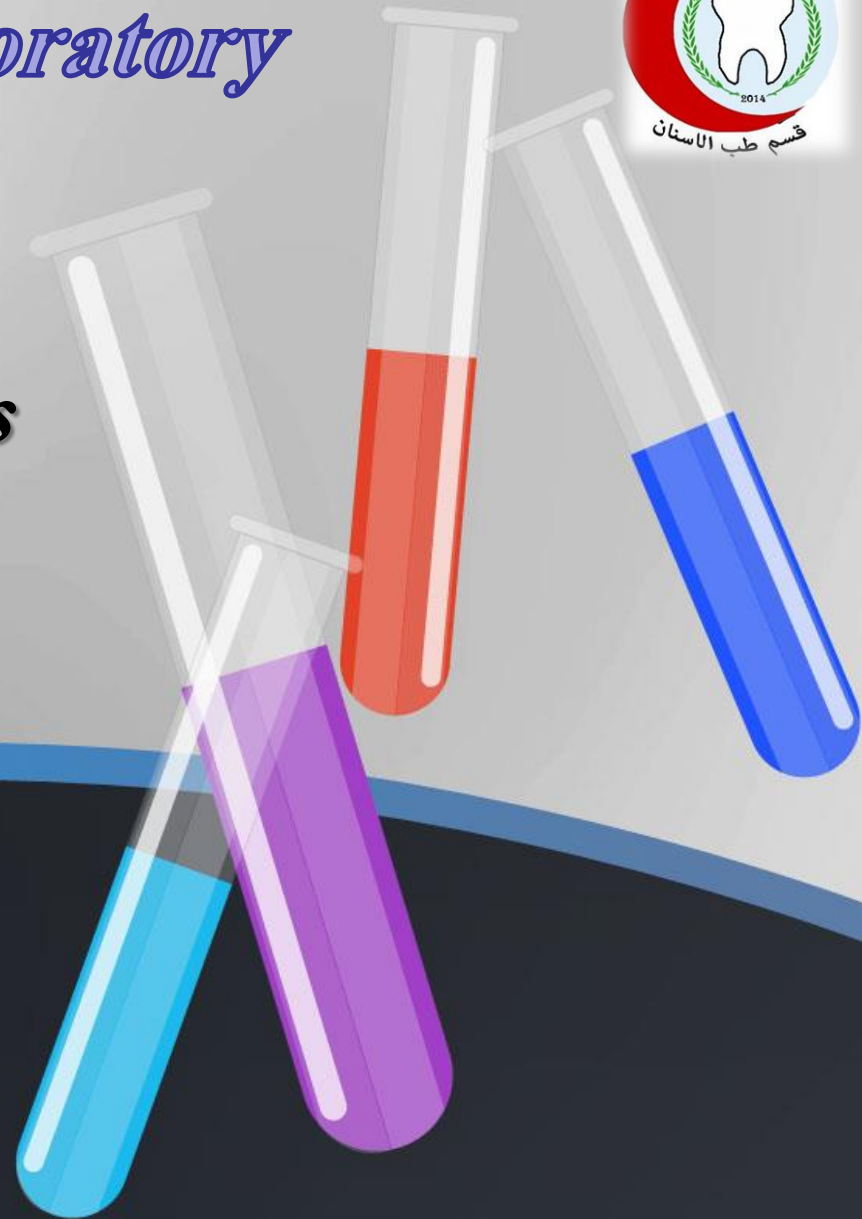


Medical Chemistry Laboratory



Experiment 1 *Test of Positive ions* *Group I*

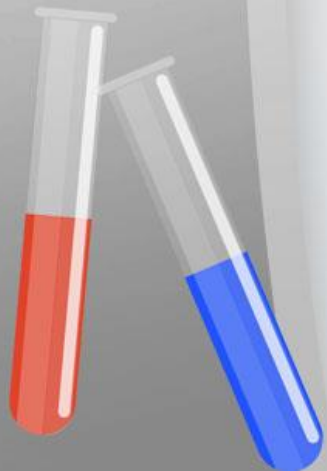
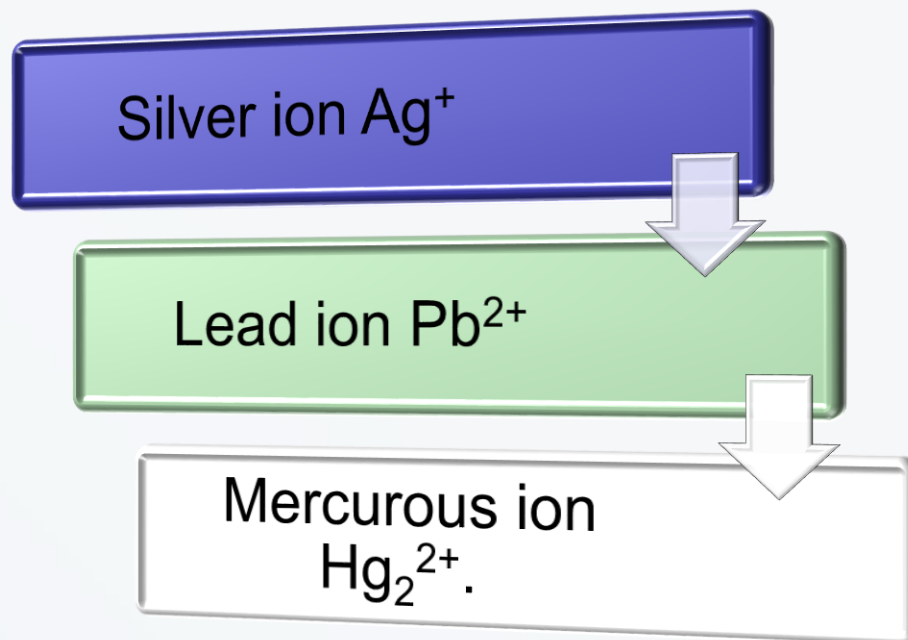


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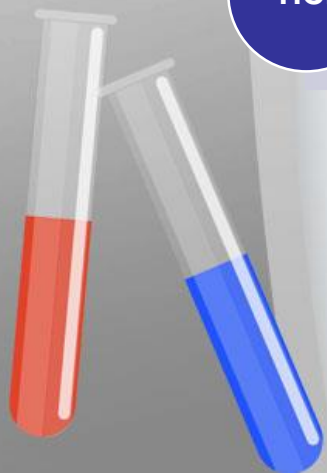
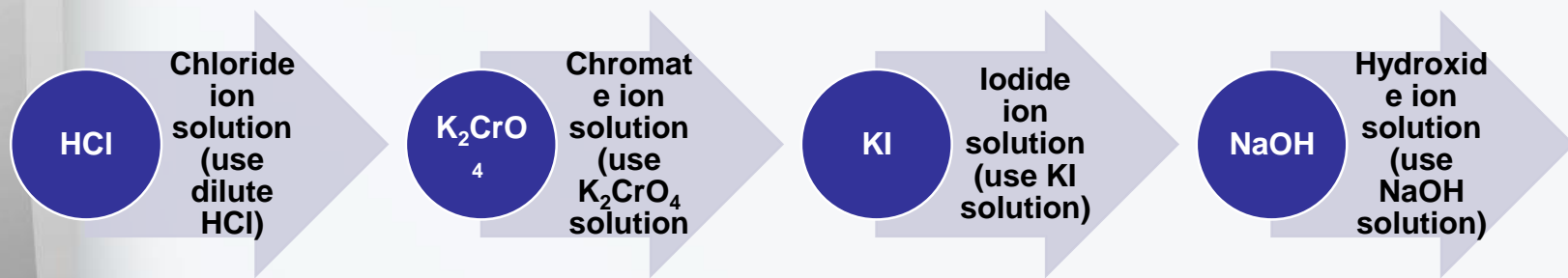
Asst. Lec. Haider Abdul Kareem Al-Mashhdani

AL-Rasheed University College

- Cations: is an atoms or group of atoms carrying a positive charge. The charge results because there are more protons than electrons in the cation. (Lost electrons).
- Positively charged inorganic ions or inorganic cations are sometime called metallic ions, and are generally produced by the ionization of inorganic salts and bases.



- To prevent any interference with the cations of group II, *hydrochloric acid* is added to remove as the chlorides. (HCl is a **General Reagent** for group I)
- The most important analytical reactions for the identification of these three cations:
- Group I ions are react generally with :



Identification of Positive ions

	Sliver ion <i>AgNO₃</i>	Lead ion <i>Pb(NO₃)₂</i>	Mercurous ion <i>Hg₂(NO₃)₂</i>
HCl General Reagent	White AgCl ↓	White PbCl ₂ ↓	White Hg ₂ Cl ₂ ↓
K ₂ CrO ₄ solution	<i>Dark Red ppt.</i> Ag ₂ CrO ₄ ↓	Yellow ppt. PbCrO ₄ ↓	<i>Orange ppt.</i> Hg ₂ CrO ₄ ↓
KI solution	Yellow ppt. AgI ↓	Yellow ppt. PbI ₂ ↓	<i>Greenish-Grey ppt.</i> <i>soluble in excess KI</i> Hg ₂ I ₂ ↓
NaOH solution	<i>Gray ppt.</i> Ag ₂ O ↓	White ppt. Pb(OH) ₂ ↓	<i>Black ppt. Soluble in</i> <i>excess NaOH</i> Hg ₂ O ↓