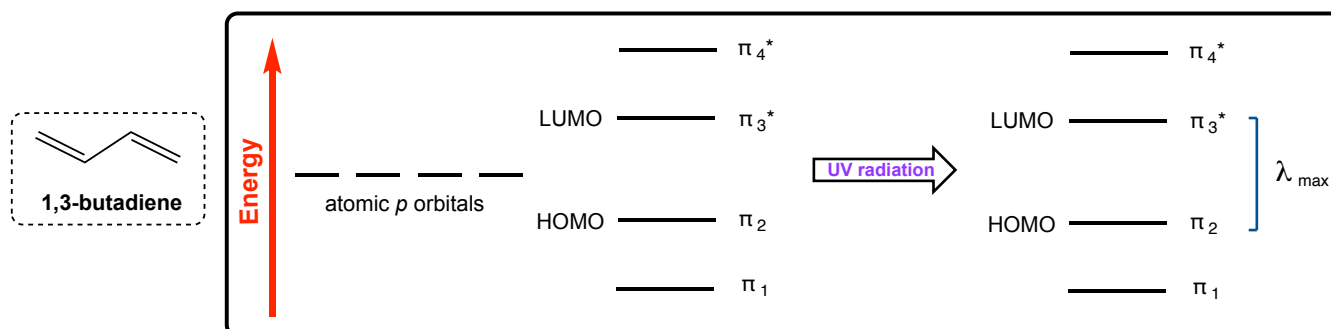


CONCEPT: UV-VIS SPECTROSCOPY OF CONJUGATED ALKENES

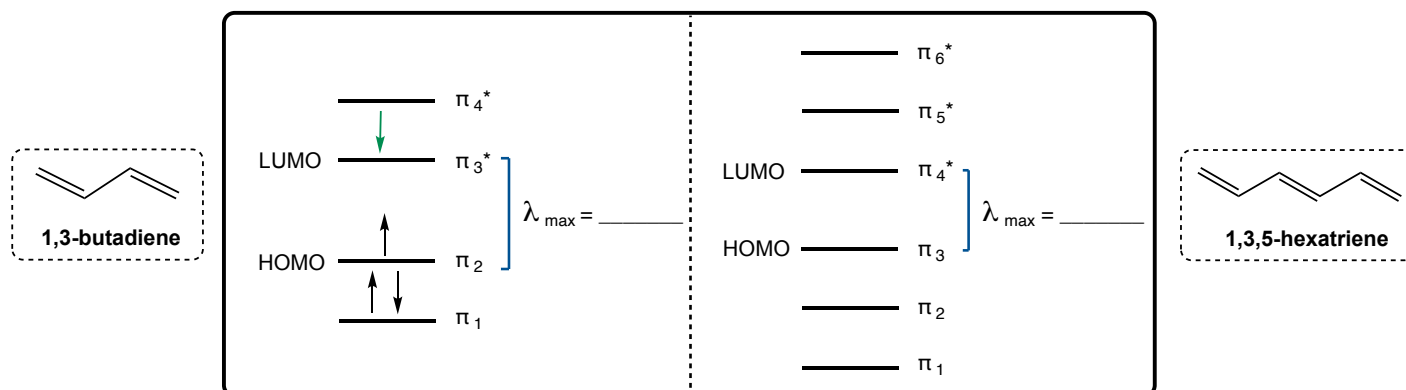
- Energy from UV or visible light can _____ an **electron** from _____ energy to _____ energy MO.



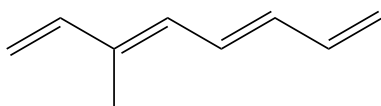
- $\pi \longrightarrow \pi^*$ transition corresponds to the _____ which depends on the **energy gap** between _____ and _____.

□ **Energy gap** _____ with _____ conjugated double bonds, giving a _____ $\lambda_{\max}$.

$$\text{Energy gap} = \frac{hc}{\lambda_{\max}}$$



EXAMPLE: The following molecule is irradiated with UV light. Which π orbitals correspond to HOMO and LUMO?



CONCEPT: UV-VIS SPECTROSCOPY OF CONJUGATED ALKENES

PRACTICE: Rank the following molecules in increasing order of wavelength of max absorption.

