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ภาคผนวก

ตารางที่ 1

ค่า Absorbance ของ Standard Aspirin Solution ที่ Wavenumber 1750 cm^{-1} Cell Pathlength 0.1 mm.

จาก Chloroform baseline, Baseline 1, Baseline 2.

Concentration % w/v	Absorbance ที่ Baseline		
	Chloroform	1	2
0.5	0.0788	0.0842	0.0730
1.0	0.1652	0.1656	0.1464
1.5	0.2416	0.2430	0.2186
2.0	0.3113	0.3137	0.2797
2.5	0.3933	0.3911	0.3564
3.0	0.4572	0.4507	0.4106
3.2	0.4847	0.4731	0.4328
3.4	0.5127	0.4986	0.4541
3.6	0.5427	0.5324	0.4827
3.8	0.5585	0.5463	0.4975
4.0	0.5816	0.5712	0.5307
4.2	0.6116	0.5975	0.5448
4.4	0.6677	0.6514	0.5871
4.6	0.6954	0.6628	0.6068
5.0	0.7227	0.7013	0.6435

ตารางที่ 2

ค่า Absorbance ของ Standard Aspirin Solution ที่ Wavenumber 1690 cm^{-1}

Cell Pathlength 0.1 mm.

จาก Chloroform Baseline, Baseline 1 และ Baseline 2

Concentration % w/v	Absorbance ที่ Baseline		
	Chloroform	1	2
0.5	0.0887	0.0969	0.0859
1.0	0.1825	0.1869	0.1608
1.5	0.2748	0.2777	0.2425
2.0	0.3643	0.3666	0.3249
2.5	0.4593	0.4611	0.4109
3.0	0.5466	0.5471	0.4852
3.2	0.5691	0.5687	0.5042
3.4	0.5998	0.5963	0.5311
3.6	0.6290	0.6263	0.5558
3.8	0.6522	0.6483	0.5759
4.0	0.6941	0.6684	0.5921
4.2	0.7143	0.7099	0.6281
4.4	0.7654	0.7592	0.6762
4.6	0.7786	0.7782	0.6908
5.0	0.8264	0.8223	0.7277

ตารางที่ 3

ค่า Absorbance ของ Standard Salicylic Acid Solution ที่ Wavenumber 1657 cm^{-1}, Cell Pathlength 0.1 mm.

จาก chloroform baseline, baseline 1, baseline 2.

Concentration % w/v	Absorbance ที่ Baseline		
	Chloroform	1	2
0.25	0.0423	0.0554	0.0342
0.50	0.1004	0.1127	0.0763
0.75	0.1641	0.1753	0.1252
1.00	0.2239	0.2345	0.1682
1.25	0.2827	0.2911	0.2113
1.50	0.3529	0.3598	0.2662
1.60	0.3723	0.3804	0.2806
1.70	0.3960	0.4058	0.3038
1.80	0.4291	0.4359	0.3253
1.90	0.4499	0.4567	0.3434
2.00	0.4718	0.4824	0.3619
2.10	0.5638	0.5844	0.4432
2.20	0.5670	0.5724	0.4439
2.30	0.5541	0.5807	0.4211
2.40	0.5735	0.5806	0.4334

ตารางที่ 4

Analysis of Aspirin in the Presence of Salicylic Acid

Aspirin in Sample, mg.	Added Salicylic Acid, mg.	Aspirin Fuond mg.	Aspirin Found %
625	0	625	100.00
625	125	629.19	100.67
625	250	629.94	100.79
625	375	623.00	99.68
625	500	616.00	98.56

Aspirin in Sample, mg.	Added Salicylic Acid, mg.	Aspirin Found mg.	Aspirin Found %
500	375	500	100.00
550	375	555	100.90
600	375	597.5	99.58
650	375	640	98.46
700	375	670	95.71
750	375	725	96.67

ตารางที่ 5

Effect of Time on Analysis of Aspirin and Salicylic Acid

เวลา (นาที)	Absorbance	
	Aspirin at 1750 cm^{-1}	Salicylic Acid at 1657 cm^{-1}
0	0.4177	0.3873
30	0.4088	0.3858
60	0.4051	0.3864
120	0.4015	0.3860
180	0.3999	0.3832
240	0.3975	0.3773

ตารางที่ ๖

Percentage recovery for Assay of Aspirin by Infrared Spectrophotometry

Aspirin in Sample, mg.	Added Aspirin mg.	Aspirin Found mg.	% Recovery
500	175	172.8	98.74
500	166.8	167.8	100.60
500	178.6	179.9	100.73
500	176.1	177.5	100.80

% Recovery for the Assay Of Salicylic Acid by IR Method

Salicylic Acid in Sample,mg.	Added Salicylic Acid,mg.	Salicylic Acid Found,mg.	% Recovery
375	125.0	125.0	100.0
375	117.3	115.0	98.72
375	139.4	140.7	101.08
375	137.1	138.0	100.66

ตารางที่ 7

Percentage Recovery for the Assay of a Mixture of Aspirin and Salicylic Acid by Infrared Spectrophotometry using Q - Analysis Method

Mixture No.	Added Aspirin mg.	Absorbance at 1657cm.$^{-1}$	Absorbance at 1677cm.$^{-1}$	Q $\frac{1657}{1677}$	Aspirin Found, mg.	% Recovery
1.	125	0.3849	0.4024	0.9564	124.59	99.67
2.	125	0.3742	0.3913	0.9563	124.00	99.69
3.	125	0.4058	0.4242	0.9566	124.54	99.64
4.	125	0.4069	0.4254	0.9565	124.57	99.65

Mixture No.	Added Salicylic Acid, mg.	Absorbance at 1657 cm.$^{-1}$	Absorbance at 167cm.$^{-1}$	Q $\frac{1657}{1677}$	Salicylic Acid Found, mg.	% Recovery
1.	125	0.3838	0.3838	1.00	125	100.85
2.	125	0.3849	0.3849	1.00	125	100.85
3.	125	0.4301	0.4325	0.9945	121	99.81
4.	125	0.4230	0.4242	0.9972	122.75	100.32

ตารางที่ 8

Comparison of Aspirin Tablet Assay by Infrared Spectrophotometry Method and Official Method

Sample No.	BP.1973 Method		Infrared Method	
	Aspirin % Labeled Ammount	Salicylic Acid เทียบสีกับ Standard	Aspirin % Labeled Ammount	Salicylic Acid Found (mg)
1	100.75	จางกว่า	101.23	0.1993
2	100.61	จางกว่า	101.61	-
3	102.62	จางกว่า	100.71	-
4	104.78	จางกว่า	100.38	-
5	103.31	จางกว่า	103.61	-
6	100.57	จางกว่า	96.40	1.7923
7	101.25	จางกว่า	97.05	1.9518
8	102.42	จางกว่า	100.06	-
9	100.17	จางกว่า	97.20	0.4759
10	99.44	จางกว่า	98.25	0.4818

ตารางที่ 9

Percentage Recovery of Aspirin for Aspirin Tablet by Infrared Spectrophotometry Method and Official Method

Samlpe No.	Added Aspirin,mg		Aspirin Found,mg		% Recovery	
	BP	IR	BP	IR	BP	IR
1	257.0	126.1	260.5	126.48	101.36	100.30
2	246.3	125.9	253.9	126.48	103.09	100.46
3	251.0	125.6	255.6	123.35	101.83	98.21
4	254.3	124.9	256.7	119.40	100.94	95.60

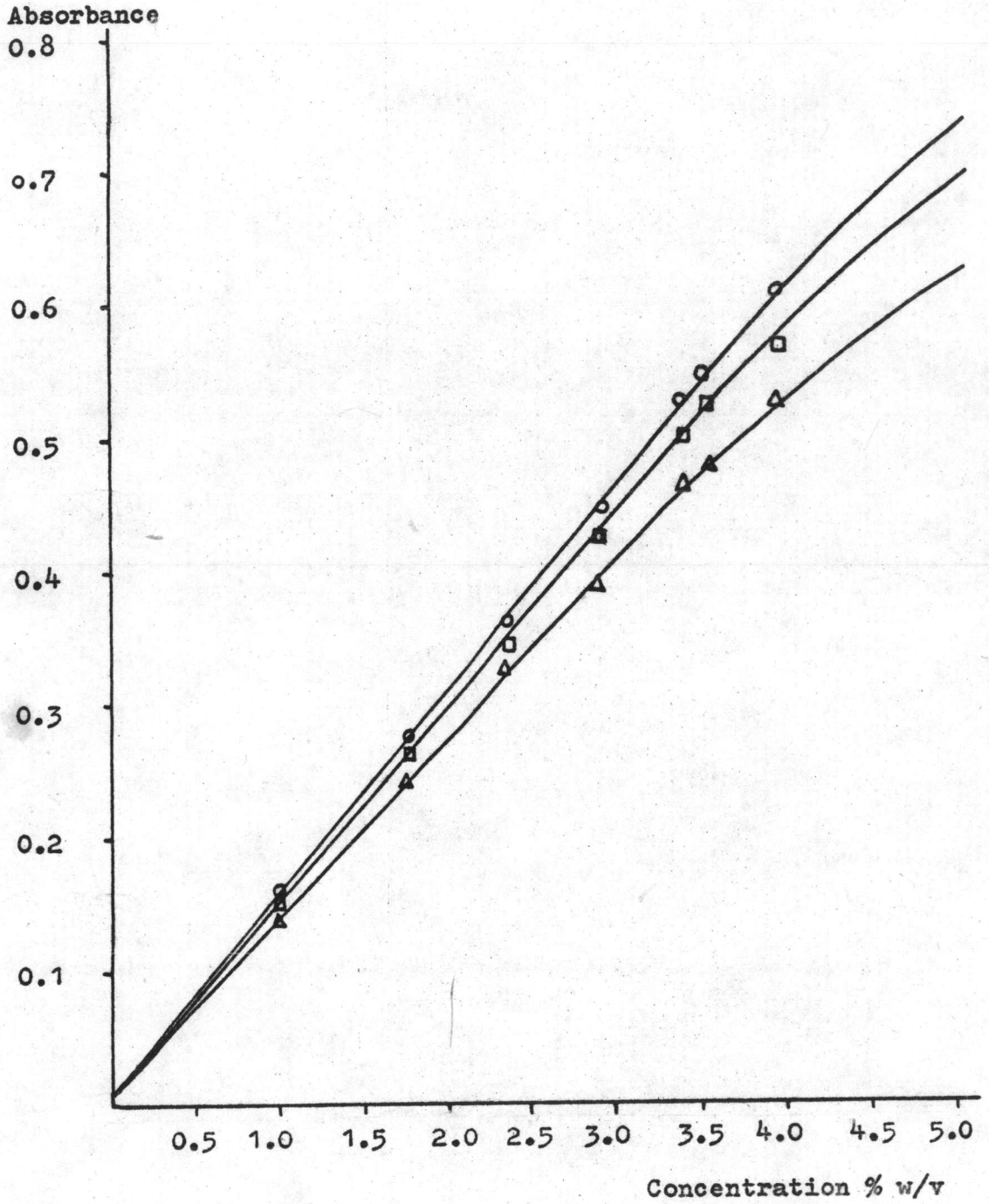
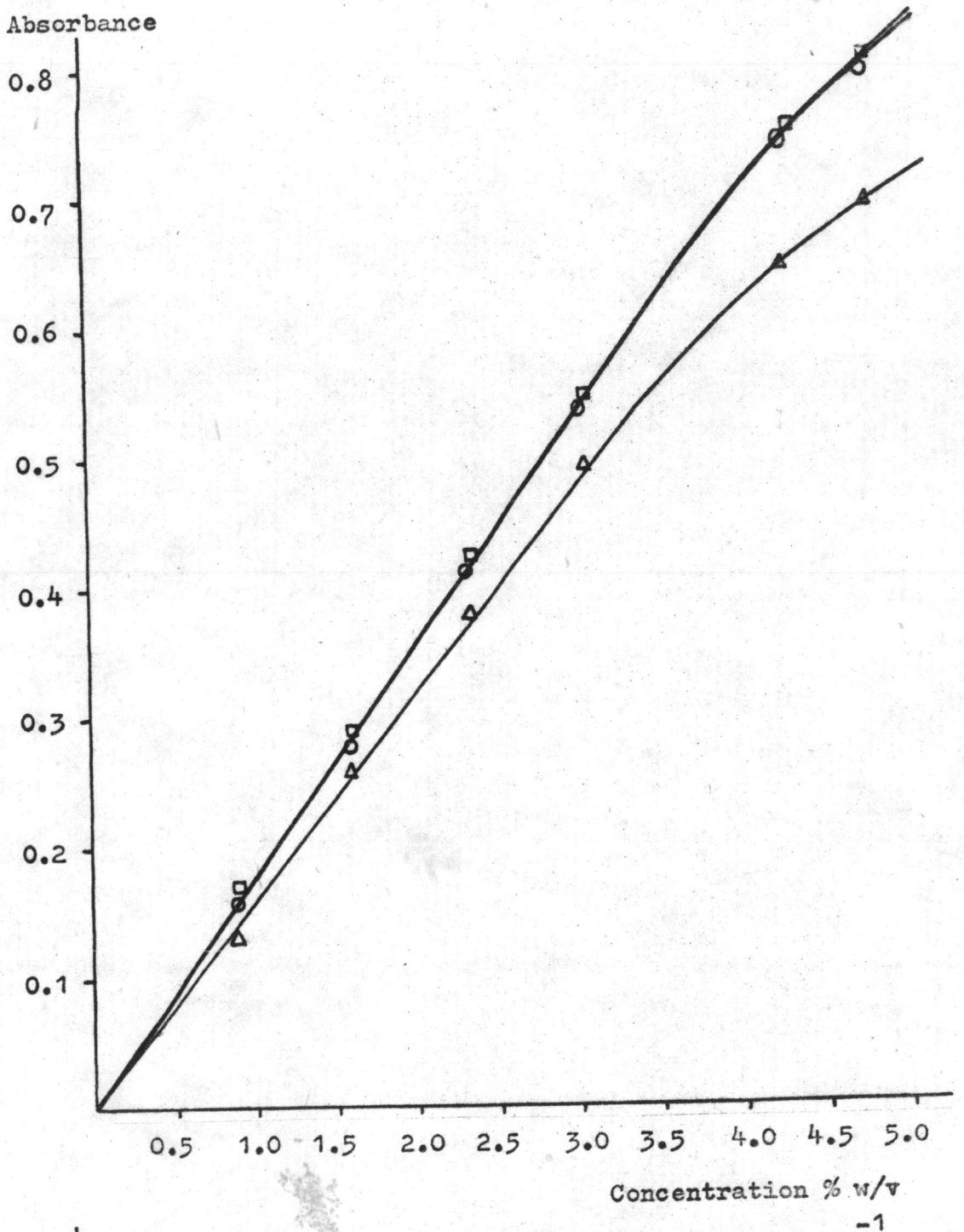


Fig 1 Calibration Curve of Standard Aspirin at 1750 cm^{-1}

Cell Pathlength 0.1 mm o = chloroform baseline

□ = baseline 1 Δ = baseline 2



รูปที่ 2 Calibration Curve of Standard Aspirin at 1690 cm^{-1}

Cell Pathlength 0.1 mm

o = chloroform baseline

□ = baseline 1

Δ = baseline 2

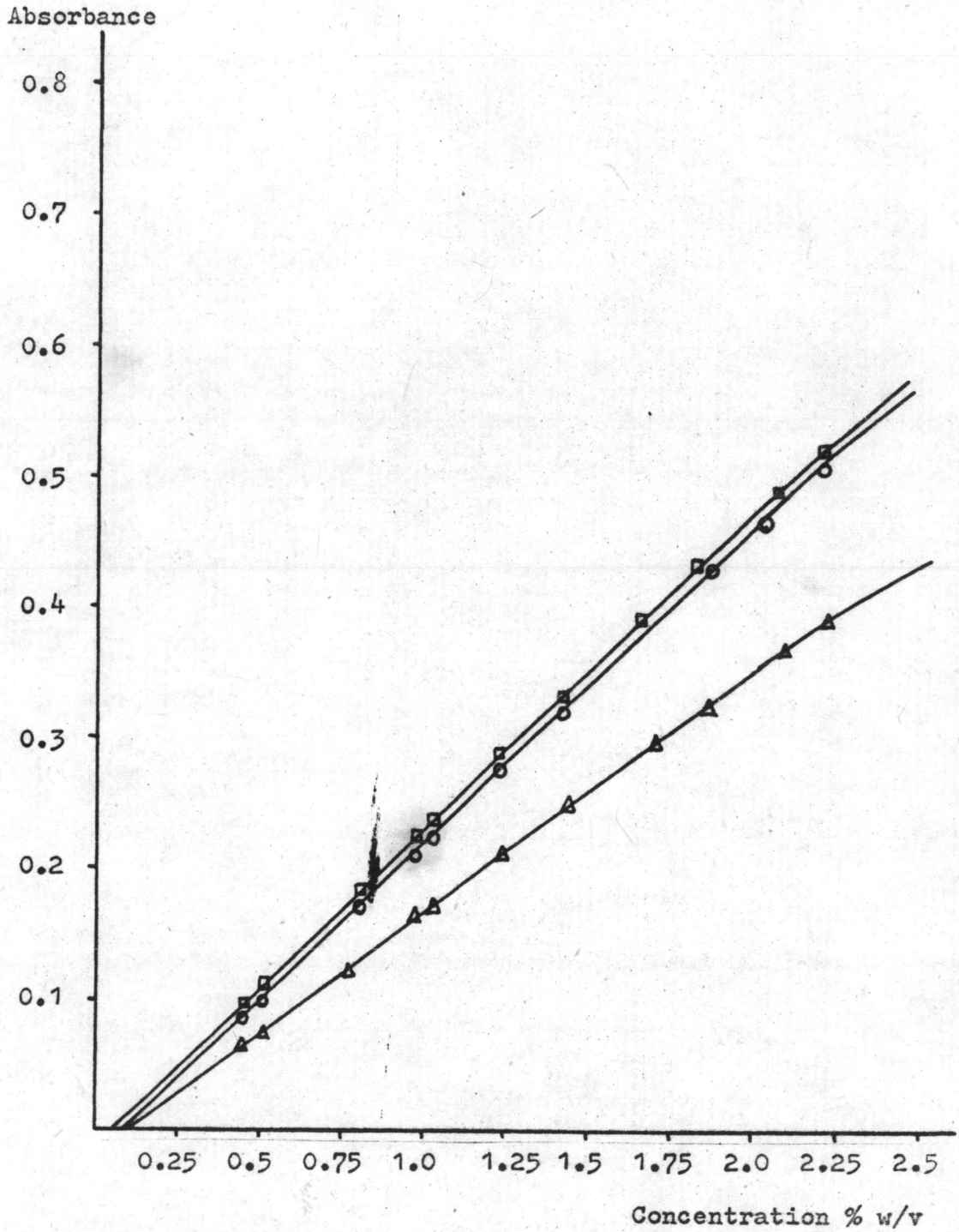
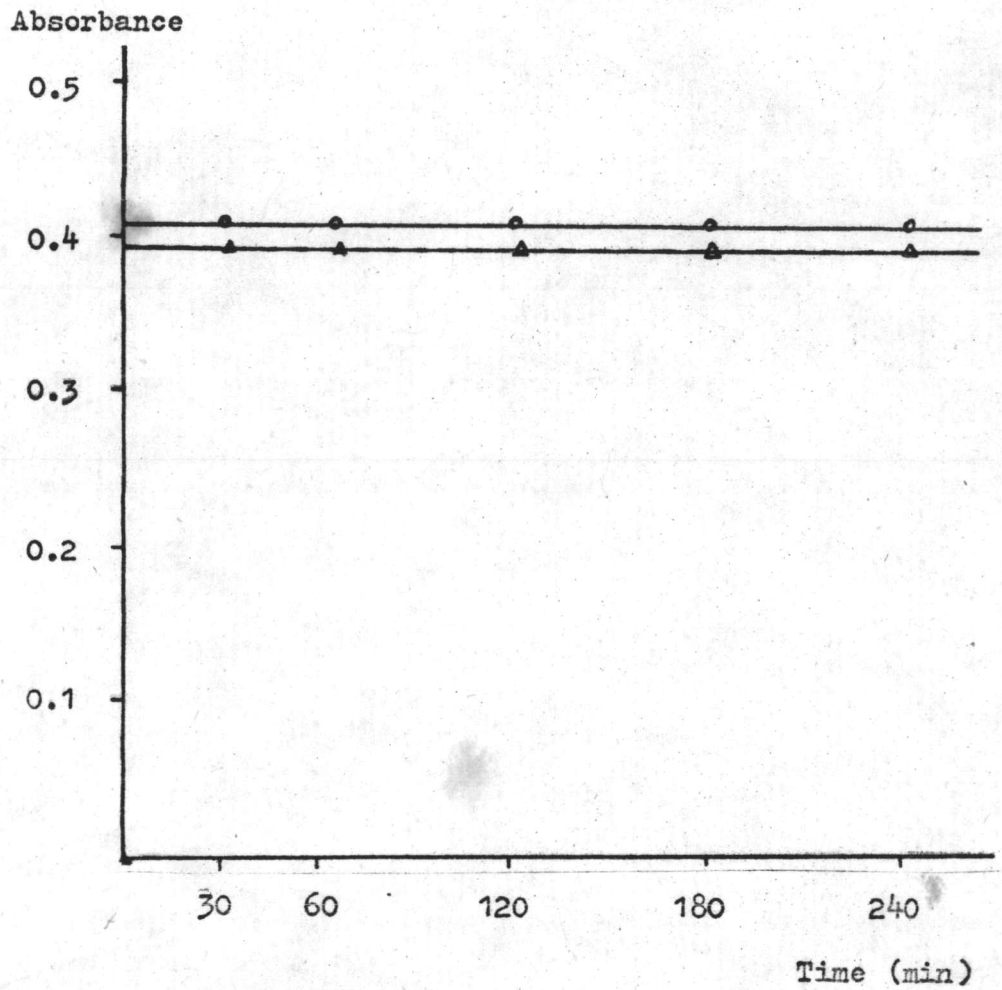


Fig 3 Calibration Curve of Standard Salicylic Acid at 1657 cm^{-1}

Cell Pathlength 0.1 mm

o = chloroform baseline

□ = baseline 1 Δ = baseline 2



รูปที่ 4 Effect of Time on Analysis of Aspirin and Salicylic Acid

O = Standard Aspirin 2.5 % Wavenumber 1750 cm^{-1}

Δ = Standard Salicylic Acid 1.5 % Wavenumber 1657 cm^{-1}

ใช้ chloroform baseline และ cell pathlength 0.1 mm

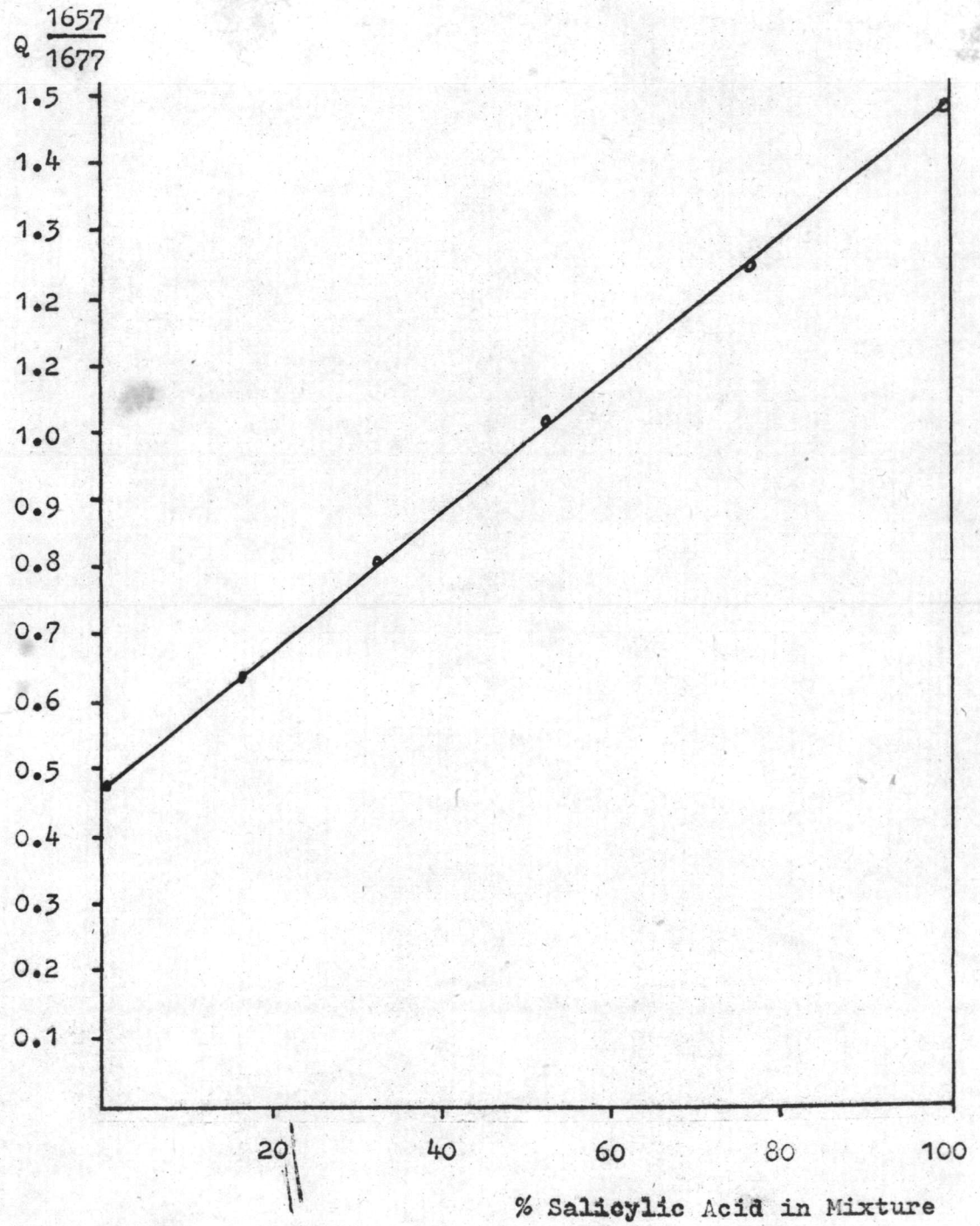


Fig 5 Q-Curve (Absorbancy Ratio Curve) of Aspirin and Salicylic Acid in Binary Mixture.

ประวัติการศึกษา

ชื่อ ร.ท.หญิง ศิริพร ยศธำรง

วุฒิการศึกษา เภสัชศาสตร์บัณฑิต คณะเภสัชศาสตร์ มหาวิทยาลัยเชียงใหม่

ปีการศึกษา 2515

ตำแหน่งและสถานที่ทำงาน ประจำแผนกเภสัชศาสตร์ กองวิจัยและควบคุมมาตรฐาน

โรงงานเภสัชกรรมทหาร