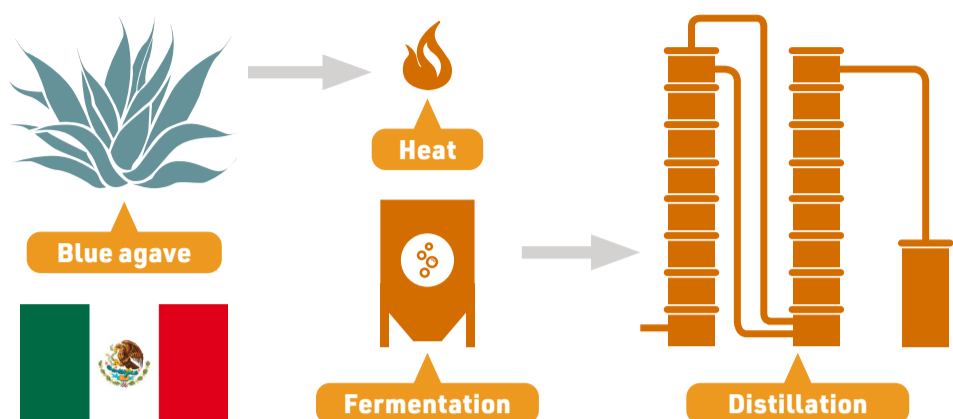
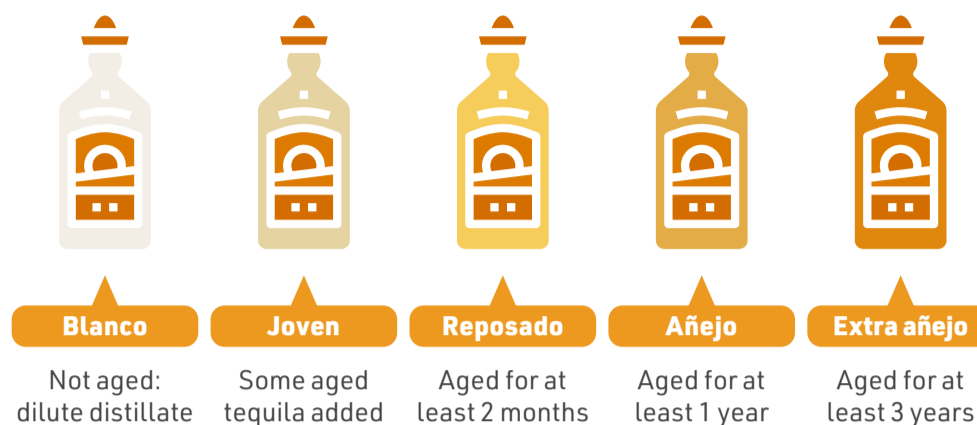


# The Chemistry of Tequila

## How is tequila made?



## Different types of tequila

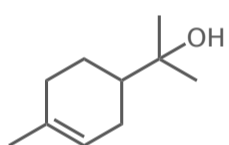


Tequila is made in selected states in Mexico from blue agave. The heart of the plant is heated to break down polysaccharides into sugars. These sugars are extracted and fermented with yeast. The resulting mixture is then distilled and diluted.

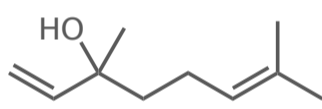
There are five recognised types of tequila. Blanco tequila is the diluted distillate, while joven tequila is blanco with a small amount of aged tequila (or colour and flavour) added. The other types are aged in oak barrels for varying lengths of time.

## Blanco tequilas

Hundreds of compounds have been identified in tequila. Some terpene compounds, such as those shown below, originate from the agave.

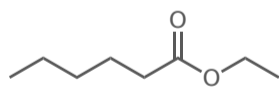


**$\alpha$ -terpineol**

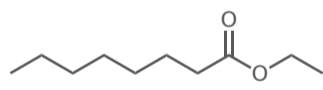


**Linalool**

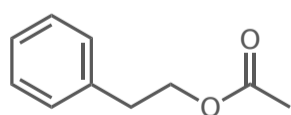
Many other compounds that contribute to tequila flavour are formed during fermentation or distillation. Some compounds that make important contributions are highlighted below.



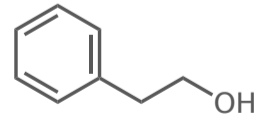
**Ethyl hexanoate**



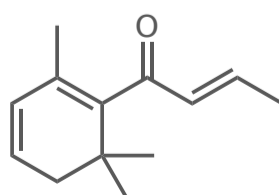
**Ethyl octanoate**



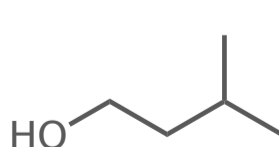
**2-phenethyl acetate**



**2-phenyl ethanol**



**$\beta$ -damascenone**



**Isoamyl alcohol**

## Aged tequilas

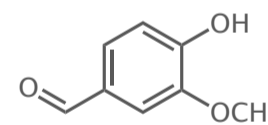
Many of the compounds found in blanco tequilas also contribute to flavour in aged tequilas. However, additional compounds from the oak wood in which the tequila is aged are important flavour contributors.



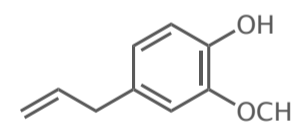
### Ageing reactions

### Lignin hydrolysis

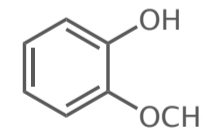
### Oxidation reactions



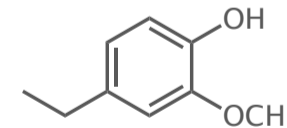
**Vanillin**



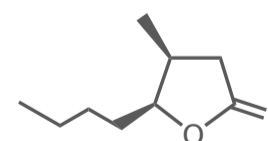
**Eugenol**



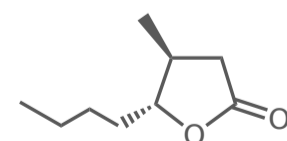
**Guaiacol**



**4-ethyl guaiacol**



**Whisky lactones**



The above compounds are formed as the lignin in the wood breaks down and further oxidation reactions occur. Many of them are also found in other barrel-aged alcohols.

