

## **KORESPONDENSI ARTIKEL**

**Judul Paper : Physicochemical Properties of Sago Ozone Oxidation: The  
Effect of Reaction Time, Acidity, and Concentration of starch**

**Nama Jurnal : Foods**

**Volume : 10 (06)**

**No.ISSN : 2304-8158**

**DOI : 10.3390/foods10061309**

**H Index : 38**

**Impact Factor : 4.350 (2020)**

**SJR Index : 0.77 (2020)**

**Reputasi : Scopus Q1**

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**Judul Paper** : Physicochemical Properties of Sago Ozone Oxidation: The Effect of Reaction Time, Acidity, and Concentration of Starch

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Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

**[Foods] Manuscript ID: foods-1217059 - Submission Received**

1 message

**Editorial Office** <foods@mdpi.com>

Mon, Apr 26, 2021 at 1:46 PM

Reply-To: foods@mdpi.com

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Dear Dr. Sumardiono,

Thank you very much for uploading the following manuscript to the MDPI submission system. One of our editors will be in touch with you soon.

Journal name: Foods

Manuscript ID: foods-1217059

Type of manuscript: Article

Title: Investigated the effect of reaction time, acidity, and concentration of starch in reaction to oxidation and physicochemical properties which processed with ozone oxidation

Authors: Siswo Sumardiono \*, Bakti Jos, Isti Pudjihastuti, Arvin M. Yafiz, Megaria Rachmasari, Heri Cahyono

Received: 26 April 2021

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If you have any questions, please do not hesitate to contact the Foods editorial office at [foods@mdpi.com](mailto:foods@mdpi.com)

Kind regards,

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\*\*\* This is an automatically generated email \*\*\*

26 April 2021

Prof. Dr. Christopher John Smith

Editor-in-Chief

*Foods*

Dear Editor:

Please find enclosed our manuscript entitled “Investigated the effect of reaction time, acidity, and concentration of starch in reaction to oxidation and physicochemical properties which processed with ozone oxidation,” which we request you to consider for publication as an *Article* in *Foods*.

Here, we conducted a comprehensive review of the effect of oxidation with ozone on the properties of native sago starch, which has tremendous potential in food and industrial applications. The potential use of sago starch has been limited by its disadvantageous properties, such as high viscosity, opaqueness, poor solubility, storage, and emulsification. Like other native starches, sago starch's quality can be improved by altering its physicochemical and rheological characteristics. Ozone, a strong oxidizing agent, has been used to modify sago starch. However, its exact effect on various properties of sago starch remains unclear. Thus, this study investigated the effect of reaction time, acidity, and starch concentration on the oxidation of sago starch with ozone. The carbonyl and carboxyl content, solubility, swelling power, granule morphology, crystallinity, and thermal properties of the modified sago starch were studied. The enhancement of these properties suggests greater suitability of application of the modified starch. Here, oxidation with ozone was found to significantly affect the solubility, swelling power, and carbonyl and carboxyl content of the native starch. The optimal pH and starch concentration for starch modification were identified. On the other hand, the modified starch and native starch remain mostly similar in terms of morphology, spectral patterns, X-ray diffraction patterns, and the profile of gelatinization and retrogradation temperatures. Our study is significant because our results contribute to

the understanding of the modification of sago starch; our data will help expand the use of sago starch in the food industry and other industrial processes.

This manuscript has not been published elsewhere and is not under consideration by another journal. We have approved the manuscript and agree with submission to *Foods*. There are no conflicts of interest to declare.

We believe that the findings of this study are relevant to the scope of your journal and will be of interest to its readership. The manuscript has been carefully reviewed by an experienced editor whose first language is English and who specializes in editing papers written by scientists whose native language is not English.

We look forward to hearing from you at your earliest convenience.

Sincerely,

Siswo Sumardiono

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Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

**[Foods] Manuscript ID: foods-1217059 - Major Revisions - Due on 18th May 2021**

5 messages

**Foods Editorial Office** <foods@mdpi.com>

Tue, May 11, 2021 at 9:27 AM

Reply-To: joie.wu@mdpi.com

To: Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

Cc: Bakti Jos &lt;bakti.jos@che.undip.ac.id&gt;, Isti Pudjihastuti &lt;istipudjihastuti@gmail.com&gt;, "Arvin M. Yafiz" &lt;arvinmuhammadyafiz@gmail.com&gt;, Megaria Rachmasari &lt;rachmasarimegaria@gmail.com&gt;, Heri Cahyono &lt;hericahyono@che.undip.ac.id&gt;, Foods Editorial Office &lt;foods@mdpi.com&gt;

Dear Dr. Sumardiono,

Thank you again for your manuscript submission.

The third reviewer also agreed to review your paper, so we may receive another review report later. Once the report is submitted, we will send a notice to you immediately. However, if we have not received the report before the revision deadline, we would cancel the review request.

Manuscript ID: foods-1217059

Type of manuscript: Article

Title: Investigated the effect of reaction time, acidity, and concentration of starch in reaction to oxidation and physicochemical properties which processed with ozone oxidation

Authors: Siswo Sumardiono \*, Bakti Jos, Isti Pudjihastuti, Arvin M. Yafiz, Megaria Rachmasari, Heri Cahyono

Received: 26 April 2021

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Please revise the manuscript according to the referees' comments and upload the revised file within 7 days.

Please use the version of your manuscript found at the above link for your revisions.

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(III) If you found it impossible to address certain comments in the review reports, please include an explanation in your rebuttal.

(IV) The revised version will be sent to the editors and reviewers.

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Do not hesitate to contact us if you have any questions regarding the revision of your manuscript. We look forward to hearing from you soon.

Kind regards,  
Kind regards,

Joie Wu

Special Issue Editor

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## REVIEWER 1

English language and style

- ( ) Extensive editing of English language and style required
- ( ) Moderate English changes required
- ( ) English language and style are fine/minor spell check required
- (x) I don't feel qualified to judge about the English language and style

	Yes	Can be improved	Must be improved	Not applicable
Does the introduction provide sufficient background and include all relevant references?	(x) ( )		( )	( )
Is the research design appropriate?	(x) ( )		( )	( )
Are the methods adequately described?	( ) (x)		( )	( )
Are the results clearly presented?	( ) (x)		( )	( )
Are the conclusions supported by the results?	( ) (x)		( )	( )
Comments and Suggestions for Authors				

Oxidation treatments are suitable to alter the physicochemical characteristics and rheological behavior of starch. Authors of manuscript investigated the applicability of ozonation for sago starch modifications. Effects of reaction time, acidity, 16 and starch concentration was investigated on starch properties. Solubility and swelling properties, FTIR, X-ray diffraction properties, carboxyl and carbonyl tests were used as control parameter to determine the effects of ozonation. In my opinion, the topic of manuscript can provide interesting information for the readers.

The manuscript is generally well structured. Introduction section summarizes well the problems of sago starch arisen during using it for food production, and the possibilities of starch modifications, especially the use of ozone treatment. Research motivations and the novelty of the study are clearly defined. Applied methods are adequate to the main questions and aims of the research. Description of materials and methods are clear. Manuscript contains interesting and valuable results not just for the science, but also for practice. Results are discussed with relevant references.

Comments and suggestions:

I suggest the authors to check the typos in the manuscript (10 mL instead of 'Ten ml', for instance-line 115).

How was the ozonation time range selected? Was the absorbed ozone measured?

Please add more detailed information about thermal profile analysis (Section 2.3.7).

Is it possible to give 3D surface instead of (Fig.1-3; Fig 4-6, for instance)?

In my opinion establishments in section 3.8 need strengthening by additional references (for instance).



## REVIEWER 2

English language and style

- ( ) Extensive editing of English language and style required
- ( ) Moderate English changes required
- (x) English language and style are fine/minor spell check required
- ( ) I don't feel qualified to judge about the English language and style

	Yes	Can be improved	Must be improved	Not applicable
Does the introduction provide sufficient background and include all relevant references?	( )	(x)	( )	( )
Is the research design appropriate?	( )	(x)	( )	( )
Are the methods adequately described?	( )	(x)	( )	( )
Are the results clearly presented?	( )	(x)	( )	( )
Are the conclusions supported by the results?	(x)	( )	( )	( )
Comments and Suggestions for Authors				

The manuscript deals with investigated the effect of reaction time, acidity, and concentration of starch in reaction to oxidation and physicochemical properties which processed with ozone oxidation.

The title is confusing and must be revised.

The English language must be revised.

Please separate values from units, e.g. “28 °C” not “28°C”.

Abstract

This section is vague. Please present your main results.

Introduction

The topics must be better linked.

Materials and methods

Line 94- “In this study, the ozone rate was 1.5 L/minute with a pH of 4, 7, and 10”??why these pH values??

Please number all equations.

Line 147- “*V. blanko*”??

Line 163- “The analyses were repeated twice for each sample. The data obtained are shown as the mean value  $\pm$  standard deviation (Mean  $\pm$  SD). The data were analyzed using One-way analysis ANOVA.”??why only in duplicates?post-hoc test used??

## Results and discussion

This section has some lack of depth and should be improved.

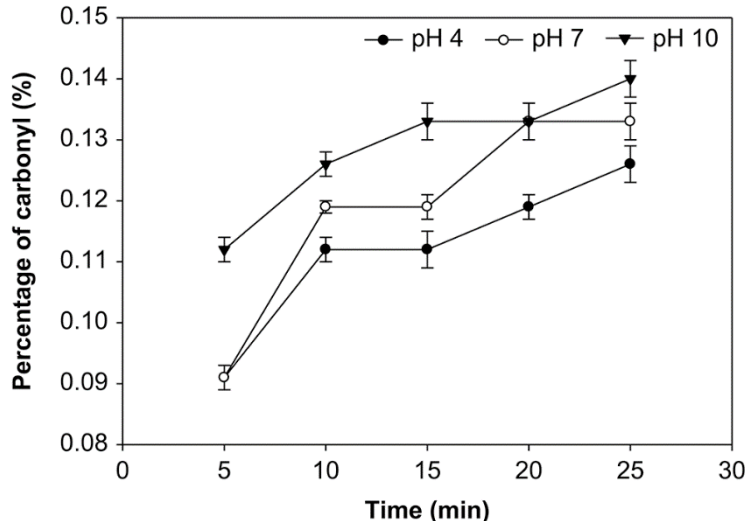
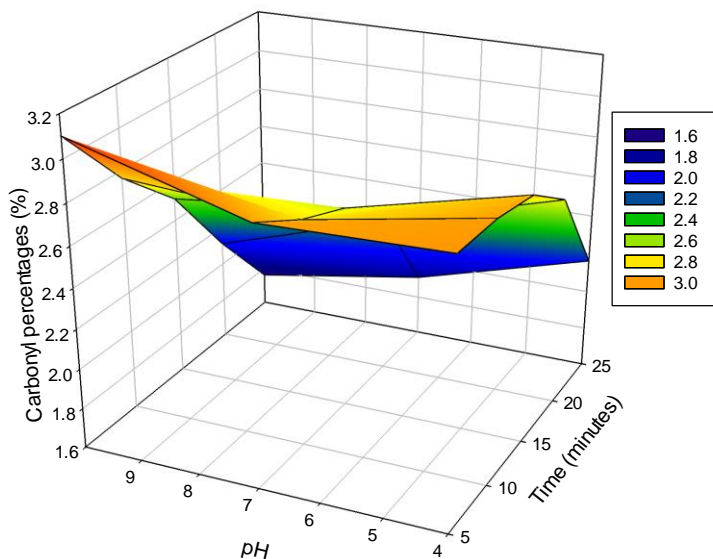
Line 324- “The profile of gelatinization and retrogradation temperatures of oxidized starch was not significantly different from those of the native starch (Table 1). Some variables, i.e., To, Tp, and Tc, under some conditions, the resultant oxidized starch has higher To, Tp, and Tc than native starch, indicating that ozonation produced higher thermal stability starch.”??Table 1, please add different superscript letters for significant differences. Moreover, please revise the discussion in accordance.

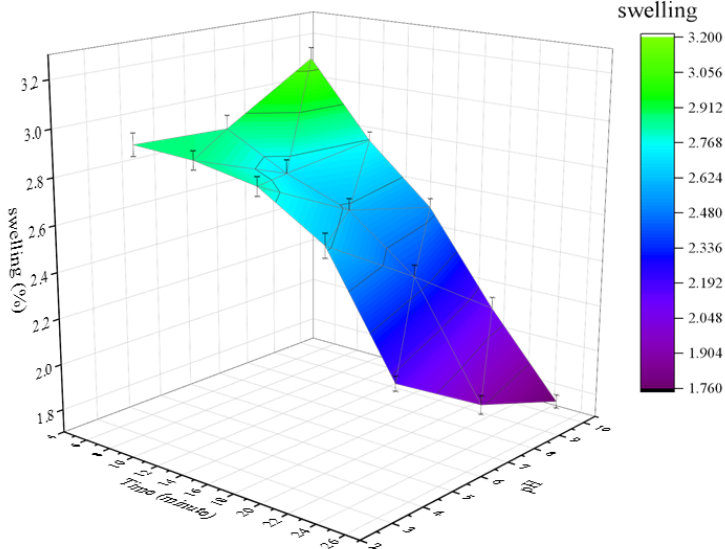
## REVISION NOTE BASED ON REVIEWERS COMMENTS

Journal Name : Foods (ISSN 2304-8158)  
 Manuscript ID : foods-1217059  
 Title : "Investigated the effect of reaction time, acidity, and concentration of starch in reaction to oxidation and physicochemical properties which processed with ozone oxidation"  
 Author(s) : Siswo Sumardiono, Bakti Jos, Isti Pudjihastut, Arvin M. Yafiz, Megaria Rachmasari, and Heri Cahyono

### Reviewer 1

<p>Oxidation treatments are suitable to alter the physicochemical characteristics and rheological behavior of starch. Authors of manuscript investigated the applicability of ozonation for sago starch modifications. Effects of reaction time, acidity, 16 and starch concentration was investigated on starch properties. Solubility and swelling properties, FTIR, X-ray diffraction properties, carboxyl and carbonyl tests were used as control parameter to determine the effects of ozonation. In my opinion, the topic of manuscript can provide interesting information for the readers.</p> <p>The manuscript is generally well structured. Introduction section summarizes well the problems of sago starch arisen during using it for food production, and the possibilities of starch modifications, especially the use of ozone treatment. Research motivations and the novelty of the study are clearly defined. Applied methods are adequate to the main questions and aims of the research. Description of materials and methods are clear. Manuscript contains interesting and valuable results not just for the science, but also for practice. Results are discussed with relevant references.</p> <p>Author response: Thank you!</p>		
1	Comment 1	I suggest the authors to check the typos in the manuscript (10 mL instead of 'Ten ml', for instance-line 115).
	Response	The revised text reads as follows on <a href="#">(line 121 in the revised manuscript)</a>
2	Comment 2	How was the ozonation time range selected? Was the absorbed ozone measured?
	Response	<p>The selected ozonation time ranges (5, 10, 15, 20, and 25 minutes) are the result of adoption with modifications from previous studies (Sumardiono et al., 2018) which we have published in MATEC Web of Conferences 156, 01027 (2018) <a href="https://doi.org/10.1051/mateconf/201815601027">https://doi.org/10.1051/mateconf/201815601027</a> with the title Effect of pH on the Physicochemical Properties of Cassava Starch Modification Using Ozone. In this study, the modification time of cassava starch with ozone was used for 240 minutes, but the results for several parameters (swelling, carboxyl, and carbonyl) showed significant changes in the range below 60 minutes, even for swelling under 30 minutes. From the consideration of the similarity of the test process and response to the research of Sumardiono et al., 2018 but different starch sources, the decision was made for this study, the modification time range was 0-25 minutes.</p> <p>We did not measure the absorbed ozone</p>
3	Comment 3	Please add more detailed information about thermal profile analysis (Section 2.3.7).

	Response	Scanning was carried out at a temperature range of 30 °C – 200 °C with a scanning speed of 10 °C/ minute. Empty pan was used as reference and data were analyzed by TA-60WS software. This statement is included in the revised manuscript (Line 165-167)																								
4	Comment 4	Is it possible to give 3D surface instead of (Fig.1-3; Fig 4-6, for sintance)?																								
	Response	<p>We have tried to make a fig. 1-3; fig 4-6 with Ms. Excel, sigma plot software and origin (attached results from plotting fig. 1 for example). Are they suitable figures?</p> <p>1. Ms. Excel software</p>  <table><caption>Data for Figure 1: Ms. Excel software</caption><thead><tr><th>Time (min)</th><th>pH 4 (%)</th><th>pH 7 (%)</th><th>pH 10 (%)</th></tr></thead><tbody><tr><td>5</td><td>0.090</td><td>0.090</td><td>0.112</td></tr><tr><td>10</td><td>0.112</td><td>0.118</td><td>0.126</td></tr><tr><td>15</td><td>0.112</td><td>0.118</td><td>0.132</td></tr><tr><td>20</td><td>0.118</td><td>0.132</td><td>0.132</td></tr><tr><td>25</td><td>0.126</td><td>0.132</td><td>0.140</td></tr></tbody></table> <p>2. Sigmaplot software</p>  <p>3. Origin software</p>	Time (min)	pH 4 (%)	pH 7 (%)	pH 10 (%)	5	0.090	0.090	0.112	10	0.112	0.118	0.126	15	0.112	0.118	0.132	20	0.118	0.132	0.132	25	0.126	0.132	0.140
Time (min)	pH 4 (%)	pH 7 (%)	pH 10 (%)																							
5	0.090	0.090	0.112																							
10	0.112	0.118	0.126																							
15	0.112	0.118	0.132																							
20	0.118	0.132	0.132																							
25	0.126	0.132	0.140																							

		
5	Comment 5	In my opinion establishments in section 3.8 need strenghteningy by additional references (for instance).
	Response	<p>The combination of 10% concentration and pH 4 has lower To, Tp, and Tc values than native starch, while the variable with a concentration of 30% has the opposite condition even with the same pH. This result is linear with gelatinization enthalpy, where the 30% con-centration has a greater enthalpy than the native starch enthalpy and 10% concentration. increasing starch concentration simultaneously with increasing To, Tp, Tc [63].</p> <p>The improved text reads as follows on <a href="#">(line 476-480 in the revised manuscript)</a></p>

## REVISION NOTE BASED ON REVIEWERS COMMENTS

Journal Name : Foods (ISSN 2304-8158)  
 Manuscript ID : foods-1217059  
 Title : "Investigated the effect of reaction time, acidity, and concentration of starch in reaction to oxidation and physicochemical properties which processed with ozone oxidation"  
 Author(s) : Siswo Sumardiono, Bakti Jos, Isti Pudjihastut, Arvin M. Yafiz, Megaria Rachmasari, and Heri Cahyono

### Reviewer 2

The manuscript deals with investigated the effect of reaction time, acidity, and concentration of starch in reaction to oxidation and physicochemical properties which processed with ozone oxidation.		
1	Comment 1	The title is confusing and must be revised.
	Response	We submit a revised manuscript title. how do you think about this revision? <b>“Physicochemical properties of sago ozone oxidation: the effect of reaction time, acidity, and concentration of starch”</b>
2	Comment 2	The English language must be revised.
	Response	We have revised the minor improvements of English language by native as follows on (line 14, 19, 24, 33, 47, 73 etc. in the revised manuscript)
3	Comment 3	Please separate values from units, e.g. “28 °C” not “28°C”.
	Response	The revised text reads as follows on (line 104, 112, 120, 122, 143, 147, 331, 434 in the revised manuscript)
4	Comment 4	<b>Abstract:</b> This section is vague. Please present your main results.
	Response	The improved text reads as follows on (line 16-18 in the revised manuscript)
5	Comment 5	<b>Introduction:</b> The topics must be better linked.
	Response	The revised text reads as follows on (line 37-38; 49-50; 69-70; 79-80 in the revised manuscript)
6	Comment 6	<b>Materials and methods:</b> Line 94- “In this study, the ozone rate was 1.5 L/minute with a pH of 4, 7, and 10”??why these pH values??
	Response	Several previous studies on starch confirm that there is an effect of pH (acid, neutral, base) on the physicochemical properties of starch. This is reported in some studies, including: 1. Russell, P. L., & Oliver, G. (1989). The effect of pH and NaCl content on starch gel ageing. A study by differential scanning calorimetry and rheology. Journal

		<p>of Cereal Science, 10(2), 123-138.  <a href="https://doi.org/10.1016/S0733-5210(89)80041-4">https://doi.org/10.1016/S0733-5210(89)80041-4</a></p> <p>2. Atichokudomchai, N., Varavinit, S., &amp; Chinachoti, P. (2002). A study of annealing and freeze-thaw stability of acid-modified tapioca starches by differential scanning calorimetry (DSC). <i>Starch-Stärke</i>, 54(8), 343-349. <a href="https://doi.org/10.1002/1521-379X(200208)54:8&lt;343::AID-STAR343&gt;3.0.CO;2-J">https://doi.org/10.1002/1521-379X(200208)54:8&lt;343::AID-STAR343&gt;3.0.CO;2-J</a></p> <p>3. Pudjihastuti, I., Handayani, N., &amp; Sumardiono, S. (2018). Effect of pH on physicochemical properties of cassava starch modification using ozone. In <i>MATEC Web of Conferences</i> (Vol. 156, p. 01027). EDP Sciences.  <a href="https://doi.org/10.1051/matecconf/201815601027">https://doi.org/10.1051/matecconf/201815601027</a></p> <p>However, studies on the effect of pH combined with ozonation for sago starch are still limited in number. Our hypothesis was that sago starch has the same profile as other starches. This is what underlies us to choose pH 4,7,10 which represents acidic, neutral and base pH conditions</p>
7	Comment 7	<b>Materials and methods:</b> Please number all equations.
	Response	The revised text reads as follows on <a href="#">(line 115, 125, 138, 152 in the revised manuscript)</a>
8	Comment 8	<b>Materials and methods:</b> Line 147- “V. blanko”??
	Response	V. blanko is the volume of HCl to react with native starch after processing it through the same steps as the modified sago starch carbonyl test determination. (Four-gram native starch were dispersed in 100 mL of aquadest, heated for 20 minutes until gelatin was formed, and cooled to 40 °C. The solution's pH was adjusted to 3.2 by adding 0.1 N HCl. Twenty-five g of hydroxylamine hydrochloride was dissolved into 100 mL 0.5 N NaOH, then bringing up to 500 mL with adding aquadest. 15 mL of hydroxylamine was added to native starch solution. The solution was stirred in the tube and kept in a 40 °C water bath for four hours before titrating to pH 3.2 with 0.1 N HCl) For clarity, I changed the V. blank to V. native starch <a href="#">(Line 152 in the revised manuscript)</a>
9	Comment 9	<b>Materials and methods:</b> Line 163- “The analyses were repeated twice for each sample. The data obtained are shown as the mean value ± standard deviation (Mean ± SD). The data were analyzed using One-way analysis ANOVA.”??why only in duplicates?post-hoc test used??
	Response	We are sorry for the typo, we mistyped "repeated twice", we should mean replication (not duplication) for ANOVA analysis, then for further analysis of each of these variables we

		did a post-hoc test with Duncan test at intervals 95% confidence. starch ( <a href="#">Line 171-172 in the revised manuscript</a> )
10	Comment 10	<b>Results and discussion:</b> This section has some lack of depth and should be improved.
	Response	We have revised to make improvements the results and discussion ( <a href="#">Line 476-481 in the revised manuscript</a> ).
11	Comment 11	<b>Results and discussion:</b> Line 324- “The profile of gelatinization and retrogradation temperatures of oxidized starch was not significantly different from those of the native starch (Table 1). Some variables, i.e., To, Tp, and Tc, under some conditions, the resultant oxidized starch has higher To, Tp, and Tc than native starch, indicating that ozonation produced higher thermal stability starch.”??Table 1, please add different superscript letters for significant differences. Moreover, please revise the discussion in accordance.
	Response	The combination of 10% concentration and pH 4 has lower To, Tp, and Tc values than native starch, while the variable with a concentration of 30% has the opposite condition even with the same pH. This result is linear with gelatinization enthalpy, where the 30% con-centration has a greater enthalpy than the native starch enthalpy and 10% concentration. increasing starch concentration simultaneously with increasing To, Tp, Tc [63]. The improved text reads as follows on ( <a href="#">line 476-481 in the revised manuscript</a> )





Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

**[Foods] Manuscript ID: foods-1217059 - Manuscript Resubmitted**

1 message

**Submission System** <submission@mdpi.com>

Tue, May 18, 2021 at 2:15 PM

Reply-To: Joie Wu &lt;joie.wu@mdpi.com&gt;, Foods Editorial Office &lt;foods@mdpi.com&gt;

To: Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

Cc: Bakti Jos &lt;bakti.jos@che.undip.ac.id&gt;, Isti Pudjihastuti &lt;istipudjihastuti@gmail.com&gt;, "Arvin M. Yafiz" &lt;arvinmuhammadyafiz@gmail.com&gt;, Megaria Rachmasari &lt;rachmasarimegaria@gmail.com&gt;, Heri Cahyono &lt;hericahyono@che.undip.ac.id&gt;

Dear Dr. Sumardiono,

**Thank you very much for resubmitting the modified version of the following manuscript:**

Manuscript ID: foods-1217059

Type of manuscript: Article

Title: Investigated the effect of reaction time, acidity, and concentration of starch in reaction to oxidation and physicochemical properties which processed with ozone oxidation

Authors: Siswo Sumardiono \*, Bakti Jos, Isti Pudjihastuti, Arvin M. Yafiz, Megaria Rachmasari, Heri Cahyono

Received: 26 April 2021

E-mails: [siswo.sumardiono@che.undip.ac.id](mailto:siswo.sumardiono@che.undip.ac.id), [bakti.jos@che.undip.ac.id](mailto:bakti.jos@che.undip.ac.id), [istipudjihastuti@gmail.com](mailto:istipudjihastuti@gmail.com), [arvinmuhammadyafiz@gmail.com](mailto:arvinmuhammadyafiz@gmail.com), [rachmasarimegaria@gmail.com](mailto:rachmasarimegaria@gmail.com), [hericahyono@che.undip.ac.id](mailto:hericahyono@che.undip.ac.id)

Submitted to section: Food Physics and (Bio)Chemistry,

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Kind regards,

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Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

**[Foods] Manuscript ID: foods-1217059 - Minor Revisions - Due on 2th June 2021**

1 message

**Foods Editorial Office** <foods@mdpi.com>

Tue, Jun 1, 2021 at 8:19 AM

Reply-To: joie.wu@mdpi.com

To: Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

Cc: Bakti Jos &lt;bakti.jos@che.undip.ac.id&gt;, Isti Pudjihastuti &lt;istipudjihastuti@gmail.com&gt;, "Arvin M. Yafiz" &lt;arvinmuhammadyafiz@gmail.com&gt;, Megaria Rachmasari &lt;rachmasarimegaria@gmail.com&gt;, Heri Cahyono &lt;hericahyono@che.undip.ac.id&gt;, Foods Editorial Office &lt;foods@mdpi.com&gt;

Dear Dr. Sumardiono,

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Type of manuscript: Article

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Submitted to section: Food Physics and (Bio)Chemistry,

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Please do not hesitate to contact us if you have any questions regarding the revision of your manuscript or if you need more time. We look forward to hearing from you soon.

Kind regards,

Joie Wu

Special Issue Editor

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MDPI Branch Office, Tianjin

Hongqiao District, Tianjin, 300130, China

E-Mail: [foods@mdpi.com](mailto:foods@mdpi.com)Foods (<http://www.mdpi.com/journal/foods>)

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## REVIEWER 2

English language and style

- ( ) Extensive editing of English language and style required
- ( ) Moderate English changes required
- (x) English language and style are fine/minor spell check required
- ( ) I don't feel qualified to judge about the English language and style

	Yes	Can be improved	Must be improved	Not applicable
Does the introduction provide sufficient background and include all relevant references?	(x)	( )	( )	( )
Is the research design appropriate?	(x)	( )	( )	( )
Are the methods adequately described?	(x)	( )	( )	( )
Are the results clearly presented?	(x)	( )	( )	( )
Are the conclusions supported by the results?	(x)	( )	( )	( )
Comments and Suggestions for Authors				

The manuscript was improved.

## REVISION NOTE BASED ON EDITOR COMMENTS

Journal Name : Foods (ISSN 2304-8158)  
 Manuscript ID : foods-1217059  
 Title : "Investigated the effect of reaction time, acidity, and concentration of starch in reaction to oxidation and physicochemical properties which processed with ozone oxidation"  
 Author(s) : Siswo Sumardiono, Bakti Jos, Isti Pudjihastut, Arvin M. Yafiz, Megaria Rachmasari, and Heri Cahyono

### Reviewer 2

Authors have measured To, Tp and Tc peaks by DSC for modified and non-modified starches. These peaks were labelled like gelatinization peaks.		
1	Comment 1	To, Tp and Tc are not adequately defined.
	Response	After we crosschecked and discussed it with the research team, there was a slight revision in the understanding of DSC analysis, namely the thermal properties we mean are the stability of sago starch powder against heat. To: onset melting temperature; Tp: peak melting temperature; Tc: conclusion melting temperature; $\Delta H$ : melting enthalpy.
2	Comment 2	It is well known that gelatinization temperatures are function of moisture content and this last must be always given.
	Response	We strongly agree that gelatinization is greatly affected by the moisture content in a material. This study has a water content ranging from 13%-14%. (line 465-477 in the revised manuscript)
3	Comment 3	Authors must make a comparison with the peaks (and enthalpies) given by other authors. Particularly with gelatinization temperatures above 100 °C.
	Response	The values of To, Tp, Tc in this study have the same results as the research conducted by Boonna & Tongta (2018), which examined the thermal properties of cassava starch after going through a modification process using the annealing method (ANN), heat moisture treatment (HMT). where the modification increases the thermal stability compared to native cassava flour Boonna, S., & Tongta, S. (2018). <i>Structural transformation of crystallized debranched cassava starch during dual hydrothermal treatment in relation to enzyme digestibility. Carbohydrate polymers</i> , 191, 1-7. (line 465-477 in the revised manuscript)



Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

**[Foods] Manuscript ID: foods-1217059 - Manuscript Resubmitted**

1 message

**Submission System** <submission@mdpi.com>

Wed, Jun 2, 2021 at 10:36 PM

Reply-To: Joie Wu &lt;joie.wu@mdpi.com&gt;, Foods Editorial Office &lt;foods@mdpi.com&gt;

To: Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

Cc: Bakti Jos &lt;bakti.jos@che.undip.ac.id&gt;, Isti Pudjihastuti &lt;istipudjihastuti@gmail.com&gt;, "Arvin M. Yafiz" &lt;arvinmuhammadyafiz@gmail.com&gt;, Megaria Rachmasari &lt;rachmasarimegaria@gmail.com&gt;, Heri Cahyono &lt;hericahyono@che.undip.ac.id&gt;

Dear Dr. Sumardiono,

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Type of manuscript: Article

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Received: 26 April 2021

E-mails: [siswo.sumardiono@che.undip.ac.id](mailto:siswo.sumardiono@che.undip.ac.id), [bakti.jos@che.undip.ac.id](mailto:bakti.jos@che.undip.ac.id), [istipudjihastuti@gmail.com](mailto:istipudjihastuti@gmail.com), [arvinmuhammadyafiz@gmail.com](mailto:arvinmuhammadyafiz@gmail.com), [rachmasarimegaria@gmail.com](mailto:rachmasarimegaria@gmail.com), [hericahyono@che.undip.ac.id](mailto:hericahyono@che.undip.ac.id)

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A member of the editorial office will be in touch with you soon regarding progress of the manuscript.

Kind regards,

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Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

**[Foods] Manuscript ID: foods-1217059 - Accepted for Publication**

3 messages

**Foods Editorial Office** <foods@mdpi.com>

Fri, Jun 4, 2021 at 8:18 AM

Reply-To: Foods Editorial Office &lt;foods@mdpi.com&gt;

To: Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

Cc: Bakti Jos &lt;bakti.jos@che.undip.ac.id&gt;, Isti Pudjihastuti &lt;istipudjihastuti@gmail.com&gt;, "Arvin M. Yafiz" &lt;arvinmuhammadyafiz@gmail.com&gt;, Megaria Rachmasari &lt;rachmasarimegaria@gmail.com&gt;, Heri Cahyono &lt;hericahyono@che.undip.ac.id&gt;, Foods Editorial Office &lt;foods@mdpi.com&gt;

Dear Dr. Sumardiono,

Congratulations on the acceptance of your manuscript, and thank you for your interest in submitting your work to Foods:

Manuscript ID: foods-1217059

Type of manuscript: Article

Title: Investigated the effect of reaction time, acidity, and concentration of starch in reaction to oxidation and physicochemical properties which processed with ozone oxidation

Authors: Siswo Sumardiono \*, Bakti Jos, Isti Pudjihastuti, Arvin M. Yafiz, Megaria Rachmasari, Heri Cahyono

Received: 26 April 2021

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Kind regards,

Kind regards,

Joie Wu

Special Issue Editor

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Announcement: The Newly Released Impact Factor for Foods is 4.092

(Journal Citation Reports, 2019 Edition).

Foods now ranks 27/139 (Q1) in the category "Food Science &amp; Technology".



Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

**[Foods] Manuscript ID: foods-1217059 - Final Proofreading Before Publication**

1 message

**Foods Editorial Office** <foods@mdpi.com>

Sat, Jun 5, 2021 at 12:57 PM

Reply-To: Joie Wu &lt;joie.wu@mdpi.com&gt;, Foods Editorial Office &lt;foods@mdpi.com&gt;

To: Siswo Sumardiono &lt;siswo.sumardiono@che.undip.ac.id&gt;

Cc: Bakti Jos &lt;bakti.jos@che.undip.ac.id&gt;, Isti Pudjihastuti &lt;istipudjihastuti@gmail.com&gt;, "Arvin M. Yafiz" &lt;arvinmuhammadyafiz@gmail.com&gt;, Megaria Rachmasari &lt;rachmasarimegaria@gmail.com&gt;, Heri Cahyono &lt;hericahyono@che.undip.ac.id&gt;, Foods Editorial Office &lt;foods@mdpi.com&gt;, Joie Wu &lt;joie.wu@mdpi.com&gt;

Dear Dr. Sumardiono,

We invite you to proofread **your manuscript to ensure** that this is the final version that can be published and confirm that you will require no further changes from hereon:

Manuscript ID: foods-1217059

Type of manuscript: Article

Title: Investigated the effect of reaction time, acidity, and concentration of starch in reaction to oxidation and physicochemical properties which processed with ozone oxidation

Authors: Siswo Sumardiono \*, Bakti Jos, Isti Pudjihastuti, Arvin M. Yafiz, Megaria Rachmasari, Heri Cahyono

Received: 26 April 2021

E-mails: [siswo.sumardiono@che.undip.ac.id](mailto:siswo.sumardiono@che.undip.ac.id), [bakti.jos@che.undip.ac.id](mailto:bakti.jos@che.undip.ac.id), [istipudjihastuti@gmail.com](mailto:istipudjihastuti@gmail.com), [arvinmuhammadyafiz@gmail.com](mailto:arvinmuhammadyafiz@gmail.com), [rachmasarimegaria@gmail.com](mailto:rachmasarimegaria@gmail.com), [hericahyono@che.undip.ac.id](mailto:hericahyono@che.undip.ac.id)Submitted to section: Food Physics and (Bio)Chemistry, [https://www.mdpi.com/journal/foods/sections/Food\\_Physics\\_\(Bio\)Chemistry](https://www.mdpi.com/journal/foods/sections/Food_Physics_(Bio)Chemistry)

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Kind regards,

Ms. Dana Li

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