

ACTIVITY 7b – AO2a in Exams – Student Answers

UNIT 1, Q24(a)

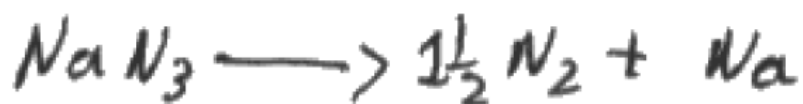
Student 1



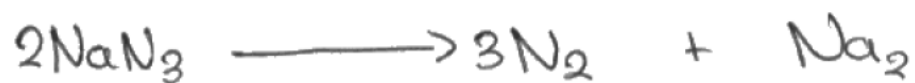
Student 2



Student 3



Student 4



UNIT 2, Q20(b)

Student 1

Thermal stability of group 2 carbonates decreases down the group. Because the size of the cation increases as the inner shielding increases with the same no. of valency electron. The atomic radius increases down the group. The size of the cation & remain the same. The charge density ~~increases~~ decreases. \therefore the distortion of electron cloud by group 2 carbonates decreases down the group and \therefore thermal stability decreases down the group.

Student 2

Down the group, the number of shells increase, therefore size increases. Charge ~~increases~~ as the number of protons increases.

Charge density remains the same.

~~Re~~ Polarisation decreases, i.e. the distortion of CO_3^{2-} decreases.

Thus down ^{the} group \propto the thermal stability of group 2 carbonates increases.

Student 3

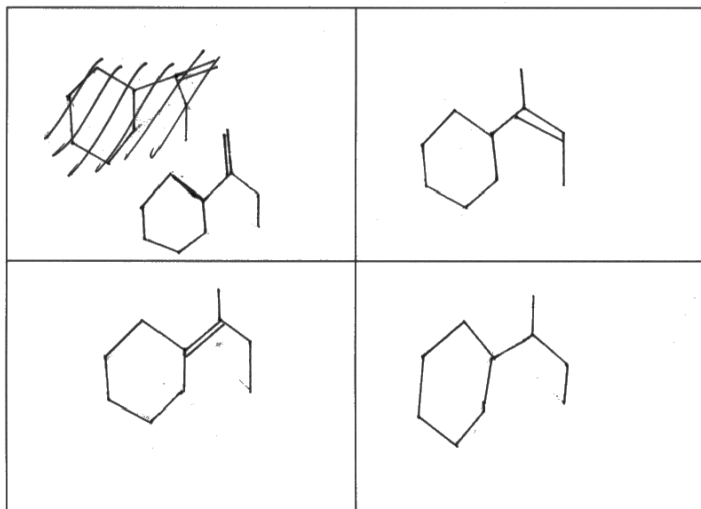
- Going down the group 2, thermal stability of carbonates increases.

- This is because going down the group, the ionic radius of cations increase, and the charge stays +2, so the charge density of the cations decrease.

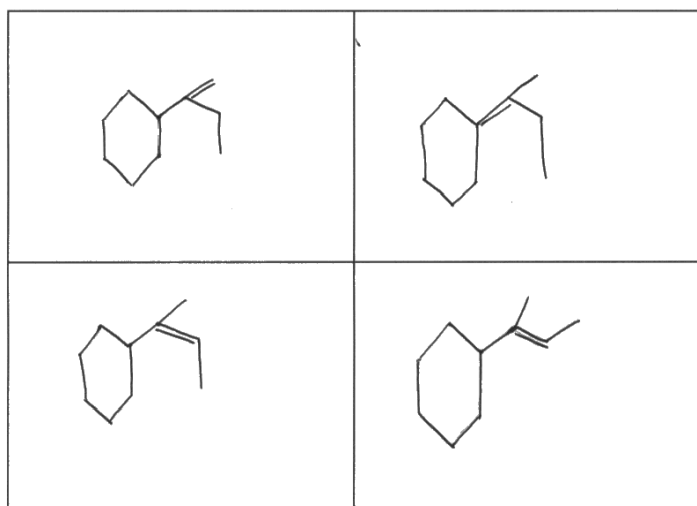
- This causes the anion (CO_3^{2-}) to be less distorted, so the C-O bond is less weakened and decomposition ability decrease.

UNIT 2, Q22(b)(i)

Student 1



Student 2



Student 3

