

Excited-state proton transfer in nucleic acid bases, nucleosides, and their analogues: a mini-review dedicated to Professor David Shugar on his 95-th birthday

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Fluorescent nucleic acid base analogues and the corresponding nucleosides that reveal excited-state proton transfer, including phototautomerism, are briefly characterized, and their potential applications as fluorescent probes discussed. Among the most promising systems are formycins and some 8-azapurines as well as the corresponding nucleosides, like 8-azaxanthosine. Other, non-fluorescent systems exhibiting phototautomeric behavior are reviewed, with special emphasis on the G-C dimer.