

Poster Communication 50

Cannabinoid Profiling of Z-Face Cannabis Cultivar Extracts

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Abstract

Background: Cannabis is a versatile plant that has been used for thousands of years for its medicinal, nutritional, cosmetic, and agricultural applications. To date, 566 chemical compounds have been identified in *Cannabis sativa*, including 125 cannabinoids [1]. The Z-Face cultivar under investigation is notably rich in Δ^9 -THC, the only cannabinoid with well-established psychotropic effects. It interacts with CB1 receptors in the central nervous system, inhibiting the release of neurotransmitters such as GABA and glutamate. As a result of its psychoactive properties, Δ^9 -THC is highly regulated and represents the most widely used drug of abuse worldwide. Nevertheless, these same properties offer significant therapeutic potential, particularly for their analgesic, antiemetic, and appetite-stimulating effects [2,3]. Decarboxylation is essential to convert acidic cannabinoids found in the plant into their pharmacologically active neutral forms [3]. **Objectives:** The aim of this study was to determine the cannabinoid profile of extracts from the Z-Face cultivar in both decarboxylated and non-decarboxylated forms. **Methods:** The inflorescences were ground using a Retsch 400 ball mill and extracted with 96% (v/v) ethanol. The extract was filtered under reduced pressure, and the solvent was evaporated using a speedvac. For the decarboxylated samples, heating at 120 °C for 1 hour was performed prior to extraction. Cannabinoid quantification was carried out using a high-performance liquid chromatography with diode array detection (HPLC-DAD) system, employing an optimized method for determining 14 cannabinoids [4]. **Results:** In the non-decarboxylated extract, nine cannabinoids were quantified. The major cannabinoids, expressed as a percentage (w/w), were THCA 49.13% and Δ^9 -THC 8.11%. Other cannabinoids included CBGA 0.87%, CBCA 0.60%, THCVA 0.26%, CBG 0.24%, CBNA 0.19%, CBC 0.13%, and CBN 0.10%. The composition of the decarboxylated extract was predominantly Δ^9 -THC (56.48%), with only trace amounts of THCA (0.23%). Additional cannabinoids quantified included CBG 1.44%, CBN 0.94%, CBC 0.76%, THCV 0.34%, and CBGA 0.27%. **Conclusion:** The primary cannabinoid identified in the Z-Face cultivar extract is THCA (49.13%), while the decarboxylated extract contains Δ^9 -THC, as expected.

Keywords: Cannabinoids; Cannabis; Δ^9 -THC; HPLC-DAD

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