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NEW BIOSOURCED HYDROTROPES: CONCEPTION, SYNTHESIS AND PHYSICO-CHEMICAL PROPERTIES IN HIGHLY SALINE MEDIUM

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PURPOSE OF THE ABSTRACT

Over the past decades environmental issues and ecological awareness have driven the development of non-toxic and biodegradable surfactants. [1] In this regard, our interest lies in the
synthesis of novel non-ionic hydrotrope directly derived from renewable resources. [2] Hydrotropes have the particularity to exhibit similar behavior as surfactants in water yet bearing a shorter hydrophobic chain. Moreover, hydrotropes have better resistance in highly saline media than surfactants, which offer a good advantage for industrial applications. Precedents within the group have shown that a range of molecules such as 1-O-alkylglycerol can be synthesized in very good yield in one steps from Glycerol, provided access to 1-Opentylglycerol via reductive alkylation of Glycerol and valeric acid in high yield (>80%). [3]
Given our experience in reductive alkylation a new protocol was investigated using erythritol, a
readily available polyol present in fruits and providing from fermentation of wheat or corn. [4] After
optimization, a two-steps acetalisation/hydrogenolysis sequence was developed.
According to the literature, these molecules can become a good alternative to current
hydrotropes in highly saline media. [5][6]

FIGURES

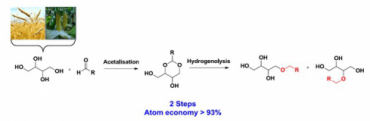

FIGURE 1
Access to erythritol ether
No legend

FIGURE 2

KEYWORDS
polyol | biosourced ether | hydrotrope | catalytic hydrogenolysis

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