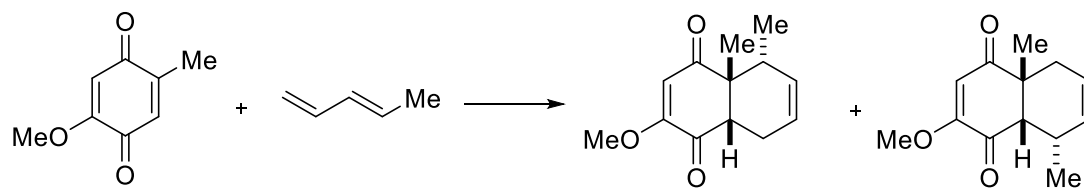


(I)



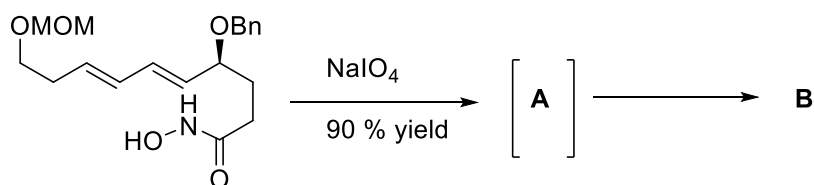
conditions: thermal (100 °C) 1:1
 $\text{BF}_3 \cdot \text{OEt}_2$, -20 °C 80:20
 SnCl_4 , -20 °C 5:95

Why?

This Diels-Alder reaction shows a selectivity switch just by changing the reaction conditions. Rationalize the different outcome.

Take the discussed principal concepts and the differences in the Lewis-Acids into account.

(II)



What are the structures of **A** and **B**?

Explain the stereochemistry of **B**.

Hint: periodate oxidizes the hydroxamic acid to a highly reactive acyl-nitroso species (**A**).