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New amphiphilic structure from non-edible vegetable oil and properties evaluation

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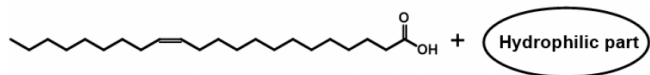
PURPOSE OF THE ABSTRACT

Vegetable oils are starting materials for producing non-ionic amphiphilic structures. To obtain various properties, it is possible to play, for example, with fatty acid composition (length of carbon chain, saturated or unsaturated functions) or structure of the hydrophilic group. Ester, ether or amide bonds between hydrophilic and lipophilic groups also lead to specific uses.

The aim of the recent development is to propose solutions from non-edible and metropolitan vegetable oil. Indeed use of edible and /or exotic vegetable oil is more and more contentious. Local sourcing must be found in order to improve the carbon footprint. The choice was made to work with rapeseed oil with a high erucic content. Polymeric structures from erucic acid are developed.

To well define the potential of these new molecules, emulsifying and pigment-dispersing properties were compared to those of polymeric surfactants such as Polyglyceryl-3 Polyricinoleate (PGPR). Several dispersed systems were formulated and compared in regard to their stability.

FIGURES



VS

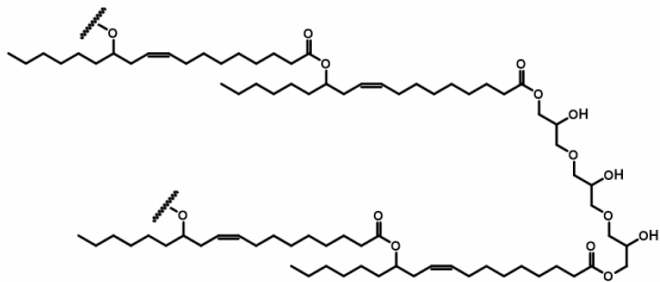


FIGURE 1

Figure

Polymeric structures from erucic acid vs polyglyceryl-3-polyricinoleate

FIGURE 2

KEYWORDS

biobased amphiphilic polymers | vegetable oil | emulsifying properties

BIBLIOGRAPHY