**. Master Study:**

In my master study I discussed the rates of decomposition of β-diketones and their uranyl and thorium complexes with halates by following the change of their concentration with time spectrophotometrically. The rate constants were determined after establishing the order of each reaction with respect to each reactant. The reaction rates increase linearly with ligand or complex and with halate concentration for each of the ligands (Acetylacetone, Benzoylacetone, Dibenzoylmethane and Thenoyltriflouroacetone), their Uranyl and Thorium complexes, and Halates (iodate, chlorate and bromate).

The effect of temperature on reaction rates were also examined to obtain the activation energies. The decomposition products were also identified by chemical and physical means including spectroscopy.