



***Antiviral Activity of Silver Nanoparticles against
Hepatitis C Virus Infection***

*An Essay
Submitted for Partial Fulfillment of Master Degree in
Microbiology*

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَعَلَّمَكَ مَا لَمْ تَكُنْ تَعْلَمُ

وَكَانَ فَخْرُ اللَّهِ عَلَيْكَ

عَظِيمًا

صدق الله العظيم

[النساء آية: 113]

**This dissertation has not been previously
submitted for any degree at this or at any
other university**

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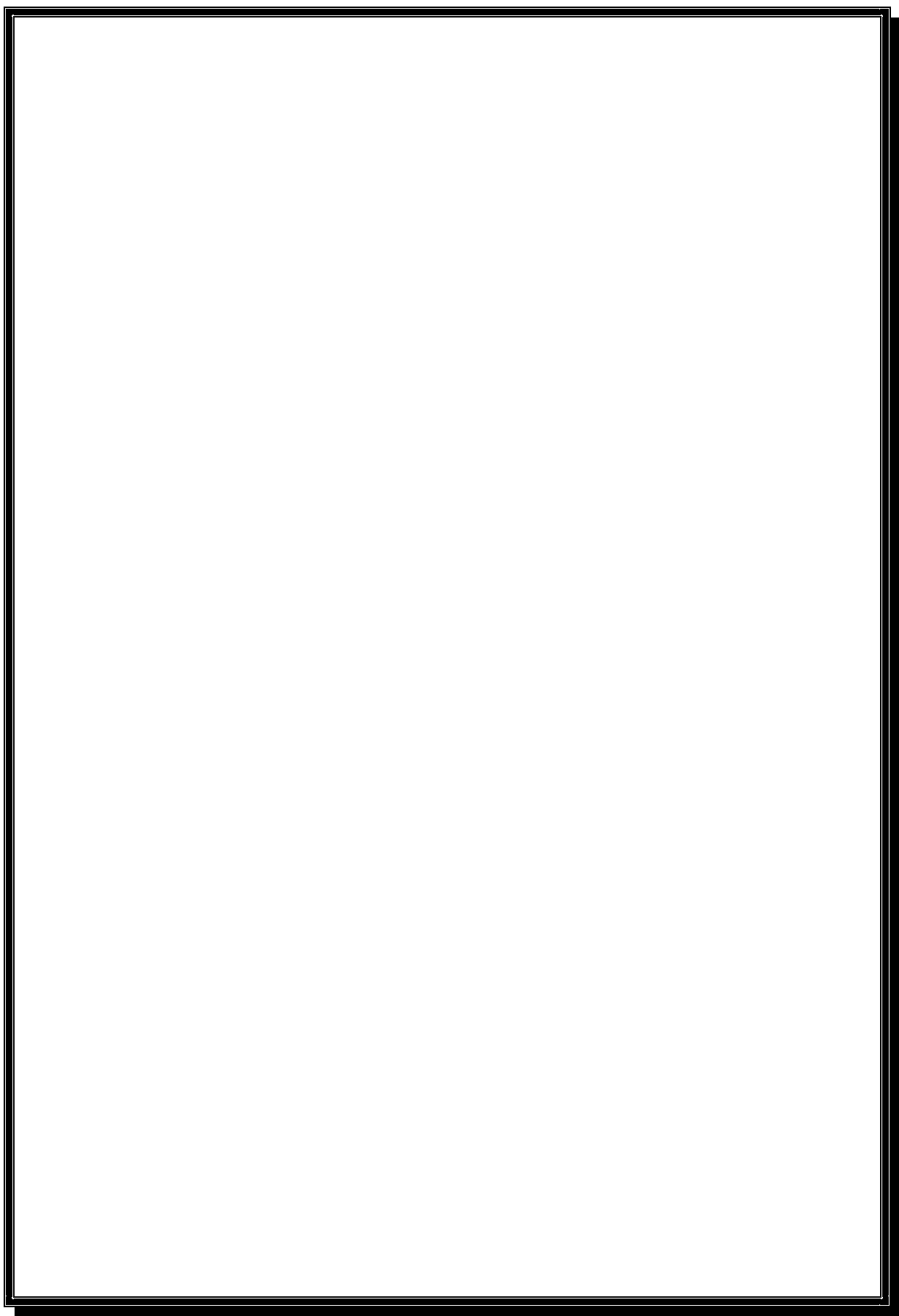


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List of abbreviations

<i>AgNPs</i>	Silver nanoparticles
<i>ARF</i>	Alternate Reading Frame
<i>ATCC</i>	American Tissue Culture Collection
<i>AuNPs</i>	Gold nanoparticles
<i>BNCT</i>	Boron neutron capture therapy
<i>CAP</i>	Calcium phosphate
<i>CAPIC</i>	CAPPEG-insulin-casein
<i>CCD</i>	Charge-coupled device
<i>CDC</i>	Centers for Disease Control and Prevention
<i>CLDN1</i>	Claudin-1
<i>CPV</i>	Canine parvovirus
<i>DAA</i>	Directly acting Antivirals
<i>DMEM</i>	Dulbecco's modified eagle medium
<i>DMSO</i>	Dimethyl Sulfoxide
<i>EDTA</i>	Ethylene diamine tetra acetic acid

<i>EIAs</i>	Enzyme-Linked immunoassays
<i>FDA</i>	Food and Drug Administration
<i>GAG</i>	Glycosaminoglycans
<i>gB</i>	Glycoprotein B
<i>gC</i>	GlycoproteinC
<i>gD</i>	Glycoprotein D
<i>gH</i>	Glycoprotein H
<i>gL</i>	Glycoprotein L
<i>HA</i>	Haemeagglutinin
<i>HAADF</i>	High Angle Annular Dark Field
<i>HAV</i>	Hepatitis A Virus
<i>HBV</i>	Hepatitis B Virus
<i>HCC</i>	Hepatocellular Carcinoma
<i>HCV</i>	Hepatitis C Virus
<i>HDV</i>	Hepatitis D Virus

<i>HepG2</i>	Human liver cancer cells
<i>HEV</i>	Hepatitis E Virus
<i>HIV</i>	Human immunodeficiency virus type 1
<i>HSV</i>	Herpes simplex virus
<i>Huh-7</i>	Hepatocellular Carcinoma
<i>IC50</i>	Half maximal inhibitory concentration
<i>IRES</i>	Internal Ribosome entry site
<i>IU</i>	International Units
<i>IVDU</i>	Intravenous drug users
<i>LDL</i>	Low-density lipoproteins
<i>MELD</i>	Model for End-stage liver Disease
<i>NA</i>	Neuraminidase
<i>NPC1L1</i>	Niemann-Pick C1-like 1
<i>NPs</i>	Nanoparticles
<i>NRA</i>	Neutral Red Assay

<i>NTR</i>	Non translated regions
<i>OCLN</i>	Occluding
<i>ORF</i>	Open Reading Frame
<i>PBS</i>	Phosphate-buffered saline
<i>PBMC</i>	Human peripheral blood mononuclear cell
<i>PCR</i>	Polymerase chain reaction
<i>PEG-IFN</i>	Pegylated-Interferon
<i>pgRNA</i>	pre genomic RNA
<i>PIs</i>	Protease inhibitors
<i>PVP</i>	poly(N-vinyl pyrrolidine)
<i>RdRp</i>	RNA-dependent RNA polymerase
<i>RPMI</i>	Roswell Park Memorial Institute
<i>RTKs</i>	Reseptor tyrosine Kinases
<i>RT-PCR</i>	Reverse transcription polymerase chain reaction
<i>SA</i>	Silaic acid

<i>SPP</i>	Single peptide peptidase
<i>SRB</i>	Sulforhodamine B
<i>SVR</i>	Sustained virological response
<i>SWCNTs</i>	Single-wall carbon nanotubes
<i>TCRV</i>	Tacaribe virus
<i>TEM</i>	Transmission Electron Microscopy
<i>UTR</i>	Untranslated regions
<i>WHO</i>	World Health Organization
<i>WISH</i>	Normal fibroblast cell line

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