

Dedication

To those who set me on the path of life, made me calm, and
took care of me until I became old ,,.,.,,

My Mother

To

My father

To mother's lap is same cracks ,,.,.,,

My brothers

I dedicate this research to you

Acknowledgments

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Abstract

In this study, magnesium oxide nanoparticles were prepared using two methods:

- The sol-gel method with spontaneous combustion and employing green chemistry, which is a less expensive and environmentally friendly method using lemon juice extract.

The second method is the liquid phase method, and in this method aqueous magnesium nitrate and sodium hydroxide are used as raw materials.

In this work all final products has undergone of infrared (IR) analysis, scanning electron microscope (SEM), X-ray energy dispersion (EDX), ultraviolet (UV) device were diagnosed, and Pure nano-magnesium oxide powder was obtained, and this was confirmed by the tests conducted, and the results of a scanning electron microscope showed that the particle size ranges between (70 - 85 nm)

المستخلص

في هذه الدراسة تم تحضير أكسيد المغنيسيوم النانوي باستخدام طريقتين هما:

-طريقة السول – جل ذات الاحتراق التلقائي وتوظيف الكيمياء الخضراء وهي طريقة أقل تكلفة وصديقة للبيئة وذلك باستخدام مستخلص عصير الليمون.

- الطريقة الثانية هي طريقة liquid phase وفي هذه الطريقة تستخدم نترات المغنيسيوم المائية وهيدروكسيد الصوديوم كمواد أولية.

في هذا العمل شخّصت جميع النواتج النهائية لتحليل الأشعة تحت الحمراء (IR)، والمجهر الإلكتروني الماسح (SEM) والأشعة السينية لتشتت الطاقة (EDX)، وجهاز الأشعة فوق البنفسجية (UV)، وتم الحصول على مسحوق أكسيد المغنيسيوم النانوي النقي ، وهذا ما أكدته الفحوصات التي أجريت ، وأظهرت نتائج المجهر الإلكتروني الماسح أن حجم الجسيمات يتراوح بين (70 – 85 نانومتر)

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