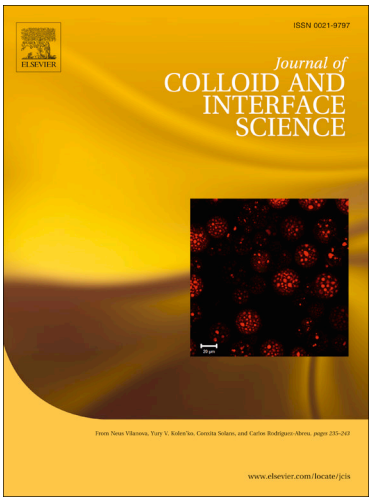

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High Internal Phase Water-in-Oil Emulsions Stabilized by Food-Grade Starch

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Abstract

Water in oil emulsions would be prepared by silicones (SO), modified silicones (DC8500) and a food-grade stabilizer (starch **1**). With increasing water contents, the emulsions turned from a liquid-like to gel-like behaviors with enhancing storage and loss modulus. When DC8500/SO was 1/17 with 10 wt % starch **1**, a high internal phase emulsion can be obtained with 95 wt % water content. DC8500 and SO worked as efficient emulsifiers and possessed amphiphilic property to form emulsions with water in different ratios. A food-grade starch **1** was supplied as a stabilizer which can enhance both water content and strength of emulsion when added in a low concentration. Besides, it is indicated that the food-grade starches provided potential benefit on stabilizing emulsions in very low concentration.

Key words: Emulsions, High internal phase, Water-in-Oil, Starch.

1. Introduction