

Group II Cations

(These metals form sulfides that will NOT dissolve in concentrated HCl)



IN HOOD! (2)

1) 6M NaOH (pH $\approx$ 0.5)

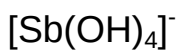
2) thioacetamide (source of H_2S); heat until black



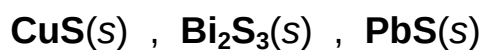
IN HOOD! (3)

1 M NaOH (not 6M)

Group III Cations
(These metals form sulfides that DO dissolve in HCl)



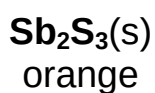
Do step (13) before moving on to step (4)



(13) p.41 in lab manual

6M HCl

IN HOOD!



***(14) p.41 in lab manual**

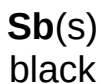
6M HCl
heat

IN HOOD!



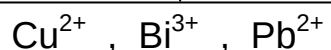
***(15) p.40 in lab manual**

Al(s)
6M HCl



(4)

6M HNO_3



(5)

6M NH_3



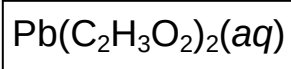
(6)

6M HCl



(8a)

0.5 M
 $\text{NaC}_2\text{H}_3\text{O}_2$

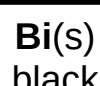


(8b)

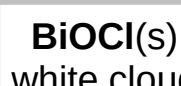
3 M H_2SO_4



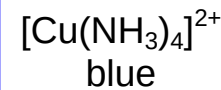
(7a)
6 M NaOH
0.1 M SnCl_2



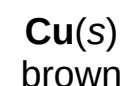
(7b)
Add a few drops to H_2O



solution must be very basic



***(9)** $\text{Na}_2\text{S}_2\text{O}_4$



***Steps 14 and 15 and 9 are extra confirmation steps – skip them if you are short on time.**