

Accepted Manuscript

Synthesis of novel diazaphosphinanes coumarin derivatives with promoted cytotoxic and anti-tyrosinase activities

Marwa Gardelly, Belsem Trimech, Mohamed Amine Belkacem, Mounira Harbach, Soukaina Abdelwahed, Amor Mosbah, Jalloul Bouajila, Hichem Ben Jannet

PII: S0960-894X(16)30340-7
DOI: <http://dx.doi.org/10.1016/j.bmcl.2016.03.108>
Reference: BMCL 23751

To appear in: *Bioorganic & Medicinal Chemistry Letters*

Received Date: 2 March 2016
Revised Date: 29 March 2016
Accepted Date: 30 March 2016

Please cite this article as: Gardelly, M., Trimech, B., Belkacem, M.A., Harbach, M., Abdelwahed, S., Mosbah, A., Bouajila, J., Jannet, H.B., Synthesis of novel diazaphosphinanes coumarin derivatives with promoted cytotoxic and anti-tyrosinase activities, *Bioorganic & Medicinal Chemistry Letters* (2016), doi: <http://dx.doi.org/10.1016/j.bmcl.2016.03.108>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Synthesis of novel diazaphosphinanes coumarin derivatives with promoted cytotoxic and anti-tyrosinase activities

Marwa Gardelly^a, Belsem Trimech^a, Mohamed Amine Belkacem^{a,b}, Mounira Harbach^c, Soukaina Abdelwahed^d, Amor Mosbah^{c,d}, Jalloul Bouajila^{b,*} and Hichem BenJannet^{a,*}

^aLaboratory of Heterocyclic Chemistry, Natural Products and Reactivity (LR11SE39), Team: Medicinal Chemistry and Natural Products, Faculty of Science of Monastir, University of Monastir, Avenue of Environment, 5019 Monastir Tunisia

^bUniversity of Toulouse, Faculty of pharmacy of Toulouse, Laboratory of Molecular Interactions and Chemical and Photochemical reactivities, UMR CNRS 5623, University Paul-Sabatier, 118 Narbonne road, F-31062 Toulouse, France.

^cLaboratory of Bioresources: Integrative Biology and Valorization, Higher Institute of Biotechnology of Monastir, University of Monastir, Avenue of Tahar Haddad, 5019 Monastir Tunisia

^dLR Biotechnology and Bio-Geo Resources Valorization (LR11ES31) Higher Institute of Biotechnology - University of Manouba. Biotechpole of Sidi Thabet, 2020, Sidi Thabet, Ariana, Tunisia

Corresponding authors. Tel.: +21673500279, Fax: +21673500278,

E-mail address: hich.benjannet@yahoo.fr (H. Ben Jannet)

Tel: +33562256885; Fax: +33562256885;

E-mail address: jalloul.bouajila@univ-tlse3.fr (J. Bouajila)

ABSTRACT

A series of α -aminocarbonitriles **2a-h**, obtained by a condensation reaction of 4-hydroxycoumarin with malononitrile and a series of arylaldehydes, was reacted with Lawesson's reagent to give the diazaphosphinanes **3a-h** and **3a'-h'** as diastereoisomers. All the synthesized compounds were characterized by spectroscopic means such as NMR (¹H, ¹³C, ³¹P) and MS. The synthesized compounds were evaluated for their cytotoxic activity in vitro against two tumor cell lines MCF-7 and HCT-116 and for their anti-tyrosinase effect. The results showed a moderate cytotoxic activity for most compounds and nearly all tested derivatives have been found considerable tyrosinase inhibitors.

Keywords: diazaphosphinanes, coumarin, Lawesson's reagent, cytotoxic activity, anti-tyrosinase activity.

Download English Version:

<https://daneshyari.com/en/article/10590207>

Download Persian Version:

<https://daneshyari.com/article/10590207>

[Daneshyari.com](https://daneshyari.com)