*(I) Cyclooctane Conformation.

- **Boat-Boat** (disfavored)
- **Chair-Chair** (disfavored)
- **Boat-Chair** (favored)

Cyclooctane exists in a boat-chair conformation, which has minimum transannular interactions.

(II) What happens to cyclooctene?

- **Trans conformation**
  - has a large wrap.
  - (disfavored)

- **Cis** (favored)

Olefine exists between C3 and C4 (Figure 1) to avoid the strongest transannular interactions.

![Cyclooctane Conformation Diagram](image)

![Cyclooctene Conformation Diagram](image)
diastereoselectivity

(a) 2-axial-Me (dissavored)
4-equatorial-Me (favored)

(b) 2-equatorial-Me (favored)
4-equatorial-Me (favored)

(c) 5-axial-Me (strongly dissavored)
3-equatorial-Me (slightly favored)

(d) 5-equatorial-Me (favored)
3-equatorial-Me (slightly favored)

This reaction proceeds via intermediate (b), which has the most stable conformation.
[2,3]-Wittig rearrangement

work up