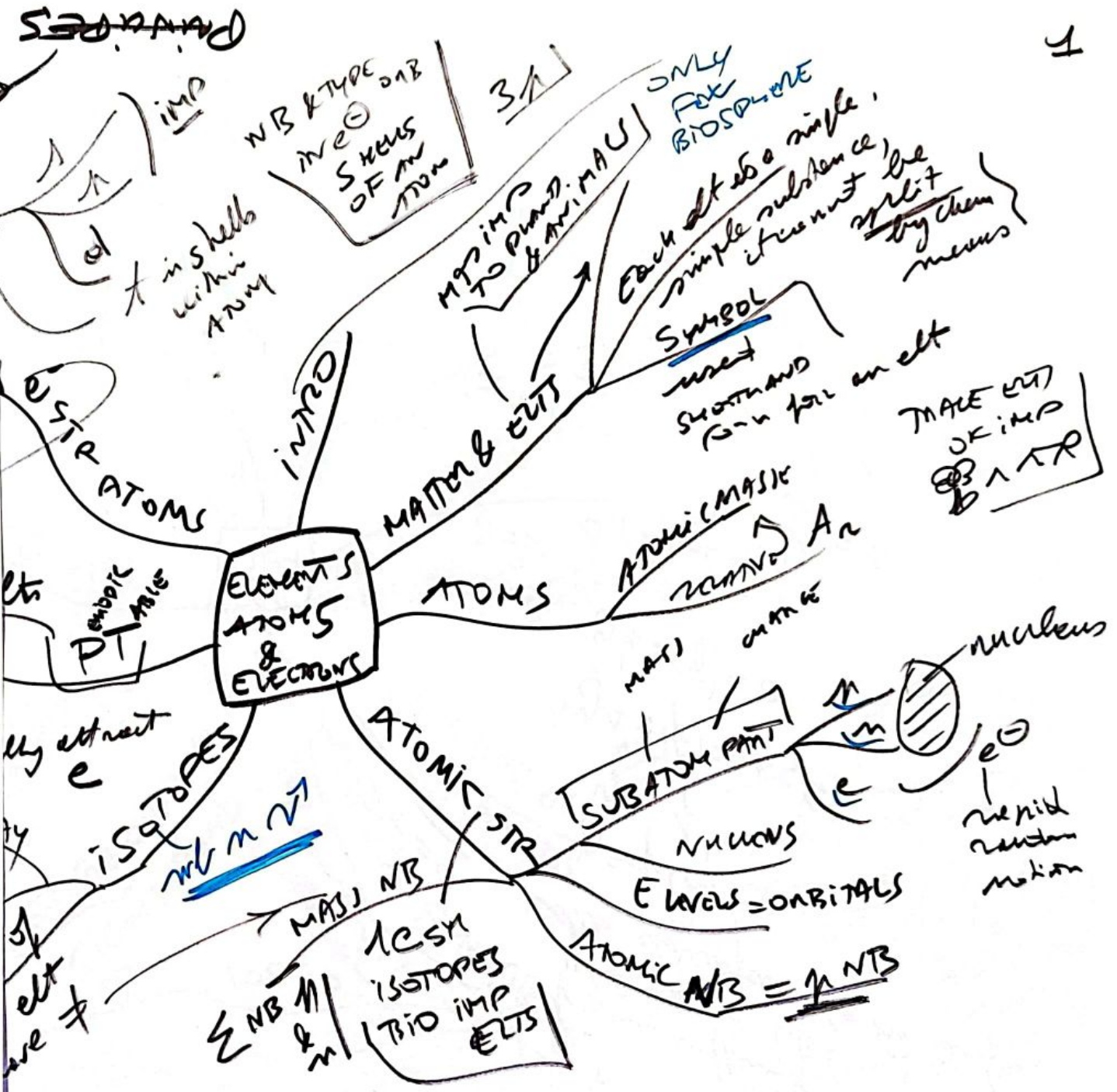


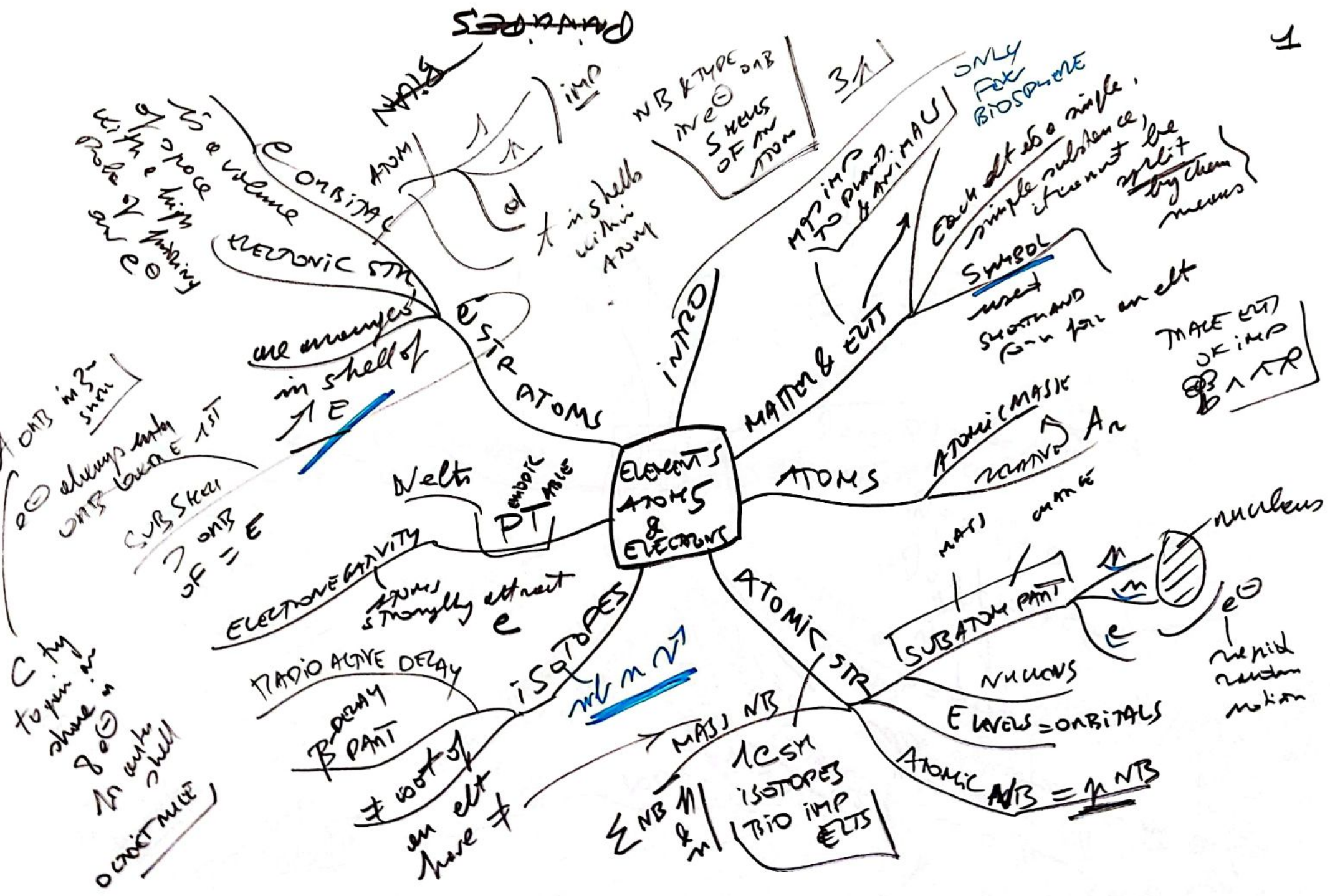
ELEMENTS ATOMS & ELECTRONS



imp

SUTTON CHEMISTRY FOR THE LIFE SCIENCES

ELEMENTS ATOMS & ELECTRONS



COVALENT BONDING & MOLEC

INTRO

HYBRID MOLEC ORBS

SP3 HYBRIDS

Hybrid orbitals not used to form lone pairs

20 orbitals
31 can be used
→ 4 equal p orbitals
→ 5 strong C-S bonds

ATOMS

COVALENT BONDS ARE FORMED BY SHARING OUTER E⁻

SHARING E⁻ → COVALENT BONDS

full outer shell stable

only outer shell, val e⁻ are shown in bonding

LOCALISED IN AREA BETWEEN ATOMS

FORMULAE OF COMPOUNDS



overlap outer shell

COMPOUNDS FORMED BY COVALENT BONDING

LOBES OF ORBITALS

SINGLE OVERLAP SIGMA BOND

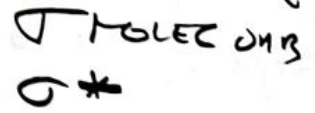


Double overlap

MOLEC WITH σ & π B

Energy level diagram can be used to show the formation of σ & π

Single overlap



MOLEC ORBITAL DIAG

overlap

filled with e⁻

atomic orbitals

formed by sharing of val shells

Group atoms can have

Simple rules for formula of compounds

ORDAN NB ON

nr of outer shell e⁻ shared by an e⁻ in bonding is the val

NAMES SYMB e⁻ STM, & VAC (OXNB) FOR CLTS

WITAM & BTW MOLEC

FAOS. 4/17

COORDINATE BONDS
 LIGAND
 GOODWAY
 TRANSITION MET
 O bonding to Fe II in octahedral or HS
 A met receives pairs of e into orbit from non met
 CMO GV non GV BE

IONIC BONDING
 INTRO
 COMPLETELY
 MET → NON MET
 transfer e⁻ from one non to another
 usually have full outer e⁻ shells
 IONIC BOND
 No d
 CHARACTER IN CHANGE

HYDROPHOBIC EFFECT
 NON POLAR
 in large molec are stabilized by entropy factors

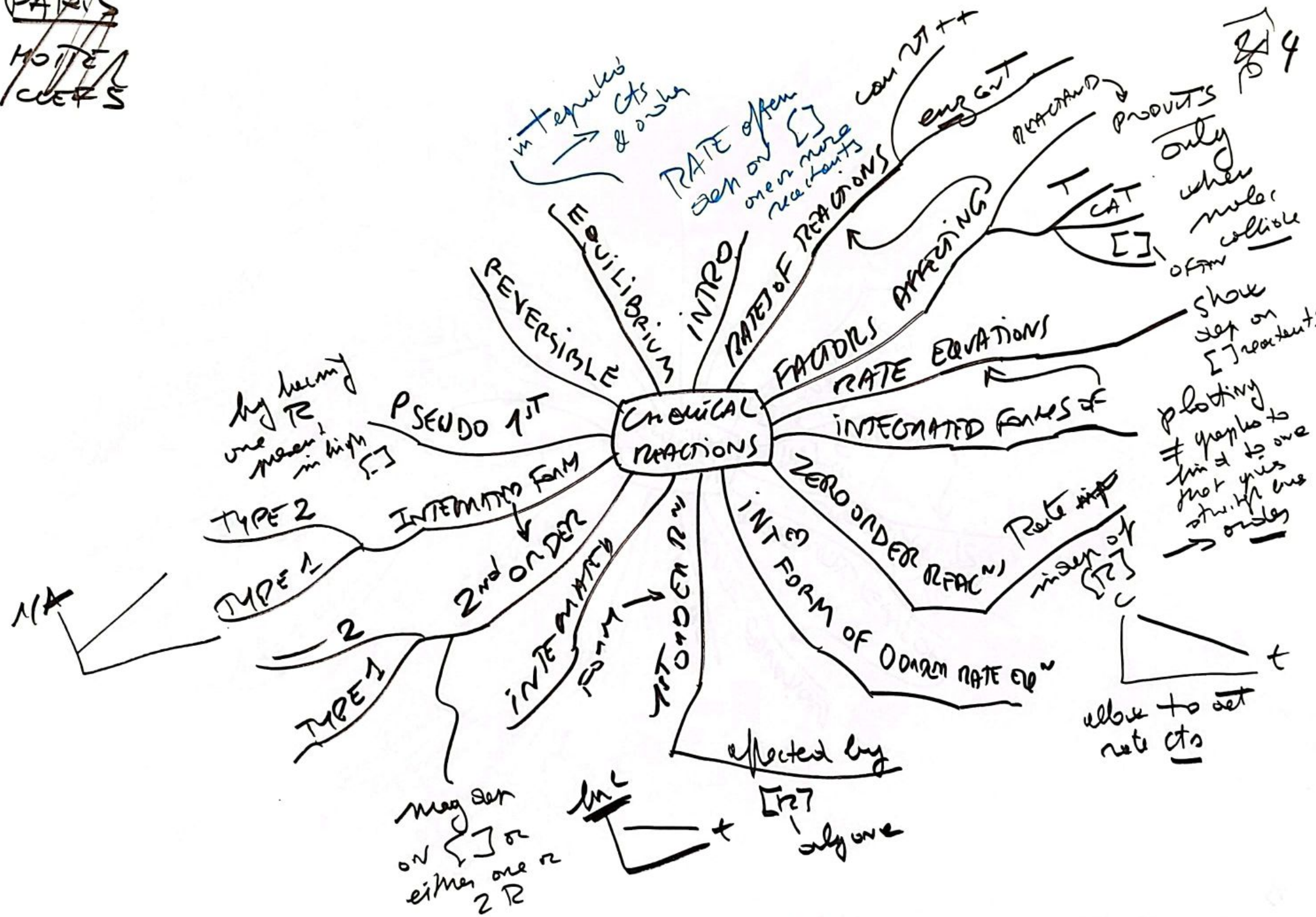
POLAR COV BONDS
 e⁻ may be shared in COV bonds
 ELECTRONEGATIVITY VALUES FOR SOME ELS OF BIO IMP
 e⁻ not shared equally
 POLARISAⁿ

H BOND
 VDW F
 weak attraction close packed non pol groups
 stabilize close packed non pol groups
 TEMPORARY POL of e⁻ IN A ATOM WITH
 STABILIZES P STR
 SATURATION OF H GR - linked

DIPOLE-DIPOLE F²
 POLAR WITH
 Dipole BONDS
 Adhere over another direction
 H → e⁻

PARIS

- HOITE
- COEF S



4

only when molec collide often

show set on [] reactants

plotting of graphs to find to one not gives straight line -> order

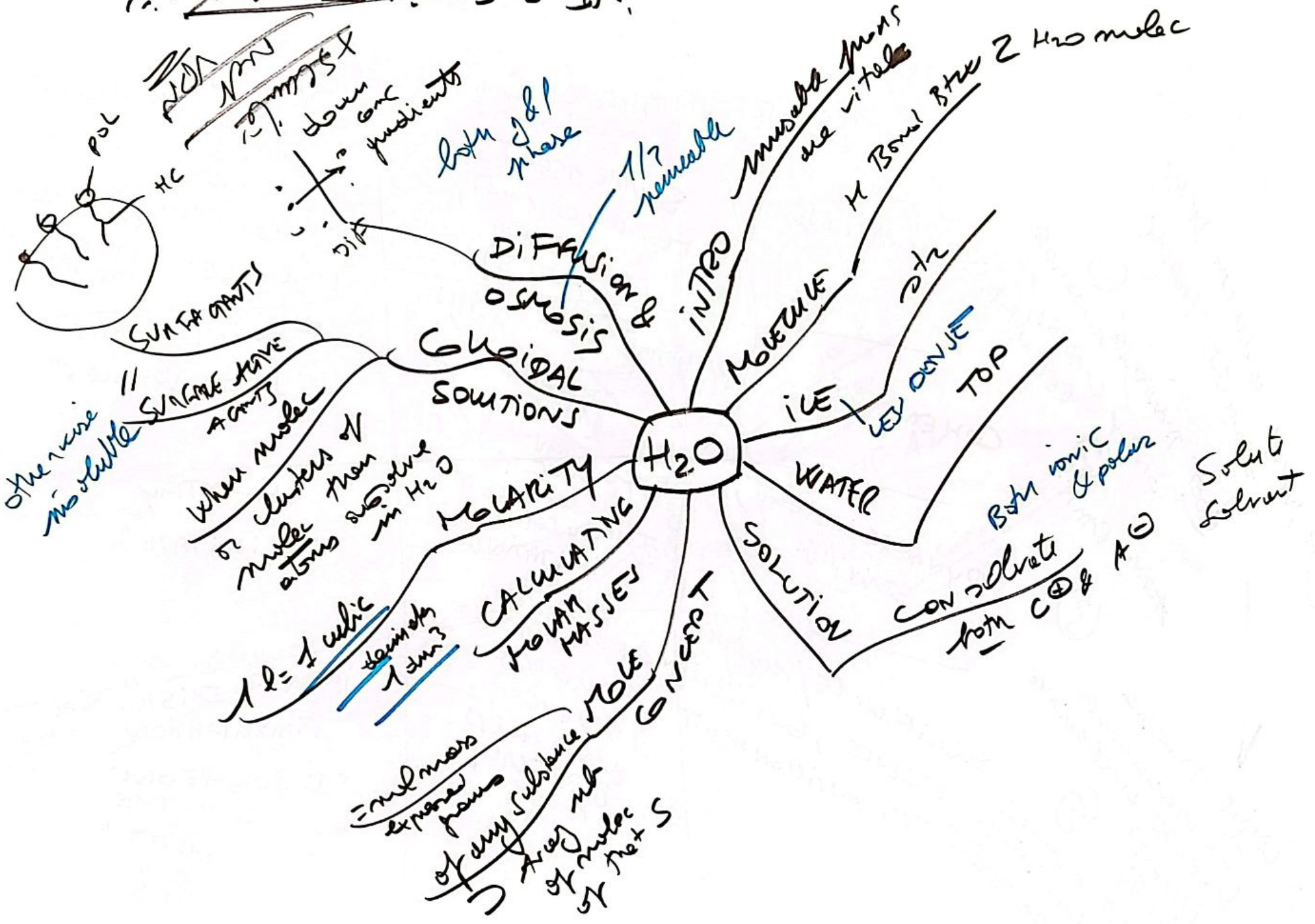
allow to set rate cts

affected by [] only one

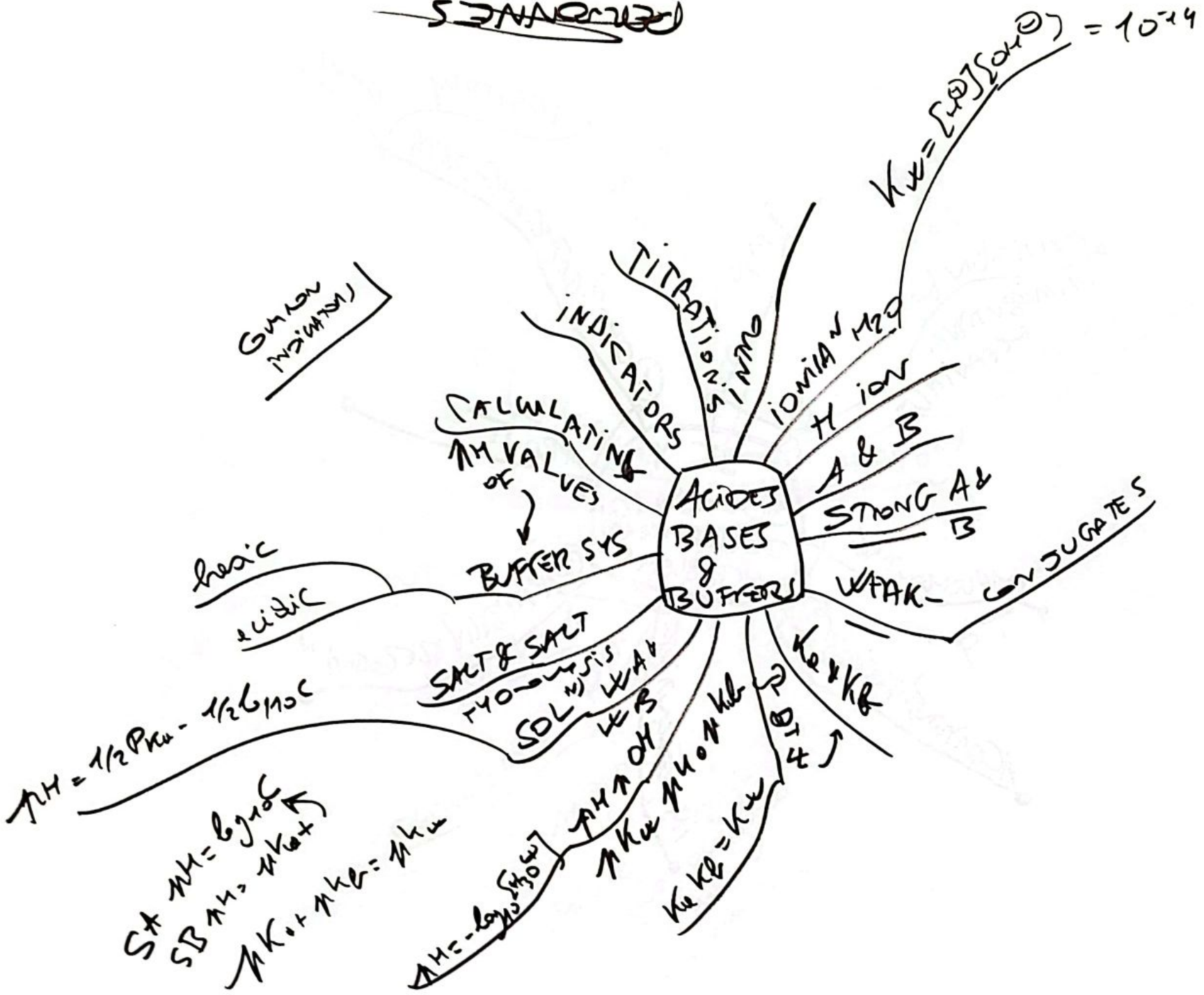
mag seen on [] or either one or 2 R

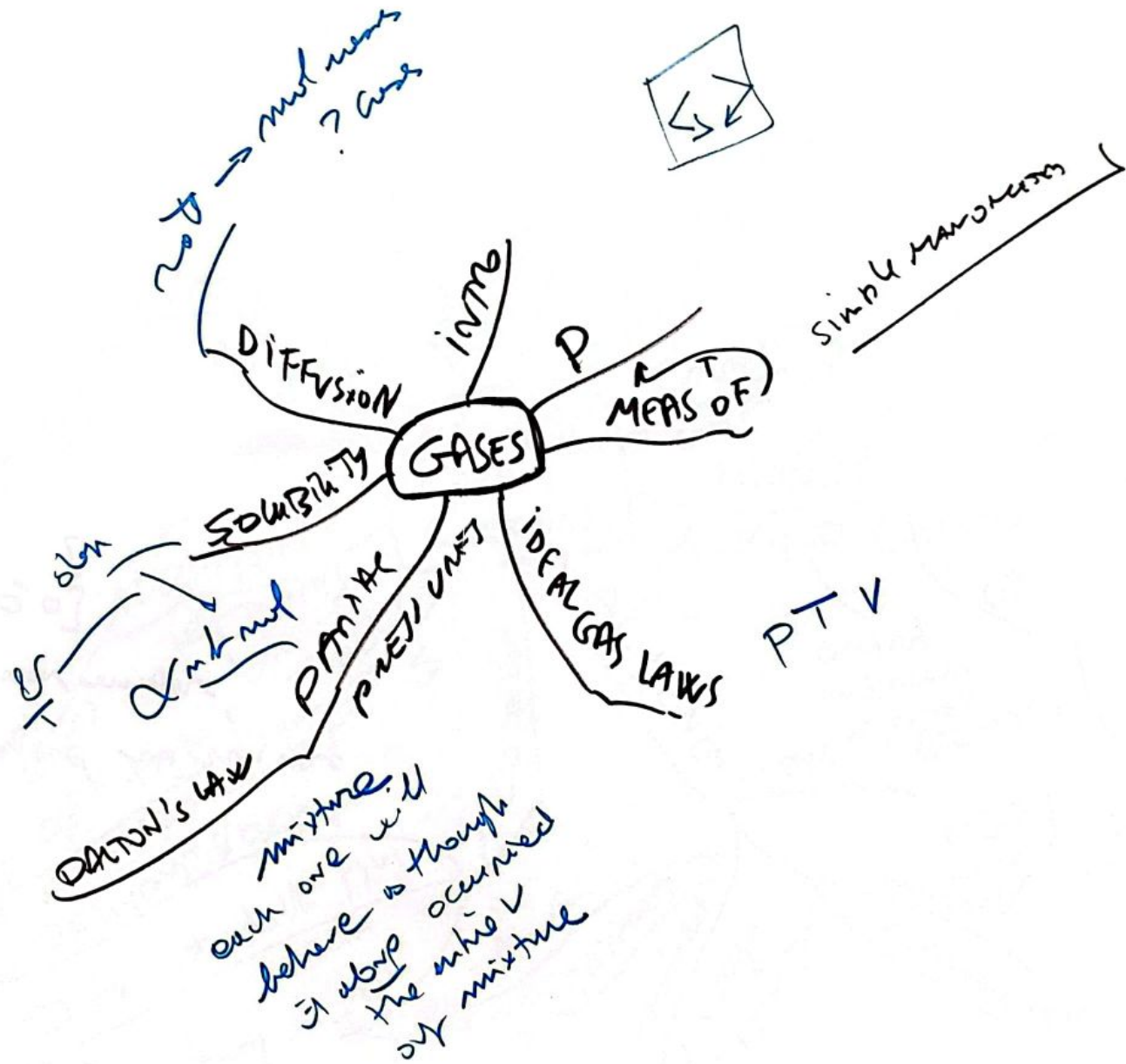
by being one reactant in high []

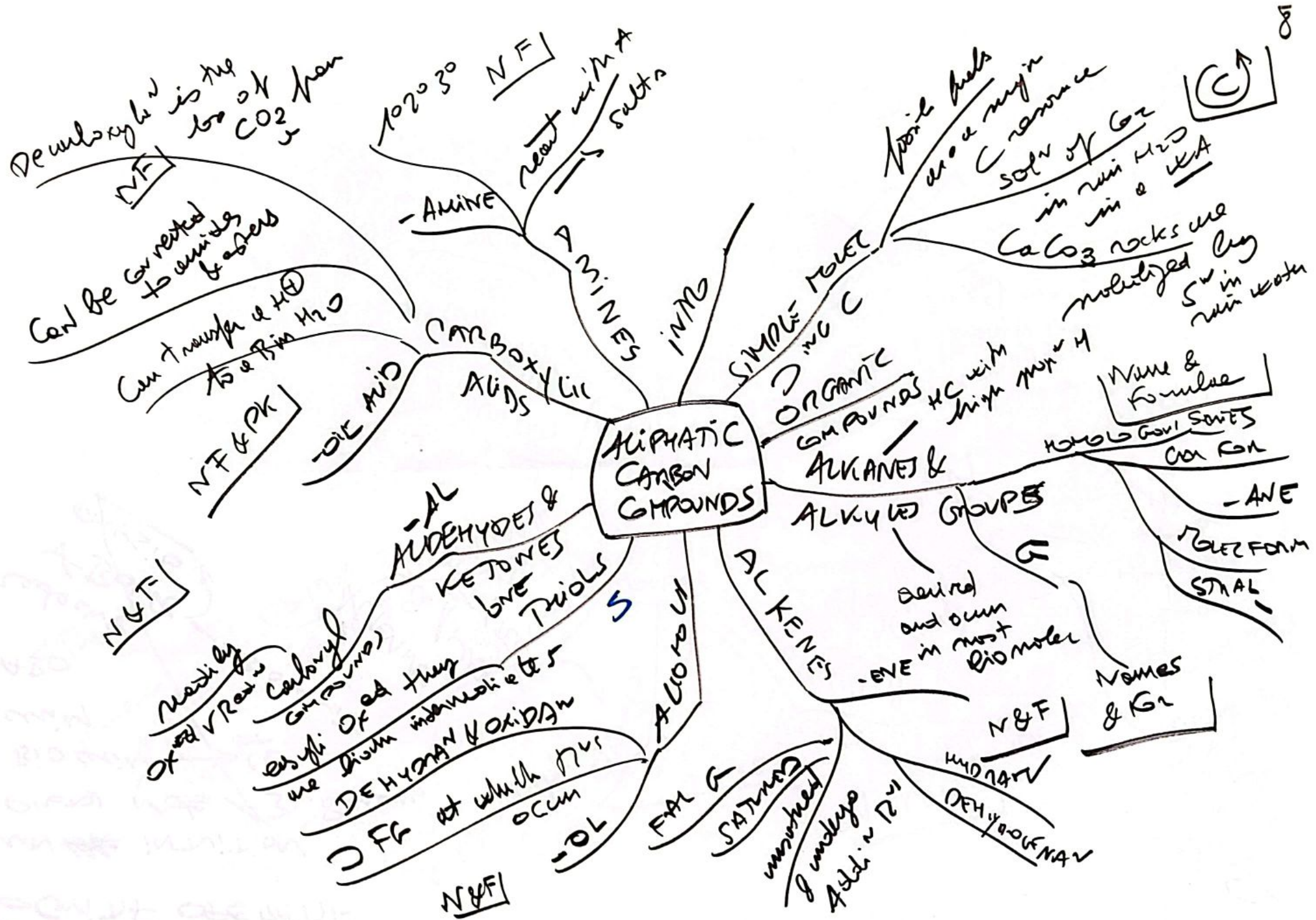
WATER SOURCES ADMIN



~~PERMANENCE~~

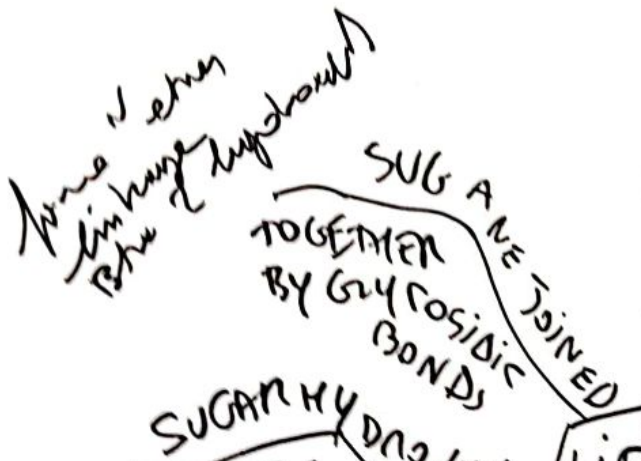




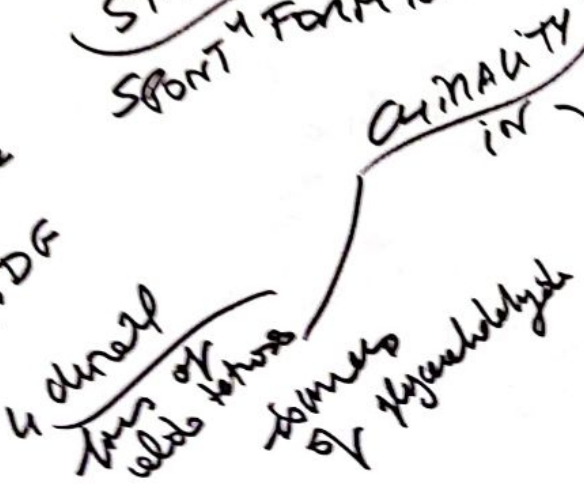
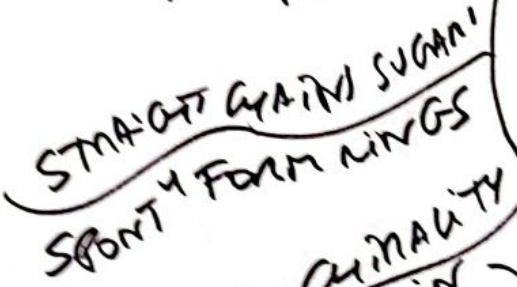
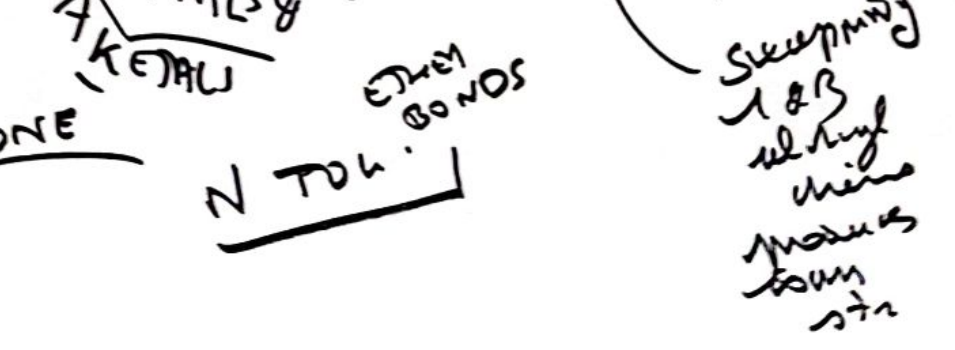


~~ON MAIN OF F.A.R.E~~

ORGANS

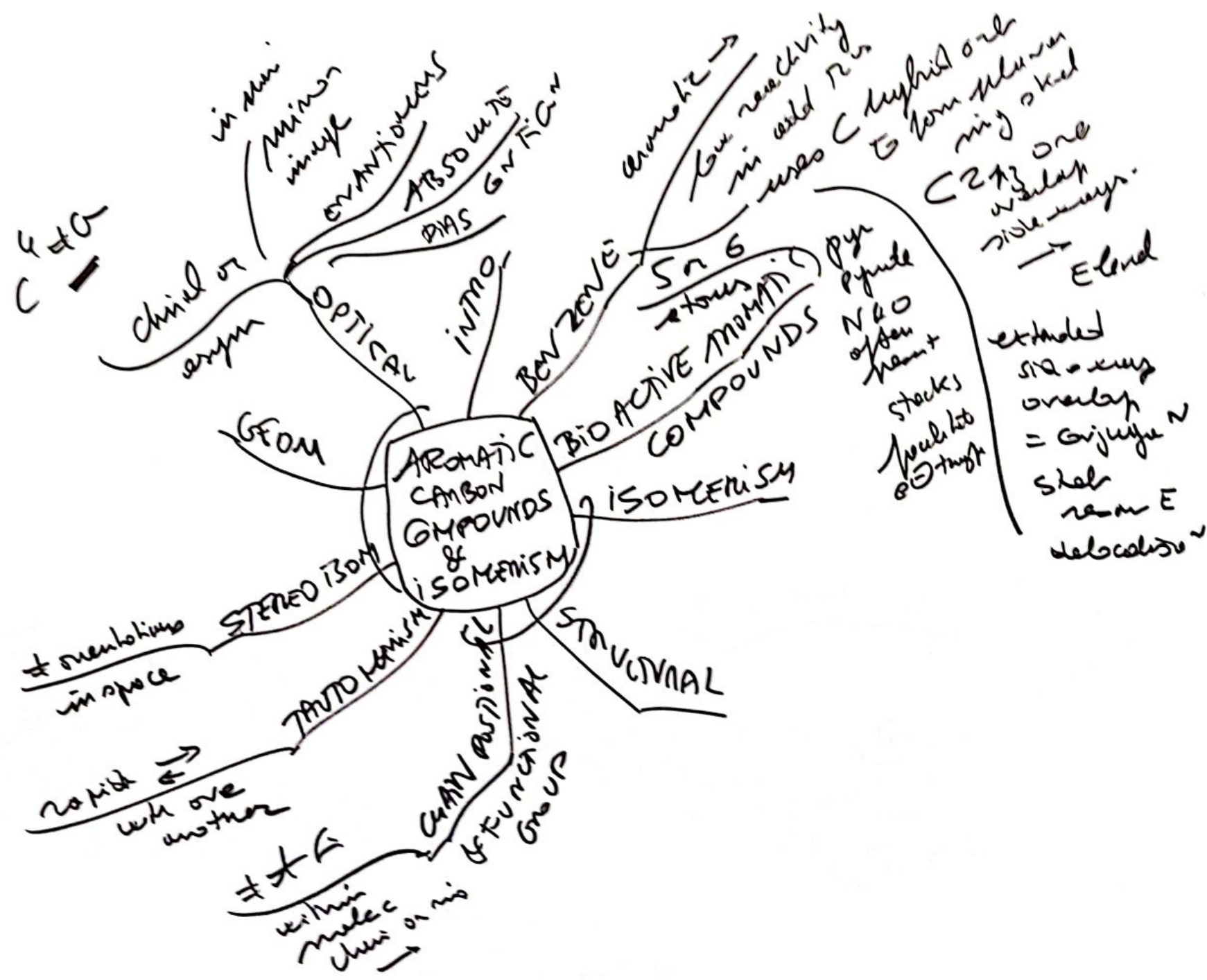


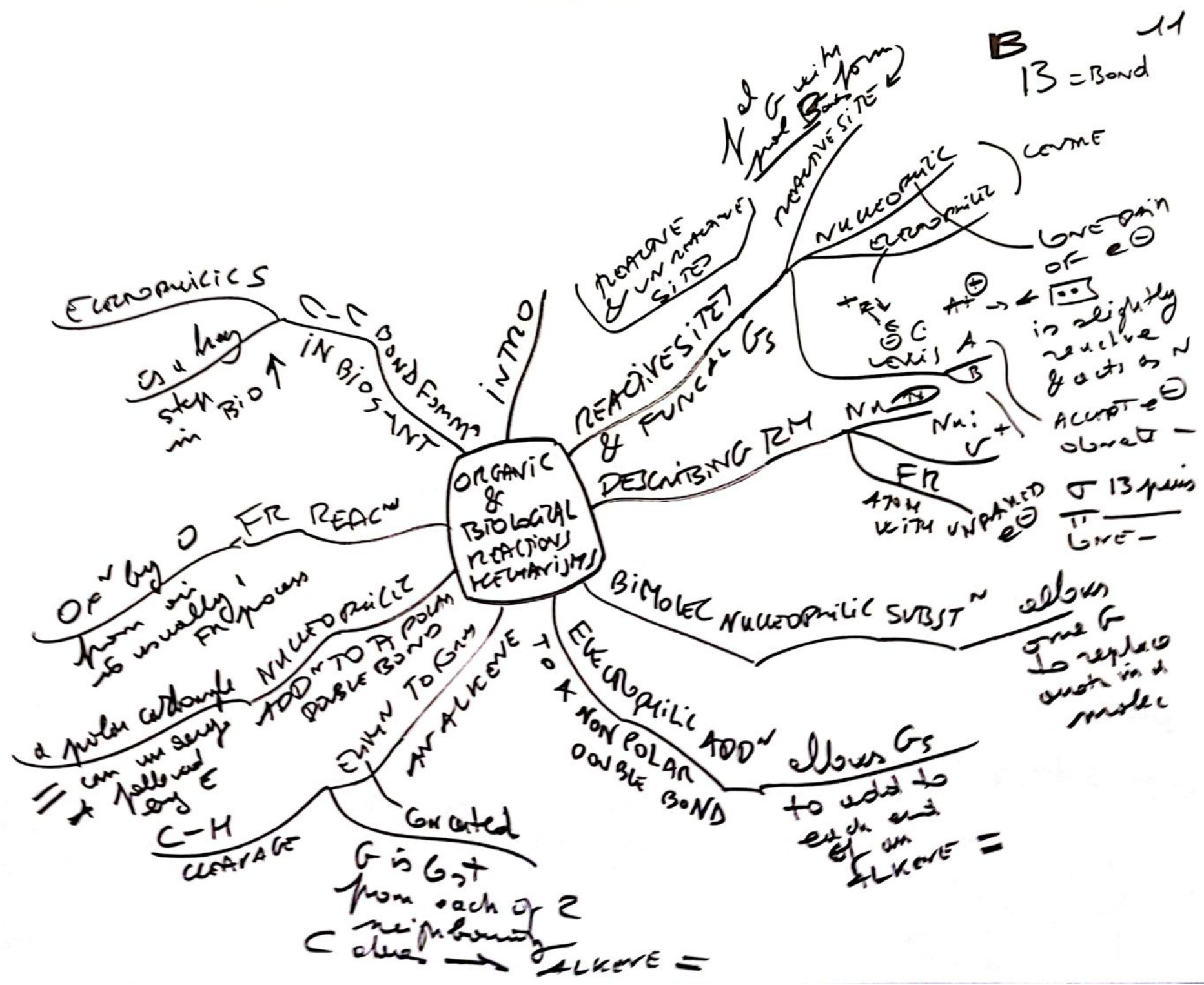
LIPIDS SUGARS & LINKAGES BUT REACTIVE GROUPS



α Berman

fructose & glyceraldehyde
with
→ BDF





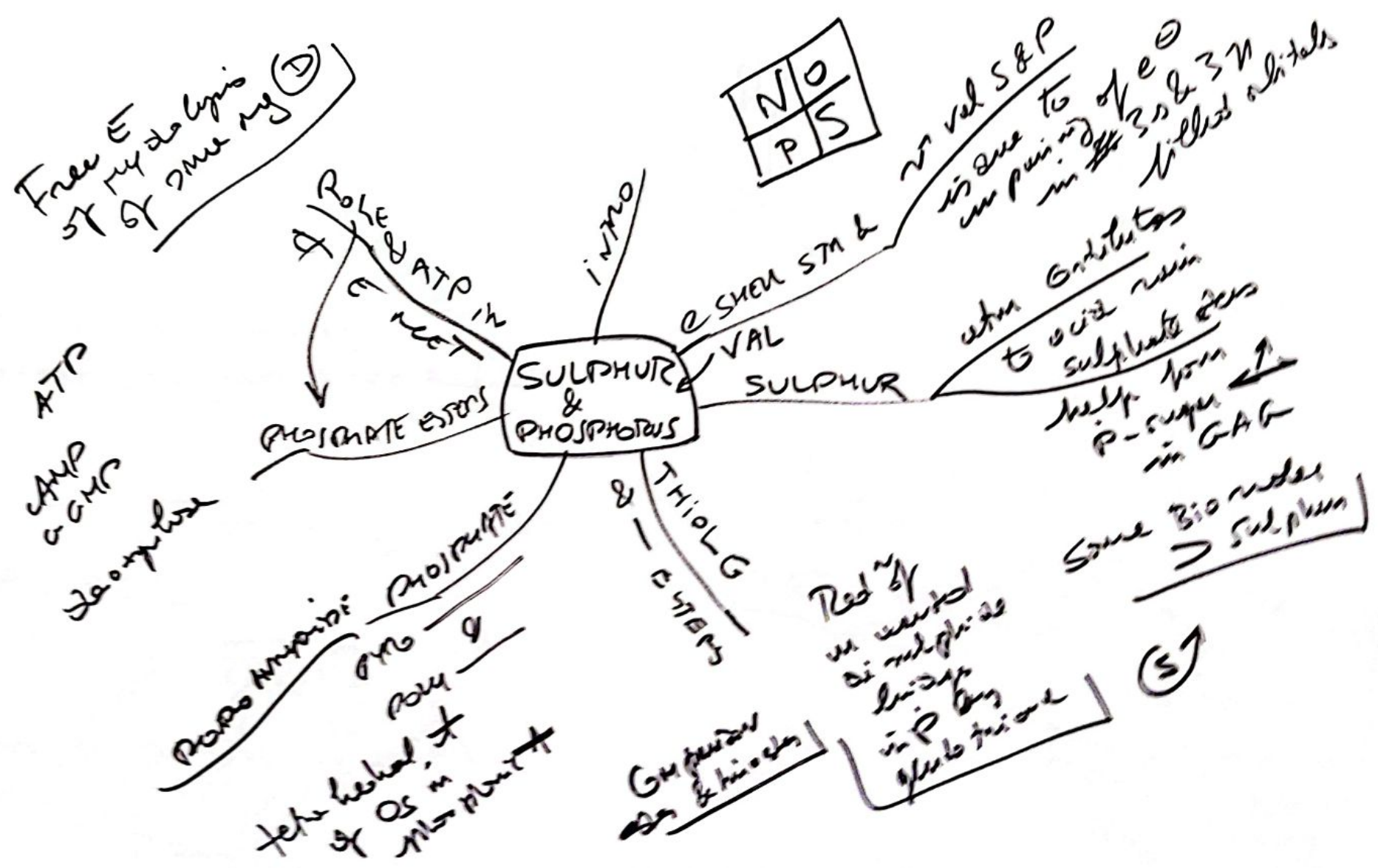
B
13 = Bond

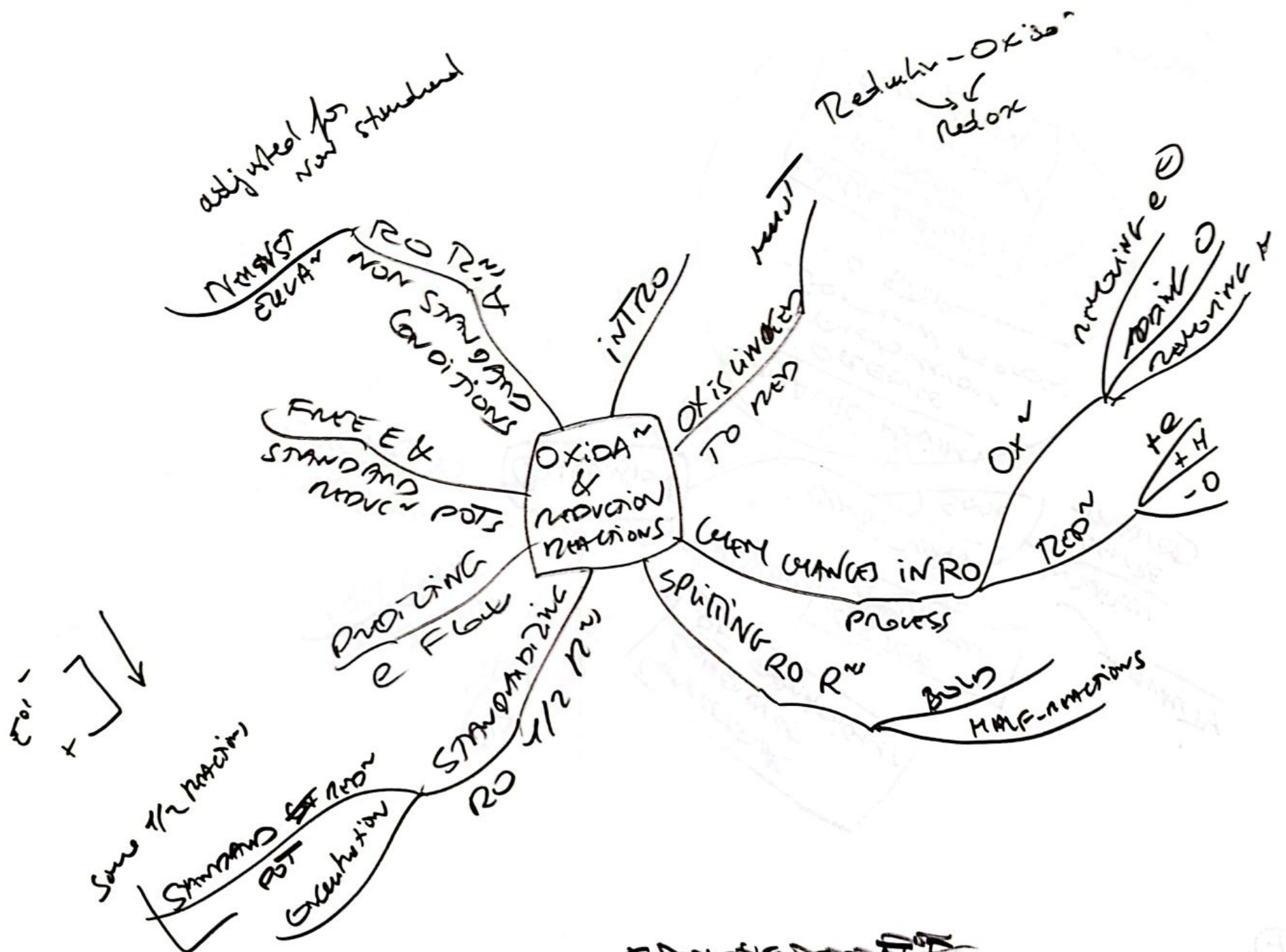
LOWERING OF e^- is slightly reactive & acts as σ ACCEPTOR

σ 13 pairs
 π 6 pairs
LOWE -



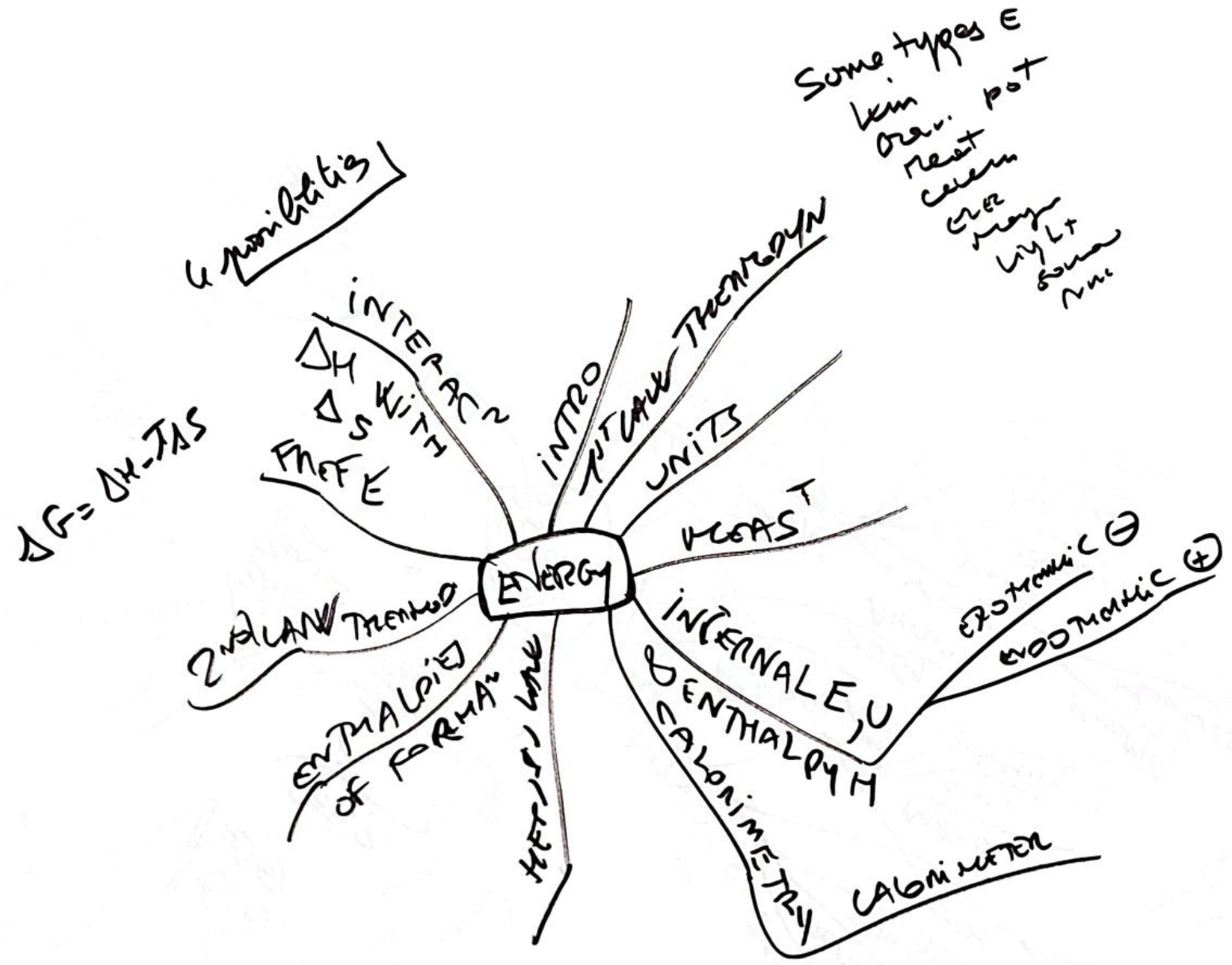
Created
G is G₁ + G₂ from each of 2 neighbouring C atoms → ALKENE =

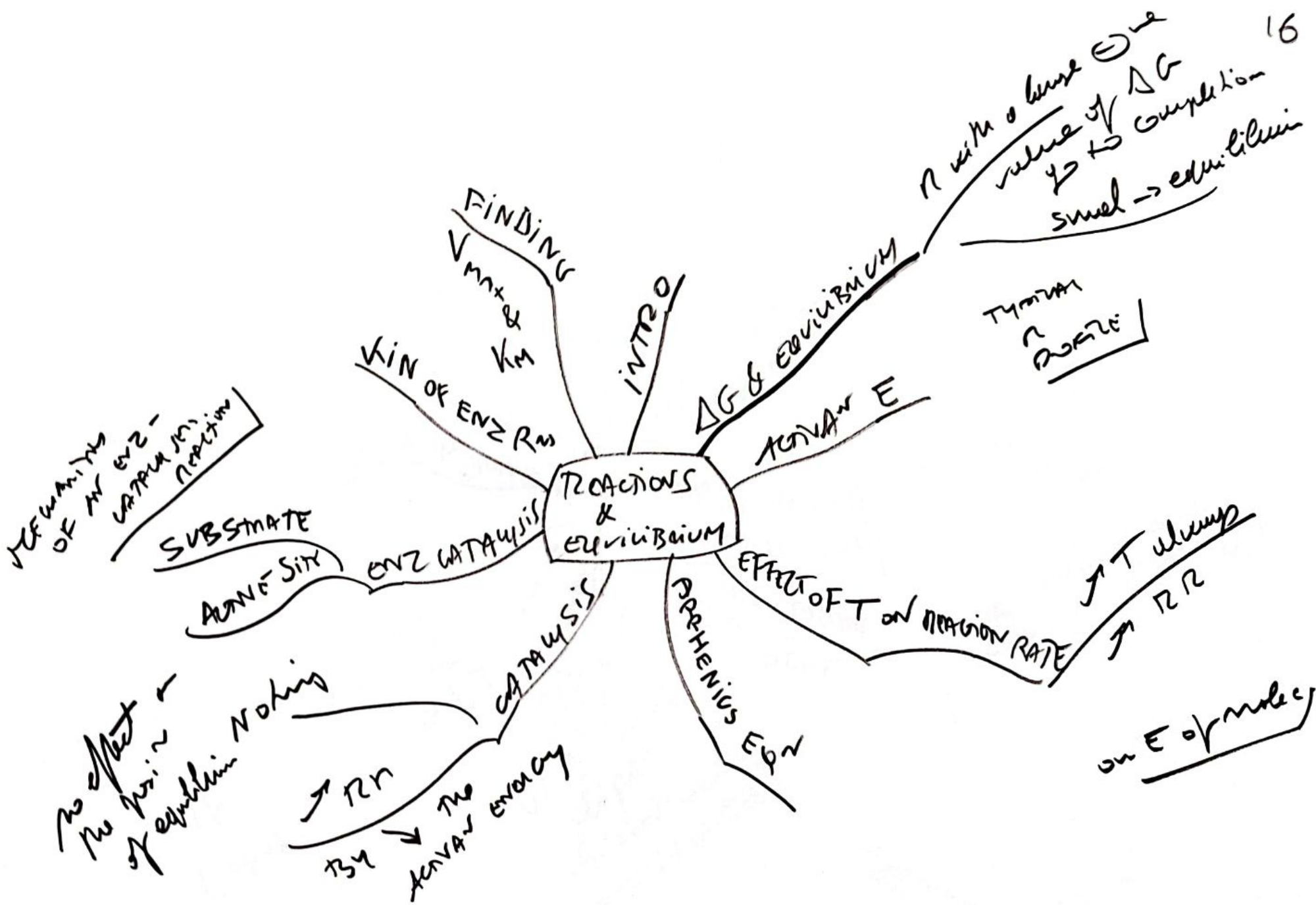




~~OXIDATION & REDUCTION REACTIONS~~







~~BRBAZ~~



Ratio of λ_{obs} to λ_{em} returning to normal via vibrational levels

SPHEROPHOTON
EMITTED LIGHT

LIGHT

INTRO

PART OF EM SPECTRUM

WAVELENGTH & FREQUENCY

QUANTUM THEORY OF LIGHT

EM spectrum expanded in region visible light

since wave theory

RTW LIGHT & []

ABSORPTION

UV of visible light is shortened to UV visible

7/ C 5/2

