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Volatile compounds from cold-pressed cactus seed oils of different origin and different processing

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Cactus seed oil is one of the most expensive edible oils in the world with prices up to 500 Euro per liter. The oil is produced from seeds of *Opuntia ficus-indica*, a plant belonging to the family Cactaceae and growing mainly in arid and semi-arid zones in Africa, the Middle East and Asia by simple pressing with a screw press and purification by sedimentation or filtration. For this type of cold-pressed oils the sensory quality is one of the most important quality parameters. Therefore, it is necessary to know more about the composition of the volatile compounds of cactus seed oil, but so far only the volatile compounds of the fruits have been characterized. It is not clear which volatile compounds can be found in the oil obtained from seeds released from the fruits.

Within the research project "*Quality and safety of Moroccan virgin cactus seed oil (Opuntia ficus-indica) from the plant to the bottle*" financed within the *Programme Maroc-Allemand de Recherche Scientifique (PMARS)* volatile compounds of cactus seed oils obtained from seeds of different geographical origins in Morocco (Houceima, Bejaad, Rhamna, Sidi Ifni, Ait Baha, and Tiznit) and from different roasting times (10 to 40 min) at 110°C were investigated. The volatile compounds were analyzed and identified by dynamic headspace GC-MS. A characterization of the compounds as aroma active was performed by olfactometry. The aim was to identify differences between oils from different geographical origin and to find compounds that are typical for oil from roasted cactus seeds.