

بسم الله الرحمن الرحيم





شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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Fabrication and Characterization of Electrospun Polycaprolactone/Gelatin and Bioactive Glass Bilayer Nano-fibrous Scaffold for Bone Tissue Engineering

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By

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Dedication

I would like to dedicate this work to my family who has always supported me in every decision I have made.

My father, Prof. Dr. Amr Elkhoully, who is my role model and portrait of strength, endurance and kindness.

May his soul rest in peace.

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List of abbreviations

Name	Abbreviation
Bone tissue engineering	BTE
Polycaprolactone	PCL
Extracellular matrix	ECM
Bone morphogenetic proteins	BMPs
Transforming growth factor- β	TGF- β
Fibroblast growth factor	FGF
Insulin-derived growth factor	IGF
Platelet-derived growth factor	PDGF
Glass transition temperature	T _g
Two dimensional	2D
Three dimensional	3D
Dielectric constant	ϵ
Hydroxyapatite	HA
Hydroxycarbonated-apatite	HCA
Nano-hydroxyapatite	nHA
Amorphous calcium phosphate	ACP
Tricalcium phosphate	TCP
Bicalcium phosphate	BCP
Magnesium phosphate	MP
Gelatin	Gt
Bioactive glass	BG
Polylactic acid	PLA
Poly(L-Lactide)	PLLA

List of abbreviations

Polyglycolic acid	PGA
Polyvinyl alcohol	PVA
Poly(Lactide-co-glycolide)	PLGA
Calcium	Ca
Phosphorus	P
Nitrogen	N ₂
Carbon	C
Oxygen	O
Computer aided design	CAD
Scanning electron microscopy	SEM
Atomic force microscope	AFM
Fourier transform infrared	FTIR
Transmission electron microscopy	TEM
Energy dispersion X-ray spectroscopy	EDX
Brunauer, Emmet, and Teller	BET
Barrett, Joyner, and Halenda	BJH
Simulated body fluid	SBF
Phosphate buffer saline	PBS
Enzymatic degradation solution	EDS
Relative humidity	RH
Molecular weight	MW
Mega Pascal	MPa
Gega Pascal	GPa
Gram	g
Hour	h

List of abbreviations

Weight	wt
Volume	v
Degrees Celsius	°C
Milliliter	mL
Rotations per minute	rpm
Kilo Volt	kV
Kelvin	K
Milli ampere	mA
Minute	min
Pounds per unit square of area	Psia

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