

Ηράκλειο 19 Οκτωβρίου 2022

ΠΑΡΟΥΣΙΑΣΗ ΔΙΠΛΩΜΑΤΙΚΗΣ ΕΡΓΑΣΙΑΣ

Της φοιτήτριας Αγάπης Καββαδία, θα γίνει τη

Δευτέρα 24/10/2022 και ώρα **14:30**

στην αίθουσα Β2 του κτηρίου Χημείας

Επιβλέπουσα: Κέλλυ Βελώνια

Θέμα Διπλωματικής:

***«Oxygen tolerant, copper-mediated synthesis of protein-polymer
bioconjugates: studying the effect of buffer and initiator»***

Abstract:

Protein-polymer conjugates are hybrid synthetic biomaterials with vast application potential. Recently, a rapid, oxygen-tolerant, copper-mediated polymerization approach was developed in the laboratory of Synthetic Biomaterials. More specifically, the fast disproportionation of CuBr/Me₆TREN in aqueous media was used to mediate the grafting of a variety of polymers *from* protein biomacroinitiators. In this Thesis, aiming to further expand the scope of this approach, the effect of the medium on the grafting and more specifically the effect of the buffer on the grafting of styrene (a model monomer) *from* Bovine Serum Albumin (a model protein) was investigated. To identify the effect of the medium, the polymerization was performed under the optimal conditions in a range of buffers varying in chemical structure (TRIS, phosphate) and salt concentration. Furthermore, initial studies to validate the effect of macroinitiator structure were also performed using a secondary and a tertiary bromide as precursors. The BSA-macroinitiators were synthesized via the well known maleimide-thiol “*click*” reaction and characterized via aqueous Size Exclusion Chromatography (SEC) and native polyacrylamide gel electrophoresis (PAGE).