

Do Not Use Pencil

Do Not Staple, Please!

Course Chem 345

Lecturer Gellman

Day Monday

Date 5-2-16

Notes Taken by LL

Page 1 of 5 (Total Pages)

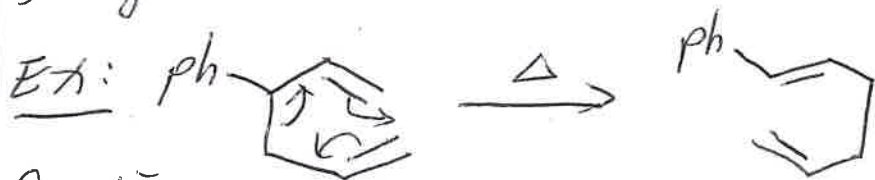
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See email availability, this week (office hours review sessions)

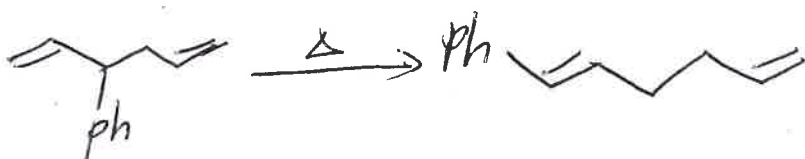
Final (5/11) is cumulative

Recall: Pericyclic Rxns

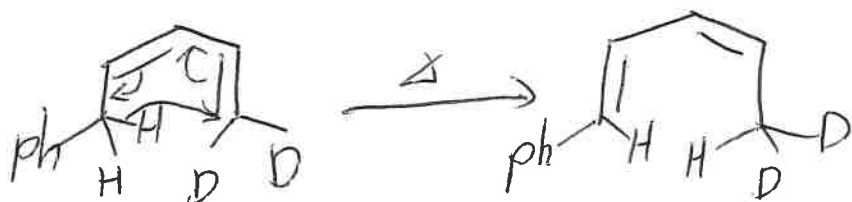
- 1) Electrocyclic rxns
- 2) cycloaddition rxns
- 3) sigmatropic rxns



Caution: These rxns can be difficult to perceive! 



Another type



Designation—based on TS, "fragments" that maintain full σ -bonding.

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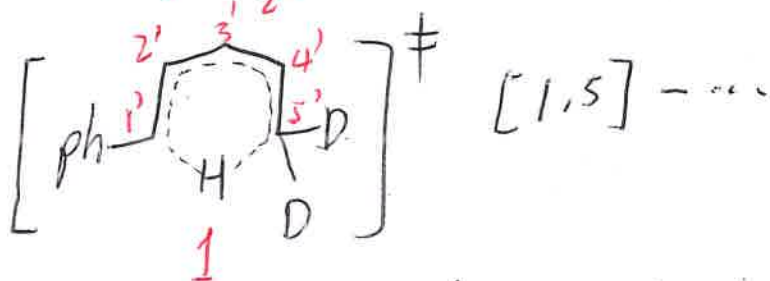
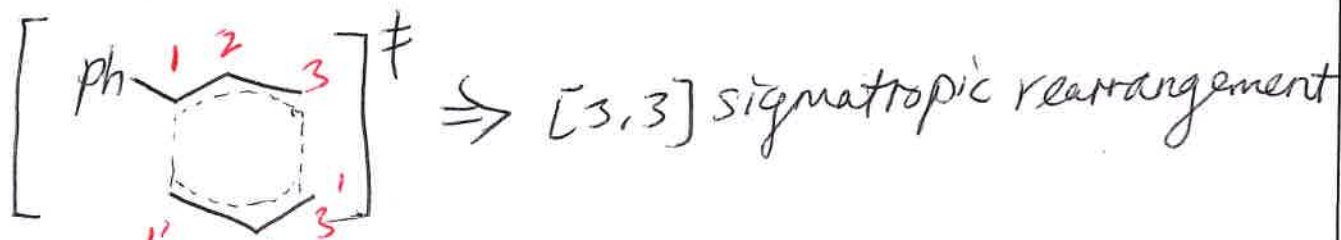
Day Mon

Date 5-3-16

Notes Taken by LD

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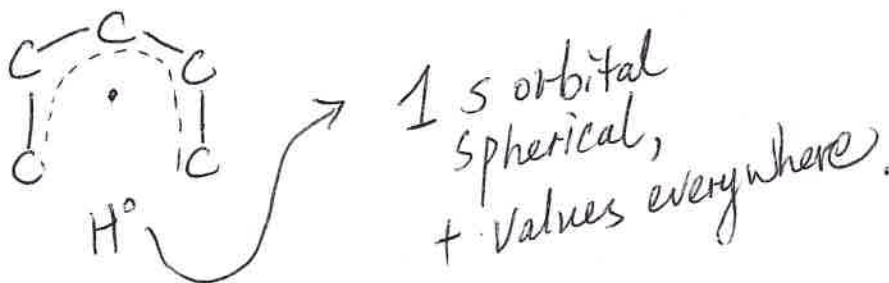
MO symmetry enables predict or recognize "allowed" vs. "forbidden".

Consider $[1,5]$ - ~~can~~ analyze in terms of radical fragments @ TS ($H^\bullet +$ \leftrightarrow etc.)

Note: text uses $\rightarrow H^\oplus$ & pentadienyl anion.

\rightarrow equivalent ~~considerations~~ conclusions

Consider (no substituents)



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pentadienyl radical.

— 25

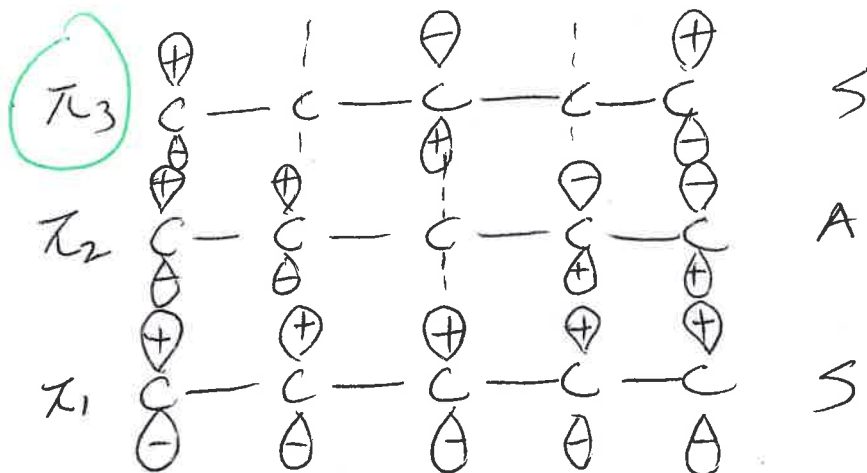
$E \uparrow$ 5x C, 2p. —

—
1 π_3 (SOMO)

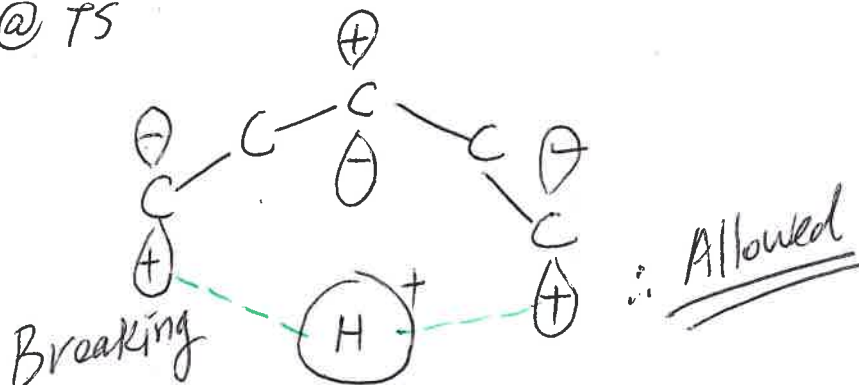


1 π_2
1 π_1 (MOs)

$\pi_1 - \pi_3$ MOs...



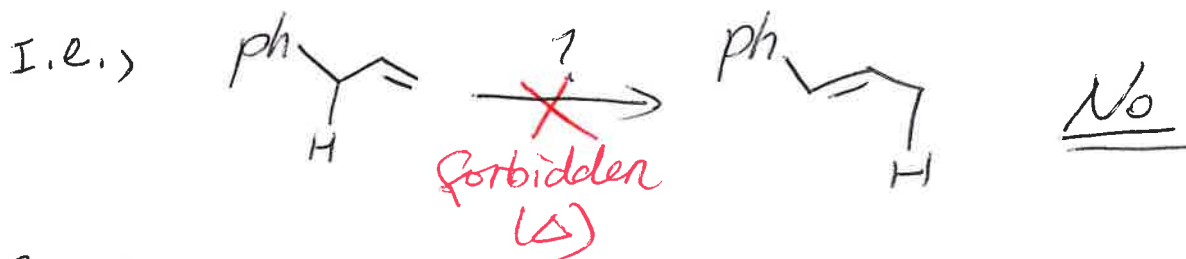
MO sym @ TS



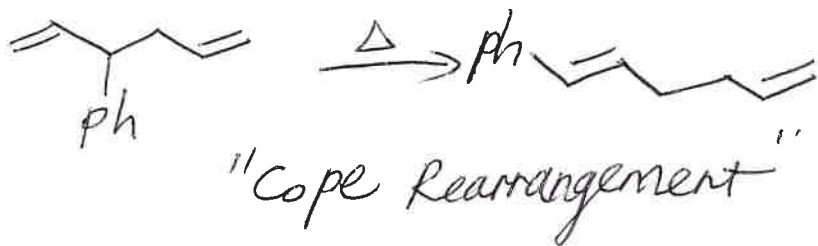
Course Chem345 Lecturer Gellman
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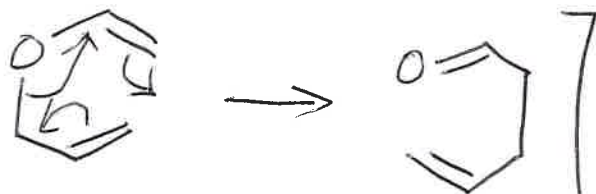
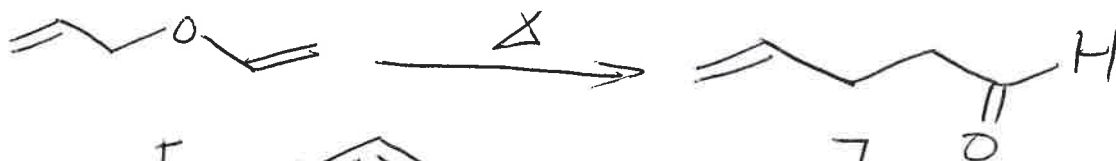
Note: This is a suprafacial shift, in terms of pentadienyl fragment.
 Is a suprafacial [1,3] shift of H thermally allowed?



Recall [3,3] rearr.



Incorporate — "Claisen Rearr." "



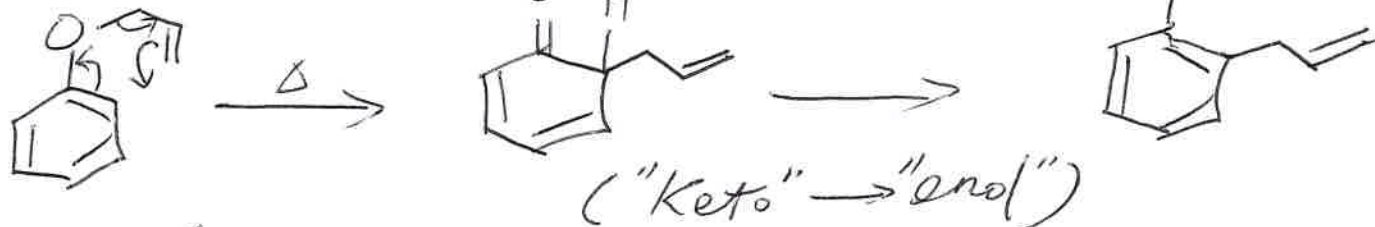
Variant:

Allyl ethers of phenols



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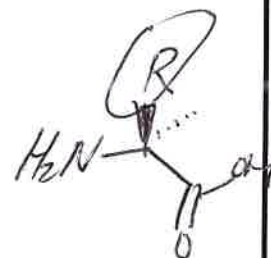
Mech:



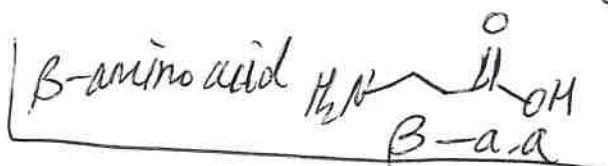
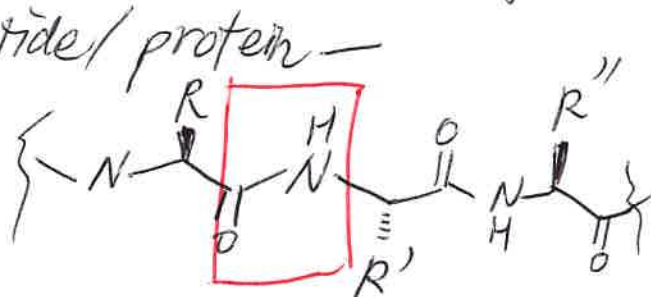
Section § 27.6 - Peptide Synthesis

Proteins - workhorse molecules of biological

Components derived from α -amino acids



Peptide/protein -



2° amide
 ("peptide bond")

A specific protein is defined by the ~~amino~~ amino acid "sequence" - i.e., seq. of side chains

The challenge of protein synthesis = how to build the amide bonds in the proper order.

How does biology do it? \rightarrow Templated - directed synthesis & store: ~~DNA~~ DNA $\xrightarrow{\text{transcribed}}$ ~~RNA~~ RNA $\xrightarrow{\text{translated}}$ protein

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Ribosome mediates translation

