

LAMPIRAN

Lampiran 1 Perhitungan rendemen

1. Rendemen ekstrak ampas teh hitam

Berat sampel = 240 gram (x)

Berat beaker glass = 157,53 gram (b)

Berat beaker glass kosong + sampel = 382,53 gram (c)

Berat ekstrak cair = b – c

$$= 382,53 - 157,53$$

$$= 225 \text{ g} = 225 \text{ ml (ekstrak cair)}$$

$$R = \frac{x}{y} \times 100\%$$

$$R = \frac{225}{240} \times 100\%$$

$$R = 93,75\% \text{ b/b}$$

Lampiran 2 Perhitungan Penimbangan Bahan-bahan

Formula 1

NO	Formula	Konsentrasi (%)	Perhitungan Penimbang
1	Ekstrak Ampas Teh Hitam	5	$\frac{5}{100} \times 100 \text{ mL} = 5 \text{ mL}$
2	Sodium Lauril Sulfat	9	$\frac{9}{100} \times 100 \text{ mL} = 9 \text{ g}$
3	Sodium Sulfat	5	$\frac{5}{100} \times 100 \text{ mL} = 5 \text{ g}$
4	STTP	3	$\frac{3}{100} \times 100 \text{ mL} = 3 \text{ g}$
5	Asam Sitrat	1,5	$\frac{1,5}{100} \times 100 \text{ mL} = 1,5 \text{ g}$
6	Foam Booster	1,4	$\frac{1,4}{100} \times 100 \text{ mL} = 1,5 \text{ g}$
7	Parfum	0,1	$\frac{0,1}{100} \times 100 \text{ mL} = 0,1 \text{ g}$
8	Aquadest (ad 100%)	Ad 100	Add 100

Formula 2

NO	Formula	Konsentrasi (%)	Perhitungan Penimbang
1	Ekstrak Ampas Teh Hitam	10	$\frac{10}{100} \times 100 \text{ mL} = 10 \text{ mL}$
2	Sodium Lauril Sulfat	9	$\frac{9}{100} \times 100 \text{ mL} = 9 \text{ g}$
3	Sodium Sulfat	5	$\frac{5}{100} \times 100 \text{ mL} = 5 \text{ g}$
4	STTP	3	$\frac{3}{100} \times 100 \text{ mL} = 3 \text{ g}$
5	Asam Sitrat	1,5	$\frac{1,5}{100} \times 100 \text{ mL} = 1,5 \text{ g}$
6	Foam Booster	1,4	$\frac{1,4}{100} \times 100 \text{ mL} = 1,5 \text{ g}$
7	Parfum	0,1	$\frac{0,1}{100} \times 100 \text{ mL} = 0,1 \text{ g}$
8	Aquadest (ad 100%)	Ad 100	Add 100

Formula 3

NO	Formula	Konsentrasi (%)	Perhitungan Penimbang
1	Ekstrak Ampas Teh Hitam	15	$\frac{15}{100} \times 100 \text{ mL} = 15 \text{ mL}$
2	Sodium Lauril Sulfat	9	$\frac{9}{100} \times 100 \text{ mL} = 9 \text{ g}$
3	Sodium Sulfat	5	$\frac{5}{100} \times 100 \text{ mL} = 5 \text{ g}$
4	STTP	3	$\frac{3}{100} \times 100 \text{ mL} = 3 \text{ g}$
5	Asam Sitrat	1,5	$\frac{1,5}{100} \times 100 \text{ mL} = 1,5 \text{ g}$
6	Foam Boster	1,4	$\frac{1,4}{100} \times 100 \text{ mL} = 1,5 \text{ g}$
7	Parfum	0,1	$\frac{0,1}{100} \times 100 \text{ mL} = 0,1 \text{ g}$
8	Aquadest (ad 100%)	Ad 100	Add 100

Lampiran 3 perhitungan tinggi busa

1. Replikasi 1

$$\frac{Tinggi\ busa\ akhir \times 100\%}{Tinggi\ busa\ akhir}$$

$$\frac{5 \times 100\%}{10} = 50\%$$

2. Replikasi 2

$$\frac{Tinggi\ busa\ akhir \times 100\%}{Tinggi\ busa\ akhir}$$

$$\frac{5,5 \times 100\%}{9} = 61\%$$

3. Replikasi 3

$$\frac{Tinggi\ busa\ akhir \times 100\%}{Tinggi\ busa\ akhir}$$

$$\frac{5 \times 100\%}{8,3} = 50\%$$

Formula 2

1. Replikasi 1

$$\frac{Tinggi\ busa\ akhir \times 100\%}{Tinggi\ busa\ akhir}$$

$$\frac{7,7 \times 100\%}{10} = 77\%$$

2. Replikasi 2

$$\frac{Tinggi\ busa\ akhir \times 100\%}{Tinggi\ busa\ akhir}$$

$$\frac{7,9 \times 100\%}{9} = 87\%$$

3. Replikasi 3

$$\frac{Tinggi\ busa\ akhir \times 100\%}{Tinggi\ busa\ akhir}$$

$$\frac{7,6 \times 100\%}{9} = 84\%$$

Formula 3

1. Replikasi 1

$$\frac{Tinggi\ busa\ akhir \times 100\%}{Tinggi\ busa\ akhir}$$

$$\frac{9 \times 100\%}{12} = 75\%$$

2. Replikasi 2

$$\frac{Tinggi\ busa\ akhir \times 100\%}{Tinggi\ busa\ akhir}$$

$$\frac{7 \times 100\%}{11,3} = 61\%$$

3. Replikasi 3

$$\frac{Tinggi\ busa\ akhir \times 100\%}{Tinggi\ busa\ akhir}$$

$$\frac{6 \times 100\%}{12} = 50\%$$

Lampiran 4 Perhitungan bobot jenis

Formula 1

1. Replikasi 1

Berat pikno kosong = 23,21 g

Berat pikno + sampel = 47,18 g

Volume = 25 mL

$$\begin{aligned} \text{BJ sampel} &= \frac{(\text{berat pikno+sampel})-\text{berat pikno kosong}}{\text{volume}} \\ &= \frac{47,18-23,21}{25} = 0,95 \text{ g/ml} \end{aligned}$$

2. Replikasi 2

Berat pikno kosong = 23,21 g

Berat pikno + sampel = 47,17 g

Volume = 25 mL

$$\begin{aligned} \text{BJ sampel} &= \frac{(\text{berat pikno+sampel})-\text{berat pikno kosong}}{\text{volume}} \\ &= \frac{47,17-23,21}{25} = 0,95 \text{ g/ml} \end{aligned}$$

3. Replikasi 3

Berat pikno kosong = 23,21 g

Berat pikno + sampel = 47,17 g

Volume = 25 mL

$$BJ \text{ sampel} = \frac{(berat \text{ pikno} + sampel) - berat \text{ pikno kosong}}{volume}$$

$$= \frac{47,17 - 23,21}{25} = 0,95 \text{ g/ml}$$

Formula 2

1. Replikasi 1

Berat pikno kosong = 23,21 g

Berat pikno + sampel = 49,87 g

Volume = 25 mL

$$BJ \text{ sampel} = \frac{(berat \text{ pikno} + sampel) - berat \text{ pikno kosong}}{volume}$$

$$= \frac{49,87 - 23,21}{25} = 1,06 \text{ g/ml}$$

2. Replikasi 2

Berat pikno kosong = 23,21 g

Berat pikno + sampel = 49,27 g

Volume = 25 mL

$$\begin{aligned} \text{BJ sampel} &= \frac{(\text{berat pikno+sampel})-\text{berat pikno kosong}}{\text{volume}} \\ &= \frac{49,26-23,21}{25} = 1,04 \text{ g/ml} \end{aligned}$$

3. Replikasi 3

Berat pikno kosong = 23,21 g

Berat pikno + sampel = 49,27 g

Volume = 25 mL

$$\begin{aligned} \text{BJ sampel} &= \frac{(\text{berat pikno+sampel})-\text{berat pikno kosong}}{\text{volume}} \\ &= \frac{49,27-23,21}{25} = 1,04 \text{ g/ml} \end{aligned}$$

Formula 3

1. Replikasi 1

Berat pikno kosong = 23,21 g

Berat pikno + sampel = 48,19 g

Volume = 25 mL

$$\begin{aligned} \text{BJ sampel} &= \frac{(\text{berat pikno+sampel})-\text{berat pikno kosong}}{\text{volume}} \\ &= \frac{48,19-23,21}{25} = 0,99 \text{ g/ml} \end{aligned}$$

2. Replikasi 2

Berat pikno kosong = 23,21 g

Berat pikno + sampel = 47,82 g

Volume = 25 mL

$$\text{BJ sampel} = \frac{(\text{berat pikno+sampel})-\text{berat pikno kosong}}{\text{volume}}$$

$$= \frac{47,82-23,21}{25} = 0,98 \text{ g/ml}$$

3. Replikasi 3

Berat pikno kosong = 23,21 g

Berat pikno + sampel = 47,78 g

Volume = 25 mL

$$\text{BJ sampel} = \frac{(\text{berat pikno+sampel})-\text{berat pikno kosong}}{\text{volume}}$$

$$= \frac{47,78-23,21}{25} = 0,98 \text{ g/ml}$$

Lampiran 5 Pembuatan ekstrak ampas teh hitam

No	Gambar	Keterangan
1		Ampas teh hitam yang sudah ditimbang
2		Proses maserasi ampas teh hitam
3		Penyaringan Filtrat ampas teh hitam

Lampiran 6 Bahan-bahan *hand wash*

No	Gambar	Keterangan
1		Ekstrak ampas teh hitam
2		H ₂ SO ₄
3		Sodium Lauryl Sulfat
4		STTP
5		Asam Sitrat
6		Foam booster
7		Parfum
8		Aquadest

Lampiran 7 Pembuatan *hand wash*

No	Gambar	Keterangan
1		Pencampuran SLS dan foam buster
2		Penambahan Na ₂ SO ₄
3		Penambahan Asam Sitrat
4		Penambahan asam sitrat
5		Penambahan sttp

No	Gambar	Keterangan
6		Penambahan parfum
7		Penambahan aquadest
8		Diamkan selama 30 menit

Lampiran 8 Hasil Uji Evaluasi Sifat Fisik

No	Gambar	Keterangan
1		Organoleptis Penampakan, Warna, Aroma, Tekstur, rasa dikulit
2		Uji Homogenitas
3		Uji pH
4		Uji Bobot jenis

No	Gambar	Keterangan
5		Tinggi busa
6		Uji <i>Viscometer Brookfield</i>

Lampiran 9 Anova one way Viskositas

ANOVA
viskositas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12612.167	2	6306.083	.055	.947
Within Groups	1031666.750	9	114629.639		
Total	1044278.917	11			

Nilai Sig > 0,05 yaitu sebesar 0,947 sehingga data tidak signifikan

Multiple Comparisons

Dependent Variable: viskositas

Tukey HSD

(I) perlakuan (J) perlakuan		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
F1	F2	-69.750	239.405	.955	-738.17	598.67
	F3	-67.750	239.405	.957	-736.17	600.67
F2	F1	69.750	239.405	.955	-598.67	738.17
	F3	2.000	239.405	1.000	-666.42	670.42
F3	F1	67.750	239.405	.957	-600.67	736.17
	F2	-2.000	239.405	1.000	-670.42	666.42

viskositas

Tukey HSD^a

perlakuan	N	Subset for alpha = 0.05
		1
F1	4	347.75
F3	4	415.50
F2	4	417.50
Sig.		.955

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4.000.

Lampiran 10 Anova one way bobot jenis

ANOVA

bobot jenis

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.193	2	4.097	70.972	.000
Within Groups	.346	6	.058		
Total	8.540	8			

Nilai Sig < 0,05 yaitu sebesar 0,000 sehingga data signifikan

Multiple Comparisons

Dependent Variable: bobot jenis

Games-Howell

(I) perlakuan	(J) perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
F1	F2	-2.29333*	.20171	.014	-3.4809	-1.1058
	F3	-.75667	.13055	.051	-1.5247	.0113
F2	F1	2.29333*	.20171	.014	1.1058	3.4809
	F3	1.53667*	.24023	.011	.6101	2.4632
F3	F1	.75667	.13055	.051	-.0113	1.5247
	F2	-1.53667*	.24023	.011	-2.4632	-.6101

*. The mean difference is significant at the 0.05 level.

CURRICULUM VITAE



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PENDIDIKAN
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SMP : SMP Al-Irsyad Tegal
SMA : SMK Negeri 02 Kota Tegal
Judul KTI : Pemanfaatan Ekstrak Ampas Teh Hitam (*Camellia Sinensis L.*) Sebagai Bahan Aktif Dalam Sediaan *Hand wash*

Nama Orang Tua
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Ibu : Sri Nuryani
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Ayah : PNS
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