

## CORRESPONDENCE

### Comments on Production and Characterization of Aflatoxin B<sub>2</sub> Oximinoacetate

*Sir:* In an otherwise excellent paper on the chemistry of aflatoxin B<sub>2</sub> oximinoacetate in the March/April 1989 issue of the *Journal of Agricultural and Food Chemistry* K. L. Hastings et al. (1989) perpetuate a misunderstanding about the formation of Schiff bases with amino functions in proteins.

The Schiff base formed by an aldehyde having a hydroxy group  $\alpha$  to the carbonyl is susceptible to further prototropic transformation known as the Amadori rearrangement.

This process is well documented for sugars and glyceraldehyde. The Amadori rearrangement also occurs with Schiff bases formed by the 8,9-dihydro-8,9-dihydroxy derivatives of aflatoxin B<sub>1</sub> or via the epoxide or the dichloride (dibromide). The ultimate structure is the result of still further prototropic shifts (Sabbioni et al., 1987). While it is remotely possible that these transformations are induced only in the process of isolation, the evidence argues that a Schiff base is not the actual structure present in a protein that has reacted with aflatoxin B<sub>1</sub> dihydrodiol (or equivalent).

Therefore, in the paper by Hastings et al. (1989) the

structures for the Schiff base conjugate and the dichloride (dibromide) conjugate in Figure 1 are incorrect. The structures of the guanine adduct, which lacks a proton on the N-7 position of guanine, is correct as shown because it cannot undergo further rearrangement.

**Registry No.** Aflatoxin B<sub>2</sub> oximinoacetate, 118920-31-3.

#### LITERATURE CITED

- Hastings, K. L.; Hagler, W. M., Jr.; Harris, T. M.; Voyksner, R. D.; Dean, J. H. Production and Characterization of Aflatoxin B<sub>2</sub> Oximinoacetate. *J. Agric. Food Chem.* 1989, 37, 393-399.
- Sabbioni, G.; Skipper, P. L.; Büchi, G.; Tannenbaum, S. R. Isolation and Characterization of the Major Serum Albumin Adduct Formed by Aflatoxin B<sub>1</sub> in Rats. *Carcinogenesis* 1987, 8, 819-824.

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Received for review April 14, 1989. Accepted July 11, 1989.

#### CORRECTION

CHARACTERIZATION OF THE KINETICS OF BREAKDOWN OF PROTEIN STABILIZED OIL IN WATER EMULSIONS, by Robert L. Jackman,\* Rickey Y. Yada, and Allan T. Paulson, *J. Agric. Food Chem.* 1989, 37, 600-604.

Page 601, column 2: With reference to eq 5 (i.e.,  $A = A_e$  at  $t \leq t_e$ ) should read (i.e.,  $A = A_e$  at  $t \geq t_e$ ).