

Body of Text

Page Format

Paper size	-	Custom size (crown size) 7" x 9.5"
Margin	-	Mirror margin
Inside margin	-	1.2"
Outside margin	-	0.7"
Top margin	-	1"
Bottom margin	-	1"

Header, Footer Format

Header margin	-	0.4"
Footer margin	-	0.4"
Odd page header (Times New Roman, 10 size)		
Page No.	-	Right Alignment
Journal name	-	Left Alignment
Even page header (Times New Roman, 10 size)		
Page No.	-	Left Alignment
Journal name	-	Right Alignment

Character Format

Research Title	-	Times New Roman, 14 size, Bold, Center, Title Case
Author name	-	Times New Roman, 12 size, Center
Main Title	-	Times New Roman, 12 size, Bold, Center
Sub Title	-	Times New Roman, 12 size, Bold, Left (don't use Italic)
Abstract Title	-	Times New Roman, 12 size, Bold
Abstract Text	-	Times New Roman, 10 size Indentation – Left 0.5", Right 0.5"
Body Text	-	Times New Roman, 12 size
Acknowledgement	-	Times New Roman, 10 size
Reference Text	-	Times New Roman, 10 size Hanging Indent - 1"

Author Designation, Department and Institute

Used as 1st page footer separate by 1.5" separator line
Times New Roman, 10 size
More than one author, use index number 1,2,3, etc.
Do not use index number 1 for only one author.
Single line spacing.

Paragraph Format

Tab	-	0.5 tab in 1 st line of each paragraph
Line Spacing	-	Single line
Paragraph Spacing	-	Before 0 pt After 6 pt
Alignment	-	Justify

Do not display 1st page number of each article in header.

Table heading is above the table and Times New Roman, 12 size.
Figure caption is below the figure and Time New Roman, 12 size.

Polyol Synthesis of Silver Nanoparticles for Flexible Electronics

Nan Thidar Chit Swe¹, Lwin Ko Oo², Myo Aung¹ & Ye Chan³

Abstract

Silver nanoparticles (Ag NPs) were synthesized by a polyol reduction method under atmospheric pressure using Silver Nitrate (Ag NO₃), Poly vinyl Pyrrolidone (PVP), Ethylene glycol at different temperatures (100 °C, 130 °C and 170 °C) and the synthesis time of 60 minutes with continuous agitation. The surface morphologies and crystallinity of silver nanoparticles are analyzed by Scanning Electron Microscopy (SEM), X-ray diffractometry (XRD) and ultraviolet-visible spectroscopy (UV-Vis). The UV-Vis spectra show the typical surface plasmon absorption maxima around 436 nm. The UV-Vis spectrum of the silver colloids obtained by polyol reduction shows the effect of the temperature change on the growing and aggregative process. SEM results revealed that the diameter of Ag NPs were 100 nm. XRD study reveals a high degree of crystallinity and monophase silver nanoparticles. Furthermore, the as synthesized silver nanoparticles are prepared as a conductive ink which could be applied on flexible substrate and formed as an electronic circuit after evaporating the solvent.

Keywords: Silver nanoparticles, polyol reduction method, spherical shape, low sheet resistance, flexible electronics

Introduction

During these days, the application of nanoscale materials and nanocomposites containing nanoparticles is an emerging area of nanoscience and technology. Usually, metal nanoparticles have been interested in many research areas because of their interesting physical properties which comes from small sizes and high surface to volume ratio (Lu, *et al.* 2008) (Chun *et al.*, 2010). These metal nanoparticles could be key elements for applications in optics and electronics (Jakubowska, *et al.*, 2011) mainly because of the quantized motion of the collectively excited

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