



Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>

[jm] Submission Acknowledgement

1 pesan

MOLEKUL Editors <josunsoed@unsoed.ac.id>

30 Mei 2022 23.17

Kepada: Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>

Hasanudin Hasanudin:

Thank you for submitting the manuscript, " Kinetic Parameters Investigation for The Esterification of Free Fatty Acid from Coconut Oil Mill Waste using Montmorillonite-Sulfonated Carbon from Glucose Composite Catalyst" to Molekul. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

Submission URL: <http://jos.unsoed.ac.id/index.php/jm/authorDashboard/submission/5925>

Username: hasanudin

If you have any questions, please contact me. Thank you for considering this journal as a venue for your work.

MOLEKUL Editors

[Molekul](#)



Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>

[jm] Editor Decision

1 pesan

Uyi Sulaeman <josunsoed@unsoed.ac.id>

15 Agustus 2022 13.18

Kepada: Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>, Wan Ryan Asri <wanryanryan@gmail.com>, Nova Yuliasari <nova_yuliasari@unsri.ac.id>, Widya Purwaningrum <purwaningrum.mipa@unsri.ac.id>, Fahma Riyanti <fatechafj@yahoo.com>, Novia Novia <novia@ft.unsri.ac.id>

Hasanudin Hasanudin, Wan Ryan Asri, Nova Yuliasari, Widya Purwaningrum, Fahma Riyanti, Novia Novia:

We have reached a decision regarding your submission to Molekul, " Kinetic Parameters Investigation for The Esterification of Free Fatty Acid from Coconut Oil Mill Waste using Montmorillonite-Sulfonated Carbon from Glucose Composite Catalyst".

Our decision is: Revisions Required

The reviewers have commented on your manuscript. I invite you to resubmit your manuscript after addressing the comments below. Please resubmit your revised manuscript by Sept 15, 2022.

When revising your manuscript, please consider all issues mentioned in the reviewers' comments carefully: please outline every change made in response to their comments and provide suitable rebuttals for any comments not addressed. Please note that your revised submission may need to be re-reviewed.

Uyi Sulaeman
Universitas Jenderal Soedirman
sulaeman@unsoed.ac.id

Reviewers Comments

Reviewer 1:

1. It is necessary to verify experimentally whether the resulting catalyst product is really a sulfonated montmorillonite-carbon composite. From related research literatures, the use of sulfuric acid leads to the formation of a sulfated material. Need to check again whether sulfonated term is the right term for the results of this process. The use of the term sulfated term seems more appropriate.
2. It is necessary to draw a composite model resulting from this research.
3. Grammarly checking result: Text score is 53 out of 100. This score represents the quality of writing in this document. You can increase it by addressing Grammarly's suggestions.

Reviewer 2:

1. The authors must emphasize the novelty of this manuscript in the Introduction.
2. It's unusual for a sentence to start with a number, for example, 200 mesh montmorillonite..., 20 g of the montmorillonite-carbon.
3. The authors should mention the source and purity of "glucose" that was used in the experiment. The type of FTIR from Shimadzu also should be written.
4. In FTIR characterization, the authors state that there was an interaction between carbon and montmorillonite structure. Could the authors explain what kind of interaction?

[Molekul](#)



Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>

[jm] New notification from Molekul

1 pesan

Uyi Sulaeman <josunsoed@unsoed.ac.id>

15 Agustus 2022 13.32

Balas Ke: JOS - Universitas Jenderal Soedirman <android290374@gmail.com>

Kepada: Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>

You have a new notification from Molekul:

You have been added to a discussion titled "Revision of manuscript" regarding the submission " Kinetic Parameters Investigation for The Esterification of Free Fatty Acid from Coconut Oil Mill Waste using Montmorillonite-Sulfonated Carbon from Glucose Composite Catalyst".

Link: <http://jos.unsoed.ac.id/index.php/jm/authorDashboard/submission/5925>

MOLEKUL Editors

[Molekul](#)

Response to reviewer manuscript ID: 5925 entitled "Kinetic Parameters Investigation for The Esterification of Free Fatty Acid from Coconut Oil Mill Waste using Montmorillonite-Sulfonated Carbon from Glucose Composite Catalyst"

Participants [Edit](#)

Hasanudin Hasanudin (hasanudin)

Messages

Note

From

Thank you for giving us the opportunity to submit a manuscript titled "Kinetic Parameters Investigation for The Esterification of Free Fatty Acid from Coconut Oil Mill Waste using Montmorillonite-Sulfonated Carbon from Glucose Composite Catalyst" for publication in the Molekul. We appreciate the time and effort that you dedicated to providing feedback on our manuscript and are grateful for the insightful comments and valuable improvements to our paper. We have incorporated the suggestions made by the reviewers. Those changes are written in yellow highlight text within the manuscript.

hasanudin

Sep 02

<p>Title : Kinetic Parameters Investigation for The Esterification of Free Fatty Acid from Coconut Oil Mill Waste using Montmorillonite-Sulfonated Carbon from Glucose Composite Catalyst</p> <p>Manuscript ID: 5925</p>		
<p>Thank you for giving us the opportunity to submit a manuscript titled “Kinetic Parameters Investigation for The Esterification of Free Fatty Acid from Coconut Oil Mill Waste using Montmorillonite-Sulfonated Carbon from Glucose Composite Catalyst” for publication in the Molekul. We appreciate the time and effort that you dedicated to providing feedback on our manuscript and are grateful for the insightful comments and valuable improvements to our paper. We have incorporated the suggestions made by the reviewers. Those changes are written in yellow highlight text within the manuscript.</p>		
<p>Reviewer 1</p>		
No	Comment from Reviewer 1	Responses
1	<p>It is necessary to verify experimentally whether the resulting catalyst product is really a sulfonated montmorillonite-carbon composite. From related research literatures, the use of sulfuric acid leads to the formation of a sulfated material. Need to check again whether sulfonated term is the right term for the results of this process. The use of the term sulfated term seems more appropriate.</p>	<p>Thank you for pointing this out. The sulfuric acid was employed as a -SO₃H group precursor, which subsequently functionalized on the carbon framework. Several studies used the term “sulfonated” when they carried out the sulfonating process of carbon-based material using concentrated sulfuric acid (Bastos et al. 2020; Fauziyah, Widiyastuti, and Setyawan 2020; Hajamini et al. 2016; Kang, Chang, and Fan 2014; Karmakar et al. 2020; Lathiya, Bhatt, and Maheria 2018; Peng et al. 2010). According to the literature review, its seem that sufficient to use the “sulfonated” term in this context. The used of “Sulfated” usually was employed in the metal-based materials, in which different with this study (carbon-based aluminosilicate composite catalyst).</p>

References:

Bastos, Rafael Roberto Cardoso et al. 2020. "Optimization of Biodiesel Production Using Sulfonated Carbon-Based Catalyst from an Amazon Agro-Industrial Waste." *Energy Conversion and Management* 205(October 2019): 112457. <https://doi.org/10.1016/j.enconman.2019.112457>.

Fauziyah, Mar'atul, Widiyastuti Widiyastuti, and Heru Setyawan. 2020. "Sulfonated Carbon Aerogel Derived from Coir Fiber as High Performance Solid Acid Catalyst for Esterification." *Advanced Powder Technology* 31(4): 1412–19. <https://doi.org/10.1016/j.appt.2020.01.022>.

Hajamini, Zahra, Mohammad Amin Sobati, Shahrokh Shahhosseini, and Barat Ghobadian. 2016. "Waste Fish Oil (WFO) Esterification Catalyzed by Sulfonated Activated Carbon under Ultrasound Irradiation." *Applied Thermal Engineering* 94: 1–10. <http://dx.doi.org/10.1016/j.applthermaleng.2015.10.101>.

Kang, Shimin, Jie Chang, and Juan Fan. 2014. "One Step Preparation of Sulfonated Solid Catalyst and Its Effect in Esterification Reaction." *Chinese Journal of Chemical Engineering* 22(4): 392–97. [http://dx.doi.org/10.1016/S1004-9541\(14\)60058-6](http://dx.doi.org/10.1016/S1004-9541(14)60058-6).

Karmakar, Bisheswar, Bidipta Ghosh, Sucharita Samanta, and Gopinath Halder. 2020. "Sulfonated Catalytic Esterification of Madhuca Indica Oil Using Waste Delonix Regia: L16 Taguchi Optimization and Kinetics." *Sustainable Energy Technologies and*

		<p><i>Assessments</i> 37(October 2019): 100568. https://doi.org/10.1016/j.seta.2019.100568.</p> <p>Lathiya, Dharmesh R., Dhananjay V. Bhatt, and Kalpana C. Maheria. 2018. "Synthesis of Sulfonated Carbon Catalyst from Waste Orange Peel for Cost Effective Biodiesel Production." <i>Bioresource Technology Reports</i> 2: 69–76. https://doi.org/10.1016/j.biteb.2018.04.007.</p> <p>Peng, Li et al. 2010. "Preparation of Sulfonated Ordered Mesoporous Carbon and Its Use for the Esterification of Fatty Acids." <i>Catalysis Today</i> 150(1–2): 140–46. http://dx.doi.org/10.1016/j.cattod.2009.07.066</p>
2	It is necessary to draw a composite model resulting from this research.	<p>Thank you for pointing this out. We have incorporated the proposed scheme of montmorillonite-sulfonated carbon composite on Figure 3e.</p> <p>The revised text as follows:</p> <p>"Figure e shows the proposed scheme of montmorillonite-sulfonated carbon composite. It was suggested that the montmorillonite was coated by carbon, whereas the sulfonated groups were functionalized in the carbon framework."</p>
3	Grammarly checking result: Text score is 53 out of 100. This score represents the quality of writing in this document. You can increase it by addressing Grammarly's suggestions.	<p>Thank you for pointing this out. We have carefully checked the Grammarly results. However, the title was "Impact of reduced Activator Concentration and Curing Method on Compressive Strength of Metakaolin/Fly Ash-based Geopolymer Mortar.", which totally different from our article. The reviewer 1 seems send the</p>

		wrong files. Nevertheless, we have checked the article using Grammarly, as the reviewer suggested. We had 87/100 scores, which seems sufficient. We also have revised some grammar error text in the manuscript accordingly.
	Reviewer 2	
1	The authors must emphasize the novelty of this manuscript in the Introduction.	<p>Thank you for pointing this out. In this manuscript, we focused on the kinetic study towards the FFA conversion from coconut oil mill waste (CMW) into FAME using montmorillonite-sulfonated carbon composite catalyst. The carbon source employed in this reaction was glucose. Several esterification kinetic studies have been reported using various feedstocks and catalysts (Gao et al., 2020; Hamerski et al., 2020; Kusumaningtyas et al., 2017; Liu, Liu, et al., 2019). However, according to the literature review, there were neither exploration nor study has been attempted regarding the kinetic study of FFA conversion from CMW into FAME using montmorillonite-sulfonated carbon composite catalyst, as we stated and revised within the manuscript. To strengthen the literature review, we also mentioned the previous study regarding the relevant context, such as the employment of the sulfonated carbon-based catalyst for FFA esterification and their research purpose.</p> <p>The revised text as follows:</p> <p>“The previous study employed the zeolite-sulfonated biochar derived from biomass-based such as molasse for the catalytic</p>

		<p>esterification of FFA derived from sludge palm oil. The study revealed that the reaction had an activation energy of ca. 30.65 kJ/mol towards FAME production, whereas it had an activation energy of ca. 15.87 kJ/mol towards the reversible reaction. This typical reaction took place endothermically with a sufficient kinetics model ($R^2= 96\%$) (Hasanudin et al., 2022b). The other study also reported that the zeolite-sulfonated carbon derived from sugar cane promoted a ca. 94.19% towards FFA conversion derived from sludge palm oil, optimized by the RSM-CCD method. This catalyst exhibited an adequate reusability performance for up to 4 consecutive runs (Hasanudin et al., 2022c).</p> <p>“According to the literature review, there were neither exploration nor study has been attempted regarding the kinetic study of FFA conversion from CMW into FAME using montmorillonite-sulfonated carbon composite catalyst, with glucose as a carbon source.”</p>
2	<p>It's unusual for a sentence to start with a number, for example, 200 mesh montmorillonite..., 20 g of the montmorillonite-carbon.</p>	<p>Thank you for pointing this out. We have revised the sentences, as suggested by the reviewer.</p> <p>The revised text as follows:</p> <p>“Montmorillonite (200-mesh) from PT. Tunas Inti Makmur Semarang was cleaned with distilled water and dried at 120 °C for 1 day”</p>

		<p>“A series of mixtures with various weight ratios of montmorillonite to glucose, namely 1:3, 1:2, 1:1, 2:1, and 3:1 (% w/w), was dissolved in distilled water (500 mL) and stirred at 80 °C until homogeneous”</p> <p>“Montmorillonite-carbon composite (20 g) was diluted with concentrated H₂SO₄ (100 mL), refluxed at 175 °C for 15 hours, and later washed with distilled water at 80 °C”</p>
3	<p>The authors should mention the source and purity of "glucose" that was used in the experiment. The type of FTIR from Shimadzu also should be written.</p>	<p>Thank you for pointing this out, we used D(+)-glucose supplied from Merck, whereas the type of FTIR from Shimadzu employed in this study was FTIR Shimadzu 8201.</p> <p>The revised text as follows:</p> <p>“D(+)-glucose (ca. 97.5-100 % purity, Merck)”</p> <p>“FT-IR (8201 Shimadzu)”</p>
4	<p>In FTIR characterization, the authors state that there was an interaction between carbon and montmorillonite structure. Could the authors explain what kind of interaction?</p>	<p>Thank you for pointing this out. The explanation regarding this interaction indicated that the montmorillonite was coated by carbon. Meanwhile, the sulfonated groups were functionalized in the carbon framework. In this reaction, we used glucose solution for the carbon precursor. In this typical reaction, the glucose solution will interact with the montmorillonite surface. The treatment of drying and carbonization makes the glucose precursor become carbon, which produces a “coating” on the montmorillonite in the final form.</p> <p>The revised text as follows:</p>

		<p>“This interaction suggested that the montmorillonite was coated by carbon, while the sulfonated groups were functionalized in the carbon framework.”</p>
--	--	---



Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>

[jm] Editor Decision

1 pesan

Uyi Sulaeman <josunsoed@unsoed.ac.id>

9 September 2022 11.19

Kepada: Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>, Wan Ryan Asri <wanryanryan@gmail.com>, Nova Yuliasari <nova_yuliasari@unsri.ac.id>, Widya Purwaningrum <purwaningrum.mipa@unsri.ac.id>, Fahma Riyanti <fatechafj@yahoo.com>, Novia Novia <novia@ft.unsri.ac.id>

Hasanudin Hasanudin, Wan Ryan Asri, Nova Yuliasari, Widya Purwaningrum, Fahma Riyanti, Novia Novia:

We have reached a decision regarding your submission to Molekul, " Kinetic Parameters Investigation for The Esterification of Free Fatty Acid from Coconut Oil Mill Waste using Montmorillonite-Sulfonated Carbon from Glucose Composite Catalyst".

Our decision is to: Accept Submission

Uyi Sulaeman
Universitas Jenderal Soedirman
sulaeman@unsoed.ac.id

Molekul

Tasks 0

Submissions

Kinetic Parameters Investigation for The Esterification of Free Fatty Acid from Coconut Oil Mill Waste using Montmorillonite-Sulfonated Carbon from Glucose Composite Catalyst

Hasanudin Hasanudin, Wan Ryan Asri, Widia Purwaningrum, Fahma Riyanti, Novi...

Submission Review **Copyediting** Production

Round 1

Round 1 Status
Submission accepted.

- ### Notifications
- [jm] Editor Decision 2022-08-15 06:18 AM
 - [jm] Editor Decision 2022-09-09 04:19 AM

Copyediting ✕

Participants

- Uyi Sulaeman (sulaeman)
- Hasanudin Hasanudin (hasanudin)

Messages

Note	From
Dear Dr. Hasanudin, Congratulations for your accepted manuscript Kindly check again your edited manuscript below for publication, and make a correction. Thank you Uyi Sulaeman Editor	sulaeman Sep 09

sulaeman, Journal editor, 5925-99Z Editor.docx



Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>

Proof Read - Jurnal MOLEKUL Vol 17 No 3

3 pesan

Jurnal Molekul <j.molekul@gmail.com>
Kepada: hasanudin@mipa.unsri.ac.id

31 Oktober 2022 14.10

Dear **Dr. Hasanudin**,

Sehubungan dengan artikel yang telah diterima untuk diterbitkan pada Jurnal Molekul Volume 17 No 3, November 2022, dengan ini maka:

1. Terlampir file artikel yang telah di layout, mohon untuk dicek kembali (*proofread*). Untuk memastikan artikel anda terbit pada waktunya, mohon jika ada koreksi harap diperbaiki dan dikembalikan dalam waktu **maksimal 2 hari**. Adanya kesalahan setelah artikel diterbitkan atau dicetak **tidak memungkinkan untuk direvisi** lagi. Jika dalam batas waktu yang ditentukan **tidak ada tanggapan**, maka kami anggap penulis **telah setuju dengan artikel tersebut** baik isi, susunan penulis, dan komponen artikel lainnya. Perubahan / revisi dapat disertakan dalam lembar tersendiri atau komentar di file pdf yang dikirimkan.
2. Mohon melakukan pembayaran biaya publikasi sebagai berikut:
 - o Jumlah Rp. 2.000.000 (Mendapatkan 2 eksemplar versi cetak).
 - o Penambahan versi cetak, Rp 250.000 per eksemplar.
 - o Cara Pembayaran :
 - No Rekening BNI : **1135395011**, a.n. : **Jurnal Ilmiah Kimia Molekul**
 - o Setelah melakukan pembayaran, harap konfirmasi melalui **Whatsapp** ke Ibu Zusfahair: **081323760903**
3. Mohon mengisi form pernyataan terlampir (jika belum pernah mengisi dan mengirimkan)

Demikian, jika ada informasi yang belum jelas, dapat dikonfirmasi melalui email ini.

Salam,

Editor Jurnal MOLEKUL

English version

The proof of your article, to be published in 'MOLEKUL', is now available.

Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. To assist you with this, copy-editing changes have been highlighted in red with the original text in a pop-up box.

For article processing fee payment (\$150, please contact the editor to select the payment method).

To ensure fast publication of your paper please return your corrections within 48 hours.

Fail to reply to this email within the time, we assumed that you have agreed with the final version of your article attached.

Note that once your corrections have been received, your article is finalized and any further correction is no longer possible.

Yours sincerely,

MOLEKUL Editorial Team.

2 lampiran **5925-Hasanudin-(356-365)-Ok.pdf**
515K **Form_pernyataan-2022-EN.docx**
85K

Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>
Kepada: Wan Ryan Asri <wanryanryan@gmail.com>

31 Oktober 2022 14.39

[Kutipan teks disembunyikan]

2 lampiran

 **5925-Hasanudin-(356-365)-Ok.pdf**
515K

 **Form_pernyataan-2022-EN.docx**
85K

Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>
Kepada: j.molekul@gmail.com

1 November 2022 08.09

Dear editor,

Hereby we sent our correction regarding the proofread of our article and we also have annotated within the PDF manuscript.

Authors nama

CHANGE...

Muhammad Al Muttaqqi

TO....

Muhammad Al Muttaqqi

Affiliatons

CHANGE...

Research Center for Chemistry, Indonesian Institute of Sciences, Banten 15311, Indonesia

TO...

Research Center for Chemistry, National Research and Innovation Agency (BRIN-Indonesia), Science and Technology Research Center (PUSPIPTEK) Area, Serpong, South Tangerang 15314, Indonesia.

[Kutipan teks disembunyikan]

2 lampiran

 **Form_pernyataan-Hasanudin.pdf**
88K

 **5925-Hasanudin-(356-365)-Ok.pdf**
524K



1. Corresponding author : Hasanudin
2. Article title : Kinetic Parameters Investigation for The Esterification of Free Fatty Acid from Coconut Oil Mill Waste using Montmorillonite-Sulfonated Carbon from Glucose Composite Catalyst
3. Affilitaion : Biofuel Research Group, Laboratory of Physical Chemistry, Department of Chemistry, Faculty of Mathematics and Natural Science, Universitas Sriwijaya, Indralaya 30662, Indonesia
4. email : hasanudin@mipa.unsri.ac.id

Statement and Copyright

I declare that the submitted article:

1. Plagiarism free.
2. **Have not been published or under consideration to publish elsewhere.**
3. Include the **supervisor / advisor** in the author list name if the article is part of thesis/dissertation.
4. Include the **student** in the author list if the research was performed by the supervised/advised student.
5. Agreed by all author mention in the author list, any conflict would be resolved internally among authors.
6. Copyright of final version article format is with the publisher of MOLEKUL.

Palembang, 1 October 2022

Corresponding author,

(Hasanudin)

Please sign this form and return to MOLEKUL at email : j.molekul@gmail.com



Hasanudin Hasanudin <hasanudin@mipa.unsri.ac.id>

MOLEKUL Volume 17 Issue 3 now available online

1 pesan

Jurnal Molekul <j.molekul@gmail.com>

19 November 2022 11.48

Kepada: stwahyudi@apps.ipb.ac.id, Unang Supratman <unang.supratman@unpad.ac.id>, hartiwi.diastuti@unsoed.ac.id, Kristian Handoyo sugiyarto <sugiyarto@uny.ac.id>, I Ketut Lasia <lasiaketut@gmail.com>, ayyurahayu08@gmail.com, Thinikan Thongkam <thinikant@gmail.com>, fitranto.arjadi@unsoed.ac.id, nanda.saridewi@uinjkt.ac.id, Yudi Wicaksono <yudi.farmasi@unej.ac.id>, hasanudin@mipa.unsri.ac.id, warsinahapt@gmail.com, nuniek165@yahoo.com, cbanon@unib.ac.id, en.jarlis@iti.ac.id, yari_mukti@setiabudi.ac.id, AmanS Panggabean <amanspanggabean@yahoo.com>

Dear Authors,

We have published the Volume 17 Issue 3 of MOLEKUL and available online at:

<http://jos.unsoed.ac.id/index.php/jm/index>

Please re-check the **Title**, **Author** (name and order) and **Abstract**. Any corrections please inform me within 2 days. After registering to the indexing agent (DOAJ, DOI, ICI Int, Scopus), **no more revision** could be performed.

The print version is under production

Indexation process (DOAJ, DOI/crossref and SCOPUS) needs about 1-4 weeks.

Please **share the link** of the journal or your article to increase the **visibility** and **citation** of authors and journals.

Thank you.
Best regards,

Amin Fatoni
Editors in Chief
MOLEKUL - A Scientific Journal in the Chemistry
Department of Chemistry, Faculty of Mathematics and Science.
Universitas Jenderal Soedirman
Purwokerto, Indonesia