

Answer on Question #85426 - Chemistry - Physical Chemistry

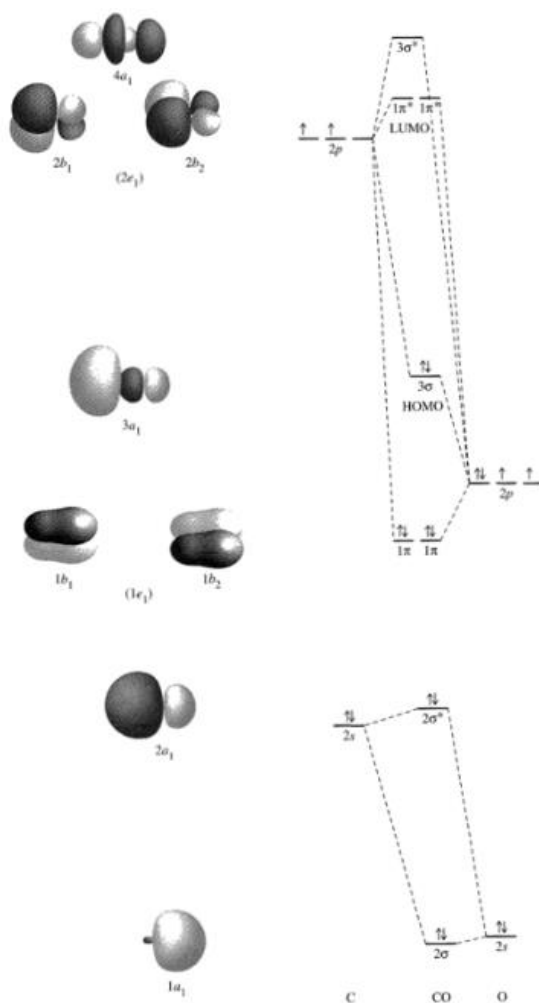
Question:

By constructing a molecular orbital picture for each of the following molecules, determine whether it is paramagnetic or diamagnetic.

(B2)+ CO

Solution:

The MO diagram for CO is:



The bonding MOs are the 2σ , $1\pi_x$, $1\pi_y$, and 3σ , which gives $2+2+2+2=8$ bonding electrons. The antibonding MO is the $2\sigma^*$, which gives 2 antibonding electrons.

CO has 14 electrons and CO are isoelectronic.