Identification of THC Compounds (Δ^9 Tetrahydrocannabinol) in Leaves, Stems, and Seeds Suspected of Being Marijuana in the East Jawa Regional Police Forensic Laboratory

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ABSTRACT

Background : *The cannabis plant is the most widely abused narcotic in Indonesia as evidenced by the findings of the BNN in 2024 smuggling in the form of cannabis plants. The THC content (Δ9 Tetrahydrocannabinol) is the most powerful compound in activating receptors in the central nervous system that cause hallucinations and euphoria so that it is used as a marker in the identification of cannabis plants.* ***Research Objective :*** *This research aims to identify THC content in samples in the form of leaves, stems and seeds suspected of marijuana.* ***Research Methods :*** *This study uses a qualitative method to identify THC in 13 samples in the form of leaves, stems and seeds tested at the East Java Police Forensic Laboratory. The tests carried out were preliminary tests with Fast Blue B reagents and confirmation with GC-MS. The preliminary test was carried out by comparing the color reaction that occurred from the sample to the Fast Blue B reagent. The sample tested positive for THC if there was a color change to purplish red in the sample. The confirmation test was carried out by comparing the GC-MS reading results in the form of a chromatogram by comparing the fragmentation pattern in the sample with the library.* ***Research Results :*** *The results of this study showed that all samples turned purplish red in color indicating the presence of THC (Δ9 Tetrahydrocannabinol) in the preliminary test. And in the confirmation test, all samples identified Delta-9 Tetrahydrocannabinol and (6Ar,9R)-delta10-THC with an average similarity percentage of 99% while other cannabinoid compounds such as Cannabinol (99%) and Cannabichromene, Cannabicyclol, Cannabidiol, Cannabigerol, Cannabidivarin, and Cannabicitran with varying ranges of 9-98%.* ***Conclusion :*** *This shows that all samples in the form of leaves, stems, and seeds tested at the East Java Police Forensic Laboratory were positively identified as containing THC in both the preliminary and confirmatory tests. So it is concluded that all samples tested are marijuana plants.*

Keywords *: Leaves, Stems, and Seeds, THC (Δ9 Tetrahydrocannabinol), Cannabis*