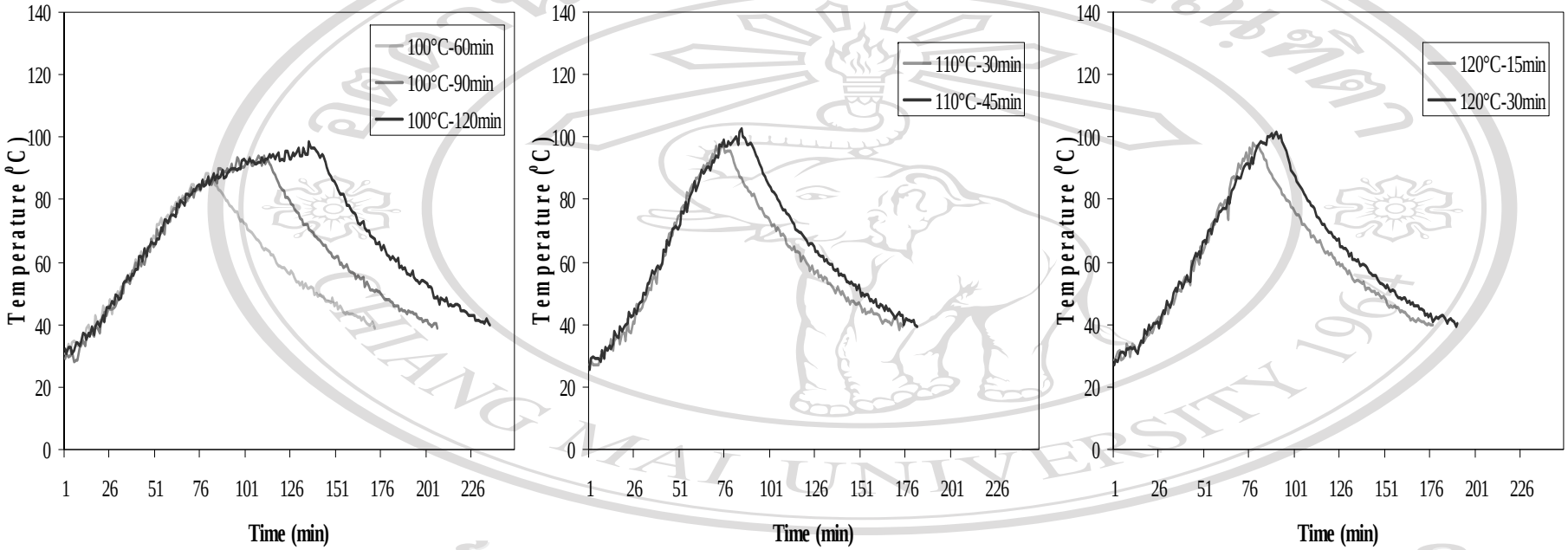
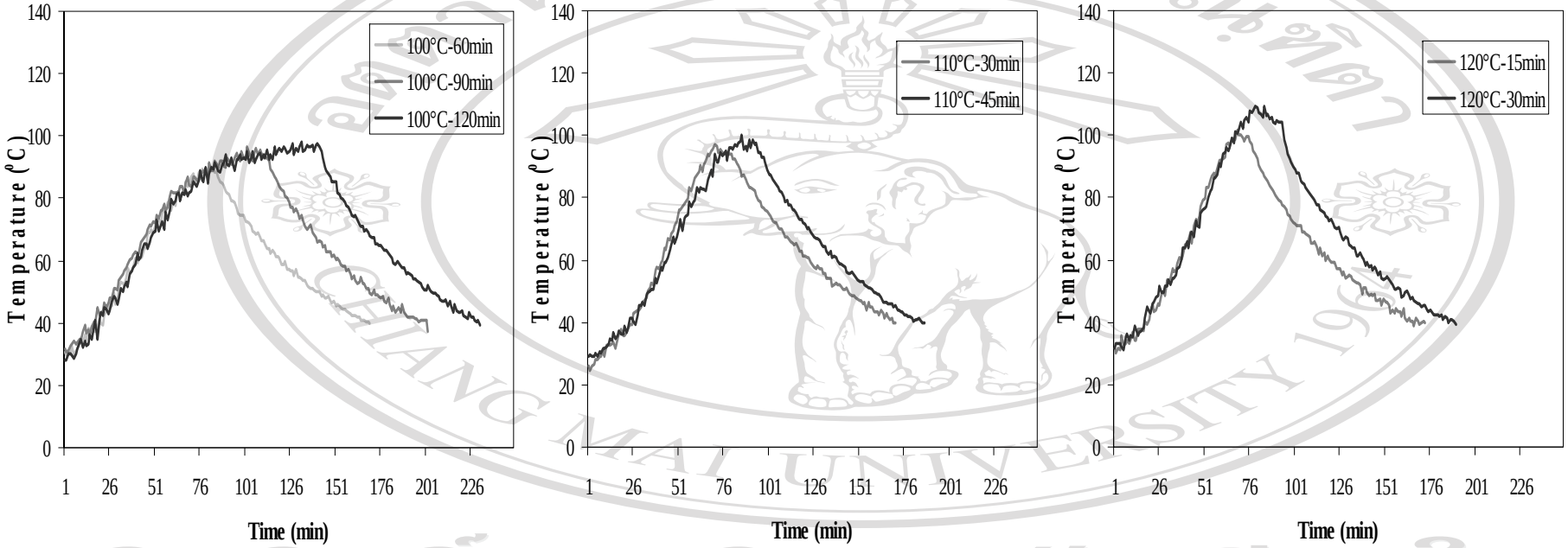
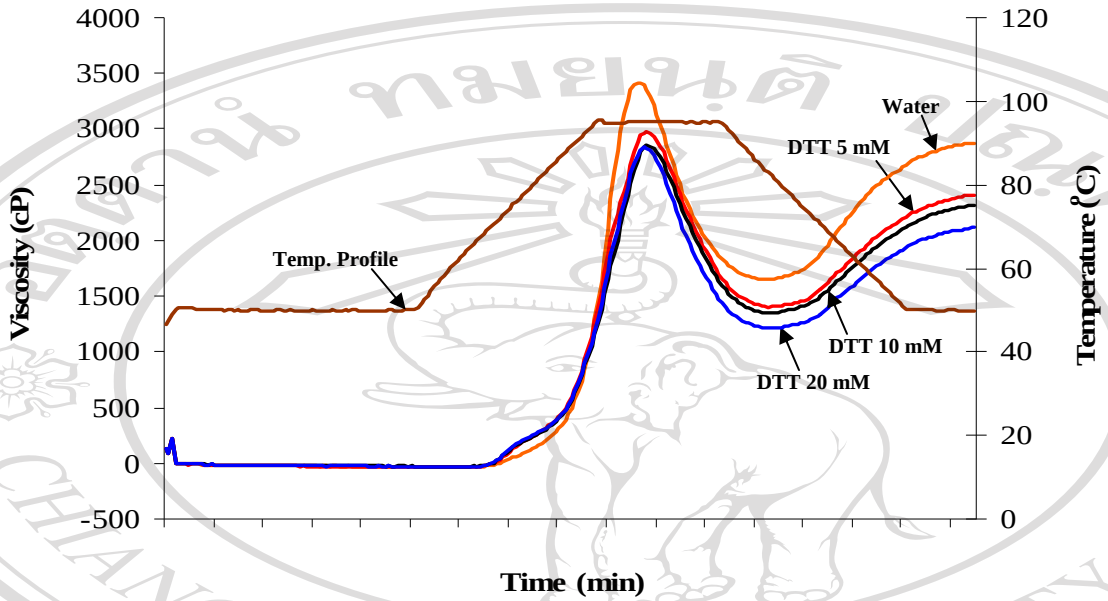
APPENDICES



Appendix 1. Accelerated aging temperature profiles of the ordinary moisture content grain (13.4%) as discussed in Chapter 4, numbers indicate exposure temperature (°C) and duration (min), data collected at the center of the containers.

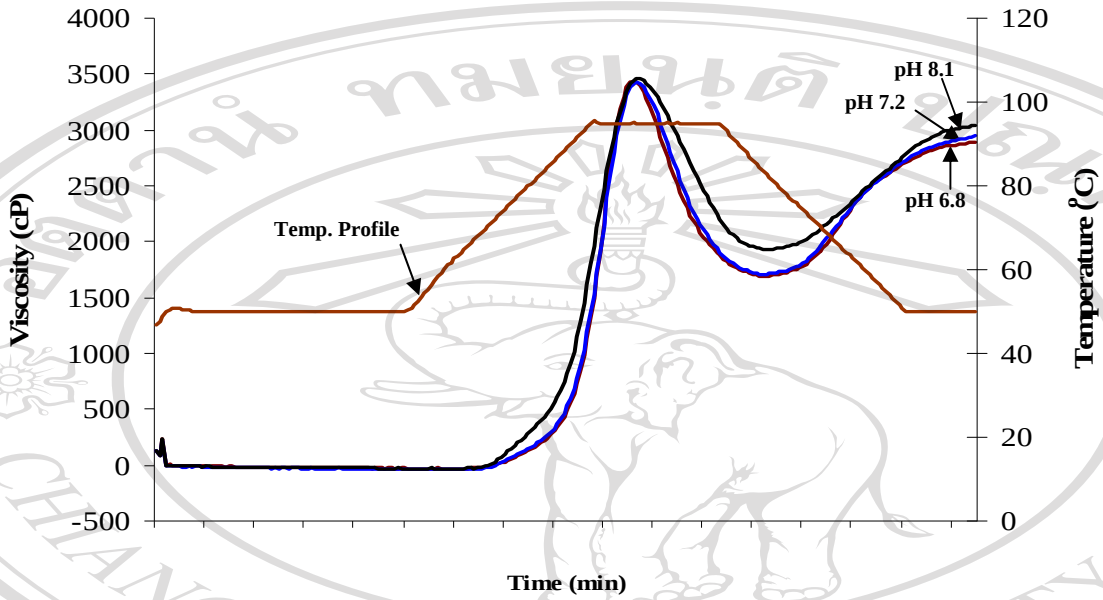


Appendix 2. Accelerated aging temperature profiles of the high moisture content grain (16.6%) as discussed in Chapter 4, numbers indicate exposure temperature (°C) and duration (min), data collected at the center of the containers.



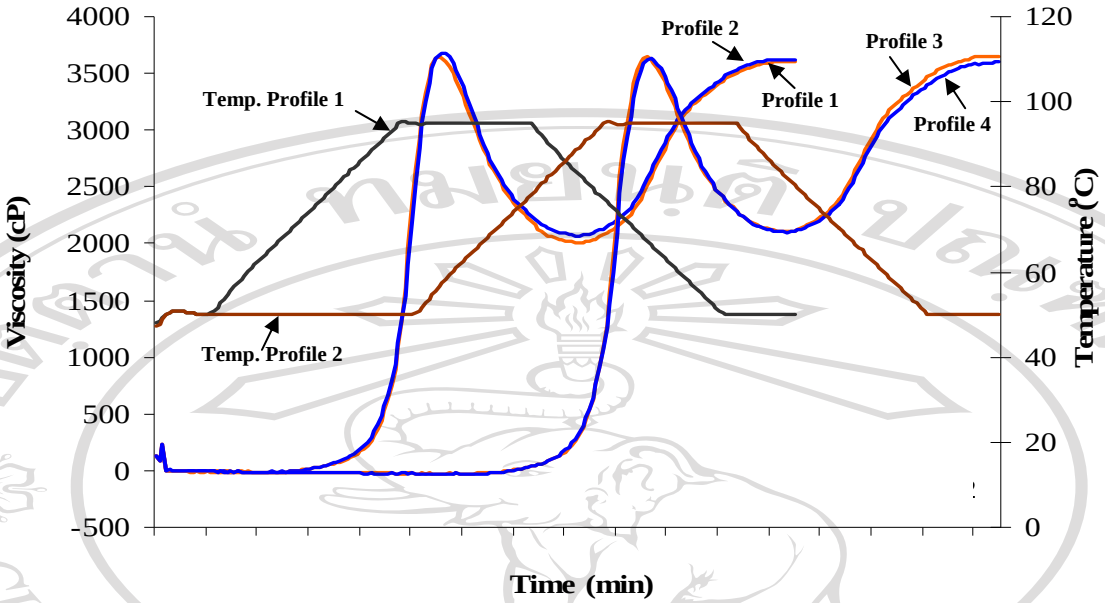
Concentrations	RVA pasting parameters (cP)						
	Peak viscosity	Trough	Breakdown	Final viscosity	Setback	Peak time (min)	Pasting temperature (°C)
Water	3422.00±6.12	1645.67±41.12	1776.33±37.77	2874.33±36.95	-547.67±34.24	9.69±0.027	83.25±0.341
DTT 5mM	2975.00±3.74	1403.67±2.16	1571.33±4.32	2410.67±21.97	-564.33±25.15	9.84±0.027	73.03±0.347
DTT 10mM	2864.67±32.36	1349.00±85.29	1515.67±59.94	2316.67±101.96	-548.00±78.44	9.89±0.072	72.30±0.337
DTT 20mM	2835.33±18.03	1212.33±5.02	1623.00±22.99	2113.33±1.63	-722.00±19.46	9.80±0.000	71.80±0.337

Appendix 3. Effect of different dithiothreitol (DTT) concentrations on RVA pasting property of KDML 105 rice flour.



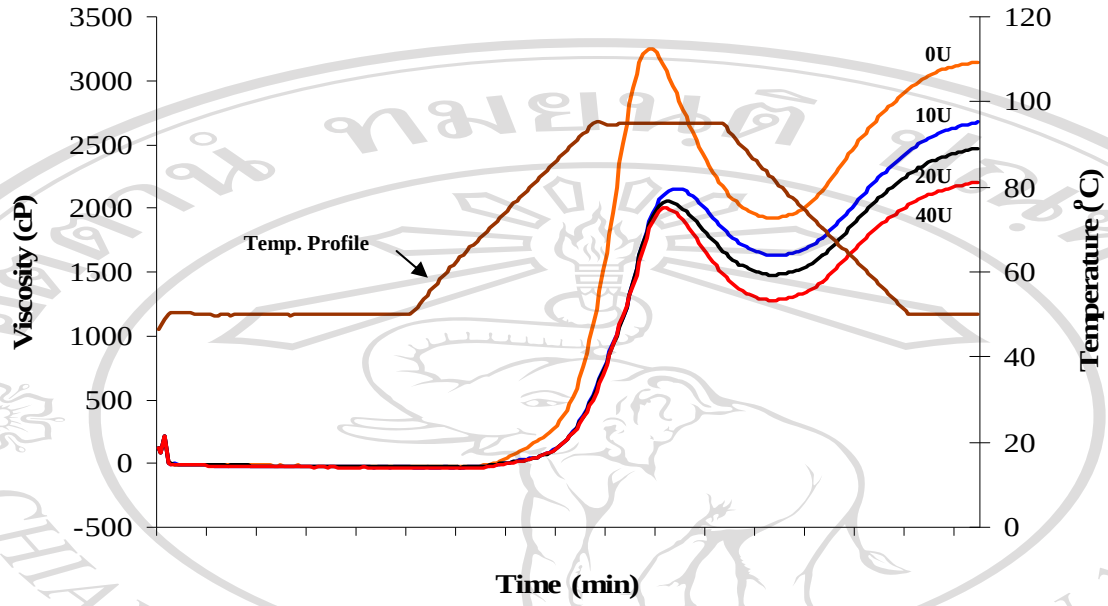
pH of water	RVA pasting parameters (cP)						
	Peak viscosity	Trough	Breakdown	Final viscosity	Setback	Peak time (min)	Pasting Temperature (°C)
pH 6.8	3441.00±23.43	1700.20±26.20	1740.80±12.25	2901.60±23.60	-539.40±9.23	9.71±0.018	83.20±0.547
pH 7.2	3429.00±23.74	1742.60±13.03	1686.40±30.12	2978.00±14.02	-451.00±29.94	9.73±0.024	83.75±0.293
pH 8.1	3469.60±54.58	1889.40±44.63	1580.20±45.96	3022.60±24.65	-447.00±58.81	9.77±0.045	73.79±0.205

Appendix 4. Effect of pH of water on RVA pasting property of KDML 105 rice flour.



RVA run profiles	RVA pasting parameters (cP)						
	Peak viscosity	Trough	Breakdown	Final viscosity	Setback	Peak time (min)	Pasting temperature (°C)
Profile 1	3574.67±45.50	2002.00±25.71	1572.67±53.74	3579.00±20.21	4.33±40.21	5.58±0.027	86.22±0.306
Profile 2	3638.00±26.50	2047.67±73.79	1590.33±80.40	3566.33±86.39	-71.67±85.75	5.69±0.027	85.63±0.071
Profile 3	3666.33±36.18	2079.33±16.57	1587.00±43.15	3644.67±10.23	-21.67±31.82	9.62±0.027	85.60±0.378
Profile 4	3634.33±23.31	2103.33±32.21	1531.00±9.51	3624.33±37.96	-10.00±16.48	9.71±0.027	85.15±0.337

Appendix 5. Effect of RVA run profile and incubation of sample on RVA pasting parameters. Profile 1: method 61-02 (AACC, 2000); 2: method 61-02 and sample incubated in water 2 hr; 3: 5 min extending of initial phase of method 61-02; 4: 5 min extending of initial phase of method 61-02 and sample incubated in water 2 hr.



Conc.	RVA pasting parameters (cP)						
	Peak viscosity	Trough	Breakdown	Final viscosity	Setback	Peak time (min)	Pasting temperature (°C)
0 Unit	3265.00±32.18	1918.33±193.65	1346.67±162.08	3138.67±184.68	-126.33±152.76	9.93±0.047	83.68±1.114
10 Unit	2155.33±63.03	1628.33±86.26	527.00±76.68	2673.00±115.67	517.67±95.19	10.47±0.047	86.97±0.041
20 Unit	2060.67±66.01	1475.33±156.22	585.33±96.08	2470.33±157.76	409.67±93.44	10.31±0.098	88.00±0.306
40 Unit	2004.67±60.57	1277.00±49.24	727.67±107.33	2207.33±59.35	202.67±117.54	10.24±0.027	87.48±0.329

Appendix 6. Effect of different proteinase (trypsin) concentrations on RVA pasting property of KDML 105 rice flour.

PUBLICATIONS

National oral presentation

Pisithkul, K., S. Jongkaewwattana, S. Wongpornchai, V. Tulyathan, and S. Meechoui. 2006. Modifying cooking quality of Khao Dawk Mali 105 rice. Oral presentation in 4th National Seminar on Postharvest/Post Production Technology. The Empress Hotel and Convention Center, Chiang Mai, Thailand, June 8-9.

Journal publications

Pisithkul, K., S. Jongkaewwattana, S. Wongpornchai, V. Tulyathan, and S. Meechoui. 2009. Partial characterization of rice (*Oryza sativa* L.) cv. Khao Dawk Mali 105 as affected by accelerated aging factors. (Chiang Mai University Journal of Natural Science Volume 9 Number 2 July – December, 2010).

Pisithkul, K., S. Jongkaewwattana, S. Wongpornchai, V. Tulyathan, and S. Meechoui. 2009. Effect of accelerated aging treatments on aroma quality and major volatile components of Thai Jasmine rice (Chiang Mai University Journal of Natural Science Volume 9 Number 2 July – December, 2010).

Pisithkul, K., S. Jongkaewwattana, S. Wongpornchai, V. Tulyathan, and S. Meechoui. 2009. Effects of accelerated aging on changes in starch granule morphology, thermal and protein properties, aroma and volatile components of rice cv. KDML 105**.** (In preparation).

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