**ALKINI:** SR

CH4+Cl2CH3Cl+HCl

**ALKENI:** AdE, hidroksilacija, ozonizacija (C2H4)

+Br2 C2H4Br2

+H2 C2H6

+HOBr CH2OH-CH2Br

+H2SO4CH3CH2OSO2OHC2H5OH

+H2O/KMnO4CH2OH-CH2OH

+O3HCHO+HCHO+H2O2

\*n (^T^P)H3C-CH2-(CH2)n-CH2-CH3

**ALKINI:** AdE CaC2+2H2OC2H2+Ca(OH)2

+H2OCH3CHO [O]CH3COOH [O]C2H5OH

+H2C2H4

(^T)Benzen

**BENZEN: (B)** SE

+nitrirna kisl.B-(NO2)3

+H2SO4B-SO3H

+CH3Cl/AlCl3B-CH3 [O]B-CH3OH [O]B-CHO

[O]B-COOH

+CH3COCl/AlCl3B-C(=O)-CH3

+Br2 (^T,UV)heksabromo-cikloheksan

+H2heksan

+Br2/AlBr3heksabromo-benzen

**ALKOHOLI:**

prebitek etanola v H2SO4: C2H5-O-S(=O)2-OH

prebitek H2SO4: C2H5OH+HO-C2H5 C2H5-O-C2H5

T>170oC2H4

skelet C2H3-C2H2-

CH3-CH2OH+Cr2O72-/H+ CH3CHO

CH3-CH2OH+Cr2O72-/H2SO4CH3COOH

1. butanol [O]CH3-CH2-CH2-CHO

2. butanol [O]CH3-CH2-C(=O)-CH3

**ALDEHIDI:** -CHO **KETONI:** -C(=O)-R

CH3-CHO+HCNCH3-CH(-OH)-CN

kondenzacija: -C(=O)-+H2NY-C(=NY)-+H2O

Y=NH2OH (hidroksil amin), NH2NH2 (hidrazin), B-NH2NH2

(fenilhidrazin), B(-NO2)3-NH2NH2 (dinitrofenil...)

oksidacija: K2Cr2O7/H+Cr3+, Tollensov reag. Ag(NH3)2+Ag+ Fehlingov reag. CuO2, ketoni se razgradijo na kisline

polimerizacija: CH3CHO+NaOHCH3(CH=CH)nCHO (poleg funkcionalne skupine mora biti vezan H)

jodoformska: aldehid+I2+NaOHCHI3+... če je CH3 vezan na C=O dobimo rumeno oborino

etanal: CH3CHO

+NaHSO3CH3CH(-SO3Na)-OH

+I2/NaOHCHI3+...

+LiAlH4etanol

+NH2OHCH3CH(=NOH)

+NH2NH2CH3-C=NNH2

+Cr2O72-CH3COOH+Cr3+

CH3CH2OH+Cr2O72-

2-propanon: CH3C(=O)CH3

+I2/NaOHCHI3+...

+LiAlH4propanol-2

+NH2OHpropanon oksin

+NH2NH2propanon hidrazon

+Cr2O72-propanol-2

+NaHSO3CH3-C(-OH)(-SO3)-CH3

+HCN CH3-C(-OH)(-CN)-CH3

**ALKANOJSKE KISLINE:** R-COOH

+NaOHCH3COO-Na++H2O

+C2H5OH/H2SO4CH3C(=O)-O-C2H5

+NH3(aq)CH3C(=O)-O-NH4+CH3C(=O)-O-NH2

+PCl5CH3C(=O)-Cl

+Cl2 (UV)CH2Cl-COOH

+H2SO4H3C-C(=O)-O-C(=O)-CH3

**ORGANSKE HALOGENSKE SPOJINE:**

1-bromopropanon: CH3CH2CH2Br

+LiAlH4CH3CH2CH3

+OH- (^T)CH3CH2CH2OH

+KOH/C2H5OHSNu: CH3CH2CH2-O-CH2CH2CH3+KBr

Eliminacija: CH3CH=CH2+HBr

+NH3/C2H5OHCH3CH2NH2

+KCN/ C2H5OHCH3CH2CH2CN

P4, Br+CH3CH2CH2OH

Br2, UV+ CH3CH2CH3

bromobenzen: B-Br

+NaOH (^T)B-O-Na+ (+H)B-OH+Na

+NH3 (^T)B-NH2

B+Br2/AlBr3

benzendiazonijeva sol

hidroliza: R-X+H2OR-OH+H++X

**AMINI:**

tvorba soli: CH3NH2+HClCH3NH3+Cl-

aromatski: B-NH2 (NaNO2/HCl)B-N2+Cl-+... (benzenijev ion)

B-N2+Cl-+ B-NH2 (-HCl)B-N=N-B-NH2