

LAMPIRAN

Lampiran 1. Perhitungan masing – masing kosentrasi jamu yang di *spike*.

Perhitungan Konversi % B/B

$$\frac{\text{konsentrasi std}}{\text{jumlah std fenilbutason}} \times \text{std fenilbutason} + \text{KBr}$$

$$1\% = \frac{1 \text{ g}}{100 \text{ g}}$$

$$= \frac{1000 \text{ mg}}{100 \text{ g}}$$

$$= \frac{1 \text{ mg}}{0,1 \text{ g}}$$

$$1\% = \frac{1 \text{ mg}}{100 \text{ mg}}$$

Pada penimbangan konsentrasi 1% dan 5% diperlukan campuran fenilbutason dengan KBr, hal ini disebabkan karena bobot terkecil yang masih dapat ditimbang secara seksama (BMTS) terendahnya adalah 10mg. Campuran fenilbutason dengan KBr dibuat dengan berat total 1000mg. Komposisi yang digunakan yaitu 950mg KBr dan 50mg fenilbutason.

Rumus jamu yang ditimbang :

(Jumlah sampel yang diinginkan) – (Konsentrasi std fenilbutason)

Kosentrasi 1%

Standar Fenilbutason yang ditimbang

$$\begin{aligned} &= \frac{1}{50} \times 1000 \text{ mg (950 KBr : 50 Fenilbutason)} \\ &= 20 \text{ mg} \end{aligned}$$

Jamu yang ditimbang

$$\begin{aligned} &= 100 \text{ mg} - 1 \text{ mg} \\ &= 99 \text{ mg} \end{aligned}$$

Kosentrasi 5%

Standar Fenilbutason yang ditimbang

$$\begin{aligned} &= \frac{5}{50} \times 1000 \text{ mg (950 KBr : 50 Fenilbutason)} \\ &= 100 \text{ mg} \end{aligned}$$

Jamu yang ditimbang

$$\begin{aligned} &= 100 \text{ mg} - 5 \text{ mg} \\ &= 95 \text{ mg} \end{aligned}$$

Kosentrasi 10%

Standar Fenilbutason yang ditimbang

$$\begin{aligned} &= \frac{10}{100} \times 100 \text{ mg} \\ &= 10 \text{ mg} \end{aligned}$$

Jamu yang ditimbang

$$\begin{aligned} &= 100 \text{ mg} - 10 \text{ mg} \\ &= 90 \text{ mg} \end{aligned}$$

Kosentrasi 15%

Sandar Fenilbutason yang ditimbang

$$\begin{aligned} &= \frac{15}{100} \times 100 \text{ mg} \\ &= 15 \text{ mg} \end{aligned}$$

Jamu yang ditimbang

$$\begin{aligned} &= 100 \text{ mg} - 15 \text{ mg} \\ &= 85 \text{ mg} \end{aligned}$$

Kosentrasi 20%

Standar Fenilbutason yang ditimbang

$$\begin{aligned} &= \frac{20}{100} \times 100 \text{ mg} \\ &= 20 \text{ mg} \end{aligned}$$

Jamu yang ditimbang

$$\begin{aligned} &= 100 \text{ mg} - 20 \text{ mg} \\ &= 80 \text{ mg} \end{aligned}$$

Kosentrasi 25%

Standar Fenilbutason yang ditimbang

$$= \frac{25}{100} \times 100 \text{ mg}$$
$$= 25 \text{ mg}$$

Jamu yang ditimbang

$$= 100 \text{ mg} - 25 \text{ mg}$$
$$= 75 \text{ mg}$$

Kosentrasi 40%

Sandar Fenilbutason yang ditimbang

$$= \frac{40}{100} \times 100 \text{ mg}$$
$$= 40 \text{ mg}$$

Jamu yang ditimbang

$$= 100 \text{ mg} - 40 \text{ mg}$$
$$= 60 \text{ mg}$$

Kosentrasi 45%

Sandar Fenilbutason yang ditimbang

$$= \frac{45}{100} \times 100 \text{ mg}$$
$$= 45 \text{ mg}$$

Jamu yang ditimbang

$$= 100 \text{ mg} - 45 \text{ mg}$$
$$= 55 \text{ mg}$$

Kosentrasi 80%

Standar Fenilbutason Yang ditimbang

$$= \frac{80}{100} \times 100 \text{ mg}$$
$$= 80 \text{ mg}$$

Jamu yang ditimbang

$$= 100 \text{ mg} - 80 \text{ mg}$$
$$= 20 \text{ mg}$$

Kosentasi 85%

Sandar Fenilbutason yang ditimbang

$$= \frac{85}{100} \times 100 \text{ mg}$$

$$= 85 \text{ mg}$$

Jamu yang ditimbang

$$= 100 \text{ mg} - 85 \text{ mg}$$

$$= 15 \text{ mg}$$



Lampiran 2. Sertifikat kemurnian standar Fenilbutazon

SIGMA-ALDRICH

sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103, USA

Website: www.sigmaaldrich.com

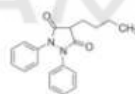
Email USA: techserv@sial.com

Outside USA: eurtechserv@sial.com

Product Name:
Phenylbutazone

Product Number: P8386
Batch Number: MKBW4801V
Brand: SIGMA
CAS Number: 50-33-9
MDL Number: MFCD00005500
Formula: C₁₉H₂₀N₂O₂
Formula Weight: 308.37 g/mol
Quality Release Date: 22 SEP 2015
Recommended Retest Date: AUG 2020

Certificate of Analysis



Test	Specification	Result
Appearance (Color)	White to Off-White	White
Appearance (Form)	Powder	Powder
Solubility (Color)	Colorless to Light Yellow	Colorless
Solubility (Turbidity)	Clear	Clear
50 mg/ml, EtOH		
Carbon	73.5 - 74.5 %	73.9 %
Nitrogen	8.8 - 9.3 %	9.2 %
Purity (HPLC)	> 98 %	100 %

Ali Ataei

Ali Ataei, Manager
Quality Control
Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Lampiran 3. Sertifikat kalibrasi timbangan analitik



UNIVERSITAS GADJAH MADA
LABORATORIUM PENELITIAN DAN PENGUJIAN TERPADU



RPP/IS.10.1/KLPPT
Rev 1
Halaman 1 dari 2

LAPORAN HASIL KALIBRASI
CALIBRATION REPORT

Nomor / Number : 314C/LPPT-UGM/K/I/2018

IDENTITAS ALAT
Instrument Identification

Nama / Name : Timbangan Elektronik
Merek / Pabrik / Manufacture : Mettler Toledo / -
Tipe/Nomor Seri / Type serial Number : XS - 205 DU / B022038779
Lain-lain / Others : Kapasitas alat 220 g, Resolusi : 0,0001 g

IDENTITAS PEMILIK
Owner Identification

Nama / Destination : Laboratorium Pengujian Obat, Makanan dan Kosmetik
Nomor / tanggal penerimaan / Order number/date of acceptance : 17110300314C / 22 - 11 - 2017
Alamat / Address : Program Studi Farmasi, FMIPA, Universitas Islam Indonesia

Laporan hasil kalibrasi ini hanya dapat diperbanyak/ditopi secara utuh



Nama Alat /Merk/Tipe/Serial : Timbangan Elektronik / Mettler Toledo / XS – 205 DU / B022038779
Nomor / Tanggal Penerimaan : 17110300314B / 22 – 11 - 2017
Tanggal Kalibrasi /Tempat : 14- 12 - 2017 / L POMK UII
Kondisi lingkungan : Suhu ruangan : (26,5 ± 0,1) °C dan Kelembaban: (69 ± 2)% RH

HASIL KALIBRASI

Result of Calibration
Nomor/Number : 314BLPPT-UGMK/2018

1. KEMAMPUAN BACA KEMBALI

Kapasitas (g)	Standar Deviasi Pembacaan (g)	Perbedaan maksimum antara pembacaan berikut (g)
Setengah = 20	0,00001	0,00001
Penuh = 50	0,00000	0,00002

2. PENYIMPANGAN DARI NILAI NOMINAL

Massa Nominal (g)	Pembacaan Nominal (g)	Koreksi (g)	Ketidakpastian (mg)
0,02	0,02000	0,00006	± 0,15
0,05	0,05000	0,00009	± 0,15
0,1	0,10001	-0,00001	± 0,15
0,5	0,49999	-0,00002	± 0,15
1	1,00000	0,00001	± 0,15
2	2,00002	-0,00002	± 0,61
5	5,00000	-0,00001	± 0,61
10	10,00001	-0,00003	± 0,61
20	19,99999	-0,00005	± 0,61
30	29,99993	-0,00001	± 0,61
50	49,99987	0,00000	± 0,61
70	69,99978	0,00003	± 0,61
80	79,99967	0,00012	± 0,61

3. EFEK EKSENTRISITAS

Sebuah beban bermassa 50 g ditimbang pada pusat pan dengan berbagai posisi seperti tertera di bawah ini sejauh kira-kira 1,5 cm dari pusat pan dan selisihnya terhadap posisi tengah adalah :

Posisi	Tengah	Depan	Belakang	Kiri	Kanan
Pembacaan (g)	0,00000	-0,00017	0,00006	-0,00029	0,00019

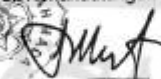
4. BATAS UNJUK KERJA TIMBANGAN = 0,00021 g

5. HISTERISIS = 0,00002 g

Ketidakpastian penimbangan tersebut diukur pada tingkat kepercayaan 95% dengan faktor cakupan (k) = 2

Catatan :
Standar Kalibrasi : Anak timbangan Denver Instrument, Kelas E2
Keterelusuran : Tertelusur ke satuan SI melalui laboratorium kalibrasi LK-045-0N
Prosedur Kalibrasi : IKKS, AITE-01 (Csro-16)

Yogyakarta, 17 Januari 2018
Pejabat, Penandatanganan Sertifikat,


Yusuf Umardani, S.T., M.Eng



LAPORAN HASIL KALIBRASI

CALIBRATION REPORT

Nomor / Number : 314B/LPPT- UGM/K/I/2018

IDENTITAS ALAT

Instrument Identification

Nama : Timbangan Elektronik
Name
Merek / Pabrik : Mettler Toledo / -
Manufacture
Tipe/Nomor Seri : XS - 205 DU / B022038779
Type serial Number
Lain-lain : Kapasitas alat 81 g, Resolusi : 0,00001 g
Others

IDENTITAS PEMILIK

Owner Identification

Nama : Laboratorium Pengujian Obat, Makanan dan Kosmetik
Destination
Nomor / tanggal penerimaan : 17110300314B / 22 - 11 - 2017
Order number/date of acceptance
Alamat : Program Studi Farmasi, FMIPA, Universitas Islam Indonesia
Address

الجامعة الإسلامية
الاستدراة الأندلسية



Nama Alat /Merk/Tipe/Serial : Timbangan Elektronik / Mettler Toledo / XS - 205 DU / B022038779
Nomor / Tanggal Penerimaan : 17110300314C / 22 - 11 - 2017
Tanggal Kalibrasi /Tempat : 14- 12 - 2017 / LPOMK UII
Kondisi lingkungan : Suhu ruangan : (26,5 ± 0,1) °C dan Kelembaban: (69 ± 2)% RH

HASIL KALIBRASI

Result of Calibration

Nomor/Number : 314C/LPPT-UGM/K/2018

1. KEMAMPUAN BACA KEMBALI

Kapasitas (g)	Standar Deviasi Pembacaan (g)	Perbedaan maksimum antara pembacaan berikut (g)
Setengah = 100	0,0000	0,0000
Penuh = 200	0,0000	0,0000

2. PENYIMPANGAN DARI NILAI NOMINAL

Massa Nominal (g)	Pembacaan Nominal (g)	Koreksi (g)	Ketidakpastian (mg)
1	1,0000	0,0000	± 0,15
2	2,0000	0,0000	± 0,61
5	5,0000	0,0000	± 0,61
10	10,0000	0,0000	± 0,61
20	20,0000	-0,0001	± 0,61
30	29,9999	0,0000	± 0,61
50	49,9999	0,0000	± 0,61
70	69,9998	0,0000	± 0,61
80	79,9997	0,0001	± 0,61
100	99,9998	0,0001	± 0,61
120	119,9997	0,0001	± 0,61
150	149,9996	0,0001	± 0,61
200	199,9999	-0,0003	± 0,61

3. EFEK EKSENTRISITAS

Sebuah beban bermassa 50 g ditimbang pada pusat pan dengan berbagai posisi seperti tertera di bawah ini sejauh kira-kira 1,5 cm dari pusat pan dan selisihnya terhadap posisi tengah adalah :

Posisi	Tengah	Depan	Belakang	Kiri	Kanan
Pembacaan (g)	0,0000	-0,0002	0,0001	-0,0003	0,0002

4. BATAS UNJUK KERJA TIMBANGAN = 0,0006 g

5. HISTERISIS = 0,0000 g

Ketidakpastian penimbangan tersebut diukur pada tingkat kepercayaan 95% dengan faktor cakupan (k) = 2

Catatan :

Standar Kalibrasi : Anekimbangan Denver Instrument Kelas E2

Keterakreditasi : Tertelusur ke satuan SI melalui laboratorium terkalibrasi LK-045-ICN

Prosedur Kalibrasi : M005,4ITE-01 (Csro-10)

Yogyakarta, 17 Januari 2018

Pejabat Penandatangan Sertifikat,


Yusuf Umardani, S.T., M.Eng

Lampiran 4. Kromatogram KLT – Densitometri hasil uji kualitatif jamu pegel linu yang diperoleh.

winCATS Planar Chromatography Manager
 Lab Biologi Farmasi
 Universitas Islam Indonesia
 Yogyakarta

Analysis Report

Method	C:\m.lutfian.cma	
Created by	Administrator	19 Nopember 2018 16:04:29
Last modified by	Administrator	19 Nopember 2018 16:10:46
SOP document		
Validated	Design	
Description :		
Analysis	D:\m.cma	
Created/used by	Administrator	07 Februari 2019 11:36:19
Current user	Administrator	

Stationary phase

Executed by	Administrator	07 Februari 2019 11:36:19
Plate size (X x Y)	20.0 x 10.0 cm	
Material	HPTLC plates silica gel 60 F 254	
Manufacturer	E. MERCK KGaA	
Batch		
GLP code		
Pre-washing	Yes	
Mode		
Solvent name	Kloroform : metanol : Amoniak (80 : 17 : 3)	
Manufacturer	E. MERCK KGaA	
Batch		
Drying device	Air	
Temperature	27	
Time	20 Minutes	
Modification	No	

Definitions - Quantification

Executed by	Administrator	19 Nopember 2018 16:12:54
Calibration parameters		
Calibration mode	Single level	
Statistics mode	CV	
Evaluation mode	Peak height	

Samples

- Sample ID: parasetamol
- Sample ID: sidomuncul
- Sample ID: jago
- Sample ID: air mancur
- Sample ID: leo
- Sample ID: gojati 69
- Sample ID: ilnuric
- Sample ID: pt payung pusaka mandiri
- Sample ID: fenilbutazol
- Sample ID: mda
- Sample ID: jaya asli
- Sample ID: tawon
- Sample ID: pro urat
- Sample ID: uratn
- Sample ID: basmurat
- Sample ID: nosrat

User : Administrator
 07 Februari 2019 11:36:41

Approved :
 Report ID : 07E30207050B2413

SN 1610W002, V1.4.4
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winCATS Planar Chromatography Manager

Sample ID: wangton

Substance name	Rf	Window size	Deviation	Purity	Manufacturer	Batch number	Expiry date	Product number
Substance 1	0.17	0.5 mm	10.0 %	1.0000				
Substance 2	0.19	0.5 mm	10.0 %	1.0000				
Substance 3	0.25	0.5 mm	10.0 %	1.0000				
Substance 4	0.29	0.5 mm	10.0 %	1.0000				
Substance 5	0.31	0.5 mm	10.0 %	1.0000				
Substance 6	0.40	8.1 mm	10.0 %	1.0000				
Substance 7	0.62	2.2 mm	10.0 %	1.0000				
Substance 8	0.62	2.2 mm	10.0 %	1.0000				
Substance 9	0.71	0.5 mm	10.0 %	1.0000				
Substance 10	0.75	3.3 mm	10.0 %	1.0000				
AutoGenerated16	0.76	0.5 mm	10.0 %	1.0000				

Standards Concentration	Standard level1	Dilution from 1,000 mL	Dilution to 1,000 mL	Application vol 2,000 µl
	Substance	Concentration		
	Substance 1	0.0100 mg/L		
	Substance 2	0.0100 mg/L		
	Substance 3	0.0100 mg/L		
	Substance 4	0.0100 mg/L		
	Substance 5	0.0100 mg/L		
	Substance 6	0.0100 mg/L		
	Substance 7	0.0100 mg/L		
	Substance 8	0.0100 mg/L		
	Substance 9	0.0100 mg/L		
	Substance 10	0.0100 mg/L		

Detection - CAMAG TLC Scanner 3

Information

Application position	15.0 mm
Solvent front position	90.0 mm
Instrument	CAMAG TLC Scanner 3 "Scanner3_100914" S/N 100914 (1.14.28)
Executed by	Administrator 07 Februari 2019 11:36:19
Number of tracks	17
Position of first track X	10.0 mm
Distance between tracks	10.0 mm
Scan start pos. Y	15.0 mm
Scan end pos. Y	90.0 mm
Slit dimensions	6.00 x 0.45 mm, Micro
Optimize optical system	Light
Scanning speed:	20 mm/s
Data resolution:	100 µm/step

Measurement Table

Wavelength	254
Lamp	D2 & W
Measurement Type	Remission
Measurement Mode	Absorption
Optical filter	Second order
Detector mode	Automatic
PM high voltage	371 V

Detector properties

Y-position for 0 adjust	15.0 mm
Track # for 0 adjust	0
Analog Offset	10%
Sensitivity	Automatic (22)

User : Administrator
07 Februari 2019 11:36:41

Approved :
Report ID : 07E3020705082413

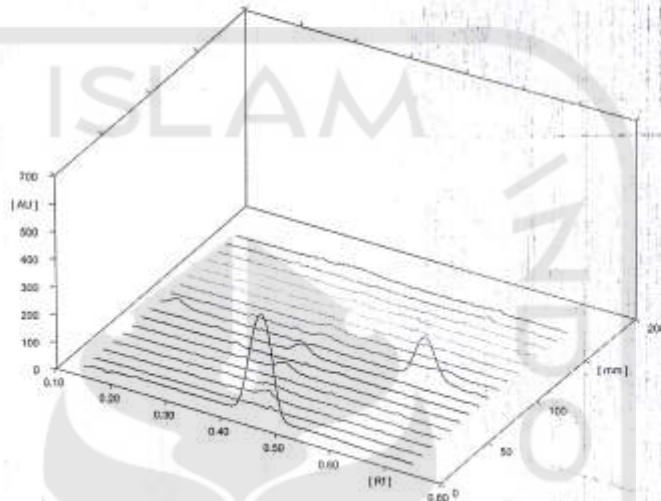
SN 1610W002, V1.4.4
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Integration

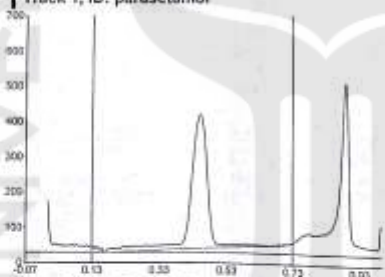
Properties

Data filtering	Savitsky-Golay 7
Baseline correction	Lowest Slope
Peak threshold min. slope	5
Peak threshold min. height	10 AU
Peak threshold min. area	50
Peak threshold max. height	990 AU
Track start position	25.0 mm
Track end position	70.1 mm
Display scaling	Automatic

All tracks at Wavelength



Track 1, ID: parasetamol



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0.18	0.4	0.19	11.1	2.87	0.21	7.2	247.7	1.74	Substance 2
2	0.40	12.9	0.45	376.7	97.13	0.51	7.4	13975.0	98.26	Substance 5

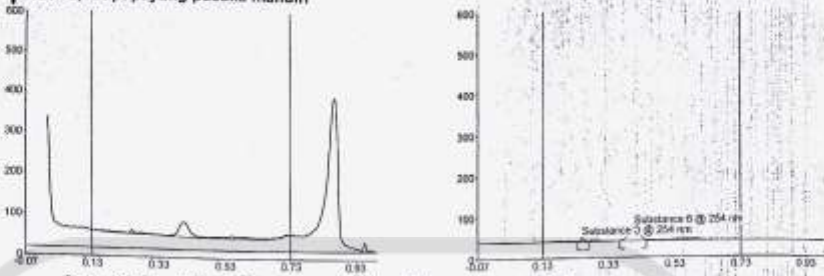
User : Administrator
07 Februari 2019 11:36:41

Approved :
Report ID : 07E30207D50B2413

SN 1610W002, V1.4.4
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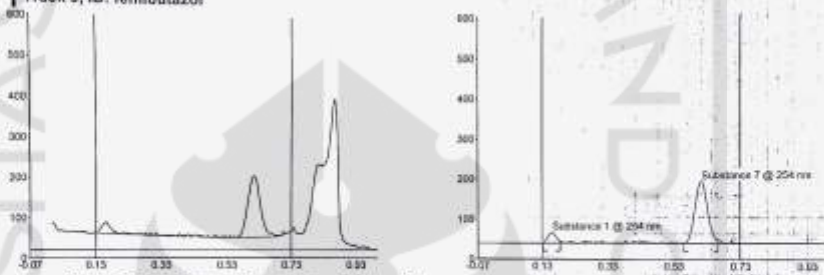
winCATS Planar Chromatography Manager

Track 8, ID: pt payung pusaka mandiri



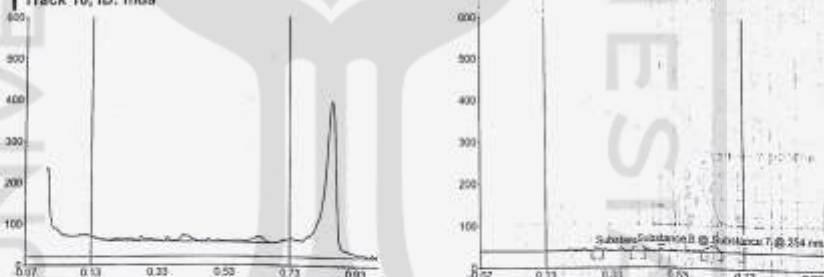
Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0.24	0.0	0.25	10.2	22.41	0.27	0.2	81.9	8.83	Substance 3
2	0.37	0.8	0.41	35.3	77.59	0.45	2.8	938.4	91.97	Substance 6

Track 9, ID: fenilbutazol




Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0.14	0.1	0.17	27.8	15.28	0.19	3.3	592.5	10.48	Substance 1
2	0.56	0.0	0.62	152.8	84.72	0.67	8.6	5060.7	89.52	Substance 7

Track 10, ID: mda



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0.27	0.5	0.29	10.7	26.05	0.31	3.5	136.4	14.77	Substance 4
2	0.39	0.3	0.41	15.5	37.94	0.44	5.1	348.1	37.70	Substance 6
3	0.60	3.3	0.64	14.8	38.01	0.67	2.4	438.9	47.54	Substance 7



Lampiran 5. Sertifikat Kalibrasi Instrument *Fourier-transform infrared spectroscopy (FTIR)*



Instrument Performance Verification Test Certificate

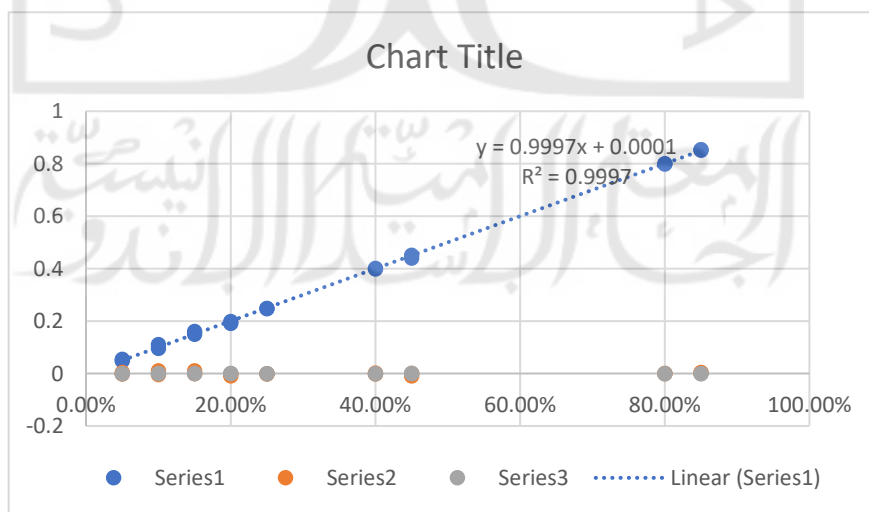
Spectrum Two FT-IR Spectrometer
Instrument Performance Verification Test Certificate

Serial Number	C102963	Date Tested	04-02-2016
PARAMETER	SPECIFICATION	TEST RESULT	
Test Program Results			
Polystyrene Test	3082.18 ± 0.5 cm ⁻¹	3082.53 cm ⁻¹	
Record peaks at the specified Positions	3060.02 ± 0.5 cm ⁻¹	3059.97 cm ⁻¹	
	1601.34 ± 0.5 cm ⁻¹	1601.21 cm ⁻¹	
	1583.12 ± 0.5 cm ⁻¹	1583.38 cm ⁻¹	
	1028.34 ± 0.5 cm ⁻¹	1028.51 cm ⁻¹	

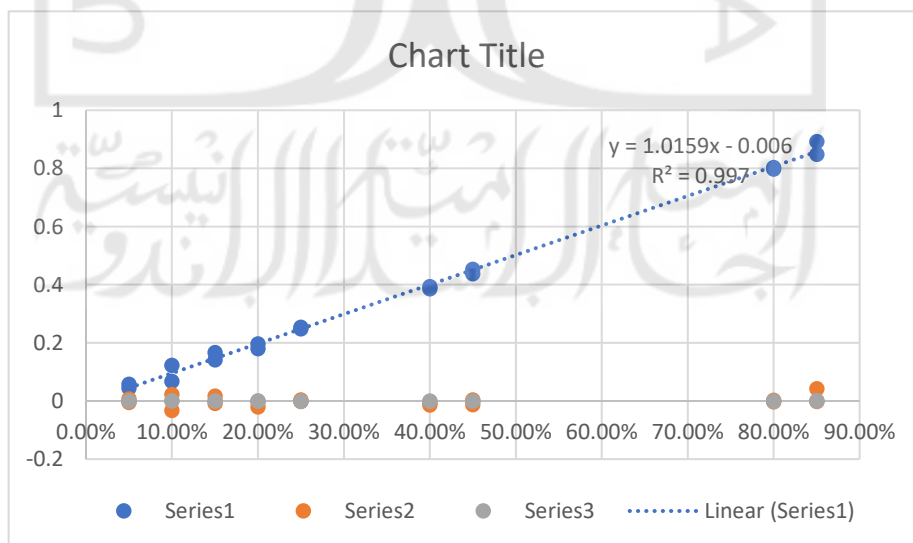
Lampiran 6. Perhitungan pemodelan kalibrasi multivariat PLS

Akurasi	Prediksi	y-x	(y-x)^2
5.00%	0.047791	-0.22%	4.8797E-06
5.00%	0.053941	0.39%	1.5531E-05
10.00%	0.110692	1.07%	0.00011432
10.00%	0.095408	-0.46%	2.1086E-05
15.00%	0.150016	0.00%	2.56E-10
15.00%	0.16047	1.05%	0.00010962
20.00%	0.191084	-0.89%	7.9495E-05
20.00%	0.197847	-0.22%	4.6354E-06
25.00%	0.247618	-0.24%	5.6739E-06
25.00%	0.249009	-0.10%	9.8208E-07
40.00%	0.401539	0.15%	2.3685E-06
40.00%	0.397934	-0.21%	4.2684E-06
45.00%	0.440564	-0.94%	8.9038E-05
45.00%	0.451064	0.11%	1.1321E-06
80.00%	0.799392	-0.06%	3.6966E-07
80.00%	0.800108	0.01%	1.1664E-08
85.00%	0.851547	0.15%	2.3932E-06
85.00%	0.853976	0.40%	1.5809E-05
		JUMLAH	0.00047161
		RMSEC	0.00511867



Lampiran 7. Perhitungan validasi dengan menggunakan leave one out

Akurasi	Prediksi	y-x	(y-x)^2
5.00%	0.04506	-0.49%	2.44036E-05
5.00%	0.057629	0.76%	5.82016E-05
10.00%	0.12296	2.30%	0.000527162
10.00%	0.067681	-3.23%	0.001044518
15.00%	0.141671	-0.83%	6.93722E-05
15.00%	0.167027	1.70%	0.000289919
20.00%	0.180311	-1.97%	0.000387657
20.00%	0.197017	-0.30%	8.89829E-06
25.00%	0.248563	-0.14%	2.06497E-06
25.00%	0.254458	0.45%	1.98738E-05
40.00%	0.394357	-0.56%	3.18434E-05
40.00%	0.385943	-1.41%	0.000197599
45.00%	0.437563	-1.24%	0.000154679
45.00%	0.453633	0.36%	1.31987E-05
80.00%	0.797506	-0.25%	6.22004E-06
80.00%	0.803517	0.35%	1.23693E-05
85.00%	0.892299	4.23%	0.001789205
85.00%	0.848469	-0.15%	2.34396E-06
		JUMLAH	0.004639528
		RMSEC	0.016054643



Fits and Residuals for Konsentrasi

Row	Konsentrasi	Fits	Res	SRes	Fits (pred)	Res (pred)
1	5.00%	0.047791	0.0022088	0.43523	0.045060	0.0049403
2	5.00%	0.053941	0.0039415	0.68230	0.057629	0.0076295
3	10.00%	0.110692	0.0106916	1.81259	0.122960	0.0229598
4	10.00%	0.095408	0.0045919	1.31030	0.067681	0.0323190
5	15.00%	0.150016	0.0000161	0.00392	0.141671	0.0083293
6	15.00%	0.160470	0.0104700	1.55932	0.167027	0.0170272
7	20.00%	0.191084	0.0089157	1.61151	0.180311	0.0196886
8	20.00%	0.197847	0.0021529	0.47825	0.197017	0.0029827
9	25.00%	0.247618	0.0023819	0.35150	0.248563	0.0014374
10	25.00%	0.249009	0.0009910	0.21517	0.254458	0.0044583
11	40.00%	0.401539	0.0015386	0.31957	0.394357	0.0056427
12	40.00%	0.397934	0.0020660	0.83022	0.385943	0.0140572
13	45.00%	0.440564	0.0094365	1.42696	0.437563	0.0124371
14	45.00%	0.451064	0.0010645	0.17049	0.453633	0.0036325
15	80.00%	0.799392	0.0006078	0.11156	0.797506	0.0024940
16	80.00%	0.800108	0.0001079	0.02049	0.803517	0.0035172
17	85.00%	0.851547	0.0015466	0.61673	0.892299	0.0422993
18	85.00%	0.853976	-0.0039760	1.27743	0.848469	0.0015312

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X Residuals

Row	1708	1597	1500	1499	1497	1487	1478
1	0.0000989	0.0000271	0.0000132	0.0000065	0.0000893	0.0000548	0.0000321
2	0.0003296	0.0000377	0.0000155	0.0000333	0.0000469	0.0000303	0.0000452
3	0.0006892	0.0002192	0.0000191	0.0000359	0.0002198	0.0000072	0.0000876
4	0.0002797	0.0001470	0.0000149	0.0000034	0.0001005	0.0000083	0.0000497
5	0.0007273	0.0002941	0.0000409	0.0000628	0.0001624	0.0001276	0.0001080
6	0.0004574	0.0002670	0.0000965	0.0000497	0.0000733	0.0000507	0.0000615
7	0.0006943	0.0001856	0.0000421	0.0000360	0.0000084	0.0001788	0.0000214
8	0.0011532	0.0001256	0.0000102	0.0000914	0.0001573	0.0000426	0.0000234
9	0.0007459	0.0000639	0.0000109	0.0000974	0.0001192	0.0000140	0.0000247
10	0.0005357	0.0000934	0.0000085	0.0000251	0.0000140	0.0001153	0.0000418
11	0.0006227	0.0003106	0.0000414	0.0000648	0.0001573	0.0002012	0.0001290
12	0.0002188	0.0001643	0.0000260	0.0000210	0.0000449	0.0000994	0.0000664
13	0.0013230	0.0000233	0.0000116	0.0000731	0.0001541	0.0004330	0.0000445
14	0.0003607	0.0001659	0.0000060	0.0000176	0.0000214	0.0000044	0.0000023
15	0.0004880	0.0001471	0.0000539	0.0000623	0.0001428	0.0000227	0.0000850
16	0.0002060	0.0001622	0.0000555	0.0000337	0.0000982	0.0000055	0.0000877
17	0.0004550	0.0000556	0.0000015	0.0000530	0.0001156	0.0000326	0.0000269
18	0.0007758	0.0000702	0.0000030	0.0000306	0.0000738	0.0001756	0.0000132

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Row	1476	1472	1428	1388	1362	1355	1335
1	0.0000145	0.0000103	0.0000286	0.0000158	0.0000078	0.0000353	0.0000144
2	0.0000512	0.0000219	0.0000166	0.0000109	0.0000580	0.0000030	0.0000081
3	0.0001235	0.0000762	0.0000300	0.0000229	0.0001190	0.0000701	0.0001357
4	0.0000545	0.0000469	0.0000656	0.0000110	0.0000264	0.0000073	0.0000811
5	0.0000053	0.0000162	0.0000535	0.0000142	0.0000555	0.0000675	0.0000624
6	0.0000443	0.0000766	0.0001434	0.0001820	0.0000494	0.0001020	0.0000043
7	0.0000501	0.0000666	0.0000834	0.0000000	0.0001275	0.0000948	0.0001829
8	0.0000119	0.0000288	0.0000770	0.0001108	0.0000018	0.0000605	0.0001218
9	0.0000116	0.0000774	0.0001569	0.0000526	0.0001328	0.0000595	0.0001865
10	0.0000131	0.0000168	0.0000866	0.0000384	0.0000822	0.0000790	0.0000991
11	0.0000307	0.0000069	0.0000919	0.0000348	0.0000529	0.0000810	0.0001024
12	0.0000354	0.0000056	0.0000206	0.0000261	0.0000097	0.0000149	0.0000595
13	0.0001425	0.0000014	0.0000103	0.0001201	0.0000284	0.0000218	0.0000321
14	0.0000086	0.0001106	0.0002055	0.0001418	0.0001567	0.0000889	0.0000319
15	0.0000865	0.0000674	0.0001285	0.0001190	0.0001490	0.0001220	0.0000112
16	0.0000752	0.0000801	0.0000814	0.0001155	0.0001190	0.0000940	0.0000253
17	0.0000294	-0.0000031	0.0001050	0.0000047	0.0000938	0.0000831	0.0000405

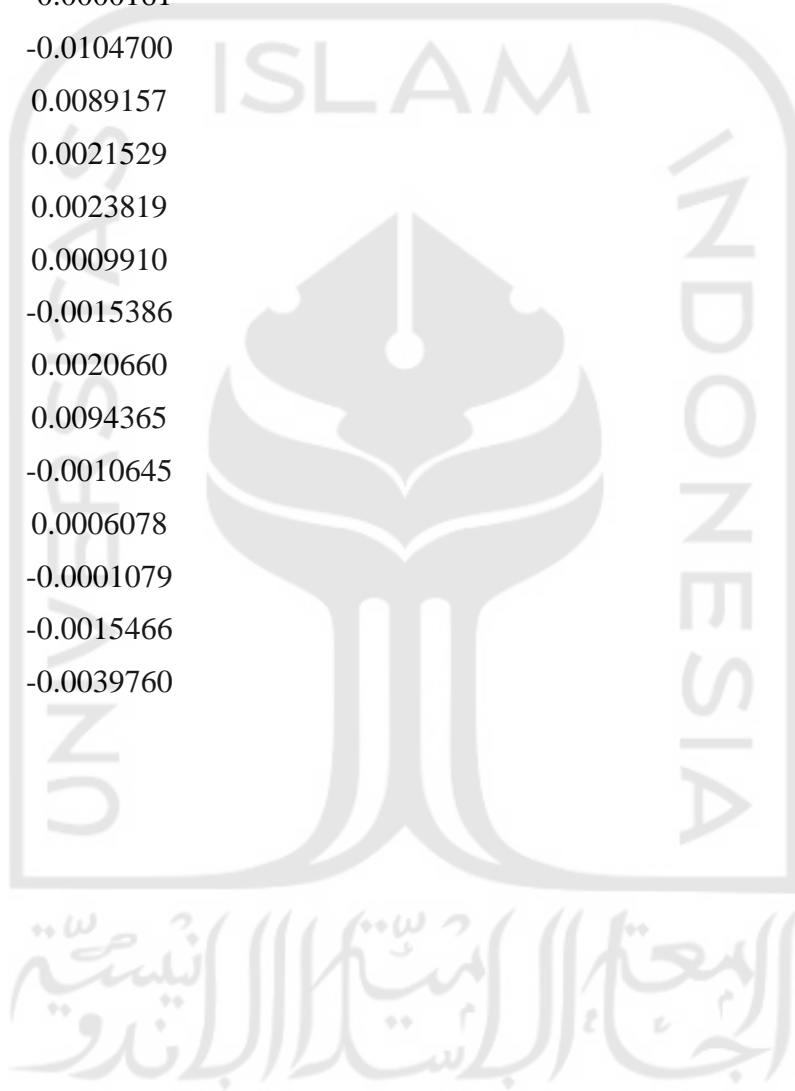
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الاندونيسية

Row	1292	1189	1173	759	753	457	424
1	0.0001659	0.0000834	0.0000303	0.0001632	0.0002172	0.0000434	0.0000003
2	0.0002315	0.0000396	0.0000133	0.0002060	0.0005390	0.0000112	0.0000487
3	0.0003811	0.0001196	0.0001491	0.0001974	0.0018153	0.0000970	0.0002215
4	0.0002624	0.0000321	0.0001136	0.0001902	0.0010315	0.0000037	0.0001194
5	0.0001398	0.0003945	0.0000276	0.0001412	0.0004191	0.0000742	0.0001539
6	0.0002521	0.0001182	0.0000634	0.0005973	0.0004699	0.0002032	0.0001476
7	0.0001628	0.0002200	0.0000164	0.0001849	0.0004070	0.0001220	0.0000705
8	0.0003138	0.0002920	0.0000038	0.0003581	0.0001465	0.0001142	0.0000511
9	0.0001454	0.0003347	0.0001153	0.0000847	0.0001079	0.0001123	0.0001012
10	0.0000749	0.0000507	0.0000598	0.0002021	0.0000771	0.0000877	0.0000443
11	0.0003136	0.0004731	0.0000155	0.0003030	0.0000279	0.0000847	0.0001241
12	0.0001975	0.0002247	0.0000069	0.0001385	0.0002295	0.0000030	0.0000428
13	0.0000209	0.0000127	0.0000419	0.0000798	0.0006645	0.0001032	0.0001108
14	0.0003525	0.0001083	0.0002331	0.0002436	0.0009108	0.0001306	0.0000354
15	0.0002964	0.0000361	0.0000036	0.0000436	0.0011379	0.0001946	0.0000473
16	0.0003960	0.0001327	0.0000350	0.0000398	0.0012046	0.0001464	0.0000231
17	0.0001023	0.0001978	0.0000394	0.0001705	0.0002144	0.0001207	0.0000684
18	0.0000962	0.0000000	0.0000964	0.0001049	0.0005166	0.0000074	0.0000635

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 الباندا

Y Residuals

Row	Konsentrasi
1	0.0022088
2	-0.0039415
3	-0.0106916
4	0.0045919
5	-0.0000161
6	-0.0104700
7	0.0089157
8	0.0021529
9	0.0023819
10	0.0009910
11	-0.0015386
12	0.0020660
13	0.0094365
14	-0.0010645
15	0.0006078
16	-0.0001079
17	-0.0015466
18	-0.0039760

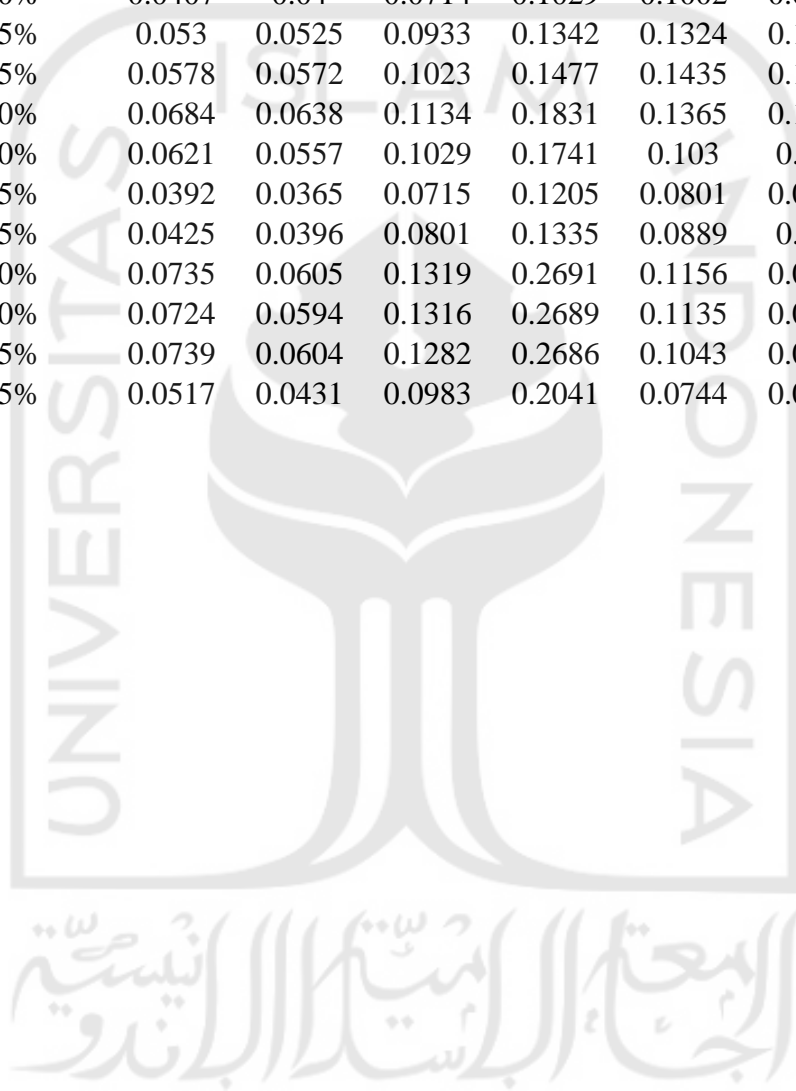


Lampiran 9. Data 20 bilangan gelombang terpilih

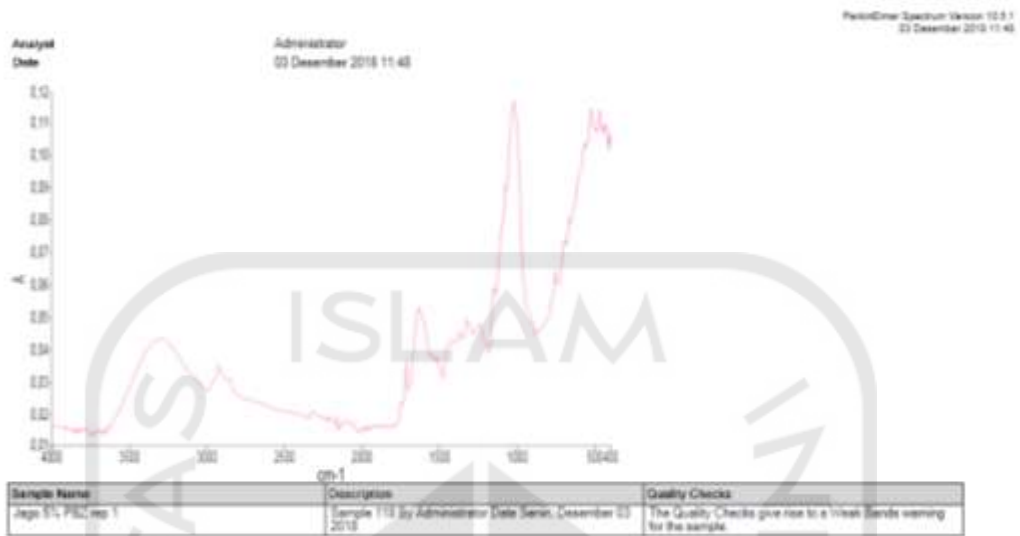
Konsentrasi	1708	1597	1500	1499	1497	1487	1478
5%	0.023	0.0391	0.0288	0.0287	0.0283	0.0275	0.0264
5%	0.02	0.0337	0.0251	0.025	0.0248	0.0238	0.023
10%	0.0384	0.0396	0.0296	0.0303	0.0318	0.0347	0.0274
10%	0.0573	0.0598	0.0445	0.0454	0.0478	0.0522	0.0408
15%	0.0646	0.0658	0.0429	0.0447	0.0487	0.0562	0.038
15%	0.0392	0.0354	0.0254	0.0263	0.0286	0.0333	0.0226
20%	0.0345	0.0264	0.019	0.0199	0.022	0.027	0.0176
20%	0.0613	0.0435	0.0313	0.033	0.0367	0.0463	0.0301
25%	0.0827	0.0585	0.0414	0.0436	0.0487	0.0618	0.0392
25%	0.0933	0.065	0.0453	0.0479	0.0539	0.0687	0.0417
40%	0.1433	0.0762	0.0503	0.055	0.0651	0.0904	0.0471
40%	0.155	0.0737	0.0504	0.0559	0.0674	0.0946	0.0453
45%	0.0796	0.0403	0.0287	0.0311	0.0364	0.0512	0.0292
45%	0.0885	0.0453	0.0318	0.0346	0.0412	0.0591	0.031
80%	0.2196	0.08	0.0534	0.0602	0.0766	0.1271	0.0535
80%	0.2166	0.0793	0.0533	0.06	0.0765	0.1266	0.0522
85%	0.2287	0.0749	0.0512	0.058	0.0734	0.1228	0.0547
85%	0.15	0.0528	0.0375	0.0421	0.0527	0.0859	0.0393

Konsentrasi	1476	1472	1428	1388	1362	1355	1292
5%	0.0266	0.028	0.035	0.0352	0.0365	0.0358	0.0375
5%	0.0232	0.0244	0.0302	0.0305	0.0316	0.0309	0.0326
10%	0.0268	0.0278	0.0354	0.0343	0.0369	0.0369	0.0505
10%	0.0402	0.0419	0.0534	0.0517	0.0554	0.0554	0.0759
15%	0.037	0.0384	0.0489	0.0473	0.0512	0.0519	0.0834
15%	0.0219	0.0221	0.0266	0.0262	0.0281	0.0286	0.0483
20%	0.0168	0.0166	0.0195	0.0188	0.0204	0.021	0.0388
20%	0.0285	0.0278	0.0329	0.0312	0.0341	0.0352	0.0685
25%	0.0372	0.0366	0.0435	0.0412	0.0453	0.0467	0.0914
25%	0.0393	0.0385	0.0466	0.044	0.0488	0.0506	0.1034
40%	0.042	0.0389	0.0456	0.0416	0.0486	0.0528	0.1389
40%	0.0393	0.0352	0.0385	0.0344	0.0418	0.0469	0.1452
45%	0.0265	0.0244	0.0267	0.0242	0.0279	0.0299	0.0784
45%	0.028	0.0263	0.0281	0.0255	0.03	0.0323	0.0882
80%	0.0435	0.0364	0.034	0.0282	0.0381	0.0457	0.1906
80%	0.0425	0.0358	0.0332	0.0278	0.0377	0.0452	0.1902
85%	0.0443	0.0351	0.0323	0.0263	0.0358	0.0434	0.1905
85%	0.0331	0.0282	0.0261	0.0214	0.0273	0.0319	0.1327

Konsentrasi	1189	1173	759	753	457	424
5%	0.0328	0.0356	0.0502	0.0525	0.0898	0.091
5%	0.0287	0.031	0.0436	0.0459	0.0787	0.0799
10%	0.0359	0.0385	0.0645	0.0778	0.1069	0.1082
10%	0.0533	0.0575	0.0944	0.1139	0.1582	0.1554
15%	0.055	0.0598	0.0969	0.1223	0.1576	0.1483
15%	0.0312	0.0334	0.056	0.0707	0.0865	0.0801
20%	0.0239	0.0255	0.0443	0.0595	0.0667	0.0593
20%	0.0407	0.04	0.0714	0.1029	0.1002	0.0937
25%	0.053	0.0525	0.0933	0.1342	0.1324	0.1247
25%	0.0578	0.0572	0.1023	0.1477	0.1435	0.1343
40%	0.0684	0.0638	0.1134	0.1831	0.1365	0.1207
40%	0.0621	0.0557	0.1029	0.1741	0.103	0.089
45%	0.0392	0.0365	0.0715	0.1205	0.0801	0.0679
45%	0.0425	0.0396	0.0801	0.1335	0.0889	0.073
80%	0.0735	0.0605	0.1319	0.2691	0.1156	0.0518
80%	0.0724	0.0594	0.1316	0.2689	0.1135	0.0512
85%	0.0739	0.0604	0.1282	0.2686	0.1043	0.0592
85%	0.0517	0.0431	0.0983	0.2041	0.0744	0.0418



Lampiran 10. Spektra FTIR sampel jamu Jago konsentrasi 5%



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Lampiran 11. Spektra FTIR sampel jamu Air Mancur konsentrasi 10%



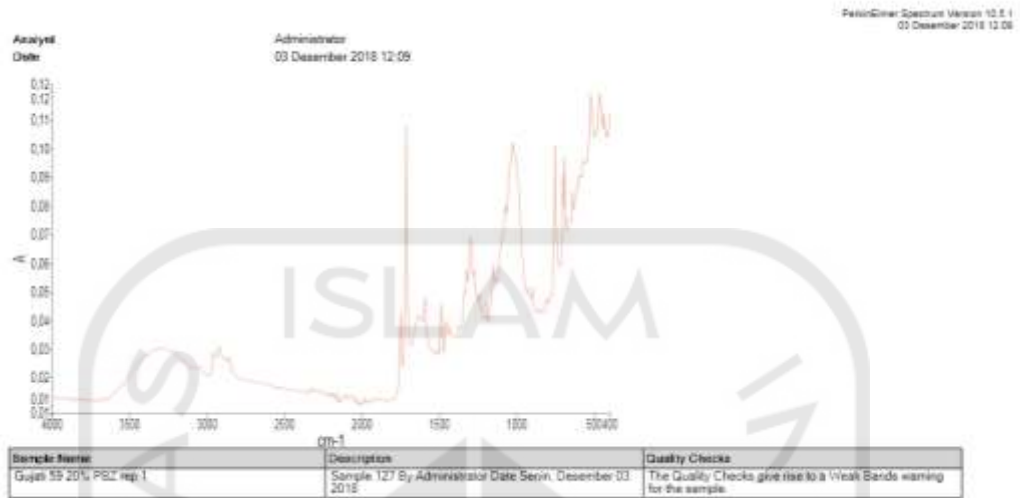
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Lampiran 12. Spektra FTIR sampel jamu Leo konsentrasi 15%



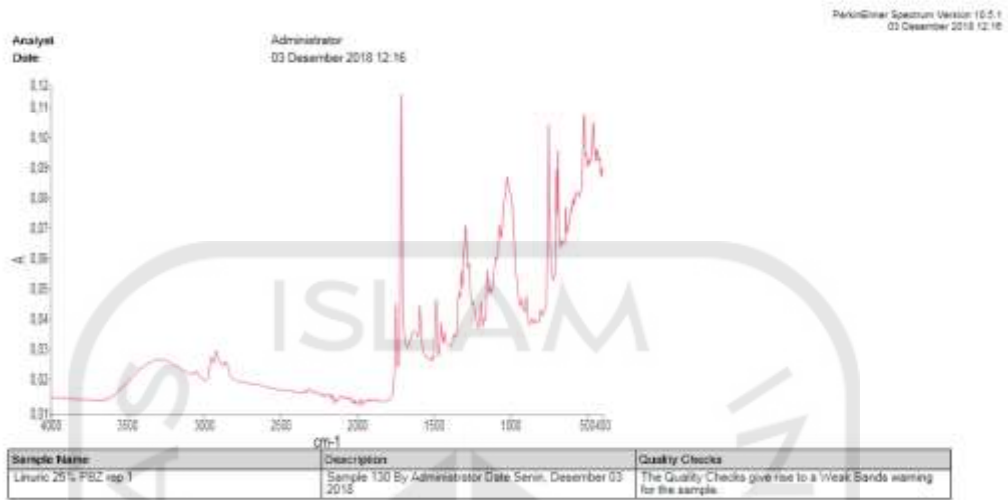
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Lampiran 13. Spektra FTIR sampel jamu Gujati 59 konsentrasi 20%



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Lampiran 14. Spektra FTIR sampel jamu Linuric konsentrasi 25%



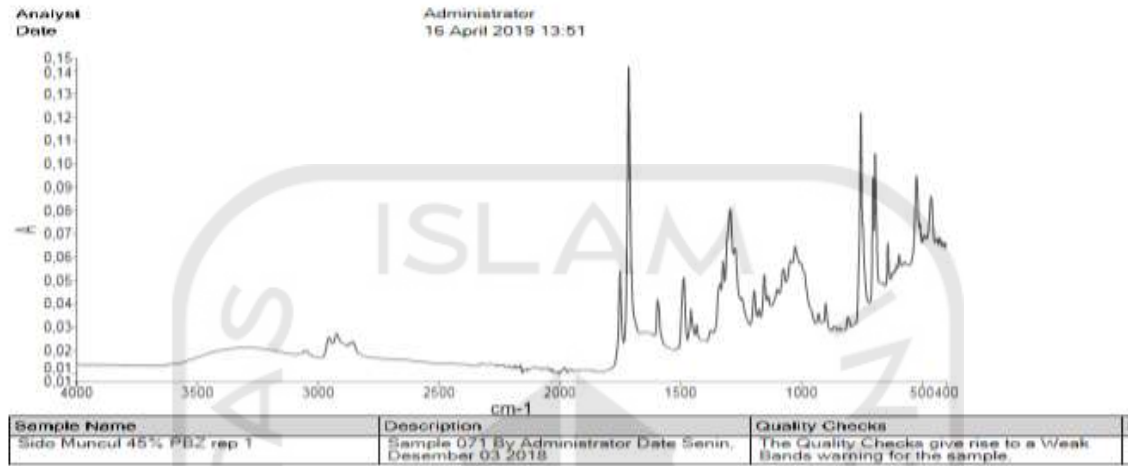
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Lampiran 15. Spektra FTIR sampel jamu PT. Payung Pusaka Mandiri konsentrasi 40%



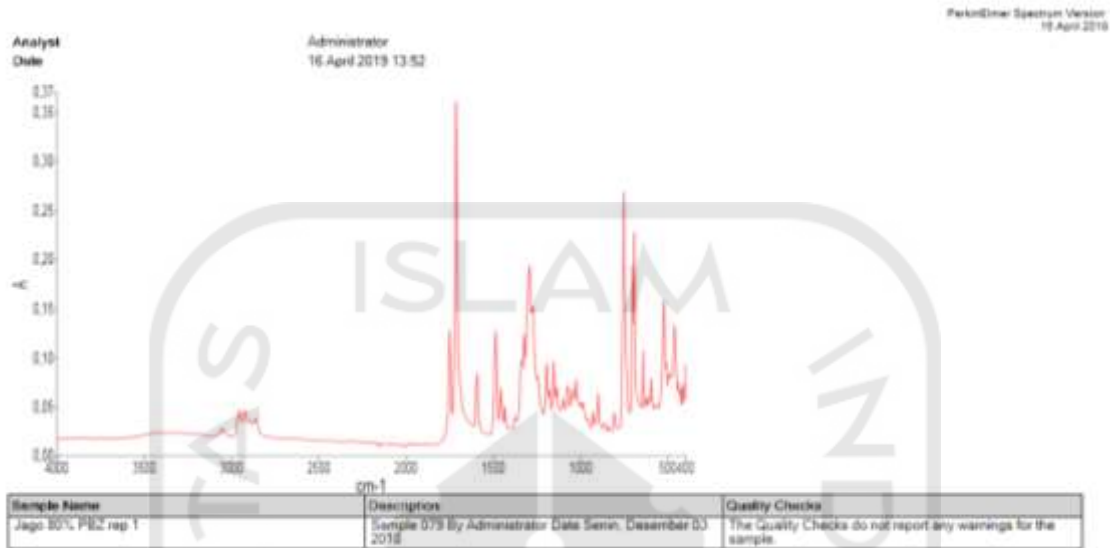
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Lampiran 16. Spektra FTIR sampel jamu Sidomuncul konsentrasi 45%



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Lampiran 17. Spektra FTIR sampel jamu Jago konsentrasi 80%



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Lampiran 18. Spektra FTIR sampel jamu Jago konsentrasi 85%



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