

*Title:* **Diels-Alder reactions in bioconjugation.**

*Student:* Manuel Losada Garcia

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*Supervisor/s:* Dra. Anna Grandas Sagarra

*Departament de Química Inorgànica i Orgànica*

Bioconjugation is a technique of biochemistry that consists of the attachment of a biomolecule to another molecule forming a covalent bond. This is a wide field where advances are being made lately, especially in the field of medicine.

Pericyclic reactions of Diels-Alder [4+2] is a type of reaction that provides several advantages in the formation of biomolecules due of being a click reaction. Click chemistry consists of modular reactions, stereospecific, with high yield and that do not generate by-products, besides of generally being simple reactions and with good kinetics.

It has been compiled and explained the latest most important advances in the application of the simple Diels-Alder reaction, specifically in nucleic acids, antibody-drug conjugates and carbohydrates in order to demonstrate the scope and the advantages that they suppose.