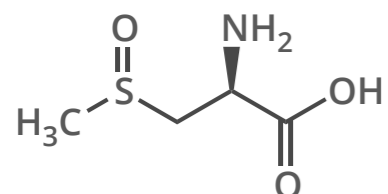


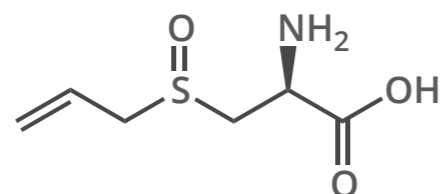
THE CHEMISTRY OF WILD GARLIC

Spring is in the air, and if you venture to a forest, so too is the smell of wild garlic. Here's a quick look at the chemistry of this common forest plant.

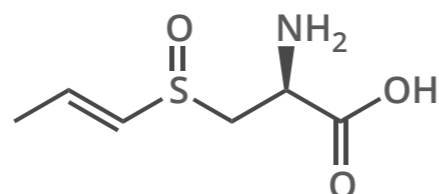
WILD GARLIC'S SMELL & COMPOSITION



METHIIN

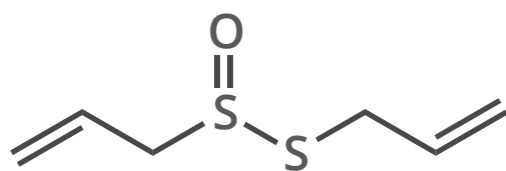


ALLIIN

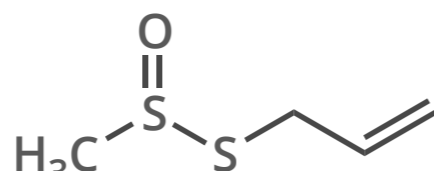


ISOALLIIN

The smell of wild garlic stems from the presence of sulfur-containing compounds called sulfoxides. Wild garlic contains a mix of methiin, alliin, and isoalliin. These compounds can be further broken down to give volatile thiosulfinate compounds, including allicin and methyl allyl thiosulfinate, as well as a range of others that contribute to the garlic odour.



ALLICIN

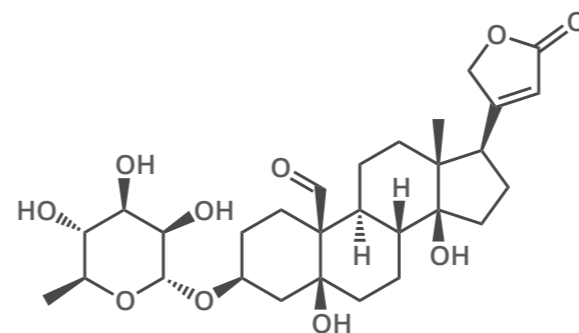


METHYL-ALLYL THIOSULFINATE

These breakdown compounds are produced by the plant as a consequence of mechanical damage. They serve an antimicrobial role; studies have shown that allicin shows inhibitory activity against both bacteria and fungi. Cows fed on wild garlic produce milk that tastes slightly of the plant as a consequence of some of the compounds present.



CASES OF MISTAKEN IDENTITY



CONVALLATOXIN

COLCHICINE

Other plants can be mistaken for wild garlic. These include lily of the valley, and the leaves of the autumn crocus. Lily of the valley contains a number of compounds known as cardiac glycosides, such as convallatoxin; autumn crocus leaves contain poisonous alkaloids (such as colchicine). Ingesting small amounts of either can lead to vomiting, diarrhoea, and even death. The leaves of both of these plants are devoid of wild garlic's characteristic smell.

