boiling vigorously during the entire titration. As the end point is approached, add the urine, two drops at a time, and boil the solution for 30 seconds after each addition. The volume of diluted urine necessary to effect the reduction contains 50 mg. of glucose. A sample of a 24-hour specimen of urine should always be used for the quantitative determination and the amount of glucose eliminated in 24 hours calculated.

Bile.—*Gmelin's test.* Filter 5 cc. of urine repeatedly through a small filter and, when it has drained completely, unfold the filter and allow a drop of yellow conc. nitric acid to fall in the center. Compare test (1), page 56.

Salkowski-Schippers' test. Perform the test according to the method described on page 56, using 10 cc. of urine and 25 cc. of water.

Hay's test. Sprinkle some flowers of sulfur on the surface of the urine. Compare test (2), page 57.

Oliver's test. Acidify 5 cc. of urine with acetic acid and filter if not clear. Add an equal volume of 1% Witte's peptone solution acidified with acetic acid. A white ppt. indicates the presence of bile salts. Compare test (3), page 57.

Repeat the tests with urine known to contain bile.

Blood.—*Benzidine test.* To 2 cc. of benzidine solution in a clean test tube add 1 cc. of urine and then 10 drops of 3% hydrogen peroxide. Compare test (9), page 61. Perform a control test substituting water for the urine.

Repeat the test with urine known to contain blood.

Acetone and aceto-acetic acid.—*Rothera's test.* Saturate 10 cc. of urine with solid ammonium sulfate, add 3 drops of 5% sodium nitroprusside solution (freshly prepared) and about 3 cc. of conc. ammonium hydroxide. Mix and allow to stand for 30 minutes. The development of a reddish-purple, permanganate color indicates the presence of acetone and aceto-acetic acid.

Legal's test. To about 5 cc. of urine add a few drops of sodium nitroprusside solution (freshly prepared) and make