

PROCEDURE FOR OBTAINING OLEOGELS AS SUBSTITUTES FOR FAT SOLID, WITH APPLICATIONS IN FOOD, BIOMEDICINE, COSMETICS AND PHARMACY

DESCRIPTION OF THE TECHNOLOGY

CSIC researchers have developed a procedure for obtaining oleogels that allows their use as a substitute for solid fats in food products, as well as in biomedicine, cosmetics and pharmacy. Fats play a very important role in the processing of food, providing certain characteristics to food products that guarantee consumer acceptability. Due to its great importance, processes have been developed over time to transform plant oils into solid fats, such as hydrogenation, but resulting in trans fat and saturated fats, which are associated health problems such as cardiovascular diseases. For this reason, it is currently seeking to develop new strategies to obtain solid fats using unsaturated oils that give food the necessary organoleptic characteristics, reducing the content of trans and saturated fats.

Through this new procedure, by which a liquid oil is

transformed into a gel structure, the reduction of saturated fats in food would be allowed. The method employs food grade and easy-to-use gelling agents. These structures can also include components with antioxidant, anticoagulant and antiviral properties, which makes them attractive in other sectors.

For this procedure of obtaining oleogels, polysaccharides that act as gelling are used. They are of natural origin and suitable for food use. In addition, due to its nature are attributed beneficial effects on health as an antioxidant, anticoagulant and antiviral activity.

On the other hand, this new procedure, for its characteristics, allows the formation of a network capable of trapping the oil, in a way that a faster and more efficient gelling is achieved than by other procedures.

MARKET APPLICATION SECTORS

Food, biomedicine, cosmetics and pharmacy sectors.

TECHNICAL ADVANTAGES AND BUSINESS BENEFITS

- Fast and effective procedure for obtaining oleogels.
- Procedure with a high level of adaptability of the characteristics of the Oleogel to the desired application.
- Use of food grade and easy-to-use gelling agents. Active ingredients can be incorporated.
- They allow simulating fat tissues for biomedical tests.
- Substitution of trans fat and saturated fats in food, which associate health problems such as cardiovascular diseases.

CURRENT STATE OF DEVELOPMENT

The technology has been successfully tested in laboratory conditions.

INDUSTRIAL AND INTELLECTUAL PROPERTY RIGHTS

Priority patent application filed suitable for international extension.

COLLABORATION SOUGHT

Companies interested in the patent license are being sought for use and development of the technology.

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RELATED IMAGES



Image 1. Oleogels can be a substitute for saturated fats with interesting applications in the food industry.



Image 2. Its obtention process allows for a high degree of versatility for its applications.

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