BUKTI KORESPONDENSI

JUDUL ARTIKEL: Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Boiled Water Delignification Pretreatment

Urutan File

No	**Aktivitas**	**Tanggal**
1	Bukti Submission	16 February 2023
2	Decision on submission Ronde 1	4 April 2023
3	Revision ronde 1	18 April 2023
4	Decision on submission Ronde 2	17 May 2023
5	Revision Ronde 2	18 Mei 2023
6	Accepted	20 May 2023
7	Proofreading	21 may 2023
8	Available online	25 May 2023
9	Published	15 Jul 2023.
10	Bukti review dari web	
11	Summary dari web	

Gmail Herliati Rahman <herliatimulyono@gmail.com>

[IJRED] Submission Acknowledgement- Manuscript ID: IJRED-2023-52532

Editorial Office <ijred@live.undip.ac.id> 16 February 2023 at 19:45
Reply-To: Dr Herliati Rahman <herliatimulyono@gmail.com>
To: Dr Herliati Rahman <herliatimulyono@gmail.com>

Manuscript Number.: IJRED-2023-52532
Title: Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Steam Delignification, Catalytic Hydrolysis, and Fermentation
Journal: International Journal of Renewable Energy Development

Dear Dr Herliati Rahman,

Your manuscript entitled "Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Steam Delignification, Catalytic Hydrolysis, and Fermentation" has been successfully submitted to International Journal of Renewable Energy Development. With the online journal management system, you will be able to track its progress through the editorial process by logging in to the journal web site:

Manuscript URL: https://ejournal.undip.ac.id/index.php/ijred/author/submission/52532
Username: herliati_rahman

Your manuscript ID is IJRED-2023-52532

Please quote the above manuscript ID in all future correspondences. If there are any changes in your postal or e-mail address, please log into journal online system at https://ijred.undip.ac.id/ and edit your contact and/or personal information as appropriate.

Thank you for considering this journal as a venue for your work.

Sincerely yours,

Editor
International Journal of Renewable Energy Development
Email: ijred@live.undip.ac.d
ISSN: 2252-4940
website: ijred.undip.ac.id

Decision on your submission IJRED-2023-52532

Dr. Rock Keey Liew <lrklrk1991@gmail.com> 4 April 2023 at 18:29
Reply-To: "Dr. Rock Keey Liew" <lrklrk1991@gmail.com>
To: Dr Herliati Rahman <herliatimulyono@gmail.com>
Cc: Ayu Nehemia <ayunehemia1@gmail.com>, Hadiatun Puji Astuti <hadiatunpujiastuti@gmail.com>

Manuscript Number.: IJRED-2023-52532
Title: Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Steam Delignification, Catalytic Hydrolysis, and Fermentation
Journal: International Journal of Renewable Energy Development

Dear Dr Herliati Rahman,

I am writing regarding your manuscript entitled: "Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Steam Delignification, Catalytic Hydrolysis, and Fermentation" with ID: IJRED-2023-52532 which you submitted to the International Journal of Renewable Energy Development.

Based on reviewer feedback as well as my reading of your manuscript I want to strongly encourage you to undertake revisions and then resubmit your manuscript for consideration for publication in the International Journal of Renewable Energy Development.

I hope that this feedback will be helpful to you in developing your research and that you will be encouraged to undertake the revisions within the next few weeks. Please don't hesitate to contact me if you have any questions about the comments above.

To submit a revision, go to http://ejournal.undip.ac.id/index.php/ijred and log in. You will be able to upload the revision and detailed response to reviewer comments.

When you submit a revised version of your paper, please include a statement explaining how this version reflects the feedback received from the Reviewers and the editors. Also, note if, and explain why, you decided not to follow any points made by reviewers or editors.

Finally, we would appreciate it if you would acknowledge receipt of this message and, as soon as possible, let us know a) whether you plan to rewrite your paper as well as b) when you would plan to submit a new version to the International Journal of Renewable Energy Development for review.

Dr. Rock Keey Liew
Handling Editor
https://ijred.undip.ac.id

Reviewer A:

This paper investigates the Potential of Avocado Seeds for Bioethanol Production using Steam Delignification, Catalytic Hydrolysis, and Fermentation. Overall, it is a well-written manuscript. Therefore, I recommend acceptance after minor revisions have been made according to the comments below.

Study process
• "The mixture was then heated at 80oC, stirred slowly for 2.5 hours, then filtered and rinsed with hot water (100oC)" Is this process considered as steam delignification? Did this study use steam or just hot water for the SD process? More clarification is needed
• Equation 1 and 2. Please put unit used for yield and concentration

Results
• Figure 4. Please state information on standard used for FTIR
• The discussions on FTIR are too simple. Authors need to discuss peaks detected at 2271 and 1159 cm-1 as well.
• Section 3.2 Fermentation hydrolysate. "However, these results strongly agreed with those reported by other researchers. They investigated different biomass, such as sweet corn and olive tree pruning, which have (72–82% of

the theoretical maximum) (Ruiz et al., 2013).”• This statement is not clear. Did those researchers studied SD method and applied 10-15 substrate as well?
• Furthermore, why did authors put bracket sign? Misleading?
• It is highly advisable to compare findings in this study using SD method with those reported using other techniques. Does this method show any improvements?

Reviewer B:

In this work, the authors investigated the potential of avocado seed for bioethanol production via different approaches, including steam delignification, catalytic hydrolysis and fermentation.

I recommend a major revision to the paper. Kindly look into the following comments to improve the manuscript:

• Please check the unit used for temperature, and the spacing between number and unit throughout the MS.
• The methodology in the abstract is confusing, suggest author to rewrite. All the three steps are continuously or separate step? Please clarify. If it is in continuous, suggest author to revise the title to avoid confusion.
• More numerical data is needed in abstract.
• If avocado seed is in excess, how it can be collected? Is this the waste products from manufacture company or household waste? Kindly clarify.
• The novelty of this research in unclear. Kindly emphasize.
• Section 2.2: the section title is confusing, perhaps author can change a more suitable title?
• Section 2.4: kindly elaborate more or be more specific for “SS”.
• Section 3.1: What are the others mean for carbohydrate and lignin content in AS? You are comparing with another previous research?
• The result and discussion part for the hydrolysis and fermentation need more descriptions.

Gmail Herliati Rahman <herliatimulyono@gmail.com>

Decision on your submission IJRED-2023-52532

2 messages

Dr. Rock Keey Liew <lrklrk1991@gmail.com> 17 April 2023 at 19:13
Reply-To: "Dr. Rock Keey Liew" <lrklrk1991@gmail.com>
To: Dr Herliati Rahman <herliatimulyono@gmail.com>
Cc: Ayu Nehemia <ayunehemia1@gmail.com>, Hadiatun Puji Astuti <hadiatunpujiastuti@gmail.com>

Manuscript Number.: IJRED-2023-52532
Title: Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Steam Delignification, Catalytic Hydrolysis, and Fermentation
Journal: International Journal of Renewable Energy Development

Dear Dr Herliati Rahman,

Please highlight the changes you have made in your revised manuscript so that the reviewer can access your corrections easily.

Thank you.

Best Regards,

Dr. Rock Keey Liew
Handling Editor
https://ijred.undip.ac.id

Ir. Herliati, MT, Ph.D <herliatimulyono@gmail.com> 18 April 2023 at 19:24
To: "Dr. Rock Keey Liew" <lrklrk1991@gmail.com>
Cc: Ayu Nehemia <ayunehemia1@gmail.com>, Hadiatun Puji Astuti <hadiatunpujiastuti@gmail.com>

Dear editor
Thanks for the nice advice.
We herewith enclose the revision of the manuscript which is colored yellow and we also attach a list of the reviewer's comments in the table

Best regards
[Quoted text hidden]

2 attachments

Revisions List_Investigating the Poten.docx
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1221K

Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Boiled Water Delignification Pretreatment

Authors: Herliati Rahman, Ayu Nehemia, Hadiatun Puji Astuti

Respond to reviewers for first round

No	Reviewer's comment (Reviewer A)	Responds/Revisions
A	**Comments about content**	
1	**Study**: "The mixture was then heated at 80^{o}C, stirred slowly for 2.5 hours, then filtered and rinsed with hot water (100^{o}C)" Is this process considered as steam delignification? Did this study use steam or just hot water for the SD process? More clarification is needed	The study used boiled water at 100 ^{o}C for delignification. We considered that boiled water as a steam. But it is a good idea for us to change the Title "**Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Boiled Water Delignification Pretreatment"**
2	**Study:** Equation 1 and 2. Please put unit used for yield and concentration.	This section has been revised as suggestions. **We have put unit % for the yield and mg/mL for the concentration**
3	**Results**: Figure 4. Please state information on standard used for FTIR	We just realized that there is a mistake. **There is no standard used because FTIR has a database to determine the spectrum of glucose compounds**.**We have been improved the Figure 4**
4	**Results**: Section 3.2 Fermentation hydrolysate. "However, these results strongly agreed with those reported by other researchers. They investigated different biomass, such as sweet corn and olive tree pruning, which have (72–82% of the theoretical maximum) (Ruiz et al., 2013)." This statement is not clear. Did those researchers studied SD method and applied 10-15 substrate as well?	Thanks for the very useful corrections. This part has been rewritten.
5	**Result**: Furthermore, why did authors put bracket sign? Misleading?.	This part already revised by **removing the brackets sign.**
6	**Result**: It is highly advisable to compare findings in this study using SD method with those reported using other techniques. Does this method show any improvements?.	Thanks for the very useful suggestion. However, **we have proven that the SD method is able to reduce the lignin content in AS as shown in Figure 3.** We assume that reducing lignin can increase

		microbial activity so that it can increase the yield in the next stage.

No	Reviewer's comment (Reviewer B)	Responds/Revisions
A	**Comments about contents**	
1	Please check the unit used for temperature, and the spacing between number and unit throughout the MS	These have been revised and improved throughout the MS.
2	**Abstract**: The methodology in the abstract is confusing, suggest author to rewrite. All the three steps are continuously or separate step? Please clarify. If it is in continuous, suggest author to revise the title to avoid confusion	I just realized this mistake and it has been rewritten. However, we would like to say that these three steps are separate stages consisting of delignification, hydrolysis and fermentation. And it is a good idea for us to change the Title "**Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Boiled Water Delignification, Catalytic Hydrolysis, and Fermentation"**
3	**Abstract:** More numerical data is needed in abstract.	This section has been improved by adding some data.
4	**If avocado seed is in excess**, how it can be collected? Is this the waste products from manufacture company or household waste? Kindly clarify	Avocado seeds are obtained from cafes and restaurants around Bogor (West Java, Indonesia)
5	**The novelty** of this research in unclear. Kindly emphasize	Previous researchers using Steam Explosion during biomass pretreatments to obtain specific sugar raw materials. However, some disadvantages of SE include modifying the lignin compounds into chemicals by hemicellulose-derived sugars that can inhibit the following steps; and the prospect possibility of extractives breaking down during the pretreatment (Chen et al., 2022). So, this study using boiled water (100 ^{o}C) during the pretreatment which is more interesting from an ecological and economic perspective.
6	**Section 2.2**: the section title is confusing, perhaps author can change a more suitable title?	This section already revised. **Replaced "study" with "experimental".**
7	**Section 2.4:** kindly elaborate more or be more specific for "SS"	Thanks for the very useful suggestion. This section has been elaborated. **One gram of each sample was diluted in buffered saline and plated on tributyrin agar**

		(TBA) plates in 100 µl aliquots. The TBA plates were composed of 0.5% peptones, 0.3% yeast extract, 1% agar, and 0.1 ml tributyrin, with the pH adjusted to 5.5. Prior to use, tributyrin was sterilized through membrane filtration and the filtrate was added to the basic growth medium. After 24 hours of incubation at 30°C, each colony was selected and streaked to obtain pure cultures (Godoy et al.,2018).
8	**Section 3.1**: What are the others mean for carbohydrate and lignin content in AS? You are comparing with another previous research?	Thanks for the comments. In this section we would like to show that the carbohydrate content in AS is very high, but also high in lignin. Lignin content can negatively affect the next process. Yes, we compared with that done by Ji et.al (2022).
9	The result and discussion part for the hydrolysis and fermentation need more descriptions.	This section has been rewritten. We have put more descriptions for the hydrolysis and fermentation

Gmail Herliati Rahman <herliatimulyono@gmail.com>

Decision on your submission IJRED-2023-52532

Dr. Rock Keey Liew <lrklrk1991@gmail.com> 17 May 2023 at 18:33
Reply-To: "Dr. Rock Keey Liew" <lrklrk1991@gmail.com>
To: Dr Herliati Rahman <herliatimulyono@gmail.com>
Cc: Ayu Nehemia <ayunehemia1@gmail.com>, Hadiatun Puji Astuti <hadiatunpujiastuti@gmail.com>

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Based on the Reviewer feedback as well as my reading of your manuscript I want to strongly encourage you to undertake revisions and then resubmit your manuscript for consideration for publication in the International Journal of Renewable Energy Development.

I hope that this feedback will be helpful to you in developing your research and that you will be encouraged to undertake the revisions within the next few weeks. Please don't hesitate to contact me if you have any questions about the comments above.

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When you submit a revised version of your paper, please include a statement explaining how this version reflects the feedback received from the Reviewers and the editors. Also, note if, and explain why, you decided not to follow any points made by reviewers or editors.

Finally, we would appreciate it if you would acknowledge receipt of this message and, as soon as possible, let us know a) whether you plan to rewrite your paper as well as b) when you would plan to submit a new version to the International Journal of Renewable Energy Development for review.

Dr. Rock Keey Liew
Handling Editor
International Journal Renewable Energy Development
https://ijred.undip.ac.id

Reviewer A:

This paper investigates the potential of avocado seeds for bioethanol production. Overall, most reviewers' comments have been revised by the authors. I believe the paper will be ready for publication in IJRED after minor revision according to the following comments:

• Figure 2 can be improved by adding more information on parameters used in each reaction, e.g. temperature, time, chemicals name/amount, etc.

Reviewer B:

In this work, the authors investigated the potential of avocado seed for bioethanol production via different approaches, including steam delignification, catalytic hydrolysis and fermentation.

I recommend a minor revision to the paper. Kindly look into the following comments to improve the manuscript:

• What is the changes made in the abstract? Kindly mark the changes.
• Kindly emphasize the novelty of this research in the MS.

Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Boiled Water Delignification Pretreatment

Authors: Herliati Rahman, Ayu Nehemia, Hadiatun Puji Astuti

Respond to reviewer for second round

No	Reviewer's comment (Reviewer A)	Responds/Revisions
This paper investigates the potential of avocado seeds for bioethanol production. Overall, most reviewers' comments have been revised by the authors. I believe the paper will be ready for publication in IJRED after minor revision according to the following comments:		
1	**Figure 2 can be improved by adding more information on parameters used in each reaction, e.g., temperature, time, chemicals name/amount, etc.**	Thanks for the very useful suggestion. This part already revised and improved by adding more information on operation conditions and chemicals used.

No	Reviewer's comment (Reviewer B)	Responds/Revisions
In this work, the authors investigated the potential of avocado seed for bioethanol production via different approaches, including steam delignification, catalytic hydrolysis and fermentation. I recommend a minor revision to the paper. Kindly look into the following comments to improve the manuscript:		
1	**What is the changes made in the abstract? Kindly mark the changes.**	We add more information "The delignification pretreatment of AS involved soaking in 4% (w/v) sodium hydroxide liquor for 24 hours. Then the mixture was heated to 80°C and stirred slowly for 2.5 hours and after that washing with boiled water at 100 oC for 1.5 hours and screening the mixture"
2	**Kindly emphasize the novelty of this research in the MS.**	Thanks for the very useful suggestion. We already described the novelty at introduction.

Gmail Herliati Rahman <herliatimulyono@gmail.com>

Decision on your submission IJRED-2023-52532

1 message

Dr. Rock Keey Liew <lrklrk1991@gmail.com> 20 May 2023 at 17:04
Reply-To: "Dr. Rock Keey Liew" <lrklrk1991@gmail.com>
To: Dr Herliati Rahman <herliatimulyono@gmail.com>
Cc: Ayu Nehemia <ayunehemia1@gmail.com>, Hadiatun Puji Astuti <hadiatunpujiastuti@gmail.com>

Manuscript Number.: IJRED-2023-52532
Title: Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Steam Delignification, Catalytic Hydrolysis, and Fermentation
Journal: International Journal of Renewable Energy Development

Dear Dr Herliati Rahman,

I am pleased to confirm that your paper submitted to the International Journal of Renewable Energy Development, entitled "Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Steam Delignification, Catalytic Hydrolysis, and Fermentation" ID: IJRED-2023-52532 has been accepted for publication.

We will proceed with your manuscript to the layout editor and send the proof to you for final correction.

Thank you for submitting your article to the International Journal of Renewable Energy Development. We very much welcome your next article submission to the journal.

Sincerely,

Dr. Rock Keey Liew
Handling Editor
International Journal of Renewable Energy Development
Website: ijred.undip.ac.id

Gmail

Herliati Rahman <herliatimulyono@gmail.com>

[IJRED] Proofreading Request (Author)

Prof. Dr H Hadiyanto <hadiyanto@live.undip.ac.id> 21 May 2023 at 15:56
Reply-To: "Prof. Dr H Hadiyanto" <hadiyanto@live.undip.ac.id>
To: Dr Herliati Rahman <herliatimulyono@gmail.com>
Cc: Rock Keey Liew <lrklrk1991@gmail.com>

Dr Herliati Rahman:

Your submission "Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Steam Delignification, Catalytic Hydrolysis, and Fermentation" to International Journal of Renewable Energy Development now needs to be proofread by following these steps.

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3. Save and email corrections to this email.

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Username: herliati_rahman

Prof. Dr H Hadiyanto
Center of Biomass and Renewable Energy (CBIORE), Diponegoro University
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International Journal of Renewable Energy Development
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Total Countries: 12

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- Vol 12, No 6 (2023): November 2023 (https://ejournal.undip.ac.id/index.php/ijred/issue/view/3500)
- Vol 12, No 5 (2023): September 2023 (https://ejournal.undip.ac.id/index.php/ijred/issue/view/3476)
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Hargono Hargono, Noer Abyor Handayani, Sheila Dwifa Andani, Ersa Wardani, Ulma Aqari Fisama, Kevin Setiadi Seng

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Received: 15 Dec 2022; Revised: 18 Jun 2023; Accepted: 17 Jul 2023; Published: 25 Jul 2023.

Review Article

A comprehensive review on the use of biodiesel for diesel engines
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Van Giao Nguyen, Minh Tuan Pham, Nguyen Viet Linh Le, Huu Cuong Le, Thanh Hai Truong, Dao Nam Cao

| Language: **EN (#)** | DOI: **10.14710/ijred.2023.54612**
(https://doi.org/10.14710/ijred.2023.54612)

Received: 25 Apr 2023; Revised: 15 Jun 2023; Accepted: 20 Jun 2023; Available online: 28 Jun 2023; Published: 15 Jul 2023.

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CiteScore (2021): 2.7 | **CiteScore** tracking (2022): **3.8**
Source Normalized Impact per Paper (SNIP) (2021): **0.68**
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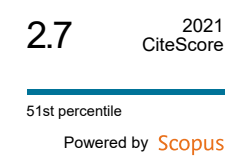

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#52532 Review

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Submission

Authors	Herliati Rahman, Ayu Nehemia, Hadiatun Puji Astuti (https://ejournal.undip.ac.id/index.php/ijred/user/email?redirectUrl=https%3A%2F%2Fejournal.undip.ac.id%2Findex.php%2Fijred%2Fauthor%2FsubmissionReview%2F52532&to%5B%5D=%22Herliati%20Rahman%22%2
Title	Investigating the Potential of Avocado Seeds for Bioethanol Production: A Study on Steam Delignification, Catalytic Hydrolysis, and Fermentation
Section	Original Research Article
Editor	Rock Keey Liew (https://ejournal.undip.ac.id/index.php/ijred/user/email?redirectUrl=https%3A%2F%2Fejournal.undip.ac.id%2Findex.php%2Fijred%2Fauthor%2

Peer Review

Round 1

Review Version	52532-168158-1-RV.docx (https://ejournal.undip.ac.id/index.php/ijred/author/downloadFile/52532/168158/1) 16-02-2023
Initiated	24-02-2023
Last modified	10-04-2023
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Round 2

Review Version	52532-168158-2-RV.DOC (https://ejournal.undip.ac.id/index.php/ijred/author/downloadFile/52532/168158/2) 18-04-2023
Initiated	18-04-2023
Last modified	03-05-2023
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Title	Investigating the potential of avocado seeds for bioethanol production: A study on boiled water delignification pretreatment
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Title and Abstract

Title	Investigating the potential of avocado seeds for bioethanol production: A study on boiled water delignification pretreatment
Abstract	The increasing need for alternative fuels to replace fossil fuels has made bioethanol a promising option. Although numerous sources of sugar generation and agricultural wastes can be converted into ethanol, Avocado Seeds (AS) are particularly attractive as raw materials due to their abundance, high carbohydrate content, and lack of interactions with the food chain. Therefore, this study investigated the potential of AS for bioethanol production using several steps, including boiled water delignification pretreatment, catalytic hydrolysis, and fermentation with Saccharomyces cerevisiae. The delignification pretreatment of AS involved soaking in 4% (w/v) sodium hydroxide liquor for 24 hours. Then the mixture was heated to 80°C and stirred slowly for 2.5 hours and after that washing with boiled water at 100 ^{o}C for 1.5 hours and screening the mixture. Subsequently, catalytic hydrolysis and fermentation were carried out using two different concentrations of Saccharomyces cerevisiae as yeast, namely 10% (w/v) and 15% (w/v). Qualitative sample analysis was conducted using scanning electron microscopy (SEM) to observe the effect of delignification pretreatment, while FTIR analysis using Thermo Scientific Nicolet iS50 was used to test for glucose functional groups. Quantitative analysis was performed using gas chromatography 7890b mass spectrophotometry 5977A, Agilent DBVRX to determine hydrolysate fermentation. The results revealed that the highest ethanol yield was achieved through fermentation with 15% (w/v) yeast and 40% (v/v) catalyst, resulting in an ethanol yield of 83.755% of the theoretical maximum.
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