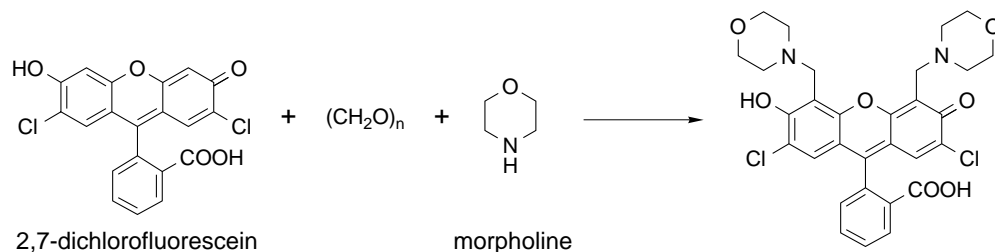


pH-Dependent Quenching of the Morpholine-Fluorescein Complex

Overview

In this project, you will tether morpholine to 2,7-dichlorofluorescein through enolate chemistry, then investigate the effect of pH on the fluorescence of the resulting complex.



Fluorescent sensors have been extensively used to detect metal ions. These frequently consist of a chelating diamine tethered to a fluorescent moiety, such as a fluorescein. In this project, a related complex will be prepared using morpholine; it behaves as a pH sensor, fluorescing in acid, but not in base.

Reference

The reference below may be obtained through the library's web-page. The half-gram scale on which the reaction is described is appropriate. Note that the details in some of the figures are incorrect: be sure to use your editorial judgment when writing your report; do not just copy the figures.

Miller, T.; Spangler, M.; Burdette, S.C. *J. Chem. Educ.* **2011**, *88*, 1569-1573.