

Interactions of Copper (II) Porphyrins with Quadruplex DNA
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The study of the interactions of cationic porphyrins with DNA is of importance due to potential applications for photodynamic, anticancer and antiviral therapies. Cationic porphyrin interactions with DNA are followed by absorbance, emission and circular dichroism (CD) spectra. Copper (II) porphyrins are especially useful in these studies. Copper porphyrins bind like the free porphyrin; however, the copper is subject to solvent quenching. If the copper porphyrin interacts with the DNA in a way that protects it from the solvent, then emission from the porphyrin complex may be seen. Studies of sterically friendly copper (II) porphyrins, such as (5,15-di(*N*-methylpyridinium-4-yl)porphyrinato)copper(II), Cu(tD4), are being done with tetramolecular and bimolecular quadruplex DNA. Currently, it is thought that the porphyrin interactions with tetramolecular and bimolecular DNA are done through end capping, surface association or pseudo-intercalation.