

Abstract Submitted  
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**Effect of Porphyrins Bound to Tubulin Dimers** BRADY MCMICKEN, UTSA — Photosensitizers are photoactive molecules that when irradiated with UV or visible light initiate photochemical or photophysical reactions that may affect the environment surrounding them, including proteins to which they are attached. Our photosensitizers of interest are the anionic porphyrin, mesotetrakis (sulfonatophenyl) porphyrin (TPPS), which bind noncovalently to Tubulin dimers. This is significant since we can then irradiate the porphyrin and cause a change in the geometry of the protein to specifically affect its function. What has yet to be fully understood is the mechanism of the photochemical reaction and unfolding of the protein after irradiation. A combination of various spectroscopic methods can give us insight into the structural changes of the photosensitizer and the protein and characterize the conformational changes produced in the protein. The study is completed by computational simulations of the docking as well as the unfolding of the protein.

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