

**Republic of Iraq
Ministry of Higher Education
& Scientific Research
University of Babylon
College of Pharmacy**



Synthesis of 6-phenylpyrimidin-2-ol Derivatives Based on Chalcone derivatives

A Dissertation Submitted to the Council of the College of Pharmacy –
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By:

**Ghadeer Waleed Mardan
Fatima Ahmed Saheb
Adraa Razzaq Jaber**

Supervised by:

**Lect. Dr. Haider Abbas Alwan
Asst. Lect. Saif Sahib Radhi**

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بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

{رَفَعِ اللّٰهُ الَّذِیْنَ اٰمَنُوْا مِنْكُمْ وَالَّذِیْنَ اٰتَوْا الْعِلْمَ دَرَجَاتٍ}

صَدَقَ اللّٰهُ الْعَلِیُّ الْعَظِیْمُ

المجادلة - 11

الاهداء

إلى امي ثم امي ثم امي
منذ ان انجبتني حتى هذه اللحظة
كنت اماً عظيمة إلى الحد الذي أشعر فيه بأنك كثيرة علي

وإلى ابي...
بطلي الأول... واستقامة ظهري

إلى سبب النجاح اساتذتي

وفي الختام اقف اليوم امامكم ، قلبي يملؤه مزيج من المشاعر المتناقضة ، فرحة الإنجاز
وحزن الفراق ، مشاعر ممزوجة بذكريات رحلة تعليمية طويلة ومليئة بالتحديات
والإنجازات.

Abstract

Chalcone-derived pyrimidine is a well-known heterocyclic compound that is commonly present in ribonucleic acid (RNA) and deoxyribonucleic acid (DNA) bio-isosteres. Pyrimidine derivatives are effective in both the electronic industry and drug industries. This review highlights the synthesis of pyrimidines, namely mono-pyrimidine, bis-pyrimidine, fused pyrimidine, symmetric, and asymmetric pyrimidine via one-pot and two-pot methods. The one-pot method is the direct reaction of amino derivatives with aldehydes and acetophenones, whereas the two-pot method is frequently reported for the synthesis of chalcone before the cyclization to a pyrimidine. This review is important in organic synthesis, particularly in the heterocyclic field, regarding pyrimidines and their significance in therapeutic and electronic industries.

List of Contents

Subject	Page
Chapter One	
1.Introduction	1
1.1 One-pot and two-pot methods for chalcone derived pyrimidines synthesis	1
1.2 medical application of pyrimidine	3
1.3 Anticancer activity	4
1.4 Fluorouracil	7
1.5 Mechanism action of fluorouracil	10
1.6 Aim of the study	10
Chapter Two Method And Procedure	
2.1 Chemicals	11
2.2 Instrument	11
2.3 General Procedure	11
2.3.1 <i>Synthesis of 6-phenylpyrimidin-2-ol derivatives Based on Chalcone derivatives</i>	11
2.4 MTT assay	13
Chapter Three Results	
3.1 Results & Discussion	15
References	

List of Figure

No.	Page	Title
1	9	Pyrimethamine is an antiparasitic drug used in the prevention and treatment of toxoplasmosis and malaria
2		Vitamine B1 contain pyrimidine
3		One pot method synthesis pyrimidine from chalcone in presence of quinine.
4		Two pot method synthesis pyrimidine from chalcone
5		Diverse biological importance of pyrimidine
6		Synthesized novel pyrimidine analogs & tested for anticancer activity

List of Scheme

No.	Page	Title
3-1		FT-IR spectrum of compound S1
3-2		NHMR Spectrum of compound S 2
3-3		FT-IR spectrum of compound S5
3-4		NHMR- Spectrum of compound S5
3-5		Cell viability (%) OF Compound S1
3-6		Cell Viability (%) of compound S2
3-7		Cell Viability (%) of compound S3
3-8		Cell Viability (%) OF compound S4

List of Tables

No.	Page	Title
2.1	5	Physical properties of synthesis 6-phenylpyrimidine-2-ol derivatives (S1-S6)
3-1		The MTT Assay of Synthesized compounds (s1-s4)

