



ChemTech

International Journal of ChemTech Research

CODEN(USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555

Vol.10 No.9, pp443-449,2017

Green synthesis, Characterization and Antimicrobial activity of ZnS using Syzygium aromaticum extracts

M.Sathishkumar^{1,2*}, M.Saroja¹, M.Venkatachalam¹.

¹Thin Film R&D centre, Department of Electronics, Erode Arts and Science College, Erode-638009, Tamilnadu, India.

²Department of Electronics and Communication Systems, Nehru Arts and Science College, Coimbatore-641105, Tamilnadu, India.

Abstract: This present work reported biosynthesized ZnS nanoparticles using methanol extract Syzygium aromaticum as an antimicrobial agent. The Soxhlet apparatus was used to extract Syzygium aromaticum and As-biosynthesized ZnS nanoparticles were characterized by using different analysis techniques. The nanoparticles structural properties and surface morphology formation were investigated using X-Ray diffraction (XRD), Scanning Electron Microscopy (SEM) and average grain size also calculated. The optical absorption and different functional group of biosynthesized ZnS studied by UV-Visible spectroscopy (UV-Vis) and Fourier transform infrared spectroscopy (FTIR). The antimicrobial activity was evaluated by agar well disc diffusion method against various microorganisms.

Keyword: ZnS, Syzygium aromaticum, Antimicrobial Activity, XRD, SEM, UV-Vis, FTIR.

M.Sathishkumar *et al*/International Journal of ChemTech Research, 2017,10(9): 443-449.
