

levels of NO while be inept to moderate or low levels of NO, thereby retaining the protective role of NO. The anti glycation activity of NK can complement the NO scavenging activity and be useful in treating many interrelated anti-inflammatory diseases.

References

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Synthesis, characterization and BSA binding studies of novel zinc ferene complexes

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Most triazine derivatives show various biological applications. In this study two Zn(II) complexes were synthesized by using the commercially available ligand, ferene [3-(2-pyridyl)-5,6-di(2-furyl)-1,2,4-triazine- p, p'disulfonicacid disodium salt]. The mono complex, Zn(ferene)Cl₂(1), was synthesized by reacting starting material (ZnCl₂ : Ferene) in a 1:1 ratio and the bis complex, Zn(ferene)₂Cl₂(2) was synthesized by reacting starting material (ZnCl₂ : Ferene) in a 1: 2 ratio, respectively (Scheme 1). Both the synthesized complexes are highly soluble in water, making them good candidates for bio assays. The synthesized complexes have been characterized by spectroscopic techniques. According to the UV- Vis spectra for all the complexes (1 and 2) a bathochromic shift has been observed (Figure 1). Also FTIR data provide evidence that Zn-N bonds are formed via triazine and pyridine N atoms. Accordingly the stretching frequency of N=N and C=N bonds of complexes have been shifted to the low frequency range in comparison with the free ligand. ¹H NMR spectra were obtained for both complexes and confirmed their purity. Thereafter, the binding studies of mononuclear zinc(II) complexes (1 and 2) and ferene ligand with bovine serum albumin (BSA) have been investigated by UV-Vis absorption spectroscopy. With increasing the concentrations of ferene and complexes (1) and (2), the maximum absorbance was increased without any shift in position of the curve. These results indicate the interaction with BSA changing the polarity of the microenvironment around tryptophan and tyrosine amino acid residue. The binding constants (K_b) for ferene, complexes 1 and

2 with BSA were calculated as $3.09 \times 10^4 \text{ M}^{-1}$, $12.30 \times 10^4 \text{ M}^{-1}$ and $16.84 \times 10^4 \text{ M}^{-1}$, respectively.

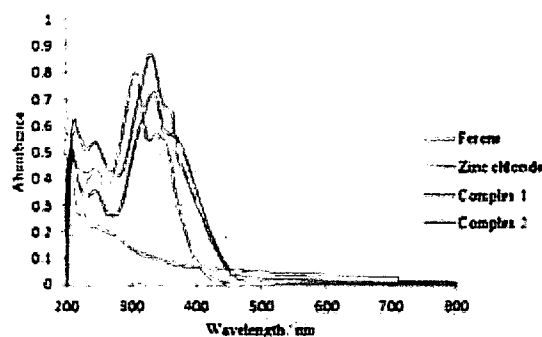
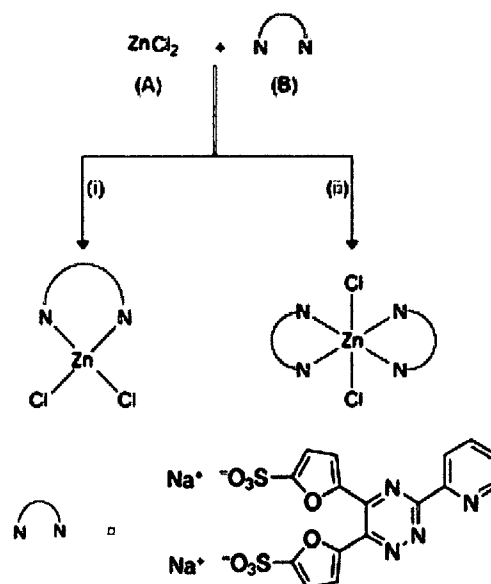


Figure 1. UV-Visible spectra of [ZnCl₂], ferene, complexes(1) and (2)



Scheme 1. Synthesis of ML₂Cl₂ and ML₂Cl₂ Reagents