

Nanostructures as Conveyors of Functionality in Foods: The Case of Cannabidiol-Based Nanostructured Lipid Carriers

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Abstract:

Nanostructures incorporating functional compounds have earned their place as a very efficient means of conveying functionality in foods. They may be used to tackle malnutrition, reduce calorie density, reduce food digestibility, increase micronutrient bioavailability, control gut health, allow personalized nutrition and provide appropriate food for the elderly, among other potential uses. Building such nanostructures, particularly when considering that they need to be edible, is a challenging task. This keynote will address the latest developments made by our research group towards tackling some of these challenges, together with our vision on what still needs to be done and which partnerships are important to lead us to further improve their performance. The incorporation of cannabidiol (CBD) into nanostructured lipid carriers (NLC) will be given as an example of a potential solution to mitigate its low bioavailability, which represents a big challenge for the development of CBD-products. Some details regarding their development (e.g., using innovative emulsifiers) will be provided and the consequences in the s