

(+)(R)-TALIDOMIDE è un farmaco anti-nausea
 (-)(S)-TALIDOMIDE è un potente TERATOGENO

±buprofene

RISOLUZIONE DI UNA MISCELA RACEMICA (separazione)

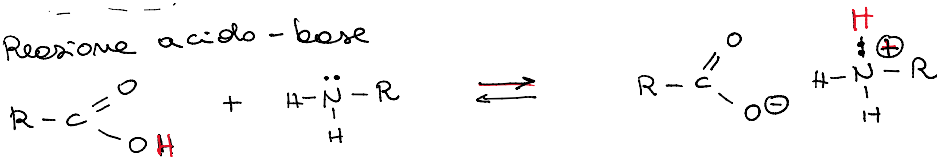
(miscela equimolare dei 2 enantiomeri di una stessa coppia)

1° ESEMPIO

Separazione di Acidi carbossilici chirali



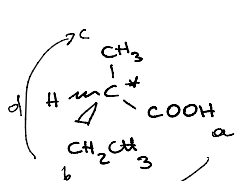
Reazione acido-base



ACIDO

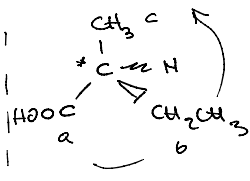
BASE

SALE



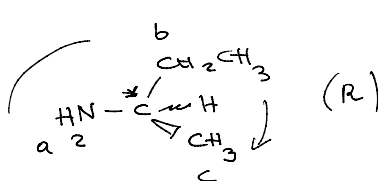
(R)

(R)-COOH



(S)

(S)-COOH



AMMINA PRIMARIA ENANTIOMERO PURO

H₂N-(R)

(R)-COOH
(S)-COOH

H₂N-(R)

AGENTE RISOLVENTE

(R)-COO⁻ H₃N⁺-(R)

(S)-COO⁻ H₃N⁺-(R)

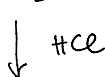
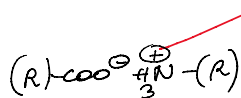
il suo enantiomero è (S)-COO⁻ H₃N⁺-(S)

I SALI CHE SI FORMANO SONO IN RAPPORTO DI DIASTEREISOMERIA

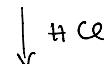
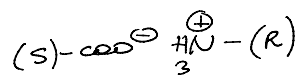
il suo enantiomero è (R)-COO⁻ H₃N⁺-(S)

QUINDI HANNO DIFFERENTI PROPRIETÀ FISICHE

cristallizzazione frazionata

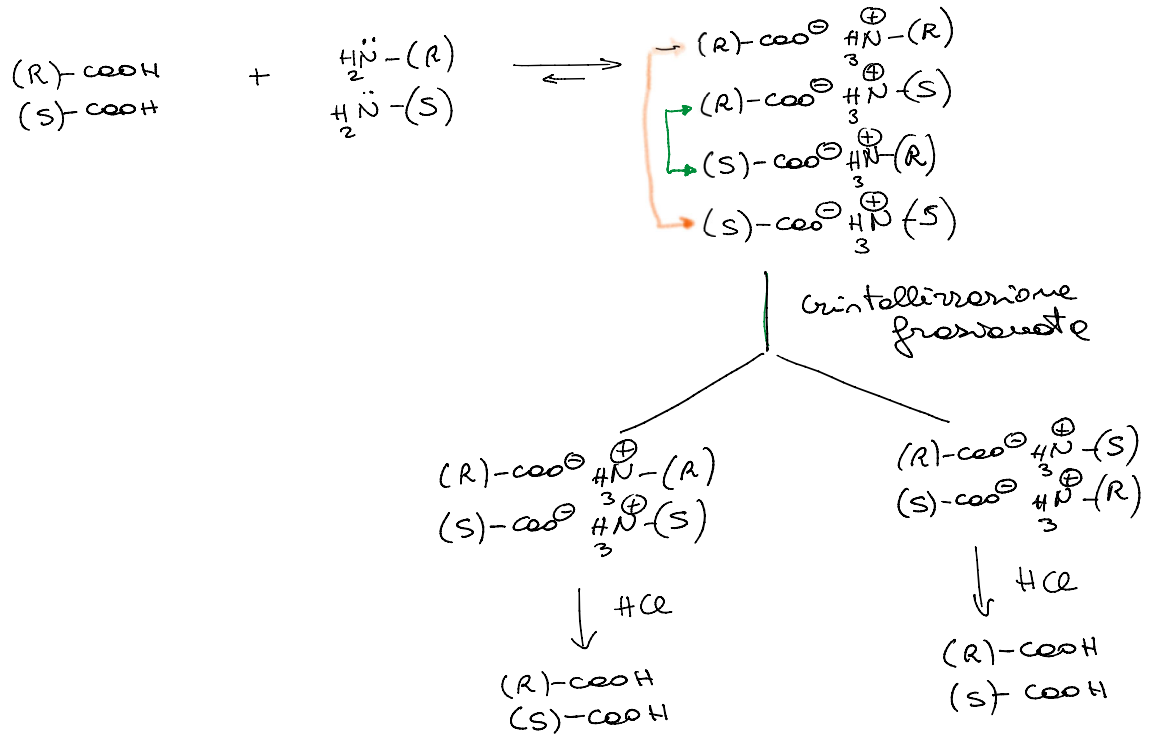


(R)-COOH



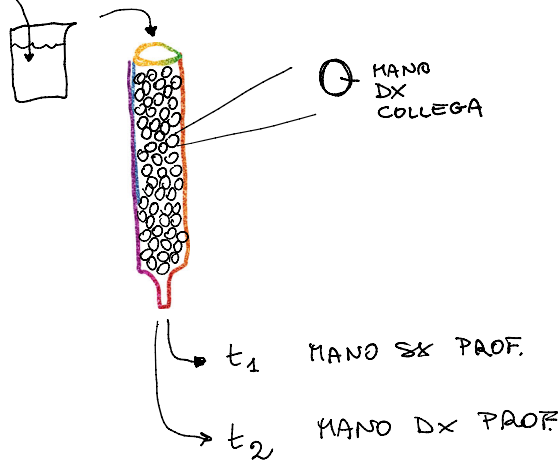
(S)-COOH

È proprio necessario che l'agente risolvante sia un enantiomero puro?



MANO SX e
MANO DX
PROF.

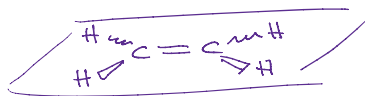
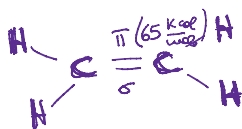
CROMATOGRAFIA SU COLONNA CHIRALE



ALCHENI (alchene)

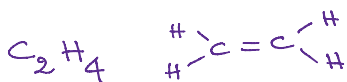


1 Grado di insaturazione dovuto al pr. funzionale che è il doppio legame carbonio-carbonio



PLANARE

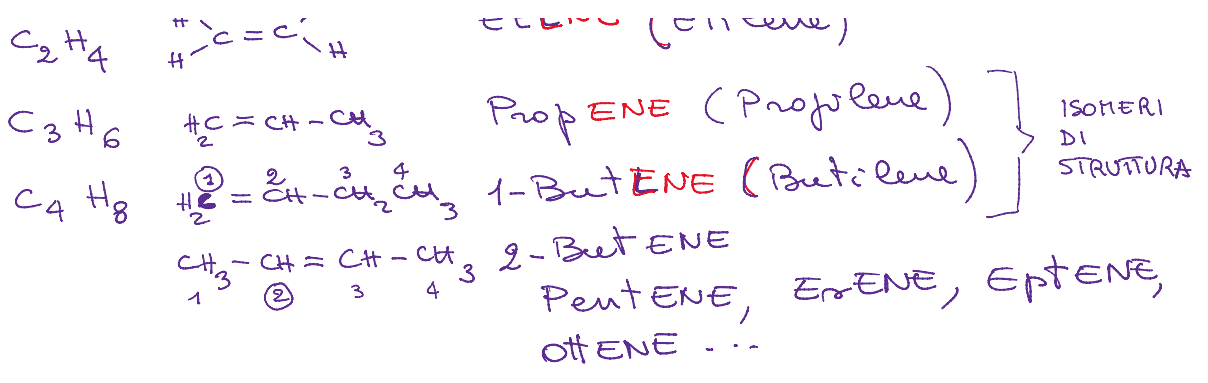
Nomenclature



ETENE (Etilene)

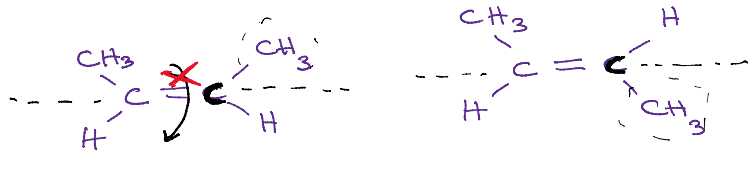
... ..

PROPENE (Propilene) } ISOMERI



ISOMERI DI STRUTTURA

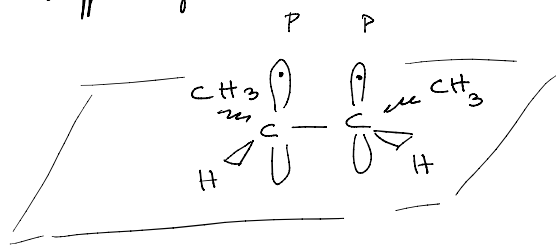
2-BUTENE LA ROTAZIONE ATTORNO AL DOPPIO LEGAME È IMPEDITA



STEREISOMERI (= strutture ≠ disposizione spaziale) CONFIGURAZIONALI

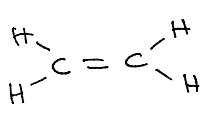
cis-2-butene
 ↑ i due metili sono dalla stessa parte del doppio legame

trans-2-butene
 ↑ da parti opposte

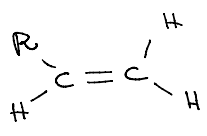


la rotazione può avvenire solo sacrificando il legame π (65 kcal/mole)

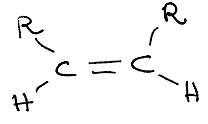
I termini cis/trans si utilizzano per alcheni oli sostituiti:



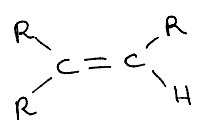
Alchene non sostituito



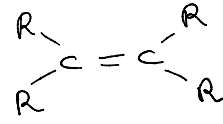
Alchene MONO sostituito



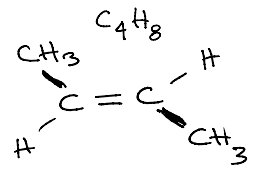
Alchene DI sostituito



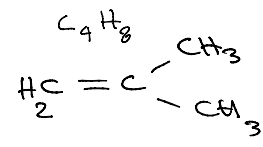
Alchene TRI sostituito



Alchene TETRA sostituito



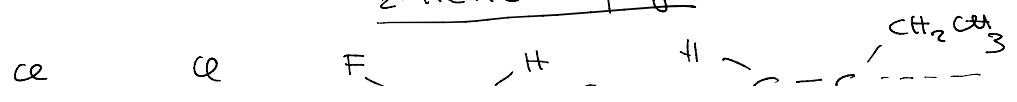
trans-2-butene

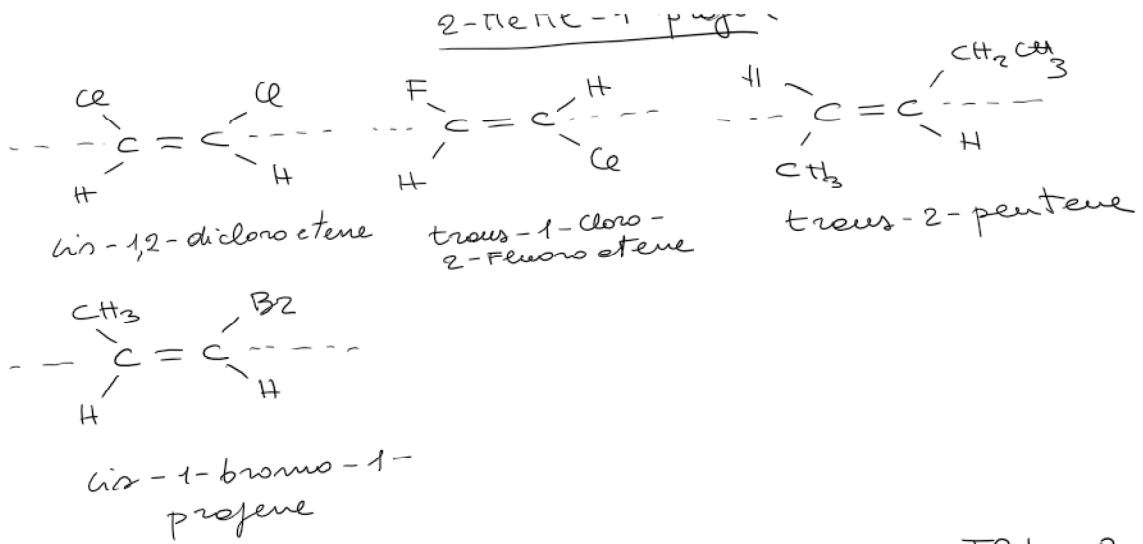


Alchene DI sostituito \Rightarrow

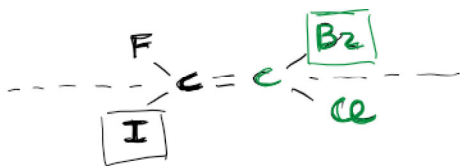
Non de' vite e isomerie cis/trans o ISOMERIA GEOMETRICA

2-metil-1-propene





ISOMERIA GEOMETRICA IN ALCHENI TRI- O TETRASOSTITUITI

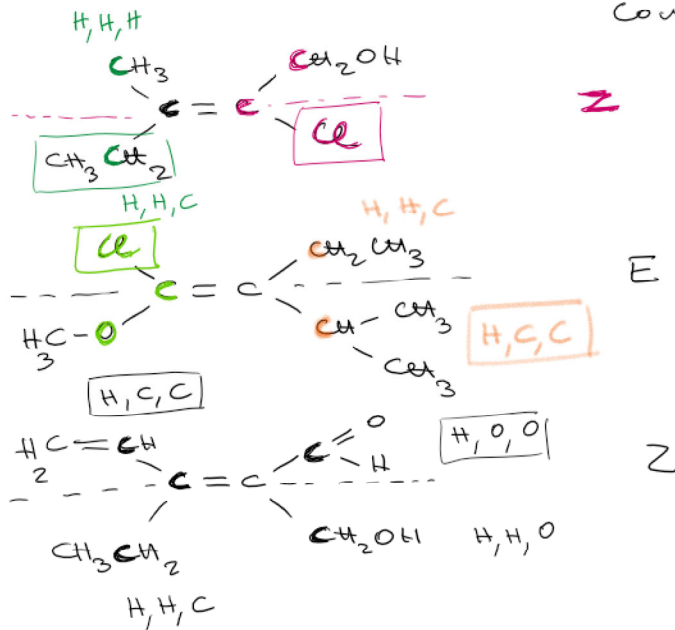


Denominazione E/Z
Regole di priorità di
Cahn Ingold e Prelog

Da parti opposte (E)

(E)-1-bromo-1-cloro-2-fluoro-2-iodo etene

Configurazione E o Z?



cis → cis → Z

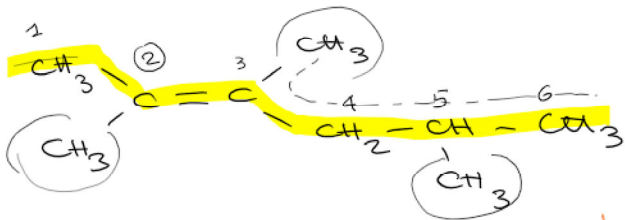
$\text{CH}_2 = \text{CH}$ gruppo VINILICO
VINILE

$\text{CH}_2 = \text{CH} - \text{CH}_2$ gruppo ALLILICO
ALLILE

Nomenclature IUPAC



- 1) individuare la catena più lunga contenente il doppio legame

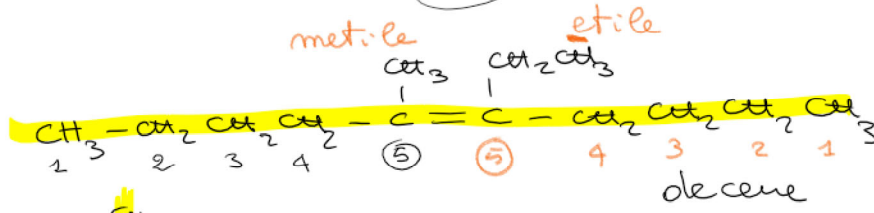


✓ più lunga completa
il doppio legame
esene

② numero la catena in modo
che il doppio legame
abbia le cifre più basse

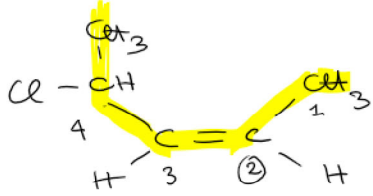
2-esene

2,3,5-trimetil-2-esene



decene

5-etile-6-metile-5-decene



2-pentene

4-cloro-2-pentene