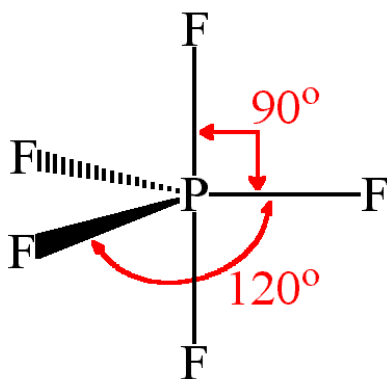


Question #75043, Chemistry / Inorganic Chemistry

Explain the type of hybridization in phosphorous pentafluoride

Answer:

Phosphorus pentafluoride has 10 electrons around the central phosphorus atom. This means there are five electron pairs arranged in a trigonal bipyramidal shape. Three of the fluorines are equatorial and two are axial. There are no lone pairs. So there are 5 hybrid orbitals for and hybridization will be one s + three p + one d i.e. $sp^3d(1+3+1=5)$



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