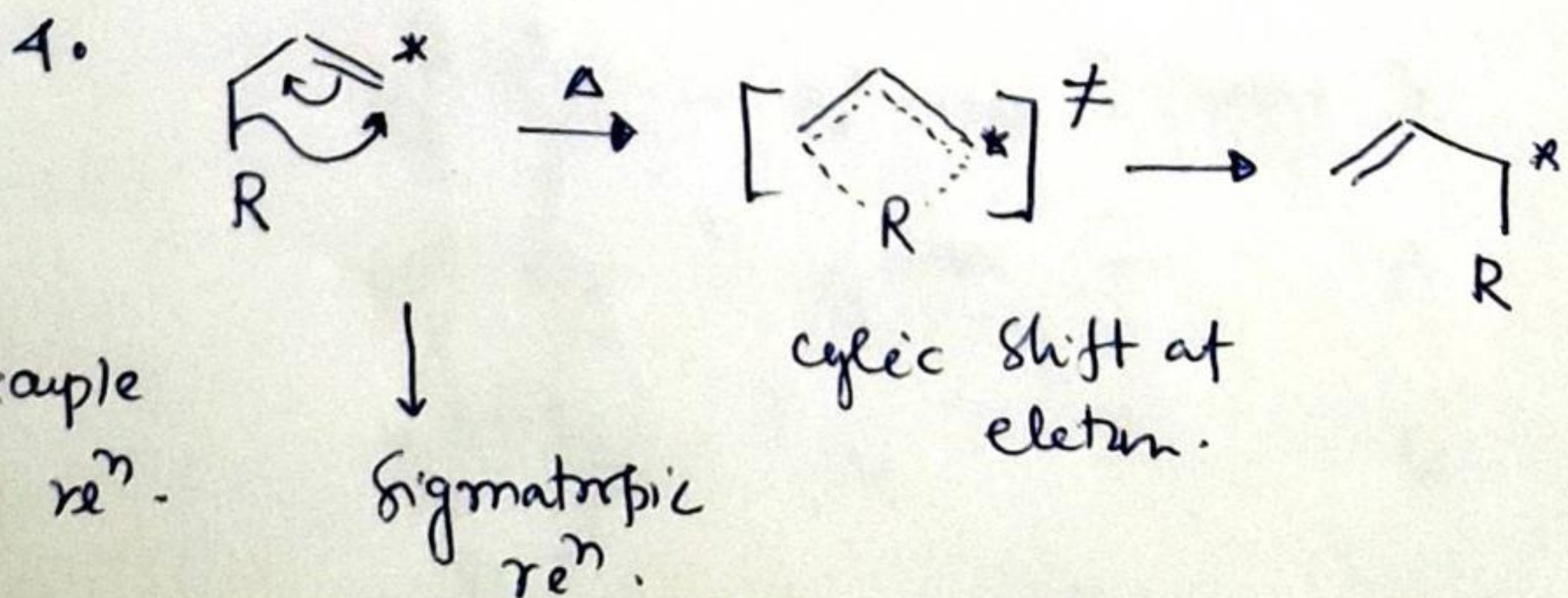
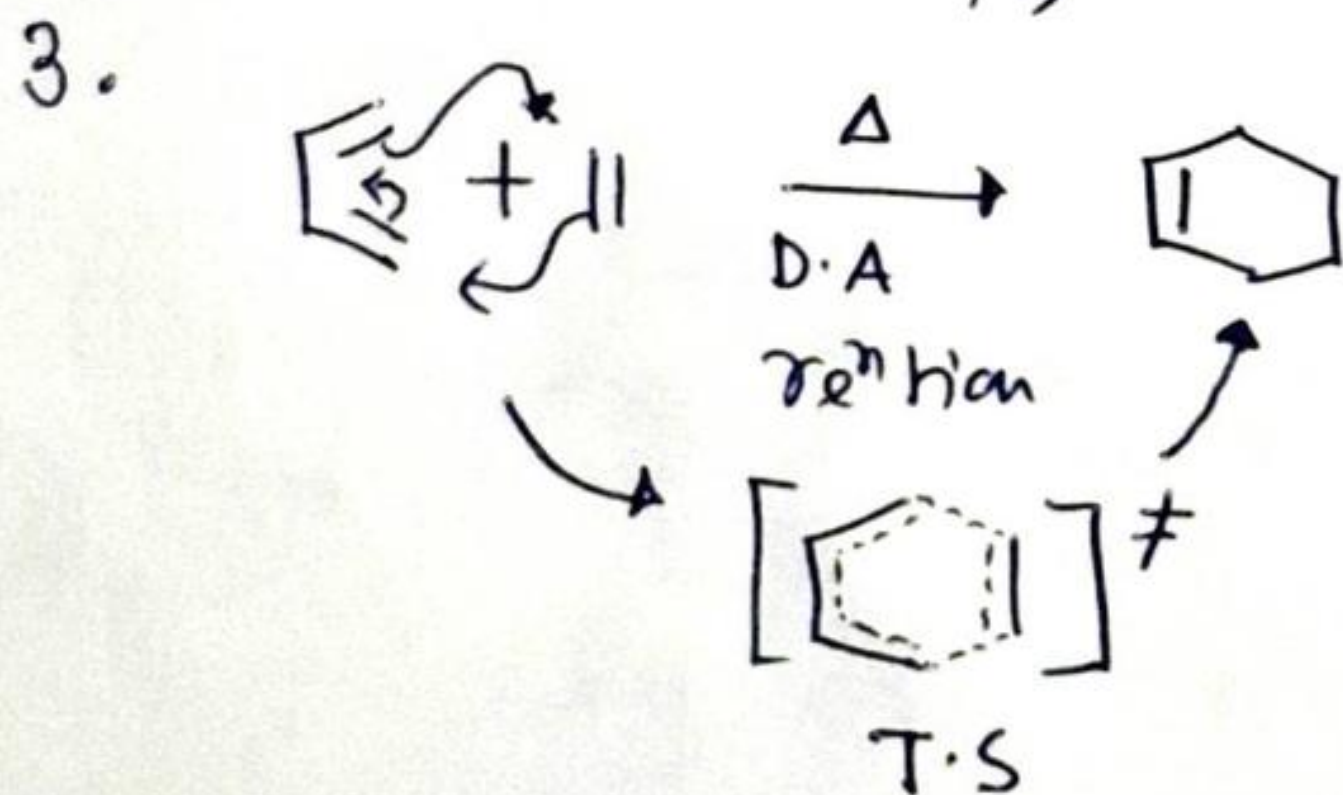
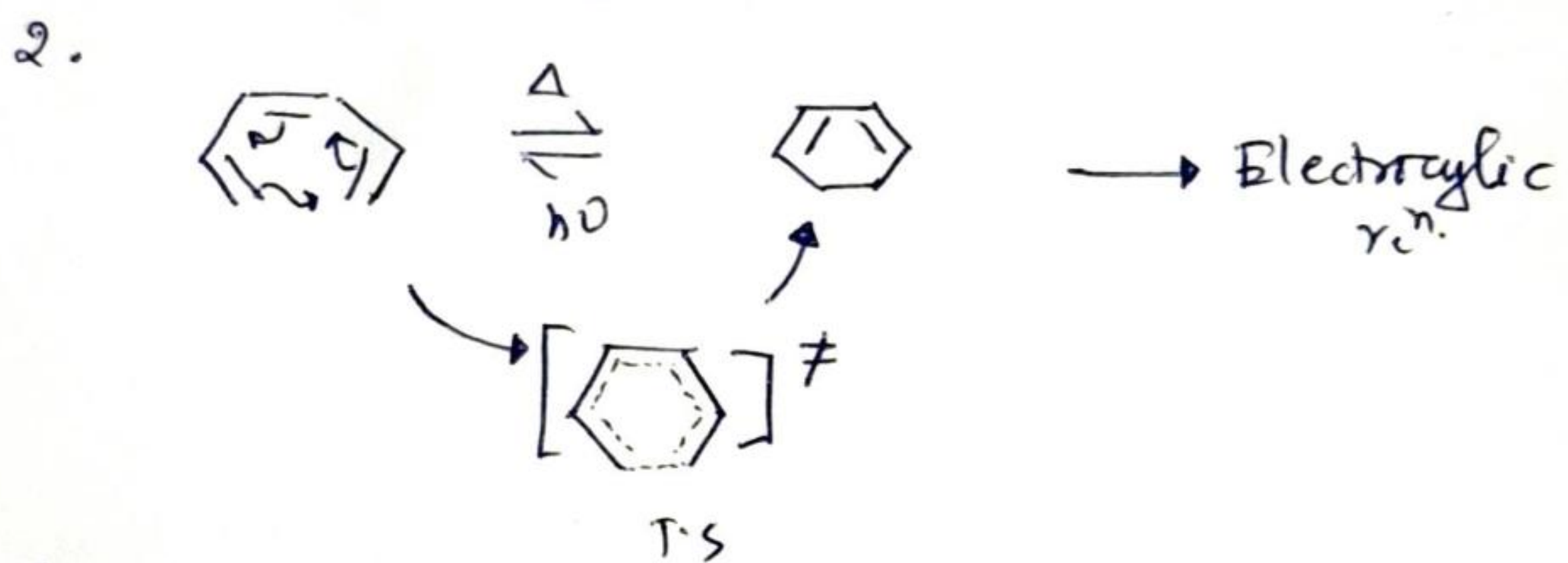
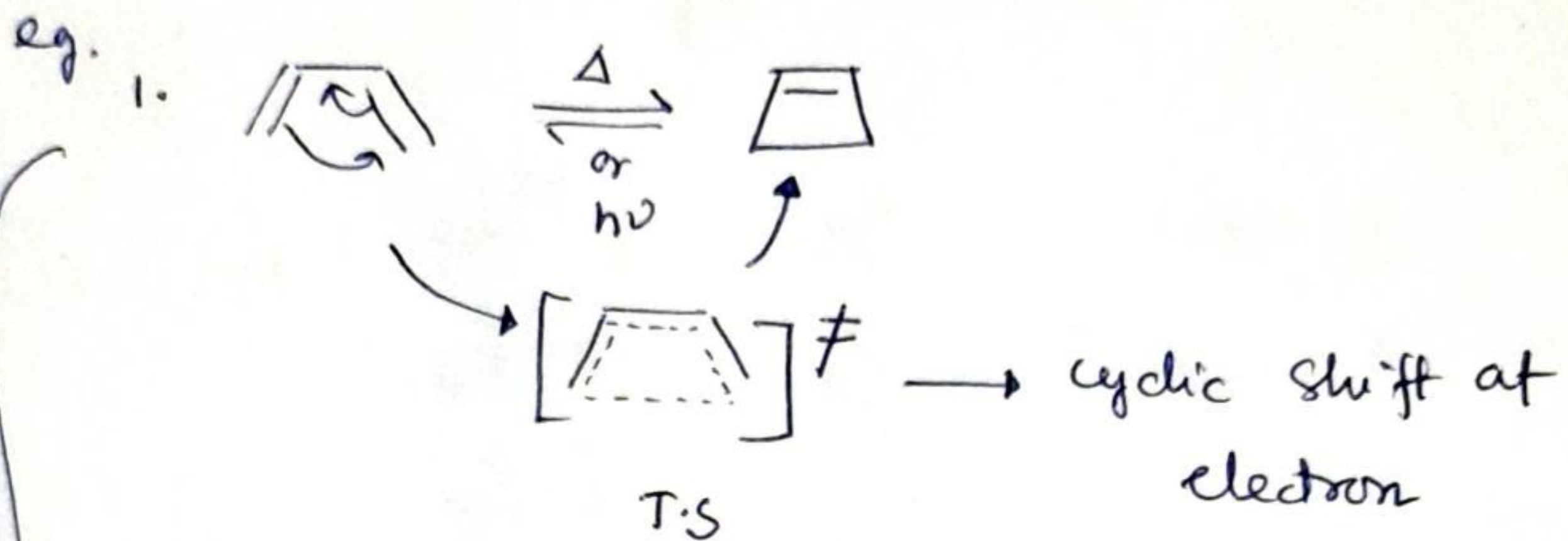


# Pericyclic re<sup>n</sup>

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A Pericyclic re<sup>n</sup> is a concerted re<sup>n</sup> that proceeds through a cyclic transition state. Pericyclic re<sup>n</sup> require light or heat and are completely stereospecific.



these are example of Pericyclic re<sup>n</sup>.

\* Characteristic at Pericyclic re<sup>n</sup>:

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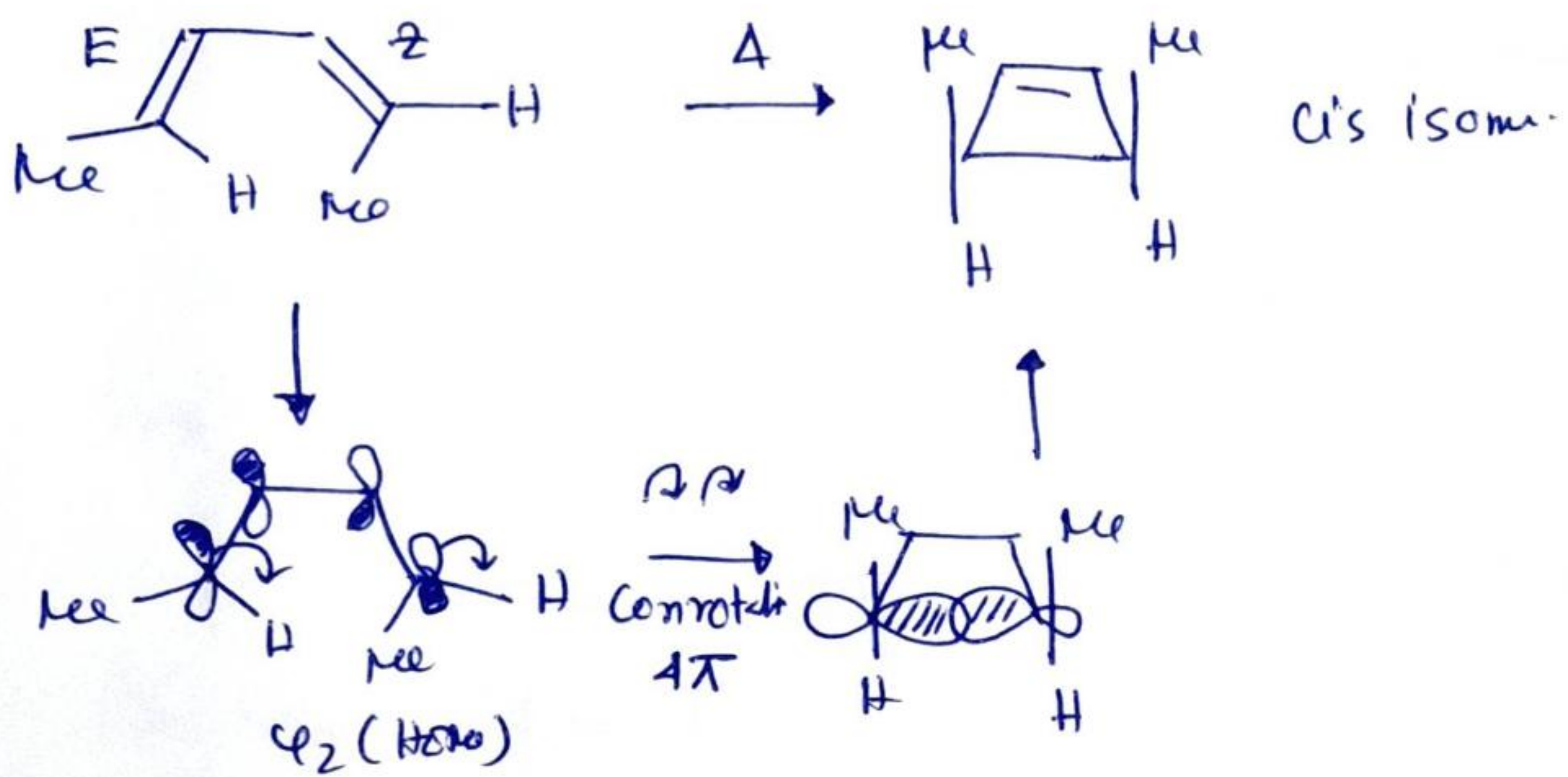
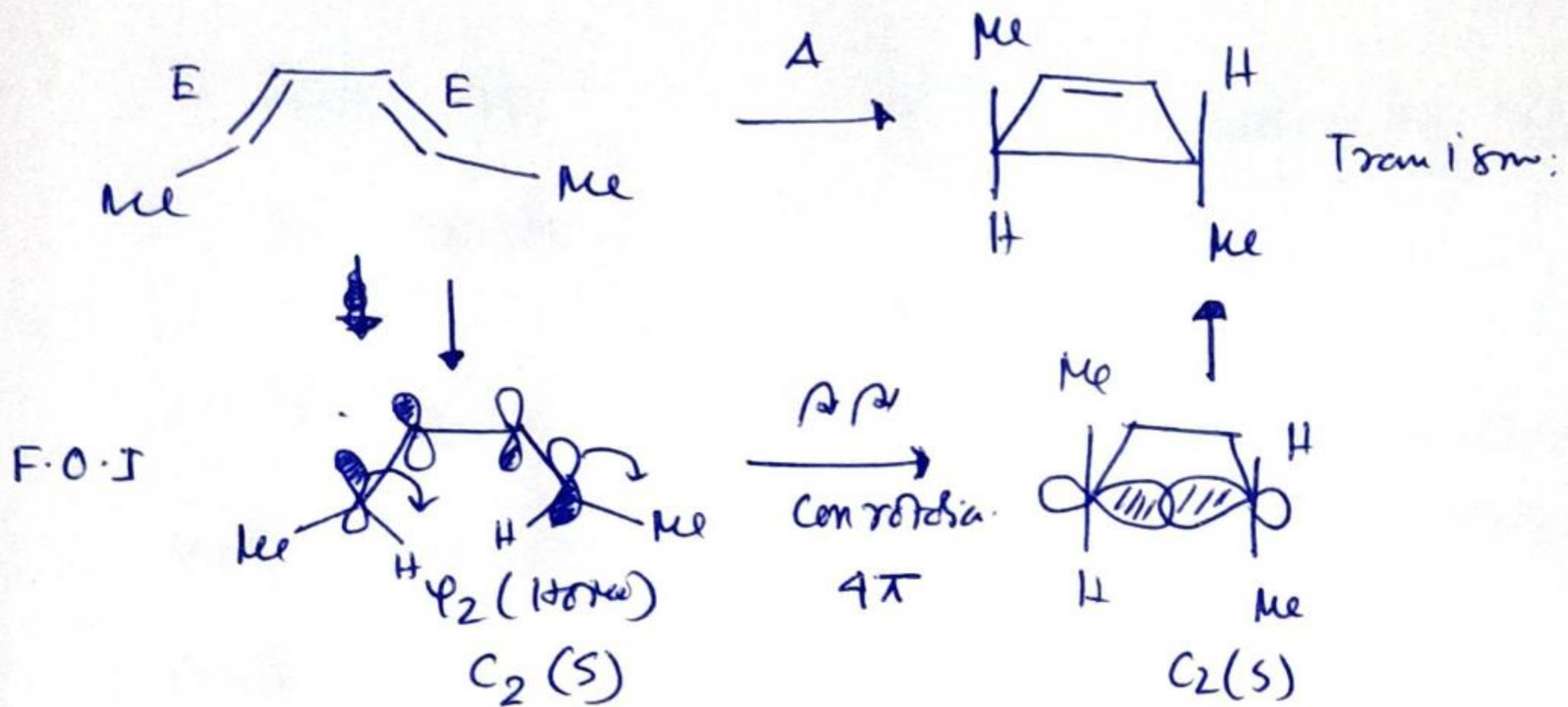
1. Pericyclic re<sup>n</sup> follows the Concerted Pathway.
2. These re<sup>n</sup> are initiated either by light or heat.
3. Pericyclic re<sup>n</sup> are reversible in nature and follow the microscopic reversibility principle.
4. The re<sup>n</sup> involve no polar intermediate.
5. There is little solvent effect on the rate at Pericyclic re<sup>n</sup>.
6. There is no electrophile and Nucleophile in the Pericyclic re<sup>n</sup>.
7. Normally no catalyst is needed to promote the Pericyclic re<sup>n</sup>. Lewis acid (FeCl<sub>3</sub>, AlCl<sub>3</sub>, SnCl<sub>4</sub>) catalyzed the many Pericyclic re<sup>n</sup> (cycloaddition re<sup>n</sup>).
8. These re<sup>n</sup> are highly stereospecific in nature.

8

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Pericyclic rxn are stereospecific in nature.

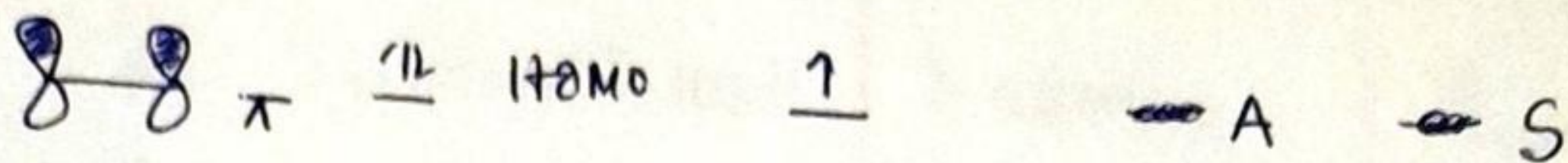
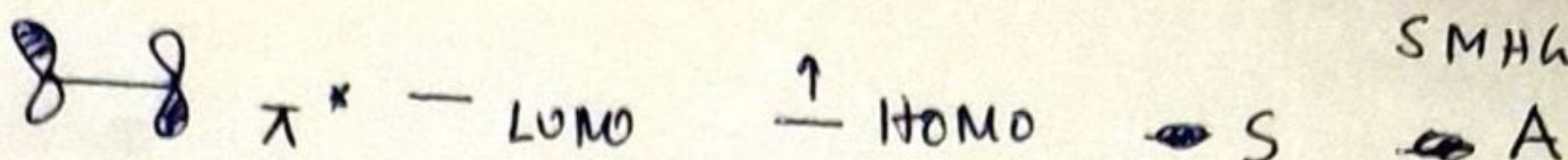
→ explain.



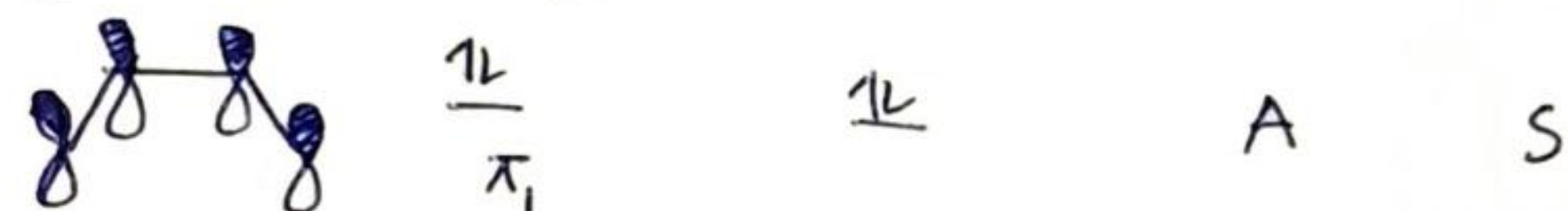
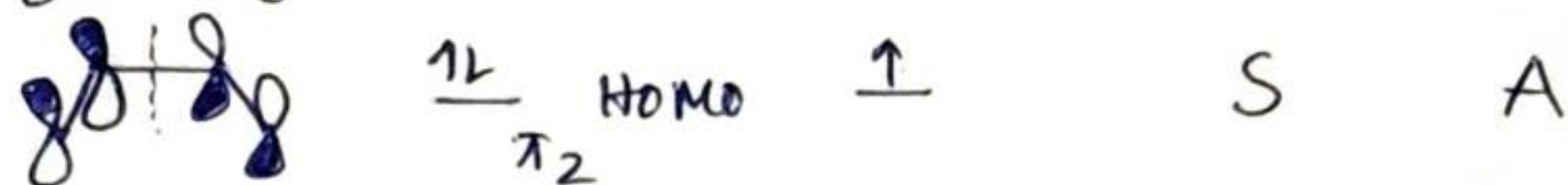
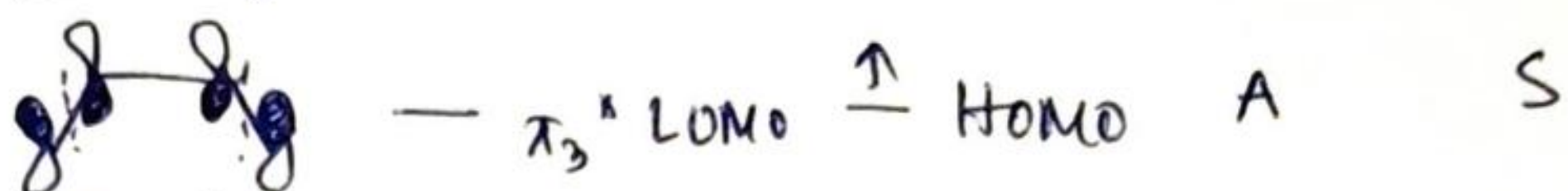
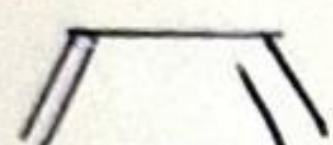
So, E E isom → 100% Trans isom  
E Z isom → 100% Cis isom.

That is why most of the Pericyclic are stereospecific in nature.

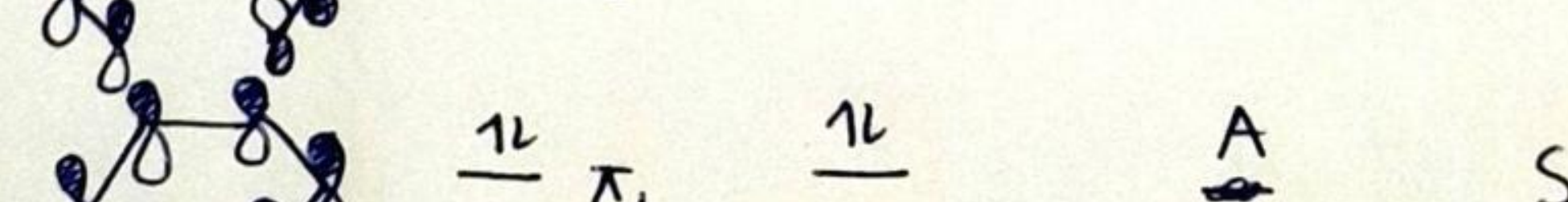
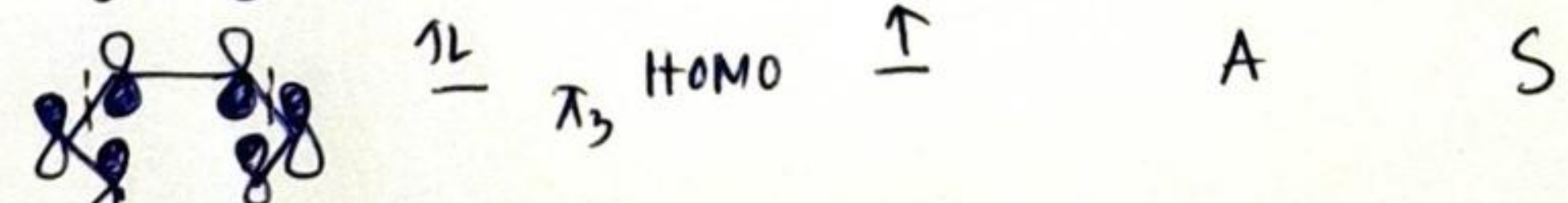
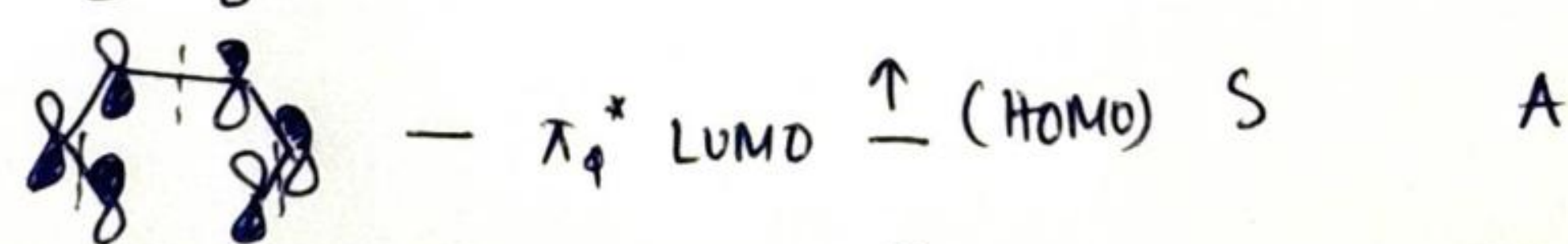
$\pi$  MO :



$\Delta$   $\uparrow$   $\rightarrow$   
g.s. h<sub>0</sub> e.s. c<sub>2</sub> m



$\Delta$   $\uparrow$   $\rightarrow$   
g.s. h<sub>0</sub> e.s. c<sub>2</sub> m



$\Delta$   $\uparrow$   $\rightarrow$   
g.s. h<sub>0</sub> e.s. c<sub>2</sub> m

