



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



MONA MAGHRABY



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكرو فيلم



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكرو فيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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Department of Chemistry

"Production and Characterization of Nanomaterials based on alkaline-earth stannate for different potential Applications"

A Thesis submitted

By

Zynab Abd ELhamed Abd Elraoof Goubish

B.Sc.Ed.2005; MSc. 2011

In partial fulfillment for

**Requirements of Doctor of philosophy Degree for Teacher's Preparation in
Science**

(Inorganic Chemistry)

Under the Supervisors

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Cairo, A.R. Egypt

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Abbreviation

CTAB	Cetyl Trimethyl Ammonium Bromide
FT-IR	Fourier transform infrared spectroscopy
Ln^{3+}	Lanthanide ions
PL	Photoluminescence
Eu^{3+}	Europium
SrSnO_3	Strontium stannetes
SEM	Scanning Electron Microscope
TEM	Transition Electron Microscope
APTS	3 Aminopropyltriethylsilane
CaSn(OH)_6	Calcium hydroxy stannate
K _{sv}	The Stern–Volmer quenching constant
CT	Charge transfer
Vis.	Visible

AIM OF THE WORK

Alkaline earth stannate and Alkaline hydroxy stannate with a perovskite structure have long been of theoretical and practical interest due to its attractive luminescence and photocatalytic properties. This nanomaterial was prepared with doping Europium ion exhibit unique properties including lower chemical toxicity, lack of radioactive elements, greater thermal and chemical stability, owing to these advantages, nano-phosphor based on Europium doped metal-stannate and metal-hydroxy stannate have a new high photoluminescent properties for different applications such as heavy metal sensor and latent finger print. Also silver nanoparticle coated metal –stannate are used as precursor material and development for water treatment such as degradation methylene blue and reduction nitrophenol.

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