

ON DETERMINING THE ROTATION OF LEFT-HANDED SOLUTIONS WITH THE GERMAN (*Scheibler-Ventzke-Soleil*) INSTRUMENT.

BY GEO. S. EYSTER, PH. D.

The following plan for determining negative rotation, in the absence of an instrument graduated for left-handed solutions, occurred to me some time ago. Though seeming quite obvious, I have not seen it in print.

If we use a + quartz plate reading n degrees to the right (either used instead of one of the cover-glasses, or sunk in an outside recess of one of the brass caps, and secured in place by a thin metal ring and three screws) in connection with a — solution of less rotating power the reading will be N or $n-x = N = -x = (N-n)$ where $-x$ = the rotating power of the solution in degrees of the instrument. For instance :

The reading of the quartz plate is 90° .

The reading of the plate and solution is 66° , then $-x = 66^\circ - 90 = -24^\circ$.

Or in other words, the solution has lowered the reading from 90° to 66° ; hence is left-handed and is equal in value to the difference between 90° and 66° .

It is best to use a plate reading from 80° to 100° rather than one of much less thickness, as apart from the facility it affords for using a double normal solution for inversion, the value and equality of that portion of the scale is better under control.

I have not had a good opportunity to test the method since it occurred to me, but its success, as one acquainted with the principle of the quartz compensator will readily see, is merely a matter of detail.

NOTES ON THE AMMONIA PROCESS FOR WATER ANALYSIS (ILLUSTRATED BY THE PUMP-WELL WATERS OF BROOKLYN AND NEW YORK CITIES.)

BY NELSON H. DARTON.

It is with hesitation that I add to the now almost too voluminous literature of water analysis. The investigations of which I wish to give results have revealed however considerable matter of interest, especially in regard to the volatile nitrogenous matters which for some time have been known to be a con-