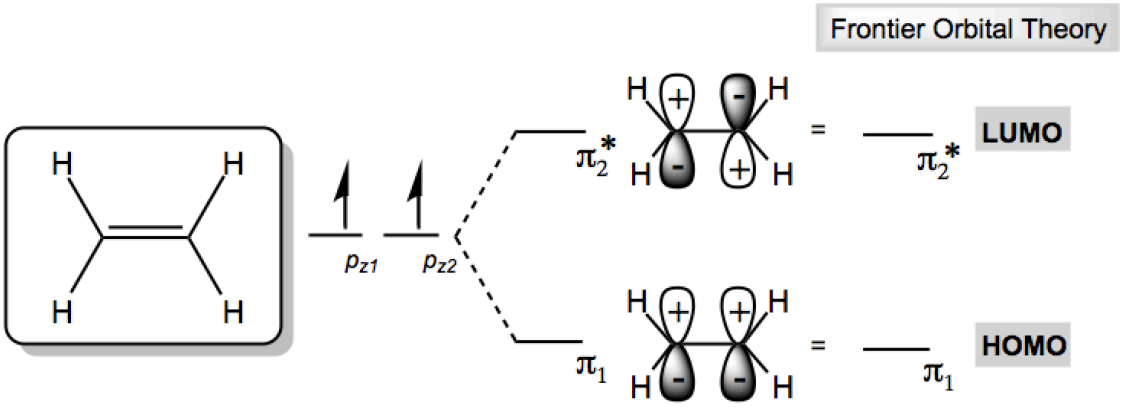
CONCEPT: FRONTIER MOLECULAR ORBITAL THEORY – FINDING HOMO/LUMO

- Frontier orbital interactions are the driving force behind many reactions in organic chemistry
- FMOT is based on being able to identify/understand HOMO and LUMO
    - □ HOMO = Highest Occupied Molecular Orbital
    - □ LUMO = Lowest Unoccupied Molecular Orbital

EXAMPLE: Frontier Orbitals of Ethene



PRACTICE: Consider the Molecular Orbitals (MO's) of the allyl anion. Which are the HOMO and LUMO?

1) HOMO = B, LUMO = C

2) HOMO = B, LUMO = A

3) HOMO = C, LUMO = A

4) HOMO = A, LUMO = C

5) HOMO = C, LUMO = B