

Alkohole, Ether, Amine

Nomenklatur Alkohole

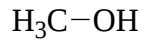
Name = KW-Stamm + [Position OH-Gruppe]-ol

Nomenklatur Ether

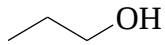
Name = KW-Stämme + „yl“ + ether

Name = [Position RO-Gruppe]-Alkoxy + KW-Stamm

Beispiele



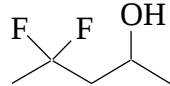
Methanol
(prim. Alkohol)



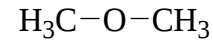
1-Propanol



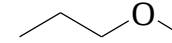
2-Propanol
(sek. Alkohol)



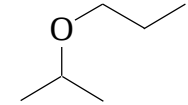
4,4-Difluorpentan-2-ol



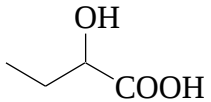
Dimethylether



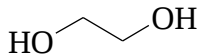
Methyl-propylether



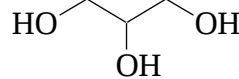
1-Propyl-2-propylether



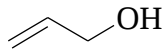
2-Hydroxybuttersäure



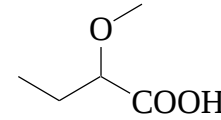
Glycol



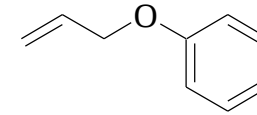
Glycerin



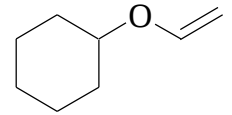
Allylalkohol



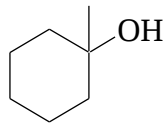
2-Methoxybuttersäure



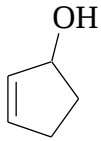
Allyl-phenylether



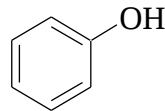
Cyclohexyl-vinylether



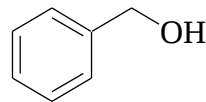
1-Methylcyclohexanol
(tert. Alkohol)



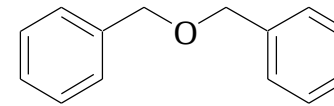
2-Cyclopentenol



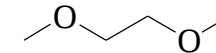
Phenol



Benzylalkohol



Dibenzylether



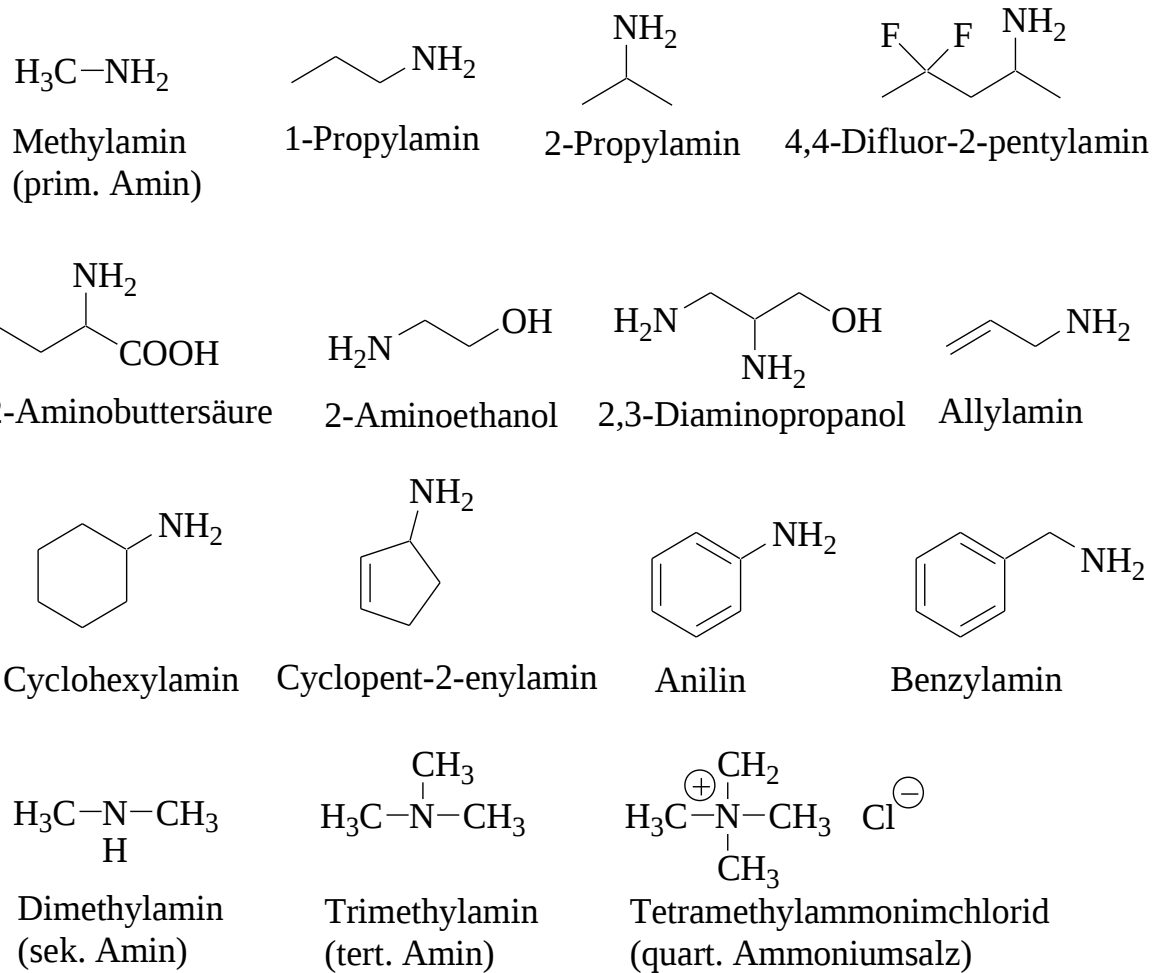
1,2-Dimethoxyethan
Glycoldimethylether

Nomenklatur Amine

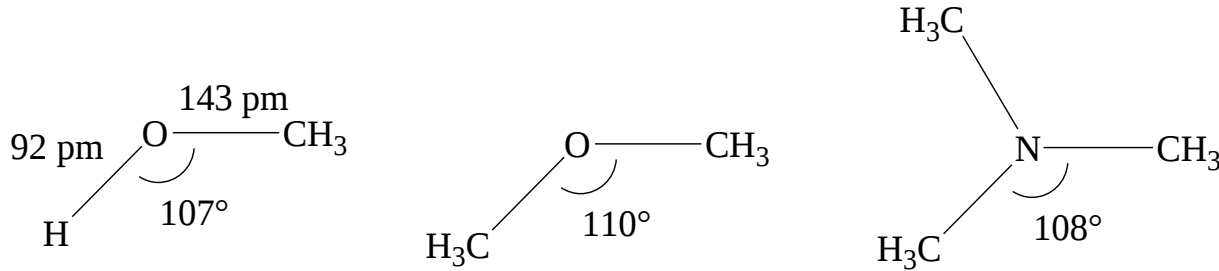
Name = KW-Stamm + [Position NH₂-Gruppe]-amin

Name = [Position NH₂-Gruppe]-„Amino“ + KW-Stamm

Beispiele



Allgemeine Eigenschaften



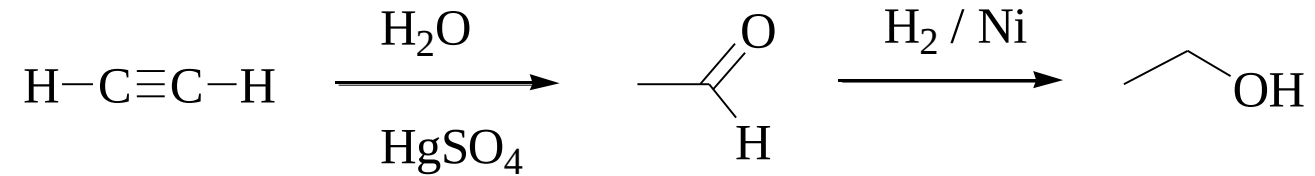
Alkohole: hohe Siedepunkte wg. H-Brücken	MeOH	Kp	64.7°C
Ether: niedrige Siedepunkte	Me ₂ O	Kp	-24.0°C
Amine: mittlere Siedepunkte	Me ₂ NH	Kp	6.9°C

Alkohole	pK _S -Werte	aliphatische Alkohole: 16-18	MeOH	16
		aromatische Alkohole: 10-16	Phenol	10
Amine	je größer desto basischer	NH ₃	9.25	
		MeNH ₂	10.66	prim. Amin
		Me ₂ NH	10.73	sek. Amin
		Me ₃ N	9.81	tert. Amin
		Anilin	4.63	

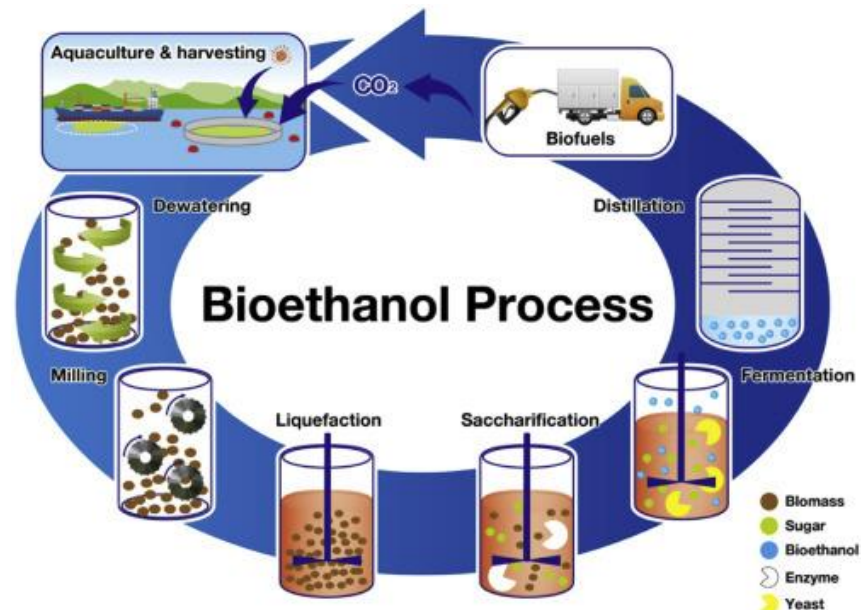
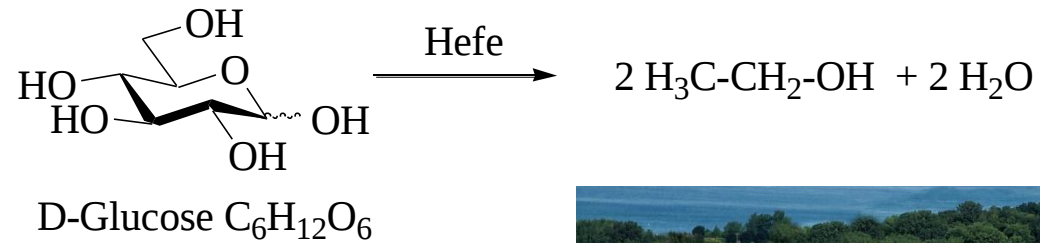
Alkohole

Darstellung

Technische Synthesen: $\text{CO} + 2\text{H}_2 \rightarrow \text{MeOH}$ (Kat. ZnO)

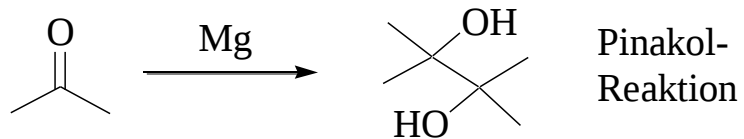
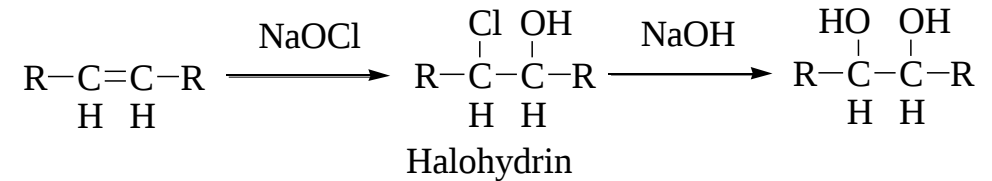
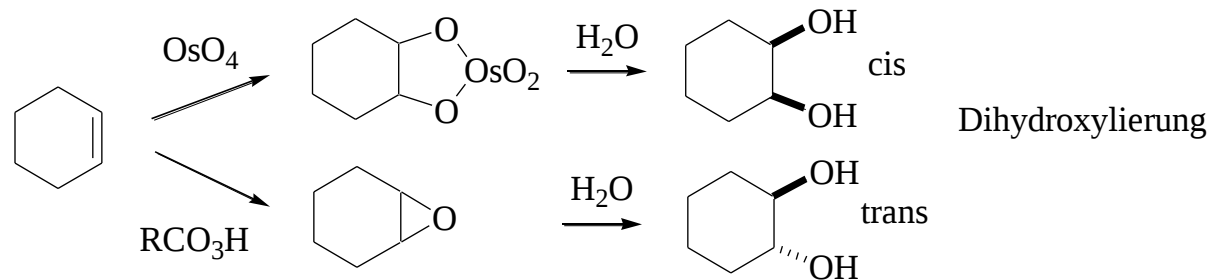
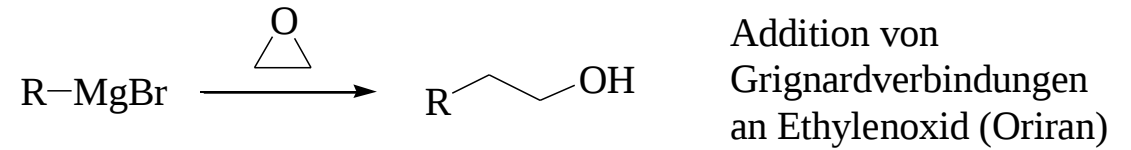
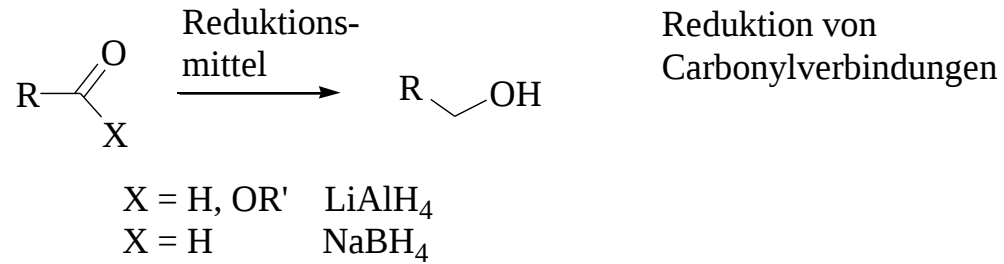
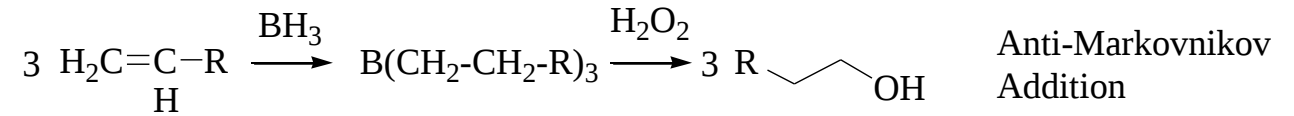
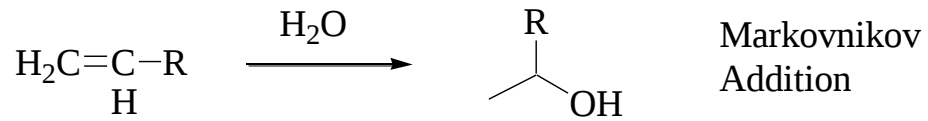


Gärung:

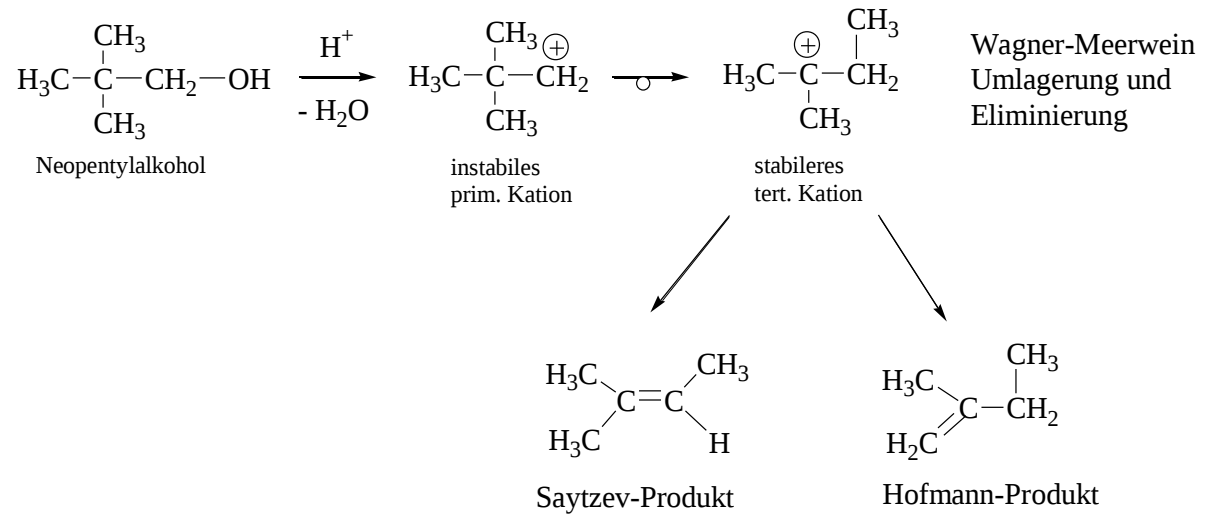
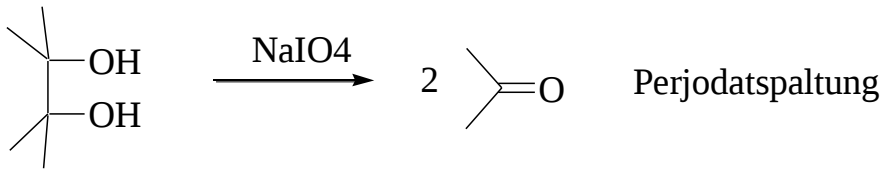
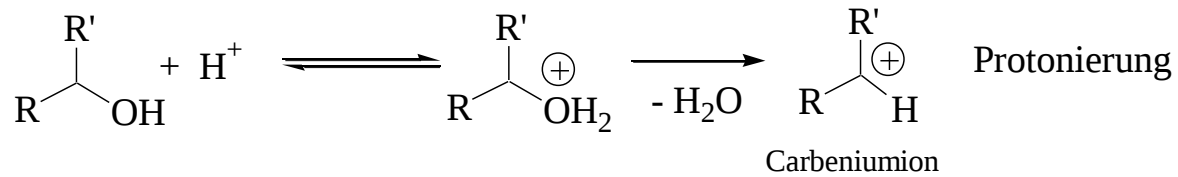
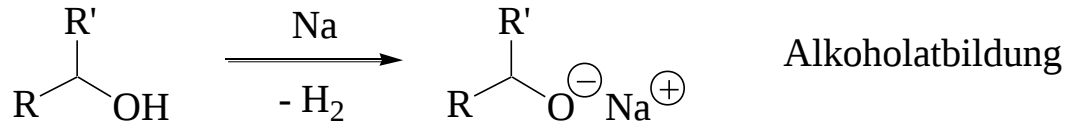
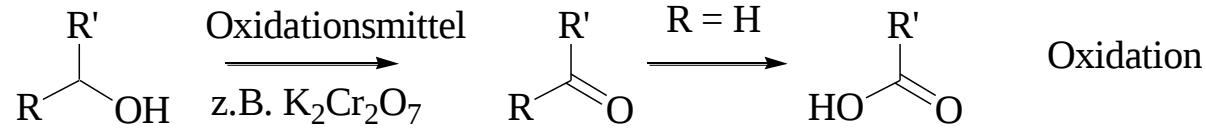


Greenfield
QC Canada

Chemische Synthesen:

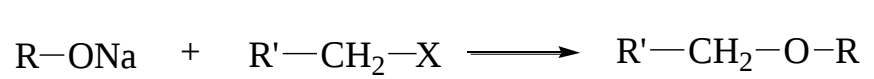


Reaktionen



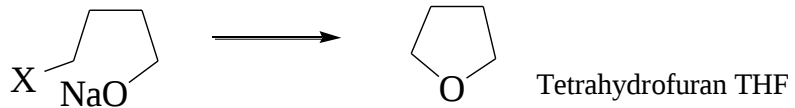
Ether

Darstellung

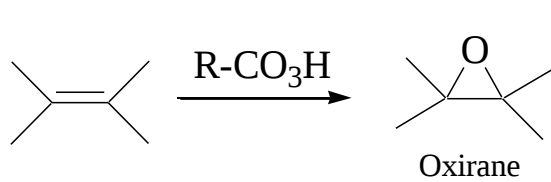


Williamsonsche
Ethersynthese

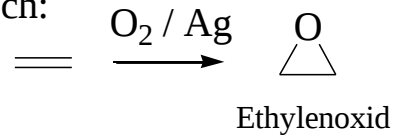
auch cyclische Ether:



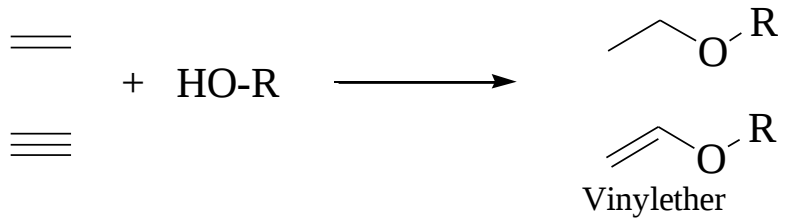
X = Halogen oder
andere Abgangsgruppe



technisch:



Epoxidierung



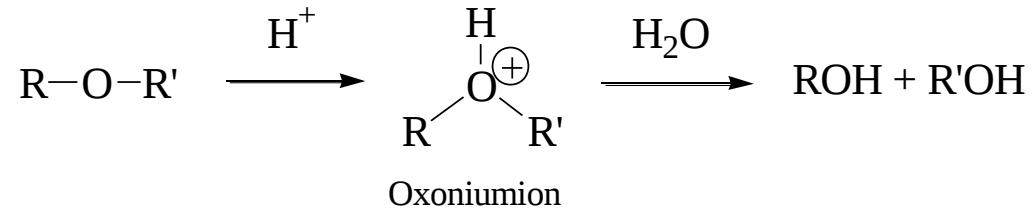
Addition von ROH an
Alkene und Alkine



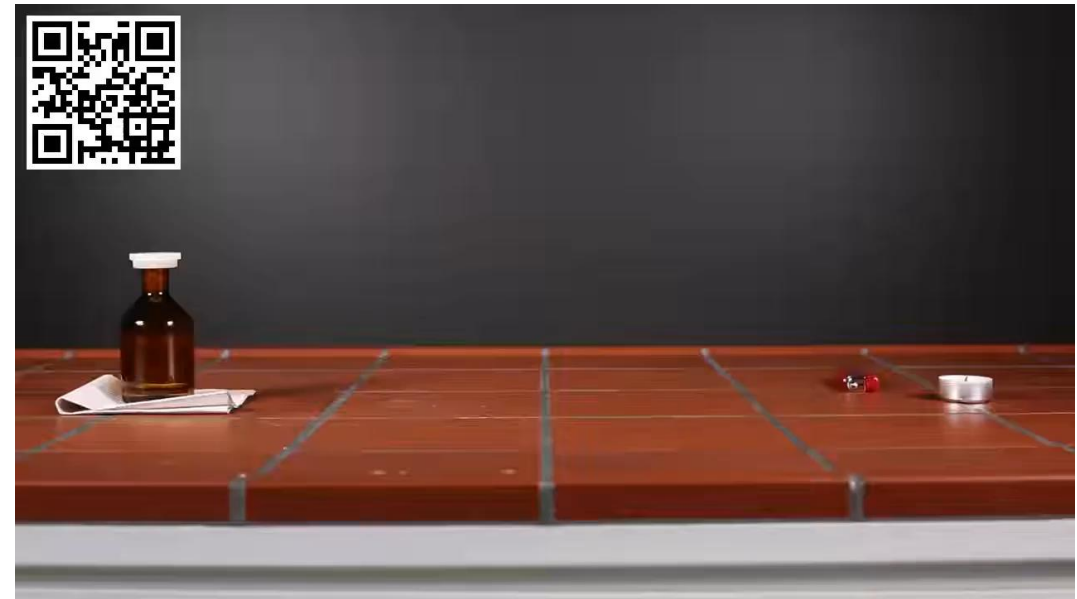
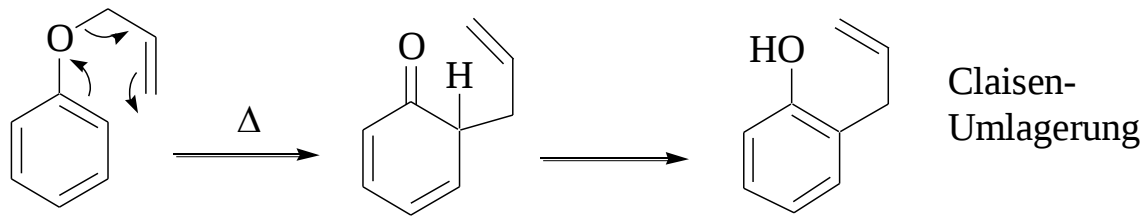
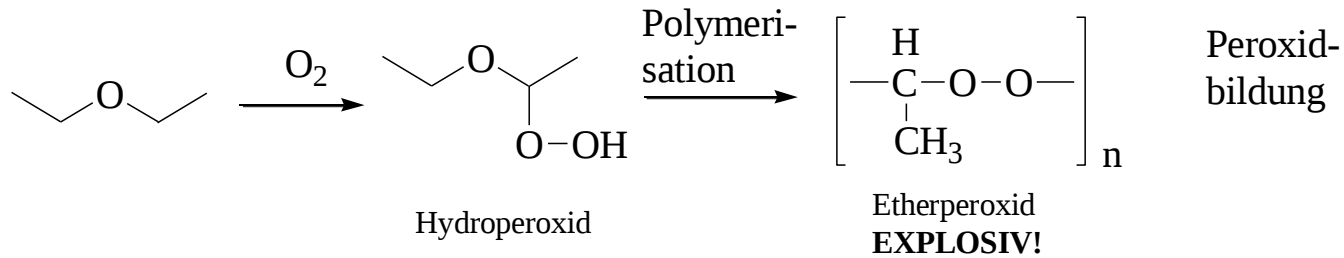
Explosion einer Ethylenfabrik in Tarragona 2020

Etherspaltung

Ether sind im alkalischen stabil aber werden mit Säuren gespalten

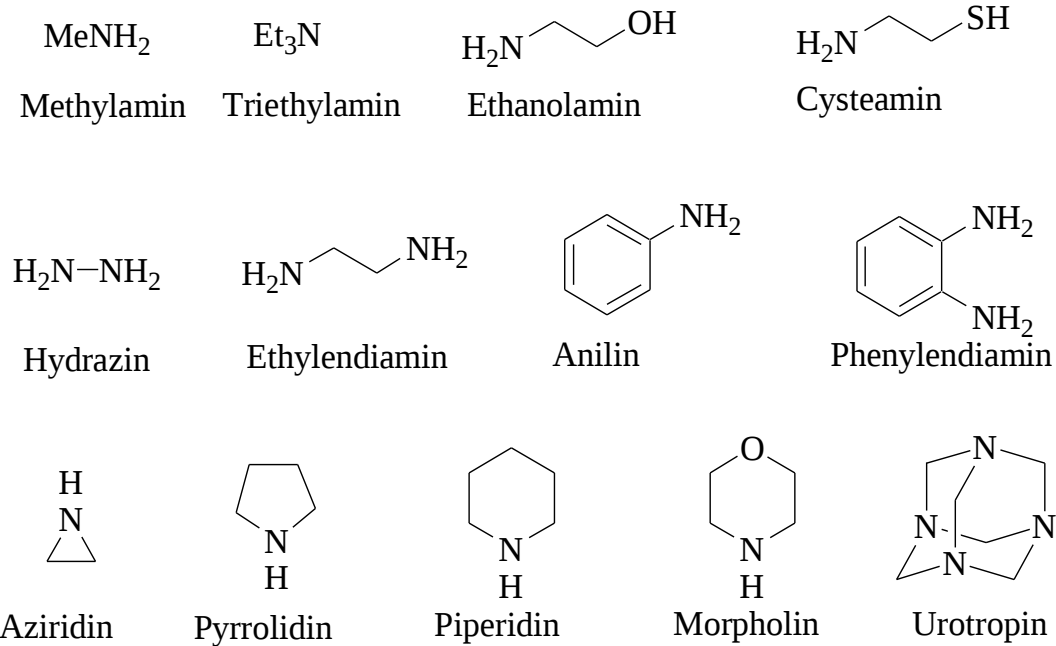


Reaktionen

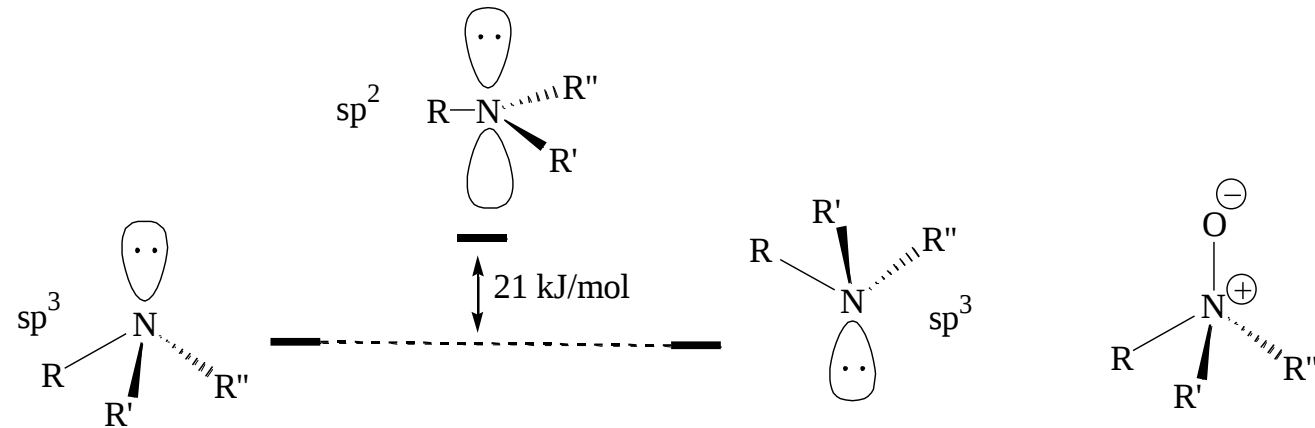


Amine

Wichtige Amine



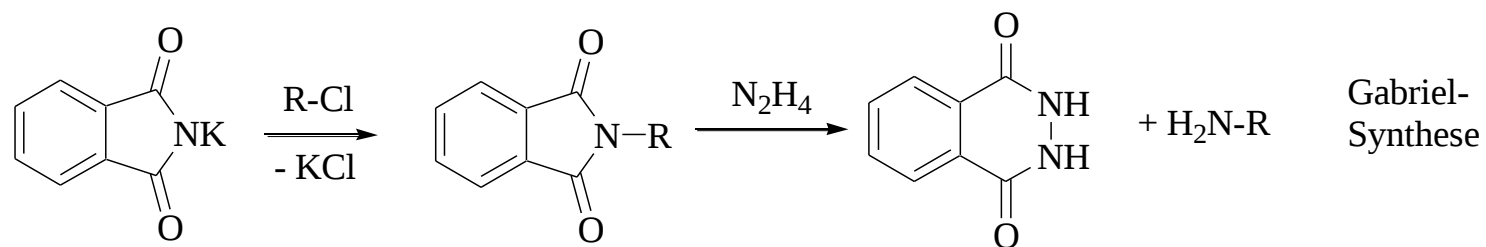
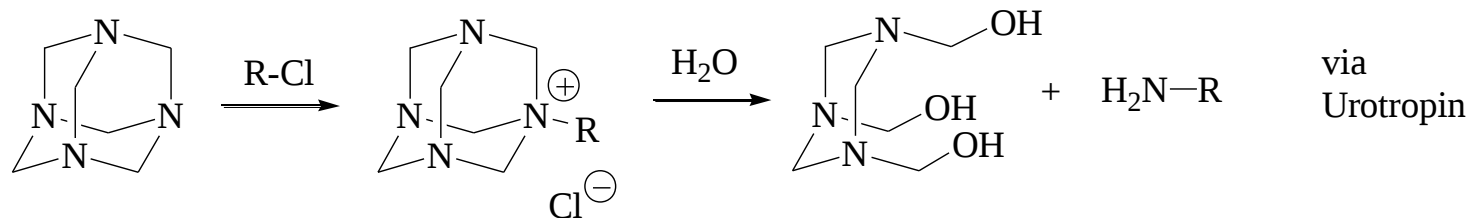
Struktur



Amine können chiral sein, sind jedoch wegen der geringen Konversionsbarriere nicht konfigurationsstabil

Amin-N-oxide sind konfigurationsstabil

Darstellung



Reaktionen

