



GC-Mass Analysis and Estimation of Pomegranate Husks Extracts and the Biological Efficacy of Compound Tri-butyl Acetyl Citrate as one of the Extract Against Food Fungi

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ABSTRACT

Study of the biological efficiency of one of the Tri-butyl acetyl citrat (TBAC) compounds that isolated from the pomegranate husks extract. 200 gm dried pomegranate husks were extracted by a soxhlet and isolating seven compounds using a combination of organic solvents. Tri-butyl acetyl citrate (TBAC) was applied with the use of solvents such as methanol, chloroform, ethyl acetate and hexane. The extraction ratio was higher when using methanol and less on Chloroform. All the extracts prepared by the chromatographic mass spectrometer were analyzed to identify and characterize the chemical compounds present in the raw extract in both organic and aquatic layers. A number of internationally recognized detection methods were used to detect each type of extracted compounds. The biological efficacy of TBAC was investigated against food fungi by taking the highest concentration of the TBAC and less concentration of the compound. The study of the activity of inhibition fungal rot using the Potato-Dextrose Agar (PDA) culture medium. The TBAC has demonstrated excellent bioavailability against food fungi. The GC-Mas detection process showed the presence of seven compounds in the pomegranate husks extract. The same technique demonstrated the possibility of isolating TBAC compound using various solvents, its potential for inhibition evaluation and the study of its biological effect against food fungi. In the present investigation, seven active compounds have been identified from by GC-MS, one of this compound as bioactive (TBAC) that probably use as against fungal rot. The presence of bioactive compounds in Pomegranate husks proved pharmaceutical importance. However, further studies will require to finding its bioactivity and toxicity profile.

Keywords: Food fungi, Pomegranate husks extracts, biological efficacy of Tri-butyl acetyl citrate.

INTRODUCTION

Pomegranate Scientific name *Punica granatum*. It belongs to the Punicaceae family which

contains one genus and two species *P. proto-punica* Balf is a small spread on the island of Socotra in the Republic of Yemen. The second type is *Punica granatum*. This tree was found in the Middle East in



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