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INTRODUCTION

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Topical Issue

Lipids, a natural raw material at the heart of cosmetics innovation

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Lipids make up a significant part of the matter of all living organisms and play a key role in their metabolism and in their structure, especially in the composition of cell membranes. Cosmetics are products that are intended to be applied to healthy skin in order to protect it and improve its appearance. They therefore contribute to the well-being of both women and men.

Lipids and their derivatives form a protective barrier in the skin in order to keep out external elements, and help to keep the skin hydrated. Deficiencies in cutaneous lipids cause significant discomfort, which may develop into serious skin diseases.

In the cosmetic emulsions which account for the bulk of care and make-up products, around 70% of the raw materials used are lipids (plant oils, fatty acids and alcohols, etc.) or derivatives of lipids (emollients, emulsifiers), and it is these that make the emulsion stable and rich and in many cases effective.

Today, the lipids and their derivatives, used in cosmetic formulations, are solely of plant or biotechnological origin, which makes it possible to promote the harvesting of many oilseed crops and to develop new extraction methods and new syntheses, which must comply with new environmental regulations.

This first international congress "Lipids & Cosmetics" held in Bordeaux on January 25 & 26th 2018 was an opportunity to highlight recent innovations in this field and research initiatives. During these two days, successive conferences have largely dealt with the following themes:

- eco-extraction processes for lipids obtaining;
- selective extraction, from different sources, of potential active compounds;
- the skin-active and cosmetic ingredient from different sources;
- the role of unsaponifiable components as active ingredients in cosmetics applications;
- relations between sensory properties and fats ingredients in different cosmetics products;
- the necessity to increase new bio-based functional lipids for cosmetics;
- innovative *in vitro* methods for risk and biological effects assessment;
- various *in vivo* methods existing enabling to measure lipid formulae efficacy.

Innovation in the field of lipids is becoming a major issue for a cosmetics industry that is constantly evolving, using raw materials obtained by following the most environmentally friendly and secure procedures, which are regulated every step of the way, to guarantee its consumers the highest levels of quality, effectiveness and safety. Such innovations are often the fruit of long-standing partnership between public laboratories and private companies.

In this dossier, you will find some of the topics covered throughout this congress through the following articles of the speakers:

- relations between the sensory properties and fat ingredients of lipsticks (de Clermont-Gallerande *et al.*, 2018);
- augmented bio-based lipids for cosmetics (Duprat-de-Paule *et al.*, 2018);
- tamanu oil and skin active properties: from traditional to modern cosmetic uses (Raharivelomanana *et al.*, 2018);
- lipids from seaweeds: selective extraction of potential active compounds (Terme *et al.*, 2018);
- separation and identification of polar polyphenols in oily formulation using high-performance thin-layer chromatography and mass spectroscopy techniques (Fadel *et al.*, 2018);
- the concept of sphingolipid rheostat in skin: a driving force for new active ingredients in cosmetic applications (Popa, 2018);
- oily formulations challenge: how to evaluate their beneficial effects in hydrophilic cell-based models? (Olivier *et al.*, 2018);
- non invasive *in vivo* methods to measure lipidic formulae efficacy at the skin surface: advantages and limits (Prestat-Marquis, 2018).

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