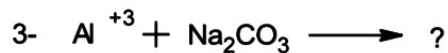
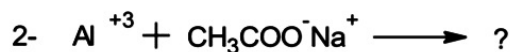
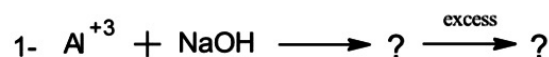
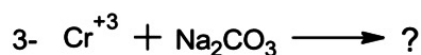
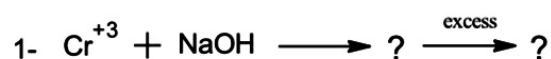
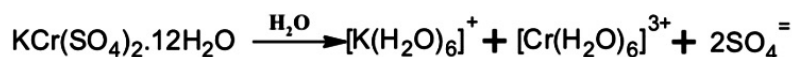
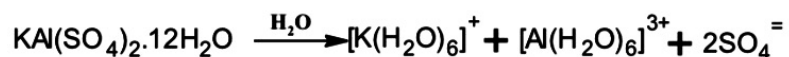


Experiment No. (6)

Detection of Cr^{3+} , and Al^{3+} Ions:

Take (1 ml) of each solution $\text{KAl}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$ and $\text{KCr}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$ for each detection in a test tube by using several indicators as below:



The Second Group IIA (2) (Alkaline Earth)

The Elements	Symbol	Electronic Structure
Beryllium	${}_4\text{Be}$	$2[\text{He}] 2\text{S}^2$
Magnesium	${}_{12}\text{Mg}$	${}_{10}[\text{Ne}] 3\text{S}^2$
Calcium	${}_{20}\text{Ca}$	${}_{18}[\text{Ar}] 4\text{S}^2$
Strontium	${}_{38}\text{Sr}$	${}^{36}[\text{Kr}] 5\text{S}^2$
Barium	${}_{56}\text{Ba}$	${}_{54}[\text{Xe}] 6\text{S}^2$
Radium	${}_{88}\text{Ra}$	${}_{86}[\text{Rn}] 7\text{S}^2$

Questions:

- Name the important minerals of the group IIA (2) elements and write the electronic structure of the elements.
- Why these metals have higher melting points than the Alkali metals?

- Why beryllium tends to form covalent compound?
- How the solubility varies in group IIA (2)?
- Do alkaline earth cations form many complexes? Which cation tends most to do so and what are the best complexing agent?