

2 SYNOPSES OF LABORATORY COURSES

SYNOPSIS I

DETECTION OF ELEMENTS IN ORGANIC SUBSTANCES

Nitrogen.—(A) Triturate in mortar a portion of albumin size of a pea with about three times its volume of soda lime, and when well mixed add five times the volume of soda lime and mix thoroughly. Take half of this in a small dry test tube, heat and note the odour of gas ; test for ammonia with litmus.

(*Note.*—One mixture enough for two students.)

(B) Just fill the hollow of a small dry test tube with dry albumin, add a piece of metallic sodium size of a pea which has been pressed and dried with filter paper. Heat gently at first, using a test tube holder, then strongly until end of test tube is red hot and fumes cease to come off. Have 10–15 c.c. of water in a small beaker, drop gently the hot test tube in the water. It will break to pieces and the substance will dissolve in the water. Stir up well with the remains of the test tube, take care there are no pieces of sodium left in the test tube. The nitrogen and the carbon combine with the sodium to form sodium cyanide. Filter from the carbon and glass. If decomposition has been complete, the filtrate will be nearly colourless. Take a portion in a test tube and test for cyanide. Add a drop of a ferrous sol. and a drop of a ferric sol., boil, and when cool acidify with HCl ; a green to a blue colour or ppte. of Prussian blue is obtained. Write equations.