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# From lab eco-conception to industrial scale production: CosmeGreen E1822+, an example of R&D adaptation to green chemistry and actual socio-economic contexts.

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## PURPOSE OF THE ABSTRACT

Among cosmetic products, cationic surfactants are major molecules especially used for hair care such as 2-in-1 shampoos and conditioners [1]. Indeed, their cationic nature facilitates the interaction with keratin fibres, and provides the hair silky and shining aspects, gives it volume and makes the combing easier. In our socio-economic context, where consumers and industries try to improve their environmental impact and where the place of regulatory aspects tend to have an impact on R&D projects, SurfactGreen develops brand new molecules in replacement of petroleum-based ones, currently found in the market. Moreover, those last molecules, and those especially used in hair care, usually present a poor environment and health friendly profiles regarding their low biodegradability and their irritative aspect. In order to provide an alternative for consumers and cosmetics industries, SurfactGreen has developed a new cationic surfactant, 100% biobased, non toxic and biodegradable [2,3]. The process used to produce this surfactant also respect the principles and metrics of green chemistry [4] and the final molecule presents an efficiency at least similar to these currently found on the market [5]. This new innovative product, called CosmeGreen E1822+, with its environmentally friendly profile and its high performance was thus approved by COSMOS [6] and NATRUE labelled [7]. The procedure from the lab eco-conception to the industrial scale production of CosmeGreen E1822+ will be presented as an example of adaptation of R&D researches to our socio-economic context.

## FIGURES

FIGURE 1

FIGURE 2


## KEYWORDS

cationic surfactant | green chemistry | hair care


## BIBLIOGRAPHY