

## Determination of metal ion concentrations by SERS using 2,2'-bipyridyl complexes

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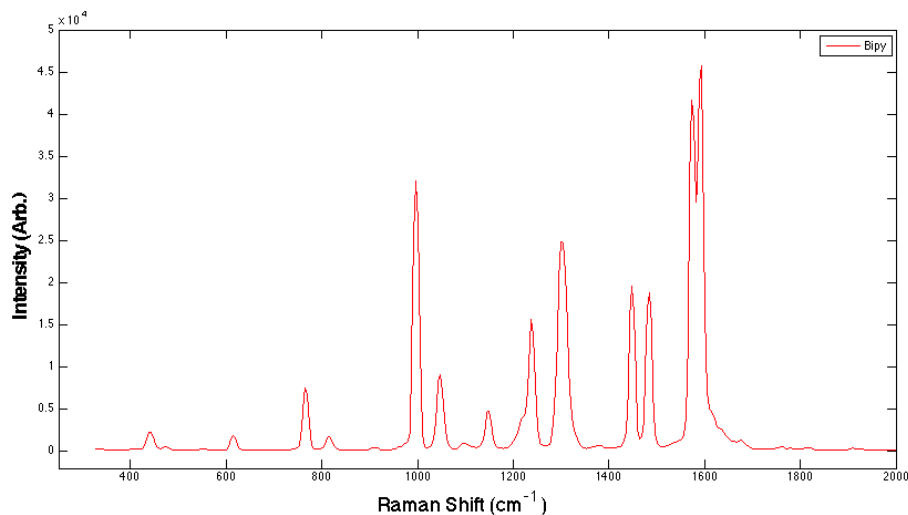


Figure S1: Raman spectrum of solid bipy ( $\lambda_{\text{ex}} = 532 \text{ nm}$ , acc. time = 10 s)

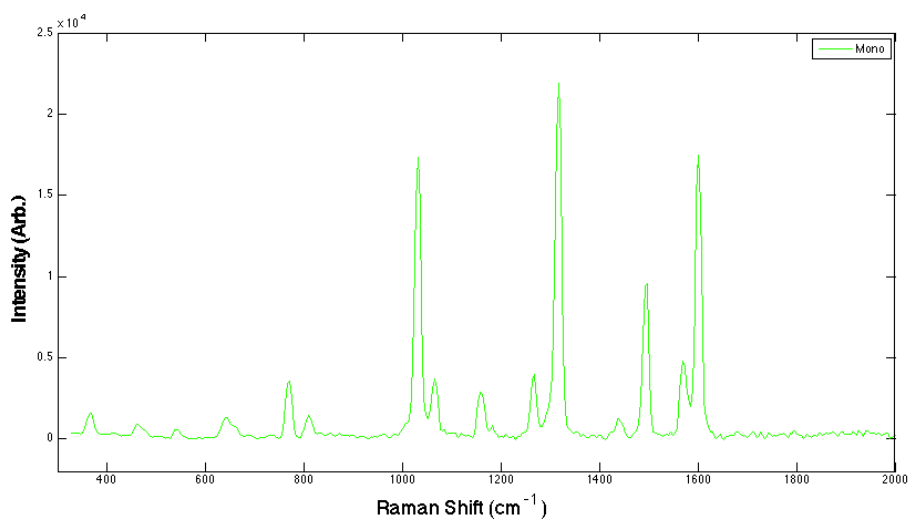


Figure S2: Raman spectrum of solid bipy-Zn(II) complex in the mono form ( $\lambda_{\text{ex}} = 532 \text{ nm}$ , acc. time = 10 s)

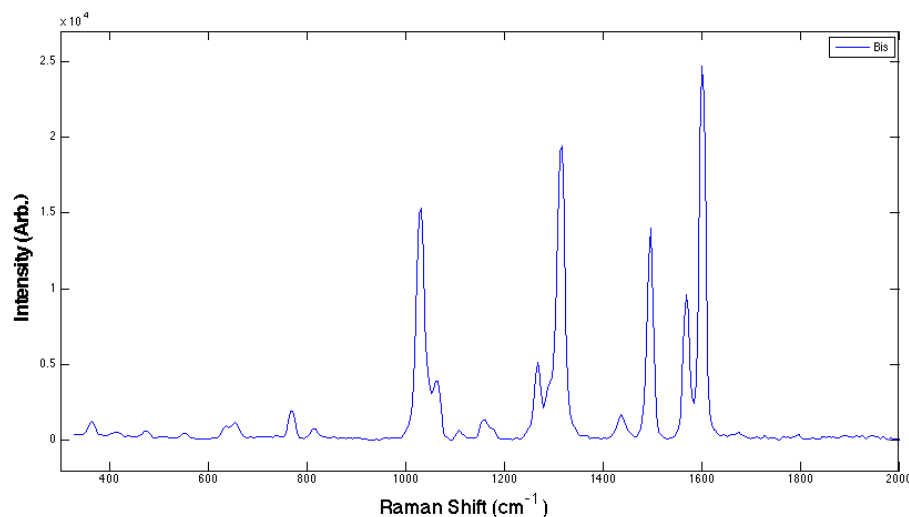


Figure S3: Raman spectrum of solid bipy-Zn(II) complex in the bis form ( $\lambda_{\text{ex}} = 532 \text{ nm}$ , acc. time = 10 s)

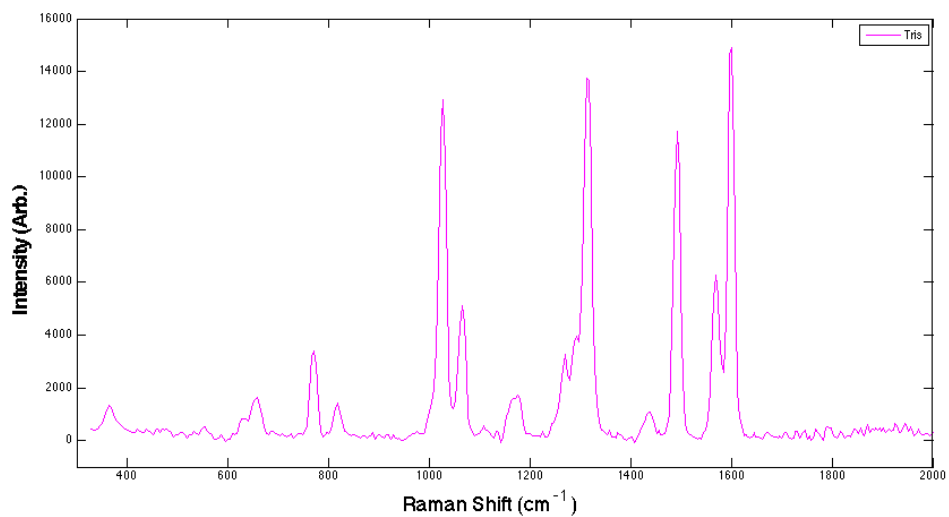


Figure S4: Raman spectrum of solid bipy-Zn(II) complex in the tris form ( $\lambda_{\text{ex}} = 532 \text{ nm}$ , acc. time = 10 s)

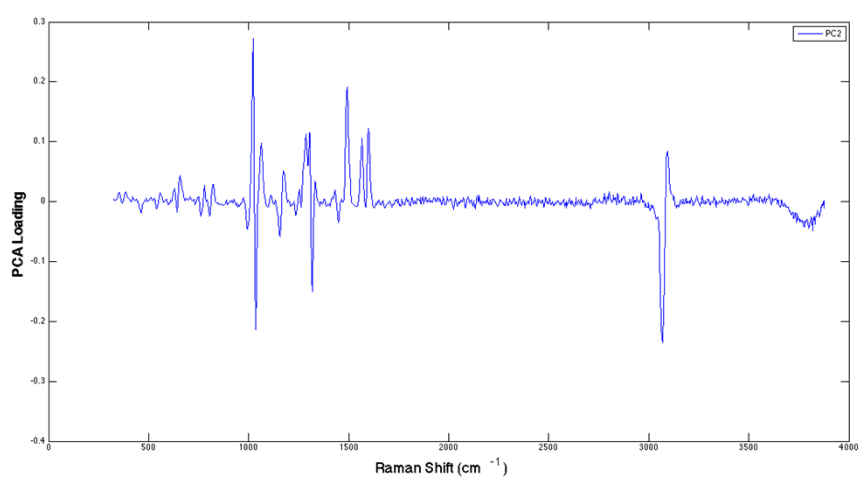


Figure S5: PC1 loadings plot for the solid bipy-Zn(II) complexes

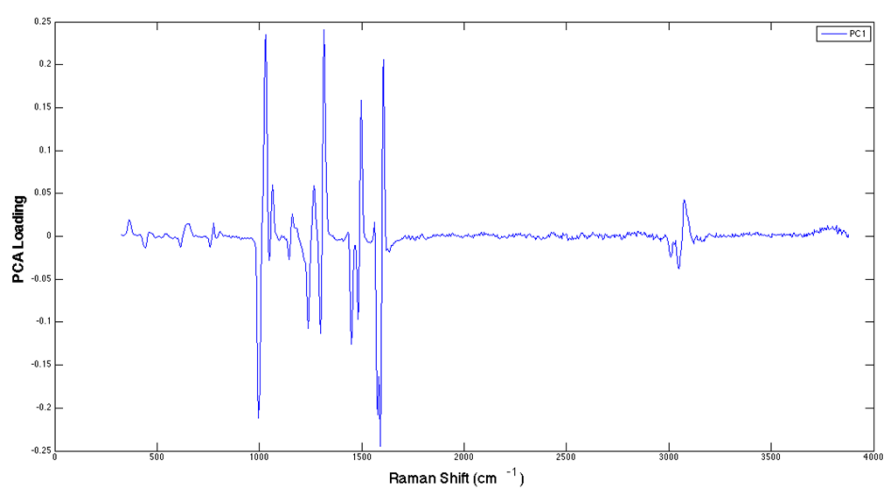


Figure S6: PC2 loadings plot for the solid bipy-Zn(II) complexes

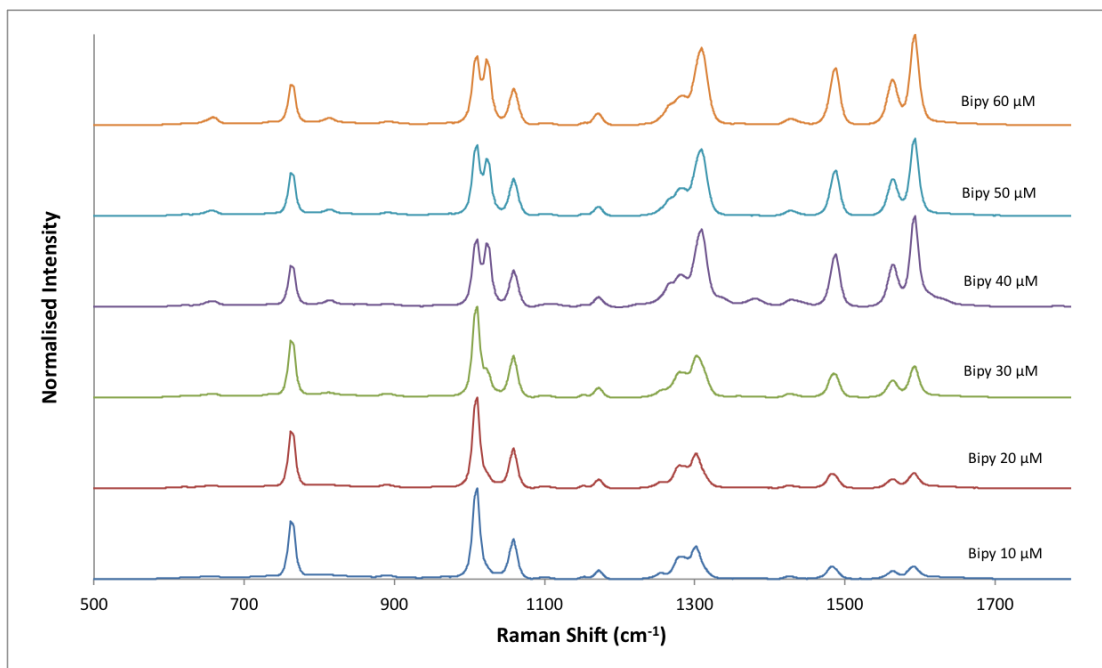


Figure S7: Concentration study of 10 μM Zn(II) added to increasing concentrations of bipy. 60 μM, orange; 50 μM, light blue; 40 μM, purple; 30 μM, green; 20 μM, red; 10 μM, dark blue ( $\lambda_{\text{ex}} = 532 \text{ nm}$ , acc. time = 10 s)

