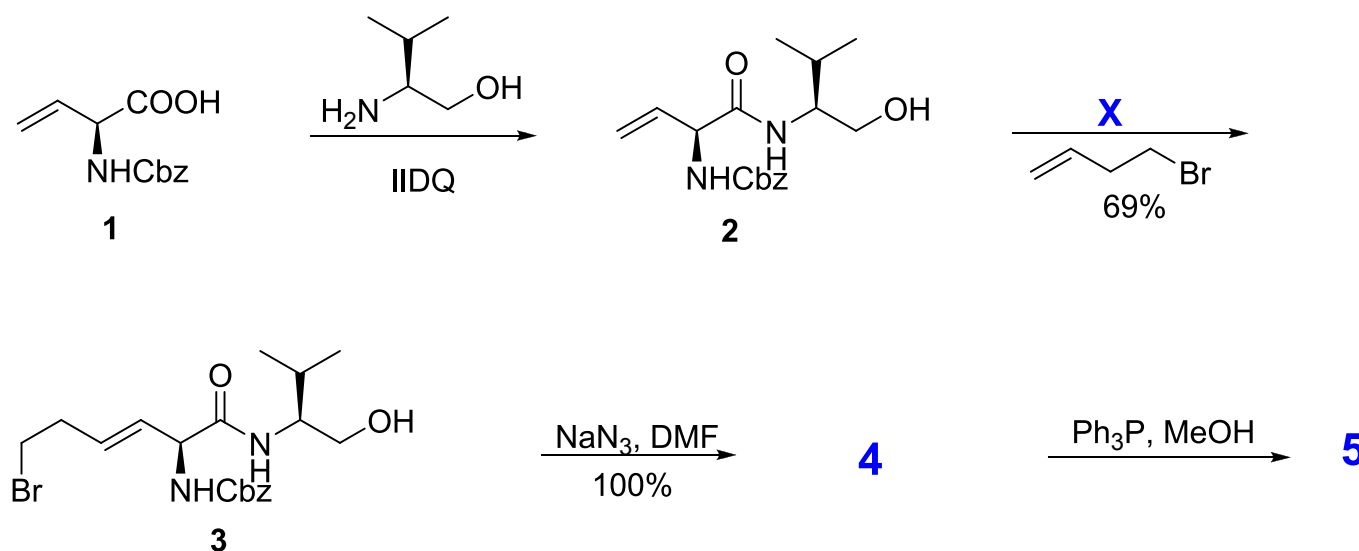




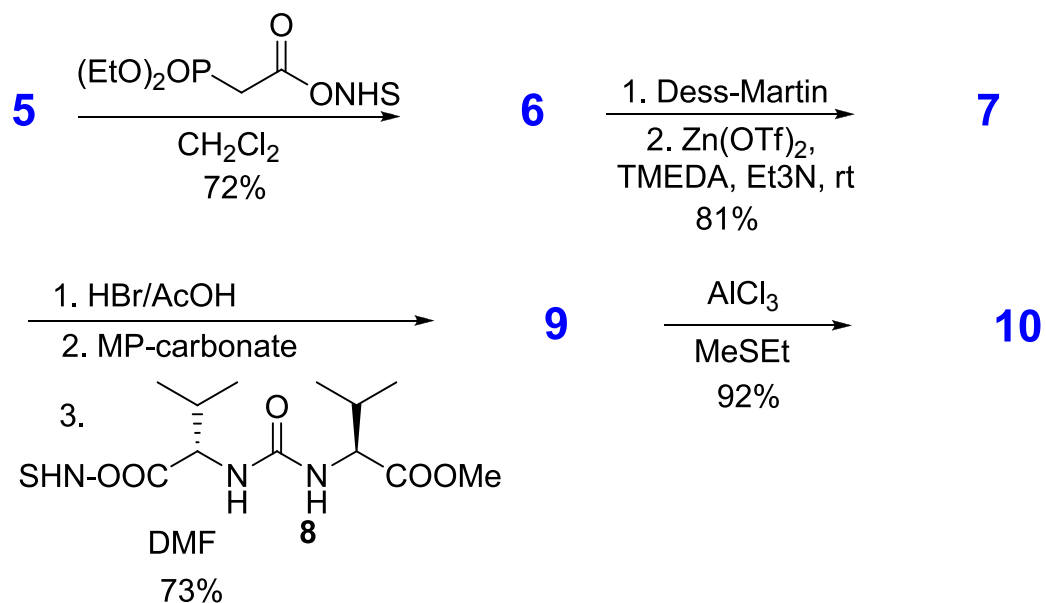
Kavita De
Doctorante
Équipe D3-5
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Synthesis of Proteasome Inhibitor (Syringolin A).

In 2008, two macrolactams, syringolin A and B were shown to affect plant-pathogen interactions and to act as virulence factors via inhibition of the proteasome. Given below is the total synthesis of proteasome inhibitor, syringolin A.

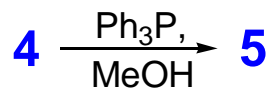


**IIDQ = 2-isobutoxy-1-isobutoxycarbonyl-1,2-dihydroquin-oline (IIDQ).



Questions:

1. Find out X and the structures 4-10.
2. Identify the Name reaction for the step and also give the mechanism:



3. Show the synthesis of compound 8.
4. Give the mechanism of coupling with IIDQ