New Applications of Poly (vinyl chloride) Nanocomposites

A Thesis Submitted for Ph.D. Degree in
Physical Chemistry

By

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To

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Doaa El Komy

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Chapter II Experimental Work

CHAPTER III RESULTS And DISCUSSIONS

List of abbreviations

Symbol	***Meaning***
1-D	One- dimentional
ARS	Alizarin Red S
BSA	Bovine serum albumin
CCVD	Carbon vapor deposition process
CNP	Carbon nanopowder
CEC	Cationic exchange capacity
DC	Direct current
DDAC.	Dimethyl didodecyl ammonium chloride
DEHP	Bis (2-ethylhexyl) phthalate
DINP	Tributyl citrate and diisononyl phthalate
DOP	Dioctyl phthalate
DMA	Dynamic Mechanical Analysis
DMF	N, N-dimethyl formamide
DSC	Differential scanning calorimetry
DTA	Differential thermogravimetric analysis
EDX	Energy- dispersive X-ray
EMI	Electromagnetic interference
FTIR	Fourier-Transform Infrared Analysis
HNTs	Halloysite nanotubes
LDH	Layered double hydroxide
MWCNTs	Multi-walled carbon nanotubes
MMT	Montmorillonite
NPs	Nanoparticles
ODA	Octadecyl amine
OMMT	Organo Montmorillonite
PVC	Poly (vinyl chloride)
PP	Polypropylene
PS	Polystyrene
PNC	Polymer nanocomposites
SEM	Scanning Electron Microscope
SWCNTs	Single wall carbon nanotubes
TEM	Transmission Electron Microscope
TGA	Thermogravimetric analysis
Tg	Glass transition temperature
THF	Tetrahydrofuran
TMA	Thermomechanical analysis

XRD	X-Ray Diffraction
α-Fe_2O_3	Hematite
ε’	Storage modulus
ε’’	Loss modulus
ε'	Permittivity ε'
ε''	Dielectric loss (Dissipation Factor)
σ	Electrical conductivity

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