



# Cascade & One Pot Reactions as a Cost Effective Industrial Strategy for the Synthesis of New Olfactive Ingredients, or “La Chimie du Cascadeur”

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According to *Wikipedia*, a cascade reaction is a chemical process that comprises of at least two consecutive reactions such that each subsequent reaction occurs only in virtue of the chemical functionality formed in the previous step. In cascade reactions, isolation of intermediates is not required, as each reaction in the sequence occurs spontaneously. Strictly speaking, the reaction conditions do not change during the consecutive steps of a cascade and no new reagents are added after the initial step. In contrast, one-pot procedures similarly allow at least two reactions to be carried out consecutively without any isolation of intermediates, but do not preclude the addition of new reagents or the variation in conditions after the first reaction. Thus, any cascade reaction is also a one-pot procedure, while the reverse is not the case.

The main benefits of one pot sequences include high atom economy and reduction of waste generated by the several chemical processes, as well as of the time and effort required to carry them out.

Since the first example of the Tropinone synthesis by *Robinson* in 1917, the use of cascade reactions has proliferated in the area of total synthesis.

This kind of step economic strategy was applied in our laboratory to the shortening of the synthetic pathways for well-known olfactive ingredients, such as the green galbanum-like “Galbanolene”, the sandalwood-like Firsantol® and natural “(-)-(Z)- $\beta$ -Santalol”, the floral Hedione® or jasmine-like “Methyl Jasmonate”, the musky macrocyclic “Muscone”, and the amber-like tricyclic Ambrox®. All these examples shall be presented chronologically with respect to a typical industrial career at *Firmenich*.

Conférence présentée le

**LUNDI 25 janvier 2021 à 17h30**

via ZOOM

<https://unige.zoom.us/j/3610921362?pwd=SnlKS2FJYzNMTGlqVDh0QmwwQlNmdz09>

**La conférence est publique**

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