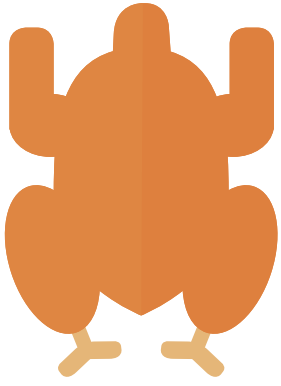
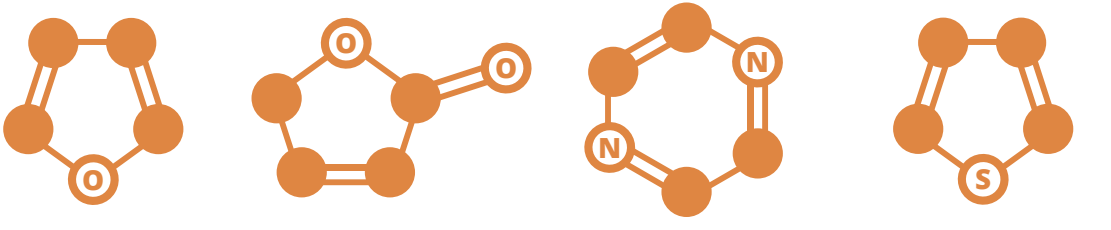
CHEMISTRY ADVENT 2015 24

CHRISTMAS TURKEY

A key reaction involved in the development of your Christmas turkey's flavour, as well as the browning of its skin, is the Maillard reaction, which occurs between amino acids and sugars in the meat during cooking.

Hundreds of products are formed by the Maillard reaction. A small subset of basic types of these compounds are shown below. Compounds called melanoidins are also formed, which contribute to the brown colouration that develops during cooking.





FURANS

meaty, burnt flavours

FURANONES

sweet, caramel-like flavours

PYRAZINES

cooked, roasted flavours

THIOPHENES

meaty, roasted flavours

Carbon O Oxygen N Nitrogen S Sulfur Hydrogen

Hydrogens on carbon atoms implied; each carbon has 4 bonds.