# DAFTAR PUSTAKA


Ahmed, V.A., Goli, D., 2018. Development and Characterization of In Situ Gel of Xanthan Gum for Ophthalmic Formulation Containing Brimonidine Tartrate. Asian J. Pharm. Clin. Res. 11, 277–284.

Aklilu, A., Bitew, A., Dessie, W., Hailu, E., Mamuye, Y., Woldemariam, M., 2018. Prevalence and Drug Susceptibility Pattern of Bacterial Pathogens from Ocular Infection in St . Paul ' s Hospital Millennium Medical College , Ethiopia. J. Bacteriol. Mycol. 5, 1085.

Al Khateb, K., Ozhmukhametova, E.K., Mussin, M.N., Seilkhanov, S.K., Rakhypbekov, T.K., Lau, W.M., Khutoryanskiy, V. V., 2016. In situ gelling systems based on Pluronic F127/Pluronic F68 formulations for ocular drug delivery. Int. J. Pharm. 502, 70–79.

Allen, L. V., Ansel, H.C., 2014. Ansel's Pharmaceutical Dosage Form and Drug Dekivery System, 10th ed. Lippincott Williams & Wilkins, a Wolters Kluwer business, Philadelphia.

Andersson, H., Hjärtstam, J., Stading, M., Von Corswant, C., Larsson, A., 2013. Effects of molecular weight on permeability and microstructure of mixed ethyl-hydroxypropyl-cellulose films. Eur. J. Pharm. Sci. 48, 240–248.

Austin, A., Lietman, T., Rose-Nussbaumer, J., 2017. Update on the Management of Infectious Keratitis. Ophthalmology 124, 1678–1689.

Binder, L., Mazál, J., Petz, R., Klang, V., Valenta, C., 2019. The role of viscosity on skin penetration from cellulose ether-based hydrogels. Ski. Res. Technol. 25, 725–734.

Brunton, L.L., Lazo, J.S., Parker, K.L., 2006. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 11th ed. McGraw-Hill Companies, Inc., United States of America.

Chavan, P.M., Vyas, S., 2017. A Novel Approach In-Situ Gel for Sustained Drug Delivery : A Review. Int. J. Pharm. Pharm. Res. 9.

Dhaval, M., Devani, J., Parmar, R., Soniwala, M.M., Chavda, J., 2020. Formulation and optimization of microemulsion based sparfloxacin in-situ gel for ocular delivery: In vitro and ex vivo characterization. J. Drug Deliv. Sci. Technol. 55, 101373.

Donnelly, R.F., 2011. Stability of cefazolin sodium in polypropylene syringes and polyvinylchloride minibags. Can. J. Hosp. Pharm. 64,

241–245.

Elsahn, A., Cendra, M. del M., Humbert, M.V., Christodoulides, M., Dua, H., Hossain, P., 2020. Pseudomonas aeruginosa host-pathogen interactions in human corneal infection models. J. EuCornea.

Ezisi, C.N., Ogbonnaya, C.E., Okoye, O., Ezeanosike, E., Ginger-Eke, H., Arinze, O.C., 2018. Microbial Keratitis—A Review of Epidemiology, Pathogenesis, Ocular Manifestations, and Management. Niger. J. Ophthalmol. 26, 13–23.

Fathalla, Z.M.A., Vangala, A., Longman, M., Khaled, K.A., Hussein, A.K., El-Garhy, O.H., Alany, R.G., 2017. Poloxamer-based thermoresponsive ketorolac tromethamine in situ gel preparations: Design, characterisation, toxicity and transcorneal permeation studies. Eur. J. Pharm. Biopharm. 114, 119–134.

Gupta, C., Juyal, V., Nagaich, U., 2018. Formulation and optimization of thermosensitive in-situ gel of moxifloxacin hydrochloride for ocular drug delivery. Int. J. Appl. Pharm. 10, 123–130.

Güven, U.M., Berkman, M.S., Şenel, B., Yazan, Y., 2019. Development and in vitro/in vivo evaluation of thermo-sensitive in Situ Gelling Systems for Ocular Allergy. Brazilian J. Pharm. Sci. 55, 1–11.

Jain, D., Kumar, V., Singh, S., Mullertz, A., Bar-Shalom, D., 2016. Newer Trends in In Situ Gelling Systems for Controlled Ocular Drug Delivery. J. Anal. Pharm. Res. 2, 1–16.

Jain, P., Jaiswal, C.P., Mirza, M.A., Anwer, M.K., Iqbal, Z., 2020. Preparation of levofloxacin loaded in situ gel for sustained ocular delivery: in vitro and ex vivo evaluations. Drug Dev. Ind. Pharm. 46, 50–56.

Jones, D.S., 2008. FASTtrack: Pharmaceutics - Dosage Form and Design. Pharmaceutical Press, London.

Khattab, A., Marzok, S., Ibrahim, M., 2019. Development of optimized mucoadhesive thermosensitive pluronic based in situ gel for controlled delivery of Latanoprost: Antiglaucoma efficacy and stability approaches. J. Drug Deliv. Sci. Technol. 53, 101134.

Kodym, A., Bilski, P., Domańska, A., Hełminiak, Ł., Jabłońska, M., Jachymska, A., 2012. Physical and chemical properties and stability of sodium cefazolin in buffered eye drops determined with HPLC method. Acta Pol. Pharm. - Drug Res. 69, 95–105.

Liu, Q., Wang, Y., 2009. Development of an ex vivo method for evaluation

of precorneal residence of topical ophthalmic formulations. AAPS PharmSciTech 10, 796–805.

Madan, J.R., Adokar, B.R., Dua, K., 2015. Development and evaluation of in situ gel of pregabalin. Int. J. Pharm. Investig. 5, 226.

Majeed, A., Khan, N.A., 2019. Ocular in situ gel: An overview. J. Drug Deliv. Ther. 9, 337–347.

Mohanty, D., Bakshi, V., Simharaju, N., Haque, M.A., Sahoo, C.K., 2018. A Review on in situ Gel: A Novel Drug Delivery System Dibyalochan. Int. J. Pharm. Sci. Rev. Res. 50, 175–181.

Nirosha, M., Varsha, K.H., Prema, R.S., Samdani, K., Amrutha, V., Reddy, L.D., 2017. Formulation and Evaluation of Itraconazole Ophthalmic In Situ Gels. Indo Am. J. Pharm. Sci. 4, 1101–1108.

Rowe, R.C., Sheskey, P.J., Quinn, M.E. (Eds.), 2009. Handbook of Pharmaceutical Excipients, 6th ed. Pharmaceutical Press and American Pharmacists Association, London.

Sarada, K., Firoz, S., Padmini, K., 2015. In-situ gelling system: A review. Int. J. Curr. Pharm. Rev. Res. 5, 76–90.

Soliman, K.A., Ullah, K., Shah, A., Jones, D.S., Singh, T.R.R., 2019. Poloxamer-based in situ gelling thermoresponsive systems for ocular drug delivery applications. Drug Discov. Today 24, 1575–1586.

Swarbick, J., 2007. Encyclopedia of Pharmaceutical Technology, 3rd ed. Informa Healthcare USA, Inc., New York.

Sweetman, S.C., 2009. Martindale: The Complete Drug Reference, 36th ed. Pharmaceutical Press, London.

Teweldemedhin, M., Gebreyesus, H., Atsbaha, A.H., Asgedom, S.W., Saravanan, M., 2017. Bacterial profile of ocular infections: a systematic review. BMC Ophthalmol. 17, 212.

Troy, D., 2005. Remington The Science and Practice of Pharmacy, 21st ed. Lippincott Williams & Wilkins, a Wolters Kluwer Company, Philadelphia.

Ubani-Ukoma, U., Gibson, D., Schultz, G., Silva, B.O., Chauhan, A., 2019. Evaluating the potential of drug eluting contact lenses for treatment of bacterial keratitis using an ex vivo corneal model. Int. J. Pharm. 565, 499–508.

Ung, L., Bispo, P.J.M., Shanbhag, S.S., Gilmore, M.S., Chodosh, J., 2019.

The persistent dilemma of microbial keratitis: Global burden, diagnosis, and antimicrobial resistance. Surv. Ophthalmol. 64, 255–271.

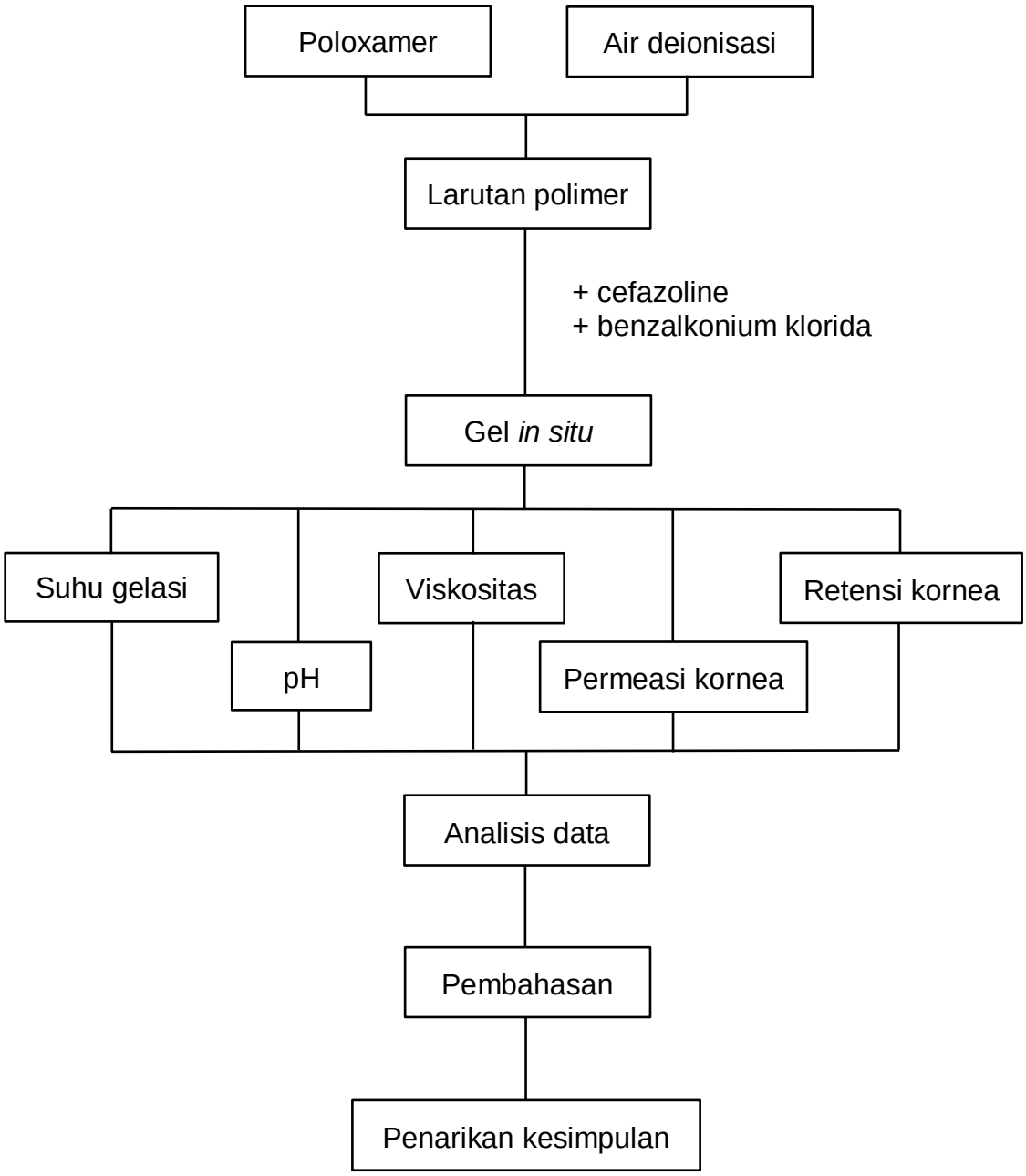
USP-NF, 2015. U.S. Pharmacopeia National Formulary, 38th ed. The United States Pharmacopeial Convention, United States.

Wang, N., Yang, Q., Tan, Y., Lin, L., Huang, Q., Wu, K., 2015. Bacterial Spectrum and Antibiotic Resistance Patterns of Ocular Infection: Differences between External and Intraocular Diseases. J. Ophthalmol. 2015, 1–7.

Zucolotto, V., 2014. Nanotoxicology: Materials, Methodologies, and Assessments. Springer Science+Business Media, New York.

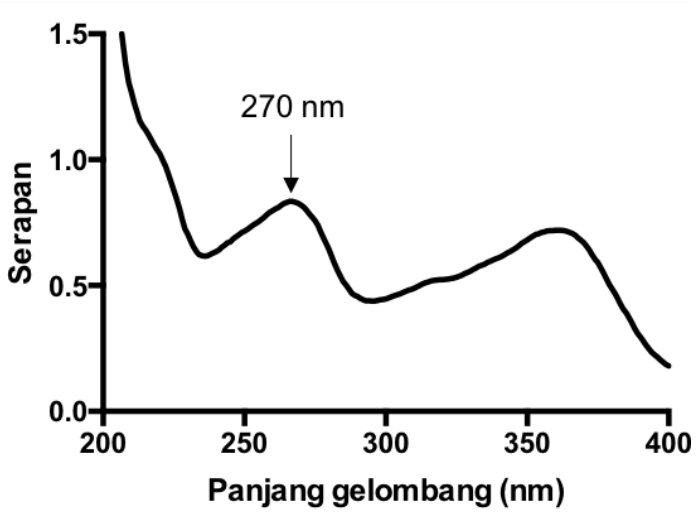
# LAMPIRAN

**Lampiran 1. Skema Kerja Penelitian**



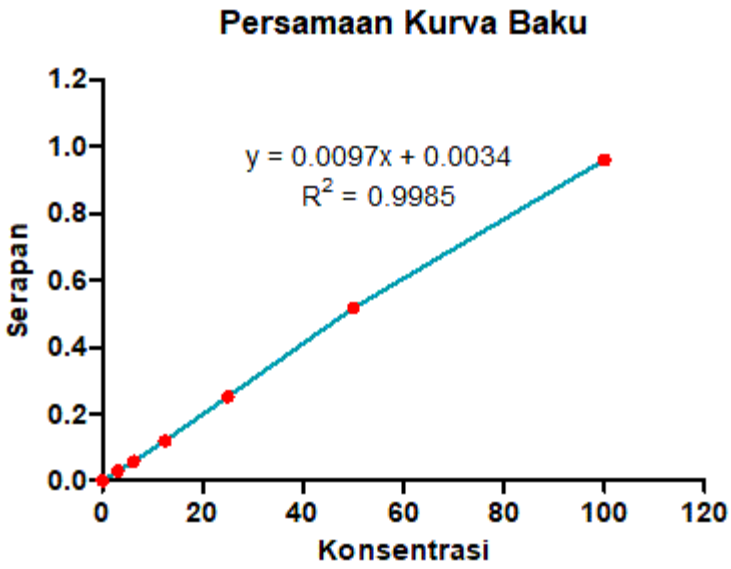
## Lampiran 2. Panjang Gelombang Maksimum dan Kurva Baku

### Lampiran 2.1. Panjang Gelombang Maksimum



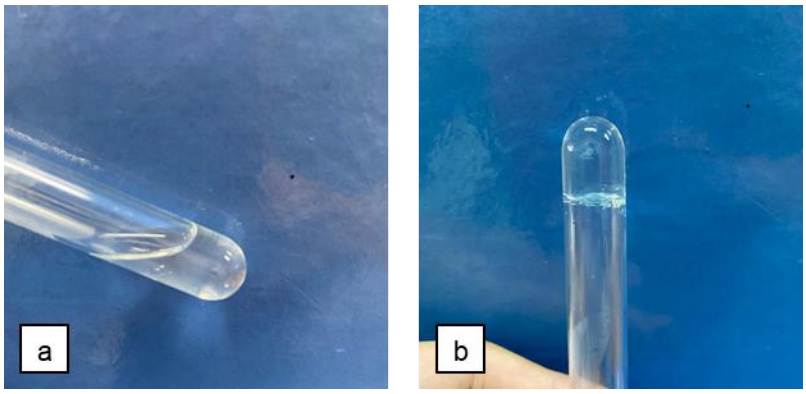

**Gambar 11. Panjang gelombang maksimum**

### Lampiran 2.2. Kurva Baku

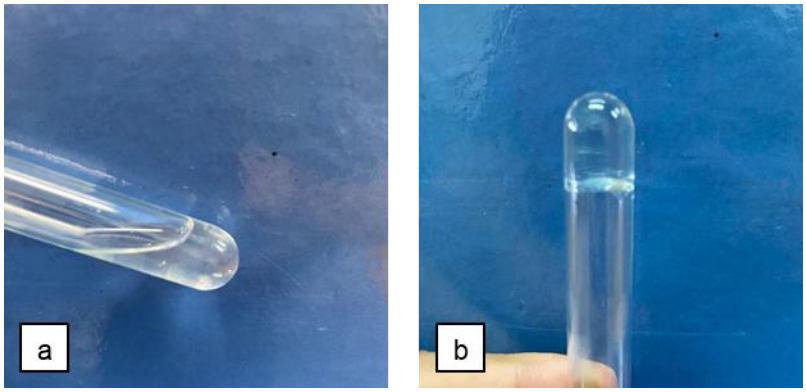



**Gambar 12. Persamaan kurva baku**

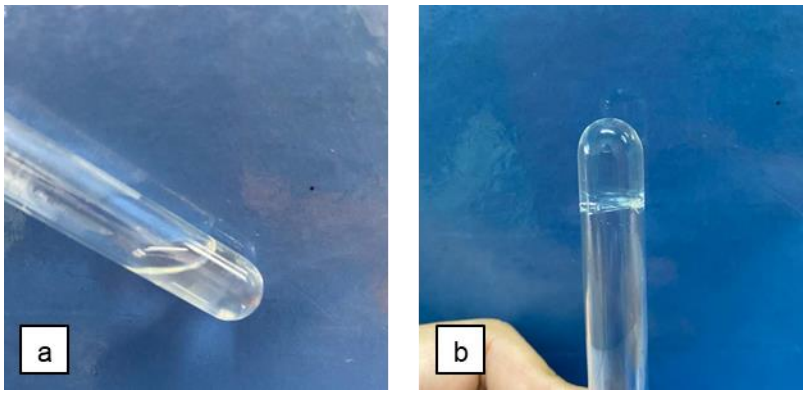
## Lampiran 3. Gambar Penelitian



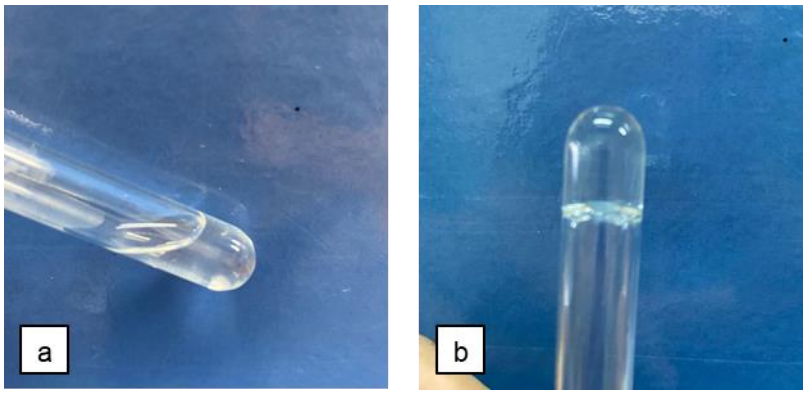

**Gambar 13. F1 (a) sebelum gelasi, (b) sesudah gelasi**



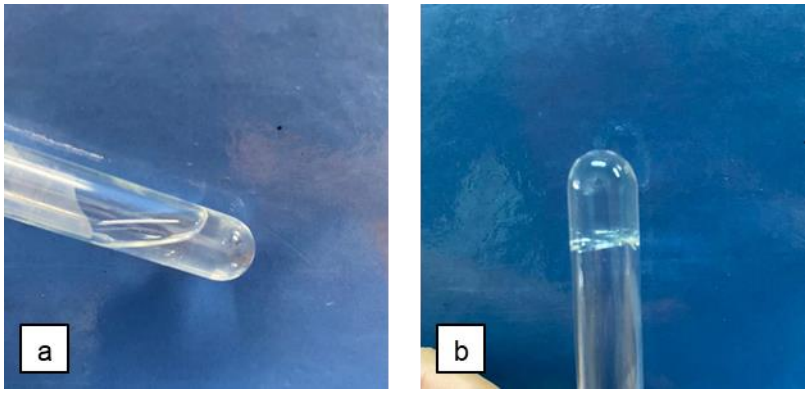

**Gambar 14. F2 (a) sebelum gelasi, (b) sesudah gelasi**




**Gambar 15. F3 (a) sebelum gelasi, (b) sesudah gelasi**




**Gambar 16. F4 (a) sebelum gelasi, (b) sesudah gelasi**




**Gambar 17. F5 (a) sebelum gelasi, (b) sesudah gelasi**

**Gambar 18. Kornea sapi**

**Gambar 19. Aparatus difusi sel Franz**

**Lampiran 4. Perhitungan**

**a. Uji Permeasi Kornea**

1 mL formula tiap pengujian mengandung 3,5 mg cefazolin

Persamaan: y = 0,0097x + 0,0034

dimana: y = serapan ; x = konsentrasi

Pada F1 Replikasi 1 Jam 0,25, diperoleh serapan = 0,243

Sehingga, untuk mendapatkan konsentrasi:

0,264 = 0,0097x + 0,0034

$$x = \frac{0{,}243 - 0{,}0034}{0{,}0097}$$

x = 24,71134021 µg/mL

Konsentrasi dalam 1,5 mL = 24,71134021 x 1,5 = 37,0670103 µg

Konsentrasi dalam 28 mL = $\frac{24{,}71134021\ \mu g \times 28\ mL}{1000}$ = 0,69191753 mg

Tidak terdapat faktor koreksi pada jam 0,25 karena tidak ada pencuplikan sebelumnya, sehingga faktor koreksi baru bisa dihitung pada jam 0,5

Konsentrasi dalam 1,5 mL jam 0,5 = 26,86103093 x 1,5 = 40,2915464 µg

Konsentrasi dalam 28 mL jam 0,5 = $\frac{26{,}86103093\ \mu g \times 28\ mL}{1000}$ = 0,75210887 mg

Faktor koreksi = $\frac{Konsentrasi\ \ jam\ sebelumnya}{1000}$ + faktor koreksi jam sebelumnya

$= \frac{37{,}0670103\ \mu g}{1000} + 0$

= 0,03706701 mg

Jumlah terpermeasi = Konsentrasi dalam 28 mL + Faktor koreksi

= 0,75210887 + 0,03706701

= 0,789175876 mg

Persen permeasi = $\frac{Jumlah\ yang\ terpermeasi}{Jumlah\ total\ cefazolin}$ x 100%

= $\frac{0,789175876}{3,5}$ x 100%

= 22,5478822%

**b. Uji Retensi Kornea**

Persamaan: y = 0,0097x + 0,0034

dimana: y = serapan ; x = konsentrasi

Pada F3 Replikasi 1, diperoleh serapan = 0,034

Sehingga, untuk mendapatkan konsentrasi:

0,034 = 0,0097x + 0,0034

x = $\frac{0,034 - 0,0034}{0,0097}$

x = 3,154639175 µg/mL

Jumlah cefazolin yang terdeposisi = $\frac{3,154639175}{1000}$ x 30 mL = 0,094639175 mg

Persen retensi = $\frac{Jumlah\ yang\ terdeposisi}{Jumlah\ total\ cefazolin}$ x 100%

= $\frac{0,094639175}{3,5}$ x 100%

= 2,703976436%

## Lampiran 5. Tabel Hasil Evaluasi

### Lampiran 5.1 Hasil Uji Suhu Gelasi

(a) Sebelum Sterilisasi

| Replikasi | F1 (°C) | F2 (°C) | F3 (°C) | F4 (°C) | F5 (°C) |
|---|---|---|---|---|---|
| 1 | 72 | 61 | 53 | 36 | 27 |
| 2 | 71 | 63 | 51 | 37 | 28 |
| 3 | 71 | 62 | 52 | 33 | 25 |
| Rata-rata | 71.333 | 62 | 52 | 35.333 | 26.667 |
| SD | 0.577 | 1 | 1 | 2.082 | 1.527 |

(b) Setelah Sterilisasi

| Replikasi | F1 (°C) | F2 (°C) | F3 (°C) | F4 (°C) | F5 (°C) |
|---|---|---|---|---|---|
| 1 | 72 | 62 | 52 | 35 | 26 |
| 2 | 71 | 61 | 52 | 37 | 27 |
| 3 | 72 | 62 | 51 | 34 | 26 |
| Rata-rata | 71.667 | 61.667 | 51.667 | 35.333 | 26.333 |
| SD | 0.577 | 0.577 | 0.577 | 1.527 | 0.577 |

### Lampiran 5.2 Hasil Uji pH

(a) Sebelum Sterilisasi

| Replikasi | F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|---|
| 1 | 4.61 | 4.67 | 4.69 | 4.71 | 4.73 |
| 2 | 4.56 | 4.65 | 4.68 | 4.69 | 4.7 |
| 3 | 4.51 | 4.62 | 4.67 | 4.74 | 4.75 |
| Rata-rata | 4.56 | 4.646 | 4.68 | 4.713 | 4.726 |
| SD | 0.05 | 0.025 | 0.01 | 0.025 | 0.025 |

(b) Setelah Sterilisasi

| Replikasi | F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|---|
| 1 | 4,57 | 4,65 | 4,67 | 4,69 | 4,74 |
| 2 | 4,55 | 4,63 | 4,69 | 4,71 | 4,69 |
| 3 | 4,53 | 4,61 | 4,66 | 4,73 | 4,72 |
| Rata-rata | 4.55 | 4.63 | 4.673 | 4.71 | 4.716 |
| SD | 0.02 | 0.02 | 0.015 | 0.02 | 0.0252 |

**Lampiran 5.3 Hasil Uji Viskositas**

(a) Sebelum Sterilisasi

| Replikasi | F1 | | F2 | | F3 | | F4 | | F5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | a | b | a | b | a | b | a | B | a | b |
| 1 | 109 | 19400 | 132 | 22900 | 149 | 25600 | 170 | 27800 | 210 | 29400 |
| 2 | 110 | 18900 | 140 | 23200 | 156 | 25800 | 170 | 29100 | 210 | 30100 |
| 3 | 108 | 18600 | 134 | 24100 | 162 | 25400 | 172 | 28200 | 220 | 29800 |
| Rata-rata | 109 | 18966.667 | 135.333 | 23400 | 155.667 | 25600 | 170.667 | 28366.667 | 213.333 | 29766.667 |
| SD | 1 | 404.145 | 4.163 | 624.499 | 6.506 | 200 | 1.155 | 665.833 | 5.773 | 351.188 |

Ket: a = sebelum gelasi
b = sesudah gelasi

(b) Setelah Sterilisasi

| Replikasi | F1 | | F2 | | F3 | | F4 | | F5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | a | b | a | b | a | B | A | b | a | b |
| 1 | 108 | 18400 | 134 | 23100 | 149 | 25800 | 173 | 27800 | 201 | 28400 |
| 2 | 112 | 19800 | 142 | 25200 | 156 | 26200 | 169 | 31200 | 221 | 30200 |
| 3 | 106 | 18400 | 132 | 24800 | 162 | 25400 | 178 | 29600 | 204 | 31200 |
| Rata-rata | 108.667 | 18866.667 | 136 | 24366.667 | 155.667 | 25800 | 173.333 | 29533.333 | 208.667 | 29933.333 |
| SD | 3.055 | 808.290 | 5.291 | 1115.048 | 6.506 | 400 | 4.509 | 1700.980 | 10.786 | 1418.919 |

Ket: a = sebelum gelasi
b = sesudah gelasi

**Lampiran 5.4. Hasil Uji Permeasi Kornea**

(a) Formula 1

| Jam | Replikasi | Serapan | Konsentrasi (µg/ml) | 1.5 ml (µg) | 28 ml (mg) | Faktor koreksi | Jumlah terpemeasi | % Permeasi | Rata-rata | SD |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.25 | 1 | 0.243 | 24.711 | 37.067 | 0.692 | 0.000 | 0.692 | 19.769 | 19.101 | 1.478 |
| | 2 | 0.247 | 25.160 | 37.740 | 0.704 | 0.000 | 0.704 | 20.128 | | |
| | 3 | 0.214 | 21.759 | 32.638 | 0.609 | 0.000 | 0.609 | 17.407 | | |
| 0.5 | 1 | 0.264 | 26.861 | 40.292 | 0.752 | 0.037 | 0.789 | 22.548 | 24.780 | 2.026 |
| | 2 | 0.297 | 30.262 | 45.394 | 0.847 | 0.038 | 0.885 | 25.288 | | |
| | 3 | 0.313 | 31.963 | 47.945 | 0.895 | 0.033 | 0.928 | 26.503 | | |
| 0.75 | 1 | 0.346 | 35.365 | 53.047 | 0.990 | 0.077 | 1.068 | 30.502 | 32.402 | 2.158 |
| | 2 | 0.396 | 40.467 | 60.700 | 1.133 | 0.083 | 1.216 | 34.749 | | |
| | 3 | 0.363 | 37.065 | 55.598 | 1.038 | 0.081 | 1.118 | 31.955 | | |
| 1 | 1 | 0.429 | 43.868 | 65.802 | 1.228 | 0.130 | 1.359 | 38.820 | 40.364 | 1.552 |
| | 2 | 0.462 | 47.270 | 70.905 | 1.324 | 0.144 | 1.467 | 41.925 | | |
| | 3 | 0.445 | 45.569 | 68.353 | 1.276 | 0.136 | 1.412 | 40.346 | | |
| 2 | 1 | 0.719 | 73.763 | 110.644 | 2.065 | 0.196 | 2.262 | 64.616 | 59.517 | 5.815 |
| | 2 | 0.666 | 68.268 | 102.402 | 1.912 | 0.215 | 2.126 | 60.750 | | |
| | 3 | 0.577 | 59.175 | 88.762 | 1.657 | 0.205 | 1.861 | 53.184 | | |
| 3 | 1 | 1.037 | 106.598 | 159.897 | 2.985 | 0.307 | 3.292 | 94.046 | 88.475 | 5.555 |
| | 2 | 0.966 | 99.227 | 148.840 | 2.778 | 0.317 | 3.095 | 88.443 | | |
| | 3 | 0.907 | 93.196 | 139.794 | 2.609 | 0.293 | 2.903 | 82.937 | | |
| 4 | 1 | 0.952 | 97.753 | 146.629 | 2.737 | 0.467 | 3.204 | 91.538 | 90.173 | 1.188 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 0.926 | 95.072 | 142.608 | 2.662 | 0.466 | 3.128 | 89.371 | | |
| | 3 | 0.940 | 96.546 | 144.820 | 2.703 | 0.433 | 3.136 | 89.611 | | |
| 5 | 1 | 0.952 | 97.753 | 146.629 | 2.737 | 0.613 | 3.350 | 95.727 | 93.817 | 1.894 |
| | 2 | 0.907 | 93.189 | 139.784 | 2.609 | 0.609 | 3.218 | 91.940 | | |
| | 3 | 0.940 | 96.591 | 144.886 | 2.705 | 0.578 | 3.282 | 93.784 | | |
| 6 | 1 | 0.899 | 92.330 | 138.495 | 2.585 | 0.760 | 3.345 | 95.578 | 94.646 | 0.944 |
| | 2 | 0.892 | 91.608 | 137.412 | 2.565 | 0.748 | 3.313 | 94.669 | | |
| | 3 | 0.889 | 91.299 | 136.948 | 2.556 | 0.723 | 3.279 | 93.690 | | |
| 7 | 1 | 0.782 | 80.268 | 120.402 | 2.248 | 0.899 | 3.146 | 89.886 | 95.317 | 4.828 |
| | 2 | 0.872 | 89.546 | 134.320 | 2.507 | 0.886 | 3.393 | 96.945 | | |
| | 3 | 0.907 | 93.196 | 139.794 | 2.609 | 0.860 | 3.469 | 99.121 | | |
| 8 | 1 | 0.812 | 83.361 | 125.041 | 2.334 | 1.019 | 3.353 | 95.800 | 96.625 | 5.375 |
| | 2 | 0.762 | 78.206 | 117.309 | 2.190 | 1.020 | 3.210 | 91.711 | | |
| | 3 | 0.898 | 92.258 | 138.387 | 2.583 | 1.000 | 3.583 | 102.364 | | |
| 24 | 1 | 0.789 | 80.990 | 121.485 | 2.268 | 1.144 | 3.412 | 97.476 | 97.659 | 0.323 |
| | 2 | 0.798 | 81.918 | 122.876 | 2.294 | 1.137 | 3.431 | 98.032 | | |
| | 3 | 0.791 | 81.196 | 121.794 | 2.273 | 1.138 | 3.411 | 97.469 | | |

(b) Formula 2

| **Jam** | **Replikasi** | **Serapan** | **Konsentrasi (µg/ml)** | **1.5 ml (µg)** | **28 ml (mg)** | **Faktor koreksi** | **Jumlah terpemeasi** | **% Permeasi** | **Rata-rata** | **SD** |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.25 | 1 | 0.194 | 19.650 | 29.475 | 0.550 | 0.000 | 0.550 | 15.720 | 17.192 | 1.547 |
| | 2 | 0.231 | 23.505 | 35.258 | 0.658 | 0.000 | 0.658 | 18.804 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 3 | 0.210 | 21.317 | 31.975 | 0.597 | 0.000 | 0.597 | 17.053 | | |
| 0.5 | 1 | 0.259 | 26.317 | 39.475 | 0.737 | 0.029 | 0.766 | 21.896 | 27.633 | 6.727 |
| | 2 | 0.416 | 42.536 | 63.804 | 1.191 | 0.035 | 1.226 | 35.036 | | |
| | 3 | 0.307 | 31.317 | 46.975 | 0.877 | 0.032 | 0.909 | 25.967 | | |
| 0.75 | 1 | 0.337 | 34.361 | 51.541 | 0.962 | 0.069 | 1.031 | 29.459 | 31.752 | 2.583 |
| | 2 | 0.388 | 39.650 | 59.476 | 1.110 | 0.099 | 1.209 | 34.551 | | |
| | 3 | 0.355 | 36.237 | 54.356 | 1.015 | 0.079 | 1.094 | 31.245 | | |
| 1 | 1 | 0.420 | 42.984 | 64.476 | 1.204 | 0.120 | 1.324 | 37.830 | 39.647 | 1.880 |
| | 2 | 0.453 | 46.317 | 69.476 | 1.297 | 0.159 | 1.455 | 41.583 | | |
| | 3 | 0.437 | 44.651 | 66.976 | 1.250 | 0.133 | 1.384 | 39.529 | | |
| 2 | 1 | 0.562 | 57.546 | 86.320 | 1.611 | 0.185 | 1.796 | 51.322 | 50.208 | 2.642 |
| | 2 | 0.497 | 50.845 | 76.268 | 1.424 | 0.228 | 1.652 | 47.191 | | |
| | 3 | 0.566 | 57.984 | 86.976 | 1.624 | 0.200 | 1.824 | 52.110 | | |
| 3 | 1 | 0.907 | 93.196 | 139.794 | 2.609 | 0.271 | 2.881 | 82.308 | 83.632 | 2.406 |
| | 2 | 0.894 | 91.856 | 137.784 | 2.572 | 0.304 | 2.876 | 82.178 | | |
| | 3 | 0.952 | 97.753 | 146.629 | 2.737 | 0.287 | 3.024 | 86.409 | | |
| 4 | 1 | 1.037 | 106.598 | 159.897 | 2.985 | 0.411 | 3.396 | 97.024 | 89.872 | 6.565 |
| | 2 | 0.923 | 94.804 | 142.206 | 2.655 | 0.442 | 3.097 | 88.474 | | |
| | 3 | 0.873 | 89.652 | 134.478 | 2.510 | 0.434 | 2.944 | 84.118 | | |
| 5 | 1 | 0.937 | 96.278 | 144.418 | 2.696 | 0.571 | 3.267 | 93.336 | 91.682 | 1.810 |
| | 2 | 0.889 | 91.318 | 136.978 | 2.557 | 0.584 | 3.141 | 89.748 | | |
| | 3 | 0.922 | 94.652 | 141.978 | 2.650 | 0.568 | 3.219 | 91.960 | | |
| 6 | 1 | 0.846 | 86.859 | 130.289 | 2.432 | 0.715 | 3.147 | 89.927 | 93.297 | 2.930 |
| | 2 | 0.908 | 93.295 | 139.943 | 2.612 | 0.721 | 3.334 | 95.243 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 3 | 0.906 | 93.032 | 139.549 | 2.605 | 0.710 | 3.315 | 94.721 | | |
| 7 | 1 | 0.868 | 89.092 | 133.638 | 2.495 | 0.846 | 3.340 | 95.436 | 96.675 | 1.074 |
| | 2 | 0.884 | 90.800 | 136.199 | 2.542 | 0.861 | 3.404 | 97.245 | | |
| | 3 | 0.889 | 91.325 | 136.987 | 2.557 | 0.850 | 3.407 | 97.343 | | |
| 8 | 1 | 0.833 | 85.546 | 128.319 | 2.395 | 0.979 | 3.375 | 96.417 | 96.990 | 3.283 |
| | 2 | 0.798 | 81.918 | 122.876 | 2.294 | 0.997 | 3.291 | 94.031 | | |
| | 3 | 0.880 | 90.406 | 135.608 | 2.531 | 0.987 | 3.518 | 100.521 | | |
| 24 | 1 | 0.801 | 82.227 | 123.340 | 2.302 | 1.108 | 3.410 | 97.428 | 97.333 | 0.331 |
| | 2 | 0.791 | 81.196 | 121.794 | 2.273 | 1.120 | 3.394 | 96.964 | | |
| | 3 | 0.798 | 81.918 | 122.876 | 2.294 | 1.122 | 3.416 | 97.605 | | |

(c) Formula 3

| Jam | Replikasi | Serapan | Konsentrasi (µg/ml) | 1.5 ml (µg) | 28 ml (mg) | Faktor koreksi | Jumlah terpemeasi | % Permeasi | Rata-rata | SD |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.25 | 1 | 0.185 | 18.680 | 28.021 | 0.523 | 0.000 | 0.523 | 14.944 | 15.963 | 1.194 |
| | 2 | 0.213 | 21.597 | 32.395 | 0.605 | 0.000 | 0.605 | 17.277 | | |
| | 3 | 0.193 | 19.583 | 29.375 | 0.548 | 0.000 | 0.548 | 15.667 | | |
| 0.5 | 1 | 0.238 | 24.183 | 36.275 | 0.677 | 0.028 | 0.705 | 20.147 | 24.750 | 5.103 |
| | 2 | 0.359 | 36.639 | 54.959 | 1.026 | 0.032 | 1.058 | 30.237 | | |
| | 3 | 0.283 | 28.784 | 43.175 | 0.806 | 0.029 | 0.835 | 23.866 | | |
| 0.75 | 1 | 0.310 | 31.584 | 47.376 | 0.884 | 0.064 | 0.949 | 27.104 | 29.160 | 2.308 |
| | 2 | 0.357 | 36.450 | 54.676 | 1.021 | 0.087 | 1.108 | 31.656 | | |
| | 3 | 0.327 | 33.310 | 49.965 | 0.933 | 0.073 | 1.005 | 28.721 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.406 | 41.464 | 62.196 | 1.161 | 0.112 | 1.273 | 36.362 | 36.943 | 1.024 |
| | 2 | 0.416 | 42.584 | 63.876 | 1.192 | 0.142 | 1.334 | 38.125 | | |
| | 3 | 0.402 | 41.050 | 61.576 | 1.149 | 0.123 | 1.272 | 36.341 | | |
| 2 | 1 | 0.461 | 47.184 | 70.776 | 1.321 | 0.174 | 1.495 | 42.715 | 44.637 | 2.852 |
| | 2 | 0.457 | 46.750 | 70.125 | 1.309 | 0.206 | 1.515 | 43.283 | | |
| | 3 | 0.521 | 53.317 | 79.976 | 1.493 | 0.184 | 1.677 | 47.914 | | |
| 3 | 1 | 0.651 | 66.794 | 100.191 | 1.870 | 0.245 | 2.115 | 60.425 | 56.134 | 4.476 |
| | 2 | 0.532 | 54.508 | 81.761 | 1.526 | 0.276 | 1.802 | 51.493 | | |
| | 3 | 0.597 | 61.176 | 91.764 | 1.713 | 0.264 | 1.977 | 56.485 | | |
| 4 | 1 | 0.832 | 85.423 | 128.134 | 2.392 | 0.345 | 2.737 | 78.191 | 77.269 | 1.049 |
| | 2 | 0.819 | 84.082 | 126.124 | 2.354 | 0.358 | 2.712 | 77.489 | | |
| | 3 | 0.803 | 82.451 | 123.677 | 2.309 | 0.356 | 2.664 | 76.128 | | |
| 5 | 1 | 0.952 | 97.753 | 146.629 | 2.737 | 0.473 | 3.210 | 91.715 | 89.416 | 2.566 |
| | 2 | 0.926 | 95.072 | 142.608 | 2.662 | 0.484 | 3.146 | 89.884 | | |
| | 3 | 0.888 | 91.186 | 136.778 | 2.553 | 0.480 | 3.033 | 86.649 | | |
| 6 | 1 | 0.868 | 89.175 | 133.763 | 2.497 | 0.620 | 3.117 | 89.043 | 90.650 | 1.942 |
| | 2 | 0.879 | 90.247 | 135.371 | 2.527 | 0.627 | 3.153 | 90.099 | | |
| | 3 | 0.915 | 94.000 | 141.000 | 2.632 | 0.616 | 3.248 | 92.808 | | |
| 7 | 1 | 0.872 | 89.546 | 134.320 | 2.507 | 0.753 | 3.261 | 93.162 | 92.879 | 3.916 |
| | 2 | 0.911 | 93.598 | 140.397 | 2.621 | 0.762 | 3.383 | 96.647 | | |
| | 3 | 0.818 | 83.991 | 125.986 | 2.352 | 0.757 | 3.109 | 88.829 | | |
| 8 | 1 | 0.892 | 91.608 | 137.412 | 2.565 | 0.888 | 3.453 | 98.649 | 94.619 | 3.592 |
| | 2 | 0.824 | 84.595 | 126.893 | 2.369 | 0.902 | 3.271 | 93.456 | | |
| | 3 | 0.810 | 83.145 | 124.718 | 2.328 | 0.883 | 3.211 | 91.752 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 1 | 0.840 | 86.247 | 129.371 | 2.415 | 1.025 | 3.440 | 98.286 | 96.238 | 1.883 |
| | 2 | 0.809 | 83.052 | 124.577 | 2.325 | 1.029 | 3.355 | 95.846 | | |
| | 3 | 0.801 | 82.227 | 123.340 | 2.302 | 1.008 | 3.310 | 94.581 | | |

(d) Formula 4

| Jam | Replikasi | Serapan | Konsentrasi (µg/ml) | 1.5 ml (µg) | 28 ml (mg) | Faktor koreksi | Jumlah terpemeasi | % Permeasi | Rata-rata | SD |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.25 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 0.5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 0.75 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1 | 1 | 0.175 | 17.699 | 26.548 | 0.496 | 0.000 | 0.496 | 14.159 | 14.240 | 0.274 |
| | 2 | 0.180 | 18.182 | 27.273 | 0.509 | 0.000 | 0.509 | 14.546 | | |
| | 3 | 0.173 | 17.520 | 26.280 | 0.491 | 0.000 | 0.491 | 14.016 | | |
| 2 | 1 | 0.199 | 20.168 | 30.252 | 0.565 | 0.027 | 0.591 | 16.893 | 17.553 | 1.257 |
| | 2 | 0.197 | 19.980 | 29.970 | 0.559 | 0.027 | 0.587 | 16.763 | | |
| | 3 | 0.225 | 22.815 | 34.223 | 0.639 | 0.026 | 0.665 | 19.003 | | |
| 3 | 1 | 0.281 | 28.632 | 42.948 | 0.802 | 0.057 | 0.859 | 24.529 | 22.507 | 2.121 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 0.230 | 23.329 | 34.993 | 0.653 | 0.057 | 0.710 | 20.299 | | |
| | 3 | 0.258 | 26.207 | 39.311 | 0.734 | 0.061 | 0.794 | 22.694 | | |
| 4 | 1 | 0.350 | 35.690 | 53.535 | 0.999 | 0.100 | 1.099 | 31.402 | 30.017 | 2.196 |
| | 2 | 0.305 | 31.062 | 46.593 | 0.870 | 0.092 | 0.962 | 27.485 | | |
| | 3 | 0.347 | 35.391 | 53.086 | 0.991 | 0.100 | 1.091 | 31.165 | | |
| 5 | 1 | 0.361 | 36.847 | 55.270 | 1.032 | 0.153 | 1.185 | 33.857 | 33.645 | 0.753 |
| | 2 | 0.353 | 36.053 | 54.079 | 1.009 | 0.139 | 1.148 | 32.809 | | |
| | 3 | 0.366 | 37.377 | 56.065 | 1.047 | 0.153 | 1.199 | 34.270 | | |
| 6 | 1 | 0.367 | 37.483 | 56.225 | 1.050 | 0.209 | 1.258 | 35.945 | 36.911 | 1.212 |
| | 2 | 0.379 | 38.756 | 58.134 | 1.085 | 0.193 | 1.278 | 36.516 | | |
| | 3 | 0.395 | 40.376 | 60.564 | 1.131 | 0.209 | 1.339 | 38.271 | | |
| 7 | 1 | 0.411 | 41.996 | 62.993 | 1.176 | 0.265 | 1.441 | 41.162 | 39.014 | 2.325 |
| | 2 | 0.393 | 40.202 | 60.303 | 1.126 | 0.251 | 1.377 | 39.334 | | |
| | 3 | 0.353 | 36.055 | 54.083 | 1.010 | 0.270 | 1.279 | 36.545 | | |
| 8 | 1 | 0.470 | 48.148 | 72.222 | 1.348 | 0.328 | 1.676 | 47.884 | 41.210 | 5.780 |
| | 2 | 0.356 | 36.316 | 54.474 | 1.017 | 0.311 | 1.328 | 37.949 | | |
| | 3 | 0.350 | 35.690 | 53.535 | 0.999 | 0.324 | 1.323 | 37.798 | | |
| 24 | 1 | 0.462 | 47.295 | 70.943 | 1.324 | 0.400 | 1.724 | 49.265 | 52.478 | 3.498 |
| | 2 | 0.507 | 51.893 | 77.840 | 1.453 | 0.366 | 1.819 | 51.967 | | |
| | 3 | 0.554 | 56.785 | 85.178 | 1.590 | 0.377 | 1.967 | 56.204 | | |

(e) Formula 5

| Jam | Replikasi | Serapan | Konsentrasi (µg/ml) | 1.5 ml (µg) | 28 ml (mg) | Faktor koreksi | Jumlah terpermeasi | % Permeasi | Rata-rata | SD |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.25 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 0.5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 0.75 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 1 | 1 | 0.119 | 11.898 | 17.846 | 0.333 | 0.000 | 0.333 | 9.518 | 9.573 | 0.186 |
| | 2 | 0.122 | 12.226 | 18.339 | 0.342 | 0.000 | 0.342 | 9.781 | | |
| | 3 | 0.118 | 11.777 | 17.665 | 0.330 | 0.000 | 0.330 | 9.421 | | |
| 2 | 1 | 0.131 | 13.135 | 19.702 | 0.368 | 0.018 | 0.386 | 11.018 | 11.550 | 0.706 |
| | 2 | 0.134 | 13.446 | 20.169 | 0.376 | 0.018 | 0.395 | 11.281 | | |
| | 3 | 0.147 | 14.807 | 22.211 | 0.415 | 0.018 | 0.432 | 12.350 | | |
| 3 | 1 | 0.191 | 19.317 | 28.976 | 0.541 | 0.038 | 0.578 | 16.527 | 15.159 | 1.429 |
| | 2 | 0.156 | 15.718 | 23.578 | 0.440 | 0.039 | 0.479 | 13.675 | | |
| | 3 | 0.175 | 17.672 | 26.507 | 0.495 | 0.040 | 0.535 | 15.277 | | |
| 4 | 1 | 0.237 | 24.107 | 36.160 | 0.675 | 0.067 | 0.742 | 21.186 | 20.251 | 1.478 |
| | 2 | 0.207 | 20.966 | 31.449 | 0.587 | 0.062 | 0.649 | 18.547 | | |
| | 3 | 0.235 | 23.904 | 35.855 | 0.669 | 0.066 | 0.736 | 21.020 | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 1 | 0.245 | 24.892 | 37.338 | 0.697 | 0.103 | 0.800 | 22.847 | 22.708 | 0.498 |
| | 2 | 0.240 | 24.353 | 36.529 | 0.682 | 0.094 | 0.775 | 22.155 | | |
| | 3 | 0.248 | 25.251 | 37.877 | 0.707 | 0.102 | 0.809 | 23.122 | | |
| 6 | 1 | 0.249 | 25.324 | 37.985 | 0.709 | 0.140 | 0.849 | 24.259 | 24.919 | 0.817 |
| | 2 | 0.257 | 26.187 | 39.281 | 0.733 | 0.130 | 0.863 | 24.666 | | |
| | 3 | 0.268 | 27.286 | 40.930 | 0.764 | 0.140 | 0.904 | 25.832 | | |
| 7 | 1 | 0.279 | 28.386 | 42.578 | 0.795 | 0.178 | 0.973 | 27.794 | 26.341 | 1.582 |
| | 2 | 0.267 | 27.169 | 40.753 | 0.761 | 0.169 | 0.930 | 26.573 | | |
| | 3 | 0.240 | 24.355 | 36.532 | 0.682 | 0.181 | 0.863 | 24.656 | | |
| 8 | 1 | 0.323 | 32.996 | 49.495 | 0.924 | 0.221 | 1.144 | 32.700 | 27.943 | 4.120 |
| | 2 | 0.241 | 24.531 | 36.797 | 0.687 | 0.210 | 0.897 | 25.628 | | |
| | 3 | 0.237 | 24.107 | 36.160 | 0.675 | 0.218 | 0.893 | 25.502 | | |
| 24 | 1 | 0.370 | 37.805 | 56.708 | 1.059 | 0.270 | 1.329 | 37.961 | 37.028 | 1.639 |
| | 2 | 0.344 | 35.102 | 52.653 | 0.983 | 0.247 | 1.230 | 35.136 | | |
| | 3 | 0.376 | 38.422 | 57.633 | 1.076 | 0.254 | 1.330 | 37.987 | | |

## Lampiran 5.5 Hasil Uji Retensi Kornea

| Formula | Replikasi | Serapan | Konsentrasi (µg/ml) | Jumlah cefazolin terdeposisi setelah 24 jam (mg) | %Retensi | Rata-rata | SD |
|---|---|---|---|---|---|---|---|
| F1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | | |
| | 3 | 0 | 0 | 0 | 0 | | |
| F2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | | |
| | 3 | 0 | 0 | 0 | 0 | | |
| F3 | 1 | 0.034 | 3.155 | 0.095 | 2.704 | 2.439 | 0.265 |
| | 2 | 0.031 | 2.845 | 0.085 | 2.439 | | |
| | 3 | 0.028 | 2.536 | 0.076 | 2.174 | | |
| F4 | 1 | 0.265 | 26.969 | 0.809 | 23.116 | 22.027 | 1.153 |
| | 2 | 0.254 | 25.835 | 0.775 | 22.144 | | |
| | 3 | 0.239 | 24.289 | 0.729 | 20.819 | | |
| F5 | 1 | 0.132 | 13.258 | 0.398 | 11.364 | 13.161 | 1.606 |
| | 2 | 0.167 | 16.866 | 0.506 | 14.457 | | |
| | 3 | 0.158 | 15.938 | 0.478 | 13.661 | | |

## Lampiran 6. Data Hasil Analisis Statistika

## Lampiran 6.1. Perbandingan Sebelum dan Setelah Sterilisasi

(a) Suhu Gelasi

**Paired Samples Test**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 95% Confidence Interval of the Difference | | | | |
| | | Mean | Std. Deviation | Std. Error Mean | Lower | Upper | | | |
| Pair 1 | Sebelum_sterilisasi - Setelah_sterilisasi | .13333 | .99043 | .25573 | -.41515 | .68182 | .521 | 14 | .610 |

(b) pH

**Paired Samples Test**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference Lower | Upper | | | |
| Pair 1 | Sebelum_sterilisasi - Setelah_sterilisasi | .00933 | .01751 | .00452 | -.00036 | .01903 | 2.064 | 14 | .058 |

(c) Viskositas Sebelum Gelasi

**Paired Samples Test**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference Lower | Upper | | | |
| Pair 1 | Sebelum_sterilisasi - Setelah_sterilisasi | .33333 | 6.11400 | 1.57863 | -3.05249 | 3.71915 | .211 | 14 | .836 |

(d) Viskositas Sesudah Gelasi

**Paired Samples Test**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | Sebelum_sterilisasi - Setelah_sterilisasi | -4.80000E2 | 943.54953 | 243.62344 | -1002.52031 | 42.52031 | -1.970 | 14 | .069 |

## Lampiran 6.2. Sebelum Sterilisasi

(a) Suhu Gelasi

## Post Hoc Tests

**Multiple Comparisons**

Suhu_gelasi

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| F1 | F2 | 9.33333* | 1.09545 | .000 | 5.7281 | 12.9385 |
| | F3 | 19.33333* | 1.09545 | .000 | 15.7281 | 22.9385 |
| | F4 | 36.00000* | 1.09545 | .000 | 32.3948 | 39.6052 |
| | F5 | 44.66667* | 1.09545 | .000 | 41.0615 | 48.2719 |
| F2 | F1 | -9.33333* | 1.09545 | .000 | -12.9385 | -5.7281 |
| | F3 | 10.00000* | 1.09545 | .000 | 6.3948 | 13.6052 |
| | F4 | 26.66667* | 1.09545 | .000 | 23.0615 | 30.2719 |
| | F5 | 35.33333* | 1.09545 | .000 | 31.7281 | 38.9385 |
| F3 | F1 | -19.33333* | 1.09545 | .000 | -22.9385 | -15.7281 |
| | F2 | -10.00000* | 1.09545 | .000 | -13.6052 | -6.3948 |
| | F4 | 16.66667* | 1.09545 | .000 | 13.0615 | 20.2719 |
| | F5 | 25.33333* | 1.09545 | .000 | 21.7281 | 28.9385 |
| F4 | F1 | -36.00000* | 1.09545 | .000 | -39.6052 | -32.3948 |
| | F2 | -26.66667* | 1.09545 | .000 | -30.2719 | -23.0615 |
| | F3 | -16.66667* | 1.09545 | .000 | -20.2719 | -13.0615 |
| | F5 | 8.66667* | 1.09545 | .000 | 5.0615 | 12.2719 |
| F5 | F1 | -44.66667* | 1.09545 | .000 | -48.2719 | -41.0615 |
| | F2 | -35.33333* | 1.09545 | .000 | -38.9385 | -31.7281 |
| | F3 | -25.33333* | 1.09545 | .000 | -28.9385 | -21.7281 |
| | F4 | -8.66667* | 1.09545 | .000 | -12.2719 | -5.0615 |

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

(b) pH

## Post Hoc Tests

**Multiple Comparisons**

pH

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| F1 | F2 | -.08667* | .02449 | .034 | -.1673 | -.0061 |
| | F3 | -.12000* | .02449 | .004 | -.2006 | -.0394 |
| | F4 | -.15333* | .02449 | .001 | -.2339 | -.0727 |
| | F5 | -.16667* | .02449 | .000 | -.2473 | -.0861 |
| F2 | F1 | .08667* | .02449 | .034 | .0061 | .1673 |
| | F3 | -.03333 | .02449 | .663 | -.1139 | .0473 |
| | F4 | -.06667 | .02449 | .120 | -.1473 | .0139 |
| | F5 | -.08000 | .02449 | .052 | -.1606 | .0006 |
| F3 | F1 | .12000* | .02449 | .004 | .0394 | .2006 |
| | F2 | .03333 | .02449 | .663 | -.0473 | .1139 |
| | F4 | -.03333 | .02449 | .663 | -.1139 | .0473 |
| | F5 | -.04667 | .02449 | .374 | -.1273 | .0339 |
| F4 | F1 | .15333* | .02449 | .001 | .0727 | .2339 |
| | F2 | .06667 | .02449 | .120 | -.0139 | .1473 |
| | F3 | .03333 | .02449 | .663 | -.0473 | .1139 |
| | F5 | -.01333 | .02449 | .980 | -.0939 | .0673 |
| F5 | F1 | .16667* | .02449 | .000 | .0861 | .2473 |
| | F2 | .08000 | .02449 | .052 | -.0006 | .1606 |
| | F3 | .04667 | .02449 | .374 | -.0339 | .1273 |
| | F4 | .01333 | .02449 | .980 | -.0673 | .0939 |

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

(c) Viskositas

**Paired Samples Test**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | Sebelum_gelasi - Setelah_gelasi | -2.50632E4 | 3945.29988 | 1018.67205 | -27248.03425 | -22878.36575 | -24.604 | 14 | .000 |

## Post Hoc Tests

**Multiple Comparisons**

Sebelum_gelasi

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| F1 | F2 | -26.33333* | 3.56526 | .000 | -38.0669 | -14.5998 |
| | F3 | -46.66667* | 3.56526 | .000 | -58.4002 | -34.9331 |
| | F4 | -61.66667* | 3.56526 | .000 | -73.4002 | -49.9331 |
| | F5 | -104.33333* | 3.56526 | .000 | -116.0669 | -92.5998 |
| F2 | F1 | 26.33333* | 3.56526 | .000 | 14.5998 | 38.0669 |
| | F3 | -20.33333* | 3.56526 | .001 | -32.0669 | -8.5998 |
| | F4 | -35.33333* | 3.56526 | .000 | -47.0669 | -23.5998 |
| | F5 | -78.00000* | 3.56526 | .000 | -89.7336 | -66.2664 |
| F3 | F1 | 46.66667* | 3.56526 | .000 | 34.9331 | 58.4002 |
| | F2 | 20.33333* | 3.56526 | .001 | 8.5998 | 32.0669 |
| | F4 | -15.00000* | 3.56526 | .012 | -26.7336 | -3.2664 |
| | F5 | -57.66667* | 3.56526 | .000 | -69.4002 | -45.9331 |
| F4 | F1 | 61.66667* | 3.56526 | .000 | 49.9331 | 73.4002 |
| | F2 | 35.33333* | 3.56526 | .000 | 23.5998 | 47.0669 |
| | F3 | 15.00000* | 3.56526 | .012 | 3.2664 | 26.7336 |
| | F5 | -42.66667* | 3.56526 | .000 | -54.4002 | -30.9331 |
| F5 | F1 | 104.33333* | 3.56526 | .000 | 92.5998 | 116.0669 |
| | F2 | 78.00000* | 3.56526 | .000 | 66.2664 | 89.7336 |
| | F3 | 57.66667* | 3.56526 | .000 | 45.9331 | 69.4002 |
| | F4 | 42.66667* | 3.56526 | .000 | 30.9331 | 54.4002 |

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

## Post Hoc Tests

**Multiple Comparisons**

Setelah_gelasi

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| F1 | F2 | -4433.33333* | 3.93277E2 | .000 | -5727.6397 | -3139.0270 |
| | F3 | -6633.33333* | 3.93277E2 | .000 | -7927.6397 | -5339.0270 |
| | F4 | -9400.00000* | 3.93277E2 | .000 | -10694.3064 | -8105.6936 |
| | F5 | -1.08000E4* | 3.93277E2 | .000 | -12094.3064 | -9505.6936 |
| F2 | F1 | 4433.33333* | 3.93277E2 | .000 | 3139.0270 | 5727.6397 |
| | F3 | -2200.00000* | 3.93277E2 | .002 | -3494.3064 | -905.6936 |
| | F4 | -4966.66667* | 3.93277E2 | .000 | -6260.9730 | -3672.3603 |
| | F5 | -6366.66667* | 3.93277E2 | .000 | -7660.9730 | -5072.3603 |
| F3 | F1 | 6633.33333* | 3.93277E2 | .000 | 5339.0270 | 7927.6397 |
| | F2 | 2200.00000* | 3.93277E2 | .002 | 905.6936 | 3494.3064 |
| | F4 | -2766.66667* | 3.93277E2 | .000 | -4060.9730 | -1472.3603 |
| | F5 | -4166.66667* | 3.93277E2 | .000 | -5460.9730 | -2872.3603 |
| F4 | F1 | 9400.00000* | 3.93277E2 | .000 | 8105.6936 | 10694.3064 |
| | F2 | 4966.66667* | 3.93277E2 | .000 | 3672.3603 | 6260.9730 |
| | F3 | 2766.66667* | 3.93277E2 | .000 | 1472.3603 | 4060.9730 |
| | F5 | -1400.00000* | 3.93277E2 | .033 | -2694.3064 | -105.6936 |
| F5 | F1 | 10800.00000* | 3.93277E2 | .000 | 9505.6936 | 12094.3064 |
| | F2 | 6366.66667* | 3.93277E2 | .000 | 5072.3603 | 7660.9730 |
| | F3 | 4166.66667* | 3.93277E2 | .000 | 2872.3603 | 5460.9730 |
| | F4 | 1400.00000* | 3.93277E2 | .033 | 105.6936 | 2694.3064 |

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

**Lampiran 6.3. Setelah Sterilisasi**

(a) Suhu Gelasi

## Post Hoc Tests

**Multiple Comparisons**

Suhu_gelasi

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| F1 | F2 | 10.00000* | .69921 | .000 | 7.6989 | 12.3011 |
| | F3 | 20.00000* | .69921 | .000 | 17.6989 | 22.3011 |
| | F4 | 36.33333* | .69921 | .000 | 34.0322 | 38.6345 |
| | F5 | 45.33333* | .69921 | .000 | 43.0322 | 47.6345 |
| F2 | F1 | -10.00000* | .69921 | .000 | -12.3011 | -7.6989 |
| | F3 | 10.00000* | .69921 | .000 | 7.6989 | 12.3011 |
| | F4 | 26.33333* | .69921 | .000 | 24.0322 | 28.6345 |
| | F5 | 35.33333* | .69921 | .000 | 33.0322 | 37.6345 |
| F3 | F1 | -20.00000* | .69921 | .000 | -22.3011 | -17.6989 |
| | F2 | -10.00000* | .69921 | .000 | -12.3011 | -7.6989 |
| | F4 | 16.33333* | .69921 | .000 | 14.0322 | 18.6345 |
| | F5 | 25.33333* | .69921 | .000 | 23.0322 | 27.6345 |
| F4 | F1 | -36.33333* | .69921 | .000 | -38.6345 | -34.0322 |
| | F2 | -26.33333* | .69921 | .000 | -28.6345 | -24.0322 |
| | F3 | -16.33333* | .69921 | .000 | -18.6345 | -14.0322 |
| | F5 | 9.00000* | .69921 | .000 | 6.6989 | 11.3011 |
| F5 | F1 | -45.33333* | .69921 | .000 | -47.6345 | -43.0322 |
| | F2 | -35.33333* | .69921 | .000 | -37.6345 | -33.0322 |
| | F3 | -25.33333* | .69921 | .000 | -27.6345 | -23.0322 |
| | F4 | -9.00000* | .69921 | .000 | -11.3011 | -6.6989 |

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

(b) pH

## Post Hoc Tests

**Multiple Comparisons**

pH

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| F1 | F2 | -.08000* | .01660 | .005 | -.1346 | -.0254 |
| | F3 | -.12333* | .01660 | .000 | -.1780 | -.0687 |
| | F4 | -.16000* | .01660 | .000 | -.2146 | -.1054 |
| | F5 | -.16667* | .01660 | .000 | -.2213 | -.1120 |
| F2 | F1 | .08000* | .01660 | .005 | .0254 | .1346 |
| | F3 | -.04333 | .01660 | .141 | -.0980 | .0113 |
| | F4 | -.08000* | .01660 | .005 | -.1346 | -.0254 |
| | F5 | -.08667* | .01660 | .003 | -.1413 | -.0320 |
| F3 | F1 | .12333* | .01660 | .000 | .0687 | .1780 |
| | F2 | .04333 | .01660 | .141 | -.0113 | .0980 |
| | F4 | -.03667 | .01660 | .251 | -.0913 | .0180 |
| | F5 | -.04333 | .01660 | .141 | -.0980 | .0113 |
| F4 | F1 | .16000* | .01660 | .000 | .1054 | .2146 |
| | F2 | .08000* | .01660 | .005 | .0254 | .1346 |
| | F3 | .03667 | .01660 | .251 | -.0180 | .0913 |
| | F5 | -.00667 | .01660 | .994 | -.0613 | .0480 |
| F5 | F1 | .16667* | .01660 | .000 | .1120 | .2213 |
| | F2 | .08667* | .01660 | .003 | .0320 | .1413 |
| | F3 | .04333 | .01660 | .141 | -.0113 | .0980 |
| | F4 | .00667 | .01660 | .994 | -.0480 | .0613 |

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

(c) Viskositas

**Paired Samples Test**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | Sebelum_gelasi - Sesudah_gelasi | -2.55435E4 | 4254.23297 | 1098.43823 | -27899.44902 | -23187.61764 | -23.254 | 14 | .000 |

## Post Hoc Tests

**Multiple Comparisons**

Sebelum_gelasi

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| F1 | F2 | -27.33333* | 5.37070 | .003 | -45.0088 | -9.6579 |
| | F3 | -47.00000* | 5.37070 | .000 | -64.6754 | -29.3246 |
| | F4 | -64.66667* | 5.37070 | .000 | -82.3421 | -46.9912 |
| | F5 | -100.00000* | 5.37070 | .000 | -117.6754 | -82.3246 |
| F2 | F1 | 27.33333* | 5.37070 | .003 | 9.6579 | 45.0088 |
| | F3 | -19.66667* | 5.37070 | .028 | -37.3421 | -1.9912 |
| | F4 | -37.33333* | 5.37070 | .000 | -55.0088 | -19.6579 |
| | F5 | -72.66667* | 5.37070 | .000 | -90.3421 | -54.9912 |
| F3 | F1 | 47.00000* | 5.37070 | .000 | 29.3246 | 64.6754 |
| | F2 | 19.66667* | 5.37070 | .028 | 1.9912 | 37.3421 |
| | F4 | -17.66667 | 5.37070 | .050 | -35.3421 | .0088 |
| | F5 | -53.00000* | 5.37070 | .000 | -70.6754 | -35.3246 |
| F4 | F1 | 64.66667* | 5.37070 | .000 | 46.9912 | 82.3421 |
| | F2 | 37.33333* | 5.37070 | .000 | 19.6579 | 55.0088 |
| | F3 | 17.66667 | 5.37070 | .050 | -.0088 | 35.3421 |
| | F5 | -35.33333* | 5.37070 | .000 | -53.0088 | -17.6579 |
| F5 | F1 | 100.00000* | 5.37070 | .000 | 82.3246 | 117.6754 |
| | F2 | 72.66667* | 5.37070 | .000 | 54.9912 | 90.3421 |
| | F3 | 53.00000* | 5.37070 | .000 | 35.3246 | 70.6754 |
| | F4 | 35.33333* | 5.37070 | .000 | 17.6579 | 53.0088 |

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

## Post Hoc Tests

**Multiple Comparisons**

Sesudah_gelasi

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| F1 | F2 | -5500.00000* | 9.63558E2 | .001 | -8671.1493 | -2328.8507 |
| | F3 | -6933.33333* | 9.63558E2 | .000 | -10104.4826 | -3762.1841 |
| | F4 | -1.06667E4* | 9.63558E2 | .000 | -13837.8159 | -7495.5174 |
| | F5 | -1.10667E4* | 9.63558E2 | .000 | -14237.8159 | -7895.5174 |
| F2 | F1 | 5500.00000* | 9.63558E2 | .001 | 2328.8507 | 8671.1493 |
| | F3 | -1433.33333 | 9.63558E2 | .592 | -4604.4826 | 1737.8159 |
| | F4 | -5166.66667* | 9.63558E2 | .002 | -8337.8159 | -1995.5174 |
| | F5 | -5566.66667* | 9.63558E2 | .001 | -8737.8159 | -2395.5174 |
| F3 | F1 | 6933.33333* | 9.63558E2 | .000 | 3762.1841 | 10104.4826 |
| | F2 | 1433.33333 | 9.63558E2 | .592 | -1737.8159 | 4604.4826 |
| | F4 | -3733.33333* | 9.63558E2 | .020 | -6904.4826 | -562.1841 |
| | F5 | -4133.33333* | 9.63558E2 | .011 | -7304.4826 | -962.1841 |
| F4 | F1 | 10666.66667* | 9.63558E2 | .000 | 7495.5174 | 13837.8159 |
| | F2 | 5166.66667* | 9.63558E2 | .002 | 1995.5174 | 8337.8159 |
| | F3 | 3733.33333* | 9.63558E2 | .020 | 562.1841 | 6904.4826 |
| | F5 | -400.00000 | 9.63558E2 | .993 | -3571.1493 | 2771.1493 |
| F5 | F1 | 11066.66667* | 9.63558E2 | .000 | 7895.5174 | 14237.8159 |
| | F2 | 5566.66667* | 9.63558E2 | .001 | 2395.5174 | 8737.8159 |
| | F3 | 4133.33333* | 9.63558E2 | .011 | 962.1841 | 7304.4826 |
| | F4 | 400.00000 | 9.63558E2 | .993 | -2771.1493 | 3571.1493 |

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

(d) Uji Permeasi Kornea

**Paired Samples Test**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference Lower | Upper | | | |
| Pair 1 | Jam8 - Jam24 | -4.66966353200E0 | 6.45177385311E0 | 1.66584084577E0 | -8.24253680220E0 | -1.09679026180E0 | -2.803 | 14 | .014 |

## Post Hoc Tests

**Multiple Comparisons**

Jam8

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| F1 | F2 | -3.64623413333E-1 | 3.70485716886E0 | 1.000 | -1.2557612675E1 | 1.1828365848E1 |
| | F3 | 2.00610617000E0 | 3.70485716886E0 | .981 | -1.0186883092E1 | 1.4199095432E1 |
| | F4 | 5.54150309433E1* | 3.70485716886E0 | .000 | 4.3222041682E1 | 6.7608020205E1 |
| | F5 | 6.86819879367E1* | 3.70485716886E0 | .000 | 5.6488998675E1 | 8.0874977198E1 |
| F2 | F1 | .36462341333 | 3.70485716886E0 | 1.000 | -1.1828365848E1 | 1.2557612675E1 |
| | F3 | 2.37072958333E0 | 3.70485716886E0 | .965 | -9.8222596784E0 | 1.4563718845E1 |
| | F4 | 5.57796543567E1* | 3.70485716886E0 | .000 | 4.3586665095E1 | 6.7972643618E1 |
| | F5 | 6.90466113500E1* | 3.70485716886E0 | .000 | 5.6853622088E1 | 8.1239600612E1 |
| F3 | F1 | -2.00610617000E0 | 3.70485716886E0 | .981 | -1.4199095432E1 | 1.0186883092E1 |
| | F2 | -2.37072958333E0 | 3.70485716886E0 | .965 | -1.4563718845E1 | 9.8222596784E0 |
| | F4 | 5.34089247733E1* | 3.70485716886E0 | .000 | 4.1215935512E1 | 6.5601914035E1 |
| | F5 | 6.66758817667E1* | 3.70485716886E0 | .000 | 5.4482892505E1 | 7.8868871028E1 |
| F4 | F1 | -5.54150309433E1* | 3.70485716886E0 | .000 | -6.7608020205E1 | -4.3222041682E1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | F2 | -5.57796543567E1* | 3.70485716886E0 | .000 | -6.7972643618E1 | -4.3586665095E1 |
| | F3 | -5.34089247733E1* | 3.70485716886E0 | .000 | -6.5601914035E1 | -4.1215935512E1 |
| | F5 | 1.32669569933E1* | 3.70485716886E0 | .032 | 1.0739677316E0 | 2.5459946255E1 |
| F5 | F1 | -6.86819879367E1* | 3.70485716886E0 | .000 | -8.0874977198E1 | -5.6488998675E1 |
| | F2 | -6.90466113500E1* | 3.70485716886E0 | .000 | -8.1239600612E1 | -5.6853622088E1 |
| | F3 | -6.66758817667E1* | 3.70485716886E0 | .000 | -7.8868871028E1 | -5.4482892505E1 |
| | F4 | -1.32669569933E1* | 3.70485716886E0 | .032 | -2.5459946255E1 | -1.0739677316E0 |

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

## Post Hoc Tests

**Multiple Comparisons**

Jam24

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| F1 | F2 | .32619151667 | 1.57818813179E0 | 1.000 | -4.8677552583E0 | 5.5201382916E0 |
| | F3 | 1.42079176000E0 | 1.57818813179E0 | .890 | -3.7731550150E0 | 6.6147385350E0 |
| | F4 | 4.51804306733E1* | 1.57818813179E0 | .000 | 3.9986483898E1 | 5.0374377448E1 |
| | F5 | 6.06309094100E1* | 1.57818813179E0 | .000 | 5.5436962635E1 | 6.5824856185E1 |
| F2 | F1 | -3.26191516667E-1 | 1.57818813179E0 | 1.000 | -5.5201382916E0 | 4.8677552583E0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | F3 | 1.09460024333E0 | 1.57818813179E0 | .953 | -4.0993465316E0 | 6.2885470183E0 |
| | F4 | 4.48542391567E1* | 1.57818813179E0 | .000 | 3.9660292382E1 | 5.0048185932E1 |
| | F5 | 6.03047178933E1* | 1.57818813179E0 | .000 | 5.5110771118E1 | 6.5498664668E1 |
| F3 | F1 | -1.42079176000E0 | 1.57818813179E0 | .890 | -6.6147385350E0 | 3.7731550150E0 |
| | F2 | -1.09460024333E0 | 1.57818813179E0 | .953 | -6.2885470183E0 | 4.0993465316E0 |
| | F4 | 4.37596389133E1* | 1.57818813179E0 | .000 | 3.8565692138E1 | 4.8953585688E1 |
| | F5 | 5.92101176500E1* | 1.57818813179E0 | .000 | 5.4016170875E1 | 6.4404064425E1 |
| F4 | F1 | -4.51804306733E1* | 1.57818813179E0 | .000 | -5.0374377448E1 | -3.9986483898E1 |
| | F2 | -4.48542391567E1* | 1.57818813179E0 | .000 | -5.0048185932E1 | -3.9660292382E1 |
| | F3 | -4.37596389133E1* | 1.57818813179E0 | .000 | -4.8953585688E1 | -3.8565692138E1 |
| | F5 | 1.54504787367E1* | 1.57818813179E0 | .000 | 1.0256531962E1 | 2.0644425512E1 |
| F5 | F1 | -6.06309094100E1* | 1.57818813179E0 | .000 | -6.5824856185E1 | -5.5436962635E1 |
| | F2 | -6.03047178933E1* | 1.57818813179E0 | .000 | -6.5498664668E1 | -5.5110771118E1 |
| | F3 | -5.92101176500E1* | 1.57818813179E0 | .000 | -6.4404064425E1 | -5.4016170875E1 |
| | F4 | -1.54504787367E1* | 1.57818813179E0 | .000 | -2.0644425512E1 | -1.0256531962E1 |

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

(e) Uji Retensi Kornea

## Post Hoc Tests

**Multiple Comparisons**

Retensi

Tukey HSD

| (I) Formula | (J) Formula | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| F1 | F2 | .00000000000 | .72844029284 | 1.000 | -2.3973568382E0 | 2.3973568382E0 |
| | F3 | -2.43888070700E0* | .72844029284 | .046 | -4.8362375452E0 | -4.1523868769E-2 |
| | F4 | -2.20265095733E1* | .72844029284 | .000 | -2.4423866412E1 | -1.9629152735E1 |
| | F5 | -1.31605301933E1* | .72844029284 | .000 | -1.5557887032E1 | -1.0763173355E1 |
| F2 | F1 | .00000000000 | .72844029284 | 1.000 | -2.3973568382E0 | 2.3973568382E0 |
| | F3 | -2.43888070700E0* | .72844029284 | .046 | -4.8362375452E0 | -4.1523868769E-2 |
| | F4 | -2.20265095733E1* | .72844029284 | .000 | -2.4423866412E1 | -1.9629152735E1 |
| | F5 | -1.31605301933E1* | .72844029284 | .000 | -1.5557887032E1 | -1.0763173355E1 |
| F3 | F1 | 2.43888070700E0* | .72844029284 | .046 | .0415238688 | 4.8362375452E0 |
| | F2 | 2.43888070700E0* | .72844029284 | .046 | .0415238688 | 4.8362375452E0 |
| | F4 | -1.95876288663E1* | .72844029284 | .000 | -2.1984985705E1 | -1.7190272028E1 |
| | F5 | -1.07216494863E1* | .72844029284 | .000 | -1.3119006325E1 | -8.3242926481E0 |
| F4 | F1 | 2.20265095733E1* | .72844029284 | .000 | 1.9629152735E1 | 2.4423866412E1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | F2 | 2.20265095733E1* | .72844029284 | .000 | 1.9629152735E1 | 2.4423866412E1 |
| | F3 | 1.95876288663E1* | .72844029284 | .000 | 1.7190272028E1 | 2.1984985705E1 |
| | F5 | 8.86597938000E0* | .72844029284 | .000 | 6.4686225418E0 | 1.1263336218E1 |
| F5 | F1 | 1.31605301933E1* | .72844029284 | .000 | 1.0763173355E1 | 1.5557887032E1 |
| | F2 | 1.31605301933E1* | .72844029284 | .000 | 1.0763173355E1 | 1.5557887032E1 |
| | F3 | 1.07216494863E1* | .72844029284 | .000 | 8.3242926481E0 | 1.3119006325E1 |
| | F4 | -8.86597938000E0* | .72844029284 | .000 | -1.1263336218E1 | -6.4686225418E0 |

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