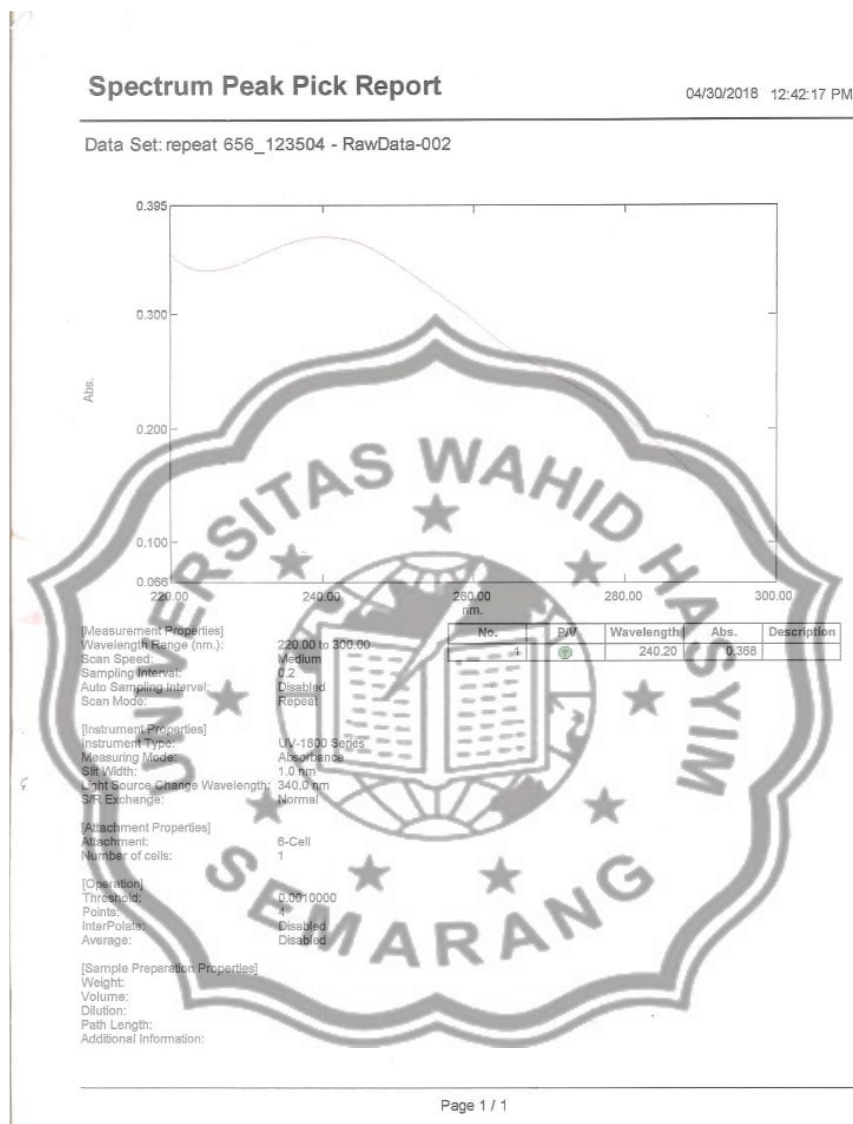


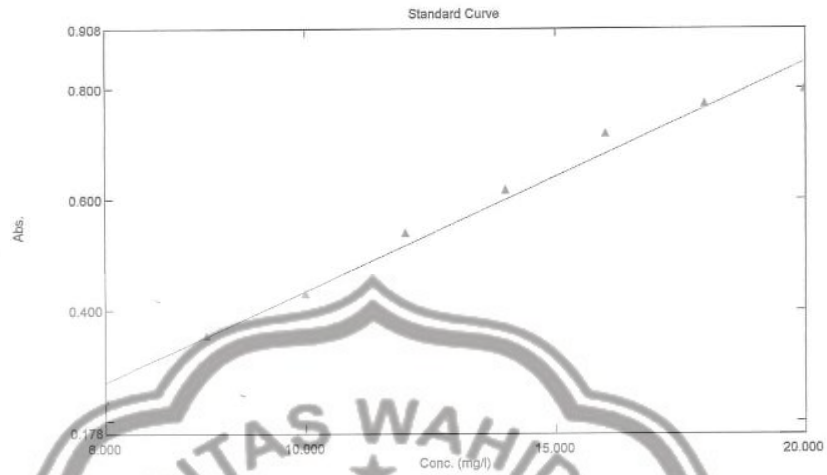


**Lampiran 2. Lampiran 2. Hasil analisis spektrofotometri**

## Standard Table Report

04/30/2018 02:38:49 PM

File Name: C:\Users\HP\Documents\File\_180430\_135115.pho



Standard Table

	Sample ID	Type	Ex	Conc	WL240.2	Wgt.Factor	Comments
1	6 ppm	Standard		6.000	0.239	1.000	
2	8 ppm	Standard		8.000	0.355	1.000	
3	10 ppm	Standard		10.000	0.430	1.000	
4	12 ppm	Standard		12.000	0.540	1.000	
5	14 ppm	Standard		14.000	0.617	1.000	
6	16 ppm	Standard		16.000	0.718	1.000	
7	18 ppm	Standard		18.000	0.772	1.000	
8	20 ppm	Standard		20.000	0.798	1.000	
9							

### Lampiran 3. Hasil Uji Recovery

#### 1. Penetapan kadar DPP 1:1

Replikasi	Abs	FP	Jumlah terlarut (mg)	% Recovery
I	0.412	50 X	47.587	95.18
II	0.415	50 X	47.927	95.86
III	0.412	50 X	47.587	95.18

Rata-rata PK= 47.701

#### 2. Penetapan kadar DPP 1:4

Replikasi	Abs	FP	Jumlah terlarut (mg)	% Recovery
I	0.423	20 X	19.533	97.67
II	0.459	20 X	21.164	105.82
III	0.439	20 X	20.258	101.30

Rata-rata PK=20.318

#### 3. Penetapan Kadar DPP 9:1

Replikasi	Abs	FP	Jumlah terlarut (mg)	% Recovery
I	0.455	90 X	94.423	104.91
II	0.454	90 X	94.219	104.69
III	0.446	90 X	92.588	102.88

Rata-rata PK =93.744

#### 4. Penetapan Kadar CF 1:1

Replikasi	Abs	FP	Jumlah terlarut (mg)	% Recovery
I	0.448	50 X	51.664	103.33
II	0.480	50 X	55.288	110.58
III	0.329	50 X	38.188	76.38

Rata-rata PK= 48.380

#### 5. Penetapan Kadar Rekristalisasi Atorvastatin Kalsium

Replikasi	Abs	FP	Jumlah terlarut (mg)	% Recovery
I	0.455	100 X	104.915	104.91
II	0.432	100 X	99.705	99.70
III	0.441	100 X	101.744	101.74

Rata-rata PK= 102.121

#### Lampiran 4. Hasil Uji Disolusi

##### 1. Dispersi padat permukaan 1:1 ( Replikasi 1)

Menit	Abs	kadar mcg/ml	Kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.139	6.668177	0.006668	6.001359	0	6.001359	12.58
15	0.239	11.19819	0.011198	10.07837	0.033341	10.11171	21.19
30	0.473	21.79841	0.021798	19.61857	0.089332	19.7079	41.31
45	0.511	23.51982	0.02352	21.16784	0.198324	21.36616	44.79
60	0.766	35.07135	0.035071	31.56421	0.315923	31.88014	66.83

JARAK MEN	Luas Area	%DE60
	1	31.45299096
5	2	168.8964836
10	3	468.8518445
15	4	645.8048332
15	5	837.1880211
15	Y.dt	2152.194173
	y100.t	6000
	DE60	0.358699029

##### 2. Dispersi padat permukaan 1:1 (Replikasi 2)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.12	5.807475	0.005807	5.226727	0	5.226727	10.95
15	0.244	11.42469	0.011425	10.28222	0.029037	10.31126	21.61
30	0.488	22.47792	0.022478	20.23012	0.086161	20.31629	42.59
45	0.461	21.25481	0.021255	19.12933	0.19855	19.32788	40.51
60	0.734	33.62174	0.033622	30.25957	0.304824	30.56439	64.07



JARAK MEN	Luas Area	
	1	27.39316196
5	2	162.8684685
10	3	481.5548358
15	4	623.3226398
15	5	784.4529792
15	Y.dt	2079.592085
	y100.t	6000
	DE60	0.346598681

%DE60	34.65
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### 3. Dispersi padat permukaan 1:1 (Replikasi 3)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.118	5.716874	0.005717	5.145187	0	5.145187	10.78
15	0.21	9.884485	0.009884	8.896036	0.028584	8.924621	18.70
30	0.413	19.08041	0.01908	17.17237	0.078007	17.25037	36.16
45	0.49	22.56852	0.022569	20.31166	0.173409	20.48507	42.94
60	0.732	33.53114	0.033531	30.17803	0.286251	30.46428	63.86

JARAK MEN	Luas Area	
	1	26.96581154
5	2	147.479105
10	3	411.5477143
15	4	593.3119565
15	5	801.0733493
15	Y.dt	1980.377937
	y100.t	6000
	DE60	0.330062989

%DE60	33.00
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## 4. Dispersi padat permukaan 1:4 (Replikasi 1)

Menit	Abs	kadar mcg/ml	Kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.269	6.278596	0.006279	5.650736	0	5.650736	27.81
15	0.291	6.776897	0.006777	6.099207	0.031393	6.1306	30.17
30	0.394	9.109853	0.00911	8.198867	0.065277	8.264145	40.67
45	0.433	9.993205	0.009993	8.993884	0.110827	9.104711	44.80
60	0.488	11.23896	0.011239	10.11506	0.160793	10.27586	50.57

JARAK MEN		Luas Area	
	1	69.52660796	
5	2	289.9149192	
10	3	531.3384572	
15	4	641.118764	
15	5	715.3749537	%DE60 37.45
15	Y.dt	2247.273702	
	y100.t	6000	
	DE60	0.374545617	

## 5. Dispersi padat permukaan 1:4 (Replikasi 2)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.22	5.168743	0.005169	4.651869	0	4.651869	22.82
15	0.293	6.822197	0.006822	6.139977	0.025844	6.165821	30.25
30	0.369	8.543601	0.008544	7.689241	0.059955	7.749196	38.02
45	0.396	9.155153	0.009155	8.239638	0.102673	8.34231	40.93
60	0.45	10.37826	0.010378	9.34043	0.148448	9.488879	46.56

JARAK MEN	Luas Area	
	1	57.06691137
5	2	265.412542
10	3	512.1084263
15	4	592.2088301
15	5	656.2336368
15	Y.dt	2083.030347
	y100.t	6000
	DE60	0.347171724

%DE60	34.71
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#### 6. Dispersi padat permukaan 1:4 (Replikasi 3)

Menit	Abs	kadar mcg/ml	Kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.228	5.349943	0.00535	4.814949	0	4.814949	23.62
15	0.293	6.822197	0.006822	6.139977	0.02675	6.166727	30.26
30	0.377	8.724802	0.008725	7.852322	0.060861	7.913182	38.83
45	0.425	9.812005	0.009812	8.830804	0.104485	8.935289	43.84
60	0.488	11.23896	0.011239	10.11506	0.153545	10.26861	50.38

JARAK MEN	Luas Area	
	1	59.06750423
5	2	269.4359565
10	3	518.1768913
15	4	620.0670857
15	5	706.7527744
15	Y.dt	2173.500212
	y100.t	6000
	DE60	0.362250035

%DE60	36.22
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## 7. Dispersi padat permukaan 9:1 (Replikasi 1)

Menit	Abs	kadar mcg/ml	Kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.275	12.82899	0.012829	11.54609	0	11.54609	12.31
15	0.356	16.4983	0.016498	14.84847	0.064145	14.91262	15.90
30	0.524	24.10872	0.024109	21.69785	0.146636	21.84448	23.30
45	0.677	31.03964	0.03104	27.93567	0.26718	28.20285	30.08
60	0.771	35.29785	0.035298	31.76806	0.422378	32.19044	34.33

JARAK MEN	Luas Area		
	1	30.79153521	
5	2	141.1220709	
10	3	294.0754703	
15	4	400.4041213	
15	5	483.1770303	%DE60 22.49
15	Y.dt	1349.570228	
	y100.t	6000	
	DE60	0.224928371	

## 8. Dispersi padat permukaan 9:1 ( Replikasi 2)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.245	11.46999	0.01147	10.32299	0	10.32299	11.01
15	0.413	19.08041	0.01908	17.17237	0.05735	17.22972	18.37
30	0.528	24.28992	0.02429	21.86093	0.152752	22.01368	23.48
45	0.613	28.14043	0.02814	25.32639	0.274202	25.60059	27.30
60	0.781	35.75085	0.035751	32.17576	0.414904	32.59067	34.76

JARAK MEN	Luas Area	
	1	27.52972004
5	2	146.9570958
10	3	313.9671065
15	4	380.9383332
15	5	465.5596041
15	Y.dt	1334.95186
	y100.t	6000
	DE60	0.222491977

%DE60	22.24
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### 9. Dispersi padat permukaan 9:1 (Replikasi 3)

Menit	Abs	kadar mcg/ml	Kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.187	8.842582	0.008843	7.958324	0	7.958324	8.48
15	0.339	15.7282	0.015728	14.15538	0.044213	14.19959	15.14
30	0.497	22.88562	0.022886	20.59706	0.122854	20.71991	22.10
45	0.595	27.32503	0.027325	24.59253	0.237282	24.82981	26.48
60	0.862	39.42016	0.03942	35.47814	0.373907	35.85205	38.24

JARAK MEN	Luas Area	
	1	21.22354404
5	2	118.1830537
10	3	279.3737445
15	4	364.4208636
15	5	485.4856706
15	Y.dt	1268.686876
	y100.t	6000
	DE60	0.211447813

%DE60	21.14
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## 10. Atorvastatin kalsium Campuran fisik (Repikasi 1)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.159	7.574179	0.007574	6.816761	0	6.816761	14.08
15	0.082	4.08607	0.004086	3.677463	0.037871	3.715334	7.67
30	0.041	2.228766	0.002229	2.005889	0.058301	2.06419	4.26
45	0.019	1.232163	0.001232	1.108947	0.069445	1.178392	2.43
60	0.142	6.804077	0.006804	6.123669	0.075606	6.199275	12.81

JARAK MEN		Luas Area	
	1	35.22471979	
5	2	108.8464441	
10	3	89.59480513	
15	4	50.26685492	
15	5	114.3693843	%DE60 6.63
15	Y.dt	398.3022082	
	y100.t	6000	
	DE60	0.066383701	

## 11. Atorvastatin kalsium Campuran fisik (Repikasi 2)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.085	4.221971	0.004222	3.799773	0	3.799773	7.85
15	0.029	1.685164	0.001685	1.516648	0.02111	1.537758	3.17
30	0.248	11.60589	0.011606	10.4453	0.029536	10.47484	21.65
45	0.054	2.817667	0.002818	2.5359	0.087565	2.623465	5.42
60	0.059	3.044168	0.003044	2.739751	0.101653	2.841404	5.87

JARAK MEN	Luas Area	
	1	19.63483185
5	2	55.1619861
10	3	186.2205093
15	4	203.051268
15	5	84.71699605
15	Y.dt	548.7855913
	y100.t	6000
	DE60	0.091464265

%DE60	9.14
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## 12. Atorvastatin kalsium Campuran fisik (Repikasi 3)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.045	2.409966	0.00241	2.168969	0	2.168969	4.48
15	0.196	9.250283	0.00925	8.325255	0.01205	8.337305	17.23
30	0.156	7.438279	0.007438	6.694451	0.058301	6.752752	13.95
45	0.15	7.166478	0.007166	6.44983	0.095493	6.545323	13.52
60	0.023	1.413364	0.001413	1.272027	0.131325	1.403352	2.90

JARAK MEN	Luas Area	
	1	11.20786539
5	2	108.5795901
10	3	233.9276731
15	4	206.1481782
15	5	123.2212103
15	Y.dt	683.0845172
	y100.t	6000
	DE60	0.11384742

%DE60	11.38
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## 13. Atorvastatin Kalsium Rekrystalisasi

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.289	13.46319	0.013463	12.11687	0	12.11687	11.86
15	0.4	18.49151	0.018492	16.64236	0.067316	16.70967	16.36
30	0.434	20.03171	0.020032	18.02854	0.159773	18.18831	17.81
45	0.647	29.68063	0.029681	26.71257	0.259932	26.9725	26.41
60	0.741	33.93884	0.033939	30.54496	0.408335	30.9533	30.31

JARAK MEN	Luas Area		%DE60	19.73
	1	29.66285852		
5	2	141.1383383		
10	3	256.297278		
15	4	331.6694172		
15	5	425.4178236		
15	Y.dt	1184.185716		
	y100.t	6000		
	DE60	0.197364286		

## 14. Atorvastatin Kalsium Rekrystalisasi (Replikasi 2)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.278	12.96489	0.012965	11.6684	0	11.6684	11.42
15	0.391	18.08381	0.018084	16.27542	0.064824	16.34025	16.00
30	0.44	20.30351	0.020304	18.27316	0.155243	18.4284	18.04
45	0.692	31.71914	0.031719	28.54723	0.256761	28.80399	28.20
60	0.761	34.84485	0.034845	31.36036	0.415357	31.77572	31.11

JARAK MEN	Luas Area	
	1	28.56497345
5	2	137.1338303
10	3	255.3474411
15	4	346.8834427
15	5	444.9086105
15	Y.dt	1212.838298
	y100.t	6000
	DE60	0.202139716

%DE60	20.21
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### 15. Atorvastatin Kalsium Rekrystalisasi (Replikasi 3)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.262	12.24009	0.01224	11.01608	0	11.01608	10.78
15	0.376	17.4043	0.017404	15.66387	0.0612	15.72507	15.39
30	0.423	19.53341	0.019533	17.58007	0.148222	17.72829	17.35
45	0.648	29.72593	0.029726	26.75334	0.245889	26.99923	26.43
60	0.732	33.53114	0.033531	30.17803	0.394519	30.57255	29.93

JARAK MEN	Luas Area	
	1	26.96804971
5	2	130.9280072
10	3	245.6877159
15	4	328.4872139
15	5	422.8178321
15	Y.dt	1154.888819
	y100.t	6000
	DE60	0.19248147

%DE60	19.24
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## 16. Atorvastatin Kalsium Murni (Replikasi 1)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.113	5.490374	0.00549	4.941336	0	4.941336	4.94
15	0.43	19.85051	0.019851	17.86546	0.027452	17.89291	17.89
30	0.64	29.36353	0.029364	26.42718	0.126704	26.55388	26.55
45	0.729	33.39524	0.033395	30.05572	0.273522	30.32924	30.32
60	0.935	42.72707	0.042727	38.45436	0.440498	38.89486	38.89

JARAK MEN	Luas Area		%DE60	23.42
	1	12.35334088		
5	2	114.1712344		
10	3	333.3509626		
15	4	426.6234428		
15	5	519.1807475		
15	Y.dt	1405.679728		
	y100.t	6000		
	DE60	0.234279955		

## 17. Atorvastatin Kalsium Murni (Replikasi 2)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.201	9.476784	0.009477	8.529105	0	8.529105	8.52
15	0.333	15.4564	0.015456	13.91076	0.047384	13.95814	13.95
30	0.592	27.18913	0.027189	24.47022	0.124666	24.59488	24.59
45	0.782	35.79615	0.035796	32.21653	0.260612	32.47715	32.47
60	0.879	40.19026	0.04019	36.17123	0.439592	36.61083	36.61

JARAK MEN	Luas Area	
	1	21.32276331
5	2	112.4362401
10	3	289.1476784
15	4	428.0402039
15	5	518.1597961
15	Y.dt	1369.106682
	y100.t	6000
	DE60	0.228184447

%DE60	22.81
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### 18. Atorvastatin Kalsium Murni (Replikasi 3)

Menit	Abs	kadar mcg/ml	kadar mg/ml	jumlah (mg)	faktor koreksi	jumlah terkoreksi	% Terlarut
0	0	0	0	0	0		
5	0.258	12.05889	0.012059	10.853	0	10.853	10.85
15	0.314	14.5957	0.014596	13.13613	0.060294	13.19642	13.19
30	0.543	24.96942	0.024969	22.47248	0.133273	22.60575	22.60
45	0.798	36.52095	0.036521	32.86886	0.25812	33.12698	33.12
60	0.835	38.19706	0.038197	34.37735	0.440725	34.81807	34.81

JARAK MEN	Luas Area	
	1	27.13250283
5	2	120.2471121
10	3	268.516308
15	4	417.99547
15	5	509.5878822
15	Y.dt	1343.479275
	y100.t	6000
	DE60	0.223913213

%DE60	22.39
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## Lampiran 5. Hasil Statistik *One Way Anova*

### 1. Uji Normalitas

**Tests of Normality**

DPP	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DE60 1	.326	3	.	.874	3	.306
2	.341	3	.	.848	3	.234
3	.370	3	.	.785	3	.079
4	.322	3	.	.881	3	.326
5	.232	3	.	.980	3	.726

a. Lilliefors Significance Correction

### 2. Uji Homogenitas

**Test of Homogeneity of Variances**

DE60

Levene Statistic	df1	df2	Sig.
5.159	4	10	.016

### 3. Uji LSD

**Multiple Comparisons**

DE60

LSD

(I) DPP	(J) DPP	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
DPP 1:1	DPP 1:4	-1.84000	1.04795	.105	-4.1233	.4433
	DPP 9:1	12.72333*	1.04795	.000	10.4400	15.0066
	AK MURNI	12.04000*	1.04795	.000	9.7567	14.3233
	AK RE	14.83333*	1.04795	.000	12.5500	17.1166
	CF 1:1	24.90000*	1.04795	.000	22.6167	27.1833
DPP 1:4	DPP 1:1	1.84000	1.04795	.105	-.4433	4.1233
	DPP 9:1	14.56333*	1.04795	.000	12.2800	16.8466

	AK MURNI	13.88000*	1.04795	.000	11.5967	16.1633
	AK RE	16.67333*	1.04795	.000	14.3900	18.9566
	CF 1:1	26.74000*	1.04795	.000	24.4567	29.0233
DPP 9:1	DPP 1:1	-12.72333*	1.04795	.000	-15.0066	-10.4400
	DPP 1:4	-14.56333*	1.04795	.000	-16.8466	-12.2800
	AK MURNI	-.68333	1.04795	.527	-2.9666	1.6000
	AK RE	2.11000	1.04795	.067	-.1733	4.3933
	CF 1:1	12.17667*	1.04795	.000	9.8934	14.4600
AK MURNI	DPP 1:1	-12.04000*	1.04795	.000	-14.3233	-9.7567
	DPP 1:4	-13.88000*	1.04795	.000	-16.1633	-11.5967
	DPP 9:1	.68333	1.04795	.527	-1.6000	2.9666
	AK RE	2.79333*	1.04795	.021	.5100	5.0766
	CF 1:1	12.86000*	1.04795	.000	10.5767	15.1433
AK RE	DPP 1:1	-14.83333*	1.04795	.000	-17.1166	-12.5500
	DPP 1:4	-16.67333*	1.04795	.000	-18.9566	-14.3900
	DPP 9:1	-2.11000	1.04795	.067	-4.3933	.1733
	AK MURNI	-2.79333*	1.04795	.021	-5.0766	-.5100
	CF 1:1	10.06667*	1.04795	.000	7.7834	12.3500
CF 1:1	DPP 1:1	-24.90000*	1.04795	.000	-27.1833	-22.6167
	DPP 1:4	-26.74000*	1.04795	.000	-29.0233	-24.4567
	DPP 9:1	-12.17667*	1.04795	.000	-14.4600	-9.8934
	AK MURNI	-12.86000*	1.04795	.000	-15.1433	-10.5767
	AK RE	-10.06667*	1.04795	.000	-12.3500	-7.7834

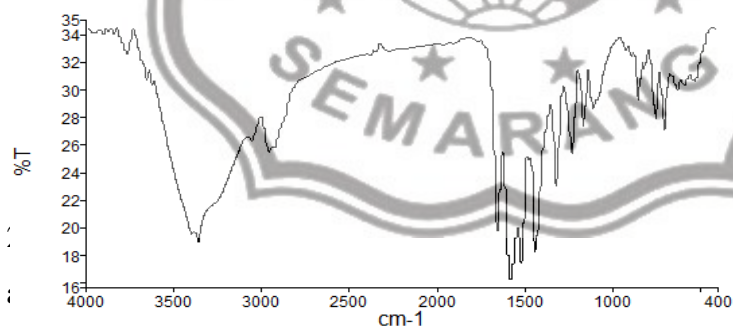
## Lampiran 6. Hasil analisis dengan FTIR

### 1. Atorvastatin Kalsium murni

#### a. Bilangan Gelombang

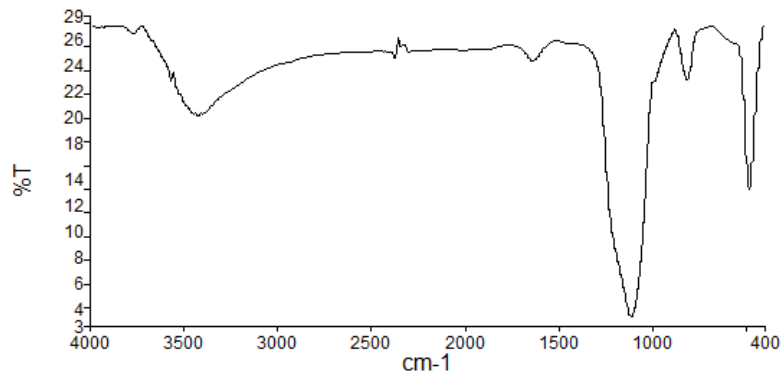
PeakName	X	Y
16	623.54	30.1
15	695.83	27.22
14	748.52	28.05
13	844.2	29.4
12	1106.55	28.73
11	1157.56	27.53
10	1222.66	25.39
9	1315.08	23.1
8	1434.09	18.2
7	1513.88	17.34
6	1578.98	16.17
5	1651.71	19.73
4	2965.93	25.53
3	3367.58	18.98
2	3661.26	30.78
1	3780.08	32.73

#### b. Spektrum atorvastatin kalsium



PeakName	X	Y
9	475.23	14.03
8	808.55	23.34
7	1107.59	3.14
6	1635.56	24.96
5	2302.29	25.66
4	2375.37	25.22
3	3435.61	20.3
2	3572.1	23.28
1	3782.48	27.26

### b. Spektrum Aerosil

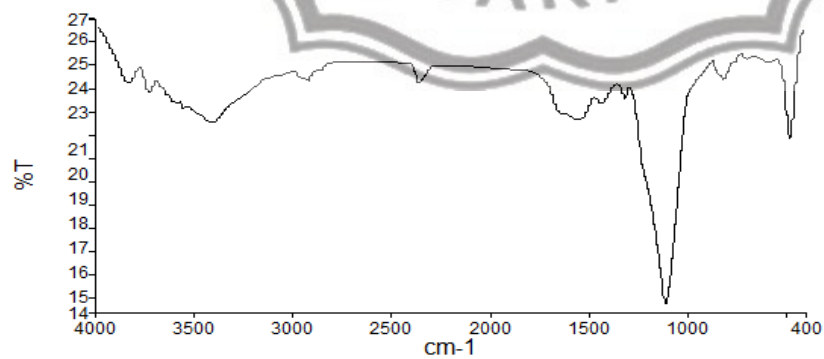


### 3. Dispersi padat permukaan 1:1

#### a. Bilangan gelombang pada dispersi padat permukaan

PeakName	X	Y
8	472.63	21.94
7	809.33	24.45
6	1105.95	14.68
5	1544.22	22.73
4	2366.01	24.29
3	3419.25	22.6
2	3739.62	23.89
1	3842.05	24.31

#### b. Spektrum dispersi padat permukaan





## 4. Campuran fisik 1:1

## a. Bilangan gelombang

PeakName	X	Y
13	472.99	22.83
12	693.25	27.2
11	809.1	26.71
10	1107.48	13.27
9	1315.42	26.16
8	1433.04	25.46
7	1574.86	24.54
6	1649.62	24.53
5	2370.13	26.82
4	3420.37	23.21
3	3677.44	24.94
2	3746.42	24.24
1	3841.12	25.38

## b. Spektrum campuran fisik

