

## **LAMPIRAN 1**

## Pengujian Densitas

no	minyak	massa (g)	volume (ml)
1	mj	46.534	50
2	mjmk90	46.475	50
3	mjmk80	46.121	50
4	mjmk70	46.041	50
5	mjmk60	45.640	50
6	mjmk50	45.552	50
7	mjmk40	45.334	50
8	mjmk30	45.307	50
9	mjmk20	45.290	50
10	mjmk10	45.279	50
11	mk	44.990	50

## Pengujian viskositas

No	Minyak	Speed ( kecepatan)					
		6 (rpm)		12 (rpm)		30 (rpm)	
		Data (Mpa.s)	Percent (%)	Data (Mpa.s)	Percent (%)	Data (Mpa.s)	Percent (%)
1	MJ 100	179	17.9	185.5	37.4	186.7	93.4
2	MJ:MK 90:10	145.33	14.53	152.17	30.43	154.13	77.07
3	MJ:MK 80:20	102.67	10.27	106.17	21.43	108.4	54.2
4	MJ:MK 70:30	81	8.1	85.67	17.43	87.4	43.87
5	MJ:MK 60:40	65.67	6.57	66.33	13.27	66.13	33.07
6	MJ:MK 50:50	59.33	5.93	55.5	11.1	55	27.5
7	MJ:MK 40:60	55.67	5.57	49.17	9.83	47.67	23.83
8	MJ:MK 30:70	42	4.2	36.33	7.27	36.93	18.47
9	MJ:MK 20:80	40.67	4.07	30	6	30.33	15.17
10	MJ:MK 10:90	36.67	3.67	24.83	4.97	26.33	13.17
11	MK 100	29.33	2.93	21	4.2	23.2	11.6


## Pengujian Flash Point

No	Campuran Minyak	Uji Flash Point	
		Temperature 80°C	
		Pengujian 60 menit	
1	MJ	327	
2	MJMK 90:10	320	
3	MJMK 80:20	290	
4	MJMK 70:30	286	
5	MJMK 60:40	283	
6	MJMK 50:50	282	
7	MJMK 40:60	278	
8	MJMK 30:70	274	
9	MJMK 20:80	267	
10	MJMK 10:90	266	
11	MK	261	

## Pengujian Nilai Kalor

No	Nama Sampel	Uji Nilai Kalor (Cal/g)		
		Pengujian Ke-1	Pengujian Ke-2	Rata-rata
1	MK 100	8878.1088	8969.1057	8923.607
2	MKMJ 9:1	8836.8638	9094.8069	8965.835
3	MKMJ 8:2	8846.7065	8898.5977	8872.652
4	MKMJ 7:3	8815.1334	8753.6391	8784.386
5	MKMJ 6:4	8846.7100	8860.0968	8853.403
6	MKMJ 5:5	8729.4668	8839.2560	8784.361
7	MKMJ 4:6	8672.4056	8735.1414	8703.774
8	MKMJ 3:7	8723.3653	8805.4522	8764.409
9	MKMJ 2:8	8691.3422	8840.8039	8766.073
10	MKMJ 1:9	8538.0968	8659.8936	8598.995
11	MJ 100	8702.8989	8726.4055	8714.652


**LAMPIRAN 2**

	LEMBAR KERJA UJI KIMIA LABORATORIUM PENGUJIAN "LPPT- UGM"		RDP/5.10.2/LPPT Rev 2
Nama sampel	Minyak	No. Pengujian	<a href="#">17050100868</a>
Kode sampel	<a href="#">17050100868</a>	Tanggal Diterima	15/05/2017
Tanggal Pengujian	18/04/2017	Tanggal Selesai	24/05/2017
Suhu Ruangan	28.6°C	Kelembaban	45%
Metoda Uji	1.GC	2.	

**HASIL ANALISIS ASAM LEMAK JENUH dan TAK JENUH DALAM SAMPEL**

No	Kode Sampel	Deskripsi		Konsentrasi (% Relatif)		Rata-rata konsentrasi (% Relatif)
				Simplo	Duplo	
1	Kelapa	1	M Butyrate	1,92	1,95	<b>1,94</b>
		2	M Hexanoate	0,35	0,35	<b>0,35</b>
		3	M Octanoate	6,37	6,59	<b>6,48</b>
		4	M Decanoate	5,75	5,85	<b>5,80</b>
		5	M Laurate	47,49	47,86	<b>47,68</b>
		6	M Tetradecanoate	18,26	18,15	<b>18,20</b>
		7	M Palmitate	9,07	8,91	<b>8,99</b>
		8	M Octadecanoate	3,15	3,14	<b>3,14</b>
		9	Cis-9-Oleic Methyl ester	6,29	5,91	<b>6,10</b>
		10	M Linoleate	1,17	1,15	<b>1,16</b>
		11	gamma-Linolenic acid methyl ester	0,18	0,15	<b>0,16</b>
2	Sawit	1	M Butyrate	<0,1	<0,1	<b>&lt;0,1</b>
		2	M Hexanoate	<0,1	<0,1	<b>&lt;0,1</b>
		3	M Octanoate	<0,1	<0,1	<b>&lt;0,1</b>
		4	M Decanoate	<0,1	<0,1	<b>&lt;0,1</b>
		5	M Undecanoate	<0,1	<0,1	<b>&lt;0,1</b>
		6	M Laurate	<0,1	<0,1	<b>&lt;0,1</b>
		7	M Tridecanoate	<0,1	<0,1	<b>&lt;0,1</b>
		8	M Tetradecanoate	<0,1	<0,1	<b>&lt;0,1</b>
		9	Myristoleic acid methyl ester	<0,1	<0,1	<b>&lt;0,1</b>
		10	M Pentadecanoate	<0,1	<0,1	<b>&lt;0,1</b>
		11	Cis 10-Pentadecenoic Acid Methyl Ester	<0,1	<0,1	<b>&lt;0,1</b>
		12	M Palmitate	<0,1	<0,1	<b>&lt;0,1</b>
		13	M Palmitoleate	<0,1	<0,1	<b>&lt;0,1</b>
		14	M Heptadecanoate	<0,1	<0,1	<b>&lt;0,1</b>
		15	Cis 10-Heptadecenoic acid Methyl Ester	<0,1	<0,1	<b>&lt;0,1</b>
		16	M Octadecanoate	<0,1	<0,1	<b>&lt;0,1</b>
		17	Trans-9-Elaidic acid Methyl ester	<0,1	<0,1	<b>&lt;0,1</b>

No	Kode Sampel	Deskripsi	Konsentrasi (% Relatif)		Rata-rata konsentrasi (% Relatif)	
			Simplo	Duplo		
		18	Cis-9-Oleic Methyl ester	<0,1	<0,1	<b>&lt;0,1</b>
		19	Linolelaidic Acid Methyl Ester	<0,1	<0,1	<b>&lt;0,1</b>
		20	M Linoleate	<0,1	<0,1	<b>&lt;0,1</b>
		21	M Arachidate	<0,1	<0,1	<b>&lt;0,1</b>
		22	gamma-Linolenic acid methyl ester	<0,1	<0,1	<b>&lt;0,1</b>
		23	Methyl cis-11-eicosenoate	<0,1	<0,1	<b>&lt;0,1</b>
		24	M Linolenate	<0,1	<0,1	<b>&lt;0,1</b>
		25	M Heneicosanoate	<0,1	<0,1	<b>&lt;0,1</b>
		26	Cis-11,14-Eicosadienoic acid methyl ester	<0,1	<0,1	<b>&lt;0,1</b>
		27	M Docosanoate	<0,1	<0,1	<b>&lt;0,1</b>
		28	Cis-8,11,14-Eicosatrienoic acid methyl ester	<0,1	<0,1	<b>&lt;0,1</b>
		29	M Erucate	<0,1	<0,1	<b>&lt;0,1</b>
		30	Cis-11,14,17-Eicosatrienoic acid methyl ester	<0,1	<0,1	<b>&lt;0,1</b>
		31	M Tricosanoate	<0,1	<0,1	<b>&lt;0,1</b>
		32	M Cis-5,8,11,14-Eicosatetraenoic	<0,1	<0,1	<b>&lt;0,1</b>
		33	Cis-13-16-Docosadienoic acid methyl ester	<0,1	<0,1	<b>&lt;0,1</b>
		34	M Lignocerate	<0,1	<0,1	<b>&lt;0,1</b>
		35	M Cis-5,8,11,14,17-Eicosapentaenoate	<0,1	<0,1	<b>&lt;0,1</b>
		36	M Nervonate	<0,1	<0,1	<b>&lt;0,1</b>
		37	Cis-4,7,10,13,16,19-Docosahexaenoate	<0,1	<0,1	<b>&lt;0,1</b>
<b>3</b>	Kedelai	1	M Butyrate	1,64	-	<b>1,64</b>
		2	M Palmitate	9,83	-	<b>9,83</b>
		3	M Palmitoleate	0,09	-	<b>0,09</b>
		4	M Heptadecanoate	0,34	-	<b>0,34</b>
		5	Cis 10-Heptadecenoic acid Methyl Ester	0,21	-	<b>0,21</b>
		6	M Octadecanoate	3,18	-	<b>3,18</b>
		7	Cis-9-Oleic Methyl ester	24,18	-	<b>24,18</b>
		8	M Linoleate	49,75	-	<b>49,75</b>
		9	gamma-Linolenic acid methyl ester	1,09	-	<b>1,09</b>
		10	Methyl cis-11-eicosenoate	0,45	-	<b>0,45</b>
		11	M Linolenate	5,54	-	<b>5,54</b>
		12	M Docosanoate	2,74	-	<b>2,74</b>
		13	M Cis-5,8,11,14,17-Eicosapentaenoate	0,95	-	<b>0,95</b>
<b>4</b>	Nyamplu-ng	1	M Butyrate	6,24	-	<b>6,24</b>
		2	M Palmitate	11,67	-	<b>11,67</b>
		3	M Octadecanoate	14,30	-	<b>14,30</b>
		4	Cis-9-Oleic Methyl ester	36,59	-	<b>36,59</b>
		5	Linolelaidic Acid Methyl Ester	0,52	-	<b>0,52</b>
No	Kode Sampel	Deskripsi	Konsentrasi (% Relatif)		Rata-rata konsentrasi (% Relatif)	
			Simplo	Duplo		
		6	M Linoleate	16,30	-	<b>16,30</b>
		7	gamma-Linolenic acid methyl ester	1,99	-	<b>1,99</b>
		8	M Linolenate	2,27	-	<b>2,27</b>
		9	M Cis-5,8,11,14-Eicosatetraenoic	10,12	-	<b>10,12</b>

<p>Diperiksa/Disetujui Oleh</p> <p>Triwahyudi, S.Kom.</p>	<p>Dikerjakan Oleh</p>  <p>Anom Irawan, ST.</p>
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