



# A patented enzymatic extraction technology for natural and upcycled cosmetic and nutraceutical ingredients

Sensient Beauty

[sensient-beauty.com](http://sensient-beauty.com)

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## PRODUCT/SERVICE BACKGROUND INFORMATION

### Background –

The potential of natural plant molecules represents a real asset for cosmetic applications in a context where consumers are seeking more naturalness without compromising on effectiveness. Therefore, the problem arises from extraction methods, which must be compatible with the desired molecules and environmentally sustainable. Today, so-called "alternative" methods favor extractions without petroleum-based solvents and are carried out under gentle physicochemical conditions.

### Objective –

Our research has focused on the enzymatic fractionation of plant raw materials using enzymes, the catalysts of life. These effective tools borrowed from nature allow us to mimic biological processes in vitro, like natural organisms, to release active molecules for cosmetic purposes. This biomimetic process helps to reveal the potential of biomass in a sustainable way, to produce more efficient extracts and proves to be very effective on plant by-products thus revalued.

### Methodology

The method involves optimizing an enzymatic mixture dedicated to the selected plant. The formulation of the original mixture is performed quickly through an internal tool, which combines experimental design, expertise, and high-throughput enzymatic activity measurement to release the target molecules. Extraction of the plant-based active ingredients takes place in three main stages: crushing, hydrolysis and separation of up to three different cosmetic ingredients: water, oil and solid extracts.

Each fraction might be used as cosmetic ingredient.

## WHAT IS THE COMPANY INTRODUCING TO THE MARKET/INDUSTRY?

Biolie by Sensient is able to produce high-quality cosmetic plant extracts, peptides, novel oils and waters – using a process that respects the environment and operators. The ingredients offered represent the entire plant and thus benefit from increased efficiency due to the synergistic action of the various naturally occurring molecules. The approach makes it possible to recover co-products, which reinforces their appeal. The results show that the choice of enzyme blends is crucial for performance.

## HOW WILL THIS NEW PRODUCT/SERVICE IMPACT THE INDUSTRY (BENEFITS)?

The industry is now turning to ecological and safer processes due to evolving regulations and consumer expectations. The biomimetic enzymatic extraction answers those needs. It helps to reduce the biomass needs by valorizing co-products (upcycling). It offers a sustainable alternative to petroleum-based ingredients and allows to produce up to three ingredients from a single source. Finally, it enables to develop innovative, efficient and biological extracts from well-known and referenced plants.