

## RETRACTION

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## Retraction: Stable 'arrested' non-aqueous edible foams based on food emulsifiers

Jeanne Andres

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Retraction of 'Stable 'arrested' non-aqueous edible foams based on food emulsifiers' by A. R. Patel, *Food Funct.*, 2017, **8**, 2115–2120.

The Royal Society of Chemistry hereby wholly retracts this *Food & Function* article following an investigation by the Commission for Research Integrity (CRI) of Ghent University into a complaint concerning data optimisation and falsification affecting this article. After a thorough investigation by the CRI the complaint was proven and then taken for a second opinion to the Flemish Committee for Research Integrity that again decided that falsification had occurred.

The institution informed us that the work was based on a thesis<sup>1</sup> but many of the results in the published article do not match the original research data presented in the thesis. The CRI's conclusion of their investigation was that "*the research data have been optimized (data falsification) which is scientifically unacceptable*".

The CRI provided the Royal Society of Chemistry with their analysis of the integrity of Fig. 4, 5 and 7, which is detailed below.

The photographs of the two tubes presented in Fig. 4 were taken from Fig. 5 and 7 of ref. 1. In addition, the cryo-SEM image in Fig. 4 was reproduced from Fig. 17f of ref. 1 but the scale bar was altered.

The CRI informed us that Fig. 5(a) in the article "represents the size distributions of air bubbles in foams for sucrose esters (SE, 10 : 0) and a combination of sucrose esters and sunflower lecithin (SE : SL, 8 : 2). Different size distributions were given as compared to those in the thesis of Kinga Karp. Prof. Patel states in the article that the size distributions of the SE (10 : 0) and SE : SL (8 : 2) are comparable. However, the original data (from the thesis of Kinga Karp) suggests that the SE (10 : 0) foam has more small bubbles and a different shape than the SE : SL (8 : 2) combination. In addition, the SE : SL (8 : 2) combinations have some very large bubbles (>80 µm) which Prof. Patel does not present in Fig. 5a. Bubbles with size >80 µm have been cut off, while these are the most important ones (they show that SE : SL 8 : 2 is not more stable). In the article Prof. Patel draws conclusions based on adjusted data."

In addition, Fig. 5(c) and (d) have been reproduced from ref. 1, but CRI informed us that the image presented in Fig. 5(c) actually represents a 5 wt% SE foam (which is more stable) and not a 10 wt% SE foam as implied in the article.

Regarding the integrity of Fig. 7, the CRI informed us that "Prof. Patel discusses the temperature stability of oil foams prepared from sucrose esters (SE, 10 : 0) and sucrose esters and sunflower lecithin (SE : SL, 8 : 2). He states that foams prepared from SE : SL (8 : 2) were relatively stable above the melting range of SE : SL (8 : 2) and attributes this to the formation of an elastic film that provided a better stability to air bubbles against internal contact and eventual coalescence. He even relates this to applications: 'such high temperature stability could be of interest for applications such as formulating a cooking foam for shallow frying applications'. However, the two images in Fig. 7, which were presented as a SE : SL (8 : 2) foam, were actually a 7.5 wt% sucrose ester (SE, 10 : 0) foam, without addition of lecithin. In addition, the picture at >70 °C was taken at 65 °C. By relating the wrong picture to the SE : SL (8 : 2), Prof. Patel set-up a theory concluding that the combination works better, which is in fact not the case, referring back to the original data."

Signed: Jeanne Andres, Executive Editor, *Food & Function*

Date: 3rd February 2020

Ashok Patel does not agree with this retraction.

## References

- 1 Kinga Karp, *Fabrication and characterization of arrested non-aqueous foam*, Ghent University, 2015–2016.

