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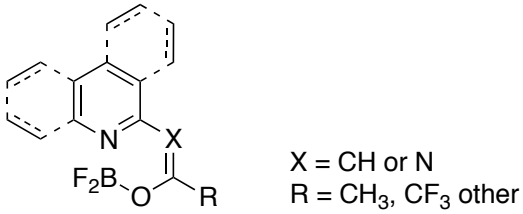
Auxiliary supervisor: dr Paweł Tecmer

Aromaticity in fluorescent compounds

Topic:

The project is focused on the synthesis of benzannulated fluorescent compounds that will be studied in the light of their photophysical properties. The aim is to study their aromatic character both in the ground and excited states. For that purposes a series of compounds will be synthesized and their properties measured by experimental methods. Furthermore, the state-of-the-art quantum chemical methods will be applied to have a deeper insight into electronic structure of investigated compounds. Above-mentioned aromaticity will be studied in the light of the Clar rule with the help of aromatic indices (HOMA, NICS, and others) as in previous series.[1] The main idea is to study if benzannulation in the ground state has a similar effect on properties of molecules and their photophysical behaviour as in their excited state.

The following scheme shows the general formula for proposed molecules.[2, 3]



For more information on the topic and references see:
https://sites.google.com/view/bosmialowski/publications

References

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