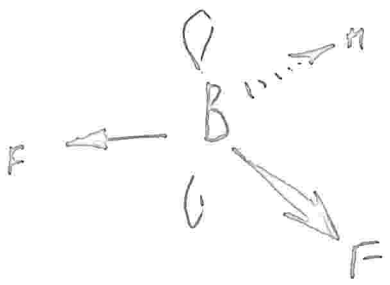
REVIEW: ACIDITY

- RESONANCE & INDUCTION STABILIZES THE CONJUGATE BASE AND HENCE FAVOURS DEPROTONATION, LEADING TO A STRONGER ACID.
- HYBRIDIZATION INCREASES ACIDITY
- LONE PAIRS DECREASE ACIDITY
- PRODUCTS AM. ARE AFFECTED BY THE INTERMEDIATE RESONANCE STRUCTURES

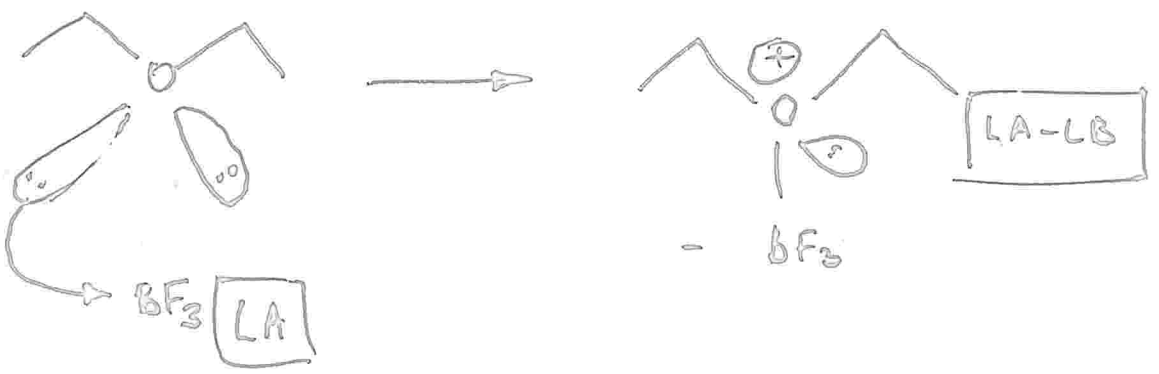
LEWIS ACID — ELECTRON PAIR ACCEPTOR

REMARK — LEWIS ACIDS GENERALLY HAVE AN EMPTY ORBITAL AND ARE AFFECTED BY THE ELECTRON WITHDRAWING ATOMS IN THE STRUCTURE

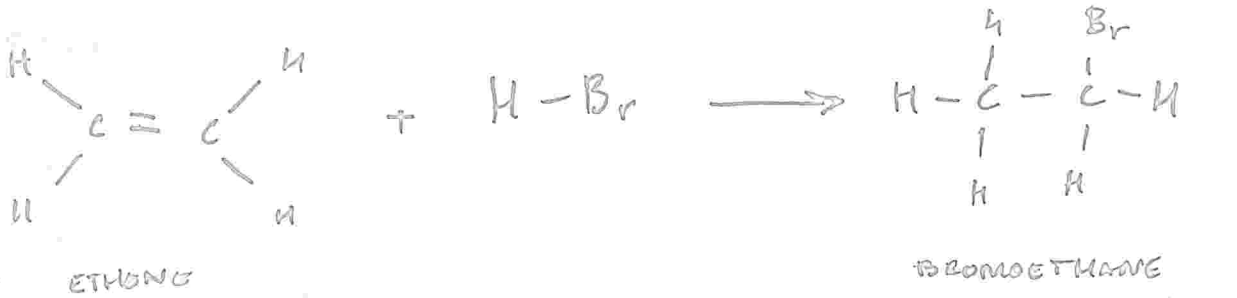
EXAMPLE



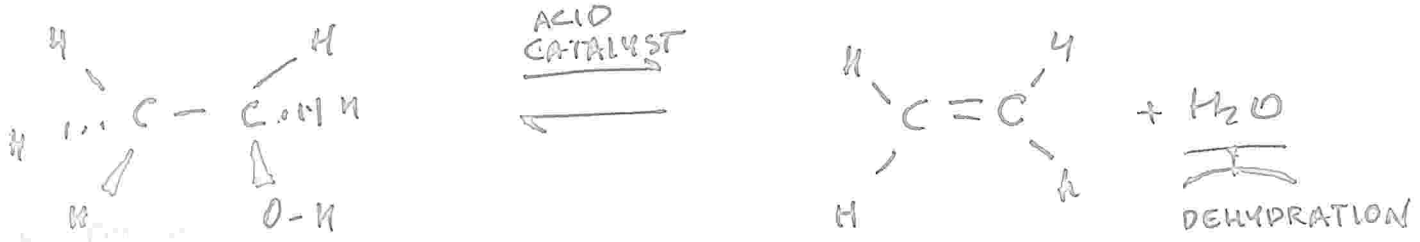
LEWIS ACIDS AND BASES



- ADDITION



- ELIMINATION



- SUBSTITUTION

- REARRANGEMENT

REACTION MECHANISMS

- HOMOLYTIC (SYMMETRICAL) BOND CLEAVAGE

| SYMMETRICAL BOND-MAKING (RADICAL)

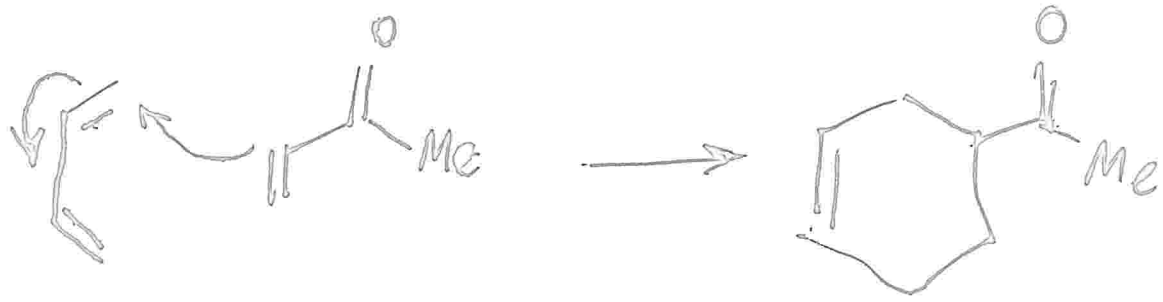
- HETEROLYTIC BOND CLEAVAGE

- PERICYCLIC REACTIONS

SEVERAL BONDS ARE FORMED / BROKEN WITHOUT INTERMEDIATES

~ "CONCERTED REACTION"

EXAMPLE



POLAR REACTIONS

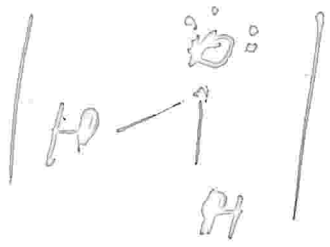
- NUCLEOPHILE

AN ELECTRON-RICH SPECIES THAT REACTS BY DONATING AN ELECTRON PAIR TO AN ELECTRON-POOR SPECIES

- ELECTROPHILE

AN ELECTRON-POOR SPECIES THAT REACTS BY ACCEPTING AN ELECTRON PAIR FROM A NUCLEOPHILE

EXAMPLES



BASE & NUCLEOPHILE

NUCLEOPHILE

↑ V. BASIC