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# DNA-Binding and Photocleavage Studies of N,N'-Dibenzylidene-9H-Carbazole-3,6-Diamine

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**Abstract:** *The DNA-binding mode of **N,N'-Dibenzylidene-9H-Carbazole-3,6-Diamine** with CT-DNA was investigated by absorption spectroscopy, EB-DNA displacement, circular dichroism, thermal denaturation and viscosity measurements. Results indicated that these compounds intercalate into the base pairs of CT-DNA. The effect of ionic strength on the fluorescence property of the system indicated the presence of electrostatic interaction via phosphate backbone of DNA helix. The intrinsic binding constant values suggested that compound has DNA binding propensity. This compound promote the cleavage of plasmid pBR322. These results may be useful for the design of **N,N'-Dibenzylidene-9H-Carbazole-3,6-Diamine** with desired binding characteristics and useful to better understand the DNA binding mode of heterocyclic compound.*

**Keywords:** DNA binding, DNA cleavage, Absorption Spectroscopy, Fluorescence spectroscopy

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