**Photochemistry of Bilirubin Dipyrrinone Subunits**

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Bilirubin (BR) is an essential metabolite formed by the catabolism of heme. Phototherapy with blue-green light can be applied to reduce high concentrations of BR in blood, especially in the neonatal period.[1] In our work, we studied the photochemistry of both bilirubin dipyrrinone subunits (**1** and **2**, prepared as the corresponding methyl esters) by steady-state and transient spectroscopies.[2,3] Bilirubin subunits represent useful models to study of the complex photochemistry of bilirubin. Both subunits undergo efficient reversible photoisomerization (*ΦZE* ~ *ΦEZ* ~ 0.15–0.30), furthermore, *E*-**1** undergo lumirubin-type photorearrangement to form a seven-membered ring system. The cyclization process is significantly less efficient (*Φ*c ~ 0.001–0.07), but is strongly wavelength-dependent.

The photochemistry of bilirubin dipyrrinone subunits and its biological properties are discussed and compared to those of bilirubin.



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[3] Janoš, J.; Madea, D. *et. al. J. Phys. Chem. A.* **2020**, *124*, 10457.