Title: **Synthesis of DNA binders for biosensors.**

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The interactions between DNA and molecules that allow control over selectivity and affinity for DNA are of particular interest in the development of biosensors. The main aim of this project is the synthesis of naphthalimide and quaterherthiophene derivatives that can act as DNA binders.

A cyclohexane carboxylic acid naphthalimide derivative was synthetized as a model compound in good yield and purity which confirmed the protocol to obtain an analogous product. This other product is a 4-Carboxy-TEMPO naphthalimide derivate that has the possibility to be detected in ESR and could be important in further studies. In order to obtain this carboxylic derivate, an amino naphthalimide derivate was previous synthetized and a good method to purify it with HPLC was found (50% ACN and 50% buffer phosphate).

A second type of binder was also developed, a microwave reaction to obtain an alcohol quaterthiophene was carried out with a good yield and purity. Some good purification methods with a column chromatography were used (hexane/ethyl acetate (2:1)). Finally, a water-soluble cationic quaterthiophene was synthesised with no so good yield.