

## ABSTRACT

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Title of diploma thesis: Derivatives of carbazole and their influence on melting point of DNA duplexes I.

This diploma thesis deals with preparation of carbazole derivatives bearing bulky basic groups in positions 3 and 6 and an aliphatic chain terminated with azide group in position 9.

In the theoretical part, there are described possible methods, how to create basic functional groups on carbazole and other aromatic structures, further the possibility of establishing an aliphatic chain on the aromatic nitrogen and in the last part creation a basic centres on aromatics with a functional group was explored – mostly bromide derivatives were employed as the starting structure.

The experimental part deals with the application of methods described in the theoretical part on the structure of carbazole. As the starting molecule 3,6-dibromo-9*H*-carbazole was used; methods of exchange bromine by carbon or nitrogen containing groups were tested, followed by the creation of the aliphatic chain on the nitrogen of carbazole terminated with azide group and finally the linking of bulky basic substituents at functional groups of carbazole in positions 3 a 6 was performed. All prepared molecules were described by NMR or IR spectra.

In the discussion findings arising from the experimental part are analyzed.