Gmail vilia paramita <[redacted]@gmail.com>

Fwd: Invitation to revise manuscript FOODHYD_2018_1086

21 messages

Stefan Kasapis <[redacted]@rmit.edu.au> Sun, Jul 29, 2018 at 6:00 PM
To: vilia paramita <[redacted]@gmail.com>

Hi Vilia,

we have just received reviewer comments from several reviewers.

Let me know that you have received this email.
Regards, Stefan

---------- Forwarded message ----------
From: **Stefan Kasapis** <[redacted]@gmail.com>
Date: 29 July 2018 at 19:51
Subject: Fwd: Invitation to revise manuscript FOODHYD_2018_1086
To: [redacted]@rmit.edu.au

---------- Forwarded message ----------
From: **Pete Williams (Food Hydrocolloids)** <[redacted]pport@elsevier.com>
Date: 29 July 2018 at 19:40
Subject: Invitation to revise manuscript FOODHYD_2018_1086
To: [redacted]@gmail.com

Ref: FOODHYD_2018_1086
Title: Molecular dynamics of the diffusion of natural bioactive compounds from high-solid biopolymer matrices for the design of functional foods
Journal: Food Hydrocolloids

Dear Professor Kasapis,

Thank you for submitting your manuscript to Food Hydrocolloids. We have completed the review of your manuscript. A summary is appended below. While revising the paper please consider the reviewers' comments carefully. We look forward to receiving your detailed response and your revised manuscript.

To submit your revised manuscript:

Log into EVISE® at: http://www.evise.com/evise/faces/pages/navigation/NavController.jspx?JRNL_ACR=FOODHYD
Locate your manuscript under the header 'My Submissions that need Revisions' on your 'My Author Tasks' view
Click on 'Agree to Revise'
Make the required edits
Click on 'Complete Submission' to approve

- **What happens next?**
- After approving your submission you will receive a notification that the submission is complete. To track the status of your paper throughout the editorial process, log into EVISE® at: http://www.evise.com/evise/faces/pages/navigation/NavController.jspx?JRNL_ACR=FOODHYD

Enrich your article to present your research with maximum impact. This journal supports the following Content Innovations:

I look forward to receiving your revised manuscript as soon as possible.

Kind regards,

Pete Williams
Editor-in-Chief
Food Hydrocolloids

Comments from the editors and reviewers:
-Reviewer 1

-

This review article entitled: Molecular dynamics of the diffusion of natural bioactive compounds from high-solid biopolymer matrices for the design of functional foods" addresses an important event (diffusion of bioactive compounds) in high solid systems and of practical implications to develop high quality functional foods.

Over all the review paper is within the scope of the journal Food Hydrocolloids and has a good quality for publication.

Specific comments:

The review has addressed high solid biopolymer matrices, whenever possible the moisture content of the tested food system should be given (e.g. in Table 1, Tg is dramatically impacted by moisture content and hence it should be given for all given systems). Same applies to some other tables including Table 5.

Table 5, the caption is on bioactive compounds but water diffusion has been given. Water is not a bioactive compound.

Overall, whenever a high solid system is subject to discussion the moisture content should be mentioned otherwise the reader would not fully benefit from the discussion.

Please check for typos, e.g. line 714: milk power!- milk powder?

Line 612: wisthand

-Reviewer 2

-

The manuscript by Paramita and Kasapis provides an extensive review of the molecular dynamics of diffusion of compounds from high solid biopolymer matrices. I enjoyed reading this review as it is well written and logically presented. The review clearly outlines the how glass transition temperatures impact on the performance of complex food systems and critically discusses current models of release applied to glassy high solid matrices. I believe this review would interest readers of Food Hydrocolloids and ultimately provide a useful resource for researchers working towards the design of functional foods and bioactive release from biopolymer materials in general.

There are a few minor comments that the authors could address prior to publication.

There should be some discussion of what defines a high solid system what are the limits and water content of typical matrices.

Is the solubility and dissolution rate of the biopolymer an important factor in the release mechanism? This should also be discussed.

There is little discussion of mechanisms involved with charged systems in particular in relation to the pH of the releasing medium and how that may impact upon the solubility of the entrapped bioactive. i.e importance of the pKa of the entrapped compound

-Reviewer 3

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Ref: FOODHYD_2018_1086
Title: Molecular dynamics of the diffusion of natural bioactive compounds from high-solid biopolymer matrices for the design of functional foods
Journal: Food Hydrocolloids
Corresponding Author: Stefan Kasapis
Co-authors: Vilia Paramita

Diffusion of bioactives through biopolymer matrices is an important topic, of which many food scientists have only a minimal understanding. Hence this review is timely and filling a real need.

That said I found the review hard to read. There are a number of reasons for this: there is too much material, which is reflected in about 225 references, there is too much detail in some sections which are not regarded by the authors as being useful theories (why bother the reader with so many equations which are never used?), too many of the applications to illustrate the text are concerned with drugs and not food bioactives.

Finally there is the high-flown language used (plethora [ln 618] instead of numerous or many; aforementioned instead of these [ln779]. There are a few sentences you read 3 times and you are still not sure what they mean (e.g. 539 Material composites are generally preferred to yield the required techno-functionality that 540 underpins bio-functionality via controlled drug release. These were confirmed 552 experimentally with thermomechanical analysis to delineate the transition from glassy state to a 553 rubbery plateau leading to increased segmental mobility that affects drug diffusion in these 554 excipients (George and Thomas 2001).

Authors should keep in mind that many of the people reading their review will have English as a second language.

Specific Comments

Section 4; theories :- Since the majority of these theories are judged inadequate , each one can be reduced to one sentence and there is no need for equations that are not used.

Section 5; is necessary but much contains too much detail. The section should be condensed and only essential equations given.

Section 6 is very useful but also can be reduced somewhat.

Since the authors are promoting the combined free volume- molecular diffusion theory (Sections 7 and 8) this is what the paper should focus on and only material that supports this should be covered.

References:- 120 references or less should be enough when all the extra material is removed.

Overall the authors should edit the manuscript so the final version is 60% or less than that of the current version.

Minor points

Title will be appropriate when all the extraneous material is edited out. At the moment it does not reflect the article.

Ln 550. polyxydroxy check spelling

Ln 561. Explain now mechanical T_G differs from T_G .

Ln 588- 604. This material is not concerned with molecular weight .Relabel.

Ln 612. withstand

Ln 618. Define a structural knot.

Ln 622- 624. Similar results were also reported by Peters et al. (2015) on crosslinked whey protein microparticles with dithiothreitol (DTT) suggesting an increasing water-binding capacity with reduced crosslinking density due to low levels of

disulphide bridge formation. I think the mixture of proteins cross-linking is so different to the polysaccharide cross-linking that a comparison is not appropriate. With the mixture of proteins who knows what is cross-linked to what?

Ln 651. influence characterize

Ln 693. dependent

References

These are not done in the format required by Food Hydrocolloids. Use & not “and” with authors. Authors initials after names. Year in brackets. Journal names should be in full. Volume numbers in italics.

Figure 2. Figure legend must say what I , II, III, and IV are

Figure 3. The legend must say what u , $u_{o,}$ a_L etc mean . Should the T on the X axis be T_M ?

Figure 4. How does “mechanical T_G” differ from T_G?

Figure 5 c. The legend must show what all the symbols mean.

Figure 6. What all the symbols mean should be in the legend.

-**Reviewer 4**

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The authors should be commended for such a thorough overview of numerous theories related to glass transition (temperature) and diffusion; however all this hard work obscured the apparent intention - emphasis on the combined concept of molecular diffusion and free volume theory in food systems. The manuscript is too long and overloaded with very general information - basically several sections could have been simply mentioned ie sections 3 and 4 - concept of glass temperature and associated theories - do not bring anything new and the information can be found in some general references. The sections on diffusion could be slightly shortened and so on. One of the problems may be in an attempt to provide 'an overview', instead of hypothesising that the combined concept would be more appropriate. I find the topic very relevant but the manuscript can't be accepted in the current form.
Also the graphical abstract does not say much about the work, why not draw some images of diffusing molecules through an amorphous or crystalline matrix and what happens in either case.

Have questions or need assistance?
For further assistance, please visit our Customer Support site. Here you can search for solutions on a range of topics, find answers to frequently asked questions, and learn more about EVISE® via interactive tutorials. You can also talk 24/5 to our customer support team by phone and 24/7 by live chat and email.

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