

## Raman Spectral Probe on Polar w-ZnS Nanostructures and Surface Optical Phonon Modes in Nanowires

Neena Prasad, Balasubramanian Karthikeyan\*

Nanophotonics Laboratory, Department of Physics, National Institute of Technology,  
Tiruchirappalli-620 015, India

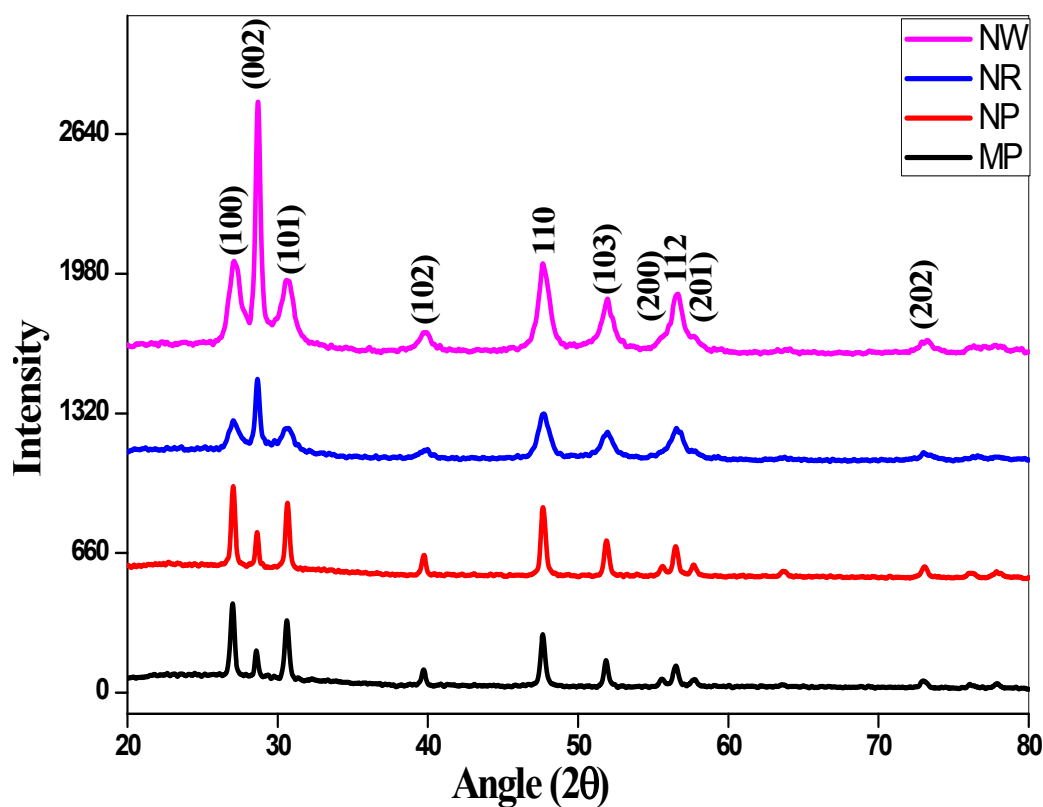


Figure S1: X-ray Diffraction pattern of w-ZnS micro-particles, nanoparticles, nanorods and nanowires. Major peaks are indexed in the Figure.

\* Corresponding Author. Email: [bkarthik@nitt.edu](mailto:bkarthik@nitt.edu) (B.Karthikeyan), Phone: +91-431-2503612; Fax: +91-(0)431-

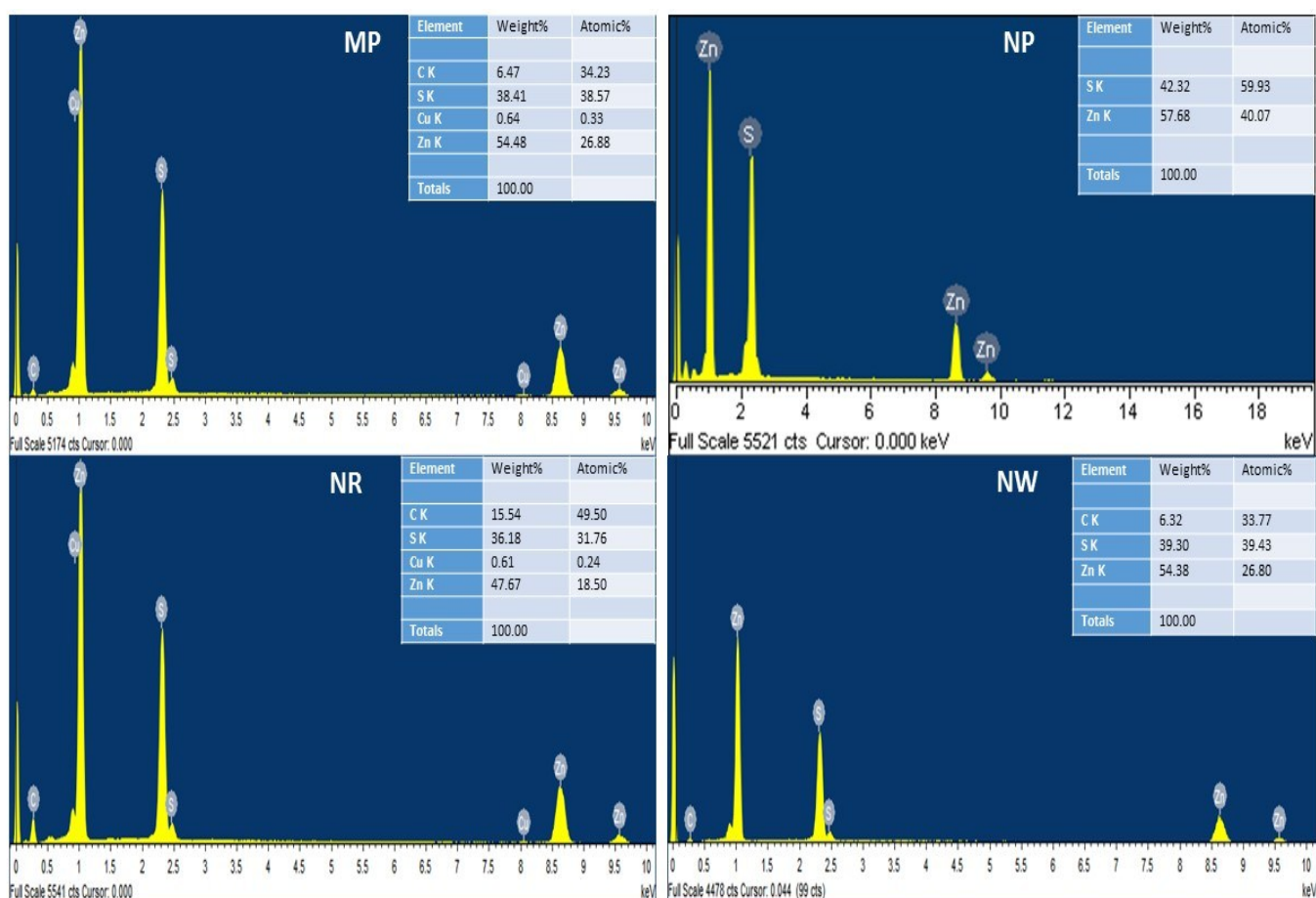


Figure S2. Energy dispersive spectra of ZnS nanostructures such as micro-particles (MPs), nanoparticles (NPs), nanorods (NRs) and nanowires (NWs). The composition of elements present in the prepared samples are shown in the inset table.

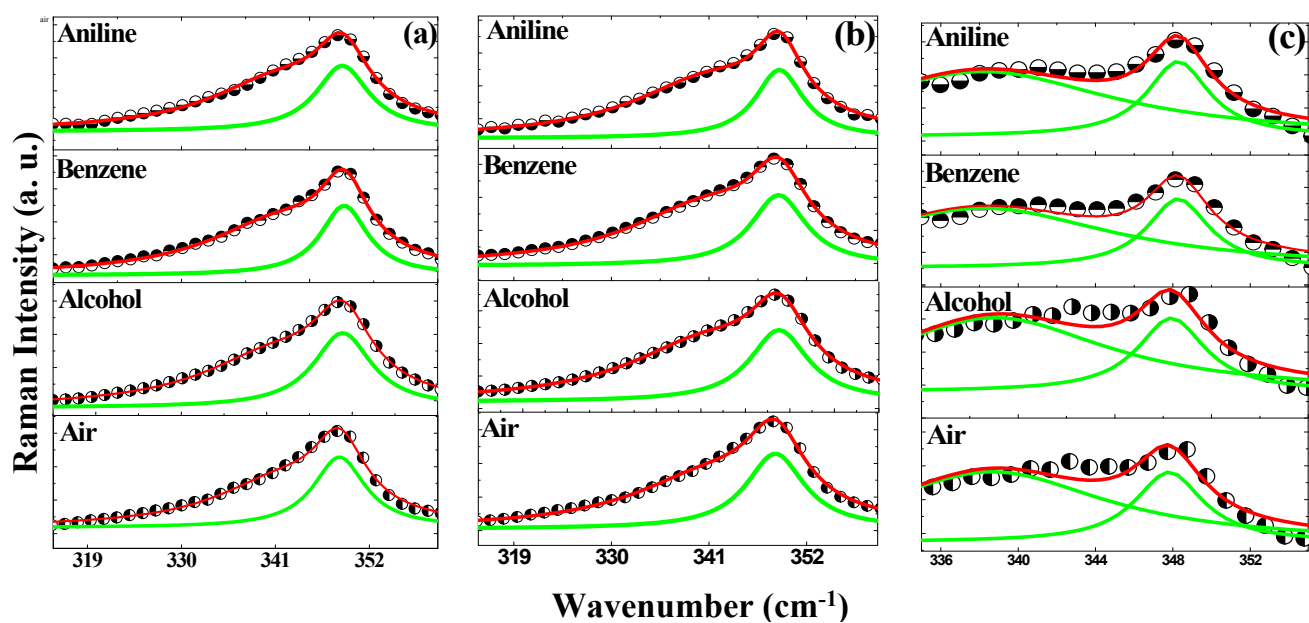


Fig. S3 Variation of LO and SO phonon mode with different dielectric media such as air ( $\epsilon_m = 1$ ), alcohol ( $\epsilon_m = 1.86$ ), benzene ( $\epsilon_m = 2.27$ ) and aniline ( $\epsilon_m = 2.56$ ) of ZnS (a) MPs, (b) NPs and (c) NRs.