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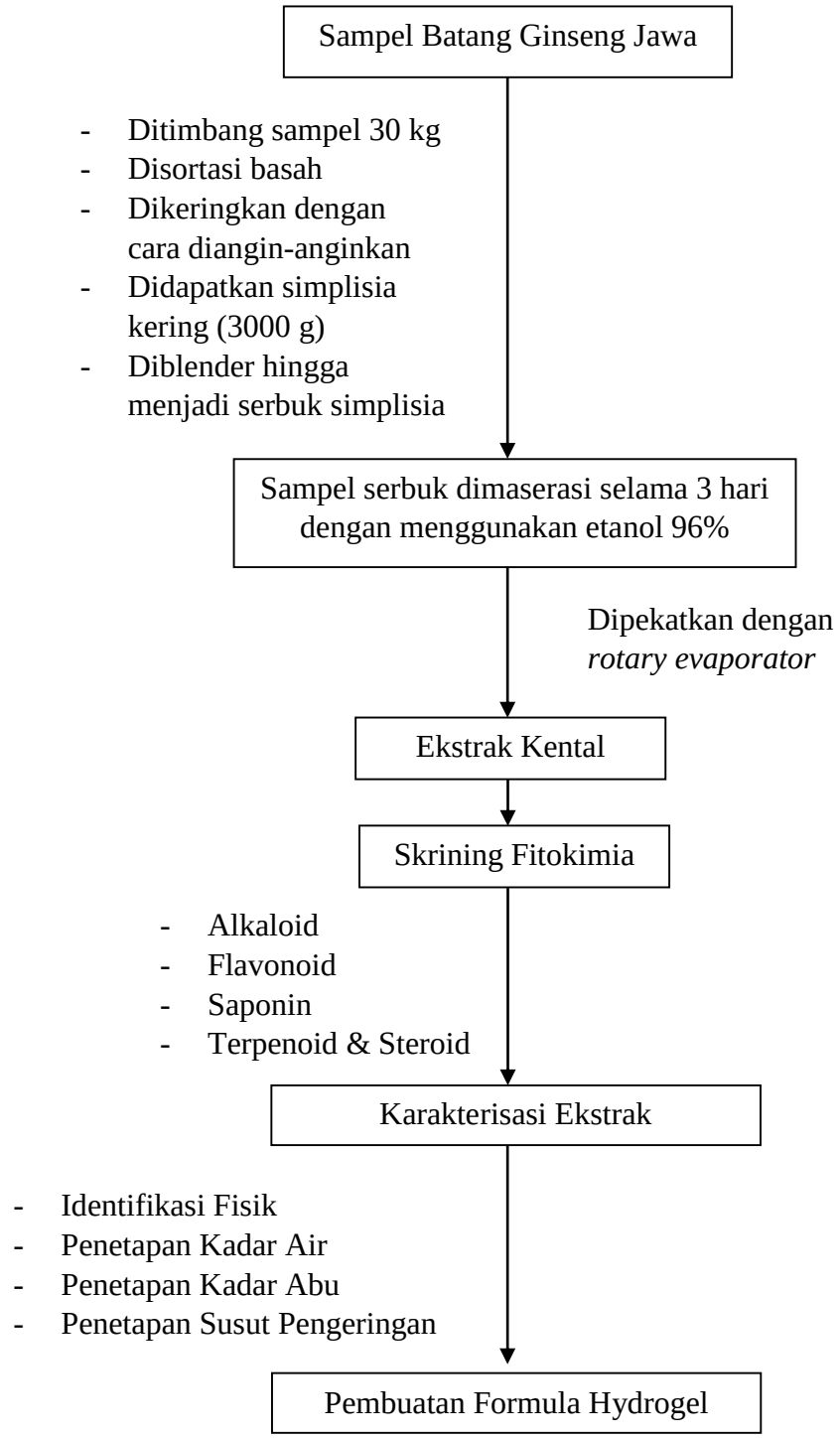
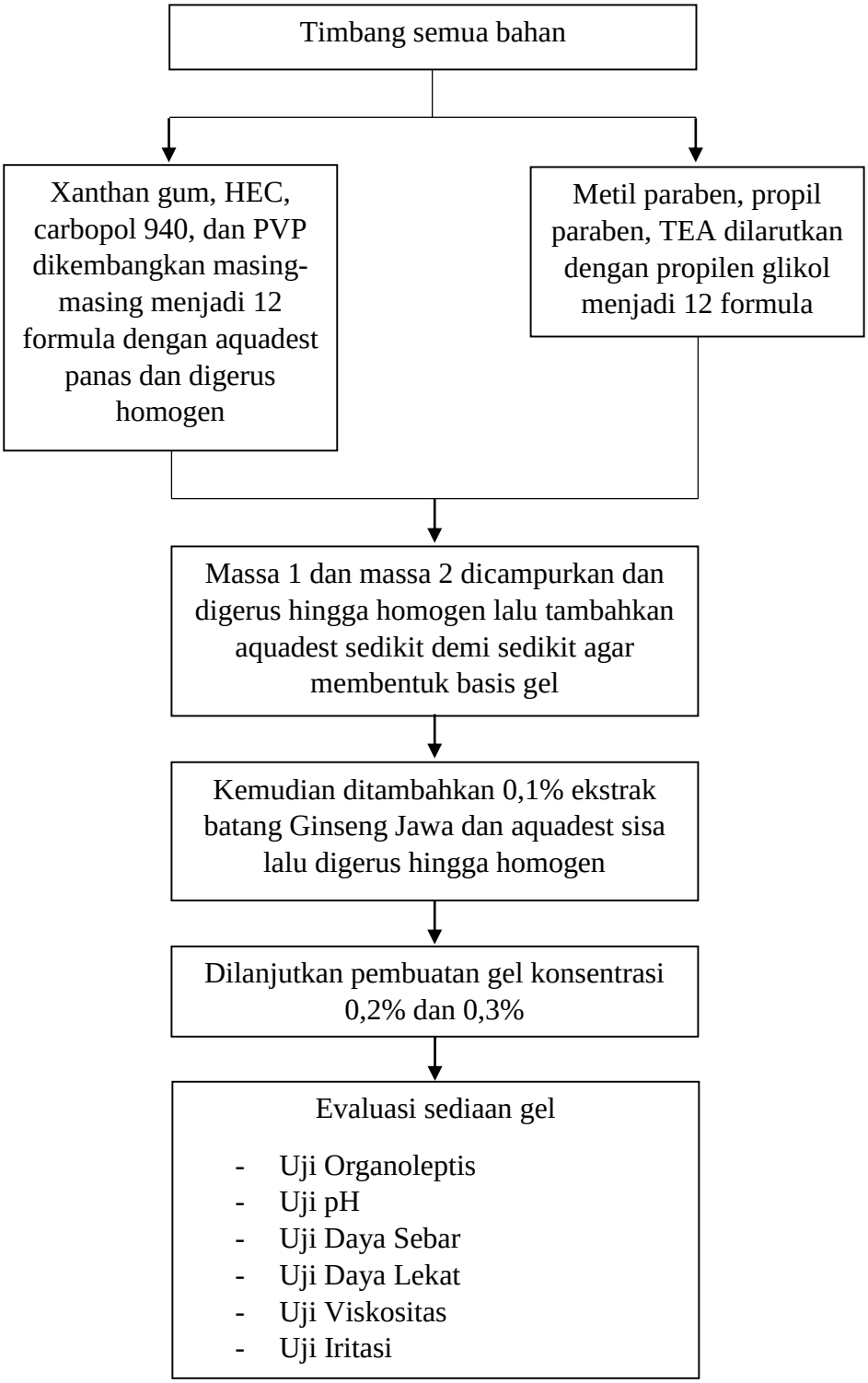
LAMPIRAN

Lampiran 1. Alur Penelitian



Lampiran 2. Skema Pembuatan Hydrogel



Lampiran 3. Perhitungan Formulasi Hydrogel

1. Xanthan Gum

Formulasi I

- Ekstrak (0.1%) = $\frac{0.1}{100}$ x 100 = 0.1 gram
- Xanthan gum = $\frac{0,5}{100}$ x 100 + 10% = 0.55 gram
- Propilen glikol = $\frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben = $\frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben = $\frac{0,18}{100}$ x 100 + 10% = 0.198 gram
- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.1 + 0.55 + 16.5 + 0.022 + 0.198)
  = 110 – 17.37
  = 92.63 ml

Formulasi II

- Ekstrak (0.2%) = $\frac{0.2}{100}$ x 100 = 0.2 gram
- Xanthan gum = $\frac{1}{100}$ x 100 + 10% = 1.1 gram
- Propilen glikol = $\frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben = $\frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben = $\frac{0,18}{100}$ x 100 + 10% = 0.198 gram
- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.2 + 1.1 + 16.5 + 0.022 + 0.198)
  = 110 – 18.02
  = 91.98 ml

Formulasi III

- Ekstrak (0.3%) = $\frac{0.3}{100}$ x 100 = 0.3 gram

- Xanthan gum = $\frac{1.5}{100}$ x 100 + 10% = 1.65 gram
- Propilen glikol = $\frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben = $\frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben = $\frac{0,18}{100}$ x 100 + 10% = 0.198 gram
- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.3 + 1.65 + 16.5 + 0.022 + 0.198)
  = 110 – 18.67
  = 91.33 ml

2. HEC

Formulasi I

- Ekstrak (0.1%) = $\frac{0.1}{100}$ x 100 = 0.1 gram
- HEC = $\frac{0,5}{100}$ x 100 + 10% = 0.55 gram
- Propilen glikol = $\frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben = $\frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben = $\frac{0,18}{100}$ x 100 + 10% = 0.198 gram
- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.1 + 0.55 + 16.5 + 0.022 + 0.198)
  = 110 – 17.37
  = 92.63 ml

Formulasi II

- Ekstrak (0.2%) = $\frac{0.2}{100}$ x 100 = 0.2 gram
- HEC = $\frac{1}{100}$ x 100 + 10% = 1.1 gram
- Propilen glikol = $\frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben = $\frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben = $\frac{0,18}{100}$ x 100 + 10% = 0.198 gram

- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.2 + 1.1 + 16.5 + 0.022 + 0.198)
  = 110 – 18.02
  = 91.98 ml

Formulasi III

- Ekstrak (0.3%) = $\frac{0.3}{100}$ x 100 = 0.3 gram
- HEC = $\frac{1.5}{100}$ x 100 + 10% = 1.65 gram
- Propilen glikol = $\frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben = $\frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben = $\frac{0,18}{100}$ x 100 + 10% = 0.198 gram
- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.3 + 1.65 + 16.5 + 0.022 + 0.198)
  = 110 – 18.67
  = 91.33 ml

3. Carbopol 940

Formulasi I

- Ekstrak (0.1%) = $\frac{0.1}{100}$ x 100 = 0.1 gram
- Carbopol 940 = $\frac{0,5}{100}$ x 100 + 10% = 0.55 gram
- TEA = $\frac{0,5}{100}$ x 100 + 10% = 0.6 gram
- Propilen glikol = $\frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben = $\frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben = $\frac{0,18}{100}$ x 100 + 10% = 0.198 gram

- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.1 + 0.55 + 0.6 + 16.5 + 0.022 + 0.198)
  = 110 – 17.97
  = 92.03 ml

Formulasi II

- Ekstrak (0.2%) = $\frac{0.2}{100}$ x 100 = 0.2 gram
- Carbopol 940 = $\frac{1}{100}$ x 100 + 10% = 1.1 gram
- TEA = $\frac{0,75}{100}$ x 100 + 10% = 0.825 gram
- Propilen glikol = $\frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben = $\frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben = $\frac{0,18}{100}$ x 100 + 10% = 0.198 gram
- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.2 + 1.1 + 0.825 + 16.5 + 0.022 + 0.198)
  = 110 – 18.84
  = 91.155 ml

Formulasi III

- Ekstrak (0.3%) = $\frac{0.3}{100}$ x 100 = 0.3 gram
- Carbopol 940 = $\frac{1.5}{100}$ x 100 + 10% = 1.65 gram
- TEA = $\frac{0,75}{100}$ x 100 + 10% = 0.825 gram
- Propilen glikol = $\frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben = $\frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben = $\frac{0,18}{100}$ x 100 + 10% = 0.198 gram
- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.3 + 1.65 + 0.825 + 16.5 + 0.022 + 0.198)
  = 110 – 18.94

= 91.05 ml

4. PVP

Formulasi I

- Ekstrak (0.1%) = $\frac{0.1}{100}$ x 100 = 0.1 gram
- Carbopol 940 = $\frac{0,5}{100}$ x 100 + 10% = 0.55 gram
- Propilen glikol = $\frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben = $\frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben = $\frac{0,18}{100}$ x 100 + 10% = 0.198 gram
- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.1 + 0.55 + 16.5 + 0.022 + 0.198)
  = 110 – 17.37
  = 92.63 ml

Formulasi II

- Ekstrak (0.2%) = $\frac{0.2}{100}$ x 100 = 0.2 gram
- Carbopol 940 = $\frac{1}{100}$ x 100 + 10% = 1.1 gram
- Propilen glikol = $\frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben = $\frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben = $\frac{0,18}{100}$ x 100 + 10% = 0.198 gram
- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.2 + 1.1 + 16.5 + 0.022 + 0.198)
  = 110 – 18.02
  = 91.98 ml

Formulasi III

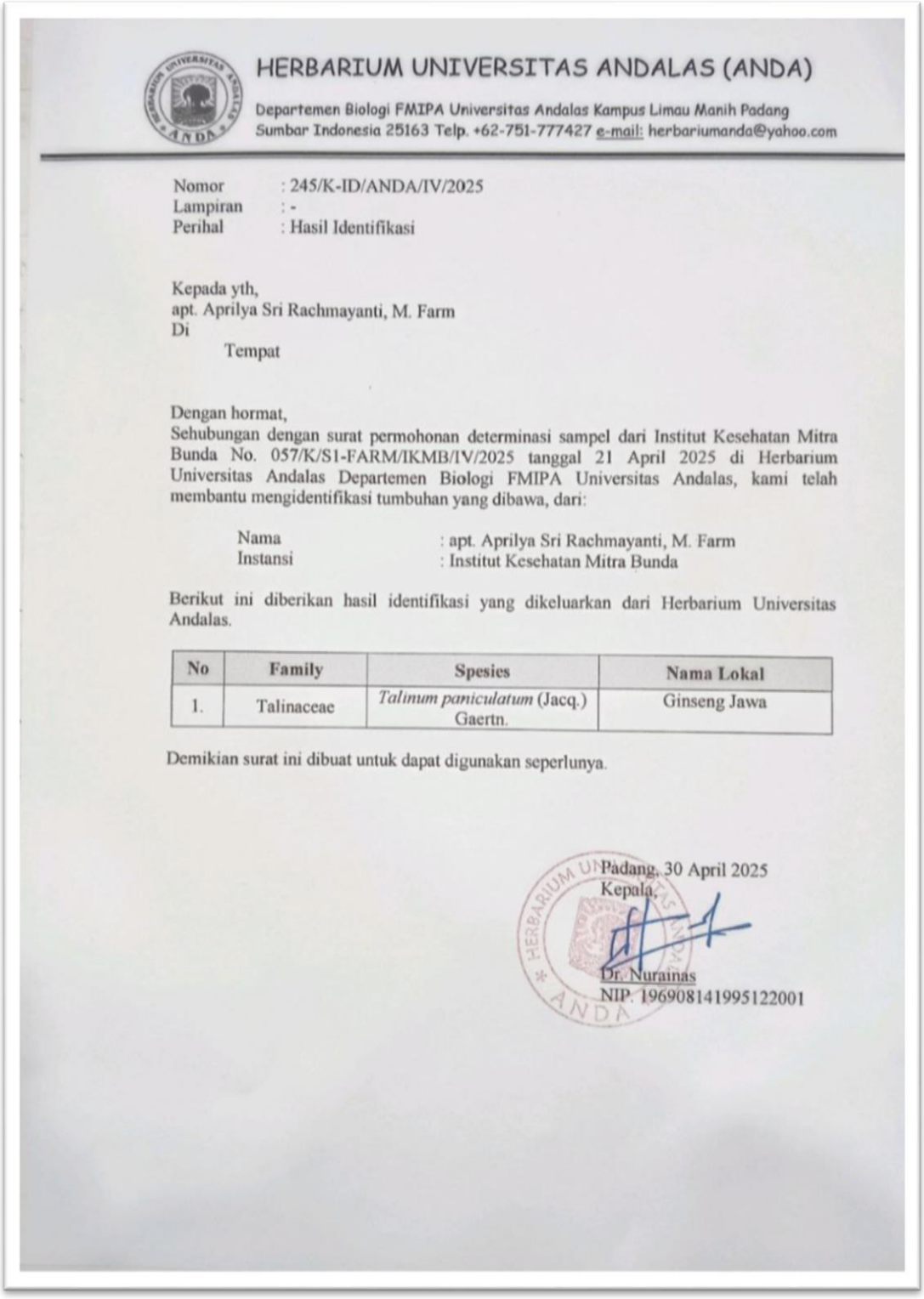
- Ekstrak (0.3%) = $\frac{0.3}{100}$ x 100 = 0.3 gram

- Carbopol 940 $= \frac{1.5}{100}$ x 100 + 10% = 1.65 gram
- Propilen glikol $= \frac{15}{100}$ x 100 + 10% = 16.5 gram
- Propil Paraben $= \frac{0,02}{100}$ x 100 + 10% = 0.022 gram
- Metil Paraben $= \frac{0,18}{100}$ x 100 + 10% = 0.198 gram
- Aquadest = 100 ml + 10% = 110 ml
  = 110 – (0.3 + 1.65 + 16.5 + 0.022 + 0.198)
  = 110 – 18.67
  = 91.33 ml

Lampiran 4. Dokumentasi Kegiatan

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>Pemisahan antara batang dan daun</td><td>Pengumpulan batang Ginseng Jawa</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Proses pengeringan sampel yang telah di cuci</td><td>Proses penjemuran sampel setelah di rajang</td></tr>
<tr><td colspan="2">  </td></tr>
<tr><td colspan="2">Pengentalan sampel batang Ginseng Jawa dengan rotary evaporator</td></tr>
</table>

Lampiran 5. Surat Determinasi Tanaman



HERBARIUM UNIVERSITAS ANDALAS (ANDA)

Departemen Biologi FMIPA Universitas Andalas Kampus Limau Manih Padang
Sumbar Indonesia 25163 Telp. +62-751-777427 e-mail: herbariumanda@yahoo.com

Nomor : 245/K-ID/ANDA/IV/2025
Lampiran : -
Perihal : Hasil Identifikasi

Kepada yth,
apt. Aprilya Sri Rachmayanti, M. Farm
Di
Tempat

Dengan hormat,
Sehubungan dengan surat permohonan determinasi sampel dari Institut Kesehatan Mitra Bunda No. 057/K/S1-FARM/IKMB/IV/2025 tanggal 21 April 2025 di Herbarium Universitas Andalas Departemen Biologi FMIPA Universitas Andalas, kami telah membantu mengidentifikasi tumbuhan yang dibawa, dari:

Nama : apt. Aprilya Sri Rachmayanti, M. Farm
Instansi : Institut Kesehatan Mitra Bunda

Berikut ini diberikan hasil identifikasi yang dikeluarkan dari Herbarium Universitas Andalas.

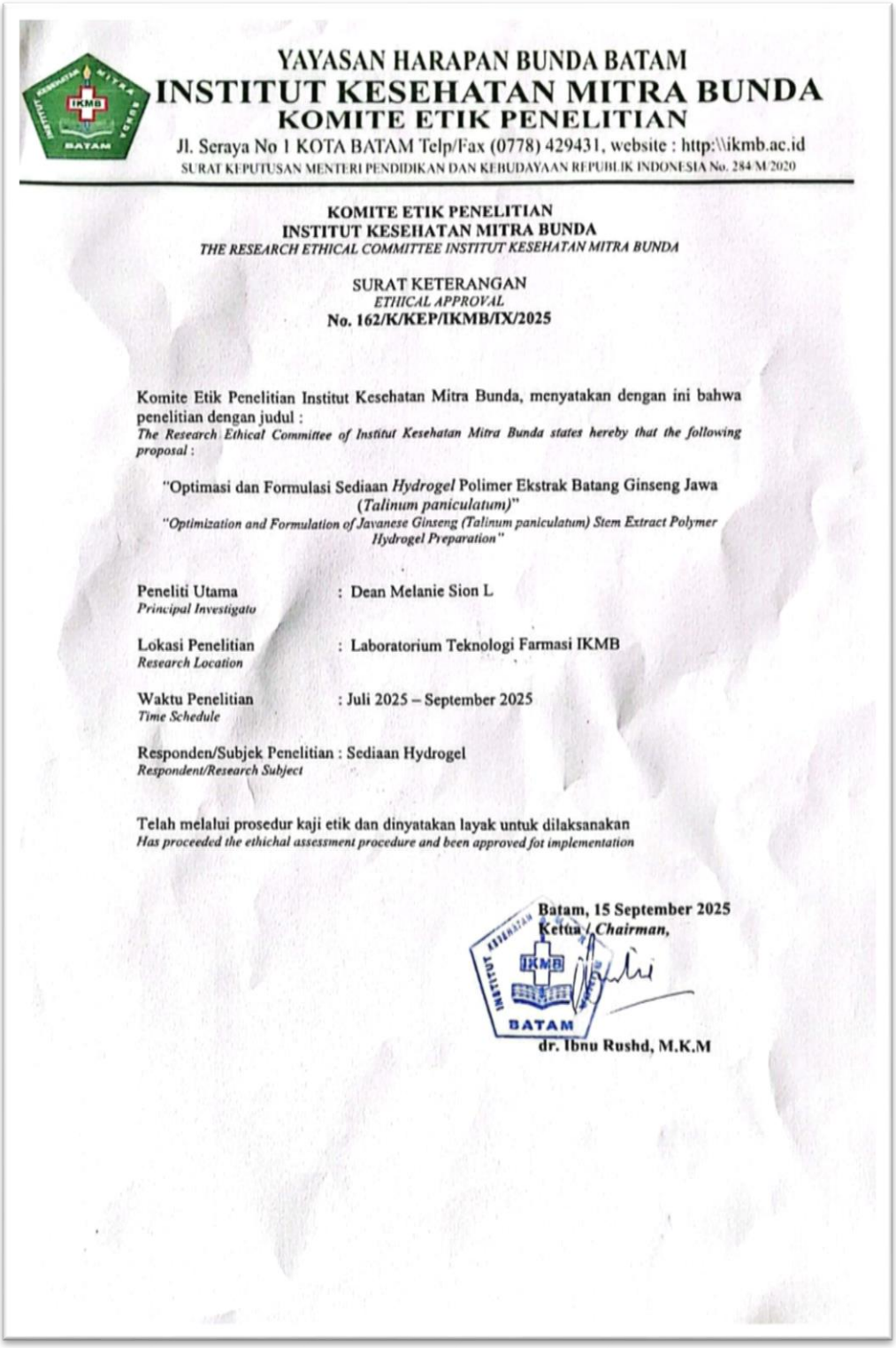
No	Family	Spesies	Nama Lokal
1.	Talinaceae	*Talinum paniculatum* (Jacq.) Gaertn.	Ginseng Jawa

Demikian surat ini dibuat untuk dapat digunakan seperlunya.

Padang, 30 April 2025
Kepala,

Dr. Nurainas
NIP. 196908141995122001

Lampiran 6. *Ethical Clearance*



YAYASAN HARAPAN BUNDA BATAM
INSTITUT KESEHATAN MITRA BUNDA
KOMITE ETIK PENELITIAN
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SURAT KEPUTUSAN MENTERI PENDIDIKAN DAN KEBUDAYAAN REPUBLIK INDONESIA No. 284/M/2020

KOMITE ETIK PENELITIAN
INSTITUT KESEHATAN MITRA BUNDA
THE RESEARCH ETHICAL COMMITTEE INSTITUT KESEHATAN MITRA BUNDA

SURAT KETERANGAN
ETHICAL APPROVAL
No. 162/K/KEP/IKMB/IX/2025

Komite Etik Penelitian Institut Kesehatan Mitra Bunda, menyatakan dengan ini bahwa penelitian dengan judul :
The Research Ethical Committee of Institut Kesehatan Mitra Bunda states hereby that the following proposal :

"Optimasi dan Formulasi Sediaan *Hydrogel* Polimer Ekstrak Batang Ginseng Jawa (*Talinum paniculatum)*"
"Optimization and Formulation of Javanese Ginseng (Talinum paniculatum) Stem Extract Polymer Hydrogel Preparation"

Peneliti Utama : Dean Melanie Sion L
Principal Investigato

Lokasi Penelitian : Laboratorium Teknologi Farmasi IKMB
Research Location

Waktu Penelitian : Juli 2025 – September 2025
Time Schedule

Responden/Subjek Penelitian : Sediaan Hydrogel
Respondent/Research Subject

Telah melalui prosedur kaji etik dan dinyatakan layak untuk dilaksanakan
Has proceeded the ethichal assessment procedure and been approved fot implementation

Batam, 15 September 2025
Ketua / *Chairman*,

dr. Ibnu Rushd, M.K.M

Lampiran 7. *INFORMED CONSENT*

SURAT PERNYATAAN PERSETUJUAN IKUT SERTA DALAM PENELITIAN
(INFORMED CONSENT)

Saya yang bertanda tangan di bawah ini:

Nama Lengkap :

Usia :

No. Telp

Alamat :

Telah mendapat penjelasan secukupnya bahwa lengan bagian dalam saya akan digunakan sebagai daerah yang akan diuji. Setelah mendapat penjelasan secukupnya tentang manfaat penelitian ini maka saya menyatakan SETUJU untuk ikut serta dalam penelitian oleh Dean Melanie Sion Lumbantoruan, dengan judul "OPTIMASI DAN FORMULASI SEDIAANHYDROGEL POLIMER EKSTRAK BATANG GINSENG JAWA (*Talinum paniculatum*)".

Saya memahami bahwa partisipasi ini bersifat sukarela, tanpa paksaan dari pihak manapun, dan saya berhak mengundurkan diri kapan saja tanpa konsekuensi. Data dan informasi yang saya berikan akan dijaga kerahasiaannya dan hanya dipergunakan untuk kepentingan ilmiah serta akademis. Dengan kesadaran penuh, saya menyatakan bersedia menjadi responden dalam penelitian ini.

Demikian surat pernyataan ini saya buat dengan sebenar-benarnya untuk digunakan sebagaimana mestinya

.....

Bapak,

( )

Lampiran 8. Lembar Kuisioner Uji Iritasi Hydrogel

LEMBAR KUISIONER UJI IRITASI HYDROGEL

	Pengamatan	F1	F2	F3
HEC	Kemerahan			
	Gatal			
	Bengkak			

	Pengamatan	F1	F2	F3
CARBOPOL 940	Kemerahan			
	Gatal			
	Bengkak			

	Pengamatan	F1	F2	F3
XANTHAN GUM	Kemerahan			
	Gatal			
	Bengkak			

Keterangan:

(-) = Tidak Mengiritasi

(+) = Kemerahan

(++) = Kulit Gatal-gatal

(—) = Kulit Bengkak

Lampiran 9. Hasil Ekstraksi Batang Ginseng Jawa

Ekstrak	Bobot Simplisia (gram)	Bobot Ekstrak (gram)	Rendemen (%)
Ekstrak Batang Ginseng Jawa	3.000	245	8,16%

Persentase Rendemen Ekstrak

Ekstrak Batang Ginseng Jawa

% Rendeman = $\frac{245\ gram}{3000\ gram} \times 100 = 8{,}16\%$

Lampiran 10. Hasil Penetapan Kadar Air

NO.	Berat cawan kosong (A)	Berat cawan+ekstrak sebelum di oven (B)	Berat cawan+ekstrak setelah di oven (C)	% kadar air
I	28,420 g	30,420 g	30,300 g	6%
II	29,350 g	31,350 g	31,125 g	6,75%
III	32,235 g	34,235 g	34,075 g	8%
Rata rata				7%

Perhitungan % kadar air ekstrak batang Ginseng Jawa

Cawan I

$$\frac{(B-C)}{(B-A)} \times 100$$

$$= \frac{(30{,}420-30{,}300)}{(30{,}420-28{,}420)} \times 100$$

$$= \frac{(0{,}12)}{(2)} \times 100$$

$$= 6\%$$

Cawan II

$$\frac{(B-C)}{(B-A)} \times 100$$

$= \frac{(31,350-31,215)}{(31,350-29,350)} \times 100$

$= \frac{(0,135)}{(2)} \times 100$

= 6,75%

Cawan III

$\frac{(B-C)}{(B-A)} \times 100$

$= \frac{(34,235-34,075)}{(34.235-32.235)} \times 100$

$= \frac{(0,16)}{(2)} \times 100$

= 8%

Berat rata-rata kadar air

$= \frac{9,3+9+9,5}{3}$

= 9,26%

Lampiran 11. Hasil Penetapan Kadar Abu

NO.	Berat krus kosong (A)	Berat krus+ekstrak sebelum di oven (B)	Berat krus+ekstrak setelah di oven (C)	% Susut kadar abu
I	35,025 g	37,025 g	35,175 g	7,5%
II	51,340 g	53,340 g	51,520 g	9%
III	47,130 g	49,130 g	47,315 g	9,25 %
Rata rata				8,6 %

Perhitungan % kadar abu ekstrak batang Ginseng Jawa

Cawan I

$\frac{(C-A)}{(B-A)} \times 100$

$= \frac{(35,175-35,025)}{(37,025-35,025)} \times 100$

$= \frac{(0,15)}{(2)} \times 100$

$= 7,5\%$

Cawan II

$\frac{(C-A)}{(B-A)} \times 100$

$= \frac{(51,520-51,340)}{(53,340-51,340)} \times 100$

$= \frac{(0,18)}{(2)} \times 100$

$= 9\%$

Cawan III

$\frac{(C-A)}{(B-A)} \times 100$

$= \frac{(47,315-47,130)}{(49,130-47,130)} \times 100$

$= \frac{(0,185)}{(2)} \times 100$

$= 9,25\%$

Berat rata-rata kadar abu

$= \frac{7,5+9+9,25}{3}$

$= 8,6\%$

Lampiran 12. Hasil Penetapan Susut Pengeringan

NO.	Berat cawan kosong (A)	Berat cawan+ekstrak sebelum di oven (B)	Berat cawan+ekstrak setelah di oven (C)	% Susut pengeringan
I	28,420 g	30,420 g	30,235 g	8,25%
II	29,350 g	31,350 g	31,195 g	7,75%
III	32,235 g	34,235 g	34,050 g	9,25%
Rata rata				8,5%

Perhitungan % susut pengeringan ekstrak batang Ginseng Jawa

Cawan I

$$\frac{(B-A)-(C-A)}{(B-A)} \times 100$$

$$= \frac{(30{,}420-28{,}420)-(30{,}255-28{,}420)}{(30{,}420-28{,}420)} \times 100$$

$$= \frac{(2)-(1{,}835)}{(2)} \times 100$$

$$= 8{,}25\%$$

Cawan II

$$\frac{(B-A)-(C-A)}{(B-A)} \times 100$$

$$= \frac{(31{,}350-29{,}350)-(31{,}195-29{,}350)}{(31{,}350-29{,}350)} \times 100$$

$$= \frac{(2)-(1{,}845)}{(2)} \times 100$$

$$= 7{,}75\%$$

Cawan III

$$\frac{(B-A)-(C-A)}{(B-A)} \times 100$$

$$= \frac{(34{,}235-32{,}235)-(34{,}050-32{,}235)}{(34{,}235-32{,}235)} \times 100$$

$$= \frac{(2)-(1{,}815)}{(2)} \times 100$$

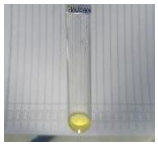
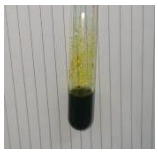
$$= 9{,}25\%$$

Berat rata-rata susut pengeringan

$$= \frac{8{,}25+7{,}75+9{,}25}{3}$$

$$= 8{,}5\%$$

Lampiran 13. Hasil Skrining Fitokimia

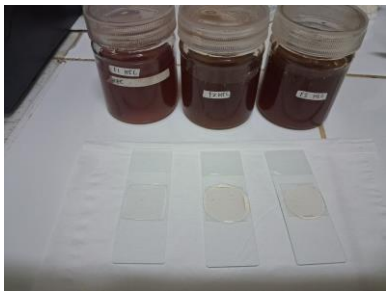
Pemeriksaan	Reagen	Hasil uji	Keterangan	Gambar
Alkaloid	H_2SO_4 2 N dan Pereaksi Dragendroff	(+)	Terbentuk endapan cokelat	
Flavonoid	H_2SO_4 2 N	(+)	Terbentuk warna kuning	
Fenolik	$FeCl_3$ 5%	(+)	Terbentuk warna hijau kehitaman	
Saponin	Aquadest panas dan HCl pekat	(-)	Tidak terjadi perubahan warna	
Steroid	CH_3COOH, Dietel eter, dan H_2SO_4	(-)	Tidak terjadi perubahan warna	
Terpenoid	CH_3COOH, Dietel eter, dan H_2SO_4	(-)	Tidak terjadi perubahan warna	

Lampiran 14. Hydrogel Polimer HEC

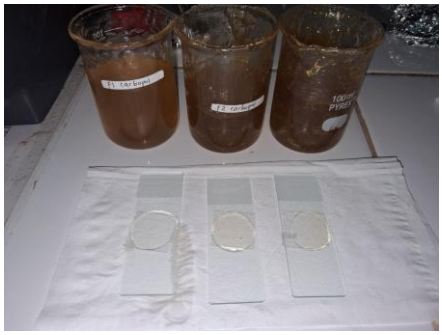
Lampiran 15. Hydrogel Polimer Carbopol 940

Lampiran 16. Hydrogel Polimer Xanthan Gum

Lampiran 17. Uji Homogenitas Hydrogel Polimer HEC



Lampiran 18. Uji Homogenitas Hydrogel Polimer Carbopol 940

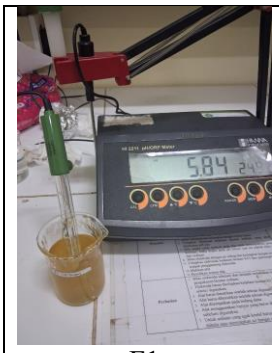
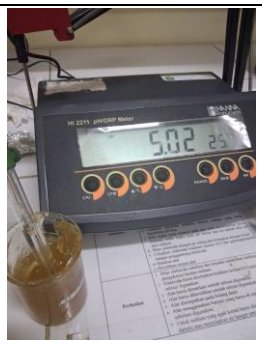
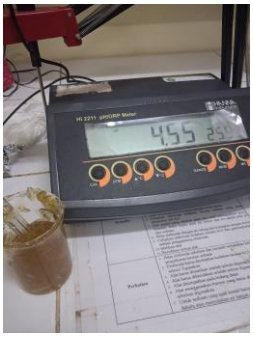


Lampiran 19. Uji Homogenitas Hydrogel Polimer Xanthan Gum

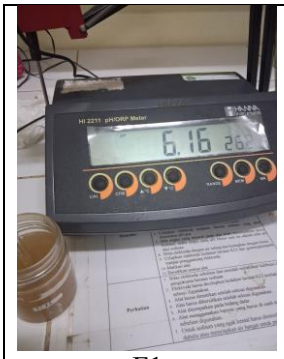
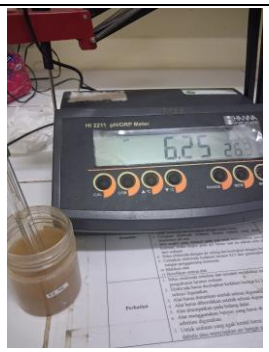
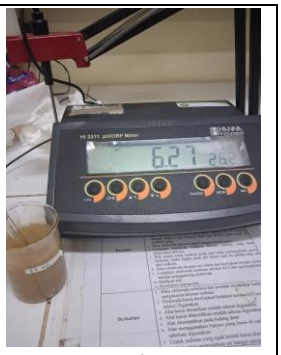
Lampiran 20. Uji pH Hydrogel Polimer HEC

		
F1	F2	F3

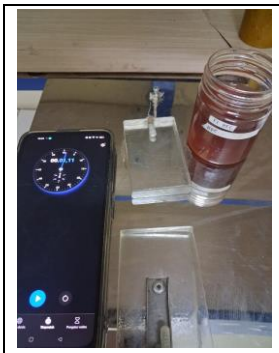
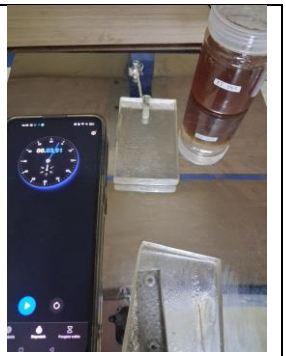
Lampiran 21. Uji pH Hydrogel Polimer Carbopol 940

		
F1	F2	F3

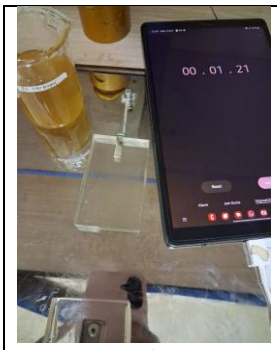
Lampiran 22. Uji pH Hydrogel Polimer Xanthan Gum

		
F1	F2	F3

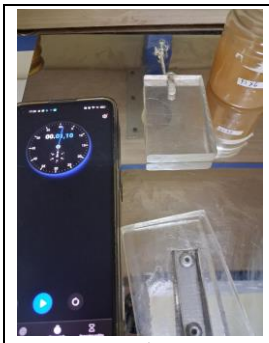
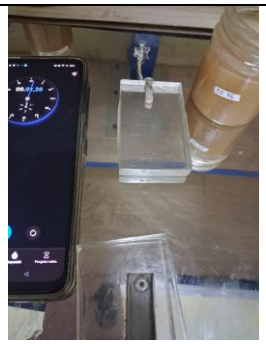
Lampiran 23. Uji Daya Lekat Hydrogel Polimer HEC

		
F1	F2	F3

Lampiran 24. Uji Daya Lekat Hydrogel Polimer Carbopol 940

		
F1	F2	F3

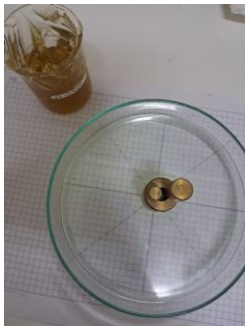
Lampiran 25. Uji Daya Lekat Hydrogel Polimer Xanthan Gum

		
F1	F2	F3

Lampiran 26. Uji Daya Sebar Hydrogel Polimer HEC

		
F1	F2	F3

Lampiran 27. Uji Daya Sebar Hydrogel Polimer Carbopol 940

		
F1	F2	F3

Lampiran 28. Uji Daya Sebar Hydrogel Polimer Xanthan Gum

		
F1	F2	F3

Lampiran 29. Uji Viskositas Hydrogel Polimer HEC

		
F1	F2	F3

Lampiran 30. Uji Viskositas Hydrogel Polimer Carbopol 940

		
F1	F2	F3

Lampiran 31. Uji Viskositas Hydrogel Polimer Xanthan Gum

		
F1	F2	F3

Lampiran 32. Hasil Data Statistik Sediaan Hydrogel Polimer

Tests of Normality							
		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Polimer	Statistic	df	Sig.	Statistic	df	Sig.
Uji pH	HEC	.146	9	.200*	.961	9	.812
	Carbopol	.254	9	.097	.867	9	.114
	Xanthan Gum	.266	9	.066	.822	9	.037
Uji Daya Sebar	HEC	.224	9	.200*	.818	9	.033
	Carbopol	.188	9	.200*	.860	9	.095
	Xanthan Gum	.276	9	.047	.859	9	.092
Uji Daya Lekat	HEC	.218	9	.200*	.860	9	.095
	Carbopol	.236	9	.159	.842	9	.061
	Xanthan Gum	.218	9	.200*	.931	9	.494
Uji Viskositas	HEC	.279	9	.041	.775	9	.010
	Carbopol	.414	9	.000	.619	9	.000
	Xanthan Gum	.193	9	.200*	.905	9	.280
*. This is a lower bound of the true significance.							
a. Lilliefors Significance Correction							

Tests of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Uji pH	Based on Mean	16.372	2	24	.000
	Based on Median	5.115	2	24	.014
	Based on Median and with adjusted df	5.115	2	8.982	.033
	Based on trimmed mean	15.288	2	24	.000
Uji Daya Sebar	Based on Mean	2.965	2	24	.071
	Based on Median	1.538	2	24	.235
	Based on Median and with adjusted df	1.538	2	19.229	.240
	Based on trimmed mean	2.810	2	24	.080
Uji Daya Lekat	Based on Mean	15.790	2	24	.000
	Based on Median	7.341	2	24	.003
	Based on Median and with adjusted df	7.341	2	10.803	.010
	Based on trimmed mean	13.542	2	24	.000
Uji Viskositas	Based on Mean	12.382	2	24	.000
	Based on Median	1.910	2	24	.170
	Based on Median and with adjusted df	1.910	2	14.507	.183
	Based on trimmed mean	10.626	2	24	.000

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Uji pH	Between Groups	18.093	2	9.046	113.524	.000
	Within Groups	1.913	24	.080		
	Total	20.005	26			
Uji Daya Sebar	Between Groups	22.435	2	11.218	5.879	.008
	Within Groups	45.794	24	1.908		
	Total	68.229	26			
Uji Daya Lekat	Between Groups	27.657	2	13.829	4.219	.027
	Within Groups	78.666	24	3.278		
	Total	106.323	26			
Uji Viskositas	Between Groups	4450.581	2	2225.290	8.036	.002
	Within Groups	6646.167	24	276.924		
	Total	11096.747	26			

Multiple Comparisons

Bonferroni

Dependent Variable	(I) Polimer	(J) Polimer	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Uji pH	HEC	Carbopol	1.82556*	.13307	.000	1.4831	2.1680
		Xanthan Gum	1.63111*	.13307	.000	1.2886	1.9736
		HEC	-1.82556*	.13307	.000	-2.1680	-1.4831

	Carbopol	Xanthan Gum	-.19444	.13307	.471	-.5369	.1480
	Xanthan Gum	HEC	-1.63111*	.13307	.000	-1.9736	-1.2886
		Carbopol	.19444	.13307	.471	-.1480	.5369
Uji Daya Sebar	HEC	Carbopol	1.202778	.651166	.231	-.47309	2.87865
		Xanthan Gum	-1.027778	.651166	.383	-2.70365	.64809
	Carbopol	HEC	-1.202778	.651166	.231	-2.87865	.47309
		Xanthan Gum	-2.230556*	.651166	.007	-3.90642	-.55469
	Xanthan Gum	HEC	1.027778	.651166	.383	-.64809	2.70365
		Carbopol	2.230556*	.651166	.007	.55469	3.90642
Uji Daya Lekat	HEC	Carbopol	-1.51667	.85346	.265	-3.7132	.6798
		Xanthan Gum	.94000	.85346	.845	-1.2565	3.1365
	Carbopol	HEC	1.51667	.85346	.265	-.6798	3.7132
		Xanthan Gum	2.45667*	.85346	.025	.2602	4.6532
	Xanthan Gum	HEC	-.94000	.85346	.845	-3.1365	1.2565
		Carbopol	-2.45667*	.85346	.025	-4.6532	-.2602
Uji Viskositas	HEC	Carbopol	-18.200000	7.844653	.087	-38.38932	1.98932
		Xanthan Gum	13.111111	7.844653	.323	-7.07821	33.30043
	Carbopol	HEC	18.200000	7.844653	.087	-1.98932	38.38932

		Xanthan Gum	31.311111*	7.844653	.002	11.12179	51.50043
	Xanthan Gum	HEC	-13.111111	7.844653	.323	-33.30043	7.07821
		Carbopol	-31.311111*	7.844653	.002	-51.50043	-11.12179
*. The mean difference is significant at the 0.05 level.							

Hasil Data Statistik Anova Oneway Formula

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formulasi	Statistic	df	Sig.	Statistic	df	Sig.
Uji pH	F1	.240	9	.143	.802	9	.021
	F2	.366	9	.001	.723	9	.003
	F3	.280	9	.040	.791	9	.016
Uji Daya Sebar	F1	.363	9	.001	.695	9	.001
	F2	.201	9	.200*	.887	9	.187
	F3	.233	9	.174	.929	9	.476
Uji Daya Lekat	F1	.241	9	.142	.806	9	.024
	F2	.195	9	.200*	.863	9	.104
	F3	.167	9	.200*	.893	9	.216
Uji Viskositas	F1	.347	9	.003	.725	9	.003
	F2	.348	9	.002	.715	9	.002
	F3	.352	9	.002	.712	9	.002

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Uji pH	Based on Mean	1.343	2	24	.280
	Based on Median	.152	2	24	.860
	Based on Median and with adjusted df	.152	2	20.959	.860
	Based on trimmed mean	1.230	2	24	.310
Uji Daya Sebar	Based on Mean	.920	2	24	.412
	Based on Median	.083	2	24	.921
	Based on Median and with adjusted df	.083	2	20.385	.921
	Based on trimmed mean	.790	2	24	.465
Uji Daya Lekat	Based on Mean	17.023	2	24	.000
	Based on Median	12.994	2	24	.000
	Based on Median and with adjusted df	12.994	2	9.552	.002
	Based on trimmed mean	16.314	2	24	.000
Uji Viskositas	Based on Mean	30.430	2	24	.000
	Based on Median	2.449	2	24	.108
	Based on Median and with adjusted df	2.449	2	15.686	.119
	Based on trimmed mean	26.532	2	24	.000

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Uji pH	Between Groups	.579	2	.289	.358	.703
	Within Groups	19.427	24	.809		
	Total	20.005	26			
Uji Daya Sebar	Between Groups	36.848	2	18.424	14.091	.000
	Within Groups	31.381	24	1.308		
	Total	68.229	26			
Uji Daya Lekat	Between Groups	36.847	2	18.423	6.364	.006
	Within Groups	69.477	24	2.895		
	Total	106.323	26			
Uji Viskositas	Between Groups	3788.903	2	1894.451	6.222	.007
	Within Groups	7307.844	24	304.494		
	Total	11096.747	26			

Multiple Comparisons							
Bonferroni							
Dependent Variable	(I) Formulasi	(J) Formulasi	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Uji pH	F1	F2	.27111	.42412	1.000	-.8204	1.3626
		F3	.33889	.42412	1.000	-.7526	1.4304
	F2	F1	-.27111	.42412	1.000	-1.3626	.8204
		F3	.06778	.42412	1.000	-1.0238	1.1593
	F3	F1	-.33889	.42412	1.000	-1.4304	.7526
		F2	-.06778	.42412	1.000	-1.1593	1.0238

Uji Daya Sebar	F1	F2	1.873333*	.539037	.006	.48605	3.26062
		F3	2.810000*	.539037	.000	1.42271	4.19729
	F2	F1	-1.873333*	.539037	.006	-3.26062	-.48605
		F3	.936667	.539037	.285	-.45062	2.32395
	F3	F1	-2.810000*	.539037	.000	-4.19729	-1.42271
		F2	-.936667	.539037	.285	-2.32395	.45062
Uji Daya Lekat	F1	F2	-.63333	.80206	1.000	-2.6975	1.4309
		F3	-2.73333*	.80206	.007	-4.7975	-.6691
	F2	F1	.63333	.80206	1.000	-1.4309	2.6975
		F3	-2.10000*	.80206	.045	-4.1642	-.0358
	F3	F1	2.73333*	.80206	.007	.6691	4.7975
		F2	2.10000*	.80206	.045	.0358	4.1642
Uji Viskositas	F1	F2	-18.388889	8.225888	.105	-39.55937	2.78159
		F3	-28.633333*	8.225888	.006	-49.80381	-7.46285
	F2	F1	18.388889	8.225888	.105	-2.78159	39.55937
		F3	-10.244444	8.225888	.675	-31.41493	10.92604
	F3	F1	28.633333*	8.225888	.006	7.46285	49.80381

		F2	10.244444	8.225888	.675	-10.92604	31.41493
*. The mean difference is significant at the 0.05 level.							

Uji Two Way ANOVA

Between-Subjects Factors			
		Value Label	N
Polimer	1.00	HEC	9
	2.00	Carbopol	9
	3.00	Xanthan Gum	9
Formulasi	1.00	F1	9
	2.00	F2	9
	3.00	F3	9

Tests of Between-Subjects Effects					
Dependent Variable: Uji pH					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	19.763[a]	8	2.470	183.240	.000
Intercept	864.622	1	864.622	64134.022	.000
Polimer	18.093	2	9.046	671.030	.000
Formulasi	.579	2	.289	21.467	.000
Polimer * Formulasi	1.091	4	.273	20.232	.000
Error	.243	18	.013		
Total	884.627	27			
Corrected Total	20.005	26			

a. R Squared = ,988 (Adjusted R Squared = ,982)

Tests of Between-Subjects Effects

Dependent Variable: Uji pH

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	19.763[a]	8	2.470	183.240	.000
Intercept	864.622	1	864.622	64134.022	.000
Polimer	18.093	2	9.046	671.030	.000
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Polimer * Formulasi	1.091	4	.273	20.232	.000
Error	.243	18	.013		
Total	884.627	27			
Corrected Total	20.005	26			

a. R Squared = ,988 (Adjusted R Squared = ,982)

2. Formulasi

Dependent Variable: Uji pH

Formulasi	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
F1	5.862	.039	5.781	5.944
F2	5.591	.039	5.510	5.672
F3	5.523	.039	5.442	5.605

3. Polimer * Formulasi

Dependent Variable: Uji pH

Polimer	Formulasi	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
HEC	F1	6.773	.067	6.632	6.914
	F2	6.883	.067	6.742	7.024
	F3	6.777	.067	6.636	6.918
Carbopol	F1	5.560	.067	5.419	5.701
	F2	4.827	.067	4.686	4.968
	F3	4.570	.067	4.429	4.711
Xanthan Gum	F1	5.253	.067	5.112	5.394
	F2	5.063	.067	4.922	5.204
	F3	5.223	.067	5.082	5.364

Multiple Comparisons

Dependent Variable: Uji pH

Bonferroni

(I) Polimer	(J) Polimer	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
HEC	Carbopol	1.8256*	.05473	.000	1.6811	1.9700
	Xanthan Gum	1.6311*	.05473	.000	1.4867	1.7756
Carbopol	HEC	-1.8256*	.05473	.000	-1.9700	-1.6811
	Xanthan Gum	-.1944*	.05473	.007	-.3389	-.0500
	HEC	-1.6311*	.05473	.000	-1.7756	-1.4867

Xanthan Gum	Carbopol	.1944*	.05473	.007	.0500	.3389

Based on observed means.

The error term is Mean Square(Error) = ,013.

*. The mean difference is significant at the 0,05 level.

Multiple Comparisons

Dependent Variable: Uji pH

Bonferroni

(I) Formulasi	(J) Formulasi	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
F1	F2	.2711*	.05473	.000	.1267	.4156
	F3	.3389*	.05473	.000	.1944	.4833
F2	F1	-.2711*	.05473	.000	-.4156	-.1267
	F3	.0678	.05473	.695	-.0767	.2122
F3	F1	-.3389*	.05473	.000	-.4833	-.1944
	F2	-.0678	.05473	.695	-.2122	.0767

Based on observed means.

The error term is Mean Square(Error) = ,013.

*. The mean difference is significant at the 0,05 level.

Two Way ANOVA Uji Daya Sebar

Tests of Between-Subjects Effects					
Dependent Variable: Uji Daya Sebar					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	63.712[a]	8	7.964	31.733	.000
Intercept	1277.203	1	1277.203	5089.079	.000
Polimer	22.435	2	11.218	44.697	.000
Formulasi	36.848	2	18.424	73.412	.000
Polimer * Formulasi	4.428	4	1.107	4.411	.012
Error	4.517	18	.251		
Total	1345.432	27			
Corrected Total	68.229	26			
a. R Squared = ,934 (Adjusted R Squared = ,904)					

1. Polimer				
Dependent Variable: Uji Daya Sebar				
Polimer	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
HEC	6.936	.167	6.585	7.287
Carbopol	5.733	.167	5.383	6.084
Xanthan Gum	7.964	.167	7.613	8.315

2. Formulasi

Dependent Variable: Uji Daya Sebar

Formulasi	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
F1	8.439	.167	8.088	8.790
F2	6.566	.167	6.215	6.916
F3	5.629	.167	5.278	5.980

3. Polimer * Formulasi

Dependent Variable: Uji Daya Sebar

Polimer	Formulasi	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
HEC	F1	9.242	.289	8.634	9.849
	F2	6.483	.289	5.876	7.091
	F3	5.083	.289	4.476	5.691
Carbopol	F1	6.792	.289	6.184	7.399
	F2	5.622	.289	5.014	6.229
	F3	4.787	.289	4.179	5.394
Xanthan Gum	F1	9.283	.289	8.676	9.891
	F2	7.592	.289	6.984	8.199
	F3	7.017	.289	6.409	7.624

Multiple Comparisons

Dependent Variable: Uji Daya Sebar

Bonferroni

(I) Polimer	(J) Polimer	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
HEC	Carbopol	1.20278*	.236159	.000	.57952	1.82604
	Xanthan Gum	-1.02778*	.236159	.001	-1.65104	-.40452
Carbopol	HEC	-1.20278*	.236159	.000	-1.82604	-.57952
	Xanthan Gum	-2.23056*	.236159	.000	-2.85381	-1.60730
Xanthan Gum	HEC	1.02778*	.236159	.001	.40452	1.65104
	Carbopol	2.23056*	.236159	.000	1.60730	2.85381

Based on observed means.

The error term is Mean Square(Error) = ,251.

*. The mean difference is significant at the 0,05 level.

Multiple Comparisons

Dependent Variable: Uji Daya Sebar

Bonferroni

(I) Formulasi	(J) Formulasi	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
F1	F2	1.87333*	.236159	.000	1.25008	2.49659
	F3	2.81000*	.236159	.000	2.18674	3.43326
F2	F1	-1.87333*	.236159	.000	-2.49659	-1.25008
	F3	.93667*	.236159	.003	.31341	1.55992

F3	F1	-2.81000*	.236159	.000	-3.43326	-2.18674
	F2	-.93667*	.236159	.003	-1.55992	-.31341

Based on observed means.

The error term is Mean Square(Error) = ,251.

*. The mean difference is significant at the 0,05 level.

Two Way ANOVA Uji Daya Lekat

Tests of Between-Subjects Effects

Dependent Variable: Uji Daya Lekat

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	97.622[a]	8	12.203	25.243	.000
Intercept	151.230	1	151.230	312.842	.000
Polimer	27.657	2	13.829	28.607	.000
Formulasi	36.847	2	18.423	38.111	.000
Polimer * Formulasi	33.118	4	8.279	17.127	.000
Error	8.701	18	.483		
Total	257.553	27			
Corrected Total	106.323	26			

a. R Squared = ,918 (Adjusted R Squared = ,882)

1. Polimer

Dependent Variable: Uji Daya Lekat

Polimer	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
HEC	2.174	.232	1.688	2.661

Carbopol	3.691	.232	3.204	4.178
Xanthan Gum	1.234	.232	.748	1.721

2. Formulasi

Dependent Variable: Uji Daya Lekat

Formulasi	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
F1	1.244	.232	.758	1.731
F2	1.878	.232	1.391	2.365
F3	3.978	.232	3.491	4.465

3. Polimer * Formulasi

Dependent Variable: Uji Daya Lekat

Polimer	Formulasi	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
HEC	F1	1.373	.401	.530	2.217
	F2	1.710	.401	.867	2.553
	F3	3.440	.401	2.597	4.283
Carbopol	F1	1.147	.401	.303	1.990
	F2	2.603	.401	1.760	3.447
	F3	7.323	.401	6.480	8.167
Xanthan Gum	F1	1.213	.401	.370	2.057
	F2	1.320	.401	.477	2.163
	F3	1.170	.401	.327	2.013

Multiple Comparisons

Dependent Variable: Uji Daya Lekat

Bonferroni

(I) Polimer	(J) Polimer	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
HEC	Carbopol	-1.5167*	.32776	.001	-2.3817	-.6517
	Xanthan Gum	.9400*	.32776	.031	.0750	1.8050
Carbopol	HEC	1.5167*	.32776	.001	.6517	2.3817
	Xanthan Gum	2.4567*	.32776	.000	1.5917	3.3217
Xanthan Gum	HEC	-.9400*	.32776	.031	-1.8050	-.0750
	Carbopol	-2.4567*	.32776	.000	-3.3217	-1.5917

Based on observed means.

The error term is Mean Square(Error) = ,483.

*. The mean difference is significant at the 0,05 level.

Multiple Comparisons

Dependent Variable: Uji Daya Lekat

Bonferroni

(I) Formulasi	(J) Formulasi	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
F1	F2	-.6333	.32776	.208	-1.4983	.2317
	F3	-2.7333*	.32776	.000	-3.5983	-1.8683
F2	F1	.6333	.32776	.208	-.2317	1.4983
	F3	-2.1000*	.32776	.000	-2.9650	-1.2350

F3	F1	2.7333*	.32776	.000	1.8683	3.5983
	F2	2.1000*	.32776	.000	1.2350	2.9650
Based on observed means. The error term is Mean Square(Error) = ,483.						
*. The mean difference is significant at the 0,05 level.						

Two Way ANOVA Uji Viskositas

Tests of Between-Subjects Effects

Dependent Variable: Uji Viskositas

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	10495.387[a]	8	1311.923	39.269	.000
Intercept	10111.343	1	10111.343	302.654	.000
Polimer	4450.581	2	2225.290	66.608	.000
Formulasi	3788.903	2	1894.451	56.705	.000
Polimer * Formulasi	2255.904	4	563.976	16.881	.000
Error	601.360	18	33.409		
Total	21208.090	27			
Corrected Total	11096.747	26			

a. R Squared = ,946 (Adjusted R Squared = ,922)

1. Polimer

Dependent Variable: Uji Viskositas

Polimer	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound

HEC	17.656	1.927	13.608	21.703
Carbopol	35.856	1.927	31.808	39.903
Xanthan Gum	4.544	1.927	.497	8.592

2. Formulasi

Dependent Variable: Uji Viskositas

Formulasi	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
F1	3.678	1.927	-.370	7.726
F2	22.067	1.927	18.019	26.114
F3	32.311	1.927	28.263	36.359

3. Polimer * Formulasi

Dependent Variable: Uji Viskositas

Polimer	Formulasi	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
HEC	F1	1.267	3.337	-5.744	8.278
	F2	11.700	3.337	4.689	18.711
	F3	40.000	3.337	32.989	47.011
Carbopol	F1	7.567	3.337	.556	14.578
	F2	50.000	3.337	42.989	57.011
	F3	50.000	3.337	42.989	57.011
Xanthan Gum	F1	2.200	3.337	-4.811	9.211
	F2	4.500	3.337	-2.511	11.511
	F3	6.933	3.337	-.078	13.944

Multiple Comparisons

Dependent Variable: Uji Viskositas

Bonferroni

(I) Polimer	(J) Polimer	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
HEC	Carbopol	-18.20000*	2.724738	.000	-25.39098	-11.00902
	Xanthan Gum	13.11111*	2.724738	.000	5.92013	20.30209
Carbopol	HEC	18.20000*	2.724738	.000	11.00902	25.39098
	Xanthan Gum	31.31111*	2.724738	.000	24.12013	38.50209
Xanthan Gum	HEC	-13.11111*	2.724738	.000	-20.30209	-5.92013
	Carbopol	-31.31111*	2.724738	.000	-38.50209	-24.12013

Based on observed means.

The error term is Mean Square(Error) = 33,409.

*. The mean difference is significant at the 0,05 level.

Multiple Comparisons

Dependent Variable: Uji Viskositas

Bonferroni

(I) Formulasi	(J) Formulasi	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
F1	F2	-18.38889*	2.724738	.000	-25.57987	-11.19791
	F3	-28.63333*	2.724738	.000	-35.82431	-21.44235
F2	F1	18.38889*	2.724738	.000	11.19791	25.57987
	F3	-10.24444*	2.724738	.004	-17.43542	-3.05347

F3	F1	28.63333*	2.724738	.000	21.44235	35.82431
	F2	10.24444*	2.724738	.004	3.05347	17.43542

Based on observed means.

The error term is Mean Square(Error) = 33,409.

*. The mean difference is significant at the 0,05 level.

Manova

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	1.000	19758.147[b]	4.000	15.000	.000
	Wilks' Lambda	.000	19758.147[b]	4.000	15.000	.000
	Hotelling's Trace	5268.839	19758.147[b]	4.000	15.000	.000
	Roy's Largest Root	5268.839	19758.147[b]	4.000	15.000	.000
Polimer	Pillai's Trace	1.944	137.906	8.000	32.000	.000
	Wilks' Lambda	.000	168.232[b]	8.000	30.000	.000
	Hotelling's Trace	116.575	204.007	8.000	28.000	.000
	Roy's Largest Root	95.860	383.441[c]	4.000	16.000	.000
Formulasi	Pillai's Trace	1.433	10.119	8.000	32.000	.000
	Wilks' Lambda	.014	27.477[b]	8.000	30.000	.000
	Hotelling's Trace	37.292	65.261	8.000	28.000	.000
	Roy's Largest Root	36.440	145.759[c]	4.000	16.000	.000

Polimer * Formulasi	Pillai's Trace	2.132	5.135	16.000	72.000	.000
	Wilks' Lambda	.010	10.070	16.000	46.463	.000
	Hotelling's Trace	17.613	14.861	16.000	54.000	.000
	Roy's Largest Root	14.573	65.577[c]	4.000	18.000	.000
a. Design: Intercept + Polimer + Formulasi + Polimer * Formulasi						
b. Exact statistic						
c. The statistic is an upper bound on F that yields a lower bound on the significance level.						

Levene's Test of Equality of Error Variances[a]

		Levene Statistic	df1	df2	Sig.
Uji pH	Based on Mean	5.092	8	18	.002
	Based on Median	1.352	8	18	.281
	Based on Median and with adjusted df	1.352	8	6.006	.366
	Based on trimmed mean	4.711	8	18	.003
Uji Daya Sebar	Based on Mean	6.369	8	18	.001
	Based on Median	1.250	8	18	.328
	Based on Median and with adjusted df	1.250	8	4.404	.433
	Based on trimmed mean	5.728	8	18	.001
Uji Daya Lekat	Based on Mean	3.926	8	18	.008
	Based on Median	1.648	8	18	.180
	Based on Median and with adjusted df	1.648	8	5.902	.282

	Based on trimmed mean	3.745	8	18	.010
Uji Viskositas	Based on Mean	15.634	8	18	.000
	Based on Median	.977	8	18	.484
	Based on Median and with adjusted df	.977	8	2.004	.598
	Based on trimmed mean	12.321	8	18	.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Polimer + Formulasi + Polimer * Formulasi

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Uji pH	19.763[a]	8	2.470	183.240	.000
	Uji Daya Sebar	63.712[b]	8	7.964	31.733	.000
	Uji Daya Lekat	97.622[c]	8	12.203	25.243	.000
	Uji Viskositas	10495.387[d]	8	1311.923	39.269	.000
Intercept	Uji pH	864.622	1	864.622	64134.022	.000
	Uji Daya Sebar	1277.203	1	1277.203	5089.079	.000
	Uji Daya Lekat	151.230	1	151.230	312.842	.000
	Uji Viskositas	10111.343	1	10111.343	302.654	.000
Polimer	Uji pH	18.093	2	9.046	671.030	.000
	Uji Daya Sebar	22.435	2	11.218	44.697	.000

	Uji Daya Lekat	27.657	2	13.829	28.607	.000
	Uji Viskositas	4450.581	2	2225.290	66.608	.000
Formulasi	Uji pH	.579	2	.289	21.467	.000
	Uji Daya Sebar	36.848	2	18.424	73.412	.000
	Uji Daya Lekat	36.847	2	18.423	38.111	.000
	Uji Viskositas	3788.903	2	1894.451	56.705	.000
Polimer * Formulasi	Uji pH	1.091	4	.273	20.232	.000
	Uji Daya Sebar	4.428	4	1.107	4.411	.012
	Uji Daya Lekat	33.118	4	8.279	17.127	.000
	Uji Viskositas	2255.904	4	563.976	16.881	.000
Error	Uji pH	.243	18	.013		
	Uji Daya Sebar	4.517	18	.251		
	Uji Daya Lekat	8.701	18	.483		
	Uji Viskositas	601.360	18	33.409		
Total	Uji pH	884.627	27			
	Uji Daya Sebar	1345.432	27			
	Uji Daya Lekat	257.553	27			
	Uji Viskositas	21208.090	27			
Corrected Total	Uji pH	20.005	26			
	Uji Daya Sebar	68.229	26			
	Uji Daya Lekat	106.323	26			
	Uji Viskositas	11096.747	26			

a. R Squared = .988 (Adjusted R Squared = .982)

b. R Squared = .934 (Adjusted R Squared = .904)

c. R Squared = .918 (Adjusted R Squared = .882)

d. R Squared = .946 (Adjusted R Squared = .922)

1. Polimer

Dependent Variable	Polimer	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Uji pH	HEC	6.811	.039	6.730	6.892
	Carbopol	4.986	.039	4.904	5.067
	Xanthan Gum	5.180	.039	5.099	5.261
Uji Daya Sebar	HEC	6.936	.167	6.585	7.287
	Carbopol	5.733	.167	5.383	6.084
	Xanthan Gum	7.964	.167	7.613	8.315
Uji Daya Lekat	HEC	2.174	.232	1.688	2.661
	Carbopol	3.691	.232	3.204	4.178
	Xanthan Gum	1.234	.232	.748	1.721
Uji Viskositas	HEC	17.656	1.927	13.608	21.703
	Carbopol	35.856	1.927	31.808	39.903
	Xanthan Gum	4.544	1.927	.497	8.592

2. Formulasi

Dependent Variable	Formulasi	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Uji pH	F1	5.862	.039	5.781	5.944
	F2	5.591	.039	5.510	5.672
	F3	5.523	.039	5.442	5.605
Uji Daya Sebar	F1	8.439	.167	8.088	8.790
	F2	6.566	.167	6.215	6.916
	F3	5.629	.167	5.278	5.980

Uji Daya Lekat	F1	1.244	.232	.758	1.731
	F2	1.878	.232	1.391	2.365
	F3	3.978	.232	3.491	4.465
Uji Viskositas	F1	3.678	1.927	-.370	7.726
	F2	22.067	1.927	18.019	26.114
	F3	32.311	1.927	28.263	36.359

3. Polimer * Formulasi

Dependent Variable	Polimer	Formulasi	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
Uji pH	HEC	F1	6.773	.067	6.632	6.914
		F2	6.883	.067	6.742	7.024
		F3	6.777	.067	6.636	6.918
	Carbopol	F1	5.560	.067	5.419	5.701
		F2	4.827	.067	4.686	4.968
		F3	4.570	.067	4.429	4.711
	Xanthan Gum	F1	5.253	.067	5.112	5.394
		F2	5.063	.067	4.922	5.204
		F3	5.223	.067	5.082	5.364
Uji Daya Sebar	HEC	F1	9.242	.289	8.634	9.849
		F2	6.483	.289	5.876	7.091
		F3	5.083	.289	4.476	5.691
	Carbopol	F1	6.792	.289	6.184	7.399
		F2	5.622	.289	5.014	6.229
		F3	4.787	.289	4.179	5.394
		F1	9.283	.289	8.676	9.891

	Xanthan Gum	F2	7.592	.289	6.984	8.199
		F3	7.017	.289	6.409	7.624
Uji Daya Lekat	HEC	F1	1.373	.401	.530	2.217
		F2	1.710	.401	.867	2.553
		F3	3.440	.401	2.597	4.283
	Carbopol	F1	1.147	.401	.303	1.990
		F2	2.603	.401	1.760	3.447
		F3	7.323	.401	6.480	8.167
	Xanthan Gum	F1	1.213	.401	.370	2.057
		F2	1.320	.401	.477	2.163
		F3	1.170	.401	.327	2.013
Uji Viskositas	HEC	F1	1.267	3.337	-5.744	8.278
		F2	11.700	3.337	4.689	18.711
		F3	40.000	3.337	32.989	47.011
	Carbopol	F1	7.567	3.337	.556	14.578
		F2	50.000	3.337	42.989	57.011
		F3	50.000	3.337	42.989	57.011
	Xanthan Gum	F1	2.200	3.337	-4.811	9.211
		F2	4.500	3.337	-2.511	11.511
		F3	6.933	3.337	-.078	13.944

Multiple Comparisons

Bonferroni

	(I) Polimer	(J) Polimer		Std. Error	Sig.	95% Confidence Interval

Dependent Variable			Mean Difference (I-J)			Lower Bound	Upper Bound
Uji pH	HEC	Carbopol	1.8256*	.05473	.000	1.6811	1.9700
		Xanthan Gum	1.6311*	.05473	.000	1.4867	1.7756
	Carbopol	HEC	-1.8256*	.05473	.000	-1.9700	-1.6811
		Xanthan Gum	-.1944*	.05473	.007	-.3389	-.0500
	Xanthan Gum	HEC	-1.6311*	.05473	.000	-1.7756	-1.4867
		Carbopol	.1944*	.05473	.007	.0500	.3389
Uji Daya Sebar	HEC	Carbopol	1.20278*	.236159	.000	.57952	1.82604
		Xanthan Gum	-1.02778*	.236159	.001	-1.65104	-.40452
	Carbopol	HEC	-1.20278*	.236159	.000	-1.82604	-.57952
		Xanthan Gum	-2.23056*	.236159	.000	-2.85381	-1.60730
	Xanthan Gum	HEC	1.02778*	.236159	.001	.40452	1.65104
		Carbopol	2.23056*	.236159	.000	1.60730	2.85381
Uji Daya Lekat	HEC	Carbopol	-1.5167*	.32776	.001	-2.3817	-.6517
		Xanthan Gum	.9400*	.32776	.031	.0750	1.8050
	Carbopol	HEC	1.5167*	.32776	.001	.6517	2.3817

		Xanthan Gum	2.4567*	.32776	.000	1.5917	3.3217
	Xanthan Gum	HEC	-.9400*	.32776	.031	-1.8050	-.0750
		Carbopol	-2.4567*	.32776	.000	-3.3217	-1.5917
Uji Viskositas	HEC	Carbopol	-18.20000*	2.724738	.000	-25.39098	-11.00902
		Xanthan Gum	13.11111*	2.724738	.000	5.92013	20.30209
	Carbopol	HEC	18.20000*	2.724738	.000	11.00902	25.39098
		Xanthan Gum	31.31111*	2.724738	.000	24.12013	38.50209
	Xanthan Gum	HEC	-13.11111*	2.724738	.000	-20.30209	-5.92013
		Carbopol	-31.31111*	2.724738	.000	-38.50209	-24.12013
Based on observed means. The error term is Mean Square(Error) = 33.409.							
*. The mean difference is significant at the ,05 level.							

Multiple Comparisons

Bonferroni

Dependent Variable	(I) Formulasi	(J) Formulasi	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound

Uji pH	F1	F2	.2711*	.05473	.000	.1267	.4156
		F3	.3389*	.05473	.000	.1944	.4833
	F2	F1	-.2711*	.05473	.000	-.4156	-.1267
		F3	.0678	.05473	.695	-.0767	.2122
	F3	F1	-.3389*	.05473	.000	-.4833	-.1944
		F2	-.0678	.05473	.695	-.2122	.0767
Uji Daya Sebar	F1	F2	1.87333*	.236159	.000	1.25008	2.49659
		F3	2.81000*	.236159	.000	2.18674	3.43326
	F2	F1	-1.87333*	.236159	.000	-2.49659	-1.25008
		F3	.93667*	.236159	.003	.31341	1.55992
	F3	F1	-2.81000*	.236159	.000	-3.43326	-2.18674
		F2	-.93667*	.236159	.003	-1.55992	-.31341
Uji Daya Lekat	F1	F2	-.6333	.32776	.208	-1.4983	.2317
		F3	-2.7333*	.32776	.000	-3.5983	-1.8683
	F2	F1	.6333	.32776	.208	-.2317	1.4983
		F3	-2.1000*	.32776	.000	-2.9650	-1.2350
	F3	F1	2.7333*	.32776	.000	1.8683	3.5983
		F2	2.1000*	.32776	.000	1.2350	2.9650
Uji Viskositas	F1	F2	-18.38889*	2.724738	.000	-25.57987	-11.19791
		F3	-28.63333*	2.724738	.000	-35.82431	-21.44235

	F2	F1	18.38889*	2.724738	.000	11.19791	25.57987
		F3	-10.24444*	2.724738	.004	-17.43542	-3.05347
	F3	F1	28.63333*	2.724738	.000	21.44235	35.82431
		F2	10.24444*	2.724738	.004	3.05347	17.43542

Based on observed means.

The error term is Mean Square(Error) = 33.409.

*. The mean difference is significant at the ,05 level.