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APPENDICES

Appendix A Impact strength of [Nylon12/NR]/compatibilizer blends

Table A1 Impact energy of Nylon12

Material	Impact energy (J/m)
Nylon12	112±9

Table A2 Effect of SEBS G 1652 content on impact strength of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

SEBS G 1652 content (phr)	Impact energy (J/m)
0	633±30
1	530±22
2	863±27
4	832±35
8	581±37
16	716±35

Table A3 Effect of SEBS G 1650 content on impact strength of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

SEBS G 1650 content (phr)	Impact energy (J/m)
0	633±30
1	793±32
2	726±34
4	581±36
8	781±35
16	732±37

Table A4 Effect of SEBS G 1657 content on impact strength of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

SEBS G 1657 content (phr)	Impact energy (J/m)
0	633±30
1	662±34
2	854±31
4	552±27
8	800±34
16	624±36

Table A5 Effect of SEBS FG 1901X content on impact strength of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

SEBS FG 1901X content (phr)	Impact energy (J/m)
0	633±30
1	818±29
2	595±28
4	520±31
8	603±34
16	810±32

Table A6 Effect of PS/NR content on impact strength of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

PS/NR content (phr)	Impact energy (J/m)
0	633±30
1	888±34
2	643±35
4	817±37
8	866±38
16	726±35

Table A7 Effect of PS/NR/MA content on impact strength of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

PS/NR/MA content (phr)	Impact energy (J/m)
0	633±30
1	901±29
2	862±32
4	825±35
8	810±40
16	767±42

Appendix B Mechanical properties of Nylon12/NR/compatibilizer blends.

Table B1 Effect of SEBS FG 1901X content on tensile modulus of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

SEBS FG 1901X content (phr)	Tensile modulus (MPa)
0	827.46±88.01
1	907.39±98.53
2	947.89±106.15
4	882.38±97.04
8	752.38±66.44
16	599.13±107.08

Table B2 Effect of PS/NR content on tensile modulus of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

PS/NR content (phr)	Tensile modulus (MPa)
0	827.46±88.01
1	1093.83±80.99
2	1142.48±128.60
4	1078.47±138.02
8	1004.69±96.26
16	821.24±42.02

Table B3 Effect of PS/NR/MA content on tensile modulus of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

PS/NR/MA content (phr)	Tensile modulus (MPa)
0	827.46±88.01
1	1194.96±118.11
2	1296.45±91.58
4	1084.96±56.72
8	823.54±72.91
16	742.22±38.75

Table B4 Effect of SEBS FG 1901X content on tensile stress of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

SEBS FG 1901X content (phr)	Tensile stress (MPa)
0	25.50±0.891
1	27.70±0.707
2	27.21±0.480
4	25.53±0.463
8	22.09±1.005
16	19.66±1.275

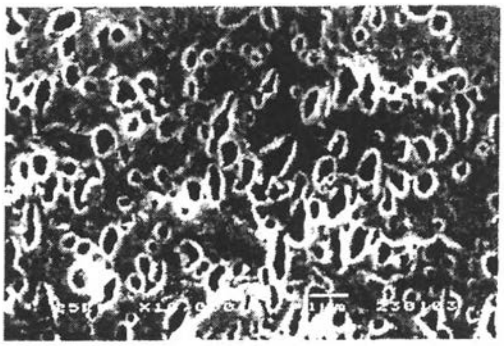
Table B5 Effect of PS/NR content on tensile stress of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

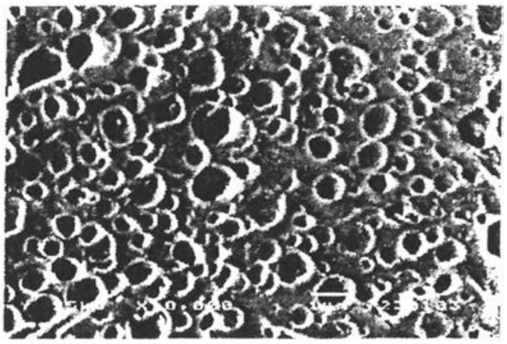
PS/NR content (phr)	Tensile stress (MPa)
0	25.50±0.891
1	27.78±0.582
2	26.40±0.788
4	25.36±1.698
8	22.86±1.584
16	17.01±1.705

Table B6 Effect of PS/NR/MA content on tensile stress of 80/20 Nylon12/NR blends with 1, 2, 4, 8 and 16 phr.

PS/NR/MA content (phr)	Tensile stress (MPa)
0	25.50±0.891
1	28.52±0.688
2	26.02±0.461
4	24.99±0.541
8	20.24±1.105
16	15.13±0.462

Appendix C SEM micrographs, dispersed phase size, and TEM micrographs of Nylon12/NR blends (Totanapoka, Chatchawan (2001). Morphology interface property relationship in blends compatibilized by reactive process. M.S. Thesis, The Petroleum and Petrochemical, Chulalongkorn University).


(a)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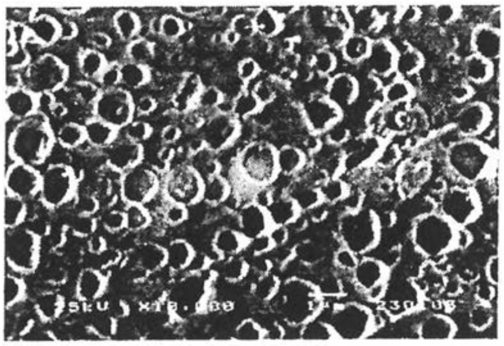
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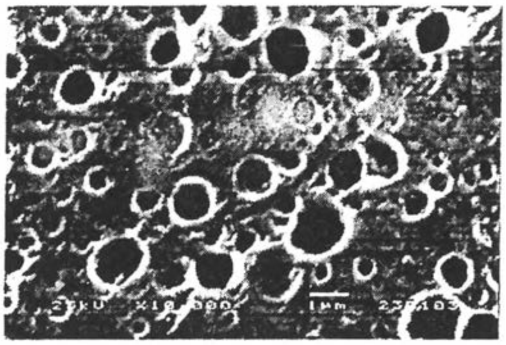
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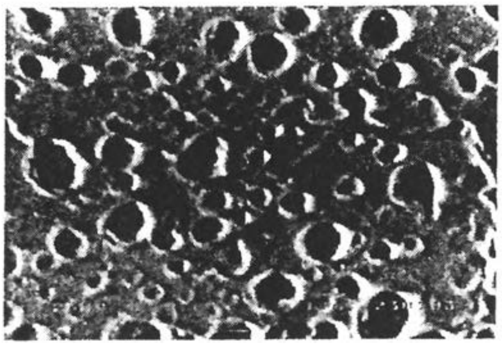
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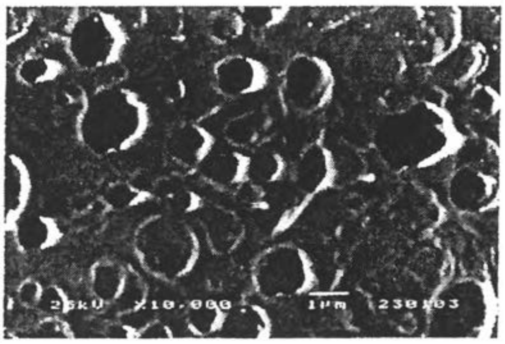
(f)

Figure C1 SEM micrographs of the cryofracture surfaces of the [80/20] [Nylon12/NR] blends at various SEBS G1652 contents (a) 0 phr, (b) 1phr, (c) 2 phr, (d) 4 phr, (e) 8phr, and (f) 16 phr.

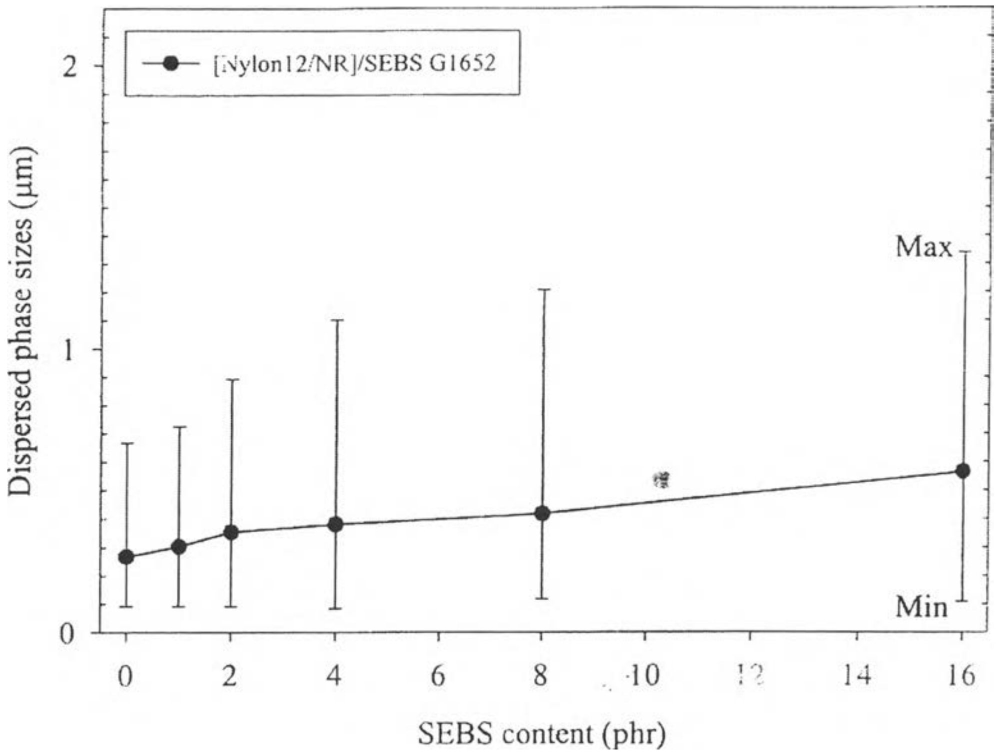

Figure C2 Dispersed phase size and distribution of [Nylon12/NR]/SEBS G1652 blends with 0, 1, 2, 4, 8, and 16 phr of SEBS.

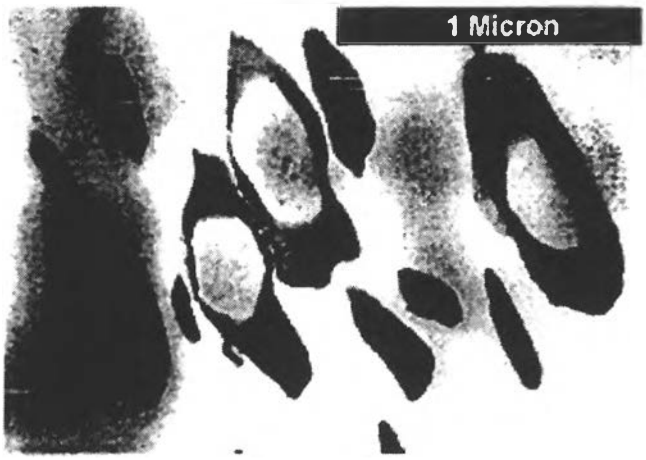

Figure C3 TEM micrographs with a magnification of 55500x of the ultra thin microtomed of [80/20]/4phr [Nylon12/NR]/SEBS G1652 blend.

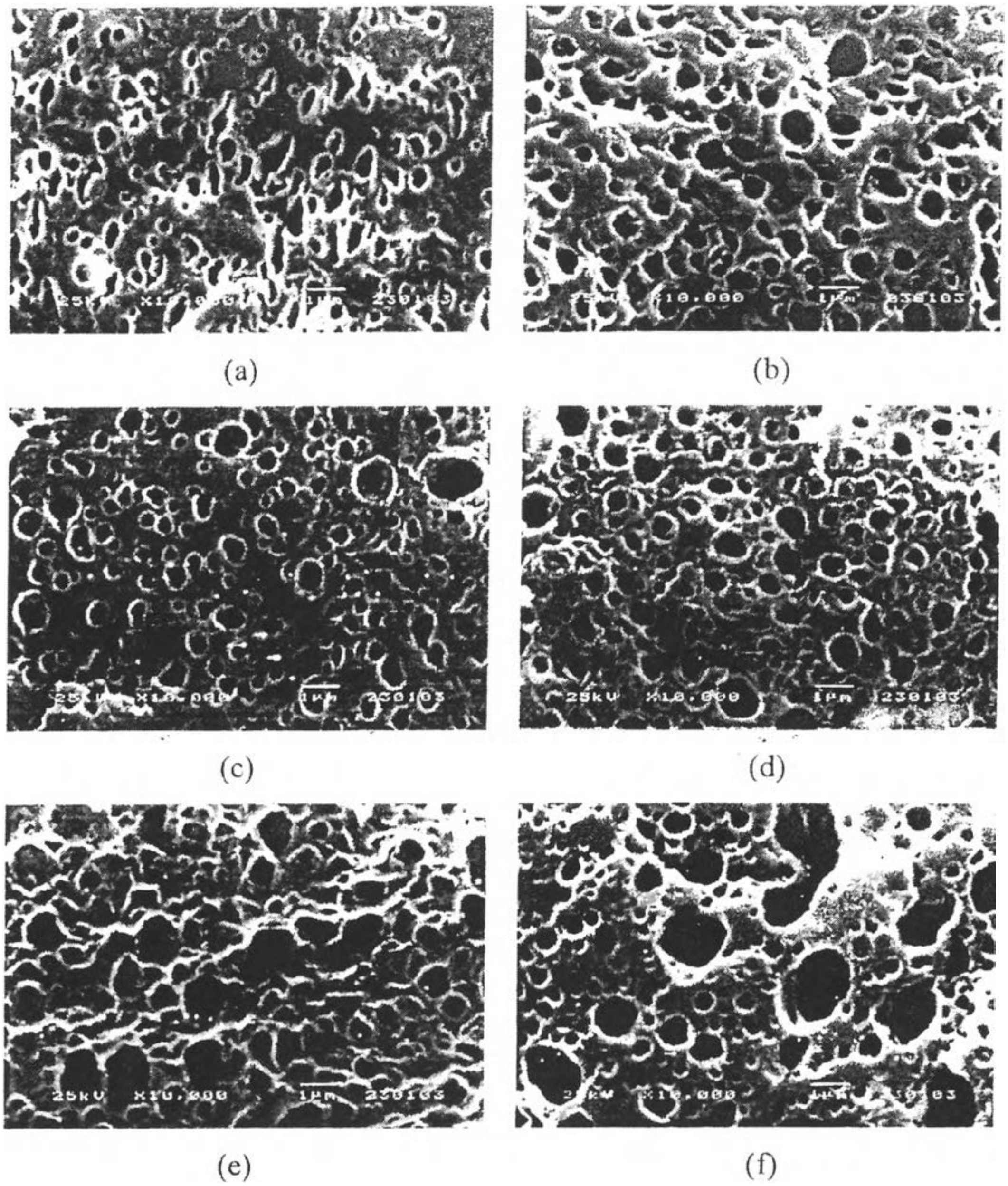

Figure C4 SEM micrographs of the cryofracture surfaces of the [80/20] [Nylon12/NR] blends at various SEBS G1650 contents (a) 0 phr, (b) 1 phr, (c) 2 phr, (d) 4 phr, (e) 8phr, and (f) 16 phr.

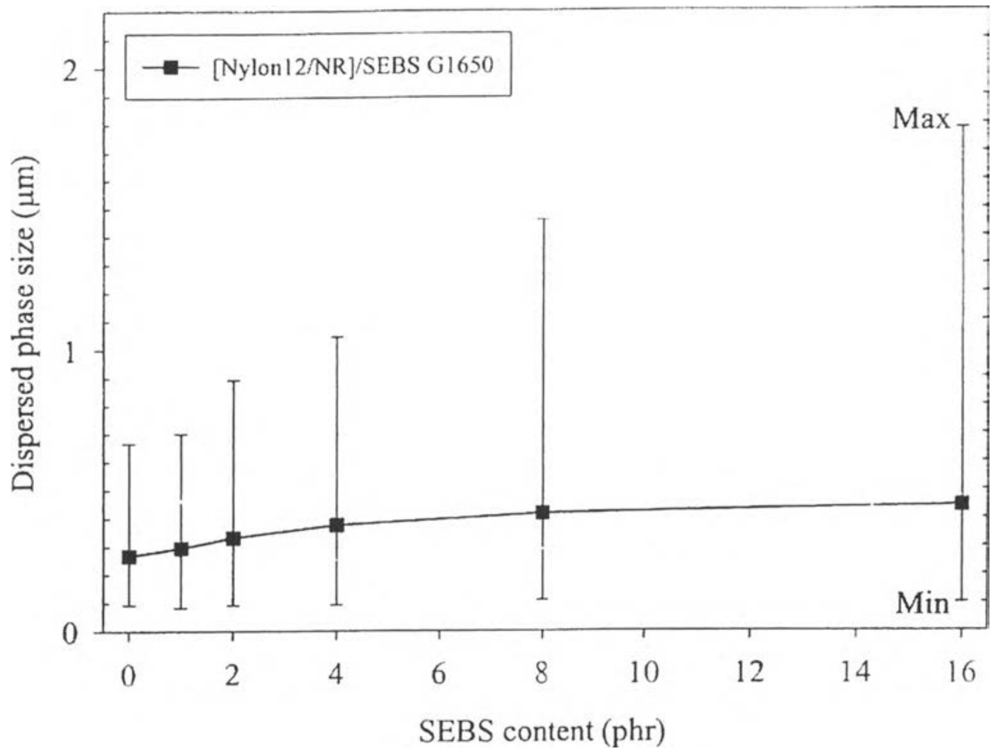

Figure C5 Dispersed phase size and distribution of [Nylon12/NR]/SEBS G1650 blends with 0, 1, 2, 4, 8, and 16 phr of SEBS.

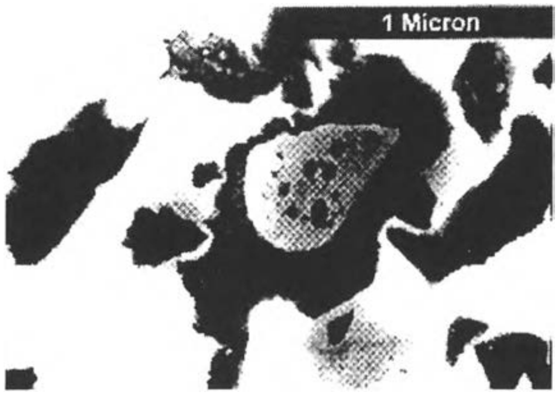

Figure C6 TEM micrographs with a magnification of 55500x of the ultra thin microtomed of [80/20]/4phr [Nylon12/NR]/SEBS G1650 blend.

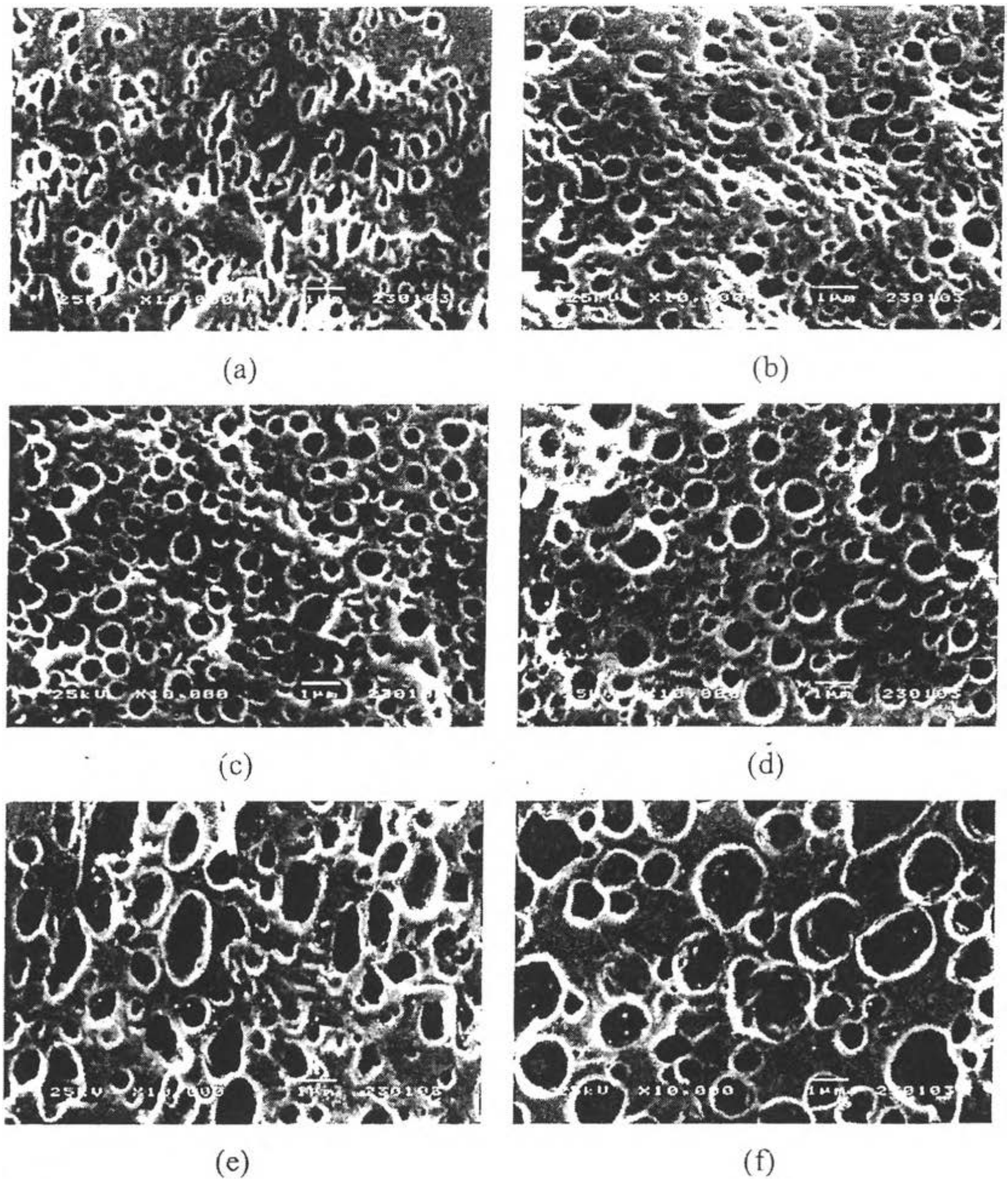

Figure C7 SEM micrographs of the cryofracture surfaces of the [80/20] [Nylon12/NR] blends at various SEBS G1657 contents (a) 0 phr, (b) 1phr, (c) 2 phr, (d) 4 phr, (e) 8phr, and (f) 16 phr.

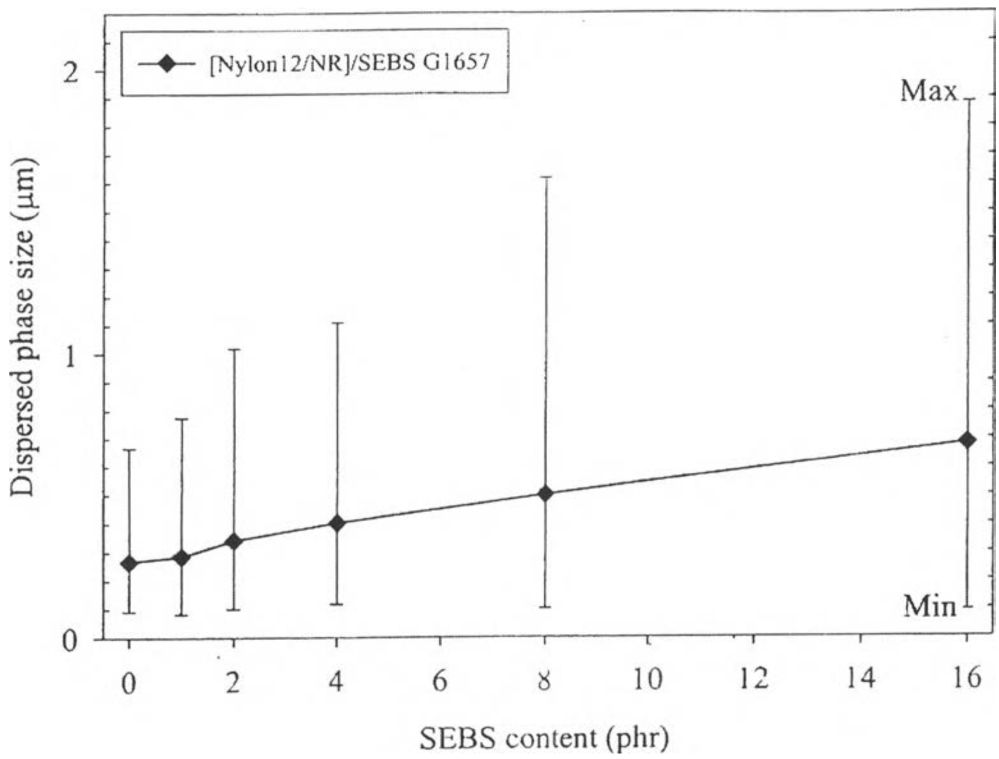

Figure C8 Dispersed phase size and distribution of [Nylon12/NR]/SEBS G1657 blends with 0, 1, 2, 4, 8, and 16 phr of SEBS.

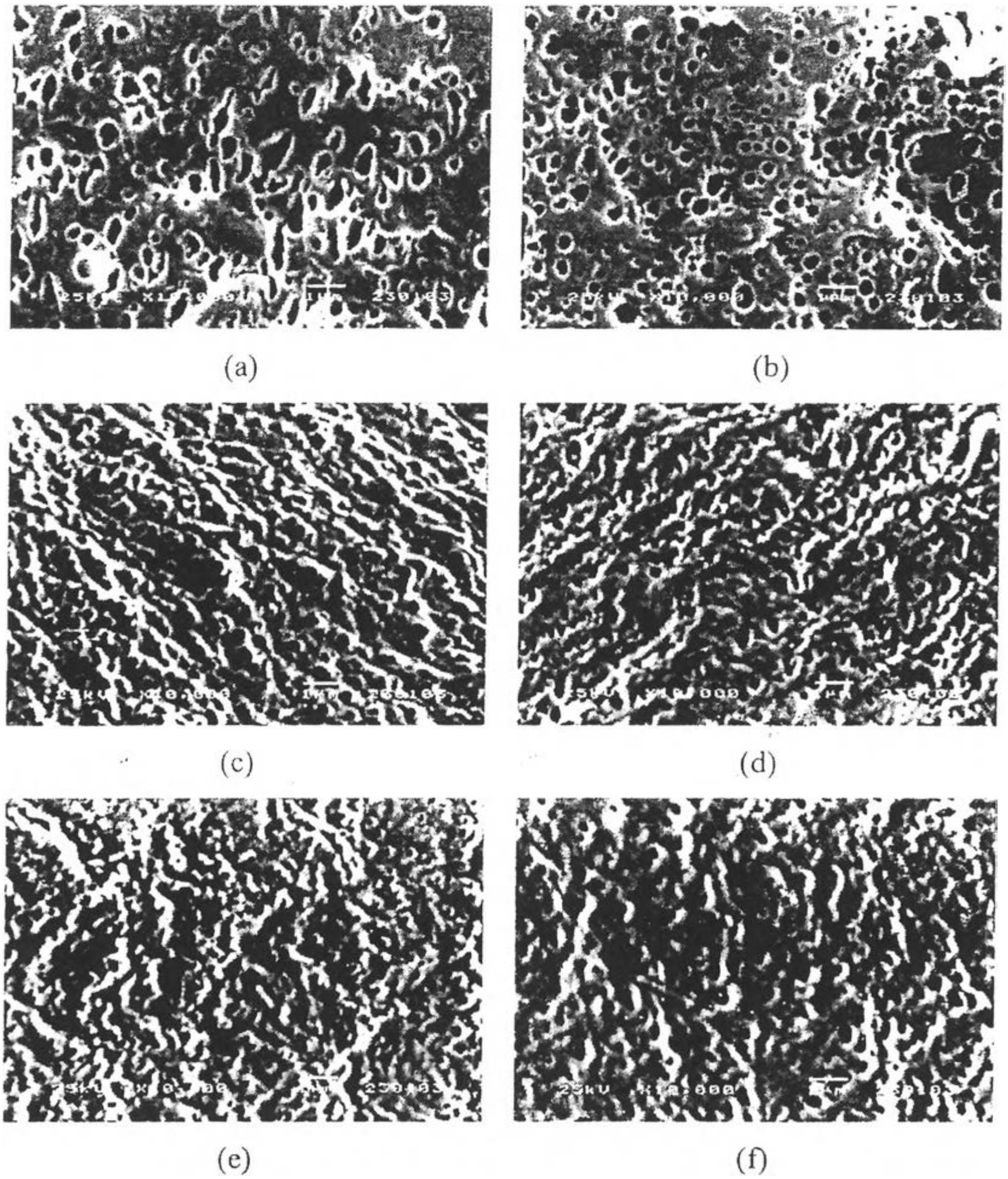

Figure C9 SEM micrographs of the cryofracture surfaces of the [80/20] [Nylon12/NR] blends at various SEBS-g-MA FG 1901X contents (a) 0 phr, (b) 1phr, (c) 2 phr, (d) 4 phr, (e) 8phr, and (f) 16 phr.

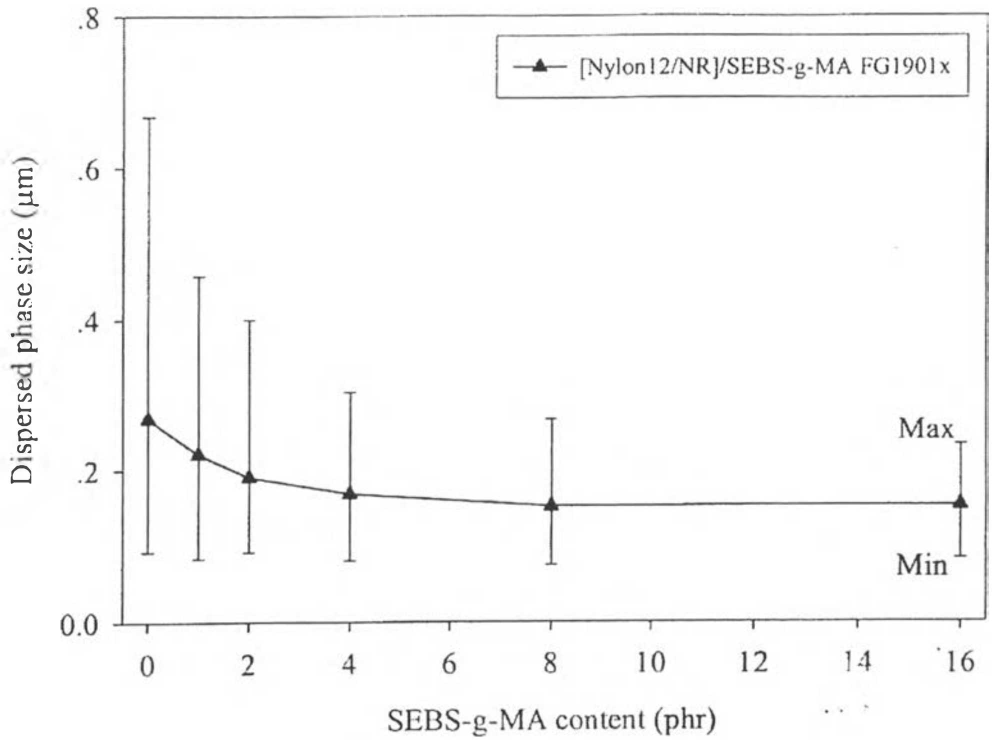

Figure C10 Dispersed phase size and distribution of [Nylon12/NR]/SEBS-g MA FG1901X blends with 0, 1, 2, 4, 8, and 16 phr of SEBS.

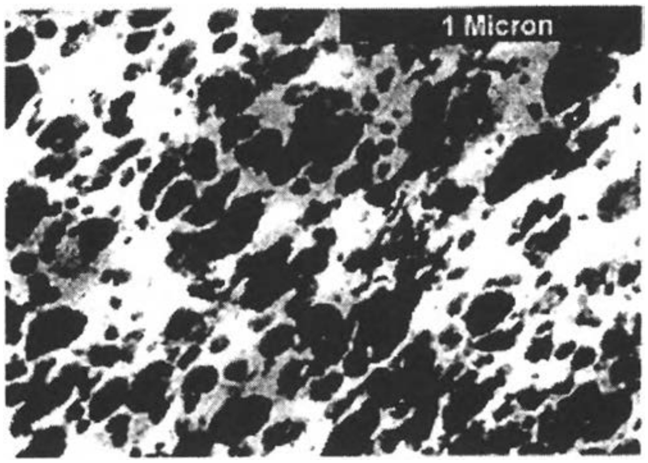

Figure C11 TEM micrographs with a magnification of 55500x of the ultra thin microtomed (a) [80/20]/4phr [Nylon12/NR]/SEBS-g-MA FG1901X blend.

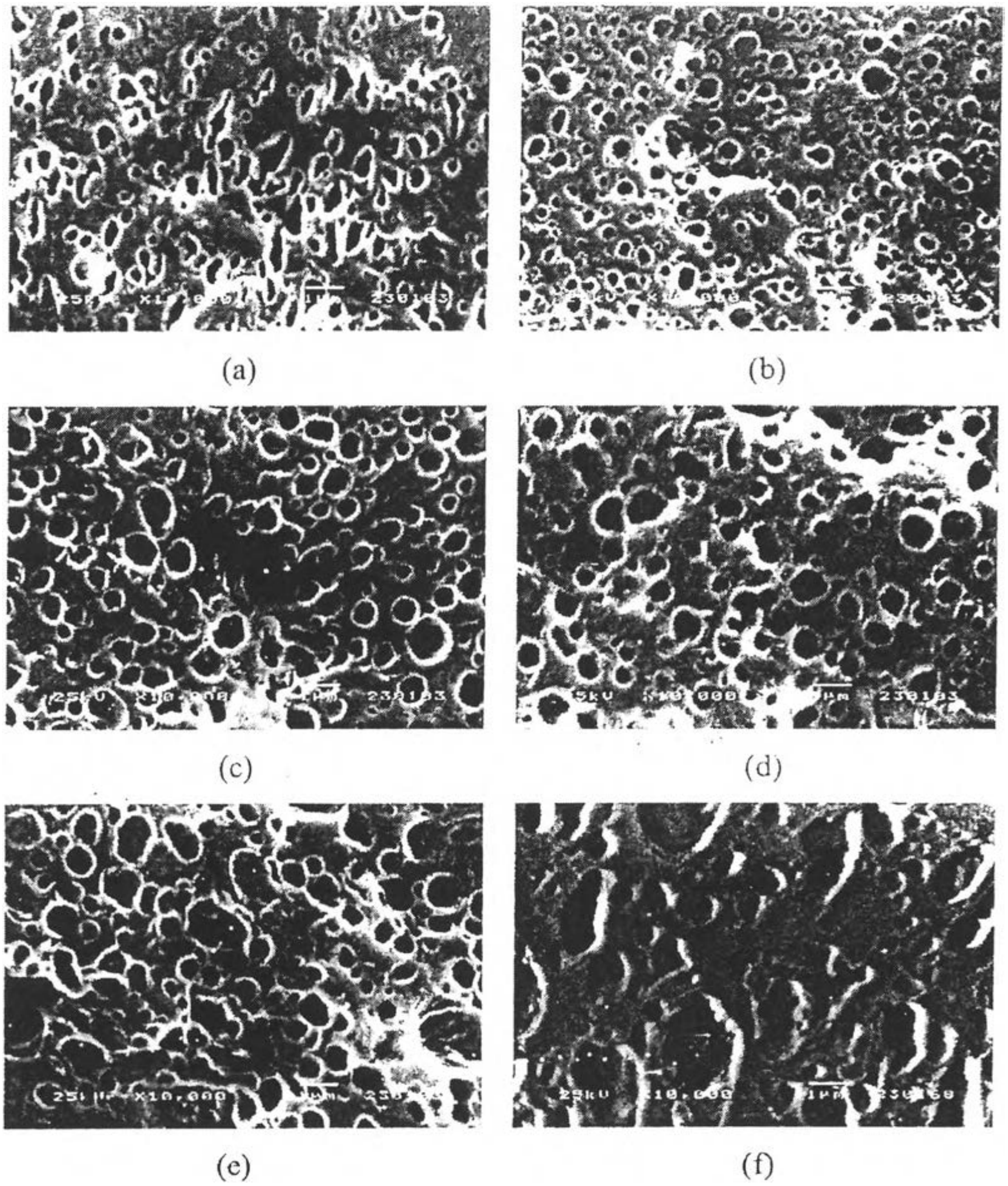

Figure C12 SEM micrographs of the cryofracture surfaces of the [80/20] [Nylon12/NR] blends at various [PS/NR] contents (a) 0 phr, (b) 1phr, (c) 2 phr, (d) 4 phr, (e) 8phr, and (f) 16 phr.

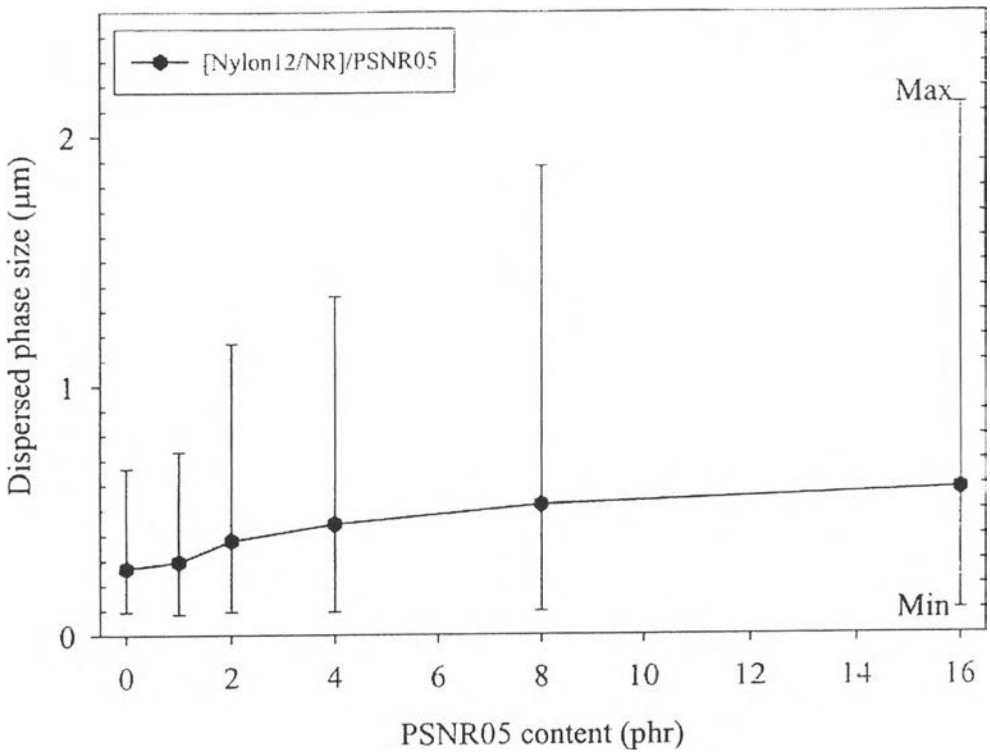

Figure C13 Dispersed phase size and distribution of [Nylon12/NR]/[PS/NR] blends with 0, 1, 2, 4, 8, and 16 phr of [PS/NR].

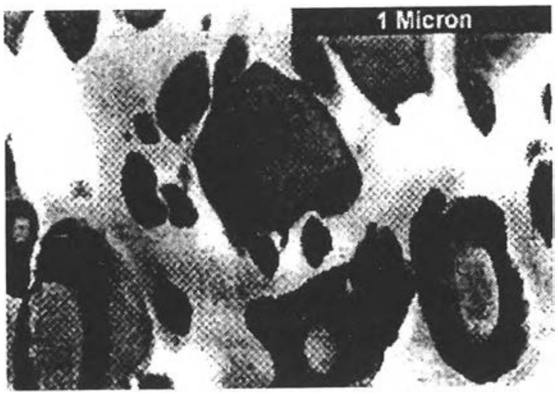

Figure C14 TEM micrographs with a magnification of 55500x of the ultra thin microtomed (a) [80/20]/4phr [Nylon12/NR]/[PS/NR] blend.

CURRICULUM VITAE

Name: Mr. Wasapol Potisuwan

Date of Birth: August 13, 1981

Nationality: Thai

University Education:

1998-2002 Bachelor Degree of Engineer in Chemical Engineering, Chulalongkorn University, Bangkok, Thailand.