

الآية

قال تعالى:

((وَفِي الْأَرْضِ آيَاتٌ لِّلطَّٰوِقِينَ))

صدق الله العظيم

سورة الذاريات الآية (20)

Dedication

TO our families, specially our parents who gave us love, hope, and wished us to success

TO our teacher, who supported and supervised our project.

To our friends, who gave us happiness?

TO our colleagues, who stood beside us to the end?

Acknowledgement

Great thanks for compassionate God, Allah for his immortal grace, and for her easiness that parental care of our merciful supervisor Ms. Maali Saad Leeward Mokhtar, who spent hard effort in education, vital assistance and advice.

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Abstract

This study was aimed to characterize physical and chemical properties and anti-bacterial activity of Jourdiqua. Three samples were collected from three different locations (Atbara, Shandi, an Aljazeera) noted as (1, 2, 3) respectively.

The physical properties were conducted with pH meter and conductivity meter, while the chemical properties were studied by the aid of flame photometer, and XRF. The anti-bacterial activity was checked against staphylococcus which is the organism of tonsillitis. The observed result from the pH and conductivity measurements shows that Jourdiqua solution is basic (10.23, 10.18, 9.35) for sample 1, 2 and 3 respectively and has a high conductivity value (3.37ms, 3.20ms, 3.01ms) for sample 1, 2 and 3 respectively. The XRF analysis shows that it contains many essential elements e. g.: K, Ca, Fe, and Cu; but there were some heavy metal were present in significant concentrations e. g.: Pb, Ti, and Zr. Regarding all elements detected by XRF sample 3 was found to contain the highest concentration of each, while the other two sample almost contain the same concentration. The flame photometer results for Sodium and Potassium concentration were very high and not acceptable due to many factors.

Anti-bacterial activity study shows that samples 1&2 exhibits anti-bacterial activity when it applied as a paste (saturated solution) where low concentrations (5%, 10%, 20%) exhibits no or low anti-bacterial activity. Sample 3 shows no anti-bacterial activity for all concentrations.

ملخص البحث

الهدف من هذا البحث هو دراسة الخواص الفيزيائية والكيميائية والفعالية ضد النشاط البكتيري للجردقة . تم جمع ثلاث عينات من مناطق مختلفة (عطبرة ،شندي ،الجزيرة) رمز لها ب(3,2,1) علي التوالي .

تم دراسة الخواص الفيزيائية بواسطة جهاز قياس الاس الهيدروجيني وجهاز التوصيلية وتم دراسة الخواص الكيميائية بتقنيتي (XRF) X-ray fluorescence و Flame photometer . كما تم دراسة فعاليتها ضد البكتريا المسببة لالتهاب اللوزتين.

دلت نتائج قياس الاس الهيدروجيني على ان محلولها قاعدي(9.35,10.18,10.23) للعينة 1,2 و3 علي التوالي وان لها توصيلية عالية (3.01ms,3.20ms,3.37ms) للعينة 1,2 و3 علي التوالي.

دلت نتائج ال XRF على إحتوائها على عناصر مهمة وضرورية للجسم مثل البوتاسيوم والحديد والكالسيوم بجانب عناصر ثقيلة وخطرة مثل الرصاص والتيتانيوم والزركونيوم. عند التحليل بجهاز الإنبعاث الذري اللهي لتحديد تركيز كل من الصوديوم والبوتاسيوم وجد ان الصوديوم والبوتاسيوم يتواجدان بتراكيز عالية جدا وغير مقبولة يمكن ان تعزى الى تلوث المواد المستخدمة لتحضير المحاليل لعملية التحليل.

عند دراسة النشاط البكتيري للجردقة اتضح ان العينات 1,2 لها فعالية ضد البكتريا عند استخدام محاليلها المشبعة اما التراكيز المنخفضة 5% و10% و20% لم تعطي نتائج واضحة، اما العينة 3 فلم تعطي نتيجة في كل التراكيز.

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