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Industrial small peptides by Green Chemistry

AUTHORS
Laurent CHAISEMARTIN / GREENTECH, BIOPOLE CLERMONT LIMAGNE, SAINT BEAUZIRE

PURPOSE OF THE ABSTRACT

Small peptides are used in cosmetics for their biological activity, but peptide synthesis is still far from green chemistry challenges. In peptide synthesis, a lot of waste is due to the repeated use of organic solvents such as DMF for the peptide bond formation and washings (1). To reduce this waste, we use a surfactant in water to replace DMF (2).
The reaction between protected amino acids takes place in the core of the micelle formed by the surfactants.

This method allowed us to synthesize two cosmetic dipeptides. The next steps in this project will be to find a suitable purification process for those peptides in order to transfer the synthesis to kg scale. New peptides will also be developed following the same method.

References:
1) Green Chemistry, 19(18), 4263?4267
2) Green Chem., 2019, 21, 2610?2614

FIGURES

FIGURE 1

FIGURE 2

KEYWORDS
peptide | micellar catalysis

BIBLIOGRAPHY

1) Green Chemistry, 19(18), 4263-4267
2) Green Chem., 2019, 21, 2610-2614