Hasil Analisis SPSS Penetapan KGD Puasa

1. **Uji Normalitas Kadar Glukosa Darah**

**NPar Tests**

[DataSet1] E:\Hasil TESIS\SPSS Kadar Gula Darah\_2.sav

| **One-Sample Kolmogorov-Smirnov Test** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | HariPraInduksi | HariPostInduksi | HariKe14 | HariKe28 |
| N | | 32 | 32 | 32 | 32 |
| Normal Parametersa | Mean | 87.7650 | 364.8378 | 264.5625 | 173.3797 |
| Std. Deviation | 8.72980 | 118.76705 | 1.12846E2 | 99.22775 |
| Most Extreme Differences | Absolute | .182 | .201 | .139 | .239 |
| Positive | .117 | .113 | .139 | .239 |
| Negative | -.182 | -.201 | -.100 | -.163 |
| Kolmogorov-Smirnov Z | | 1.032 | 1.140 | .785 | 1.352 |
| Asymp. Sig. (2-tailed) | | .237 | .149 | .569 | .052 |
| a. Test distribution is Normal. | |  |  |  |

Hipotesis:

Sig. < 0,05 : distribusi data tidak normal (data tidak terdistribusi normal)

Sig. > 0,05 : distribusi data normal (data terdistribusi normal)

Hasil Uji Distribusi Kolmogorov-Smirnov menunjukkan bahwa nila Sig. > 0,05, maka data KGD terdistribusi normal pada semua hari sampling.

1. **Uji Homogenitas Kadar Glukosa Darah**

**Oneway**

| **Test of Homogeneity of Variances** | | | | |
| --- | --- | --- | --- | --- |
|  | Levene Statistic | df1 | df2 | Sig. |
| HariPraInduksi | 1.968 | 7 | 24 | .102 |
| HariPostInduksi | 5.011 | 7 | 24 | .001 |
| HariKe14 | 1.575 | 7 | 24 | .191 |
| HariKe28 | 5.254 | 7 | 24 | .001 |

Hipotesis:

Sig. < 0,05 : data tidak homogen

Sig. > 0,05 : data homogen

Hasil Uji Distribusi Kolmogorov-Smirnov menunjukkan bahwa nila Sig. > 0,05, maka data KGD homogen pada hari pra-induksi dan hari ke-14, sedangkan pada hari post induksi dan hari ke-28 data tidak homogen.

Data terdistribusi normal namun tidak semua homogen, sehingga dilakukan uji lanjutan (Uji Statistika Duncan) untuk memperoleh kesimpulan signifikansi perbandingan tiap kelompok uji.

Hasil uji anova menunjukkan bahwa terdapat perbedaan yang bermakna (sig < 0,05) antar hari perlakuan uji.

| **ANOVA** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Sum of Squares | df | Mean Square | F | Sig. |
| HariPraInduksi | Between Groups | 313.804 | 7 | 44.829 | .525 | .807 |
| Within Groups | 2048.688 | 24 | 85.362 |  |  |
| Total | 2362.492 | 31 |  |  |  |
| HariPostInduksi | Between Groups | 341963.335 | 7 | 48851.905 | 12.301 | .000 |
| Within Groups | 95310.647 | 24 | 3971.277 |  |  |
| Total | 437273.982 | 31 |  |  |  |
| HariKe14 | Between Groups | 299844.249 | 7 | 42834.893 | 10.831 | .000 |
| Within Groups | 94915.143 | 24 | 3954.798 |  |  |
| Total | 394759.392 | 31 |  |  |  |
| HariKe28 | Between Groups | 275431.509 | 7 | 39347.358 | 31.690 | .000 |
| Within Groups | 29799.039 | 24 | 1241.627 |  |  |
| Total | 305230.548 | 31 |  |  |  |

1. Hasil Uji Duncan

| **HariPraInduksi** | | | |
| --- | --- | --- | --- |
| KelompokTikus | | N | Subset for alpha = 0.05 |
| 1 |
| Duncana | Perlakuan 1 | 4 | 82.5750 |
| Perlakuan 2 | 4 | 85.2700 |
| Perlakuan 3 | 4 | 85.4825 |
| Kontrol Positif | 4 | 86.8975 |
| Kontrol Normal | 4 | 88.4550 |
| Perlakuan 5 | 4 | 89.8000 |
| Kontrol Negatif | 4 | 90.8650 |
| Perlakuan 4 | 4 | 92.7750 |
| Sig. |  | .188 |

Hasil Uji Post Hoc Duncan pada hari Pra-Induksi menunjukkan tidak terdapat perbedaan yang bermakna antar kelompok uji (Sig>0,05).

| **HariPostInduksi** | | | |
| --- | --- | --- | --- |
| Duncan |  |  |  |
| KelompokTikus | N | Subset for alpha = 0.05 | |
| 1 | 2 |
| Kontrol Normal | 4 | 94.7575 |  |
| Perlakuan 1 | 4 |  | 389.3775 |
| Perlakuan 2 | 4 |  | 391.1475 |
| Kontrol Positif | 4 |  | 392.0000 |
| Perlakuan 4 | 4 |  | 396.5300 |
| Perlakuan 5 | 4 |  | 399.7175 |
| Perlakuan 3 | 4 |  | 413.1025 |
| Kontrol Negatif | 4 |  | 442.0700 |
| Sig. |  | 1.000 | .312 |
| Means for groups in homogeneous subsets are displayed. | | | |

Hasil Uji Post Hoc Duncan pada Hari Post Induksi, menunjukkan bahwa terdapat perbedaan yang bermakna antara kelompok Normal dengan kelompok yang diinduksi STZ (Sig < 0,05).

| **HariKe14** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  | KelompokTikus | N | Subset for alpha = 0.05 | | |
|  | 1 | 2 | 3 |
| Duncana | Kontrol Normal | 4 | 1.1282E2 |  |  |
| Kontrol Positif | 4 | 1.2613E2 |  |  |
| Perlakuan 4 | 4 |  | 2.3838E2 |  |
| Perlakuan 1 | 4 |  | 2.9235E2 |  |
| Perlakuan 2 | 4 |  | 2.9908E2 |  |
| Perlakuan 3 | 4 |  | 3.0092E2 |  |
| Perlakuan 5 | 4 |  | 3.2288E2 |  |
| Kontrol Negatif | 4 |  |  | 4.2394E2 |
| Sig. |  | .767 | .100 | 1.000 |
| Means for groups in homogeneous subsets are displayed. | | | | |  |
| a. Uses Harmonic Mean Sample Size = 4.000. | | | |  |  |

Hari ke-14 menunjukkan terdapat perbedaan yang bermakna (sig<0,05) antara kelompok kontrol negatif dengan kelompok perlakuan.

| **HariKe28** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  | KelompokTikus | N | Subset for alpha = 0.05 | | |
|  | 1 | 2 | 3 |
| Duncana | Kontrol Normal | 4 | 88.7400 |  |  |
| Kontrol Positif | 4 | 1.2167E2 | 1.2167E2 |  |
| Perlakuan 5 | 4 | 1.2769E2 | 1.2769E2 |  |
| Perlakuan 4 | 4 |  | 1.4589E2 |  |
| Perlakuan 2 | 4 |  | 1.5680E2 |  |
| Perlakuan 1 | 4 |  | 1.6112E2 |  |
| Perlakuan 3 | 4 |  | 1.7564E2 |  |
| Kontrol Negatif | 4 |  |  | 4.0949E2 |
| Sig. |  | .152 | .066 | 1.000 |
| Means for groups in homogeneous subsets are displayed. | | | | |  |
| a. Uses Harmonic Mean Sample Size = 4.000. | | | |  |  |

Hari ke-28 menunjukkan terdapat perbedaan yang bermakna (sig<0,05) antara kelompok kontrol negatif dengan kelompok perlakuan.

1. Hasil Uji Repeated Measure

| **Pairwise Comparisons** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Measure:KadarGlukosaDarah | | |  |  |  |  |
| (I) Waktu | (J) Waktu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea | |
| Lower Bound | Upper Bound |
| 1 | 2 | -277.073\* | 20.879 | .000 | -319.655 | -234.491 |
| 3 | -176.798\* | 20.040 | .000 | -217.669 | -135.926 |
| 4 | -85.615\* | 17.451 | .000 | -121.206 | -50.024 |
| 2 | 1 | 277.073\* | 20.879 | .000 | 234.491 | 319.655 |
| 3 | 100.275\* | 21.587 | .000 | 56.249 | 144.302 |
| 4 | 191.458\* | 21.418 | .000 | 147.777 | 235.140 |
| 3 | 1 | 176.798\* | 20.040 | .000 | 135.926 | 217.669 |
| 2 | -100.275\* | 21.587 | .000 | -144.302 | -56.249 |
| 4 | 91.183\* | 16.555 | .000 | 57.418 | 124.948 |
| 4 | 1 | 85.615\* | 17.451 | .000 | 50.024 | 121.206 |
| 2 | -191.458\* | 21.418 | .000 | -235.140 | -147.777 |
| 3 | -91.183\* | 16.555 | .000 | -124.948 | -57.418 |
| Based on estimated marginal means | | | |  |  |  |
| \*. The mean difference is significant at the .05 level. | | | | |  |  |
| a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments). | | | | | | |

Hipotesis:

Sig. < 0,05 : terdapat perbedaan yang bermakna

Sig. > 0,05 : tidak terdapat perbedaan yang bermakna

Hasil uji repeated measure menunjukkan terdapat perbedaan yang bermakna pada data KGDP antar hari perlakuan (1: prainduksi; 2: post induksi; 3: hari ke-14; 4: hari ke-28)

**Lampiran 30**.Hasil Analisis SPSS Penimbangan Berat Badan Tikus

* **Uji Normalitas Berat Badan Tikus**

**NPar Tests**

| **One-Sample Kolmogorov-Smirnov Test** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | |  | HariPraInduksi | HariPostInduksi | HariKe14 | HariKe28 |
| N | | | 32 | 32 | 32 | 32 |
| Normal Parametersa | Mean | | 204.6313 | 200.7125 | 196.7969 | 202.6625 |
| Std. Deviation | | 23.80262 | 15.16621 | 30.47708 | 29.15352 |
| Most Extreme Differences | Absolute | | .109 | .131 | .095 | .082 |
| Positive | | .082 | .094 | .081 | .077 |
| Negative | | -.109 | -.131 | -.095 | -.082 |
| Kolmogorov-Smirnov Z | | | .615 | .741 | .537 | .466 |
| Asymp. Sig. (2-tailed) | | | .844 | .642 | .935 | .981 |
| a. Test distribution is Normal. | | |  |  |  |  |

Hipotesis:

Sig. < 0,05 : distribusi data tidak normal (data tidak terdistribusi normal)

Sig. > 0,05 : distribusi data normal (data terdistribusi normal)

Hasil Uji Distribusi Kolmogorov-Smirnov menunjukkan bahwa nila Sig. > 0,05, maka data Berat Badan Tikus terdistribusi normal pada semua hari sampling.

* **Uji Homogenitas Berat Badan Tikus**

**Oneway**

| **Test of Homogeneity of Variances** | | | | |
| --- | --- | --- | --- | --- |
|  | Levene Statistic | df1 | df2 | Sig. |
| HariPraInduksi | 1.433 | 7 | 24 | .238 |
| HariPostInduksi | 1.594 | 7 | 24 | .185 |
| HariKe14 | 1.261 | 7 | 24 | .311 |
| HariKe28 | 6.933 | 7 | 24 | .000 |

Hipotesis:

Sig. < 0,05 : data tidak homogen

Sig. > 0,05 : data homogen

Hasil Uji Distribusi Kolmogorov-Smirnov menunjukkan bahwa nila Sig. > 0,05, maka data Berat Badan Tikus homogen pada hari pra-induksi, hari post-induksi dan hari ke-14, sedangkan pada hari ke-28 data tidak homogen.

Data terdistribusi normal namun tidak semua homogen, sehingga dilakukan uji lanjutan (Uji Statistika Duncan) untuk memperoleh kesimpulan signifikansi perbandingan tiap kelompok uji.

| **ANOVA** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Sum of Squares | df | Mean Square | F | Sig. |
| HariPraInduksi | Between Groups | 4508.009 | 7 | 644.001 | 1.184 | .349 |
| Within Groups | 13055.500 | 24 | 543.979 |  |  |
| Total | 17563.509 | 31 |  |  |  |
| HariPostInduksi | Between Groups | 988.955 | 7 | 141.279 | .552 | .787 |
| Within Groups | 6141.480 | 24 | 255.895 |  |  |
| Total | 7130.435 | 31 |  |  |  |
| HariKe14 | Between Groups | 11910.117 | 7 | 1701.445 | 2.418 | .050 |
| Within Groups | 16884.312 | 24 | 703.513 |  |  |
| Total | 28794.430 | 31 |  |  |  |
| HariKe28 | Between Groups | 12937.015 | 7 | 1848.145 | 3.307 | .013 |
| Within Groups | 13410.740 | 24 | 558.781 |  |  |
| Total | 26347.755 | 31 |  |  |  |

* **Uji Duncan Berat Badan Tikus**

**Post Hoc Tests**

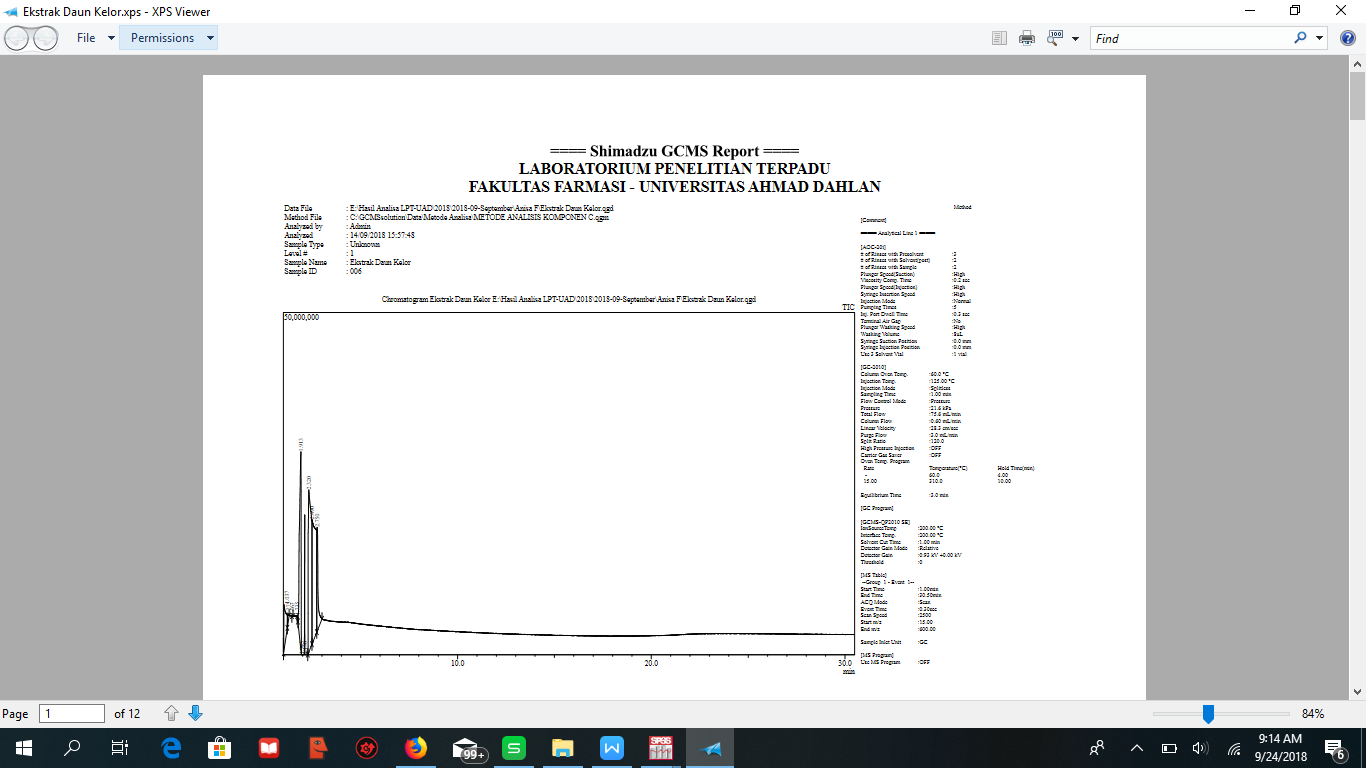
| **HariPraInduksi** | | |
| --- | --- | --- |
| Duncan |  |  |
| KelompokTikus | N | Subset for alpha = 0.05 |
| 1 |
| Perlakuan 4 | 4 | 188.5250 |
| Kontrol Positif | 4 | 190.5250 |
| Kontrol Negatif | 4 | 194.4000 |
| Perlakuan 5 | 4 | 201.7000 |
| Perlakuan 3 | 4 | 209.5250 |
| Perlakuan 1 | 4 | 214.3500 |
| Kontrol Normal | 4 | 215.6000 |
| Perlakuan 2 | 4 | 222.4250 |
| Sig. |  | .086 |
| Means for groups in homogeneous subsets are displayed. | | |

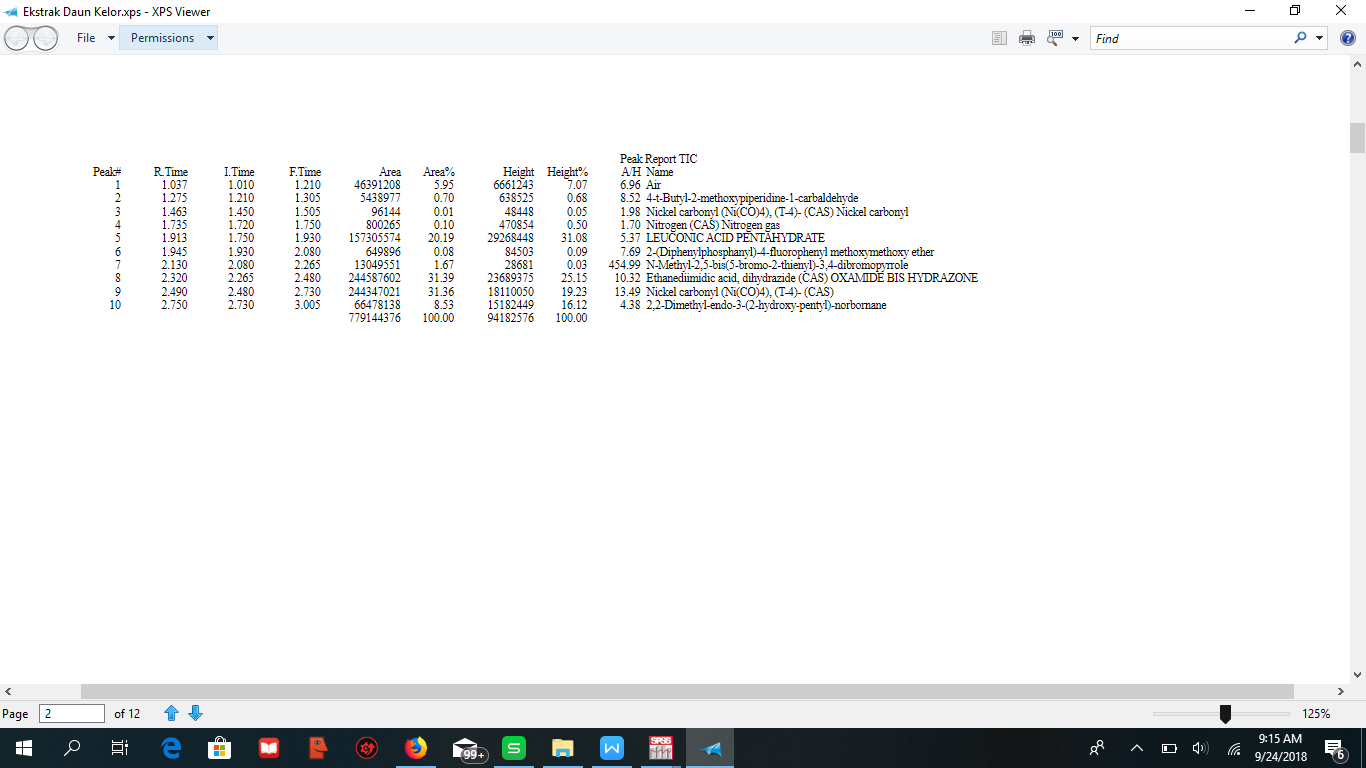
| **HariPostInduksi** | | |
| --- | --- | --- |
| Duncan |  |  |
| KelompokTikus | N | Subset for alpha = 0.05 |
| 1 |
| Perlakuan 4 | 4 | 192.4000 |
| Perlakuan 3 | 4 | 197.0500 |
| Perlakuan 5 | 4 | 197.4500 |
| Kontrol Positif | 4 | 199.0250 |
| Kontrol Negatif | 4 | 199.7500 |
| Perlakuan 1 | 4 | 201.4250 |
| Perlakuan 2 | 4 | 208.2250 |
| Kontrol Normal | 4 | 210.3750 |
| Sig. |  | .181 |
| Means for groups in homogeneous subsets are displayed. | | |

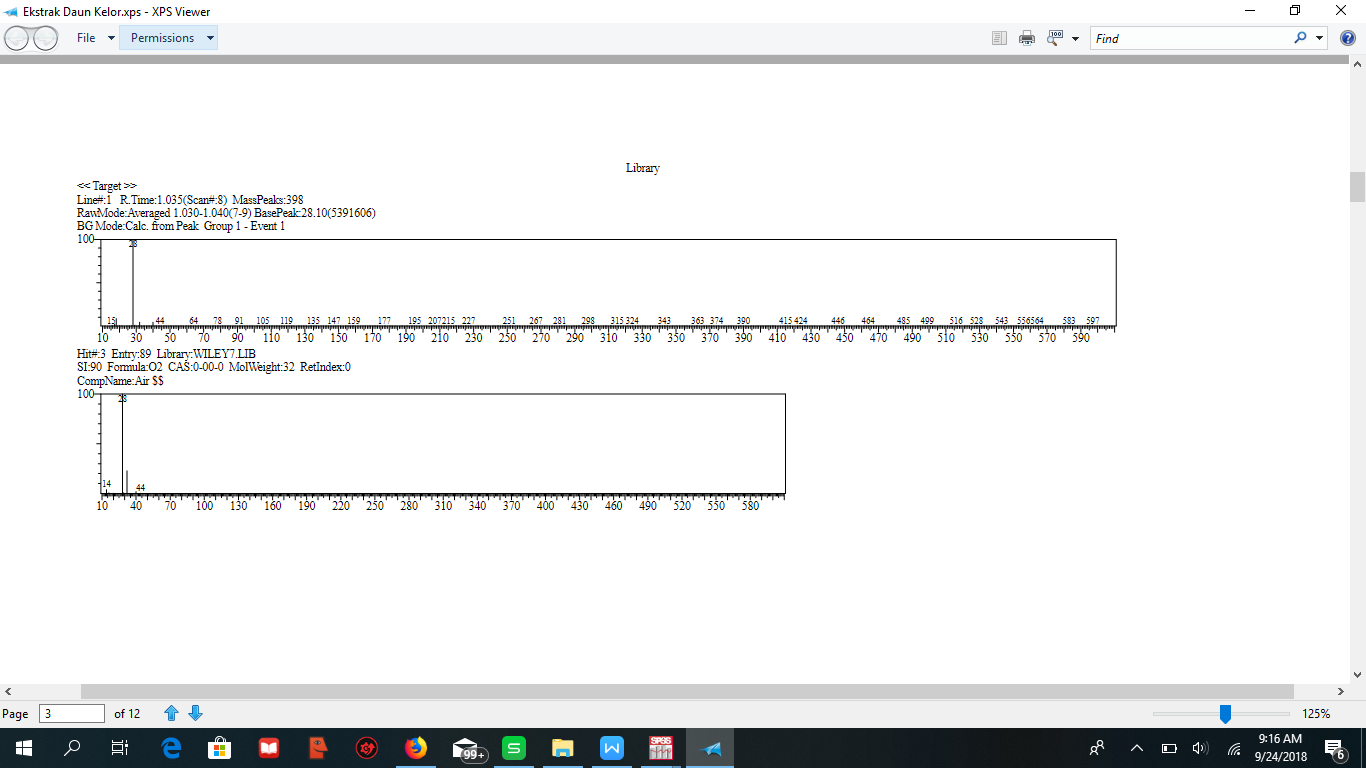
| **HariKe14** | | | | |
| --- | --- | --- | --- | --- |
| Duncan |  |  |  |  |
| KelompokTikus | N | Subset for alpha = 0.05 | | |
| 1 | 2 | 3 |
| Kontrol Negatif | 4 | 1.6012E2 |  |  |
| Perlakuan 5 | 4 | 1.8950E2 | 1.8950E2 |  |
| Perlakuan 4 | 4 | 1.9175E2 | 1.9175E2 | 1.9175E2 |
| Perlakuan 1 | 4 | 1.9450E2 | 1.9450E2 | 1.9450E2 |
| Perlakuan 2 | 4 | 1.9850E2 | 1.9850E2 | 1.9850E2 |
| Perlakuan 3 | 4 | 1.9988E2 | 1.9988E2 | 1.9988E2 |
| Kontrol Positif | 4 |  | 2.0500E2 | 2.0500E2 |
| Kontrol Normal | 4 |  |  | 2.3512E2 |
| Sig. |  | .072 | .474 | .050 |
| Means for groups in homogeneous subsets are displayed. | | | | |

| **HariKe28** | | | |
| --- | --- | --- | --- |
| **Duncan** |  |  |  |
| KelompokTikus | N | Subset for alpha = 0.05 | |
| 1 | 2 |
| Kontrol Negatif | 4 | 155.9250 |  |
| Perlakuan 3 | 4 |  | 200.0000 |
| Perlakuan 2 | 4 |  | 201.0000 |
| Perlakuan 1 | 4 |  | 203.6250 |
| Kontrol Positif | 4 |  | 204.0000 |
| Perlakuan 5 | 4 |  | 210.2500 |
| Perlakuan 4 | 4 |  | 215.1250 |
| Kontrol Normal | 4 |  | 231.3750 |
| Sig. |  | 1.000 | .113 |
| Means for groups in homogeneous subsets are displayed. | | | |

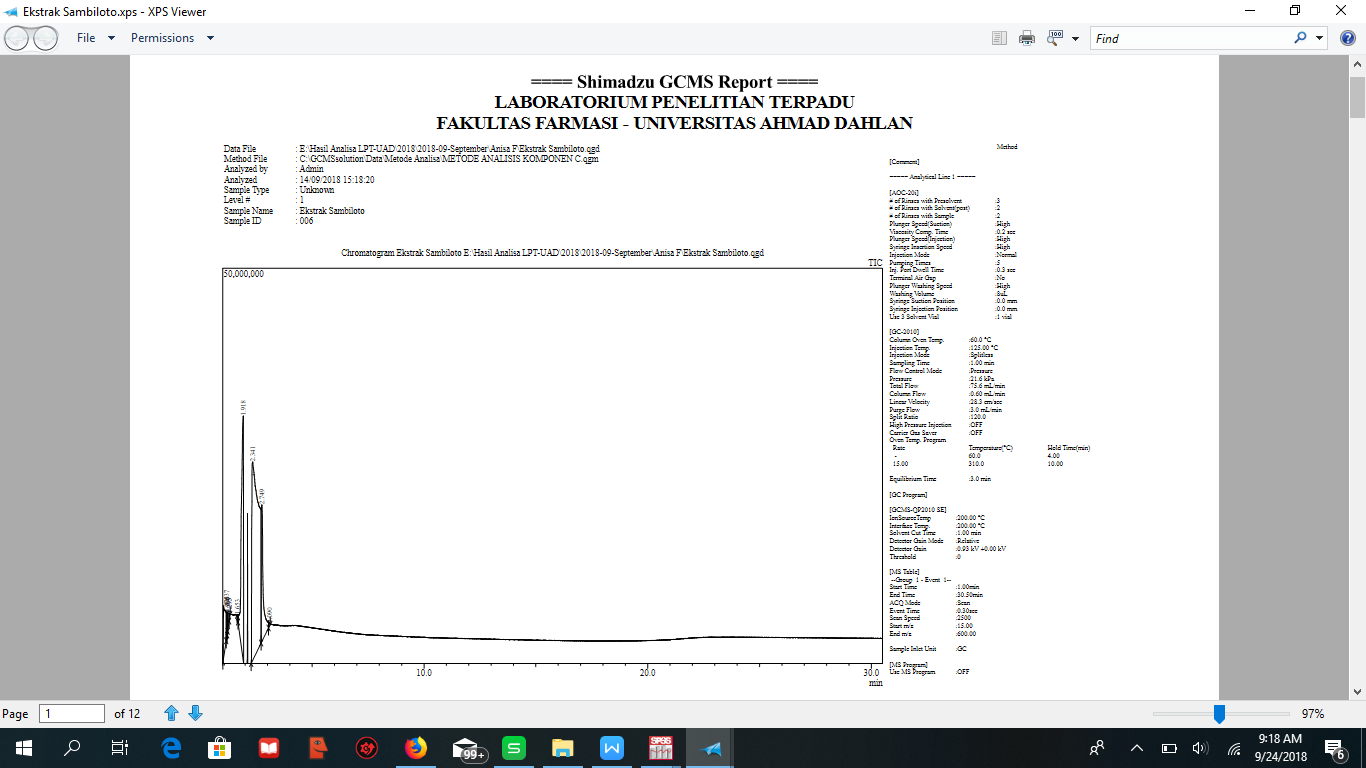
Hasil Analisis GC-MS Ekstrak Etanol Daun Kelor

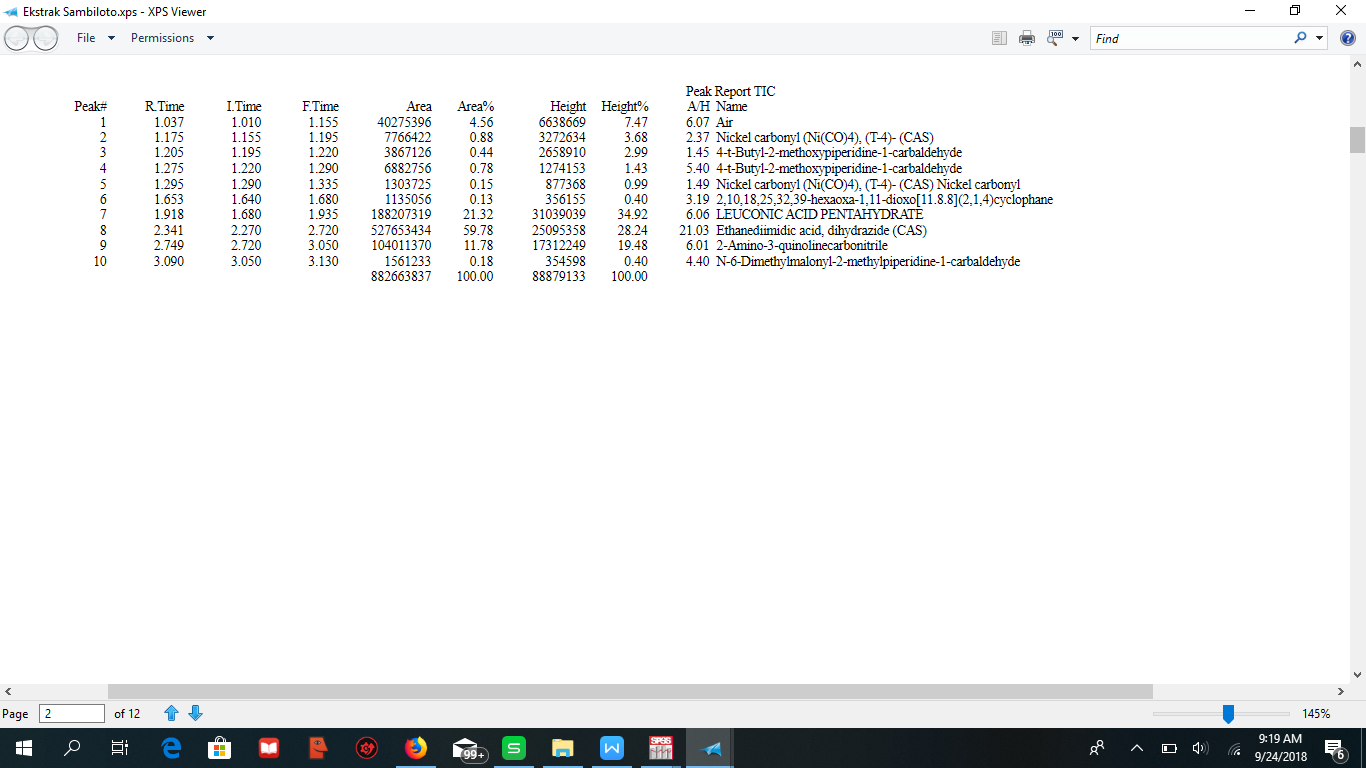


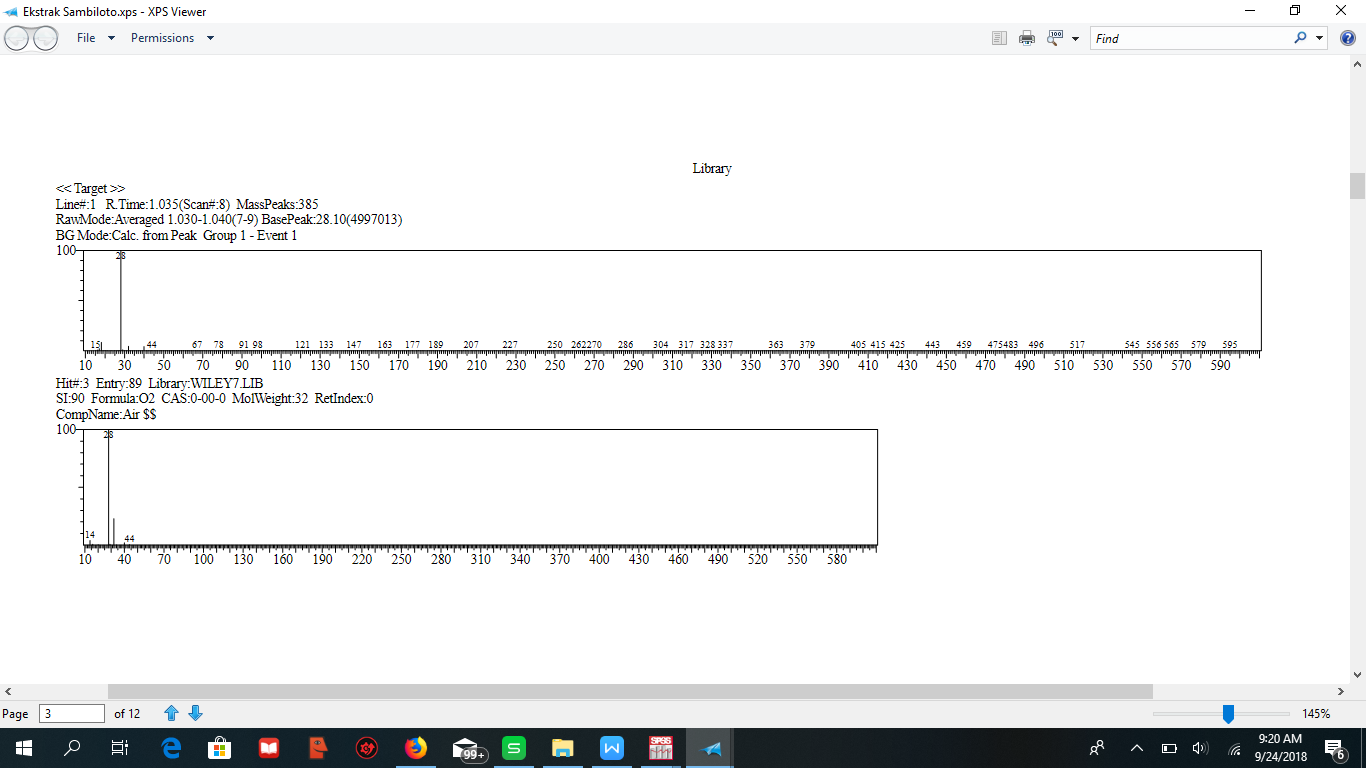




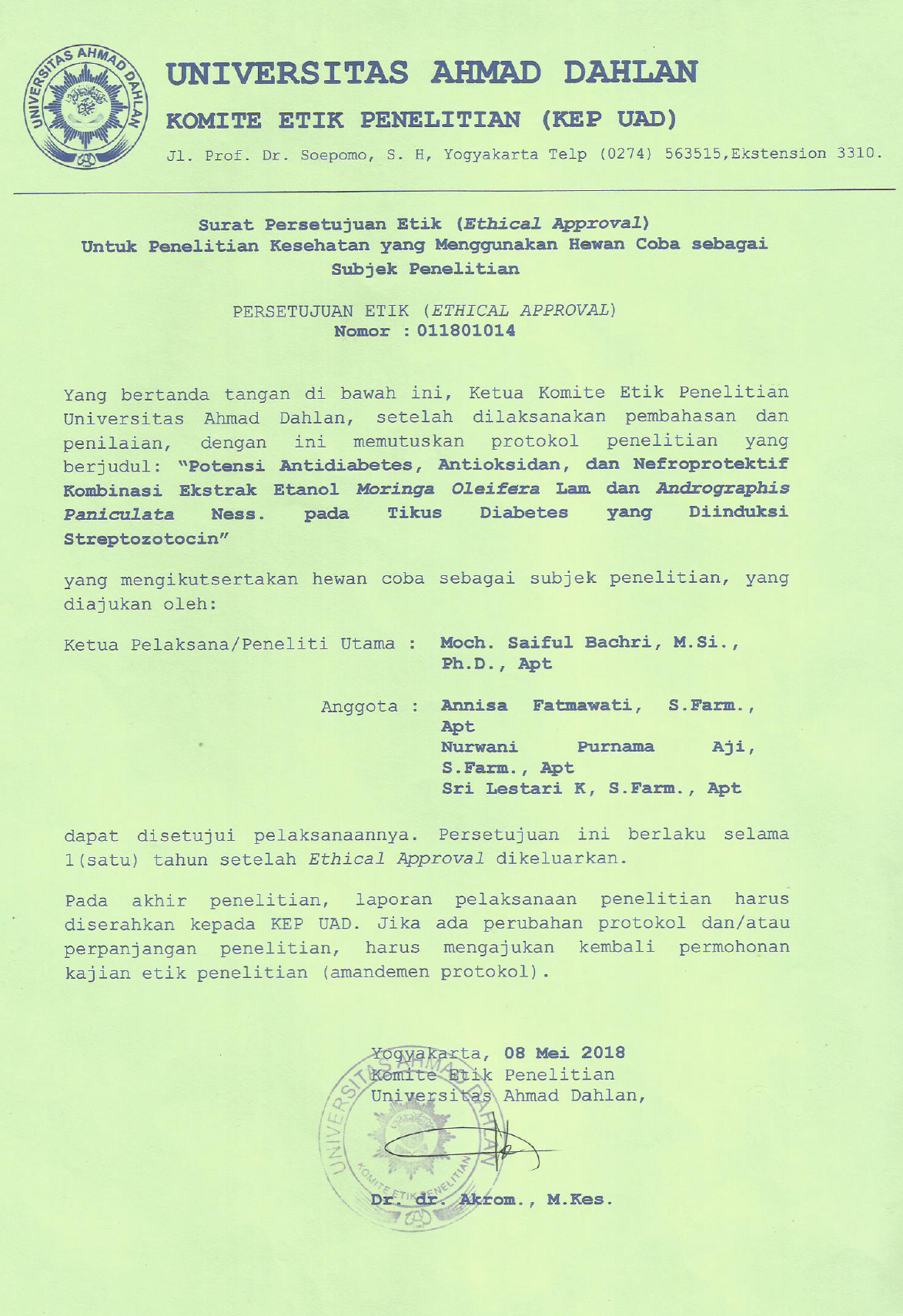
**Lampiran 32****.** Hasil Analisis GC-MS Ekstrak Etanol Herba Sambiloto











Hasil Pengujian dan Penetapan Kadar Quercetin EEDK Metode KLT-Densitometri

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Kurva Baku Standar Quercetin | | | | | | | | |
| Seri Kadar ( ppm ) | | AUC | Yi | ( Y- Yi ) | ( Y – Yi ) 2 |  | | |
| 50 | | 4253,6 | 3908,35 | 345,25 | 119197,5625 |  | | |
| 100 | | 5905,3 | 6143,4 | -238,1 | 56691,61 |  | | |
| 150 | | 8177,8 | 8378,45 | -200,65 | 40260,4225 |  | | |
| 200 | | 10348,1 | 10613,5 | -265,40 | 70437,16 |  | | |
| 250 | | 13207,5 | 12848,55 | 358,95 | 128845,1025 |  | | |
| Sampel 1 | | 6771,0 |  | Ʃ = | 415431,8575 |  | | |
| Sampel 2 | | 6882,6 |  |  |  |  | | |
| Sampel 3 | | 6487,8 |  |  |  |  | | |
| Persamaan: | | Y=44.7x + 1673.3 | | | |  | | |
| Rumus : | | y=bx+a |  | a = | 1673.3 |  | | |
|  | | x=(y-a)/b |  | b = | 44.7 |  | | |
| Penimbangan Sampel : | | | 250 | mg |  |  | | |
| Volume Pelarutan : |  | | 10 | ml | Konsentrasi Sampel= 25 mg/ml | | | |
|  |  | |  |  |  | |  | |
| Kadar (ppm) | Luas Area | | Xi ( ppm ) | (X rata-rata - Xi) | (X rata-rata - Xi)2 | |  | |
| Sampel 1 | 6771,0 | | 114,04 | -1,280 | 1,64 | |  | |
| Sampel 2 | 6882,6 | | 116,54 | -3,776 | 14,26 | |  | |
| Sampel 3 | 6487,8 | | 107,70 | 5,056 | 25,56 | |  | |
|  | X rata-rata | | 112,76 | Ʃ = | 954,74 | |  | |
|  | |  |  |  | | |  |  |
| Perhitungan Kadar Quercetin menjadi mg/ gram sampel | | | | | | | | |
| Persamaan: | | 100 ppm = 0,1 mg/ml | | | | | | |
| Kadar Xi rata-rata: | | 112,76 | ppm |  | | |  |  |
|  | | 0,11276 | mg/ml |  | | |  |  |
| Kadar Quercetin = | | Kadar Xi rata-rata | | | | | | |
| Konsentrasi sampel | | | | | | |
| = | | 0,11276 mg/ml | | | | | | |
| 25 mg/ml | | | | | | |
| = | | 0,0045 mg/1 mg sampel | | | | | | |
| = | | 4,5 mg/ gram sampel | | | | | | |
|  | |  | | | | | | |

* Foto hasil Elusi KLT Quercetin pada Sinar UV254

|  |  |  |  |
| --- | --- | --- | --- |
| IMG_20180217_095629 | |  | | --- | |  | | a b c d e f g h i | |
| Hasil elusi KLT | Gambaran spot pada KLT |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Seri Kadar ( ppm ) | Spot | Seri Kadar ( ppm ) | Spot | Seri Kadar ( ppm ) | Spot |
| 50 | a | 200 | d | Sampel 1 | g |
| 100 | b | 250 | e | Sampel 2 | h |
| 150 | c | 1000 | f | Sampel 3 | i |

Hasil Pengujian dan Penetapan Kadar Andrografolid EEHS Metode KLT-Densitometri

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Kurva Baku Standar Quercetin | | | | | | | | | | |
| Seri Kadar ( ppm ) | | AUC | | Yi | ( Y- Yi ) | | ( Y – Yi ) 2 |  | | |
| 100 | | 2084,6 | | 2074,5 | 10,1 | | 102,01 |  | | |
| 200 | | 2918,8 | | 3005,5 | -86,7 | | 7516,89 |  | | |
| 300 | | 3925,1 | | 3936,5 | -11,4 | | 129,96 |  | | |
| 400 | | 5113,2 | | 4867,5 | 245,7 | | 60368,49 |  | | |
| 500 | | 5643,1 | | 5798,5 | -155,4 | | 24149,16 |  | | |
| Sampel 1 | | 2428,9 | |  | Ʃ = | | 92266,51 |  | | |
| Sampel 2 | | 2291,6 | |  |  | |  |  | | |
| Sampel 3 | | 2691,9 | |  |  | |  |  | | |
| Persamaan: | | Y= 9,3x + 1143,5 | | | | | |  | | |
| Rumus : | | y=bx+a | |  | | a = | 1143,5 |  | | |
|  | | x=(y-a)/b | |  | | b = | 9,3 |  | | |
| Penimbangan Sampel : | | | | 100 mg | |  |  |  | | |
| Volume Pelarutan : | | | | 10 ml | |  | Konsentrasi Sampel= 10 mg/ml | | | |
|  |  | | |  | |  |  | |  | |
| Kadar (ppm) | Luas Area | | | Xi ( ppm ) | | (X rata-rata - Xi) | (X rata-rata - Xi)2 | |  | |
| Sampel 1 | 2428,9 | | | 138,07 | | 4,501 | 20,25 | |  | |
| Sampel 2 | 2291,6 | | | 123,32 | | 19,248 | 370,49 | |  | |
| Sampel 3 | 2691,9 | | | 166,32 | | -23,749 | 564,00 | |  | |
|  | X rata-rata | | | 142,57 | | Ʃ = | 954,74 | |  | |
|  |  | | |  | |  | | |  |  |
| Perhitungan Kadar Andrografolid menjadi mg/ gram sampel | | | | | | | | | | |
| Persamaan: | | | 100 ppm = 0,1 mg/ml | | | | | | | |
| Kadar Xi rata-rata: | | | 142,57ppm | | | | | | | |
|  | | | 0,14257 mg/ml | | | | | | | |
| Kadar Andrografolid = | | | Kadar Xi rata-rata | | | | | | | |
| Konsentrasi sampel | | | | | | | |
| = | | | 0,14257 mg/ml | | | | | | | |
| 10 mg/ml | | | | | | | |
| = | | | 0,014257 mg/1 mg sampel | | | | | | | |
| = | | | 14,257 mg/ gram sampel | | | | | | | |
| = | | | 1,425 gram/ 100 gram sampel | | | | | | | |

* Foto hasil Elusi KLT Andrografolid pada Sinar UV254

|  |  |  |  |
| --- | --- | --- | --- |
| IMG_20180418_120643 | |  | | --- | |  | | a b c d e f g h i | |
| Hasil elusi KLT | Gambaran spot pada KLT |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Seri Kadar ( ppm ) | Spot | Seri Kadar ( ppm ) | Spot | Seri Kadar ( ppm ) | Spot |
| 100 | a | 400 | d | Sampel 1 | g |
| 200 | b | 500 | e | Sampel 2 | h |
| 300 | c | 1000 | f | Sampel 3 | i |