

F.3, 23.7 per cent., and F.2.a, 20.4 per cent. of ovomucoid. These fractions were obtained from those immediately following the separation of the crystalline ovalbumin, and F.1 was precipitated by simply adding an equal volume of saturated ammonium sulphate solution to the solution of these fractions.

We have obtained two preparations of ovomucoid in sufficient quantity for analysis and have found them, when dried at  $110^{\circ}$ , to have the following composition, which agrees with that given by Zanetti<sup>1</sup> and by Mörner<sup>2</sup>.

## COMPOSITION OF OVOMUCOID.

	E.4	D.3.3.	Zanetti. <sup>1</sup>		Mörner. <sup>2</sup>
Carbon .....	49.02	48.90	48.94	48.75	....
Hydrogen .....	6.45	6.61	6.94	6.90	....
Nitrogen .....	12.71	22.16	12.46	....	12.65
Sulphur .....	2.38	2.34	2.22	....	2.20
Oxygen .....	29.44	29.99	29.44	....	....
	100.00	100.00	100.00		

The specific rotation was found to be E.4,  $-61^{\circ} 38'$ ; D.3.3,  $-61^{\circ} 10'$ ; F.3.3,  $-61^{\circ} 20'$ ; K.3.3,  $-61^{\circ} 30'$ .

## NOTE.

*The Employment of Ammonium Molybdate as a Test for Tin.*  
—In the April number of this Journal there is a note by Mr. Allen Rogers on the use of ammonium molybdate as "a very delicate test for tin." Mr. Rogers does not refer to my paper on this subject in the *Chemical News* for December 15 last,<sup>3</sup> and I shall therefore assume that he has not seen it. Perhaps I may therefore be permitted to state briefly the substance of that paper.

Although the color reaction involved is a well-known test for molybdenum, I have been unable to find that, prior to the appearance of my paper, it had ever been suggested as a test for tin; and, having regard to its extreme delicacy in this respect, it seems highly improbable if it had been, that the fact would have been allowed to go into oblivion. My own experience, and I

<sup>1</sup> *Ann. di Chim. e Farmac.*, No. 12, 1897.

<sup>2</sup> *Zeit. physiol. Chem.*, 18, 325.

<sup>3</sup> *Chem. News*, 79, 282 (1899).

believe that of others also, is that the detection of tin in complex mixtures is, with the methods of the text-books, a great difficulty to students, whereas the test now proposed makes it exceedingly easy—assuming ordinary care to be taken.

For the success of this method, two important points must be attended to: *First*, in reducing stannic chloride to stannous chloride, the zinc employed must be entirely free from traces of tin. Samples of commercial zinc that I tried were found quite useless for the purpose. I employed pure zinc supplied by Harrington's for my experiments. *Second*, since a very dilute stannous solution, on exposure to air, becomes oxidized to stannic in a marvelously short time, as soon as the zinc and tin are completely dissolved in hydrochloric acid and the solution is diluted, the ammonium molybdate must be added at once.

I observe that Mr. Rogers finds that "a solution of stannic chloride containing 0.000042 gram to 1 cc. gives a faint blue color with ammonium molybdate." This corresponds to 1 part of stannous chloride in rather less than 240,000 parts of solution. Had he used boiled water in making up his solution, he would have found that the delicacy of the test is far greater than this. By taking the precautions described in my paper, I was enabled to get a delicacy of 1 in 1,500,000. I concluded, however, that under ordinary conditions of working, a very distinct blue color is given by the presence of 1 part of stannous chloride in anything up to 100,000 parts of solution.

I am very glad to find that Mr. Rogers confirms my experience in three points: (1) that ammonium molybdate is a much better reagent than mercuric chloride for stannous chloride; (2) that the reagent must not be added without first of all diluting the hydrochloric acid present in the solution to be examined; and (3) that the ordinary laboratory reagent gives results that are most satisfactory.

I shall merely add that the method has been used in this laboratory during the past five months with uniform success.

J. P. LONGSTAFF.