Natural complex substances, biocatalysis and perfumery

Speaker

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Natural complex substances such as essential oils or solvent extracts obtained from plants have been used in perfumery since Antiquity. Their chemical composition, determined more or less easily by the combination of chromatographic techniques, mass spectrometry, isolation and NMR characterisation, can be very diverse with molecules presenting sometimes important biological activities. If the main and most desirable is the olfactory activity, sometimes deleterious effects ranging from allergy to contact dermatitis and to carcinogenicity could be suspected or demonstrated.
In this lecture, we will present some results of our research on the chemical modification of natural complex substances used in perfumery. To optimise the properties, e.g. by enhancing olfactory properties or diminishing toxicity or adverse properties, we have used biocatalysis, relying on the various forms of selectivity of enzymes to achieve our goal.

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