Title: **Enantioselective synthesis of a C75 analogue**

Student: Esther Fernández Vadillo

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Supervisor/s: Dr. Xavier Ariza Piquer
Department of Inorganic and Organic Chemistry

Carnitine palmitoyltransferases 1 (CPT1) are a family of proteins involved in the metabolism of fatty acids. Two isoforms of CPT1, CPT1A and CPT1C, are highly expressed in glioblastoma (GBM) brain tumor cells. In GBM and other gliomas, CPT1C has been found to colocalize with fatty acid synthase (FAS). This suggests that these cancer cells regulate the metabolism of fatty acids in order to increase their survival. Therefore, inhibition of CPT1s and FAS in gliomas might hinder the ability of tumor cells to survive. C75 is an inhibitor of both CPT1A and FAS, and therefore a potential anticancer drug for GBM. A limitation that most of the drugs encounter when targeting the brain is the blood-brain barrier (BBB). To overcome this barrier, several delivery systems have been developed. One of the most successful are nanoparticles that can be coated with the specific ligands present in the BBB and the cell target. In this project, the synthesis of a modified C75 analogue (C75K) is planned with the purpose to link this C75 structure to a nanoparticle through an imine acid-labile group.

Keywords: Organic synthesis, C75, antitumoral, FAS.