

Although the test with turmeric paper is by far the most delicate, it is a well-known fact that with the average student in qualitative analysis, the results are very uncertain; should a trifle too much acid be used to liberate the boric acid, the turmeric paper when dried will be brown instead of pink. If insufficient acid be added, there will be no boric acid coloration of the paper, even though considerable borate may be present.

The method that we recommend is intended to supplant the usual watch-glass or porcelain dish method that is in general use in most qualitative laboratories. Our modification of this method not only makes the test more delicate, but may be performed with the simplest apparatus; a test-tube, cork, and small piece of tubing are all that is necessary.

THE SPECIFIC GRAVITY OF CESIUM.

BY A. E. MENKE.

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THE specific gravity of cesium was determined many years ago by Setteler and given as 1.88. He, however, worked with relatively small quantities of the metal (0.6 and 1.1 gram) as his method of preparation did not allow him to obtain cesium in quantity. I have recently, in collaboration with Prof. Hugo Erdmann of Halle, made cesium on a large scale and it seemed to me advisable to redetermine the specific gravity.

The cesium for this purpose was purified by several redistillations in hydrogen, and then examined spectroscopically. The metal was weighed in hydrogen and then under liquid paraffin giving the following results as the specific gravity referred to water.

No. 1.	2.4001
No. 2.	2.4004
No. 3.	2.3996
No. 4.	2.4002
No. 5.	2.3998
No. 6.	2.4001
Mean	2.40003

In each case not less than four grams of metal were employed, and the proper correction made for hydrogen weighing.

These results change the atomic volume of cesium from the figure usually given (70.6 to 55.3) which does not make the drop

in the atomic volume curve from cesium to barium as abrupt as heretofore. It however affects the symmetry of the vertical column. The specific gravity of rubidium is probably not correct. I expect to redetermine it shortly.

The following parts of the atomic volume tables illustrate the points in question :

TABLE OF ATOMIC VOLUMES WITH SP. GR. OF CESIUM 1.88.

K..... 45.4	Ca..... 25.4	Sc..... 17
Rb 56.2	Sr..... 35	Y 24.8
Cs..... 70.6	Ba 36.5	La 22

TABLE OF ATOMIC VOLUMES WITH SP. GR. OF CESIUM 2.40003.

K..... 45.4	Ca..... 25.4	Sc..... 17
Rb 56.2	Sr..... 35	Y 24.8
Cs 55.3	Ba 36.5	La 22

These experiments confirm Beketoff's results on the atomic volume of cesium.

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[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF LAFAYETTE COLLEGE.]

AN APPARATUS TO FACILITATE HYDROGEN SULPHIDE PRECIPITATIONS.

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THE piece of apparatus described below has been in use here for the past term by the students of my class in qualitative analysis and answers fully the purpose for which it was designed : to hasten the precipitation of the copper-arsenic group by hydrogen sulphide. It consists of an ordinary flask or gas bottle of any suitable form and capacity, provided with a closely-fitting two-hole rubber stopper. A piece of glass tubing bent at right angles passes through one hole to the bottom of the flask, serving as an inlet for the gas. This is connected with the hydrogen sulphide generator by a half or three quarters of a yard of light rubber tubing. A piece of glass tubing bent in the gas flame to the form shown in the cut passes through the other hole and serves as an outlet for the gas.

