Total synthesis of **(±)-Hippolachnin A**

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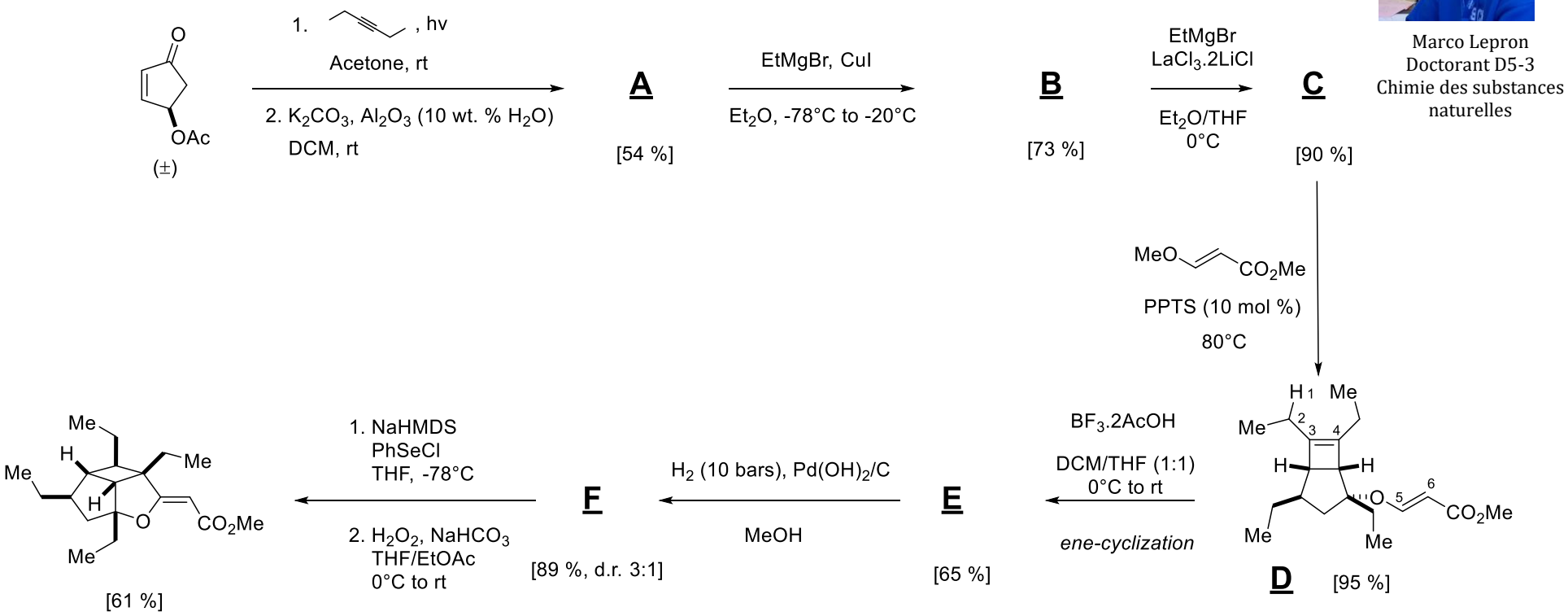
Chimie des substances naturelles



(±)-Hippolachnin A

1. Explain the diastereoselectivity from **A** to **B**.
2. Explain the roles played by $LaCl_3$.2LiCl during the transformation of **B** to **C**.
3. What are the reactions involved in the transformation of **C** to **D**?
4. Give the mechanism of the ene reaction involved in the cyclization of **D**.
   (Ene reaction on Organic Chemistry Portal: http://www.organic-chemistry.org/namedreactions/alder-ene-reaction.shtm)
5. Explain the diastereoselectivity from **E** to **F**.
6. Give the mechanism of the selenoxide *syn*-elimination which gives **(±)-Hippolachnin A**.