1. (10 points) Deduce the structures of **A** and **B**, and name **A** and **B**.

2. (10 points) Using any starting materials that conribute three or fewer carbons to the final product, outline a synthetic route to \mathbf{C} . Absolute configuration is not important, but relative configuration is.

3. (10 points) Deduce the structure of **E**, and draw an arrow-pushing mechanism for its formation.