



Synthesis, characterization and biological activities of auronones



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MS

BY

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SESSION: 2015-2017

**DEPARTMENT OF CHEMISTRY
SCHOOL OF SCIENCE
UNIVERSITY OF MANAGEMENT AND TECHNOLOGY,
LAHORE, PAKISTAN**

2017

DECLARATION

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Session **2015-2017** hereby declare that the matter printed in the thesis titled "Synthesis, Characterization and Biological Activities of Aurons" is my own work and has not been printed, published and submitted as research work, thesis or publication in any form in any University, Research institution etc. in Pakistan or Abroad.

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RESEARCH COMPLETION CERTIFICATE

Certified that the research work contained in this thesis titled, **Synthesis, Characterization and Biological activities of Aurones** has been carried out and completed by **Rukhsana Rasheed** ID: **15005140037**. The quantum and the quality of the work contained in this thesis is adequate for the award of Degree of MS/M.Phil.

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Dedication

First of all I dedicate this thesis to the 1st Teacher of this Universe Hazrat Muhammad (S.A.W)& “I dedicated my thesis work to my beloved parents and most respectable teacher sir FaheemShahzad and to every person who taught me even a single word. I respect them from the core of my heart and am indebted to these people, as I would never have been able to complete my research work without their motivation and mentoring.”

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(**RUKHSANA RASHEED**)

ABSTRACT

Medicinal plants are the back bone in the treatment of various diseases. Flavonoids has been used for many ailments. Aurones belongs to the family of flavonoids, these are naturally occurring in many plants which play important role to give bright yellow color to the petals of different flowers. Due to the presence of double bond aurones have two types of configurations (Z/E). Aurones are useful in anti-fungal, anti-viral, anti-diabetic and anti-cancer activities. The present data was undertaken to find out the antibacterial activity and evaluation of various compounds which present in non-polar profile.

The inhibition zone diameters against four tested bacteria are studied in antibacterial activity. Aurones were prepared by adding suitable quantities of benzaldehyde sample (such as p-anisole, 2,4-dimethoxy benzaldehyde and 2-hydroxy acetophenone). All these samples were fully characterized through IR. Results of antibacterial activity of methanolic extract showed that aurones possess less resistance against the pathogenic bacteria. This study was also show that methanolic extract of aurones was less potent against the Gram-positive than the Gram-negative bacteria. This study will be very useful to indicate the biosynthetic and pharmacological activity of plants for drug discovery.

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INTRODUCTION

1.0 Introduction

Word synthesis is derived from Greek language mean “combined together”. “Organic synthesis” is defined as the formation of new organic compounds from other organic compounds. A large number of organic compounds are synthesized by chemist each year. Major reason to synthesize organic compounds is that to synthesize organic compounds in better qualities. A large number of industrial processes which convert functional group into other functional groups in multistep process(**Wuts and Greene 2006**).