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# Appendix

## Appendix A. Raw data of shear viscosity from rheometric measurements

Table A-1 The shear viscosity of PC and its blends with CBC33 at various range of shear rate.

Shear Rate (1/s)	Shear Viscosity of PC and its blends (Pa.s)			
	Pure PC	PC + 0.25% CBC33	PC + 0.5% CBC33	PC + 1% CBC33
24.50	771.32	609.96	875.78	952.66
51.10	271.02	213.03	266.20	272.18
75.30	156.11	122.32	142.05	140.58
108.00	93.45	73.01	79.20	76.03
133.00	69.49	54.20	56.52	53.32
150.00	58.56	45.63	46.51	43.44
186.00	43.12	33.54	32.83	30.11
225.00	32.89	25.54	24.12	21.77
245.00	29.14	22.61	21.01	18.83
299.00	21.95	17.00	15.21	13.41
301.00	21.74	16.84	15.05	13.26
334.00	18.75	14.51	12.72	11.10
341.00	18.20	14.09	12.30	10.72
367.00	16.40	12.68	10.92	9.45
394.00	14.82	11.46	9.73	8.38
421.00	13.49	10.42	8.74	7.48
447.00	12.38	9.56	7.93	6.76
473.00	11.43	8.82	7.24	6.14
500.00	10.56	8.15	6.61	5.58



Table A-2 The shear viscosity of PC and its blends with CBC53 at various range of shear rate.

Shear Rate (1/s)	Shear Viscosity of PC and its blends (Pa.s)			
	Pure PC	PC + 0.25% CBC53	PC + 0.5% CBC53	PC + 1% CBC53
24.50	191.12	252.82	240.87	94.23
51.10	161.34	203.33	183.80	73.15
75.30	138.29	166.77	143.71	58.09
108.00	112.29	127.59	103.06	42.54
133.00	95.76	103.97	79.93	33.53
150.00	85.93	90.45	67.24	28.52
186.00	68.32	67.36	46.63	20.24
225.00	53.30	48.94	31.37	13.96
245.00	46.92	41.55	25.60	11.54
299.00	33.26	26.70	14.78	6.90
301.00	32.84	26.26	14.49	6.77
333.00	26.79	20.21	10.46	4.99
341.00	25.46	18.93	9.65	4.63
367.00	21.57	15.30	7.40	3.61
394.00	18.16	12.26	5.63	2.79
420.00	15.39	9.91	4.32	2.18
447.00	12.96	7.94	3.28	1.69
473.00	10.98	6.42	2.52	1.32
500.00	9.25	5.15	1.92	1.02

Table A-3 The shear viscosity of PA6 and its blends with CBC53 at various range of shear rate

Shear Rate (1/s)	Shear Viscosity (Pa.s)			
	PURE PA 6	PA 6 + 0.1% CBC53	PA 6 + 0.2% CBC53	PA 6 + 0.4% CBC53
21.30	15.99	24.13	30.01	30.97
51.40	8.50	10.64	12.02	11.49
85.60	5.89	6.62	7.07	6.47
103.00	5.16	5.57	5.84	5.26
125.00	4.49	4.65	4.77	4.23
146.00	4.02	4.03	4.06	3.55
186.00	3.38	3.22	3.16	2.70
208.00	3.12	2.90	2.81	2.38
230.00	2.90	2.64	2.53	2.13
250.00	2.73	2.44	2.32	1.94
267.00	2.60	2.30	2.17	1.80
293.00	2.44	2.11	1.97	1.62
333.00	2.22	1.87	1.73	1.40
354.00	2.13	1.77	1.62	1.31
375.00	2.04	1.68	1.52	1.23
396.00	1.96	1.59	1.44	1.15
416.00	1.89	1.52	1.37	1.09
457.00	1.77	1.39	1.24	0.98
480.00	1.71	1.33	1.18	0.93
500.00	1.66	1.28	1.13	0.89

Table A-4 The shear viscosity of POM and its blends with HP5N at various range of shear rate.

Shear Rate (1/s)	Shear Viscosity of POM and its blends (Pa.s)			
	Pure POM	POM + 0.1% HP5N	POM + 0.2% HP5N	POM + 0.4% HP5N
31.10	780.00	478.01	500.00	1,118.82
47.10	326.60	58.32	186.00	31.03
96.70	28.56	15.67	17.56	7.73
121.00	19.74	11.54	11.43	5.65
150.00	14.42	8.77	8.07	4.28
181.00	11.20	6.99	6.14	3.40
212.00	9.15	5.80	4.96	2.82
243.00	7.74	4.96	4.15	2.41
272.00	6.76	4.37	3.61	2.12
303.00	5.96	3.88	3.16	1.88
332.00	5.36	3.51	2.84	1.69
363.00	4.84	3.18	2.55	1.54
394.00	4.41	2.91	2.32	1.41
424.00	4.07	2.69	2.14	1.30
454.00	3.77	2.50	1.98	1.21
485.00	3.51	2.33	1.84	1.12
567.00	2.96	1.98	1.54	0.95

Table A-5 The shear viscosity of PP and its blends with HP5N at various range of shear rate.

Shear Rate (1/s)	Shear Viscosity (Pa.s)			
	Pure PP	PP + 0.1% HP5N	PP + 0.2% HP5N	PP + 0.4% HP5N
	Reg.	Reg.	Reg.	Reg.
15.2	19.15	24.27	11.97	17.08
45.1	14.06	14.06	8.74	10.26
60.3	12.38	11.59	7.69	8.53
83.7	10.46	9.12	6.49	6.77
102	9.33	7.81	5.78	5.83
123	8.30	6.71	5.14	5.03
146	7.41	5.81	4.58	4.37
165	6.80	5.24	4.20	3.95
186	6.24	4.72	3.85	3.56
208	5.74	4.27	3.54	3.23
228	5.35	3.94	3.30	2.98
249	4.99	3.64	3.08	2.76
270	4.68	3.38	2.89	2.57
291	4.41	3.15	2.72	2.40
312	4.17	2.96	2.57	2.25
333	3.95	2.79	2.43	2.12
354	3.75	2.63	2.31	2.00
375	3.57	2.49	2.20	1.90
396	3.41	2.37	2.10	1.81
417	3.26	2.26	2.01	1.72
437	3.13	2.16	1.93	1.65
458	3.01	2.07	1.85	1.58
479	2.89	1.98	1.78	1.51
500	2.78	1.90	1.72	1.45

Table A-6 The shear viscosity of PE and its blends with BCH5 at various range of shear rate.

Shear Rate (1/s)	Shear Viscosity (Pa.s)			
	Pure PE	PE + 0.1% BCH5	PE + 0.2% BCH5	PE + 0.4% BCH5
29.50	482.60	478.76	547.29	373.64
59.60	400.36	391.12	418.67	311.29
91.40	339.28	327.73	335.39	264.63
118.00	300.89	288.61	287.55	235.15
182.00	236.49	224.21	214.07	185.45
211.00	215.59	203.62	191.86	169.24
243.00	196.42	184.89	172.15	154.35
271.00	182.25	171.11	157.95	143.32
304.00	167.97	157.30	143.96	132.18
331.00	157.84	147.56	134.23	124.28
355.00	149.82	139.86	126.62	118.01
389.00	139.75	130.23	117.21	110.14
415.00	132.92	123.71	110.90	104.80
453.00	124.06	115.29	102.82	97.86
478.00	118.85	110.34	98.12	93.77
515.00	111.89	103.75	91.90	88.31

Table A-7 The Complex viscosity of SAN and its blends with BCH5 at various range of frequency.

Frequency (Hz)	Complex Viscosity (kPa.s)			
	Pure SAN	SAN + 0.1% BCH5	SAN + 0.2% BCH5	SAN + 0.4% BCH5
100	0.768	0.650	0.429	0.421
75	0.881	0.722	0.495	0.487
44.2	1.150	0.906	0.660	0.650
24.4	1.590	1.220	0.931	0.915
14.7	2.12	1.62	1.26	1.23
10	2.63	2.02	1.59	1.54
6.81	3.27	2.53	1.99	1.91
4.64	4.04	3.15	2.48	2.35
3.16	4.96	3.89	3.05	2.83
2.15	6.03	4.75	3.70	3.41
1.47	7.22	5.67	4.41	4.00
1	8.56	6.65	5.15	4.60
0.681	9.97	7.62	5.91	5.19
0.464	11.40	8.54	6.63	5.74
0.316	12.90	9.37	7.30	6.24
0.215	14.30	10.10	7.90	6.68
0.147	15.50	10.70	8.41	7.05
0.1	16.70	11.20	8.84	7.35
0.0681	17.70	11.60	9.20	7.60
0.0464	18.50	11.90	9.48	7.79
0.0315	19.20	12.10	9.70	7.94
0.0215	19.80	12.30	9.87	8.06
0.0147	20.20	12.40	10.00	8.15
0.01	20.60	12.50	10.10	8.22

Table A-8 The Complex viscosity of PMMA and its blends with BCH5 at various range of frequency.

Frequency (Hz)	Complex Viscosity (kPa.s)			
	Pure PMMA	PMMA + 0.1% BCH5	PMMA + 0.2% BCH5	PMMA + 0.4% BCH5
100	0.901	1.020	0.682	0.357
75	1.050	1.080	0.765	0.444
44.2	1.440	1.250	0.984	0.656
24.4	2.12	1.59	1.37	1.00
14.7	2.98	2.07	1.88	1.41
10	3.85	2.62	2.40	1.80
6.81	4.94	3.36	3.04	2.27
4.64	6.25	4.32	3.82	2.81
3.16	7.77	5.53	4.72	3.42
2.15	9.45	6.94	5.69	4.09
1.47	11.20	8.44	6.68	4.77
1	13.00	9.96	7.63	5.46
0.681	14.60	11.40	8.50	6.12
0.464	16.10	12.50	9.24	6.72
0.316	17.30	13.50	9.84	7.26
0.215	18.40	14.20	10.30	7.72
0.147	19.20	14.80	10.70	8.10
0.1	19.80	15.10	11.00	8.41
0.0681	20.30	15.40	11.20	8.66
0.0464	20.70	15.60	11.30	8.85
0.0315	20.90	15.70	11.40	9.00
0.0215	21.10	15.80	11.50	9.12
0.0147	21.30	15.80	11.50	9.21
0.01	21.40	15.90	11.60	9.27



Table A-9 The Complex viscosity of SAN80\_PMMA20 and its blends with BCH5 at various range of frequency.

Frequency (Hz)	Complex Viscosity (Pa.s)			
	SAN80_PMMA20	SAN80_PMMA20 + 0.1% BCH5	SAN80_PMMA20 + 0.2% BCH5	SAN80_PMMA20 + 0.4% BCH5
100	614.98	542.34	990.81	539.04
75	724.15	653.81	1,117.94	621.03
44.2	991.26	919.52	1,409.25	823.93
24.4	1,429.38	1,340.49	1,846.74	1,161.80
14.7	1,959.99	1,834.18	2,334.08	1,576.82
10	2,486.61	2,312.39	2,787.39	1,993.24
6.81	3,137.31	2,892.06	3,318.64	2,512.29
4.64	3,926.71	3,583.84	3,933.04	3,146.84
3.16	4,864.60	4,395.26	4,633.70	3,905.46
2.15	5,950.09	5,326.62	5,418.94	4,787.26
1.47	7,147.76	6,351.29	6,267.15	5,762.11
1	8,456.80	7,474.90	7,186.21	6,826.86
0.681	9,812.35	8,649.85	8,142.75	7,925.52
0.464	11,163.04	9,839.68	9,114.33	9,013.30
0.316	12,459.74	11,007.43	10,078.22	10,048.34
0.215	13,659.37	12,117.36	11,011.16	10,995.41
0.147	14,715.10	13,124.52	11,878.77	11,818.53
0.1	15,639.25	14,035.80	12,687.66	12,529.45
0.0681	16,413.40	14,826.02	13,413.61	13,116.69
0.0464	17,048.29	15,497.07	14,053.55	13,591.59
0.0316	17,560.57	16,057.52	14,609.43	13,969.50
0.0215	17,968.00	16,518.54	15,085.57	14,266.04
0.0147	18,283.65	16,887.50	15,482.43	14,492.82
0.01	18,532.30	17,187.35	15,818.29	14,669.24
0.00681	18,723.37	17,424.84	16,095.22	14,803.17
0.00464	18,869.65	17,612.00	16,322.27	14,904.51
0.00316	18,981.43	17,759.09	16,507.76	14,981.08
0.00215	19,066.64	17,874.29	16,658.66	15,038.81
0.00147	19,130.52	17,962.96	16,779.20	15,081.63
0.001	19,179.60	18,032.83	16,877.70	15,114.18



Table A-10 The Complex viscosity of SAN60\_PMMA40 and its blends with BCH5 at various range of frequency.

Frequency (Hz)	Complex Viscosity (Pa.s)			
	SAN60_PMMA40	SAN60_PMMA40 + 0.1% BCH5	SAN60_PMMA40 + 0.2% BCH5	SAN60_PMMA40 + 0.4% BCH5
100	578.10	866.86	723.36	553.88
75	784.32	973.87	847.83	693.64
44.2	1,271.17	1,241.56	1,147.42	1,020.08
24.4	2,030.61	1,694.66	1,628.87	1,523.63
14.7	2,905.00	2,261.35	2,202.25	2,099.94
10	3,736.98	2,839.45	2,765.44	2,648.21
6.81	4,727.34	3,571.87	3,457.31	3,303.69
4.64	5,885.15	4,483.53	4,295.02	4,077.04
3.16	7,212.19	5,595.11	5,293.03	4,976.48
2.15	8,697.04	6,914.92	6,457.63	6,003.85
1.47	10,286.68	8,406.64	7,760.95	7,133.45
1	11,980.63	10,072.97	9,215.05	8,377.20
0.681	13,700.92	11,830.69	10,761.77	9,689.70
0.464	15,393.61	13,606.98	12,353.59	11,037.68
0.316	17,010.02	15,328.00	13,938.98	12,385.67
0.215	18,508.14	16,926.66	15,465.25	13,696.48
0.147	19,837.55	18,332.38	16,864.77	14,917.10
0.1	21,017.60	19,556.56	18,141.35	16,053.04
0.0681	22,024.65	20,573.03	19,254.69	17,067.70
0.0464	22,868.98	21,397.01	20,203.48	17,955.71
0.0316	23,567.20	22,052.79	20,997.11	18,719.95
0.0215	24,137.37	22,566.49	21,649.87	19,367.44
0.0147	24,591.34	22,958.10	22,171.49	19,900.60
0.01	24,959.07	23,261.48	22,594.33	20,345.96
0.00681	25,249.78	23,490.65	22,928.07	20,708.15
0.00464	25,478.75	23,663.10	23,190.01	21,000.93
0.00316	25,658.75	23,792.62	23,394.92	21,236.69
0.00215	25,799.88	23,889.66	23,554.61	21,425.72
0.00147	25,908.68	23,961.17	23,676.88	21,574.53
0.001	25,994.60	24,015.18	23,772.71	21,694.37

Table A-11 The Complex viscosity of SAN40\_PMMA60 and its blends with BCH5 at various range of frequency.

Frequency (Hz)	Complex Viscosity (Pa.s)			
	SAN40_PMMA60	SAN40_PMMA60 + 0.1% BCH5	SAN40_PMMA60 + 0.2% BCH5	SAN40_PMMA60 + 0.4% BCH5
100	708.37	399.16	506.17	655.80
75	857.32	578.21	645.27	755.31
44.2	1,213.34	987.98	974.80	1,000.00
24.4	1,779.63	1,601.99	1,491.78	1,403.80
14.7	2,446.65	2,284.11	2,091.22	1,895.21
10	3,095.33	2,916.85	2,665.64	2,384.30
6.81	3,884.70	3,656.30	3,354.48	2,989.41
4.64	4,830.73	4,508.70	4,166.68	3,723.49
3.16	5,945.51	5,477.16	5,106.68	4,594.24
2.15	7,231.38	6,558.04	6,169.91	5,598.54
1.47	8,653.37	7,720.31	7,321.61	6,700.59
1	10,220.86	8,973.57	8,564.19	7,896.15
0.681	11,868.57	10,271.27	9,842.34	9,122.59
0.464	13,545.51	11,582.51	11,116.02	10,331.30
0.316	15,198.94	12,876.60	12,347.21	11,477.75
0.215	16,776.93	14,122.84	13,501.33	12,524.95
0.147	18,213.72	15,276.27	14,535.97	13,434.79
0.1	19,517.32	16,346.93	15,462.59	14,221.32
0.0681	20,650.07	17,303.97	16,259.41	14,872.30
0.0464	21,613.38	18,144.65	16,931.70	15,400.22
0.0316	22,418.58	18,872.67	17,490.49	15,821.75
0.0215	23,081.17	19,494.64	17,948.64	16,153.80
0.0147	23,611.39	20,011.91	18,314.55	16,408.78
0.01	24,042.14	20,448.88	18,611.64	16,608.01
0.00681	24,383.06	20,808.65	18,846.91	16,759.94
0.00464	24,651.50	21,103.27	19,032.42	16,875.43
0.00316	24,862.24	21,343.72	19,178.36	16,963.09
0.00215	25,027.11	21,539.19	19,292.84	17,029.49
0.00147	25,153.84	21,695.24	19,381.11	17,078.96
0.001	25,253.58	21,822.70	19,450.81	17,116.74

Table A-12 The Complex viscosity of SAN20\_PMMA80 and its blends with BCH5 at various range of frequency.

Frequency (Hz)	Complex Viscosity (Pa.s)			
	SAN20_PMMA80	SAN20_PMMA80 + 0.1% BCH5	SAN20_PMMA80 + 0.2% BCH5	SAN20_PMMA80 + 0.4% BCH5
100	592.12	606.10	707.84	529.54
75	684.49	742.15	824.64	699.40
44.2	912.85	1,064.61	1,106.84	1,092.03
24.4	1,291.36	1,569.01	1,561.10	1,687.29
14.7	1,752.07	2,149.10	2,100.15	2,354.38
10	2,208.77	2,698.60	2,625.40	2,975.99
6.81	2,769.56	3,348.03	3,263.08	3,703.51
4.64	3,441.80	4,099.24	4,022.21	4,541.20
3.16	4,225.85	4,947.99	4,906.18	5,489.01
2.15	5,110.29	5,880.53	5,908.06	6,538.93
1.47	6,054.75	6,857.36	6,990.36	7,655.64
1	7,047.26	7,872.56	8,149.07	8,842.51
0.681	8,029.94	8,875.37	9,325.67	10,049.72
0.464	8,962.79	9,833.60	10,477.67	11,244.49
0.316	9,814.63	10,721.68	11,567.28	12,396.67
0.215	10,564.40	11,520.69	12,563.44	13,478.95
0.147	11,193.55	12,209.85	13,432.59	14,455.13
0.1	11,720.35	12,805.43	14,189.24	15,337.88
0.0681	12,143.93	13,301.20	14,821.35	16,106.68
0.0464	12,478.74	13,707.56	15,339.62	16,765.13
0.0316	12,740.11	14,036.78	15,758.53	17,321.67
0.0215	12,941.92	14,300.70	16,092.82	17,786.27
0.0147	13,094.20	14,507.37	16,353.01	18,164.35
0.01	13,211.32	14,672.29	16,559.10	18,477.29
0.00681	13,299.37	14,800.89	16,718.46	18,730.00
0.00464	13,365.45	14,900.91	16,841.29	18,933.22
0.00316	13,415.01	14,978.63	16,935.82	19,096.26
0.00215	13,452.13	15,038.91	17,008.41	19,226.67
0.00147	13,479.50	15,084.91	17,063.24	19,329.19
0.001	13,500.19	15,120.88	17,105.68	19,411.70

Table A-13 The shear viscosity of SAN80\_PMMA20 and its blends with BCH5 at various range of shear rate.

Shear rate (1/s)	Shear Viscosity (Pa.s)			
	SAN80_PMMA20	SAN80_PMMA20 + 0.1% BCH5	SAN80_PMMA20 + 0.2% BCH5	SAN80_PMMA20 + 0.4% BCH5
0	3,853.56	3,260.52	2,485.09	967.12
25	1,582.90	1,347.35	1,114.95	637.15
50	996.02	849.11	718.70	475.06
75	726.61	619.89	530.25	378.72
100	571.92	488.11	420.10	314.86
125	471.53	402.54	347.84	269.43
150	401.12	342.50	296.79	235.46
175	349.01	298.04	258.81	209.10
200	308.88	263.80	229.44	188.04
225	277.03	236.62	206.06	170.84
250	251.13	214.51	187.01	156.52
275	229.66	196.19	171.18	144.41
300	211.57	180.74	157.82	134.05
325	196.13	167.55	146.39	125.07
350	182.78	156.16	136.51	117.22
375	171.14	146.22	127.88	110.30
400	160.89	137.46	120.27	104.14
425	151.80	129.70	113.52	98.64
450	143.68	122.76	107.49	93.69
475	136.38	116.53	102.06	89.22
500	129.79	110.91	97.16	85.15

Table A-14 The shear viscosity of SAN60\_PMMA40 and its blends with BCH5 at various range of shear arte.

Shear rate (1/s)	Shear Viscosity (Pa.s)			
	SAN60_PMMA40	SAN60_PMMA40 + 0.1% BCH5	SAN60_PMMA40 + 0.2% BCH5	SAN60_PMMA40 + 0.4% BCH5
0	6,369.43	5,470.46	904.16	491.64
25	1,997.00	1,732.95	677.28	413.31
50	1,184.13	1,029.55	541.42	356.51
75	841.57	732.31	450.96	313.43
100	652.74	568.25	386.40	279.64
125	533.12	464.24	338.01	252.43
150	450.55	392.42	300.39	230.04
175	390.13	339.84	270.31	211.30
200	344.00	299.69	245.70	195.39
225	307.62	268.02	225.20	181.70
250	278.20	242.41	207.86	169.81
275	253.92	221.26	192.99	159.38
300	233.54	203.51	180.12	150.15
325	216.18	188.39	168.85	141.93
350	201.23	175.37	158.91	134.57
375	188.21	164.03	150.07	127.93
400	176.77	154.06	142.17	121.92
425	166.65	145.24	135.05	116.45
450	157.62	137.38	128.62	111.45
475	149.52	130.32	122.77	106.85
500	142.21	123.95	117.43	102.63

Table A-15 The shear viscosity of SAN40\_PMMA60 and its blends with BCH5 at various range of shear rate.

Shear rate (1/s)	Shear Viscosity (Pa.s)			
	SAN40_PMMA60	SAN40_PMMA60 + 0.1% BCH5	SAN40_PMMA60 + 0.2% BCH5	SAN40_PMMA60 + 0.4% BCH5
0	3,422.31	3,487.97	4,940.71	6,518.90
25	1,658.51	1,607.20	1,787.63	1,855.63
50	1,094.45	1,044.17	1,091.23	1,081.78
75	816.69	773.28	785.30	763.42
100	651.38	613.99	613.35	589.83
125	541.73	509.11	503.17	480.56
150	463.67	434.84	426.55	405.45
175	405.28	379.48	370.18	350.64
200	359.95	336.62	326.97	308.89
225	323.73	302.46	292.79	276.02
250	294.14	274.60	265.08	249.48
275	269.51	251.43	242.17	227.59
300	248.68	231.87	222.90	209.23
325	230.84	215.14	206.47	193.61
350	215.39	200.65	192.29	180.17
375	201.88	188.00	179.94	168.47
400	189.96	176.84	169.08	158.19
425	179.37	166.94	159.45	149.10
450	169.90	158.09	150.87	141.00
475	161.38	150.12	143.16	133.73
500	153.68	142.92	136.20	127.17



Table A-16 The shear viscosity of SAN20\_PMMA80 and its blends with BCH5 at various range of shear rate.

Shear rate (1/s)	Shear Viscosity (Pa.s)			
	SAN20_PMMA80	SAN20_PMMA80 + 0.1% BCH5	SAN20_PMMA80 + 0.2% BCH5	SAN20_PMMA80 + 0.4% BCH5
0	306.18	4,551.66	5,063.29	6,410.26
25	272.70	1,567.52	1,736.11	1,999.00
50	245.82	946.79	1,047.67	1,184.13
75	223.76	678.22	750.19	841.22
100	205.34	528.35	584.28	652.32
125	189.72	432.72	478.47	532.69
150	176.30	366.41	405.10	450.15
175	164.66	317.72	351.25	389.75
200	154.46	280.45	310.03	343.64
225	145.45	251.01	277.47	307.29
250	137.44	227.16	251.10	277.89
275	130.26	207.45	229.31	253.63
300	123.79	190.89	210.99	233.26
325	117.94	176.77	195.39	215.92
350	112.61	164.60	181.93	200.98
375	107.75	154.00	170.21	187.98
400	103.28	144.68	159.91	176.55
425	99.18	136.43	150.78	166.44
450	95.38	129.06	142.64	157.42
475	91.87	122.45	135.34	149.33
500	88.61	116.49	128.74	142.03

## Appendix B. Stress-strain rate curve for SAN - PMMA

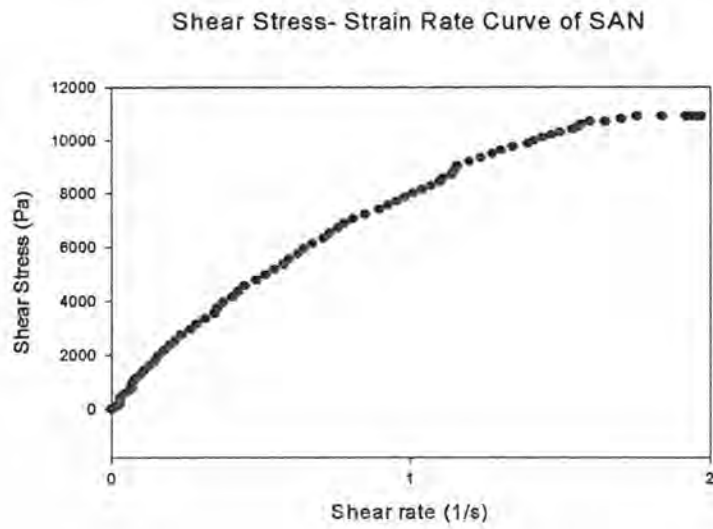


Figure B-1 Stress –strain rate curve of SAN

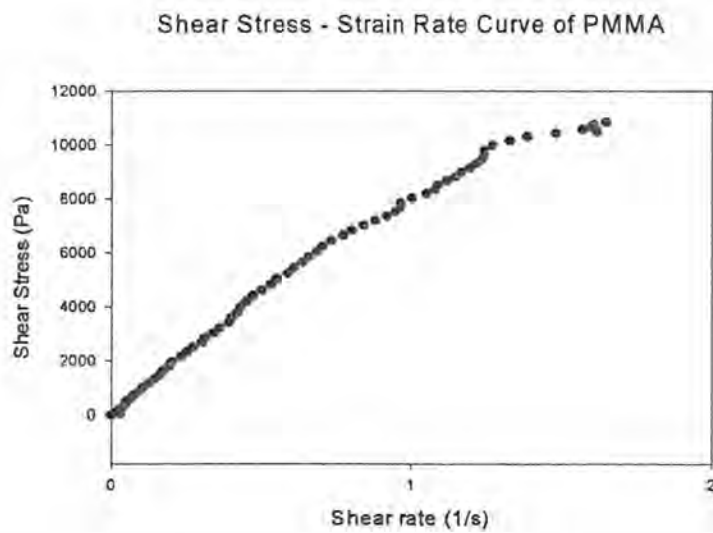


Figure B-2 Stress –strain rate curve of PMMA



**Appendix C. Test results of glass transition temperature (T<sub>g</sub>) and crystalline melting temperature (T<sub>m</sub>)**

Table C-1 Glass transition temperature of PP and its blends with HP5N

Sample	Glass transition temperature (°C)
Pure PP	0.9
PP + 0.4% HP5N	4.7

Table C-2 Glass transition temperature of SAN, PMMA, their binary blends and their ternary blends with BCH5 at various percent concentration of SAN

Sample	Glass transition temperature (°C)	
	0% BCH5	0.4% BCH5
Pure SAN	104.9	104.4
SAN80_PMMA20	102.1	102.8
SAN60_PMMA40	101.9	100.6
SAN40_PMMA60	99.9	99.8
SAN20_PMMA80	99.1	96.8
Pure PMMA	96.0	95.5

Table C-3 The crystalline melting temperature of PP and its blends with HP5N

Sample	Crystalline melting temperature ( $^{\circ}\text{C}$ )
Pure PP	162.1
PP + 0.4% HP5N	161.9

Table C-4 The crystalline melting temperature of PE and its blends with BCH5

Sample	Crystalline melting temperature ( $^{\circ}\text{C}$ )
Pure PE	131.2
PP + 0.4% BCH5	133.1

## Appendix D. Test result of tensile strength from tensile testing machine

Table D-1 Tensile strength of PC and its blends with CBC53

Sample	Tensile Strength (MPa)
Pure PC	56.31
PC + 0.25% CBC53	55.65
PC + 0.5 % CBC53	55.25
PC + 1 % CBC53	55.14

Table D-2 Tensile strength of POM and its blends with HP5N

Sample	Tensile Strength (MPa)
Pure POM	57.68
POM + 0.1% HP5N	56.15
POM + 0.2% HP5N	54.97
POM + 0.4% HP5N	55.50

Table D-3 Tensile strength of PP and its blends with HP5N

Sample	Tensile Strength (MPa)
Pure PP	33.32
PP + 0.1% HP5N	32.49
PP + 0.2% HP5N	32.87
PP + 0.4% HP5N	32.59

Table D-4 Tensile strength of PE and its blends with BCH5

Sample	Tensile Strength (MPa)
Pure PE	26.28
PE + 0.1% BCH5	26.23
PE + 0.2% BCH5	25.39
PE + 0.4% BCH5	25.74

Table D-5 Tensile strength of SAN and its blends with BCH5

Sample	Tensile Strength (MPa)
Pure SAN	54.39
SAN + 0.1% BCH5	53.12
SAN + 0.2% BCH5	53.34
SAN + 0.4% BCH5	52.73

Table D-6 Tensile strength of PMMA and its blends with BCH5

Sample	Tensile Strength (MPa)
Pure PMMA	63.01
PMMA + 0.1% BCH5	61.79
PMMA + 0.2% BCH5	61.68
PMMA + 0.4% BCH5	62.14

## **Vita**

Mister Suraphan Powanusorn was born in Bangkok, Thailand in April 30, 1975. He received the Bachelor Degree of Engineering in Chemical Engineering from the Department of Chemical Engineering, Srinakharinwirot University in 1996. He entered the Master of Engineering in Chemical Engineering Program at Chulalongkorn University in 1998.