

عنوان مقاله:

The evaluation of the QuEChERS and Ultrasonic-extracted Mixture Contents and the Smoke Compositions of Iranian Traditional and Flavored Tobaccos

محل انتشار:

اولین کنفرانس ملی شیمی، نانو مواد پلیمر-چالش ها و کاربردها (سال: 1402)

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خلاصه مقاله:

The main purpose of this study was evaluation of QuEChERS and ultrasonic methods for the extraction from traditional and flavored hookah tobaccos that are used in Iran. Also, the determination of benzene, toluene, ethylbenzene, and xylene (BTEX) compounds in the smoke of these substances were evaluated. So, two types of traditional tobacco (Khansar) and flavored tobacco (Apple) were chosen as two most widely used types of tobacco in Iran. The GC-MS method was used for quantitative and qualitative analyses of chemicals in the extracted mixtures. In the case of Khansar, ۲۵ chemical compounds were detected from ultrasonic-extracted mixture, while the mixture extracted by QuEChERS method contained ۶ compounds. The palmitic acid and nicotine were the major compounds in the extracted mixtures from Khansar samples. In the case of Apple, ۲۰ chemical compounds were detected from ultrasonic-extracted mixture, while the mixture extracted by QuEChERS method contained ۱۱ compounds. The nicotine and essential oils (menthol, ۱,۸-cineole, and methyl dihydrojasmonate) were the major compounds in the extracted mixtures from Apple samples. Therefore, the results showed that QuEChERS is more selective, with lower solvent need, and greener method compare with ultrasonics, and these properties introduce it as a good candidate for quality control of tobacco.

کلمات کلیدی:

BTEX, Extraction method , Hookah tobacco, QuEChERS, Ultrasonic

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