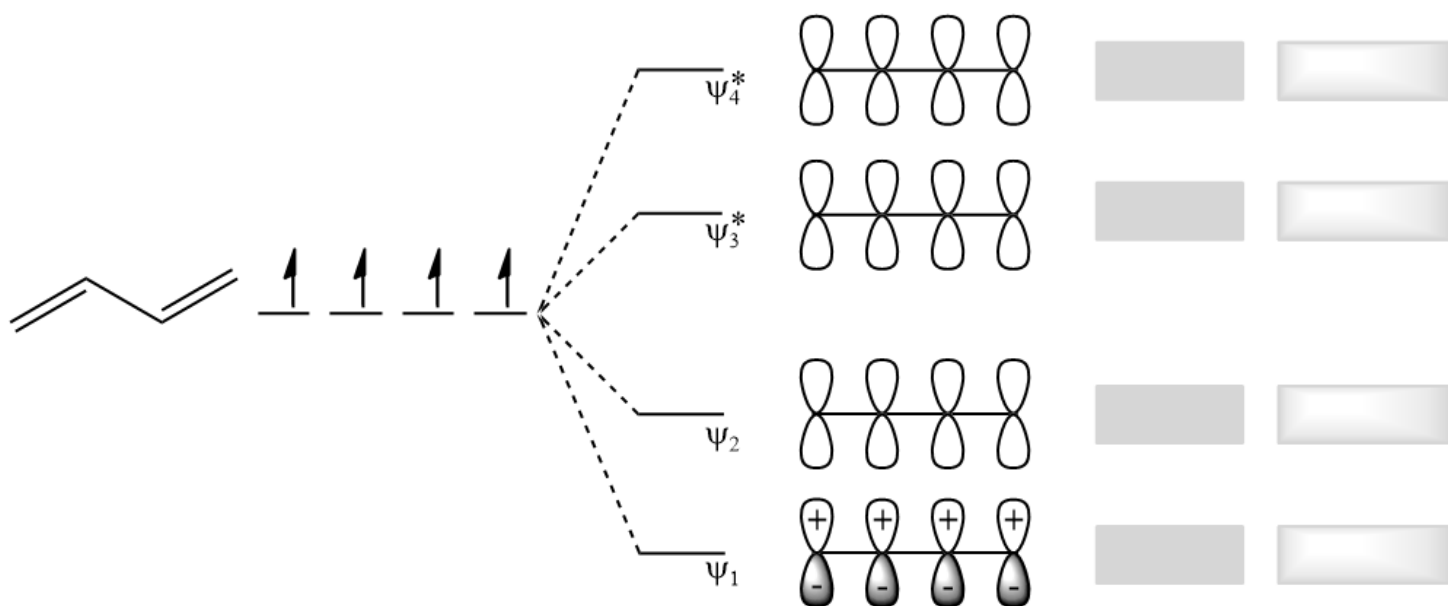


CONCEPT: ORBITAL DIAGRAMS: 4-ATOM 1,3-BUTADIENE

- Conjugated polyenes are famous for their unique ability to *resonate*, reacting in multiple locations.
 - They can participate in many types of reactions due to the symmetry of their molecular orbitals.

EXAMPLE: Predict the LCAO Model of 1,3-butadiene. Identify the HOMO and LUMO Orbitals.



Note: You may see these orbitals generated through the *addition* and *subtraction* of π -orbitals. Which orbitals would we need to sum to produce the above pattern?

