

Mrs Sri Mulyaningsih:

We have reached a decision regarding your submission to Pharmacia, "Determination of total flavonoid, phenolic, and b-carotene content in pepino fruit (*Solanum muricatum* Aiton) Ethanol Extract".

Our decision is to:
please revise the maximum date of June 6, 2023

Dr.apt. Nina Salamah, M.Sc
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Reviewer A:

Does the paper contain an original contribution to the field?:
Yes

Is the paper technically sound?:
Yes

Does the title of the paper accurately reflect the major focus contribution of this paper?:
No

Please suggest change of the title as appropriate (if any):
the title does not describe the result of study

Is the abstract a clear description of the paper?:
No

Is the paper well written (clear, concise, and well organized)?:
Yes

Are the equations, figures and tables in this journal style, clear, relevant, and are the captions adequate?:
Yes

Yogyakarta, June 6, 2023

Dear Editor

Herein I would like to submit the revision version of manuscript entitled "Determination of total flavonoid, phenolic, and β -carotene content in pepino fruit (*Solanum muricatum* Aiton) ethanol extract" by Girly Risma Firsty, Nining Sugihartini, and Sri Mulyaningsih.

We have corrected the manuscript based on the comments and suggestions of both reviewers. As suggestion of the reviewer 1, we revised the new title of our manuscript as "Effect of ethanol solvent concentrations in pepino melon fruit (*Solanum muricatum* Aiton) extraction on total flavonoid, phenolic, and β -carotene content". Please find the other corrections on the appendix.

Thank you for your consideration to be publish our manuscript in Pharmacia journal.

Best regards

A handwritten signature in blue ink, appearing to read 'Sri Mulyaningsih', written in a cursive style.

Sri Mulyaningsih

Dear Reviewer 1

Thank you very much for your comments and suggestions. We have corrected the suggestions directly on the revision manuscript. The corrections can also be found in the table as below.

Comments and suggestions of reviewer 1

Section/ page number	Comments of Reviewer 1	Corrections
Title Page 1	Follow Pharmacia style. Only first letter is capital The title should be revised. the title does not describe the result of study	Done New Title: "Effect of ethanol solvent concentrations in pepino melon fruit (<i>Solanum muricatum</i> Aiton) extraction on total flavonoid, phenolic, and β -carotene content"
Author affiliation Page 1	Mention superscript 1,2,3	Done
Abstract Page 1	State the research gap in the introduction	We have added the research gap "The quality of an extract is determined by the type and level of active compounds contained therein. The solvent is one of the elements that influences the extract's quality. Therefore, extraction must be carried out using a solvent that can extract bioactive substances."
	Replace Comma with dot in numbering	Done
	It will be better if the statistical analysis supported this conclusion	We have mentioned statistical analysis to support the conclusion "The statistical analysis showed that there was a significant difference in different ethanol concentrations in extraction with the content of total flavonoids, total phenolics, and β -carotene ($p < 0.05$). The optimal ethanol solvent for extracting flavonoids, phenolic compounds, and β -carotene from pepino melon fruit was 70% ethanol.
Introduction Page 2	The statement is too far with the research topic. (Introduction). Replace with closer statement with topic	We have replaced the sentences as suggested. "Pepino fruit (<i>Solanum muricatum</i> Aiton) can thrive and develop well in highlands such as in West Java, Dieng-Central Java, and the city of Batu Malang (Ide, 2010). Pepino fruit has many health benefits including anti-

		inflammatory, diabetes, stroke, high blood pressure, digestive disorders, anti-tumor, cancer, kidney, constipation, and hemorrhoids (Ahmad et al., 2014; Hsu et al., 2011; Shathish & Guruvayoorappan, 2014 ; Sudha et al., 2012a). It is known that pepino fruit contains a large amount of vitamin C, as well as carotenoids, which give the flesh a yellow color (Hsu et al., 2011). Research by Scala et al (2011) shows that Pepino fruit has a much higher phenolic content than its vitamin C content.“
	The introduction section should describe state of the art of study. Give the previous study of the pepino fruit and state the research gap in this section	We have already added some sentences in introduction to show the state of the art and the research gap. “However, information about which solvent is the most optimal for extracting the active compounds in pepino melon fruit is limited.” “The difference in the concentration of ethanol solvent affects the level of the polarity of a solvent so it will affect the level of the active substance. Based on the concept of like dissolves like, a solvent tends to dissolve a compound that has the same polarity as the solvent. Therefore, it is necessary to consider the choice of solvent concentration. The research was aimed to investigate the total flavonoid, phenolic, and beta carotene levels of Pepino fruit with various ethanol concentrations of 50%, 70%, and 96%. This study is expected to reveal the optimal concentration of the ethanol used to extract Pepino fruit.”
Materials and Methods Page 2	State how the authentication of sample (materials)	The authentication of the pepino melon fruit identity had been carried out by the Herbal Laboratory of Materia Medika Batu, Malang, East Java (Reference number: 074/581/102.20-A/2022).
Result and discussion Page 3	Give the introduction paragraph before presentation of result in Table form.	We have added an introduction paragraph. “In this work, we investigated the concentration of ethanol solvent that is effective in dissolving the active chemicals found in pepino melon fruit. Extract yield, total flavonoid, total phenolic, and beta-carotene content were among the parameters measured.
Page 6	Explain why 70% ethanol give best concentration. Refer to	We have explained “The 70% ethanol gives the highest total flavonoids. It explains that the characteristics

	<p>other primary references. Use international reference, not only Indonesian references</p>	<p>of the flavonoid compound in that extract have the same polarity as the solvent 70% ethanol. These results are the same as the yield obtained, namely the highest yield at 70% ethanol. So that the pepino melon fruit extract with 70% ethanol produces the highest content of flavonoid compounds according to the principle “like dissolves like”. Which means that the solvent will only extract active substances that have similar polarities (Suhendra et al., 2019) ; Hijazi et al., 2015).”</p>
	<p>Why ethanol 50% produced the best total phenolic level? Give the reason and refer to some primary references</p>	<p>We have explained: “When compared to 70% and 96% ethanol, the comparatively high water content in 50% ethanol solvent has created more polar conditions, which can facilitate the extraction of polyphenolic chemicals (Jovanović et al., 2017). According to Ballesteros et al (2014), ethanol concentrations ranging from 20% to 60% can extract phenolic chemicals more effectively. The same study showed that 50% ethanol gave the highest total phenolic content (Hikmawanti, Fatmawati, et al., 2021).”</p>
Page 6-7	<p>Give the chromatogram of sample beta carotene</p>	<p>Done Figure 4</p>
Page 8-11	<p>Add international reference and reduce the local references. Use only 10 years latest</p>	<p>Done</p>

Dear Reviewer 2

Thank you very much for your comments and suggestions. We have corrected the suggestion directly on the revision manuscript. The corrections can also be found in the table as below.

Comments and suggestions of reviewer 2

Section/ page number	Comments of Reviewer 2	Corrections
Abstract Page 1	<p>Perlu dibuat menjadi bahasa ilmiah, bukan bahasa populer (Abstrak)</p>	<p>Done “The solvent is one factor that affects the extract's quality. The quality of the extract is seen from the components and levels of the chemical compounds contained in the extract. To obtain optimal compound content in the extract, it is necessary to optimize the</p>

		extraction process by using different solvent concentrations.”
	Analisis apa? Tidak paralel dengan kata-kata sesudahnya	We have corrected it. “Extracts were analyzed qualitatively for phenolic and flavonoid using TLC (Thin Layer Chromatography), and quantitatively using a Spectrophotometry UV-Vis. β -carotene levels were determined using HPLC.”
	Test apa?	We have corrected it. “The test results of level flavonoid, phenolic, and β -carotene were statistically analyzed using SPSS.”
	Konsentrasi ekstrak atau ekstrak yang dilarutkan dengan pelarut etanol sekian sekian dan sekian persen?	The results showed that 50%, 70%, and 96% ethanol solvent produced extracts with a yield value of 51.8%; 87.4%; 54.6%
	Ada yang ada SD nya, ada yang tidak. Jika ada SD nya lebih informatif bahwa ada replikasi.	There is no SD in the yield of the extract, we have added SD to the results of β -carotene levels
Introduction Page 2	Selanjutnya, jika ada perbedaan zat aktif yang terlarut, so what, tidak terlihat adanya gap problem. Active substance yang terlarut Sumber pustaka? Cek	We have added some sentences “However, information about which solvent is the most optimal for extracting the active compounds in pepino melon fruit is limited.” “Based on the concept of like dissolves like, a solvent tends to dissolve a compound that has the same polarity as the solvent (Zhuang et al., 2021). Differences in ethanol concentration affect the level of polarity of the ethanol so that it will affect the extracted bioactive compounds and the bioactivity of the extract (Pradal et al., 2016). Therefore, it is necessary to consider the choice of solvent concentration.” Done Done
Materials and Method Page 2	Sumber pustaka pada metode KLT?	Done
Page 3	Sumber pustaka ini tidak relevan dengan pembahasan yang ditulis.	We have replaced with other references. (Abdillah et al., 2015) with (Rahardhian et al., 2019).

Results and Discussion Page 4	Penamaan ini bias dengan ekstrak etanol 50%. Perlu dikonsistenkan istilahnya dari atas sampai kesimpulan.	50% ethanol Or Extract with 50% ethanol
Page 6	Mohon ditulis sebagai Sudha.	We have replaced Govindan Sudha et al (2012b) with Sudha et al (2012b)
Page 6	Kalimat ini sulit dipahami karena terlalu panjang.	We have corrected the sentences “The 70% ethanol gives the highest total flavonoids. It explains that the characteristics of the flavonoid compound in that extract have the same polarity as the solvent 70% ethanol. These results are the same as the yield obtained, namely the highest yield at 70% ethanol. So that the pepino melon fruit extract with 70% ethanol produces the highest content of flavonoid compounds according to the principle “like dissolves like”. Which means that the solvent will only extract active substances that have similar polarities (Suhendra et al., 2019) ; Hijazi et al., 2015).”
Page 7	Apakah yang dimaksud adalah konsentrasi tertinggi dari B karoten?	We have corrected the sentence. Table 2 shows that the highest β -carotene content (1.054 ± 0.13 mg/g) was in the 96% ethanol extract.
Page 7	Perlu pustaka.	Done (Mohammadi et al., 2020).
Page 8	Jika ada terimakasih pada Fak Farmasi atas sarana prasana lab yang dapat digunakan untuk penelitian, bisa digunakan. Hal ini dilakukan agar ada keseragaman template Pharmacia.	“This research was supported by Riset Muhammadiyah Grant 2022 Batch VI No: 1687.390/PD/I.3/D/2022.

Mrs Sri Mulyaningsih:

We have reached a decision regarding your submission to Pharmacia, "Determination of total flavonoid, phenolic, and b-carotene content in pepino fruit (Solanum muricatum Aiton) Ethanol Extract".

Our decision is to: Galley proof

Dear author,

Attached are galley proof and galley revision forms. Would you please design to look at the article, whether by the last edit, the writing of the letters, the address of the author's agency? If there are still things that are not appropriate, please write them in the revision form, we will fix it. We give a maximum of 2 days from we send this email (pharmaciana@pharm.uad.ac.id). If we do not receive a confirmation, we will publish it according to this galley. Thank you

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Pharmaciana
Jurnal Kefarmasian, Universitas Ahmad Dahlan
d.a Fakultas Farmasi Universitas Ahmad Dahlan Yogyakarta
Jl. Prof Soepomo, Janturan Yogyakarta

Yogyakarta, 18 July 2023

Dear Editor,

Thank you for sending us the galley proof of our article entitled : "Effect of ethanol solvent concentrations in pepino melon fruit (*Solanum muricatum* Aiton) extraction on total flavonoid, phenolic and β -carotene content'.

After taking a closer look at the galley proofs, here are the corrections that we can convey regarding the galley proofs:

Page	line	Written	Correction
32	60	mg RE/g	mgQE/g
32	92	Silica gel G ₆₀ F ₂₅₄	Silica gel 60 F ₂₅₄
32	94	To identify flavonoid compounds use the mobile phase water: methanol: chloroform (0.4: 2.6: 7).	To identify flavonoid compounds, the mobile phase water: methanol: chloroform (0.4: 2.6: 7) was applied.
35	236	mg RE/g	mgQE/g
38	316	Variations in ethanol concentration affected the extract yield, total flavonoid, phenolic, and β -carotene of pepino melon fruit.	Variations in ethanol concentration affected the extract yield, total flavonoid, phenolic, and β -carotene content of pepino melon fruit.

Thus the correction that we provide and thank you for your attention.

Best regards



Sri Mulyaningsih