

PREDICTED FLUORESCENCE LIFETIMES OF THE FIRST EXCITED SINGLET STATES OF CYANINE DYES

A. C. CRAIG

Department of Chemistry, Montana State University, Bozeman, Montana (U.S.A.)

The predicted fluorescence lifetimes of several cyanines absorbing near 540 nm have been calculated using the Strickler-Berg equation and the fluorescence quantum yields. The predicted lifetimes range from 10 ps to 1 ns. Chain length and chain substitution appear to be more important than heteroatom type or ring type. The predicted lifetimes are generally in agreement with experimental lifetime measurements from ground state recovery and excited state absorption.