SR-2024 POW-5

- a) Propose for product **B** as well as for diastereomer **C** a **selective** cyclization method.
- b) Provide the key intermediates showing the different stereochemical outcome.

(II)
$$(E)\text{-but-2-en-1-ol} \longrightarrow \bigcirc \bigcirc \bigcirc$$

$$pent-4\text{-yn-1-amine} \longrightarrow \bigcirc$$

- a) Denominate the two cyclizations according to the Baldwin-terminology.
- b) Are these favored or disfavored ring closures?

Provide a mechanistic ractional for the shown transformation. Include considerations on the relative stereochemistry in your explanation.