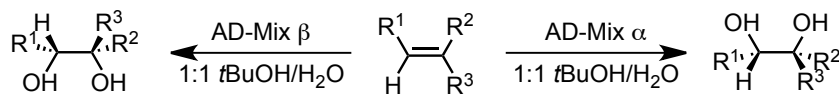
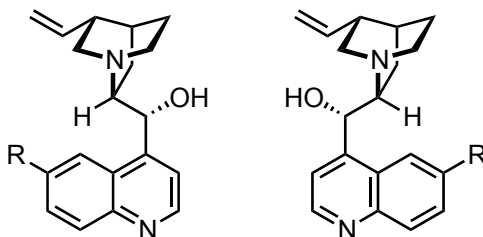


Asymmetrische Dihydroxylierung nach Sharpless

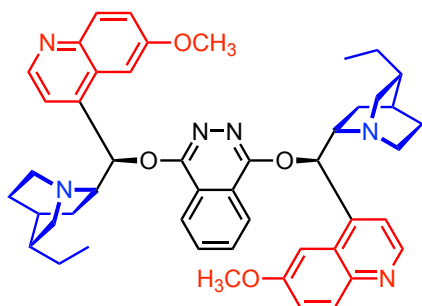


AD-Mix α : 0.2 mol% $\text{K}_2\text{OsO}_2(\text{OH})_4$, 1 mol% $(\text{DHQ})_2\text{-PHAL}$, 3-fache Molmenge $\text{K}_3\text{Fe}(\text{CN})_6$, 3-fache Molmenge K_2CO_3
 AD-Mix β : 0.2 mol% $\text{K}_2\text{OsO}_2(\text{OH})_4$, 1 mol% $(\text{DHQD})_2\text{-PHAL}$, 3-fache Molmenge $\text{K}_3\text{Fe}(\text{CN})_6$, 3-fache Molmenge K_2CO_3

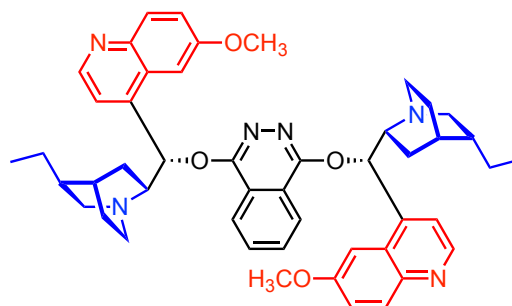


R = OCH_3 (-)-Chinin
 R = H (-)-Cinchonidin

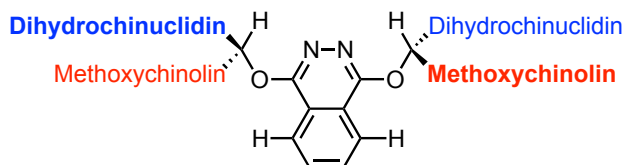
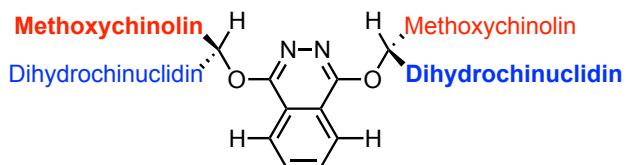
(+)-Chinidin
 (+)-Cinchonin

(DHQ)₂PHAL

DHQ: Dihydrochinin (dihydroquinine)
 PHAL: Phthalazin

(DHQD)₂PHAL

DHQD: Dihydrochinidin (dihydroquinidine)
 PHAL: Phthalazin



Übergangszustand in Gegenwart
 von $(\text{DHQD})_2\text{PHAL}$:

