

The diagram illustrates the hybridization of atomic orbitals (AOs) to form hybrid orbitals. On the left, under the heading "Atomic Orbitals", there are two energy levels: a lower level labeled $2s$ and a higher level labeled $2p$. The $2s$ orbital is represented by a blue sphere, and the $2p$ orbitals are represented by three dumbbell shapes. An arrow labeled "Hybridization" points from the $2s$ and $2p$ levels to the right. On the right, under the heading "Hybrid Orbitals", there is a single energy level labeled sp^3 , which is higher in energy than the original $2s$ and $2p$ levels. This level is represented by four equivalent sp^3 hybrid orbitals, shown as four dumbbell shapes arranged in a tetrahedral geometry.

The diagram illustrates the process of hybridization. On the left, under 'Atomic Orbitals', there are two energy levels: a lower $2s$ orbital and a higher $2p$ orbital. On the right, under 'Hybrid Orbitals', the $2s$ orbital has hybridized with one of the $2p$ orbitals to form three sp hybrid orbitals at an intermediate energy level, while two $2p$ orbitals remain unhybridized at the original $2p$ energy level. An arrow labeled 'Hybridization' points from the atomic orbitals to the hybrid orbitals. The hybrid orbitals are shown as three large lobes pointing away from the nucleus, and the unhybridized p orbitals are shown as two smaller lobes perpendicular to the plane of the hybrid orbitals.

The diagram illustrates the hybridization of atomic orbitals (AOs) to form hybrid orbitals. On the left, under the heading "Atomic Orbitals", there are two energy levels: a lower level labeled $2s$ and a higher level labeled $2p$. The $2s$ orbital is represented by a single blue sphere, and the $2p$ orbitals are represented by three dumbbell-shaped lobes. An arrow labeled "Hybridization" points to the right. On the right, under the heading "Hybrid Orbitals", there is a single energy level labeled sp^3 , which is at an intermediate energy between the original $2s$ and $2p$ levels. This level is represented by four sp^3 hybrid orbitals, each shown as a dumbbell-shaped lobe.

The diagram illustrates the hybridization of atomic orbitals. On the left, under the heading "Atomic Orbitals", there is a vertical axis with two energy levels. The lower level is labeled $-2s$ and contains a single spherical orbital. The upper level is labeled $2p$ and contains three dumbbell-shaped orbitals. An arrow labeled "Hybridization" points from the atomic orbitals to the hybrid orbitals on the right. On the right, under the heading "Hybrid Orbitals", there is a similar vertical axis. The lower level is labeled $-sp^2$ and contains three large, identical hybrid orbitals. The upper level is labeled $2p$ and contains one unhybridized p orbital, which is smaller than the hybrid orbitals. An arrow labeled "Unhybridized p orbital" points to this orbital. The label "Hybrid Orbitals" is placed below the three large hybrid orbitals.

The diagram illustrates the hybridization of atomic orbitals. On the left, under the heading "Atomic Orbitals", there is a vertical axis with two energy levels. The lower level is labeled "2s" and contains a blue sphere representing the 2s orbital. The upper level is labeled "2p" and contains three blue dumbbells representing the 2p orbitals. An arrow labeled "Hybridization" points from the atomic orbitals to the hybrid orbitals. On the right, under the heading "Hybrid Orbitals", there is a similar vertical axis. The lower level is labeled "sp²" and contains three blue dumbbells representing the sp² hybrid orbitals. The upper level is labeled "2p" and contains one blue dumbbell representing the unhybridized p orbital. Arrows point from the labels "Unhybridized p orbital" and "Hybrid Orbitals" to their respective orbitals.

Diagram illustrating the hybridization of atomic orbitals (2s and 2p) to form sp^3 hybrid orbitals. The diagram shows energy levels on the left (Atomic Orbitals) and right (Hybrid Orbitals). The 2s orbital is at a lower energy than the 2p orbitals. Upon hybridization, one sp^3 hybrid orbital is formed at an intermediate energy level, and three other sp^3 hybrid orbitals are formed at a higher energy level than the original 2s orbital. The diagram also shows the spatial distribution of the orbitals: the 2s orbital is a single sphere, while the sp^3 hybrid orbitals are four lobes arranged in a tetrahedral geometry.

The diagram illustrates the hybridization of atomic orbitals (AOs) to form hybrid orbitals. On the left, under the heading "Atomic Orbitals", there are two energy levels: a lower level labeled $-2s$ and a higher level labeled $-2p$. The $-2s$ level contains one spherical orbital, and the $-2p$ level contains three dumbbell-shaped orbitals. An arrow labeled "Hybridization" points to the right. On the right, under the heading "Hybrid Orbitals", there is a single energy level labeled $-sp^3$ which is intermediate in energy between the original $-2s$ and $-2p$ levels. This level contains four hybrid orbitals, each represented by a large lobe and a small lobe (dumbbell shape).