

Answer on Question#41491-Chemistry-Inorganic Chemistry

Questions

1. Within the alkali metals atomic size is ...
2. Which of these is an sp-hybridized compound.
 - A. C_2H_2
 - B. C_2H_6
 - C. CH_4
 - D. C_2H_4

Answers

1. Within the alkali metals **atomic size is the highest among all elements**, because alkali metals have only one electron on their outermost electron shell and, consequently, the attraction force between the outermost shell and nucleus is low. Within the alkali metals **atomic size increases going down the group** due to increase of the number of electron shells.

2. Correct answer is **A. C_2H_2**

Those compounds involve sp-hybridized carbons, which have triple bonds in its structure. All alkynes of general formula C_nH_n involve sp-hybridized carbons.

C_2H_2 – acetylene is the first member of alkynes family. Its structure is $H-C \equiv C-H$.

B. C_2H_6 and C. CH_4 are alkanes, whose general formula is C_nH_{2n+2} . They involve sp^3 -hybridized carbons only. And D. C_2H_4 belongs to alkenes, whose general formula is C_nH_{2n} , and which involve sp^2 - and sp^3 -hybridized carbons.