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**Binding properties of A- and B-form DNA complexed with TMPyP or Co-containing analogue by spectroscopic analysis****Ha Young Cho, Yel Sol Oh, Seog K Kim and Young-Ae Lee**  
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Although the transition from the B-DNA to the A-form is essential for many biological concerns, properties of this transition have not been resolved yet. It is well known that DNA is in A-conformation during cell division. The B to A equilibrium can be analyzed conveniently due to significant changes of the Circular Dichroism (CD) and of the absorption spectrum. We have employed CD and Linear Dichroism (LD) methods to investigate the binding of water soluble meso-tetrakis (N-methyl pyridinium-4-yl) porphyrin (referred as TMPyP) and its derivatives, Co-TMPyP, with B- and A-calf-thymus DNA. When the physiological buffer was replaced by a water-ethanol mixture (~80 v/v%), B to A transitions occurred. Fluorescence emission spectra of TMPyP bound to DNA was shown different pattern under ethanol-water condition and water alone. The featureless broad emission bands of TMPyP are spilt in two peaks near at 658 and 715 nm in the presence of DNA under aqueous solution. In case of ethanol-water system, however, the emission bands are spilt in two peaks near at 648, 708 nm and 656, 715 nm with and without DNA, respectively. It may due to change of solution polarity. On the basis of obtained CD and LD data, TMPyP interacts with B-DNA by way of intercalation at low ratio under low ionic strength, 1 mM sodium phosphate. On the other hand, the interaction with A-DNA (80 v/v% ethanol-water system) occurs via non-intercalating manner. This difference may due to the reason from the structural property such as the groove of A-DNA is not as deep as in B-DNA and the bases are much more tilted. In the case of Co-TMPyP porphyrin preferably binds via outside self-stacking mode with B- and A-DNA.

**Biography**

Ha Young Cho has completed her graduation in Chemistry and currently pursuing Master's degree in Biophysical Chemistry from Yeungnam University, Republic of Korea.

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