

7. LAMPIRAN

7.1. Ukuran Partikel

Hasil ukuran partikel RM PE, IS PET, IS LDPE, dan IS HDPE dapat dilihat pada Lampiran 1, 2, 3, dan 4.

Lampiran 1. Ukuran Partikel RM PE

Kertas Saring	Ukuran Partikel (μm)							
PTFE 1	11,84	21,19	30,80	36,76	44,00	48,93	53,71	60,95
	14,19	21,73	30,81	36,77	44,14	49,10	53,87	61,13
	14,43	22,21	31,10	37,59	44,55	49,59	55,13	62,34
	15,84	22,62	32,38	37,85	44,56	49,75	55,19	62,50
	16,23	22,71	32,48	37,96	44,89	50,23	55,61	63,12
	16,37	23,15	32,88	38,13	45,36	50,28	56,00	65,74
	16,70	24,89	33,51	39,08	45,43	51,52	56,16	67,02
	17,62	25,40	34,27	39,29	45,70	51,87	56,22	70,30
	19,04	25,89	34,33	39,84	45,77	52,10	57,10	71,97
	19,32	26,06	34,43	40,63	46,32	52,48	57,20	77,92
	19,54	27,29	35,17	40,77	47,17	52,72	57,87	79,03
	20,32	28,38	35,20	42,39	47,36	52,95	59,84	90,71
	20,52	29,05	35,21	43,16	47,63	53,19	60,05	
	20,71	29,25	35,47	43,56	47,72	53,21	60,09	
	21,14	29,58	35,91	43,63	48,25	53,57	60,11	
PTFE 2	8,30	22,44	28,65	37,34	42,25	46,84	52,29	59,27
	12,81	22,56	29,05	37,34	42,32	47,03	52,80	59,28
	15,14	22,88	29,57	37,39	42,47	47,17	52,83	59,38
	15,86	22,88	29,92	37,91	42,53	47,70	52,83	59,94
	17,80	23,30	29,93	38,21	42,82	48,14	53,19	60,56
	17,82	23,91	29,97	38,37	42,91	48,60	53,54	60,99
	18,50	24,45	30,51	38,44	42,99	48,72	53,80	61,13
	19,68	24,78	31,25	38,57	43,30	48,93	54,79	62,54
	20,26	26,16	32,67	39,08	43,94	49,16	55,73	62,70
	20,32	27,11	33,17	39,21	45,11	49,78	55,89	63,10
	20,77	27,17	34,37	39,64	45,14	50,28	56,44	65,25
	21,12	27,55	34,37	39,71	45,77	50,65	56,50	65,76
	21,16	27,62	34,61	39,80	45,94	50,87	56,55	66,73
	21,16	27,63	34,79	40,57	46,25	51,16	56,78	74,60
	22,02	27,79	35,52	41,24	46,30	51,31	56,81	80,35

	22,07	28,34	35,81	41,33	46,32	51,36	57,07	
	22,21	28,34	35,81	41,81	46,37	51,95	57,31	
	22,44	28,56	36,25	42,14	46,47	52,15	58,82	
PTFE 3	9,84	18,56	28,34	35,05	42,26	50,22	56,68	71,02
	11,81	18,67	28,43	35,43	42,32	50,22	57,00	71,17
	12,99	19,54	28,48	35,73	42,82	50,44	57,00	71,71
	13,43	19,59	28,65	35,73	42,94	50,45	57,73	71,84
	13,91	20,54	28,87	36,11	43,72	50,48	58,33	74,88
	13,96	20,92	29,25	36,43	44,00	50,50	58,72	77,78
	14,40	21,77	29,25	36,46	44,96	51,04	60,39	81,65
	14,43	21,86	29,76	36,51	45,05	51,20	60,82	
	14,57	22,44	31,00	36,64	46,17	51,31	60,99	
	15,67	22,45	31,30	36,76	46,18	51,36	61,95	
	15,86	22,65	31,74	37,01	46,32	52,34	62,11	
	15,86	23,30	32,48	37,52	46,32	52,64	62,31	
	16,15	24,03	32,70	37,88	46,41	52,98	62,67	
	16,53	24,91	32,99	38,40	46,44	53,27	63,37	
	16,81	25,03	33,00	39,06	46,71	54,28	64,96	
	17,29	25,20	33,51	40,45	47,03	54,42	68,46	
	17,71	25,70	33,73	40,82	47,36	54,59	69,32	
	17,82	26,25	33,96	41,14	47,82	54,76	69,41	
	17,95	28,22	34,27	41,20	48,07	55,41	69,57	
	18,14	28,34	34,94	41,51	48,81	55,97	70,75	

Lampiran 2. Ukuran Partikel IS PET

Kertas Saring	Ukuran Partikel (μm)							
PTFE 1	18,06	37,39	52,42	65,68	90,60	118,39	194,52	
	27,79	37,88	56,13	74,67	91,67	120,26	220,12	
	27,97	39,60	56,33	74,80	92,18	123,84	243,17	
	30,51	40,31	56,68	76,04	94,79	125,70	357,59	
	30,91	43,31	59,74	79,80	97,12	150,74		
	32,61	46,38	62,14	83,77	102,42	151,88		
	33,51	47,00	62,48	86,66	106,45	156,73		
	35,52	49,11	63,39	86,67	107,65	161,08		
	36,43	49,90	63,86	87,88	116,25	168,64		
	36,77	51,68	65,41	88,78	117,75	190,30		
PTFE 2	11,44	16,72	24,16	29,04	43,68	64,09	81,97	238,03
	11,57	16,90	25,34	29,50	47,29	65,96	83,51	255,05
	11,81	17,82	25,66	30,19	47,65	66,25	84,32	381,24

	11,97	18,50	26,10	30,49	48,91	69,08	90,19	501,49
	13,75	20,32	26,25	30,85	51,31	74,06	90,60	
	13,91	20,77	26,77	31,21	53,94	76,92	94,53	
	14,96	21,16	27,52	33,69	57,07	77,87	100,48	
	15,37	21,28	28,08	34,23	57,30	77,97	107,85	
	15,94	22,00	28,65	34,42	61,82	78,56	124,65	
	16,37	23,76	28,95	36,35	63,04	80,31	204,05	
PTFE 3	20,54	36,63	45,46	60,56	76,36	97,70	138,46	356,89
	24,02	36,75	45,63	61,68	78,20	98,95	161,50	377,14
	24,40	37,34	46,41	62,97	79,33	99,22	163,84	
	24,92	37,52	47,00	64,14	79,51	101,48	170,75	
	26,22	38,34	48,72	65,15	80,21	101,58	175,53	
	27,97	38,67	50,03	66,00	80,47	101,58	179,29	
	28,16	39,25	50,80	66,21	84,87	105,54	188,25	
	30,10	39,35	51,11	68,02	86,31	109,19	198,59	
	31,11	40,68	51,92	68,08	87,40	109,93	216,67	
	32,61	41,14	55,50	68,49	87,93	110,63	221,22	
	33,69	42,86	57,60	68,55	89,23	113,91	246,65	
	34,32	43,69	58,72	71,80	91,00	114,26	254,66	
	34,37	44,00	60,42	73,05	91,35	116,80	303,61	
	34,37	44,32	60,44	74,22	95,79	120,23	305,03	
	35,05	45,05	60,45	74,82	97,61	124,36	355,26	

Lampiran 3. Ukuran Partikel IS LDPE

Kertas Saring	Ukuran Partikel (μm)					
PTFE 1	106,49	293,16	399,99			
	107,28	294,19	511,35			
	159,16	296,58				
	181,59	352,4				
	197,76	356,24				
	201,75	365,24				
	221,08	368,74				
	221,51	376,31				
	229,41	378,5				
	284,95	379,3				
PTFE 2	57,37	185,18	237,24	292,73	385,91	495,67
	119,25	185,49	249,3	297,03	390,84	498,36
	134,2	190,54	251,15	317,68	411,91	510,71
	151,53	193,52	264,92	318,85	425,03	522,63

	153,09	193,82	266,78	319,19	426,44	537,1
	157,45	196,32	272,03	319,49	428,07	572,49
	175,59	199,88	272,28	347,61	444,6	
	176,89	210,15	280,58	347,92	452,21	
	181,48	217,8	281,78	363,29	466,95	
	184,24	235,52	290,81	385,34	494,14	
PTFE 3	39,35	263,38				
	103,42	291,8				
	116,18	302,42				
	117,49	394,54				
	124,24	395,08				
	133,82	444,4				
	188,35	447,99				
	188,91	565,35				
	196,63	579,67				
	209,81					

Lampiran 4. Ukuran Partikel IS HDPE

Kertas Saring	Ukuran Partikel (μm)
PTFE 3	70,40
	76,80
	97,60
	102,40
	105,60
	120,00
	134,40
	139,20
	140,80
	244,80

7.2. Skor Kesamaan FTIR dan Jenis Partikel Terdeteksi

Hasil skor kesamaan FTIR dan jenis partikel terdeteksi RM PE masing-masing kertas saring dapat dilihat pada Lampiran 5, 6, dan 7.

Lampiran 5. Skor Kesamaan FTIR dan Partikel Terdeteksi RM PE PTFE 1

Partikel	Aperture - Jumlah Pemindaian								
	5x5 - 50	20x20 - 40	20x20 - 60	60x60 - 36	60x60 - 50	60x60 - 65	100x100 - 40	100x100 - 60	117x117 - 50
1	LLDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(564-7)	(729-1)	(719-1)	(697-1)	(716-1)	(715-1)	(704-1)	(693-1)	(690-1)
2	LDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(589-2)	(795-1)	(793-1)	(800-1)	(799-1)	(800-1)	(769-1)	(771-1)	(766-1)
3	T_HDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(568-2)	(735-1)	(734-1)	(700-1)	(714-1)	(701-1)	(697-1)	(704-1)	(693-1)
4	VLDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(574-1)	(770-1)	(759-1)	(753-1)	(746-1)	(750-1)	(719-1)	(720-1)	(717-1)
5	VLDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(564-8)	(735-1)	(728-1)	(729-1)	(733-1)	(724-1)	(701-1)	(699-1)	(693-1)
6	PE-PP	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(587-2)	(762-1)	(743-1)	(711-1)	(704-1)	(711-1)	(691-1)	(693-1)	(677-1)
7	T_PE Cl	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(600-2)	(754-1)	(756-1)	(734-1)	(741-1)	(737-1)	(741-1)	(746-1)	(741-1)
8	PE-PP	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(615-1)	(777-1)	(788-1)	(749-1)	(745-1)	(746-1)	(748-1)	(750-1)	(746-1)
9	T_HDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(573-1)	(732-1)	(720-1)	(693-1)	(695-1)	(695-1)	(678-1)	(677-1)	(666-1)
10	T_PE-PP	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(575-4)	(736-1)	(744-1)	(716-1)	(717-1)	(717-1)	(692-1)	(693-1)	(661-1)
Rata-Rata	580,9	752,5	748,4	728,2	731	729,6	714	714,6	705

Keterangan: format yang digunakan yaitu “jenis polimer (skor FTIR-urutan skor FTIR)”

Lampiran 6. Skor Kesamaan FTIR dan Partikel Terdeteksi RM PE PTFE 2

Partikel	Aperture - Jumlah Pemindaian								
	5X5 - 50	20X20 - 40	20X20 - 60	60X60 - 36	60X60 - 50	60X60 - 65	100X100 - 40	100X100 - 60	117X117 - 50
1	T_HDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(594-1)	(764-1)	(758-1)	(743-1)	(748-1)	(746-1)	(740-1)	(738-1)	(733-1)
2	T_PE CI	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(572-2)	(744-1)	(767-1)	(735-1)	(737-1)	(736-1)	(729-1)	(733-1)	(735-1)
3	T_PE-PP	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(581-3)	(752-1)	(736-1)	(699-1)	(701-1)	(700-1)	(681-1)	(676-1)	(683-1)
4	LLDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(589-3)	(748-1)	(738-1)	(699-1)	(706-1)	(703-1)	(688-1)	(682-1)	(684-1)
5	LLDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(579-2)	(743-1)	(748-1)	(705-1)	(705-1)	(709-1)	(695-1)	(690-1)	(688-1)
6	LLDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(606-1)	(760-1)	(760-1)	(710-1)	(708-1)	(706-1)	(704-1)	(710-1)	(710-1)
7	LDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(590-7)	(792-1)	(796-1)	(746-1)	(747-1)	(743-1)	(709-1)	(712-1)	(709-1)
8	T_HDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(582-6)	(768-1)	(767-1)	(709-1)	(744-1)	(754-1)	(728-1)	(729-1)	(716-1)
9	PE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(591-2)	(718-1)	(740-1)	(707-1)	(707-1)	(709-1)	(695-1)	(689-1)	(692-1)
10	LDPE	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1	LLDPE1
	(586-1)	(756-1)	(758-1)	(750-1)	(743-1)	(749-1)	(722-1)	(715-1)	(712-1)
Rata-Rata	587	754,5	756,8	720,3	724,6	725,5	709,1	707,4	706,2

Keterangan: format yang digunakan yaitu “jenis polimer (skor FTIR-urutan skor FTIR)”

Lampiran 7. Skor Kesamaan FTIR dan Partikel Terdeteksi RM PE PTFE 3

Partike	Aperture - Jumlah Pemindaian								
	5X5 - 50	20X20 - 40	20X20 - 60	60X60 - 36	60X60 - 50	60X60 - 65	100X100 - 40	100X100 - 60	117X117 - 50
1	LLDPE (568-5)	LLDPE1 (757-1)	LLDPE1 (728-1)	LLDPE1 (754-1)	LLDPE1 (751-1)	LLDPE1 (756-1)	LLDPE1 (743-1)	LLDPE1 (741-1)	LLDPE1 (734-1)
2	T_PE-PP (597-1)	LLDPE1 (772-1)	LLDPE1 (784-1)	LLDPE1 (759-1)	LLDPE1 (760-1)	LLDPE1 (754-1)	LLDPE1 (736-1)	LLDPE1 (737-1)	LLDPE1 (732-1)
3	T_PE Cl (568-14)	LLDPE1 (738-1)	LLDPE1 (764-1)	LLDPE1 (722-1)	LLDPE1 (727-1)	LLDPE1 (726-1)	LLDPE1 (692-1)	LLDPE1 (695-1)	LLDPE1 (690-1)
4	PE-PP (587-2)	LLDPE1 (739-1)	LLDPE1 (732-1)	LLDPE1 (715-1)	LLDPE1 (737-1)	LLDPE1 (741-1)	LLDPE1 (705-1)	LLDPE1 (704-1)	LLDPE1 (690-1)
5	VLDPE (578-3)	LLDPE1 (734-1)	LLDPE1 (750-1)	LLDPE1 (714-1)	LLDPE1 (714-1)	LLDPE1 (717-1)	LLDPE1 (703-1)	LLDPE1 (702-1)	LLDPE1 (697-1)
6	T_PE Cl (592-5)	LLDPE1 (786-1)	LLDPE1 (806-1)	LLDPE1 (767-1)	LLDPE1 (769-1)	LLDPE1 (769-1)	LLDPE1 (774-1)	LLDPE1 (773-1)	LLDPE1 (771-1)
7	PE-PP (578-3)	LLDPE1 (713-1)	LLDPE1 (715-1)	LLDPE1 (702-1)	LLDPE1 (702-1)	LLDPE1 (707-1)	LLDPE1 (684-1)	LLDPE1 (689-1)	LLDPE1 (682-1)
8	T_PE Cl (581-1)	LLDPE1 (749-1)	LLDPE1 (735-1)	LLDPE1 (715-1)	LLDPE1 (706-1)	LLDPE1 (698-1)	LLDPE1 (684-1)	LLDPE1 (689-1)	LLDPE1 (682-1)
9	LLDPE1 (757-4)	LLDPE1 (769-1)	LLDPE1 (757-1)	LLDPE1 (734-1)	LLDPE1 (739-1)	LLDPE1 (744-1)	LLDPE1 (729-1)	LLDPE1 (731-1)	LLDPE1 (725-1)
10	LLDPE1 (588-4)	LLDPE1 (806-1)	LLDPE1 (815-1)	LLDPE1 (829-1)	LLDPE1 (829-1)	LLDPE1 (828-1)	LLDPE1 (792-1)	LLDPE1 (789-1)	LLDPE1 (778-1)
Rata-Rata	599,4	756,3	758,6	741,1	743,4	744	724,2	725	718,1

Keterangan: format yang digunakan yaitu “jenis polimer (skor FTIR-urutan skor FTIR)”

Hasil skor kesamaan FTIR dan jenis partikel terdeteksi IS PET masing-masing kertas saring dapat dilihat pada Lampiran 8, 9, dan 10.

Lampiran 8. Skor Kesamaan FTIR dan Partikel Terdeteksi IS PET PTFE 1

Partikel	Aperture - Jumlah Pemindaian								
	5X5 - 50	20X20 - 40	20X20 - 60	60X60 - 36	60X60 - 50	60X60 - 65	100X100 - 40	100X100 - 60	117X117 - 50
1	PET (568-15)	PET (698-1)	PET (698-2)	PET (698-3)	PET (685-4)	PET (688-3)	PET (640-7)	PET (637-9)	PET (643-6)
2	PET (627-1)	PET (668-1)	PET (681-1)	PET (636-2)	PET (634-2)	PET (641-1)	PET (641-2)	PET (641-2)	PET (645-2)
3	PET (597-1)	PET (588-8)	PET (625-3)	PET (668-1)	PET (666-1)	PET (667-1)	PET (692-1)	PET (688-1)	PET (682-1)
4	PET (577-2)	PET (706-1)	PET (703-1)	PET (683-1)	PET (685-1)	PET (690-1)	PET (638-5)	PET (690-2)	PET (647-12)
5	PET (598-1)	PET (690-1)	PET (690-1)	PET (682-1)	PET (682-1)	PET (683-1)	PET (686-2)	PET (685-2)	PET (644-6)
6	PET (625-1)	PET (650-2)	PET (643-2)	PET (637-2)	PET (622-2)	PET (622-2)	PET (683-2)	PET (687-2)	PET (686-1)
7	PET (611-1)	PET (671-1)	PET (669-2)	PET (675-1)	PET (675-1)	PET (676-1)	PET (666-1)	PET (667-1)	PET (672-1)
8	PET (594-1)	PET (714-1)	PET (725-1)	PET (700-2)	PET (704-2)	PET (703-2)	PET (697-2)	PET (701-2)	PET (689-2)
9	PET (569-5)	PET (650-1)	PET (649-2)	PET (710-2)	PET (708-3)	PET (708-2)	PET (741-2)	PET (739-2)	PET (702-2)
10	PET (623-1)	PET (748-1)	PET (746-1)	PET (738-1)	PET (736-1)	PET (736-1)	PET (713-1)	PET (718-1)	PET (716-1)
Rata-Rata	598,9	678,3	682,9	682,7	679,7	681,4	679,7	685,3	672,6

Keterangan: format yang digunakan yaitu “jenis polimer (skor FTIR-urutan skor FTIR)”

Lampiran 9. Skor Kesamaan FTIR dan Partikel Terdeteksi IS PET PTFE 2

Partikel	Aperture - Jumlah Pemindaian								
	5X5 - 50	20X20 - 40	20X20 - 60	60X60 - 36	60X60 - 50	60X60 - 65	100X100 - 40	100X100 - 60	117X117 - 50
1	PET (590-1)	PET (647-1)	PET (669-2)	PET (636-11)	PET (651-4)	PET (649-5)	PET (626-13)	PET (624-11)	PET (623-10)
2	PET (599-2)	PET (659-1)	PET (669-1)	PET (641-1)	PET (649-1)	PET (648-1)	PET (644-1)	PET (641-1)	PET (632-2)
3	PET (563-19)	PET (597-9)	PET (551-43)	PET (608-10)	PET (596-15)	PET (614-6)	PET (581-18)	PET (592-14)	PET (593-14)
4	PET (580-3)	PET (709-2)	PET (709-2)	PET (690-2)	PET (694-1)	PET (695-2)	PET (695-2)	PET (698-2)	PET (696-2)
5	PET (572-2)	PET (669-1)	PET (705-1)	PET (659-1)	PET (671-1)	PET (676-1)	PET (613-4)	PET (622-3)	PET (591-12)
6	PET (565-9)	PET (659-1)	PET (663-1)	PET (663-1)	PET (665-1)	PET (666-1)	PET (576-29)	PET (585-21)	PET (568-34)

Lampiran 9. Skor Kesamaan FTIR dan Partikel Terdeteksi IS PET PTFE 2

Partikel	Aperture - Jumlah Pemindaian								
	5X5 - 50	20X20 - 40	20X20 - 60	60X60 - 36	60X60 - 50	60X60 - 65	100X100 - 40	100X100 - 60	117X117 - 50
7	PET (575-5)	PET (671-1)	PET (664-1)	PET (593-12)	PET (594-16)	PET (579-24)	PET (555-45)	PET (565-31)	PET (577-17)
8	PET (602-3)	PET (660-1)	PET (662-1)	PET (662-6)	PET (665-4)	PET (663-6)	PET (580-38)	PET (583-16)	PET (595-22)
9	PET (578-5)	PET (654-1)	PET (666-1)	PET (677-1)	PET (676-1)	PET (679-1)	PET (659-1)	PET (664-1)	PET (653-1)
10	PET (573-13)	PET (713-1)	PET (729-1)	PET (686-2)	PET (688-2)	PET (688-1)	PET (677-1)	PET (679-1)	PET (675-1)
Rata-Rata	579,7	663,8	668,7	651,5	654,9	655,7	620,6	625,3	620,3

Keterangan: format yang digunakan yaitu “jenis polimer (skor FTIR-urutan skor FTIR)”

Lampiran 10. Skor Kesamaan FTIR dan Partikel Terdeteksi IS PET PTFE 3

Partikel	Aperture - Jumlah Pemindaian								
	5X5 - 50	20X20 - 40	20X20 - 60	60X60 - 36	60X60 - 50	60X60 - 65	100X100 - 40	100X100 - 60	117X117 - 50
1	PET (570-11)	PET (702-1)	PET (708-1)	PET (756-1)	PET (755-1)	PET (761-1)	PET (757-1)	PET (760-1)	PET (758-1)
2	PET (574-4)	PET (651-1)	PET (663-1)	PET (719-1)	PET (725-1)	PET (729-1)	PET (698-1)	PET (699-1)	PET (698-1)
3	PET (620-2)	PET (705-2)	PET (704-1)	PET (700-1)	PET (702-1)	PET (700-1)	PET (645-3)	PET (645-3)	PET (655-3)
4	PET (576-10)	PET (603-14)	PET (615-15)	PET (676-2)	PET (680-4)	PET (678-4)	PET (636-10)	PET (636-9)	PET (636-4)
5	PET (581-5)	PET (720-1)	PET (727-1)	PET (687-1)	PET (656-5)	PET (668-3)	PET (669-4)	PET (671-4)	PET (669-2)
6	PET (597-1)	PET (658-2)	PET (670-2)	PET (715-1)	PET (713-1)	PET (719-1)	PET (654-2)	PET (658-1)	PET (640-6)
7	PET (587-3)	PET (622-3)	PET (620-3)	PET (661-5)	PET (654-6)	PET (654-9)	PET (669-2)	PET (668-1)	PET (641-2)
8	PET (621-1)	PET (762-1)	PET (763-1)	PET (759-1)	PET (759-1)	PET (761-1)	PET (749-1)	PET (754-1)	PET (750-1)
9	PET (598-2)	PET (759-1)	PET (768-1)	PET (757-1)	PET (760-1)	PET (761-1)	PET (757-1)	PET (757-1)	PET (751-1)
10	PET (588-1)	PET (674-1)	PET (690-1)	PET (618-14)	PET (615-18)	PET (610-16)	PET (657-9)	PET (653-8)	PET (654-5)
Rata-Rata	591,2	685,6	692,8	704,8	701,9	704,1	689,1	690,1	685,2

Keterangan: format yang digunakan yaitu “jenis polimer (skor FTIR-urutan skor FTIR)”

Hasil skor kesamaan FTIR dan jenis partikel terdeteksi IS LDPE masing-masing kertas saring dapat dilihat pada Lampiran 11, 12, dan 13.

Lampiran 11. Skor Kesamaan FTIR dan Partikel Terdeteksi IS LDPE PTFE 1

Partike	Aperture - Jumlah Pemindaian								
	5X5 - 50	20X20 - 40	20X20 - 60	60X60 - 36	60X60 - 50	60X60 - 65	100X100 - 40	100X100 - 60	117X117 - 50
1	LLDPE (582-1)	LLDPE1 (679-1)	LLDPE1 (666-1)	LLDPE1 (685-1)	LLDPE1 (673-1)	LLDPE1 (670-2)	LLDPE1 (675-1)	LLDPE1 (674-2)	LLDPE1 (683-1)
2	T_PE_CI (579-5)	LLDPE1 (697-1)	LLDPE1 (710-1)	LLDPE1 (735-1)	LLDPE1 (748-1)	LLDPE1 (747-1)	LLDPE1 (741-1)	LLDPE1 (744-1)	LLDPE1 (737-1)
3	LDPE (587-3)	LLDPE1 (645-5)	LLDPE1 (676-1)	LLDPE1 (665-2)	LLDPE1 (674-2)	LLDPE1 (677-2)	LLDPE1 (711-1)	LLDPE1 (703-2)	LLDPE1 (719-2)
4	LDPE (580-2)	LLDPE1 (634-1)	LLDPE1 (643-1)	LLDPE1 (659-2)	LLDPE1 (667-2)	LLDPE1 (684-1)	LLDPE1 (660-2)	LLDPE1 (666-2)	LLDPE1 (705-2)
5	T_HDPE (577-5)	LLDPE1 (645-1)	LLDPE1 (631-6)	LLDPE1 (650-3)	LLDPE1 (645-3)	LLDPE1 (657-3)	LLDPE1 (635-5)	LLDPE1 (638-5)	LLDPE1 (635-5)
6	VLDPE (581-2)	LLDPE1 (677-1)	LLDPE1 (664-1)	LLDPE1 (756-1)	LLDPE1 (757-1)	LLDPE1 (751-1)	LLDPE1 (720-2)	LLDPE1 (721-2)	LLDPE1 (693-1)
7	PE-PP (570-3)	LLDPE1 (718-1)	LLDPE1 (722-1)	LLDPE1 (756-1)	LLDPE1 (757-1)	LLDPE1 (751-1)	LLDPE1 (754-1)	LLDPE1 (747-1)	LLDPE1 (729-1)
8	PE (575-13)	LLDPE1 (657-2)	LLDPE1 (687-1)	LLDPE1 (694-1)	LLDPE1 (682-1)	LLDPE1 (695-1)	LLDPE1 (670-2)	LLDPE1 (677-2)	LLDPE1 (655-2)
9	T_HDPE (581-1)	LLDPE1 (702-1)	LDPE (714-1)	LLDPE1 (719-1)	LLDPE1 (715-1)	LLDPE1 (716-1)	LLDPE1 (706-1)	LLDPE1 (708-1)	LLDPE1 (703-1)
10	T_HDPE (572-10)	LLDPE1 (674-1)	LLDPE1 (688-1)	LLDPE1 (745-1)	LLDPE1 (769-1)	LLDPE1 (770-1)	LLDPE1 (747-1)	LLDPE1 (748-1)	LLDPE1 (745-1)
Rata-Rata	578,4	672,8	680,1	706,4	708,7	711,8	701,9	702,6	700,4

Keterangan: format yang digunakan yaitu “jenis polimer (skor FTIR-urutan skor FTIR)”

Lampiran 12. Skor Kesamaan FTIR dan Partikel Terdeteksi IS LDPE PTFE 2

Partike	Aperture - Jumlah Pemindaian								
	5X5 - 50	20X20 - 40	20X20 - 60	60X60 - 36	60X60 - 50	60X60 - 65	100X100 - 40	100X100 - 60	117X117 - 50
1	PE-PP (581-1)	LLDPE1 (649-3)	LLDPE1 (687-1)	LLDPE1 (731-1)	LLDPE1 (752-1)	LLDPE1 (742-1)	LLDPE1 (730-1)	LLDPE1 (728-1)	LLDPE1 (739-1)
2	PE-PP (586-2)	LLDPE1 (666-1)	LLDPE1 (695-1)	LLDPE1 (786-1)	LLDPE1 (788-1)	LLDPE1 (792-1)	LLDPE1 (771-1)	LLDPE1 (766-1)	LLDPE1 (747-1)
3	LDPE (566-2)	LLDPE1 (725-1)	LLDPE1 (732-1)	LLDPE1 (746-1)	LLDPE1 (753-1)	LLDPE1 (746-1)	LLDPE1 (804-1)	LLDPE1 (805-1)	LLDPE1 (795-1)
4	T_HDPE (551-14)	LLDPE1 (739-1)	LLDPE1 (750-1)	LLDPE1 (758-1)	LLDPE1 (757-1)	LLDPE1 (754-1)	LLDPE1 (772-1)	LLDPE1 (774-1)	LLDPE1 (751-1)
5	T_HDPE (575-1)	LLDPE1 (630-1)	LLDPE1 (681-1)	LLDPE1 (711-1)	LLDPE1 (693-1)	LLDPE1 (697-1)	LLDPE1 (716-1)	LLDPE1 (714-1)	LLDPE1 (690-1)
6	T_PE_CI (570-1)	LLDPE1 (649-2)	LLDPE1 (625-2)	LLDPE1 (723-1)	LLDPE1 (724-1)	LLDPE1 (717-1)	LLDPE1 (650-3)	LLDPE1 (656-2)	LLDPE1 (624-6)
7	PE (567-4)	LLDPE1 (709-1)	LLDPE1 (702-1)	LLDPE1 (706-1)	LLDPE1 (703-1)	LLDPE1 (702-1)	LLDPE1 (717-1)	LLDPE1 (712-1)	LLDPE1 (710-1)
8	PE (595-2)	LLDPE1 (685-2)	LLDPE1 (670-1)	LLDPE1 (673-2)	LLDPE1 (666-2)	LLDPE1 (679-1)	LLDPE1 (675-1)	LLDPE1 (672-3)	LLDPE1 (673-3)
9	T_PE-PP (564-6)	LLDPE1 (596-4)	LLDPE1 (587-5)	LLDPE1 (635-1)	LLDPE1 (628-7)	LLDPE1 (639-2)	LLDPE1 (655-1)	LLDPE1 (630-8)	LLDPE1 (639-5)
10	T_PE-CI (575-2)	LLDPE1 (720-1)	LLDPE1 (706-1)	LLDPE1 (710-1)	LLDPE1 (723-1)	LLDPE1 (716-1)	LLDPE1 (709-2)	LLDPE1 (708-1)	LLDPE1 (711-1)
Rata-Rata	573	676,8	683,5	717,9	718,7	718,4	719,9	716,5	707,9

Keterangan: format yang digunakan yaitu “jenis polimer (skor FTIR-urutan skor FTIR)”

Lampiran 13. Skor Kesamaan FTIR dan Partikel Terdeteksi IS LDPE PTFE 3

Partike	Aperture - Jumlah Pemindaian								
	5X5 - 50	20X20 - 40	20X20 - 60	60X60 - 36	60X60 - 50	60X60 - 65	100X100 - 40	100X100 - 60	117X117 - 50
1	PE-PP (586-3)	PE-PP (597-2)	T_HDPE (574-3)	LLDPE1 (722-1)	LLDPE1 (711-1)	LLDPE1 (724-1)	LLDPE1 (706-1)	LLDPE1 (710-1)	LLDPE1 (704-1)
2	LLDPE1 (573-2)	LLDPE1 (603-1)	LLDPE1 (587-1)	LLDPE1 (780-1)	LLDPE1 (774-1)	LLDPE1 (774-1)	LLDPE1 (750-1)	LLDPE1 (758-1)	LLDPE1 (745-1)
3	T_HDPE (563-9)	LLDPE1 (655-1)	LLDPE1 (641-1)	LLDPE1 (666-1)	LLDPE1 (719-1)	LLDPE1 (719-1)	LLDPE1 (719-1)	LLDPE1 (728-1)	LLDPE1 (712-1)
4	T_HDPE (572-2)	LLDPE1 (727-1)	LLDPE1 (715-1)	LLDPE1 (766-1)	LLDPE1 (769-1)	LLDPE1 (765-1)	LLDPE1 (725-1)	LLDPE1 (726-1)	LLDPE1 (712-1)
5	PE-PP (572-2)	LLDPE1 (668-1)	LLDPE1 (671-1)	LLDPE1 (695-1)	LLDPE1 (690-3)	LLDPE1 (688-1)	LLDPE1 (692-1)	LLDPE1 (688-1)	LLDPE1 (677-2)
6	VLDPE (571-5)	LLDPE1 (675-1)	LLDPE1 (705-1)	LLDPE1 (745-1)	LLDPE1 (726-1)	LLDPE1 (734-1)	LLDPE1 (754-1)	LLDPE1 (753-1)	LLDPE1 (709-2)
7	PE-PP (593-1)	LLDPE1 (655-1)	LLDPE1 (656-4)	LLDPE1 (680-3)	LLDPE1 (697-1)	LLDPE1 (694-1)	LLDPE1 (649-3)	LLDPE1 (652-3)	LLDPE1 (655-3)
8	T_PE-PP (571-7)	LLDPE1 (720-1)	LLDPE1 (737-1)	LLDPE1 (761-1)	LLDPE1 (766-1)	LLDPE1 (763-2)	LLDPE1 (711-1)	LLDPE1 (712-1)	LLDPE1 (711-1)
9	VLDPE (589-5)	LLDPE1 (776-1)	LLDPE1 (795-1)	LLDPE1 (830-1)	LLDPE1 (826-1)	LLDPE1 (836-1)	LLDPE1 (836-1)	LLDPE1 (834-1)	LLDPE1 (827-1)
10	T_PE-Cl (579-4)	LLDPE1 (718-1)	LLDPE1 (690-1)	LLDPE1 (732-1)	LLDPE1 (732-1)	LLDPE1 (725-1)	LLDPE1 (761-1)	LLDPE1 (762-1)	LLDPE1 (719-1)
Rata-Rata	576,9	679,4	677,1	737,7	741	742,2	730,3	732,3	717,1

Keterangan: format yang digunakan yaitu “jenis polimer (skor FTIR-urutan skor FTIR)”

Hasil skor kesamaan FTIR dan jenis partikel terdeteksi IS HDPE dapat dilihat pada Lampiran 14.

Lampiran 14. Skor Kesamaan FTIR dan Partikel Terdeteksi IS HDPE PTFE 3

Partike	Aperture - Jumlah Pemindaian								
	5X5 - 50	20X20 - 40	20X20 - 60	60X60 - 36	60X60 - 50	60X60 - 65	100X100 - 40	100X100 - 60	117X117 - 50
1	LLDPE (580-6)	LLDPE1 (749-1)	LLDPE1 (774-1)	LLDPE1 (797-1)	LLDPE1 (797-1)	LLDPE1 (802-1)	LLDPE1 (786-1)	LLDPE1 (789-1)	LLDPE1 (763-1)
2	T_PE_CI (609-1)	VLDPE (797-1)	VLDPE (813-1)	VLDPE (825-1)	VLDPE (830-1)	VLDPE (829-1)	VLDPE (809-1)	VLDPE (808-1)	LLDPE (801-1)
3	PE (620-2)	VLDPE (778-1)	VLDPE (793-1)	LLDPE1 (847-1)	LLDPE1 (848-1)	LLDPE1 (845-1)	LLDPE1 (820-1)	LLDPE1 (818-1)	LLDPE1 (810-1)
4	LLDPE (583-1)	VLDPE (791-1)	VLDPE (798-1)	LLDPE1 (829-1)	LLDPE1 (828-1)	LLDPE1 (830-1)	LLDPE1 (810-1)	LLDPE1 (810-1)	LLDPE1 (795-1)
5	T_HDPE (624-2)	VLDPE (818-1)	VLDPE (822-1)	VLDPE (859-1)	VLDPE (859-1)	VLDPE (856-1)	VLDPE (851-1)	VLDPE (854-1)	VLDPE (845-1)
6	T_PE_CI (590-1)	LDPE (732-1)	PE (759-1)	PE (821-1)	PE (825-1)	VLDPE (824-1)	PE (814-1)	PE (814-1)	VLDPE (805-1)
7	T_PE_CI (572-3)	PE (694-1)	VLDPE (712-1)	VLDPE (777-1)	VLDPE (788-1)	PE (780-1)	VLDPE (767-1)	PE (768-1)	PE (760-1)
8	T_HDPE (571-4)	LLDPE1 (740-1)	LLDPE1 (758-1)	LLDPE1 (860-1)	LLDPE1 (861-1)	LLDPE1 (863-1)	LLDPE1 (867-1)	LLDPE1 (868-1)	LLDPE1 (863-1)
9	T_PE_PP (577-2)	VLDPE (701-1)	VLDPE (724-1)	VLDPE (762-1)	VLDPE (775-1)	VLDPE (780-1)	VLDPE (755-1)	VLDPE (757-1)	VLDPE (740-1)
10	PE-PP (578-2)	LLDPE1 (695-1)	LLDPE1 (708-1)	LLDPE1 (765-1)	LLDPE1 (773-1)	LLDPE1 (768-1)	LLDPE1 (739-1)	LLDPE1 (744-1)	LLDPE1 (727-1)
Rata-Rata	590,4	749,5	766,1	814,2	818,4	817,7	801,8	803	790,9

Keterangan: format yang digunakan yaitu “jenis polimer (skor FTIR-urutan skor FTIR)”

Lampiran 15. Keseluruhan Partikel dari IS HDPE yang Diuji

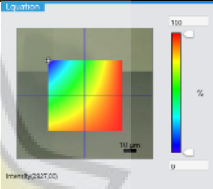
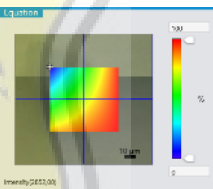
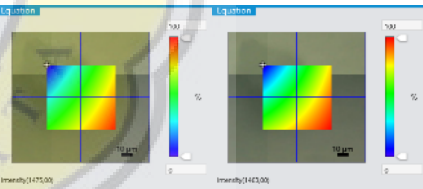
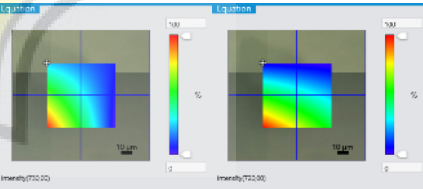
Partikel ke-	PTFE 1	PTFE 2	PTFE 3
1	DLTDP (612)	Melamine (613)	LLDPE1 (749)
2	FEP (637)	Nylon12 (637)	VLDPE (797)
3	T_PE C1 (585)	FEP (614)	VLDPE (778)
4	FEP (625)	DLTDP (590)	VLDPE (791)
5	PETG-20 (612)	Epoxy (636)	VLDPE (818)
6	PTFE (626)	PC (581)	LDPE (732)
7	T_Polycaprolactone (613)	FEP (605)	PE (694)
8	PHSI (637)	PP (741)	LLDPE1 (740)
9	FEP (593)	PCTFE (640)	VLDPE (701)
10	FEP (618)	FEP (594)	LLDPE1 (695)
11	FEP (616)		
12	LLDPE1 (734)		
13	DLTDP (630)		
14	T_Ethylene AcrylAcid (654)		
15	P-EPQ (585)		
16	T_Polyacrilamide (597)		
17	Lanoline (598)		
18	Nylone66 (600)		

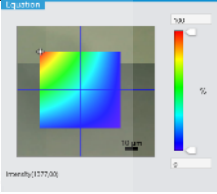
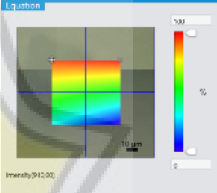
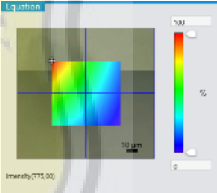
Keterangan: format yang digunakan yaitu “jenis polimer (skor FTIR)”

7.3. Mapping

Hasil *mapping* RM PE, IS PET, IS LDPE, dan IS HDPE dapat dilihat pada Lampiran 16, 17, 18, dan 19.

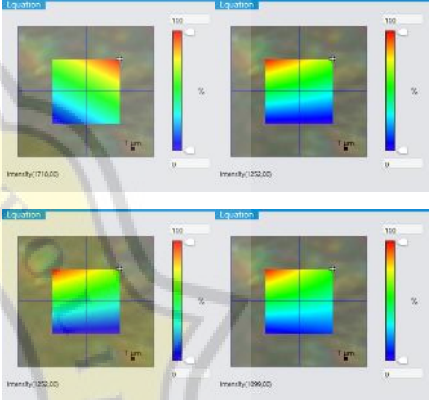
Lampiran 16. Hasil *Mapping* RM PE

Jenis Polimer	Area peak spektra IR (cm ⁻¹)*	Keterangan	Mapping
LLDPE1	2927	Asymmetric CH ₂ stretch	
	2852	Symmetric CH ₂ stretch	
	1475 & 1463	CH ₂ scissors vibration	
	730 & 720	CH ₂ rocking	

Jenis Polimer	Area peak spektra IR (cm ⁻¹)*	Keterangan	Mapping
	1377	<i>CH₃ groups</i>	
	910	<i>Terminal vinyl group</i>	
	775	<i>Ethyl branching</i>	

*) Sumber: Lobo & Bonilla, 2003

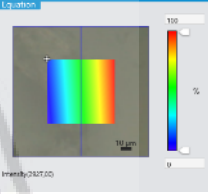
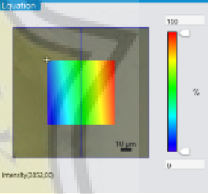
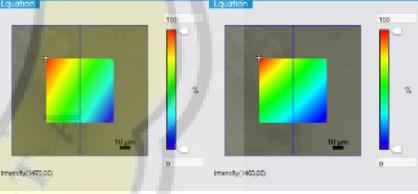
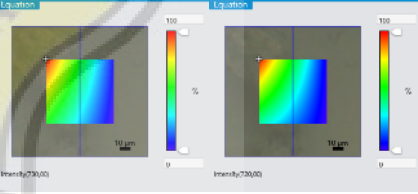
Lampiran 17. Hasil *Mapping* IS PET

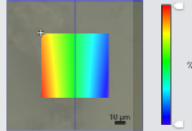
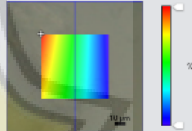
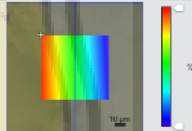
Jenis Polimer	Area peak spektra IR (cm ⁻¹)*	Keterangan	<i>Mapping</i>
PET	1718, 1252, 1126, 1099	<i>Ester functionally</i>	

Jenis Polimer	Area peak spektra IR (cm ⁻¹)*	Keterangan	<i>Mapping</i>
	3054, 1615, 1578, 1505, 1021, 728	<i>Aromatic ring</i>	
	1134, 848	<i>Ethylene CH₂ group</i>	

*) Sumber: Lobo & Bonilla, 2003

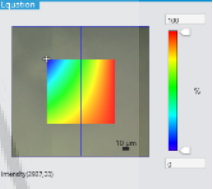
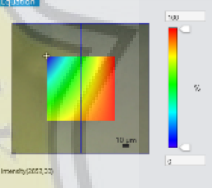
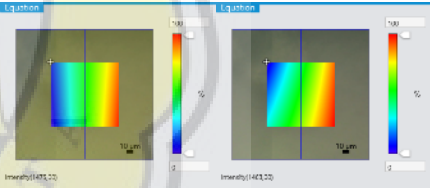
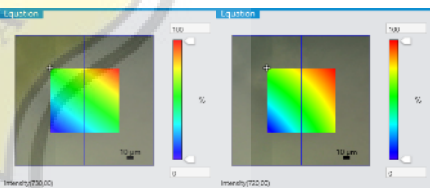
Lampiran 18. Hasil *Mapping* IS LDPE

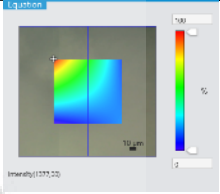
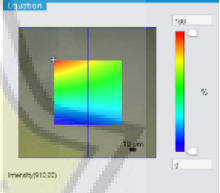
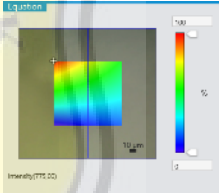
Jenis Polimer	Area peak spektra IR (cm^{-1})*	Keterangan	Mapping
LLDPE1	2927	<i>Asymmetric CH₂ stretch</i>	
	2852	<i>Symmetric CH₂ stretch</i>	
	1475 & 1463	<i>CH₂ scissors vibration</i>	
	730 & 720	<i>CH₂ rocking</i>	

Jenis Polimer	Area peak spektra IR (cm^{-1})*	Keterangan	Mapping
	1377	<i>CH₃ groups</i>	
	910	<i>Terminal vinyl group</i>	
	775	<i>Ethyl branching</i>	

*) Sumber: Lobo & Bonilla, 2003

Lampiran 19. Hasil *Mapping* IS HDPE

Jenis Polimer	Area peak spektra IR (cm^{-1})*	Keterangan	Mapping
LLDPE1	2927	<i>Asymmetric CH₂ stretch</i>	
	2852	<i>Symmetric CH₂ stretch</i>	
	1475 & 1463	<i>CH₂ scissors vibration</i>	
	730 & 720	<i>CH₂ rocking</i>	

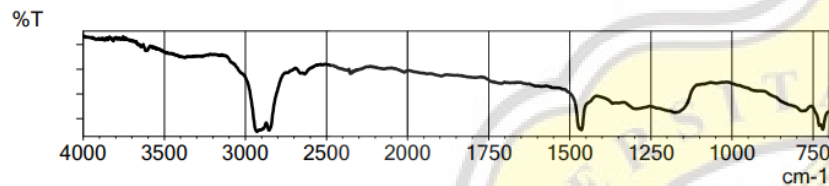
Jenis Polimer	Area peak spektra IR (cm^{-1})*	Keterangan	Mapping
	1377	<i>CH₃ groups</i>	
	910	<i>Terminal vinyl group</i>	
	775	<i>Ethyl branching</i>	

*) Sumber: Lobo & Bonilla, 2003

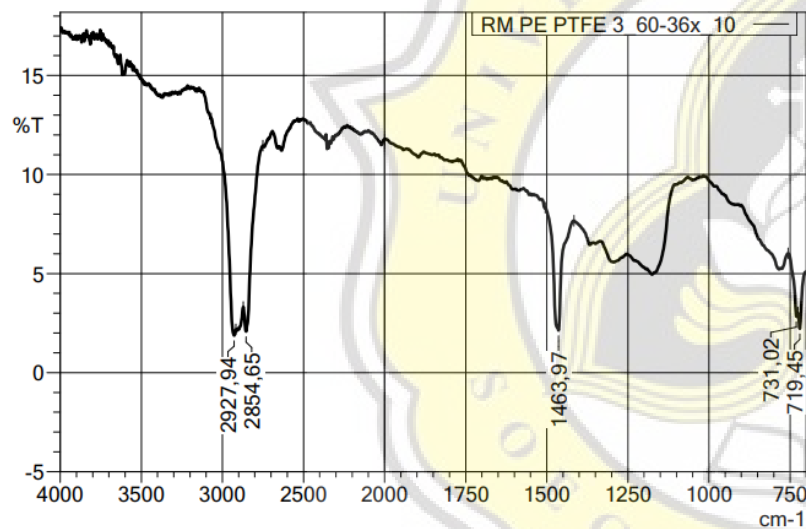
7.4. Hasil Post Run

Hasil post run RM PE, IS PET, IS LDPE, dan IS HDPE dapat dilihat pada Lampiran 20, 21, 22, dan 23.

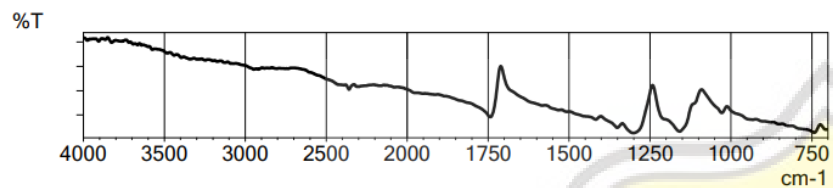
Lampiran 20. Hasil *Post Run* RM PE



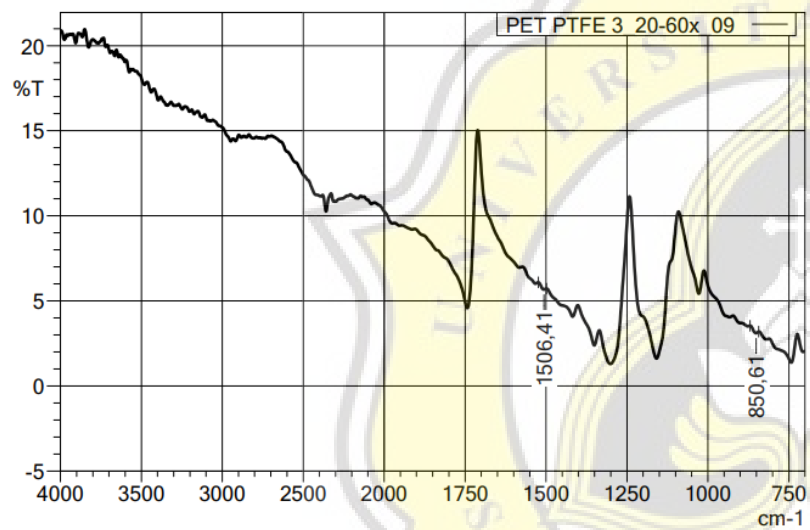
No.	Peak	Intensity	Corr. Intensity	Base (H)	Base (L)	Area	Corr. Area	Comment
1	719,45	2,21	1,40	727,16	700,16	2598,049	7,369	
2	731,02	2,83	0,59	756,10	727,16	2757,181	-5,042	
3	1463,97	2,13	5,89	1504,48	1415,75	8339,252	176,145	
4	2854,65	2,08	2,40	2872,01	2750,49	11290,044	35,680	
5	2927,94	1,87	1,12	3068,75	2916,37	13940,402	-153,219	



	Item	Value
2	Sample name	
3	Sample ID	
4	Option	
5	Intensity Mode	%Transmittance
6	Apodization	SqrTriangle
9	No. of Scans	36
10	Resolution	4 cm-1

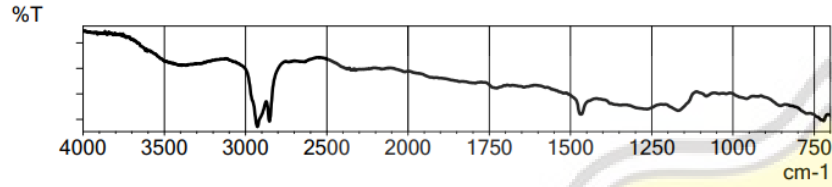
Lampiran 21. Hasil *Post Run* IS PET

No.	Peak	Intensity	Corr. Intensity	Base (H)	Base (L)	Area	Corr. Area	Comment
1	850,61	3,11	0,18	869,90	842,89	2612,094	2,681	
2	1506,41	5,67	0,17	1523,76	1498,69	2361,544	2,300	

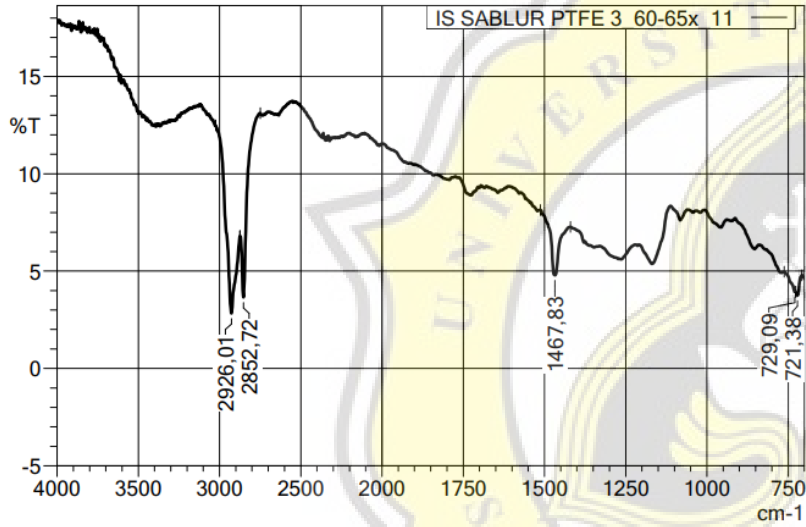


Item	Value
2	Sample name
3	Sample ID
4	Option
5	Intensity Mode %Transmittance
6	Apodization SqrTriangle
9	No. of Scans 60
10	Resolution 4 cm-1

Lampiran 22. Hasil *Post Run* IS LDPE

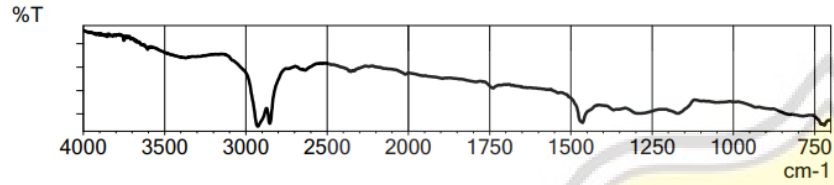


No.	Peak	Intensity	Corr. Intensity	Base (H)	Base (L)	Area	Corr. Area	Comment
1	721,38	3,75	0,45	727,16	707,88	1847,857	3,167	
2	729,09	3,93	0,07	761,88	727,16	3315,821	-1,481	
3	1467,83	4,79	2,93	1512,19	1419,61	8631,686	86,272	
4	2852,72	3,66	4,20	2873,94	2748,56	11295,013	5,127	
5	2926,01	2,83	5,93	3024,38	2873,94	13927,558	332,410	

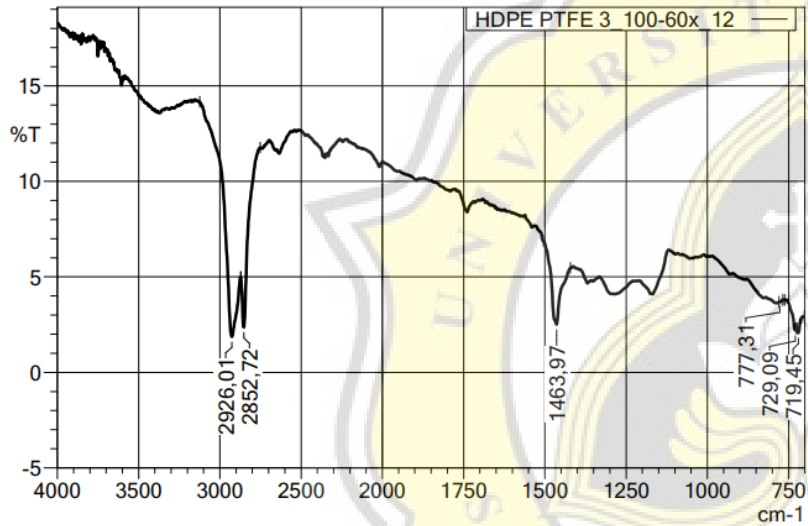


Item	Value
2	Sample name
3	Sample ID
4	Option
5	Intensity Mode %Transmittance
6	Apodization SqrTriangle
9	No. of Scans 65
10	Resolution 4 cm-1

Lampiran 23. Hasil *Post Run* IS HDPE



No.	Peak	Intensity	Corr. Intensity	Base (H)	Base (L)	Area	Corr. Area	Comment
1	719,45	2,07	0,39	725,23	702,09	2255,261	1,350	
2	729,09	2,21	0,25	761,88	725,23	3548,859	-4,036	
3	777,31	3,69	0,02	779,24	767,67	1114,048	0,136	
4	1463,97	2,50	3,70	1504,48	1421,54	7903,879	123,073	
5	2852,72	2,35	3,73	2872,01	2752,42	10996,429	39,899	
6	2926,01	1,86	5,09	3124,68	2872,01	23002,586	155,537	



Item	Value
2	Sample name
3	Sample ID
4	Option
5	Intensity Mode %Transmittance
6	Apodization SqrTriangle
9	No. of Scans 60
10	Resolution 4 cm-1

7.5. Hasil Scan Antiplagiasi

Hasil *scan* antiplagiasi dapat dilihat pada Lampiran 24.

Lampiran 24. Hasil *Scan* Antiplagiasi

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