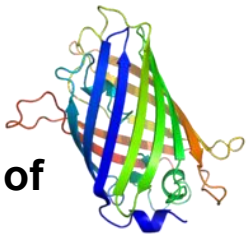

Photo-fragmentation and photo-electron spectroscopy of isolated biochrompohores

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The green fluorescent protein (GFP) originally isolated from the bioluminescent Aequorea Victoria jelly fish has revolutionized biological research due to its application as a fluorescent marker. In understanding the basic mechanisms responsible for the photo-activity of the GFP we study its chromophore in the gas phase. These measurements have the advantage of yielding information on the intrinsic properties of the chromophore, and that they can be directly compared with calculations.

In the present study we combine photo-absorption and photo-electron spectroscopy measurements to determine the vertical detachment energy of the isolated GFP chromphore and to reveal an interesting competition between the different de-excitation pathways available following photo-excitation. Additional studies of the chromophore of the photo-active yellow protein will also be presented.

References:
[1] Y. Toker, D. B. Rahbek, B. Klaerke, A. V. Bochenkova, L.H. Andersen; Phys. Rev. Lett. **109** (2012), 128101.

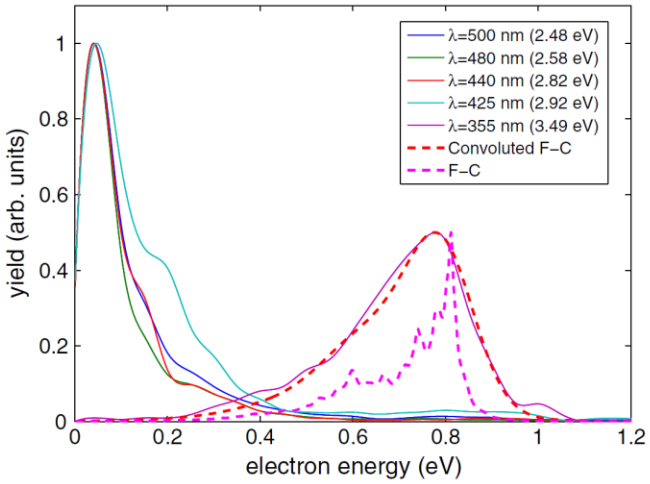

Figure 1- Photoelectron-energy distribution for the GFP chromophore.