Fluorescent Dyes by Rational Design and Serendipitous Discoveries

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The rich chemistry of the BODIPY motif, together with its beneficial photophysical properties, has markedly boosted the popularity of this user-friendly fluorophore over the last few decades.^[1] The diversity of easily incorporated fluorescence modulation modes has set the stage for a variety of sensorically active species.

The talk describes which physical-organic rationalisation led to the development of the (Aza-)BOIMPY motif showing a significant red-shift with respect to the parent BODIPY.^[2] In addition, a simple synthetic route to oligomerized ethano-linked BODIPYs (up to an octamer) is presented which can be further oxidized to huge completely conjugated systems.^[3] Photophysical properties are discussed by experimental and theoretical means. It is shown that the suprastructure of the oligomeric dyes plays a significant role for their absorption and emission properties and that the conjugated systems are interesting NIR fluorophores.



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