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APPENDICES

APPENDIX A

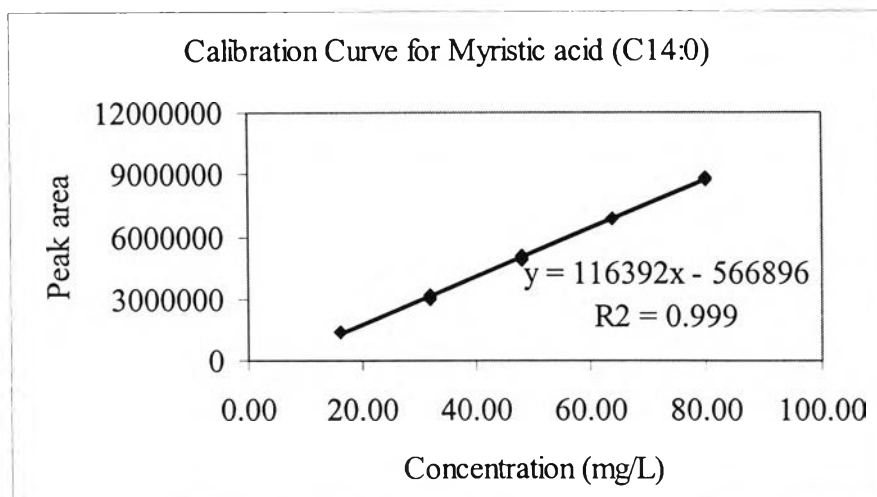


Figure A-1 The calibration curve of Myristic acid by condition in Table 3.4.

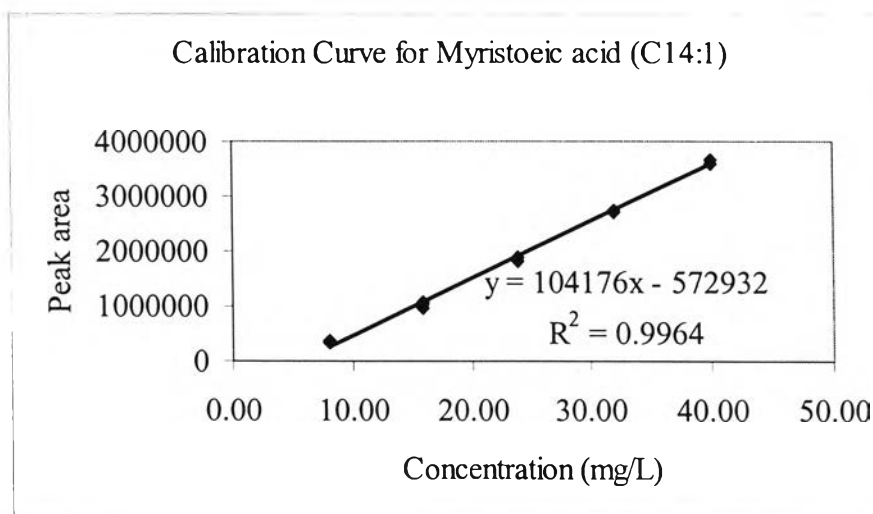


Figure A-2 The calibration curve of Myristoic acid by condition in Table 3.4.

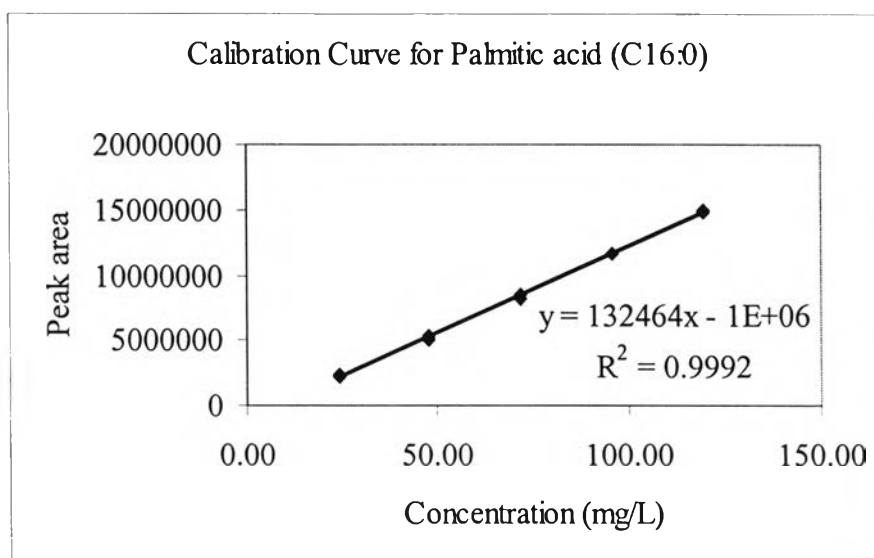


Figure A-3 The calibration curve of Palmitic acid by condition in Table 3.4.

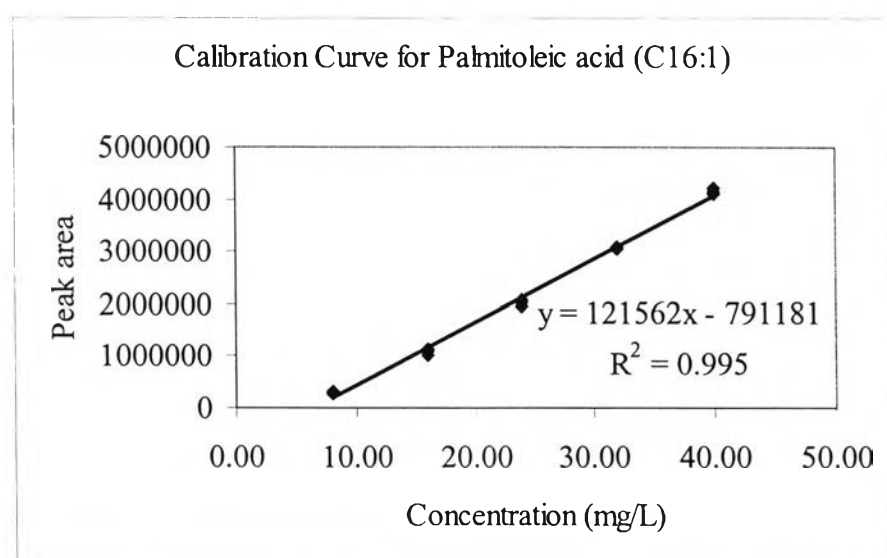


Figure A-4 The calibration curve of Palmitoleic acid by condition in Table 3.4.

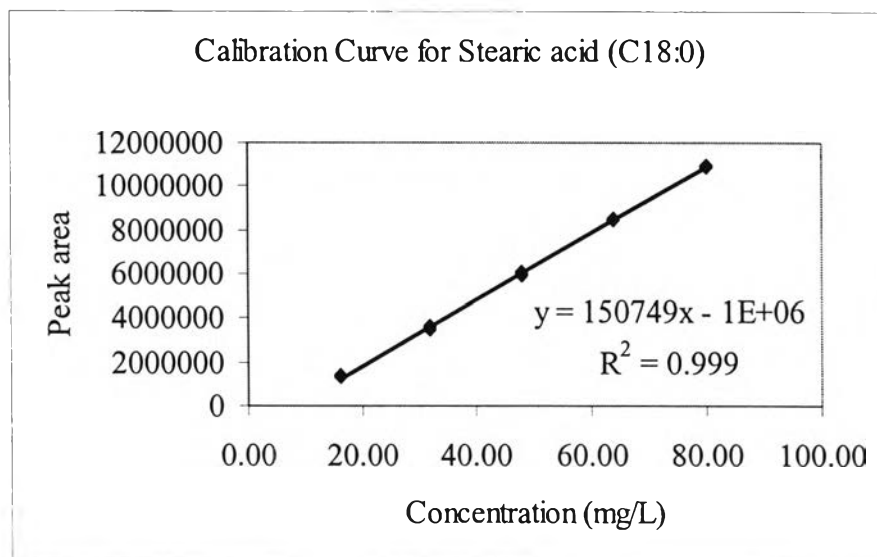


Figure A-5 The calibration curve of Stearic acid by condition in Table 3.4.

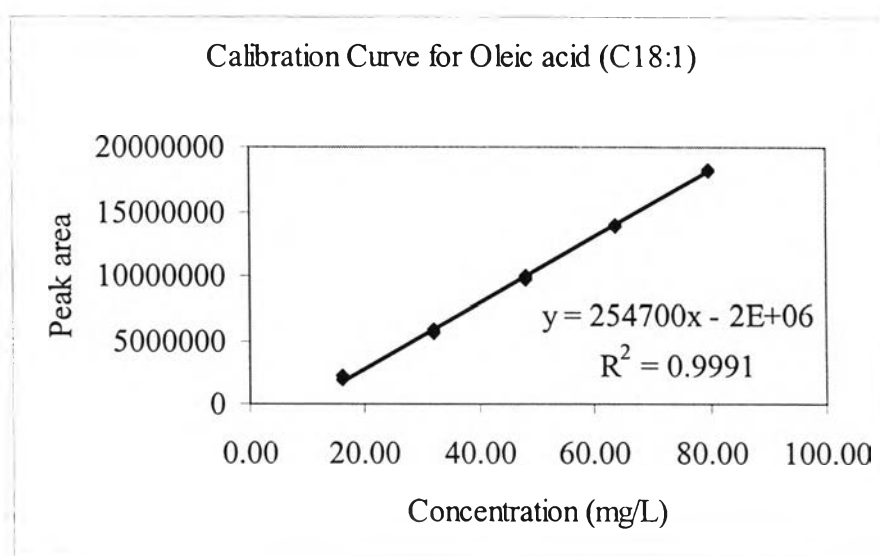


Figure A-6 The calibration curve of Oleic acid by condition in Table 3.4.

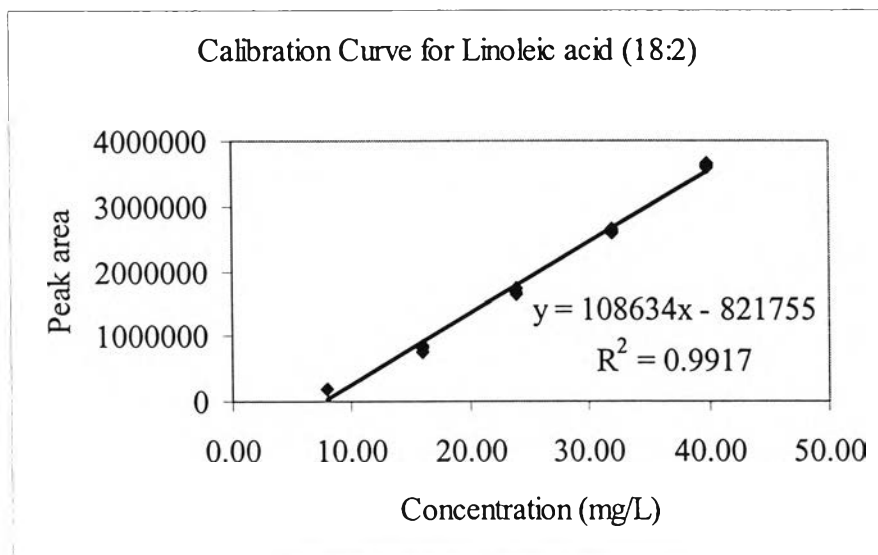


Figure A-7 The calibration curve of Linoleic acid by condition in Table 3.4.

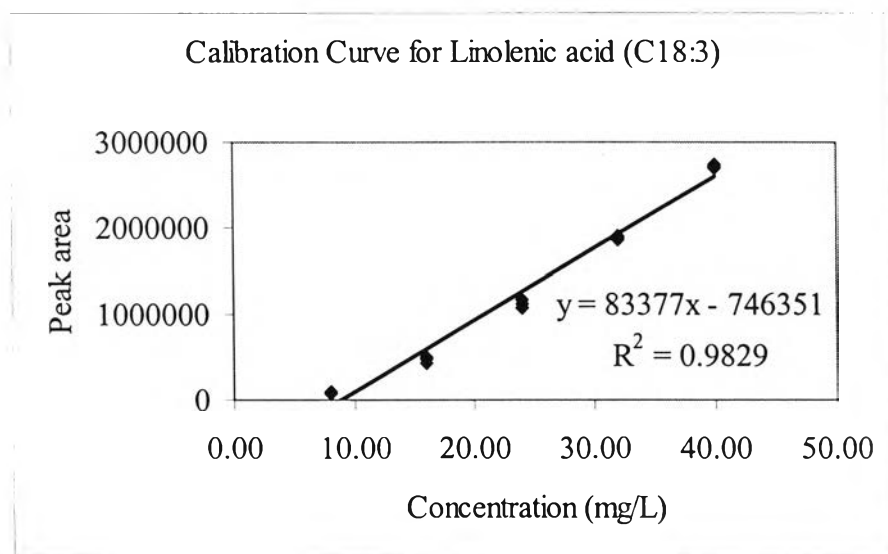


Figure A-8 The calibration curve of Linolenic acid by condition in Table 3.4.

Table B-1 The concentrations of volatile components (ppm) in cow's milk from early lactation.

Name of Cows	Lactation Number	Month of Sampling	Concentration of Volatile Components (ppm)						
			Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
SJ 107	2	JULY	16.279	0.999	13.899	3.937	1.764	3.204	5.467
			19.573	1.235	30.603	7.773	3.579	5.315	6.702
			18.032	0.539	25.264	6.696	3.798	6.638	8.720
		AUG.	10.378	0.612	27.465	7.155	3.202	6.332	8.852
SJ 088	2	JULY	18.293	1.075	18.165	4.747	2.429	6.054	9.091
		AUG.	13.213	1.189	22.883	7.679	3.870	6.288	6.327
			16.465	1.301	18.013	4.889	2.560	6.165	10.507
		SEP.	11.585	0.677	20.417	6.651	3.366	6.704	9.297
SJ 100	2	AUG.	8.391	0.543	16.364	4.699	2.208	4.492	5.921
			10.216	0.643	19.334	5.555	2.805	5.257	8.899
		SEP.	7.912	0.282	16.931	5.811	2.606	6.075	8.023
			11.467	0.828	8.548	2.761	0.942	1.991	5.880
SJ 095	4	AUG.	15.416	0.746	36.991	8.500	3.055	5.521	7.955
			23.304	1.152	21.560	5.674	2.653	5.441	9.068
		SEP.	16.696	0.860	7.809	2.129	2.367	2.484	4.997

Table B-2 The concentrations of volatile components (ppm) in cow's milk from mid lactation.

Name of Cows	Lactation Number	Month of Sampling	Concentration of Volatile Components (ppm)						
			Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
SJ 107	2	SEP.	13.139	0.663	15.042	5.141	2.215	1.910	7.524
		OCT.	12.825	0.504	12.678	3.598	1.483	4.288	4.937
			11.377	0.296	11.097	3.097	1.416	1.864	1.734
		NOV.	14.886	0.480	17.922	5.148	2.342	4.828	4.110
SJ 088	2	OCT.	14.553	0.496	13.409	5.155	0.487	2.276	2.506
		NOV.	12.003	0.930	11.233	1.578	1.339	0.603	1.225
		DEC.	10.912	0.319	9.431	1.546	1.163	0.622	1.760
			11.363	0.391	8.429	3.080	1.640	3.581	3.075
SJ 100	2	NOV.	13.57	0.144	9.30	0.96	0.37	0.57	1.12
			6.683	0.182	9.146	2.240	0.343	0.866	2.415
		DEC.	5.776	0.202	8.735	1.863	0.799	3.209	3.709
			7.705	0.273	17.027	3.554	0.354	6.172	3.841
SJ 095	4	NOV.	12.253	0.576	6.085	0.849	0.579	1.430	1.738
			9.509	0.252	5.204	0.741	0.485	0.688	1.827
		DEC.	14.704	0.363	6.388	1.340	0.461	2.435	2.268

Table B-3 The concentrations of volatile components (ppm) in cow's milk from late lactation.

Name of Cows	Lactation Number	Month of Sampling	Concentration of Volatile Components (ppm)						
			Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
SJ 107	2	DEC.	8.257	0.253	17.131	4.004	1.836	3.055	2.542
			8.859	0.182	12.133	3.194	2.165	7.232	21.408
		JAN.	9.362	0.152	38.914	13.540	9.658	17.159	33.982
		FEB.	10.412	0.345	95.541	24.949	13.040	17.895	46.835
SJ 088	2	JAN.	17.253	0.585	29.361	12.248	8.974	13.900	20.514
			14.653	0.454	54.437	16.610	6.886	15.261	28.944
		FEB.	8.580	0.272	148.134	40.142	14.387	18.151	31.606
			6.943	0.325	207.097	69.434	34.915	27.445	32.219
SJ 100	2	JAN.	4.489	0.278	28.956	11.081	5.381	9.721	17.138
		FEB.	5.658	0.098	50.445	19.770	10.377	14.527	24.814
			5.504	0.218	87.885	22.543	10.498	9.420	19.457
			3.305	0.100	93.473	23.682	12.532	9.058	12.501
SJ 095	4	JAN.	13.584	0.285	40.201	7.536	2.220	3.717	36.852
			11.944	0.264	78.721	10.463	6.502	12.965	34.214
		FEB.	10.346	0.317	97.780	20.315	8.341	14.208	27.931

Table B-4 The concentrations of volatile components (ppm) in cow's milk from lactation 1.

Name of Cows	Farm	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
SJ 141	A	Early	JULY	15.485	0.360	8.283	1.706	1.095	1.586	3.072
				12.529	0.739	6.760	2.205	1.260	2.721	5.381
			AUG.	10.210	0.610	19.033	4.824	2.755	3.559	5.019
				12.649	0.740	16.806	5.121	2.441	4.297	6.172
SJ 141	A	Mid	NOV.	13.479	0.317	9.174	1.416	0.531	1.090	1.770
				13.862	0.325	8.160	1.838	0.675	1.604	2.850
			DEC.	9.593	0.423	4.134	1.925	0.351	0.440	1.289
				8.642	0.110	6.871	1.619	0.485	2.185	0.788
CAN	B	Early	JAN.	20.015	1.966	32.985	9.165	4.493	9.092	22.807
			FEB.	11.438	0.796	43.404	11.259	6.450	11.268	21.298
				10.260	2.974	72.071	16.185	7.424	10.301	19.234
				9.363	2.722	23.971	5.773	19.452	20.010	25.790

Table B-4 (continued).

Name of Cows	Farm	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
019	B	Mid	NOV.	15.587	2.096	5.136	1.279	0.451	0.931	1.859
				12.101	6.893	9.279	2.336	1.309	1.294	0.780
			DEC.	20.099	9.840	23.694	6.222	2.183	3.126	3.956
				15.929	6.276	12.703	3.279	1.314	1.784	2.198
MALEE	C	Early	NOV.	30.639	4.860	10.785	1.788	0.824	1.193	2.741
				53.382	10.205	6.225	0.794	0.335	0.359	2.327
			DEC.	31.852	0.777	8.202	1.299	0.906	1.305	1.797
				43.309	7.378	17.938	3.235	1.507	1.924	5.135

Table B-5 The concentrations of volatile components (ppm) in cow's milk from lactation 2.

Name of Cows	Farm	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
SJ 088	A	Early	JULY	18.293	1.075	18.165	4.747	2.429	6.054	9.091
			AUG.	13.213	1.189	22.883	7.679	3.870	6.288	6.327
				16.465	1.301	18.013	4.889	2.560	6.165	10.507
			SEP.	11.585	0.677	20.417	6.651	3.366	6.704	9.297
SJ 099	A	Mid	JULY	16.373	1.351	14.230	0.710	2.764	7.136	10.251
			AUG	12.955	1.185	24.071	7.062	3.726	8.395	12.115
				11.846	0.920	17.037	5.758	3.015	6.791	11.454
			SEP	9.438	0.640	23.241	8.032	4.151	9.079	12.436
POO	B	Early	JULY	45.116	2.979	20.390	6.577	3.170	5.212	6.592
				23.379	1.637	20.352	6.548	3.417	6.049	7.895
			AUG.	16.416	1.473	14.182	5.212	2.473	4.614	5.940
				12.801	0.306	15.273	5.411	2.463	5.315	8.838

Table B-5 (continued).

Name of Cows	Farm	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
SAENG	B	Mid	JULY	32.176	4.585	18.343	7.330	4.201	8.579	10.274
				48.834	11.490	23.670	7.165	3.559	5.452	7.749
			AUG.	33.210	3.965	20.643	5.093	2.371	3.812	5.988
				12.015	0.220	19.207	5.812	2.927	4.233	6.065
PAENG	C	Early	AUG.	12.624	13.782	21.328	5.489	2.910	5.516	7.727
				13.564	7.446	24.951	8.685	3.510	6.173	11.670
			SEP.	9.032	3.834	10.793	2.241	1.289	2.221	1.892
				16.252	18.025	26.682	5.157	2.630	4.379	8.098

Table B-6 The concentrations of volatile components (ppm) in cow's milk from lactation 3.

Name of Cows	Farm	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
NO 572	A	Early	JULY	8.849	0.057	23.694	6.543	2.712	5.219	6.765
			AUG.	9.835	0.291	32.466	7.373	3.072	5.166	6.935
				9.388	0.120	25.200	6.599	2.688	5.196	8.328
				7.557	0.157	19.286	5.182	2.497	5.466	9.237
SJ 075	A	Mid	AUG.	13.133	1.062	23.778	7.086	3.266	6.997	10.021
				15.001	1.079	14.969	4.793	3.241	6.017	9.888
			SEP.	10.427	0.613	19.439	6.047	3.396	7.354	12.291
				11.529	0.830	7.984	2.302	0.798	1.472	6.331
Nate	B	Early	JUN.	14.140	1.120	38.718	8.503	3.018	3.843	4.264
			JUL.	21.986	3.774	16.134	4.293	1.996	4.071	6.462
			AUG.	11.099	4.467	12.201	3.756	2.280	3.802	9.165
				13.087	0.724	16.044	3.700	1.838	2.626	5.131

Table B-6 (continued).

Name of Cows	Farm	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Nate	B	Mid	SEP.	12.520	0.302	10.757	3.841	1.912	3.165	3.531
			OCT.	14.186	1.210	4.711	0.949	0.347	0.758	1.879
				13.476	2.196	6.670	0.771	0.465	0.710	1.109
				11.209	2.373	3.638	0.993	0.424	0.790	1.565
Reang	C	Early	AUG.	45.296	5.787	63.472	19.639	10.231	10.887	9.058
			SEP.	20.611	8.626	58.924	20.966	12.038	15.037	14.020
				41.202	8.606	27.385	8.100	4.024	7.065	9.197
				35.703	7.673	49.927	16.235	8.764	10.996	10.758

Table B-7 The concentrations of volatile components (ppm) in cow's milk from lactation 4.

Name of Cows	Farm	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
SJ 093	A	Early	NOV.	28.916	1.220	8.215	1.299	0.370	0.710	1.463
				19.349	0.923	6.031	3.089	0.339	0.491	0.885
				21.208	1.834	7.450	1.016	1.388	1.683	2.047
			DEC.	11.312	0.449	5.879	0.766	0.386	1.353	0.843
SJ 095	A	Mid	NOV.	23.114	0.804	6.085	0.849	0.579	1.430	1.738
				11.516	0.292	5.024	0.741	0.430	0.688	1.827
				12.253	0.576	8.245	3.319	0.870	2.435	2.268
			DEC.	9.509	0.252	5.204	0.928	0.485	0.743	1.126
Bum	B	Early	JULY	18.875	2.092	15.662	5.574	3.337	6.045	9.208
				35.113	5.011	16.987	5.112	2.360	3.987	5.543
			AUG.	20.827	5.570	16.349	4.906	5.224	4.651	6.073
				8.934	0.083	26.507	6.636	3.458	5.227	6.021

Table B-7 (continued).

Name of Cows	Farm	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Dee	B	Mid	SEP.	23.503	7.853	9.107	1.492	0.944	1.780	1.487
			OCT.	16.944	1.124	9.988	3.052	1.632	3.219	11.638
				21.992	3.213	6.006	1.180	0.895	1.169	1.786
				15.813	0.808	6.715	1.211	0.501	0.930	1.922
Diana	C	Early	DEC.	24.295	0.896	12.892	5.856	15.967	35.090	21.280
			JAN.	21.893	1.354	33.242	10.534	5.996	29.034	33.380
				10.356	0.466	213.658	52.704	19.122	24.263	24.552
				9.911	1.432	201.138	63.784	32.157	32.958	33.907

Table B-8 The concentrations of volatile components (ppm) in cow's milk from lactation 5.

Name of Cows	Farm	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
581	A	Early	OCT.	18.405	0.521	6.838	0.987	0.467	1.332	1.521
			NOV.	18.495	1.309	14.412	3.524	1.603	4.276	4.726
			DEC.	17.978	0.813	14.194	2.916	1.595	2.184	2.285
				14.994	0.597	9.233	2.404	1.719	2.970	6.985
581	B	Mid	JAN.	11.540	0.308	28.022	12.026	5.322	13.532	38.606
			FEB.	11.486	0.377	96.517	24.275	9.710	17.169	34.196
				8.275	0.275	153.779	40.809	15.021	20.902	32.703
				7.096	0.228	153.535	40.459	21.256	13.360	16.923
Fang	C	Early	JULY	43.407	2.540	27.678	7.408	4.504	7.581	8.519
				39.156	3.751	20.593	6.132	4.930	6.543	6.661
			AUG.	31.738	2.582	23.962	5.983	2.131	5.437	7.425
				27.487	3.793	16.876	4.708	2.557	4.399	5.567

Table B-8 (continued).

Name of Cows	Farm	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Reang	B	Mid	NOV.	16.898	2.287	6.261	1.110	0.389	1.182	1.784
				11.413	1.074	4.715	0.756	0.325	0.348	1.227
			DEC.	14.241	1.465	6.280	0.813	0.299	0.857	1.407
				12.207	2.900	5.214	1.518	2.167	1.095	2.412
Sugar	C	Early	AUG.	84.694	15.137	46.899	13.132	7.457	9.213	12.404
			SEP.	70.792	18.943	22.180	6.309	3.493	4.833	6.595
				31.148	19.352	21.946	5.481	2.647	2.743	1.968
			OCT.	35.656	1.550	23.444	7.107	4.057	5.486	12.558

Table B-9 The concentrations of volatile components (ppm) in cow's milk from cow fed grass and hay as roughage.

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
SJ 141	1	Early	JUL.	15.485	0.360	8.283	1.706	1.095	1.586	3.072
				12.529	0.739	6.760	2.205	1.260	3.559	5.019
			AUG.	12.649	0.610	16.806	5.121	2.441	4.297	6.172
			SEP.	9.432	0.740	19.626	5.565	2.705	5.351	7.572
SJ 137	1	Early	SEP.	17.185	0.301	10.013	2.855	0.757	1.778	4.692
			OCT.	9.057	0.155	10.008	3.112	1.522	2.975	9.939
				25.551	0.200	8.891	1.335	0.711	0.725	1.614
			NOV.	15.719	0.778	4.447	1.980	0.591	1.320	1.264
SJ 120	1	Late	JULY	20.471	1.402	17.295	6.047	2.164	4.816	7.031
				22.985	1.074	19.717	5.379	2.663	5.295	6.324
				18.856	0.944	18.761	5.422	2.917	4.334	5.775
				19.242	0.648	19.995	5.658	2.625	5.251	9.361

Table B-9 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
SJ 088	2	Early	JULY	18.293	1.075	18.165	4.747	2.429	6.054	9.091
			AUG.	13.213	1.189	22.883	7.679	3.870	6.288	6.327
				16.465	1.301	18.013	4.889	2.560	6.165	10.507
			SEP.	11.585	0.677	20.417	6.651	3.366	6.704	9.297
SJ 104	2	Early	SEP.	26.765	0.625	5.604	1.436	0.424	0.935	5.424
			OCT.	16.971	0.609	19.053	7.297	2.832	4.634	10.437
				15.732	0.196	10.133	1.478	0.644	1.201	2.742
			NOV.	16.049	0.380	4.366	1.448	0.375	0.542	1.935
SJ 124	2	Early	OCT.	13.626	0.229	6.580	1.010	0.387	0.493	0.957
			NOV.	10.825	0.424	7.772	1.281	0.713	0.578	0.913
				7.306	0.138	6.283	1.519	0.470	1.516	1.315
			DEC.	9.786	0.239	8.246	1.362	0.445	0.736	1.381

Table B-9 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
SJ 116	2	Early	OCT.	27.41	0.54	7.07	0.89	0.44	0.52	1.93
			NOV.	26.24	1.134	6.69	0.96	0.42	0.34	2.43
				15.931	1.574	4.812	0.887	0.751	3.648	4.150
			DEC.	14.014	0.487	9.375	0.898	1.140	4.613	3.113
SJ 088	2	Mid	OCT.	14.553	0.496	13.409	5.155	0.487	2.276	2.506
			NOV.	12.003	0.930	11.233	1.578	1.339	0.603	1.225
			DEC.	10.912	0.319	9.431	1.546	1.163	0.622	1.760
				11.363	0.391	8.429	3.080	1.640	3.581	3.075
SJ 104	2	Mid	NOV.	14.140	0.488	4.432	2.705	1.399	2.824	4.117
				17.212	0.477	7.325	9.343	3.022	3.307	3.608
			FEB.	9.035	0.356	52.767	20.482	10.911	14.528	29.239
				7.659	0.138	80.291	21.809	11.054	16.850	34.015

Table B-9 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
SJ 099	2	Mid	JULY	16.373	1.351	14.230	0.710	2.764	7.136	10.251
			AUG	12.955	1.185	24.071	7.062	3.726	8.395	12.115
			SEP	11.846	0.920	17.037	5.758	3.015	6.791	11.454
				9.438	0.640	23.241	8.032	4.151	9.079	12.436
SJ 077	2	Mid	AUG	17.270	1.090	15.837	5.371	2.773	6.244	8.641
			SEP.	12.899	0.956	22.787	8.446	1.063	6.996	9.974
				13.063	0.762	13.630	6.030	2.492	5.620	8.392
			OCT.	8.979	0.349	8.454	2.519	1.131	2.028	3.523
SJ 107	2	Late	DEC.	8.257	0.253	17.131	4.004	1.836	3.055	2.542
				8.859	0.182	12.133	3.194	2.165	7.232	21.408
			JAN.	9.362	0.207	38.914	13.540	9.658	17.159	33.295
			FEB.	10.412	0.345	95.541	24.949	13.040	17.895	46.835

Table B-9 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
NO 572	3	Early	JULY	8.849	0.057	23.694	6.543	2.712	5.219	6.765
			AUG.	9.835	0.291	32.466	7.373	3.072	5.166	6.935
				9.388	0.120	25.200	6.599	2.688	5.196	8.328
				7.557	0.157	19.286	5.182	2.497	5.466	9.237
NO 662	3	Early	OCT.	45.141	0.356	4.091	0.240	0.402	0.638	0.808
			NOV.	37.951	0.308	5.441	0.917	0.380	0.336	1.945
			DEC.	17.202	0.373	9.812	0.840	0.435	0.306	1.513
				14.803	0.586	10.100	2.303	0.538	2.163	2.763
SJ 075	3	Mid	AUG.	13.133	1.062	23.778	7.086	3.266	6.997	10.021
				15.001	1.079	14.969	4.793	3.241	6.017	9.888
			SEP.	10.427	0.613	19.439	6.047	3.396	7.354	12.291
				11.529	0.830	7.984	2.302	0.798	1.472	6.331

Table B-9 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
NO 662	3	Mid	JAN.	15.186	0.503	55.238	18.358	15.408	15.983	17.363
				14.510	0.448	34.272	12.360	5.144	13.771	30.152
			FEB.	11.245	0.323	65.081	19.425	8.310	16.222	28.496
				7.717	0.350	102.064	25.943	9.774	15.413	24.912
SJ 093	4	Early	NOV.	28.916	1.220	8.215	1.299	0.370	0.710	1.463
				19.349	0.923	6.031	3.089	0.339	0.491	0.885
			DEC.	21.208	0.449	7.450	1.016	1.388	1.683	2.047
				15.469	0.986	5.879	0.766	0.386	1.353	0.843
SJ 095	4	Mid	NOV.	11.516	0.804	6.085	0.849	0.579	1.430	1.738
				12.253	0.576	5.024	0.741	0.430	0.688	1.827
			DEC.	9.509	0.252	5.204	0.928	0.485	2.435	2.268
				14.704	0.363	6.388	1.340	0.461	4.344	4.149

Table B-9 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
NO 581	5	Mid	JAN.	11.540	0.308	28.022	12.026	5.322	13.532	38.606
			FEB.	8.275	0.377	96.517	24.275	9.710	17.169	34.196
				6.960	0.275	153.779	40.809	15.021	20.902	21.813
				7.096	0.228	153.535	40.459	21.256	20.521	16.923
SJ 030	6		OCT.	10.800	0.126	7.185	0.865	0.388	0.473	0.797
			NOV.	6.938	0.101	6.033	1.696	0.423	0.733	0.838
				7.417	0.329	7.027	1.405	0.637	0.377	0.872
			DEC.	7.766	0.278	7.082	1.186	0.685	0.337	1.693

Table B-10 The concentrations of volatile components (ppm) in cow's milk from cow fed corn silage as roughage.

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Can	1	Early	JAN.	11.438	1.966	32.985	9.165	4.493	9.092	22.807
			FEB.	7.636	0.796	43.404	11.259	6.450	11.268	21.298
				10.260	2.974	89.753	16.512	6.280	8.825	19.234
				9.363	2.722	72.071	16.185	7.424	10.301	25.790
Coffee	1	Early	JAN.	18.307	2.445	18.700	8.386	3.917	8.370	26.985
			FEB.	15.841	3.705	74.763	15.406	8.025	14.832	28.137
				12.255	1.932	94.924	19.218	7.798	11.787	20.635
				10.022	1.634	63.057	14.419	6.487	17.693	25.845
331	1	Late	AUG.	20.056	1.226	11.289	4.695	2.398	4.131	7.426
				16.520	0.905	19.281	4.283	1.718	2.322	6.374
			SEP.	10.625	0.418	4.647	0.852	0.384	0.905	1.917
				17.815	4.852	16.520	4.684	2.264	3.391	16.553

Table B-10 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Orange	2	Early	JUNE	15.524	0.664	36.337	6.007	1.979	2.322	3.239
			JULY	22.313	1.876	14.573	3.070	1.527	2.408	4.287
				38.902	7.571	25.641	5.676	2.889	4.522	7.216
			AUG.	31.276	4.504	18.264	4.459	1.855	3.205	5.803
Poo	2	Early	JULY	45.116	2.979	20.390	6.577	3.170	5.212	6.592
				23.379	1.637	20.352	6.548	3.417	6.049	7.895
			AUG.	16.416	1.473	14.182	5.212	2.473	4.614	5.940
				12.801	0.306	15.273	5.411	2.463	5.315	8.838
Friday	2	Early	NOV.	6.005	0.243	3.604	2.157	1.080	1.065	1.845
				14.411	1.872	6.050	0.797	0.394	0.484	1.263
			DEC.	14.871	7.632	14.158	5.797	0.377	1.061	1.600
				16.020	9.685	36.170	8.309	1.564	2.707	2.327

Table B-10 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Paeng	2	Early	NOV.	78.868	11.669	13.734	5.663	0.772	1.794	3.181
			DEC.	39.274	7.041	19.442	4.740	2.122	1.728	3.453
			JAN.	30.136	4.180	6.518	2.791	1.153	2.043	3.695
			FEB.	17.537	1.481	3.703	1.665	1.230	2.106	3.562
Orange	2	Mid	SEP.	10.522	0.954	9.103	1.204	0.644	1.124	2.034
				10.555	0.259	12.077	3.326	1.013	2.945	11.432
			OCT.	25.084	2.191	7.767	1.307	0.493	0.960	1.399
				13.183	1.249	6.492	1.334	0.446	1.056	1.101
Poo	2	Mid	OCT.	16.80	1.72	5.17	1.57	0.98	1.40	1.70
				12.55	0.61	7.187	3.00	0.968	1.261	2.293
			NOV.	14.513	0.379	7.433	0.849	0.517	1.542	1.721
			DEC.	22.374	1.592	5.914	0.875	0.394	0.546	2.149

Table B-10 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Maam	2	Mid	DEC.	20.035	0.682	19.842	3.789	1.095	3.455	1.671
			JAN.	9.555	0.404	11.412	3.201	1.730	1.394	1.299
			FEB.	8.117	0.642	36.743	15.297	8.363	14.261	27.995
				5.743	0.266	46.063	18.057	11.685	11.841	23.311
Saeng	2	Mid	JULY	32.176	4.585	18.343	7.330	4.201	8.579	10.274
				48.834	11.490	23.670	7.165	3.559	5.452	7.749
			AUG.	33.210	3.965	20.643	5.093	2.371	3.812	5.988
				12.015	0.220	19.207	5.812	2.927	4.233	6.065
Poo	2	Late	DEC.	18.829	3.592	6.216	0.733	0.392	0.535	0.858
			JAN.	26.527	1.215	32.195	9.236	1.083	8.441	16.029
			FEB.	10.337	0.213	103.027	28.600	13.883	26.115	40.133
				4.984	0.097	106.082	29.969	12.524	19.164	31.070

Table B-10 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Nate	3	Early	JUNE	14.140	1.120	38.718	8.503	3.018	3.843	4.264
			JULY	21.986	3.774	16.134	4.293	1.996	4.071	6.462
			AUG.	11.099	4.467	12.201	3.756	2.280	3.802	9.165
				13.087	0.724	16.044	3.700	1.838	2.626	5.131
Dream	3	Early	NOV.	12.316	2.766	5.102	0.818	0.353	0.633	1.398
				23.654	9.558	6.979	1.341	0.360	1.147	2.529
			DEC.	16.286	1.921	14.528	2.453	0.890	1.816	1.840
			JAN.	22.158	7.406	7.002	2.479	1.646	2.321	2.444
Nate	3	Mid	SEP.	12.520	0.302	10.757	3.841	1.912	3.165	3.531
			OCT.	14.186	1.210	10.610	3.474	1.175	2.485	1.879
				13.476	2.196	6.670	0.771	0.465	0.710	1.109
			NOV.	11.209	2.373	3.638	0.993	0.424	0.790	1.565

Table B-10 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Dream	3	Mid	FEB.	22.175	0.463	113.346	35.096	16.506	32.478	51.545
				8.291	0.169	125.992	35.750	14.960	22.301	27.440
				12.973	0.861	74.435	25.928	15.877	19.261	26.979
				12.219	0.515	527.957	141.760	41.771	45.981	44.738
Aom	4	Early	NOV.	24.557	10.028	6.041	1.245	0.501	1.022	1.236
				25.091	0.427	5.788	1.021	0.356	0.341	1.060
				27.970	4.887	4.372	0.900	1.056	0.967	1.702
			DEC.	31.821	8.459	12.587	1.967	0.827	1.513	2.810
Dee	4	Mid	SEP.	23.503	7.853	9.107	1.492	0.944	1.780	1.487
			OCT.	16.944	1.124	9.988	3.052	1.632	3.219	11.638
				21.992	3.213	6.006	1.180	0.895	1.169	1.786
				15.813	0.808	6.715	1.211	0.501	0.930	1.922

Table B-10 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Reang	5	Mid	NOV.	14.589	1.331	6.403	1.098	0.452	1.132	1.608
				6.025	0.118	4.857	0.744	0.388	1.069	1.051
			DEC.	11.932	0.509	5.051	1.096	0.543	0.807	1.231
				9.897	1.944	5.355	0.801	0.362	1.045	2.236
Aoy	6	Mid	SEP.	21.608	5.196	4.424	0.874	0.367	0.573	0.843
			OCT.	13.703	0.579	4.822	0.931	0.533	1.216	1.432
			NOV.	21.647	13.297	8.808	0.838	0.974	1.054	1.345
				15.689	2.445	7.586	2.332	1.164	0.771	1.992

Table B-11 The concentrations of volatile components (ppm) in cow's milk from cow in Farm B.

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Can	1	Early	JAN.	20.015	1.966	32.985	9.165	4.493	9.092	22.807
			FEB.	11.438	0.796	43.404	11.259	6.450	11.268	21.298
				10.260	2.974	72.071	16.512	6.280	8.825	19.234
				9.363	2.722	23.971	16.185	7.424	10.301	25.790
Coffee	1	Early	JAN.	18.307	2.445	18.700	8.386	3.917	8.370	26.985
			FEB.	15.841	3.705	74.763	15.406	8.025	14.832	28.137
				12.255	1.932	94.924	19.218	7.798	11.787	20.635
				10.022	1.634	63.057	14.419	6.487	10.120	25.845
Poo	2	Early	JULY	45.116	2.979	20.390	6.577	3.170	5.212	6.592
				23.379	1.637	20.352	6.548	3.417	6.049	7.895
			AUG.	16.416	1.473	14.182	5.212	2.473	4.614	5.940
				12.801	0.306	15.273	5.411	2.463	5.315	8.838

Table B-11 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Friday	2	Early	NOV.	6.005	0.243	3.604	2.157	1.080	1.065	1.845
				14.411	1.872	6.050	0.797	0.394	0.484	1.263
			DEC.	14.871	7.632	14.158	5.797	0.377	1.061	1.600
				16.020	9.685	36.170	8.309	1.564	2.707	2.327
Paeng	2	Early	NOV.	39.274	11.669	13.734	5.663	0.772	1.794	3.181
			DEC.	12.499	7.041	19.442	4.740	2.122	1.728	3.453
			JAN.	30.136	4.180	6.518	2.791	1.153	2.043	3.695
			FEB.	17.537	1.481	3.703	1.665	1.230	2.106	3.562
Orange	2	Early	JUNE	15.524	0.664	36.337	6.007	1.979	2.322	3.239
			JULY	22.313	1.876	14.573	3.070	1.527	2.408	4.287
				38.902	7.571	25.641	5.676	2.889	4.522	7.216
			AUG.	31.276	4.504	18.264	4.459	1.855	3.205	5.803

Table B-11 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Poo	2	Mid	OCT.	16.80	1.72	5.17	1.57	0.98	1.40	1.70
			NOV.	12.55	0.61	7.187	3.00	0.968	1.261	2.293
				14.513	0.379	7.433	0.849	0.517	1.542	1.721
			DEC.	22.374	1.592	5.914	0.875	0.394	0.546	2.149
Orange	2	Mid	SEP.	10.522	0.954	9.103	1.204	0.644	1.124	2.034
				10.555	0.259	12.077	3.326	1.013	2.945	11.432
			OCT.	25.084	2.191	7.767	1.307	0.493	0.960	1.399
				13.183	1.249	6.492	1.334	0.446	1.056	1.101
Nate	3	Mid	SEP.	12.520	0.302	10.757	3.841	1.912	3.165	3.531
			OCT.	14.186	1.210	10.610	3.474	1.175	2.485	1.879
				13.476	2.196	6.670	0.771	0.465	0.710	1.109
			NOV.	11.209	2.373	3.638	0.993	0.424	0.790	1.565

Table B-11 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Reang	5	Mid	NOV.	14.589	1.331	6.403	1.098	0.452	1.132	1.608
				6.025	0.118	4.857	0.744	0.388	1.069	1.051
				11.932	0.509	5.051	1.096	0.543	0.807	1.231
			DEC.	9.897	1.944	5.355	1.507	0.362	1.045	2.236
Aoy	6	Mid	SEP.	21.608	5.196	4.424	0.874	0.367	0.573	0.843
			OCT.	13.703	0.579	4.822	0.931	0.533	1.216	1.432
			NOV.	21.647	13.297	8.808	0.838	0.974	1.054	1.345
				15.689	2.445	7.586	2.332	1.164	0.771	1.992

Table B-12 The concentrations of volatile components (ppm) in cow's milk from cow in Farm C.

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Linda	1	Early	SEP.	9.945	11.410	9.398	2.061	1.574	2.594	2.170
			OCT.	67.171	3.814	23.978	7.404	2.829	5.200	19.324
				33.293	4.169	6.227	1.883	0.456	0.962	2.037
			NOV.	30.746	0.541	8.591	1.788	0.794	1.722	2.751
Malee	1	Early	NOV.	30.639	4.860	10.785	1.788	0.335	1.193	2.741
				31.852	10.205	6.225	0.794	0.906	1.305	2.327
			DEC.	43.309	7.378	17.938	1.299	1.507	1.924	1.797
				19.701	2.699	24.387	3.235	2.980	2.724	2.891
Milo	2	Early	SEP.	26.346	12.434	6.608	1.650	0.671	1.632	1.871
			OCT.	25.997	0.569	15.451	4.570	2.357	4.007	10.781
				37.474	2.776	8.264	1.433	0.602	1.231	1.794
			NOV.	35.110	0.489	4.928	0.969	1.058	1.642	1.772

Table B-12 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Meji	2	Early	SEP.	28.344	1.639	12.518	3.019	1.831	2.894	3.134
			OCT.	18.845	0.485	16.269	4.678	2.208	3.544	12.430
				24.325	0.944	6.211	1.598	0.412	0.651	2.117
			NOV.	30.010	0.456	7.475	1.260	0.521	1.396	1.195
Joy	2	Early	NOV.	20.799	1.935	8.347	0.993	0.383	0.773	1.192
				18.269	4.319	5.482	1.002	0.359	0.302	2.580
				19.098	3.783	7.104	1.151	0.486	1.303	1.704
			DEC.	17.124	5.839	6.407	1.495	0.814	0.950	2.978
Paeng	2	Early	AUG.	12.624	13.782	21.328	5.489	2.910	5.516	7.727
				13.564	7.446	24.951	8.685	3.510	6.173	11.670
			SEP.	9.032	3.834	10.793	2.241	1.289	2.221	1.892
				16.252	18.025	26.682	5.157	2.630	4.379	8.098

Table B-12 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Milo	2	Early	DEC.	29.759	3.365	7.179	1.165	0.602	2.641	2.718
				27.809	0.377	8.319	1.452	0.535	1.810	16.013
			FEB.	20.485	0.604	47.012	11.847	6.322	13.623	17.885
				14.696	15.069	23.269	16.745	12.919	11.461	18.629
Paeng	2	Early	NOV.	11.051	0.141	7.187	1.164	0.435	1.564	1.563
				20.452	10.706	4.300	0.863	0.367	0.401	0.819
				12.896	1.777	9.354	1.169	0.624	1.542	1.240
			DEC.	16.335	2.966	36.968	11.924	7.606	10.007	7.235
Reang	3	Mid	OCT.	24.181	4.139	16.706	4.174	2.227	2.181	2.626
			NOV.	32.517	1.093	12.986	2.208	1.064	1.383	1.424
				28.817	3.904	6.709	2.083	0.381	0.359	1.173
				14.133	1.931	48.411	14.878	6.251	7.093	4.070

Table B-12 (continued).

Name of Cows	Lactation Number	Lactation stage	Month of Sampling	Concentration of Volatile Components (ppm)						
				Acetone	2- Butanone	Butyric acid	Caproic acid	Caprylic acid	Capric acid	Lauric acid
Sugar	5	Mid	NOV.	47.979	6.456	12.782	3.307	1.619	2.140	1.432
				32.834	8.533	5.067	1.135	0.437	0.334	1.007
				22.546	5.804	58.384	17.849	8.673	8.645	5.538
			DEC.	19.278	8.717	22.209	7.693	3.686	5.098	3.517
Kaew	6	Mid	SEP.	15.663	7.590	31.978	10.691	5.942	10.934	13.393
			OCT.	16.029	6.763	35.436	11.138	6.925	8.418	5.530
				14.891	0.814	31.932	3.423	2.082	3.420	4.570
			NOV.	12.420	0.854	17.515	3.325	2.241	1.896	1.413

Table C-1 The %FAT and % FFA/FAT in cow's milk from early lactation.

Name	Lactation Number	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
SJ 093	4	Dec.	3.97	3.742	0.000	7.968	0.000	5.516	3.590	0.000	0.000
			3.22	10.844	0.000	34.193	0.000	16.155	25.041	0.000	0.000
		Jan.	3.83	6.508	0.000	15.188	0.000	9.354	5.553	0.000	0.000
Friday	2	Nov.	2.82	5.174	0.000	20.349	0.000	14.337	10.003	0.000	0.000
			2.86	7.712	0.000	20.811	0.000	6.191	6.737	0.000	0.000
			3.68	6.995	0.000	24.174	0.000	14.125	9.248	0.000	0.000
		Dec.	3.23	6.621	0.000	20.309	0.000	5.581	4.441	0.000	0.000
Paeng	2	Nov.	5.31	11.517	0.000	29.415	0.000	10.014	6.356	0.000	0.000
		Dec.	3.28	10.115	0.000	29.946	0.000	11.170	4.714	0.000	0.000
		Jan.	4.32	9.208	0.000	17.263	0.000	6.476	4.988	0.000	0.000
Cotton	3	Jan.	5.61	7.134	0.000	21.982	0.000	11.062	7.284	0.000	0.000
			5.58	6.991	0.000	15.857	0.000	7.655	8.214	0.000	0.000
		Feb.	5.14	7.519	0.000	15.799	0.000	7.527	8.412	0.000	0.000
			4.07	11.613	0.000	31.730	0.000	9.669	6.561	0.000	0.000

Table C-2 The %FAT and % FFA/FAT in cow's milk from mid lactation.

Name	Lactation Number	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
SJ 095	4	Dec.	3.51	7.871	0.000	19.917	0.000	12.350	8.023	0.000	0.000
		Jan.	3.42	7.408	0.000	18.211	0.000	12.785	8.398	0.000	0.000
Poo	2	Oct.	2.98	3.563	0.000	8.288	0.000	7.308	5.013	2.148	0.000
		Nov.	2.72	4.501	0.000	10.095	0.000	4.345	4.383	2.430	0.000
		Dec.	3.43	8.197	0.000	26.175	0.000	6.950	7.329	0.000	0.000
Orange	2	Sep.	3.17	1.797	0.000	3.731	0.000	2.227	1.982	0.000	0.000
		Oct.	1.34	6.410	0.000	12.489	0.000	10.396	8.176	0.000	0.000
			3.36	7.067	0.000	19.355	0.000	13.465	9.201	0.000	0.000
Reang	3	Nov.	4.72	3.752	0.000	8.988	0.000	5.653	4.009	0.000	0.000
			5.27	3.481	0.000	5.835	0.000	3.439	3.274	0.000	0.000
			3.86	8.822	0.000	28.039	0.000	10.933	7.215	0.000	0.000
		Dec.	4.07	8.052	0.000	26.946	0.000	12.826	8.771	0.000	0.000

Table C-3 The %FAT and % FFA/FAT in cow's milk from late lactation.

Name	Lactation Number	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
SJ 095	4	Jan.	1.82	8.597	0.000	19.775	0.000	14.098	8.408	0.000	0.000
		Feb.	3.36	8.366	0.000	22.069	0.000	16.513	9.806	0.000	0.000
Poo	2	Dec.	4.90	9.046	0.000	20.757	0.000	8.489	5.070	0.000	0.000
		Jan.	4.42	8.820	0.000	22.163	0.000	12.115	7.293	0.000	0.000
		Feb.	4.38	9.320	1.249	19.600	1.857	7.453	6.420	0.000	0.000
Orange	2	Nov.	5.48	9.315	1.195	19.722	1.720	8.520	8.426	0.000	0.000
		Dec.	4.64	9.936	1.222	20.990	1.862	7.530	6.753	1.476	0.000
		Jan.	3.30	10.494	0.000	24.912	2.470	11.219	8.729	2.099	0.000
Rung	3	Nov.	5.12	12.590	0.000	27.221	0.000	11.923	6.312	0.000	0.000
			4.85	12.184	0.000	28.376	0.000	12.605	7.013	0.000	0.000
			4.75	11.796	0.000	26.843	0.000	7.679	5.694	0.000	0.000

Table C-4 The %FAT and % FFA/FAT in cow's milk from vary lactation.

Lactation Number	Name	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
1	SJ 137	Dec.	3.86	5.643	1.191	17.295	1.847	14.175	8.909	0.000	0.000
		Feb.	3.32	6.896	1.427	19.930	2.213	15.306	9.317	1.944	0.000
	Malee	Nov.	4.62	7.036	1.071	19.235	1.660	16.526	7.934	0.000	0.000
			4.80	7.693	0.989	19.624	1.532	13.071	9.168	1.346	0.000
2	SJ 107	Oct.	3.06	5.897	1.692	12.326	2.616	6.966	5.639	2.262	3.160
		Nov.	3.85	3.413	1.239	6.885	1.939	4.369	3.624	1.663	0.000
		Dec.	4.37	9.189	0.000	27.572	1.888	11.411	6.467	0.000	0.000
			3.83	8.583	0.000	24.085	0.000	9.117	5.600	0.000	0.000
	Joy	Nov.	4.64	6.520	0.994	18.774	1.644	13.420	9.351	0.000	0.000
			4.30	6.804	1.133	20.584	1.757	14.433	9.073	1.544	0.000
			5.48	7.316	0.000	16.536	1.610	8.328	9.171	1.209	0.000
		Dec.	4.39	7.388	0.000	22.837	1.751	10.788	6.540	1.539	0.000
			3.58	3.211	0.000	7.313	1.993	3.808	2.923	1.751	0.000

Table C-4 (continued).

Lactation Number	Name	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
3	NO 662	Dec.	3.43	8.337	1.427	18.598	2.211	10.072	7.371	0.000	0.000
		Jan.	1.97	7.868	2.390	17.972	3.704	12.610	8.741	3.255	0.000
		Feb.	3.09	11.659	0.000	27.280	2.519	13.933	10.266	2.130	0.000
	Cotton	Jan.	5.61	7.134	0.000	21.982	0.000	11.062	7.284	0.000	0.000
			5.58	6.991	0.000	15.857	0.000	7.655	8.214	0.000	0.000
		Feb.	5.14	7.519	0.000	15.799	0.000	7.527	8.412	0.000	0.000
			4.07	11.613	0.000	31.730	0.000	9.669	6.561	0.000	0.000
4	SJ 095	Dec.	3.51	7.871	0.000	19.917	0.000	12.350	8.023	0.000	0.000
		Jan.	3.42	7.408	0.000	18.211	0.000	12.785	8.398	0.000	0.000
	Diana	Dec.	6.18	5.771	0.813	22.702	1.620	16.979	11.215	0.000	0.000
		Jan.	5.57	6.533	0.871	21.541	1.556	8.905	8.043	1.186	0.000
		Feb.	4.82	8.229	0.000	17.376	1.541	5.087	6.446	1.354	0.000

Table C-4 (continued).

Lactation Number	Name	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
5	NO 581	Jan.	3.31	11.487	1.629	22.668	2.399	9.602	6.996	0.000	0.000
		Feb.	3.05	9.558	0.000	22.423	0.000	15.116	9.930	0.000	0.000
	3.63		9.048	0.000	21.172	2.142	12.460	8.666	0.000	0.000	
	Kalong	Nov.	7.20	3.573	0.660	13.366	1.023	9.680	4.708	0.000	0.000
			5.69	7.450	0.861	24.325	1.678	16.048	10.273	1.242	0.000
		Dec.	5.73	56.893	0.000	19.343	1.320	10.083	6.421	1.160	0.000

Table C-5 The %FAT and % FFA/FAT in cow's milk from difference cow fed diet.

Feedstuff	Name	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
Grass and Hay	SJ 107 (M)	Oct.	3.06	5.897	1.692	12.326	2.616	6.966	5.639	2.262	3.160
		Nov.	3.85	3.413	1.239	6.885	1.939	4.369	3.624	1.663	0.000
		Dec.	4.37	9.189	0.000	27.572	1.888	11.411	6.467	0.000	0.000
			3.83	8.583	0.000	24.085	0.000	9.117	5.600	0.000	0.000
	SJ 107 (L)	Jan.	4.86	8.114	1.059	18.179	1.636	10.789	8.521	0.000	0.000
			5.20	8.818	1.181	17.765	1.759	10.011	8.244	1.330	0.000
	SJ 077	Feb.	5.95	8.013	1.137	17.528	1.803	10.746	8.610	0.000	0.000
		Nov.	4.54	10.839	1.257	24.328	1.926	13.949	7.587	1.631	0.000
	SJ 099	Dec.	4.77	9.385	1.063	20.850	1.654	14.748	7.283	1.579	0.000
			Oct.	4.51	4.114	1.122	7.991	1.740	4.975	3.573	1.511
		Nov.	4.42	4.003	1.195	7.609	1.850	4.624	3.364	1.647	2.106
	4.46		4.078	1.090	7.899	1.678	4.375	3.460	1.465	1.832	

Table C-5 (continued).

Feedstuff	Name	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
Grass and Hay	SJ 093	Dec.	3.97	3.742	0.000	7.968	0.000	5.516	3.590	0.000	0.000
			3.22	8.886	0.000	22.702	0.000	16.547	9.523	0.000	0.000
		Jan.	3.83	6.508	0.000	15.188	0.000	9.354	5.553	0.000	0.000
	NO 581	Jan.	3.31	11.487	1.629	22.668	2.399	9.602	6.996	0.000	0.000
		Feb.	3.05	9.558	0.000	22.423	0.000	15.116	9.930	0.000	0.000
			3.63	9.048	0.000	21.172	2.142	12.460	8.666	0.000	0.000
	SJ 030	Oct.	4.47	3.549	1.115	9.522	1.906	6.835	6.911	0.000	0.000
		Nov.	2.34	4.297	2.016	8.167	3.088	5.836	5.624	0.000	0.000
		Dec.	3.28	6.915	0.000	15.919	0.000	9.744	7.956	0.000	0.000

Table C-5 (continued).

Feedstuff	Name	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
Corn Silage	Orange (M)	Sep.	3.17	1.797	0.000	3.731	0.000	2.227	1.982	0.000	0.000
		Oct.	1.34	6.410	0.000	12.489	0.000	10.396	8.176	0.000	0.000
			3.36	7.067	0.000	19.355	0.000	13.465	9.201	0.000	0.000
			2.93	7.856	1.776	24.409	2.829	12.542	9.732	0.000	0.000
	Orange (L)	Nov.	5.48	9.315	1.195	19.722	1.720	8.520	8.426	0.000	0.000
		Dec.	4.64	9.936	1.222	20.990	1.862	7.530	6.753	1.476	0.000
		Jan.	3.30	10.494	0.000	24.912	2.470	11.219	8.729	2.099	0.000
	Poo	Dec.	4.90	9.046	0.000	20.757	0.000	8.489	5.070	0.000	0.000
		Jan.	4.42	8.820	0.000	22.163	0.000	12.115	7.293	0.000	0.000
		Feb.	4.38	9.320	1.249	19.600	1.857	7.453	6.420	0.000	0.000
	Saeng	Oct.	4.35	4.391	1.178	13.890	1.879	2.329	4.468	1.492	1.693
			7.56	3.037	0.815	8.409	1.235	4.738	3.746	0.876	1.048
		Nov.	6.97	3.572	0.705	5.283	1.124	3.196	2.898	0.960	1.135

Table C-5 (continued).

Feedstuff	Name	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
Corn Silage	Samorn	Nov.	7.66	7.250	0.985	15.337	1.500	7.714	7.337	0.000	0.000
			3.22	7.201	0.000	19.862	0.000	10.204	6.425	0.000	0.000
			4.34	6.315	1.343	17.372	2.168	4.575	6.410	0.000	0.000
	Reang	Oct.	2.45	7.195	0.000	19.667	0.000	15.727	8.568	0.000	0.000
		Nov.	2.35	7.873	0.000	19.555	0.000	12.133	8.436	0.000	0.000
		Dec.	2.98	9.578	0.000	22.462	0.000	14.154	7.279	0.000	0.000
	Aoy	Oct.	4.09	3.453	1.137	8.400	1.839	7.029	4.587	0.000	0.000
			5.76	3.279	0.897	9.477	1.571	5.006	3.959	0.000	0.000
		Nov.	3.50	3.716	1.674	9.563	2.686	3.966	4.297	0.000	0.000

Table C-6 The %FAT and % FFA/FAT in cow's milk from difference farm environment.

Farm Environment	Name	Month of Sampling	% Fat	% FFA/FAT								
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	
Cement House (Farm B)	Coffee (E)	Jan.	1.60	6.279	0.000	32.650	0.000	13.627	34.711	0.000	0.000	
		Feb.	3.11	6.899	0.000	22.855	0.000	10.870	10.753	0.000	0.000	
	Can (E)	Jan.		3.29	6.189	0.000	29.541	0.000	12.492	29.943	0.000	0.000
				3.30	8.151	0.000	22.755	0.000	13.795	10.476	0.000	0.000
		Feb.		3.63	8.789	0.000	32.753	0.000	11.305	31.800	0.000	0.000
				3.44	6.905	0.000	23.348	0.000	12.787	12.437	0.000	0.000
	Paeng (E)	Nov.	5.31	11.517	0.000	29.415	0.000	10.014	6.356	0.000	0.000	
		Dec.	3.28	10.115	0.000	29.946	0.000	11.170	4.714	0.000	0.000	
		Jan.	4.32	9.208	0.000	17.263	0.000	6.476	4.988	0.000	0.000	
	Friday (E)	Nov.		2.82	5.174	0.000	20.349	0.000	14.337	10.003	0.000	0.000
				2.86	7.712	0.000	20.811	0.000	6.191	6.737	0.000	0.000
				3.68	6.995	0.000	24.174	0.000	14.125	9.248	0.000	0.000
		Dec.	3.23	6.621	0.000	20.309	0.000	5.581	4.441	0.000	0.000	
	Poo (E)	Jul.	4.23	15.882	0.000	47.186	0.000	9.117	25.416	0.000	0.000	
		Aug.	4.75	12.502	0.000	23.024	0.000	11.062	11.016	0.000	0.000	

Table C-6 (continued).

Farm Environment	Name	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
Cement House (FarmB)	Poo (M)	Oct.	2.98	3.563	0.000	8.288	0.000	7.308	5.013	2.148	0.000
		Nov.	2.72	4.501	0.000	10.095	0.000	4.345	4.383	2.430	0.000
		Dec.	3.43	8.197	0.000	26.175	0.000	6.950	7.329	0.000	0.000
	Orange (M)	Sep.	3.17	1.797	0.000	3.731	0.000	2.227	1.982	0.000	0.000
		Oct.	1.34	6.410	0.000	12.489	0.000	10.396	8.176	0.000	0.000
			3.36	7.067	0.000	19.355	0.000	13.465	9.201	0.000	0.000
	Samorn (E)	Nov.	2.93	7.856	1.776	24.409	2.829	12.542	9.732	0.000	0.000
			7.66	7.250	0.985	15.337	1.500	7.714	7.337	0.000	0.000
			3.22	7.201	0.000	19.862	0.000	10.204	6.425	0.000	0.000
Terrain House (Farm C)	Linda (E)	Sep.	3.00	4.460	0.000	14.935	0.000	4.376	6.034	0.000	0.000
		Oct.	3.39	4.836	0.000	11.084	0.000	7.353	4.207	0.000	0.000
	Malee (E)	Nov.	4.62	7.036	1.071	19.235	1.660	16.526	7.934	0.000	0.000
			4.80	7.693	0.989	19.624	1.532	13.071	9.168	1.346	0.000

Table C-6 (continued).

Farm Environment	Name	Month of Sampling	% Fat	% FFA/FAT							
				C14:0	C14:1	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3
Terrain House (Farm C)	Meji (E)	Sep.	3.32	6.165	0.000	21.796	0.000	5.806	8.767	0.000	0.000
		Oct.	3.48	4.761	0.000	12.428	0.000	6.984	4.375	0.000	0.000
	Milo (E)	Oct.	4.89	6.479	0.000	18.610	0.000	9.609	9.691	0.000	0.000
			4.11	4.005	0.000	8.684	0.000	7.290	3.327	0.000	0.000
	Paeng (M)	Nov.	4.05	4.041	0.000	8.467	0.000	5.301	4.215	1.645	0.000
			3.81	3.573	0.000	7.030	0.000	4.477	3.789	1.695	0.000
		Dec.	4.28	9.741	0.000	22.092	0.000	7.880	6.208	0.000	0.000
	Meji (M)	Feb.	3.87	11.053	0.000	30.175	0.000	4.164	12.640	0.000	0.000
			3.54	10.536	0.000	36.797	0.000	7.777	6.179	0.000	0.000
	Diana (E)	Dec.	6.18	5.771	0.813	22.702	1.620	16.979	11.215	0.000	0.000
		Jan.	5.57	6.533	0.871	21.541	1.556	8.905	8.043	1.186	0.000
		Feb.	4.82	8.229	0.000	17.376	1.541	5.087	6.446	1.354	0.000

APPENDIX D

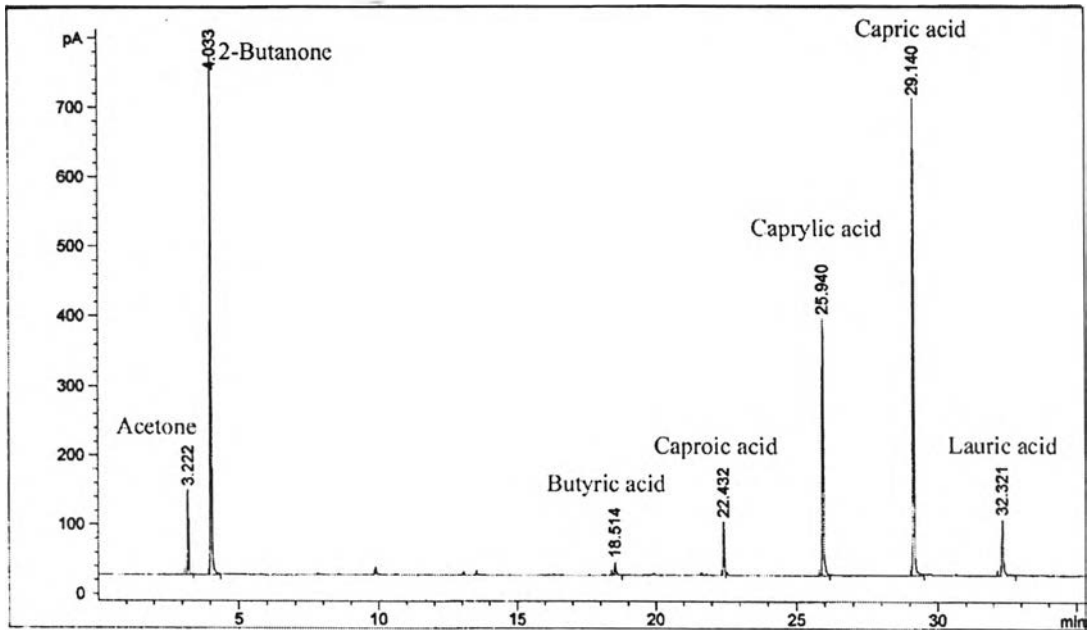


Figure D-1 Chromatogram of Volatile Components in Standard Solution.

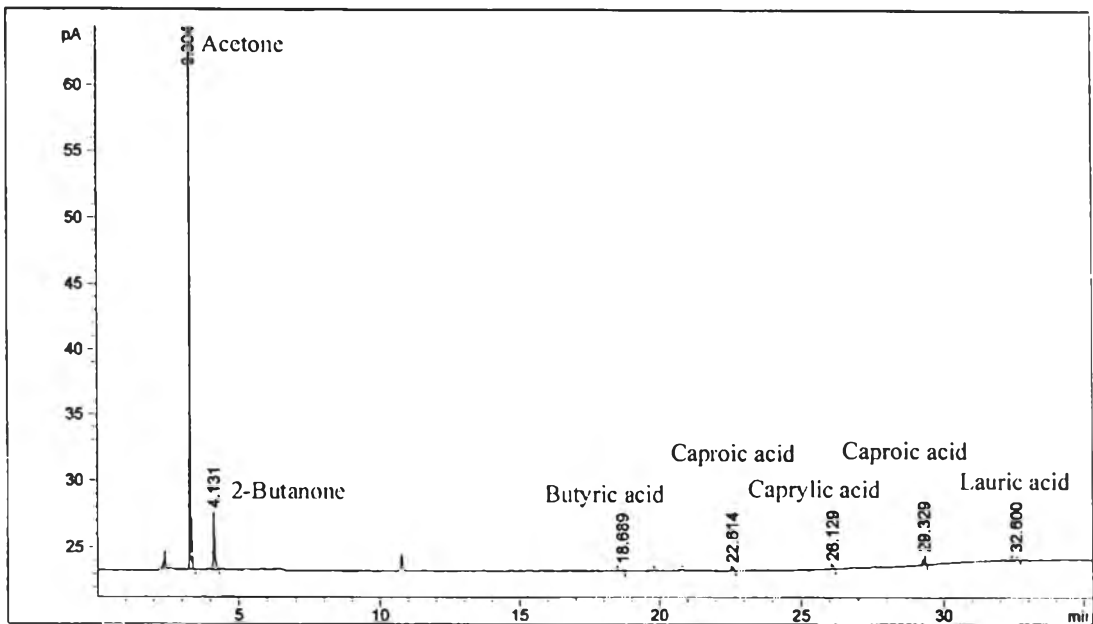


Figure D-2 Chromatogram of Volatile Components in Milk Sample.

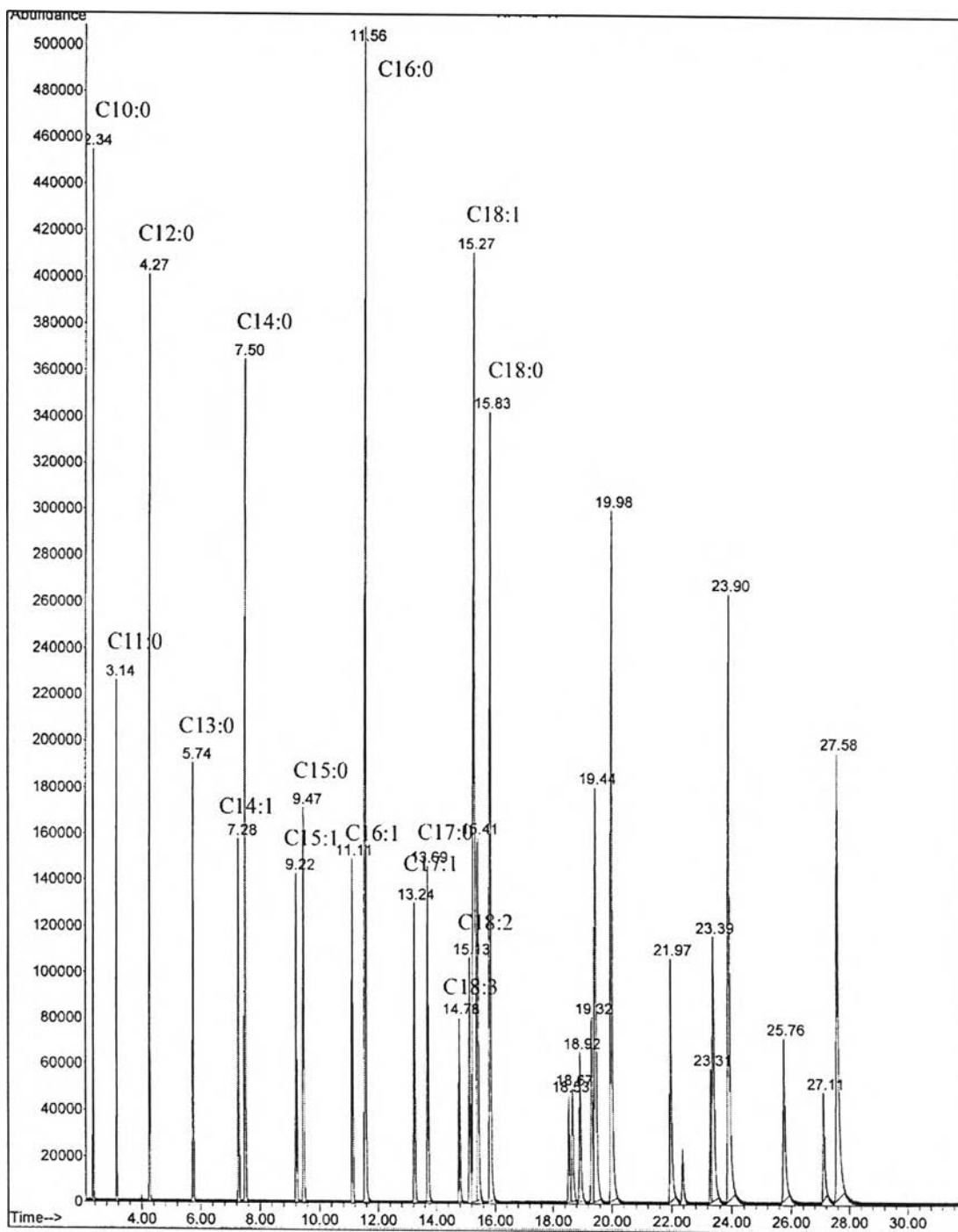


Figure D-3 Chromatogram of Fatty Acids in Standard Solution.

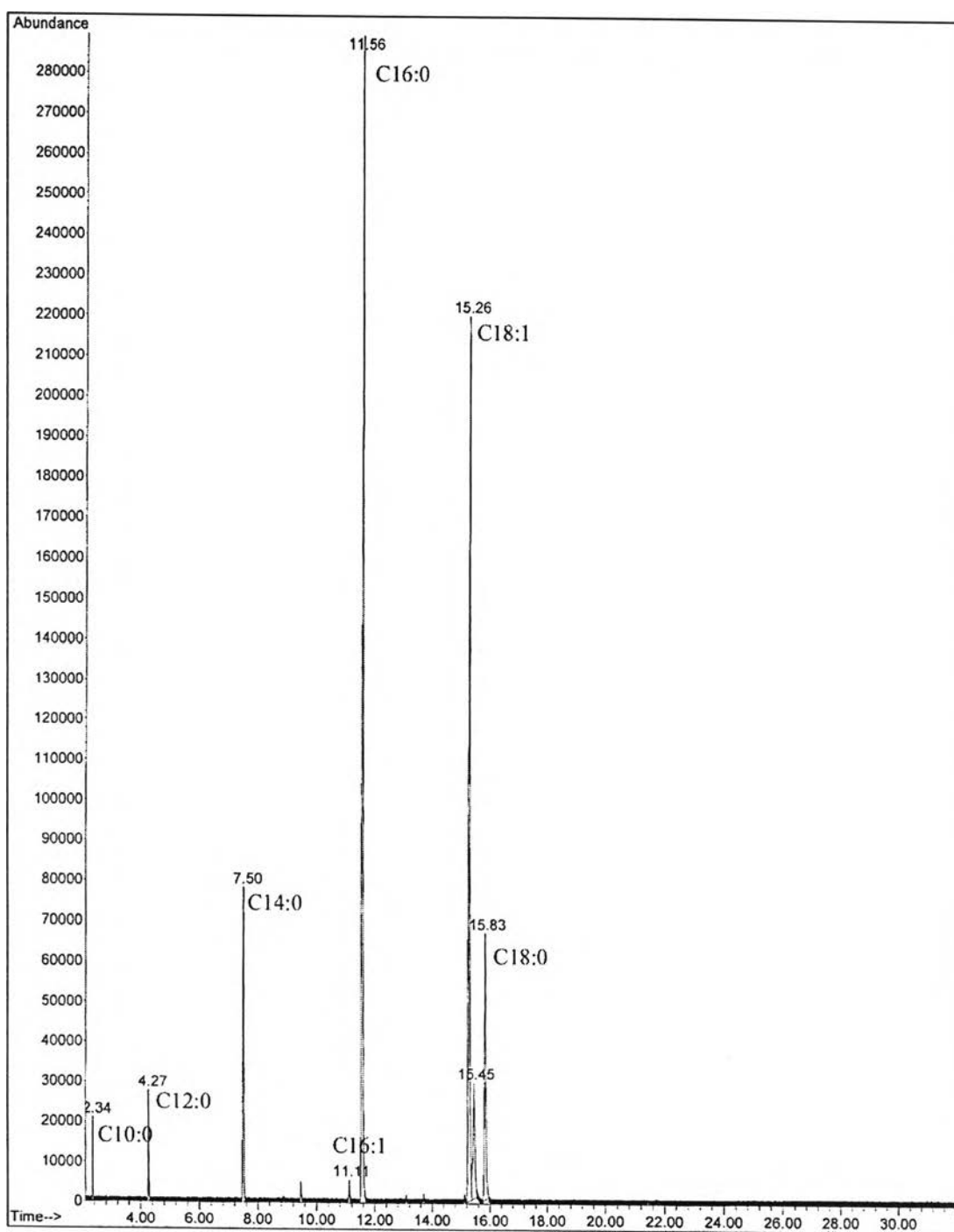


Figure D-4 Chromatogram of Fatty Acids in Milk Sample.

VITA

Mr. Porntep Namphant was born on January 4, 1978, in Bangkok, Thailand. He received a Bachelor's degree of Science (Industrial Chemistry) from King Mongkut's Institute of Technology Ladkrabang, in 2002. After that, he continued his graduate work in Analytical Chemistry, concentration in chromatography and separations, at the Department of Chemistry, Faculty of Science, Chulalongkorn University. And will received his Master of Science Degree in July 2006.