*Synthesis and Characterization of ferrocenyl uracyl derivatives as potential antiviral agents*

The *main goal* of this research work is to synthesize and characterize ferrocenyl uracyl derivatives with different structure cores. Recent studies demonstrated having found promising biological activity in many uracil derivatives, making them important structures in the development of new drugs. Amongst the many biological activities, anti-viral and anti-tumour have been the most recently reported for different uracil analogues. Uracil derivatives have proven potential for the specific treatment of HIV, Hepatitis B, Hepatitis C, herpes virus, among others. Also, the uracil derivative 5-Fluorouracil has been used as treatment for solid tumours such as colon and breast cancers, and some of its bioconjugates have revealed to have even better results as anti-tumour agents for other cancer cell lines. Based on these findings, the *rationale* of this project is that the uracil moiety will enhance the biological activity of the already active ferrocenyl structure cores (chalcone, dichalcone, ethynyl and stilbene). It is thought that it will prove useful in the preparation of novel drugs with potential activity against a variety of viruses, cancer cell lines, as well as functioning as a radical scavenging agent.

This research work has two specific aims:

- To synthesize and characterize ferrocenyl uracyl derivatives.
- To study and compare the bioactivity of the synthesized products.

General Scheme: