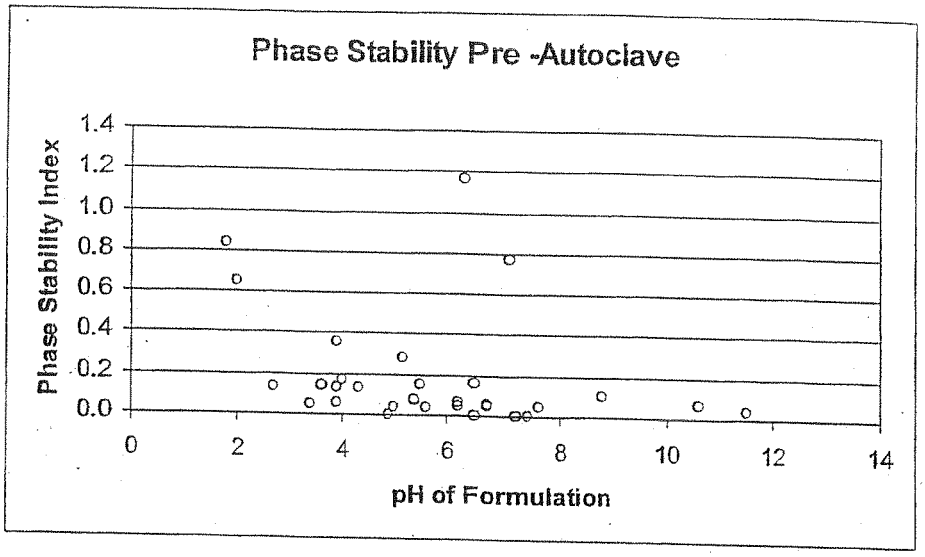

Phase Stability Pre -Autoclave
Phase Stability Index
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
2
4
6
8
10
12
14
pH of Formulation

Fig. 13

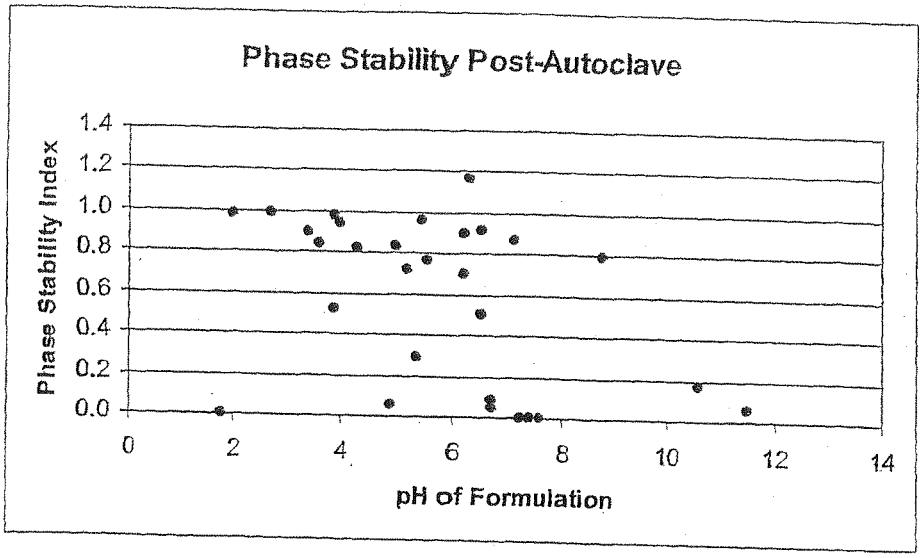

Phase Stability Post-Autoclave
Phase Stability Index
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
2
4
6
8
10
12
14
pH of Formulation

Fig. 14

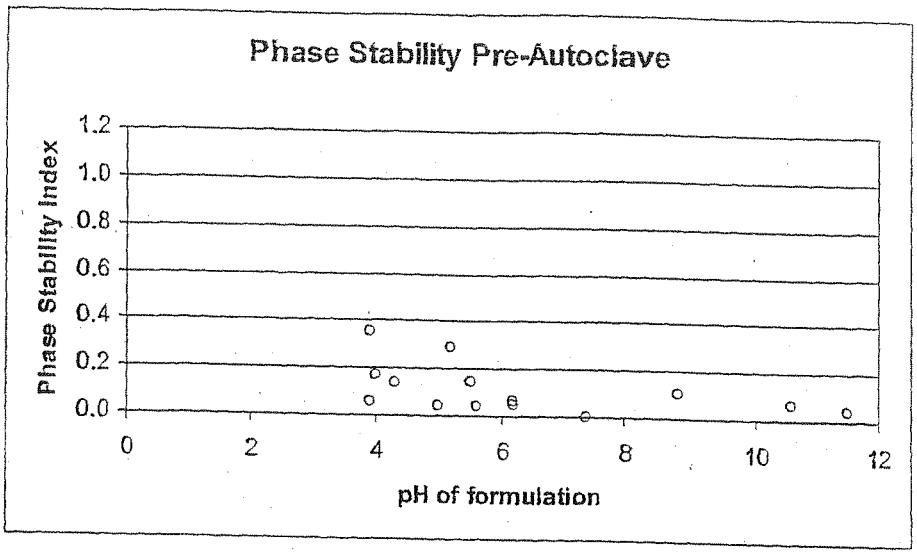

Phase Stability Pre-Autoclave
Phase Stability Index
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
2
4
6
8
10
12
pH of formulation

Fig. 15

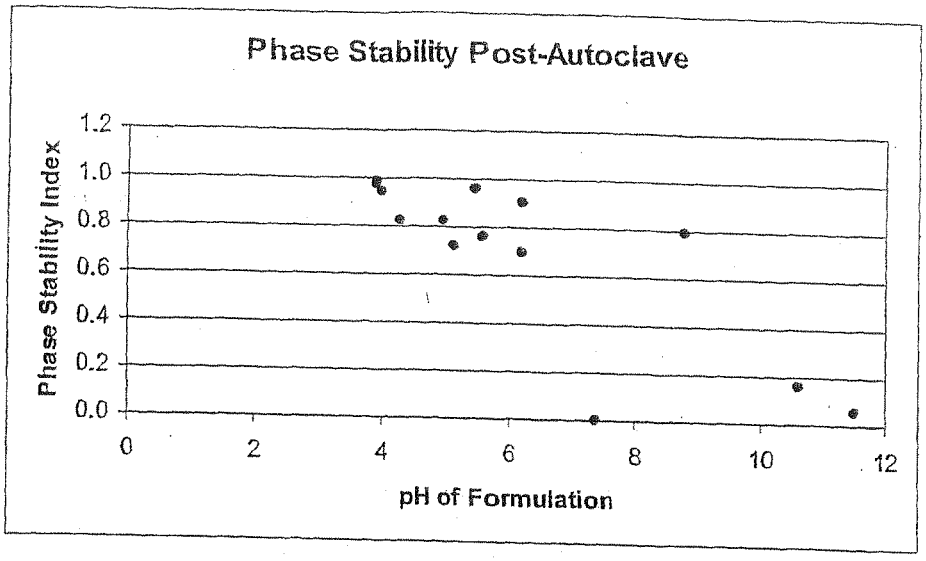

Phase Stability Post-Autoclave
Phase Stability Index
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
2
4
6
8
10
12
pH of Formulation

Fig. 16

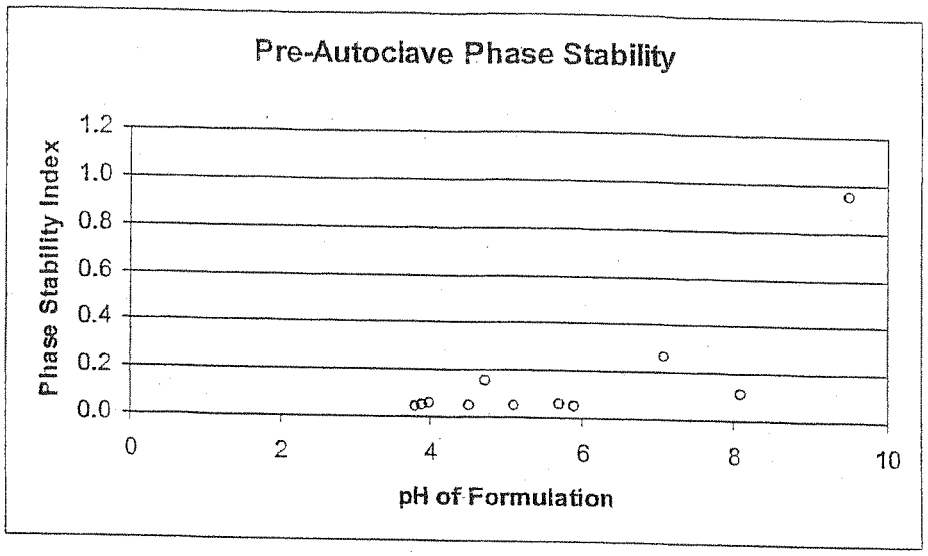

Pre-Autoclave Phase Stability
Phase Stability Index
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
2
4
6
8
10
pH of Formulation

Fig. 17

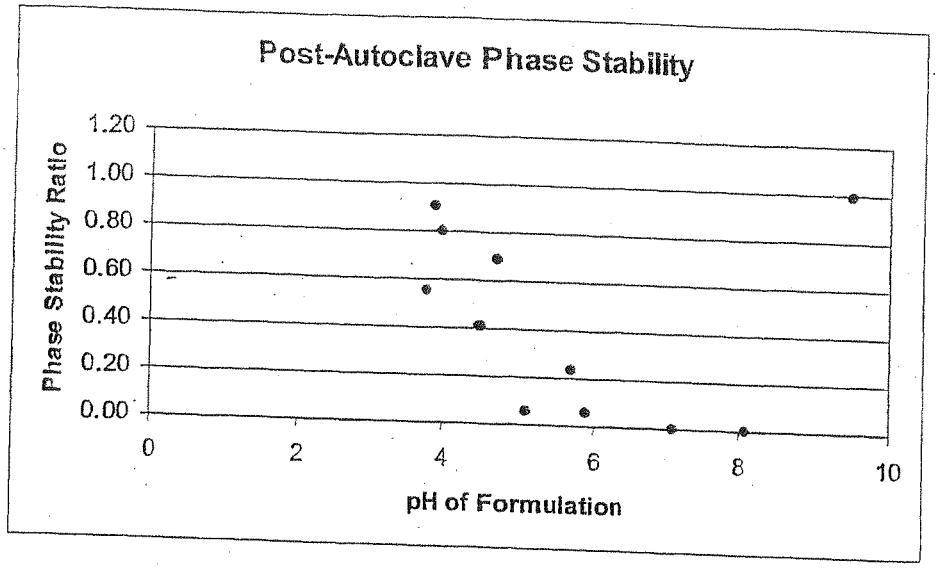

Post-Autoclave Phase Stability
Phase Stability Ratio
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0
2
4
6
8
10
pH of Formulation

Fig. 18

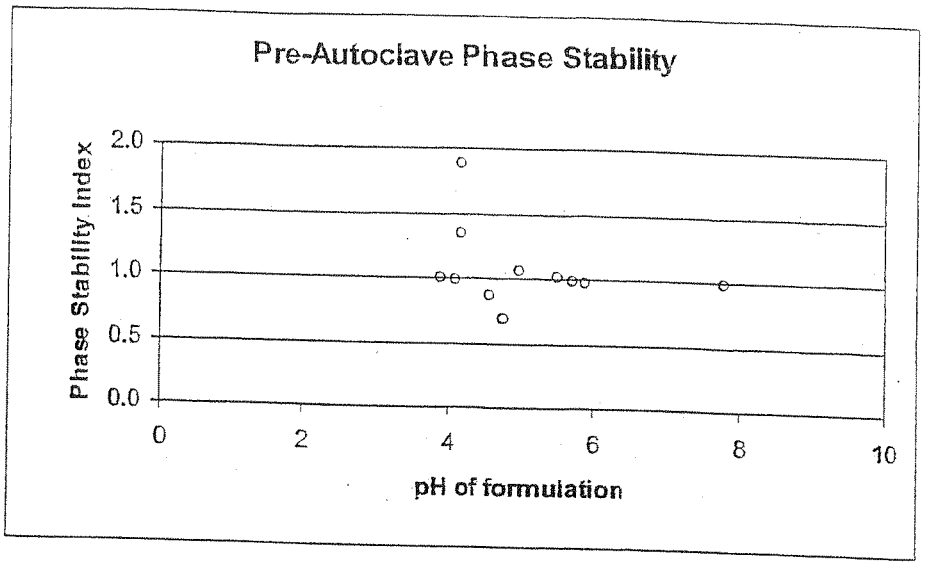
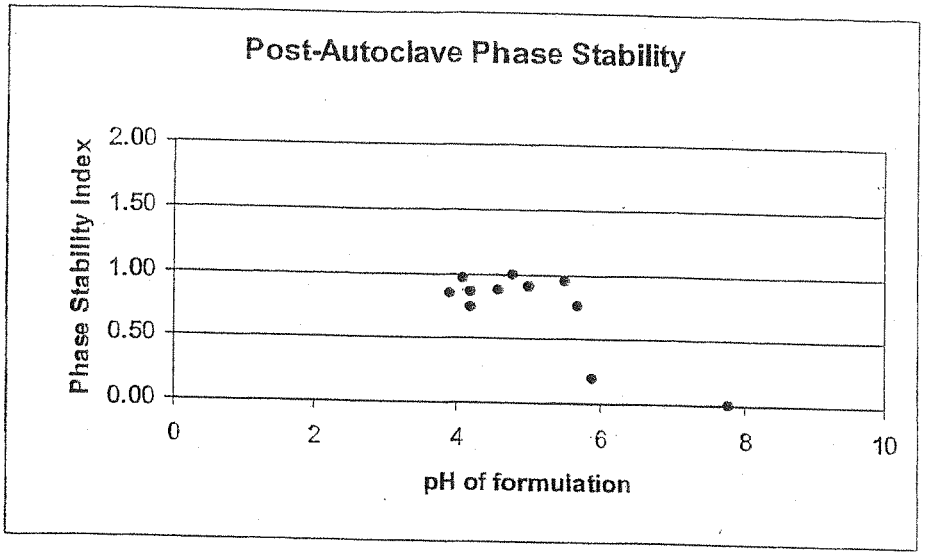

Pre-Autoclave Phase Stability
Phase Stability Index
2.0
1.5
1.0
0.5
0.0
0
2
4
6
8
10
pH of formulation

Fig. 19


Post-Autoclave Phase Stability
Phase Stability Index
2.00
1.50
1.00
0.50
0.00
0
2
4
6
8
10
pH of formulation