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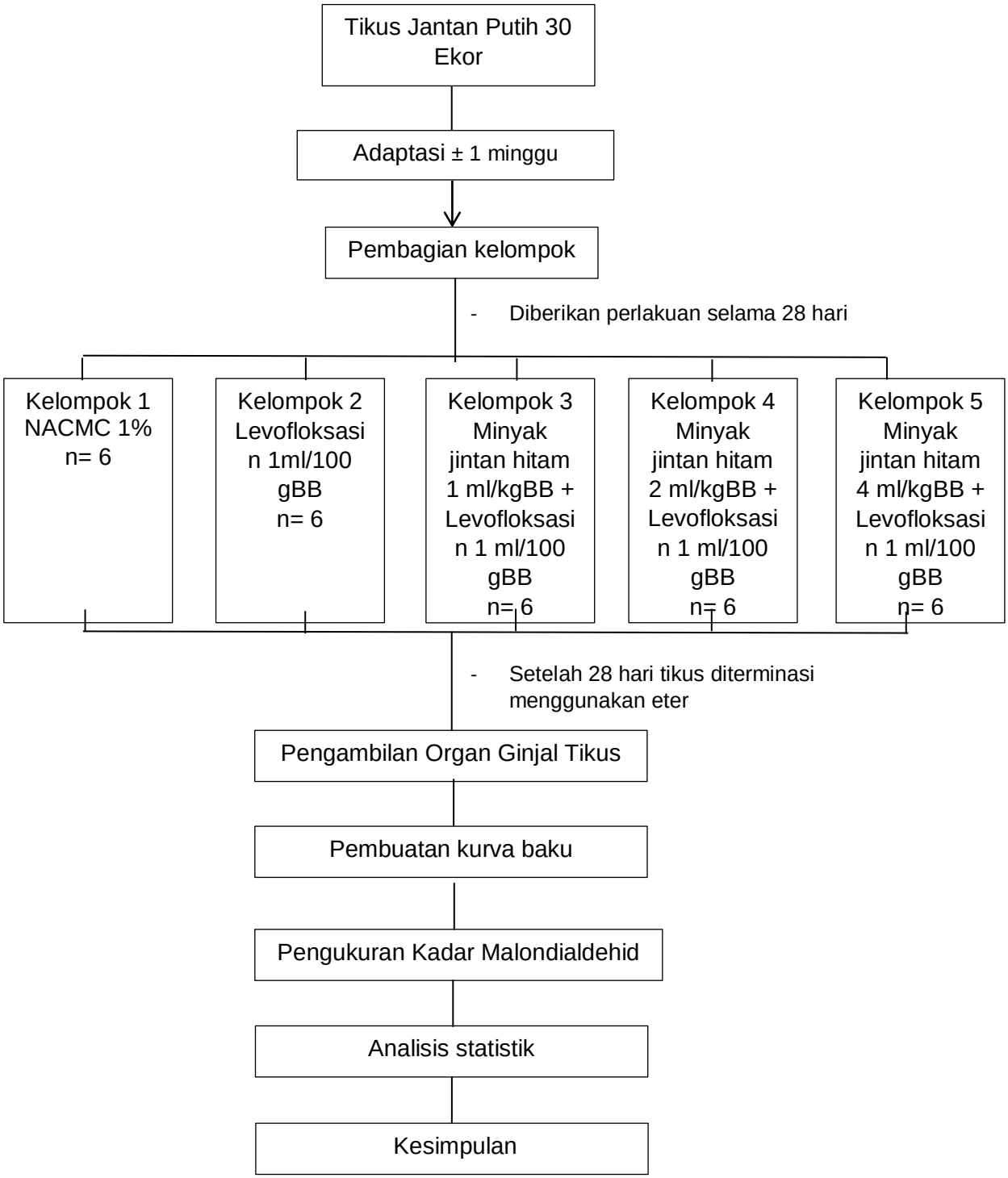
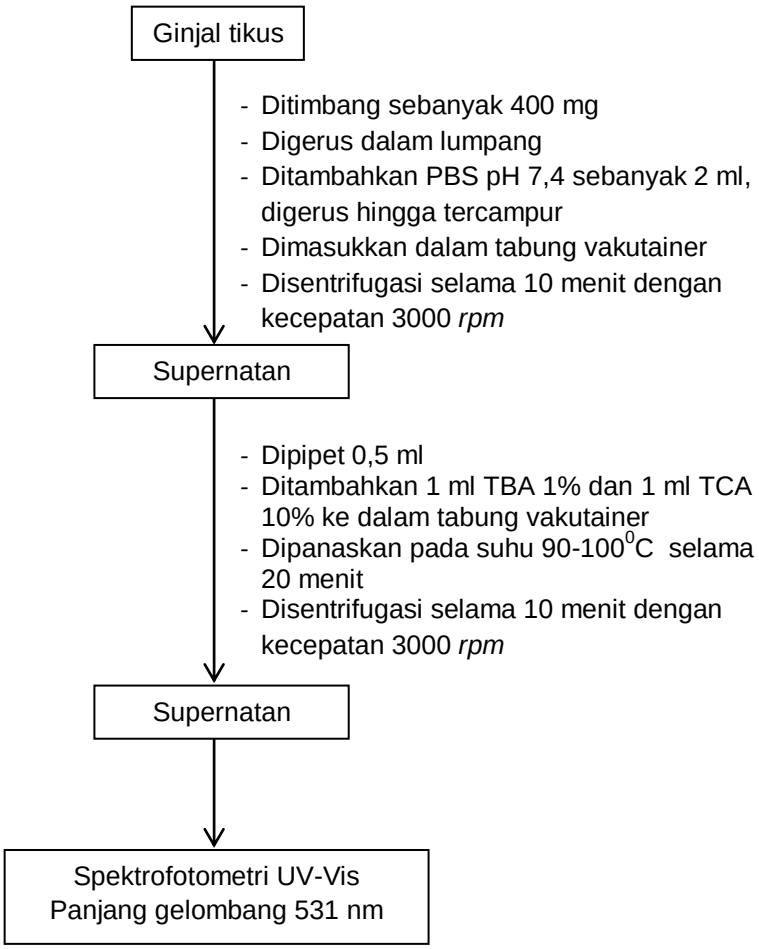
LAMPIRAN 1

SKEMA KERJA PENELITIAN

1. Skema Perlakuan Hewan Coba

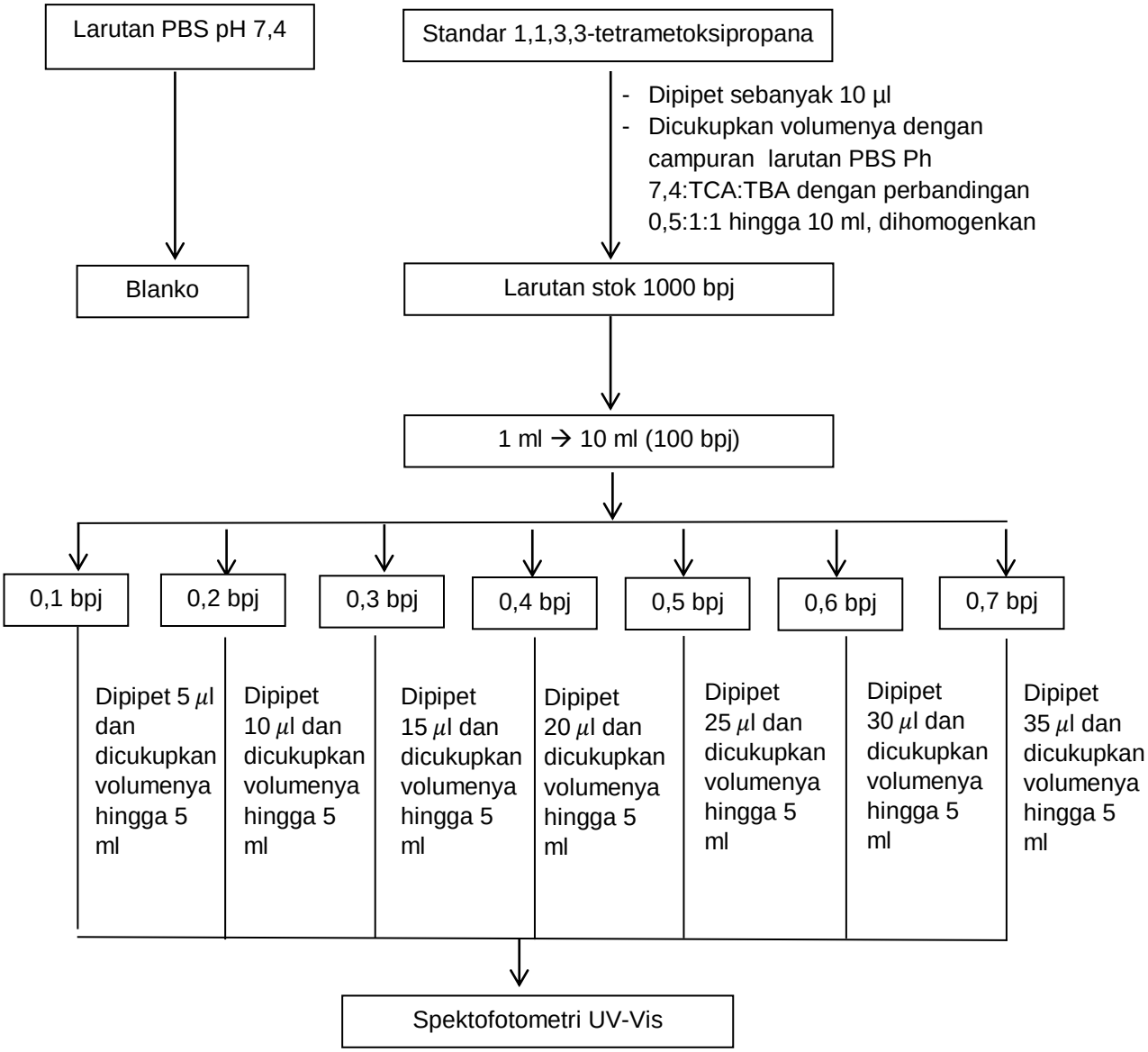


2. Skema Pengukuran Kadar Malondialdehid



LAMPIRAN 2

SKEMA KERJA PENGUKURAN KURVA BAKU



LAMPIRAN 3

PERHITUNGAN DOSIS

1. Levofloksasin

Dalam pembuatan levofloksasin dihitung dosis yang akan diberikan pada hewan coba tikus dengan rumus :

Dosis hitung levofloksasin $= \frac{Dosis\ Levofloksasin}{Volume\ Pemberian} \times volume\ labu\ tentukur$

$= \frac{9{,}3\ mg/kgBB}{ml} \times 100\ ml$

= 930 mg per 100 ml

c. Bobot yang ditimbang $= \frac{Dosis\ Hitung\ Levofloksasin}{Bobot\ Etiket} \times Berat\ rata - rata\ 20\ tablet$

$= \frac{930\ mg}{500\ mg} \times 764{,}762\ mg$

= 14,224 mg

= 0,0142 g

d. Pembuatan suspensi tablet levofloksasin yang digunakan pada hewan coba

Dosis levofloksasin $= \frac{Dosis\ Tablet\ Levofloksasin}{Volume\ Pemberian} \times Volume\ labu\ tentukur$

$= \frac{0{,}0142\ g}{ml} \times 100\ ml$

= 1,422 g per 100 ml

2. Minyak Jintan Hitam

Penggunaan dosis minyak jintan hitam yang dipakai pada penelitian ini yaitu 1 ml, 2 ml, dan 4 ml/kgBB. Untuk tikus dengan berat badan 100 g (0,1 kg) dapat dihitung dengan rumus :

a. Dosis hitung minyak jintan hitam = Dosis pemberian × Berat Badan hewan coba (kg)
   - Untuk dosis 1 ml/kgBB = 1 ml × 0,1 kg = 0,1 ml/ 100 gBB
   - Untuk dosis 2 ml/kgBB = 2 ml × 0,1 kg = 0,2 ml/ 100 gBB
   - Untuk dosis 4 ml/kgBB = 4 ml × 0,1 kg = 0,4 ml/ 100 gBB

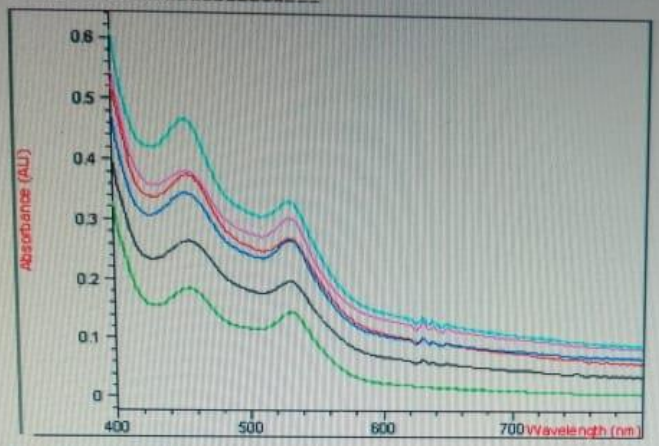
Sebelum pemberian dosis minyak jintan hitam pada hewan coba tikus terlebih dahulu minyak jintan hitam tersebut dicukupkan volumenya dengan minyak jagung sebagai pembawa hingga 1 ml sehingga volume pemberian sediaan minyak jintan hitam menjadi 1 ml/100 gBB.

LAMPIRAN 4

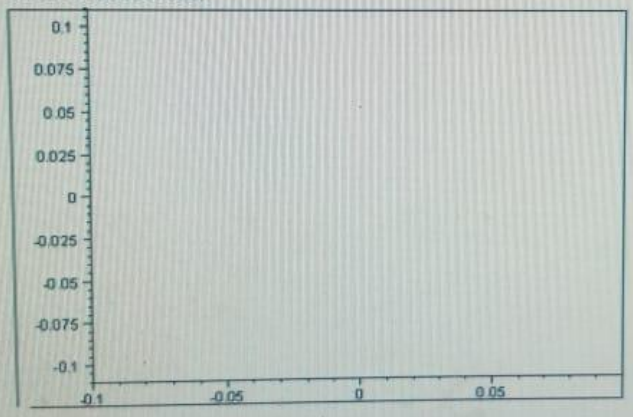
HASIL PENGUKURAN ABSORBANSI TIAP KELOMPOK PERLAKUAN

Hardcopy view Date 1/4/1980 Time 01:21:47 Page 1 of

Processed Standard Spectra



Calibration Curve



Calibration Table (*)

#	Standard Name	Concentration(ppm)	Abs<531nm>	%Error
1	K1A GINJAL	0.00000	0.19887	***
2	K1B GINJAL	0.00000	0.27169	***
3	K1C GINJAL	0.00000	0.26863	***
4	K1D GINJAL	0.00000	0.33360	***
5	K1E GINJAL	0.00000	0.30548	***
6	K1F GINJAL	0.00000	0.14619	***

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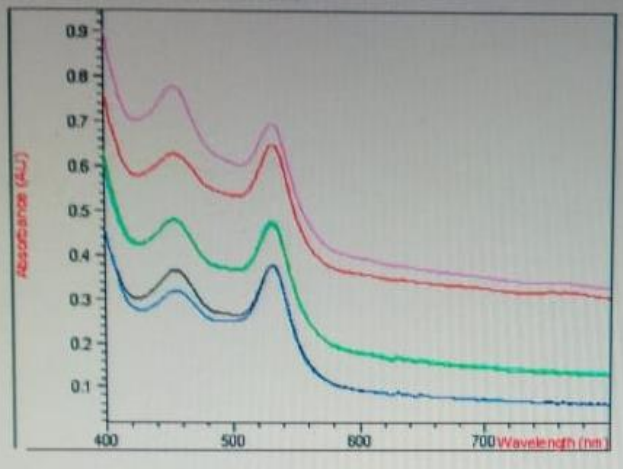
Processed Standard Spectra



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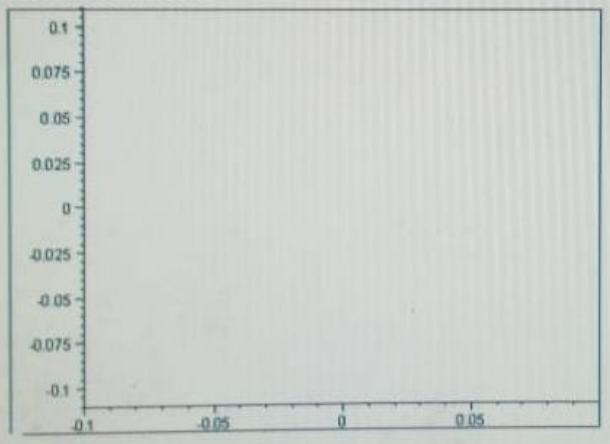

Calibration Table (*)

#	Standard Name	Concentration(ppm)	Abs<531nm>	%Error
1	K2A GINJAL	0.00000	0.38062	***
2	K2B GINJAL	0.00000	0.65136	***
3	K2C GINJAL	0.00000	0.37853	***
4	K2D GINJAL	0.00000	0.48128	***
5	K2E GINJAL	0.00000	0.69861	***
6	K2F GINJAL	0.00000	0.47232	***

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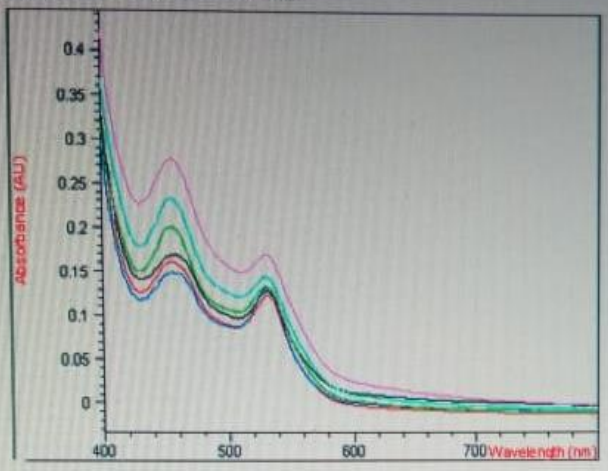
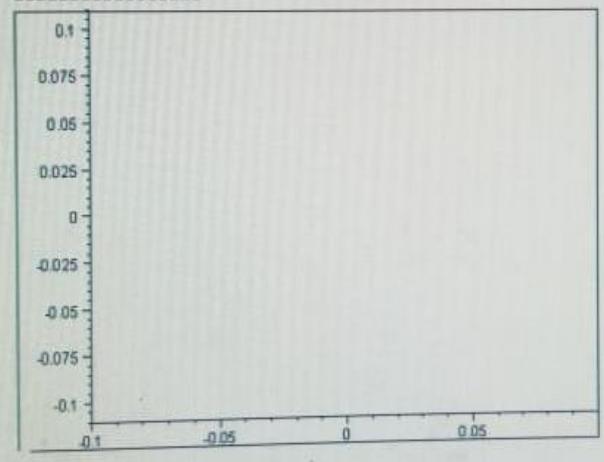
Processed Standard Spectra



Calibration Curve



Calibration Table (*)

#	Standard Name	Concentration(ppm)	Abs<531nm>	%Error
1	K3A GINJAL	0.00000	0.12098	***
2	K3B GINJAL	0.00000	0.12404	***
3	K3C GINJAL	0.00000	0.13318	***
4	K3D GINJAL	0.00000	0.14504	***
5	K3E GINJAL	0.00000	0.17031	***
6	K3F GINJAL	0.00000	0.13366	***

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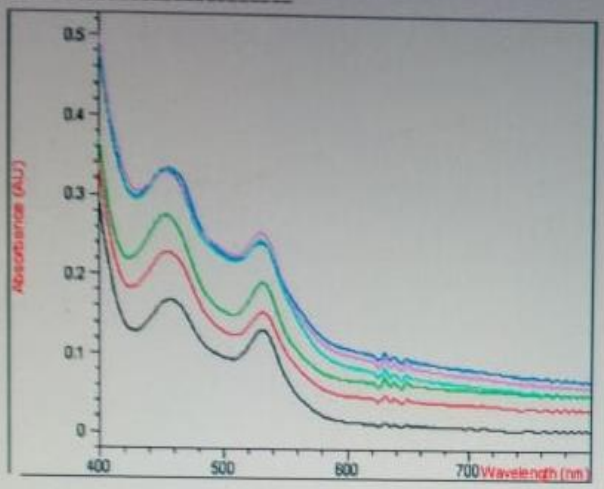
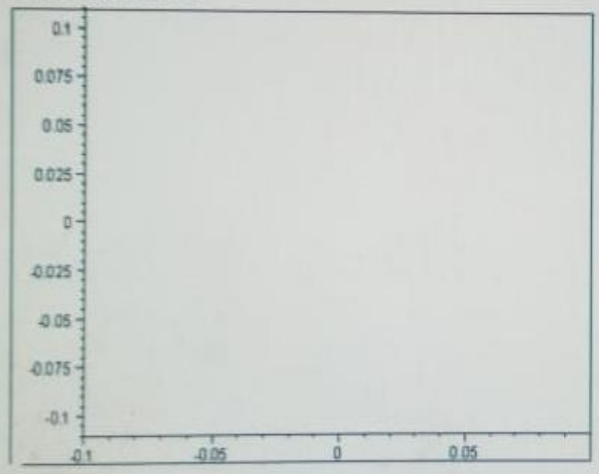


Calibration Curve



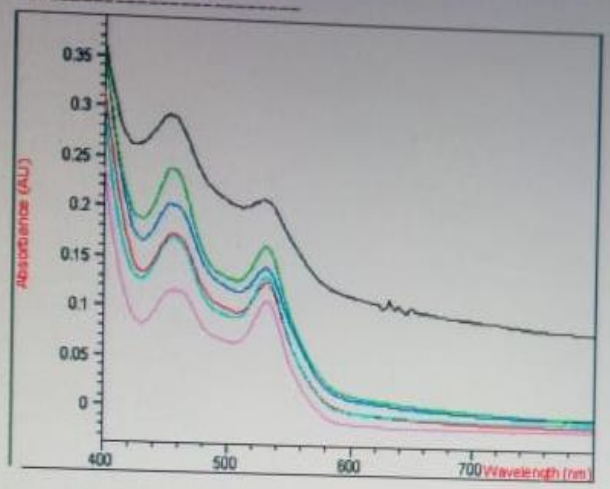
Calibration Table (*)

#	Standard Name	Concentration(ppm)	Abs<531nm>	%Error
1	K4A GINJAL	0.00000	0.13231	***
2	K4B GINJAL	0.00000	0.15430	***
3	K4C GINJAL	0.00000	0.24250	***
4	K4D GINJAL	0.00000	0.24441	***
5	K4E GINJAL	0.00000	0.25483	***
6	K4F GINJAL	0.00000	0.19170	***

Hardcopy view

Date 1/1/1980 Time 01:30:00 Page 1 of 2

Processed Standard Spectra



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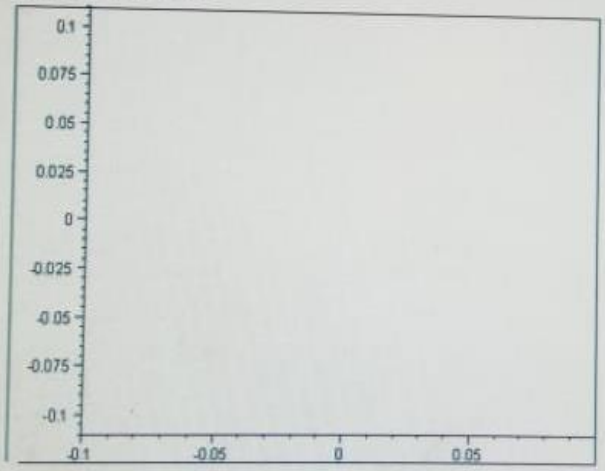


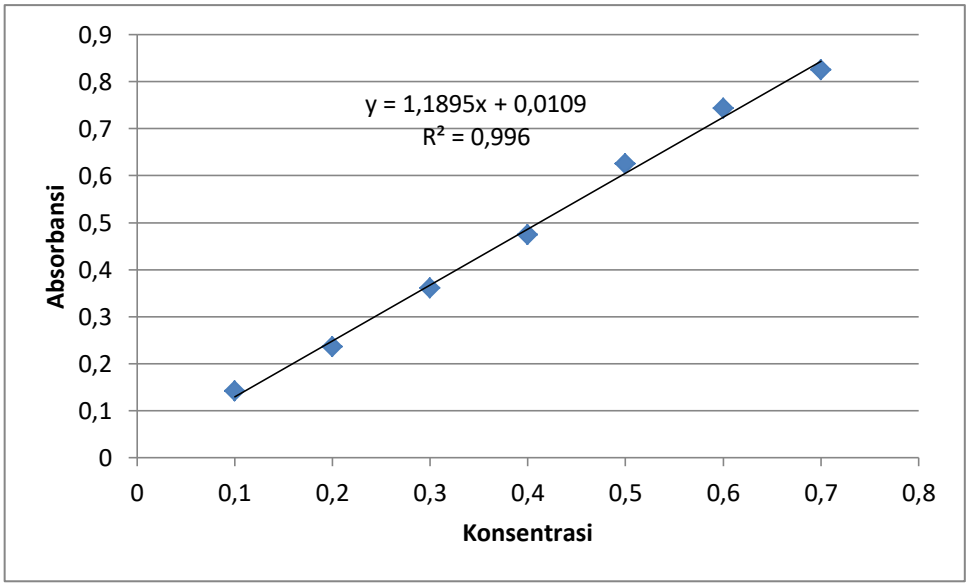
Calibration Table (*)

#	Standard Name	Concentration(ppm)	Abs<531nm>	%Error
1	K5A GINJAL	0.00000	0.21019	***
2	K5B GINJAL	0.00000	0.12669	***
3	K5C GINJAL	0.00000	0.14197	***
4	K5D GINJAL	0.00000	0.13259	***
5	K5E GINJAL	0.00000	0.10829	***
6	K5F GINJAL	0.00000	0.16337	***

LAMPIRAN 5

GRAFIK KURVA STANDAR

Konsentrasi (ppm)	Absorbansi
0,1	0,14159
0,2	0,23585
0,3	0,36118
0,4	0,47404
0,5	0,62569
0,6	0,74335
0,7	0,82531



LAMPIRAN 6

PERHITUNGAN NILAI X DAN KADAR MDA

6.1 Perhitungan Nilai X

Persamaan garis kurva baku;

Y = 1,1895x + 0,0109

Kelompok 1

K1A

0,19887 = 1,1895x + 0,0109

$$x = \frac{0,19887-0,0109}{1,1895}$$

x = 0,15802438

K1B

0,27169 = 1,1895x + 0,0109

$$x = \frac{0,27169-0,0109}{1,1895}$$

x = 0,2192433796

K1C

0,26863 = 1,1895x + 0,0109

$$x = \frac{0,26863-0,0109}{1,1895}$$

x = 0,2166708701

K1D

0,33360 = 1,1895x + 0,0109

$$x = \frac{0,33360-0,0109}{1,1895}$$

x = 0,2712904582

K1E

0,30548 = 1,1895x + 0,0109

$$x = \frac{0,30548-0,0109}{1,1895}$$

x = 0,2476502732

K1F

0,14619 = 1,1895x + 0,0109

$$x = \frac{0,14619-0,0109}{1,1895}$$

x=0,1137368642

Kelompok 2

K2A

0,38062 = 1,1895x + 0,0109

$x = \frac{0,38062-0,0109}{1,1895}$

x = 0,3108196721

K2B

0,65136 = 1,1895x + 0,0109

$x = \frac{0,65136-0,0109}{1,1895}$

x = 0,5384279109

K2C

0,37853 = 1,1895x + 0,0109

$x = \frac{0,37853-0,0109}{1,1895}$

x = 0,3090626314

K2D

0,48128 = 1,1895x + 0,0109

$x = \frac{0,48128-0,0109}{1,1895}$

x = 0,3954434636

K2E

0,69861 = 1,1895x + 0,0109

$x = \frac{0,69861-0,0109}{1,1895}$

x = 0,5781504834

K2F

0,47232 = 1,1895x + 0,0109

$x = \frac{0,47232-0,0109}{1,1895}$

x = 0,3879108869

Kelompok 3

K3A

0,12898 = 1,1895x + 0,0109

$x = \frac{0,12898-0,0109}{1,1895}$

x = 0,09926860025

K3B

0,12404 = 1,1895x + 0,0109

$x = \frac{0,12404-0,0109}{1,1895}$

x = 0,09511559479

K3C

0,13318 = 1,1895x + 0,0109

$x = \frac{0,13318-0,0109}{1,1895}$

x = 0,1027994956

K3D

0,14504 = 1,1895x + 0,0109

$x = \frac{0,14504-0,0109}{1,1895}$

x = 0,1127700715

K3E

0,17031 = 1,1895x + 0,0109

$x = \frac{0,17031-0,0109}{1,1895}$

x = 0,1340142917

K3F

0,13366 = 1,1895x + 0,0109

$x = \frac{0,13366-0,0109}{1,1895}$

x = 0,1032030265

Kelompok 4

K4A

0,13231 = 1,1895x + 0,0109

$x = \frac{0,13231-0,0109}{1,1895}$

x = 0,1020680958

K4B

0,15430 = 1,1895x + 0,0109

$x = \frac{0,15430-0,0109}{1,1895}$

x = 0,120554855

K4C

0,24250 = 1,1895x + 0,0109

$x = \frac{0,24250-0,0109}{1,1895}$

x = 0,194703657

K4D

0,24441 = 1,1895x + 0,0109

$x = \frac{0,24441-0,0109}{1,1895}$

x = 0,1963093737

K4E

0,25483 = 1,1895x + 0,0109

$$x = \frac{0,25483-0,0109}{1,1895}$$

x = 0,2025472888

K4F

0,19170 = 1,1895x + 0,0109

$$x = \frac{0,19170-0,0109}{1,1895}$$

x = 0,1519966372

Kelompok 5

K5A

0,21019 = 1,1895x + 0,0109

$$x = \frac{0,21019-0,0109}{1,1895}$$

x = 0,1675409836

K5B

0,12669 = 1,1895x + 0,0109

$$x = \frac{0,12669-0,0109}{1,1895}$$

x = 0,09734342161

K5C

0,14197 = 1,1895x + 0,0109

$$x = \frac{0,14197-0,0109}{1,1895}$$

x = 0,1109457755

K5D

0,13259 = 1,1895x + 0,0109

$$x = \frac{0,132590,0109}{1,1895}$$

x = 0,1023034889

K5E

0,10829 = 1,1895x + 0,0109

$$x = \frac{0,10829-0,0109}{1,1895}$$

x = 0,08187473728

K5F

0,16337 = 1,1895x + 0,0109

$$x = \frac{0,16337-0,0109}{1,1895}$$

x = 0,1281799075

6.2 Perhitungan Kadar MDA

Kadar MDA dihitung dengan menggunakan rumus :

Kadar MDA = (x) x D

Ket :

X = Hasil perhitungan nilai absorbansi sampel dengan persamaan kurva baku

D = Faktor Pengenceran

Kelompok 1

K1A

Kadar MDA = 0,1580 x 0,2

= 0,0316 µg/ml

K1B

Kadar MDA = 0,2192 x 0,2

= 0,0438 µg/ml

K1C

Kadar MDA = 0,2166 x 0,2

= 0,0433 µg/ml

K1D

Kadar MDA = 0,2712 x 0,2

= 0,0542 µg/ml

K1E

Kadar MDA = 0,2476 x 0,2

= 0,0495 µg/ml

K1F

Kadar MDA = 0,1137 x 0,2

= 0,0227 µg/ml

Kelompok 2

K2A

Kadar MDA = 0,3108 x 0,2

= 0,0621 µg/ml

K2AB

Kadar MDA = 0,5384 x 0,2

= 0,1076 µg/ml

K2C

Kadar MDA = 0,3090 x 0,2

= 0,0618 µg/ml

K2D

Kadar MDA = 0,3954 x 0,2

= 0,0790 µg/ml

K2E

Kadar MDA = 0,5781 x 0,2

= 0,1156 µg/ml

K2F

Kadar MDA = 0,3879 x 0,2

= 0,0775 µg/ml

Kelompok 3

K3A

Kadar MDA = 0,0992 x 0,2

= 0,0198 µg/ml

K3B

Kadar MDA = 0,0951 x 0,2

= 0,0190 µg/ml

K3C

Kadar MDA = 0,1027 x 0,2

= 0,0205 µg/ml

K3D

Kadar MDA = 0,1127 x 0,2

= 0,0225 µg/ml

K3E

Kadar MDA = 0,1340 x 0,2

= 0,0268 µg/ml

K3F

Kadar MDA = 0,1032 x 0,2

= 0,0206 µg/ml

Kelompok 4

K4A

Kadar MDA = 0,1020 x 0,2

= 0,0204 µg/ml

K4B

Kadar MDA = 0,1205 x 0,2

= 0,0241 µg/ml

K4C

Kadar MDA = 0,1947 x 0,2

= 0,0389 µg/ml

K4D

Kadar MDA = 0,1963 x 0,2

= 0,0392 µg/ml

K4E

Kadar MDA = 0,2025 x 0,2

= 0,0405 µg/ml

K4F

Kadar MDA = 0,1519 x 0,2

= 0,0303 µg/ml

Kelompok 5

K5A

Kadar MDA = 0,1675 x 0,2

= 0,0335 µg/ml

K5B

Kadar MDA = 0,0973 x 0,2

= 0,0194 µg/ml

K5C

Kadar MDA = 0,1109 x 0,2

= 0,0221 µg/ml

K5D

Kadar MDA = 0,1023 x 0,2

= 0,0204 µg/ml

K5E

Kadar MDA = 0,0818 x 0,2

= 0,0163 µg/ml

K5F

Kadar MDA = 0,1281 x 0,2

= 0,0256 µg/ml

LAMPIRAN 7

HASIL ANALISIS STATISTIK

Tabel 3. Hasil Analisis statistik distribusi sampel menggunakan metode Kolmogorov-Smirnov

One-Sample Kolmogorov-Smirnov Test		
		Kadar MDA
N		30
Normal Parameters[a,b]	Mean	,040287
	Std. Deviation	,0260107
Most Extreme Differences	Absolute	,180
	Positive	,180
	Negative	-,178
Kolmogorov-Smirnov Z		,984
Asymp. Sig. (2-tailed)		,288

Tabel 4. Hasil analisis statistik menggunakan metode One Way ANOVA

ANOVA

Kadar MDA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,016	4	,004	25,424	,000
Within Groups	,004	25	,000		
Total	,020	29			

Tabel 5. Hasil analisis statistik posthoc test menggunakan metode One Way ANOVA

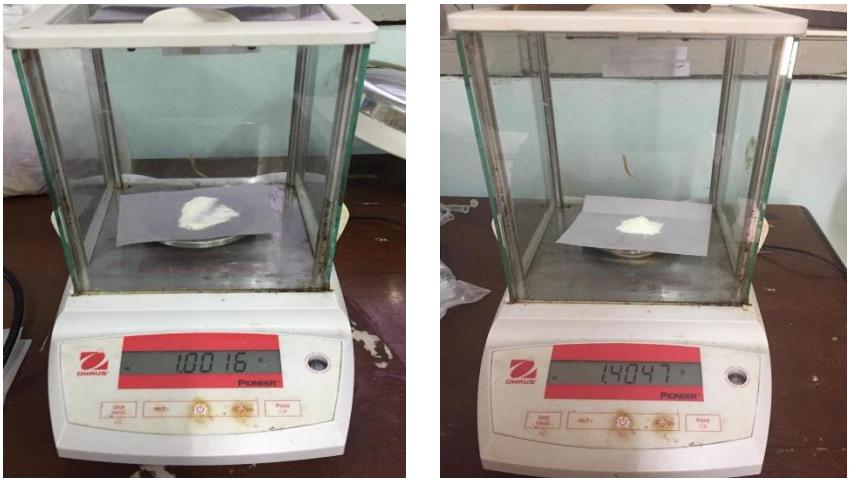
(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
KONTROL SEHAT	SUSP.LEVO	-,0430833*	,0071847	,000	-,064184*	-,021983
	SUSP.LEVO+1 ml MJH	,0193167	,0071847	,084	-,001784	,040417
	SUSP.LEVO+2 ml MJH	,0086167	,0071847	,752	-,012484	,029717
	SUSP.LEVO+4 ml MJH	,0179667	,0071847	,123	-,003134	,039067
SUSP.LEVO	KONTROL SEHAT	,0430833*	,0071847	,000	,021983*	,064184
	SUSP.LEVO+1 ml MJH	,0624000*	,0071847	,000	,041299*	,083501
	SUSP.LEVO+2 ml MJH	,0517000*	,0071847	,000	,030599*	,072801
	SUSP.LEVO+4 ml MJH	,0610500*	,0071847	,000	,039949*	,082151
SUSP.LEVO+1 ml MJH	KONTROL SEHAT	-,0193167	,0071847	,084	-,040417	,001784
	SUSP.LEVO	-,0624000*	,0071847	,000	-,083501*	-,041299
	SUSP.LEVO+2 ml MJH	-,0107000	,0071847	,579	-,031801	,010401
	SUSP.LEVO+4 ml MJH	-,0013500	,0071847	1,000	-,022451	,019751
SUSP.LEVO+2 ml MJH	KONTROL SEHAT	-,0086167	,0071847	,752	-,029717	,012484
	SUSP.LEVO	-,0517000*	,0071847	,000	-,072801*	-,030599
	SUSP.LEVO+1 ml MJH	,0107000	,0071847	,579	-,010401	,031801
	SUSP.LEVO+4 ml MJH	,0093500	,0071847	,693	-,011751	,030451
SUSP.LEVO+4 ml MJH	KONTROL SEHAT	-,0179667	,0071847	,123	-,039067	,003134
	SUSP.LEVO	-,0610500*	,0071847	,000	-,082151*	-,039949
	SUSP.LEVO+1 ml MJH	,0013500	,0071847	1,000	-,019751	,022451
	SUSP.LEVO+2 ml MJH	-,0093500	,0071847	,693	-,030451	,011751

*. The mean difference is significant at the 0.05 level

LAMPIRAN 8

DOKUMENTASI PENELITIAN

Gambar 8. Proses adaptasi hewan uji



Gambar 9. Proses penimbangan Nacmc dan levofloksasin

Gambar 10. Penyiapan sampel minyak jintan hitam dan minyak jagung

Gambar 11. Pembuatan suspensi NaCMC 1%

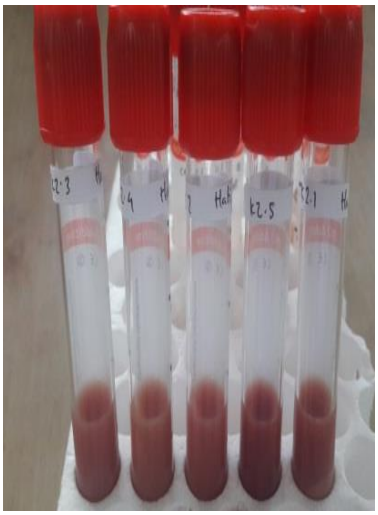
Gambar 12. Pemberian larutan uji secara oral

Gambar 13. Proses pembedahan dan pengambilan organ

Gambar 14. Proses pembilasan organ dalam NaCl 0,9%

Gambar 15. Proses penimbangan organ ginjal

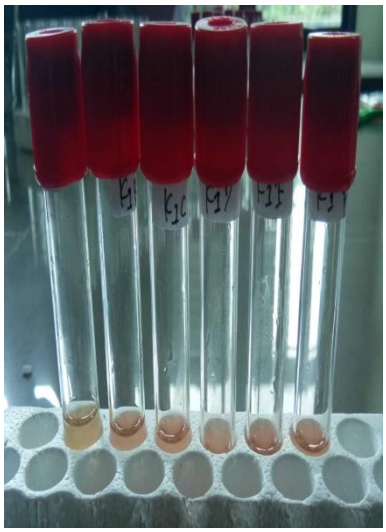
Gambar 16. Proses penggerusan organ ginjal dan penambahan PBS PH 7,4



Gambar 17. Sampel organ ginjal yang akan di sentrifuse

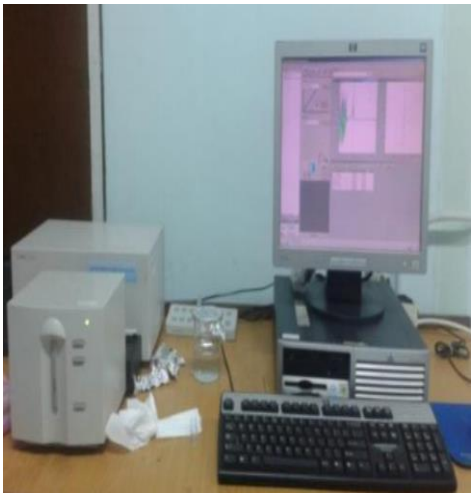
Gambar 18. Proses sentrifuse organ ginjal

Gambar 19. Proses pemanasan organ yang telah di tambahkan TBA 1% dan TCA 10%



Gambar 20. Sampel organ ginjal yang akan di ukur pada spektrofotometri Uv-Vis

Gambar 21. Proses pembuatan kurva standar



Gambar 22. Alat spektrofotometri Uv-Vis

Gambar 23. Minyak jintan hitam

LAMPIRAN 10

PERHITUNGAN KADAR THYMOQUINONE DALAM MINYAK JINTAN HITAM

%Kadar $= \frac{AUC\ Sampel}{AUC\ Baku} \times 100\%$

$= \frac{14,07}{100} \times 100\%$

= 14,07%

LAMPIRAN 11

PERHITUNGAN PERSENTASE PENGHAMBATAN MINYAK JINTAN HITAM

$$\%\text{Penghambatan} = \frac{Kadar\ MDA\ K2 - \text{Kadar MDA Kelompok yang ingin dicari}}{Kadar\ MDA\ K2} \times 100\%$$

a. %Penghambatan K3 $= \frac{0{,}0839 - 0{,}0215}{0{,}0839} \times 100\%$

$= 74{,}37\%$

b. %Penghambatan K4 $= \frac{0{,}0839 - 0{,}0322}{0{,}0839} \times 100\%$

$= 61{,}62\%$

c. %Penghambatan K5 $= \frac{0{,}0839 - 0{,}0228}{0{,}0839} \times 100\%$

$= 72{,}82\%$

LAMPIRAN 12

KODE ETIK

KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN
KOMITE ETIK PENELITIAN KESEHATAN
RSPTN UNIVERSITAS HASANUDDIN
RSUP Dr. WAHIDIN SUDIROHUSODO MAKASSAR
Sekretariat : Lantai 2 Gedung Laboratorium Terpadu
JL.PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10 MAKASSAR 90245.
Contact Person: dr. Agussalim Bukhari.,MMed.PhD, SpGK TELP. 081241850858, 0411 5780103, Fax : 0411-581431

REKOMENDASI PERSETUJUAN ETIK

Nomor : 35/UN4.6.4.5.31/ PP36/ 2021

Tanggal: 26 Januari 2021

Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan Dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

No Protokol	UH20120693	No Sponsor Protokol	
Peneliti Utama	**Siti Aminah**	Sponsor	
Judul Peneliti	UJI EFEK PROTEKTIF MINYAK JINTAN HITAM (Nigella sativa L.) TERHADAP PENINGKATAN KADAR MALONDIALDEHID GINJAL TIKUS PUTIH YANG DIINDUKSI LEVOFLOKSASIN		
No Versi Protokol	**1**	Tanggal Versi	3 Desember 2020
No Versi PSP		Tanggal Versi	
Tempat Penelitian	**Laboratorium Fakultas Farmasi dan Pusat Kegiatan Penelitian Universitas Hasanuddin Makassar**		
Jenis Review	☐ Exempted ☒ Expedited ☐ Fullboard Tanggal	Masa Berlaku **26 Januari 2021** sampai **26 Januari 2022**	Frekuensi review lanjutan
Ketua Komisi Etik Penelitian Kesehatan FKUH	Nama **Prof.Dr.dr. Suryani As'ad, M.Sc.,Sp.GK (K)**	Tanda tangan	
Sekretaris Komisi Etik Penelitian Kesehatan FKUH	Nama **dr. Agussalim Bukhari, M.Med.,Ph.D.,Sp.GK (K)**	Tanda tangan	

Kewajiban Peneliti Utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
- Menyerahkan Laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan Lapor SUSAR dalam 72 Jam setelah Peneliti Utama menerima laporan
- Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
- Menyerahkan laporan akhir setelah Penelitian berakhir
- Melaporkan penyimpangan dari prokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan