

## **NEW STRUCTURING AGENTS FOR OIL AND OIL/WATER MIXTURES (margarine, spreads, confectionery and meat products)**

### **INVENTION**

In order to provide healthier food, researchers from Ruđer Bošković Institute (Croatia) have developed organic supergelators, molecules with super gelling properties. They structure oil through gelation phenomenon and act as a replacement for solid fats in both water-free (shortenings and chocolates) and water-containing (margarine, spreads and cooked meat products) products.



On picture - olive oil gelled only  
with organic supergelator

### **APPLICATION**

Food products with too many saturated fatty acids are unhealthy and less attractive to consumers. Supergelators enable elimination of using too much saturated fatty acids in food products and replace their role in controlling key physical properties of the product. Only 0,1% of supergelator in the product mass is needed to replace saturated fatty acids and all additives needed to provide the product structure (preventing it from being liquid). Using supergelators, a manufacturer is able to add healthier ingredients. Instead of using e.g. palm oil in margarine for structuring purposes, manufacturer can use more favorable ingredients (e.g. healthier and local, like sunflower oil, olive oil, soybean oil...).

### **ADVANTAGES OF SUPERGELATORS**

- 1) Very small quantity of supergelators is needed for gelation of oil or oil/water emulsions;
- 2) Composition of supergelators with oil or oil/water emulsions is thermally and mechanically stable;
- 3) Supergelators are self-renewable and thermoreversible;
- 4) Production of supergelators is cheap and scalable;

### **STAGE OF DEVELOPMENT**

The method is a proof-of-concept validated in oil and oil/water emulsions.

### **OPPORTUNITY**

The supergelators are available for licensing. The RBI is seeking companies ready to start using supergelators in their existing and future food products. The RBI research group is willing to support activities needed to produce the final products and to help shorten the time to market.

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CONTACT: Radoslav Ostermann, Professional Advisor for Technology Transfer  
Ruđer Bošković Institute, Bijenička cesta 54, 10000 Zagreb, Croatia  
Tel: : +385 95 8256 101, E-mail: radoslav.ostermann@irb.hr