

TABLE III.

No.	Material	Chlorinations	Per cent. of Cellulose
1	White oak, sapwood.....	1 hour, 20 minutes and to bleach	55.90
2	" " "	" " " " " "	56.34
3	" " "	and to bleach	56.40
4	" " "	" " " " " "	54.79
5	Red cedar, "	30 minutes and to bleach	42.04
6	" " "	" " " " " "	41.51
7	" " heartwood.....	" " " " " "	42.52
8	" " "	" " " " " "	43.00
9	Red spruce "	10 minutes and to bleach	58.95
10	" " "	" " " " " "	58.60
11	Cherry, sapwood.....	and to bleach	54.72
12	" " "	" " " " " "	54.43

The final products were all pure white, and none of them gave the lignin reaction with phloroglucinol and hydrochloric acid.

In conclusion, we desire to acknowledge our indebtedness to Mr. D. C. Parmelee for valuable assistance given us in the analytical work.

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NOTES.

On the Determination of Fluorine.—When fluorine is determined by the Berzelius¹ method the results vary and are considerably too low. Seven determinations gave 76 to 94 per cent. fluorine as calcium fluoride. I repeated the work of Seeman² but without being able to find where the loss occurred. Fusing the fluoride with sodium peroxide in a nickle crucible gave no better results. Fourteen determinations, gave 81.4 to 94 per cent. of calcium fluoride taken. I am led to believe that some of the fluorine is retained in the fusion residues as a complex fluoride³, probably in combination with silica.

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The Rapid Determination of Water in Butter. Aluminum Beaker Method.—In the November (1906) Journal,⁴ I described a method for the rapid determination of water in butter, of sufficient accuracy for factory purposes, which consisted merely in boiling the water off from a weighed portion of butter contained in a wide test-tube heated by the naked flame of an alcohol lamp. Very shortly thereafter I made a seemingly slight modification in the method, by adopting the use of an aluminum beaker in place of the test-tube—a mere change in utensil, but a change which so greatly improves the method, both by facili-

¹ Pogg. ann. 1, 169; Schweigg. Jsb., 16, 426; and Treadwell: Kurges Lehrbuch d. Analyt. Chem., Bd. II, 2te, Auf., p. 326.

² Z. Anal. Chem., 44, 369 (1905).

³ Z. Anal. Chem., 33, 505 (1904); Z. Anorg. Chem., 51, 168 (1906).

⁴ This Journal, v. 28, 1611.