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Abstracts

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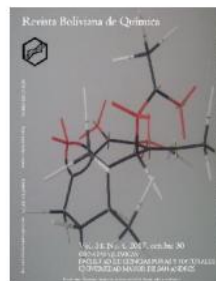


**ASSESSMENT OF THE QUALITY OF
PHYSICOCHEMICAL AND
BACTERIOLOGICAL PARAMETERS
OF WATER SPRINGS
OF LA PAZ CITY, BOLIVIA**

**EVALUACIÓN DE LA
CALIDAD DE LOS PARÁMETROS
FISICOQUÍMICOS Y
BACTERIOLÓGICOS
DE LAS AGUAS RESIDUALES
DE LA CIUDAD DE LA PAZ, BOLIVIA**

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Keywords: *Physicochemical, Bacteriological, Assessment, Water springs, La Paz Bolivia.*

ABSTRACT

During the emergency caused by the shortage of drinking water for the city of La Paz in November 2016, the local government has used spring water to distribute drinking water to affected areas. The present study has evaluated the physicochemical and bacteriological quality of these water sources and has found that all samples of the studied springs are contaminated by total coliforms with concentrations up to 2400 CFU/ml; it has also been found that 62.5% of the studied springs have high nitrate concentrations up to 105 mg/L. It is then advisable to carry out previously a water treatment for potabilization prior to distribution as drinking water. On the other hand, the hydrochemical characterization has shown that the main water types correspond to Na-Ca-Mg-SO₄-HCO₃ and Ca-Mg-Na-NO₃-SO₄-Cl facies; this characteristic of the water has a probable origin in the mineralization and/or dissolution of trona type minerals [Na₃(HCO₃)(CO₃)·2H₂O], calcite [CaCO₃] and/or thenardite [NaSO₄] and anthropogenic contamination with nitrate.

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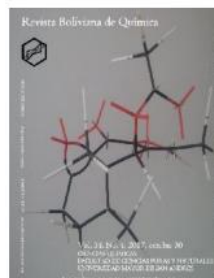


**EVALUATION OF FLAVONOID
CONTENTS AND ANTIBACTERIAL
ACTIVITY OF FIVE BOLIVIAN
BACCHARIS SPECIES**

**EVALUACIÓN DEL CONTENIDO DE
FLAVONOIDES Y LA ACTIVIDAD
ANTIBACTERIANA DE CINCO
ESPECIES DE BACCHARIS DE
BOLIVIA**

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Keywords: *Flavonoids, antibacterial activity, Baccharis latifolia, Baccharis papillosa, Baccharis boliviensis, Baccharis tola, Baccharis pentlandii.*

ABSTRACT

Five Bolivian *Baccharis* species (*Baccharis latifolia*, *B. papillosa*, *B. tola*, *B. pentlandii* and *B. boliviensis*) used in the folk medicine were analyzed by UV/Vis spectroscopy and HPLC to evaluate the flavonoid contents. First, using aluminium chloride colorimetric method, the total flavonoids (TF) contents respect of Luteolin was determined, showing that *B. latifolia* (8,03 mg TF eq Lu/g of leaves) presents the major quantity of total flavonoids in their leaves. Furthermore, our studies indicate that the method used for extraction gives extracts with high concentration of flavonoids between 53.06 and 85.86 mg TF eq Lu/g of EE (Ethanol Extract) and that this concentration is increased in the last Sephadex LH-20 fractions, giving contents between 260,43 and 397,12 mg TF eq Lu/g of EFS (Enriched Fraction by Sephadex). On the other hand, the HPLC profiles of those extracts showed that the *B. latifolia* extract is the most complex; while the simplest is the *B. pentlandii* extract. Finally, the antibacterial activity was evaluated by agar well diffusion method, against nine bacteria ATCC and one bacterium clinical isolate, determining that all the EE have activity against *Staphylococcus aureus* (ATCC 25923 sensible) and *S. aureus* (ATCC 29213 resistant), but the major activity was observed in *B. tola* EFS (65,2 % of inhibition against *S. aureus* ATCC 25923 sensible).

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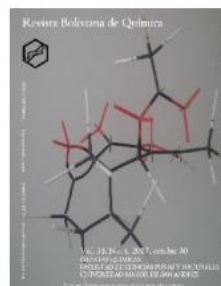


NMR MESTRENOVA, SHORT MANUAL FOR BEGINNERS

NMR MESTRENOVA, PEQUEÑO MANUAL PARA DEBUTANTES

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Short manual, review

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Keywords: NMR, MestReNova, Short manual, COSY, HMBC, HSQC, DEPT.

ABSTRACT

This short review presents in a very compact manner the few steps to manipulate 1D and consequently 2D NMR spectra generated in the MestReNova® system. The manual explains how easily we can transform spectral data into different expositive manners. In this sense, we started showing the way to put together ¹³C and DEPT spectra in the same page with peaks aligned. The way to write, erase or edit the name of spectra is also explained. The way to manipulate ¹H NMR spectra is exposed. The treatment and development of most common use 2D spectra is detailed; this includes COSY/NOESY spectra as well as HSQC/HMBC spectra.

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