

ABSTRACT

The long-term goal of this project is to chemically synthesize an unnatural fluorescent amino acid (UFAA) that can later be used to build glow-in-the-dark proteins. UFAs allow investigators to visualize a single protein in an otherwise transparent living cell. The specific UFAA target for this project is shown in the graphic below. We are unable to replicate the % yield of the only reported synthesis of this UFAA (our 3% NMR yield vs. reported 66% isolated yield). We are currently exploring different reaction temperatures, reaction times and solvents (including ionic liquids and deep eutectic solvents) in an effort to maximize the yield. We are also exploring alternative workup procedures in an attempt to speed product isolation.

