

## Abstract

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Title of Thesis: Synthesis and characterisation of flavonoids as potential anticancer agents

With more than 3 million new cases and 1.7 million deaths each year, cancer represents the second most important cause of morbidity in Europe. Search for new anticancer agents is one of the most important ways to improve treatment and management of cancer. At present, around 50 % of drugs against cancer are natural compounds or have a natural origin. Flavonoids, 2-phenyl-1,4-benzopyrones derivatives, are known for their antioxidant, anti-inflammatory, vasculoprotective, antimicrobial and anticancer properties. This project focuses on flavonoids with open C ring, named chalcones. The synthesis of two original molecules is described: one bichalcone and a combined chalcone-polyamine, prepared for the purpose of screening antiproliferative effect on cancer cell lines. The chalcone derivatives were made using Claisen-Schmidt condensation and Suzuki reaction. Different synthetic approaches are discussed. Presently, the two products are being subjected to biological evaluation.