شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

Faculty of Science

Chemistry Department

"Carbon Nano-structured materials: Synthesis, Characterization and Engineering Applications"

A Thesis Submitted for Degree of Ph.D. in

Chemistry

By

Omnia Moustafa Alahwany

To

Chemistry Department, Faculty of Science

Ain Shams University, *Cairo, Egypt*

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CNTs	Carbon nanotubes
GNSs	graphene nanosheets
MWCNTs	multi-walled carbon nanotubes
SWCNTs	single-walled carbon nanotubes
CVD	chemical vapor deposition
DC	direct current
CRTs	cathode ray tubes
FEDs	Field Emission Displays
GPa	Gig Pascal
MPa	Mega Pascal
TPa	Tera Pascal
TEP	thermoelectric power
GO	graphene oxide
rGO	reduced graphene oxide
SiC	silicon carbide
CCG	chemically converted graphene
$NaBH_4$	sodium borohydride
FET	Field-effect transistor
CNT-FET	CNT field effect transistors
CNT-G	Carbon nanotube-graphene
LBL	layer-by-layer
NP	nanoparticles
(NEMS)	nano-electromechanical systems
PNP	p-nitrophenol
XRD	X-ray diffraction patterns
TPR	Temperature programmed reduction
FTIR	Infrared Absorption Spectroscopy
TEM	Transmission electron microscope
sccm	Standard cubic centimeter per minute