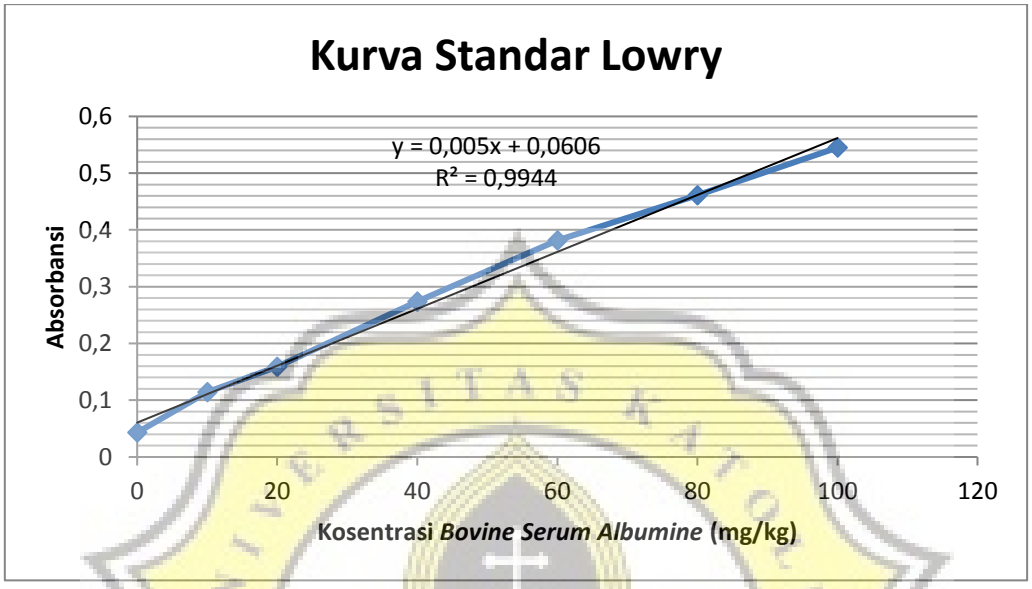
7. LAMPIRAN

Lampiran 1. Kurva Standar Lowry



Lampiran 2. *Form* Uji Sensori

UJI RATING HEDONIK

Nama panelis : Tanggal :

Jenis kelamin : Produk : Keju Mozarella

Instruksi:

Berkumur-kumurlah dulu dengan menggunakan air mineral yang telah disediakan sebelum dan sesudah menguji sampel. Dihadapan Anda terdapat sampel **Keju Mozarella**. Sampel **dipatahkan dan ditarik** terlebih dahulu sebelum mencicipi sampel, kemudian berikan nilai 1-4 untuk parameter **Kemuluran**. Setelah itu amatila **Warna** dan **Aroma** sampel, kemudian cicipilah setiap sampel lalu berikan nilai 1-4 sesuai dengan tingkat kesukaan Anda pada parameter **Tekstur**, **Rasa, dan *Overall***. Penilaian dilakukan dari Kiri ke anan. **NILAI BOLEH SAMA** antar sampel.

1 : Sangat Tidak Suka **2 : Tidak Suka** **3 : Suka** **4 : Sangat Suka**

Parameter	Kode Sampel			
Kemuluran				
Warna				
Aroma				
Tekstur				
Rasa				
Overall				

Lampiran 3. Perhitungan Persen Rendemen

$$rendemen = \frac{B}{A} \times 100\%$$

Keterangan:
A = berat produk susu yang digunakan (g)
B = berat produk keju yang terbentuk (g)

Lactobacillus fermentum LLB3

Batch 1

$$rendemen = \frac{363,6}{8991,5} \times 100\%$$
$$= 4,04\%$$

Batch 2

$$rendemen = \frac{376,6}{9012} \times 100\%$$
$$= 4,18\%$$

$$\frac{Batch\ 1 + Batch\ 2}{2} = \frac{4,04\% + 4,18\%}{2}$$
$$= 4,11\%$$

Rosella 20%

Batch 1

$$rendemen = \frac{287,1}{6004} \times 100\%$$
$$= 4,78\%$$

Batch 2

$$rendemen = \frac{292,1}{6162} \times 100\%$$
$$= 4,74\%$$

$$\frac{Batch\ 1 + Batch\ 2}{2} = \frac{4,78\% + 4,74\%}{2}$$
$$= 4,76\%$$

Rosella 25%

Batch 1

$$rendemen = \frac{310,7}{6001,5} \times 100\%$$
$$= 5,18\%$$

Batch 2

$$rendemen = \frac{294,4}{6223} \times 100\%$$
$$= 4,73\%$$

$$\frac{Batch\ 1 + Batch\ 2}{2} = \frac{5,18\% + 4,73\%}{2}$$
$$= 4,95\%$$

Lampiran 4. Analisis Data Penelitian

1. Hasil Analisis Fisik dan Kimia

1.1. Uji Normalitas dan Homogenitas

	Perlakuan	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Kemuluran	Rosella 20	,175	6	,200*	,952	6	,753
	Rosella 25	,268	6	,200*	,896	6	,348
	LLB3	,184	6	,200*	,950	6	,739
Daya_Leleh	Rosella 20	,294	6	,115	,811	6	,073
	Rosella 25	,282	6	,148	,867	6	,214
	LLB3	,162	6	,200*	,982	6	,964
Lowry	Rosella 20	,181	6	,200*	,937	6	,631
	Rosella 25	,217	6	,200*	,889	6	,314
	LLB3	,173	6	,200*	,975	6	,922

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Kemuluran	1,175	2	15	,336
Daya_Leleh	,259	2	15	,780
Lowry	2,000	2	15	,170

1.2. Hasil Uji Beda

Kemuluran

Duncan[a]

Perlakuan	N	Subset for alpha = 0.05		
		1	2	3
Rosella 20	6	110,0000		
Rosella 25	6		132,8333	
LLB3	6			142,1667
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6,000.

Daya_Leleh

Duncan[a]

Perlakuan	N	Subset for alpha = 0.05		
		1	2	3
Rosella 20	6	309,2200		
Rosella 25	6		424,5717	
LLB3	6			479,8183
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6,000.

Lowry

Duncan[a]

Perlakuan	N	Subset for alpha = 0.05	
		1	2
Rosella 25	6	4978,8571	
Rosella 20	6		5510,6831
LLB3	6		5896,1066
Sig.		1,000	,106

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6,000.

1.3. Hasil Uji Perbandingan Keju Mozarella Komersil dengan Keju Mozarella Rosella 20%, Rosella 25% dan Bakteri *L. fermentum* LLB3

1.3.1. Komersil dengan Rosella 20%

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Kemuluran	Equal variances assumed	4,047	,072	-4,551	10	,001	-9,66667	2,12394	-14,39909	-4,93424
	Equal variances not assumed			-4,551	7,634	,002	-9,66667	2,12394	-14,60560	-4,72773
Daya_Leleh	Equal variances assumed	1,069	,326	-4,545	10	,001	-94,51000	20,79507	-140,84431	-48,17569
	Equal variances not assumed			-4,545	7,033	,003	-94,51000	20,79507	-143,63512	-45,38488

1.3.2. Komersil dengan Rosella 25%

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Kemuluran	Equal variances assumed	,326	,581	5,373	10	,000	13,16667	2,45062	7,70634	18,62700
	Equal variances not assumed			5,373	9,721	,000	13,16667	2,45062	7,68505	18,64828
Daya_Leleh	Equal variances assumed	,234	,639	1,304	10	,221	20,84167	15,97843	-14,76050	56,44383
	Equal variances not assumed			1,304	8,584	,226	20,84167	15,97843	-15,57318	57,25651

1.3.3. Komersil dengan Bakteri *L. fermentum* LLB3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Kemuluran	Equal variances assumed	,586	,462	9,285	10	,000	22,50000	2,42327	17,10062	27,89938
	Equal variances not assumed			9,285	9,631	,000	22,50000	2,42327	17,07242	27,92758
Daya_Leleh	Equal variances assumed	1,690	,223	3,860	10	,003	76,08833	19,71089	32,16973	120,00694
	Equal variances not assumed			3,860	7,289	,006	76,08833	19,71089	29,85188	122,32479

1.4. Hasil Uji Perbandingan Susu Segar dengan *Curd* Keju Mozarella Rosella 20%, Rosella 25% dan Bakteri *L. fermentum* LLB3

1.4.1. Susu Segar dengan *Curd* Keju Mozarella Rosella 20%

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Lowry	Equal variances assumed	,072	,794	-15,000	10	,000	-4189,48143	279,29303	-4811,78509	-3567,17777
	Equal variances not assumed			-15,000	9,711	,000	-4189,48143	279,29303	-4814,30415	-3564,65871

1.4.2. Susu Segar dengan *Curd* Keju Mozarella Rosella 25%

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Lowry	Equal variances assumed	3,305	,099	-20,970	10	,000	-4721,30746	225,14883	-5222,97032	-4219,64461
	Equal variances not assumed			-20,970	6,072	,000	-4721,30746	225,14883	-5270,63796	-4171,97696

1.4.3. Susu Segar dengan *Curd* Keju Mozarella Bakteri *L. fermentum* LLB3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Lowry	Equal variances assumed	,011	,919	-13,131	10	,000	-3804,05795	289,69876	-4449,54701	-3158,56889
	Equal variances not assumed			-13,131	9,920	,000	-3804,05795	289,69876	-4450,25294	-3157,86296

2. Hasil Analisis Umur Simpan

2.1. Hasil Uji Perbandingan Keju Mozarella Pada Hari Ke-0 dengan Hari Ke-30

2.1.1. Rosella 20%

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PH	Equal variances assumed	4,620	,036	-6,108	52	,000	-655,53917	107,32944	-870,91144	-440,16690
	Equal variances not assumed			-17,420	47,000	,000	-655,53917	37,63140	-731,24378	-579,83456
Kadar_Air	Equal variances assumed	,889	,368	-3,776	10	,004	-3,56833	,94512	-5,67418	-1,46249
	Equal variances not assumed			-3,776	9,006	,004	-3,56833	,94512	-5,70611	-1,43056

2.1.2. Rosella 25%

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PH	Equal variances assumed	17,734	,000	3,951	27	,001	1776,69261	449,71969	853,94402	2699,44120
	Equal variances not assumed			7,840	22,000	,000	1776,69261	226,61522	1306,72141	2246,66381
Kadar_Air	Equal variances assumed	11,587	,007	-4,930	10	,001	-4,32000	,87635	-6,27263	-2,36737
	Equal variances not assumed			-4,930	6,373	,002	-4,32000	,87635	-6,43428	-2,20572

2.1.3. Bakteri *L. fermentum* LLB3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PH	Equal variances assumed	6,907	,012	4,937	39	,000	1073,92286	217,51835	633,95046	1513,89525
	Equal variances not assumed			12,050	34,000	,000	1073,92286	89,11944	892,81036	1255,03535
Kadar_Air	Equal variances assumed	,661	,435	-4,714	10	,001	-3,46167	,73427	-5,09773	-1,82561
	Equal variances not assumed			-4,714	9,650	,001	-3,46167	,73427	-5,10580	-1,81754

3. Hasil Analisis Sensori

3.1. Perbandingan Keseluruhan Perlakuan

Test Statistics[a,b]

	Kemuluran	Warna	Aroma	Tekstur	Rasa	Overall
Chi-Square	100,763	111,028	22,487	49,646	28,888	68,840
df	3	3	3	3	3	3
Asymp. Sig.	,000	,000	,000	,000	,000	,000

a. Kruskal Wallis Test

b. Grouping Variable: Perlakuan

3.2. Perbandingan Komersil dan Bakteri *L. fermentum* LLB3

Test Statistics[a]

	Kemuluran	Warna	Aroma	Tekstur	Rasa	Overall
Mann-Whitney U	234,000	479,000	1050,000	672,000	1349,500	600,000
Wilcoxon W	2064,000	2309,000	2880,000	2502,000	3179,500	2430,000
Z	-8,784	-7,696	-4,245	-6,303	-2,573	-6,836
Asymp. Sig. (2-tailed)	,000	,000	,000	,000	,010	,000

a. Grouping Variable: Perlakuan

3.3. Perbandingan Komersil dan Rosella 20%

Test Statistics[a]

	Kemuluran	Warna	Aroma	Tekstur	Rasa	Overall
Mann-Whitney U	864,000	309,500	1317,000	959,500	954,500	736,000
Wilcoxon W	2694,000	2139,500	3147,000	2789,500	2784,500	2566,000
Z	-5,712	-8,522	-2,778	-4,818	-4,761	-6,213
Asymp. Sig. (2-tailed)	,000	,000	,005	,000	,000	,000

a. Grouping Variable: Perlakuan

3.4. Perbandingan Komersil dan Rosella 25%

Test Statistics[a]

	Kemuluran	Warna	Aroma	Tekstur	Rasa	Overall
Mann-Whitney U	818,000	200,000	1134,000	922,000	921,000	580,000
Wilcoxon W	2648,000	2030,000	2964,000	2752,000	2751,000	2410,000
Z	-5,953	-9,115	-3,807	-5,072	-4,948	-7,052
Asymp. Sig. (2-tailed)	,000	,000	,000	,000	,000	,000

a. Grouping Variable: Perlakuan

3.5. Perbandingan Bakteri *L. fermentum* LLB3 dan Rosella 20%

Test Statistics[a]

	Kemuluran	Warna	Aroma	Tekstur	Rasa	Overall
Mann-Whitney U	768,000	1316,000	1498,000	1369,000	1533,500	1444,000
Wilcoxon W	2598,000	3146,000	3328,000	3199,000	3363,500	3274,000
Z	-5,609	-2,720	-1,728	-2,375	-1,478	-2,048
Asymp. Sig. (2-tailed)	,000	,007	,084	,018	,140	,041

a. Grouping Variable: Perlakuan

3.6. Perbandingan Bakteri *L. fermentum* LLB3 dan Rosella 25%

Test Statistics[a]

	Kemuluran	Warna	Aroma	Tekstur	Rasa	Overall
Mann-Whitney U	664,000	1092,000	1666,000	1294,000	1494,000	1570,000
Wilcoxon W	2494,000	2922,000	3496,000	3124,000	3324,000	3400,000
Z	-6,203	-4,009	-,776	-2,831	-1,697	-1,341
Asymp. Sig. (2-tailed)	,000	,000	,438	,005	,090	,180

a. Grouping Variable: Perlakuan

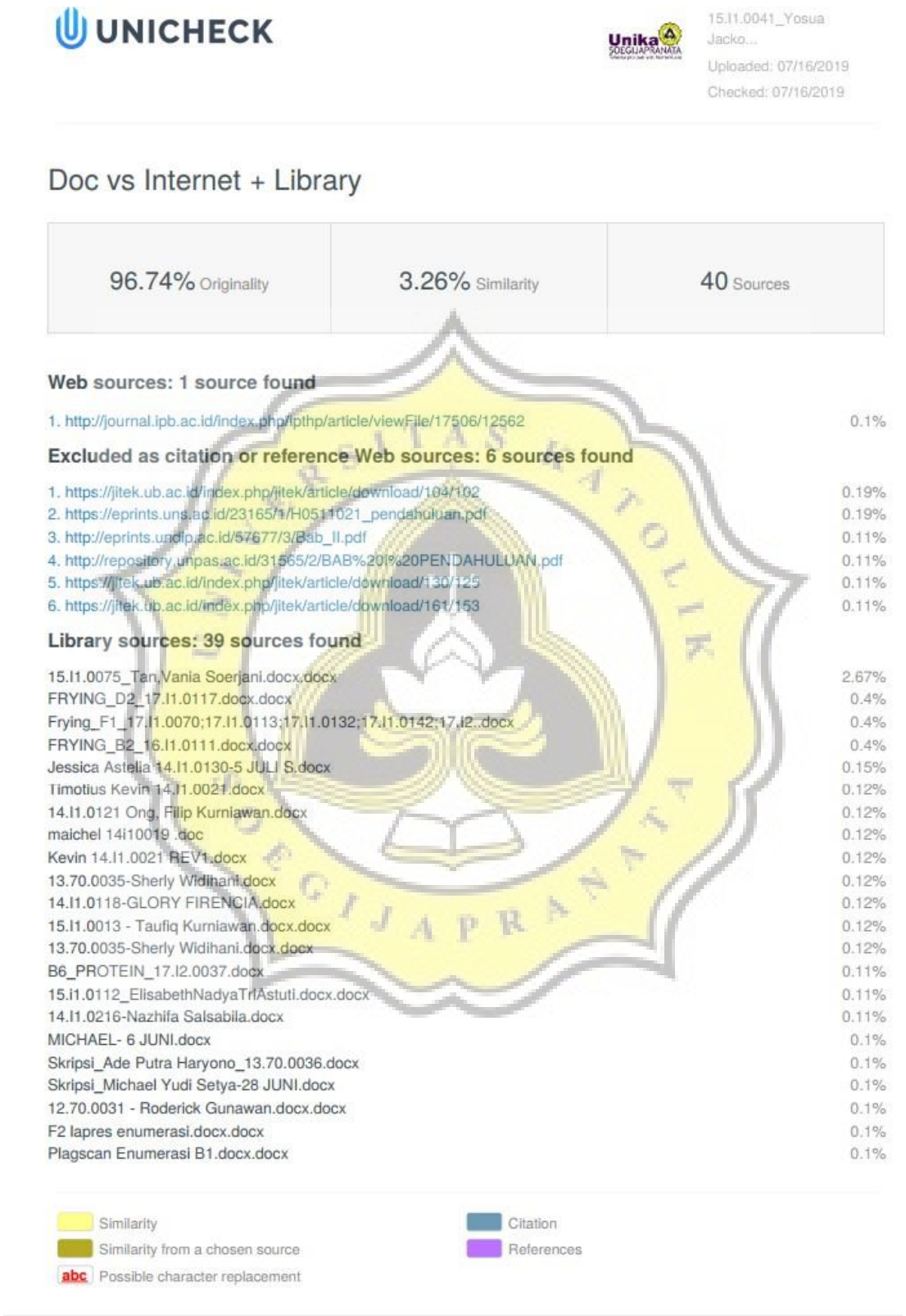
3.7. Perbandingan Rosella 20% dan Rosella 25%

Test Statistics[a]

	Kemuluran	Warna	Aroma	Tekstur	Rasa	Overall
Mann-Whitney U	1778,000	1591,000	1616,000	1745,000	1761,000	1634,000
Wilcoxon W	3608,000	3421,000	3446,000	3575,000	3591,000	3464,000
Z	-,125	-1,234	-1,066	-,314	-,228	-1,023
Asymp. Sig. (2-tailed)	,901	,217	,286	,754	,820	,306

a. Grouping Variable: Perlakuan

Lampiran 5. Hasil Cek Anti Plagiasi



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