



LAMPIRAN

Lampiran 1. Perhitungan Pembuatan Larutan Glukosa Standar

- Larutan glukosa standar 20 ppm

$$V1 \cdot M1 = V2 \cdot M2$$

$$V1 \cdot 500 \text{ ppm} = 25 \text{ mL} \cdot 20 \text{ ppm}$$

$$V1 = 1 \text{ mL}$$

Diambil 1 mL dimasukkan dalam labu 25 mL kemudian ditambahkan akuades sampai tanda batas.

- Larutan glukosa standar 40 ppm

$$V1 \cdot M1 = V2 \cdot M2$$

$$V1 \cdot 500 \text{ ppm} = 25 \text{ mL} \cdot 40 \text{ ppm}$$

$$V1 = 2 \text{ mL}$$

Diambil 2 mL dimasukkan dalam labu 25 mL kemudian ditambahkan akuades sampai tanda batas.

- Larutan glukosa standar 60 ppm

$$V1 \cdot M1 = V2 \cdot M2$$

$$V1 \cdot 500 \text{ ppm} = 25 \text{ mL} \cdot 60 \text{ ppm}$$

$$V1 = 3 \text{ mL}$$

Diambil 3 mL dimasukkan dalam labu 25 mL kemudian ditambahkan akuades sampai tanda batas.

- Larutan glukosa standar 80 ppm

$$V1 \cdot M1 = V2 \cdot M2$$

$$V1 \cdot 500 \text{ ppm} = 25 \text{ mL} \cdot 80 \text{ ppm}$$

$$V1 = 4 \text{ mL}$$

Diambil 4 mL dimasukkan dalam labu 25 mL kemudian ditambahkan akuades sampai tanda batas.

Lampiran 2. Perhitungan Pembuatan Larutan Pereaksi

- Pembuatan larutan fenol 5%

$$1\% = \frac{1 \text{ gram}}{100 \text{ mL}}$$

$$5\% = \frac{5 \text{ gram}}{100 \text{ mL}}$$

Diambil 5 gram fenol dan dimasukkan dalam labu takar 100 mL kemudian ditambahkan akuades sampai tanda batas.

- Pembuatan larutan asam sulfat 1,25%

$$\begin{aligned} N &= \frac{\% \times 10 \times \rho}{Mr} \times \text{valensi} \\ &= \frac{98 \times 10 \times 1,84}{98} \times 2 \\ &= 36,8 \text{ N} \end{aligned}$$

$$V_1 \cdot N_1 = V_2 \cdot N_2$$

$$200 \times 0,255 = V_2 \times 36,8$$

$$V_2 = 1,38 \text{ mL}$$

Diambil 1,38 mL asam sulfat pekat dan dimasukkan dalam gelas beker kemudian ditambahkan akuades sampai tanda batas

- Pembuatan larutan Natrium hidroksida

$$\begin{aligned} 1,25\% &= \frac{1,25 \text{ gram}}{100 \text{ mL}} \\ &= \frac{2,5 \text{ gram}}{200 \text{ mL}} \end{aligned}$$

Diambil 2,5 gram Natrium hidroksida dan dimasukkan dalam gelas beker 200 mL kemudian ditambahkan akuades sampai tanda batas

Lampiran 3. Perhitungan Kadar Lemak

Berat lemak = (berat labu buci + berat lemak) – berat labu buci

$$\text{Kadar lemak} = \frac{\text{berat lemak}}{\text{berat sampel}} \times 100\%$$

- Kadar lemak 0 jam

$$\text{Berat lemak} = 8,1990 \text{ gram} - 8,1668 \text{ gram}$$

$$= 0,0322 \text{ gram}$$

$$\text{Kadar Lemak} = \frac{0,0322 \text{ gram}}{25,0123 \text{ gram}} \times 100\%$$

$$= 0,1287\%$$

- Kadar lemak 6 jam

$$\text{Berat lemak} = 17,3708 \text{ gram} - 17,3022 \text{ gram}$$

$$= 0,0686 \text{ gram}$$

$$\text{Kadar Lemak} = \frac{0,0686 \text{ gram}}{25,0065 \text{ gram}} \times 100\%$$

$$= 0,2743\%$$

- Kadar lemak 12 jam

$$\text{Berat lemak} = 17,3133 \text{ gram} - 17,2433 \text{ gram}$$

$$= 0,07 \text{ gram}$$

$$\text{Kadar Lemak} = \frac{0,07 \text{ gram}}{25,0019 \text{ gram}} \times 100\%$$

$$= 0,2799\%$$

- Kadar lemak 24 jam

$$\text{Berat lemak} = 8,0154 \text{ gram} - 7,9375 \text{ gram}$$

$$= 0,0779 \text{ gram}$$

$$\text{Kadar Lemak} = \frac{0,0779 \text{ gram}}{25,0013 \text{ gram}} \times 100\%$$

$$= 0,3115\%$$

Lampiran 4. Perhitungan Kadar Serat Kasar

Berat Serat = (berat kertas saring + serat) – berat kertas saring

$$\text{Kadar Serat} = \frac{\text{berat serat}}{\text{berat sampel}} \times 100\%$$

Sehingga diperoleh kadar serat sebagai berikut:

- Kadar Serat 0 jam

$$\begin{aligned} \text{Berat Serat} &= 0,8347 \text{ gram} - 0,8347 \text{ gram} \\ &= 0,0416 \text{ gram} \end{aligned}$$

$$\begin{aligned} \text{Kadar Serat} &= \frac{0,0416 \text{ gram}}{2,0016 \text{ gram}} \times 100\% \\ &= 2,078337\% \end{aligned}$$

- Kadar Serat 6 jam

$$\begin{aligned} \text{Berat Serat} &= 1,0545 \text{ gram} - 0,9877 \text{ gram} \\ &= 0,0668 \text{ gram} \end{aligned}$$

$$\begin{aligned} \text{Kadar Serat} &= \frac{0,0668 \text{ gram}}{2,0016 \text{ gram}} \times 100\% \\ &= 3,3373\% \end{aligned}$$

- Kadar Serat 12 jam

$$\begin{aligned} \text{Berat Serat} &= 0,8566 \text{ gram} - 0,7902 \text{ gram} \\ &= 0,0664 \text{ gram} \end{aligned}$$

$$\begin{aligned} \text{Kadar Serat} &= \frac{0,0664 \text{ gram}}{2,0016 \text{ gram}} \times 100\% \\ &= 3,317346\% \end{aligned}$$

- Kadar Serat 24 jam

$$\begin{aligned} \text{Berat Serat} &= 0,9020 \text{ gram} - 1,3021 \text{ gram} \\ &= 0,4001 \text{ gram} \end{aligned}$$

$$\text{Kadar Serat} = \frac{0,4001 \text{ gram}}{2,0011 \text{ gram}} \times 100\%$$

= 19,994003%



Lampiran 5. Perhitungan Kadar Karbohidrat

Dengan menggunakan persamaan regresi linear $y = bx + a$ didapat

Intersep: -0,0126

Slope: 0,0119

R^2 : 0,9554

Sehingga diperoleh persamaan kurva baku:

$$y = 0,0119x - 0,0126$$

- Sampel 0 jam

$$y = bx + a$$

$$y = 0,0119x - 0,0126$$

$$y = 0,165$$

$$0,165 = 0,0119x - 0,0126$$

$$0,1776 = 0,0119x$$

$$x = 14,92 \text{ mg/L}$$

$$\text{konsentrasi} = x \cdot fp$$

$$= 14,92 \times \frac{250}{0,5}$$

$$= 7460 \text{ mg/L}$$

$$7460 \text{ ppm} = 74600 \frac{\text{mg}}{\text{L}} = \frac{7460 \text{ mg}}{1000 \text{ mL}}$$

$$\text{konsentrasi} = \frac{\text{mg}}{1000 \text{ mL}}$$

$$7460 \frac{\text{mg}}{1000 \text{ mL}} = \frac{\text{mg}}{0,5 \text{ mL}}$$

$$\text{mg} = 3,73 \text{ mg} \times 400$$

$$\text{mg} = 1492$$

$$\begin{aligned} \% &= \frac{mg}{\text{berat awal sampel}} \times 100\% \\ &= \frac{1492 \text{ mg}}{320000 \text{ mg}} \times 100\% \\ &= 0,466\% \end{aligned}$$

- Sampel 6 jam

$$y = bx + a$$

$$y = 0,0119x - 0,0126$$

$$y = 0,016$$

$$0,016 = 0,0119x - 0,0126$$

$$0,0286 = 0,0119x$$

$$x = 2,40 \text{ mg/L}$$

$$\text{konsentrasi} = x \cdot fp$$

$$= 2,40 \times \frac{250}{0,5}$$

$$= 1200 \text{ mg/L}$$

$$1200 \text{ ppm} = 1200 \frac{\text{mg}}{\text{L}} = \frac{1200 \text{ mg}}{1000 \text{ mL}}$$

$$\text{konsentrasi} = \frac{\text{mg}}{1000 \text{ mL}}$$

$$1200 \frac{\text{mg}}{1000 \text{ mL}} = \frac{\text{mg}}{0,5 \text{ mL}}$$

$$\text{mg} = 0,6 \text{ mg} \times 400$$

$$\text{mg} = 240$$

$$\% = \frac{\text{mg}}{\text{berat awal sampel}} \times 100\%$$

$$= \frac{240 \text{ mg}}{240000 \text{ mg}} \times 100\%$$

$$= 0,1\%$$

- Sampel 12 jam

$$y = bx + a$$

$$y = 0,0119x - 0,0126$$

$$y = 0,034$$

$$0,034 = 0,0119x - 0,0126$$

$$0,0466 = 0,0119x$$

$$x = 3,91 \text{ mg/L}$$

$$\text{konsentrasi} = x \cdot fp$$

$$= 3,91 \times \frac{250}{0,5}$$

$$= 1955 \text{ mg/L}$$

$$1955 \text{ ppm} = 1955 \frac{\text{mg}}{\text{L}} = \frac{1955 \text{ mg}}{1000 \text{ mL}}$$

$$\text{konsentrasi} = \frac{\text{mg}}{1000 \text{ mL}}$$

$$1955 \frac{\text{mg}}{1000 \text{ mL}} = \frac{\text{mg}}{0,5 \text{ mL}}$$

$$\text{mg} = 0,9775 \text{ mg} \times 400$$

$$\text{mg} = 391$$

$$\% = \frac{\text{mg}}{\text{berat awal sampel}} \times 100\%$$

$$= \frac{391 \text{ mg}}{202245,4 \text{ mg}} \times 100\%$$

$$= 0,193\%$$

- Sampel 24 jam

$$y = bx + a$$

$$y = 0,0119x - 0,0126$$

$$y = 0,011$$

$$0,011 = 0,0119x - 0,0126$$

$$0,0236 = 0,0119x$$

$$x = 1,98 \text{ mg/L}$$

$$\text{konsentrasi} = x \cdot fp$$

$$= 1,98 \times \frac{250}{0,5}$$

$$= 990 \text{ mg/L}$$

$$990 \text{ ppm} = 990 \frac{\text{mg}}{\text{L}} = \frac{990 \text{ mg}}{1000 \text{ mL}}$$

$$\text{konsentrasi} = \frac{\text{mg}}{1000 \text{ mL}}$$

$$990 \frac{\text{mg}}{1000 \text{ mL}} = \frac{\text{mg}}{0,5 \text{ mL}}$$

$$\text{mg} = 0,495 \text{ mg} \times 400$$

$$\text{mg} = 198$$

$$\% = \frac{\text{mg}}{\text{berat awal sampel}} \times 100\%$$

$$= \frac{198 \text{ mg}}{213284,1 \text{ mg}} \times 100\%$$

$$= 0,092\%$$

Lampiran 6. Perendaman Ubi Jalar Ungu Dengan Menggunakan *Lactobacillus plantarum*



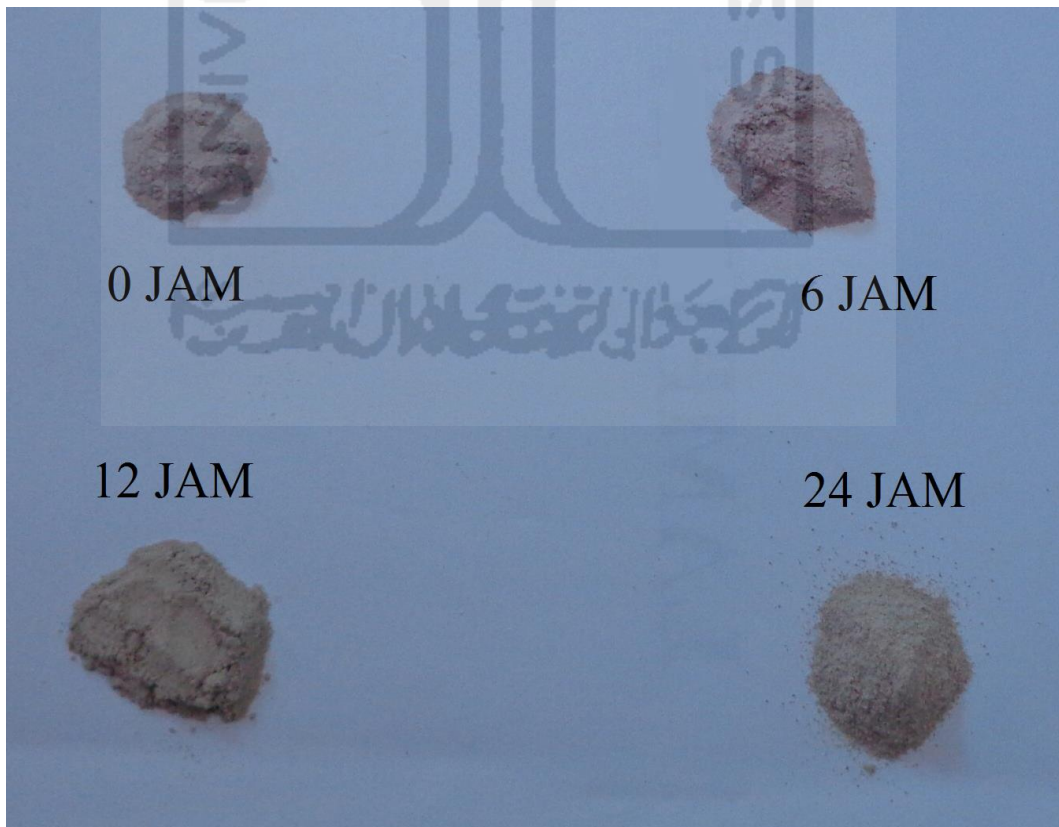
Lampiran 7. Setelah Perendaman Ubi Jalar Ungu Dengan Menggunakan *Lactobacillus plantarum*



Lampiran 8. Pengeringan Dengan Menggunakan Oven



Lampiran 9. Variasi Tepung Ubi Jalar Ungu Termodifikasi

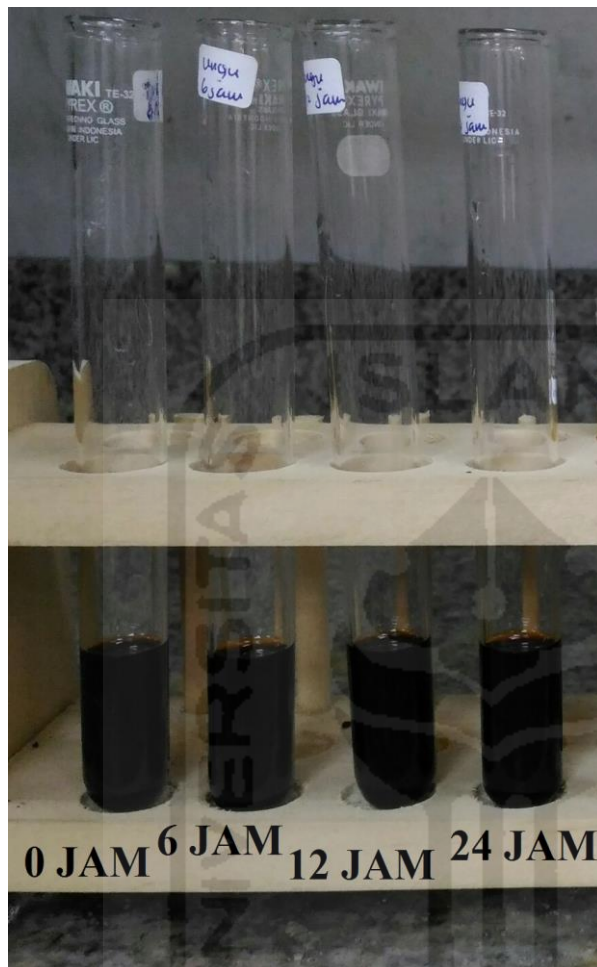


Lampiran 10. Larutan Glukosa Standar (20, 40, 60, dan 80 ppm)



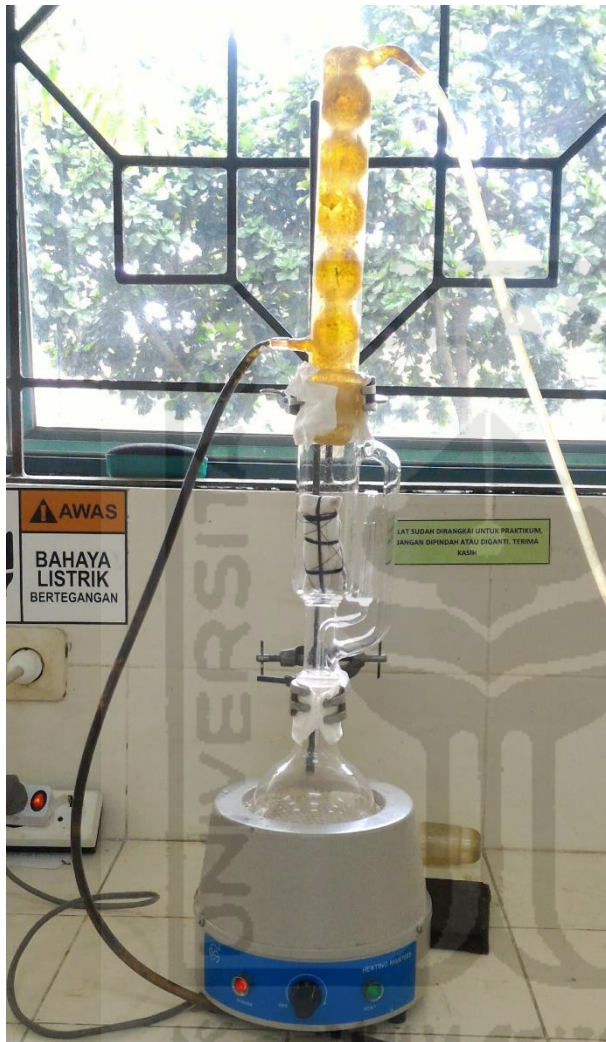
Lampiran 11. Larutan Glukosa Standar Dengan Penambahan Fenol dan Asam Sulfat



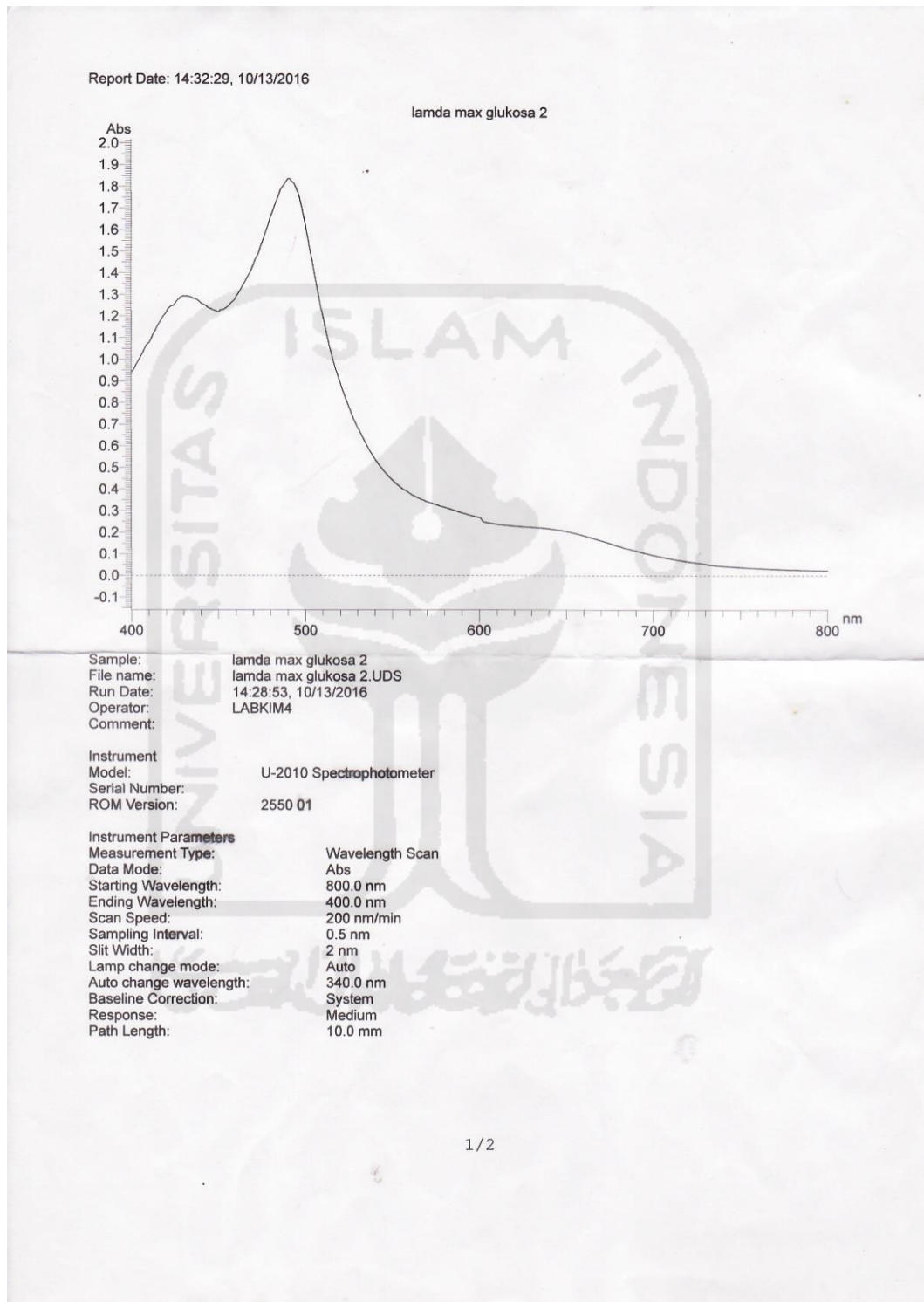
Lampiran 12. Larutan Sampel Dengan Penambahan Fenol dan Asam Sulfat

Lampiran 13. Alat Refluk



Lampiran 14. Alat Soklet

Lampiran 15. Alat Evaporator

Lampiran 16. Data Spektrofotometri Uv-Vis Panjang Gelombang Maksimum

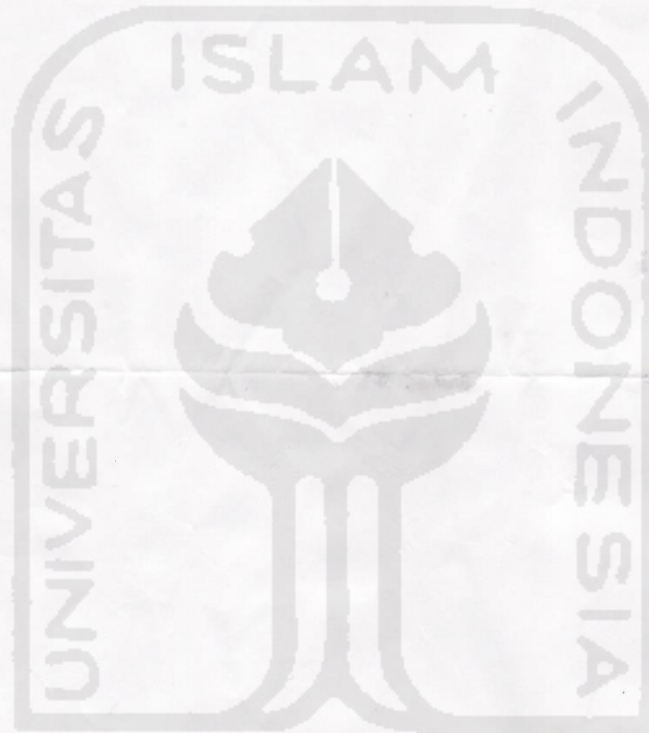
Processing Performed
Savitsky-Golay Smoothed

Smoothing Order: 3
Number of Points: 7
Number of Times: 1

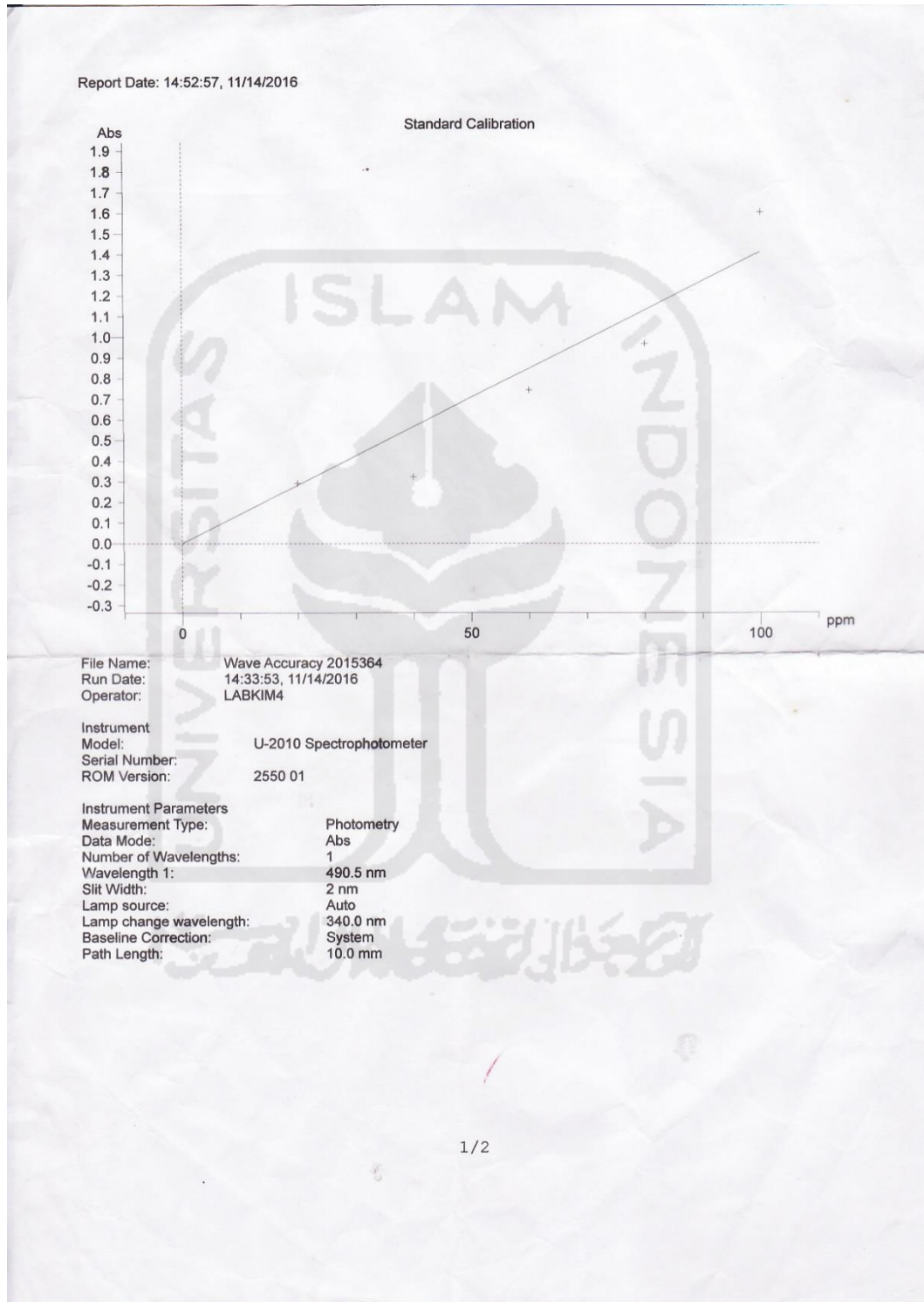
Peak Integration

Method: Rectangular
Sensitivity: 1
Threshold: 0.0100

Peaks	Start (nm)	Apex (nm)	End (nm)	Height (Abs)	Area (Abs*nm)	Valley (nm)	Valley
1	800.0	490.5	449.5	1.837	160.925	449.5	1.219
2	449.5	431.5	400.0	1.294	58.947	400.0	0.944



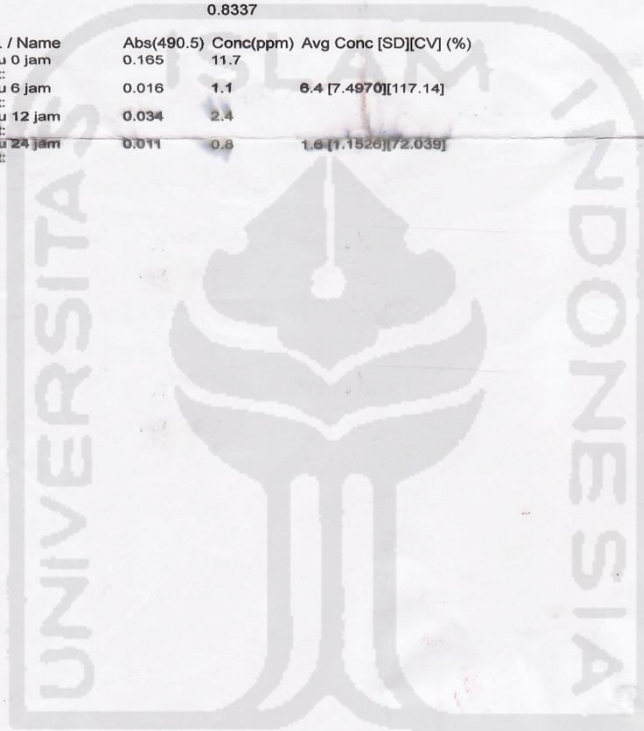
Lampiran 17. Data Spektrofotometri Uv-Vis Larutan Standar dan Larutan Sampel



Std No. / Name	Abs(490.5)	Conc(ppm)	diff	RD	t
1 std 1	0.291	20.0	0.6	79.400	0.0484
Comment:					
2 std 2	0.323	40.0	-17.1	-2176.4	-1.3257
Comment:					
3 std 3	0.741	60.0	-7.5	-949.25	-0.5782
Comment:					
4 std 4	0.968	80.0	-11.4	-1452.7	-0.8849
Comment:					
5 std 5	1.604	100.0	13.7	1739.6	1.0597
Comment:					

Calibration type: 1st order
 Force curve through zero: Yes
 Start (ppm): 0.0
 End (ppm): 100.0
 A0: 0.0000
 A1: 70.872
 R: 0.9131
 R2: 0.8337

Samp No. / Name	Abs(490.5)	Conc(ppm)	Avg Conc [SD][CV] (%)
5 ubi ungu 0 jam	0.165	11.7	
Comment:			
6 ubi ungu 6 jam	0.016	1.1	6.4 [7.4970][117.14]
Comment:			
7 ubi ungu 12 jam	0.034	2.4	
Comment:			
8 ubi ungu 24 jam	0.011	0.8	1.6 [1.1526][72.039]
Comment:			



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