Abstract

This bachelor thesis explores a possibility of preparation and usage of oxime prodrugs. Thesis aim is to deliver oximes by using self-immolative phosphorous-based linkers that undergo cyclization reaction, leading to the release of oxime from the phosphorous. For this purpose, model systems containing: (1) a photolabile DMNB group, or they could contain enzymatically activable ester group, (2) self-immolative arm with the phosphate core, and (3) oxime as the leaving group, were prepared. Acetophenone oxime, cyclohexanone oxime, and griseofulvin oxime were used as the model oximes. In particular, the synthesis of target molecules and their self-immolation (i.e., controlled breakdown) have been studied. These reactions were monitored by ^{31}P NMR spectroscopy. The stability study of the prepared substances in buffer solutions has also been performed.

Key words: *oxime, prodrug, self-immolation, self-immolative linkers, photoactivation*