Title: **Synthetic approach to potential FAS and CPT1 inhibitors**

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Date: January 2019

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The **C75** was created in a research project for anticancer drugs. The molecule inhibits fatty acids synthase (FAS), an enzyme responsible of the synthesis *de novo* of fatty acids, which is overexpressed in cancer cells, if it is inhibited it can produce the apoptosis of these cells. **C75** also inhibits carnitine palmitoyltransferase 1 (CPT1), an enzyme associated with food intake.

In this project, **C75** analogues have been synthesized in the line of drug research against diabetes and obesity, is expected greater effectiveness. The lactone **4** has been prepared through a Barbier reaction that through an allylic oxidation with SeO_2 has given the products (±)-**UB010** and (±)-**UB011**. We have also successfully synthesized by a Barbier reaction lactam **1**, another analogue of the **C75**, which has been hydroxylated in order to obtain lactams **2** and **3** through another allylic oxidation with SeO_2. Some experiments with different solvents have been performed to optimize the yield of this hydroxylation, since the yield have been moderate. The solvent that has given the best results has been the THF.

The diastereomeric separation of the compounds (±)-**UB010** and (±)-**UB011**, as well as the preparation of lactam **5** from N-tosylimine **6**, synthetic equivalent of tosylaminosulfone **7**, has been attempted without succes.

Keywords: C75, cancer, FAS, CPT1, lactone, lactam, Barbier reaction, allylic oxidation.