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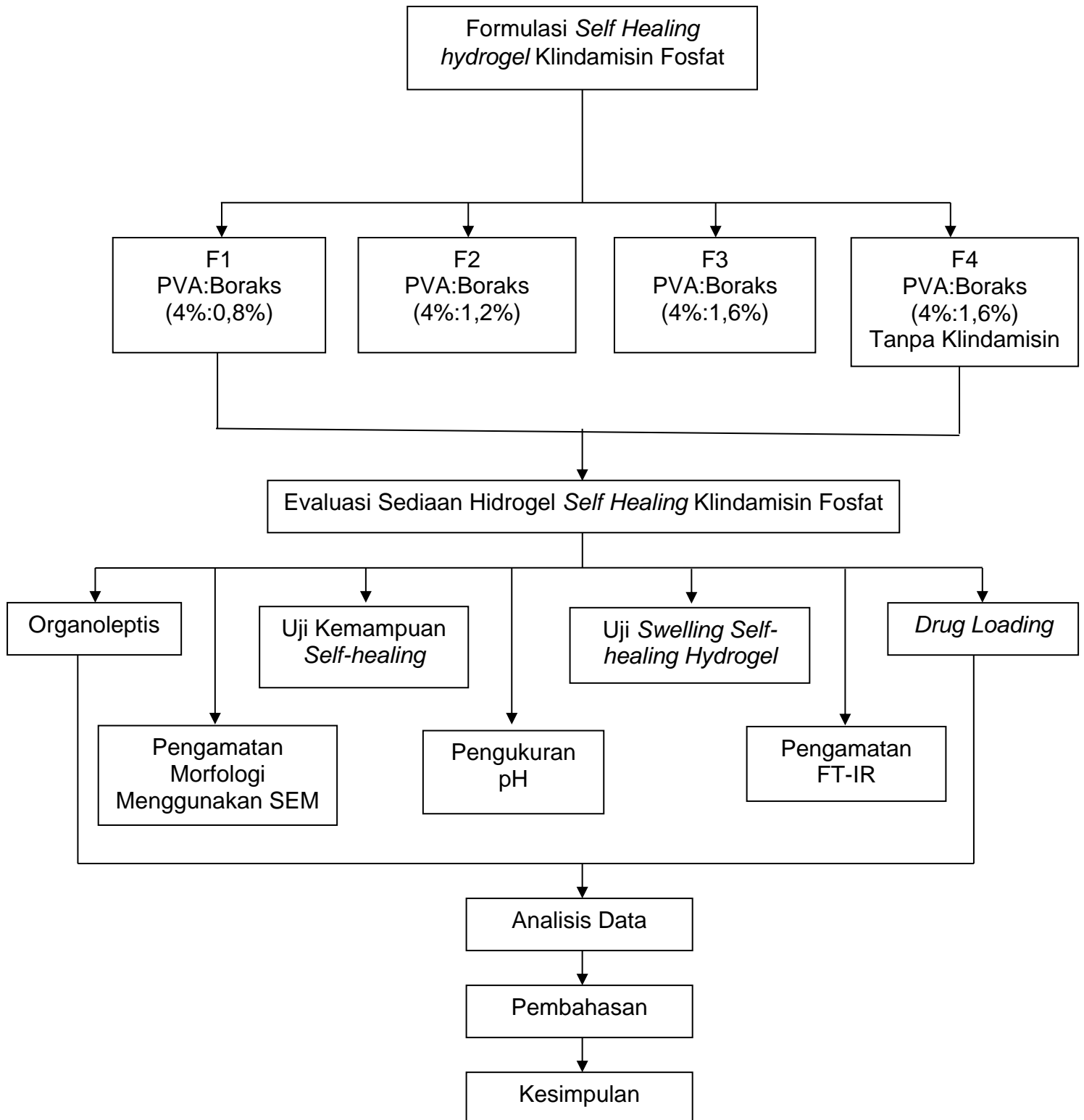
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LAMPIRAN

Lampiran 1. Skema Kerja Umum



Lampiran 2. Hasil Uji Waktu *Self-Healing* Sediaan *Self-Healing Hydrogel* Klindamisin Fosfat

Tabel 4. Waktu *self-healing* sediaan *self-healing hydrogel* klindamisin fosfat

Formula	Waktu self healing (menit)	Rata-rata \pm SD (menit)
F1	7,25	6,96 \pm 0,29
	6,67	
	6,97	
F2	9,17	9,18 \pm 0,27
	8,92	
	9,45	
F3	11,75	11,81 \pm 0,34
	12,17	
	11,50	
F4	14,58	14,45 \pm 0,45
	13,95	
	14,83	

Lampiran 3. Hasil Uji pH Sediaan *Self-Healing Hydrogel* Klindamisin Fosfat

Tabel 5. Hasil uji pH sediaan *self-healing hydrogel* klindamisin fosfat

Formula	pH	Rata-rata \pm SD
F1	7,41	7,56 \pm 0,28
	7,39	
	7,88	
F2	7,63	7,65 \pm 0,06
	7,72	
	7,61	
F3	7,93	7,63 \pm 0,32
	7,67	
	7,29	
F4	7,13	7,36 \pm 0,23
	7,37	
	7,58	

Lampiran 4. Hasil Uji Swelling Sediaan Self-Healing Hydrogel Klindamisin Fosfat

Tabel 6. Bobot self-healing hydrogel setiap interval waktu selama pengujian swelling

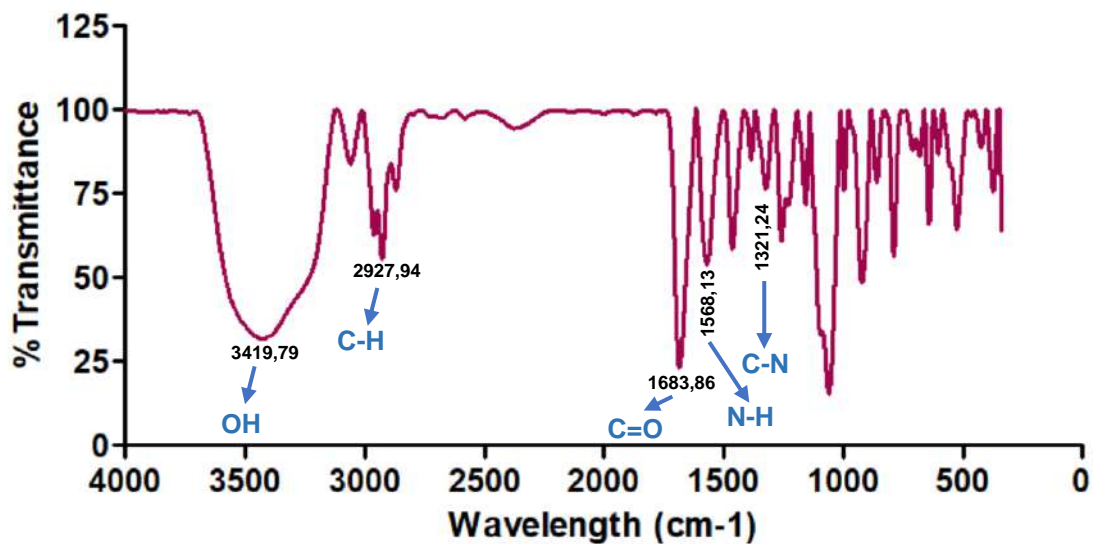
Formula	Bobot (g)									
	0 m	15 m	30 m	45 m	1h	2 h	3 h	4 h	5 h	6 h
F1	1,006	1,0625	1,0915	1,1581	1,2254	1,3145	1,3872	1,4107	1,4595	1,4861
	1,007	1,0615	1,0926	1,1592	1,2271	1,3141	1,388	1,4115	1,4601	1,4872
	1,0065	1,0637	1,0932	1,1588	1,2265	1,3135	1,3868	1,4103	1,4587	1,4857
F2	1,0055	1,0735	1,1208	1,1613	1,2508	1,3545	1,5018	1,5955	1,6351	1,6692
	1,0065	1,0711	1,121	1,1621	1,2515	1,3551	1,5021	1,5962	1,636	1,6698
	1,0075	1,0727	1,1205	1,1616	1,2505	1,3555	1,5011	1,5958	1,6354	1,6705
F3	1,0055	1,1165	1,2032	1,3203	1,4035	1,5211	1,5973	1,6441	1,7118	1,8714
	1,0065	1,1089	1,2035	1,3208	1,4038	1,5215	1,5977	1,6448	1,7122	1,872
	1,007	1,1111	1,2038	1,3212	1,404	1,5222	1,598	1,6452	1,7126	1,8718
F4	1,007	1,0942	1,1928	1,2515	1,3112	1,4252	1,4837	1,5582	1,649	1,7023
	1,006	1,0946	1,1931	1,2518	1,3118	1,4257	1,4841	1,5588	1,6495	1,7028
	1,0065	1,0952	1,1938	1,2522	1,311	1,4261	1,4846	1,5594	1,6501	1,7035

Tabel 7. Persentase rasio swelling sediaan self-healing hydrogel klindamisin fosfat

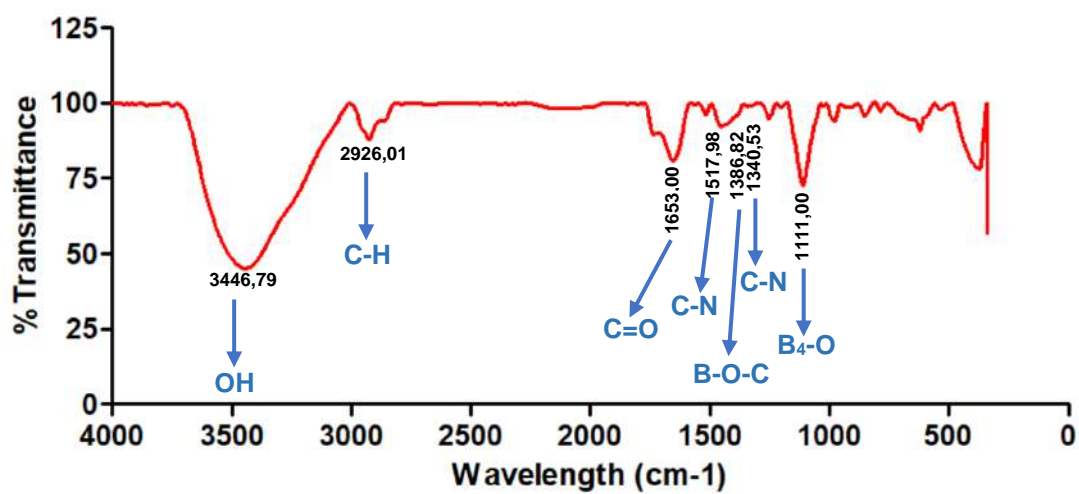
Waktu (jam)	Rasio Swelling (%)				
	ke-	F1	F2	F3	F4
0,25		5,62	6,76	10,04	8,66
		5,41	6,42	10,17	8,81
		5,68	6,47	10,34	8,81
0,5		8,49	11,47	19,66	18,45
		8,50	11,38	19,57	18,59
		8,61	11,22	19,54	18,61
0,75		15,12	15,49	31,31	24,28
		15,11	15,46	31,23	24,43
		15,13	15,29	31,20	24,41
1		21,81	24,40	39,58	30,21
		21,86	24,34	39,47	30,40
		21,86	24,11	39,42	30,25
2		30,67	34,71	51,28	41,53
		30,49	34,63	51,17	41,72
		30,50	34,54	51,16	41,69

Lanjutan		Rasio Swelling (%)			
Waktu (jam)					
ke-	F1	F2	F3	F4	
3	37,90	49,36	58,86	47,34	
	37,84	49,24	58,74	47,52	
	37,78	48,40	58,69	47,5	
4	40,23	58,68	63,51	54,74	
	40,27	58,59	63,42	54,95	
	40,12	58,39	63,38	54,93	
5	45,10	62,62	70,24	63,75	
	44,99	62,54	70,11	63,97	
	44,93	62,32	70,07	63,94	
6	47,72	66,01	86,12	69,05	
	47,69	65,90	85,99	69,26	
	47,61	65,81	85,88	69,25	

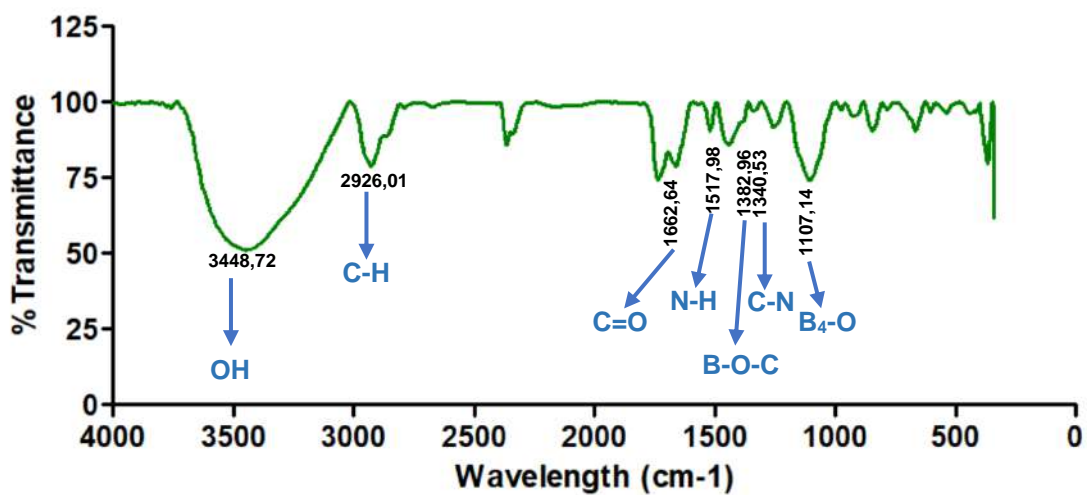
Lampiran 5. Hasil Pengamatan FT-IR



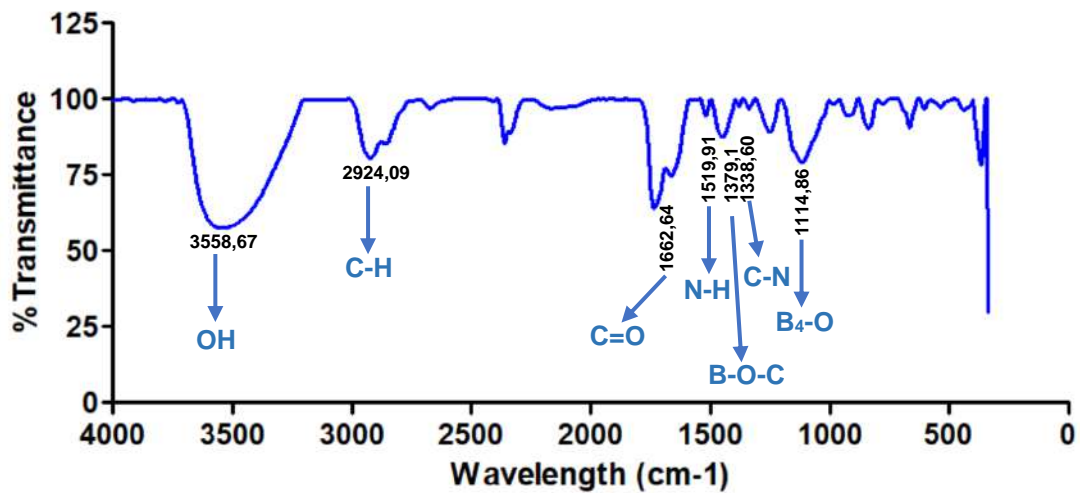
Gambar 16. Spektrum FT-IR klindamisin fosfat



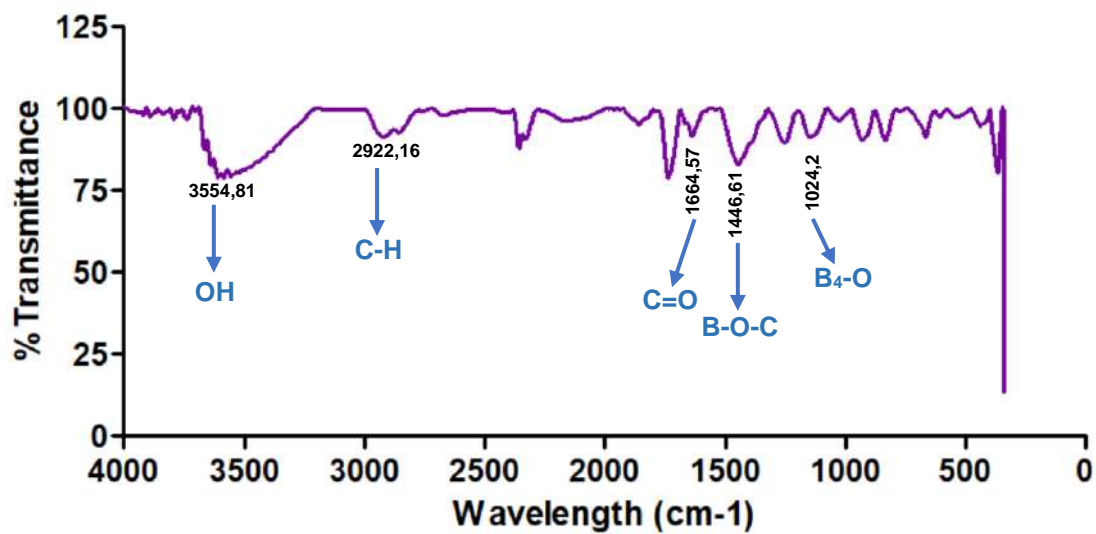
Gambar 17. Spektrum FT-IR formula 1



Gambar 18. Spektrum FT-IR formula 2



Gambar 19. Spektrum FT-IR formula 3



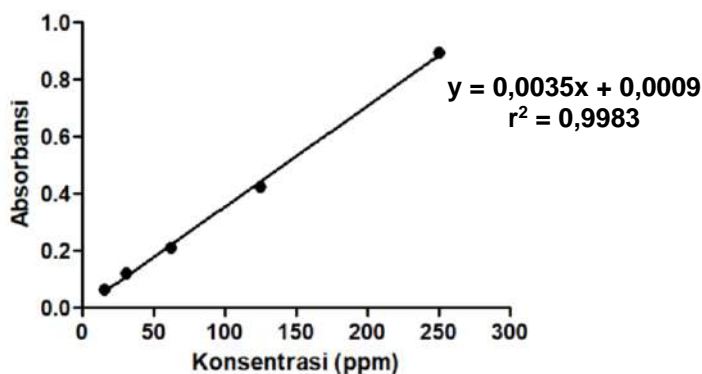
Gambar 20. Spektrum FT-IR formula 4

Lampiran 6. Penetapan Kurva Baku dan Pengukuran Kadar Klindamisin Fosfat dalam Sediaan *Self-Healing Hydrogel* Klindamisin Fosfat

a) Penetapan Kurva Baku Klindamisin Fosfat

Tabel 8. Kurva baku klindamisin fosfat

Konsentrasi	Absorbansi
250	0,894
125	0,423
62,5	0,212
31,25	0,122
15,625	0,064



Gambar 21. Grafik kurva baku klindamisin fosfat

b) Pengukuran Kadar Klindamisin Fosfat

Tabel 9. Kadar klindamisin fosfat dalam sediaan *self-healing hydrogel* klindamisin fosfat

Formula	Absorbansi	%Kadar	Rata-rata \pm SD
F1	0,174	98,91	98,72 \pm 11,72
	0,153	86,91	
	0,194	110,34	
F2	0,178	101,20	97,77 \pm 3,75
	0,165	93,77	
	0,173	98,34	
F3	0,159	90,34	98,34 \pm 11,47
	0,196	111,48	
	0,164	93,20	

Contoh Perhitungan %Kadar Klindamisin Fosfat pada Formula 1 Replikasi 1

10 mg sediaan *self-healing hydrogel* klindamisin fosfat

↓ dilarutkan

10 mL metanol

↓ dicuplik

0,5 mL $\xrightarrow{\text{dicukupkan dengan PBS}}$ 1 mL (diukur absorbansinya)

Diketahui : Absorbansi F1 replikasi 1 = 0,174

Faktor pengenceran (Fp) = 2

Jumlah klindamisin fosfat yang sebenarnya (dalam 10 mg *self-healing hydrogel*) = 100 μg

Persamaan kurva baku $y = 0,0035x + 0,0009$

Ditanyakan: %kadar klindamisin fosfat ?

Penyelesaian:

$$y = 0,0035x + 0,0009$$

$$0,174 = 0,0035x + 0,0009$$

$$0,0035x = 0,174 - 0,0009$$

$$x = \frac{0,1731}{0,0035}$$

$$x = 49,45$$

$$\% \text{kadar klindamisin fosfat} = \frac{x \cdot Fp}{100} \times 100\%$$

$$\% \text{kadar klindamisin fosfat} = \frac{49,45 \cdot 2}{100} \times 100\%$$

$$\% \text{kadar klindamisin fosfat} = \frac{98,9}{100} \times 100\%$$

$$\% \text{kadar klindamisin fosfat} = 98,9\%$$

Jadi, kadar klindamisin fosfat dalam F1 replikasi 1 adalah sebesar 98,91%

Lampiran 7. Data Hasil Analisis Statistika

Lampiran 7.1 Uji Waktu *Self-Healing*

Tests of Normality

	Formula	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Waktu_Self_Healing	F1	.177	3	.	1.000	3	.962
	F2	.182	3	.	.999	3	.938
	F3	.238	3	.	.975	3	.700
	F4	.317	3	.	.888	3	.349

a. Lilliefors Significance Correction

ANOVA

Waktu_Self_Healing

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	90.287	3	30.096	214.751	.000
Within Groups	1.121	8	.140		
Total	91.408	11			

Multiple Comparisons

Dependent Variable: Waktu_Self_Healing

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
F1	F2	-2.21667*	.30566	.000	-3.1955	-1.2378
	F3	-5.45333*	.30566	.000	-6.4322	-4.4745
	F4	-7.03667*	.30566	.000	-8.0155	-6.0578
F2	F1	2.21667*	.30566	.000	1.2378	3.1955
	F3	-3.23667*	.30566	.000	-4.2155	-2.2578
	F4	-4.82000*	.30566	.000	-5.7988	-3.8412
F3	F1	5.45333*	.30566	.000	4.4745	6.4322
	F2	3.23667*	.30566	.000	2.2578	4.2155
	F4	-1.58333*	.30566	.004	-2.5622	-.6045
F4	F1	7.03667*	.30566	.000	6.0578	8.0155
	F2	4.82000*	.30566	.000	3.8412	5.7988
	F3	1.58333*	.30566	.004	.6045	2.5622

*. The mean difference is significant at the 0.05 level.

Lampiran 7.2 Uji pH

Tests of Normality

	Formula	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
pH	F1	.372	3	.	.781	3	.069
	F2	.321	3	.	.881	3	.328
	F3	.216	3	.	.988	3	.794
	F4	.184	3	.	.999	3	.927

a. Lilliefors Significance Correction

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.160	3	.053	.908	.479
Within Groups	.469	8	.059		
Total	.629	11			

Lampiran 7.3 Uji Swelling

Tests of Normality

	Formula	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Rasio_Swelling	F1	.254	3	.	.963	3	.632
	F2	.180	3	.	.999	3	.944
	F3	.181	3	.	.999	3	.939
	F4	.364	3	.	.800	3	.114

a. Lilliefors Significance Correction

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2220.535	3	740.178	69965.380	.000
Within Groups	.085	8	.011		
Total	2220.620	11			

Multiple Comparisons

Dependent Variable: Rasio_Swelling

Tukey HSD

(I) Formula	(J) Formula	Mean			95% Confidence Interval	
		Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
F1	F2	-18.231555*	.0839810	.000	-18.500492	-17.962619
	F3	-38.3219600*	.0839810	.000	-38.590897	-38.053023
	F4	-21.5135255*	.0839810	.000	-21.782462	-21.244589
F2	F1	18.2315555*	.0839810	.000	17.962619	18.500492
	F3	-20.0904045*	.0839810	.000	-20.359341	-19.821468
	F4	-3.2819700*	.0839810	.000	-3.550907	-3.013033
F3	F1	38.3219600*	.0839810	.000	38.053023	38.590897
	F2	20.0904045*	.0839810	.000	19.821468	20.359341
	F4	16.8084345*	.0839810	.000	16.539498	17.077371
F4	F1	21.5135255*	.0839810	.000	21.244589	21.782462
	F2	3.2819700*	.0839810	.000	3.013033	3.550907
	F3	-16.8084345*	.0839810	.000	-17.077371	-16.539498

*. The mean difference is significant at the 0.05 level.

Lampiran 7.4 Penetapan Kadar Klindamisin Fosfat dalam *Self-Healing Hydrogel* Klindamisin Fosfat

Tests of Normality

	Formula	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Kadar_Klindamisin_fosfat	F1	.177	3	.	1.000	3	.973
	F2	.227	3	.	.983	3	.747
	F3	.340	3	.	.849	3	.238

a. Lilliefors Significance Correction

ANOVA

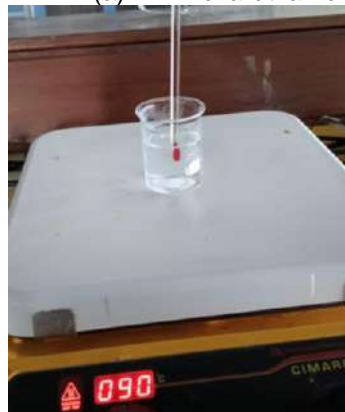
Kadar_Klindamisin_fosfat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.379	2	.689	.007	.993
Within Groups	565.769	6	94.295		
Total	567.147	8			

Lampiran 8. Dokumentasi



(a) PVA dilarutkan di dalam oven pada suhu 90°C



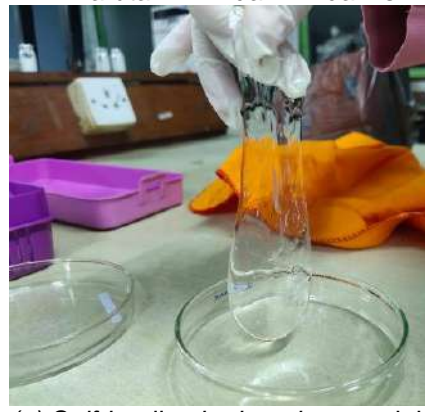
(b) Boraks dilarutkan pada suhu 90°C



(c) Larutan boraks ditambahkan ke dalam larutan PVA dan klindamisin



(d) Diaduk dengan bantuan alat *homogenizer*

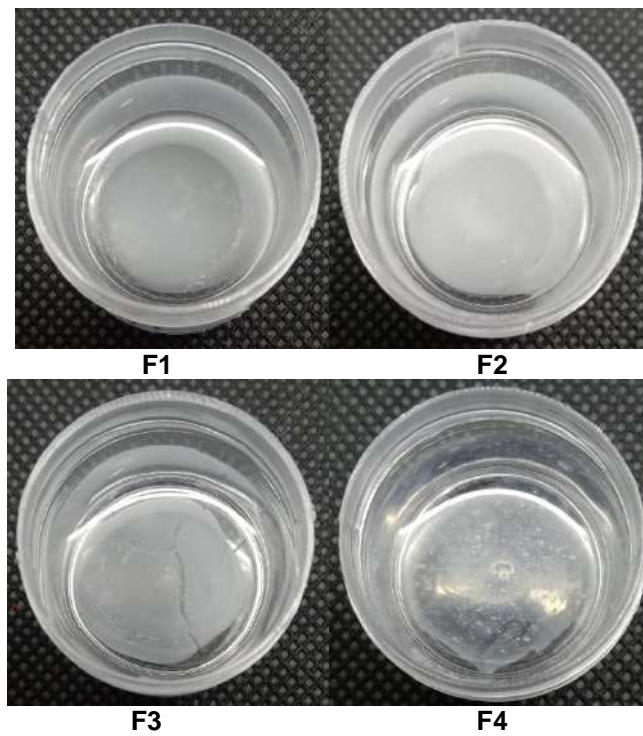


(e) *Self-healing hydrogel* yang telah terbentuk dipindahkan ke dalam cawan petri

Gambar 22. Pembuatan sediaan *self-healing hydrogel* klindamisin fosfat



Gambar 23. Pengukuran pH



Gambar 24. Uji *swelling*



Gambar 25. Alat oven



Gambar 26. Alat homogenizer



Gambar 27. Alat *magnetic stirrer*



Gambar 28. Alat pH meter



Gambar 29. Alat sentrifus



Gambar 30. Alat spektrofotometer UV-Vis



Gambar 31. Alat *vortex mixer*