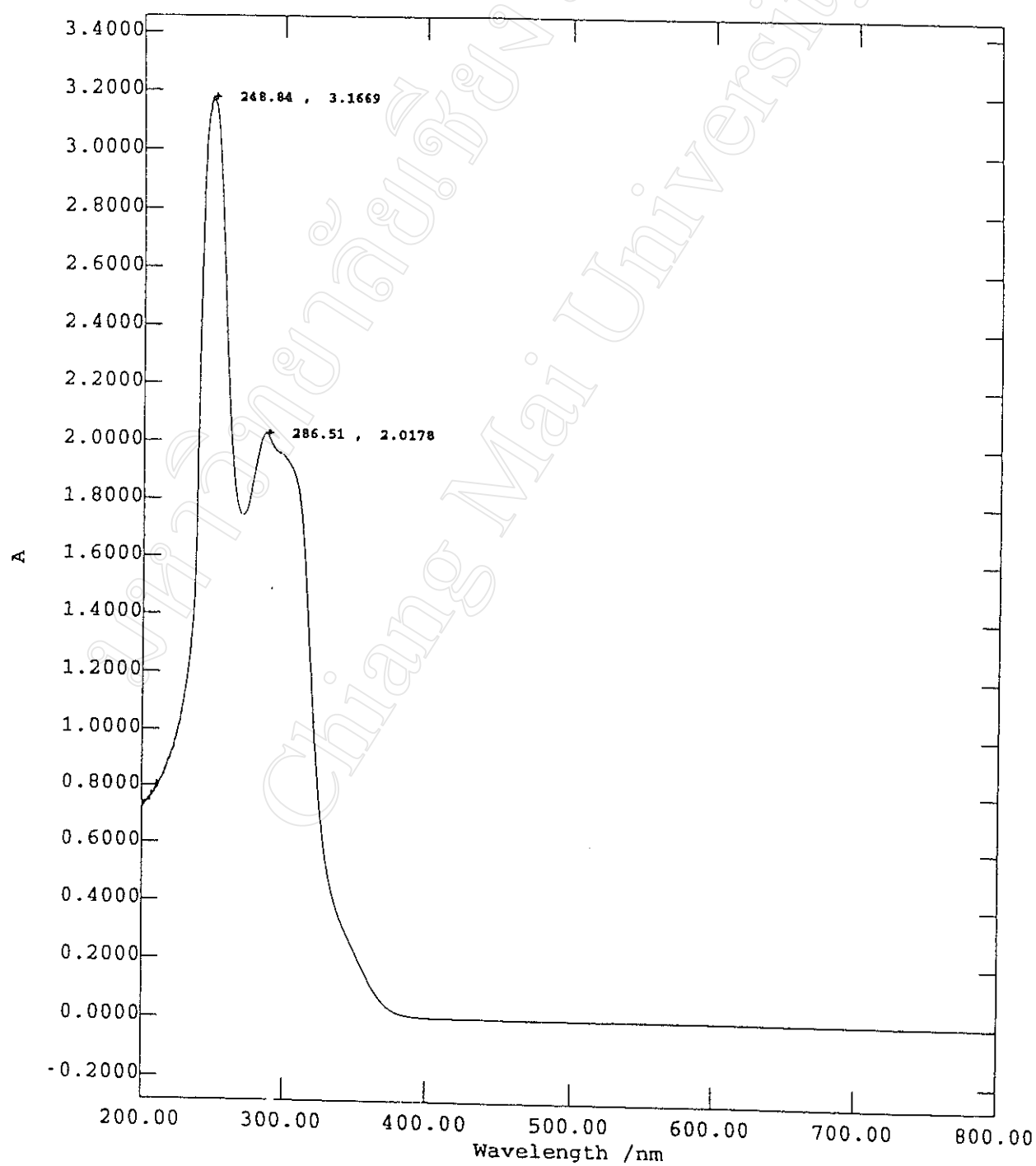


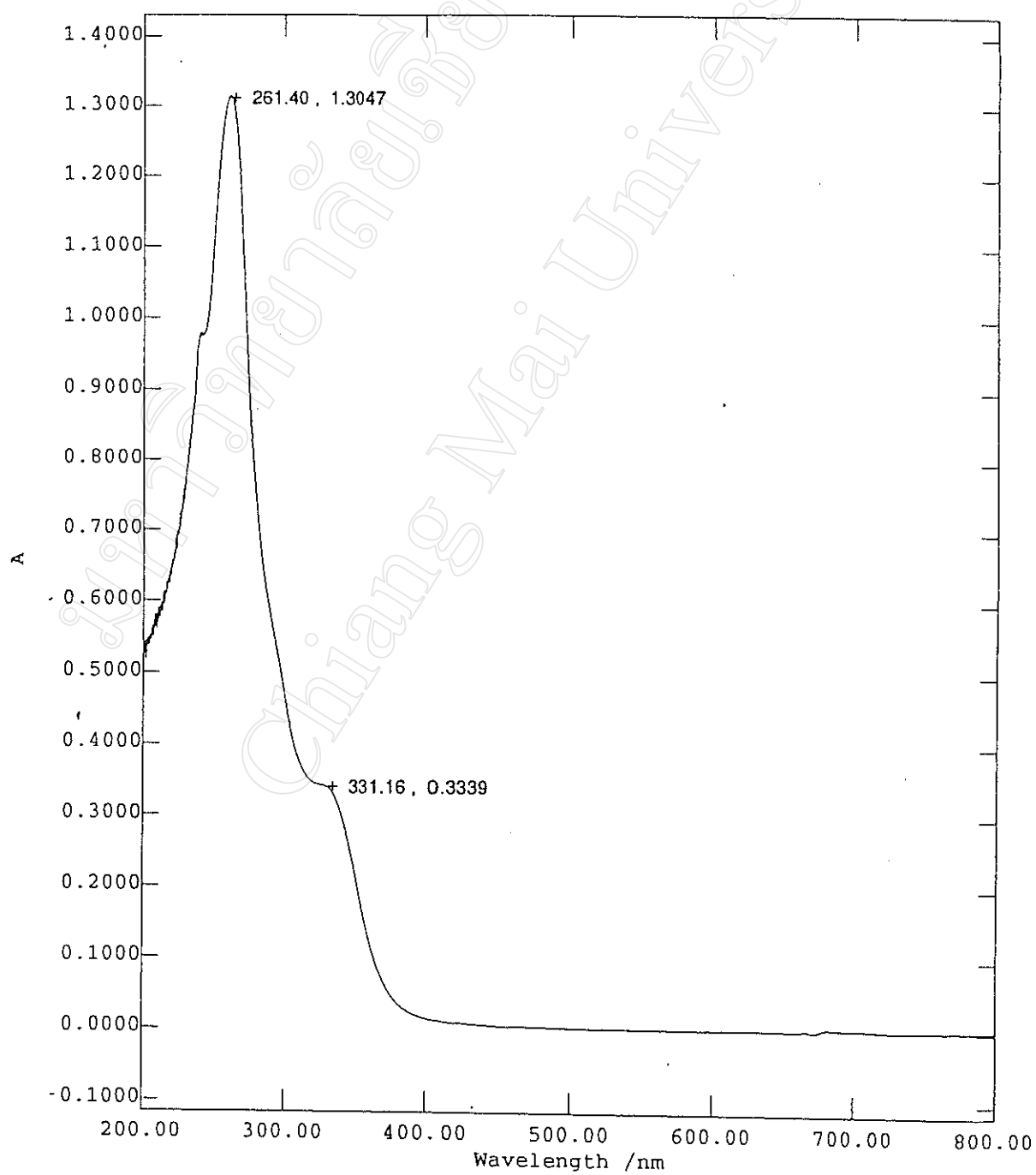
APPENDICES

APPENDIX A
ULTRAVIOLET-VISIBLE SPECTRA

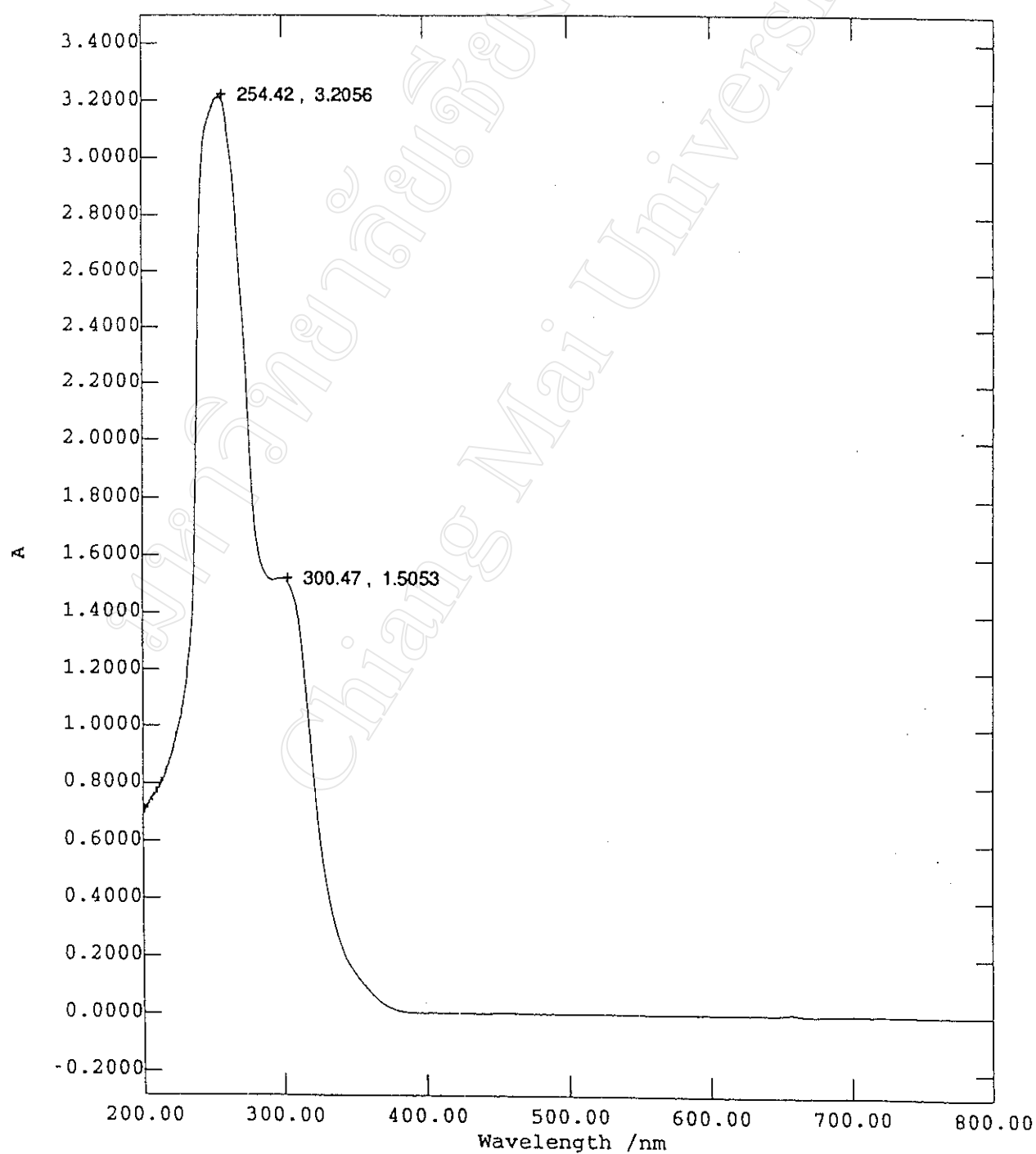
Ultraviolet-Visible Spectrum of Morin-3,5,7,2',4'-pentaacetate



Ultraviolet-Visible Spectrum of Morin-8,7,2',4'-tetrapalmitate

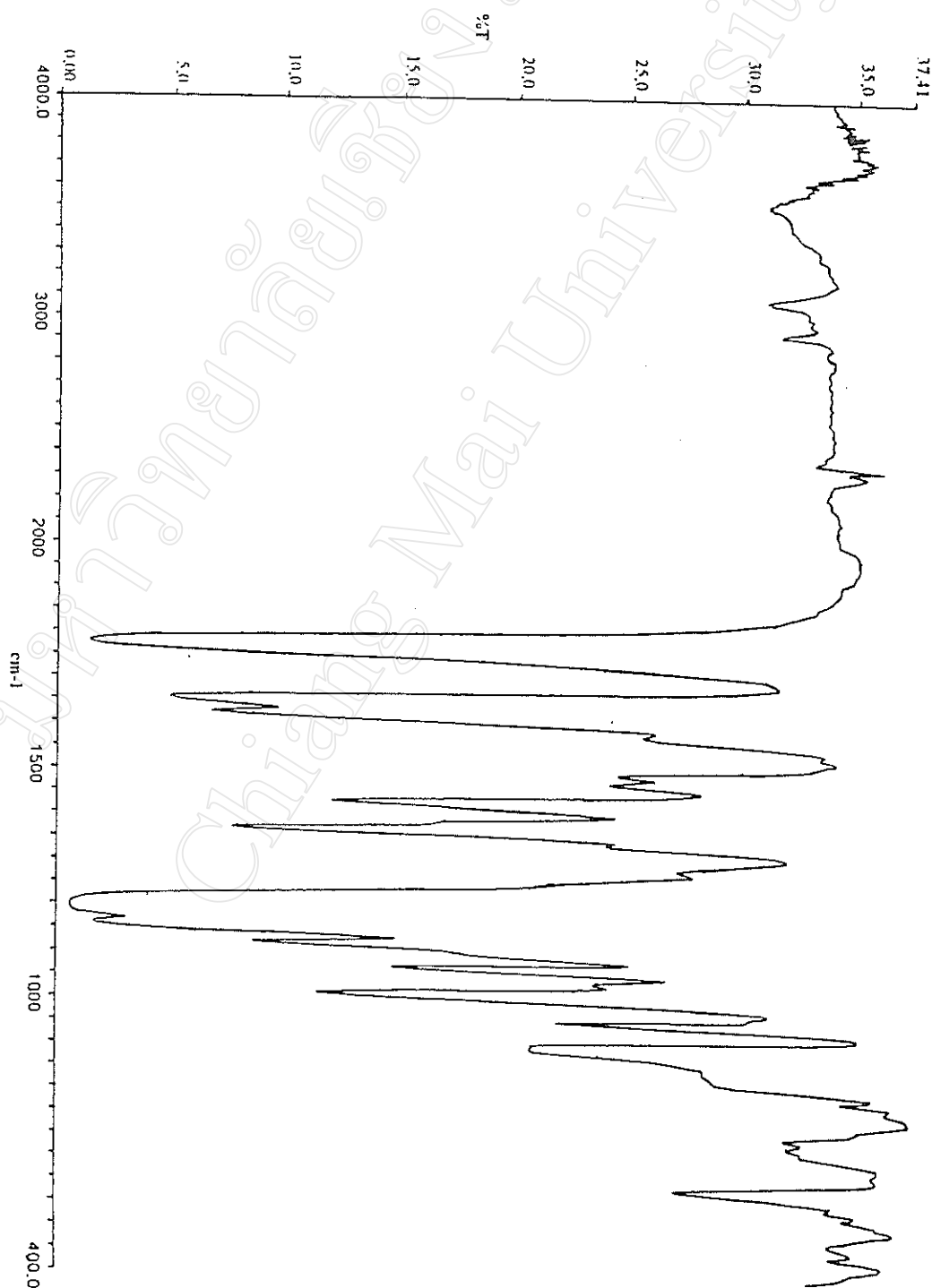


Ultraviolet-Visible Spectrum of Morin-3,5,7,2',4'-pentanicotinate

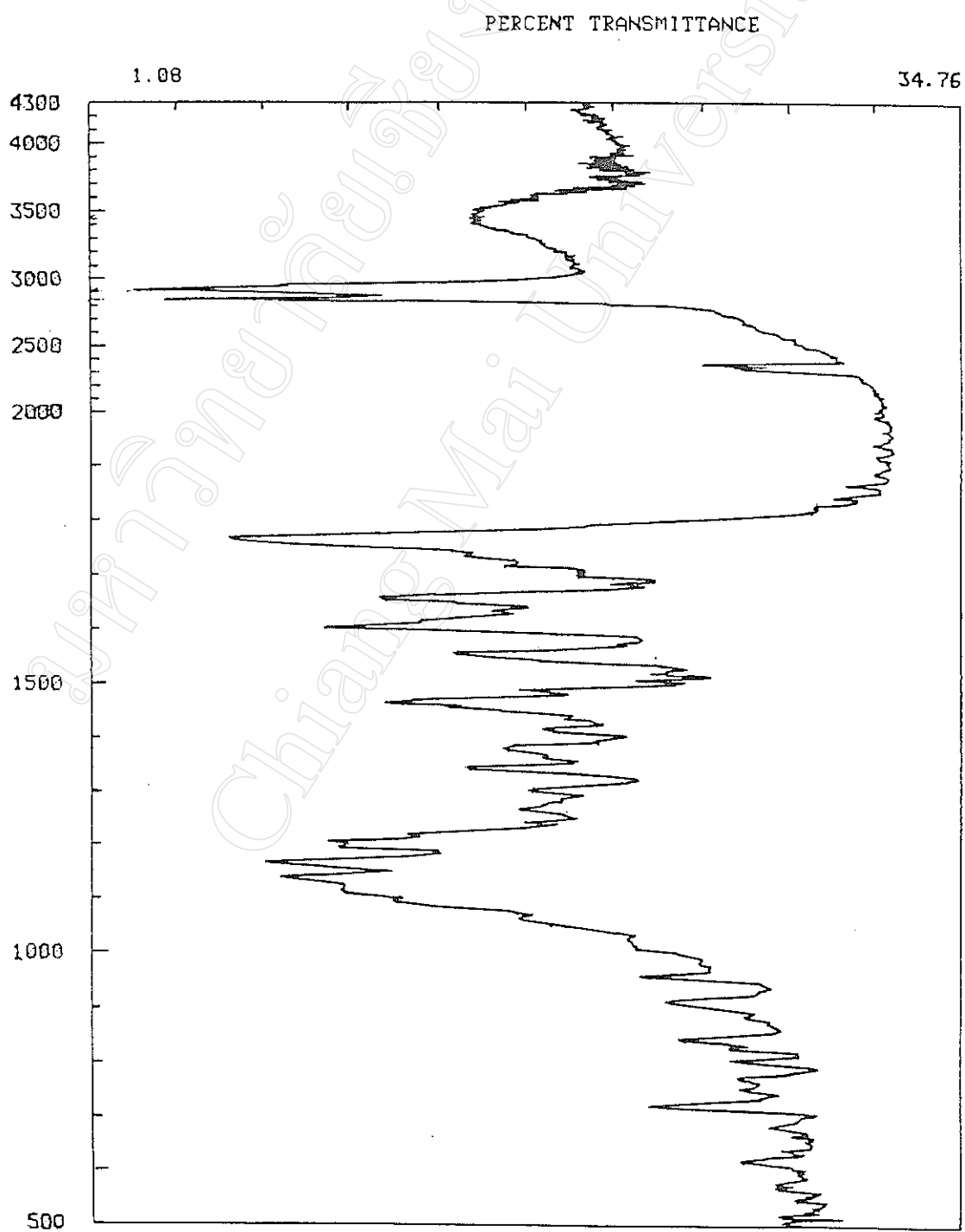


APPENDIX B
INFRARAD SPECTRA

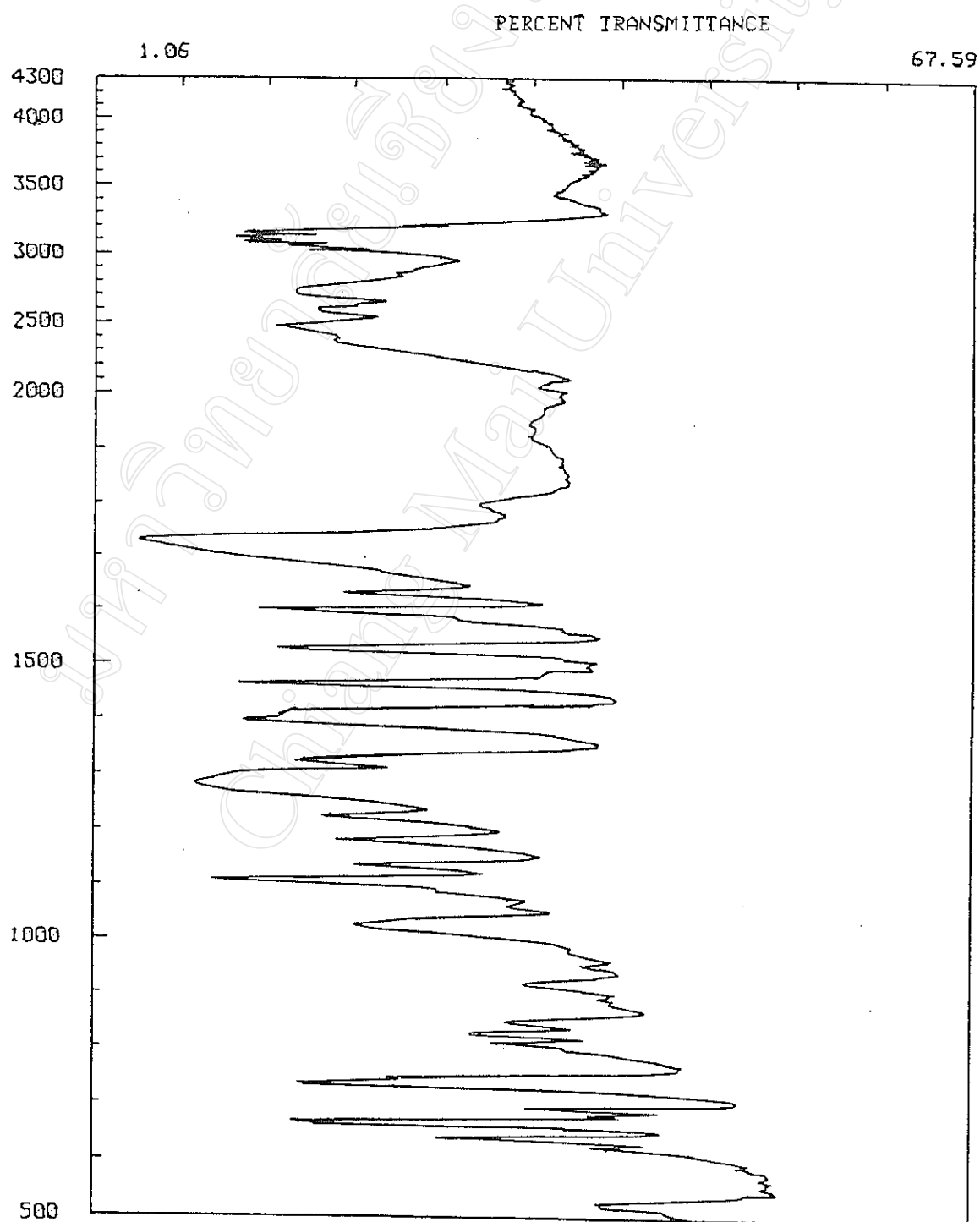
Infrared Spectrum of Morin-3,5,7,2',4'-pentaacetate



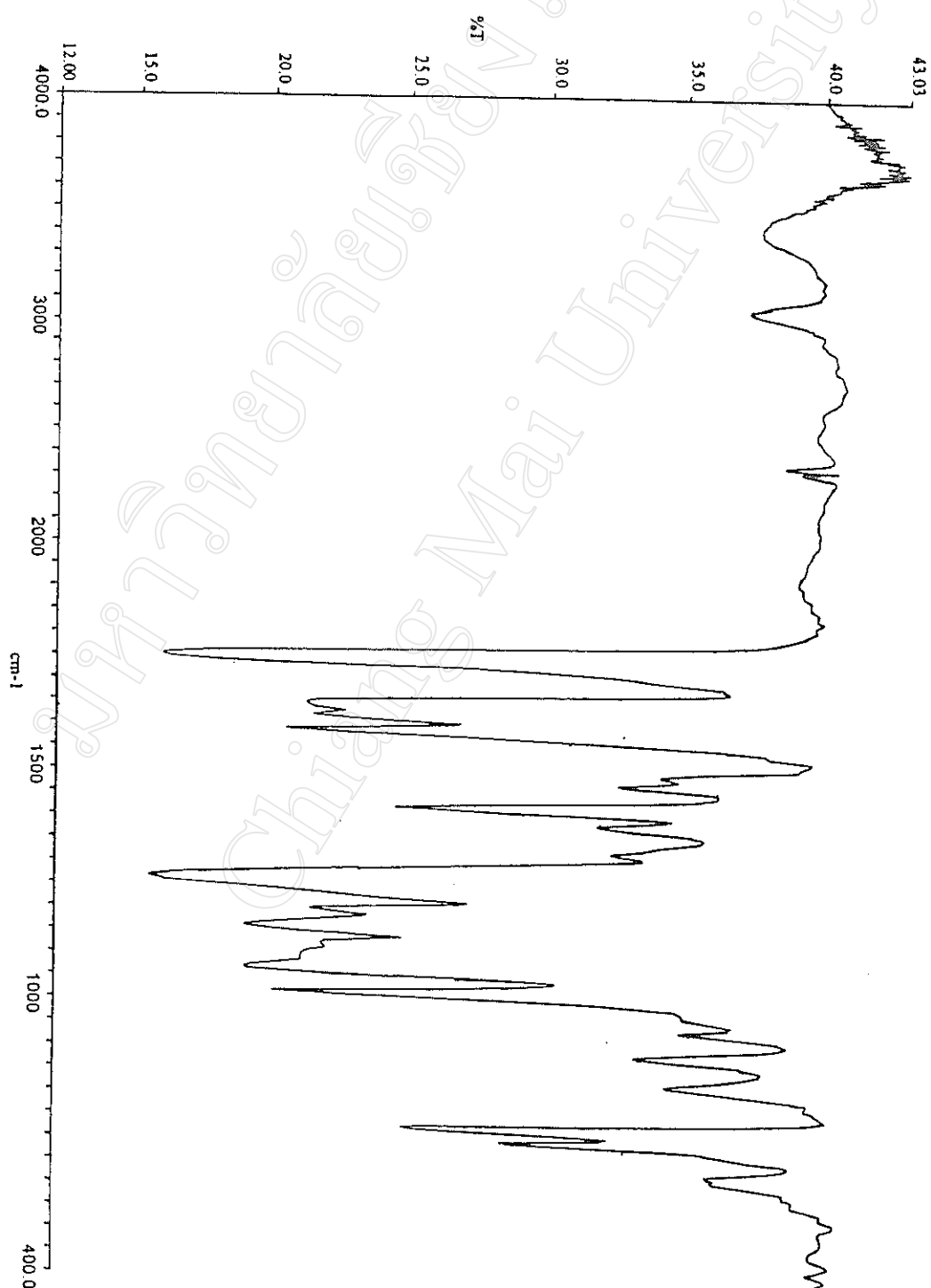
Infrared Spectrum of Morin-3,7,2',4'-tetrapalmitate



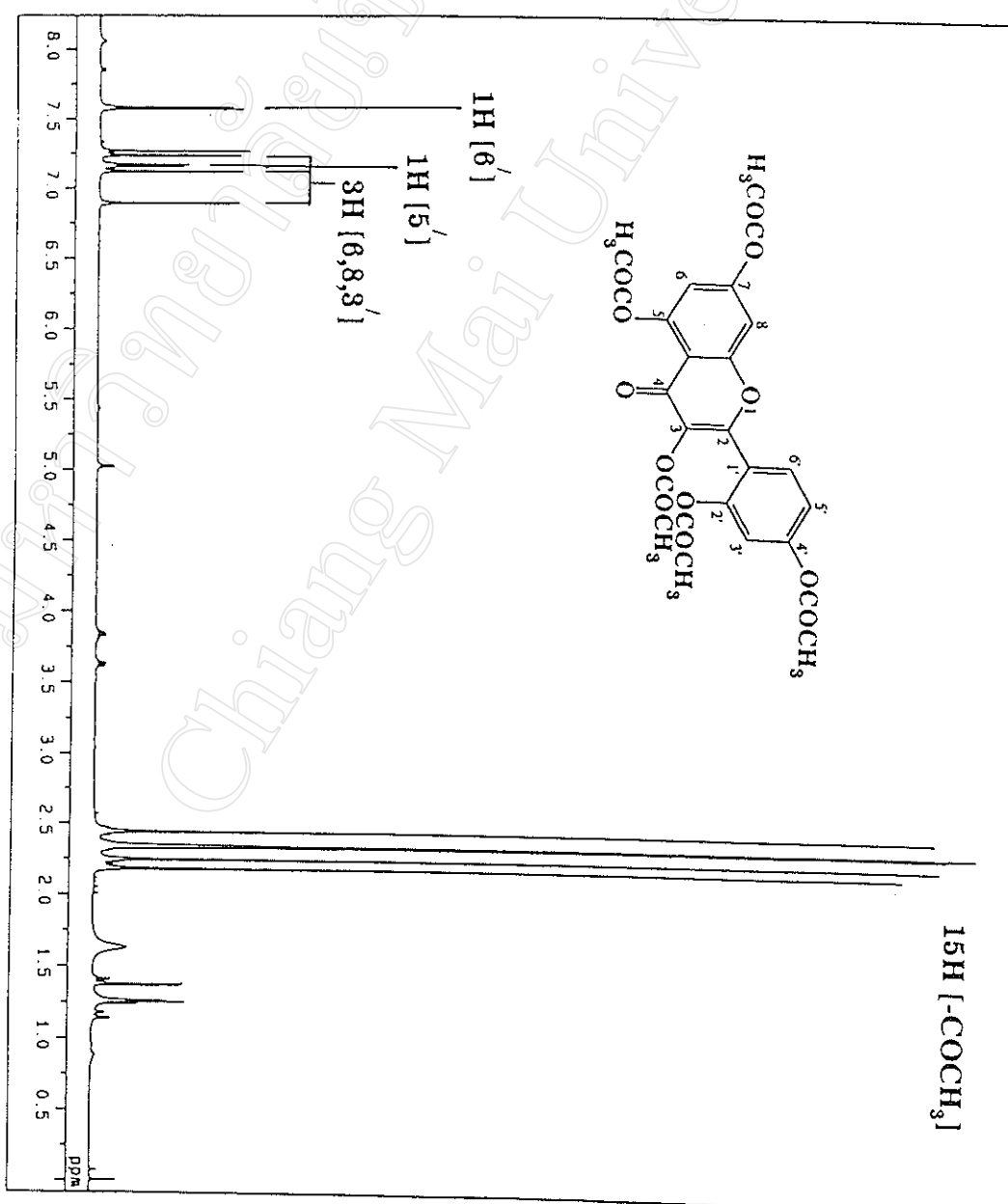
Infrared Spectrum of Nicotinoyl chloride (in the reaction mixture)

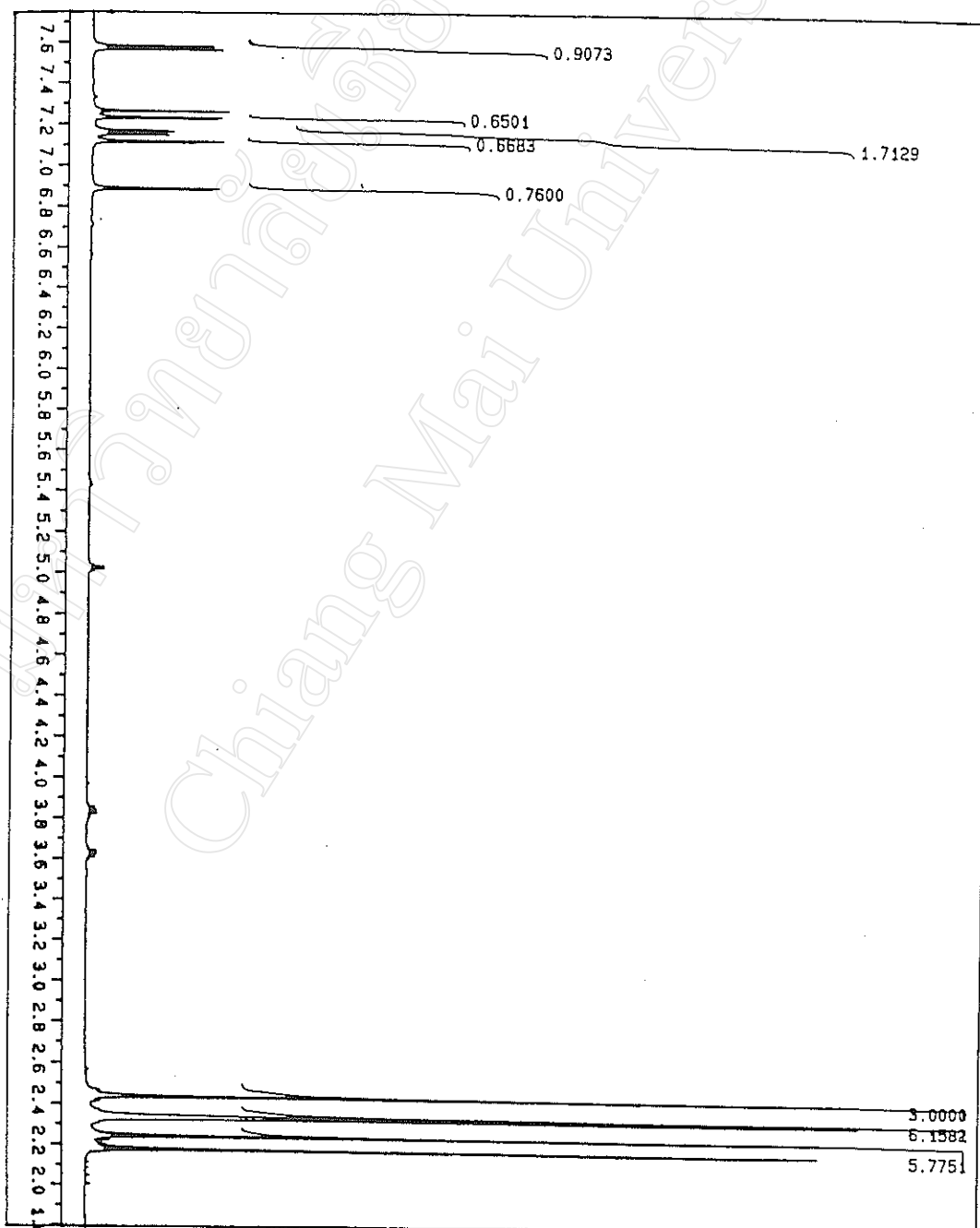


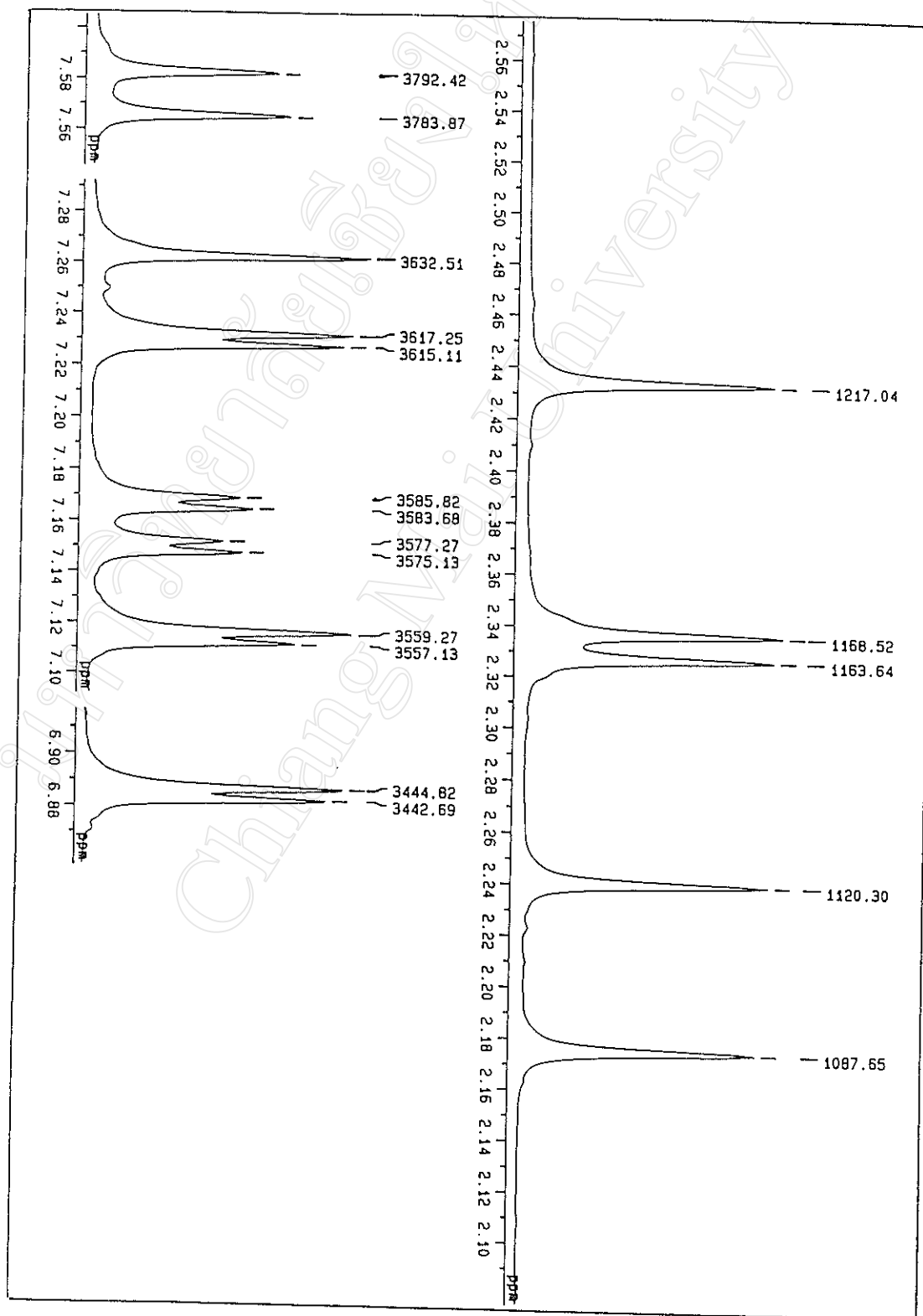
Infrared Spectrum of Morin-3,5,7,2,4'-pentanicotinate



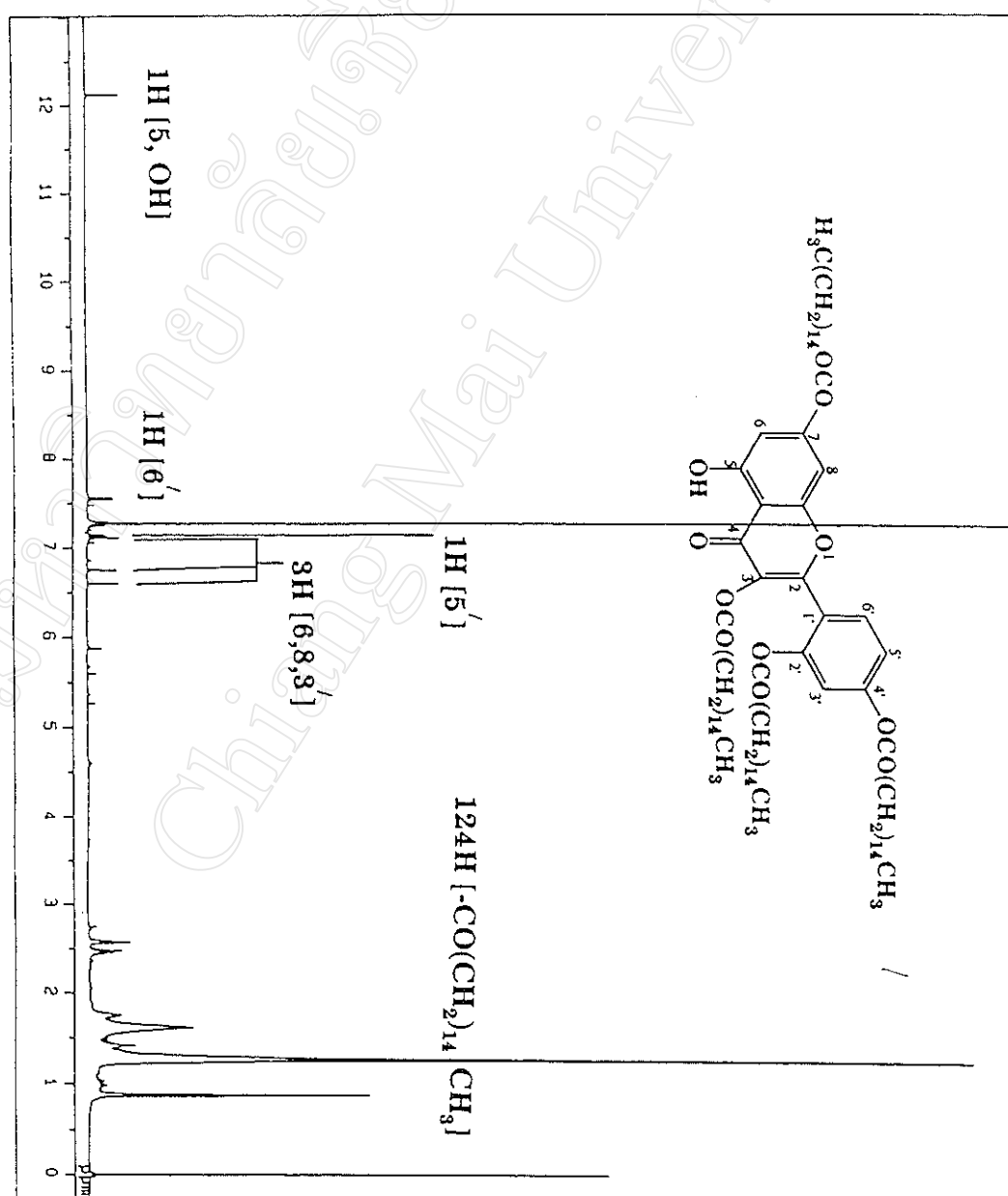
APPENDIX C
PROTON NUCLEAR MAGNETIC RESONANCE SPECTRA

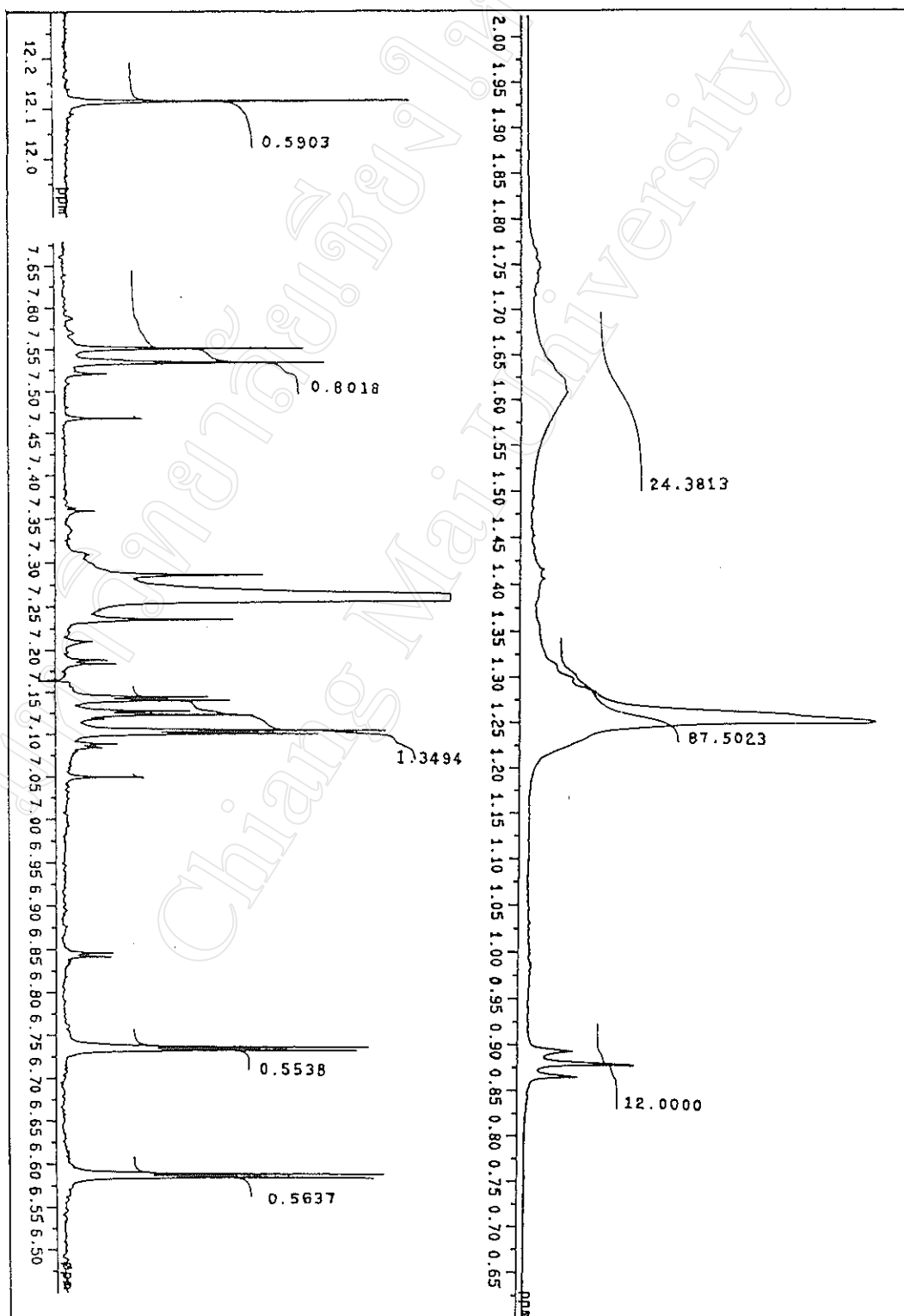
¹H-NMR Spectrum of Morin-3,5,7,2',4'-pentaacetate


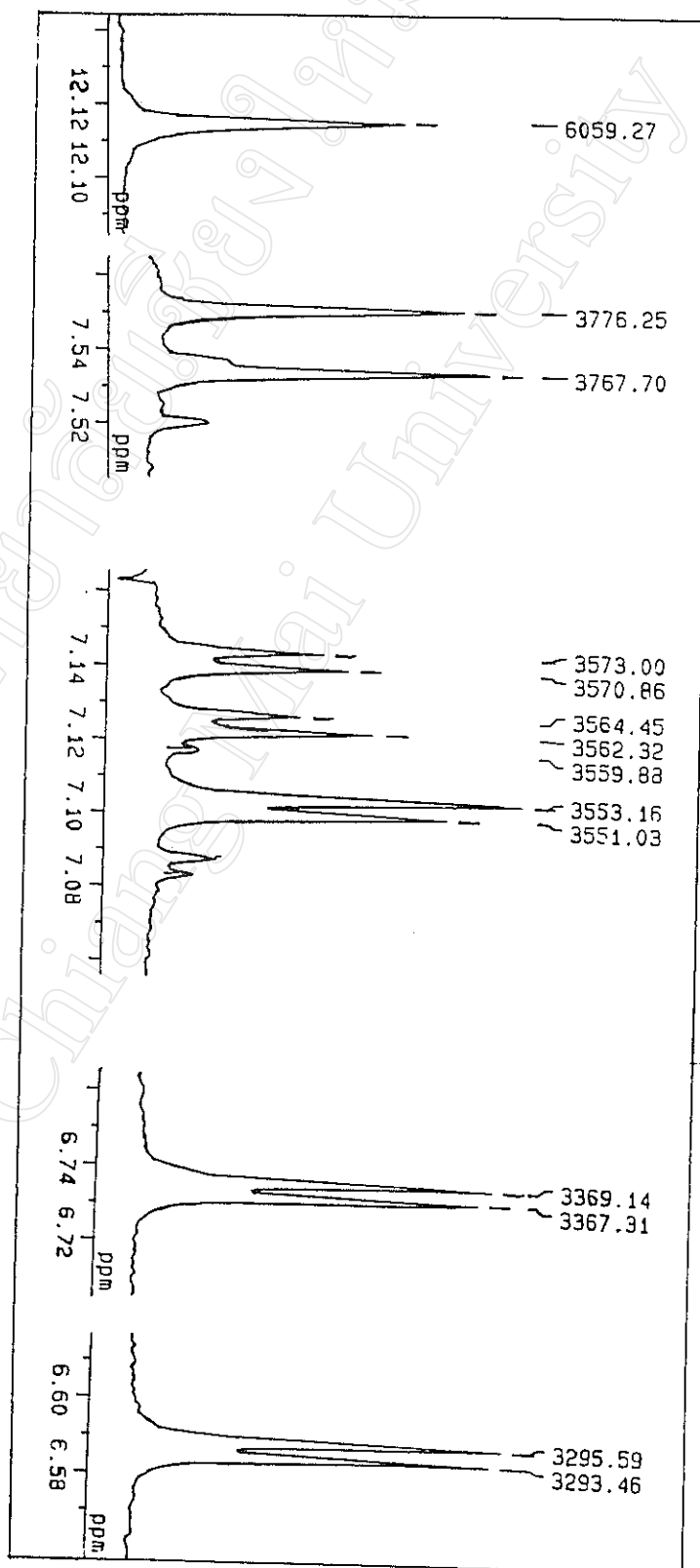


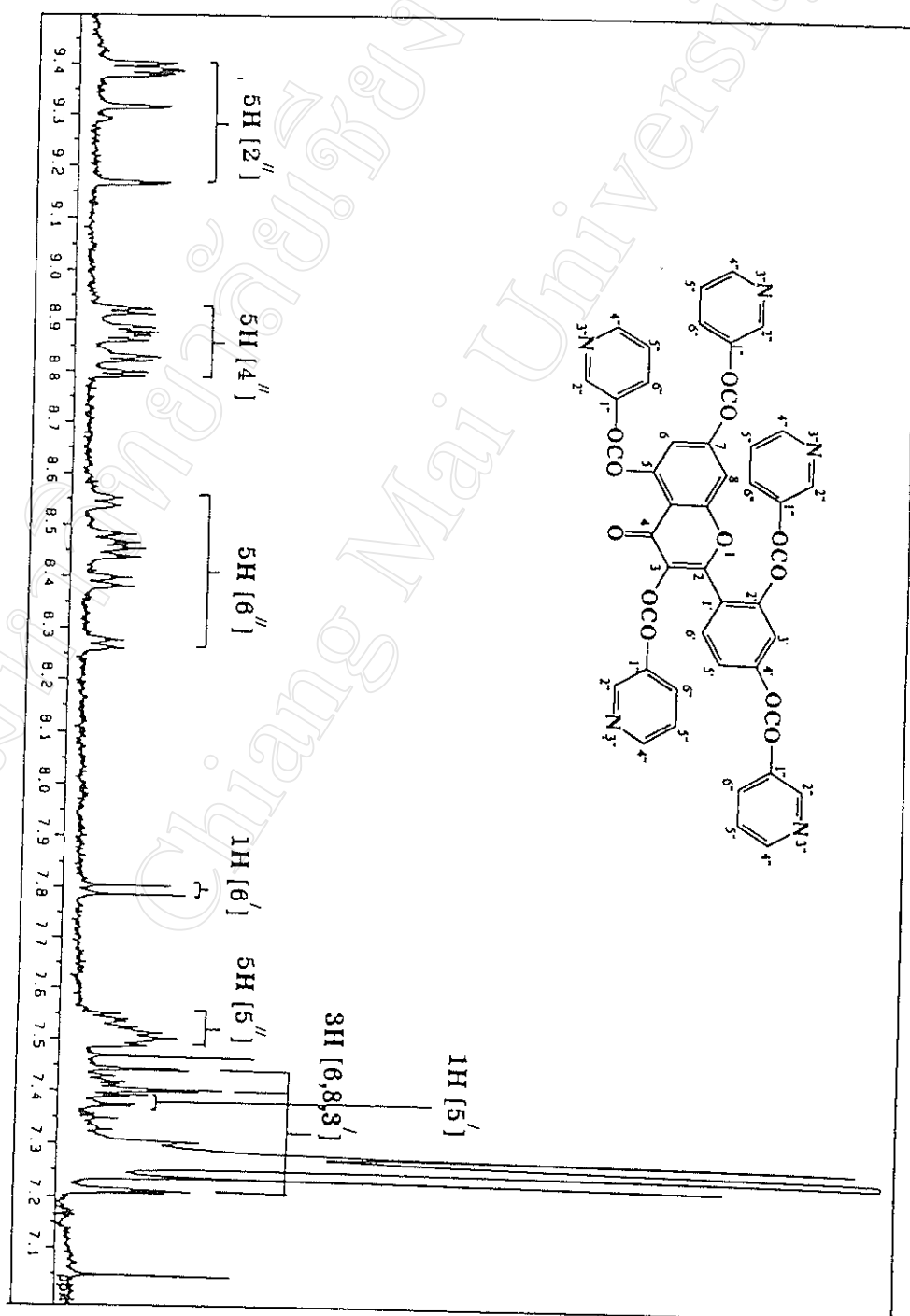


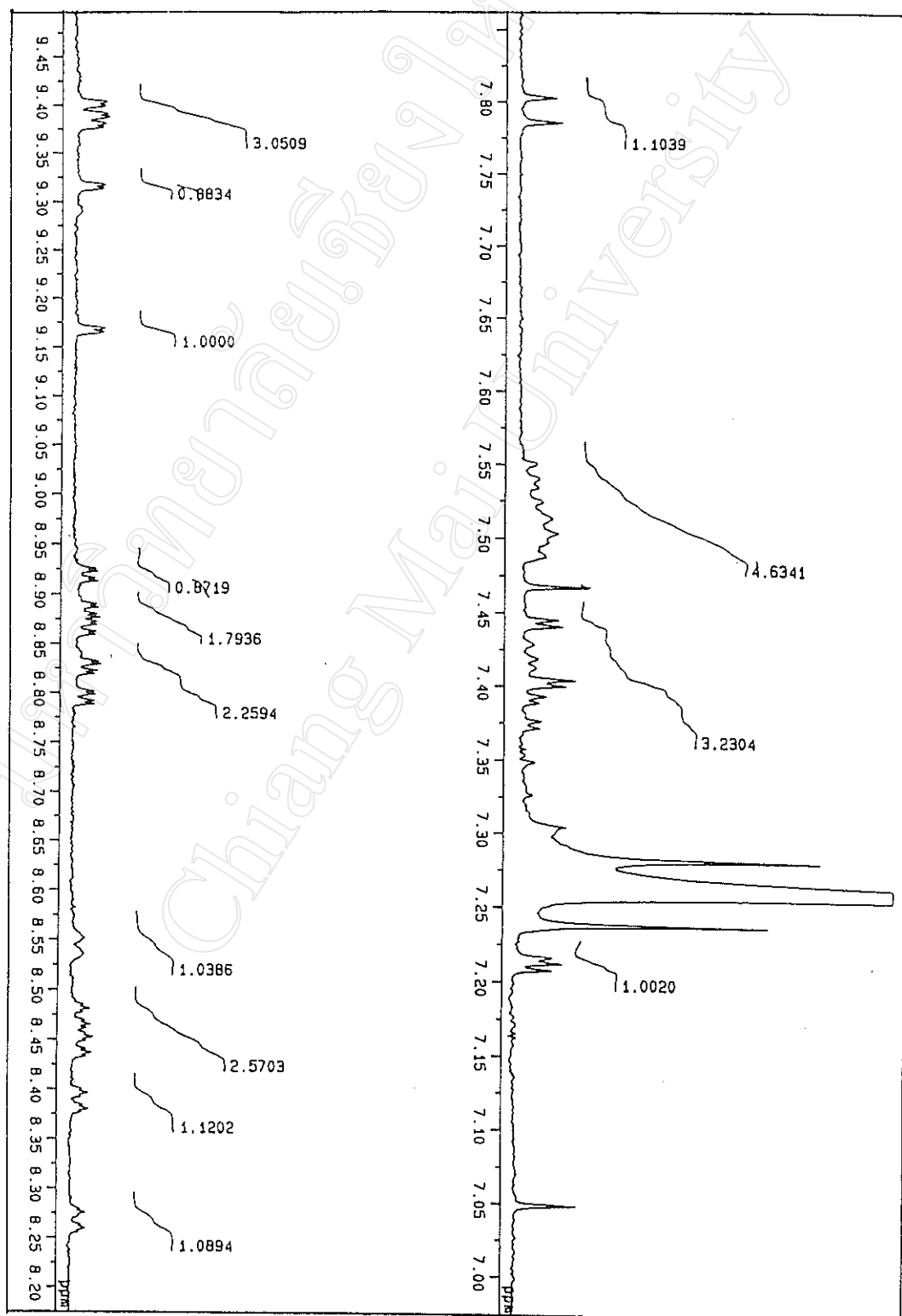
¹H-NMR Spectrum of Morin-3,7,2',4'-tetrapalmitate

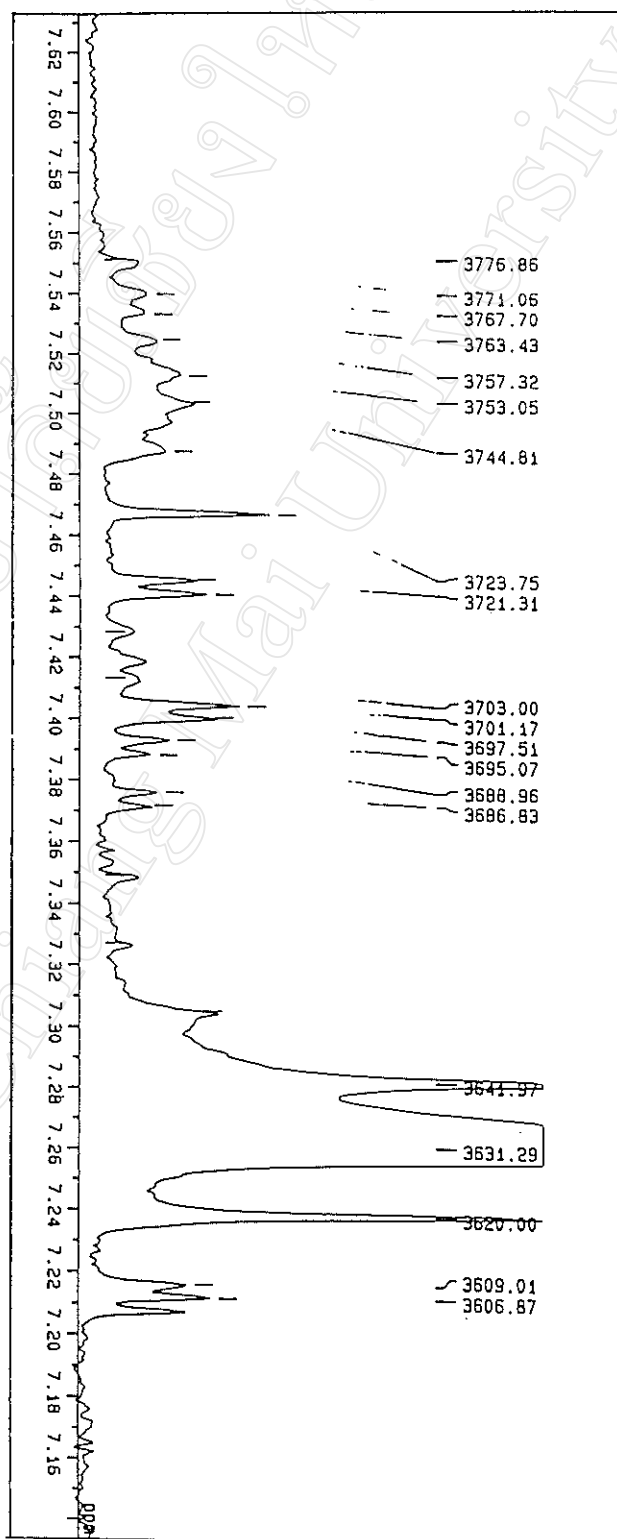


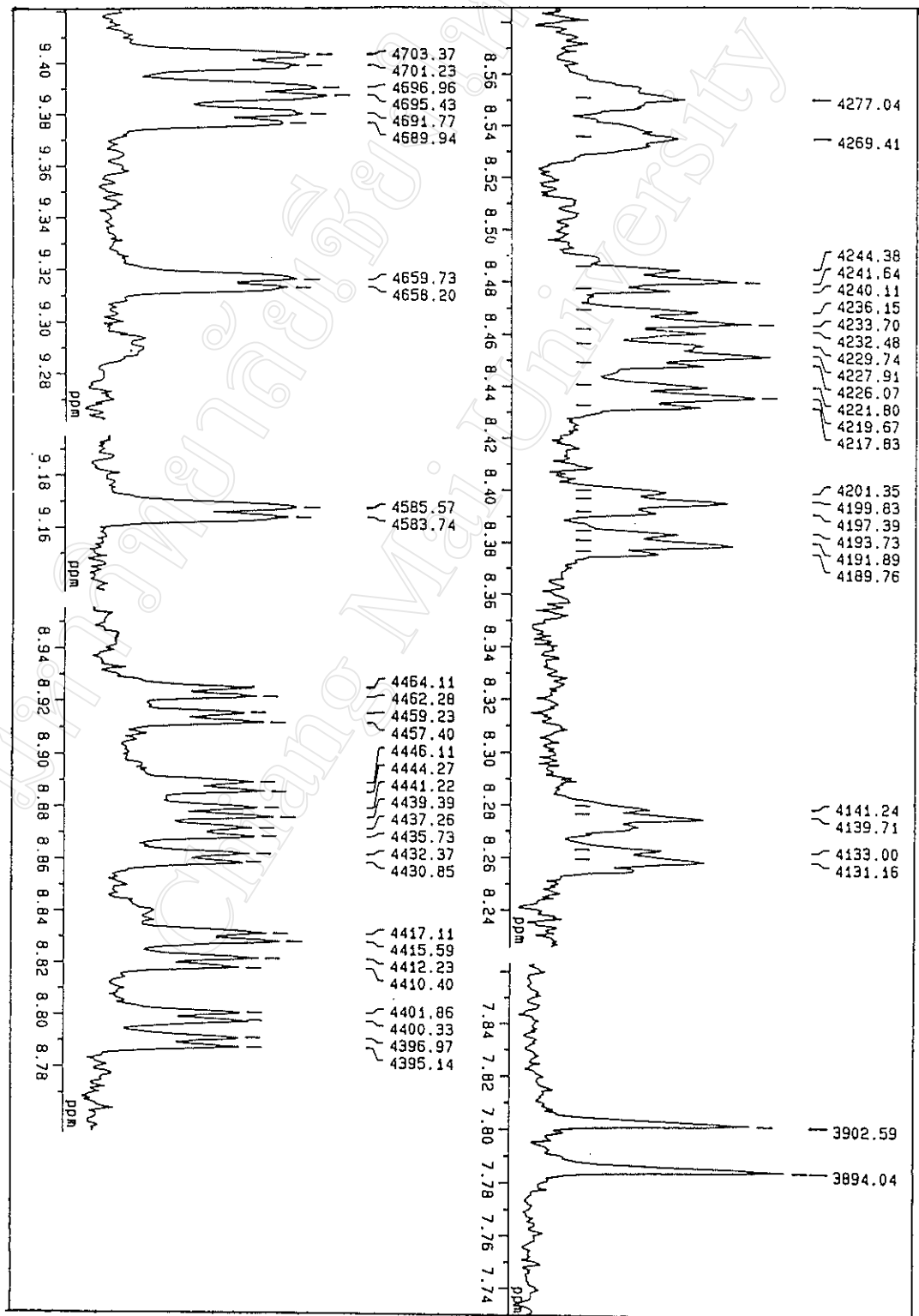




¹H-NMR Spectrum of Morin-3,5,7,2',4'-pentanicotinate


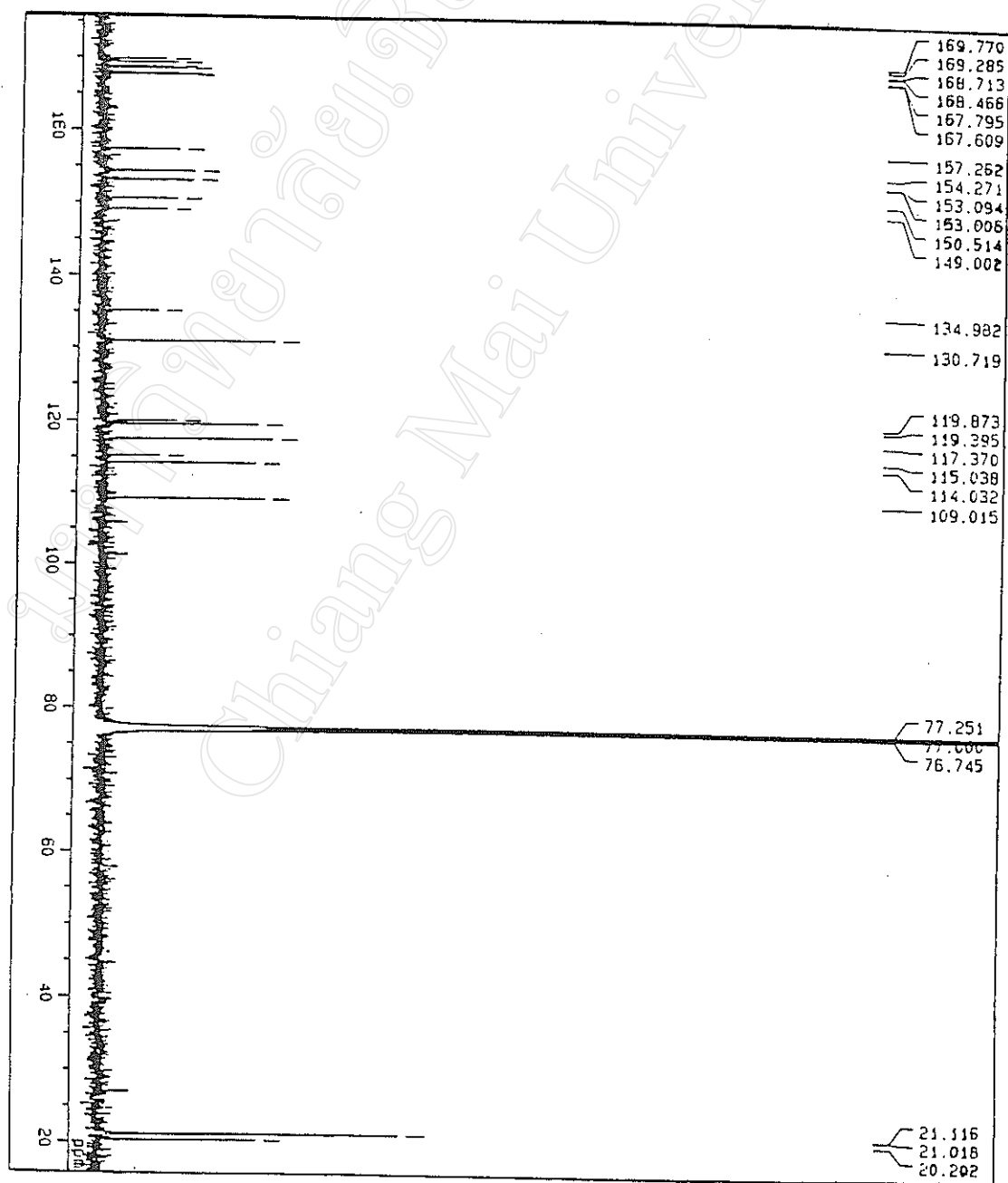


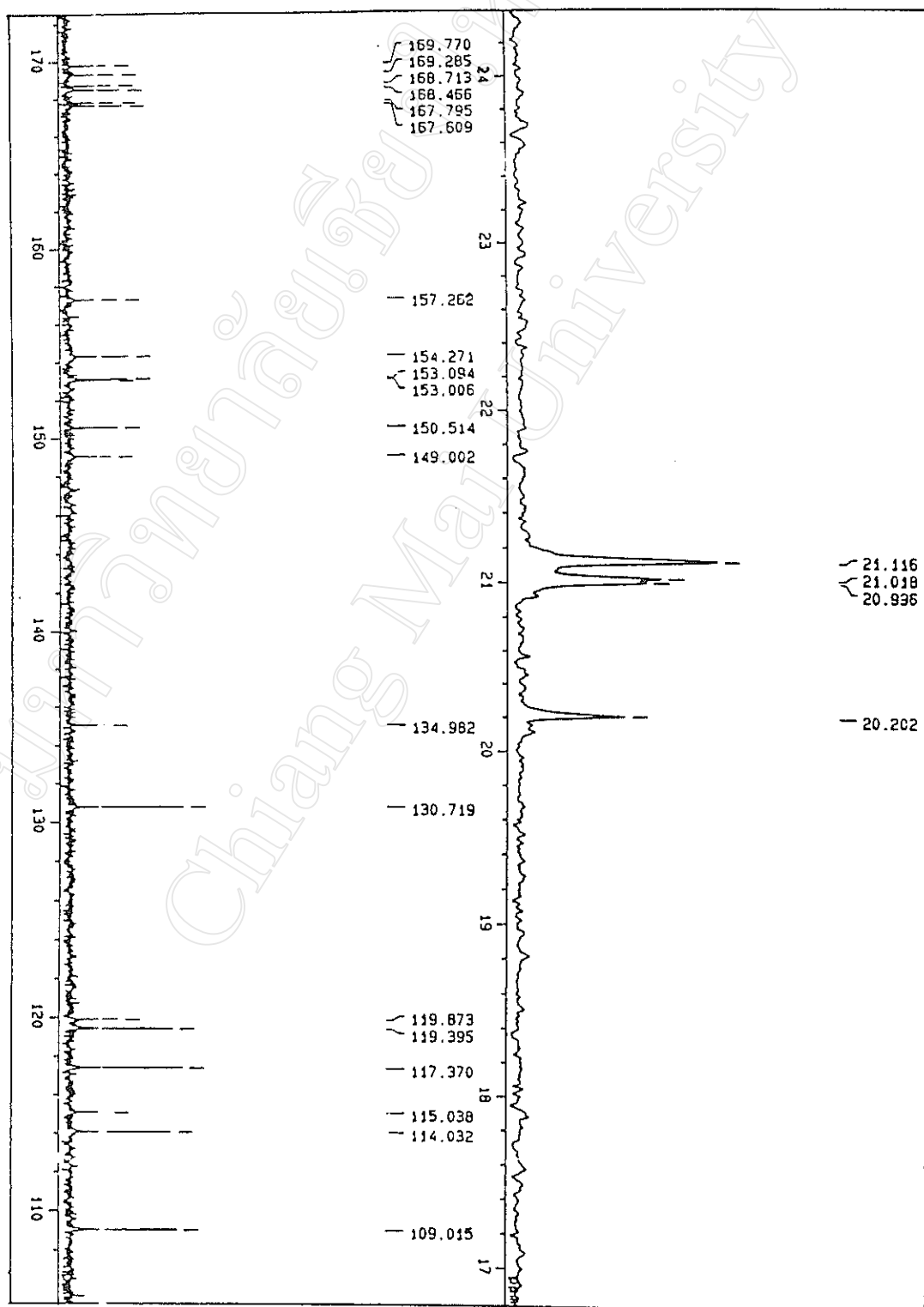




APPENDIX D

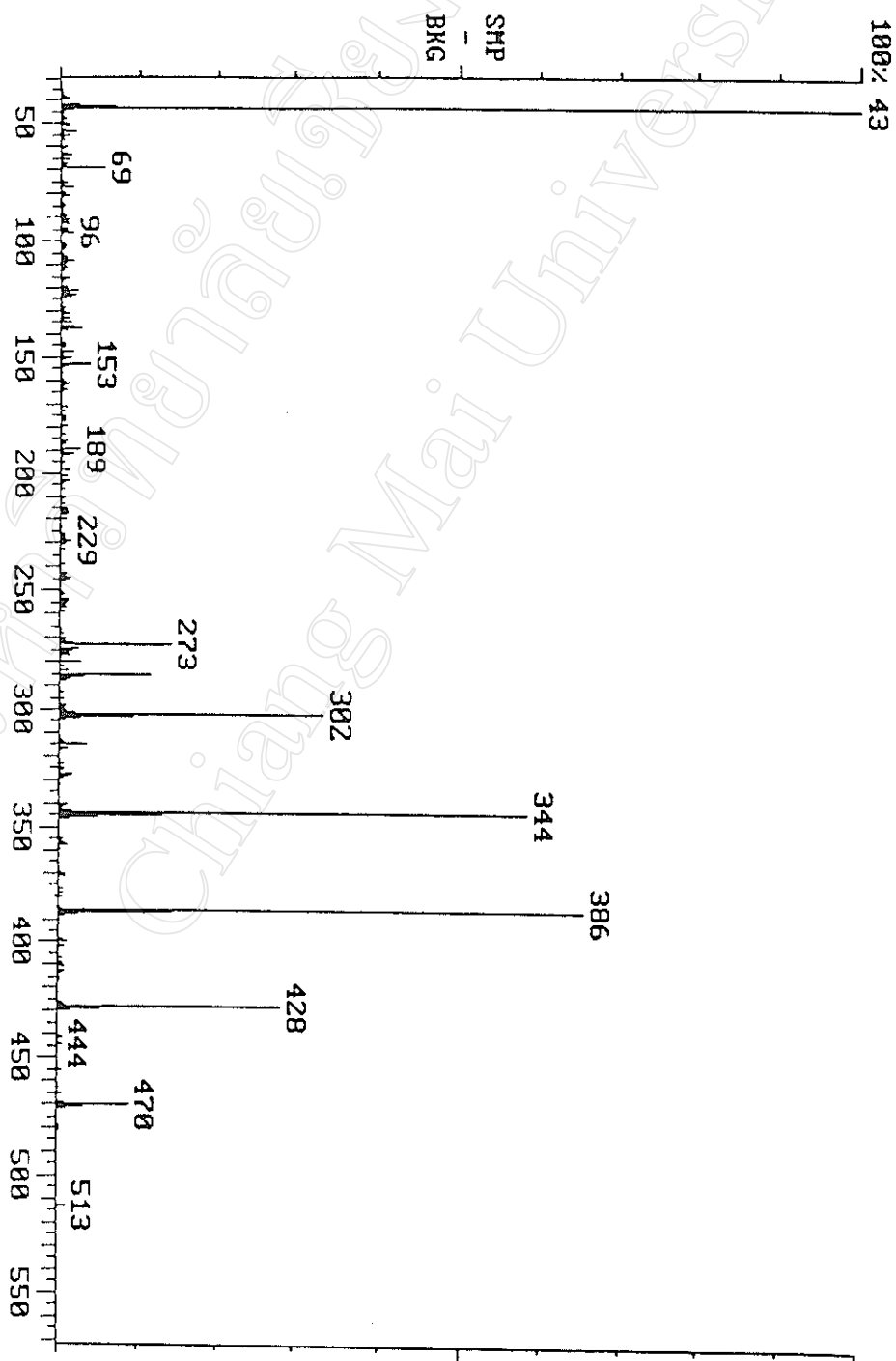
¹³C-NMR Spectrum of Morin-3,5,7,2',4'-pentaacetate





APPENDIX E
MASS SPECTRA

Mass Spectrum of Morin-3,5,7,2',4'-pentaacetate



Mass List (Bkg Sub Spectrum) C:\SATURN\DATA\CHL1-3
 Comment: CHL1 FOR EI MODE
 Average: 361 to 361 Minus: 491 to 555
 # Peaks: 411 Mass of Base Peak: 43 Int: 5835

Date: 88/23/96 14:38:24

Masses:
 Threshold: 0.60%

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
40	35	0.60	186	36	0.62	189	125	2.14
41	133	2.28	187	39	0.67	191	83	1.42
42	399	6.84	188	80	1.37	192	58	0.86
43	5,835	100.00	189	46	0.79	199	48	0.82
44	88	1.51	111	39	0.67	201	43	0.74
48	41	0.70	115	56	0.96	283	57	0.98
50	55	0.94	119	44	0.75	215	37	0.63
51	51	0.87	128	35	0.60	217	68	1.18
53	94	1.61	121	112	1.92	229	69	1.18
55	59	1.01	122	50	0.86	238	37	0.63
68	39	0.67	123	100	1.71	244	63	1.08
62	43	0.74	124	67	1.15	245	52	0.89
63	76	1.30	131	61	1.05			
65	53	0.91	133	59	1.01			
67	42	0.72	135	74	1.27			
69	319	5.47	136	89	1.53			
75	38	0.65	137	144	2.47			
77	83	1.42	138	42	0.72			
81	53	0.91	147	88	1.51			
89	48	0.82	150	67	1.15			
91	58	0.99	153	216	3.70			
93	47	0.81	154	39	0.67			
94	48	0.82	161	51	0.87			
95	46	0.79	171	38	0.65			
96	81	1.39	179	48	0.82			

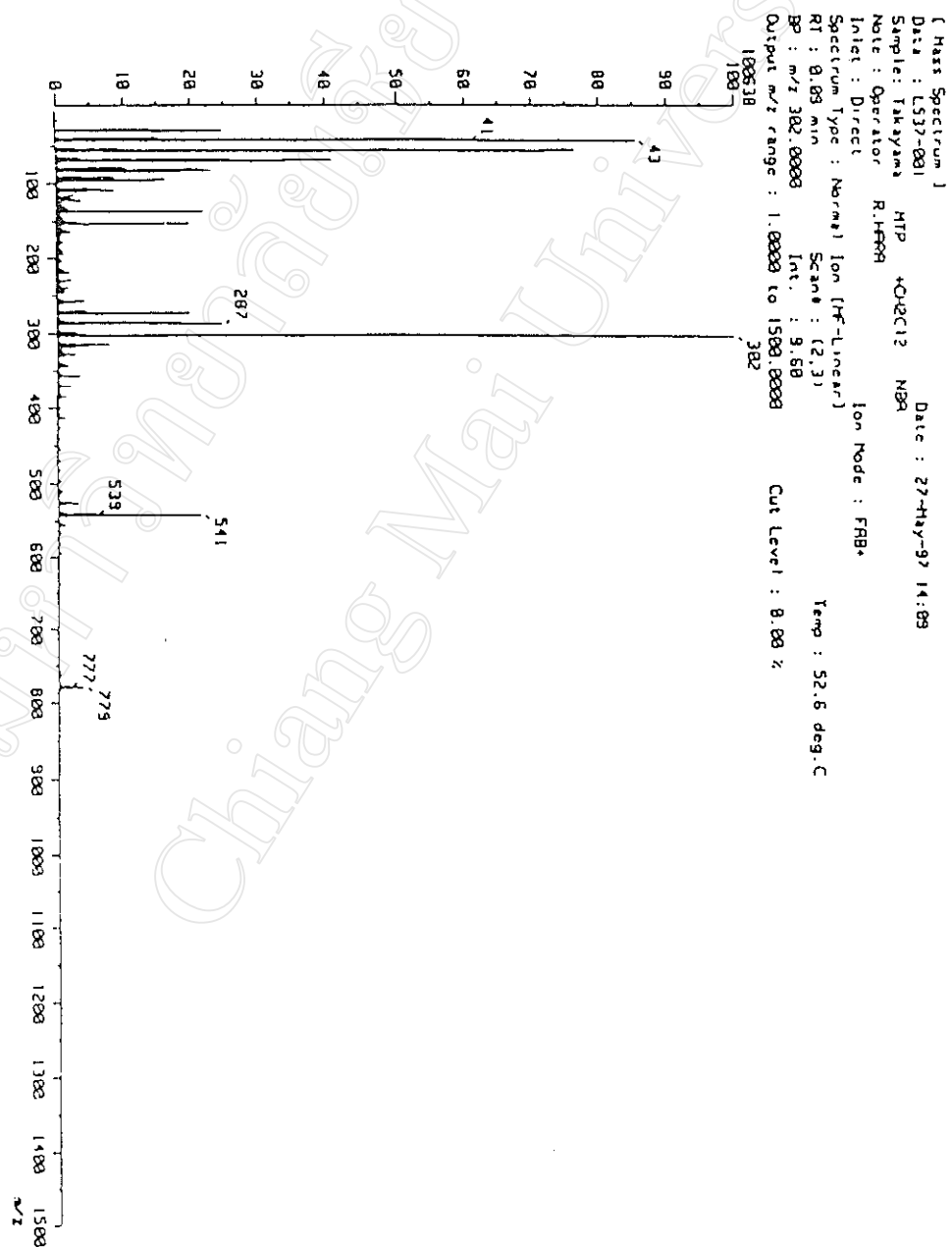
Mass List (Bkg Sub Spectrum) C:\SATURN\DATA\CHL1-3
 Comment: CHL1 FOR EI MODE
 Average: 361 to 361 Minus: 491 to 555
 # Peaks: 411 Mass of Base Peak: 43 Int: 5835

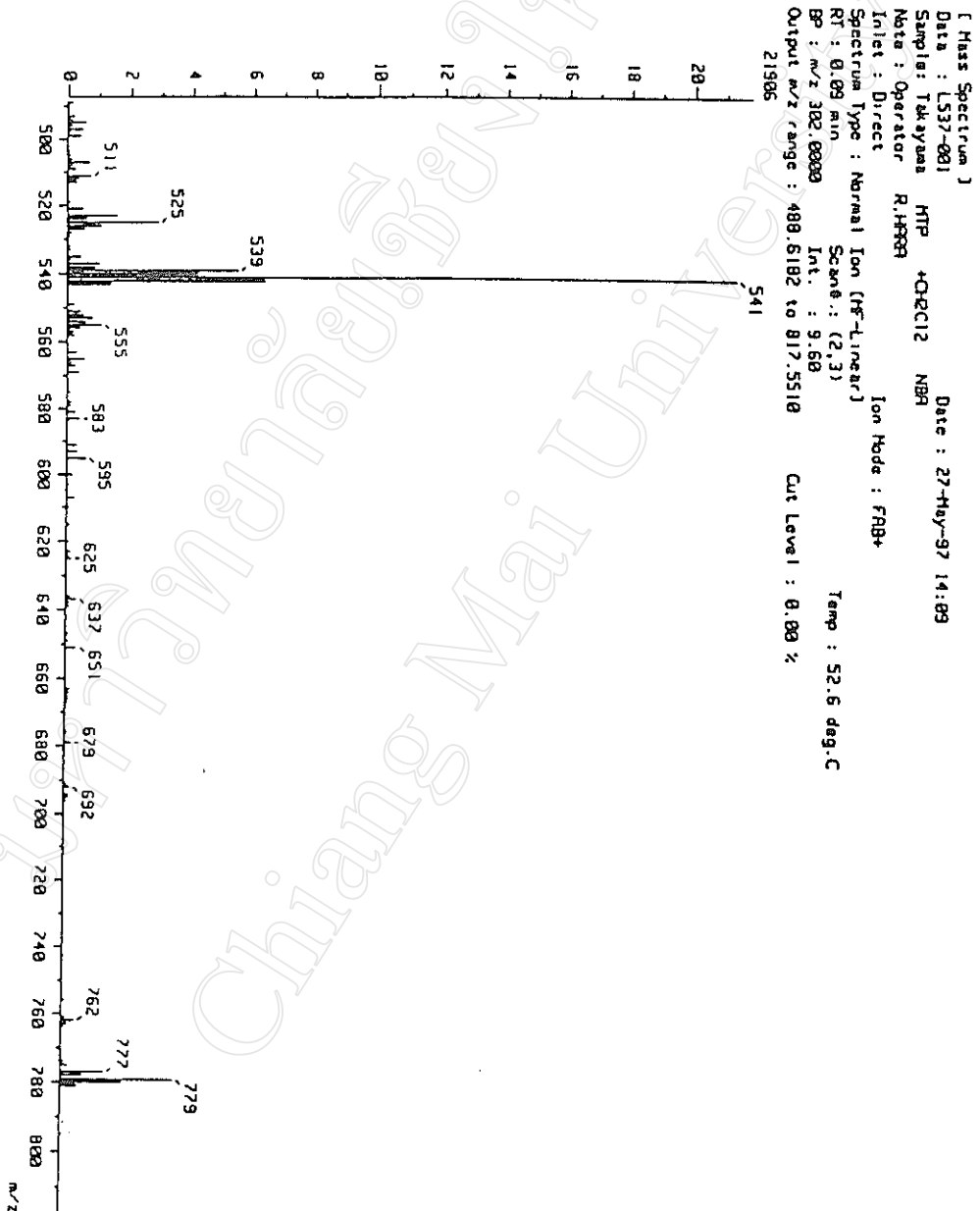
Date: 88/23/96 14:38:24

Masses:
 Threshold: 0.98%

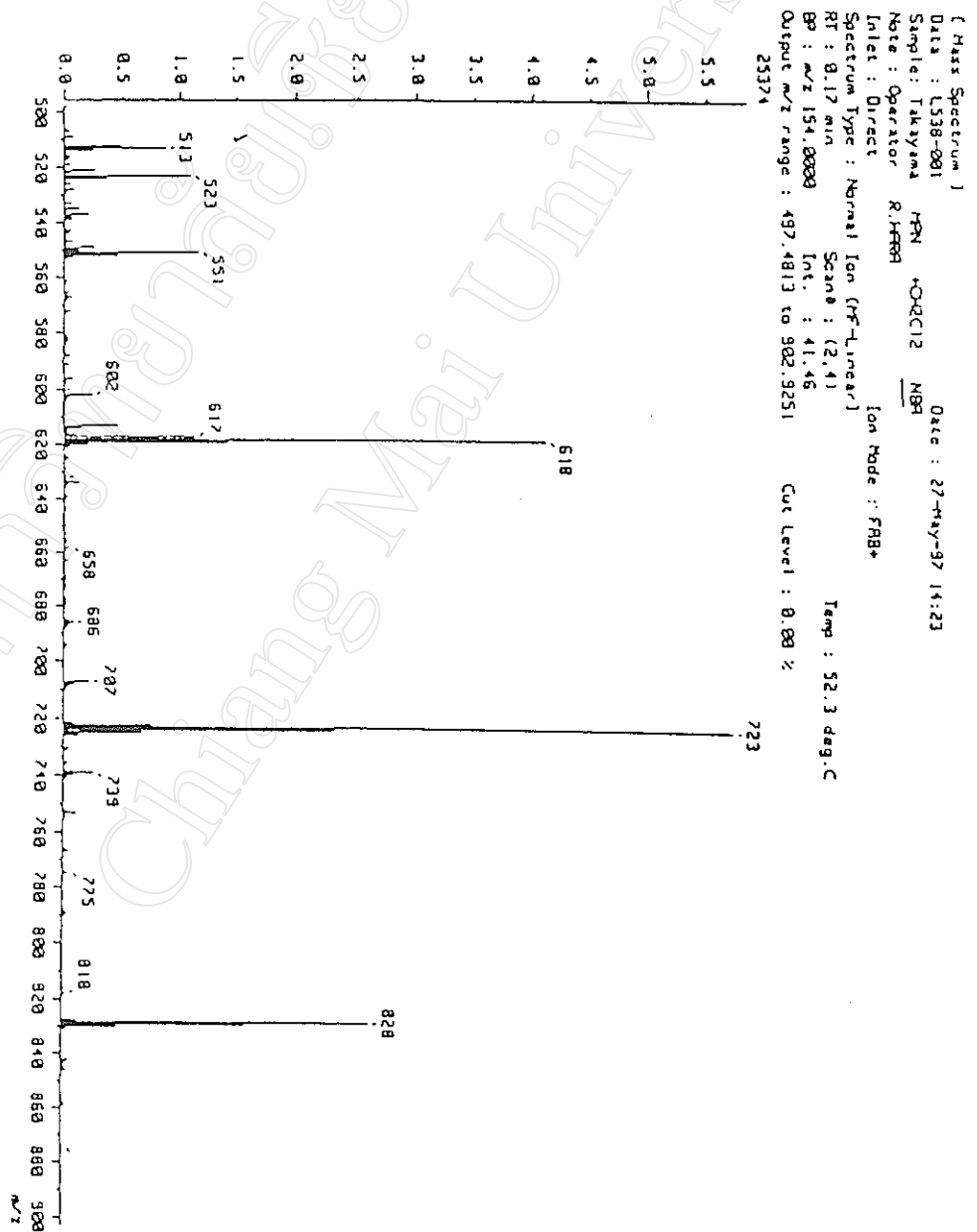
Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
253	53	0.91	388	132	2.26			
272	85	1.46	428	1,641	28.12			
273	889	13.86	429	384	5.21			
274	137	2.35	438	88	1.51			
275	82	1.41	478	511	8.76			
277	64	1.10	471	173	2.96			
288	149	2.55	472	58	0.99			
284	61	1.05	513	56	0.96			
285	655	11.23						
286	164	2.81						
287	72	1.23						
381	182	1.75						
382	1,944	33.32						
383	541	9.27						
384	146	2.50						
315	192	3.29						
316	53	0.91						
327	79	1.35						
343	86	1.47						
344	3,418	58.44						
345	754	12.92						
346	266	4.56						
347	71	1.22						
386	3,829	65.62						
387	833	14.28						

Mass Spectrum of Morin-8,7,2',4'-tetrapalmitate



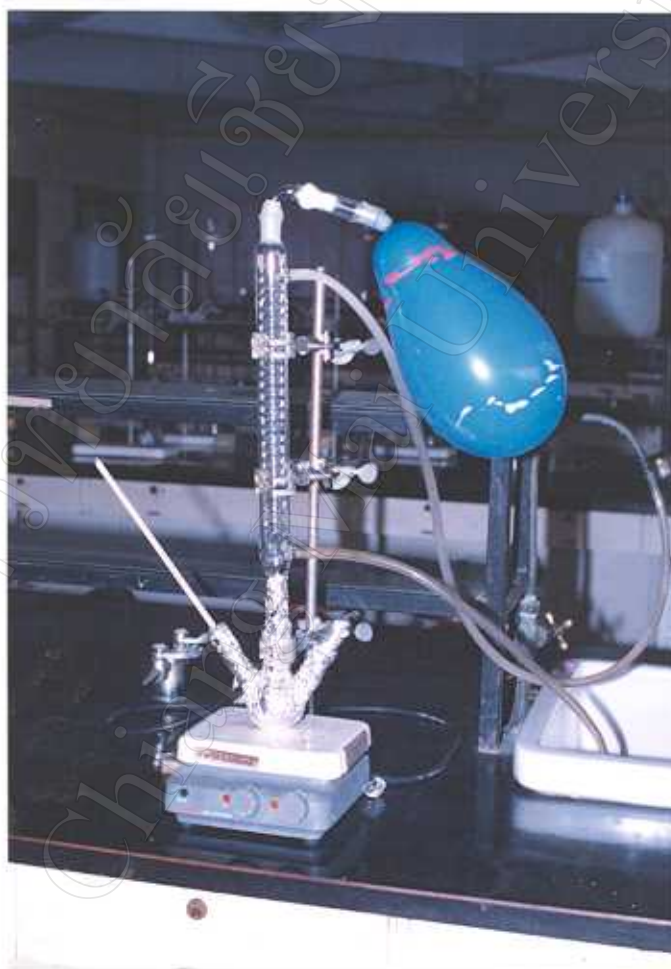


Mass Spectrum of Morin-3,5,7,2',4' - pentanicotinate

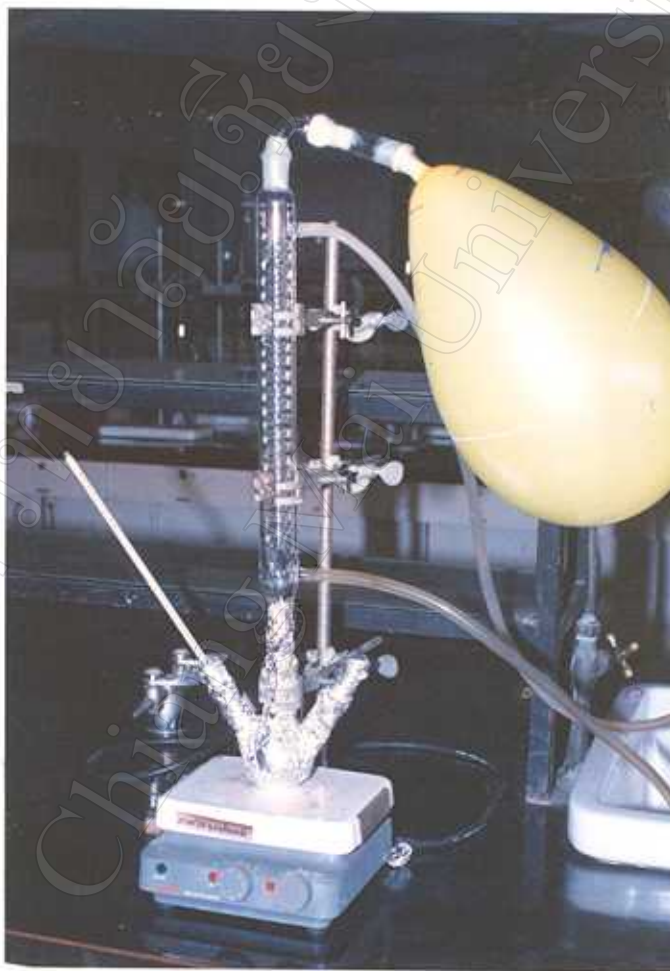


APPENDIX F
REACTION APPARATUSES

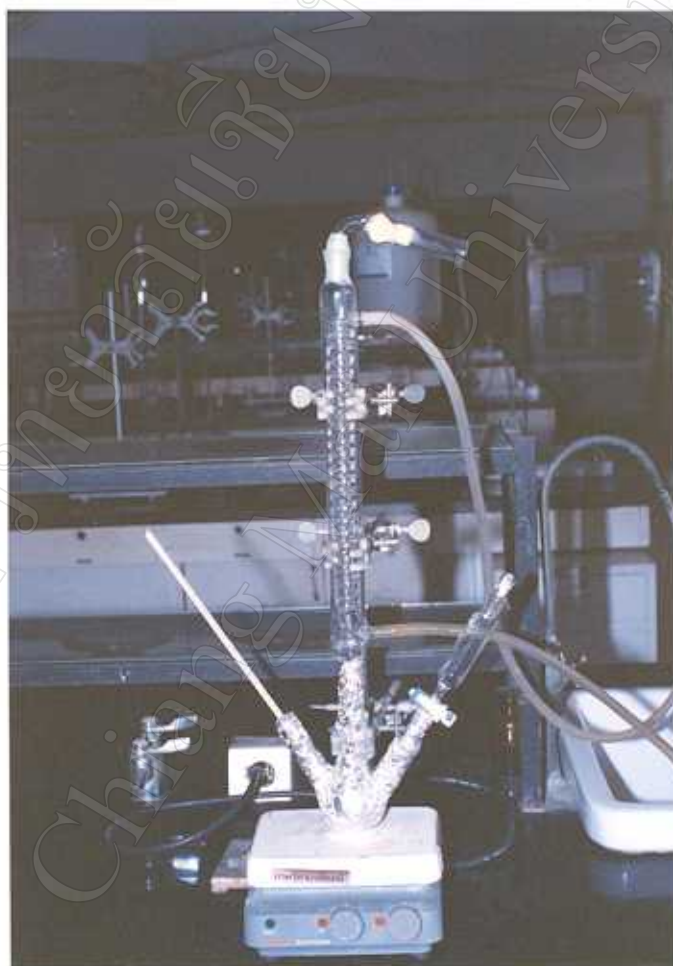
Reaction Apparatuses for Synthesis of
Morin-3,5,7,2',4'-pentaacetate



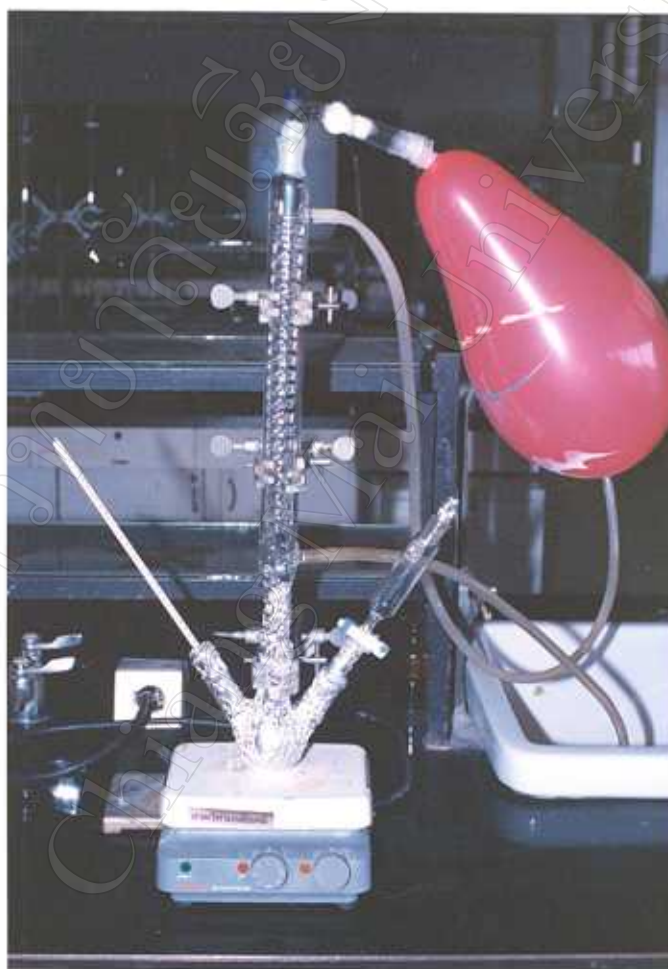
Reaction Apparatuses for Synthesis of
Morin-3,7,2',4'-tetrapalmitate



Reaction Apparatuses for Synthesis of Nicotinoyl chloride



Reaction Apparatuses for Synthesis of
Morin-3,5,7,2,4-pentanicotinate



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