

Q1] Define the term pericyclic reaction and give one example?

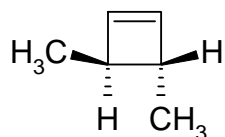
Q2] What is the Woodward-Hoffmann rule for thermal pericyclic reactions?

Q3] What is the Woodward-Hoffmann rule for photochemical pericyclic?

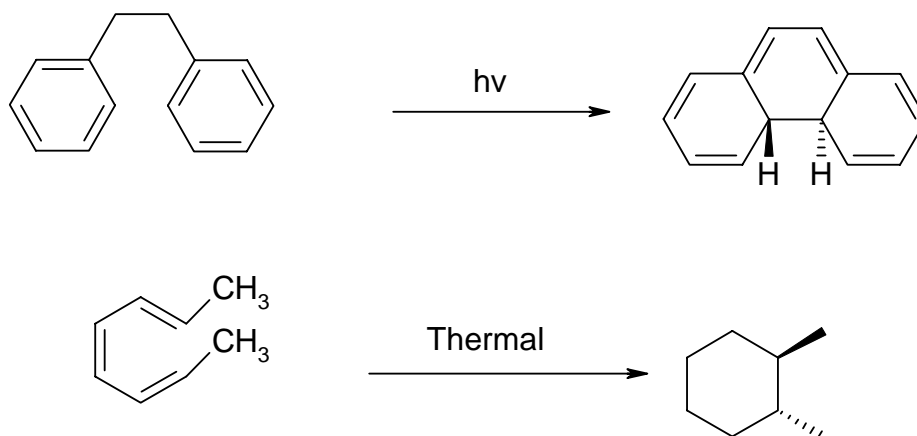
Q4] Show that a thermal [4+2] cycloaddition reaction is allowed by the Woodward-Hoffmann rule.

Q5] Define the terms conrotatory and disrotatory in relation to the terms suprafacial and antarafacial

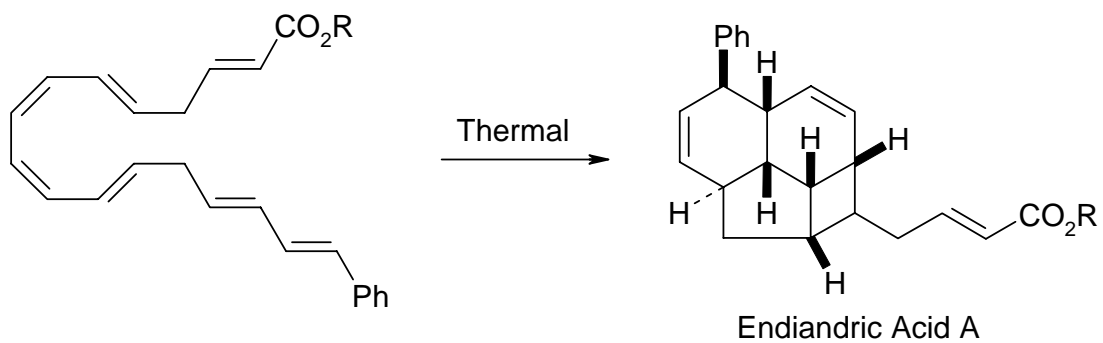
Q6] Dimethylcyclobutene is unstable, the ring opening at 200°C to give a hexa-2,4-diene. Given that electrocyclic reactions can be considered as reversible (acyclic ↔ cyclic) predict the stereochemistry of hexa-2,4-diene formed in the above reaction?



Q7] Identify whether a conrotatory or disrotatory process has taken place. Is it symmetry allowed?



Q8] Suggest a reasonable mechanism for the synthesis of Endiadic Acid using the Woodward-Hoffmann rules to rationalise your proposal. Identify whether a conrotatory or disrotatory process has taken place.



Q9] Draw a mechanism for the following reaction?

