LAMPIRAN

1. Pengenceran Larutan Standar Arsen 1000 Mg/L Menjadi 100 Mg/L

$V_1 . N_1 = V_2 . N_2$

$V_1 . 1000\ \mu g/mL = 25\ mL . 100$

$V_1 = \frac{25.100}{1000}$

$= 2{,}5\ mL$

2. Pengenceran Larutan Standar Arsen 100 Mg/L Menjadi 10 Mg/L

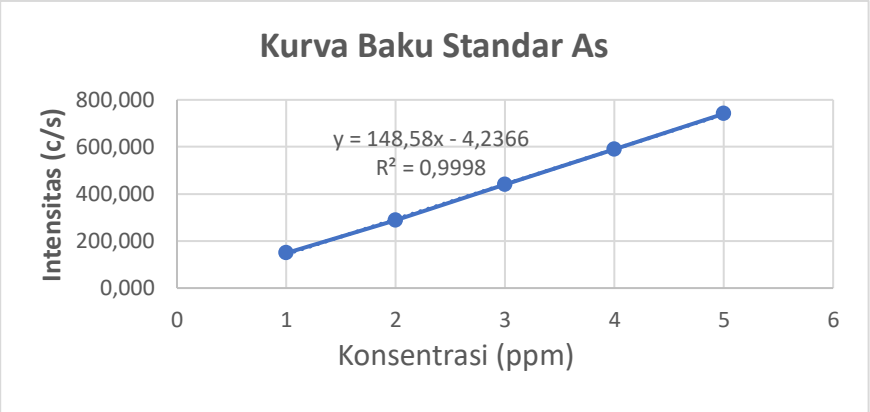
$V_1 . N_1 = V_2 . N_2$

$V_1 . 100\ \mu g/mL = 100\ mL . 10$

$V_1 = \frac{100.10}{100}$

$= 10\ mL$

Hasil Kurva Kalibrasi Arsen Dengan ICP-OES



Lampiran 1. Uji Linearitas

No.	Konsentrasi (bpj)	Intensitas (c/s)
1	1	148,838
2	2	287,639
3	3	440,890
4	4	589,273
5	5	740,943

Keterangan : Y = 148,58x - 4,2366

Cara Perhitungan :

Y = Bx + A

Y = 148,58x - 4,2366

B = 148,58

A = 4,2366

R^2 = 0,999899995

R = 0,9998

Parameter Linearitas

Parameter	Hasil	Syarat
Persamaan Regresi	Y = 148,58x - 4,2366	
A (Intersep)	4,2366	
B (Slope)	148,58x	
R	0,9998	Mendekati 1
Sy/X	11,722	
Sx0	0,079	
Vx0	2,630 %	Memenuhi Syarat Cemaran < 5 %

Simpangan Baku Residual Sy/X

$$Sy/X = \sqrt{\frac{\Sigma (Y-Y')^2}{N-2}}$$

$$= \sqrt{\frac{412,213}{5-2}}$$

$$= 11,722$$

$$Sx0 = \frac{Sy/X}{B}$$

$$= \frac{11,72}{148,58}$$

$$= 0,079$$

$$Vx_0 = \frac{Sx0}{N} \text{ X } 100\ \%$$

$$= \frac{0,079}{3} \text{ X } 100\ \%$$

$$= 2,630$$

Lampiran 2. Batas Deteksi dan Kuantitasi Arsen

	Konsentrasi (x)	Intensitas (y)	y' (bx + a)	$(y-y')^2$	BD	BK
	1	148,838	152,817	15,829	0,237	0,789
	2	287,639	301,397	189,272		
	3	440,890	449,977	82,566		
	4	589,273	598,557	86,185		
	5	740,943	747,137	38,361		
X rata rata	3		$\Sigma (y-y')^2$	412,213		

Perhitungan :

Keterangan : y = 148,58x - 4,2366

y' (bx + a)

y' = (148,58 x 1)+ 4,2366 = 152,817

$(y-y')^2$ = $(148,838 - 152,817)^2$ = 15,829

Cara Perhitungan :

BD $= \frac{3 \text{ x } Sy}{b}$

$= \frac{3 \text{ x } 11,722}{148,58}$

= 0,237 bpj

BK $= \frac{10 \text{ x } Sy}{b}$

$= \frac{10 \text{ x } 11,722}{148,58}$

= 0,789 bpj

Lampiran 3. Perhitungan Akurasi

Kerang Hijau

Berat Sampel : 10 gram

Persentase	Intens Non Adisi	Intens Adisi	Konsentrasi Sampel (mg/L)	Konsentrasi Adisi (mg/L)	Konsentrasi Standar (mg/L)	Kons blanko (mg/L)	% Recovery	SD	Rata-Rata
80%	23,0552	46,1774	0,1836	0,3393	1	0,0659	15,4962	1,3404	13,9843
	23,0552	42,3814	0,1836	0,3138	1	0,0659	12,9414		
	23,0552	43,2341	0,1836	0,3195	1	0,0659	13,5153		
100%	23,0552	56,2153	0,1836	0,4069	3	0,0659	7,3734	2,2940	8,6717
	23,0552	55,9839	0,1836	0,4053	3	0,0659	7,3213		
	23,0552	73,8098	0,1836	0,5253	3	0,0659	11,3205		
120%	23,0552	104,550	0,1836	0,7322	5	0,0659	10,9039	0,6636	10,4161
	23,0552	102,621	0,1836	0,7192	5	0,0659	10,6443		
	23,0552	95,6062	0,1836	0,6720	5	0,0659	9,7000		

Perhitungan :

Konsentrasi Sampel $= \frac{\text{Intensitas Sampel+a}}{\text{b}}$

$= \frac{(23{,}0552 + 4{,}2366)}{148{,}58}$

= 0,18368 mg/L

Konsentrasi Adisi $= \frac{\text{Intensitas Adisi+a}}{\text{b}}$

$= \frac{(46{,}1774 + 4{,}2366)}{148{,}58}$

= 0,3393 mg/L

% Reccovery $= \left(\frac{\text{Konsentrasi Adisi-Konsentrasi sampel}}{\text{Konsentrasi Standar}} \text{ x } 100\ \% \right) - \text{kons blanko}$

$= \frac{0{,}3393 - 0{,}1836}{1} \text{ x } 100 - 0{,}0684$

= 15,4962 %

Lampiran 4. Perhitungan Presisi

Intensitas (c/s)	Kons Blanko (mg/L)	Konsentrasi (mg/L)
56,2153	0,0659	0,3410
55,9829	0,0659	0,3394
73,8088	0,0659	0,4594
57,1598	0,0659	0,3473
54,8543	0,0659	0,3318
66,0988	0,0659	0,4075
Rata-rata		0,3711
SD		0,0513
RSD %		13,8151

Perhitungan

y = bx + a

y = 148,58x - 4,2366

Konsentrasi $= \frac{Intensitas\ Adisi+a}{b}$ – Konsentrasi Blanko

$= \frac{(56,2153+4,2366)}{148,58}$ - 0,0659

= 0,3410 mg/L

RSD % $= \frac{SD}{rata-rata}$ x 100 %

$= \frac{0,0513}{0,3711}$ x 100 %

= 13,8151 %

Lampiran 5. Perhitungan Kadar Arsen pada sampel

Sampel	Intensitas (c/s)	Konsentrasi (mg/L)	Berat Sampel (kg)	Kons blanko (mg/L)	Vol. Labu ukur(L)	Massa Sampel (mg)	Kadar (mg/kg)	Rata-Rata
1	23,7334	0,1882	0,0100615	0,0659	0,025	0,003058	0,3039	0,2906
	23,7623	0,1884	0,0100231	0,0659	0,025	0,003063	0,3044	
	21,6697	0,1744	0,0100521	0,0659	0,025	0,002650	0,2636	

Perhitungan Arsen (As)

Y = ax – b

Konsentrasi Sampel

Konsentrasi $= \left(\frac{Intensitas\ Sampel + a}{b} \right)$

$= \frac{23,7334 + 4,2366}{148,58}$

= 0,1882 mg/L

Massa Sampel

Massa Sampel = (Konsentrasi - Konsentrasi Blanko) x Volume Labu Ukur

= (0,1882 - 0,0659) x 0,025 = 0,003058 mg

Kadar

Kadar $= \frac{Massa\ Sampel}{Berat\ Sampel}$

$= \frac{0,003058}{0,010061}$

= 0,3039 mg/kg

Lampiran 7. Sertifikat Analisis Arsen

Certificate of Analysis

Certipur® Certified Reference Material

Producer:	**Merck KGaA, Frankfurter Str. 250, 64293 Darmstadt, Germany.**
Accreditation:	Merck KGaA is accredited as calibration Laboratory according **to DIN EN ISO/IEC 17025.**
Description of CRM:	**Element standard solution 1000 mg/l As**
Ord. No.:	1.19773.0500
Lot No.:	HC373923
Composition:	H_3AsO_4 in HNO_3 Suprapur® 0.5 mol/l
Certified value and uncertainty:	**988 mg/kg As ± 3 mg/kg As** **Mass fraction (w/w) ± expanded measurement uncertainty** The expanded measurement uncertainty *U* is calculated as $U = k \cdot u_{characterisation}$, where $k = 2$ is the coverage factor for a 95% coverage probability and $u_{characterisation}$ is the combined measurement uncertainty in accordance to DIN EN ISO/IEC 17025.
Density:	The density of the standard solution is 1.013 g/cm^3 at 20°C.
Calculated mass concentration:	**1000 mg/l As**
Method of Analysis:	Inductively coupled plasma optical emission spectrometry (ICP-OES).
Traceability:	This reference material has been measured applying high precision ICP-OES and is directly traceable to the corresponding **NIST SRM® 3103a, lot 100818 .** *NIST: National Institute of Standards and Technology, Gaithersburg, USA.*
Storage:	Store at +15°C to +25°C tightly closed in the original container.
Application and correct use:	This reference material is intended for use as calibration standard for atomic absorption spectrometry, spectrophotometry and other analytical techniques. Shake well before use and never pipet directly from the original container.
Date of release:	2013/02/04
Minimum shelf life:	2016/02/28

A. Yildirim

Dipl.-Ing. Ayfer Yildirim
(Laboratory Manager)

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EMD Millipore Corp. · 290 Concord Road, Billerica, MA 01821, USA: +1-781-533-6000

Lampiran 8. Lampiran-Lampiran

Gambar 1. Pengambilan Kerang Hijau dari Laut Ender,Cirebon

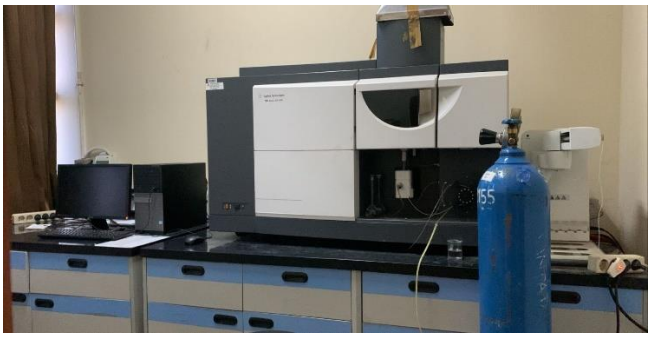
Gambar 2. Kerang Hijau

Gambar 3. Proses Destruksi Sampel

Gambar 4. Tanur

Gambar 5. Setelah dikeluarkan dari Tanur, didinginkan

Gambar 6. Dilakukan penyaringan



Gambar 7. Kerang Hijau didestruksi, dianalisa menggunakan ICP-OES

Lampiran 9. Bukti Cek Plagiarisme

143. NURDISA KHAPON_191FF03111

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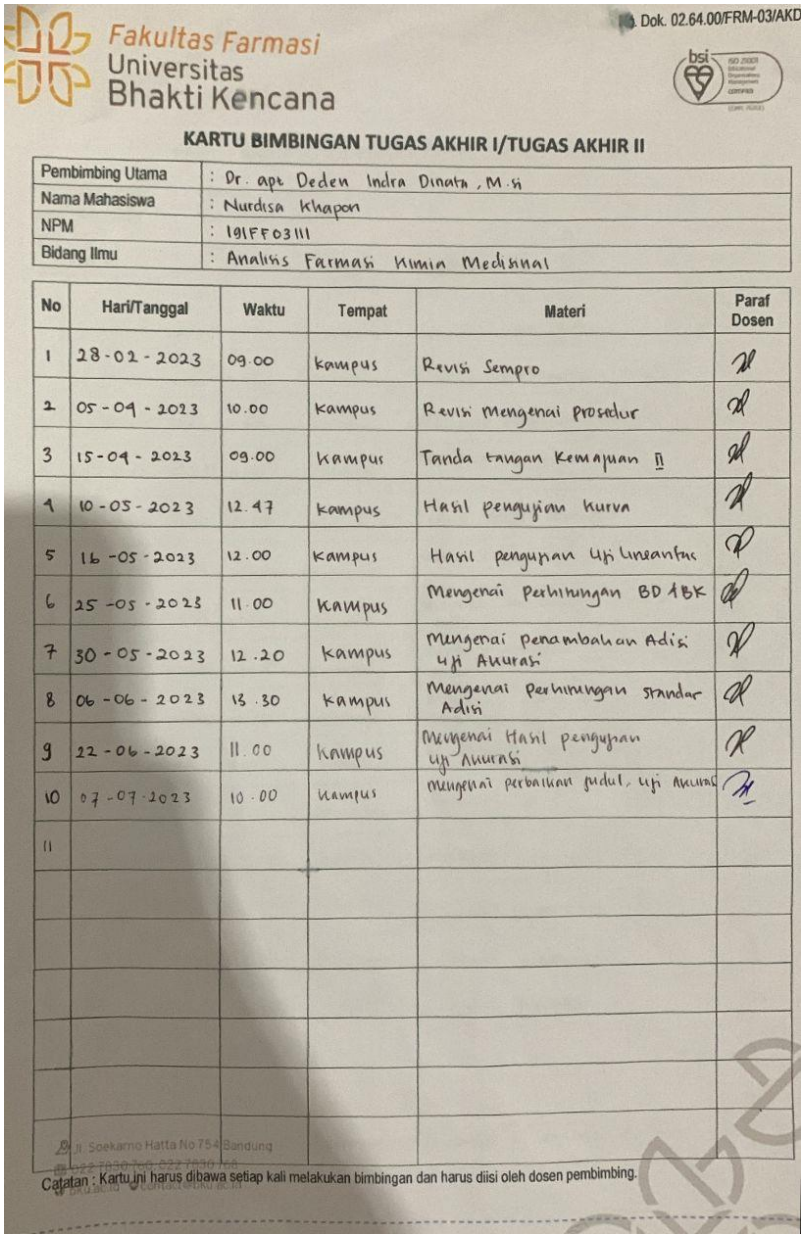
Lampiran 10. Kartu Bimbingan



Fakultas Farmasi
Universitas
Bhakti Kencana

Dok. 02.64.00/FRM-03/AKD

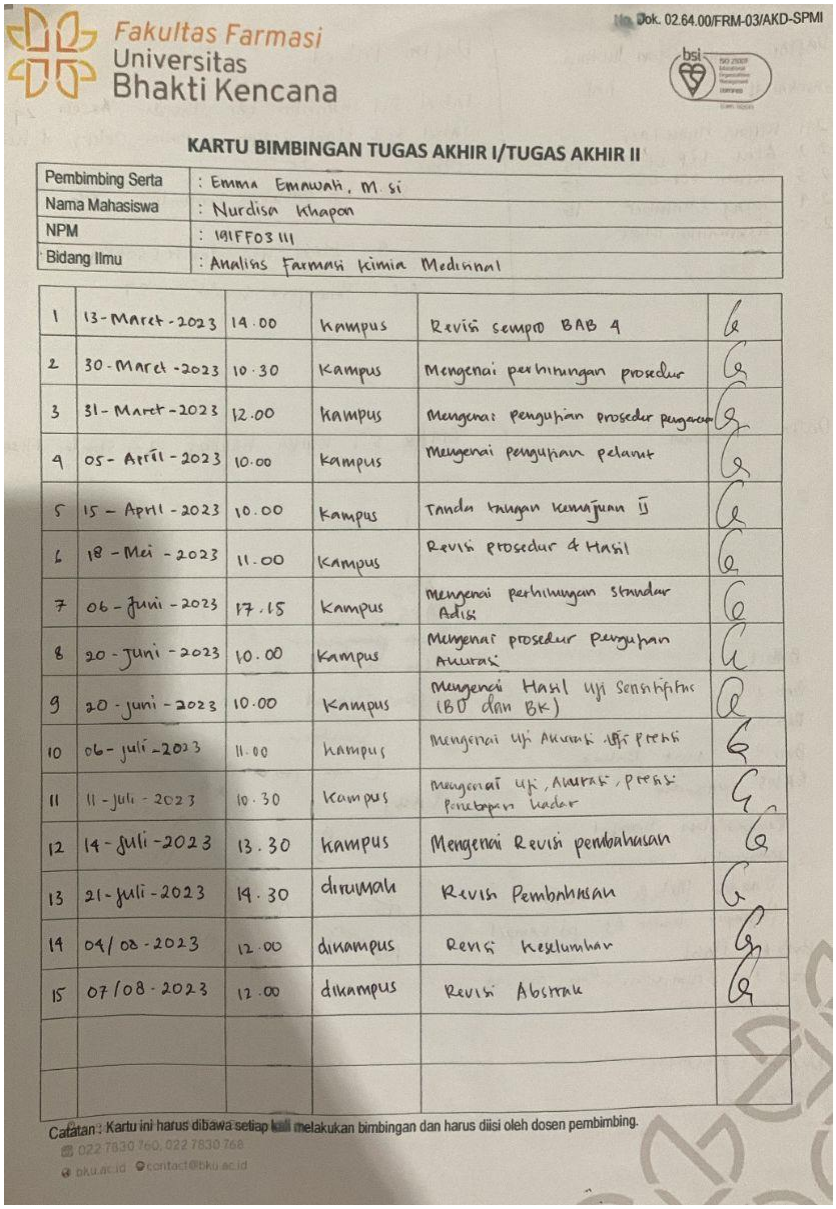
KARTU BIMBINGAN TUGAS AKHIR I/TUGAS AKHIR II

Pembimbing Utama	: Dr. apt Deden Indra Dinata, M.si
Nama Mahasiswa	: Nurdisa Khapon
NPM	: 191FF03111
Bidang Ilmu	: Analisis Farmasi Kimia Medisinal

No	Hari/Tanggal	Waktu	Tempat	Materi	Paraf Dosen
1	28-02-2023	09.00	kampus	Revisi Sempro	
2	05-04-2023	10.00	kampus	Revisi mengenai prosedur	
3	15-04-2023	09.00	kampus	Tanda tangan Kemajuan II	
4	10-05-2023	12.47	kampus	Hasil pengujian kurva	
5	16-05-2023	12.00	kampus	Hasil pengujian Uji Linearitas	
6	25-05-2023	11.00	kampus	Mengenai perhitungan BD 1BK	
7	30-05-2023	12.20	kampus	Mengenai penambahan Adisi uji Akurasi	
8	06-06-2023	13.30	kampus	Mengenai perhitungan standar Adisi	
9	22-06-2023	11.00	kampus	Mengenai Hasil pengujian uji Akurasi	
10	07-07-2023	10.00	kampus	mengenai perbaikan judul, uji Akurasi	
11					

Jl. Soekarno Hatta No.754 Bandung

Catatan : Kartu ini harus dibawa setiap kali melakukan bimbingan dan harus diisi oleh dosen pembimbing.



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No. Dok. 02.64.00/FRM-03/AKD-SPMI

KARTU BIMBINGAN TUGAS AKHIR I/TUGAS AKHIR II

Pembimbing Serta	: Emma Emawati, M. si
Nama Mahasiswa	: Nurdisa Khapon
NPM	: 191FF03111
Bidang Ilmu	: Analisis Farmasi Kimia Medisinal

1	13-Maret-2023	14.00	kampus	Revisi sempro BAB 4	
2	30-Maret-2023	10.30	kampus	Mengenai perhitungan prosedur	
3	31-Maret-2023	12.00	kampus	Mengenai pengujian prosedur pengaruh	
4	05-April-2023	10.00	kampus	Mengenai pengujian pelarut	
5	15-April-2023	10.00	kampus	Tanda tangan kemajuan II	
6	18-Mei-2023	11.00	kampus	Revisi prosedur & Hasil	
7	06-juni-2023	17.15	kampus	Mengenai perhitungan standar Adisi	
8	20-juni-2023	10.00	kampus	Mengenai prosedur pengujian Akurasi	
9	20-juni-2023	10.00	kampus	Mengenai Hasil Uji Sensitifitas (BD dan BK)	
10	06-juli-2023	11.00	kampus	Mengenai Uji Akurasi dan Presisi	
11	11-juli-2023	10.30	kampus	Mengenai Uji, Akurasi, Presisi Penetapan kadar	
12	14-juli-2023	13.30	kampus	Mengenai Revisi pembahasan	
13	21-juli-2023	14.30	dirumah	Revisi Pembahasan	
14	04/08-2023	12.00	dikampus	Revisi keseluruhan	
15	07/08-2023	12.00	dikampus	Revisi Abstrak	

Catatan : Kartu ini harus dibawa setiap kali melakukan bimbingan dan harus diisi oleh dosen pembimbing.

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Lampiran 11. Data Riwayat Hidup

DAFTAR RIWAYAT HIDUP

Nama	: NURDISA KHAPON
Tempat/Tanggal lahir	: Sumedang, 28 Desember 2000
Jenis Kelamin	: Perempuan
Agama	: Islam
Kewarganegaraan	: Indonesia
Alamat	: Dsn. Sukaluyu RT/RW 01/07 Kec. Situraja Utara, Desa. Situraja Utara Kab. Sumedang 45371
Telepon	: 087805342034
Email	: Nurdisakn117@gmail.com

PENDIDIKAN

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SMP	: SMPN 1 SITURAJA
SMA	: SMAN 2 SUMEDANG
S1	: UNIVERSITAS BHAKTI KENCANA BANDUNG