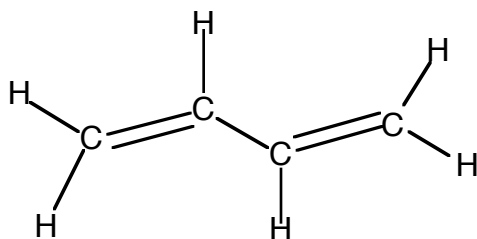


Problem 13, Chemistry 301X-2006



1,3-butadiene

In doing Problem 4, some Groups thought that the π MOs for 1,3-butadiene would just be the π MOs for ethylene repeated, two Ψ_B , two Ψ_A . Thus, they were regarding 1,3-butadiene as two separated π bonds.

Draw resonance forms for 1,3-butadiene.

Evaluate your resonance forms. How much (qualitatively - “a lot” “not much”) do they contribute to the hybrid?

Do you think 1,3-butadiene is well-regarded as separated ethylenes?