

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 January 2011 (27.01.2011)

(10) International Publication Number
WO 2011/011415 A3

PCT

(51) International Patent Classification:

A01N 37/18 (2006.01) A01N 37/02 (2006.01)
A01N 41/02 (2006.01) A01N 55/08 (2006.01)
A01N 57/10 (2006.01)

(21) International Application Number:

PCT/US2010/042607

(22) International Filing Date:

20 July 2010 (20.07.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/227,412 21 July 2009 (21.07.2009) US

(71) Applicant (for all designated States except US): **MAR-
RONE BIO INNOVATIONS, INC.** [US/US]; 2121 Sec-
ond Street, Suite B-107, Davis, CA 95618 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HUANG,
Huazhang** [CN/US]; 520 Alvarado Ave, Apt. 206, Davis,
CA 95616 (US). **ASOLKAR, Ratnakar** [IN/US]; 4005
Cowell Blvd., Apt.801, Davis, CA 95618 (US).

(74) Agent: **AGRIS, Cheryl, H.**; PO Box 8495, Pelham, NY
10803 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,

HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD,
SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,
ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,
LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK,
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted
a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of
the earlier application (Rule 4.17(iii))

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

28 April 2011

(54) Title: USE OF SARMENTINE AND ITS ANALOGS FOR CONTROLLING PLANT PESTS

(57) Abstract: Methods and compositions for modulating phytopathogenic infection in a plant comprise applying to the plant and/or seeds thereof and/or substrate used for growing said plant an amount of a sarmentine and/or a sarmentine analog having substantially the same activity as sarmentine effective to modulate said phytopathogenic infection via virus, fungi, bacteria, nematode and insect.



WO 2011/011415 A3

A. CLASSIFICATION OF SUBJECT MATTER*A01N 37/18(2006.01)i, A01N 41/02(2006.01)i, A01N 57/10(2006.01)i, A01N 37/02(2006.01)i, A01N 55/08(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A01N 37/18; A23L 1/226; A61K 47/16; A23L 1/236; A23L 1/22; A61K 31/16

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: phytopathogenic, infection, plant, sarmentine, activity, weed

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	SIDDIQUI et al., Chem.Pharm.Bull., 52(11), 1349-1352 (2004). See the whole document	1-8, 13, 14
X	----- See the abstract and page 1349	15-17
A	US 2008-0317923 A1 (LEY JAKOB et al.) 25 December 2008 See the whole document	1-8, 13-17
A	US 2009-0124701 A1 (LANGER KATHRIN et al.) 14 May 2009 See the whole document	1-8, 13-17
A	US 2008-0242740 A1 (LEY JAKOB et al.) 02 October 2008 See the whole document	1-8, 13-17



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

22 FEBRUARY 2011 (22.02.2011)

Date of mailing of the international search report

23 FEBRUARY 2011 (23.02.2011)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-
gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

So, Jae Hyun

Telephone No. 82-42-481-8397



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2010/042607**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 10
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

Claim 10 is vague and uncertain since it refers claim 9, which does not comply with the second and third sentence of PCT Rule 6.4(a).
3. ☒ Claims Nos.: 9, 11 and 12
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/042607Patent document
cited in search reportPublication
datePatent family
member(s)Publication
date

US 2008-0317923 A1

25.12.2008

None

US 2009-0124701 A1

14.05.2009

None

US 2008-0242740 A1

02.10.2008

EP 1977655 A1

08.10.2008