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APPENDIX A

CTAB Adsorption Measurement

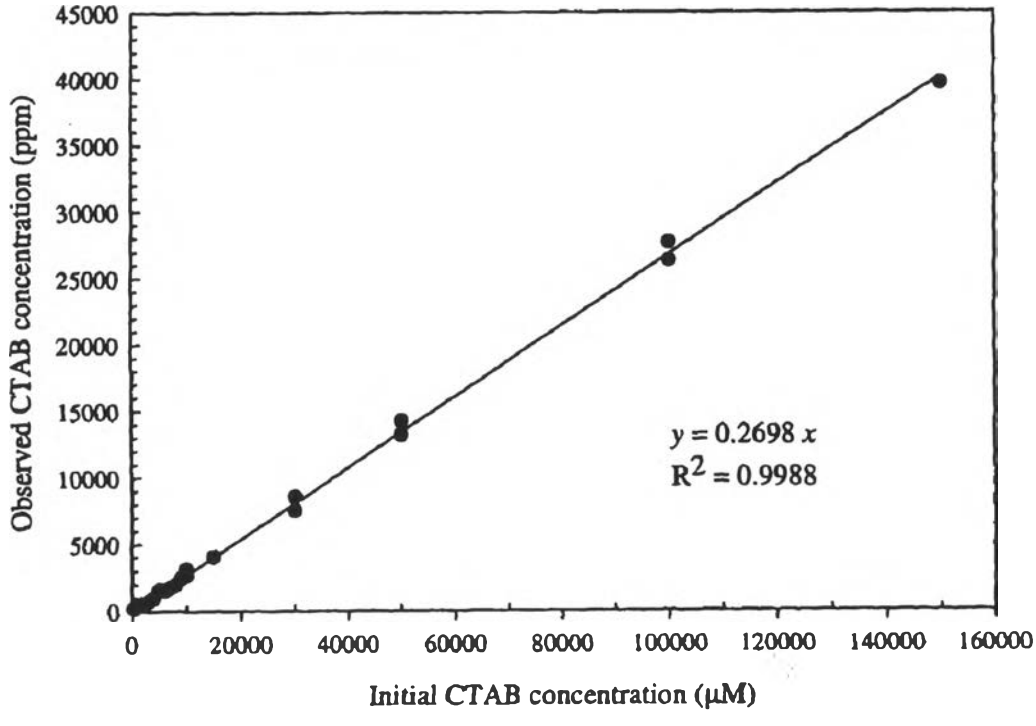

Figure A1 Calibration curve of CTAB solution by Total Organic Carbon analyzer (TOC).

Table A1 Data from CTAB adsorption isotherm on Aerosil OX50

Initial CTAB concentration (μM)	Observed initial CTAB concentration (μM)	Equilibrium CTAB concentration (μM)	CTAB adsorption (μmol/g)
400	566.42	266.38	3.75
00	743.96	278.69	5.82
800	927.06	282.39	8.06
1400	1458.19	278.47	14.75

Cont...

Table A1 Data from CTAB adsorption isotherm on Aerosil OX50 (Continued)

Initial CTAB concentration (μM)	Observed initial CTAB concentration (μM)	Equilibrium CTAB concentration (μM)	CTAB adsorption (μmol/g)
1600	1643.88	279.28	17.06
1800	1821.25	285.80	19.19
2000	1977.84	293.96	21.05
2200	2031.95	268.01	22.05
2500	2139.81	328.84	72.44
3000	2660.19	355.52	92.19
4000	3475.61	488.95	119.47
4200	3738.40	570.13	126.73
4600	4057.15	964.86	123.69
4800	4327.72	1428.54	115.97
5000	5837.73	2436.69	136.04
6000	5606.45	1739.88	154.66
7000	6361.08	2610.16	150.04
8000	7262.49	3255.82	160.27
9000	9127.58	5072.72	162.19
15000	15057.89	11195.77	154.48
30000	31733.21	26266.20	218.68
50000	52804.37	48023.05	191.25
100000	102507.86	94724.31	311.34
150000	146836.99	137163.16	386.95

APENDIX B

Styrene Adsorption Measurement

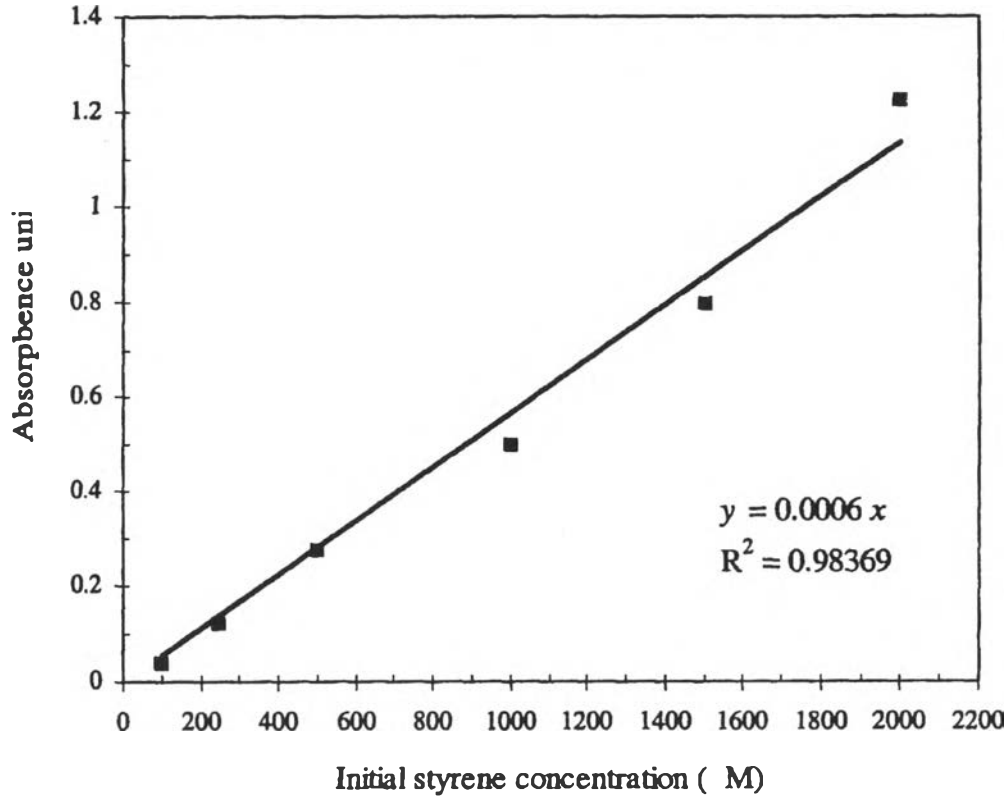

Figure B1 Calibration curve of styrene in CTAB solution by UV-Vis at 280 cm^{-1}.

Ratio of mixture = Silica 0.5 g : 20 ml solution

Table B1 Data from styrene adsolubilization into CTAB adsorption (20 μmol/g) on Aerosil OX50

Initial styrene concentration (μM)	Equilibrium styrene concentration(μM)	Styrene adsolubilization (μmol/g)
100	43.86	2.25
250	77.02	6.92
500	151.93	13.92
1000	376.11	24.96
1500	608.07	35.68
2000	785.44	48.58

Table B2 Data from styrene adsolubilization into CTAB adsorption (100 μmol/g) on Aerosil OX50

Initial styrene concentration (μM)	Equilibrium styrene concentration(μM)	Styrene adsolubilization (μmol/g)
1000	315.33	27.39
2000	690.67	52.37
3000	809.33	87.63
4000	1119.67	115.21
5000	1485.67	140.57
7000	2190.00	192.40

APENDIX C

Calculation for Amount of CTAB Loading, Styrene Loading, and AIBN for Admicellar Polymerization

System : Silica 15 g : Solution 250 ml

CTAB Molecular weight : 364.46 $gmol^{-1}$, AIBN Molecular weight : 164.21 $gmol^{-1}$

Styrene Molecular weight : 104.16 $gmol^{-1}$, Density : 0.906 ml/g

C1 CTAB Loading Calculation

Table C1 Calculation of initial CTAB concentration for CTAB adsorption 20 and 100 μmol/g silica in the system

CTAB adsorption		Equilibrium CTAB Concentration		Initial CTAB loading in the system (μmol)	Total weight of CTAB (g)
(μmol/g)	(μmol/15g)	(μM)	(μM in 250 ml)		
20	300	300	75	375	0.1367
100	1500	400	100	1600	0.5831

C2 Styrene loading calculation

Table C2 Calculation of initial styrene loading into CTAB adsorption 20 μmol/g silica in the system

Styrene adsolubilization		Equilibrium styrene Concentration		Initial styrene loading in the system (μmol)	Total volume of styrene (μl)
(μmol/g)	(μmol/15g)	(μM)	(μM in 250 ml)		
10	150	161.03	40.26	190.26	21.87
40	600	644.12	1610.3	761.03	87.48

Table C3 Calculation of initial styrene loading into CTAB adsorption 100 μmol/g silica in the system

Styrene adsolubilization		Equilibrium styrene Concentration		Initial styrene loading in the system (μmol)	Total volume of styrene (μl)
(μmol/g)	(μmol/15g)	(μM)	(μM in 250 ml)		
50	750	517.06	129.27	879.27	101.07
200	3000	2068.25	517.06	3517.06	404.30

C3 AIBN loading calculation

Ratio of AIBN : Styrene are shown in the table

Table C4 Calculation of AIBN loading at CTAB adsorption 20 μmol/g

Total styrene (μmol)	AIBN loading (μmol)								Total weight (g)							
	1:1	1:5	1:7	1:10	1:15	1:20	1:25	1:50	1:1	1:5	1:7	1:10	1:15	1:20	1:25	1:50
190.26	190.26	38.05	27.18	19.026	12.68	9.51	7.6	3.81	0.031	0.006	0.004	0.003	0.002	0.0016	0.0013	0.0006
761.03	761.03	152.2	108.7	76.11	50.73	38.05	30.44	15.22	0.125	0.025	0.018	0.013	0.008	0.0063	0.005	0.0025

Table C5 Calculation of AIBN loading at CTAB adsorption 100 μmol/g

Total styrene (μmol)	AIBN loading (μmol)								Total weight (g)							
	1:1	1:5	1:7	1:10	1:15	1:20	1:25	1:50	1:1	1:5	1:7	1:10	1:15	1:20	1:25	1:50
879.27	879.27	175.8	125.61	87.93	58.62	43.96	35.1	17.58	0.145	0.028	0.021	0.01	0.0096	0.0072	0.023	0.01
3517.06	3517.06	703.4	502.4	351.7	234.4	175.8	140.6	70.34	0.577	0.115	0.08	0.058	0.038	0.028	0.023	0.01

CURRICULUM VITAE

Name: Ms. Natthanika Aumsuwan

Date of birth: 3 rd September 1978

Nationality: Thai

University Education:

1997-2001 Bachelor of Science Degree in Industrial Chemistry, Faculty of Science, Chiang Mai University, Chiang Mai, Thailand