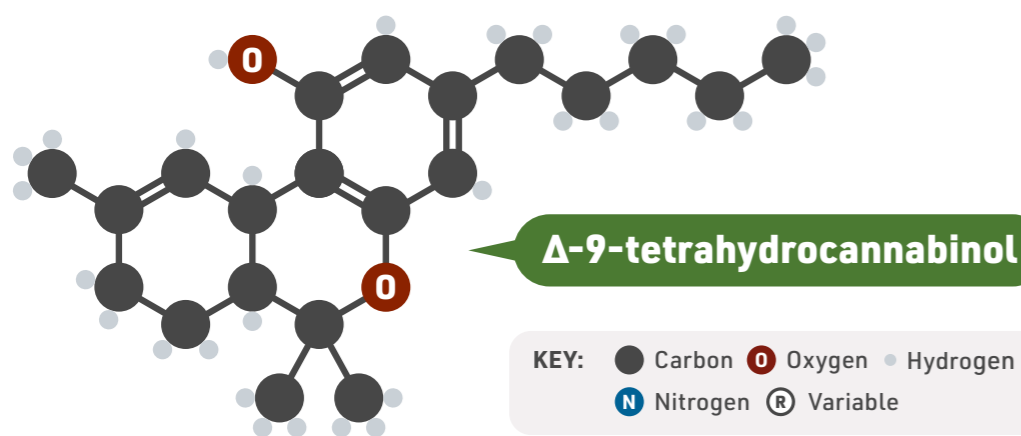


Cannabis and synthetic cannabinoids

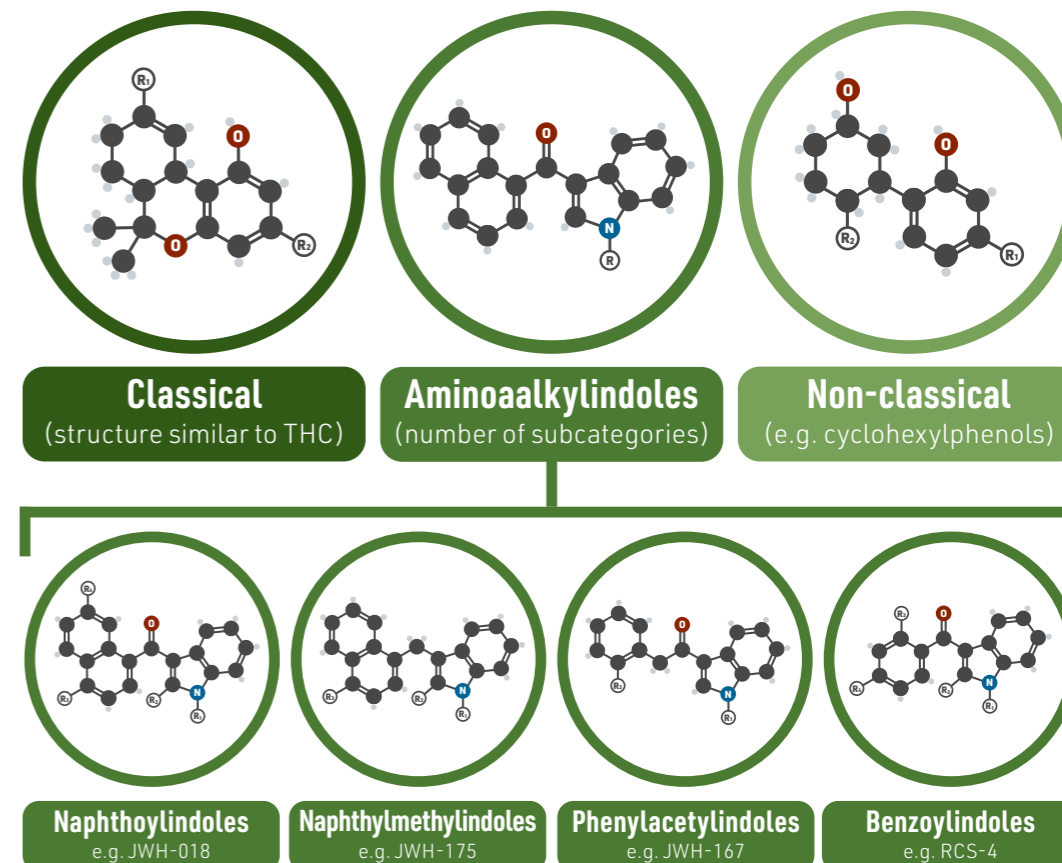
Cannabis and cannabinoids



Cannabis contains a large number of different cannabinoid chemicals. The main psychoactive constituent in cannabis is the cannabinoid tetrahydrocannabinol (THC). It acts on cannabinoid receptors in the brain, causing a range of psychological effects.



Selected classes of synthetic cannabinoids



Synthetic cannabinoids and their effects



SYNTHESIS

First synthesised in labs in the 1980s for research purposes.



ILLICIT USE IN 'SPICE'

Sprayed onto dried herbs then smoked or ingested.

2-100x

HIGH POTENCY

Synthetic cannabinoids can be much more potent than THC.



SERIOUS SIDE EFFECTS

Adverse effects often much more severe than for THC.

Synthetic cannabinoids (SCs) were never intended for human consumption, but synthesised to investigate potential medicinal uses of cannabis. They target the same receptors, but have a higher efficacy than THC. There is no published safety data for the compounds, and little is known about their effects in humans. Many are controlled substances, but modifications of the compounds produces new entities not covered by legislation. Use of SCs is linked with nausea & vomiting, anxiety, psychosis, seizures, acute renal failure, and in cases, death.

Synthetic cannabinoids can be classified in a number of ways. Broadly, they can be split into three groups: classical cannabinoids, structurally related to THC; aminoalkylindoles, the most numerous, which can be further split into a number of subclasses; and non-classical, including cyclohexylphenols and other compounds. Other classifications split them into further groups. A group not shown here is the eicosanoids.

A number of the compounds have 'code names'. JWH stands for John W. Huffman, who synthesised many new cannabinoids. Others have more obscure origins: AKB-48 is named after a Japanese girl band and XLR-11 is named after the first liquid rocket fuel developed in the US.