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APPENDICES

APPENDIX A

Analysis of acyclovir

1. The UV-visible spectrophotometric method

1.1 Calibration curve

The UV-visible spectrophotometric method was used to determine the amount of drug release in dissolution test. The relationship between concentrations versus absorbances of acyclovir in various media are presented in Table 1A–7A. The calibration curves of acyclovir and a linear relationship with the correlation of determination are also illustrated in Figures 1A-7A.

Table 1A Absorbance of acyclovir in 0.1 N HCl solution at 255 nm

Concentration (μg/ml)	Absorbance
3.70	0.2012
5.55	0.3016
7.40	0.4019
9.25	0.5020
11.10	0.6025
12.95	0.7028
14.80	0.8038

Table 2A Absorbance of acyclovir in phosphate buffer pH 6.8 solution at 251 nm

Concentration (µg/ml)	Absorbance
3.54	0.2072
5.31	0.3140
7.08	0.4164
8.85	0.5219
10.62	0.6232
12.39	0.7264
14.16	0.8372

Table 3A Absorbance of acyclovir in phosphate buffer pH 6.8 solution adjusted ionic strength equivalent to 0.1 with sodium chloride at 251 nm

Concentration (µg/ml)	Absorbance
3.50	0.2097
5.25	0.3123
7.00	0.4152
8.75	0.5215
10.50	0.6258
12.25	0.7372
14.00	0.8280

Table 4A Absorbance of acyclovir in deionized water at 251 nm

Concentration (µg/ml)	Absorbance
3.50	0.1990
5.25	0.3019
7.00	0.4033
8.75	0.5075
10.50	0.6153
12.25	0.7146
14.00	0.8138

Table 5A Absorbance of acyclovir in 0.05 M sodium chloride solution at 251 nm

Concentration (µg/ml)	Absorbance
3.50	0.2039
5.25	0.3043
7.00	0.4045
8.75	0.5066
10.50	0.6082
12.25	0.7093
14.00	0.8090

Table 6A Absorbance of acyclovir in 0.1 M sodium chloride solution at 251 nm

Concentration (μg/ml)	Absorbance
3.50	0.2029
5.25	0.3077
7.00	0.4081
8.75	0.5086
10.50	0.6100
12.25	0.7101
14.00	0.8075

Table 7A Absorbance of acyclovir in 0.2 M sodium chloride solution at 251 nm

Concentration (μg/ml)	Absorbance
3.50	0.2151
5.25	0.3105
7.00	0.4159
8.75	0.5158
10.50	0.6206
12.25	0.7199
14.00	0.8194

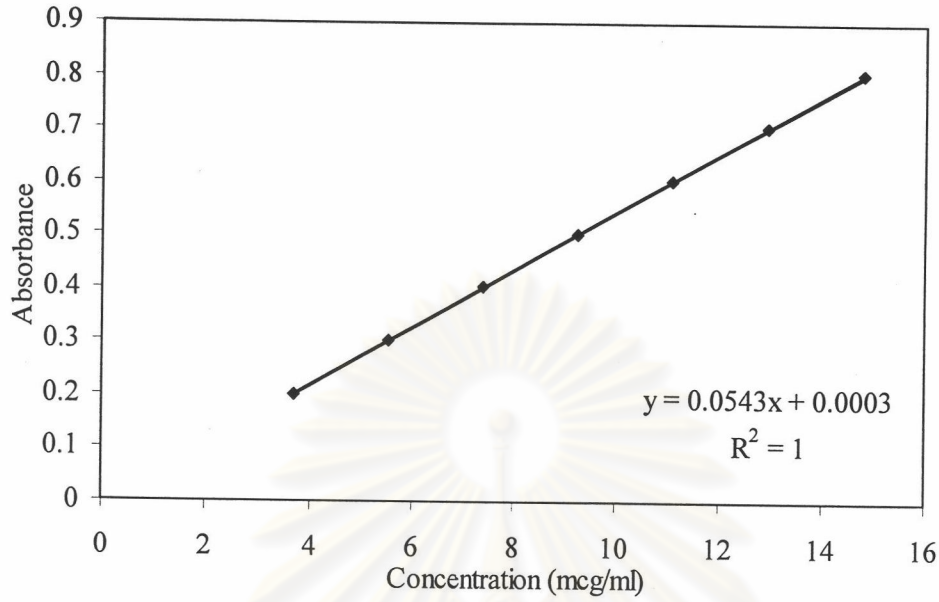

Figure 1A Calibration curve of acyclovir in 0.1 N HCl solution at 255 nm

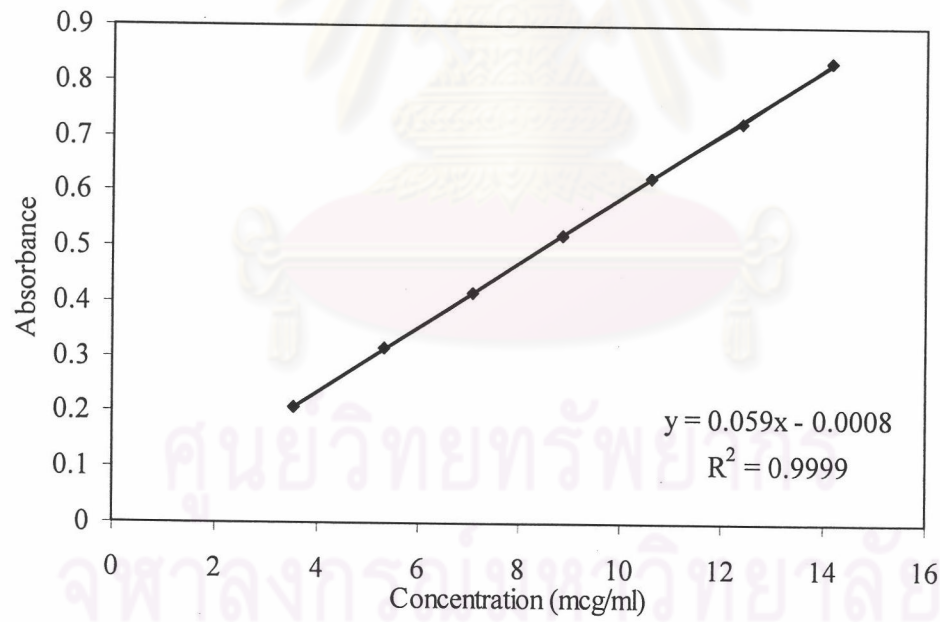

Figure 2A Calibration curve of acyclovir in phosphate buffer pH 6.8 solution at 251 nm

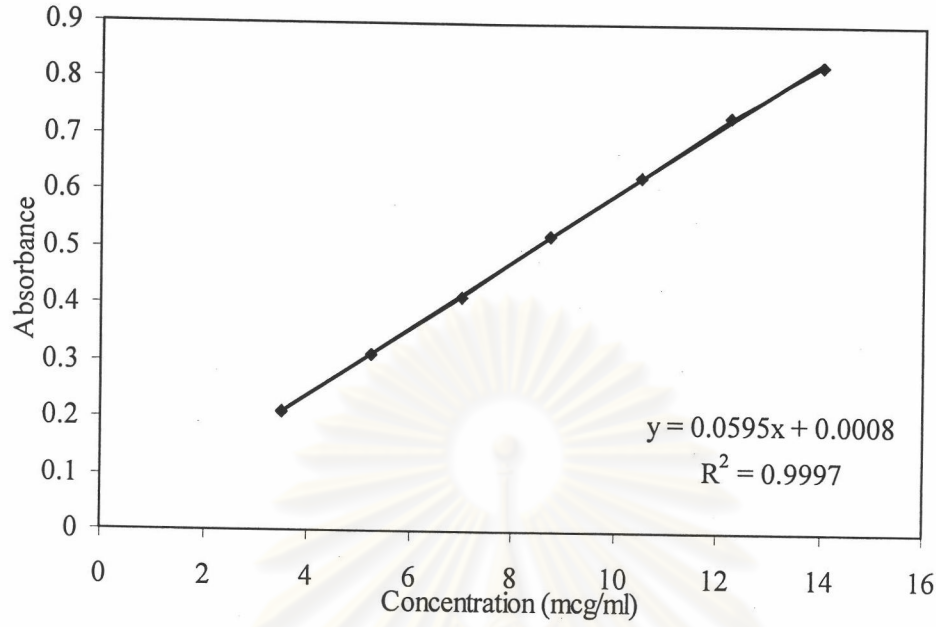

Figure 3A Calibration curve of acyclovir in phosphate buffer pH 6.8 solution adjusted ionic strength equivalent to 0.1 with sodium chloride at 251 nm

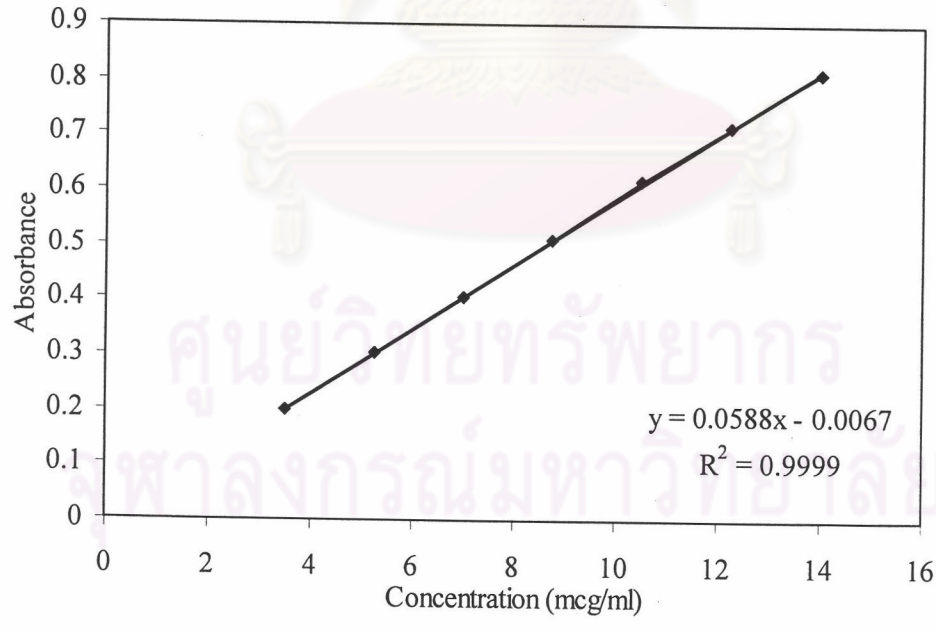

Figure 4A Calibration curve of acyclovir in deionized water at 251 nm

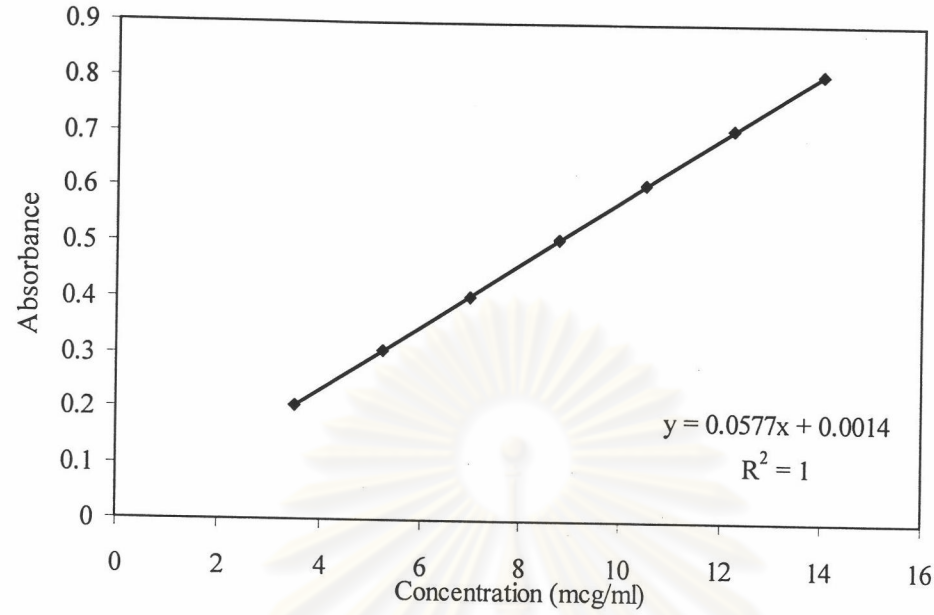

Figure 5A Calibration curve of acyclovir in 0.05 M NaCl solution at 251 nm

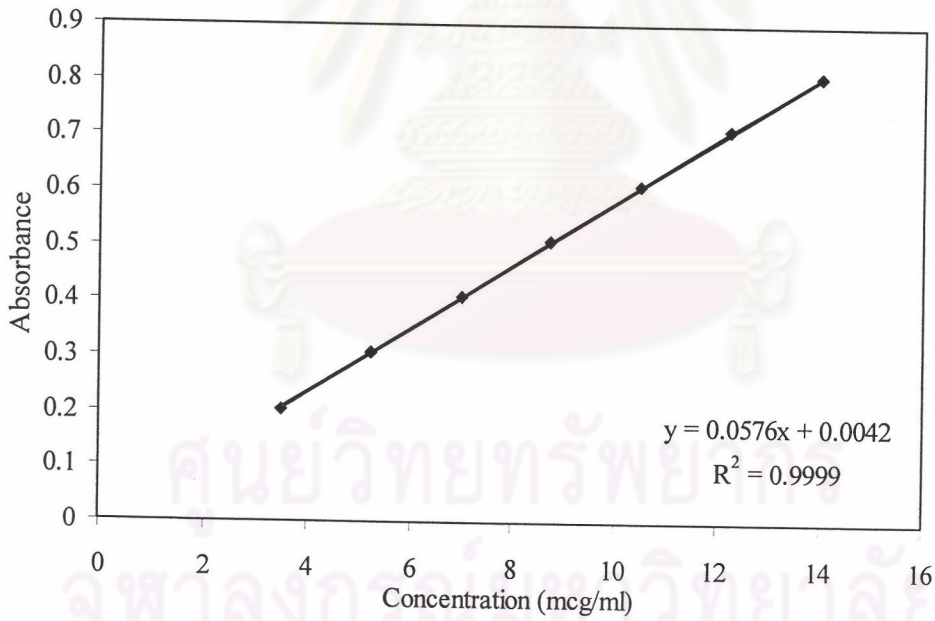

Figure 6A Calibration curve of acyclovir in 0.1 M NaCl solution at 251 nm

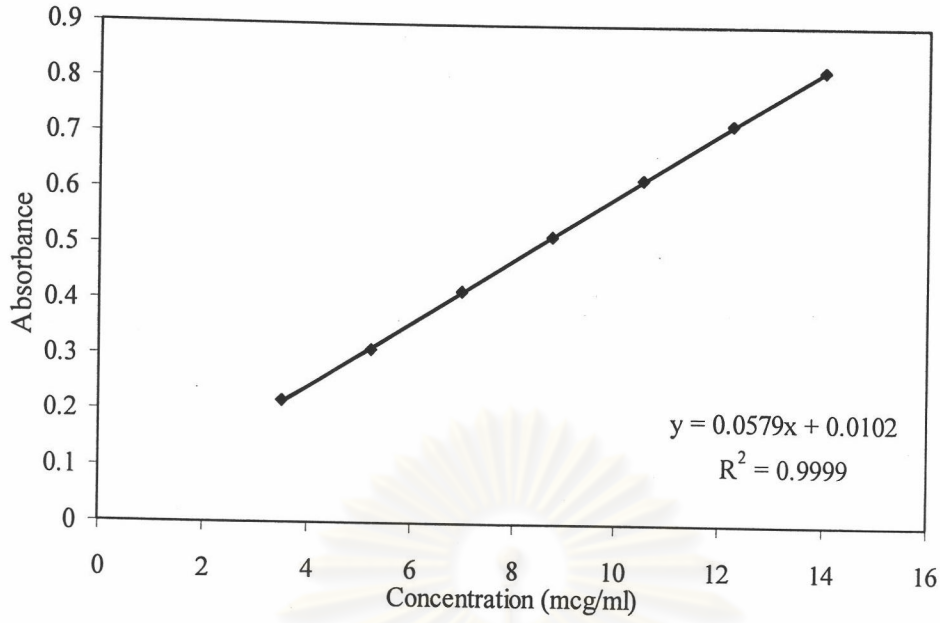

Figure 7A Calibration curve of acyclovir in 0.2 M NaCl solution at 251 nm

2. The high performance liquid chromatography method

2.1 Validation of HPLC method

The drug content of acyclovir in matrices was determined by HPLC assay with UV detection. The validation of the HPLC method used is presented as follows:

2.1.1 Specificity

Because under the chromatographic condition used, the peak of acyclovir had to be completely separated from and not to be interfered by the peak of non-active ingredients, therefore the specificity of HPLC method was evaluated. The validation was made by comparing the chromatograms between non-active ingredients solution with that of standard solution of acyclovir.

2.1.2 Accuracy

Twenty tablets of each placebo formulation with low polymer content (58 mg per tablet; corresponding to high level of diluent) and high polymer content (58 mg per tablet; corresponding to low level of diluent) were pulverized by mortar and pestle. The solutions containing the mixture of each placebo formulation and acyclovir were prepared. The final concentration of placebo was 16 μg/ml. This final concentration was equivalent to the concentration of non-active ingredients in solution which used to assay for drug content. The final concentrations of acyclovir were 18, 36 and 54 μg/ml, respectively. This final concentrations were equivalent to 50%, 100% and 150% of concentration of acyclovir in solution which was subjected to assay for drug content. Each sample was determined in triplicate. The percentage of the analytical recovery of each sample was calculated.

2.1.3 Precision

Within run precision

The within run precision was determined by comparing concentration of acyclovir standard solution prepared and analyzed in the same day. The concentration of standard solution was 36 μg/ml. The percentage coefficient of variation (% CV) of concentration of acyclovir from six replicated injections was determined.

Between Run Precision

The between run precision was determined by comparing concentration of acyclovir standard solution prepared and analyzed on different days. The concentration of standard solution was 36 μg/ml. The precision determination was done in six days. In each day, determination of concentration was done in six replicates. The percentage coefficient of variation (%CV) of concentration of acyclovir from six sets of standard solutions was determined.

2.1.4 Linearity

Acyclovir standard solutions ranging from 12-60 μg/ml were prepared and analyzed. Linear regression analysis of peak areas versus their concentrations was performed. The determination was done in triplicate.

2.2 System suitability

Tailing factor was performed by collecting data from chromatograms of those samples used for standard curve preparation. This test was determined by equation given below.

$$T = \frac{W_x}{2f} \qquad (1)$$

in which W_x was the width of peak of acyclovir at 5% height, f was the distance from the peak maximum to the leading edge of the peak, the distance being measured at a point 5% of the peak height from the baseline (Figure 8A).

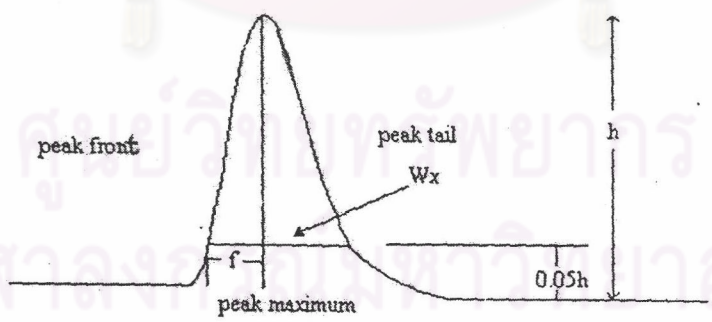

Figure 8A Asymmetrical Chromatographic Peak

The results of validation process and system suitability are as following:

Validation of HPLC method

Specificity

Figure 9A shows the chromatograms of acyclovir standard solution. Acyclovirs were eluted at 2.979 minutes. For non-active ingredients, including HPMC, xanthan gum, sodium alginate, carbopol 934 P, lactose, dibasic calcium phosphate, talcum and magnesium stearate, their peaks did not appear under the used conditions of HPLC method. This result indicated that the peak of acyclovir was not interfered with peak of other components in the sample. Therefore, this method having high specificity could be used for analysis of acyclovir.

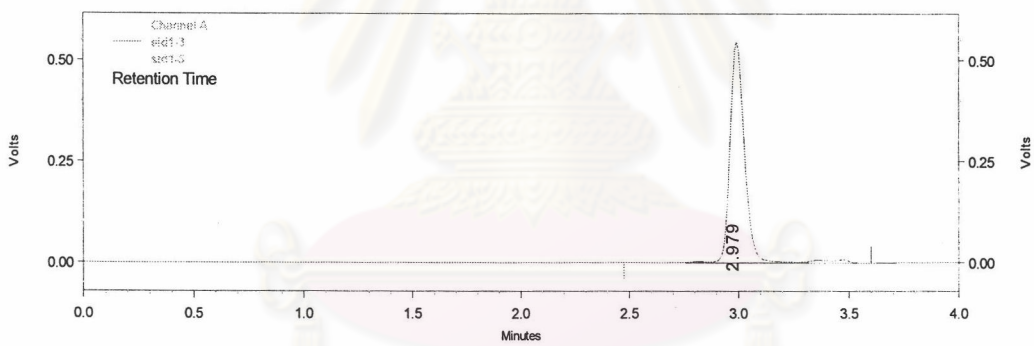

Figure 9A HPLC chromatograms of standard solutions of acyclovir

Accuracy

Table 8A shows the percentage of analytical recovery in each concentration of acyclovir.

Table 8A (Continued)Percentage of analytical recovery of acyclovir assayed by the HPLC method

Formulation	Actual concentration (µg/ml)	Analytical concentration (µg/ml)			% Recovery					
		n1	n2	n3	n1	n2	n3	Mean	SD	%CV
FP13	18	17.9758	18.4250	17.9021	99.8653	102.3612	99.4564	100.7459	1.4585	1.4477
	36	35.7705	36.4775	35.7238	99.3626	101.3265	99.2327			
	54	54.4733	55.8731	54.4120	100.8765	103.4687	100.7629			
FP15	18	18.0588	18.2370	18.1974	100.3265	101.3165	101.0966	101.1620	0.8874	0.8772
	36	36.9993	36.3717	35.8609	102.7758	101.0326	99.6135			
	54	54.5400	54.9799	54.8004	100.9999	101.8146	101.4823			
FP16	18	18.4188	18.4253	18.4301	102.3265	102.3625	102.3892	101.7591	0.6385	0.6275
	36	36.7784	36.4775	36.2245	102.1621	101.3265	100.6235			
	54	55.0458	54.8907	54.5698	101.9368	101.6494	101.0551			
FP18	18	17.8493	18.1122	17.9613	99.1625	100.6231	99.7849	101.3921	1.5034	1.4828
	36	37.0046	37.4274	36.2624	102.7906	103.9651	100.7289			
	54	54.8972	55.2453	54.8136	101.6615	102.3061	101.5067			
FP19	18	18.4312	18.3898	18.0012	102.3956	102.1658	100.0064	101.4254	1.1908	1.1741
	36	36.9936	35.6887	36.3788	102.7599	99.1354	101.0522			
	54	54.9119	55.1906	54.7666	101.6888	102.2048	101.4196			
FP20	18	17.8446	18.1178	18.1351	99.1365	100.6542	100.7507	101.0484	0.9581	0.9482
	36	36.9747	36.5184	36.6185	102.7075	101.4400	101.7180			
	54	54.6598	54.4370	54.5385	101.2218	100.8093	100.9972			
FP21	18	18.1126	17.9277	17.9599	100.6253	99.5986	99.7771	100.9861	1.0611	1.0508
	36	36.9936	36.0851	36.3443	102.7601	100.2365	100.9563			
	54	54.6813	55.1906	54.7856	101.2617	102.2049	101.4549			
FP22	18	18.4250	18.2226	18.3304	102.3612	101.2364	101.8355	100.9034	1.0259	1.0167
	36	35.7861	35.8651	36.4472	99.4058	99.6253	101.2423			
	54	54.1614	54.2101	54.9376	100.2988	100.3891	101.7363			

Table 8A Percentage of analytical recovery of acyclovir assayed by the HPLC method

Formulation	Actual concentration (µg/ml)	Analytical concentration (µg/ml)			% Recovery					
		n1	n2	n3	n1	n2	n3	Mean	SD	%CV
FP1	18	18.2432	18.0651	18.0478	101.3513	100.3615	100.2654	100.4673	1.0172	1.0125
	36	35.6514	36.5484	35.6962	99.0316	101.5234	99.1562			
	54	55.0970	54.1433	54.1187	102.0315	100.2654	100.2197			
FP3	18	18.2278	18.1848	17.9124	101.2654	101.0265	99.5135	101.1701	0.6912	0.6832
	36	36.7461	36.4552	36.4209	102.0725	101.2645	101.1693			
	54	54.8511	54.6677	54.7595	101.5761	101.2364	101.4065			
FP4	18	18.0476	18.4017	18.1258	100.2645	102.2315	100.6990	101.2766	1.0937	1.0799
	36	36.4428	36.7688	35.8399	101.2301	102.1356	99.5553			
	54	55.0287	55.5734	54.2995	101.9050	102.9138	100.5546			
FP6	18	17.9628	18.3846	18.2270	97.7934	102.1365	101.2613	101.6955	1.1301	1.1113
	36	37.1735	36.2208	36.4691	103.2597	100.6132	101.3029			
	54	54.9008	55.7440	55.0770	101.6682	103.2297	101.9945			
FP7	18	17.8443	17.8446	18.0229	99.1352	99.1365	100.1274	100.8600	1.7149	1.7003
	36	37.0087	35.5053	36.4973	102.8019	98.6255	101.3815			
	54	55.3000	55.7440	54.4831	102.4074	103.2297	100.8946			
FP9	18	18.2278	17.9362	17.9166	101.2653	99.6453	99.5365	101.0985	1.4100	1.3947
	36	37.2536	36.0902	36.1552	103.4821	100.2506	100.4312			
	54	55.0227	55.5868	54.2263	101.8939	102.9385	100.4191			
FP10	18	18.1859	18.1126	17.8760	101.0326	100.6253	99.3111	101.1934	1.2629	1.2480
	36	37.1039	36.8500	35.9140	103.0663	102.3612	99.7612			
	54	54.6832	55.3643	54.4274	101.2651	102.5266	100.7915			
FP12	18	17.9758	18.4250	17.9021	99.8653	102.3612	99.4564	100.7459	1.4585	1.4477
	36	35.7705	36.4775	35.7238	99.3626	101.3265	99.2327			
	54	54.4733	55.8731	54.4120	100.8765	103.4687	100.7629			

Precision

Table 9A-10A show data of within and between run precision of acyclovir assayed by HPLC method, respectively.

Table 9A Data of within run precision assayed by HPLC method

Acyclovir concentration (μg/ml)	Calculated concentration from calibration curve (μg/ml)								
	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	Average	SD	%CV
36	35.2019	35.3434	35.5754	35.2066	35.7835	35.2665	35.3962	0.2347	0.6630

Table 10A Data of between run precision assayed by HPLC method

Day	Calculated concentration from calibration curve (μg/ml)								
	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	Average	SD	%CV
1	35.9066	35.9181	35.9405	35.5867	35.3214	35.1947	35.6447	0.3290	0.9231
2	35.2097	35.7046	35.5759	35.0454	35.5698	35.4127	35.4197	0.2499	0.7056
3	35.2665	35.5793	36.3517	35.7861	35.7969	36.1004	35.8135	0.3813	1.0648
4	36.0174	35.2450	36.1401	35.2882	35.3348	35.3623	35.5646	0.4021	1.1307
5	35.0308	35.1346	35.3137	34.8638	35.7717	35.4971	35.2686	0.3304	0.9368
6	35.5858	35.7831	35.9297	35.7460	35.9282	36.0022	35.8292	0.1537	0.4290
						Average	35.5900	0.3590	1.0088

Linearity

The linearity of analytical method is its ability to elicit test results that are directly, or by a well-defined mathematical transformation, proportional to the concentration of analyte in samples within a given range. As shown in Figure 10A, the relationship between peak areas and acyclovir concentrations is linear with a coefficient of determination (R^2) value of 1. This result pointed out that HPLC method was acceptable for quantitative analysis of acyclovir in the concentration range studied.

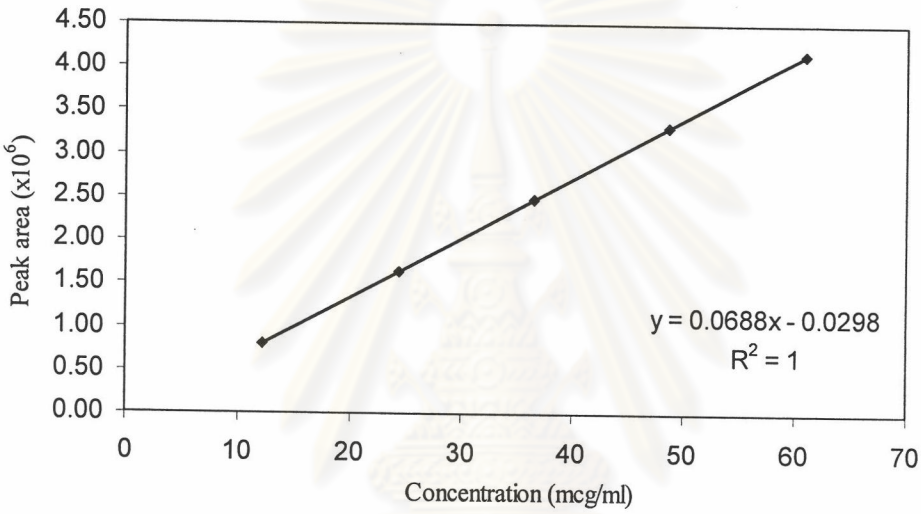

Figure 10A Calibration curve of acyclovir assayed by HPLC method

System suitability

The tailing factors, which were calculated from a mean of the six replicated injections of each concentration (12, 24, 36, 48 and 60 μg/ml) of acyclovir are presented in Table 11A.

Table 11A The tailing factors of acyclovir

Acyclovir concentration (μg/ml)	The tailing factor (T)								
	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	Average	SD	%CV
12	1.2523	1.2568	1.2567	1.2523	1.2578	1.2544	1.25505	0.0024	0.1915
24	1.2512	1.2523	1.2578	1.2512	1.2569	1.2512	1.25343	0.0030	0.2454
36	1.2544	1.2512	1.2569	1.2534	1.2508	1.2512	1.25298	0.0023	0.1910
48	1.2577	1.2534	1.2508	1.2572	1.2511	1.2591	1.25488	0.0035	0.2856
61	1.2781	1.2765	1.2645	1.2601	1.2662	1.2667	1.26868	0.0070	0.5585
						Average	1.25701	0.0069	0.5517

Table 12A The analytical method validation parameter of HPLC for acyclovir

Parameter	Result value	Limited of acceptability
1. System suitability - Tailing factor	1.2570	≤2
2. Specificity	No other peak interfere	No other peak interfere major peak [a]
3. Accuracy (SD)	100.47 %-101.76 % (0.64-1.71)	98-102 % [b]
4. Precision (%CV) - Within run precision - Between run precision	0.6630 1.0088	≤ 2 [b]
5. Linearity -The correlation coefficient (r^2)	1	>0.999 [b]

[a] (The United States Pharmacopeial Convention 2000)

[b] (Jenke 1996)

APPENDIX B

Dissolution study of placebo tablet

Table 1B The absorbance (without dilution) from dissolution study of placebo tablets in 0.1 N HCl solution

Time (hr)	Absorbance							
	FP1	FP3	FP4	FP6	FP7	FP9	FP10	FP12
1	0.0186	0.0155	0.0179	0.0151	0.0107	0.0147	0.0171	0.0197
6	0.0100	0.0097	0.0231	0.0165	0.0166	0.0145	0.0149	0.0194
12	0.0087	0.0104	0.0163	0.0124	0.0145	0.0234	0.0112	0.0170
Time (hr)	FP13	FP15	FP16	FP18	FP19	FP20	FP21	FP22
1	0.0133	0.0116	0.0157	0.0156	0.0115	0.0189	0.0188	0.0173
6	0.0193	0.0117	0.0178	0.0141	0.0118	0.0151	0.0194	0.0173
12	0.0071	0.0103	0.0074	0.0112	0.0126	0.0160	0.0199	0.0199

Table 2B The absorbance (without dilution) from dissolution study of placebo tablets in phosphate buffer pH 6.8 solution (PBS pH 6.8)

Time (hr)	Absorbance							
	FP1	FP3	FP4	FP6	FP7	FP9	FP10	FP12
1	0.0218	0.0236	0.0230	0.0214	0.0178	0.0190	0.0577	0.0796
6	0.0135	0.0133	0.0264	0.0166	0.0159	0.0361	0.0273	0.0393
12	0.0149	0.0224	0.0255	0.0153	0.0139	0.0613	0.0316	0.0492
Time (hr)	FP13	FP15	FP16	FP18	FP19	FP20	FP21	FP22
1	0.0153	0.0149	0.0144	0.0120	0.0201	0.0165	0.0163	0.0186
6	0.0178	0.0137	0.0148	0.0318	0.0175	0.0190	0.0117	0.0185
12	0.0111	0.0186	0.0110	0.0163	0.0138	0.0136	0.0134	0.0225

Table 3B The absorbance (without dilution) from dissolution study of placebo tablets in deionized water (DI water)

Time (hr)	Absorbance		
	FP2	FP5	FP8
1	0.0193	0.0187	0.0118
6	0.0136	0.0132	0.0102
12	0.0182	0.0150	0.0146
Time (hr)	FP11	FP14	FP17
1	0.0172	0.0176	0.0189
6	0.0136	0.0136	0.0138
12	0.0140	0.0189	0.0176

Table 4B The absorbance (without dilution) from dissolution study of placebo tablets in 0.2 M sodium chloride solution (0.2 M NaCl)

Time (hr)	Absorbance		
	FP2	FP5	FP8
1	0.0100	0.0121	0.0101
6	0.0073	0.0130	0.0150
12	0.0104	0.0109	0.0159
Time (hr)	FP11	FP14	FP17
1	0.0113	0.0070	0.0098
6	0.0178	0.0111	0.0175
12	0.0163	0.0112	0.0117

Table 5B The absorbance (without dilution) from dissolution study of placebo tablets in phosphate buffer pH 6.8 solution adjusted ionic strength equivalent to 0.1 with sodium chloride (PBS pH 6.8 + NaCl)

Time (hr)	Absorbance		
	FP2	FP5	FP8
1	0.0111	0.0122	0.0129
6	0.0123	0.0132	0.0134
12	0.0131	0.0139	0.0144
Time (hr)	FP11	FP14	FP17
1	0.0110	0.0111	0.0125
6	0.0121	0.0131	0.0135.0148
12	0.0131	0.0141	

APPENDIX C

Viscosity

The viscosity of polymer solution containing 2%w/w HPMC, xanthan gum, sodium alginate or carbopol 934P in different media at 37 ºC ± 0.5 °C and shear rate of 50 rpm are presented in tables 1C-4C

Table 1C The viscosities of HPMC solution in various media

Medium	Viscosity (cps)					
	1	2	3	Mean	SD	%CV
0.1 N HCl	2435.42	2051.56	2159.54	2215.51	197.96	8.93
PBS pH 6.8	3027.90	3276.16	2975.32	3093.13	160.68	5.19
PBS pH6.8+NaCl	3275.30	3215.31	3359.28	3283.30	72.32	2.20
DI water	3131.33	2843.39	3071.34	3015.35	151.91	5.04
0.05 M NaCl	2795.40	2927.38	3035.35	2919.38	120.18	4.12
0.1 M NaCl	3047.35	2915.38	3263.30	3075.34	175.64	5.71
0.2 M NaCl	2735.42	2243.52	2699.42	2559.45	274.20	10.71

Table 2C The viscosities of xanthan gum solution in various media

Medium	Viscosity(cps)					
	1	2	3	Mean	SD	%CV
0.1 N HCl	7174.47	7078.49	7570.38	7974.45	260.74	3.58
PBS pH 6.8	7178.68	7130.69	6650.79	6986.72	291.91	4.18
PBS pH 6.8+NaCl	6938.73	7526.61	7250.67	7238.67	294.12	4.06
DI water	3131.33	3107.34	3623.33	3287.33	291.23	8.86
0.05 M NaCl	6970.51	8434.20	7762.34	7722.35	732.66	9.49
0.1 M NaCl	7378.43	8542.18	7930.31	7950.31	582.13	7.32
0.2 M NaCl	8673.51	8173.83	7654.37	8167.24	509.60	6.24

Table 3C The viscosities of sodium alginate solution in various media

Medium	Viscosity(cps)					
	1	2	3	Mean	SD	%CV
PBS pH 6.8	1391.7	1595.66	1643.65	1543.67	133.78	8.67
PBS pH 6.8+NaCl	1547.67	1487.68	1499.68	1511.68	31.74	2.10
DI water	1751.63	1559.67	1835.61	1715.64	141.45	8.24
0.05 M NaCl	1559.67	1583.66	1619.65	1587.66	30.19	1.90
0.1 M NaCl	1607.66	1571.66	1595.66	1591.66	18.33	1.15
0.2 M NaCl	1643.65	1583.66	1487.68	1571.66	78.67	5.01

Table 4C The viscosities of carbopol 934P solution in PBS pH 6.8

Viscosity (cps)					
1	2	3	Mean	SD	%CV
3239.31	3059.35	3191.32	3163.33	93.19	2.95

Appendix D

Percentage Amount of Drug Release

Table 1D Percentage amounts of acyclovir release blank matrices containing lactose (Formulation blank A) or dibasic calcium phosphate (Formulation blank B) as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Blank A matrices					Blank B matrices				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	53.49	57.26	59.72	56.83	3.14	18.99	14.92	15.88	16.60	2.13
0.50	76.23	81.01	82.08	79.78	3.12	32.61	25.56	27.34	28.50	3.66
0.75	91.15	93.27	96.07	93.50	2.47	43.56	34.84	36.94	38.45	4.55
1	98.61	100.05	99.25	99.30	0.72	54.72	44.90	46.60	48.74	5.25
1.5	101.33	99.39	99.14	99.95	1.20	69.52	60.74	61.91	64.06	4.76
2	100.87	100.99	100.65	100.84	0.18	84.57	73.49	77.06	78.37	5.66
3	100.82	103.18	101.47	101.82	1.22	96.87	92.97	93.00	94.28	2.25
4	103.83	101.24	101.65	102.24	1.39	101.25	101.38	100.75	101.13	0.33
5	102.34	102.79	103.32	102.82	0.49	100.13	102.86	100.60	101.20	1.46
6	101.88	101.33	101.03	101.42	0.43	100.48	101.06	101.51	101.02	0.51
7	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
12	103.43	101.45	100.66	101.85	1.43	102.31	102.60	102.49	102.47	0.15

Table 2D Percentage amounts of acyclovir release blank matrices containing lactose (Formulation blank A) or dibasic calcium phosphate (Formulation blank B) as diluent phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Blank A matrices					Blank B matrices				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	3.15	2.96	3.36	3.15	0.20	2.33	2.37	2.32	2.34	0.02
0.50	5.47	5.30	5.74	5.51	0.22	3.96	3.75	3.74	3.82	0.13
0.75	7.83	7.75	8.27	7.95	0.28	5.53	5.25	5.24	5.34	0.16
1	10.05	10.02	10.58	10.22	0.31	6.99	6.55	6.48	6.67	0.28
1.5	14.24	14.31	14.97	14.51	0.40	9.36	8.77	8.78	8.97	0.34
2	18.49	18.37	19.20	18.69	0.45	11.34	10.72	10.84	10.97	0.33
3	25.43	25.92	26.86	26.07	0.73	14.96	14.16	14.41	14.51	0.41
4	32.24	32.78	34.04	33.02	0.92	18.13	17.11	17.39	17.54	0.53
5	39.10	40.22	41.64	40.33	1.27	21.14	19.71	20.28	20.37	0.72
6	46.45	47.36	49.43	47.75	1.53	23.37	22.13	22.69	22.73	0.62
7	53.95	52.06	54.38	53.47	1.23	25.74	24.37	24.72	24.94	0.71
8	56.28	57.26	59.41	57.65	1.60	27.56	26.39	27.27	27.07	0.61
10	66.71	67.48	67.43	67.21	0.43	31.88	30.37	31.14	31.13	0.76
12	74.26	75.21	74.34	74.60	0.53	34.64	32.89	33.59	33.71	0.88

Table 3D Percentage amounts of acyclovir release blank matrices containing lactose (Formulation blank A) or dibasic calcium phosphate (Formulation blank B) as diluent in deionized water

Time (hr)	Amount of drug release (%)									
	Blank A matrices					Blank B matrices				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	3.15	2.96	3.36	3.15	0.20	2.33	2.37	2.32	2.34	0.02
0.50	5.47	5.30	5.74	5.51	0.22	3.96	3.75	3.74	3.82	0.13
0.75	7.83	7.75	8.27	7.95	0.28	5.53	5.25	5.24	5.34	0.16
1	10.05	10.02	10.58	10.22	0.31	6.99	6.55	6.48	6.67	0.28
1.5	14.24	14.31	14.97	14.51	0.40	9.36	8.77	8.78	8.97	0.34
2	18.49	18.37	19.20	18.69	0.45	11.34	10.72	10.84	10.97	0.33
3	25.43	25.92	26.86	26.07	0.73	14.96	14.16	14.41	14.51	0.41
4	32.24	32.78	34.04	33.02	0.92	18.13	17.11	17.39	17.54	0.53
5	39.10	40.22	41.64	40.33	1.27	21.14	19.71	20.28	20.37	0.72
6	46.45	47.36	49.43	47.75	1.53	23.37	22.13	22.69	22.73	0.62
7	53.95	52.06	54.38	53.47	1.23	25.74	24.37	24.72	24.94	0.71
8	56.28	57.26	59.41	57.65	1.60	27.56	26.39	27.27	27.07	0.61
10	66.71	67.48	67.43	67.21	0.43	31.88	30.37	31.14	31.13	0.76
12	74.26	75.21	74.34	74.60	0.53	34.64	32.89	33.59	33.71	0.88

Table 4D Percentage amounts of acyclovir release blank matrices containing lactose (Formulation blank A) or dibasic calcium phosphate (Formulation blank B) as diluent in 0.2 M Sodium chloride solution

Time (hr)	Amount of drug release (%)									
	Blank A matrices					Blank B matrices				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	3.74	2.90	3.19	3.27	0.43	2.20	2.26	2.51	2.32	0.16
0.50	5.96	5.00	5.36	5.44	0.49	3.79	3.72	4.11	3.87	0.21
0.75	8.28	7.29	7.58	7.71	0.51	5.42	5.27	5.77	5.48	0.26
1	10.49	9.34	9.71	9.84	0.59	6.90	6.64	7.31	6.95	0.34
1.5	14.96	13.50	14.03	14.16	0.74	9.34	9.08	9.95	9.45	0.45
2	19.25	17.57	17.99	18.26	0.88	11.74	11.14	12.20	11.70	0.53
3	26.89	24.85	25.56	25.76	1.03	16.10	14.73	15.85	15.56	0.73
4	34.16	31.74	32.28	32.72	1.27	18.86	17.64	19.08	18.53	0.78
5	41.20	37.96	39.59	39.58	1.62	21.94	20.77	22.28	21.66	0.79
6	49.60	46.01	47.47	47.68	1.80	24.83	23.83	24.98	24.55	0.62
7	55.03	51.77	52.92	53.23	1.66	27.29	26.05	27.92	27.08	0.95
8	59.98	53.92	56.96	56.94	3.03	30.10	27.68	30.11	29.30	1.40
10	71.76	64.90	68.95	68.52	3.45	33.89	32.05	34.18	33.37	1.16
12	80.35	74.45	76.81	77.18	2.97	37.38	36.74	38.07	37.40	0.67

Table 5D Percentage amounts of acyclovir release from hydroxypropyl methylcellulose matrices containing 10% polymer and lactose (Formulation F1) or dibasic calcium phosphate (Formulation F13) as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Blank A matrices					Blank B matrices				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	6.15	5.94	5.87	5.99	0.15	2.09	2.09	1.99	2.06	0.06
0.50	10.12	9.77	9.79	9.89	0.20	3.51	3.38	3.41	3.43	0.07
0.75	13.65	13.30	13.25	13.40	0.21	5.11	4.84	4.61	4.85	0.25
1	17.13	16.37	16.55	16.68	0.40	6.35	5.96	5.75	6.02	0.30
1.5	22.80	21.82	22.51	22.37	0.50	9.32	8.63	8.45	8.80	0.46
2	28.22	27.18	28.07	27.82	0.56	12.47	11.58	11.27	11.77	0.62
3	39.69	39.21	39.61	39.50	0.25	18.85	17.59	17.42	17.95	0.78
4	48.21	47.73	48.81	48.25	0.54	24.87	23.19	22.60	23.56	1.18
5	59.51	58.32	59.43	59.08	0.66	31.16	29.09	28.02	29.43	1.59
6	69.03	67.85	68.35	68.41	0.60	36.58	34.62	33.22	34.81	1.69
7	77.49	77.26	76.84	77.20	0.33	43.35	40.28	40.41	41.35	1.74
8	86.65	83.86	84.03	84.85	1.56	48.40	46.13	44.21	46.25	2.10
10	95.26	94.43	91.67	93.79	1.88	58.05	56.23	54.34	56.21	1.85
12	103.20	101.22	97.92	100.78	2.67	68.79	67.27	64.42	66.83	2.22

Table6D Percentage amounts of acyclovir release from hydroxypropyl methylcellulose matrices containing 15% polymer and lactose (Formulation F2) or dibasic calcium phosphate (Formulation F14) as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	5.65	5.33	5.48	5.48	0.16	1.43	1.42	1.34	1.40	0.05
0.50	9.20	8.66	9.05	8.97	0.28	2.49	2.45	2.36	2.43	0.06
0.75	12.50	11.72	11.97	12.06	0.40	3.74	3.68	3.58	3.67	0.08
1	15.06	14.37	14.97	14.80	0.37	4.61	4.64	4.45	4.56	0.10
1.5	20.53	19.93	20.01	20.16	0.32	6.82	6.83	6.63	6.76	0.11
2	25.10	23.81	24.31	24.40	0.65	9.18	9.19	8.98	9.11	0.12
3	34.38	32.13	33.15	33.22	1.12	14.04	14.02	13.77	13.94	0.15
4	41.81	39.07	39.83	40.23	1.41	19.03	19.05	18.73	18.94	0.18
5	50.09	47.17	47.68	48.31	1.56	23.51	23.47	23.09	23.36	0.23
6	56.26	53.74	54.42	54.80	1.30	28.05	27.95	27.71	27.90	0.18
7	64.61	60.64	61.93	62.39	2.02	32.76	32.83	32.12	32.57	0.39
8	69.19	67.12	67.63	67.98	1.08	37.63	37.92	37.22	37.59	0.35
10	79.58	77.58	78.88	78.68	1.02	45.35	44.99	44.50	44.95	0.43
12	89.85	86.53	85.76	87.37	2.17	53.69	53.51	52.34	53.17	0.73

Table 7D Percentage amounts of acyclovir release from hydroxypropyl methylcellulose matrices containing 20% polymer and lactose (Formulation F3) or dibasic calcium phosphate (Formulation F15) as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	5.20	5.54	5.69	5.47	0.25	1.32	1.49	1.34	1.38	0.09
0.50	7.88	8.43	8.34	8.22	0.29	2.10	2.21	2.05	2.12	0.08
0.75	10.25	10.86	10.58	10.56	0.31	2.90	3.03	2.81	2.91	0.11
1	12.95	13.78	13.59	13.44	0.43	3.87	3.99	3.72	3.86	0.14
1.5	17.94	18.33	18.26	18.17	0.20	5.71	5.94	5.52	5.72	0.21
2	21.28	22.56	21.89	21.91	0.64	7.30	7.60	7.13	7.34	0.24
3	27.23	28.45	28.20	27.96	0.64	10.42	10.96	10.41	10.59	0.32
4	34.81	35.54	34.81	35.05	0.42	13.75	14.38	13.68	13.93	0.38
5	40.57	42.84	42.81	42.06	1.30	17.89	18.30	17.25	17.81	0.53
6	45.97	48.72	47.72	47.46	1.39	20.34	21.38	19.94	20.55	0.74
7	51.61	54.31	52.13	52.68	1.43	23.60	24.98	23.52	24.03	0.82
8	58.88	59.73	58.88	59.16	0.49	27.19	28.22	26.69	27.36	0.78
10	64.97	67.51	67.14	66.53	1.37	32.85	34.78	33.25	33.62	1.02
12	73.98	76.80	75.86	75.54	1.43	39.56	41.76	38.71	40.00	1.58

Table 8D Percentage amounts of acyclovir release from xanthan gum matrices containing 10% polymer and lactose (Formulation F4) or dibasic calcium phosphate (Formulation F16)as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	6.41	5.94	6.13	6.16	0.24	1.12	1.11	1.18	1.14	0.04
0.50	11.01	9.70	10.54	10.42	0.66	1.64	1.60	1.74	1.66	0.07
0.75	14.84	13.18	15.07	14.36	1.03	2.20	2.15	2.30	2.22	0.08
1	18.40	16.27	18.78	17.82	1.36	2.77	2.66	2.86	2.76	0.10
1.5	24.87	22.80	26.38	24.68	1.80	3.93	3.84	4.12	3.96	0.14
2	30.69	28.26	32.69	30.55	2.22	4.88	4.81	5.06	4.92	0.13
3	39.11	36.60	41.78	39.16	2.59	6.77	6.75	7.12	6.88	0.21
4	45.87	44.35	48.89	46.37	2.31	8.56	8.44	8.87	8.62	0.22
5	52.23	50.78	56.63	53.21	3.05	10.24	10.06	10.63	10.31	0.29
6	58.10	55.97	61.16	58.41	2.61	11.74	11.53	12.35	11.87	0.42
7	64.34	63.06	67.92	65.11	2.52	14.33	13.19	14.46	13.99	0.70
8	69.55	68.40	73.27	70.41	2.54	16.45	15.32	16.78	16.18	0.77
10	77.98	77.92	81.23	79.04	1.90	18.84	18.76	21.22	19.60	1.40
12	84.48	84.21	86.73	85.14	1.39	20.75	20.25	23.64	21.53	1.83

Table 9D Percentage amounts of acyclovir release from xanthan gum matrices containing 15% polymer and lactose (Formulation F5) or dibasic calcium phosphate (Formulation F17)as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	5.66	5.55	5.69	5.63	0.07	0.94	1.04	0.97	0.98	0.06
0.50	9.38	9.16	9.28	9.27	0.11	1.45	1.55	1.45	1.48	0.05
0.75	12.38	12.35	12.35	12.36	0.02	1.96	2.04	1.93	1.98	0.05
1	14.67	14.55	14.62	14.61	0.06	2.45	2.49	2.47	2.47	0.02
1.5	19.44	19.43	19.51	19.46	0.04	3.64	3.72	3.52	3.63	0.10
2	23.70	23.13	23.13	23.32	0.33	4.56	4.60	4.53	4.56	0.04
3	30.76	30.67	31.13	30.85	0.25	6.39	6.51	6.28	6.39	0.11
4	36.52	36.02	35.87	36.13	0.34	8.00	8.08	7.97	8.02	0.06
5	41.56	41.24	40.99	41.26	0.29	9.48	9.61	9.36	9.48	0.13
6	46.34	46.05	45.98	46.12	0.19	10.91	11.21	10.88	11.00	0.18
7	50.91	50.70	51.07	50.89	0.18	12.65	12.96	12.69	12.76	0.17
8	56.00	55.82	55.67	55.83	0.17	14.46	14.62	14.27	14.45	0.17
10	63.69	63.95	64.17	63.94	0.24	18.00	18.72	18.16	18.29	0.38
12	70.45	71.13	70.35	70.64	0.42	19.35	19.97	19.44	19.59	0.33

Table 10D Percentage amounts of acyclovir release from xanthan gum matrices containing 20% polymer and lactose (Formulation F6) or dibasic calcium phosphate (Formulation F18) as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	6.04	6.17	6.08	6.10	0.07	0.97	1.06	0.93	0.99	0.07
0.50	9.27	9.28	8.98	9.18	0.17	1.42	1.48	1.40	1.43	0.04
0.75	11.66	11.70	11.80	11.72	0.07	1.89	1.93	1.88	1.90	0.03
1	14.48	14.44	14.26	14.39	0.12	2.36	2.41	2.34	2.37	0.03
1.5	19.55	19.75	18.96	19.42	0.41	3.45	3.54	3.52	3.50	0.05
2	22.92	22.67	22.92	22.84	0.14	4.35	4.41	4.33	4.36	0.04
3	28.69	28.48	28.69	28.62	0.12	6.01	6.11	5.97	6.03	0.07
4	34.04	34.91	34.20	34.39	0.46	7.66	7.81	7.16	7.54	0.34
5	41.04	39.82	40.29	40.38	0.61	9.28	9.31	9.24	9.28	0.03
6	45.41	45.69	44.59	45.23	0.57	10.94	11.17	10.99	11.03	0.12
7	48.93	48.00	48.33	48.42	0.47	12.39	12.58	12.24	12.40	0.17
8	56.18	54.35	57.54	56.02	1.60	13.66	14.58	13.73	13.99	0.51
10	61.60	58.72	59.41	59.90	1.50	17.48	20.12	16.93	18.17	1.71
12	68.79	67.64	68.08	68.17	0.58	20.36	20.31	20.07	20.25	0.15

Table 11D Percentage amounts of acyclovir release from sodium alginate matrices containing 10% polymer and lactose (Formulation F7) or dibasic calcium phosphate (Formulation F19) as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	12.63	12.69	12.60	12.64	0.05	4.99	4.92	4.50	4.80	0.27
0.50	18.26	18.57	18.73	18.52	0.24	8.72	8.57	8.41	8.57	0.15
0.75	22.13	21.85	22.27	22.09	0.22	12.89	13.08	12.47	12.81	0.31
1	25.23	25.12	24.96	25.10	0.13	16.95	16.90	16.37	16.74	0.32
1.5	28.97	29.12	29.47	29.19	0.26	25.91	25.27	25.23	25.47	0.38
2	32.86	32.80	32.65	32.77	0.11	34.45	33.19	33.91	33.85	0.63
3	39.96	39.85	39.80	39.87	0.08	49.86	51.22	50.75	50.61	0.69
4	46.22	46.49	45.83	46.18	0.33	65.86	68.65	65.65	66.72	1.68
5	52.32	51.50	51.66	51.82	0.43	79.71	84.39	82.56	82.22	2.36
6	56.34	56.64	55.85	56.27	0.40	96.40	98.68	98.46	97.84	1.26
7	61.39	61.36	60.30	61.01	0.62	104.77	105.91	104.41	105.03	0.78
8	65.47	65.00	65.61	65.36	0.32	106.70	107.55	107.42	107.22	0.46
10	72.77	73.11	73.23	73.04	0.24	110.30	108.88	107.90	109.03	1.21
12	78.98	79.13	79.11	79.07	0.08	111.00	110.81	110.08	110.63	0.49

Table 12D Percentage amounts of acyclovir release from sodium alginate matrices containing 15% polymer and lactose (Formulation F8) or dibasic calcium phosphate (Formulation F20) as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	9.94	9.41	9.56	9.64	0.27	2.52	2.49	2.34	2.45	0.10
0.50	14.47	14.39	14.38	14.41	0.05	5.02	4.90	4.59	4.84	0.22
0.75	17.60	18.04	18.12	17.92	0.28	8.27	8.06	7.25	7.86	0.54
1	20.48	20.42	20.72	20.54	0.16	11.57	11.52	10.51	11.20	0.60
1.5	24.89	24.95	24.68	24.84	0.14	20.25	18.95	17.82	19.01	1.22
2	28.63	28.59	28.44	28.56	0.10	28.47	27.90	24.69	27.02	2.03
3	36.91	36.65	36.67	36.74	0.15	44.92	45.48	38.55	42.98	3.85
4	43.61	42.78	42.52	42.97	0.57	59.79	61.31	53.75	58.28	4.00
5	49.31	48.34	47.98	48.54	0.69	75.83	75.22	70.65	73.89	2.83
6	53.97	52.95	53.41	53.44	0.51	94.09	94.10	85.08	91.08	5.21
7	58.69	56.80	56.67	57.39	1.13	102.47	104.70	97.22	101.46	3.84
8	64.89	63.78	62.72	63.80	1.09	107.83	108.46	104.57	106.96	2.09
10	71.41	69.39	69.49	70.10	1.14	110.30	108.17	106.42	108.29	1.94
12	76.80	74.81	75.10	75.57	1.07	109.98	111.05	106.01	109.02	2.65

Table 13D Percentage amounts of acyclovir release from sodium alginate matrices containing 20% polymer and lactose (Formulation F9) or dibasic calcium phosphate (Formulation F21) as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	7.23	7.30	7.37	7.30	0.07	1.55	1.78	1.70	1.68	0.12
0.50	10.65	10.68	10.72	10.68	0.03	3.33	3.61	3.51	3.48	0.14
0.75	13.77	13.71	13.66	13.71	0.06	5.85	6.20	6.27	6.11	0.22
1	17.31	17.20	16.85	17.12	0.24	9.92	10.10	10.02	10.01	0.09
1.5	21.25	21.25	20.49	21.00	0.44	15.62	16.06	15.09	15.59	0.49
2	26.52	25.99	25.35	25.95	0.59	22.47	23.27	22.64	22.79	0.42
3	35.15	34.29	32.93	34.12	1.12	38.08	37.14	35.23	36.82	1.45
4	41.67	40.88	40.05	40.87	0.81	51.38	51.23	47.36	50.00	2.28
5	47.20	46.28	45.46	46.31	0.87	66.03	68.10	64.09	66.08	2.00
6	51.78	50.58	50.32	50.89	0.78	80.63	81.22	75.98	79.29	2.87
7	55.90	54.70	54.19	54.93	0.88	87.65	92.55	85.53	88.59	3.60
8	60.09	58.61	57.95	58.88	1.10	96.37	103.57	93.77	97.93	5.08
10	67.09	65.38	64.83	65.76	1.18	103.61	104.75	105.05	104.47	0.76
12	72.52	71.04	70.72	71.43	0.96	103.60	105.13	103.05	103.93	1.08

Table 14D Percentage amounts of acyclovir release from carbopol 934 P matrices containing 10% polymer and lactose (Formulation F10) or dibasic calcium phosphate (Formulation F22) as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	29.36	34.81	33.85	32.68	2.91	13.40	17.88	17.41	16.23	2.46
0.50	53.99	58.50	54.74	55.74	2.42	21.64	27.08	26.26	25.00	2.93
0.75	74.95	76.08	70.32	73.78	3.06	29.71	35.93	35.12	33.59	3.38
1	88.22	87.34	83.72	86.43	2.39	36.41	44.18	43.04	41.22	4.19
1.5	99.84	99.01	97.65	98.83	1.10	49.58	55.63	57.02	54.08	3.95
2	100.38	101.36	101.58	101.11	0.64	59.23	65.49	68.59	64.44	4.77
3	102.70	103.14	101.36	102.40	0.93	75.20	80.60	85.07	80.29	4.94
4	102.03	102.37	102.05	102.15	0.19	91.38	92.33	94.58	92.76	1.64
5	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-			-	-	-	-
12	99.10	98.79	97.58	98.49	0.80	100.19	99.39	99.51	99.69	0.43

Table 15D Percentage amounts of acyclovir release from carbopol 934 P matrices containing 15% polymer and lactose (Formulation F11) or dibasic calcium phosphate (Formulation F23)as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	24.61	25.47	30.37	26.82	3.11	74.73	73.67	67.81	72.06	3.73
0.50	46.94	53.92	55.68	52.18	4.62	91.16	90.47	88.14	89.92	1.58
0.75	65.47	71.18	72.99	69.88	3.93	96.42	96.77	95.94	96.38	0.41
1	79.13	83.44	85.50	82.69	3.25	99.66	100.12	99.62	99.80	0.28
1.5	97.17	97.15	99.30	97.87	1.24	100.56	100.56	101.41	100.84	0.49
2	101.94	100.71	103.08	101.91	1.18	99.83	100.47	101.00	100.43	0.59
3	103.87	103.54	105.26	104.22	0.92	99.75	100.30	101.24	100.43	0.75
4	104.27	103.18	104.36	103.94	0.66	99.52	100.05	101.23	100.27	0.87
5	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
12	100.11	98.81	99.79	99.57	0.68	95.27	102.44	102.16	99.96	4.06

Table 16D Percentage amounts of acyclovir release from carbopol 934 P matrices containing 20% polymer and lactose (Formulation F12) or dibasic calcium phosphate (Formulation F24) as diluent in 0.1 N HCl solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	33.89	38.16	35.38	35.81	2.17	85.32	88.28	64.27	79.30	13.09
0.50	66.12	67.66	68.55	67.45	1.23	99.19	98.53	92.72	96.82	3.56
0.75	87.01	90.19	88.56	88.59	1.59	99.11	99.29	98.81	99.07	0.24
1	94.68	97.63	95.98	96.09	1.48	99.37	98.98	99.35	99.23	0.22
1.5	101.08	101.85	101.56	101.50	0.39	99.58	99.38	99.33	99.43	0.14
2	100.07	101.92	102.07	101.35	1.11	100.23	101.23	100.26	100.57	0.57
3	103.11	102.92	101.98	102.67	0.60	99.51	100.02	99.77	99.76	0.26
4	103.17	103.54	104.94	103.88	0.94	100.05	99.94	100.46	100.15	0.28
5	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
12	96.54	97.63	97.49	97.22	0.59	95.16	95.28	95.18	95.21	0.06

Table 17D Percentage amounts of acyclovir release from HPMC matrices containing 10% polymer and lactose (Formulation F1) or dibasic calcium phosphate (Formulation F13) as diluent in phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	2.09	2.09	1.99	2.06	0.06	1.84	1.77	1.82	1.81	0.04
0.50	3.51	3.38	3.41	3.43	0.07	2.97	2.89	2.98	2.95	0.05
0.75	5.11	4.84	4.61	4.85	0.25	4.13	3.98	4.16	4.09	0.09
1	6.35	5.96	5.75	6.02	0.30	5.24	5.21	5.39	5.28	0.10
1.5	9.32	8.63	8.45	8.80	0.46	7.38	7.22	7.58	7.39	0.18
2	12.47	11.58	11.27	11.77	0.62	9.43	9.29	9.72	9.48	0.22
3	18.85	17.59	17.42	17.95	0.78	13.56	13.32	13.83	13.57	0.25
4	24.87	23.19	22.60	23.56	1.18	16.84	16.48	17.16	16.83	0.34
5	31.16	29.09	28.02	29.43	1.59	20.01	19.61	20.40	20.01	0.40
6	36.58	34.62	33.22	34.81	1.69	22.43	21.76	22.66	22.29	0.47
7	43.35	40.28	40.41	41.35	1.74	26.62	25.56	27.10	26.43	0.79
8	48.40	46.13	44.21	46.25	2.10	29.36	27.87	29.35	28.86	0.86
10	58.05	56.23	54.34	56.21	1.85	35.92	33.96	35.38	35.09	1.01
12	68.79	67.27	64.42	66.83	2.22	41.41	39.35	40.87	40.55	1.07

Table 18D Percentage amounts of acyclovir release from hydroxypropyl methylcellulose matrices containing 15% polymer and lactose (Formulation F2) or dibasic calcium phosphate (Formulation F14) as diluent in phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	1.43	1.42	1.34	1.40	0.05	1.48	1.45	1.54	1.49	0.05
0.50	2.49	2.45	2.36	2.43	0.06	2.42	2.39	2.57	2.46	0.09
0.75	3.74	3.68	3.58	3.67	0.08	3.33	3.27	3.43	3.35	0.08
1	4.61	4.64	4.45	4.56	0.10	4.22	4.19	4.41	4.27	0.12
1.5	6.82	6.83	6.63	6.76	0.11	6.04	6.04	6.39	6.16	0.20
2	9.18	9.19	8.98	9.11	0.12	7.95	7.92	8.36	8.08	0.24
3	14.04	14.02	13.77	13.94	0.15	11.71	11.95	12.48	12.04	0.39
4	19.03	19.05	18.73	18.94	0.18	15.34	16.02	16.50	15.95	0.58
5	23.51	23.47	23.09	23.36	0.23	18.59	19.45	20.14	19.39	0.78
6	28.05	27.95	27.71	27.90	0.18	20.85	21.94	22.64	21.81	0.90
7	32.76	32.83	32.12	32.57	0.39	23.93	25.36	25.74	25.01	0.96
8	37.63	37.92	37.22	37.59	0.35	28.83	28.93	29.01	28.93	0.09
10	45.35	44.99	44.50	44.95	0.43	33.50	34.67	36.05	34.74	1.28
12	53.69	53.51	52.34	53.17	0.73	38.05	39.57	41.15	39.59	1.55

Table 19D Percentage amounts of acyclovir release from hydroxypropyl methylcellulose matrices containing 20% polymer and lactose (Formulation F3) or dibasic calcium phosphate (Formulation F15) as diluent in phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	1.32	1.49	1.34	1.38	0.09	1.26	1.19	1.20	1.22	0.04
0.50	2.10	2.21	2.05	2.12	0.08	2.01	1.94	1.92	1.96	0.05
0.75	2.90	3.03	2.81	2.91	0.11	2.87	2.77	2.72	2.79	0.07
1	3.87	3.99	3.72	3.86	0.14	3.75	3.62	3.55	3.64	0.10
1.5	5.71	5.94	5.52	5.72	0.21	5.35	5.17	5.17	5.23	0.10
2	7.30	7.60	7.13	7.34	0.24	6.92	6.69	6.79	6.80	0.11
3	10.42	10.96	10.41	10.59	0.32	9.74	9.62	9.93	9.76	0.15
4	13.75	14.38	13.68	13.93	0.38	13.05	12.75	13.63	13.14	0.44
5	17.89	18.30	17.25	17.81	0.53	15.89	15.61	16.62	16.04	0.52
6	20.34	21.38	19.94	20.55	0.74	18.76	18.20	20.01	18.99	0.92
7	23.60	24.98	23.52	24.03	0.82	20.55	20.30	22.16	21.01	1.01
8	27.19	28.22	26.69	27.36	0.78	23.92	23.36	25.80	24.36	1.27
10	32.85	34.78	33.25	33.62	1.02	29.19	28.67	31.80	29.89	1.68
12	39.56	41.76	38.71	40.00	1.58	34.39	33.44	37.34	35.06	2.03

Table 20D Percentage amounts of acyclovir release from xanthan gum matrices containing 10% polymer and lactose (Formulation F4) or dibasic calcium phosphate (Formulation F16) as diluent in phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	1.12	1.11	1.18	1.14	0.04	1.00	1.09	1.08	1.06	0.05
0.50	1.64	1.60	1.74	1.66	0.07	1.50	1.57	1.60	1.56	0.05
0.75	2.20	2.15	2.30	2.22	0.08	2.04	2.09	2.15	2.09	0.06
1	2.77	2.66	2.86	2.76	0.10	2.57	2.62	2.70	2.63	0.07
1.5	3.93	3.84	4.12	3.96	0.14	3.59	3.63	3.74	3.65	0.08
2	4.88	4.81	5.06	4.92	0.13	4.57	4.56	4.73	4.62	0.10
3	6.77	6.75	7.12	6.88	0.21	6.28	6.34	6.55	6.39	0.14
4	8.56	8.44	8.87	8.62	0.22	7.85	7.84	8.05	7.91	0.12
5	10.24	10.06	10.63	10.31	0.29	9.36	9.42	9.70	9.50	0.18
6	11.74	11.53	12.35	11.87	0.42	11.00	10.99	11.29	11.09	0.17
7	14.33	13.19	14.46	13.99	0.70	12.78	12.65	13.09	12.84	0.23
8	16.45	15.32	16.78	16.18	0.77	14.21	14.19	14.51	14.30	0.18
10	18.84	18.76	21.22	19.60	1.40	16.93	16.92	17.35	17.06	0.24
12	20.75	20.25	23.64	21.53	1.83	19.46	19.56	19.79	19.60	0.17

Table 21D Percentage amounts of acyclovir release from xanthan gum matrices containing 15% polymer and lactose (Formulation F5) or dibasic calcium phosphate (Formulation F17) as diluent in phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	0.94	1.04	0.97	0.98	0.06	0.98	1.08	1.06	1.04	0.06
0.50	1.45	1.55	1.45	1.48	0.05	1.47	1.55	1.57	1.53	0.05
0.75	1.96	2.04	1.93	1.98	0.05	2.00	2.06	2.11	2.06	0.06
1	2.45	2.49	2.47	2.47	0.02	2.52	2.60	2.65	2.59	0.07
1.5	3.64	3.72	3.52	3.63	0.10	3.51	3.59	3.66	3.59	0.08
2	4.56	4.60	4.53	4.56	0.04	4.48	4.52	4.64	4.54	0.09
3	6.39	6.51	6.28	6.39	0.11	6.15	6.27	6.42	6.28	0.14
4	8.00	8.08	7.97	8.02	0.06	7.68	7.76	7.89	7.78	0.11
5	9.48	9.61	9.36	9.48	0.13	9.16	9.32	9.51	9.33	0.18
6	10.91	11.21	10.88	11.00	0.18	10.76	10.87	11.06	10.90	0.15
7	12.65	12.96	12.69	12.76	0.17	12.50	12.51	12.83	12.61	0.19
8	14.46	14.62	14.27	14.45	0.17	13.91	14.03	14.22	14.05	0.16
10	18.00	18.72	18.16	18.29	0.38	16.57	16.73	17.00	16.77	0.22
12	19.35	19.97	19.44	19.59	0.33	19.04	19.35	19.40	19.26	0.19

Table 22D Percentage amounts of acyclovir release from xanthan gum matrices containing 20% polymer and lactose (Formulation F6) or dibasic calcium phosphate (Formulation F18) as diluent in phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	0.97	1.06	0.93	0.99	0.07	0.82	0.91	0.91	0.88	0.05
0.50	1.42	1.48	1.40	1.43	0.04	1.30	1.28	1.32	1.30	0.02
0.75	1.89	1.93	1.88	1.90	0.03	1.81	1.81	1.84	1.82	0.02
1	2.36	2.41	2.34	2.37	0.03	2.36	2.36	2.47	2.40	0.06
1.5	3.45	3.54	3.52	3.50	0.05	3.26	3.27	3.36	3.30	0.05
2	4.35	4.41	4.33	4.36	0.04	4.14	4.13	4.16	4.14	0.02
3	6.01	6.11	5.97	6.03	0.07	5.75	5.87	5.83	5.82	0.07
4	7.66	7.81	7.16	7.54	0.34	7.33	7.42	7.44	7.40	0.06
5	9.28	9.31	9.24	9.28	0.03	8.95	8.88	8.93	8.92	0.04
6	10.94	11.17	10.99	11.03	0.12	10.32	10.43	10.56	10.44	0.12
7	12.39	12.58	12.24	12.40	0.17	12.29	12.18	12.44	12.30	0.13
8	13.66	14.58	13.73	13.99	0.51	13.63	13.65	13.68	13.66	0.02
10	17.48	20.12	16.93	18.17	1.71	16.36	16.46	16.40	16.41	0.05
12	20.36	20.31	20.07	20.25	0.15	19.06	19.03	19.15	19.08	0.06

Table 23D Percentage amounts of acyclovir release from sodium alginate matrices containing 10% polymer and lactose (Formulation F7) or dibasic calcium phosphate (Formulation F19) as diluent in phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	4.99	4.92	4.50	4.80	0.27	4.13	4.08	4.06	4.09	0.04
0.50	8.72	8.57	8.41	8.57	0.15	6.85	6.76	6.92	6.84	0.08
0.75	12.89	13.08	12.47	12.81	0.31	9.32	9.43	9.44	9.40	0.07
1	16.95	16.90	16.37	16.74	0.32	12.36	12.64	12.42	12.47	0.15
1.5	25.91	25.27	25.23	25.47	0.38	17.38	17.85	17.95	17.73	0.31
2	34.45	33.19	33.91	33.85	0.63	22.12	22.49	22.46	22.36	0.21
3	49.86	51.22	50.75	50.61	0.69	33.80	35.16	34.47	34.48	0.68
4	65.86	68.65	65.65	66.72	1.68	43.69	45.63	45.44	44.92	1.07
5	79.71	84.39	82.56	82.22	2.36	54.13	54.01	55.02	54.38	0.55
6	96.40	98.68	98.46	97.84	1.26	64.16	63.17	65.80	64.37	1.33
7	104.77	105.91	104.41	105.03	0.78	77.72	75.42	78.00	77.05	1.42
8	106.70	107.55	107.42	107.22	0.46	87.06	84.89	89.12	87.02	2.11
10	110.30	108.88	107.90	109.03	1.21	101.68	101.23	101.47	101.46	0.23
12	111.00	110.81	110.08	110.63	0.49	103.80	103.20	104.14	103.72	0.47

Table 24D Percentage amounts of acyclovir release from sodium alginate matrices containing 15% polymer and lactose (Formulation F8) or dibasic calcium phosphate (Formulation F20) as diluent in phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	2.52	2.49	2.34	2.45	0.10	2.65	2.54	2.55	2.58	0.06
0.50	5.02	4.90	4.59	4.84	0.22	5.06	4.81	4.96	4.94	0.13
0.75	8.27	8.06	7.25	7.86	0.54	7.66	7.08	7.35	7.36	0.29
1	11.57	11.52	10.51	11.20	0.60	10.47	9.66	9.94	10.02	0.41
1.5	20.25	18.95	17.82	19.01	1.22	17.76	15.84	16.83	16.81	0.96
2	28.47	27.90	24.69	27.02	2.03	24.81	22.70	24.39	23.97	1.12
3	44.92	45.48	38.55	42.98	3.85	38.88	35.88	37.95	37.57	1.54
4	59.79	61.31	53.75	58.28	4.00	55.30	51.24	52.66	53.06	2.06
5	75.83	75.22	70.65	73.89	2.83	70.13	64.88	67.77	67.59	2.63
6	94.09	94.10	85.08	91.08	5.21	79.53	78.51	80.50	79.51	1.00
7	102.47	104.70	97.22	101.46	3.84	89.54	88.76	88.05	88.78	0.74
8	107.83	108.46	104.57	106.96	2.09	94.50	94.08	93.09	93.89	0.72
10	110.30	108.17	106.42	108.29	1.94	105.11	104.16	103.93	104.40	0.63
12	109.98	111.05	106.01	109.02	2.65	105.59	104.61	104.07	104.76	0.77

Table 25D Percentage amounts of acyclovir release from sodium alginate matrices containing 20% polymer and lactose (Formulation F9) or dibasic calcium phosphate (Formulation F21) as diluent in phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	1.55	1.78	1.70	1.68	0.12	1.80	1.86	1.81	1.82	0.04
0.50	3.33	3.61	3.51	3.48	0.14	3.72	3.85	3.68	3.75	0.09
0.75	5.85	6.20	6.27	6.11	0.22	6.34	6.51	6.22	6.35	0.14
1	9.92	10.10	10.02	10.01	0.09	9.32	9.72	9.46	9.50	0.20
1.5	15.62	16.06	15.09	15.59	0.49	16.95	17.45	16.71	17.03	0.38
2	22.47	23.27	22.64	22.79	0.42	24.73	25.34	24.48	24.85	0.44
3	38.08	37.14	35.23	36.82	1.45	38.61	39.32	38.15	38.69	0.59
4	51.38	51.23	47.36	50.00	2.28	56.83	57.94	56.58	57.11	0.73
5	66.03	68.10	64.09	66.08	2.00	68.67	71.17	70.94	70.26	1.38
6	80.63	81.22	75.98	79.29	2.87	80.14	80.45	83.06	81.22	1.60
7	87.65	92.55	85.53	88.59	3.60	91.21	90.37	92.37	91.32	1.01
8	96.37	103.57	93.77	97.93	5.08	99.02	98.85	98.84	98.90	0.10
10	103.61	104.75	105.05	104.47	0.76	107.23	106.03	106.28	106.51	0.63
12	103.60	105.13	103.05	103.93	1.08	107.59	106.14	107.13	106.95	0.74

Table 26D Percentage amounts of acyclovir release from carbopol 934 P matrices containing 10% polymer and lactose (Formulation F10) or dibasic calcium phosphate (Formulation F22) as diluent in phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	27.45	27.37	31.91	28.91	2.60	37.76	38.86	37.10	37.91	0.89
0.50	57.71	53.79	58.81	56.77	2.64	71.86	69.90	70.87	70.87	0.98
0.75	79.99	74.55	78.50	77.68	2.81	84.25	84.08	85.53	84.62	0.79
1	91.90	88.99	89.59	90.16	1.54	90.30	90.82	90.33	90.48	0.29
1.5	99.70	99.19	99.79	99.56	0.32	95.33	95.28	95.48	95.36	0.10
2	100.66	100.54	100.94	100.72	0.21	97.41	97.22	97.06	97.23	0.18
3	102.43	100.57	100.69	101.23	1.04	98.17	97.72	98.11	98.00	0.24
4	102.56	102.34	100.92	101.94	0.89	98.58	98.28	98.79	98.55	0.25
5	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
12	97.80	97.33	96.30	97.14	0.77	96.88	96.57	97.17	96.87	0.30

Table 27D Percentage amounts of acyclovir release from carbopol 934 P matrices containing 15% polymer and lactose (Formulation F11) or dibasic calcium phosphate (Formulation F23) as diluent in Phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	15.40	20.74	14.35	16.83	3.43	86.21	83.84	82.18	84.08	2.02
0.50	50.68	51.14	44.99	48.94	3.43	97.40	98.73	98.67	98.27	0.75
0.75	69.76	69.16	65.02	67.98	2.58	98.87	100.22	100.02	99.70	0.73
1	81.42	82.41	76.90	80.24	2.94	99.83	101.74	100.49	100.69	0.97
1.5	95.34	94.50	92.14	93.99	1.66	100.85	102.14	102.38	101.79	0.82
2	97.88	98.61	97.82	98.10	0.44	101.91	103.32	101.87	102.37	0.83
3	99.52	102.33	99.90	100.59	1.52	101.99	103.37	101.95	102.44	0.81
4	100.50	100.52	100.05	100.36	0.26	102.12	103.26	101.92	102.43	0.72
5	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
12	94.79	96.21	96.25	95.75	0.83	104.02	106.44	108.08	106.18	2.04

Table 28D Percentage amounts of acyclovir release from carbopol 934 P matrices containing 20% polymer and lactose (Formulation F12) or dibasic calcium phosphate (Formulation F24) as diluent in phosphate buffer pH 6.8 solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	16.21	15.10	14.57	15.30	0.84	69.79	56.29	74.03	66.73	9.26
0.50	48.30	42.38	45.86	45.51	2.98	93.06	90.92	93.70	92.56	1.45
0.75	63.35	58.62	61.49	61.15	2.38	96.15	97.69	99.02	97.61	1.43
1	79.38	73.58	75.48	76.15	2.95	98.50	98.56	99.01	98.69	0.28
1.5	91.53	89.64	90.23	90.47	0.97	100.11	99.55	100.18	99.95	0.34
2	95.62	94.20	93.71	94.51	0.99	99.26	99.55	100.16	99.66	0.46
3	99.19	99.62	99.96	99.59	0.38	100.44	99.89	100.75	100.36	0.43
4	99.36	99.07	99.54	99.32	0.24	100.73	100.04	100.94	100.57	0.47
5	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
12	94.15	95.48	95.19	94.94	0.70	99.30	98.39	98.24	98.64	0.57

Table 29D Percentage amounts of acyclovir release from hydroxypropyl methylcellulose matrices containing 15% polymer and lactose (Formulation F2) or dibasic calcium phosphate (Formulation F14) as diluent in phosphate buffer pH 6.8 solution with ionic strength adjusted to 0.1 M with sodium chloride

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	1.50	1.47	1.49	1.49	0.01	1.40	1.40	1.40	1.40	0.00
0.50	2.41	2.38	2.41	2.40	0.02	2.34	2.31	2.33	2.33	0.02
0.75	3.55	3.40	3.47	3.47	0.08	3.31	3.25	3.26	3.27	0.03
1	4.63	4.43	4.39	4.49	0.13	4.23	4.19	4.20	4.21	0.02
1.5	6.63	6.35	6.39	6.45	0.15	6.08	6.03	6.11	6.07	0.04
2	8.70	8.38	8.40	8.49	0.18	7.99	7.90	7.86	7.92	0.07
3	12.56	12.11	12.09	12.25	0.27	12.80	11.87	12.06	12.24	0.49
4	17.36	16.51	16.57	16.81	0.47	14.98	14.87	15.01	14.95	0.08
5	21.34	20.20	20.26	20.60	0.65	18.54	17.76	18.08	18.13	0.39
6	24.73	23.76	23.75	24.08	0.56	20.42	19.64	20.36	20.14	0.43
7	28.06	26.70	26.99	27.25	0.72	23.85	23.03	23.59	23.49	0.42
8	31.13	29.45	29.41	30.00	0.98	26.75	25.63	26.37	26.25	0.57
10	38.65	36.56	36.43	37.22	1.24	32.10	30.88	31.85	31.61	0.65
12	45.47	42.72	43.57	43.92	1.41	37.29	35.90	37.00	36.73	0.74

Table 30D Percentage amounts of acyclovir release from xanthan gum matrices containing 15% polymer and lactose (Formulation F5) or dibasic calcium phosphate (Formulation F17) as diluent in phosphate buffer pH 6.8 solution with ionic strength adjusted to 0.1 M with sodium chloride

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	0.89	0.88	0.93	0.90	0.03	0.84	0.86	0.88	0.86	0.02
0.50	1.41	1.41	1.45	1.42	0.02	1.38	1.39	1.42	1.40	0.02
0.75	1.94	1.94	1.96	1.95	0.01	1.90	1.92	1.93	1.92	0.01
1	2.43	2.43	2.45	2.43	0.01	2.42	2.41	2.44	2.42	0.01
1.5	3.52	3.45	3.49	3.48	0.03	3.51	3.48	3.47	3.49	0.02
2	4.35	4.52	4.39	4.42	0.09	4.44	4.44	4.46	4.45	0.01
3	6.09	6.10	6.12	6.10	0.02	6.31	6.27	6.27	6.28	0.02
4	7.90	7.82	7.91	7.87	0.05	7.87	7.84	7.89	7.87	0.03
5	9.42	9.49	9.54	9.48	0.06	9.44	9.31	9.47	9.41	0.09
6	11.10	10.97	11.07	11.05	0.07	11.03	10.87	10.91	10.93	0.08
7	13.14	12.99	13.15	13.09	0.09	12.77	12.81	12.82	12.80	0.03
8	14.26	14.29	14.08	14.21	0.11	14.61	14.25	14.20	14.35	0.23
10	16.82	16.69	17.37	16.96	0.36	17.11	16.95	17.00	17.02	0.08
12	18.54	18.46	19.53	18.84	0.59	19.58	19.61	19.34	19.51	0.15

Table 31D Percentage amounts of acyclovir release from sodium alginate matrices containing 15% polymer and lactose (Formulation F8) or dibasic calcium phosphate (Formulation F20) as diluent in phosphate buffer pH 6.8 solution with ionic strength adjusted to 0.1 M with sodium chloride

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	2.83	2.81	2.48	2.71	0.20	0.94	0.89	0.95	0.93	0.03
0.50	5.32	4.98	4.64	4.98	0.34	5.61	5.55	5.92	5.69	0.20
0.75	8.10	7.77	7.04	7.64	0.54	8.21	8.24	8.30	8.25	0.05
1	11.93	10.90	9.64	10.82	1.15	11.12	11.19	11.04	11.12	0.08
1.5	18.04	16.60	15.07	16.57	1.49	17.14	17.68	17.36	17.39	0.27
2	24.91	23.02	20.63	22.86	2.15	23.21	24.08	23.59	23.63	0.44
3	37.42	36.91	32.47	35.60	2.72	34.65	35.63	34.53	34.94	0.60
4	50.48	48.16	41.50	46.71	4.66	48.09	49.25	46.91	48.09	1.17
5	65.66	62.36	52.86	60.29	6.65	62.14	63.31	60.06	61.84	1.65
6	79.53	75.28	63.38	72.73	8.37	72.84	75.23	72.07	73.38	1.65
7	86.77	82.32	71.08	80.06	8.09	83.79	82.68	82.38	82.95	0.74
8	95.73	92.38	79.22	89.11	8.73	90.69	90.47	88.51	89.89	1.20
10	104.37	103.97	97.86	102.07	3.65	100.66	100.59	98.81	100.02	1.05
12	106.53	108.92	105.92	107.12	1.59	102.53	102.27	102.42	102.41	0.13

Table 32D Percentage amounts of acyclovir release from hydroxypropyl methylcellulose matrices containing 15% polymer and lactose (Formulation F2) or dibasic calcium phosphate (Formulation F14) as diluent in deionized water

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	1.51	1.49	1.53	1.51	0.02	1.32	1.37	1.42	1.37	0.05
0.50	2.63	2.55	2.64	2.61	0.05	2.26	2.34	2.43	2.34	0.08
0.75	3.82	3.78	3.84	3.81	0.03	3.43	3.55	3.57	3.52	0.07
1	5.10	4.93	5.12	5.05	0.10	4.43	4.67	4.83	4.64	0.20
1.5	7.62	7.49	7.75	7.62	0.13	6.77	7.07	7.04	6.96	0.16
2	10.26	10.11	10.48	10.28	0.19	9.55	9.86	9.79	9.73	0.16
3	15.79	15.69	16.10	15.86	0.21	14.75	15.36	15.23	15.11	0.32
4	21.83	21.60	22.19	21.87	0.30	19.90	20.40	20.49	20.26	0.32
5	27.24	26.94	27.67	27.28	0.37	24.96	25.45	25.35	25.25	0.26
6	32.57	31.86	32.95	32.46	0.56	29.77	30.07	29.93	29.92	0.15
7	38.90	37.55	39.54	38.66	1.01	35.55	35.43	35.98	35.65	0.29
8	43.34	42.25	44.32	43.30	1.04	39.81	39.86	40.44	40.04	0.35
10	55.34	53.78	56.48	55.20	1.36	49.14	49.02	48.60	48.92	0.29
12	64.04	61.94	65.49	63.82	1.78	56.20	55.37	56.72	56.10	0.68

Table 33D Percentage amounts of acyclovir release from xanthan gum matrices containing 15% polymer and lactose (Formulation F5) or dibasic calcium phosphate (Formulation F17) as diluent in deionized water

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	0.48	0.51	0.50	0.50	0.02	0.46	0.44	0.45	0.45	0.01
0.50	0.89	0.87	0.88	0.88	0.01	0.85	0.81	0.81	0.82	0.03
0.75	1.32	1.28	1.31	1.30	0.02	1.29	1.24	1.24	1.26	0.03
1	1.78	1.72	1.76	1.75	0.03	1.72	1.66	1.64	1.67	0.04
1.5	2.72	2.64	2.70	2.69	0.04	2.68	2.59	2.58	2.62	0.06
2	3.77	3.65	3.77	3.73	0.07	3.76	3.69	3.63	3.69	0.07
3	5.89	5.77	5.85	5.84	0.06	6.00	5.82	5.80	5.87	0.11
4	8.14	8.04	12.72	9.65	2.67	8.16	8.14	8.15	8.15	0.01
5	13.72	10.85	12.19	12.25	1.43	10.61	10.64	10.56	10.61	0.04
6	22.36	20.62	21.29	21.42	0.88	16.29	16.22	16.33	16.28	0.05
7	32.05	30.62	31.03	31.23	0.73	28.01	27.90	28.08	28.00	0.09
8	42.69	40.63	51.21	44.86	5.61	38.01	37.86	38.11	37.99	0.13
10	66.98	64.88	73.14	68.35	4.29	71.56	63.92	60.14	65.21	5.82
12	89.11	79.21	84.51	84.27	4.95	78.79	77.68	75.41	77.30	1.72

Table 34D Percentage amounts of acyclovir release from sodium alginate matrices containing 15% polymer and lactose (Formulation F8) or dibasic calcium phosphate (Formulation F20) as diluent in deionized water

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	4.74	5.08	5.14	4.98	0.21	3.99	3.93	4.06	3.99	0.06
0.50	9.41	9.72	10.60	9.91	0.61	9.54	9.58	8.94	9.36	0.36
0.75	14.40	15.00	16.36	15.25	1.00	17.08	17.37	15.86	16.77	0.80
1	18.43	20.06	20.88	19.79	1.25	24.56	24.02	22.62	23.74	1.00
1.5	26.67	28.27	29.33	28.09	1.34	39.83	37.13	35.92	37.64	2.00
2	37.34	37.62	38.77	37.91	0.76	58.96	55.22	55.03	56.41	2.21
3	56.37	58.80	59.81	58.32	1.77	85.15	82.63	82.24	83.35	1.58
4	73.61	77.97	75.36	75.64	2.20	100.97	98.95	99.42	99.78	1.05
5	84.15	89.25	84.48	85.96	2.86	107.17	107.04	106.24	106.82	0.50
6	91.91	94.76	92.58	93.08	1.49	106.87	109.85	107.32	108.01	1.61
7	98.37	98.85	99.42	98.88	0.52	110.15	111.78	107.37	109.77	2.23
8	102.33	100.84	102.12	101.77	0.81	109.39	110.41	106.96	108.92	1.77
10	105.96	105.08	105.73	105.59	0.46	106.92	111.52	107.19	108.54	2.58
12	106.31	106.23	106.97	106.50	0.41	104.17	106.01	104.95	105.04	0.92

Table 35D Percentage amounts of acyclovir release from hydroxypropyl methylcellulose matrices containing 15% polymer and lactose (Formulation F2) or dibasic calcium phosphate (Formulation F14) as diluent in 0.05 M sodium chloride solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	1.44	1.51	1.45	1.46	0.04	1.48	1.40	1.43	1.44	0.04
0.50	2.43	2.60	2.42	2.48	0.10	2.66	2.54	2.56	2.59	0.06
0.75	3.51	3.71	3.48	3.57	0.12	3.89	3.74	3.75	3.79	0.08
1	4.65	5.00	4.64	4.76	0.21	5.24	4.98	4.98	5.07	0.15
1.5	7.33	7.66	7.13	7.37	0.26	7.78	7.44	7.44	7.55	0.19
2	9.81	10.29	9.79	9.96	0.29	10.91	10.43	10.07	10.47	0.42
3	15.47	16.43	15.37	15.75	0.59	16.50	16.00	15.89	16.13	0.32
4	20.74	22.51	20.90	21.38	0.98	22.03	21.42	21.23	21.56	0.42
5	25.65	28.25	26.11	26.67	1.38	27.45	26.76	26.36	26.86	0.56
6	30.79	34.54	31.54	32.29	1.98	32.52	31.90	31.25	31.89	0.64
7	34.99	39.26	35.81	36.68	2.27	37.26	36.43	35.53	36.41	0.87
8	41.36	46.38	42.34	43.35	2.66	41.74	40.82	40.05	40.87	0.84
10	49.44	55.21	49.92	51.51	3.20	50.90	50.11	48.76	49.93	1.08
12	59.83	66.35	60.71	62.29	3.54	58.75	57.54	56.89	57.72	0.95

Table 36D Percentage amounts of acyclovir release from xanthan gum matrices containing 15% polymer and lactose (Formulation F5) or dibasic calcium phosphate (Formulation F17) as diluent in 0.05 M sodium chloride solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	0.85	0.87	0.88	0.87	0.02	0.77	0.75	0.78	0.77	0.01
0.50	1.37	1.36	1.39	1.37	0.02	1.31	1.31	1.33	1.32	0.01
0.75	1.86	1.85	1.89	1.87	0.02	1.81	1.82	1.84	1.82	0.02
1	2.35	2.34	2.40	2.36	0.03	2.34	2.32	2.38	2.35	0.03
1.5	3.30	3.34	3.41	3.35	0.05	3.35	3.34	3.40	3.37	0.03
2	4.24	4.25	4.30	4.27	0.03	4.25	4.29	4.35	4.30	0.05
3	6.03	6.09	6.17	6.10	0.07	6.12	6.16	6.17	6.15	0.03
4	7.91	7.89	7.98	7.93	0.05	8.14	7.91	8.00	8.02	0.12
5	9.26	9.11	9.35	9.24	0.12	9.45	9.65	9.70	9.60	0.13
6	10.84	10.68	11.01	10.84	0.17	11.01	11.26	11.28	11.18	0.15
7	13.69	13.72	13.75	13.72	0.03	12.98	13.34	13.24	13.19	0.18
8	14.85	14.80	14.87	14.84	0.04	14.77	14.99	15.26	15.01	0.24
10	17.18	17.21	17.24	17.21	0.03	17.37	17.78	17.80	17.65	0.24
12	19.86	19.61	19.79	19.75	0.13	20.25	20.80	20.68	20.57	0.2856

Table 37D Percentage amounts of acyclovir release from sodium alginate matrices containing 15% polymer and lactose (Formulation F8) or dibasic calcium phosphate (Formulation F20) as diluent in 0.05 M sodium chloride solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	3.16	3.24	3.16	3.19	0.05	2.51	2.36	2.43	2.44	0.07
0.50	6.06	6.32	6.53	6.30	0.23	3.96	3.71	3.82	3.83	0.13
0.75	9.18	9.39	9.69	9.42	0.26	5.34	4.81	4.85	5.00	0.30
1	12.14	12.32	12.69	12.38	0.28	5.98	5.79	5.83	5.86	0.10
1.5	19.00	19.73	19.27	19.34	0.37	7.81	7.56	7.71	7.69	0.13
2	25.80	26.05	26.82	26.23	0.53	10.15	9.87	9.87	9.96	0.16
3	36.54	37.23	38.63	37.47	1.07	15.27	14.93	14.50	14.90	0.39
4	48.07	55.85	50.72	51.55	3.96	29.88	28.05	22.28	26.73	3.97
5	57.96	72.67	59.90	63.51	7.99	50.51	47.80	38.97	45.76	6.03
6	65.86	84.74	69.83	73.48	9.95	73.82	77.21	66.21	72.40	5.63
7	73.53	91.49	76.85	80.63	9.56	92.14	92.00	87.27	90.47	2.77
8	79.54	95.57	83.60	86.24	8.33	100.34	99.54	98.81	99.56	0.77
10	91.40	105.01	95.53	97.32	6.97	104.77	104.54	105.53	104.95	0.51
12	102.13	108.04	107.22	105.80	3.20	107.34	107.60	108.70	107.88	0.72

Table 38D Percentage amounts of acyclovir release from hydroxypropyl methylcellulose matrices containing 15% polymer and lactose (Formulation F2) or dibasic calcium phosphate (Formulation F14) as diluent in 0.1 M sodium chloride solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	1.51	1.52	1.59	1.54	0.04	1.44	1.46	1.40	1.43	0.03
0.50	2.58	2.55	2.71	2.62	0.09	2.65	2.67	2.53	2.62	0.07
0.75	3.73	3.66	3.94	3.78	0.14	3.73	3.81	3.58	3.71	0.12
1	4.99	4.88	5.32	5.06	0.23	4.89	4.97	4.74	4.86	0.12
1.5	7.55	7.37	7.95	7.62	0.30	7.41	7.33	6.98	7.24	0.23
2	10.47	10.01	10.84	10.44	0.42	9.90	9.94	9.40	9.75	0.30
3	15.83	15.43	16.50	15.92	0.54	16.44	15.48	14.82	15.58	0.81
4	21.44	20.80	22.32	21.52	0.76	20.76	20.72	19.87	20.45	0.50
5	27.37	26.53	28.21	27.37	0.84	25.63	25.48	24.55	25.22	0.59
6	31.79	30.80	33.02	31.87	1.11	28.92	29.09	28.13	28.72	0.51
7	37.72	36.52	39.50	37.91	1.50	34.18	34.41	33.54	34.04	0.45
8	42.72	41.65	44.72	43.03	1.56	38.55	38.64	37.58	38.26	0.58
10	54.01	52.01	54.85	53.62	1.46	45.62	45.77	44.77	45.39	0.54
12	63.08	60.32	63.86	62.42	1.86	53.03	53.53	52.44	53.00	0.54

Table 39D Percentage amounts of acyclovir release from xanthan gum matrices containing 15% polymer and lactose (Formulation F5) or dibasic calcium phosphate (Formulation F17) as diluent in 0.1 M sodium chloride solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	1.00	0.97	0.95	0.97	0.02	0.88	0.97	0.94	0.93	0.04
0.50	1.56	1.53	1.53	1.54	0.02	1.57	1.59	1.54	1.57	0.02
0.75	2.11	2.07	2.09	2.09	0.02	2.03	2.09	2.03	2.05	0.03
1	2.65	2.60	2.63	2.63	0.02	2.54	2.59	2.53	2.55	0.03
1.5	3.66	3.57	3.71	3.65	0.07	3.60	3.66	3.62	3.63	0.03
2	4.65	4.53	4.61	4.60	0.06	4.55	4.60	4.48	4.54	0.06
3	6.43	6.35	6.57	6.45	0.11	6.38	6.45	6.33	6.39	0.06
4	8.42	8.40	8.62	8.48	0.12	8.07	8.22	8.06	8.12	0.09
5	10.00	9.75	10.05	9.93	0.16	9.71	9.83	9.66	9.73	0.08
6	11.55	11.26	11.53	11.45	0.16	11.18	11.33	11.14	11.22	0.10
7	13.51	13.26	13.90	13.56	0.32	13.10	13.15	12.99	13.08	0.08
8	15.05	14.73	15.54	15.10	0.41	14.35	14.93	14.33	14.53	0.34
10	17.69	17.29	17.41	17.46	0.21	17.12	17.34	16.96	17.14	0.19
12	20.35	19.78	19.97	20.03	0.29	19.76	20.02	19.91	19.90	0.13

Table 40D Percentage amounts of acyclovir release from sodium alginate matrices containing 15% polymer and lactose (Formulation F8) or dibasic calcium phosphate (Formulation F20) as diluent in 0.1 M sodium chloride solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	3.20	3.40	3.01	3.20	0.20	2.53	2.59	2.55	2.56	0.03
0.50	5.82	6.49	5.59	5.97	0.47	3.82	4.01	3.83	3.89	0.11
0.75	8.63	9.59	8.29	8.83	0.68	4.91	5.14	5.02	5.02	0.12
1	11.15	12.40	10.78	11.44	0.85	5.69	5.97	5.79	5.82	0.14
1.5	16.71	18.29	16.12	17.04	1.12	7.20	7.62	7.41	7.41	0.21
2	22.34	25.01	22.33	23.23	1.55	9.01	9.51	9.32	9.28	0.25
3	32.50	36.71	32.59	33.93	2.40	13.99	15.08	14.32	14.46	0.56
4	46.79	53.40	53.97	51.39	3.99	21.04	25.11	21.61	22.59	2.20
5	55.46	67.72	68.09	63.76	7.19	33.93	43.40	36.54	37.95	4.89
6	65.31	78.12	75.63	73.02	6.79	55.37	64.34	59.52	59.74	4.49
7	72.62	86.16	82.47	80.42	7.00	75.58	79.73	75.67	76.99	2.37
8	78.82	88.90	85.15	84.29	5.10	85.98	90.27	84.52	86.93	2.99
10	90.29	99.01	92.16	93.82	4.59	99.15	101.25	99.10	99.83	1.23
12	99.03	104.55	98.97	100.85	3.21	103.54	104.81	102.96	103.77	0.94

Table 41D Percentage amounts of acyclovir release fromhydroxypropyl methylcellulose matrices containing 15% polymer and lactose (Formulation F2) or dibasic calcium phosphate (Formulation F14) as diluent in 0.2 M sodium chloride solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	1.48	1.46	1.44	1.46	0.02	1.49	1.46	1.40	1.45	0.05
0.50	2.45	2.45	2.41	2.44	0.02	2.59	2.58	2.54	2.57	0.02
0.75	3.51	3.52	3.42	3.48	0.06	3.65	3.66	3.60	3.63	0.03
1	4.56	4.57	4.49	4.54	0.05	4.75	4.71	4.66	4.70	0.04
1.5	6.76	6.74	6.70	6.73	0.03	6.95	6.95	6.80	6.90	0.09
2	9.09	9.04	9.04	9.06	0.03	9.30	9.24	8.96	9.16	0.18
3	13.75	13.64	13.67	13.68	0.06	14.00	13.91	13.62	13.84	0.20
4	18.14	18.01	17.97	18.04	0.09	18.05	18.14	17.74	17.98	0.21
5	22.48	22.22	22.43	22.38	0.14	21.86	21.99	21.43	21.76	0.29
6	26.33	25.95	26.43	26.24	0.25	24.77	25.23	24.50	24.84	0.36
7	31.17	30.55	31.14	30.95	0.35	29.49	30.81	29.11	29.81	0.89
8	35.56	34.38	34.89	34.94	0.59	33.00	33.35	31.87	32.74	0.78
10	42.36	40.88	41.87	41.70	0.75	39.10	40.46	38.44	39.34	1.03
12	49.05	48.01	49.17	48.74	0.64	44.32	46.16	43.37	44.63	1.42

Table 42D Percentage amounts of acyclovir release from xanthan gum matrices containing 15% polymer and lactose (Formulation F5) or dibasic calcium phosphate (Formulation F17) as diluent in 0.2 M sodium chloride solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	1.04	1.04	1.03	1.04	0.01	1.03	1.01	1.01	1.02	0.01
0.50	1.63	1.62	1.63	1.63	0.01	1.67	1.67	1.67	1.67	0.00
0.75	2.19	2.17	2.19	2.18	0.01	2.24	2.23	2.23	2.23	0.01
1	2.69	2.67	2.71	2.69	0.02	2.79	2.77	2.79	2.78	0.01
1.5	3.71	3.68	3.74	3.71	0.03	3.89	3.84	3.89	3.87	0.03
2	4.67	4.65	4.72	4.68	0.04	4.92	4.85	4.92	4.90	0.04
3	6.47	6.43	6.47	6.46	0.02	6.78	6.66	6.84	6.76	0.09
4	8.11	8.00	8.11	8.07	0.07	8.62	8.37	8.69	8.56	0.16
5	9.74	9.69	9.77	9.74	0.04	10.04	9.92	10.11	10.02	0.10
6	11.12	11.14	11.36	11.21	0.13	11.57	11.31	11.79	11.55	0.24
7	12.89	12.90	13.65	13.15	0.44	13.64	13.27	13.76	13.56	0.25
8	14.28	14.62	14.46	14.45	0.17	15.11	14.72	15.73	15.19	0.51
10	16.83	19.44	18.14	18.14	1.31	18.46	17.14	18.52	18.04	0.78
12	21.14	26.04	23.60	23.59	2.45	20.77	19.63	21.83	20.74	1.10

Table 43D Percentage amounts of acyclovir release from sodium alginate matrices containing 15% polymer and lactose (Formulation F8) or dibasic calcium phosphate (Formulation F20) as diluent in 0.2 M sodium chloride solution

Time (hr)	Amount of drug release (%)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.25	3.56	3.54	3.61	3.57	0.03	2.79	2.79	3.03	2.87	0.14
0.50	6.05	5.92	6.09	6.02	0.09	3.90	3.96	4.12	3.99	0.11
0.75	8.64	8.43	8.58	8.55	0.11	4.84	4.79	5.05	4.90	0.14
1	11.29	10.99	11.06	11.12	0.15	5.56	5.55	5.80	5.64	0.14
1.5	15.99	15.80	15.88	15.89	0.10	7.04	7.07	7.25	7.12	0.11
2	21.64	21.38	21.26	21.42	0.19	8.85	8.69	9.19	8.91	0.26
3	31.28	31.09	31.56	31.31	0.24	14.45	12.86	14.94	14.09	1.09
4	44.08	42.93	43.64	43.55	0.58	24.05	22.82	25.01	23.96	1.10
5	55.79	53.33	55.48	54.87	1.34	36.29	36.74	38.56	37.20	1.20
6	64.62	58.67	61.81	61.69	2.98	52.74	54.76	58.48	55.32	2.91
7	69.17	64.37	67.80	67.11	2.47	66.50	68.82	69.83	68.38	1.71
8	75.22	69.93	71.36	72.17	2.74	76.07	76.83	80.48	77.79	2.36
10	83.82	81.21	77.44	80.82	3.21	92.49	90.62	94.21	92.44	1.80
12	89.78	84.97	84.92	86.55	2.79	101.22	99.90	104.21	101.77	2.21

Table 44D Percentage amounts of acyclovir release from hydroxypropyl methylcellulose matrices containing 10% polymer and lactose in pH change medium

Time (hr)	Amount of drug release (%)				
	10 % HPMC				
	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00
0.25	5.95	5.98	5.84	5.92	0.08
0.50	9.76	9.80	9.78	9.78	0.02
0.75	13.51	13.36	13.24	13.37	0.14
1	16.94	16.72	16.69	16.78	0.14
1.5	23.37	23.00	22.88	23.09	0.26
2	29.63	29.02	28.82	29.16	0.42
2.5	31.08	30.39	30.22	30.56	0.45
3	32.61	31.67	31.48	31.92	0.61
3.5	34.88	33.58	33.35	33.94	0.83
4	37.30	35.68	35.56	36.18	0.97
5	42.33	40.50	40.36	41.06	1.10
6	47.01	45.12	44.88	45.67	1.17
7	51.90	49.64	49.56	50.37	1.33
8	56.26	53.86	53.81	54.64	1.40
10	64.14	61.81	61.68	62.54	1.38
12	71.21	68.56	68.48	69.42	1.56

APPENDIX E

Percentage Swelling and Erosion of Matrices

Table 1E Percentage swelling of matrices containing 15% HPMC and lactose (Formulation F12) in various dissolution media

Time (hr)	Percentage swelling of matrices									
	0.1 N HCl solution					Phosphate buffer pH 6.8 solution				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	36.73	35.63	35.83	36.06	0.58	20.22	19.86	15.79	18.62	2.46
1	23.09	22.40	22.24	22.58	0.45	17.48	11.07	17.86	15.47	3.81
2	32.63	17.33	25.79	25.25	7.67	17.99	33.67	21.75	24.47	8.18
4	8.96	7.90	12.78	9.88	2.57	17.02	36.17	23.05	25.41	9.79
6	15.13	8.16	-2.05	7.08	8.64	23.49	28.56	28.99	27.01	3.06
8	-	-	-	-	-	13.45	13.63	24.11	17.06	6.11
12	-	-	-	-	-	4.89	3.07	6.45	4.80	1.69
Time (hr)	Deionized water					0.2 M sodium chloride solution				
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	2.96	13.33	10.89	9.06	5.43	36.99	33.64	34.01	34.88	1.84
1	3.86	25.04	16.04	14.98	10.63	18.81	27.13	44.62	30.19	13.17
2	44.72	19.90	27.56	30.73	12.71	22.25	20.40	19.64	20.76	1.34
4	29.79	21.74	31.29	27.61	5.14	43.35	38.02	42.78	41.38	2.92
6	39.17	29.03	31.81	33.34	5.24	18.34	33.25	13.64	21.74	10.24
8	20.80	16.77	26.47	21.35	4.87	17.77	20.58	13.91	17.42	3.35
12	-	-	-	-	-	19.58	14.41	5.54	13.18	7.10

Table 2E Percentage erosion of matrices containing 15% HPMC and lactose (Formulation F12) in various dissolution media

Time (hr)	Percentage erosion of matrices									
	0.1 N HCl solution					Phosphate buffer pH 6.8 solution				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	10.19	9.96	10.21	10.12	0.14	5.35	5.29	5.01	5.22	0.18
1	15.72	15.92	16.20	15.95	0.24	8.12	8.16	7.55	7.94	0.34
2	25.57	27.07	26.87	26.49	0.81	14.18	13.29	13.55	13.66	0.46
4	43.86	43.58	42.94	43.45	0.47	24.40	23.95	21.35	23.23	1.64
6	54.18	54.28	54.11	54.19	0.09	33.69	32.93	30.28	32.29	1.79
8	65.24	65.24	65.30	65.26	-	37.82	37.29	39.55	38.21	1.19
12	84.50	84.56	82.40	83.80	1.23	56.17	58.37	54.65	56.39	1.87
Time (hr)	Deionized water					0.2 M sodium chloride solution				
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	5.91	5.92	5.60	5.81	0.18	5.50	5.47	5.72	5.56	0.14
1	8.79	8.96	8.79	8.85	0.10	8.21	8.31	8.44	8.32	0.11
2	15.42	15.84	14.35	15.20	0.77	13.34	13.37	13.17	13.29	0.11
4	30.61	30.51	28.88	30.00	0.97	23.23	22.88	23.46	23.19	0.29
6	40.02	41.46	40.22	40.56	0.78	32.86	32.63	31.98	32.49	0.46
8	48.55	50.09	49.48	49.38	0.78	38.49	38.39	39.17	38.68	0.42
12	65.39	67.38	68.55	67.11	1.60	52.42	52.48	53.26	52.72	0.47

Table 3E Percentage swelling of matrices containing 15% xanthan gum and lactose (Formulation F5) in various dissolution media

Time (hr)	Percentage swelling of matrices									
	0.1 N HCl solution					Phosphate buffer pH 6.8 solution				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	43.28	43.18	42.23	42.89	0.58	38.17	30.56	39.81	36.18	4.94
1	58.20	58.15	58.22	58.19	0.04	53.76	64.37	66.03	61.39	6.66
2	59.85	55.63	55.87	57.12	2.37	85.88	84.31	84.94	85.04	0.79
4	86.15	64.40	64.40	71.65	12.55	125.68	133.08	125.62	128.13	4.29
6	76.99	103.15	80.37	86.83	14.23	154.25	146.22	155.36	151.94	4.99
8	92.35	80.94	88.42	87.24	5.80	180.48	205.16	171.96	185.87	17.24
12	99.05	102.80	79.47	93.77	12.53	228.06	238.13	214.04	226.74	12.10
Time (hr)	Deionized water					0.2 M sodium chloride solution				
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	52.33	69.71	72.09	64.71	10.79	52.44	58.00	53.85	54.76	2.89
1	103.87	86.12	89.48	93.16	9.43	76.93	76.79	77.67	77.13	0.47
2	108.20	120.42	140.18	122.93	16.14	67.62	67.70	60.06	65.13	4.39
4	-	-	-	-	-	123.54	115.96	123.03	120.84	4.24
6	-	-	-	-	-	111.00	107.63	109.43	109.35	1.69
8	-	-	-	-	-	131.82	127.41	127.71	128.98	2.46
12	-	-	-	-	-	140.90	128.57	152.27	140.58	11.85

Table 4E Percentage erosion of matrices containing 15% xanthan gum and lactose (Formulation F5) in various dissolution media

Time (hr)	Percentage erosion of matrices									
	0.1 N HCl solution					Phosphate buffer pH 6.8 solution				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	10.32	10.25	10.13	10.23	0.10	3.99	3.90	3.89	3.93	2.41
1	16.33	15.73	15.51	15.85	0.43	5.64	5.60	5.34	5.53	1.35
2	24.44	24.10	24.13	24.22	0.19	8.60	8.36	8.84	8.60	4.31
4	35.26	35.09	35.74	35.36	0.34	12.99	12.95	13.19	13.04	13.75
6	44.38	44.34	43.88	44.20	0.28	16.55	17.00	16.59	16.71	1.26
8	51.08	51.55	50.42	51.01	0.57	19.84	20.14	19.82	19.93	4.35
12	62.92	63.55	63.65	63.37	0.40	24.69	24.99	24.46	24.71	3.18
Time (hr)	Deionized water					0.2 M sodium chloride solution				
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	4.68	5.34	5.22	5.08	5.34	4.53	4.18	3.31	4.32	3.31
1	9.78	7.60	9.00	8.79	23.06	7.36	5.89	1.80	6.41	1.80
2	-	-	-	-	-	8.63	8.74	1.47	8.74	1.47
4	-	-	-	-	-	13.10	13.62	5.31	13.22	5.31
6	-	-	-	-	-	16.71	16.29	4.41	16.44	4.41
8	-	-	-	-	-	21.51	19.68	22.05	20.25	22.05
12	-	-	-	-	-	26.33	26.31	18.78	26.26	18.78

Table 5E Percentage swelling of matrices containing 15% sodium alginate and lactose (Formulation F8) in various dissolution media

Time (hr)	Percentage swelling of matrices									
	0.1 N HCl solution					Phosphate buffer pH 6.8 solution				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	56.08	51.50	54.07	53.88	2.30	39.88	33.31	24.19	32.46	7.88
1	70.77	69.49	69.40	69.89	0.77	-	-	-	-	-
2	34.70	40.55	44.01	39.76	4.71	-	-	-	-	-
4	38.64	44.70	38.06	40.46	3.68	-	-	-	-	-
6	26.61	23.22	31.79	27.21	4.31	-	-	-	-	-
8	41.32	30.87	39.64	37.28	5.62	-	-	-	-	-
12	26.40	24.66	40.69	30.58	8.80	-	-	-	-	-
Time (hr)	Deionized water					0.2 M sodium chloride solution				
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	0.63	0.65	11.95	4.41	6.53	14.57	18.30	17.25	16.70	1.92
1	3.04	27.75	19.55	16.78	12.59	75.77	73.99	73.11	74.29	1.36
2	36.17	17.38	29.40	27.65	9.52	51.37	63.50	56.98	57.28	6.07
4	-	-	-	-	-	37.71	41.62	48.41	42.58	5.42
6	-	-	-	-	-	2.28	-0.63	4.42	2.02	2.54
8	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-

Table 6E Percentage erosion of matrices containing 15% sodium alginate and lactose (Formulation F8) in various dissolution media

Time (hr)	Percentage erosion of matrices									
	0.1 N HCl solution					Phosphate buffer pH 6.8 solution				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	13.99	13.98	14.43	14.14	0.25	9.84	11.30	10.40	10.50	0.74
1	19.68	19.93	19.60	19.74	0.17	17.90	19.60	18.03	18.51	0.94
2	29.28	28.57	28.62	28.82	0.40	34.84	34.19	34.64	34.55	0.33
4	40.13	40.14	40.16	40.14	-	71.24	67.69	70.65	69.86	1.90
6	49.08	47.70	48.28	48.34	0.69	90.69	91.45	84.57	88.94	3.77
8	53.12	53.65	51.81	52.85	0.95	100.00	100.00	100.00	100.00	-
12	62.46	62.16	62.36	62.33	0.15	100.00	100.00	100.00	100.00	0.00
Time (hr)	Deionized water					0.2 M sodium chloride solution				
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	16.98	16.56	17.39	16.98	0.41	10.54	10.70	10.76	10.67	0.12
1	25.52	27.44	23.57	25.51	1.94	16.22	16.15	17.28	16.55	0.64
2	44.84	50.09	43.86	46.26	3.35	26.15	27.80	27.02	26.99	0.83
4	77.13	79.44	80.51	79.02	1.73	50.92	48.55	47.78	49.08	1.63
6	94.82	90.49	96.26	93.85	3.00	63.78	65.89	65.84	65.17	1.20
8	-	-	-	-	-	75.10	75.12	75.10	75.11	-
12	-	-	-	-	-	88.47	88.50	88.50	88.49	-

APPENDIX F

Relative dissolution time

Table 1F The relative dissolution times (RDT) of hydroxypropyl methylcellulose matrices containing10% polymer and lactose (Formulation F1) or dibasic calcium phosphate (Formulation F13) as diluent in 0.1 N HCl solution and phosphate buffer pH 6.8 solution

Dissolution medium	Relative dissolution time (RDT value)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0.1 N HCl	4.28	4.41	4.46	4.39	0.09	3.85	3.96	3.84	3.88	0.06
PBS pH 6.8	7.64	7.84	7.98	7.82	0.17	9.26	9.39	9.23	9.29	0.08

Table 2F The relative dissolution times (RDT) of xanthan gum matrices containing 10% polymer and lactose (Formulation F4) or dibasic calcium phosphate (Formulation F16) as diluent in 0.1 N HCl solution and phosphate buffer pH 6.8 solution

Dissolution medium	Relative dissolution time (RDT value)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0.1 N HCl	5.38	5.53	5.04	5.32	0.25	4.39	5.40	4.40	4.73	0.58
PBS pH 6.8	10.56	10.60	10.45	10.54	0.08	10.70	10.69	10.67	10.69	0.02

Table 3F The relative dissolution times (RDT) of sodium alginate matrices containing 10% polymer and lactose (Formulation F7) or dibasic calcium phosphate (Formulation F19) as diluent in 0.1 N HCl solution and phosphate buffer pH 6.8 solution

Dissolution medium	Relative dissolution time (RDT value)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0.1 N HCl	5.43	5.43	5.44	5.43	0.01	5.44	5.50	5.46	5.47	0.03
PBS pH 6.8	3.53	3.45	3.54	3.51	0.05	4.81	4.85	4.77	4.81	0.04

Table 4F The relative dissolution times (RDT) of hydroxypropyl methylcellulose matrices containing 15% polymer and lactose (Formulation F2) or dibasic calcium phosphate (Formulation F14) as diluent in various dissolution media

Dissolution medium	Relative dissolution time (RDT value)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0.1 N HCl	5.51	5.78	5.70	5.67	0.14	5.47	5.36	5.42	5.42	0.05
PBS pH 6.8	8.64	8.65	8.70	8.66	0.03	9.45	9.35	9.29	9.37	0.08
PBS pH 6.8+NaCl	9.10	9.25	9.24	9.19	0.08	9.52	9.61	9.55	9.56	0.05
	7.98	8.09	7.93	8.00	0.08	8.40	8.44	8.39	8.41	0.03
Deionized water	8.27	7.89	8.22	8.12	0.21	8.27	8.27	8.40	8.41	0.08
0.05 M NaCl	8.07	8.17	7.94	8.06	0.12	8.58	8.52	8.66	8.31	0.07
0.1 M NaCl	8.80	8.83	8.81	8.82	0.03	9.07	8.90	9.07	8.59	0.10
0.2 M NaCl	8.35	8.34	8.34	8.37	0.04	9.48	9.49	9.47	9.01	0.12

Table 5F The relative dissolution times (RDT) of xanthan gum matrices containing 15% polymer and lactose (Formulation F5) or dibasic calcium phosphate (Formulation F17) as diluent in various dissolution media

Dissolution medium	Relative dissolution time (RDT value)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0.1 N HCl	6.75	6.76	6.76	6.75	0.01	6.92	6.88	6.91	6.90	0.02
PBS pH 6.8	10.69	10.66	10.69	10.68	0.02	10.71	10.70	10.68	10.69	0.02
PBSpH6.8+NaCl	9.10	9.25	9.24	10.90	0.08	10.68	10.69	10.69	10.90	0.01
Deionized water	8.23	8.45	7.96	8.21	0.25	8.40	8.56	8.68	8.55	0.14
0.05 M NaCl	10.68	10.69	10.68	10.68	0.01	10.65	10.66	10.66	10.66	0.00
0.1 M NaCl	10.63	10.64	10.61	10.63	0.02	10.67	10.65	10.68	10.66	0.01
0.2 M NaCl	10.67	10.56	10.60	10.61	0.05	10.57	10.63	10.56	10.59	0.04

Table 6F The relative dissolution times (RDT) of sodium alginate matrices containing 15% polymer and lactose (Formulation F8) or dibasic calcium phosphate (Formulation F20) as diluent in various dissolution media

Dissolution medium	Relative dissolution time (RDT value)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0.1 N HCl	5.70	5.84	5.85	5.80	0.08	6.32	6.52	6.36	6.40	0.11
PBS pH 6.8	3.85	3.85	4.33	4.01	0.28	4.18	4.34	4.27	4.26	0.08
PBSpH6.8+NaCl	4.92	4.58	5.51	5.00	0.47	4.44	4.39	4.56	6.00	0.09
Deionized water	2.49	2.42	2.42	2.44	0.04	1.03	1.08	1.29	1.13	0.14
0.05 M NaCl	4.65	3.43	4.25	4.11	0.63	4.44	4.54	4.77	4.58	0.17
0.1 M NaCl	4.85	3.91	4.27	4.34	0.47	5.44	5.06	5.46	5.32	0.23
0.2 M NaCl	5.20	5.51	5.45	5.39	0.17	5.80	5.84	5.56	5.73	0.15

Table 7F The relative dissolution times (RDT values) of hydroxypropyl methylcellulose matrices containing 20% polymer and lactose phosphate (Formulation F3) or dibasic calcium phosphate (formulation F15) as diluent in 0.1 N HCl solution and phosphate buffer pH 6.8 solution

Dissolution medium	Relative dissolution time (RDT value)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0.1N HCl	6.87	6.67	6.74	6.76	0.10	6.43	6.43	6.51	6.47	0.04
PBS pH 6.8	9.63	9.52	9.66	9.60	0.08	9.79	9.79	9.84	9.76	0.11

Table 8F The relative dissolution times (RDT values) of xanthan gum matrices containing20% polymer and lactose phosphate (Formulation F6) or dibasic calcium phosphate (formulation F18) as diluent in 0.1 N HCl solution and phosphate buffer pH 6.8 solution

Dissolution medium	Relative dissolution time (RDT value)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0.1 N HCl	6.72	6.83	6.77	6.77	0.06	7.03	7.08	6.96	7.02	0.06
PBS pH 6.8	10.67	10.60	10.69	10.65	0.05	10.75	10.75	10.74	10.75	0.01

Table 9F The relative dissolution times (RDT values) of xanthan gum matrices containing 20% polymer and lactose phosphate (Formulation F9) or dibasic calcium phosphate (formulation F21) as diluent in 0.1 N HCl solution and phosphate buffer pH 6.8 solution

Dissolution medium	Relative dissolution time (RDT value)									
	Lactose					Dibasic calcium phosphate				
	1	2	3	Mean	SD	1	2	3	Mean	SD
0.1 N HCl	6.12	6.25	6.32	6.23	0.10	6.54	6.57	6.57	6.56	0.02
PBS pH 6.8	4.29	4.08	4.46	4.28	0.19	4.20	4.25	4.20	4.21	0.03

The drug release profile of hydroxypropyl methylcellulose matrices containing 10% polymer and lactose was the example for calculating RDT value. The calculation of RDT value was as follow.

Total area = percent drug content x total dissolution time

= 98.99% x 12 hrs

= 1187.88% hr

Area under the curve (AUC) at each time internal $= \frac{1}{2}$ x (%drug released at lower time interval + % drug released at higher time interval) x time interval

The area under the curve (AUC) at each time internal is presented in Table 10F.

Table 10F Area under the curve (AUC) at each time interval of drug release profile of hydroxypropyl methylcellulose matrices containing 10% polymer and lactose as diluents (Formulation F1) in 0.1 N HCl solution

Time interval (hr)	AUC (%hr)
0-0.25	0.7487
0.25-0.5	1.9850
0.5-0.75	2.9112
0.75-1	3.7605
1-1.5	9.7647
1.5-2	12.5493
2-3	33.6619
3-4	43.8755
4-5	53.6677
5-6	63.7471
6-7	72.8631
7-8	81.0213
8-10	178.634
10-12	194.5646

Total area under the curve (total AUC) = summation of AUC at each time interval

= 753.69 %hr

Area between curve (ABC) = total area – total AUC

= 1187.88-753.69

= 434.19 %hr

Relative dissolution time (RDT) = $\frac{ABC}{M_{\infty}}$

= $\frac{434.19}{98.9917}$

= 4.3861 hr

VITA

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