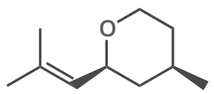
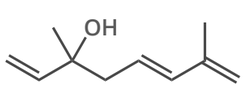
THE CHEMISTRY OF ELDERFLOWER & ELDERBERRIES

It's the time of year when elderflower bushes are bursting into bloom in the countryside. Here, we look at the chemistry of the flowers and the berries!

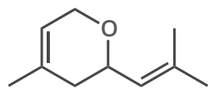
AROMAS OF ELDERFLOWER & ELDERBERRIES



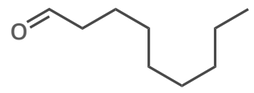
cis-ROSE OXIDE



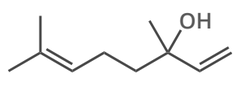
HOTRIENOL



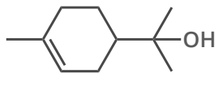
NEROL OXIDE



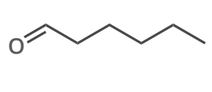
NONANAL



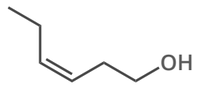
LINALOOL



α-TERPINEOL

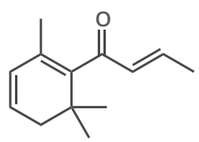


HEXANAL

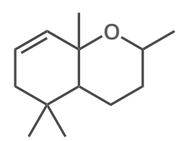


(Z)-3-HEXENOL

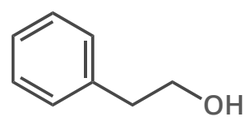
The compounds that make significant contributions to the aroma of elderflowers are *cis*-rose oxide, nerol oxide, hotrienol, and nonanal. Other compounds that contribute to the floral odour include linalool and α-terpineol, whereas hexanal and (Z)-3-hexenol add grassy odours.



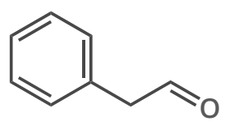
β-DAMASCENONE



DIHYDROEDULAN



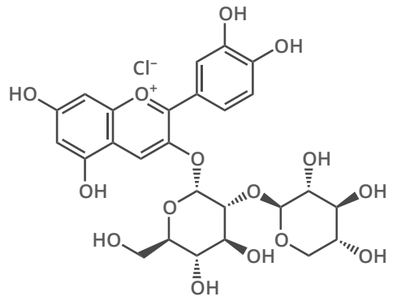
2-PHENYL ETHANOL



PHENYLACETALDEHYDE

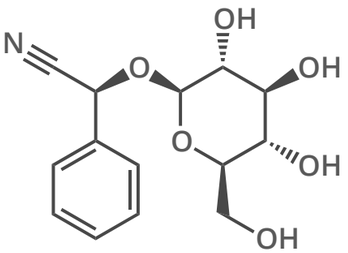
The key compounds that contribute towards the characteristic aroma of elderberries are β-damascenone and dihydroedulan, with 2-phenyl ethanol and phenylacetaldehyde also present. Several compounds present in the aroma of elderflowers also contribute, including linalool, and hotrienol.

ELDERBERRY COLOUR & TOXICITY



CYANIDIN 3-SAMBUBIOSIDE

SAMBUNIGRIN



Coloured anthocynanins cause the colour of elderberries; the most abundant is cyanidin 3-sambubioside. Their high citric acid content contributes to their acidity. The leaves and stems of the plant, as well as elderberry seeds, contain moderate amounts of the cyanide-producing compound sambunigrin and the poisonous alkaloid sambucine. As such it's recommended that elderberries are always cooked before eating, as this breaks down these compounds.