

شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو

بسم الله الرحمن الرحيم





MONA MAGHRABY



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جامعة عين شمس التوثيق الإلكتروني والميكروفيلم قسم

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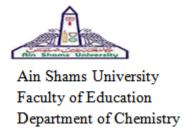


يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



MONA MAGHRABY



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

A Thesis submitted

 $\mathbf{B}\mathbf{v}$

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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

Ln³⁺ Lanthanide ions

PL Photoluminescence

Eu³⁺ Europium

SrSnO₃ Strontium stannetes

SEM Scanning Electron Microscope

TEM Transition Electron Microscope

APTS 3 Aminopropyltriethylsilane

CaSn(OH)₆ Calcium hydroxy stannate

Ksv 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 photocatalytics. This nanomaterial was preparaed with doping Europium ion exhibit unique properties including lower chemical toxicity, lack of radioactive elements, greater thermal and chemical stability, owing to this 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.

CONTENTS

	Acknowledgement	V			
	Abbreviation	VI			
	Aim of the work	VII			
	List of contents	VIII			
	List of table	VIII			
	List of figures	XV			
Chapter I					
General Introduction and literature Survey					
1.1	Nanotechnology	2			
1.2	Lanthanide nanomaterials	3			
1.2.1	General properties	3			
1.2.2	Basics of lanthanide metal ion luminescence	4			
1.2.2.1	Excition source for lanthanide ion	4			
1.2.2.2	Energy transfer mechanism	6			
1.2.2.3	Lanthanides luminescence spectroscopy	6			

1.2.2.4	Types of lanthanide sensitizers (antennas)	8
1.2.2.4.1	Organic antennas	8
1.2.2.4.2	Inorganic antennas	8
1.2.2.4.2.1	Lanthanide doped Alkaline earth stannate (MSnO ₃)	9
1.2.3	Judd-Ofelt and radiative analysis	12
1.2.4	Application lanthanide doped alkaline earth stannates	14
1.2.4.1	Lanthanide based nanomaterial for latent fingerprint detection application	14
1.2.4.1.1	Method of Latent Fingerprint Development	15
1.2.4.1.1.1	Traditional Fingerprint Powders	15
1.2.4.1.1.2	Luminescence Methods for Latent Print Enhancement	15
1.2.4.2	Lanthanide based nanomaterials for heavy metal sensor application	17
1.2.4.2.1	Copper ion sensor	18
1.3	Alkaline earth stannates nanomaterial for wastewater treatment	20
1.3.1	Removal of organic dyes	20
1.3.2	Reduction of nitroaromatics to aminoaromatics:	23

	Chanton II	25	
Chapter II			
	Experimental		
2.1	Reagents and materials	26	
2.2	Preparation methods	26	
2.2.1	Preparation SrSnO ₃	26	
2.2.1.1	Preparation Ag doped SrSnO ₃	27	
2.2.2	Synthesis of CaSn(OH) ₆ and CaSn(OH)6:Eu ³⁺	27	
2.2.3	Preparation of SrSnO ₃ and SrSnO ₃ :Eu ³⁺	28	
2.2.4	Preparation of SrSnO ₃ : Eu ³⁺ @APTS	30	
2.2.5	Sample preparation for metal ion sensing	31	
2.2.6	Sample preparation in food sample	31	
2.3	Fingerprint Development	31	
2.4	Photocatalytic experiment	33	
2.4.1	Photocatalytic reduction of 4-NP	33	
2.4.2	Photocatalytic meniralization of MB	33	
2.5	Characterization Techniques	34	
2.5.1	X-Ray diffraction Analysis	34	
2.5.2	Thermal gravimetric analysis	35	
2. 4. 3.	Zeta Potential (Brookhaven)	36	
	(V)		

2.4.4	Transmission electron microscopy (TEM)	37
2.4.5	Photoluminescence (PL) analysis	38
2.4.6	Fourier Transform-Infrared Spectrometer (FT-IR-4100-JASCO)	39
2.4.7	UV-Visible/diffuse reflectance	40
2.4.8	Scan electron microscopy (SEM)	40
2.4.9	Total Organic Carbon	41
	Chapter III	42
Novel Red Photoluminescence Sensor based on Alkaline Earth stannates doped europium ion CaSn(OH) ₆ :Eu ³⁺ for Latent Fingerprint Detection		
	Abstract	43
3	Results and Discussion	44
3.1	Structure and morphology	44
3.1.1	XRD	44
3.1.2	FT-IR	47
3.1.3	Morphology (TEM, SEM, and EDX)	48
3.2	Optical and Photoluminescence properties:	51
3.2.1	Reflectance	51
3.2.2	Photoluminescence (PL) study	53