LOGBOOK PENGUJIAN AKTIVITAS ANTIOKSIDAN

18 JULI – 6 AGUSTUS 2022

Perhitungan dalam Orientasi Konsentrasi DPPH dan Perhitungan Sampel dan Kontrol Positif dalam Uji Antioksidan

1. Pembuatan larutan induk DPPH (1000 μg/mL)
2. g serbuk mg dilarutkan dalam methanol *pro analysis* sebanyak 25 mL
3. Pembuatan larutan induk sampel

Pembuatan konsentrasi 500 μg/mL dimulai dengan menimbang 25 mg ekstrak dalam 25 mL methanol p.a.

1. Pembuatan larutan induk pembanding (asam askorbat\_

Pembuatan konsentrasi 500 μg/mL dimulai dengan menimbang 25 mg asam askorbat dan ditambah dengan methanol p.a sampai 25 mL.

1. Perhitungan larutan uji
2. Ekstrak herba pegagan dari Lembang, Bogor, Pangandaran, Sumedang, dan Sukabumi (40, 60, 80, 100, 120 μg/mL)

Larutan induk ekstrak herba pegagan 500 μg/mL, kemudian di pipet dan masukan dalam labu ukur 10 ml

* Konsentrasi 40 μg/mL

N1 x V1 = N2 x V2

500 x V1 = 20 x 10

V1 = 0,8 ml atau 800 μL

* Konsentrasi 60 μg/mL

N1 x V1 = N2 x V2

500 x V1 = 60 x 10

V1 = 1,2 ml atau 1200 μL

* Konsentrasi 80 μg/mL

N1 x V1 = N2 x V2

500 x V1 = 80 x 10

V1 = 1,6 ml atau 1600 μL

* Konsentrasi 100 μg/mL

N1 x V1 = N2 x V2

500 x V1 = 100 x 10

V1 = 2 ml atau 2000 μL

* Konsentrasi 120 μg/mL

N1 x V1 = N2 x V2

500 x V1 = 120 x 10

V1 = 2,4 ml atau 2400 μL

1. Perhitungan larutan control positif Vit-C (1,2,3,4,5,6 μg/mL)

Larutan induk pembanding (Vit-C) adalah 500 μg/mL, kemudian di pipet dan masukkan kedalam labu ukur 10 ml

* Konsentrasi 1 μg/mL.

N1 x V1 = N2 x V2

500 x V1 = 1 x 10

V1 = 0,02ml atau 20 μL

* Konsentrasi 2 μg/mL

N1 x V1 = N2 x V2

500 x V1 = 2 x 10

V1 = 0,04 ml atau 40 μL

* Konsentrasi 3

N1 x V1 = N2 x V2

500 x V1 = 3 x 10

V1 = 0,06 ml atau 60 μL

* Konsentrasi 4

N1 x V1 = N2 x V2

500 x V1 = 4 x 10

V1 = 0,08 ml atau 80 μL

* Konsentrasi 5

N1 x V1 = N2 x V2

500 x V1 = 5 x 10

V1 = 0,1ml atau 100 μL

* Konsentrasi 6

N1 x V1 = N2 x V2

500 x V1 = 6 x 10

V1 = 0,12 ml atau 120 μL

Lampiran 8. Data Absorbansi Uji Aktivitas Antioksidan Herba Pegagan

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HASIL AKTIVITAS HERBA PEGAGAN DAERAH PANGANDARAN | | | | | | | | | | | |
| Konsentrasi  μg/mL | Pengujian | | | %Inhibisi | | | IC50 | | | rata-rata IC50 | SD |
| 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| 40 | 0,525 | 0,528 | 0,519 | 38,811 | 38,462 | 39,510 |  |  |  |  |  |
| 60 | 0,475 | 0,48 | 0,472 | 44,639 | 44,056 | 44,988 |  |  |  |  |  |
| 80 | 0,366 | 0,367 | 0,363 | 57,343 | 57,226 | 57,692 | 67,759 | 68,394 | 66,680 | 67,611 | 0,867 |
| 100 | 0,304 | 0,3 | 0,305 | 64,569 | 65,035 | 64,452 |  |  |  |  |  |
| 120 | 0,257 | 0,259 | 0,254 | 70,047 | 69,814 | 70,396 |  |  |  |  |  |
| 140 | 0,219 | 0,217 | 0,22 | 74,476 | 74,709 | 74,359 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HASIL AKTIVITAS HERBA PEGAGAN DAERAH LEMBANG | | | | | | | | | | | |
| Konsentrasi μg/mL | Pengujian | | | %Inhibisi | | | IC50 | | | rata-rata IC50 | SD |
| 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| 40 | 0,512 | 0,517 | 0,519 | 40,326 | 39,744 | 39,510 |  |  |  |  |  |
| 60 | 0,489 | 0,488 | 0,48 | 43,007 | 43,124 | 44,056 |  |  |  |  |  |
| 80 | 0,376 | 0,379 | 0,382 | 56,177 | 55,828 | 55,478 | 69,189 | 70,030 | 69,984 | 69,734 | 0,473 |
| 100 | 0,313 | 0,319 | 0,328 | 63,520 | 62,821 | 61,772 |  |  |  |  |  |
| 120 | 0,279 | 0,28 | 0,275 | 67,483 | 67,366 | 67,949 |  |  |  |  |  |
| 140 | 0,227 | 0,218 | 0,211 | 73,543 | 74,592 | 75,408 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HASIL AKTIVITAS HERBA PEGAGAN DAERAH SUMEDANG | | | | | | | | | | | |
| Konsentrasi μg/mL | Pengujian | | | %Inhibisi | | | IC50 | | | rata-rata IC50 | SD |
| 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| 40 | 0,561 | 0,558 | 0,556 | 34,615 | 34,965 | 35,198 |  |  |  |  |  |
| 60 | 0,472 | 0,477 | 0,48 | 44,988 | 44,406 | 44,056 |  |  |  |  |  |
| 80 | 0,372 | 0,373 | 0,374 | 56,643 | 56,527 | 56,410 | 71,262 | 71,534 | 71,682 | 71,493 | 0,213 |
| 100 | 0,296 | 0,291 | 0,294 | 65,501 | 66,084 | 65,734 |  |  |  |  |  |
| 120 | 0,271 | 0,285 | 0,281 | 68,415 | 66,783 | 67,249 |  |  |  |  |  |
| 140 | 0,216 | 0,212 | 0,215 | 74,825 | 75,291 | 74,942 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HASIL AKTIVITAS HERBA PEGAGAN DAERAH BOGOR | | | | | | | | | | | |
| Konsentrasi μg/mL | Pengujian | | | %Inhibisi | | | IC50 | | | rata-rata IC50 | SD |
| 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| 40 | 0,512 | 0,513 | 0,517 | 40,326 | 40,210 | 39,744 |  |  |  |  |  |
| 60 | 0,482 | 0,488 | 0,482 | 43,823 | 43,124 | 43,823 |  |  |  |  |  |
| 80 | 0,446 | 0,449 | 0,443 | 48,019 | 47,669 | 48,368 | 77,920 | 78,702 | 77,801 | 78,141 | 0,489 |
| 100 | 0,378 | 0,376 | 0,37 | 55,944 | 56,177 | 56,876 |  |  |  |  |  |
| 120 | 0,308 | 0,312 | 0,312 | 64,103 | 63,636 | 63,636 |  |  |  |  |  |
| 140 | 0,253 | 0,251 | 0,249 | 70,513 | 70,746 | 70,979 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HASIL AKTIVITAS HERBA PEGAGAN DAERAH SUKABUMI | | | | | | | | | | | |
| Konsentrasi μg/mL | Pengujian | | | %Inhibisi | | | IC50 | | | rata-rata IC50 | SD |
| 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| 40 | 0,674 | 0,663 | 0,667 | 21,445 | 22,727 | 22,261 |  |  |  |  |  |
| 60 | 0,566 | 0,568 | 0,563 | 34,033 | 33,800 | 34,382 |  |  |  |  |  |
| 80 | 0,467 | 0,472 | 0,471 | 45,571 | 44,988 | 45,105 | 89,336 | 89,489 | 89,145 | 89,324 | 0,172 |
| 100 | 0,372 | 0,368 | 0,364 | 56,643 | 57,110 | 57,576 |  |  |  |  |  |
| 120 | 0,274 | 0,281 | 0,278 | 68,065 | 67,249 | 67,599 |  |  |  |  |  |
| 140 | 0,202 | 0,208 | 0,207 | 76,457 | 75,758 | 75,874 |  |  |  |  |  |

Lampiran 9. Kurva Hubungan Konsentrasi dengan % Inhibisi Ekstrak herba pegagan Pangandaran

1. Pengulangan 1

1. Pengulangan 2

1. Pengulangan 3
2. Pengulangan 1
3. Pengulangan 2

2

1. Pengulangan 3
2. Pengulangan 1
3. Pengulangan 2
4. Pengulangan 3

1. Pengulangan 1
2. Pengulangan 2
3. Pengulangan 3
4. Pengulangan 1
5. Pengulangan 2
6. Pengulangan 3