Large Stokes Shift from Triazine-\(\sigma\)-Phenol Dyes

Significance: Fluorescent dyes exhibiting large Stokes shifts are of great interest for a multitude of applications. The authors report a straightforward synthesis of a series of phenol–triazine dyes that exhibit hydrogen bonding in the ground state and undergo excited state intramolecular proton transfer (ESIPT), leading to the observation of large Stokes shifts.

Comment: An exception to the observation of a large Stokes shift is the perylene-substituted dye; in this case, the perylene is responsible for the emission observed and the energy transfer occurs from the keto form to the perylene moiety. Also noteworthy is the large range of absorption and emission maxima exhibited by the family of dyes in this report.