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Abstracts





PRIMARY METABOLITES IN FOUR ACCESSIONS OF *CHENOPODIUM QUINOA* WILLD IN THREE DISTRICTS OF AYACUCHO- PERU

METABOLITOS PRIMARIOS EN CUATRO ACESIONES DE *CHENOPODIUM QUINOA* WILLD EN TRES DISTRITOS DE AYACUCHO- PERÚ

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Full original article

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Keywords: *Chenopodium quinoa*, Chemical composition, Food safety.

Palabras clave: *Chenopodium quinoa*, Composición química, Seguridad alimentaria.

ABSTRACT

In this work the content of primary metabolites of four accessions of *Chenopodium quinoa* Willd (called as White, Yellow, Red and Black) of three districts of the province of Huamanga: Tambillo, Acocro and Chiara was investigated. The methodology according to AOAC was: proteins by Kjeldahl, carbohydrates by difference, fats by Soxhlet and fibers by acid-alkaline hydrolysis. The values obtained showed for carbohydrates (62.46 and 68.8%), for fats (5.03 and 6.27%) and for proteins (11.66 and 15.17%). Higher protein and fat content was obtained in the White accession, and in the Black accession the carbohydrate content was higher; the results obtained in the proximal analysis are within the parameters established by the FAO. The contribution lies in the knowledge of the quality of the quinoa, sowing in different altitudinal floors, finding out which of the accessions is more important economically. The certification of origin of the plants shows its genetic potential, which is transferred to another place; however, genetically it is different and therefore its nutritional quality does not equal its place of origin.

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STUDY OF THE LIQUID EFFLUENTS OF CYANIDE COMPLEXES FOR INDUSTRIAL REUSE USING THE JARS METHOD

ESTUDIO DE LOS EFLUENTES LIQUIDOS DE COMPLEJOS CIANURADOS PARA LA REUTILIZACION INDUSTRIAL MEDIANTE EL METODO DE JARRAS



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Keywords: Cyanide, Ferric salts, Hydrogen peroxide.

Palabras clave: Cianuro, Sales férricas, Peróxido de hidrogeno.

ABSTRACT

The present research work is of the analytical and experimental type for the destruction of effluent cyanides from the mining sector in La Libertad, Peru. The trials were monitored daily for a week. The characterization of the metallurgical effluent in terms of the cyanide content was 800 ppm. The solution treatment process was adapted to eliminate the cyanide complexes, as well as the process of the tailings solutions applying the "Jars Method". Said method makes use of hydrogen peroxide, ferric salts and the addition of an inorganic polymer (Flocculant).

With the use of this technology it was possible to precipitate the cyanide complexes, then the filtered solution obtained was recirculated in countercurrent carbon columns to eliminate heavy metals present in the treated samples; the treated effluents can be reused at an industrial level with a low pollution profile and friendly environment.

The 2^K experimental design was used to corroborate the study with 11 metallurgical tests were carried out using the Pitcher Method. The method allows to adapt the water treatment at the industrial level; allowing to evaluate at scale and quickly the action that exerts on the stage of clarification, considering as variables the speed of agitation and quantities of reagents dosed in the process.

The solutions of effluents treated by the jars method, showed 0.8 ppm in content of cyanide complexes, acceptable rate for industrial recirculation.

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CRITICAL REVIEWS ON STABILITY AND PHOTSENSITIZER POTENTIAL OF METAL FERROCYANIDES: A POSSIBLE PREBIOTIC MINERAL PART-III

REVISIONES CRÍTICAS DE ESTABILIDAD Y DE POTENCIAL DE FOTOSENSIBILIZADOR DE FERROCIANUROS METÁLICOS: UN POSIBLE MINERAL PREBIÓTICO PARTE III

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Keywords: Metal ferrocyanides, Stability, Oxidizer, Photosensitizer, Prebiotic mineral.

Palabras clave: Ferrocianuros metálicos, Estabilidad, Oxidante, Fotosensibilizador, Prebiótico mineral.

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ABSTRACT

Copper, lanthanum, mercury, molybdenum, silver, titanium, and zinc ferrocyanides were synthesized and characterized by elemental analysis and spectral studies. The stability of synthesized metal ferrocyanides were recorded in heat (various temperature), various concentrations of acids (HCl, H₂SO₄, HNO₃, CH₃ COOH) various concentrations of bases (NaOH, KOH, NH₄OH), and in sea and tap water. All stabilities were recorded at room and boiling temperature. Stability of synthesized metal ferrocyanides were also recorded in presence of visible and ultraviolet radiation. Oxidizing and photosensitizing potential of synthesized metal ferrocyanides were tested using potassium iodide and freshly prepared starch solution indicated copper ferrocyanide as possible strong oxidizer and photosensitizer. Molybdenum, mercury and tungsten ferrocyanides were found to act as weak oxidizer and photosensitizer. Lanthanum and zinc ferrocyanide did not show any oxidizing and photosensitizing potential.

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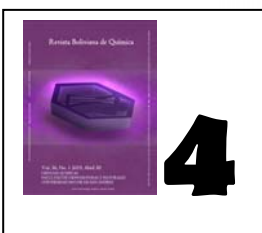
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THEOBROMINE, CATECHIN, TOTAL ANTIOXIDANT CAPACITY AND TOTAL PHENOLIC CONTENT IN REPRESENTATIVE SAMPLES OF BOLIVIAN AMAZONIAN CACAO AND ITS COMPARISON BEFORE AND AFTER THE FERMENTATION PROCESS

DETERMINACIÓN DE TEOBROMINA, CATEQUINA, CAPACIDAD ANTIOXIDANTE TOTAL Y CONTENIDO FENÓLICO TOTAL EN MUESTRAS REPRESENTATIVAS DE CACAO AMAZÓNICO BOLIVIANO Y SU COMPARACIÓN ANTES Y DESPUÉS DEL PROCESO DE FERMENTACIÓN

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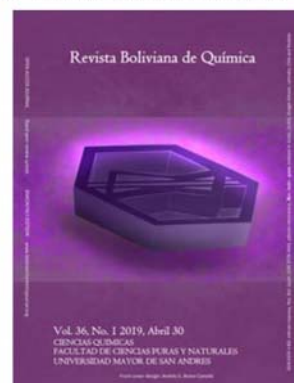
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Keywords: Theobromine, Amazonian cacao, FRAP, ABTS, TAC, TPH, PCA.

Palabras clave: Teobromina, Cacao amazónico, FRAP, ABTS, TAC, TPH, PCA.

ABSTRACT

The Bolivian Amazonian Cocoa (*Theobroma cacao*) it's a species that grows naturally in the forests, is characterized by its unique flavor, therefore, during three consecutive years it has been recognized and selected among the best cocoas in the world in the international "Salon du Chocolat" Paris France. These characteristics are directly related to the content of chemical compounds such as polyphenols and methylxanthines.

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DETERMINATION OF THE TEMPERATURE, pH AND CONCENTRATION PARAMETERS FOR α -AMILASA Mg A NEW ENZYME

DETERMINACIÓN DE LOS PARAMETROS TEMPERATURA, pH Y CONCENTRACIÓN PARA LA NUEVA ENZIMA α -AMILASA Mg

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Keywords: Co-factor, Magnesium, Characterization, α - Amilase.

Palabras clave: Cofactor, Magnesio, caracterización, α - Amilasa.

ABSTRACT

Physicochemical parameters as pH, concentration and temperature for alpha amylases reactions in different applications determine the efficiency of the enzymatic reaction. Present study shows the relationship between the physicochemical parameters and it is demonstrated that pH is a determining parameter for the maximum efficiency of the enzyme. The optimal values of these parameters are also determined for the enzymatic reaction at pH 5 and T = 50 ° C for a concentration of 5.6 U / mL of the enzyme, α -amylase Mg, modified according to the patent 002-2017.

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