

GC–MS ANALYSIS OF N-HEXANE AND DICHLOROMETHANE EXTRACTS OF ESSENTIAL OILS FROM *PHYSALIS ANGULATA* L.

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Abstract. The chemical composition of the essential oils from the fruits of *Physalis angulata* L., collected in the Parkent district of the Tashkent region, was the subject of a study that employed gas chromatography–mass spectrometry. The essential oils were obtained by hydrodistillation, followed by extraction with n-hexane and dichloromethane. In the n-hexane extract, 59 compounds (96.3%) were identified, predominantly saturated fatty acids, including palmitic (21.13%), linoleic (10.28%), and 10(*E*),12(*Z*)-conjugated linoleic acid (9.46%), as well as oleic acid and its esters. The minor components include pentacos-1-ene, oleyl alcohol, nonadecane, and methyl 11-octadecenoate. In the dichloromethane extract, 34 compounds were identified, accounting for 80.15% of the total. The most prevalent constituents were 1-hexanol (24.03%), furfural (6.04%), and 3-hexen-1-ol (5.10%). Furthermore, the presence of fatty acid fractions was detected, including palmitic (9.02%) and decanoic (4.89%) acids. The observed differences in the extract profiles are indicative of the impact of solvent polarity on the selectivity of component extraction. The obtained data demonstrate the rich chemical composition of the essential oils of *P. angulata* and their potential biological activity.

Keywords: *Physalis angulata*, angular physalis, fruits, essential oil, gas chromatography–mass spectrometry.