Revista Boliviana de Química

Rev. Bol. Quim. ISSN 0250-5460
Rev. boliv. quim. ISSN 2078-3949

Bolivian Journal of Chemistry
Vol. 34, No. 5, 2017

Abstracts

REVISTA BOLIVIANA DE QUÍMICA
ISSN 0250-5460 Rev. Bol. Quim. *Paper edition*
ISSN 2078-3949 Rev. boliv. quim. *Electronic edition*
Sánchez et al. RBQ Vol. 34, No.5, pp. 132-137, 2017

REVIEW OF THE CHARACTERIZATION OF *AEROMONAS* SPP. AND ITS CLINICAL IMPORTANCE

REVISIÓN DE LA CARACTERIZACIÓN DE *AEROMONAS* SPP. Y SU IMPORTANCIA CLÍNICA

Received 10 19 2017
Accepted 11 28 2017
Published 12 30 2017

Vol. 34, No.5, pp. 132-137, Nov./Dic. 2017
34(5), 132-137, Nov./Dec. 2017
Bolivian Journal of Chemistry

Short review *Peer-reviewed*

Alejandro Sánchez Varela*, Isabel C. Rodríguez Luna y Xian Wu Guo

Laboratorio de Biotecnología Genómica, Centro de Biotecnología Genómica, Instituto Politécnico Nacional, Boulevard del Maestro, con Elías Piña, Col. Narciso Mendoza, s/n, CP. 88710, Reynosa Tamaulipas, México

Keywords: *Aeromonas, Methods, Molecular, Gene, Specificity.*

ABSTRACT

Advances in Microbiology and applications of Molecular Biology, has been achieved an improvement, complementary to the classical techniques of bacterial identification, this also allowed the discovery or regrouping of bacterial genera and species, which had failed to be identified correctly, by biochemical and phenotypic methods, since these have some limitations such as false positives or low specificity. Among the molecular tools used to identify the *Aeromonas* genus, we have used sequencing from *16S* rRNA gene, maintenance genes such as *rpoD* or *gyrB*, which have a greater discrimination power than the *16S* rRNA gene, the technique of RFLP-PCR and more recently the technique of Mass Spectrometry has been increased by Laser Assisted Matrix Desorption-Ionization of Flight Time (MALDI-TOF MS) which is able to identify species of *Aeromonas* quickly and accurately. This is important because of the increasing evidence that these species are widely distributed in the environment and can cause a variety of infections in animals and humans.

*Corresponding author: asanchezv@ipn.mx

REVISTA BOLIVIANA DE QUÍMICA
ISSN 0250-5460 Rev. Bol. Quim. *Paper edition*
ISSN 2078-3949 Rev. boliv. quim. *Electronic edition*
Sánchez et Rodríguez RBQ Vol. 34, No.5, pp. 138-141, 2017

MORTALITY OF LARVAE OF *SPODOPTERA FRUGIPERDA* BY EFFECT OF FRUIT EXTRACTS OF *MORINDA CITRIFOLIA L.* (NONI)

MORTALIDAD DE LARVAS DE *SPODOPTERA FRUGIPERDA* POR EFECTO DE EXTRACTOS DE FRUTO DE *MORINDA CITRIFOLIA L.* (NONI)

Received 10 31 2017
Accepted 12 28 2017
Published 12 30 2017

Vol. 34, No.5, pp. 138-141, Nov./Dic. 2017
34(5), 138-141, Nov./Dec. 2017
Bolivian Journal of Chemistry

Short report *Peer-reviewed*

Alejandro Sánchez Varela*, Isabel C. Rodríguez Luna

Laboratorio de Biotecnología Genómica, Centro de Biotecnología Genómica, Instituto Politécnico Nacional, Boulevard del Maestro, con Elías Piña, Col. Narciso Mendoza, s/n, CP. 88710, Reynosa Tamaulipas, México

Keywords: *Spodoptera frugiperda, Larvae, Morinda citrifolia, Noni, Mortality.*

ABSTRACT

The fruit of noni (*Morinda citrifolia* L.) has an oval shape, it shows a green to white color, and, it becomes yellowish, with a bittersweet or bitter taste, and an unpleasant smell when ripe. *Morinda citrifolia* is a plant with many applications, some of them little explored, as for instance, its insecticidal property. This plant contains diverse active principles that include among others: xeronine, damnacanthal, scopoletin and some terpenes. The widespread use of synthetic pesticides has led to the apparition of chemo-resistance in certain insect populations, with its consequent environmental impact. Such impact is particularly remarkable in the natural enemies of insect pests, as well as on groundwater, in soils and in the air. We have worked in the quest of prospective biological formulations based on natural products from plants and fruits for pest management. Some biological control strategies have been used in Mexico, including the use of extracts from plants manifesting toxic effects on pests. The objective of this study is the obtention of extracts of the fruit of noni (*Morinda citrifolia* L.) and its subsequent toxic evaluation on *Spodoptera frugiperda* larvae.

*Corresponding author: asanchezv@ipn.mx

REVISTA BOLIVIANA DE QUÍMICA
ISSN 0250-5460 Rev. Bol. Quim. *Paper edition*
ISSN 2078-3949 Rev. boliv. quim. *Electronic edition*
Bravo et Vila RBQ Vol. 34, No.5, pp. 142-149, 2017

MECHANISTIC THEORETICAL PROPOSALS FOR: ALKENES BY CLAISEN REARRANGEMENT OF a-ALLYLTHIO CARBENES; AZA-COPE REARRANGEMENT OF 4-BUTENYLIMINIUM IONS; 2-SUBSTITUTED PYRROLIDINE DERIVATIVES; SYNTHESIS OF PERHYDROGEPHYROTOXIN, KEY STEP; PART V; THE ORGANIC CHEMISTRY NOTEBOOK, Nº 13

PROPUESTAS MECANICISTAS TEÓRICAS PARA ALQUENOS POR REORDENAMIENTO DE CLAISEN DE CARBENOS a-ALILTIO; REORDENAMIENTO AZA-COPE DE IONES 4-BUTENILIMINIO; DERIVADOS PIRROLIDÍNICOS SUBSTITUIDOS EN 2; SÍNTESIS DE PERHIDROGEPIROTOXINA, PASO CLAVE; PARTE V; EL CUADERNO DE QUIMICA ORGANICA, Nº 13

Received 12 01 2017
Accepted 12 28 2017
Published 12 30 2017

Vol. 34, No.5, pp. 142-149, Nov./Dic. 2017
34(5), 142-149, Nov./Dec. 2017
Bolivian Journal of Chemistry

Short review *Peer-reviewed*

José A. Bravo[1,*], José L. Vila[2]

[1]Natural Product Laboratory, Phytochemistry, Chemical Sciences Department, School of Pure and Natural Sciences FCPN, Universidad Mayor de San Andres UMSA, P.O. Box 303, Calle Andrés Bello s/n, Ciudad Universitaria Cota Cota, phone +59122792238, La Paz, Bolivia, jabravo@umsa.bo, www.umsa.bo

[2]Natural Product Laboratory, Green Chemistry, Chemical Sciences Department, School of Pure and Natural Sciences FCPN, Universidad Mayor de San Andres UMSA, P.O. Box 303, Calle Andrés Bello s/n, Ciudad Universitaria Cota Cota, phone +59122772269, La Paz, Bolivia, jlvila@umsa.bo, www.umsa.bo

Keywords: *Organic Chemistry, Alkenes, **a**-Allylthio carbenes, 4-butenyliminium ions, 2-Substituted pyrrolidine derivatives, Perhydrogephyrotoxin, Claisen rearrangement, Aza-Cope rearrangement, Mechanisms of Reactions, W. Carruthers.*

ABSTRACT

This is the thirteenth theoretical assay in the series: "The Organic Chemistry Notebook Series, a Didactical Approach".

The aim of this series of studies is to help students to have a graphical view of organic synthesis reactions of diverse nature. We have taken a series of reactions compiled by W. Carruthers in 'Some modern methods of organic synthesis', and we have proposed didactical and mechanistic views for them. This theme is included in the chapter "Formation of carbon-carbon double bonds" in the mentioned text.

γ-sulphured alkenes can be obtained by Claisen rearrangement of α-allylthio carbenes. A theoretical reaction pathway is proposed here. A short mechanism is proposed for the aza-Cope rearrangement from 4-butenyliminium ions. From this, 2-substituted pyrrolidine derivatives are explained in their reaction step by step under a theoretical approach. With hydroxyl and amino groups as substituents, bicyclic pyrrolidine derivatives are reached. The synthesis of perhydrogephyrotoxin, a natural product, is explained mechanistically here by the using of the preceding reactions.

*Corresponding author: jabravo@umsa.bo