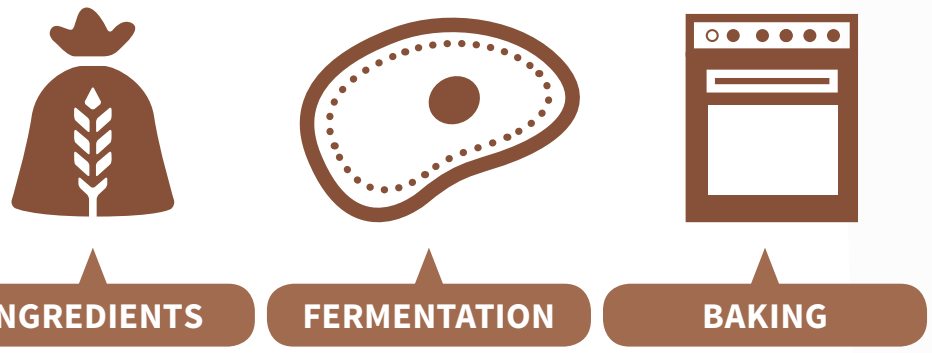
Aroma Chemistry

THE AROMA OF FRESH-BAKED BREAD

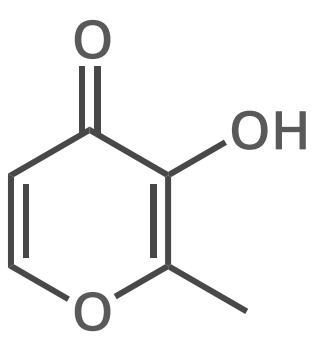
WHAT CREATES BREAD'S AROMA?



INGREDIENTS | **FERMENTATION** | **BAKING**

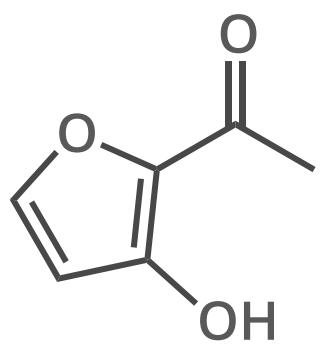
The compounds that help to generate baked bread's aroma are influenced by the ingredients of the bread, and also by compounds generated during the fermentation process. Caramelisation and non-enzymatic Maillard reactions during baking help produce characteristic aroma compounds.

A SELECTION OF SIGNIFICANT AROMA COMPOUNDS FROM BAKED BREAD

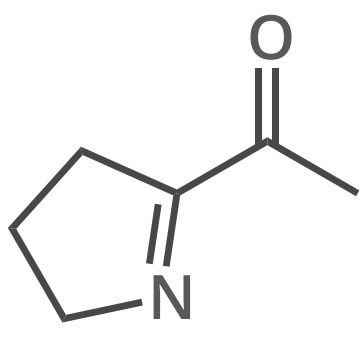


MALTOL

Both formed from D-fructose. Well-known contributors to bread and bread crust flavour and aroma.

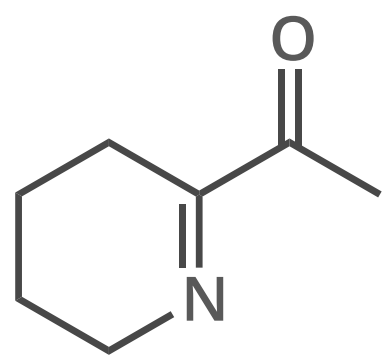


ISOMALTOL



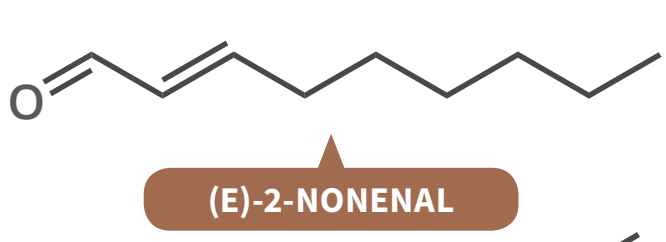
2-ACETYL-1-PYRROLINE

Key odorant in wheat-bread crust, responsible for cracker-like properties.

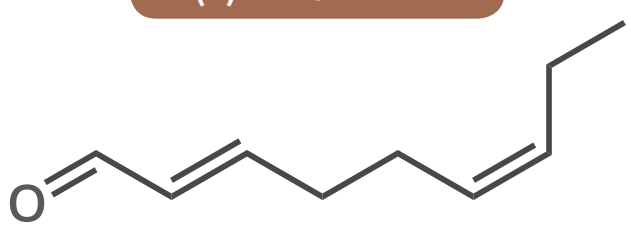


2-ACETYLTETRAHYDROPYRIDINE

Also a significant crust odorant. It and 2-acetyl-1-pyrroline are both have low odour thresholds.

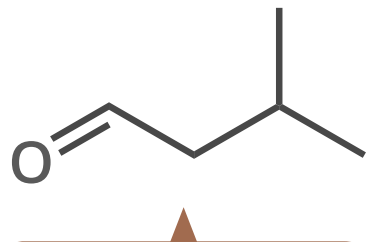


(E)-2-NONENAL

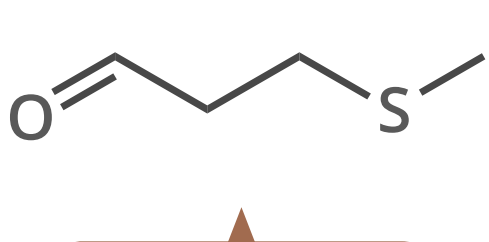


(E,Z)-2,6-NONADIENAL

Amongst the key odorants of bread crumb; also found in the crust. Weirdly enough, these are also key odorants of cucumber.



3-METHYLBUTANAL



METHIONAL

3-methylbutanal (malty), found in the crust, has a significantly higher value in the crust of rye breads, as does methional (also a key odorant in the crumb). Diacetyl adds buttery notes.

IN SHORT

No one compound conjures up the smell of baked bread; instead a mixture of compounds are responsible. 2-acetyl-1-pyrroline is a significant contributor to the crust aroma.