Chemistry 232: Diels-Alder Practice

**Question 1.** Identify the product (including all relevant stereochemistry) for the following reactions.

1. \( \text{[Chemical Structure 1]} \) + \( \text{[Chemical Structure 2]} \) \( \xrightarrow{40 \, ^\circ\text{C}} \) \( \text{[Product 1]} \)

2. \( \text{[Chemical Structure 3]} \) + \( \text{[Chemical Structure 4]} \) \( \xrightarrow{40 \, ^\circ\text{C}} \) \( \text{[Product 2]} \)

3. \( \text{[Chemical Structure 5]} \) + \( \text{[Chemical Structure 6]} \) \( \xrightarrow{40 \, ^\circ\text{C}} \) \( \text{[Product 3]} \)

4. \( \text{[Chemical Structure 7]} \) + \( \text{[Chemical Structure 8]} \) \( \xrightarrow{95 \, ^\circ\text{C}} \) \( \text{[Product 4]} \)
Question 2. Provide the starting materials (including stereochemistry, where relevant) and reaction conditions necessary to synthesize the following products.