

111 年 09 月 22 日

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事由: 美國發明專利申請案第 16/081,490 號
(美國專利號: 11,434,229 B2)
申請人: 中央研究院; 國立台灣大學
貴院案件編號: 28A-1041219-US
本所案號: 9AS&NTU-A-106006/US/I-SPT
- 頒證報告

童小姐 惠鑒:

您好! 關於本件美國專利申請案, 本所已接獲美國代理人轉來美國專利商標局頒發之專利證書(專利號數: 11,434,229 B2, 公告日: 2022 年 09 月 06 日)正本, 如附件所示, 請 貴院收存。


關於本案發明專利權, 請注意下列事項:

1. 專利權期間: 2022 年 09 月 06 日(公告日)至 2037 年 2 月 28 日。
2. 專利維持費繳納期限: 自公告日起之第 3.5 年、7.5 年及 11.5 年, 其期限分別為:
 - (1) 第 1 次專利維持費繳納期限: 2026 年 3 月 6 日。
 - (2) 第 2 次專利維持費繳納期限: 2030 年 3 月 6 日。
 - (3) 第 3 次專利維持費繳納期限: 2034 年 3 月 6 日。

本所將依美國代理人之通知向 貴院提醒該等維持費繳納期限。

敬請 貴院回傳確認收受本函及附件。 貴院如對以上有任何疑問或指示, 敬請不吝賜詢本所專利工程師蔡雅雯(分機: 851)。

此 順頌
時 祺


蔡雅雯 專利工程師 / 王仁君 專利師

附件: 美國專利第 11,434,229 B2 號證書正本。

By e-mail (不含附件)
Confirmation copy by mail (含附件)



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To Promote the Progress

of Science and Useful Arts

The Director

of the United States Patent and Trademark Office has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this United States

Patent

grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.

Katherine Kelly Vidal

DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

Maintenance Fee Notice

If the application for this patent was filed on or after December 12, 1980, maintenance fees are due three years and six months, seven years and six months, and eleven years and six months after the date of this grant, or within a grace period of six months thereafter upon payment of a surcharge as provided by law. The amount, number and timing of the maintenance fees required may be changed by law or regulation. Unless payment of the applicable maintenance fee is received in the United States Patent and Trademark Office on or before the date the fee is due or within a grace period of six months thereafter, the patent will expire as of the end of such grace period.

Patent Term Notice

If the application for this patent was filed on or after June 8, 1995, the term of this patent begins on the date on which this patent issues and ends twenty years from the filing date of the application or, if the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121, 365(c), or 386(c), twenty years from the filing date of the earliest such application ("the twenty-year term"), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b), and any extension as provided by 35 U.S.C. 154(b) or 156 or any disclaimer under 35 U.S.C. 253.

If this application was filed prior to June 8, 1995, the term of this patent begins on the date on which this patent issues and ends on the later of seventeen years from the date of the grant of this patent or the twenty-year term set forth above for patents resulting from applications filed on or after June 8, 1995, subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b) and any extension as provided by 35 U.S.C. 156 or any disclaimer under 35 U.S.C. 253.



US011434229B2

(12) **United States Patent**
Wong et al.

(10) **Patent No.:** US 11,434,229 B2
(45) **Date of Patent:** Sep. 6, 2022

(54) **4,9-DIOXO-4,9-DIHYDRONAPHTHO[2,3-B]FURAN-3-CARBOXAMIDE DERIVATIVES AND USES THEREOF FOR TREATING PROLIFERATIVE DISEASES AND INFECTIOUS DISEASES**

(71) Applicants: **Academia Sinica, Taipei (TW); National Taiwan University, Taipei (TW)**

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(73) Assignees: **Academia Sinica, Taipei (TW); National Taiwan University, Taipei (TW)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **16/081,490**

(22) PCT Filed: **Feb. 28, 2017**

(86) PCT No.: **PCT/US2017/019964**

§ 371 (c)(1),

(2) Date: **Aug. 31, 2018**

(87) PCT Pub. No.: **WO2017/151625**

PCT Pub. Date: **Sep. 8, 2017**

(65) **Prior Publication Data**

US 2020/0095233 A1 Mar. 26, 2020

Related U.S. Application Data

(60) Provisional application No. 62/301,717, filed on Mar. 1, 2016.

(51) **Int. Cl.**
C07D 405/12 (2006.01)
C07D 307/92 (2006.01)

(Continued)

(52) **U.S. Cl.**
CPC *C07D 405/12* (2013.01); *C07D 307/92* (2013.01); *C07D 403/12* (2013.01); *C07D 413/12* (2013.01)

(58) **Field of Classification Search**
CPC ... *C07D 413/12*; *C07D 405/12*; *C07D 403/12*
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,663,197 A 9/1997 Ueda et al.
8,877,803 B2* 11/2014 Jiang A61P 43/00
514/468

FOREIGN PATENT DOCUMENTS

CN 1086815 A 5/1994
CN 101854937 A 10/2010
(Continued)

OTHER PUBLICATIONS

Vukomanovic et al. (Medical Gas Research 2014 4:4).*
(Continued)

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(57) **ABSTRACT**

The present disclosure provides compounds of Formulas (I), (II), and pharmaceutically acceptable salts thereof. The compounds described herein are useful in treating proliferative diseases, for example, cancer (e.g., lung cancer), and infectious diseases (e.g., bacterial infections).

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