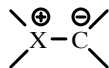


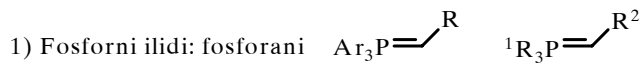
# ILIDI



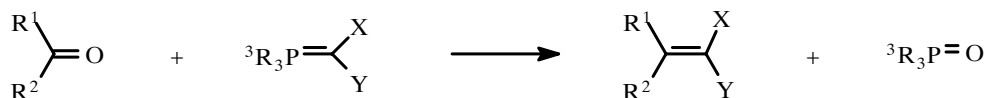
## 1) Fosforilidi

- \* fosforani
- \* fosfonati (karbanjoni)

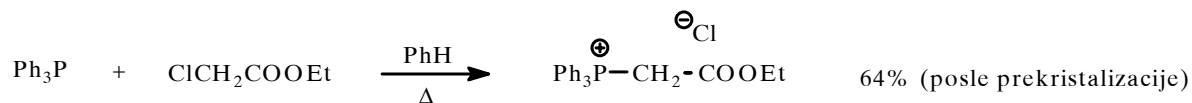
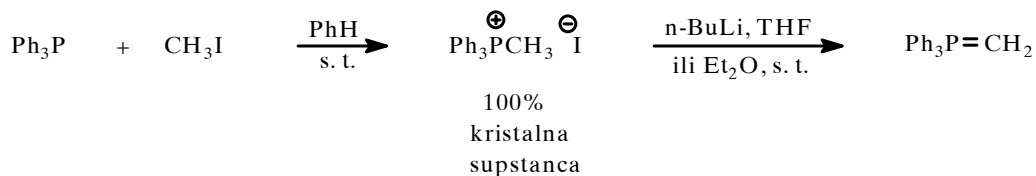
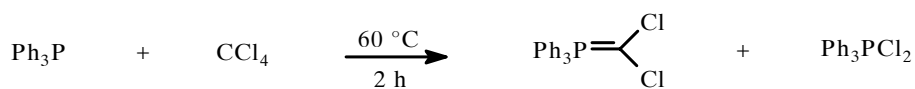
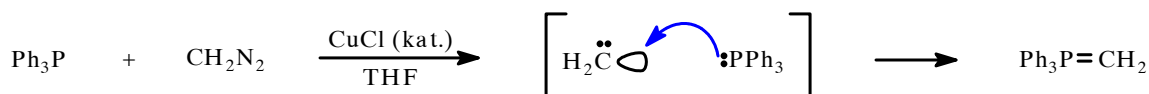
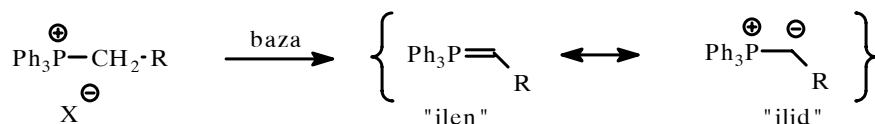
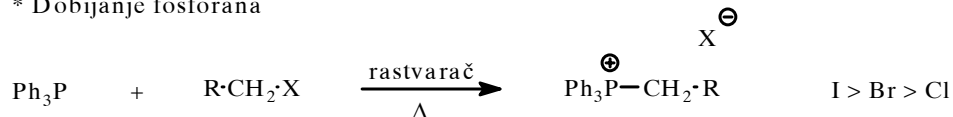
## 2) Sumporni ilidi

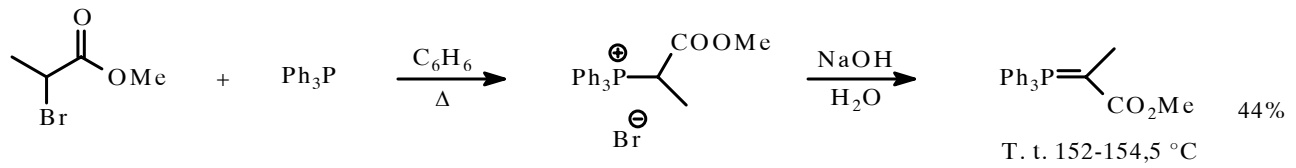
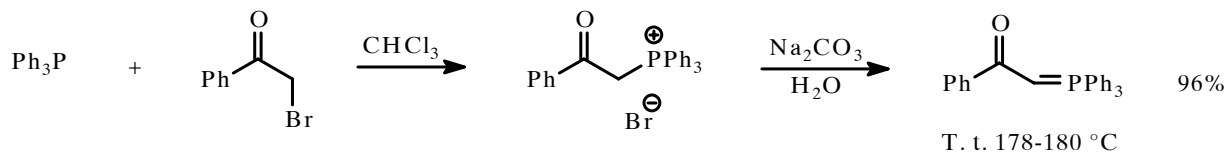


## Wittig-ova reakcija

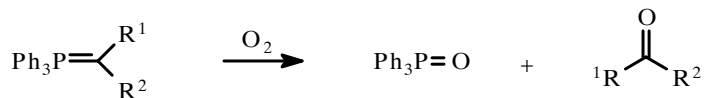
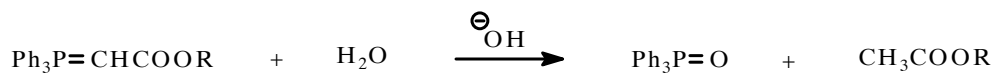
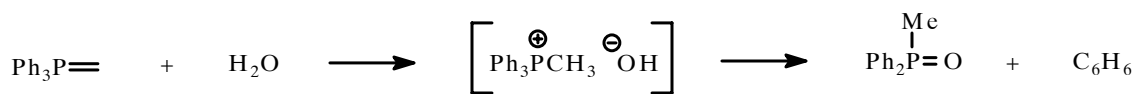
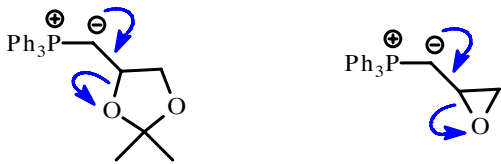
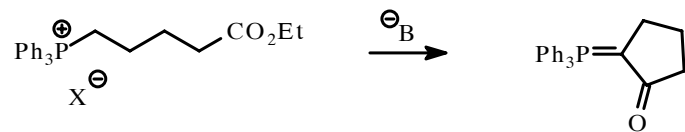
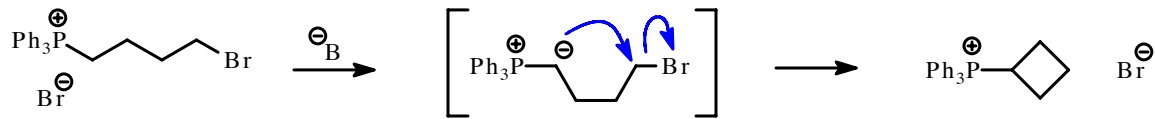


## \* Dobijanje fosforana



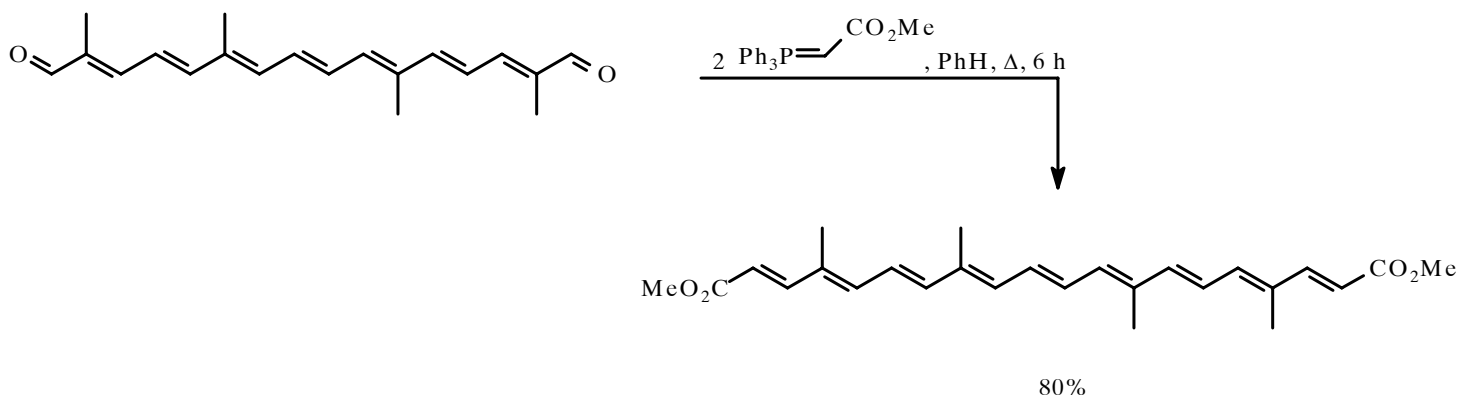
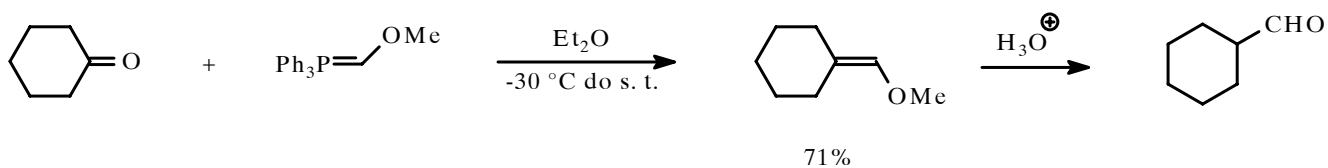
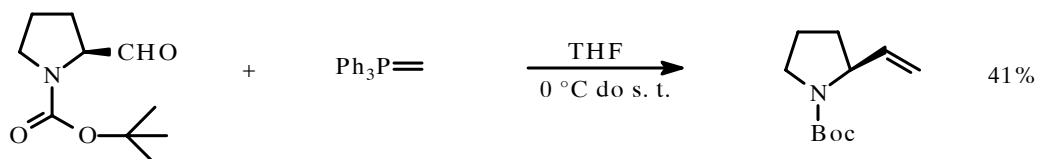
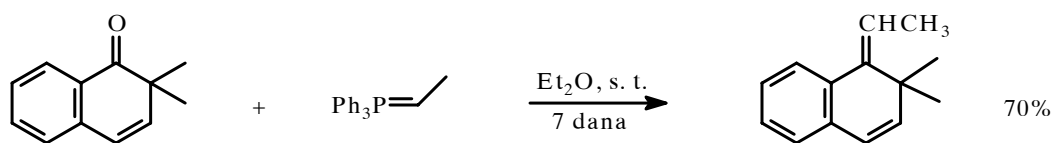
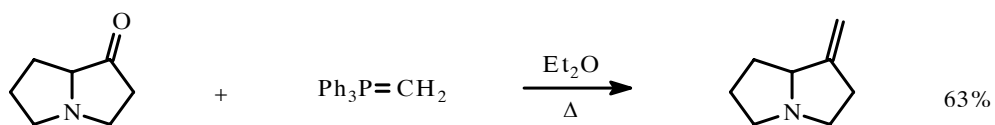
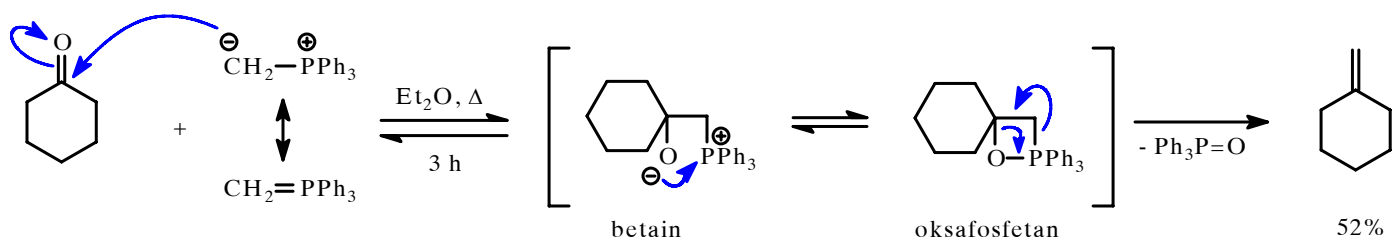


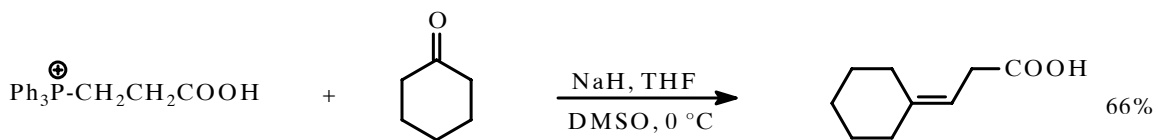
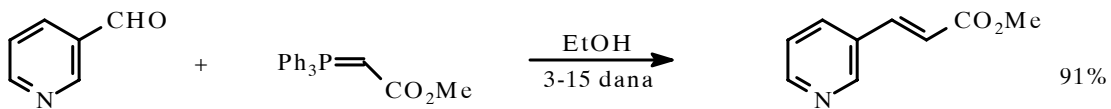
\* Sporedne reakcije



⇒ Zaštita od vlage i O<sub>2</sub>

\* Reakcije fosforana (stvaranje C=C veze)



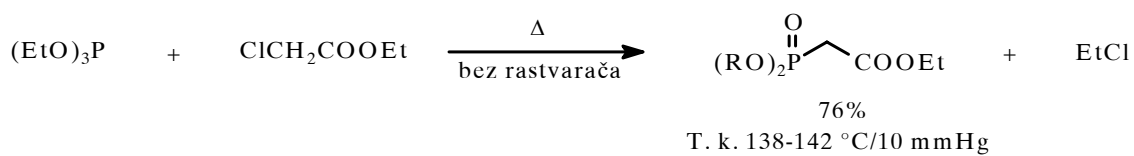


\* Fosfonati  $(\text{RO})_2\text{P}^-\text{CH}_2\text{Z}$  Horner-Wadsworth-Emmons-ova reakcija

Z = COOR, COR, CN, SR, Ar, OR

fosfonati su anjoni, nukleofilniji od fosforana

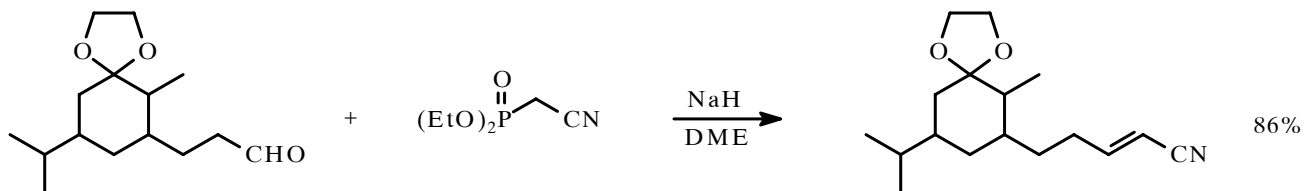
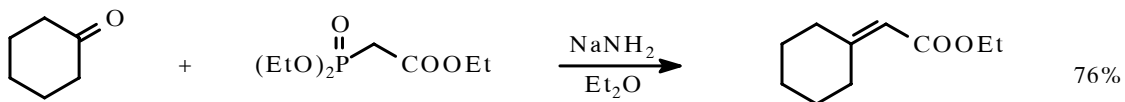
\* Dobijanje: Michaelis-Arbuzov-ljeva reakcija

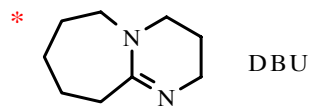
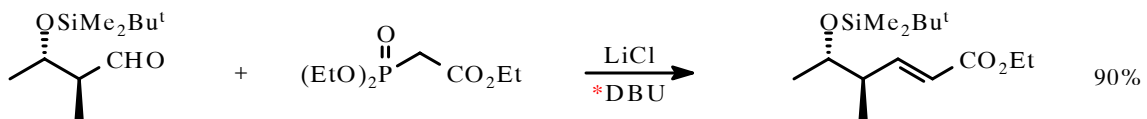
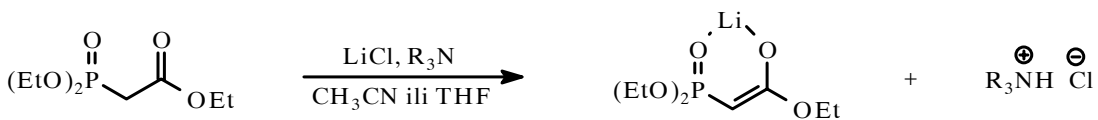
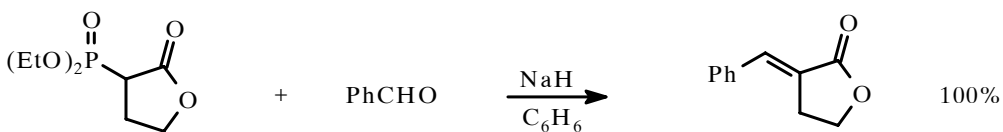
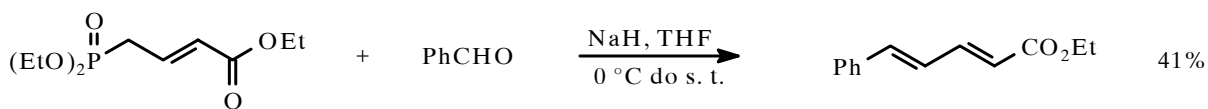
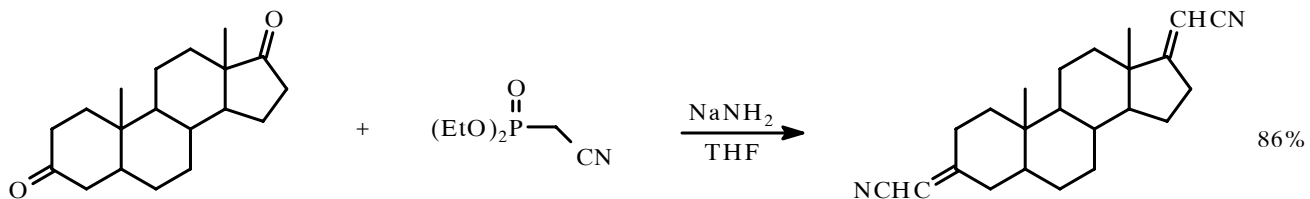


\* Stvaranje C=C veza

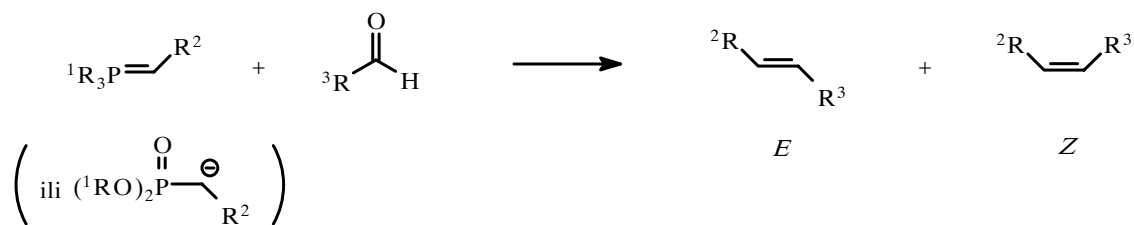
Rastvarači: DME, THF, Et<sub>2</sub>O, DMF, C<sub>6</sub>H<sub>6</sub>, MeOH, CH<sub>3</sub>CN

Baze: NaH, NaNH<sub>2</sub>, NaOR, LiCl/DBU





\* Stereoselektivnost

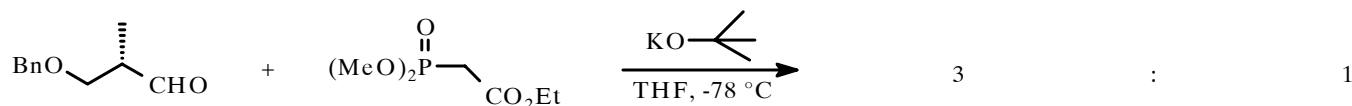
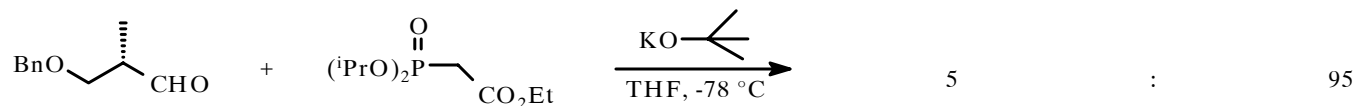
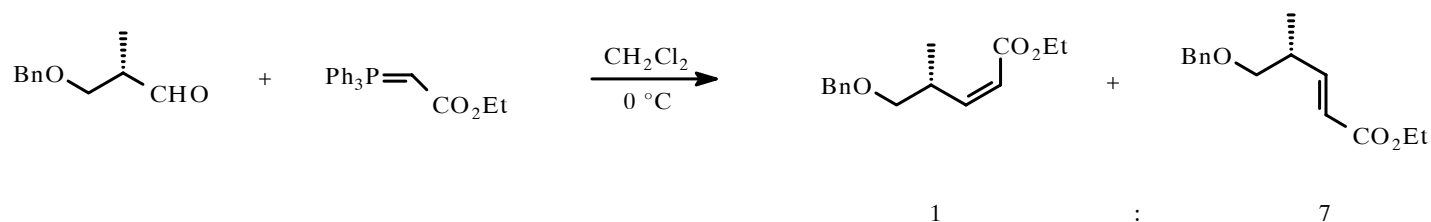
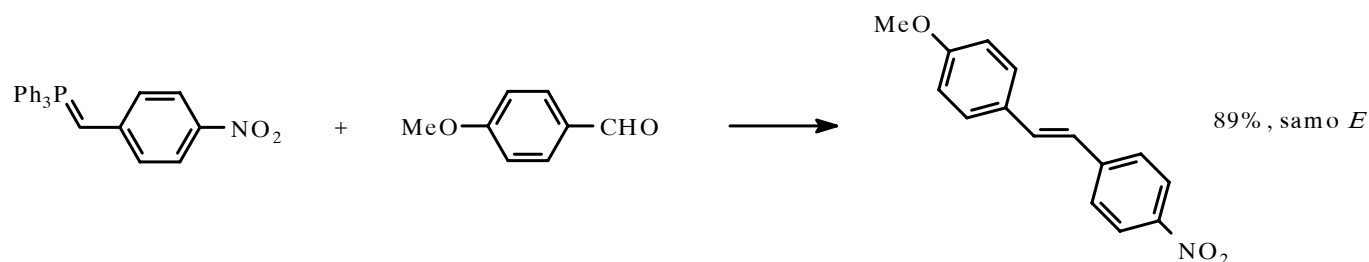
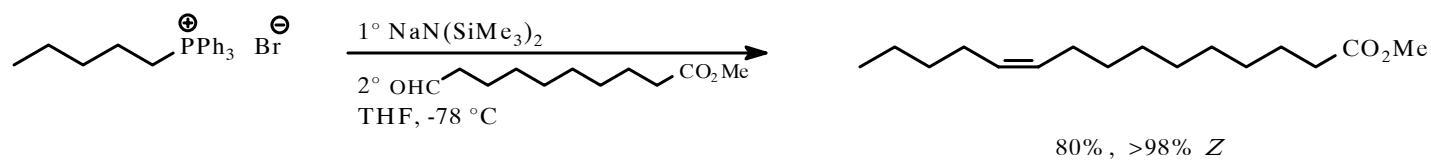


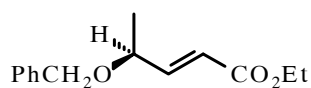
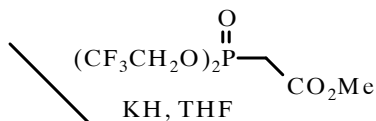
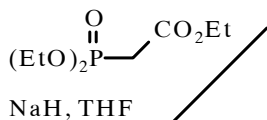
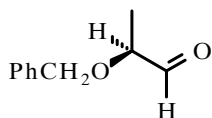
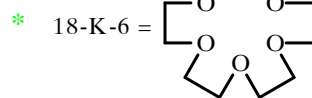
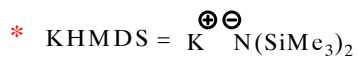
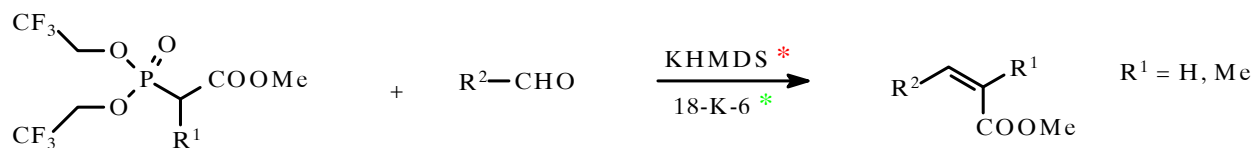
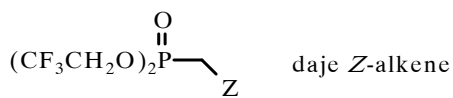
*E* (Termodinamički proizvod)

- viša temperatura;
- nepolaran rastvarač;
- prisustvo rastvornih soli: LiCl, LiBPh<sub>4</sub>;
- stabilizacija karbanjona: R<sup>2</sup> = COOEt, CN, Ar;
- e-bogat P-atom (R<sup>1</sup> = alkil);
- višak jake baze;
- za fosfonate: voluminozne grupe R<sup>1</sup> i R<sup>2</sup>.

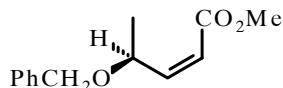
*Z* (kinetički proizvod)

- niska temperatura;
- odsustvo metalnih soli u rastvoru;
- odsustvo stabilizacije karbanjona (R<sup>2</sup> = alkil, alkoksi);
- elektrofilan P-atom (R<sup>1</sup> = Ph, *p*-Cl-Ph);
- za fosfonate: male grupe R<sup>1</sup> i R<sup>2</sup>.

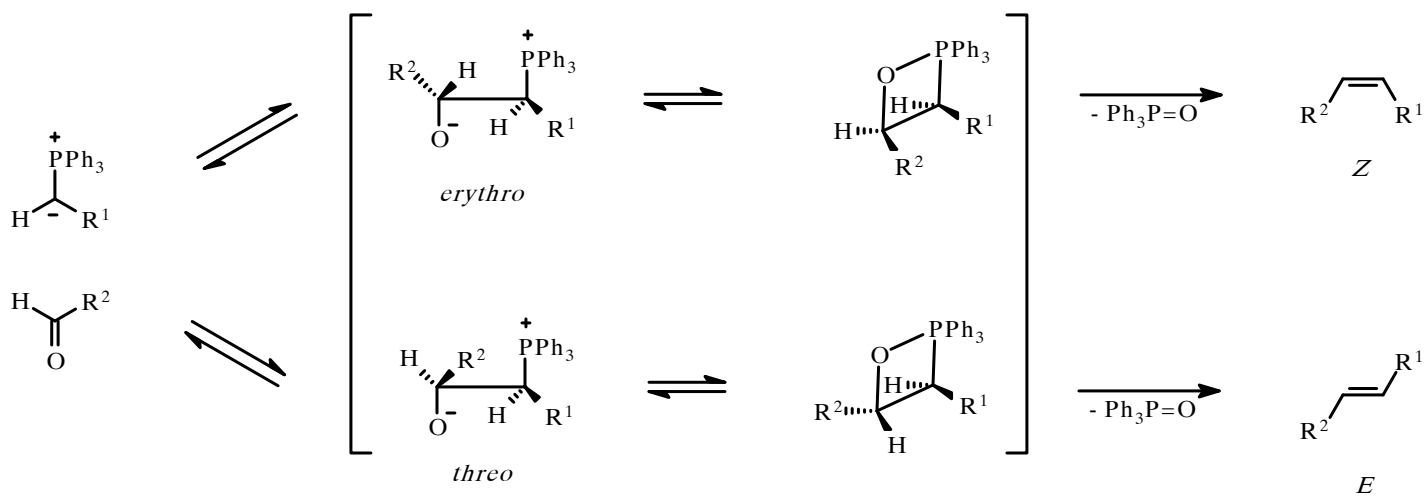




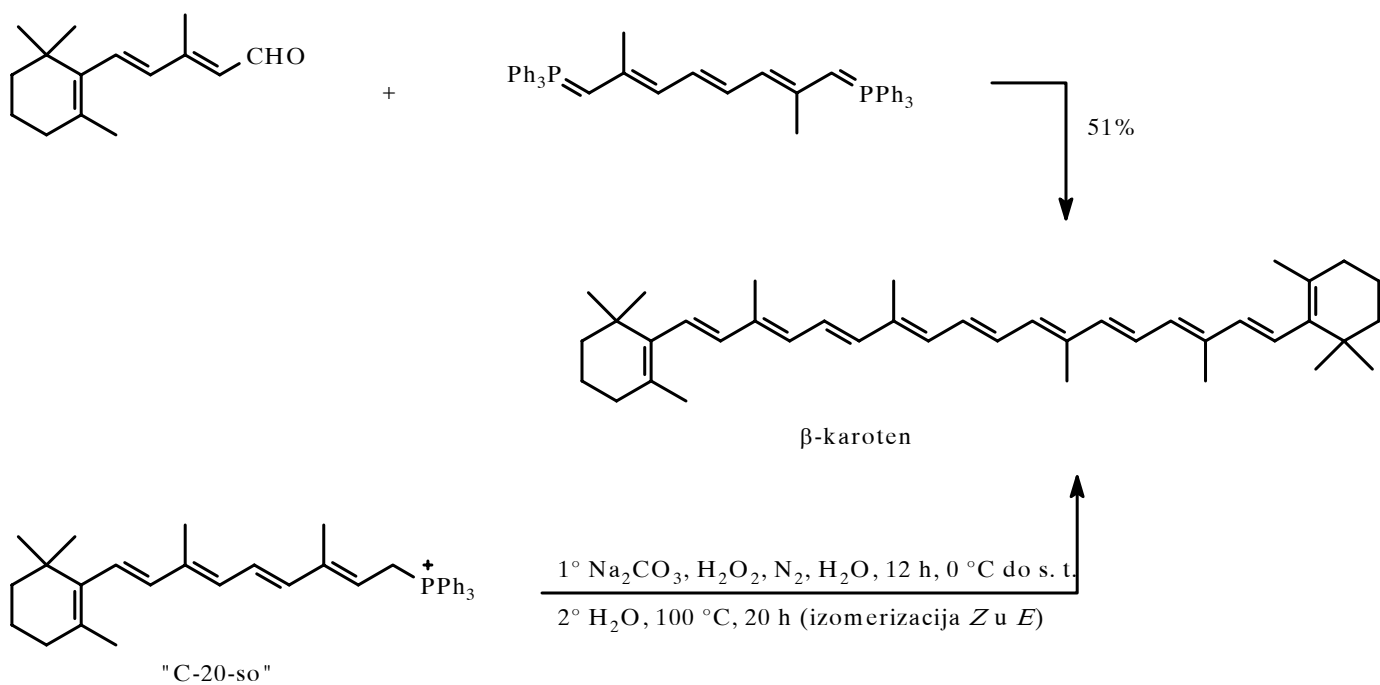
83% *Z* : *E* = 1 : 12



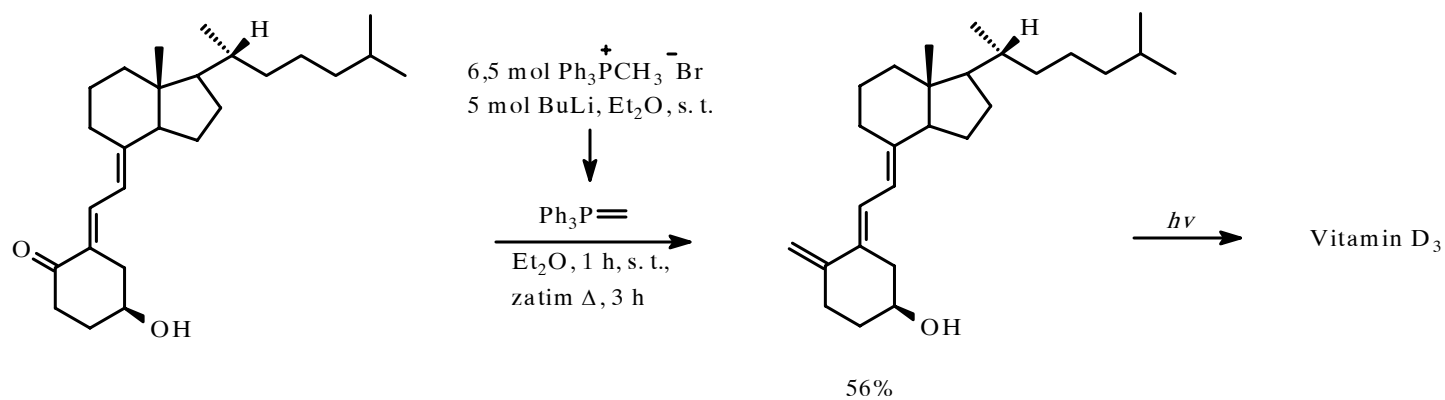
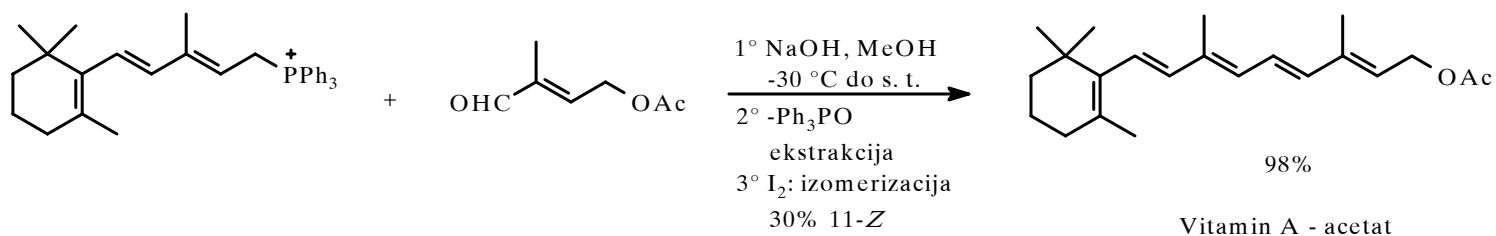
84% *Z* : *E* = 11 : 1



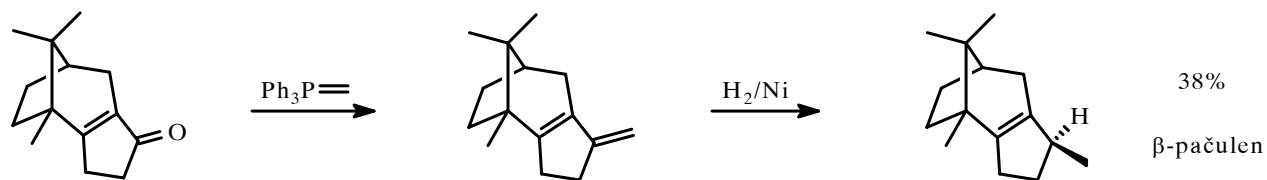
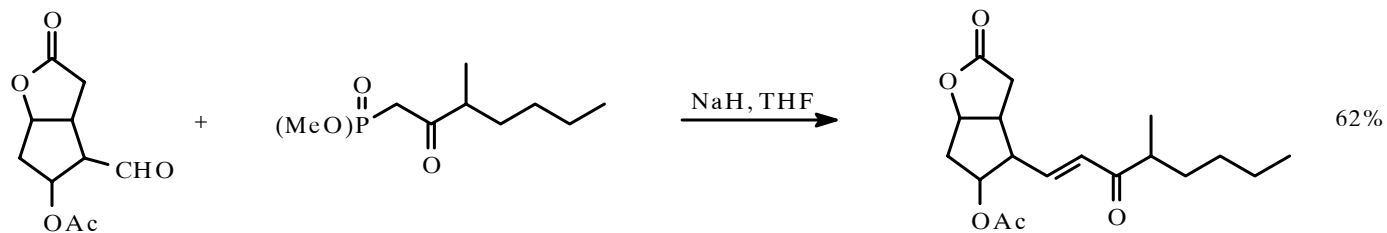
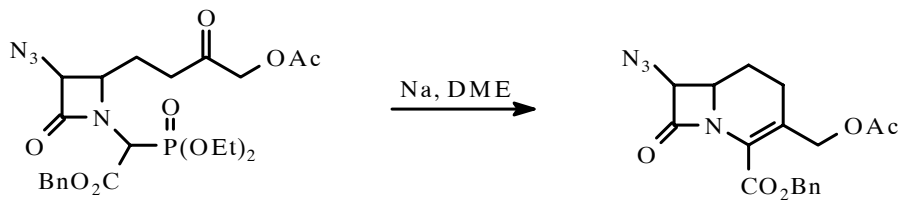
\* Primena u sintezi



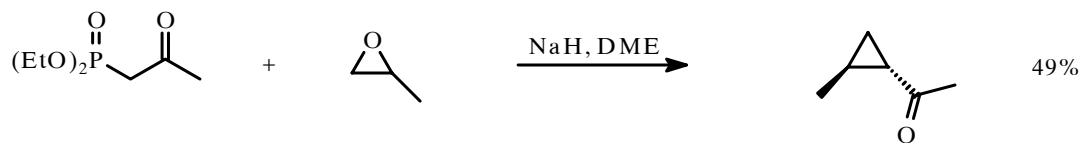
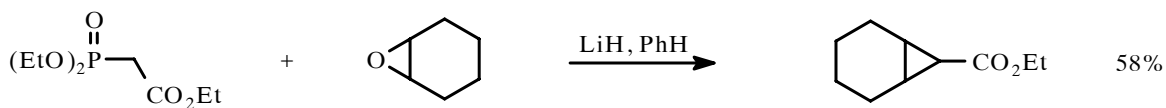
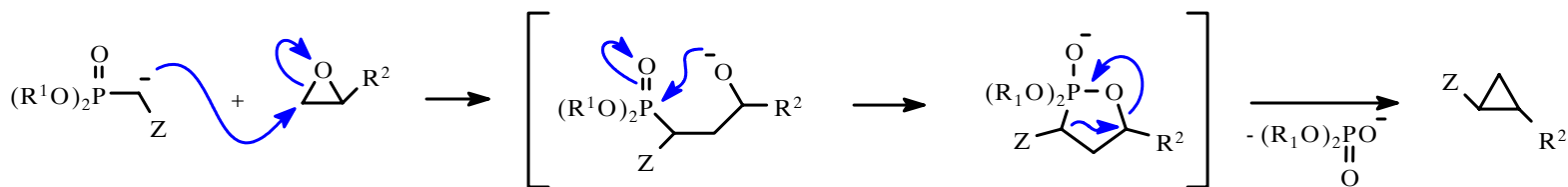
### Industrijska sinteza vitamina A







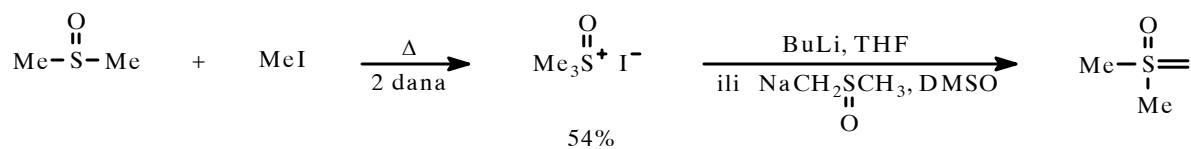
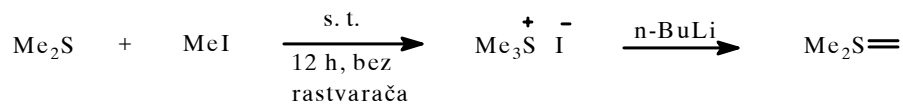
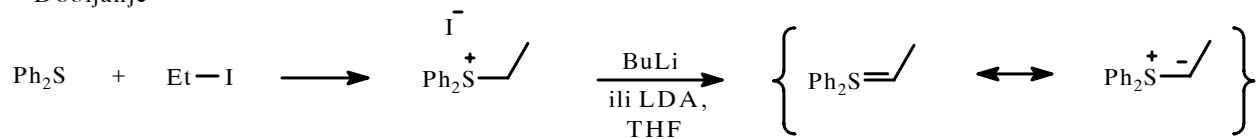
\* Reakcije sa epoksidima



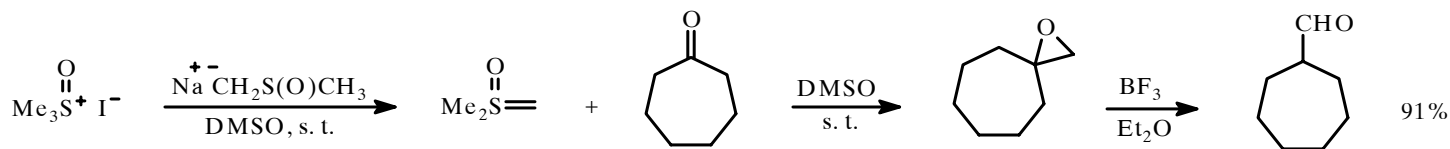
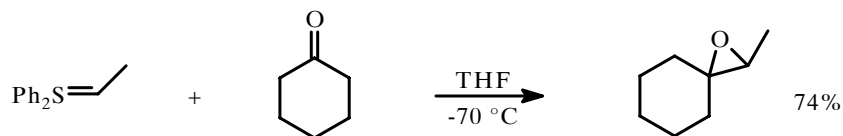
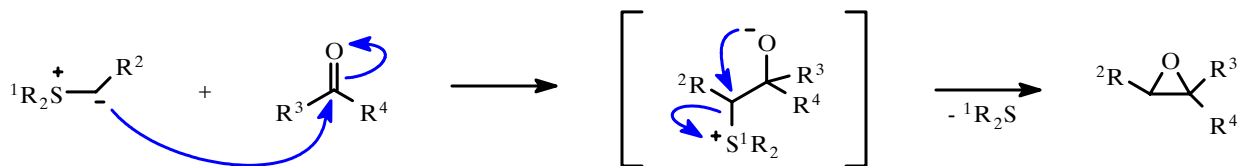
2) Sumporni ilidi

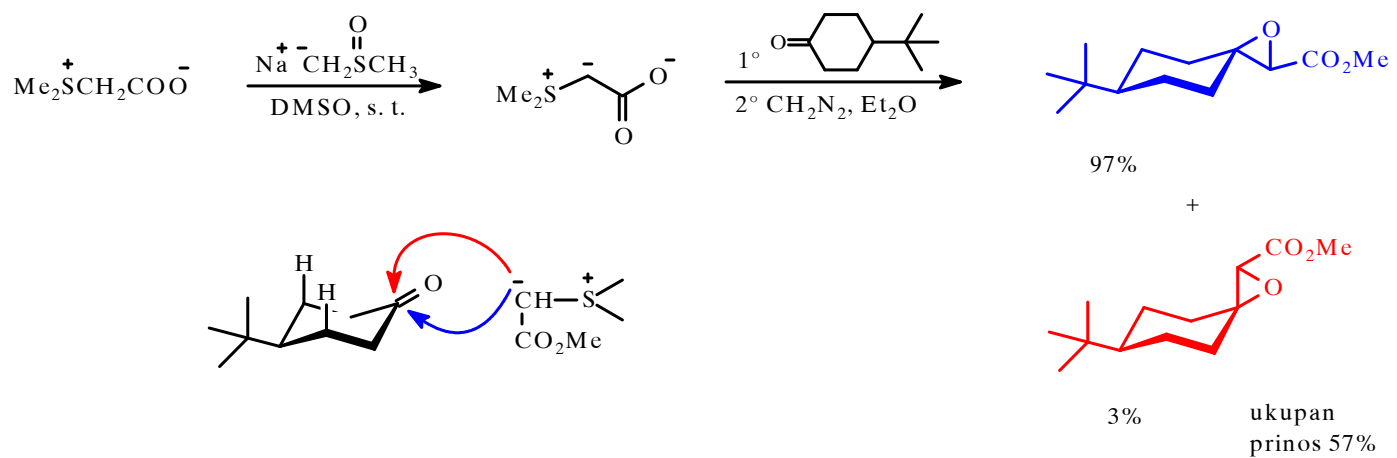
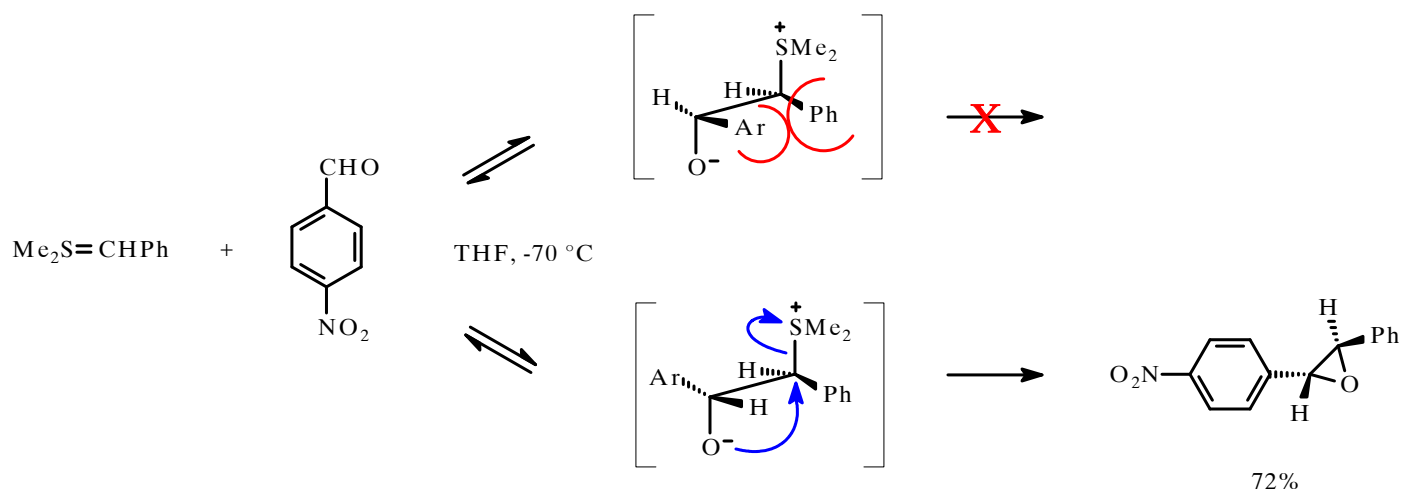
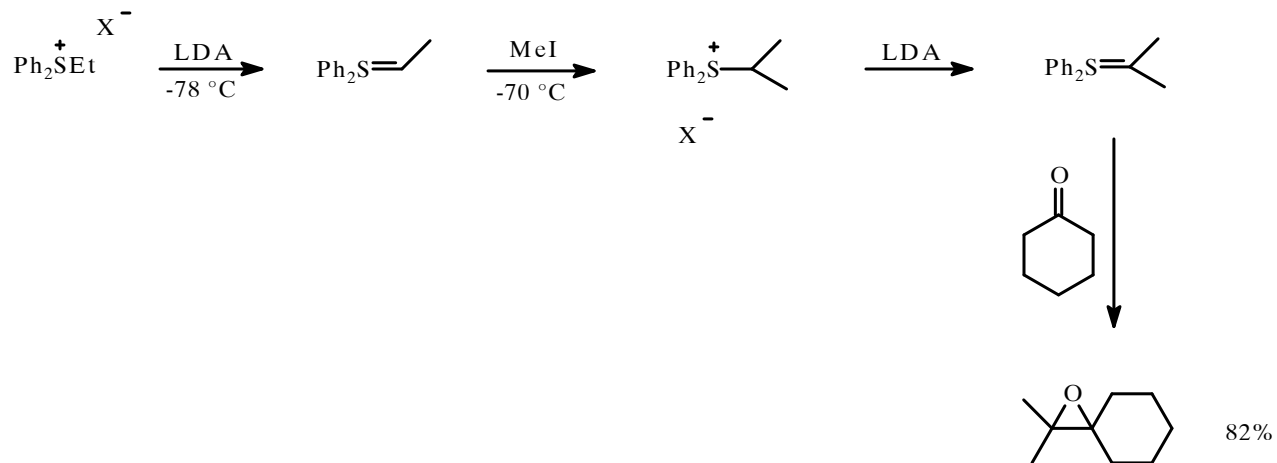


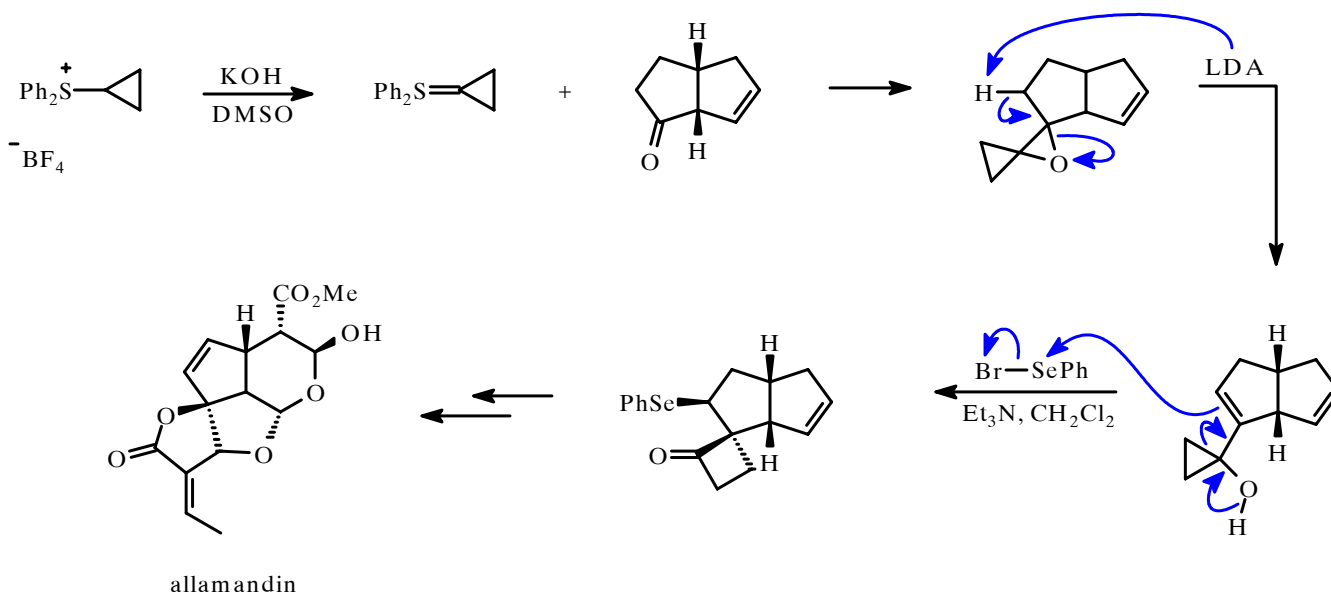
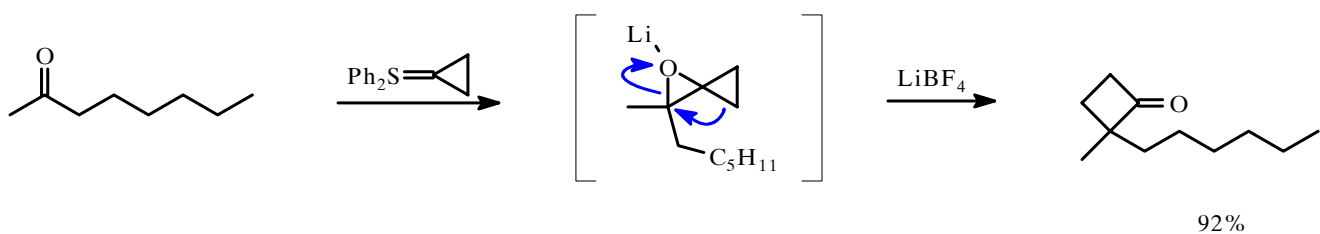
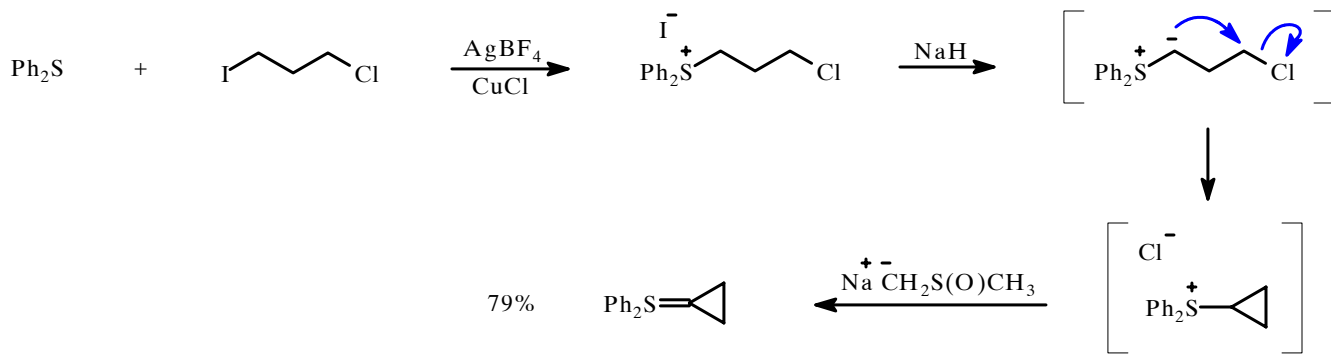
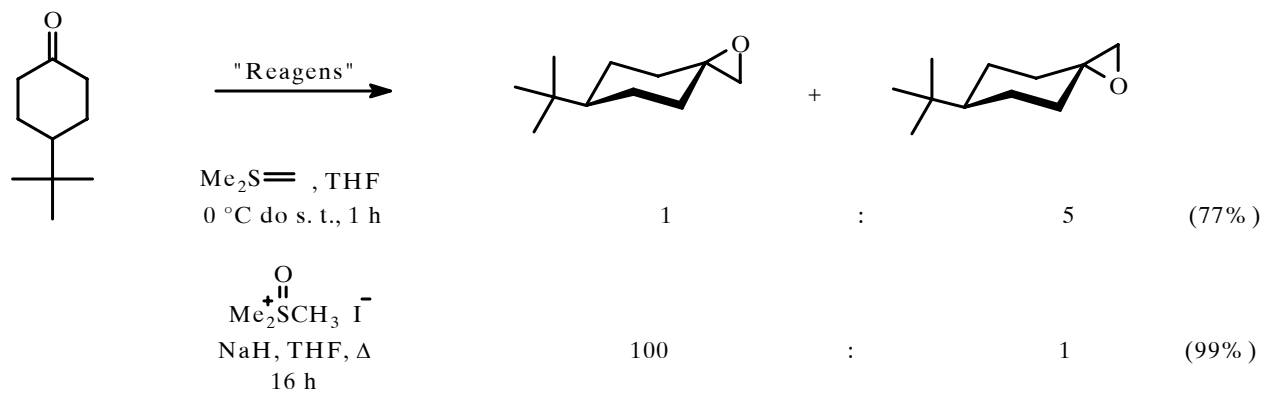
\* Dobijanje



\* Reakcije sa karbonilnim jedinjenjima







Reakcije sa 