

LAMPIRAN

Lampiran 1 *Microplate 96-well* (F0-F3)

	1	2	3	4	5	6	7	8	9	10	11	12
A	D	D	D	E1	E1	E1	GE1	GE1	GE1	A1	A1	A1
B	B	B	B	E2	E2	E2	GE2	GE2	GE2	A2	A2	A2
C				E3	E3	E3	GE3	GE3	GE3	A3	A3	A3
D				E4	E4	E4	GE4	GE4	GE4	A4	A4	A4
E				E5	E5	E5	GE5	GE5	GE5	A5	A5	A5
F				E6	E6	E6	GE6	GE6	GE6	A6	A6	A6
G												
H												

Keterangan :

B = Blanko (Etanol 96%)

D = DPPH

E1 – E6 = Variasi konsentrasi Ekstrak Etanol Daun Salam + DPPH

GE1 – GE6 = Variasi konsentrasi Gel Ekstrak Etanol Daun Salam + DPPH

A1 – A6 = Variasi Asam Askorbat + DPPH

Lampiran 2 Determinasi Tanaman



UNIVERSITAS INDONESIA
FAKULTAS MATEMATIKA DAN
ILMU PENGETAHUAN ALAM

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Depok, 7 Juni 2023

Nomor : 533/UN2.F3.11/PDP.02.00/2023
Lampiran : 1 halaman (Daftar Referensi dan Catatan Identifikator)
Perihal : Hasil identifikasi tumbuhan

Kepada
Dita Aprilia Dewi
Program Studi Farmasi
Fakultas Ilmu-ilmu Kesehatan
Universitas Esa Unggul
Duri Kepa, Kebon Jeruk
DKI Jakarta 11510

Dengan hormat,
bersama ini kami sampaikan hasil identifikasi tumbuhan yang Saudara kirimkan ke Herbarium Depokensis (UIDEP), Ruang Koleksi Biota Universitas Indonesia, pada tanggal 6 Juni 2023, adalah sebagai berikut dengan acuan yang tertera pada lampiran.

No.	Dugaan dan Kode Spesimen	Hasil Identifikasi	
		Spesies	Famili
1.	Daun Salam (<i>Syzygium polyanthum</i> W.) famili Myrtaceae [J123-P-072]	<i>Syzygium polyanthum</i> (Wight) Walp. *	Myrtaceae

*lihat catatan identifikator

Departemen Biologi FMIPA UI dan Herbarium Depokensis (UIDEP), Ruang Koleksi Biota Universitas Indonesia tidak bertanggung jawab terhadap tindakan penyalahgunaan hasil identifikasi. Demikian surat ini dibuat untuk dapat dipergunakan sebagaimana mestinya oleh pihak yang bersangkutan.

Departemen Biologi FMIPA UI
Universitas Indonesia
Anom Bowo Purwono, Ph.D
NIP. 197406011998021001

Lampiran 3 Ekstraksi



Proses pencucian daun salam



Simplisia yang telah kering



Serbuk simplisia



Maserasi



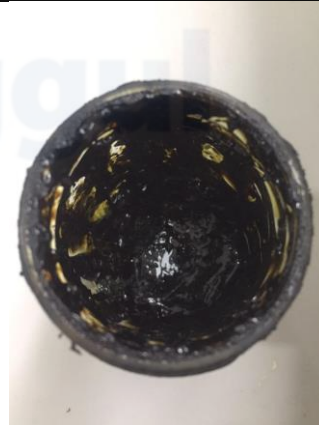
Proses penyaringan



Rotary Evaporator



Proses penguapan pelarut dengan waterbath



Ekstrak kental

Perhitungan Rendemen Simplisia

$$\begin{aligned} \% \text{ Rendemen simplisia} &= \frac{\text{berat akhir (g)}}{\text{berat awal (g)}} \times 100\% \\ &= \frac{1500 \text{ (g)}}{3000 \text{ (g)}} \times 100\% \\ &= 50\% \end{aligned}$$

Perhitungan rendemen Ekstrak

$$\begin{aligned} \% \text{ Rendemen ekstrak} &= \frac{\text{bobot ekstrak (g)}}{\text{bobot simplisia (g)}} \times 100\% \\ &= \frac{40 \text{ (g)}}{300 \text{ (g)}} \times 100\% \\ &= 13,3\% \end{aligned}$$

Lampiran 4 Skrining Fitokimia



Flavonoid (positif)



Saponin (Positif)



Alkaloid dragendroff (positif)



Tanin (positif)



Steroid (negatif)



Triterpenoid (negatif)



Alkaloid Wagner (Positif)

Lampiran 5 Alat dan Bahan



Neraca analitik



pH meter



Viskometer



Oven



HPMC



Propilenglikol



Metylparaben



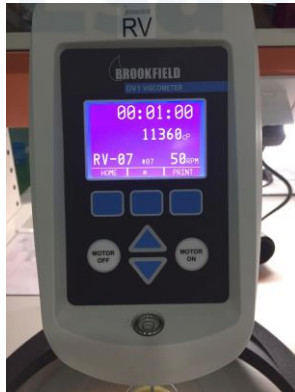
Propylparaben

Lampiran 6 Sediaan Gel Ekstrak Etanol Daun Salam



Sediaan Gel Ekstrak Etanol Daun Salam

Lampiran 7 Evaluasi Sediaan Gel Ekstrak Etanol Daun Salam



Uji viskositas



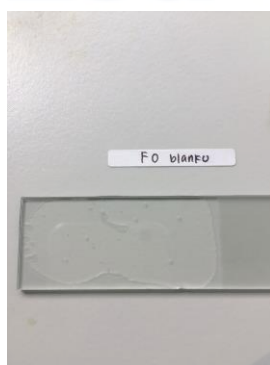
Uji pH



Uji daya sebar



Uji daya lekat



Uji homogenitas



Uji sineresis

Lampiran 8 Perhitungan Nilai IC₅₀ Asam AskorbatPerhitungan nilai IC₅₀ Asam Askorbat

$$Y = ax + b$$

$$(y) = 50 \quad (a) = 9,6306x \quad (b) = -8,2101$$

$$IC_{50} = \frac{50-b}{a}$$

$$= 50 - (-8,2101) / 9,6306$$

$$= 6,04 \mu\text{g/mL}$$

Lampiran 9 Perhitungan Nilai IC₅₀ Ekstrak Etanol Daun SalamPerhitungan nilai IC₅₀ Ekstrak Etanol Daun Salam

$$Y = ax + b$$

$$(y) = 50 \quad (a) = 1,945x \quad (b) = + 27,159$$

$$IC_{50} = \frac{50-b}{a}$$

$$= 50 - 27,159 / 1,945$$

$$= 11,74 \mu\text{g/mL}$$

Lampiran 10 Hasil Pengukuran Nilai % Inhibisi Basis Gel (F0)

Sampel	Konsentrasi μg/mL	Absorbansi Pengulangan			Rata- rata	Absorbansi sampel	% Inhibisi
		1	2	3			
Formula (0)	180	0.6417	0.6011	0.6221	0.6217	0.577	15.84
	200	0.6039	0.6119	0.6058	0.6073	0.563	17.95
	400	0.6157	0.6196	0.6147	0.6167	0.572	16.58
	600	0.6140	0.6184	0.6085	0.6137	0.569	17.01
	800	0.6168	0.634	0.6369	0.6292	0.585	14.74
	1000	0.6329	0.6901	0.6983	0.6738	0.629	8.25

	Absorbansi Pengulangan			Rata- rata
	1	2	3	
Etanol p.a	0.0433	0.045	0.0451	0.04447
DPPH 100 ppm	0.7369	0.7149	0.7393	0.73037
				0.6859

Lampiran 11 Perhitungan Nilai IC₅₀ Gel Ekstrak Etanol Daun Salam (F1)Perhitungan nilai IC₅₀ Ekstrak Etanol Daun Salam

$$Y = ax + b$$

$$(y) = 50 \quad (a) = 0,0636x \quad (b) = + 19,891$$

$$IC_{50} = \frac{50-b}{a}$$

$$= 50 - 19,891 / 0,0636$$

$$= 473,41 \mu\text{g/mL}$$

Lampiran 12 Perhitungan Nilai IC₅₀ Gel Ekstrak Etanol Daun Salam (F2)Perhitungan nilai IC₅₀ Ekstrak Etanol Daun Salam

$$Y = ax + b$$

$$(y) = 50 \quad (a) = 0,0389x \quad (b) = + 36,329$$

$$IC_{50} = \frac{50-b}{a}$$

$$= 50 - 36,329 / 0,0389$$

$$= 351,43 \mu\text{g/mL}$$

Lampiran 13 Perhitungan Nilai IC₅₀ Gel Ekstrak Etanol Daun Salam (F3)Perhitungan nilai IC₅₀ Gel Ekstrak Etanol Daun Salam

$$Y = ax + b$$

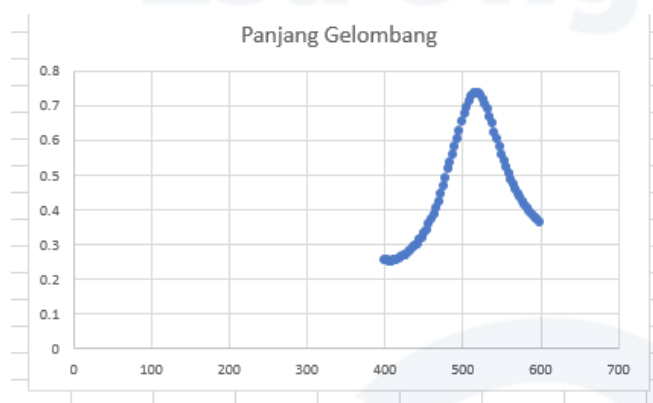
$$(y) = 50 \quad (a) = 0,0057x \quad (b) = + 35,218$$

$$IC_{50} = \frac{50-b}{a}$$

$$= 50 - 0,0557 / 35,218$$

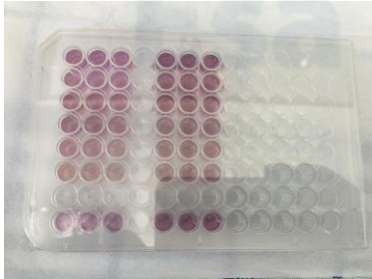
$$= 267,00 \mu\text{g/mL}$$

Lampiran 14 Hasil Optimasi DPPH



517
Absorbansi
0.7369
0.7149
0.7393

Lampiran 15 Microplate reader 96-well



Lampiran 16 COA Bahan

Propilenglikol



HASIL PEMERIKSAAN

Nama Bahan : Propylene Glycol
 No Batch : J 0041/18 (C815HBK22T)
 Ex : Dow Chemical Pacific, Singapore
 E.D. : 11/2025
 Grade : Farma

Jenis Pemeriksaan	Persyaratan USP NF 19	Hasil
Pemerian	Cairan kental jernih, tidak berwarna, tidak berbau, rasa agak manis, higroskopik	Sesuai
Kelarutan	Dapat bercampur dgn air, dengan etanol dan dengan kloroform	Sesuai
Keasam-basaan	≤ 0,3 ml NaOH 0.1N	0,2 ml NaOH 0,1 N
Index Bias	1,431 - 1,433	1,433
Bobot per-ml	1,035 g - 1,037 g/ml	1,0364 g/ml
pH	±6,5	7.476

Kesimpulan : Memenuhi Syarat

Cikarang, 22 – 01 – 2022

Pemeriksa

Aptria Wariski
Staff QC

Penanggung Jawab

Dra. Tri Hartati
Apoteker

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Propilparaben



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CERTIFICATE OF ANALYSIS

Name Of Item : PROPYL-P-HYDROXY BENZOATE **Formula :** C₁₀H₁₂O₃
(Propyl Paraben)

M.W. : 180.21 **Batch No. :**

CAS NO. : 94-13-3 **Cat. No. :** AL3848 05000

Date Of Mfg. : **Date of Analysis :**

Type Of Test	Standard	Observed
Description	White crystalline powder	White crystalline powder
Assay	99.5 - 100.5%	99.60%
Impurities reacting acid	Passes test	Passes test
Lead (Pb)	<0.001%	0.0008%
Copper (Cu)	<0.0025%	<0.0025%
Zinc (Zn)	<0.0025%	0.002%
Arsenic (As)	<0.0003%	0.0002%
Loss on drying at 60°C/2hrs	<0.5%	0.4%
Sulphated ash	<0.05%	0.048%

Results : The above product complies with LR grade

Registered Under Small Scale Industries Maharashtra (India)

HPMC



Certificate of Analysis

(Representative Sample Certificate)

Product Name: Hydroxypropyl Methylcellulose
INCI Name: Hydroxypropyl methylcellulose
CAS Number: 9004-65-3
Lot Number: Not available (data may vary slightly with different lots or batches)
Expiration Date: 36 months from production date

Analytical Tests	Specification	Analysis
Appearance	Off-white to yellowish powder	pass
Odor	Characteristic	pass
Viscosity, 2% in water at 20°C	60,000-90,000	83,921
Moisture as packaged	<7.0%	2.5
Sodium Chloride	<5.0%	0.4
Particle Size, thru 40 U.S. Std. Sieve	>99	100

The above data were obtained using the test indicated and is subject to the deviation inherent in the test method. Results may vary under other test methods or conditions.

This report is not to be signed.

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Lampiran 17 Perhitungan

- Larutan Induk

$$\frac{10 \text{ mg}}{10 \text{ ml}} = 1 \text{ mg/ml} = 1000 \text{ } \mu\text{g/ml}$$
- Pengenceran larutan 100 $\mu\text{g/ml}$

$$= C_1 \times V_1 = C_2 \times V_2$$

$$= 1000 \text{ } \mu\text{g/ml} \times V_1$$

$$= 100 \text{ } \mu\text{g/ml} \times 25 \text{ ml}$$

$$V_1 = \frac{100 \text{ } \mu\text{g/ml} \times 25 \text{ ml}}{1000 \text{ } \mu\text{g/ml}}$$

$$V_1 = 2,5 \text{ ml}$$

1. Perhitungan Larutan Asam Askorbat

- Larutan Induk

$$\frac{10 \text{ mg}}{10 \text{ ml}} = 1 \text{ mg/ml} = 1000 \text{ } \mu\text{g/ml}$$
- Pengenceran Larutan 100 $\mu\text{g/ml}$

$$= C_1 \times V_1 = C_2 \times V_2$$

$$= 1000 \text{ } \mu\text{g/ml} \times V_1$$

$$= 100 \text{ } \mu\text{g/ml} \times 25 \text{ ml}$$

$$V_1 = \frac{100 \text{ } \mu\text{g/ml} \times 25 \text{ ml}}{1000 \text{ } \mu\text{g/ml}}$$

$$V_1 = 2,5 \text{ ml}$$
- Variasi konsentrasi
 - **1 $\mu\text{g/ml}$**

$$= C_1 \times V_1 = C_2 \times V_2$$

$$= 1000 \text{ } \mu\text{g/ml} \times V_1$$

$$= 1 \text{ } \mu\text{g/ml} \times 10 \text{ ml}$$

$$V_1 = \frac{1 \text{ } \mu\text{g/ml} \times 10 \text{ ml}}{1000 \text{ } \mu\text{g/ml}}$$

$$V_1 = 0,01 \text{ ml} \sim 10 \text{ } \mu\text{l}$$
 - **2 $\mu\text{g/ml}$**

$$= C_1 \times V_1 = C_2 \times V_2$$

$$= 1000 \text{ } \mu\text{g/ml} \times V_1$$

$$= 2 \text{ } \mu\text{g/ml} \times 10 \text{ ml}$$

$$V_1 = \frac{2 \text{ } \mu\text{g/ml} \times 10 \text{ ml}}{1000 \text{ } \mu\text{g/ml}}$$

$$V_1 = 0,02 \text{ ml} \sim 20 \text{ } \mu\text{l}$$
 - **3 $\mu\text{g/ml}$**

$$= C_1 \times V_1 = C_2 \times V_2$$

$$= 1000 \text{ } \mu\text{g/ml} \times V_1$$

$$= 3 \text{ } \mu\text{g/ml} \times 10 \text{ ml}$$

$$V_1 = \frac{3 \mu\text{g/ml} \times 10\text{ml}}{1000 \mu\text{g/ml}}$$

$$V_1 = 0,03 \text{ ml} \sim 30 \mu\text{l}$$

- **4 $\mu\text{g/ml}$**
 - = $C_1 \times V_1 = C_2 \times V_2$
 - = $1000 \mu\text{g/ml} \times V_1$
 - = $4 \mu\text{g/ml} \times 10 \text{ ml}$
 - $$V_1 = \frac{4 \mu\text{g/ml} \times 10\text{ml}}{1000 \mu\text{g/ml}}$$
 - $$V_1 = 0,04 \text{ ml} \sim 40 \mu\text{l}$$
- **5 $\mu\text{g/ml}$**
 - = $C_1 \times V_1 = C_2 \times V_2$
 - = $1000 \mu\text{g/ml} \times V_1$
 - = $5 \mu\text{g/ml} \times 10 \text{ ml}$
 - $$V_1 = \frac{5 \mu\text{g/ml} \times 10\text{ml}}{1000 \mu\text{g/ml}}$$
 - $$V_1 = 0,05 \text{ ml} \sim 50 \mu\text{l}$$
- **6 $\mu\text{g/ml}$**
 - = $C_1 \times V_1 = C_2 \times V_2$
 - = $1000 \mu\text{g/ml} \times V_1$
 - = $6 \mu\text{g/ml} \times 10 \text{ ml}$
 - $$V_1 = \frac{6 \mu\text{g/ml} \times 10\text{ml}}{1000 \mu\text{g/ml}}$$
 - $$V_1 = 0,06 \text{ ml} \sim 60 \mu\text{l}$$

2. Pembuatan Larutan Ekstrak

- Larutan Induk Ekstrak
 - $$\frac{10 \text{ mg}}{10 \text{ ml}} = 1 \text{ mg/ml} = 1000 \mu\text{g/ml}$$
- Pengenceran Larutan 100 $\mu\text{g/ml}$
 - = $C_1 \times V_1 = C_2 \times V_2$
 - = $1000 \mu\text{g/ml} \times V_1$
 - = $100 \mu\text{g/ml} \times 25 \text{ ml}$
 - $$V_1 = \frac{100 \mu\text{g/ml} \times 25\text{ml}}{1000 \mu\text{g/ml}}$$
 - $$V_1 = 2,5 \text{ ml}$$
- Variasi konsentrasi
 - **1 $\mu\text{g/ml}$**
 - = $C_1 \times V_1 = C_2 \times V_2$
 - = $100 \mu\text{g/ml} \times V_1$
 - = $1 \mu\text{g/ml} \times 25 \text{ ml}$
 - $$V_1 = \frac{1 \mu\text{g/ml} \times 25\text{ml}}{100 \mu\text{g/ml}}$$
 - $$V_1 = 0,25 \text{ ml} \sim 250 \mu\text{l}$$

- **6 µg/ml**
 $= C_1 \times V_1 = C_2 \times V_2$
 $= 100 \mu\text{g/ml} \times V_1$
 $= 6 \mu\text{g/ml} \times 25 \text{ ml}$
 $V_1 = \frac{2 \mu\text{g/ml} \times 25\text{ml}}{100 \mu\text{g/ml}}$
 $V_1 = 1,5 \text{ ml} \sim 1500 \mu\text{l}$
- **11 µg/ml**
 $= C_1 \times V_1 = C_2 \times V_2$
 $= 100 \mu\text{g/ml} \times V_1$
 $= 11 \mu\text{g/ml} \times 25 \text{ ml}$
 $V_1 = \frac{11 \mu\text{g/ml} \times 25\text{ml}}{100 \mu\text{g/ml}}$
 $V_1 = 2,75 \text{ ml} \sim 2750 \mu\text{l}$
- **16 µg/ml**
 $= C_1 \times V_1 = C_2 \times V_2$
 $= 100 \mu\text{g/ml} \times V_1$
 $= 16 \mu\text{g/ml} \times 25 \text{ ml}$
 $V_1 = \frac{16 \mu\text{g/ml} \times 25\text{ml}}{100 \mu\text{g/ml}}$
 $V_1 = 4 \text{ ml} \sim 4000 \mu\text{l}$
- **21 µg/ml**
 $= C_1 \times V_1 = C_2 \times V_2$
 $= 100 \mu\text{g/ml} \times V_1$
 $= 21 \mu\text{g/ml} \times 25 \text{ ml}$
 $V_1 = \frac{21 \mu\text{g/ml} \times 25\text{ml}}{100 \mu\text{g/ml}}$
 $V_1 = 5,25 \text{ ml} \sim 5250 \mu\text{l}$
- **26 µg/ml**
 $= C_1 \times V_1 = C_2 \times V_2$
 $= 100 \mu\text{g/ml} \times V_1$
 $= 26 \mu\text{g/ml} \times 25 \text{ ml}$
 $V_1 = \frac{26 \mu\text{g/ml} \times 25\text{ml}}{100 \mu\text{g/ml}}$
 $V_1 = 6,5 \text{ ml} \sim 6500 \mu\text{l}$

3. Pembuatan Larutan Gel Ekstrak

- Larutan Induk Gel Ekstrak
 $\frac{500 \text{ mg}}{25 \text{ ml}} = 20 \text{ mg/ml} = 20.000 \mu\text{g/ml}$
- Pengenceran Larutan 10.000 µg/ml
 $= C_1 \times V_1 = C_2 \times V_2$
 $= 20.000 \mu\text{g/ml} \times V_1$

$$= 10.000 \mu\text{g/ml} \times 25 \text{ ml}$$

$$V1 = \frac{10.000 \mu\text{g/ml} \times 25 \text{ ml}}{10.000 \mu\text{g/ml}}$$

$$V1 = 12,5 \text{ ml}$$

▪ Variasi konsentrasi

• **1000 $\mu\text{g/ml}$**

$$= C1 \times V1 = C2 \times V2$$

$$= 10.000 \mu\text{g/ml} \times V1$$

$$= 1000 \mu\text{g/ml} \times 5 \text{ ml}$$

$$V1 = \frac{1000 \mu\text{g/ml} \times 5 \text{ ml}}{10.000 \mu\text{g/ml}}$$

$$V1 = 0,5 \text{ ml} \sim 500 \mu\text{l}$$

• **800 $\mu\text{g/ml}$**

$$= C1 \times V1 = C2 \times V2$$

$$= 10.000 \mu\text{g/ml} \times V1$$

$$= 800 \mu\text{g/ml} \times 5 \text{ ml}$$

$$V1 = \frac{800 \mu\text{g/ml} \times 5 \text{ ml}}{10.000 \mu\text{g/ml}}$$

$$V1 = 0,4 \text{ ml} \sim 400 \mu\text{l}$$

• **600 $\mu\text{g/ml}$**

$$= C1 \times V1 = C2 \times V2$$

$$= 10.000 \mu\text{g/ml} \times V1$$

$$= 600 \mu\text{g/ml} \times 5 \text{ ml}$$

$$V1 = \frac{600 \mu\text{g/ml} \times 5 \text{ ml}}{10.000 \mu\text{g/ml}}$$

$$V1 = 0,3 \text{ ml} \sim 300 \mu\text{l}$$

• **400 $\mu\text{g/ml}$**

$$= C1 \times V1 = C2 \times V2$$

$$= 10.000 \mu\text{g/ml} \times V1$$

$$= 400 \mu\text{g/ml} \times 5 \text{ ml}$$

$$V1 = \frac{400 \mu\text{g/ml} \times 5 \text{ ml}}{10.000 \mu\text{g/ml}}$$

$$V1 = 0,2 \text{ ml} \sim 200 \mu\text{l}$$

• **200 $\mu\text{g/ml}$**

$$= C1 \times V1 = C2 \times V2$$

$$= 10.000 \mu\text{g/ml} \times V1$$

$$= 200 \mu\text{g/ml} \times 5 \text{ ml}$$

$$V1 = \frac{200 \mu\text{g/ml} \times 5 \text{ ml}}{10.000 \mu\text{g/ml}}$$

$$V1 = 0,1 \text{ ml} \sim 100 \mu\text{l}$$

• **180 $\mu\text{g/ml}$**

$$= C1 \times V1 = C2 \times V2$$

$$= 10.000 \mu\text{g/ml} \times V1$$

$$= 180 \mu\text{g/ml} \times 5 \text{ ml}$$

$$V_1 = \frac{180 \mu\text{g/ml} \times 5\text{ml}}{10.000 \mu\text{g/ml}}$$
$$V_1 = 0,09 \text{ ml} \sim 90 \mu\text{l}$$