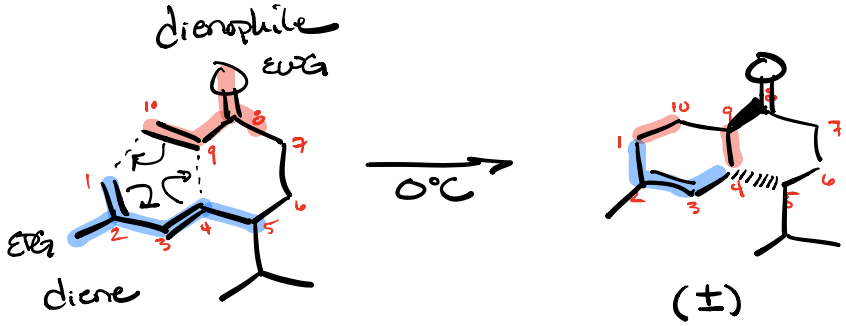
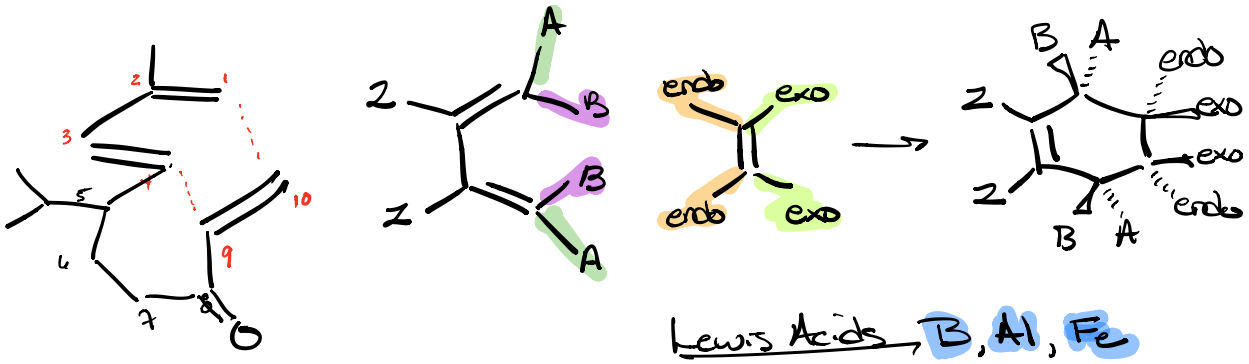
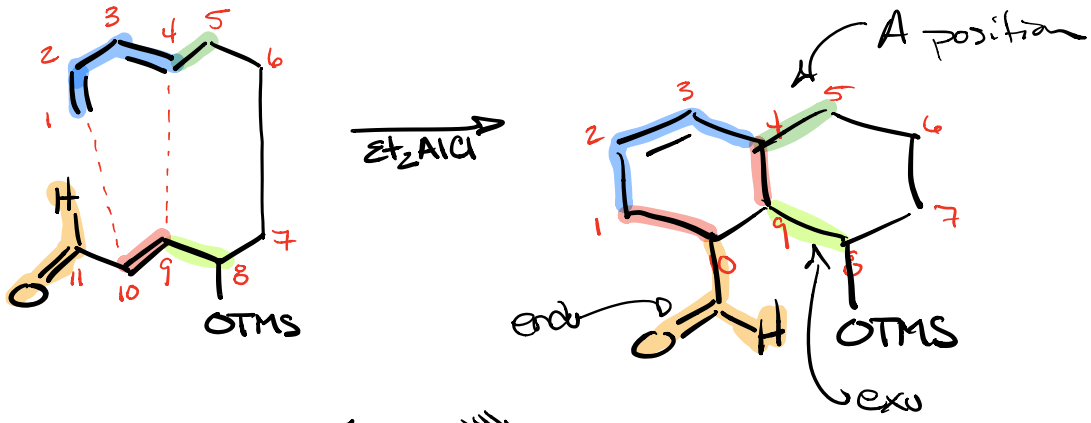


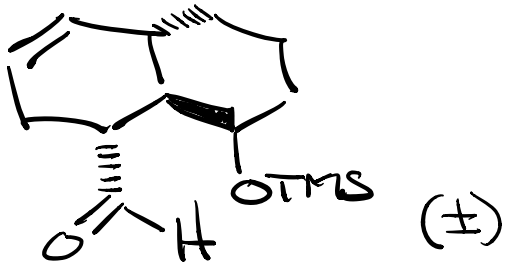


Lewis Acids → B, Al, Fe

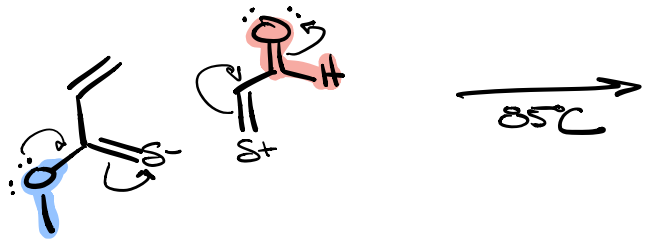
BCl_3 Et_2BCl $AlCl_3$ Et_2AlCl

$FeCl_3$ $FeBr_3$





What is the major product? Does endo vs. exo matter here? Why or Why not? Explain.

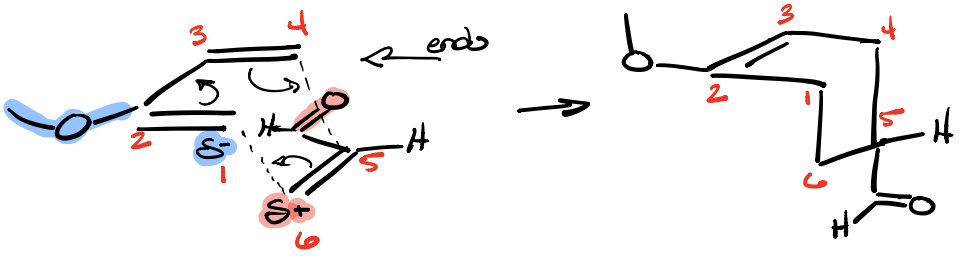


① Decide endo vs. exo (π-orbitals)

② Regioselectivity δ+ & δ- (dienophile, diene)

③ Draw product

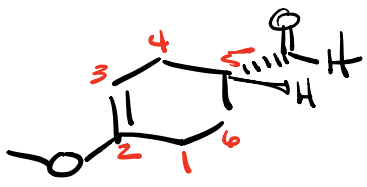
④ Investigate endo vs. exo & decide if important here.



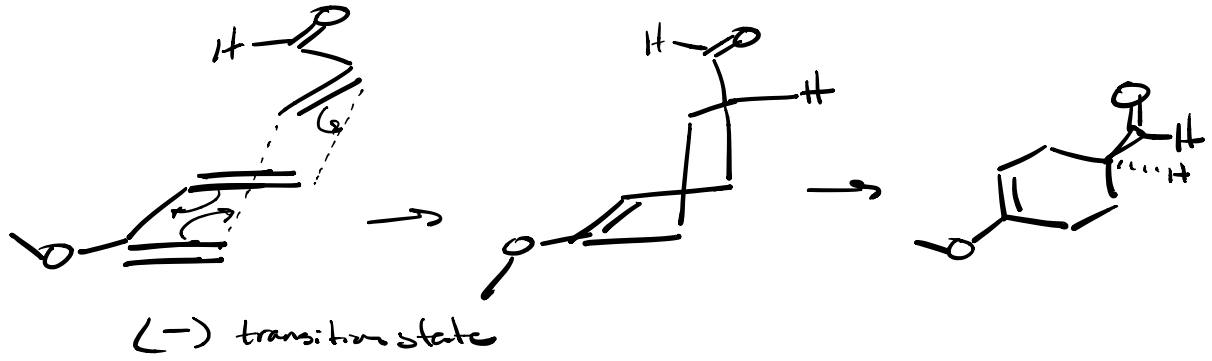
+ transition state

⇒ Endo lowest energy

≡



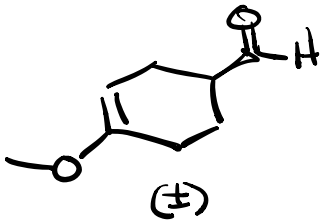
(±)



(–) transition state

Exo Transitionstate

III

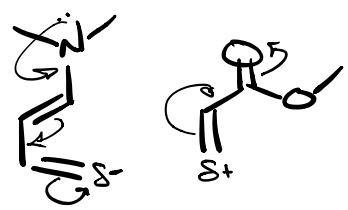


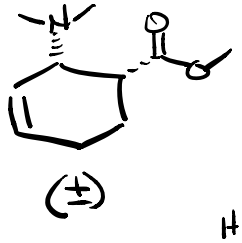
(±)

⇒ When only 1 stereo center is created the endo & exo products cannot be differentiated as both give (±)

⇒ endo is the enantiomer of exo!

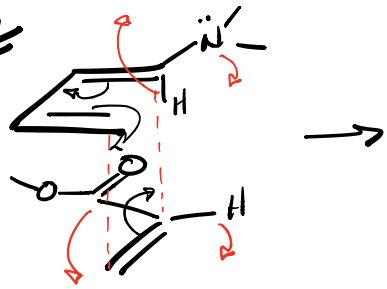
Give Major product. Does endo vs exo matter? Explain.

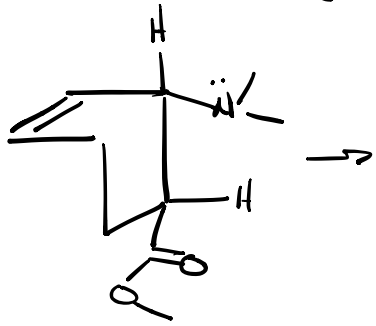


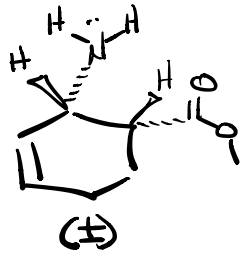


(±)

Endo







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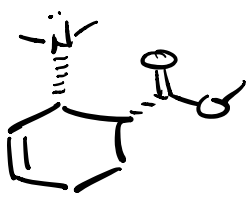

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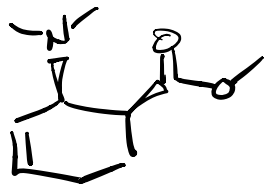
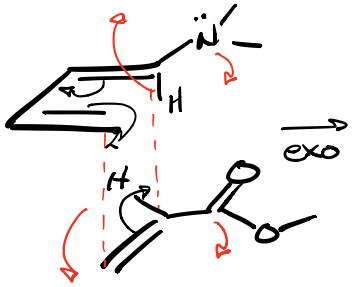
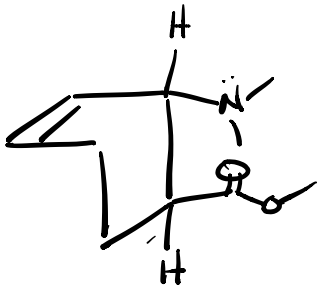


enantiomers
both from endo!
Cis isomers

EXO Question





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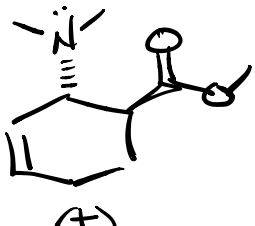
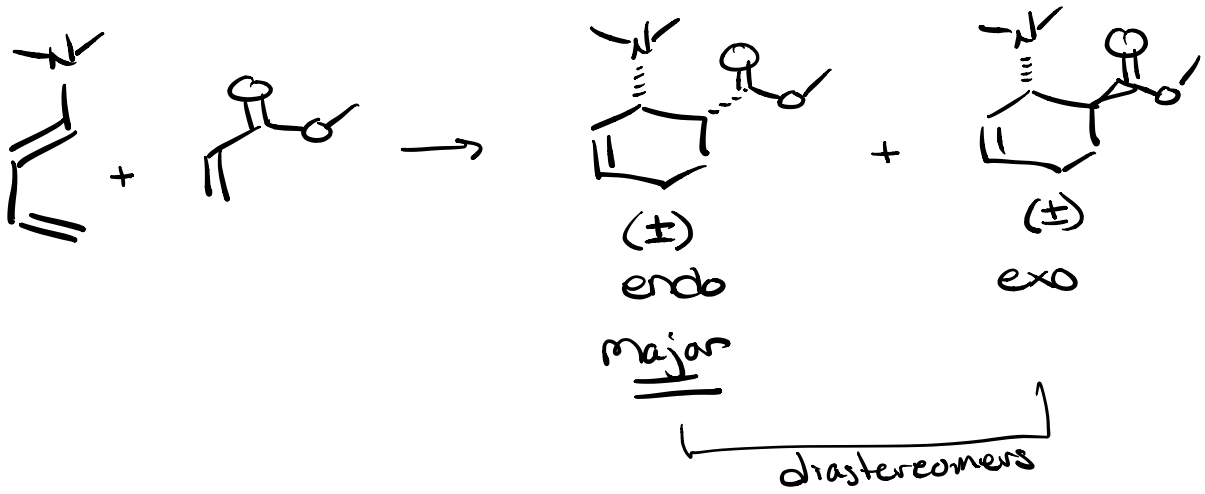
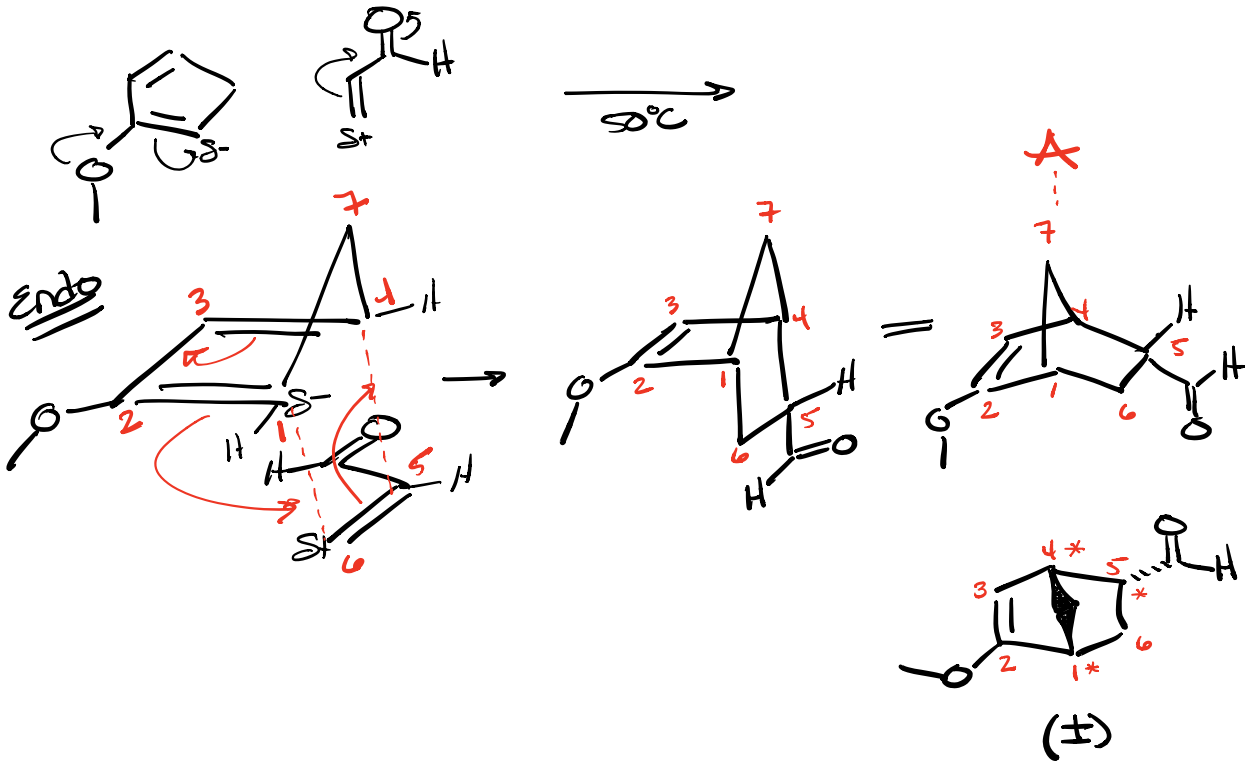


(±)

trans isomers


(±)
endo
major
(±)
exo
diastereomers

Give Major. Does Endo vs Exo Matter?



Exo