

Effect of biotransformation on patchouli oil using GC-MS

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■ **Abstract** : Biotransformation is the chemical modification made by a microorganism on small molecules as well as on macro-molecules of biological origin. This process results in increased patchouli alcohol content along with improvement in oil extraction. A series of experiments were carried out to understand the biotransformation effect of three selected microorganisms on the quantity and quality of patchouli oil. Dry herbage was the substrate treated with the microbial inoculants. Higher end analysis of the oil samples with GC-MS indicated the effect biotransformation efficiency of different microorganisms on the patchouli oil component. Patchouli alcohol, the active component of the oil is found 31.78, 33.73 and 35.56%, for the oils extracted after the incubation with *Aspergillus foetidus*, *Penicillium citrinum*, *Trichosporon asteroides*, respectively. While the oil extracted from the fresh and control samples contain 26.63 and 27.35% patchouli alcohol. Other components of the oil also affected by the fermentation/biotransformation process. From the above it can be suggested that fermentation/ biotransformation of patchouli is important for the oil recovery as well as patchouli alcohol percentage.

■ **Key words** : Biotransformation, Patchouli oil, Patchouli alcohol, Fungi

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