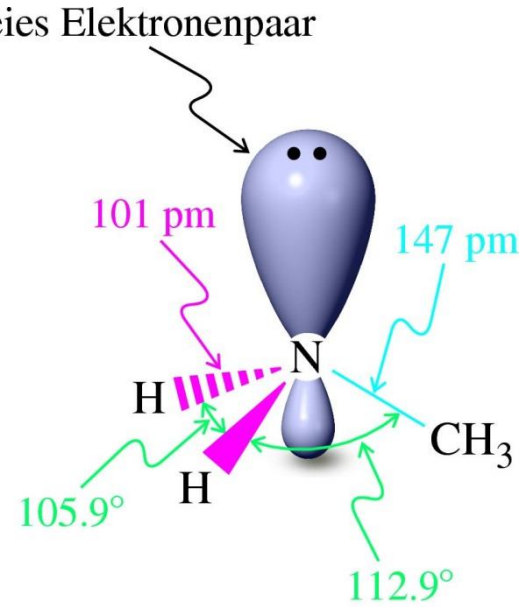
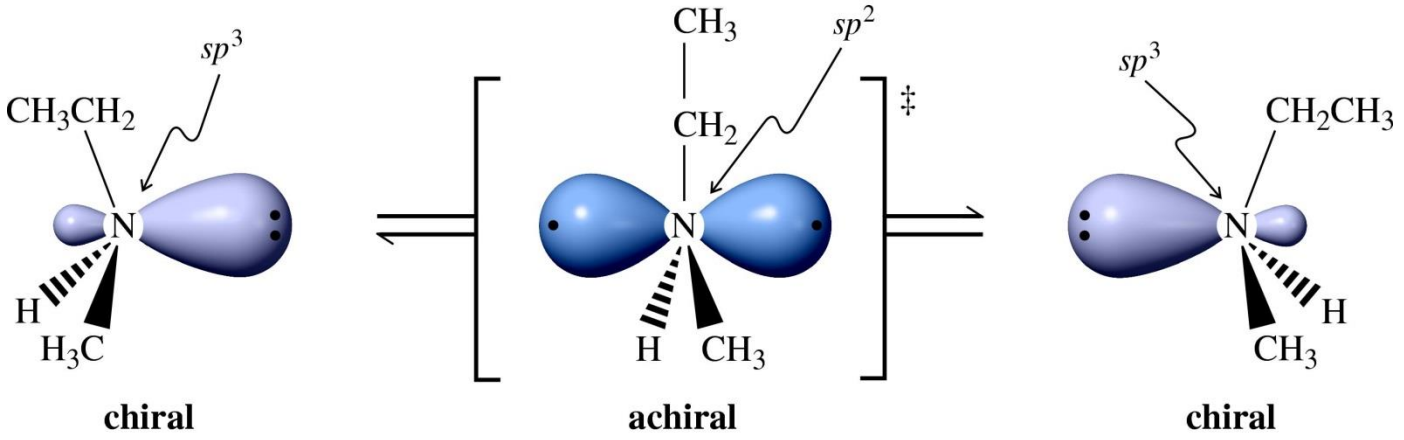
10 Amine

Pyramidaler Bau der Amine (sp^3)



Tetraedrische Struktur, freies Elektronenpaar wie Substituent

Gegenseitige Umwandlung der Spiegelbilder eines Amins bei RT: Amine racemisieren



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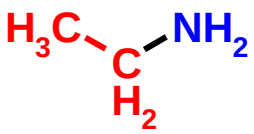
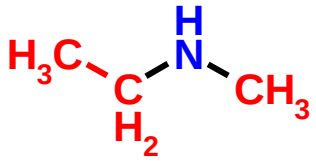
10 Amine

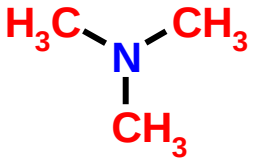
Bezeichnung aliphatischer Amine



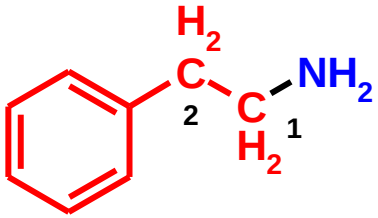
Ethylamin



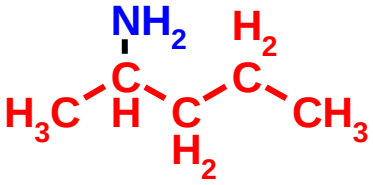
Ethylmethylamin
N-Methylethylamin



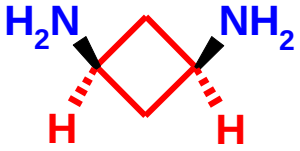
Trimethylamin



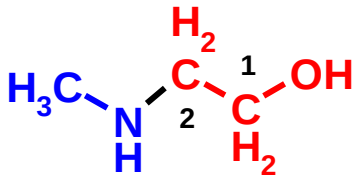
2-Phenylethylamin



2-Aminopentan



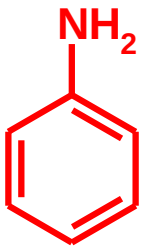
cis-1,3-Diaminocyclobutan



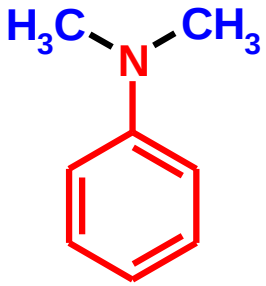
2-Methylaminoethanol

10 Amine

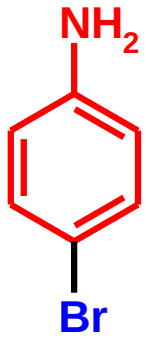
Bezeichnung aromatischer Amine



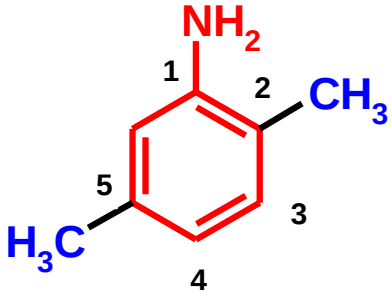
Anilin



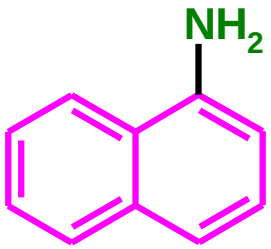
N,N- Dimethyl anilin



4- Brom anilin



2,5- Dimethyl anilin

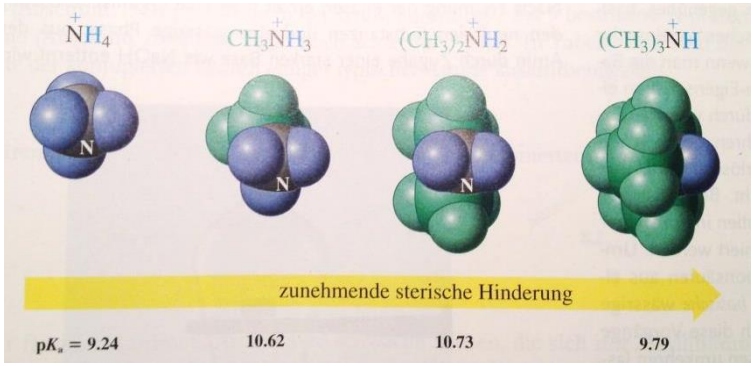


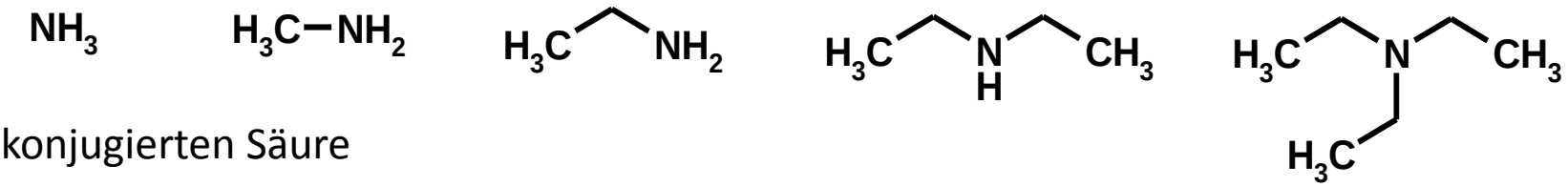
1- Amino naphthalin

(α– Naphthyl amin)

10 Amine

Basizität aliphatischer Amine





pK_A der konjugierten Säure

pK_a :	**9.25**	**10.63**	**10.73**	**11.11**	**10.64**
pK_b:	**4.75**	**3.37**	**3.27**	**2.89**	**3.36**

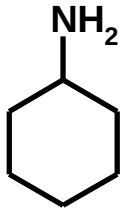
$$pK_A + pK_B = 14$$

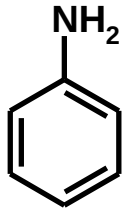
Beachte: Elektronendichte am Stickstoff und Sterik/ Resonanz-Effekte

10 Amine

Basizität aromatischer Amine

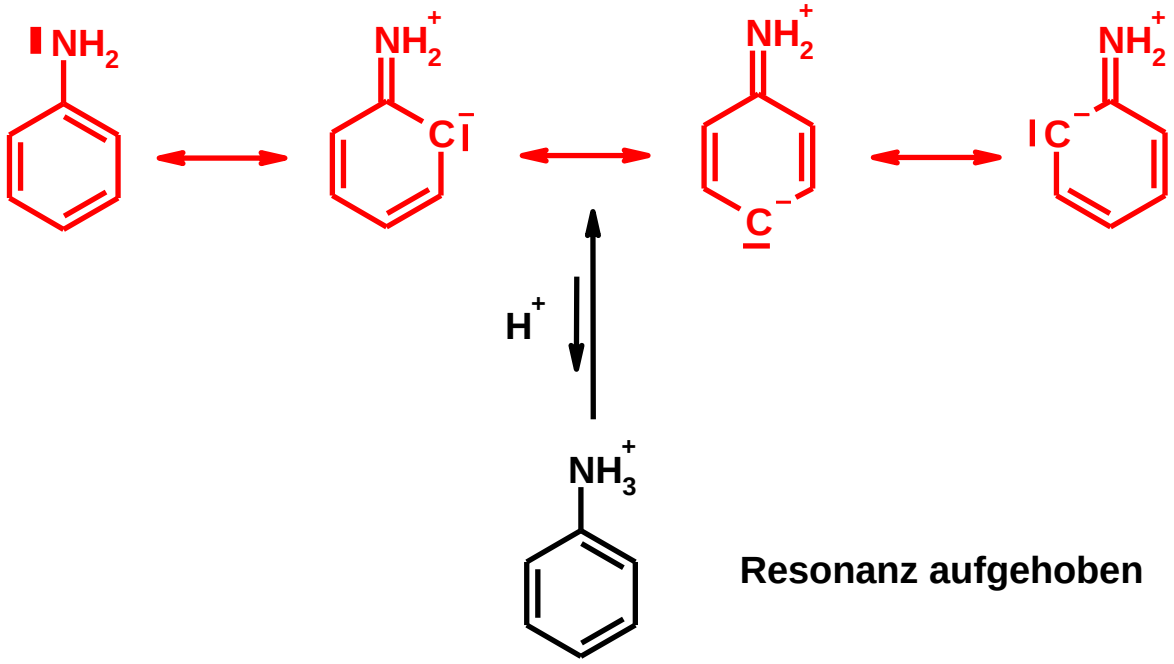
$pK_A = 10,6$
$pK_B = 3,3$





$pK_A = 4,6$
$pK_B = 9,4$

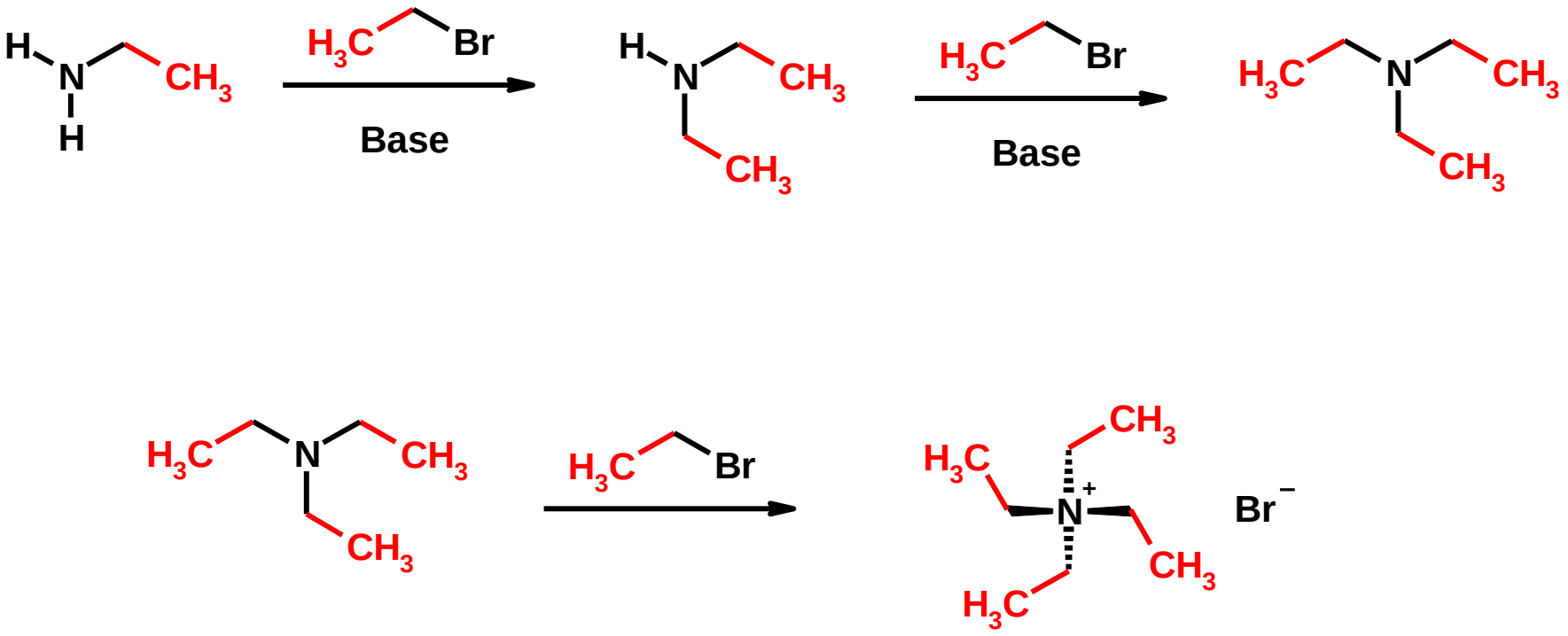
Im Anilin: freies Elektronenpaar im Aromaten delokalisiert – senkt Basizität



Resonanz aufgehoben

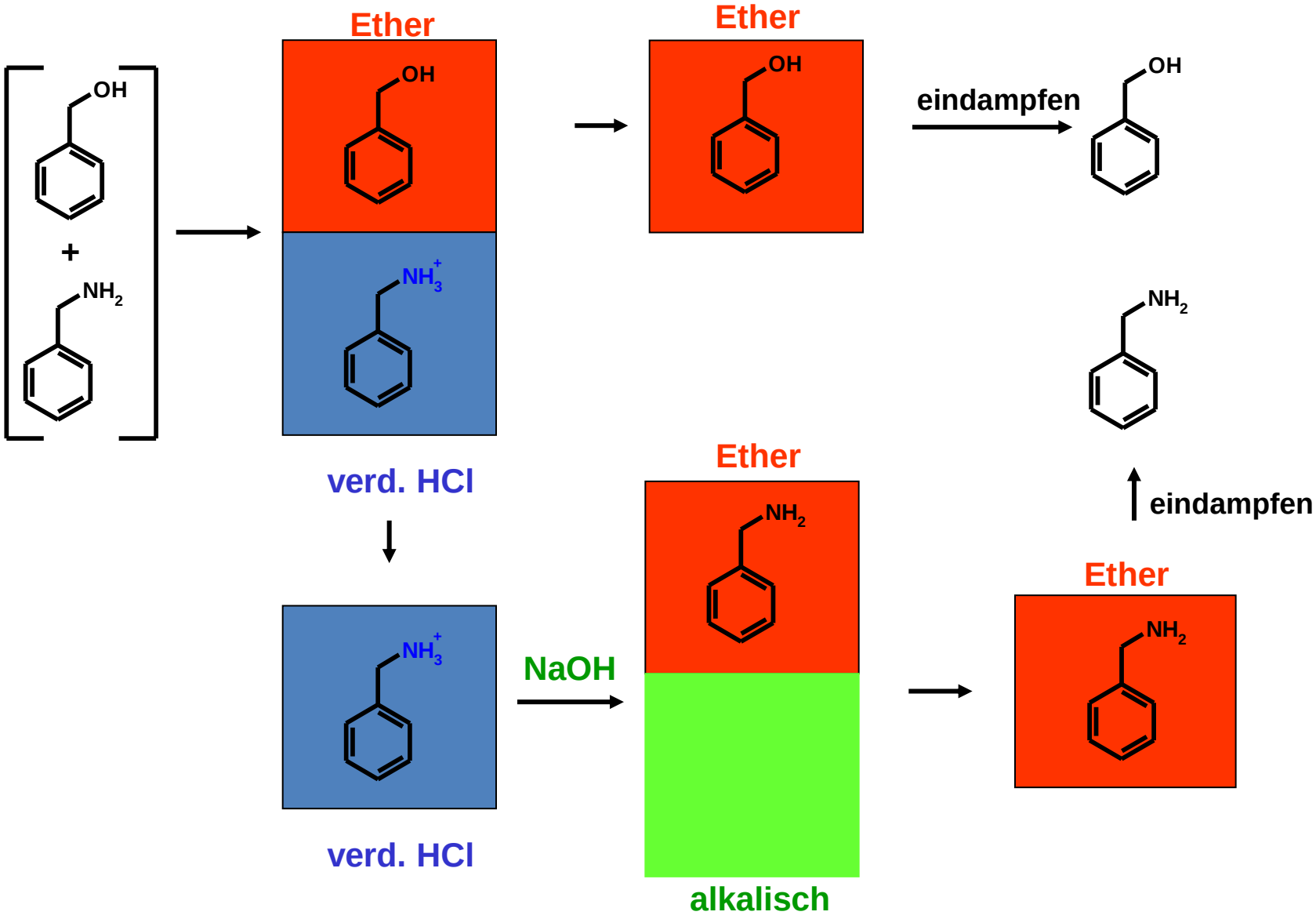
10 Amine

Umsetzung von Aminen mit Alkylhalogeniden



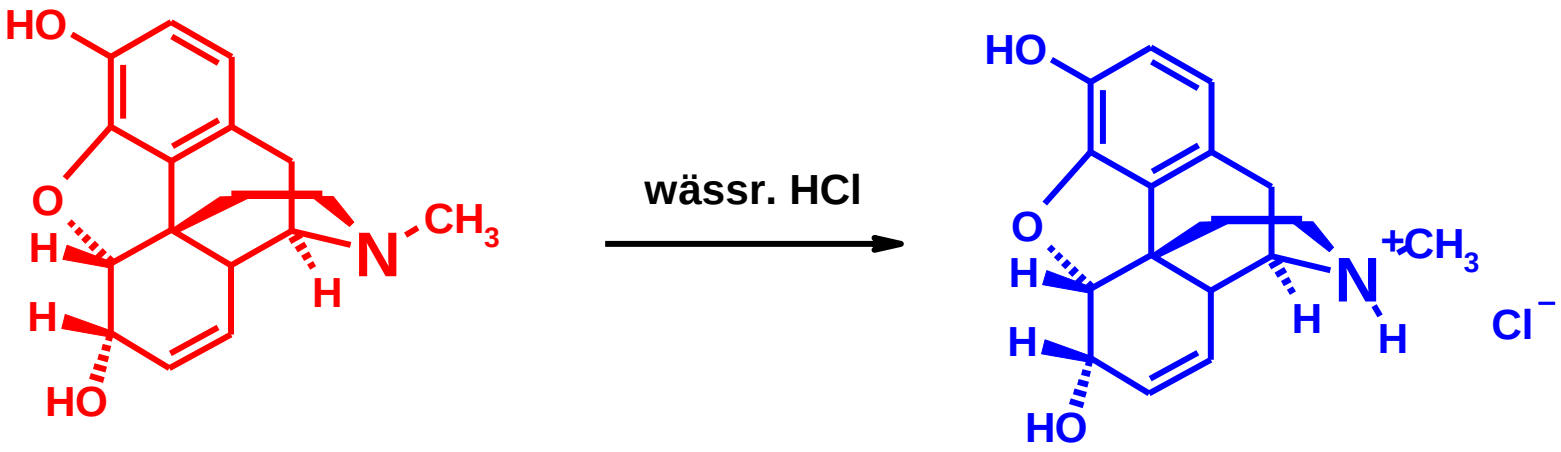
10 Amine

Abtrennung von Aminen von anderen org. Verbindungen durch wässrige Extraktion



10 Amine

Isolierung von Morphin aus Opium



Morphin

Löslichkeit in Wasser 0.2g/l

Morphin-hydrochlorid

Löslichkeit in Wasser 57g/l