

with two other portions of ethyl acetate if deemed advisable. The mixed ethyl acetate extract is washed first with 5 cc. of distilled water and then 5 cc. of diluted sulphuric acid. The washed ethereal solution is then filtered through a dry filter paper and is evaporated on a water-bath until the ethyl acetate has completely dissipated. If a syrupy residue remains it may be weighed as lactic acid. If the test is merely qualitative, the residue is dissolved in 5 cc. of a one per cent resorcinol solution and this solution is layered upon 5 cc. of concentrated sulphuric acid. If the mixture, upon standing for two minutes, followed by gentle rotation, shows a red color, the presence of lactic acid is indicated.

In conclusion we may state that ethyl acetate is the only solvent that we have used which removes the lactic acid without taking with it traces of sugar, citric acid or tartaric acid. Even then, the careful washing of the ethyl acetate extract is essential since these three substances may be mechanically carried over with the ethyl acetate unless the latter is carefully washed. These three substances must be completely removed, otherwise they interfere with the resorcinol test.

## BIBLIOGRAPHY.

- (a) Cook, *JOUR. A. PH. A.*, 16 (1927), 268.  
 (b) Mendelsohn, *Chemist-Analyst*, through *Year Book of Pharm.*, 59 (1922), 148.  
 (c) Germuth, *Ind. Eng. Chem.*, 19 (1927), 852.  
 (d) Schoorl, *Z. angew. Chem.*, 13 (1900), 367.  
 (e) Thomas, *Apoth. Ztg.*, 22 (1907), 206.  
 (f) Scebezényi, *Z. anal. Chem.*, through *A. PH. A. YEAR BOOK*, 7 (1918), 494.  
 (g) Pittarelli, *Rept. Pharm.*, through *Drug. Circ.*, 65 (1921), 50.  
 (h) Muller, *Bull. soc. chim.*, through *Chem. Cent.*, 68 (1897<sup>1</sup>), 87.  
 (i) Kunz, *Unters. Nahr. u. Genussm.*, 4 (1901), 673.  
 (j) Möslinger, *Ibid.*, 4 (1901), 1120; *Z. öffentl. Chem.*, through *Chem. Cent.*, 74 (1903<sup>11</sup>), 1386.  
 (k) Legler, *Arb. Inst. Dresden*, through *Chem. Cent.*, 79 (1908<sup>1</sup>), 299.  
 (l) Trummer, *Z. Landw. Oesterr.*, through *Chem. Cent.*, 79 (1908<sup>11</sup>), 101.  
 (m) Palm, *Z. anal. Chem.*, 22 (1883), 223.  
 (n) Buchner and Meisenheimer, *Ber.*, 37 (1904), 425.  
 (o) Suzukii and Hart, *J. Am. Chem. Soc.*, 31 (1909), 1366.  
 (p) Palm, *Z. anal. Chem.*, 26 (1887), 33.  
 (q) Partheil and Hübner, *Arch. Pharm.*, 241 (1903), 421.  
 (r) Crouer and Cronheim, *Biochem. Cent.*, through *Analyst*, 30 (1905), 403.  
 (s) Nelson, *J. A. O. A. C.*, 9 (1926), 331.  
 (t) Grüss, *Wochschr. Brau.*, 45 (1928), 16 (*Chem. Abs.* (1928)).  
 (u) Ohlsson, *Skand. Arch. Physiol.*, through *J. Chem. Soc.*, 110 (1916<sup>11</sup>), 542.  
 (v) Fletcher and Hopkins, *J. Physiol.*, through *J. Soc. Chem.*, 92 (1907<sup>11a</sup>), 373.  
 (w) Brauer, *Chem.-Ztg.*, 44 (1920), 494.  
 (x) Hartwig and Saar, *Chem.-Ztg.*, through *J. Soc. Chem. Ind.*, 40 (1921), 368A.  
 (y) Ekkert, *Pharm. Zentrnhalle*, 66 (1925), 552.  
 (z) Desche, *Biochem. Z.*, 189 (1927), 77 (*Chem. Abs.* (1928)).

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