ISGC 2022

N°264 / OC
TOPIC(s) : Polymers or composites

Functionnalization of chitosan oligomers: towards bio-based products with new functionalities

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PURPOSE OF THE ABSTRACT

A controlled and reproducible method of depolymerization of chitosan has been developed. Thus, nitrous deamination was chosen in order to obtain a 5 to 20 units hydrophilic head. Subsequently, amphiphilic chitosan oligomers were obtained by epoxy-amine coupling and amidification. The physicochemical characteristics of these surfactants and their ability to stabilize oil-in-water emulsions were evaluated. Hence, a wide range of chitosan-based surfactants, potentially 100% bio-based, non-toxic and resulting in stabilization of direct emulsions were synthesized.

FIGURES

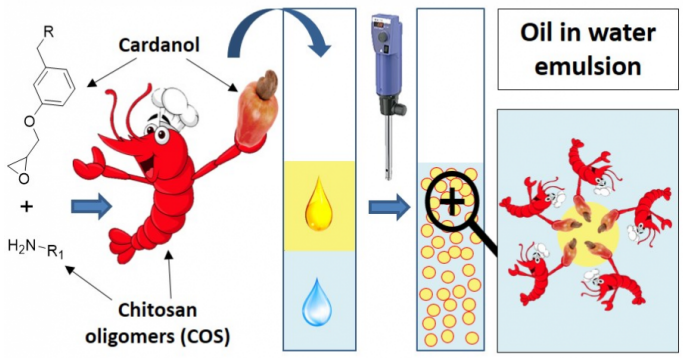

FIGURE 1

Synthesis of biobased surfactants from COS

Oil in water emulsion from chemically modified chitosan oligomers with cardanol

FIGURE 2

KEYWORDS

BIBLIOGRAPHY