



vilia paramita &lt;[REDACTED]&gt; @gmail.com&gt;

**Fwd: Decision on submission to Food Hydrocolloids - [EMID:b272ca94db03a446]**

Stefan Kasapis &lt;[REDACTED]&gt; @gmail.com&gt;

Thu, Jan 26, 2023 at 6:52 AM

To: Diah Iksari &lt;[REDACTED]&gt; @gmail.com&gt;, vilia paramita &lt;[REDACTED]&gt; @gmail.com&gt;

Hi Diah and Villia,

These are good comments, so please start working on a response immediately for resubmission to FH tomorrow.

Let us have a brief Zoom meeting today at 2pm to discuss them.

Stefan

----- Forwarded message -----

From: **Food Hydrocolloids** <[REDACTED]> @editorialmanager.com>

Date: Thu, 26 Jan 2023 at 09:39

Subject: Decision on submission to Food Hydrocolloids - [EMID:b272ca94db03a446]

To: Stefan Kasapis &lt;[REDACTED]&gt; @gmail.com&gt;



Manuscript Number: FOODHYD-D-22-03306

Mechanical vs calorimetric glass transition temperature in the oxidation of linoleic acid from condensed κ-carrageenan/glucose syrup systems

Dear Professor Kasapis,

Thank you for submitting your manuscript to Food Hydrocolloids.

I have completed my evaluation of your manuscript. The reviewers recommend reconsideration of your manuscript following minor revision and modification. I invite you to resubmit your manuscript after addressing the comments below. Please resubmit your revised manuscript by Feb 15, 2023.

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.

To submit your revised manuscript, please log in as an author at <https://www.editorialmanager.com/foodhyd/>, and navigate to the "Submissions Needing Revision" folder under the Author Main Menu.

Research Elements (optional)

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Food Hydrocolloids values your contribution and I look forward to receiving your revised manuscript.<sup>[OO]</sup>

Kind regards,

Ying Wu, Ph.D.  
Guest Editor  
Food Hydrocolloids

Editor and Reviewer comments:

Reviewer 1: This is a good piece of work that deals with the application of a concept that was introduced earlier in the literature, i.e. the mechanical glass transition temperature. The present application addresses differences in the extent of oxidation of linoleic acid from condensed κ-carrageenan/glucose syrup systems. It is demonstrated that lipid oxidation is affected by the structural properties of the encapsulating matrix and in particular by the mechanical glass transition temperature of the matrix. The work merits publication in Food Hydrocolloids provided the following points are addressed in the revised manuscript.

- i) In Introduction, explain why fatty acid peroxides were selected as the index of convenience to pinpoint lipid oxidation as opposed to TBARS lipid peroxidation.
- ii) Expand on the choice of the constant of the initiation phase ( $k_1$ ), the rate constant of the pseudo first-order formation of ROOHs ( $k_f$ ) at the propagation phase and the rate constant of the pseudo second-order decomposition of ROOHs ( $k_d$ ) at the propagation phase as the most appropriate parameters to characterise the kinetics of lipid oxidation in condensed κ-carrageenan/glucose syrup mixtures
- iii) Discuss in some detail the basis of differences in the estimates of the calorimetric and mechanical glass transition temperatures.
- iv) in Materials and Methods explain the advantages of utilising the time-temperature superposition principle (TTS) in this type of work
- v) How the 1.5% linoleic acid inclusion was stabilised in the aqueous phase of polysaccharide and glucose syrup?
- vi) What is the significance of the crossing over of the DSC thermograms in Figure 3?
- vii) In Figure 6, why do the values of the mechanical glass transition temperature increase with higher concentrations of the polysaccharide in the mixture?
- viii) Discuss the occurrence of the three-phase lipid oxidation stages of initiation, propagation and termination at refrigeration temperatures as opposed to the observation of two lipid peroxidation phases at freezing temperatures of observation

Reviewer 2: The manuscript entitled "Mechanical vs calorimetric glass transition temperature in the oxidation of linoleic acid from condensed κ-carrageenan/glucose syrup systems" has indicated glass transition temperature as a critical parameter in controlling physicochemical events taking place during the oxidation of fatty acids. This work could be a stepping stone to solving the lipid oxidation challenges faced by the food industry. The manuscript could be considered for publication after addressing these comments.

#### Abstract

Line 26: Authors should provide background information and state the research gap.

#### Methods

Line 166: Change to 3000-6000x, as the magnification is 6000x in Fig. 2b.

#### Results and discussion

Line 261: How does the perforated surface demonstrate the effective encapsulation of the fatty acid molecules?

Line 262: Discuss more about the surface morphology of the encapsulated vehicle (Fig. C)

Provide the standard curve for ROOH determination as a supplementary data.

Fig. 1. Break between 2500-1900  $\text{cm}^{-1}$ , as no peak of interest is found.

#### General comments

Split section 2.3 into subheadings (FTIR, SEM,...)

More information and support

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vilia paramita &lt;[REDACTED]@gmail.com&gt;

**Fwd: Decision on submission to Food Hydrocolloids - [EMID:4bbbf14c006c7f0]**

**Stefan Kasapis** <[REDACTED]@gmail.com>  
To: Diah Ikarar <[REDACTED]@gmail.com>, vilia paramita <[REDACTED]@gmail.com>

Fri, Feb 3, 2023 at 11:42 AM

Ladies, good news  
and please stand by to correct the proofs. Stefan

----- Forwarded message -----

From: **Ying Wu** <em@editorialmanager.com>  
Date: Fri, 3 Feb 2023 at 14:20  
Subject: Decision on submission to Food Hydrocolloids - [EMID:4bbbf14c006c7f0]  
To: Stefan Kasapis <[REDACTED]@gmail.com>



Manuscript Number: FOODHYD-D-22-03306R1  
Mechanical vs calorimetric glass transition temperature in the oxidation of linoleic acid from condensed κ-carrageenan/glucose syrup systems

Dear Professor Kasapis,

Thank you for submitting your manuscript to Food Hydrocolloids.

I am pleased to inform you that your manuscript has been accepted for publication.

My comments, and any reviewer comments, are below.  
Your accepted manuscript will now be transferred to our production department. We will create a proof which you will be asked to check, and you will also be asked to complete a number of online forms required for publication. If we need additional information from you during the production process, we will contact you directly.

We appreciate you submitting your manuscript to Food Hydrocolloids and hope you will consider us again for future submissions.

We encourage authors of original research papers to share the research objects – including raw data, methods, protocols, software, hardware and other outputs – associated with their paper. More information on how our open access Research Elements journals can help you do this is available at [https://www.elsevier.com/authors/tools-and-resources/research-elements-journals?dgcid=ec\\_em\\_research\\_elements\\_email](https://www.elsevier.com/authors/tools-and-resources/research-elements-journals?dgcid=ec_em_research_elements_email).

Kind regards,

Ying Wu, Ph.D.  
Guest Editor  
Food Hydrocolloids

Editor and Reviewer comments:

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