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Synthesis and DNA binding properties of some new tryptamine Schiff's bases

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The synthesis of Schiff's bases by reaction of tryptamine and seven different aldehydes has been performed in absolute ethanol. The required Schiff bases were obtained in good yields. Schiff bases are known as compounds with a wide range of biological activities, such as antifungal, antibacterial, anti-malarial, antiproliferative, anti-inflammatory and antipyretic [1]. In this study, we presented the synthesis and DNA binding properties of seven novel tryptamine-derived Schiff bases. UV-Vis spectroscopic method was used for the determination of the binding mode between examined substances and DNA. In order to obtain the binding strength of compounds to DNA molecules we've calculated intrinsic binding constants K_b (M^{-1}) for tested compounds from the Wolfe–Shimmer equation [2]. All synthesized compounds showed high values for K_b ($10^4 M^{-1}$) which indicates the strong binding of examined compounds to DNA.

References

1. U.K. Singh, S.N. Pandeya, A. Singh, B.K. Srivastava, M. Pandey, *Int. J. Pharm. Sci. Drug Res.* **2010**, *2*, 151–154.
2. A. M. Pyle, J. P. Rehmann, R. Meshoyrer, C. V. Kumar, N. J. Turro, J. K. Barton, *J. Am. Chem. Soc.* **1989**, *111*, 3051-3058.

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