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APPENDICES

Appendix A Microemulsion Preparation

Table A1 Microemulsion of TX-100 for the water contents and temperatures study

Reactants	Wo= 3.0	Wo= 2.0
TX-100 (g)	8.1503	5.2619
Cyclohexane (g)	89.7468	45.1429
n-hexanol (g)	2.0376	1.3155
Water (g)	1.7572	0.7563

Table A2 Microemulsion of AP-135 for the water contents and temperatures study

Reactants	Wo=2.0	Wo=6.0
AP-135 (g)	0.7500	0.7500
Cyclohexane (g)	24.2363	24.2090
Water (g)	0.0137	0.04010

Table A3 Microemulsion of TX-100 for the amount of co-surfactant study

Reactant	Wo=2 [TX-100 (g):n-hexanol (g)]				
	5:0.5	5:1	4:1	3:1	1:1
TX-100 (g)	2.0376	2.0376	2.0376	2.0376	2.0376
Cyclogexane (g)	17.7692	17.5752	17.4783	17.3165	16.0228
n-hexanol (g)	0.2038	0.4075	0.5094	0.6792	2.0376
Water (g)	0.1852	0.2570	0.2929	0.3527	0.8313

Table A4 Microemulsion of AP-135 for the amount of co-surfactant study

Reactant	Wo=2 [AP-135 (g):n-hexanol (g)]			
	5:0.5	5:1	4:1	3:1
AP-135 (g)	0.6000	0.6000	0.6000	0.6000
Cyclogexane (g)	19.3400	19.2800	19.2500	19.2000
n-hexanol (g)	0.0600	0.1200	0.1500	0.2000
Water (g)	0.0321	0.0532	0.0638	0.0814

Table A5 Effect of metal salt concentration study in microemulsion of TX-100

Reactants	Amount of reactants (g)
Triton X-100	1.6301
n-hexanol	0.4075
Cyclohexane	13.9825
Water	0.2343

Table A6 Effect of metal salt concentration study in microemulsion of AP-135

Reactants	Amount of reactants (g)
AP-135	0.6000
n-hexanol	0.1200
Cyclohexane	19.2800
Water	0.0532

Appendix B Dinamic Light Scattering Result

Table B1 DLS results of effect of water content and temperature in microemulsion of TX-100

Sample	Z avg (nm)	Polydispersity	Fit error	% Merit	% In range
Wo=3					
Temp = 30oC	21.9	0.252	0.0004	35.6	90.4
	21.8	0.166	0.0004	35.1	94.6
	22.1	0.222	0.0001	35.7	97.1
	21.9±0.2	0.213±0.044		35.48	94.03
Temp = 40oC	19.2	0.316	0.0003	33.3	86.5
	19.0	0.249	0.0003	32.8	87.9
	19.1	0.239	0.0004	32.9	90.9
	19.1±0.1	0.268±0.042		33.00	88.43
Temp = 50oC	17.2	0.295	0.0003	34.5	87.8
	16.8	0.343	0.0003	34.2	86.4
	16.7	0.351	0.0007	33.5	86.8
	16.9±0.2	0.330±0.030		34.07	87.00
Temp = 60oC	15.6	0.459	0.0008	31.7	79.4
	15.6	0.463	0.0009	32.0	84.6
	15.3	0.480	0.0012	32.4	86.3
	15.5±0.2	0.467±0.011		32.03	83.43
Wo=2					
Temp = 30oC	9.2	0.200	0.0005	36.2	92.6
	9.3	0.133	0.0003	36.0	94.3
	9.2	0.237	0.0004	37.2	89.8
	9.2±0.1	0.190±0.053		36.47	92.07
Temp = 40oC	9.2	0.162	0.0003	39.1	92.2
	8.9	0.229	0.0009	39.5	94.6
	8.9	0.258	0.0006	39.2	90.6

	9.0±0.2	0.216±0.049		39.27	92.47
Temp = 50oC	8.8	0.222	0.0005	37.8	94.6
	8.9	0.231	0.0004	37.8	89.8
	8.7	0.312	0.0010	38.4	93.2
	8.8±0.1	0.255±0.049		38.00	92.53
Temp = 60oC	8.8	0.264	0.0003	35.8	92.1
	8.9	0.295	0.0005	35.8	91.5
	8.7	0.302	0.0010	35.1	95.7
	8.8±0.1	0.287±0.020		35.57	93.10

Table B2 DLS results of effect of water content and temperature in microemulsion of AP-135

Sample	Z avg (nm)	Polydispersity	Fit error	% Merit	% In range
Wo=2					
Temp =30oC	28.7	0.586	0.0007	34.9	88.8
	29.5	0.598	0.0006	35.0	87.3
	29.2	0.591	0.0005	34.7	88.7
	29.2±0.4	0.591±0.006		34.87	88.27
Temp =40oC	30.5	0.736	0.0010	32.8	80.9
	30.8	0.747	0.0010	33.3	79.7
	31.4	0.759	0.0010	33.1	79.3
	30.9±0.4	0.747±0.011		33.00	80.03
Temp =50oC	34.1	0.723	0.0013	38.1	78.6
	34.0	0.707	0.0014	38.0	82.4
	34.4	0.718	0.0014	38.1	79.4
	34.2±0.2	0.716±0.008		38.07	80.13
Temp =60oC	37.9	0.695	0.0013	40.6	81.2
	38.7	0.692	0.0013	41.9	82.3

	37.4	0.660	0.0014	41.2	83.9
	38.0±0.7	0.682±0.020		41.23	82.47
Wo=6	40.0	0.693	0.0013	42.6	95.8
	39.9	0.681	0.0012	42.4	96.9
	40.0	0.686	0.0012	42.1	94.0
	40.0±0.1	0.687±0.001		42.37	95.57

Table B3 DLS results of effect of amount of co-surfactant in microemulsion of TX-100 and AP-135

Sample	Z avg (nm)	Polydispersity	Fit error	% Merit	% In range
TX-100					
10%	13.1	0.117	0.0003	42.8	96.5
	13.1	0.116	0.0002	42.6	94.5
	13.0	0.116	0.0003	42.9	98.5
	13.1±0.0	0.116±0.001		42.77	96.5
20%	11.5	0.162	0.0005	42.5	94.7
	11.8	0.128	0.0003	43.1	94.2
	11.7	0.187	0.0005	43.4	91.2
	11.7±0.1	0.159±0.03		43.0	93.37
25%	12.1	0.254	0.0004	37.2	83.1
	12.1	0.217	0.0003	36.7	78.2
	12.0	0.171	0.0003	37.2	87.6
	12.0±0.6	0.214±0.042		37.03	82.97
33.3%	12.7	0.239	0.0005	41.5	91.5
	12.6	0.263	0.010	42.0	90.3
	12.8	0.227	0.0005	42.3	92.4
	12.7±0.1	0.243±0.018		41.93	91.40
50%	22.2	0.414	0.0023	34.6	93.2
	22.7	0.381	0.0014	34.9	92.7

	22.6	0.417	0.0024	34.6	92.5
	22.5±0.3	0.407±0.024		34.7	92.80
AP-135					
10%	46.6	0.723	0.0013	39.3	81.8
	48.0	0.796	0.0012	40.5	78.4
	44.1	0.734	0.0013	39.2	80.6
	16.2±0.2	0.751±0.039		39.67	80.27
20%	28.3	0.556	0.0009	33.5	85.7
	29.1	0.579	0.0008	33.5	81.3
	28.6	0.559	0.0007	33.6	86.8
	28.7±0.4	0.565±0.012		33.53	84.60
25%	40.2	0.397	0.0003	40.8	87.1
	39.9	0.415	0.0005	40.7	87.8
	40.3	0.418	0.0003	41.2	87.7
	40.2±0.2	0.410±0.011		40.9	87.53
33.3%	44.3	0.351	0.0004	42.6	89.7
	45.5	0.358	0.0002	42.5	87.2
	45.3	0.341	0.0003	42.5	84.9
	45.0±0.6	0.350±0.008		42.53	87.27

Table B4 DLS results of effect of metal salt concentration in microemulsion of TX-100 and AP-135

Sample	Z avg (nm)	Polydispersity	Fit error	% Merit	% In range
TX-100					
0.1 M	11.7	0.275	0.0006	37.2	90.5
	11.8	0.159	0.0003	36.3	94.3
	11.8	0.189	0.0004	36.4	91.2
	11.8±0.1	0.208±0.06		36.63	92.0
0.3 M	13.3	0.133	0.0004	42.6	95.6

	13.1	0.133	0.0002	42.8	96.0
	13.2	0.104	0.0003	42.7	97.2
	13.2±0.1	0.123±0.017		42.70	96.23
0.5 M	14.3	0.106	0.0003	45.6	97.0
	14.2	0.070	0.0003	45.7	96.3
	14.1	0.090	0.0002	45.9	99.0
	14.2±0.1	0.088±0.018		45.73	97.43
AP-135					
0.1 M	30.0	0.580	0.0009	30.3	86.5
	30.7	0.571	0.0007	31.8	85.6
	31.0	0.593	0.0008	32.5	84.4
	30.6±0.5	0.581±0.011		31.53	85.5
0.3 M	32.7	0.367	0.0004	41.7	92.4
	32.7	0.369	0.0004	41.9	92.6
	32.1	0.346	0.0003	41.8	93.8
	32.5±0.3	0.361±0.013		41.8	92.93
0.5 M	33.6	0.425	0.0004	42.0	93.7
	33.3	0.415	0.0004	42.1	92.6
	33.3	0.412	0.0004	42.8	94.7
	33.4±0.2	0.417±0.007		42.30	93.67

CURRICULUM VITAE

Name: Mr. Thanayuth Kaweetirawatt

Date of Birth: October 24, 1981

Nationality: Thai

University Education:

1999-2003 Bachelor Degree of Chemical Engineering, Faculty of Engineering, Mahidol University, Bangkok, Thailand.