

Ministry of higher education
And scientific research
University of Al-Qadisiyah
College of pharmacy



Synthesis, characterization and biological activity of some imide compounds

Graduation research

Submitted to the college of pharmacy, University of AL- Qadisiyah

by

Wafaa Nahi Alwan

Elaf Hussian Jihad

Noor Sattar Jabbar

Supervised by

Ruaa Jameel kamel

Assisted prof in chemistry

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَلَقَدْ آتَيْنَا دَاوُودَ وَسُلَيْمَانَ عِلْمًا وَقَالَا
الْحَمْدُ لِلَّهِ الَّذِي فَضَّلَنَا عَلَى كَثِيرٍ مِّنْ عِبَادِهِ
الْمُؤْمِنِينَ

صدق الله العظيم

الإهداء

الى من نلوه منه العلم وامدني بريح الحياة وعلمني سبل العطاء، الى من يرشد نفسه وحياته من اظلي ،
الى القلب الحافي

.....(والدي الغالي).....

الى من ايقضه في نفسي قوى السير، الى من تحب قدعها ضمن الجية

.....(امي الصريفة).....

الى اظلي في الحياة والذين اعطوني الدعم والقوة دائما ، تأشد بعم اروي واقوى بعم عن يدي

.....(اخوتي عظمو الله).....

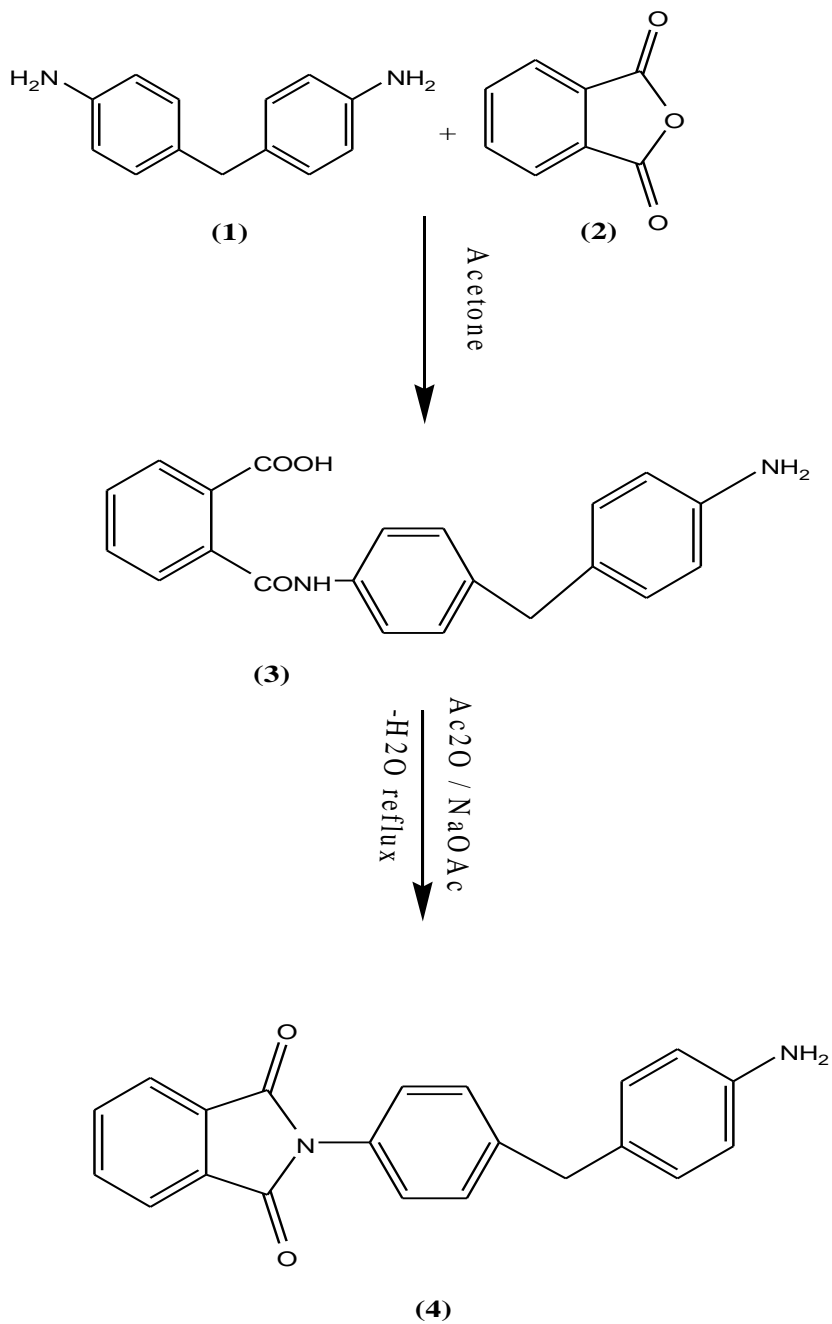
الى من نقضو محبتهم على جدران قلبي ، فكانوا لوحات جميلة رسمه بين مرافق الوعدان فتح يرفقا
وجمالا مع مرور الايام

.....(صديقاتي الصريفة).....

Abstract

The present work involved synthesis of new phthalimide and maleimide through different strategies. The work was divided into two main parts:

1. The first part involved synthesis of phthalimide. Performing this part include the following steps:
 - a. Synthesis of *N*-(4-(4-aminobenzyl)phenyl) phthalamic acid via reaction of phthalic anhydride with dianiline ethane.
 - b. Dehydration of the synthesized phthalimic acid by acetic anhydride and anhydrous sodium acetate as dehydrating agent producing (2-(4-(4-aminobenzyl)phenyl)isoindoline-1,3-dione) scheme (1-1)
2. The second part involved synthesis of new maleimide through. Performing this part involved the following steps:
 - a. Synthesis of (Z)-3-(4-(4-aminobenzyl)phenylcarbamoyl)acrylic acid via reaction of maleic anhydride with dianiline ethane.
 - b. Dehydration of the prepared (Z)-3-(4-(4-aminobenzyl)phenylcarbamoyl)acrylic acid producing 1-(4-(4-aminobenzyl)phenyl)-1H-pyrrole-2,5-dione scheme (1-2)



Scheme (1-1)

amed after Hugo Schiff⁽¹⁾ since their

synthesis was first reported by Schiff, they have the following general structure.

-1-Instrument and chemicals

2-1-1-Instruments

1- melting points were determined on (Stuart) capillary melting point apparatus.

2- FT-IR spectra were recorded using KBr discs on SHIMADZU FT-IR-8400 Fourier Transform Infrared Spectrophotometer, in college of education , Al-Qadesiya University and on SHIMADZU FT-IR- PRESTIGE-21 Furrier Transform Infrared Spectrophotometer

2-1-2-Chemicals

Chemicals used in this work were purchased from BDH and Fluka companies and involved the following:

N o.	Chemical compounds
1	Dianiline ethane
2	Phthalic anhydride
3	Malic anhydride
4	Acetone
5	Ethanol
6	Acetic anhydride
7	Acetic acid (glacial)
8	Anhydrous sodium acetate
9	Hexane

