PROJECT TITLE: Photoprotecting Groups

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Project Description

Phototriggers, or photoremovable protecting groups (PRPGs) have been used to release molecules with specific properties in a wide variety of applications. For example, PRPGs have been used to deliver fragrance in household goods. Furthermore, PRPGs have been used to study various physiological events, such as enzyme activities, ion channel permeability, protein folding, and muscle contraction by ATP hydrolysis. PRPGs are particularly useful in physiological studies because bioactive molecules can be delivered with high spatial and temporal control within living cells. Since PRPGs have potential use in such a wide diversity of applications, there is a need for PRPGs with different physical properties that can specifically be tailored to each application.

A WISE student would spend her summer synthesis a new PRPG and study the mechanism for release using transient spectroscopy and doing product studies. The proposed research would allow the student to become familiar with using various spectroscopic methods, such as NMR, IR and UV absorption.