



Chemistry of Fragrances

The MAGIC behind smelling GOOD

Basic Chemistry of Fragrances

Essential Concepts

- Fragrances are composed of volatile compounds and molecules that readily evaporate to produce scent.
- They belong to classes including: aldehydes, esters, and terpenes.



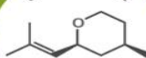
AROMA COMPOUNDS IN COMMON FLOWERS

A wide range of compounds contribute to the scents of flowers. This graphic looks at a selection of major contributors for a number of common flowers. Note that volatile aroma compounds can vary significantly between species; this graphic represents a broad overview of common components, and is by no means definitive!

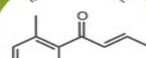


Roses

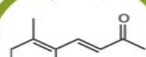
E-CIS-ROSE OXIDE



B-DAMASCENONE

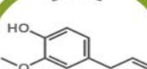


B-IONONE

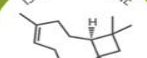


Carnations

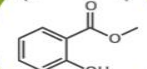
EUGENOL



B-CARYOPHYLENE

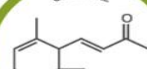


METHYL SALICYLATE

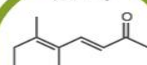


Violets

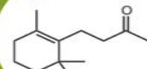
AL-IONONE



B-IONONE

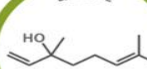


B-DIHYDROIONONE

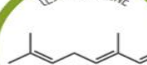


Lilies

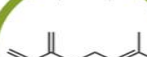
LINALOOL



E-CIS-OCIMENE

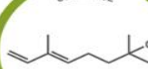


MYRCENE

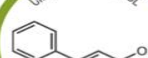


Hyacinth

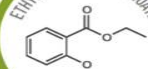
OCIMENOL



CINNAMYL ALCOHOL



ETHYL 2-METHOXYBENZATE

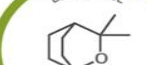


Chrysanthemums

AL-PINENE



EUCALYPTOL

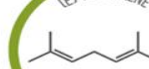


CHRYSANTHENE

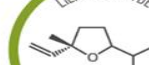


Lilacs

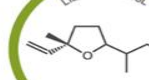
E-CIS-OCIMENE



LILAC ALDEHYDE



LILAC ALCOHOL



Molecular Structure

Scent and Structure

Influence of Molecular Structure:

- The unique scent of a compound is intricately tied to its molecular structure.
- Changes in structure, even subtle ones, can result in vastly different aromatic profiles.

Stereoisomers and Scent Perception:

- Stereoisomers, molecules with the same molecular formula but different spatial arrangements.



Perfume Composition



Composition Breakdown: Top, Middle, and Base Notes:

Top Notes:

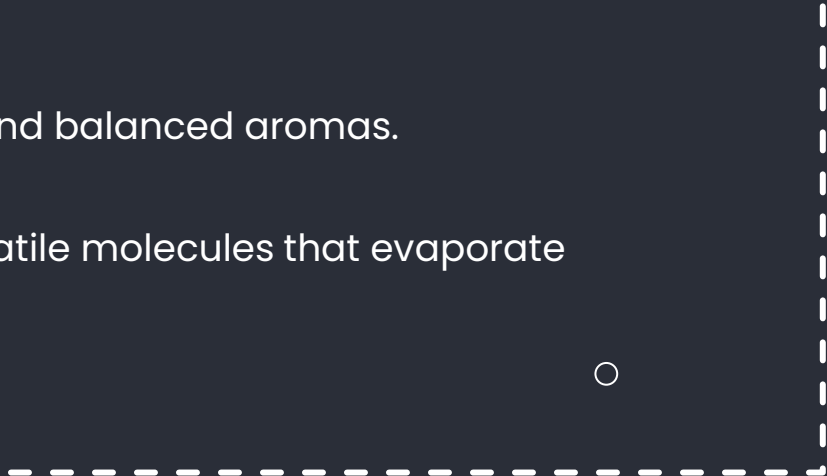
Compounds: Light and volatile compounds that evaporate quickly..

Middle Notes:

Compounds: More complex and balanced aromas.

Base Notes:

Compounds: Heavier, less volatile molecules that evaporate slowly.





Smell good .
/ not bad

