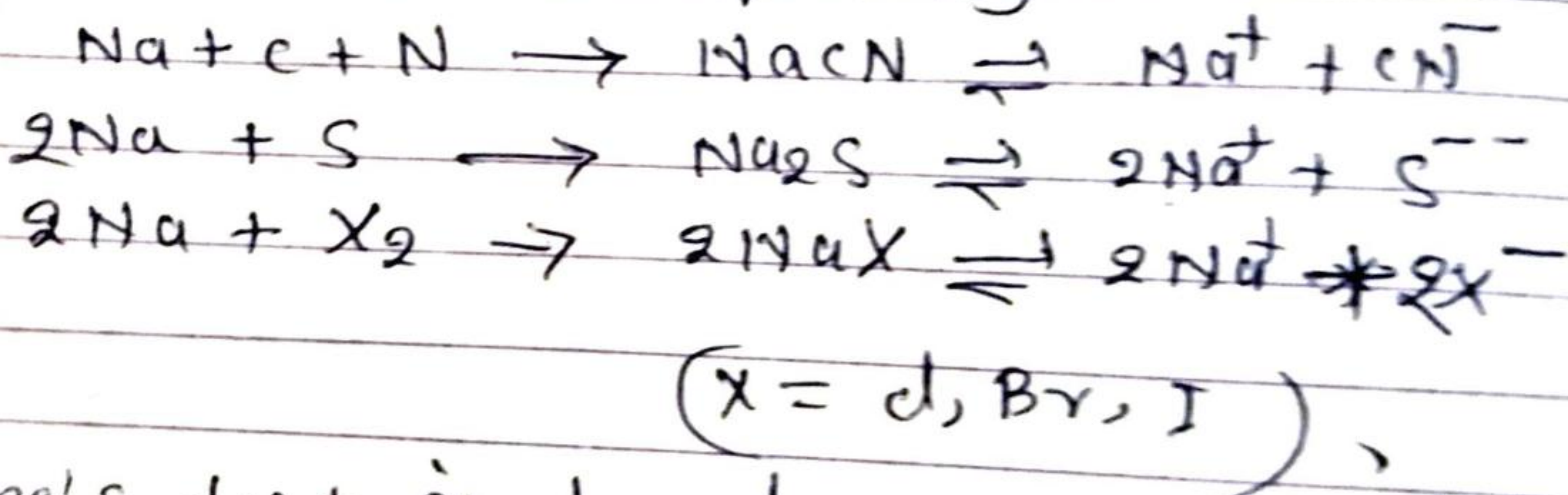


org. compds. ~~are~~ ^{contain} C, H, O, N, S and halogens. The presence of C and H is usually assumed while the presence of oxygen is deduced from the results of the preliminary tests. In order to identify the N, S and halogens "Lassaigne's test" is done.

Lassaigne's Test :->

This test is used for the detection of N, S and halogens. In this test the compound to be examined is ~~examined~~ fused with sodium. After fusion the elements - N, S and halogens form ionisable inorg. compds. Sodium cyanide, sodium sulphide and sodium halide respectively.

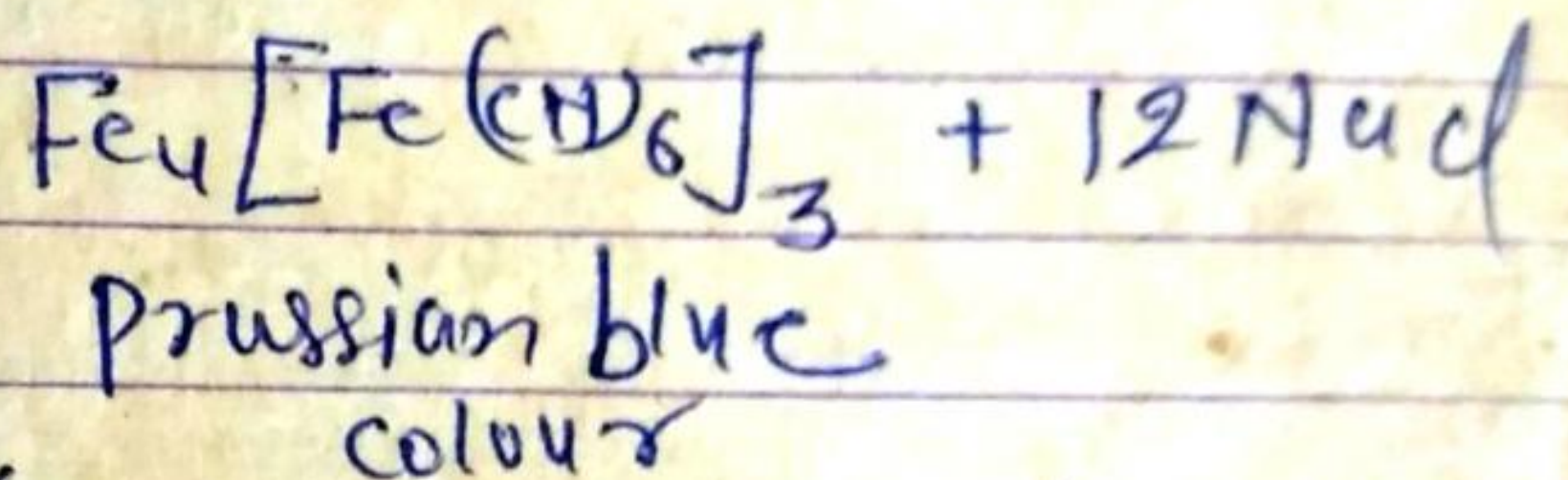
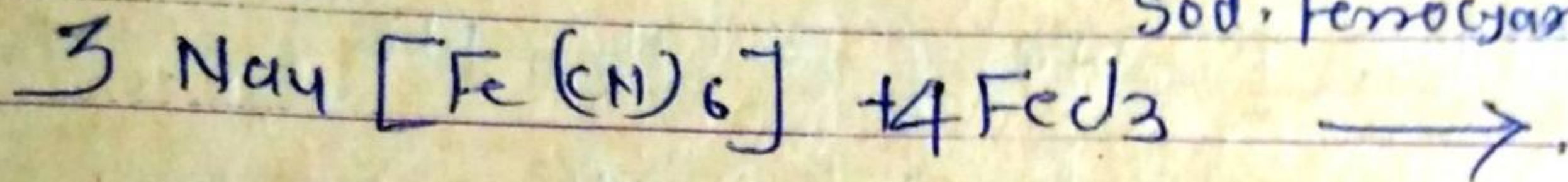
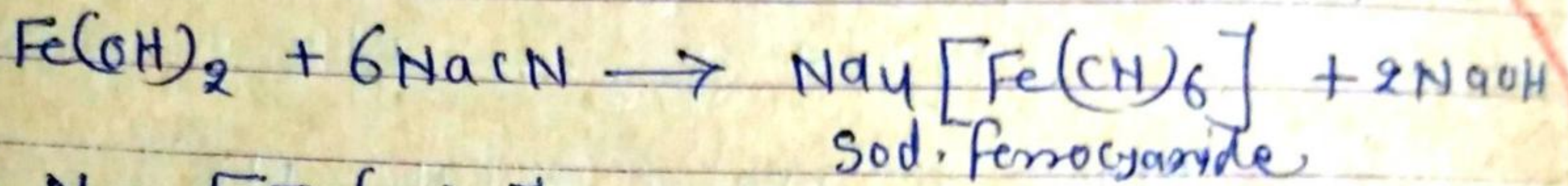
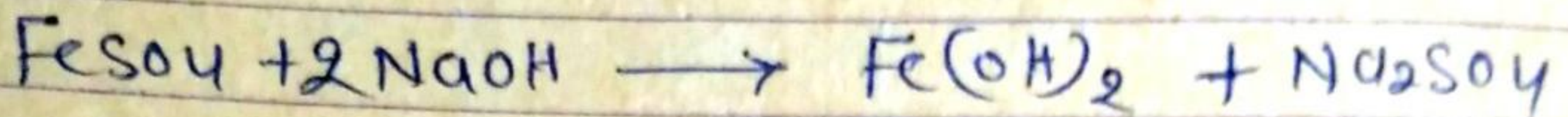
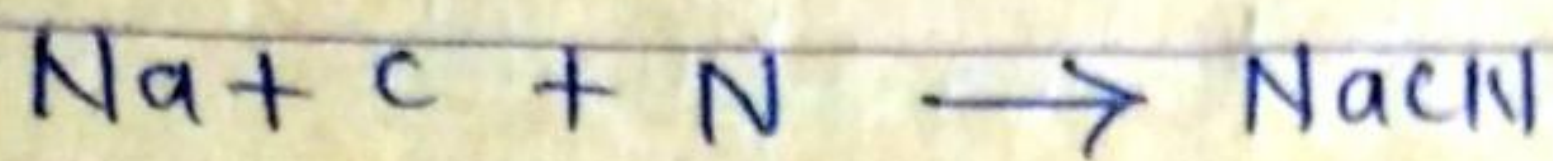


Lassaigne's test is based on the preparation of sodium extract (Lassaigne's solution). Sodium extract is used for the detection of different elements.

Detection of 'N' :->

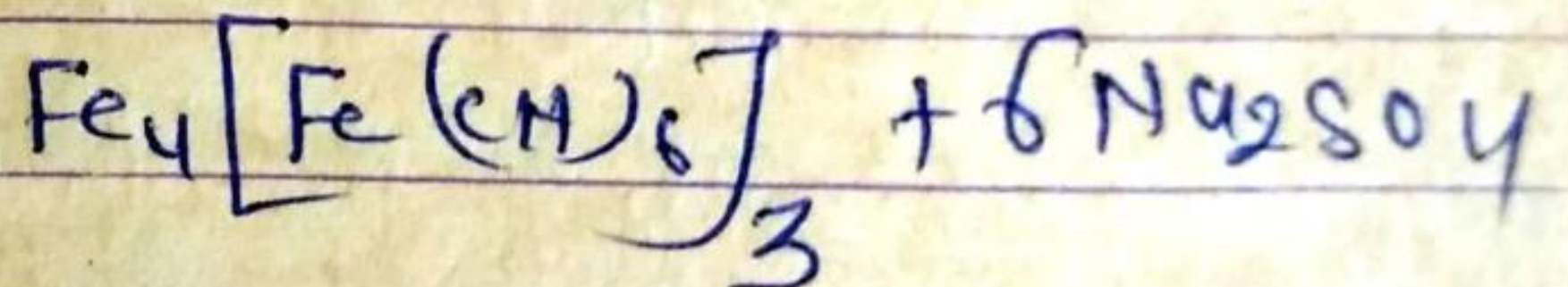
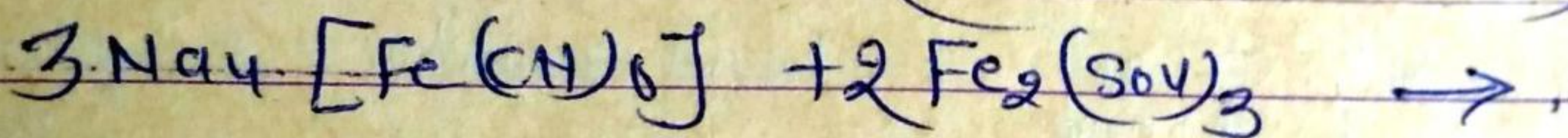
Na-extract (1-2 cc in t.t.) + 1 drop of NaOH solⁿ + Freshly prepared FeSO₄ solⁿ (2-3 drops)
+ Boil + acidified the solⁿ with

Formation of prussian blue or greenish blue colour or ppt. confirms the presence of nitrogen.

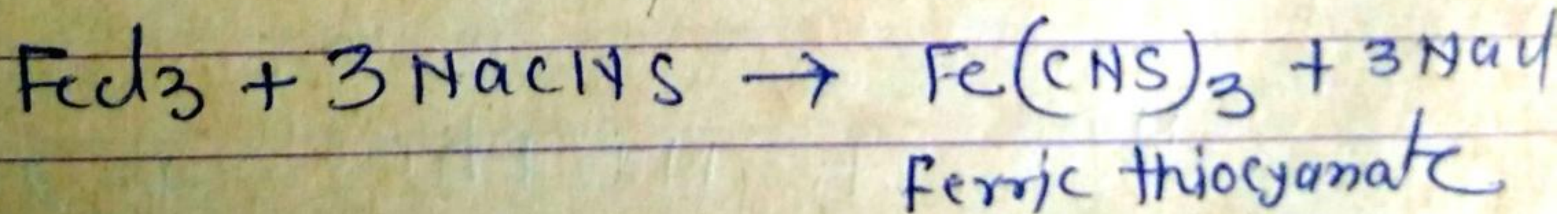
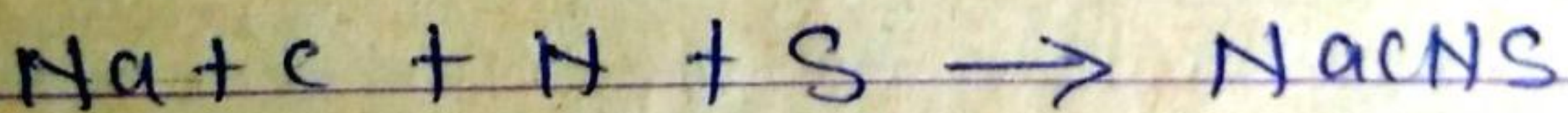


(ferric ferrocyanide)

or,



In the presence of sulphur and nitrogen both it gives blood red colour with the drops FeCl_3 .

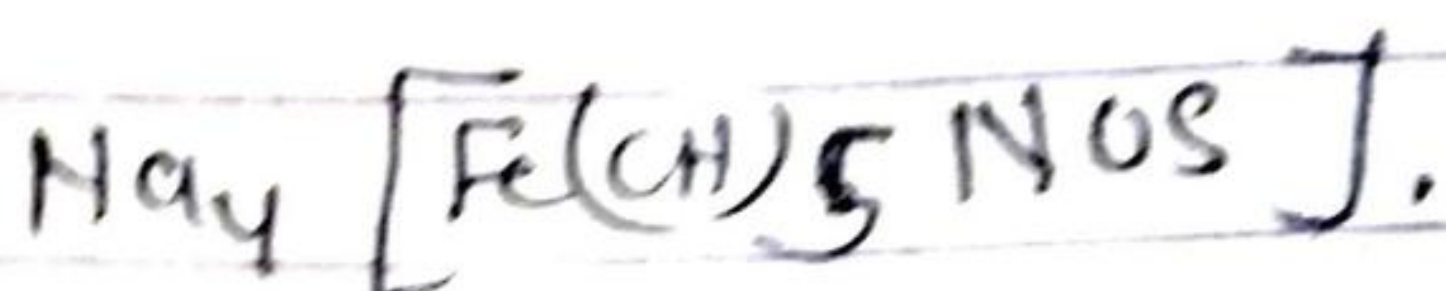
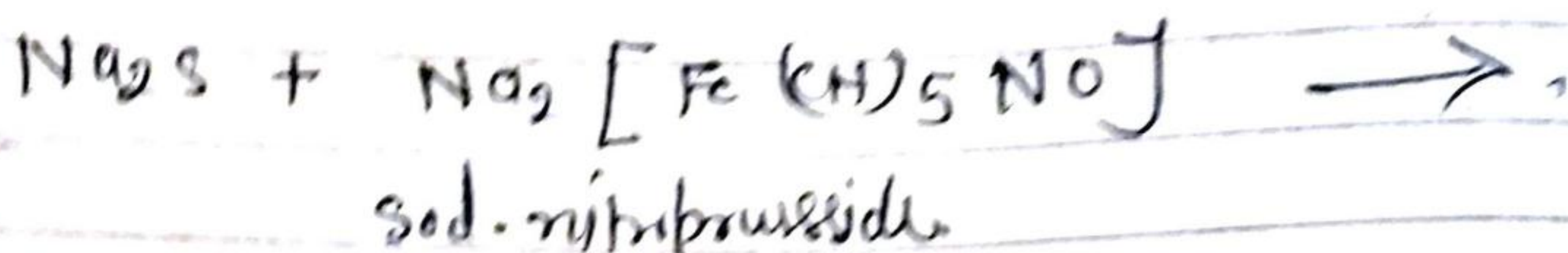


(Blood red colour)

Detection of S :-

(i) 1.c.c. Na-extract + ^{a drop} Freshly prepared sodium nitroprusside

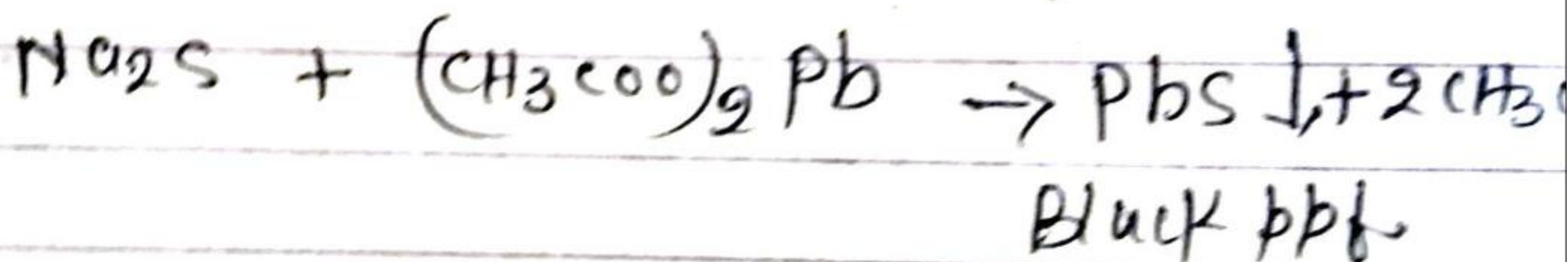
violet or purple colouration confirms the presence of S.



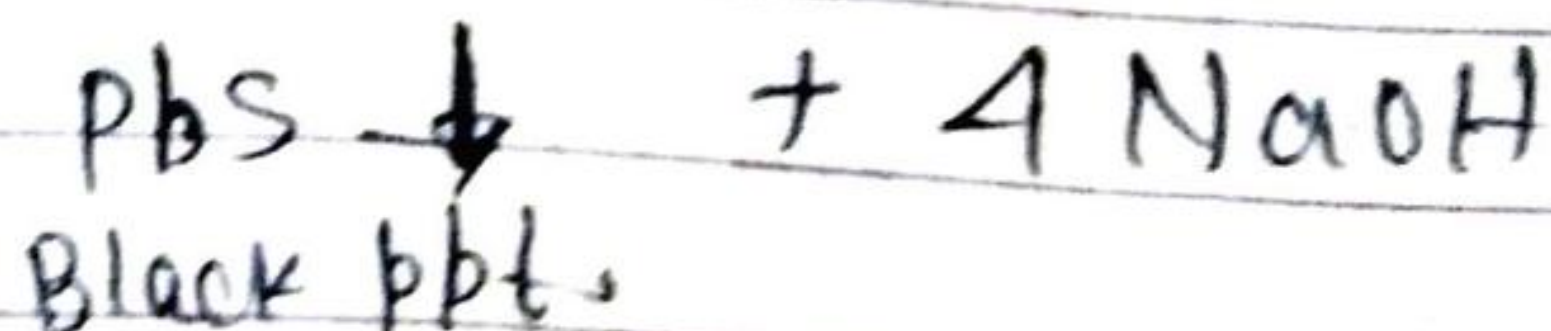
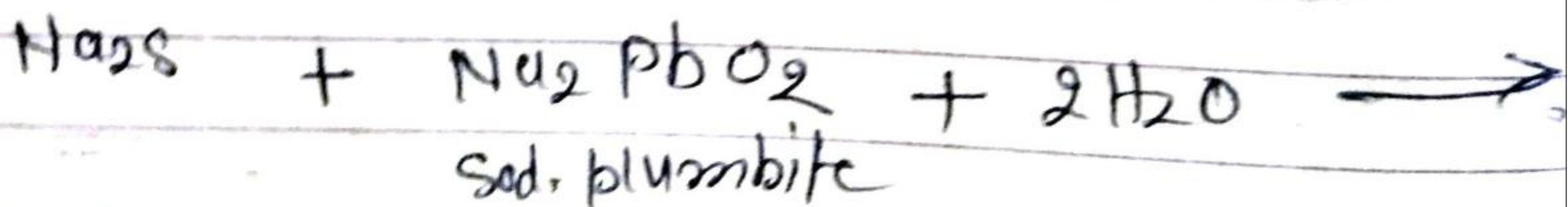
purple colour.

sod. thionitroprusside

(ii) Na-extract + Lead acetate \rightarrow Black ppt
1.c.c. ind. lit confirms presence of S



(iii) Na-extract + sod. plumbite \rightarrow Black ppt confirms.

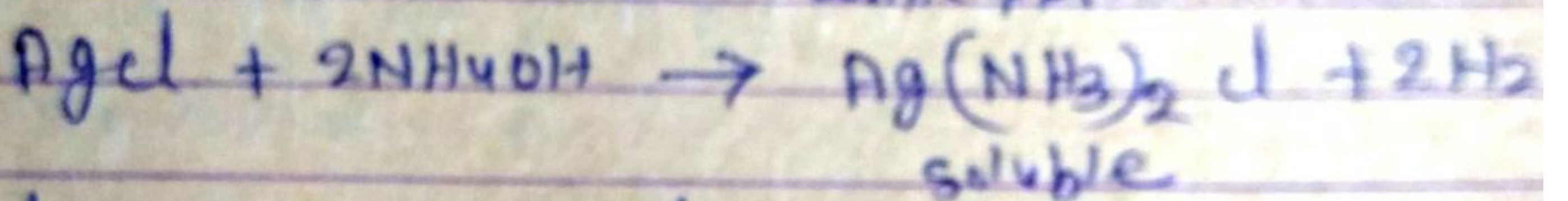
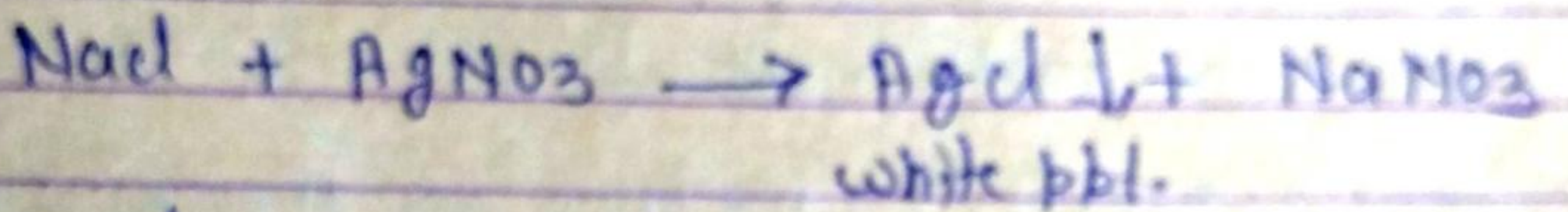


Detection of halogens →

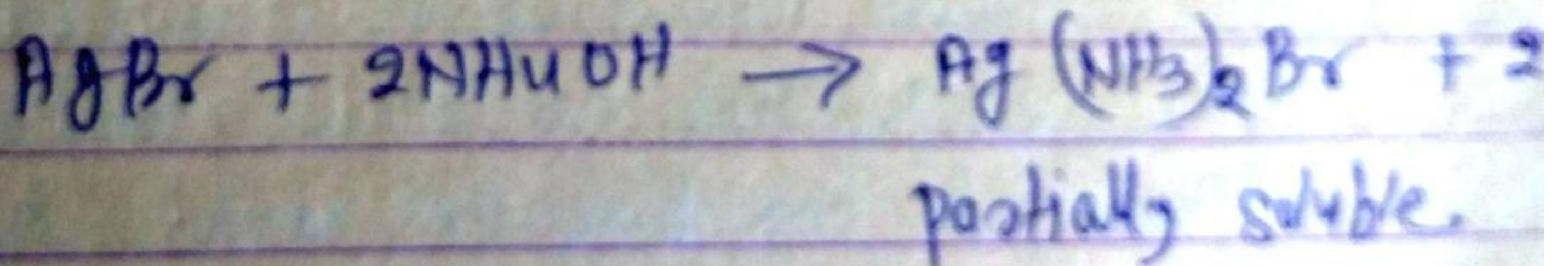
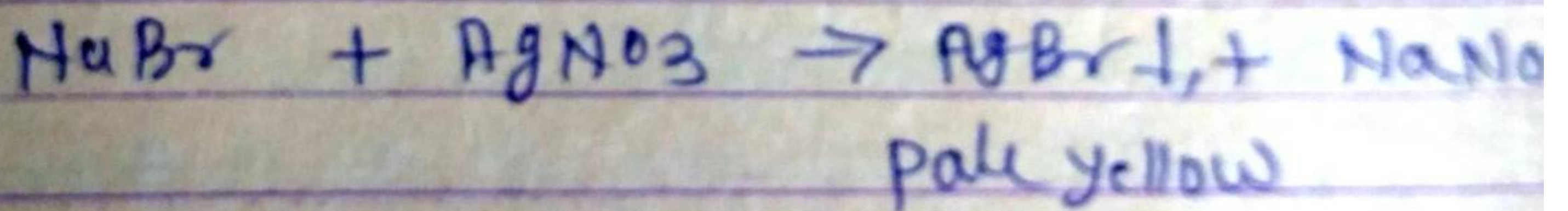
(a) Silver nitrate Test →

Boil 3 c.c of Na-~~carbonate~~ with 1 c.c conc. HNO_3 and then add silver nitrate solution. Note that

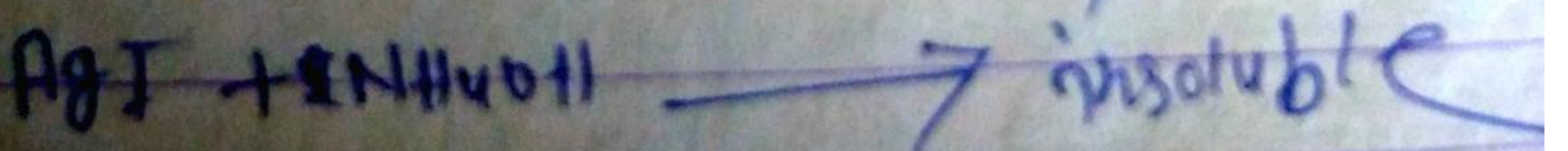
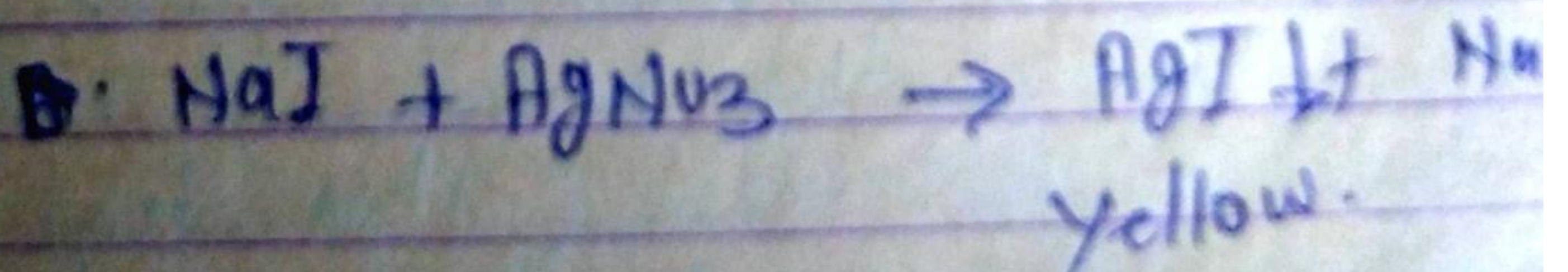
(a) white ~~ppt~~ ~~precipitate~~ curdy ppt. Soluble in NH_4OH — Cl^- present.



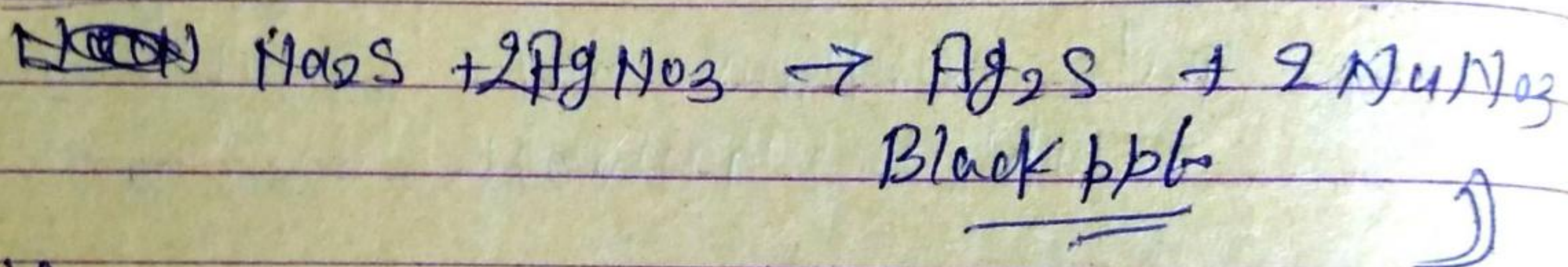
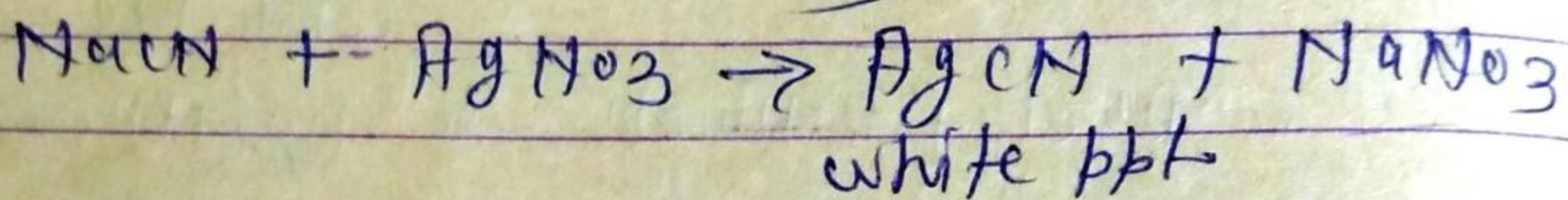
(a) pale yellow ppt. Soluble in partial NH_4OH — Br^- present



(c) yellow ppt insoluble in NH_4OH — I^- present



(When N and S is present then before done the silver nitrate test boil the Na-extract with dil. HNO_3 for 10 minutes to decompose the cyanide or sulphide formed as a result of sodium fusion of cyanide or sulphide formed as a result of sodium fusion is not decomposed before adding AgNO_3 solⁿ a white or black ppt respectively will be formed and so they will interfere)



ii) Beilstein's Test :-

It is a general test for halogens. In this test a clean copper wire is heated in the non-luminous flame of the burner until it is free from green colour. Place a pinch of org. comp^d on the hot wire and again heat it strongly. A green colour indicates the presence of halogen in the org. compound. (This test is not to be employed in the presence of uracil or thiouracil as they also give green colouration on heating with flame).