

Presentation title: “EXTRACTION of *Pinus halepensis* ESSENTIAL OIL AND CHARACTERIZATION BY IR AND UV-VIS SPECTROSCOPY”

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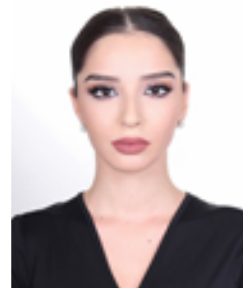
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Abstract:

In the analysis of the IR spectroscopy, we will focus only on caryophyllene, which is also the chemical component with the largest percentage in wild pine essential oil. Signals in the wave number range 1466-1380 cm⁻¹ which appear as two separate peaks belong to the isopropyl or dimethyl groups of caryophyllene. The signals in the range of 3000-2800 cm⁻¹ belong to the C-H vibrations of the CH₃ groups (symmetric and non-symmetric). At the end of the spectral analysis, we can conclude that the IR spectrum of wild pine essential oil suggests the presence of beta caryophyllene, which is also the main chemical component of this oil. In organic compounds, four types of electronic transitions are distinguished: $\pi \rightarrow \pi^*$, $n \rightarrow \pi^*$, $\sigma \rightarrow \sigma^*$, and $n \rightarrow \sigma^*$. The last two transitions require very high energy and occur only in the deep UV region (below 200 nm) and therefore during various measurements only the first two transitions $\pi \rightarrow \pi^*$ and $n \rightarrow \pi^*$ are used, which occur in the 200 nm to 700 nm region. Compounds with conjugated bonds adsorb energy in the UV and Vis region of the electromagnetic spectrum (200-800 nm). The UV-Vis spectrum presented in the figure below presents signals at 200 nm, 230-235 nm and in the range 270-290 nm.

Biography:

Ms. Marisa Koci has studied Master of Science in Chemical Engineering at the University of Tirana and has focused her time on scientific research by participating in international conferences of chemists and chemical engineers in Croatia 28Hskiki, or being active as one of the organizer of the first international student conference at Aleksander Xhuvani University in Albania. She likes to be very active in topics that increase the interest and curiosity of society.