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## Characterization of neem (*Azadirachta indica* A. Juss) volatile compounds obtained by supercritical carbon dioxide process

R Swapna Sonale, K Ramalakshmi and B Manchar CSIR-Central Food Technological Research Institute, India

 $\mathbf{N}$  eem is one of the most versatile medicinal plants having a wide spectrum of biological potential. Neem seed contains a vast array of biologically active compounds, both volatile and non-volatile such as aldehydes, ketones, hydrocarbons, terpenes, limonoids, phenolics and tetranortriterpenoids. By employing the extraction process of supercritical fluid carbon dioxide (SCF), bioactive compounds can get near natural forms without any artifact formation. Neem seed powder was subjected to SCF at lower pressure 100 bar and different temperatures (40, 50 and 60°C). These extracts were partitioned to separate volatile fraction. Volatile fractions and saturated hydrocarbon mixture were analysed by gas chromatography and mass spectroscopy. Compounds were identified based on comparison of their Kovats retention indices and calculated based on the retention times of C8-C22 n-alkanes, authentic standards and literature data from the NIST Chemistry web book. Majority of compounds are found at 100 bar and 40°C (Terpinen-4-ol, Isocaryophyllene, á-Bisabolene, (-)- $\alpha$ -Panasinsen, trans-Sesquisabinene hydrate and Cis-Vaccenic acid) compared to 100 bar and 60°C. Results show that there is an effect of temperature on isolation of number of compounds as well the retention of the most bioactive compounds.

swapnarsonale@gmail.com

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