

STUDY ON THIOPHENES EXTRACTION EFFICACY FROM *TAGETES PATULA L.*

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Abstract. *The species of the genus Tagetes (family Asteraceae) known as "marigolds" are usually cultivated as ornamental plants, but are also studied and valued for their pharmacological properties in medicinal practice and for their biological actions in agriculture. The antifungal effect of the extracts, thanks to the content of thiophenes has been demonstrated in numerous studies. The study aims to obtain a qualitative extract from Tagetes patula L. (French marigold) with antifungal properties. The terthiophene in the extract obtained from dried inflorescences of a cultivar of Tagetes patula L. has been assayed by gas-chromatography, based on the calibration curve of the reference substance and has been compared to the content of the vegetal product. The extraction yield of the identified thiophenes, calculated as areas ratio between the extract and the plant, was 78%, while the median recovery ratio of the terthiophene (concentration in plant 0.021%) was 90%. The content corresponds to a significant potential of the antifungal effect of the extract.*

Keywords: Tagetes patula, thiophenes, alpha-terthienyl, extraction, GC-MS, SIM

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Abbreviations

TIC (Total Ion Chromatography), SIM (Selected Ion Monitoring), TBME (*tert*-Butyl methyl ether), GC-MS (Gas Chromatography-Mass Spectrometry), ButG (Butylene Glycol), α -T (alfa-terthienyl, terthiophene), BBT (2-but-3-en-1-ynyl-5-thiophen-2-ylthiophene), PBT (5-(Pent-3-en-1-yn-1-yl)-2,2'-bithiophene), BBTOH (4-(5-thiophen-2-ylthiophen-2-yl)but-3-yn-2-ol).

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