



ATTESTATION



Je soussigné, Alfonso SAN MIGUEL, Professeur Emérite à l'Université C. Bernard – Lyon 1, Chairman du Congrès International EHPRG 2014 (52nd European High Pressure Research Group International Meeting), qui se déroule à l'Université Lyon 3 – Manufacture des Tabacs du 7 au 12 août 2014, certifie que les articles complets suivants :

I undersigned, Alfonso SAN MIGUEL, professor at the University Claude Bernard Lyon 1, Chairman of the EHPRG 2014 International Meeting, certify that the following abstracts:

Poster presentation:

- “Effect of high pressure on the techno-functional properties of sodium caseinate”

R. COSTO, C. ROBERT, P.D. SANZ, B. GUIGNON

Oral Presentation:

- “Micelles under pressure: some geometrical systems and water”

E. HIDALGO, M. TARAVILLO, P.D. SANZ, V.G. BAONZA, B. GUIGNON

après une procédure régulière de révision et de correction, ont été définitivement acceptés par notre Comité scientifique et ont été présentés par **Mme Bérengère GUIGNON** à ce symposium international.

have been chosen by the scientific committee and presented during the congress by **Mrs Bérengère GUIGNON**.

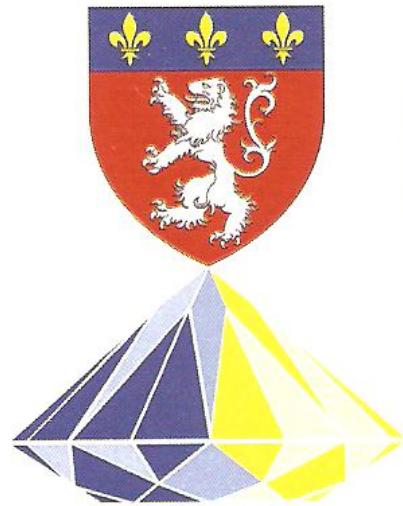
Fait à Villeurbanne, le 11septembre 2014

A. SAN MIGUEL

Professeur des Universités – Université Claude Bernard Lyon 1

Chairman EHPRG 2014





EHPRG 2014

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Book of abstracts

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Effect of high pressure on the techno-functional properties of sodium caseinate

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High pressure processing is primarily employed in the food industry as a preservation treatment but opportunities exist to reach tailored properties for foods and ingredients^[1]. Dairy proteins are an interesting target for this purpose^[2]. Sodium caseinate (NaCas) is a quite common ingredient in the elaboration of food products because of its multiple techno-functional properties. These properties could be modified by high pressure treatment as it is the case for native casein micelles in milk^[3]. The objective of this study was to check whether pressure could be able to produce appreciable changes in the techno-functional properties of sodium caseinate. Aqueous solutions of NaCas at 2.6 and 5.2 % w/w were prepared and treated under pressures of 200 or 600 MPa during 15 min at 15, 30 or 60 °C. Foamability, viscosity, emulsifying and acid gel-forming properties (water retention capacity and colour) of the NaCas solutions were measured. The results show that, among these properties, only foamability and acid gel properties are slightly different after the high pressure treatments depending on the considered conditions. Turbidity analyses confirm that casein aggregates are significantly modified by pressure for treatments at 30 and 60 °C. In all cases, the observed changes are relatively small. Thus, it is concluded that (1) pressure is able to produce structural changes even in non-native caseins aggregates, (2) the pressure-induced changes observed in NaCas should not justify the use of high pressure for techno-functional properties modulation, and (3) products containing NaCas and sanitised by high pressure processing are susceptible to suffer from modifications in their organoleptical characteristics depending on the interactions of other food components with NaCas.

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