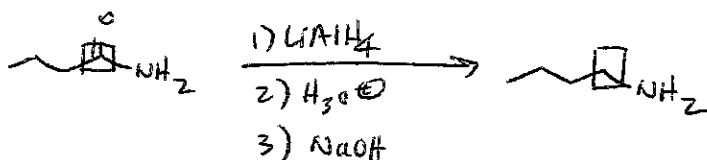


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PLEASE COMPLETE NOTES IN INK AND DO NOT STAPLE.

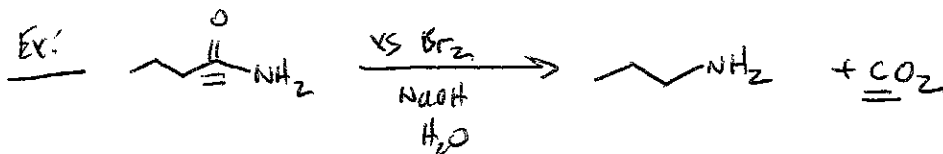
CHEMISTRY OF AMINES

SYNTHESIS OF AMINES

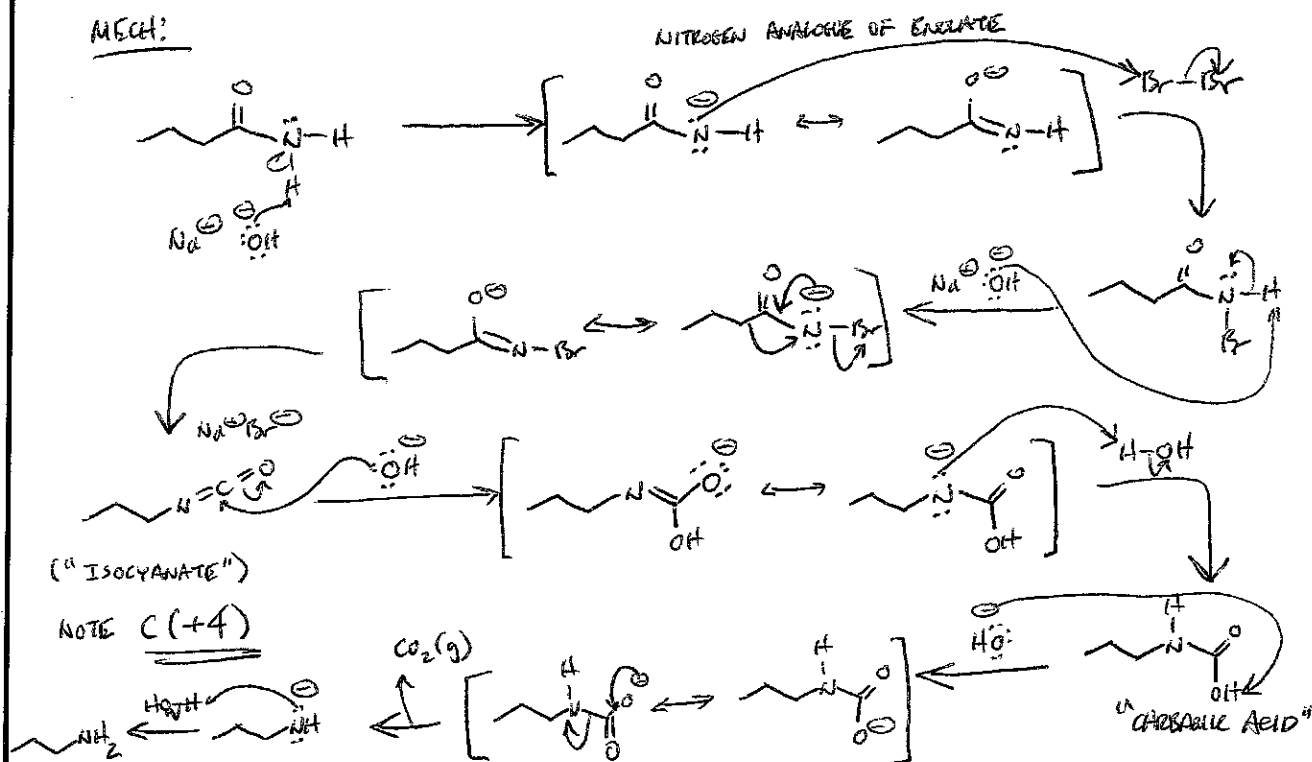
RECALL: REDUCTION OF AMIDES



NEW! HOFMANN REARRANGEMENT



MECH:



Course CHEM 345

Instructor GERMAN

Day FRIDAY

Date 4/25/2014

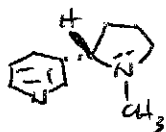
Notes Taken By KUOT

Total # of Pages 4

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READ SECTION 23.12 - NATURALY-OCCURRING AMINES "ALKALOID"

NICOTINE!



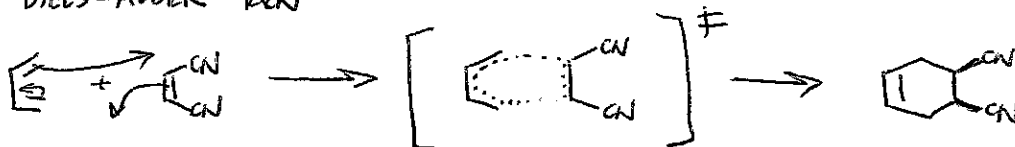
END OF EXAM COVERAGE (FOR EXAM 3)

CHAPTER 27 - PERICYCLIC REACTIONS

RECOMMENDED PROBLEMS - ALL

- CONCERTED MECHANISMS
- CYCLIC ARRAY OF PARTIAL BONDS \Rightarrow TRANSITION STATE

EX: DIELS-ALDER RCN

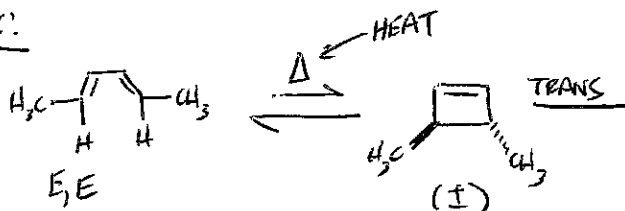


"CYCLOADDITIONS"

ELECTROCYCLIC REACTIONS - FIRST CLASS OF PERICYCLIC REACTIONS WE CONSIDER

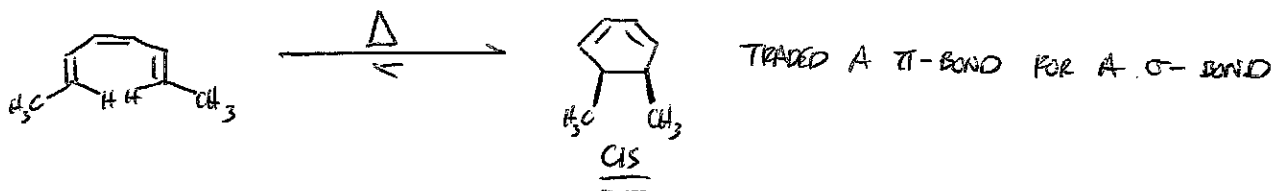
- UNIMOLECULAR (REARRANGEMENT)
- TRADE π -BOND FOR σ -BOND OR VICE-VERSA

EX:

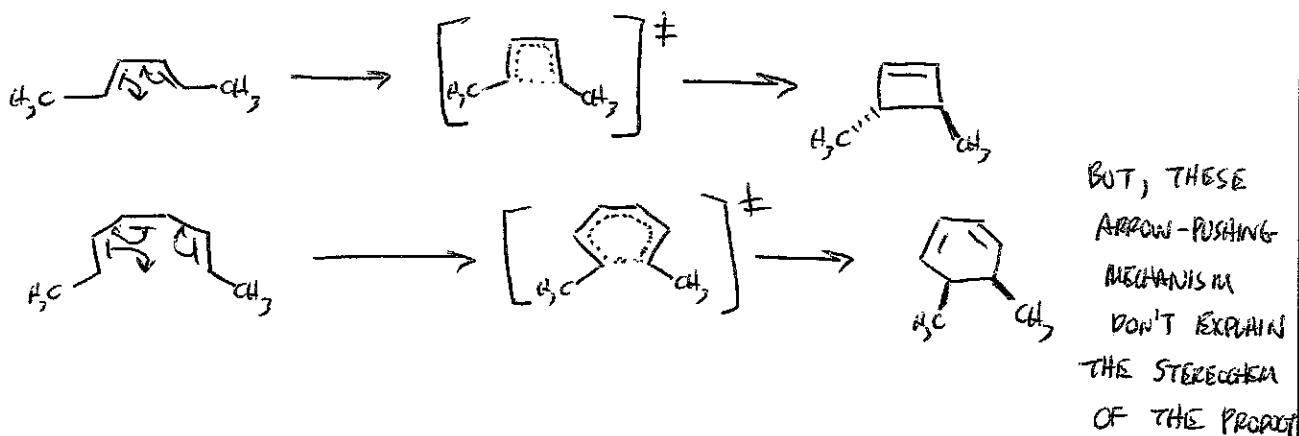


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ANOTHER EX.



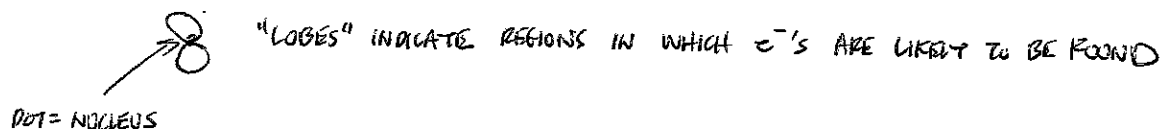
CONNECTED MECHANISMS:



TO RATIONALIZE STEREOCHEMISTRY, WE MUST CONSIDER
MOLECULAR ORBITAL SYMMETRY

PRELUDE: RETURN TO π -BONDING IN ALKENES (e.g. $H_2C=CH_2$)

RECALL: A.O. = p-ORBITAL



ORBITAL IS DESCRIBED BY A WAVE FUNCTION, FOR A WAVEFUNCTION, THE SQUARE OF THAT FUNCTION GIVES THE PROBABILITY OF FINDING e^-

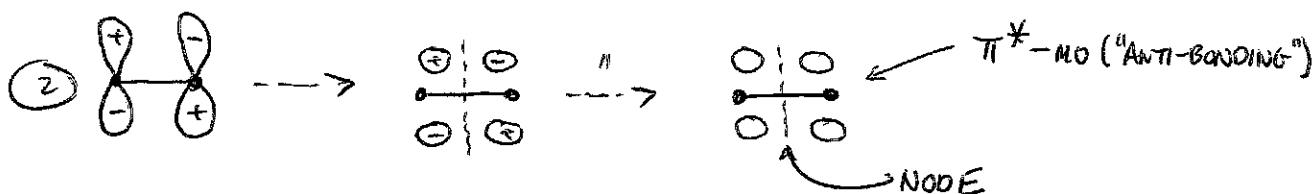
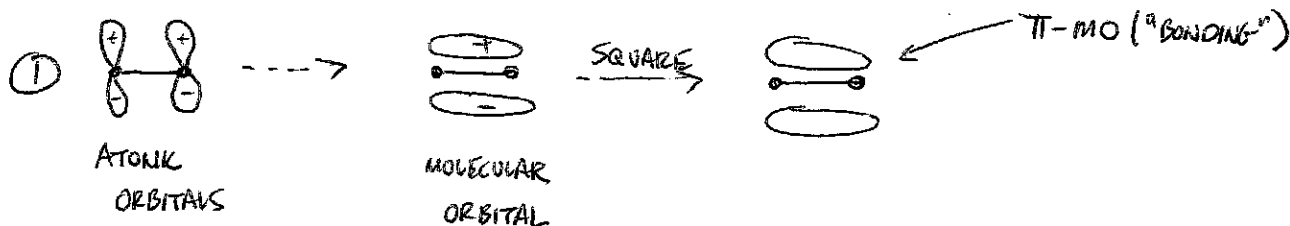
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P WAVE FUNCTION



TO FORM π -BOND OF ALKENE, COMBINE TWO P-ORBITALS

TWO WAYS TO COMBINE:



NOTE: π MO COMES FROM SYMMETRIC COMBINATIONS OF P-ORBITALS

π^* MO COMES FROM ANTI-SYMMETRIC COMBINATIONS OF P-ORBITALS

SIGNS OF AO'S AND MO'S CAN BE DIRECTLY EXTENDED TO
 CONJUGATED π -SYSTEMS

