

Title: **Study of Ruthenium Arene complexes as Anticancer Agents.**

Student: Gerard Carrasco Boza

Date: May, 2021

Supervisor/s: Dra. Maria del Carme González

Departament of Chemical Engineering and Analytical Chemistry

Dr. Paul J. Dyson

Laboratory of Organometallic and Medicinal Chemistry (LCOM)

Cancer is one of the most well-known and deadliest diseases that we are aware of. There are many kinds of antitumoral-drugs and cisplatin, the first drug based on a transition metal, is of utmost importance. Such a success to fight different types of cancer, has motivated the research of other metal-based compounds with cytotoxic activity. Ruthenium Arene complexes of general formula $[\text{Ru}(\eta^6\text{-arene})(\text{X})(\text{Y})(\text{Z})]$ have shown anti-cancer activities. In this report, an overview of the latest published complexes is made, with emphasis on the anticancer behaviour and cytotoxicity exhibited by the compounds and any possible relationship with the structural aspects.

Keywords: Ruthenium arene complexes, anti-tumoral drugs, cytotoxicity, cancer.