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pH Dependant Binding and Irradiation of Protoporphyrin IX to Human Serum Albumin SARAH ROZINEK, LORENZO BRANCALEON, UTSA — Irradiation of the non-covalent complex, protoporphyrin IX (PPIX) bound to β-lactoglobulin (β-lg), causes a modest unfolding of the protein localized to Trp19. PPIX binds to β-lg at a site affected by the pH of the solution. At physiological pH, PPIX is known to bind HSA in hydrophobic binding sites located in subdomain IIA and IIIA. However, no evidence is presented for the binding behavior of PPIX to HSA in non-physological pH confirmations, nor on the effects of irradiation on the bound system at any pH. The combination of spectroscopic data and molecular simulations suggests that distinct PPIX-compatible binding sites become available at each confirmation of HSA at pH 3, 7.4, and 9.

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