TABLE V: Comparison of ϕ for Normal and CPA-Treated Hemoglobin.^a

Ionic Strength	Protein Concn (mg/ml)	φ for Hb	φ for Hb(CPA)
0.011	0.1	0.44	0.44
0.22	0.015	0.67, 0.74	0.64
0.22	0.015	0.73	0.69, 0.75
0.22	0.015	0.69	0.75

^a Reactions were at pH 7.0 and 20°.

factors affect the quantum yield.

The data for myoglobin reported in Table I show that significant changes in the quantum yield can be produced by alterations in ionic strength or protein concentration. In these cases the modification of the quantum yield occurs without changes in the state of aggregation of the protein. Therefore, similar changes in the quantum yield of hemoglobin are not adequate to establish a relationship between quantum yield and protein dissociation. The results obtained for the isolated chains of hemoglobin establish that the quantum yield is dependent on at least one other variable. In addition to ionic strength and protein concentration, the composition of the protein is an important factor, since various monomeric proteins under the same experimental conditions have different quantum yields.

The effect of ionic strength and protein composition on energy quenching, which is indicated by an alteration in quantum yield, is not surprising in view of the effects that solvent and protein composition are known to have on such things as fluorescence quenching (Weber and Teale, 1965). However, the discovery that the concentration of a non aggregating protein can affect the quantum yield of CO photodissociation is most unexpected, since it would appear to indicate some type of intermolecular interaction at very low protein concentrations.

References

Antonini, E. (1965), Physiol. Rev. 45, 123.

Antonini, E., Wyman, J., Zito, R., Rossi Fanelli, A., and Caputo, A. (1961), J. Biol. Chem. 236, PC60.

Boyer, P. D. (1954), J. Am. Chem. Soc. 76, 4331.

Brunori, M., Noble, R., Antonini, E., and Wyman, J. (1966), *J. Biol. Chem.* 241, 5238.

Bucci, E., and Fronticelli, C. (1965), *J. Biol. Chem.* 240, PC551.

Bucci, E., Fronticelli, C., Bellelli, L., Antonini, E., Wyman, J., and Rossi Fanelli, A. (1963), *Arch. Biochem. Biophys. 100*, 364.

Bucci, E., Fronticelli, C., Chiancone, E., Wyman, J., Antonini, E., and Rossi Fanelli, A. (1965), J. Mol. Biol. 12, 183.

Bücher, T., and Negelein, E. (1942), *Biochem. Z. 311*, 163.

Dintzis, H. (1952), Ph.D. Thesis, Harvard University, Cambridge, Mass.

de Duve, C. (1948), Acta Chem. Scand. 2, 264.

Gibson, Q. H., and Ainsworth, S. (1957), *Nature 180* 1416.

Haldane, J., and Smith, J. L. (1896), J. Physiol. 20, 497.

Mood, A. M. (1960), Introduction to the Theory of Statistics, New York, N. Y., McGraw-Hill.

Moore, S., and Stein, W. H. (1948), J. Biol. Chem. 176, 367.

Rossi-Fanelli, A. (1949), Haemoglobin Symposium, Cambridge, 1948, p 115.

Rossi-Fanelli, A., and Antonini, E. (1958), Arch. Biochem. Biophys. 11, 478.

Rossi Fanelli, A., Antonini, E., and Caputo, A. (1961), J. Biol. Chem. 236, 391.

Taylor, J. P., and Hastings, A. B. (1939), *J. Biol. Chem.* 131, 649.

Warburg, O. (1949), Heavy Metal Prosthetic Groups and Enzyme Action, Oxford, Clarendon.

Warburg, O., Nagelein, E., and Christian, W. (1929), Biochem. Z. 214, 26.

Weber, G., and Teale, F. W. J. (1965), Proteins 3, 445.

Zitcker, Antonini, E., and Wyman, J. (1964), *J. Biol. Chem.* 239, 1804.

CORRECTION

In the paper "Binding of Proflavine to α -Chymotrypsin and Trypsin and Its Displacement by Avian Ovomucoids," by Gad Feinstein and Robert E. Feeney, Volume 6, March 1967, page 749, in line 17 of the abstract the word *faster* should read *slower*. The corrected sentence should read "It was found that turkey ovomucoid reacted slower with chymotrypsin than with trypsin."