

Luminiscent properties of benzoxazolinones

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The UV absorption and fluorescence spectral bands of 2-benzoxazolinone and 6-methoxy-2-benzoxazolinone have been recorded in solution at room temperature. The phosphorescence spectral bands, their Quantum yields and mean life times, have been measured in solution of ethanol at 77 K. Whilst internal conversion does not compete with fluorescence in these compounds, an efficient intersystem crossing in the triplet state occurs in a nonradiative pathway to ground state with a low phosphorescence quantum yield. By using the CNDO/S-C1 computational method the excited states were analyzed. The first singlet excited state, as well as the first triplet state, were found to be of π, π^* nature in good agreement with the experimental data. © 1986, Taylor & Francis Group, LLC. All rights reserved.