

1. June/2022/Paper_41/No.1(a)

(a) The solubility of the Group 2 sulfates decreases down the group.

Explain this trend.

- $\Delta H_{\text{solution}}$ becomes less exothermic down the group. This is due to the decrease in $\Delta H_{\text{lattice}}$ and ΔH_{hyd} .

- The ΔH_{latt} becomes less exothermic by a smaller factor.

[3]

2. June/2022/Paper_42/No.1(a)

(a) The solubility of the Group 2 hydroxides increases down the group.

Explain this trend.

Both ΔH_{latt} and ΔH_{hyd} become less exothermic down the group. ΔH_{latt} becomes less exothermic by a smaller extent.

$\therefore \Delta H_{\text{sol}}$ becomes less endothermic or less positive.

[3]