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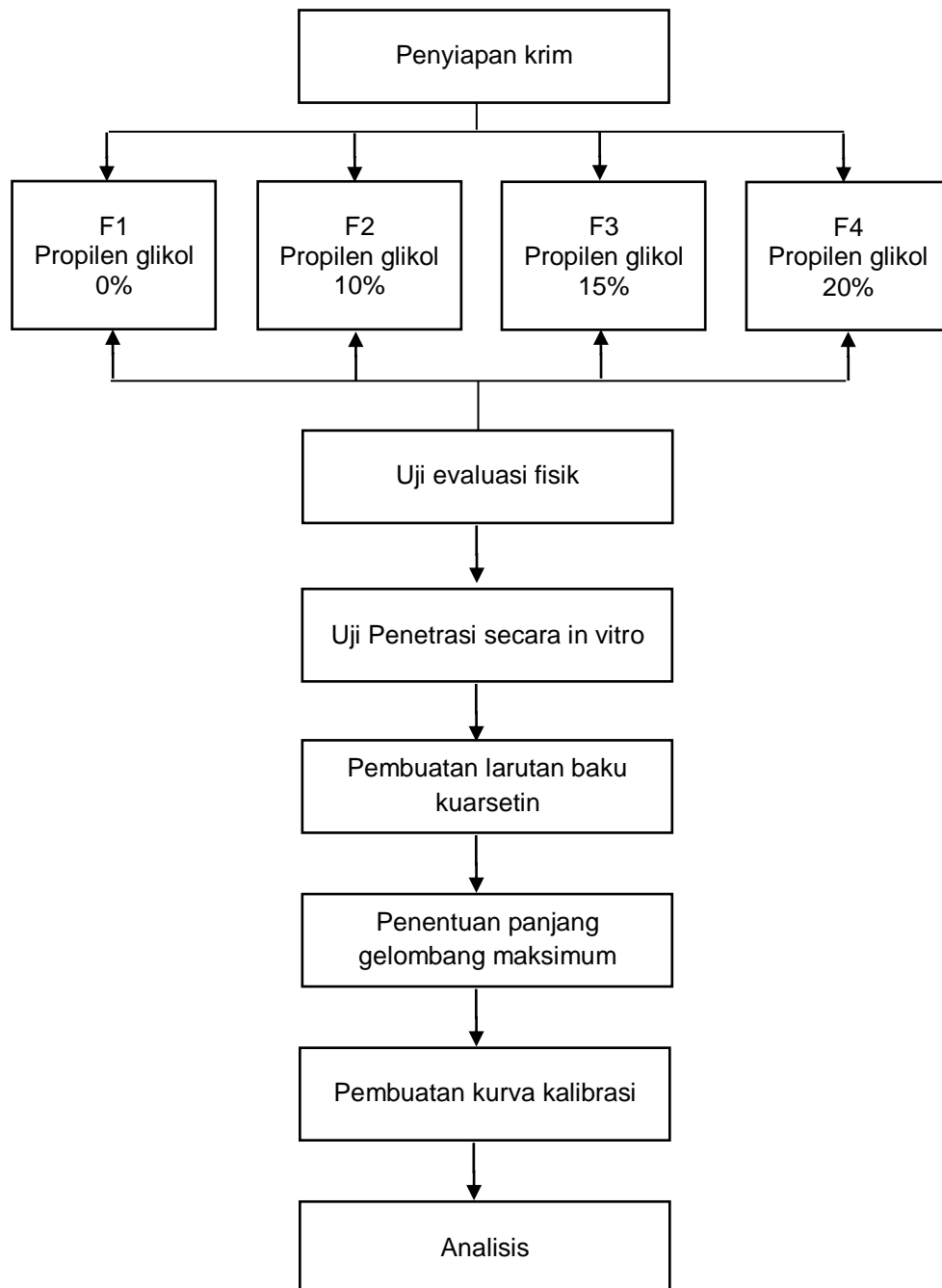
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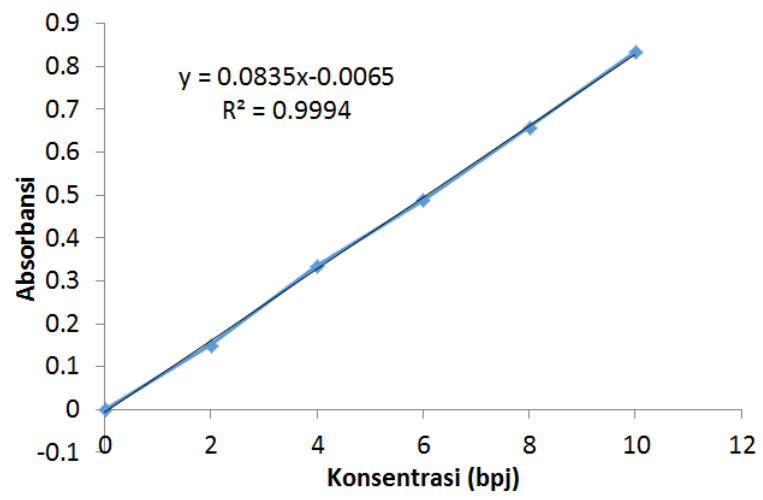
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LAMPIRAN

Lampiran 1. Skema kerja



Lampiran 2. Kurva baku



Gambar 18. Kurva baku kuarsetin

Lampiran 3. Gambar penelitian



Gambar 19. Pengujian viskositas menggunakan viskometer *Brookfield*[®]



Gambar 20. Pengujian pH menggunakan pH meter *Horiba*[®]



Gambar 21. Pengujian penetrasi menggunakan sel difusi Franz

Lampiran 4. Perhitungan

Persamaan: $y = 0,0835x - 0,0065$

Dimana $y = \text{absorbansi}$; $x = \text{konsentrasi}$

Pada F1 Replikasi 1 jam ke-2, diperoleh $\text{absorbansi} = 0,044$

Sehingga, untuk mendapatkan konsentrasi:

$$0,044 = 0,0835x - 0,0065$$

$$X = \frac{0,044 + 0,0065}{0,0835}$$

$$X = 0.604 \mu g$$

Factor pengenceran = 10x

Konsentrasi kuarsetin terpenetrasi pada jam 0.5 ($C_n = 0.604 \mu g \times 10 = 6.04 \mu g$)

Volume sel difusi ($V = 30 mL$)

Konsentrasi zat pada sampling menit sebelumnya ($\sum_{i=1}^{n-1} C = 9.34 \mu g$)

Volume Sampling $S = 2 mL$

Luas area membrane $A = 6,16 cm^2$

Penetrasi kumulatif

$$Q = \frac{C_n V + \sum_{i=1}^{n-1} C_i S}{A} = \frac{6,04 \cdot 30 + 9,34 \cdot 2}{6,16} = 32,48 \mu g/cm^2$$

Kecepatan penetrasi tiap satuan waktu (Fluks)

$$J = \frac{Q}{t} = \frac{32,48 \mu g/cm^2}{2 jam} = 16,24 \mu g/cm^2 jam$$

Persen kumulatif

$$\% \text{kumulatif} = \frac{Q \cdot A}{\text{Kandungan zat aktif}} \times 100\% = \frac{32,48 \mu g/cm^2 \cdot 6,16 cm^2}{10000} \times 100\% = 2,00\%$$

Lampiran 5. Tabel hasil evaluasi

Tabel 12. Kurva baku

Konsentrasi	Absorbansi
0	0
2	0.150
4	0.335
6	0.489
8	0.658
10	0.833

Tabel 13. Hasil penetrasi formula 1

Jam	Absorbansi	Konsentrasi (µg/ml)	Faktor pengenceran	Konsentrasi (µg/ml)	Faktor Koreksi	Jumlah kumulatif terpenetrasi (mg/cm ²)	Rata-rata (mg/cm ²)	persen kumulatif terpenetrasi (%)	Rata-rata (%)	SD
0	0.000	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	10	0.000	0.000	0.000				
	0.000	0.000	10	0.000	0.000	0.000				
0.5	0.029	0.425	10	4.251	0.000	20.705	19.539	1.275	1.204	0.124
	0.023	0.353	10	3.533	0.000	17.206				
	0.029	0.425	10	4.251	0.000	20.705				
1	0.036	0.509	10	5.090	8.503	26.168	25.119	1.612	1.547	0.061
	0.033	0.473	10	4.731	7.066	24.185				
	0.034	0.485	10	4.850	8.503	25.002				
2	0.044	0.605	10	6.048	18.683	32.487	32.150	2.001	1.980	0.065
	0.042	0.581	10	5.808	16.527	30.971				
	0.045	0.617	10	6.168	18.204	32.992				
4	0.052	0.701	10	7.006	30.778	39.117	39.350	2.410	2.424	0.017
	0.053	0.713	10	7.126	28.144	39.272				
	0.053	0.713	10	7.126	30.539	39.661				
8	0.074	0.964	10	9.641	44.790	54.223	54.288	3.340	3.344	0.030
	0.074	0.964	10	9.641	42.395	53.834				
	0.075	0.976	10	9.760	44.790	54.806				

Tabel 14. Hasil penetrasi formula 2

Jam	Absorbansi	Konsentrasi (µg/ml)	Faktor pengenceran	Konsentrasi (µg/ml)	Faktor Koreksi	Jumlah kumulatif terpenetrasi (mg/cm ²)	Rata-rata (mg/cm ²)	persen kumulatif terpenetrasi (%)	Rata-rata (%)	SD
0	0.000	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	10	0.000	0.000	0.000				
	0.000	0.000	10	0.000	0.000	0.000				
0.5	0.027	0.401	10	4.012	0.000	19.539	19.733	1.204	1.216	0.021
	0.027	0.401	10	4.012	0.000	19.539				
	0.028	0.413	10	4.132	0.000	20.122				
1	0.03	0.437	10	4.371	8.024	22.591	22.021	1.392	1.356	0.036
	0.028	0.413	10	4.132	8.024	21.425				
	0.029	0.425	10	4.251	8.263	22.047				
2	0.073	0.952	10	9.521	16.766	49.090	47.703	3.024	2.939	0.077
	0.069	0.904	10	9.042	16.287	46.679				
	0.07	0.916	10	9.162	16.766	47.340				
4	0.093	1.191	10	11.916	35.808	63.846	63.924	3.933	3.938	0.015
	0.094	1.203	10	12.036	34.371	64.196				
	0.093	1.191	10	11.916	35.090	63.730				
8	0.106	1.347	10	13.473	59.641	75.297	75.777	4.638	4.668	0.033
	0.107	1.359	10	13.593	58.443	75.686				
	0.108	1.371	10	13.713	58.922	76.347				

Tabel 15. Hasil penetrasi formula 3

Jam	Absorbansi	Konsentrasi (µg/ml)	Faktor pengenceran	Konsentrasi (µg/ml)	Faktor Koreksi	Jumlah kumulatif terpenetrasi (mg/cm ²)	Rata-rata (mg/cm ²)	persen kumulatif terpenetrasi (%)	Rata-rata (%)	SD
0	0.000	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	10	0.000	0.000	0.000				
	0.000	0.000	10	0.000	0.000	0.000				
0.5	0.038	0.532	10	5.329	0.000	25.955	23.233	1.599	1.431	0.150
	0.030	0.437	10	4.371	0.000	21.289				
	0.032	0.461	10	4.611	0.000	22.455				
1	0.084	1.083	10	10.838	10.659	54.514	54.916	3.358	3.383	0.060
	0.084	1.083	10	10.838	8.743	54.203				
	0.087	1.119	10	11.198	9.222	56.031				
2	0.120	1.515	10	15.150	32.335	79.030	79.082	4.868	4.871	0.060
	0.119	1.503	10	15.030	30.419	78.136				
	0.122	1.538	10	15.389	31.617	80.080				
4	0.196	2.425	10	24.251	62.635	128.276	125.619	7.902	7.738	0.296
	0.197	2.437	10	24.371	60.479	128.509				
	0.182	2.257	10	22.575	62.395	120.072				
8	0.232	2.856	10	28.563	111.138	157.147	153.155	9.680	9.434	0.213
	0.222	2.736	10	27.365	109.222	151.003				
	0.223	2.748	10	27.485	107.545	151.314				

Tabel 16. Hasil penetrasi formula 4

Jam	Absorbansi	Konsentrasi (µg/ml)	Faktor pengenceran	Konsentrasi (µg/ml)	Faktor Koreksi	Jumlah kumulatif terpenetrasi (mg/cm ²)	Rata-rata (mg/cm ²)	persen kumulatif terpenetrasi (%)	Rata-rata (%)	SD
0	0.000	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	10	0.000	0.000	0.000				
	0.000	0.000	10	0.000	0.000	0.000				
0.5	0.053	0.712	10	7.126	0.000	34.703	36.259	2.138	2.234	0.136
	0.054	0.724	10	7.246	0.000	35.287				
	0.06	0.796	10	7.964	0.000	38.786				
1	0.075	0.976	10	9.760	14.251	49.848	50.535	3.071	3.113	0.104
	0.074	0.964	10	9.641	14.491	49.304				
	0.079	1.024	10	10.240	15.928	52.454				
2	0.182	2.257	10	22.575	33.772	115.425	115.568	7.110	7.119	0.085
	0.18	2.233	10	22.335	33.772	114.258				
	0.184	2.281	10	22.814	36.407	117.019				
4	0.209	2.580	10	25.808	78.922	138.502	141.172	8.532	8.696	0.147
	0.217	2.676	10	26.766	78.443	143.090				
	0.214	2.640	10	26.407	82.036	141.924				
8	0.314	3.838	10	38.383	130.539	208.123	209.017	12.820	12.875	0.058
	0.315	3.850	10	38.503	131.976	208.939				
	0.316	3.862	10	38.623	134.850	209.989				

Lampiran 6. Data hasil analisis statistika

Tabel 17. Hasil tes normalitas data pH krim kombinasi

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
pH	F1	.292	3	.	.923	3	.463
	F2	.343	3	.	.842	3	.220
	F3	.219	3	.	.987	3	.780
	F4	.253	3	.	.964	3	.637

a. Lilliefors Significance Correction

Tabel 18. Hasil tes Anova data pH krim kombinasi

ANOVA					
pH					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.138	3	.046	57.694	.000
Within Groups	.006	8	.001		
Total	.145	11			

Tabel 19. Hasil tes normalitas data viskositas krim kombinasi

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Formulasi	Statistic	df	Sig.	Statistic	df	Sig.
Viskositas	F1	.175	3	.	1.000	3	1.000
	F2	.219	3	.	.987	3	.780
	F3	.292	3	.	.923	3	.463
	F4	.349	3	.	.832	3	.194

a. Lilliefors Significance Correction

Tabel 20. Hasil tes Anova data viskositas krim kombinasi

ANOVA					
Viskositas					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	270680000.000	3	90226666.667	164.048	.000
Within Groups	4400000.000	8	550000.000		
Total	275080000.000	11			

Tabel 21. Hasil tes normalitas data penetrasi krim kombinasi

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.277	12	.012	.803	12	.010

a. Lilliefors Significance Correction

Tabel 22. Hasil tes homogenitas data penetrasi krim kombinasi

		Levene Statistic	df1	df2	Sig.
kumulatif	Based on Mean	8.548	3	8	.007
	Based on Median	.712	3	8	.572
	Based on Median and with adjusted df	.712	3	2.189	.623
	Based on trimmed mean	7.100	3	8	.012

Tabel 23. Hasil tes anova data penetrasi krim kombinasi

ANOVA					
kumulatif	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	173.713	3	57.904	4571.377	.000
Within Groups	.101	8	.013		
Total	173.815	11			

Tabel 24. Hasil uji lanjutan Tukey data penetrasi krim kombinasi

		N	Subset for alpha = 0.05			
Formula			1	2	3	4
Tukey HSD ^a	F1 tanpa Propilen Glikol	3	3.3440			
	F2 Propilen Glikol 10%	3		4.6677		
	F3 Propilen Glikol 15%	3			9.4343	
	F4 Propilen Glikol 20%	3				12.8753
	Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.