_N_-isopropylamidino-substituted Derivatives of Benzo[b]thiophene-2-carboxanilides and Benzo[b]thieno[2,3-*c*]quinolones: DNA Binding by Intercalation

Gordana Pavlović[a], Ivana Jarak[b], Grace Karminski-Zamola[b], Zora Popović[c], [a]*Faculty of Textile Technology, University of Zagreb, Pierottieva 6, HR-10000, Zagreb, Croatia.* [b]*Department of Organic Chemistry, Faculty of Chemical Engineering and Technology, University of Zagreb, Marulićev trg 20, P. O. Box 177, HR-10000 Zagreb, Croatia.* [c]*Chemistry Department, Laboratory of General and Inorganic Chemistry, Faculty of Science, University of Zagreb, Ul. kralja Zvonimira 8, HR-10000 Zagreb, Croatia.* E-mail: pavlovic@chem.pmf.hr

Recently, we published syntheses, characterization and antitumor evaluation of series of cyano- and *N*-isopropylamidino-substituted derivatives of benzo[b]thiophene-2-carboxanilides and benzo[b]thieno[2,3-*c*]quinolones [1]. Aromatic surface of such aromatic compounds, usually built of three or more condensed aromatic units, is more than large enough for intercalation with the DNA. On the other hand, organic cations (*i.e.* amidinium cation) are known to bind in the DNA minor groove showing various biological activities, especially anticancer properties. The X-ray crystal structure study of 4'-carbmethoxy *N*-phenyl-3-chlorobenzo[*b*]thiophene-2-carboxamide and *N*-[4'-(*N'*-isopropylamidino)-phenyl]-3-chlorobenzo[*b*]thiophene-2-carboxamide hydrochloride is undertaken in order to compare their sterical properties with some classical intercalators and to give an answer if insertion between basepairs of DNA/RNA is possible.

[1] Jarak I., Kralj M., Šuman L., Pavlović G., Dogan J., Piantanida I., Žinić M., Pavelić K., Karminski-Zamola G., *J. Med. Chem.*, 2005, *in press.*

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