

The Influence of Histidine Tag Attachment on Picosecond Protein Dynamics

Megan C. Thielges⁺, Jean K. Chung⁺, Jun Y. Axup[#], and Michael D. Fayer^{+*}

⁺Department of Chemistry
Stanford University, Stanford, CA 94305
*fayer@stanford.edu

[#]Department of Chemistry and the Skaggs Institute for Chemical Biology
The Scripps Research Institute, La Jolla, CA 92037

Supporting Information: Multiexponential Fits to CLS Decay of MbCO, CD and UV/Visible Spectra of His₆Mb

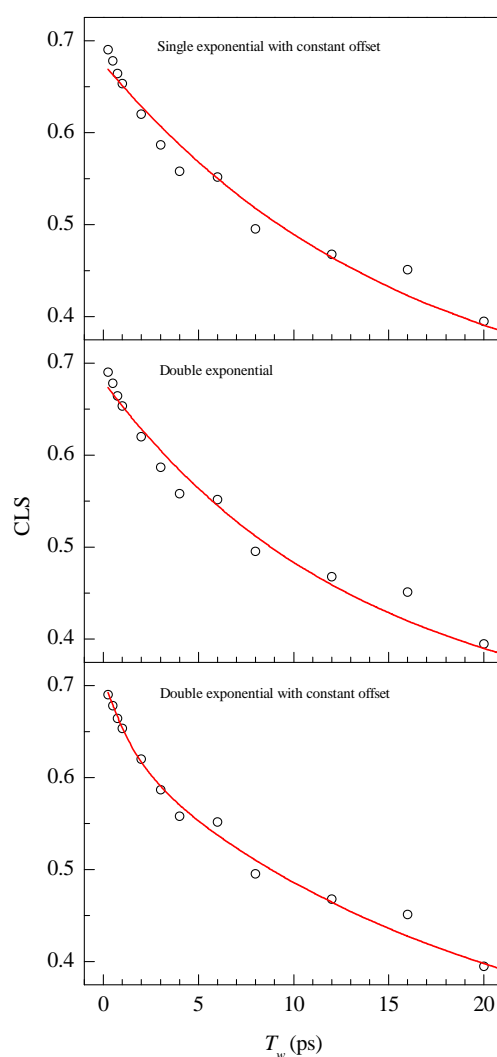


Figure SI-1: Multiexponential fits (lines) to CLS decay (symbols) of MbCO. A double exponential fit with a constant offset is necessary to adequately fit the data at the earliest T_w times. The simpler models clearly miss the short time data points.

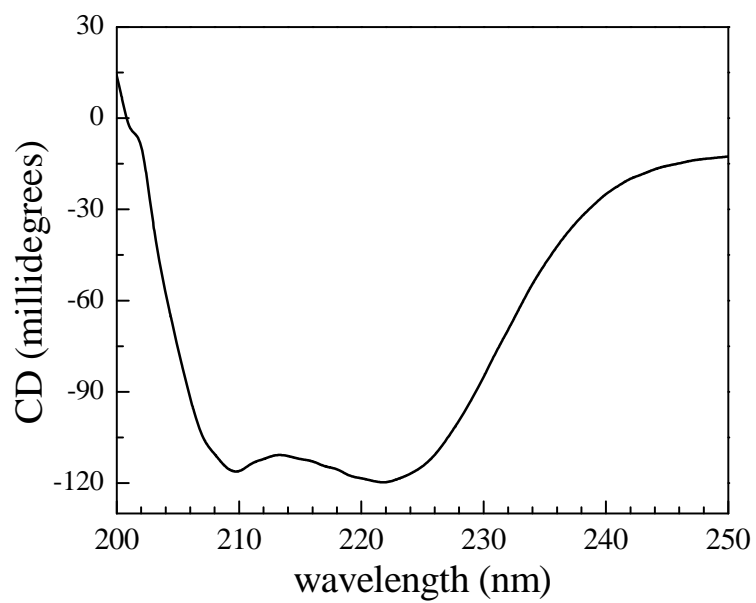


Figure SI-2: CD Spectrum of His₆Mb in PBS/50% glycerol. The spectrum is consistent with the largely alpha helical content of Mb, similar to that observed previously,¹ suggesting the overall folded structure is retained in His₆MbCO.

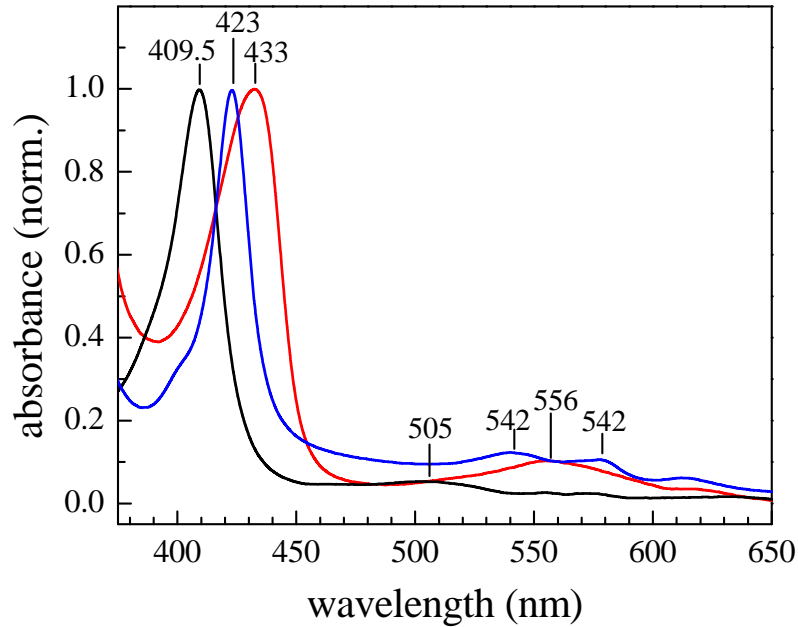


Figure SI-3: UV/Visible spectrum of His₆Mb in PBS/50% glycerol when oxidized (black), reduced (red), and bound to CO (blue). The frequencies of the Soret and visible bands are the same as previously observed for unmodified sperm whale Mb.²

References

1. Greenfield, N., Fasman, G.D. (1969) Computed circular dichroism spectra for the evaluation of protein conformation, *Biochemistry* 8, 4108-4116.
2. Antonini E. & Brunori M. (1971) *Hemoglobin and Myoglobin in their Reactions with Ligands*, Amsterdam, The Netherlands: North-Holland.