*Title:* **Trabectedin: example of marine alkaloid with antineoplastic activity. Origin, isolation, structure, synthesis and mechanism of action.**

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Within the vast and promising world of natural products, the molecule ecteinascidin 743 (ET-743), commonly known as trabectedin and commercialized under the name Yondelis by the Spanish company PharmaMar, has been the first approved oncology drug of marine origin by the European Union in 2007 for the treatment of soft tissue sarcoma and ovarian cancer. ET-743 is an alkaloid belonging to the group of compounds called ecteinascidins, first isolated in 1969 from extracts from the Caribbean tunicate *Ecteinascidin turbinata*. Its structure consists of three tetrahydroisoquinoline rings joined together to form a pentacycle skeleton by means of a ten-membered macrolactone. Due to its potent anti-proliferative effect, thanks to an innovative mechanism of action never seen before in antitumor molecules, the need to find an effective synthesis for its clinical development and commercialization was extremely urgent. This Bachelor's Degree Fianl Project is divided into two parts: firstly, the impact of natural products on the pharmaceutical industry is analysed, and secondly, a thorough revision of the ET-743 molecule is carried out.

**Keywords**: Marine alkaloids, new drugs, antineoplasics.