FORMULATION AND ANTIOXIDANT ACTIVITY FACE MIST KOMBUCHA OF TELANG FLOWER (*Clitoria ternatea* L.) WITH DPPH METHOD (*2,2 Difenyl-1-Piksryhidrazil*)

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ABSTRACT

Telang flower (*Clitoria ternatea* L.) contains anthocyanins that are efficacious as natural antioxidants. Face mist with synthetic materials, such as tertiary-butyl hydroquinone (TBHQ), has side effects that are carcinogenic and can cause tumors if used for a long time. Currently, many studies haveeinvestigated the conventional biotechnology product kombucha,, which is a drink made from tea fermented by bacteria and yeast (*Scoby/Symbiotic Colony (Culture) Bacteria &Yeast*,), as the initial culture of the tea produces an aroma or sour taste. Kombucha has various anti-inflammatory, antibacterial, and antioxidant activities of certain strains, which are expected to provide good antioxidant activity when combined with the natural ingredients of Telang flowers. In this study, telang flower simplicia was fermented for 6 days until telang flower kombucha tea was obtained, and face mist preparations in three concentrations (5%, 7,5%, and 10%) were prepared to determine the antioxidant activity using the DPPH method measured by UV-Vis spectrophotometry by looking at the % inhibition and IC_{50} values. Based on the results of the evaluation with the parameters of organoleptic testing, pH, homogeneity, spray dispersion, specific weight, viscosity, and drying time met the requirements. The result of the antioxidant activity test of vitamin C of 4,36 ppm, kombucha of telang flower of 14,19 ppm, and face mist of kombucha of telang flower with concentrations of 5%, 7,5% and 10% produced IC_{50} values of 21,19 ppm, 19,62 ppm, and 17,52 ppm and were included in the very strong category.

Keywords: Antioxidant, Telang flower, Face mist, DPPH, Kombucha

INTRODUCTION

One of the problems associated with the human skin is aging. Skin aging is a major factor that occurs both internally and externally. Internal factors are usually aging, declining body health, and experiencing stress, pressure, or hormonal changes. External factors such as free radicals and sunlight can damage the skin. Therefore, to prevent and treat the damage caused by these two factors, it is necessary to use products that contain antioxidant compounds (Yusharyahya, 2021).

Face mist preparations are cosmetics that contain natural ingredients that are good for the skin, help control oil levels on the face, and refresh and moisturize the skin so that makeup can last for a long time (Badriyah & Ifandi, 2020). The use of face mist with synthetic antioxidants, such as *tertiary-butyl hydroquinone* (TBHQ), has side effects that are carcinogenic and can cause tumors if used for a long period. Telang flower (*Clitoria ternatea* L.) has many benefits, one of which is as an antioxidant because it contains secondary metabolite compounds, namely flavonoids (Hawari et al., 2022). Flavonoids in Telang flowers reached 20,07 mmol/mg and flavonol glucosides reached 14,66 mmol/mg flowers, which shows that telang flowers have great potential as natural antioxidants (Rosjadi, 2020).

Currently, many researchers are investigating conventional biotechnological products, including kombucha. Kombucha is a drink made from tea that has been fermented by a consortium of microbes consisting of several bacteria and yeast (*Scoby/Symbiotic Colony (Culture) Bacteria & Yeast*) as the initial culture of tea produces an aroma or sour taste asam (Rezaldi, 2022)). Kombucha has a wide range of anti-inflammatory, antibacterial, and antioxidant activities because the activity of certain strains, such as the Acetobacter sp. fermentation process, also leads to the formation of polymer cellulose ligne (Villarreal-Soto et al., 2018). As stated by Leal et al. (2018), fermentation of kombucha has the potential to increase the bioactive compounds in the food processing process by increasing the amount of phenolic compounds and antioxidant activity. This is also related to the use of kombucha tea as an active ingredient in cosmetics, such as in research (Muhsinin et al., 2023) as a facial toner formulation with the active ingredient turmeric kombucha, and other studies (Shafira & Dewi, 2023) as a biocellulose mask formulation with butterfly pea flower kombucha essence.

Based on research conducted (Apriani & Pratiwi, 2021) stated that ethanol extract of telang flowers with the DPPH method has an IC_{50} value of 87.86 ppm, if the IC_{50} value is less than 50 ppm, antioxidants are categorized as very strong. Another study reported that the fermentation of kombucha telang flower on the sixth day increased its antioxidant activity, and the best IC_{50} value was achieved at a fermentation temperature of 30°C or approximately 11,14 ppm (Wahyuningtias et al., 2023). According to research (Apristasari et al., 2018), face mist formulations containing active kombucha ingredients are very few and lacking, and face mist sold in the market is not too many. Therefore, researchers want to develop a face mist formulation from the butterfly pea flower kombucha (Clitoria ternatea L.) that functions as an antioxidant.

RESEARCH METHODS

Tools and Materials

The tools used in this study included a UV-Vis spectrophotometer (*Shimadzu UV mini-140*), analytical balance (*Corporation Model CP214*), pH meter (*Mettler Toledo*), glass tools from Pyrex (measuring cup, Erlenmeyer, beaker glass), drop pipette, funnel, spray bottle, filter paper, pycnometer, cuvette, magnetic stirrer, Ostwald viscosity, and micropipette (*Bacco, Germany*).

The material used in this study was the Simplicia telang flower from Spice Mrs. Risma DINKES P-IRT 2103216080333-27, Expd. December 2024), scoby, granulated sugar, Vitamin C, PVP, glycerin, methylparaben, oleum rose, aqua dest, triethanolamine, DPPH.

Determination

The determination and identification of the telang flower Simplicia (*Clitoria ternatea* L.) were performed at the Plant Morphology Laboratory, Department of Biology, FMIPA, Padjajaran University of Bandung.

Fermented Kombucha of Telang Flowers

The fermentation process of kombucha of telang flowers includes several procedures, including preparing tools and materials such as glass jars, granulated sugar as a nutrient substrate for *scoby*, and starters in the form of liquid kombucha. Next, 20 grams of dried telang flowers was boiled with 1 liter of water, allowed to stand for 15 minutes, and placed in a glass jar. Then, 40% sugar was added to the boiled water of the telang flowers and stirred until dissolution at a temperature of 25°C. After cooling, 10% kombucha starter was added along with *scoby* to a container containing boiled water. To guarantee that the fermentation still achieved good results, the glass jar was covered with a cloth for 6 days at 30°C. Based on research (Wahyuningtias et al., 2023), fermentation on day 6 has an IC_{50} value of approximately 11,143 ppm.

Phytochemical Screening

1. Alkaloid Test

   In this test, as much as 5 ml of fermented solution of kombucha telang flower (*Clitoria ternatea* L.) was put into a test tube, and as much as 2 ml of ammonia and chloroform, then filtered and then added 10 drops of H_2SO_4 p. mixture was shaken until it formed 2 layers and then transferred in 3 test tubes each 2 ml of solution tested with Mayer, Dragendorff and Wagner. The formation of white deposits in Mayer, orange-red deposits in Dragendorff, and brown deposits in Wagner indicates the presence of alkaloids (Rauf et al., 2023).
2. Flavonoid Test

   In this test, the fermentation solution of kombucha bunga telang (*Clitoria ternatea* L.) was pipetted to a volume of 5 mL into the test tube, and aquadest was added at a volume of 5 mL and then heated for 5 minutes. Strain, 5 drops of concentrated HCl, and a thick dose of Mg were added. Yellow, red, or orange colors in the fermentation solution of telang flower kombucha indicate the presence of flavonoids (Rezaldi, 2022).
3. Tannin Test

   In this test, up to 5 mL of the fermentation solution of kombucha telang flower (*Clitoria ternatea* L.) was placed in a test tube and mixed with 2 drops of 1% $FeCl_3$ solution. The dark blue or greenish-black color of the fermentation solution of kombucha telang flowers indicates the presence of tannins (Rezaldi, 2022).
4. Terpenoid/steroid Test

   In this test, 2 mL of the kombucha fermentation solution was pipetted into an evaporation cup and then evaporated. Dissolve 0,5 ml of chloroform and added as much anhydrous acetic acid (0.5 mL). Concentrated H_2SO_4 was added through the tube wall. Brown and violet colors indicate terpenoid positivity, and blue and green colors indicate steroid positivity (Rezaldi, 2022).
5. Saponin Test

   In this test, a fermentation solution of telang flower kombucha (*Clitoria ternatea* L.) and a 5 mL pipette into a test tube with 5 mL of hot water. Shake for 1–2 minutes. Add 2 drops of HCl 1N until permanent foam forms and will not disappear for 7 minutes. The presence of foam in the fermentation solution of kombucha telang flowers indicates the presence of saponins (Rezaldi, 2022).

Formulation of Face Mist Kombucha of Telang Flower

In this study, a face mist preparation with the active ingredient kombucha telang flower was prepared at 3 concentrations: 5%, 7,5%, and 10%.

Tabel I. The Formulas of Face Mist Kombucha Telang Flower

Component	Base	Concentration (%)		
		F1	F2	F3
Kombucha telang flower (*Clitoria ternatea* L,)	-	5	7,5	10
Glycerin	5	5	5	5
PVP	1	1	1	1
Methylparaben	0,3	0,3	0,3	0,3
Trietanolamine	qs	qs	qs	qs
Oleum rose	qs	qs	qs	qs
Aqua dest	ad 100	ad 100	ad 100	ad 100

Making Face Mist

Prepare the tools and materials to be used, and then weigh all ingredients according to the formula. The aqua dest was heated in the beaker glass, followed by PVP and

methylparaben, stirred until dissolution (M1), put (M1), and glycerin in the beaker glass, stir until homogeneous, and add kombucha telang flowers to the solution until homogeneous, then add TEA gradually until evenly distributed, then use a magnetic stirrer to homogenize. After homogenization, oleum was added, and the mixture was homogenized again. Add up to 100 ml of aqua dest and insert into the spray bottle.

Evaluation of *Face Mist* Preparations

1. Organoleptic Testing

   The facial mist preparations that have been made are physically observed, including color, aroma, smell, and texture.
2. Homogeneity Testing

   The homogeneity test was carried out by pouring a certain amount of the preparation on the glass of the object. The preparation must show a homogeneous arrangement, and there should be no coarse grains that are not mixed evenly.
3. pH Testing

   pH testing was carried out using a pH meter calibrated with pH buffer solutions of pH 4 and 7. A good face mist pH must be due to the pH of the skin, according to the SNI No. 06-2588 standard, which ranges from 4,5 to 6,5 (Afifah et al., 2022).
4. Specific Mass/Density Testing

   The purpose of measuring the type weight of the preparation was to determine the amount of solute contained in the preparation, namely by using a tool, namely a picnometer used to measure the specific weight, which was clean and dry. Its specific weight requirement is approximately 1 g/mL (Herliningsih & Anggraini, 2021).
5. Viscosity Testing

   The goal is to determine the viscosity level of the face mist preparation. Viscosity affects the stability of the preparation during storage, and it also affects the flow velocity of the preparation, allowing it to be easily used (Santoso & Riyanta, 2020).
6. Spray Dispersion Testing

   This test was carried out by spraying the preparation on mica plastic from a distance of 5 cm, and a ruler was used to measure the area of dispersion. The parameter used in this test was the diameter. A good spray power is 5-7 cm (Hayati et al., 2019).
7. Dry Time Testing

   The test was performed on volunteers who were applied to the inside of the lower arm. Next, the time taken for the sprayed liquid to dry is calculated. A good drying time is less than 5 minutes (Wahyuningsih et al., 2023).

Antioxidant Activity Test

1. Making DPPH Master Solution

   DPPH powder (10 mg) was weighed and placed in a 100 mL measuring flask, and methanol pro analysis was added to the limit mark to obtain a concentration of 100 ppm.
2. Determination of Maximum Wavelength

   A total of 3 mL of 100 ppm DPPH solution was added to 4 ml of methanol and placed in a cuvette to measure its absorption in the wavelength range of 400–800 nm using a ppm UV-Vis spectrophotometer (Susiloningrum & Mugita Sari, 2021).
3. *Operating time* DPPH

   A total of 3 mL of the 100 ppm DPPH solution was collected with a pipette, 4 ml of methanol was added, and the solution was placed in a cuvette to measure its absorption using a UV-Vis spectrophotometer. Measurements were taken at a

maximum wavelength of 0–30 minutes, with measurement intervals of 2 minutes (Wahyuningtias et al., 2023).

4. Testing of antioxidant activity of face mist preparations

   The face mist preparation that had been made in concentrations of 5, 10, 15, and 20 ppm was then taken from each concentration of 4 ml and put into a test tube, plus 3 ml of DPPH 100 ppm solution, which was left in a dark place at 37°C for 10 minutes and then the absorbance was measured with a UV-Vis spectrophotometer at maximum wavelength.

5. Calculation of antioxidant activity

   After there is an absorption value, it is substituted into the % inhibition formula, and a standard curve is constructed between (ppm) and % inhibition (Zaky et al., 2022).

$$\%\text{inhibition} = \frac{\text{Blanko absorbance} - \text{Sample absorbance}}{\text{Blanko absorbance}} \text{ x } 100\%$$

   After the percent intersection of the resistance and concentration was calculated, the IC_{50} values were incorporated into the equation y=mx+c, where y 50 and x are the IC_{50} values.

Data Analysis

The IBM SPSS 25 statistical program was used in this study. The analysis carried out was a normality test, a homogeneity test if the data were normally distributed and homogeneous, followed by the analysis of the one-way ANOVA test; if the data were not normally distributed, a non-parametric Kruskal-Wallis analysis was carried out followed by the Mann Whitney test.

RESULTS AND DISCUSSION

Determination

The simplicia of Telang flowers was obtained from Mrs. Risma Spice. The purpose of this study was to ensure the correct identity of the studied plants and to prevent errors when collecting the main research materials (Nofita et al., 2022). Determination was made by the Plant Morphology Laboratory, Department of Biology, FMIPA, Padjajaran University of Bandung. The results showed that the plant sample used in this study was the correct Simplicia of the Telang flower (*Clitoria ternatea* L.).

Fermented Kombucha of Telang Flowers

Prepare tools and materials such as glass jars, granulated sugar as a nutrient substrate for *scoby*, and starters in the form of liquid kombucha. Next, 20 grams of dried telang flowers was boiled with 1 liter of water, allowed to stand for 15 minutes, and placed in a glass jar. Then, 40% sugar (w/v) was added to the boiled water of the telang flowers and stirred until dissolution at a temperature of 25°C. After cooling, 10% kombucha starter was added along with scoby to a container containing boiled water. To guarantee that the fermentation still achieved good results, the glass jar was covered with a cloth for 6 days at 30°C. Based on research (Wahyuningtias et al., 2023), fermentation on day 6 has an IC_{50} value of approximately 11,14 ppm.

Phytochemical Screening

The results of the phytochemical screening of the kombucha telang flowers are shown in **Table II**.

Tabel II. Phytochemical Screening Analysis

Active Compound	Reactor	Observation	Result
Alkaloid	Dragendorf	Orange deposits are formed	+

	Mayer	White deposits form	+
	Wagner	Brown deposits form	+
Flavonoid	HCL P + mg powder	Red solution	+
Saponin	HCN 1N	Stable foam formed	+
Terpenoid/Steroid	*Lieberman-Burcard*	Formed violet rings	+
Tannin	$FeCL_3$	Blackish-purple solution	–

The results of qualitative phytochemical screening showed that the butterfly pea flower kombucha does not contain tannin compounds, but contains alkaloids, flavonoids, saponins, and steroid/terpenoid compounds that function as antioxidants. These compounds can generally act as antioxidants because functional groups such as OH in the compound can stop free radical activity by donating H atoms, making stable radicals (Hermansah et al., 2015). This is supported by research (Rezaldi, 2022), which also shows that butterfly pea flower kombucha contains alkaloids, flavonoids, and saponins, but not tannin and steroid compounds.

Evaluation of Face Mist Preparations

1. Organoleptic and Homogeneity Testing
   The results of the organoleptic and homogeneity tests are as follows:

Tabel III. Result of organoleptic and homogeneity tests

Face Mist	Organoleptic			Homogeneity
	Color	Clarity	Smell	
Base	Clear	Clear	Typical roses	Homogen
F1	Light blue	Clear	Typical roses	Homogen
F2	Light blue with slight purple	Clear	Typical roses	Homogen
F3	Blue purple	Clear	Typical roses	Homogen

Note :
F1: Kombucha telang flower concentration 5%
F2: Kombucha telang flower concentration 7,5%
F3: Kombucha telang flower concentration 10%

In organoleptic testing, face mist kombucha preparations made with telang flowers use human senses to observe the color, aroma, and shape of the preparations (Sakka & Hasma, 2023). The results of the observations listed in the table above indicate that preparations that have been added to the active substances at different concentrations produce a bluish-purple color. The higher the concentration of the active substance in the preparation, the deeper the purple-blue color of the preparation. The homogeneity test aimed to ensure that the ingredients from the preparation were evenly mixed. Based on the above table, it can be concluded that the three face mist preparation formulas meet the homogeneity test requirements because each formula produces a homogeneous preparation. A homogeneity check of the face mist preparation with the preparation glass showed that each preparation was homogeneous and had evenly distributed particles.

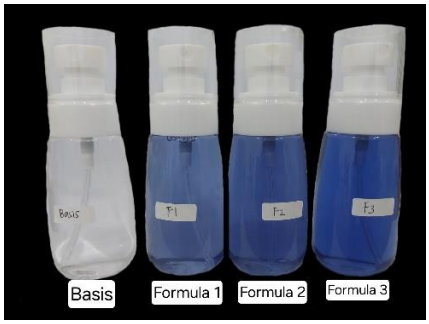

Figure 1. Face mist preparation kombucha telang flower

2. pH testing

The pH test of the face mist preparation of kombucha telang flowers aimed to determine the degree of acidity in each formula by the skin pH standard and by the conditions. The results of the pH tests are presented in **Table IV**.

Tabel IV. pH test result

Face Mist	pH Measurement Replication			Average ± SD
	1	2	3	
Base	5,82	5,80	5,83	5,81 ± 0,012
F1	5,39	5,42	5,42	5,41 ± 0,014
F2	5,18	5,22	5,28	5,22 ± 0,041
F3	5,08	5,04	5,07	5,06 ± 0,016

Based on the results of the observations above, it can be seen that Base has an average pH of 5.81, F1 has an average pH of 5,41, F2 has an average pH of 5,33 and F3 has an average pH of 5,06 and it indicates that the pH of the *face mist* kombucha of telang flowers varies greatly from Base to F3. The difference in each formula is influenced by the addition of many active substances in the preparation and the influence of the addition of TEA, because kombucha bunga telang itself has an acidic pH; therefore, if it is made in a face mist formulation, the addition of an alkalizing agent is very important so that the pH in the preparation itself can meet the standard, and all formulas meet the requirements because it is in the skin pH range, which is around 4,5-6,5 (Afifah et al., 2022). The pH of the preparation should not be too acidic because it can cause irritation to the skin, and if it is too alkaline, it can cause the skin to become dry (Badriyah & Ifandi, 2020).

3. Specific mass/density testing

The results of the specific weight test can be seen in **Table V**.

Tabel V. Specific mass/density test result

Face Mist	Density (g/mL) Replication			Average ± SD
	1	2	3	
Base	1,0114	1,0112	1,0112	1,0112 ± 0,0009
F1	1,0148	1,0146	1,0147	1,0147 ± 0,0008
F2	1,0163	1,0164	1,0165	1,0164 ± 0,0008
F3	1,0173	1,0174	1,0172	1,0173 ± 0,0005

Based on the results above, where the weight of the type starting from Base, F1, F2, and F3 is greater than the weight of the water type, the higher the concentration of the active substance kombucha of telang flower in the preparation, the heavier the preparation of face mist. According to (Herliningsih & Anggraini, 2021) the specific

gravity of water is about 1 g/mL, because the result of the weight of the five types of formulas is greater than the weight of the type of water, so the specific weight of each formula meets the requirements.

4. Viscosity Testing

In the viscosity test of the face mist kombucha of telang flowers, the viscosity of each formula was determined. The results of the viscosity tests are listed in **Table VI**.

Tabel VI. Viscosity test result

Face Mist	Viscosity (CPs)			Average ± SD
	Replication			
	1	2	3	
Base	1,1033	1,0496	1,0604	1,0711 ± 0,0231
F1	1,1483	1,1578	1,1383	1,1481 ± 0,0079
F2	1,2958	1,2655	1,2910	1,2841 ± 0,0132
F3	1,3850	1,4562	1,3920	1,4110 ± 0,0320

The observation results can be seen in **Table VI**, where the viscosity obtained ranges from 1,0496 to 1,4562 cP; the results meet the viscosity standard for spray preparations, which is less than 150 cP (Hidayat & Suhendy, 2020). If the viscosity of the preparation is too high or too low, then the preparation will be more difficult to flow and remove from the packaging. If the preparation is too thin, it drips when applied to the skin; therefore, it does not remain completely on the skin.

5. Spray Dispersion Testing

To evaluate the spread test of the face mist kombucha telang flower spray preparation, it was applied at a distance of 5 cm on mica plastic, and then the diameter was measured using a ruler. The dispersion results of the preparation are presented in **Table VII**.

Tabel VII. Spray dispersion test result

Face Mist	Spray dispersion (cm)			Average ± SD
	Replication			
	1	**2**	**3**	
Base	6,65	6,7	6,125	6,49 ± 0.0385
F1	6,05	6,15	6,025	6,075 ± 0.0661
F2	5,7	5,925	5,5	5,72 ± 0.0213
F2	5,52	5,42	5,2	5,38 ± 0.1637

Based on the results above, where Base with an average spray spread power of 6,49 cm, F1 with an average spray spread power of 6,075 cm, F2 with an average spray spread power of 5,72 cm, and F3 with an average spray spread power of around 5,38 cm. Each formulation of the face mist preparation of telang flower kombucha had a good spray spread, which was less than 5 cm and no more than 7 cm (Hayati et al., 2019).

6. Dry time Testing

The aim of this test is to determine how long it takes for each formula to dry. The dry-time testing is shown in **Table VIII**.

Tabel VIII. Dry time test result

Face Mist	Dry time			Average ± SD
	Replication			
	1	2	3	
Base	03.16	03.24	03.20	03.20 ± 0.0400
F1	03.23	03.27	03.31	03.27 ± 0.0400
F2	04.11	04.20	04.17	04.16 ± 0.0458
F3	04.32	04.41	04.36	04.36 ± 0.0450

Based on the observation results, it can be seen that all formulas meet the dry time test requirement of less than 5 minutes (Muliati, 2016). The base had an average drying time of approximately 3 minutes 20 seconds, F1 had an average drying time of 3 minutes 27 seconds, F2 had an average drying time of 4 minutes 16 seconds and F3 had an average drying time of 4 minutes 36 seconds. According to Wahyuningsih et al. (2023)**,** a higher concentration of active substances in the preparation can cause the face mist preparation to become sticky and moist, so it takes longer for the preparation to dry.

Tabel IX. Statistical analysis result

Statistical analysis result					
Face Mist	**pH**	**Specific mass/density**	**Viscosity**	**Spray dispersion**	**Dry time**
			Sig value		
Base-F1	.000*	.000*	.007*	.042*	.080**
Base-F2	.000*	.000*	.000*	.002*	.000*
Base-F3	.000*	.000*	.000*	.000*	.000*
F1-F2	.000*	.000*	.000*	.077**	.000*
F1-F3	.000*	.000*	.000*	.004*	.000*
F2-F3	.000*	.000*	.000*	.080**	.000*

Note :
*Different meaning
**Not meaningfully different

Based on the table above, the pH, specific gravity and viscosity, spray spread, and drying time tests showed significant values of the Kolmogorov–Smirnov normality test ($p < 0.050$) and homogeneity test ($p > 0.050$), which means that the data can be said to be normally distributed and homogeneous. In the One-Way ANOVA test, a significance value of 0.00 (<0.05) was obtained, which means that there was a significant difference between the preparations; namely, the greater the concentration of the active substances in the formula, the more it affected each test. In the spray spread and drying time tests, there was no significant difference, with significance values of 0.077 and 0.080 (>0.050) between preparations F1-F2 and F2-F3. In the drying time test, there was a substantial difference, with a significance value of 0.080 (>0.050), between the base preparation and formula 1.

Antioxidant Activity Test

The determination of antioxidant activity was carried out using UV-Vis spectrophotometry using the DPPH method, namely the ability of the face mist of kombucha telang flower and the comparator to reduce or capture free radicals, in the face mist of kombucha telang flower can be observed by looking at the intensity of the purple color of the DPPH solution added to the sample and comparator. The reduction in the color intensity of the DPPH solution indicates that there is a reaction between the hydrogen atoms released by the test material and the DPPH free radical molecules, which produces the compound in

yellow. The higher the concentration of the test material, the stronger the yellow color produced (Andriani & Murtisiwi, 2020).

The following are the results of the measurement of antioxidant activity in the preparation of face mist kombucha telang flower can be seen in the following **Table X**.

Tabel X. Antioxidant activity test results

Sample	Concentration (µg/mL)	% Inhibition	IC_{50} (µg/mL)	Category
Vitamin C	2	21,13	4,36	Very strong
	3	31,64		
	4	49,18		
	5	56,95		
Kombucha telang flower	5	23,03	14,19	Very strong
	10	34,76		
	15	54,68		
	20	67,01		
F1 (5%)	5	7,72	21,19	Very strong
	10	20,65		
	15	34,76		
	20	46,35		
F2 (7,5%)	5	10,25	19,62	Very strong
	10	22,63		
	15	38,73		
	20	50,47		
F3 (10%)	5	11,73	17,54	Very strong
	10	28,97		
	15	41,60		
	20	57,50		

The table above shows that vitamin C, kombucha telang flower, F1, F2, and F3 were included in the category of very strong because they were <50 µg/mL. As stated by (Leal et al. (2018), fermented kombucha tea has the potential to increase bioactive compounds during the food processing process by increasing the number of phenolic compounds and antioxidant activity. This can be achieved through changes in pH during fermentation, which can increase antioxidant activity by changing the composition and form of phenolic compounds, where there is a link between total phenol content and antioxidant activity.

CONCLUSION

Kombucha with concentrations of 5%, 7,5%, and 10% can be formulated into face mist preparations. The preparation of face mist kombucha telang flower also has a very strong antioxidant activity category because it is <50 µg/mL.

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