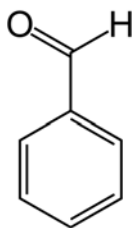


5.4 Some more aldehydes and ketones with practical uses.

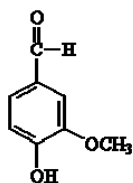
Several flavoring agents are aldehydes or ketones.

Benzaldehyde



Benzaldehyde is used to make artificial almond flavor.

Vanillin

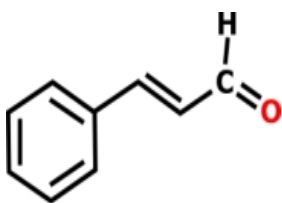


Vanillin
artificial vanilla flavoring

©2014 A.M. Holmwood
Licensed to You, Inc.

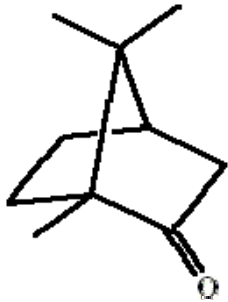
Vanillin is the primary ingredient in natural vanillin flavor as well as artificial vanillin flavor (which is made from petroleum). What other functional groups are in the vanillin molecule?

Cinnamaldehyde



Cinnamaldehyde is the primary compound responsible for cinnamon odor and flavor. Are there cis and trans isomers? Which is the naturally occurring form shown above? Draw the other geometric isomer. Cinnamaldehyde made from petroleum can be used to make artificial cinnamon flavoring.

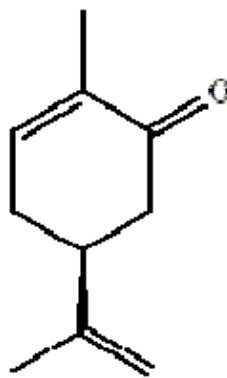
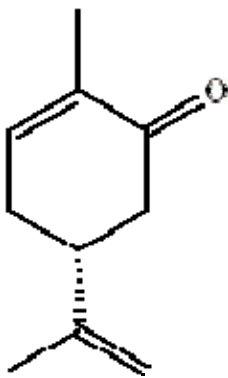
Camphor



Camphor is a natural oil obtained from several south east Asian trees, and can also be made from turpentine(a distillate of pine trees) as well as from oil! It provides a mild cooling and anesthetic sensation when applied to the skin and is used in products such as Vicks VapoRub. It is also found in some cough preparations.



Carvone



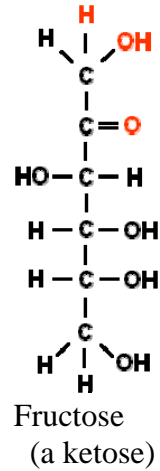
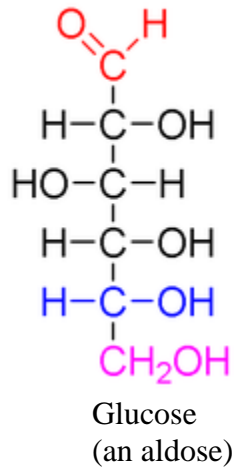
R-carvone (on the left) is the essential flavor of caraway seeds (used to flavor rye bread). S-carvone(on the right) is the primary flavor in spearmint.

How do these two molecules differ from each other? What sort of isomers are they?

Mirror image molecules can have substantially different smells and flavors on your olfactory and taste receptors!!

Sugars

Sugars are polyhydroxy aldehydes or ketones:



What functional groups are in glucose? Fructose?