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APPENDICES

Appendix A CTAB Adsorption

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 (μM/g)
400	566.42	266.38	3.75
600	743.96	278.69	5.82
800	927.06	282.39	8.06
1400	1458.19	278.47	14.75
1600	1643.88	279.28	17.06
1800	1821.05	285.80	19.19
2000	1977.84	293.96	21.05
2200	2031.95	268.01	22.05
2500	2139.81	238.84	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	115.94
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

Appendix B Styrene Adsolubilization Measurement

Table B1 Data from styrene aslolubilization into CTAB adsorption 100μmol/g of Aerosil®OX50

Initial styrene concentration (μM)	Equilibrium styrene concentration (μM)	Styrene adsolubilization
1000	31.533	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

Appendix C Calculation for Amount of CTAB Loading, Styrene Loading, AIBN Loading and VA-044 Loading for Admicellar Polymerization

System: Silica 15g : Solution 250ml

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

Styrene Molecular weight : 104.15 $gmol^{-1}$

Density : 0.906 ml/g

AIBN Molecular weight 164.21 $gmol^{-1}$

VA-044 Molecular weight : 323.27 $gmol^{-1}$

C1 CTAB Loading Calculation

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

CTAB adsorption		Equilibrium CTAB concentration		Initial CAB loading in the system (μmol)	Total weight of CTAB (g)
(μmol/g)	(μmol/15g)	(μM)	(μmol in 250 ml)		
100	1500	400	100	1600	0.5831

C2 Styrene Loading Calculation

Table C2 Calculation of initial styrene loading into CTAB adsorption 100 μmol/g of 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)	(μmol in 250 ml)		
50	750	517.06	129.27	879.27	101.07
100	1500	1034.13	258.53	1758.53	202.14
200	3000	2068.25	517.06	3517.06	404.30

C3 AIBN Loading Calculation

Table C3 Calculation of AIBN loading at CTAB adsorption 100 μmol/g

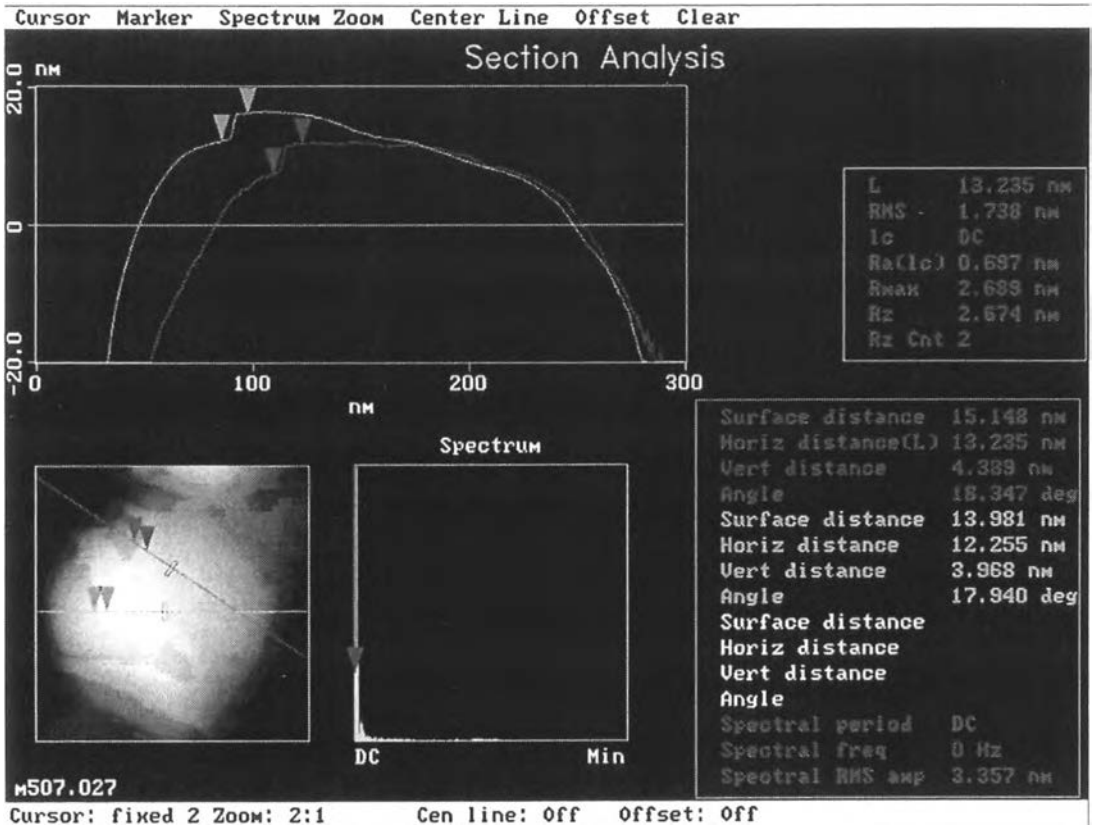
Total styrene (μM)	AIBN loading (μmol)								Total weight of AIBN (g)							
	1:1	1:5	1:7	1:10	1:15	1:20	1:25	1:50	1:1	1:5	1:7	1:10	1:15	1:20	1:25	1:50
879.27	879.2	175.85	125.61	7.93	58.62	43.96	35.1	17.58	0.145	0.028	0.021	0.01	0.0072	0.0072	0.023	0.002
3517.06	3517.0	703.4	502.4	51.7	234.4	175.8	140.6	70.34	0.57	0.115	0.08	0.05	0.038	0.028	0.023	0.001

C4 VA-044 Loading Calculation

Table C4 Calculation of VA-044 loading at CTAB adsorption 100 μmol/g

Total styrene (μM)	AIBN loading (μmol)								Total weight of AIBN (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	879.2	175.85	125.61	7.93	58.62	43.96	35.1	17.58	0.284	0.056	0.04	0.028	0.018	0.014	0.011	0.005
3517.06	3517.0	703.4	502.4	51.7	234.4	175.8	140.6	70.34	1.137	0.227	0.162	0.113	0.075	0.056	0.045	0.0227

Appendix D The measurement of thin film using AFM



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