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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

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بعض الوثائق الأصلية تالفة

بالرسالة صفحات لم ترد بالأصل

B1VC·C

SYNTHESIS OF CERTAIN PYRANOQUINOLONES AS POTENTIAL ANTIMICROBIAL AGENTS

Thesis presented by

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(B.Pharm.Sciences)

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(Pharmaceutical Chemistry)

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CONTENTS

ABSTRACT

The discovery of nalidixic acid (NAL) as an antibacterial agent for urinary tract infections in 1960s has opened an ever growing field of antimicrobial agents; namely the 4-quinolones. The present investigation deals with the preparation of pyranoquinolone compounds as analogs of NAL.

The thesis consists of the following parts:

1) Introduction:

In this section a brief literature review of the different methods of preparation and the biological activities of quinolones, benzopyrones and pyranoquinolines is presented with a special emphasis on their antibacterial activities.

2) Aim of the work:

In this part the rationale upon which the newly synthesized compounds were designed is presented.

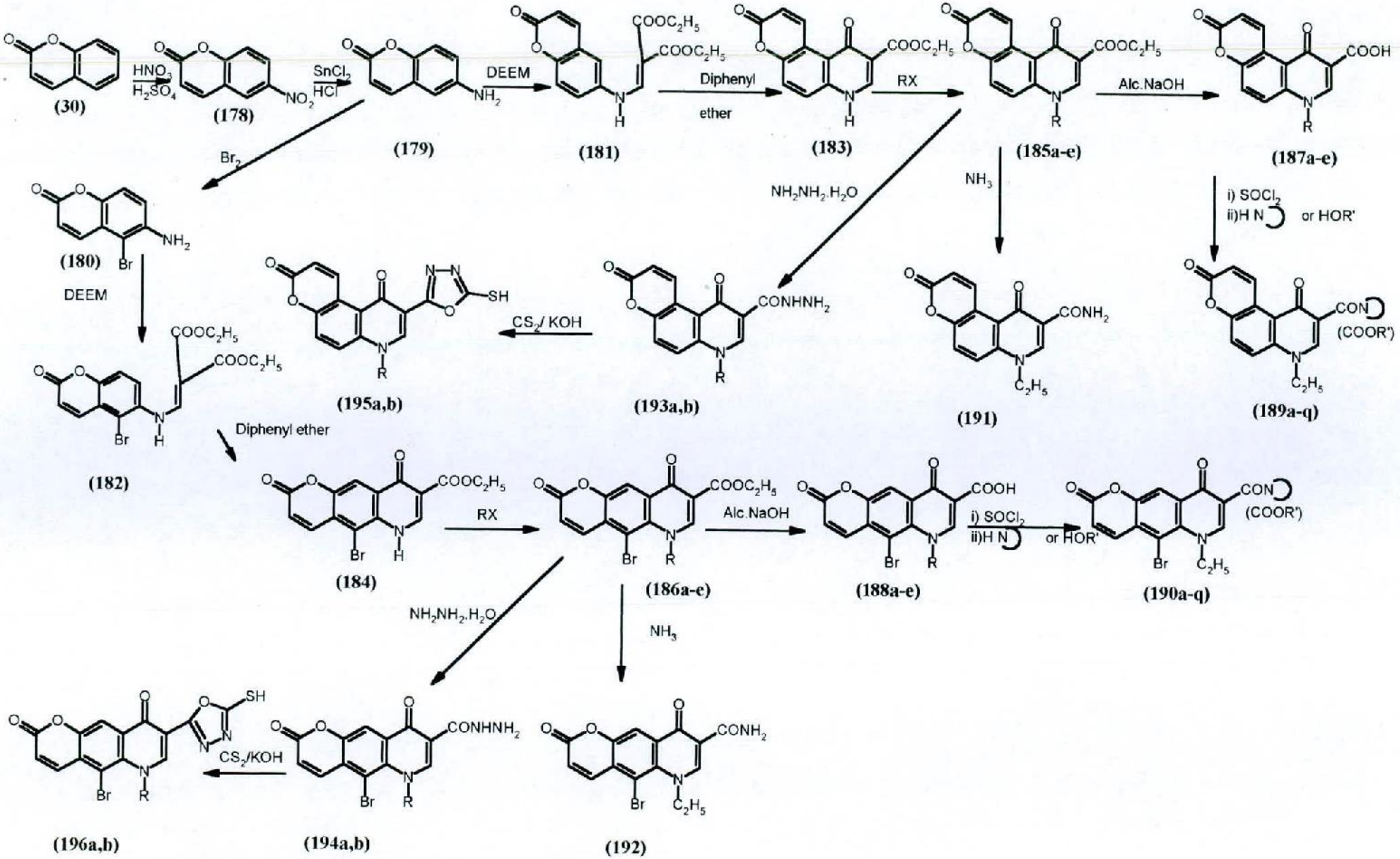
3) Discussion:

It deals with the discussion of the experimental methods adopted for the synthesis of the chosen compounds and the confirmation of their structures by different chemical and spectral analyses. Schemes 1 and 2 illustrate the synthetic pathways followed in the preparation of the target compounds.

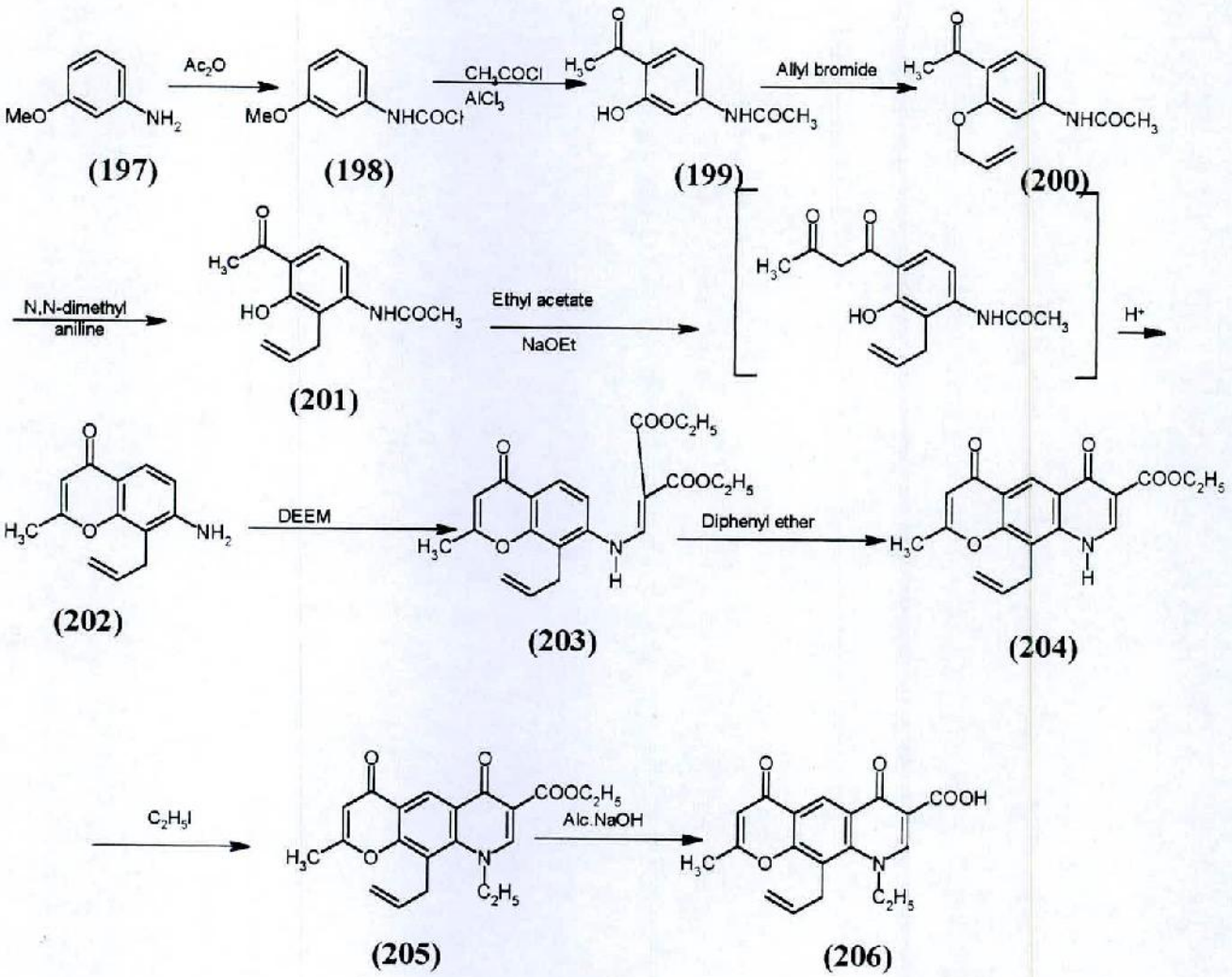
4) Experimental:

In this part, the practical procedures used for the synthesis of seventy-four new compounds and six known intermediates are cited, in addition to their spectral and microanalytical data.

Scheme 1


(30)
HNO3 H2SO4
(178)
SnCl2 HCl
(179)
DEEM
(181)
Diphenyl ether
(183)
RX
(185a-e)
Alc.NaOH
(187a-e)
Br2
(180)
DEEM
(182)
NH2NH2.H2O
(193a,b)
CS2/ KOH
(195a,b)
NH3
(191)
i) SOCl2
ii)H N or HOR'
(189a-q)
Diphenyl ether
(184)
RX
(186a-e)
Alc.NaOH
(188a-e)
i) SOCl2
ii)H N or HOR'
(190a-q)
NH2NH2.H2O
NH3
(196a,b)
CS2/KOH
(194a,b)
(192)

Scheme 2


Ac2O
CH3COCl
AlCl3
Allyl bromide
N,N-dimethyl aniline
Ethyl acetate
NaOEt
H+
DEEM
Diphenyl ether
C2H5I
Alc.NaOH
(197)
(198)
(199)
(200)
(201)
(202)
(203)
(204)
(205)
(206)

The following compounds are prepared:

A) Known intermediates:

- 6-Nitro-2H-1-benzopyran-2-one **178.**
- 6-Amino-2H-1-benzopyran-2-one **179.**
- N-(3-methoxyphenyl)acetamide **198.**
- N-(4-acetyl-3-hydroxyphenyl)acetamide **199.**
- N-[4-acetyl-3-(2-propenyloxy)phenyl]acetamide **200.**
- N-[4-acetyl-3-hydroxy-2-(2-propenyl)phenyl]acetamide **201.**

B) New compounds:

B-1) 6,8-Disubstituted-5,8-dihydro-2,5-dioxo-2H-pyrano [3,2-f]quinolines:

- N-(2-oxo-2H-1-benzopyran-6-yl) aminomethylenemalonic acid diethyl ester **181.**

- Ethyl 5,8-dihydro-2,5-dioxo-2H-pyrano[3,2-f]quinoline-6-carboxylate **183.**

- Ethyl 5,8-dihydro-8-methyl-2,5-dioxo-2H-pyrano[3,2-f] quinoline-6-carboxylate **185a.**

- Ethyl 8-ethyl-5,8-dihydro-2,5-dioxo-2H-pyrano[3,2-f] quinoline-6-carboxylate **185b.**

- Ethyl 5,8-dihydro-2,5-dioxo-8-(2-propenyl)-2H-pyrano [3,2-f] quinoline-6-carboxylate. **185c**

- Ethyl 8-benzyl-5,8-dihydro-2,5-dioxo-2H-pyrano[3,2-f] quinoline-6-carboxylate **185d.**

- Ethyl 8-n-butyl-5,8-dihydro-2,5-dioxo-2H-pyrano[3,2-f] quinoline-6-carboxylate **185e.**

- 5,8-Dihydro-8-methyl-2,5-dioxo-2H-pyrano[3,2-f] quinoline -6-carboxylic acid **187a.**

- 8-Ethyl-5,8-dihydro-2,5-dioxo-2H-pyrano[3,2-f] quinoline-6-carboxylic acid **187b.**

- 5,8-Dihydro-2,5-dioxo-8-(2-propenyl)-2H-pyrano[3,2-f] quinoline -6-carboxylic acid **187c.**

- 8-Benzyl-5,8-dihydro-2,5-dioxo-2H-pyrano[3,2-f] quinoline-6-carboxylic acid **187d.**

- 8-n-Butyl-5,8-dihydro-2,5-dioxo-2H-pyrano[3,2-f] quinoline-6-carboxylic acid **187e.**

- 8-Ethyl-5,8-dihydro-6- (4-morpholinyl)carbonyl-2,5-dioxo-2H-pyrano[3,2-f] quinoline **189a.**

- 8-Ethyl-5,8-dihydro-2,5-dioxo-6-(1-piperidinyl)carbonyl-2H-pyrano[3,2-f] quinoline **189b.**

- 8-Ethyl-5,8-dihydro-6-(2,5-dimethyl-1-piperazinyl)carbonyl - 2,5-dioxo-2H-pyrano[3,2-f] quinoline **189c.**

- 8-Ethyl-5,8-dihydro-2,5-dioxo-6-(4-phenyl-1-piperidinyl) carbonyl-2H-pyrano[3,2-f] quinoline **189d.**

- 8-Ethyl-5,8-dihydro-6-(4-methylphenylamino) carbonyl-2,5-dioxo-2H-pyrano[3,2-f] quinoline **189e.**

- 8-Ethyl-5,8-dihydro-6-[4-(2-pyridyl)-1-piperazinyl] carbonyl-2,5-dioxo-2H-pyrano[3,2-f] quinoline **189f.**

- 8-Ethyl-5,8-dihydro-2,5-dioxo-6-(isopropylamino) carbonyl-2H-pyrano[3,2-f] quinoline **189g.**

- 8-Ethyl-5,8-dihydro-2,5-dioxo-6-(2-phenylhydrazinyl) carbonyl-2H-pyrano[3,2-f] quinoline **189h.**

- 8-Ethyl-6-(diethylamino)carbonyl- 5,8-dihydro-2,5-dioxo-2H-pyrano[3,2-f] quinoline **189i.**

- 8-Ethyl- 5,8-dihydro-2,5-dioxo-6-(1-pyrrolidinyl)carbonyl - 2H-pyrano[3,2-f] quinoline **189j.**

- 8-Ethyl- 5,8-dihydro-2,5-dioxo-6-(4-phenyl-1-piperazinyl) carbonyl-2H-pyrano[3,2-f] quinoline **189k.**

- 8-Ethyl-5,8-dihydro-6-(2,6-dimethyl-1-piperidinyl) carbonyl - 2,5-dioxo-2H-pyrano[3,2-f] quinoline **189l.**