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APPENDIX A

Thermal properties of blends

Table A1 Thermal properties of PTT/PET blends

Percent of PTT	T_g	T_{cc}	T_{m1}	T_{m2}	T_c
0	76.6	139.4	-	247.0	190.3
10	72.5	128.4	-	244.0	184.5
25	66.8	129.5	223.1	236.2	169.0
40	63.3	121.5	213.7	235.2	154.1
50	59.5	107.5	214.7	233.5	154.1
60	55.1	104.5	213.7	230.9	150.8
75	51.5	90.8	219.7	-	162.3
90	44.8	76.2	223.0	-	174.5
100	43.1	68.8	226.8	-	179.8

Table A2 Thermal properties of PTT/PBT blends

Percent of PTT	T_g	T_{cc}	$T_m(\text{PTT})$	T_{m1}	T_{m2}	T_c
0	34.8	-	-	223.2	230.0	192.1
10	35.7	-	-	221.8	228.9	191.5
25	32.6	46.8	-	221.2	228.6	189.6
40	34.0	54.5	-	220.3	227.0	183.3
50	34.3	61.0	-	221.5	227.5	182.1
60	36.5	68.3	220.5	-	-	174.8
75	37.1	70.7	224.2	-	-	182.5
90	40.5	69.3	226.3	-	-	181.8
100	43.1	68.8	226.8	-	-	179.8

APPENDIX B

Mechanical property

Table B1 Tensile strength data of PTT/PET blends

Percent of PTT	Tensile strength (MPa)					average (MPa)	std. Dev.
	no.1	no.2	no.3	no.4	no.5		
0	75.1	73.1	75.0	74.6	71.0	73.8	1.7
10	55.4	48.5	51.1	49.7	57.6	52.5	3.9
25	59.3	58.3	58.1	61.3	58.3	59.1	1.3
40	58.0	66.9	66.0	64.6	63.1	63.7	3.5
50	31.1	27.2	32.0	32.8	27.2	30.1	2.7
60	57.5	51.0	52.6	57.9	48.2	53.4	3.7
75	45.6	40.2	41.0	43.6	38.4	41.8	2.9
90	41.6	34.6	39.1	36.9	44.0	39.2	3.7
100	58.2	53.6	58.6	58.3	63.0	58.3	3.3

APPENDIX C

Steady shear behavior

Table C1 Shear viscosity vs shear rate of PTT/PET blends at 260°C

Shear Rate (1/s)	Percent of PTT				
	0.0	25.0	50.0	75.0	100.0
0.25119	88.66	66.07	51.34	68.59	73.94
0.31623	88.55	65.92	51.32	68.38	73.19
0.39811	88.03	65.70	51.30	68.26	72.66
0.50119	88.02	65.45	50.96	68.20	71.80
0.63096	87.94	65.20	50.73	68.07	71.51
0.79433	87.62	65.11	50.58	67.71	70.83
1	87.39	64.89	50.47	67.25	70.33
1.2589	86.78	64.78	50.27	67.09	69.59
1.5849	86.20	64.22	50.16	66.09	69.31
1.9953	85.79	63.70	49.30	65.65	68.92
2.5119	85.37	63.40	48.98	65.25	68.74
3.1623	85.28	62.82	48.74	64.87	68.68
3.9811	84.33	62.44	48.66	64.05	68.53
5.0119	83.79	61.62	48.33	63.32	67.67
6.3096	83.32	61.00	47.90	62.64	66.91
7.9433	82.88	60.83	47.65	62.26	66.46
10	82.35	60.67	47.27	61.94	65.71
12.589	82.09	60.44	47.01	61.67	65.17
15.849	81.88	60.28	46.82	61.49	64.64
19.953	81.17	59.75	46.20	61.10	63.65
25.119	81.07	59.57	46.14	60.65	63.42

Table C2 Shear viscosity vs. shear rate of PTT/PBT blends at 260°C

Shear Rate (1/s)	Percent of PTT				
	0.0	25.0	50.0	75.0	100.0
0.25119	128.47	98.71	108.68	83.25	73.94
0.31623	129.46	97.07	107.32	82.27	73.19
0.39811	128.95	96.45	106.79	81.52	72.66
0.50119	125.98	94.44	105.88	79.52	71.80
0.63096	124.04	93.54	104.62	78.83	71.51
0.79433	123.96	92.27	102.56	77.37	70.83
1	122.87	92.05	101.24	76.36	70.33
1.2589	122.00	88.77	99.64	74.83	69.59
1.5849	119.60	87.49	99.73	74.80	69.31
1.9953	119.04	85.21	98.54	73.51	68.92
2.5119	117.45	85.57	97.37	73.01	68.74
3.1623	115.74	83.94	95.96	72.55	68.68
3.9811	114.41	82.62	94.60	71.87	68.53
5.0119	112.66	81.70	93.31	71.44	67.67
6.3096	111.07	80.65	92.06	70.92	66.91
7.9433	110.73	79.80	90.75	70.52	66.46
10	109.87	78.99	89.50	70.05	65.71
12.589	108.62	78.46	88.32	69.70	65.17
15.849	107.13	77.96	86.98	69.30	64.64
19.953	105.17	77.22	85.19	68.70	63.65
25.119	102.59	76.37	83.13	68.13	63.42

APPENDIX D

Dynamic shear behavior

Table D1 Complex viscosity vs frequency of PTT/PET blends at 260°C

Frequency (rad/s)	Percent of PTT				
	0.0	25.0	50.0	75.0	100.0
100	90.99	39.85	47.94	64.75	66.74
79.433	90.95	39.72	47.81	64.63	66.53
63.096	91.00	39.66	47.70	64.38	66.46
50.119	91.10	39.65	47.61	64.37	66.59
39.811	91.23	39.71	47.59	64.48	66.70
31.623	91.48	39.78	47.57	64.32	66.73
25.119	91.73	39.88	47.48	64.55	66.53
19.953	91.87	39.97	47.44	64.81	66.13
15.849	91.70	40.24	47.54	64.78	66.20
12.589	92.12	40.40	47.58	65.02	66.23
10	92.87	41.06	47.43	64.70	66.20
7.9433	93.06	41.35	47.50	64.78	66.04
6.3096	93.17	41.64	47.57	65.11	65.91
5.0119	93.35	41.93	47.50	65.06	65.81
3.9811	93.52	42.22	47.38	65.11	65.71
3.1623	93.69	42.57	47.54	65.26	65.66
2.5119	94.04	42.77	47.65	65.53	65.58
1.9953	94.34	43.10	47.56	65.21	65.46
1.5849	94.79	43.53	47.49	65.68	65.49
1.2589	95.37	43.56	47.62	65.70	65.37
1	95.96	44.23	47.40	66.39	65.20

Table D2 Complex viscosity vs frequency of PTT/PBT blends at 260°C

Frequency (rad/s)	Percent of PTT				
	0.0	25.0	50.0	75.0	100.0
100	78.71	83.17	80.21	66.09	66.94
79.433	78.75	83.40	80.24	65.99	66.83
63.096	78.75	83.38	80.27	65.88	66.62
50.119	78.89	83.56	80.33	65.79	66.59
39.811	78.92	83.60	80.26	65.79	66.70
31.623	78.74	83.61	80.07	65.87	66.73
25.119	78.67	83.80	80.39	65.78	66.53
19.953	78.82	83.49	80.42	65.67	66.42
15.849	78.85	83.70	80.29	65.56	66.31
12.589	78.68	83.61	79.90	65.49	66.23
10	78.44	83.40	80.02	65.20	66.20
7.9433	78.28	83.11	79.70	64.89	66.04
6.3096	78.21	83.15	79.75	64.70	65.91
5.0119	78.32	82.98	79.62	64.79	65.81
3.9811	78.12	82.92	79.42	64.63	65.71
3.1623	77.87	82.76	79.54	64.55	65.66
2.5119	77.91	82.77	79.30	64.67	65.58
1.9953	77.95	82.66	79.15	64.79	65.46
1.5849	78.13	83.10	79.44	64.63	65.49
1.2589	78.09	83.01	79.37	64.55	65.41
1	78.08	83.10	79.27	64.38	65.30

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