

Functionalised benzo[*a*]phenoxazinium chlorides: synthesis and covalent labeling

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The photophysical characteristics and the chemical compatibility with the required application are fundamental aspects that need to be taken into consideration in a fluorescent dye for the labeling of biomolecules. The fluorophore must be chemically and photochemically stable in solution, as well as water soluble. It should also have a significant fluorescent quantum yield when bound to the analyte and excitation maxima accessible to simple sources such as laser diodes. Furthermore, a reactive functional group is also an essential prerequisite for covalent labeling to the molecules.¹ As a continuation of our recent research interests in the development and application of fluorophores,^{2,3} the present work describes the synthesis of new benzo[*a*]phenoxazinium chlorides **1**, possessing a combination of substituents at the polycyclic ring that includes the hydroxyl group, aminopropoxy and monoalkylated amines. The labeling of *tert*-butyloxycarbonyl valine, as a model biomolecule, was also performed (**2**, Fig.1). Photophysical characterization of all fluorescent compounds was carried out and will be discussed.

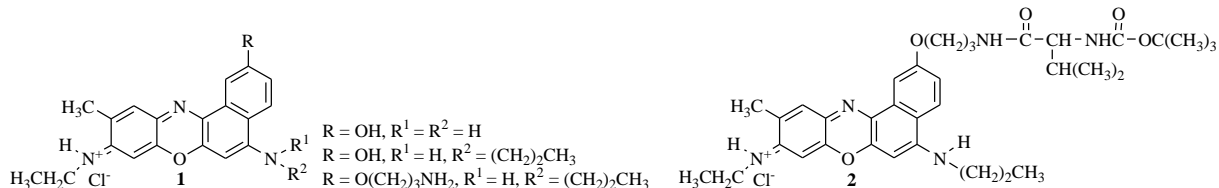


Fig.1. Structures of benzo[*a*]phenoxazinium chlorides **1** and **2**.

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References

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