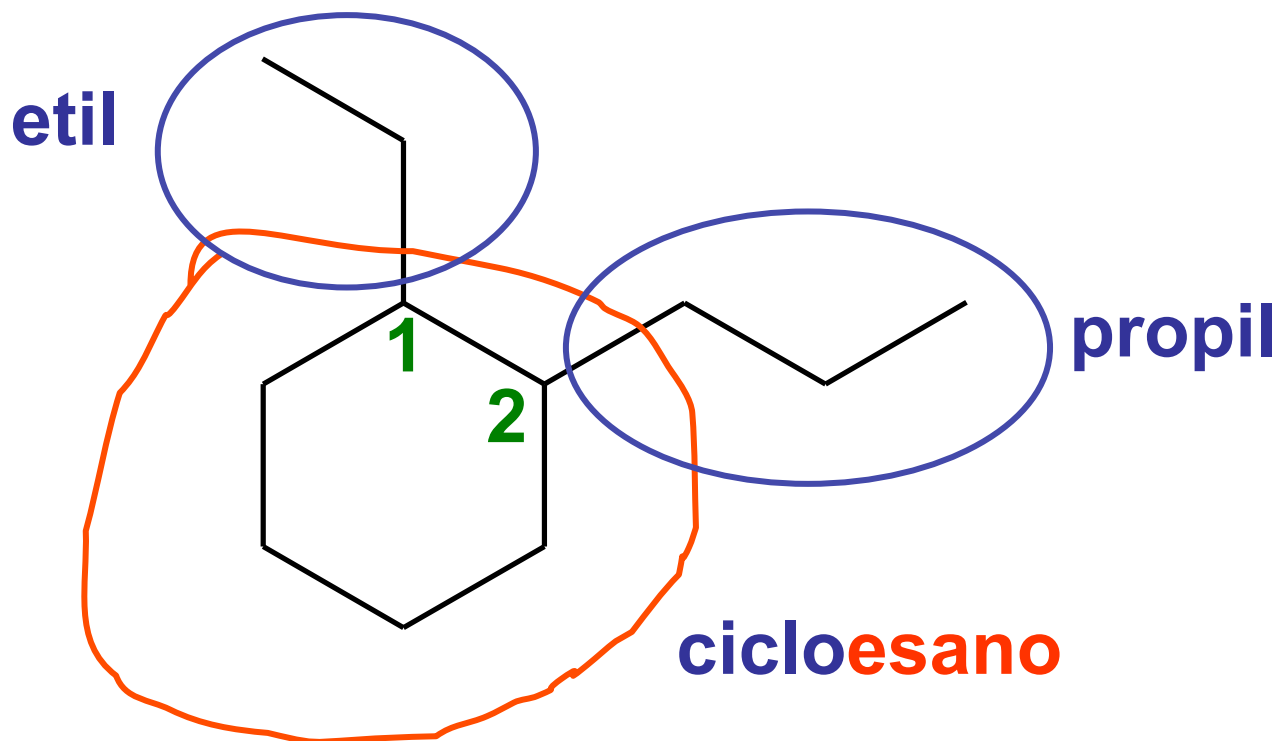


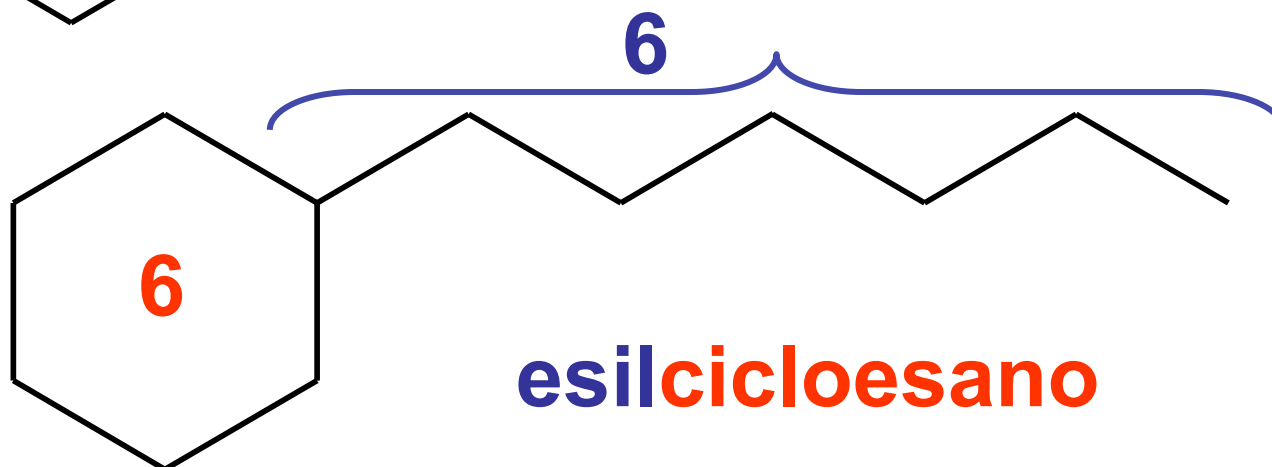
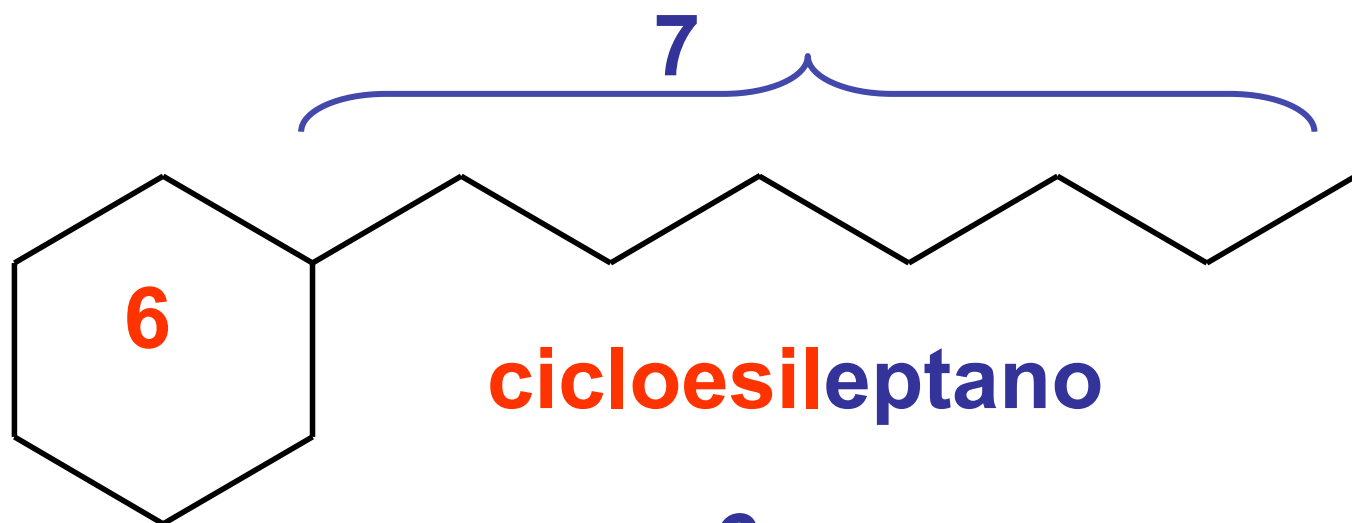
# Nomenclatura dei CICLOALCANI

Si seguono le stesse regole viste per gli alcani lineari, basta aggiungere il prefisso **ciclo** al nome dell'alcano.

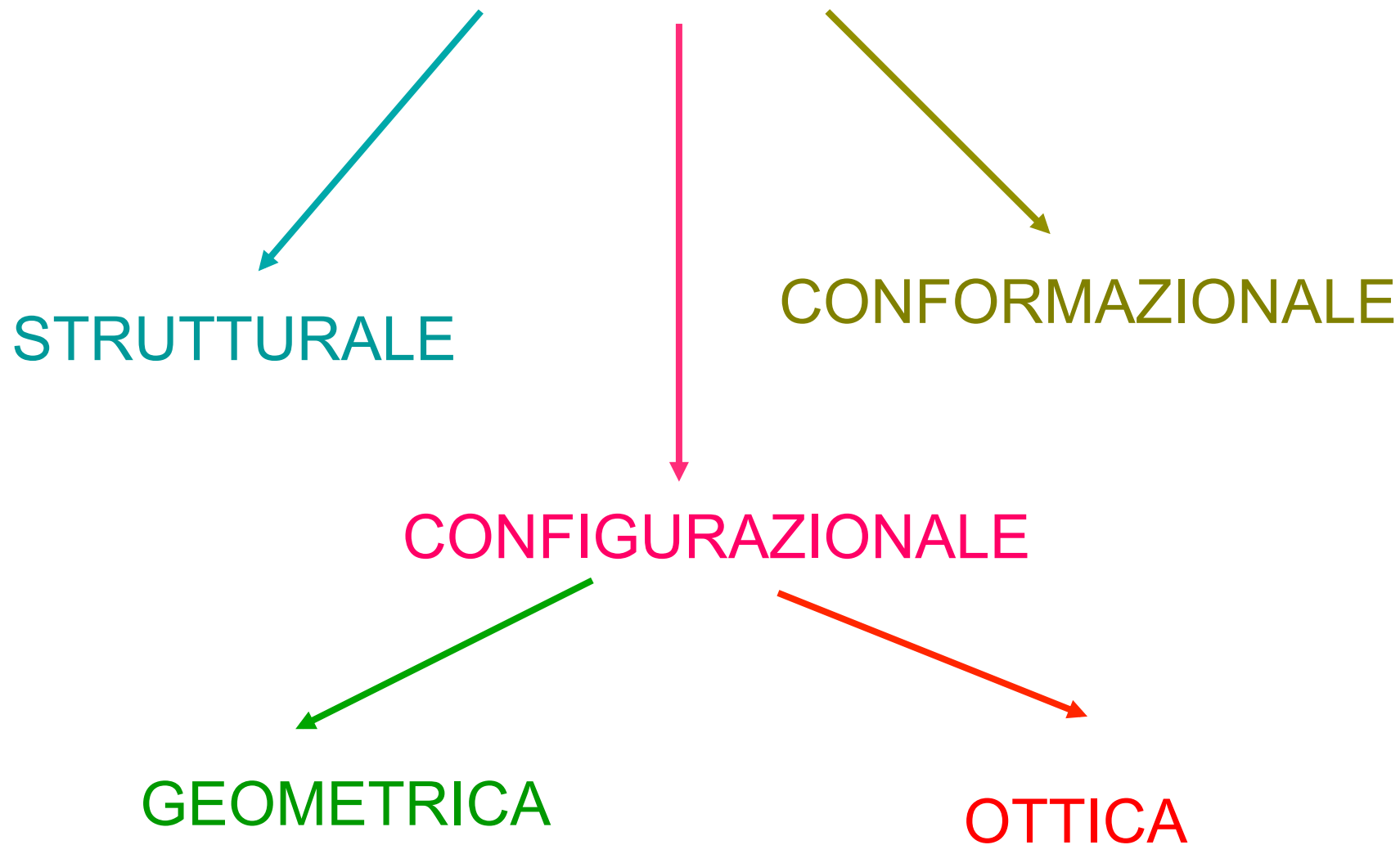


**1-etil-2-propilcicloesano**

Cosa succede quando la catena lineare sul ciclo è più lunga del ciclo?

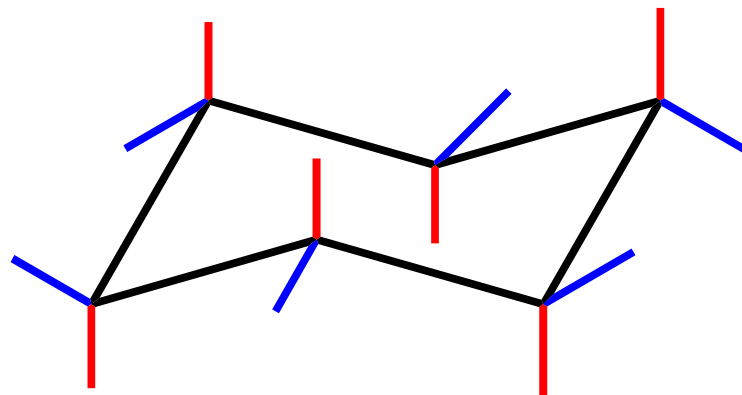
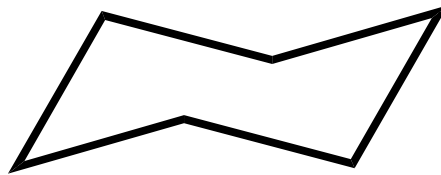


# ISOMERIA



Esempio di Isomeria  
Conformazionale:  
conformazione a SEDIA del

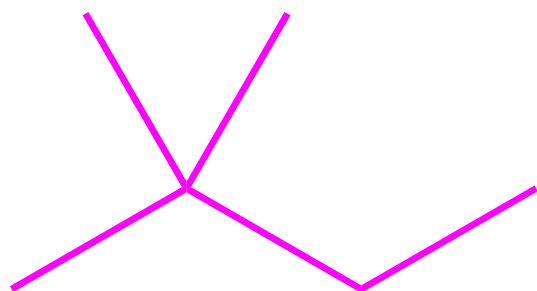
**CICLOESANO**



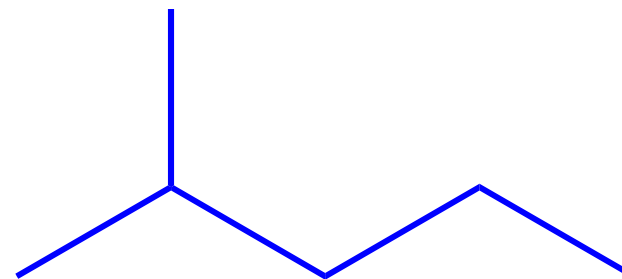
**ASSIALI**  
**EQUATORIALI**

# Isomeri di struttura

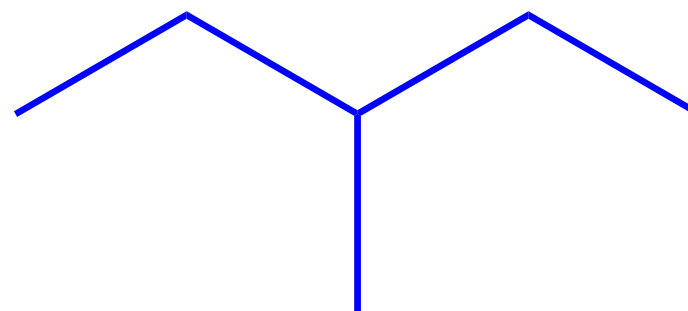
Scrivere tutti i possibili isomeri degli alcani di formula molecolare  $C_6H_{14}$



di sostituiti

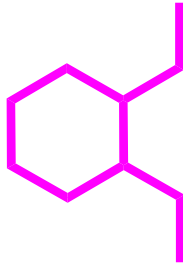
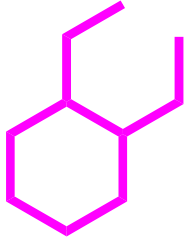


Mono sostituiti





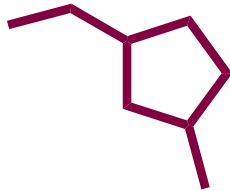
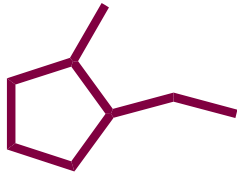
**CONFORMAZIONALI**



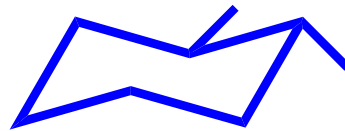
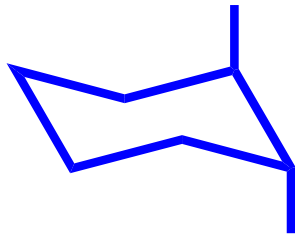
**CONFORMAZIONALI**



**STRUTTURALI**



**STRUTTURALI**

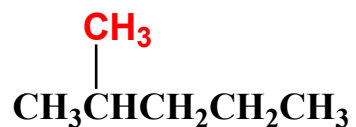


**CONFORMAZIONALI**

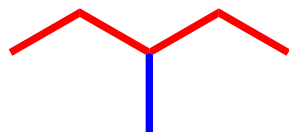
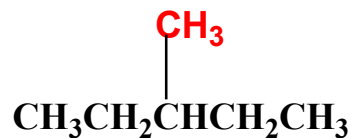
# Scrivere gli isomeri strutturali dell' esano



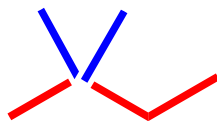
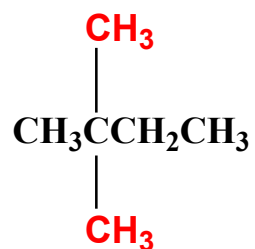
n-esano



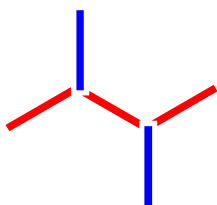
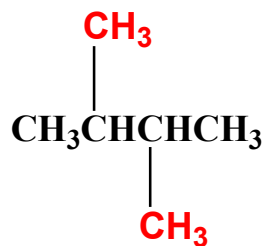
2-metil pentano



3-metil pentano



2,2-dimetil butano

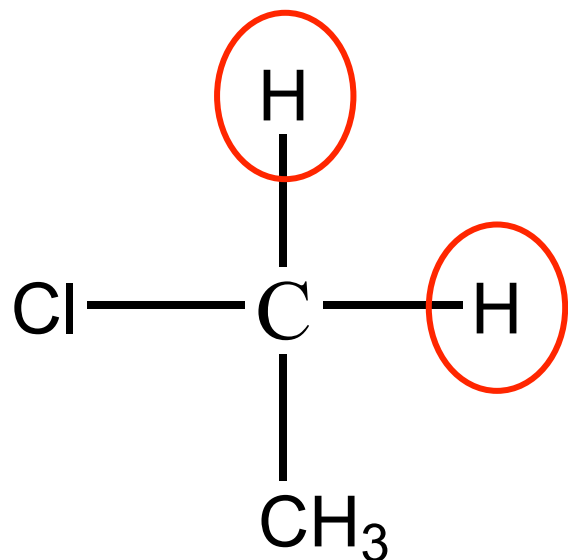


2,3-dimetil butano

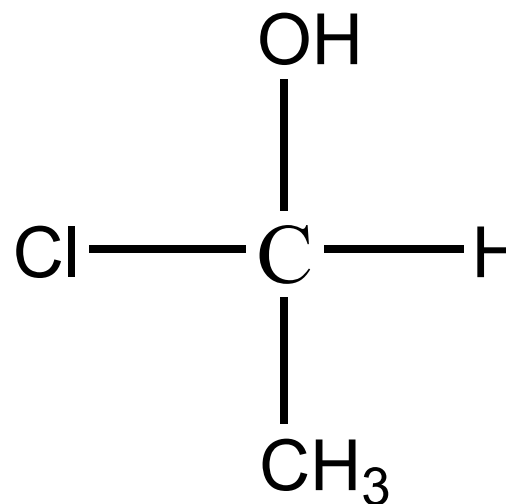
# ISOMERIA OTTICA

1) Il CARBONIO deve essere ibridato  $sp^3$

2) Il CARBONIO deve avere tutti e 4 i sostituenti diversi tra loro



NO

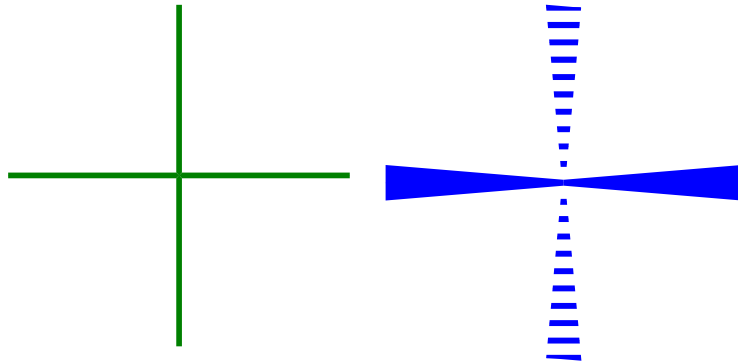


OK!!

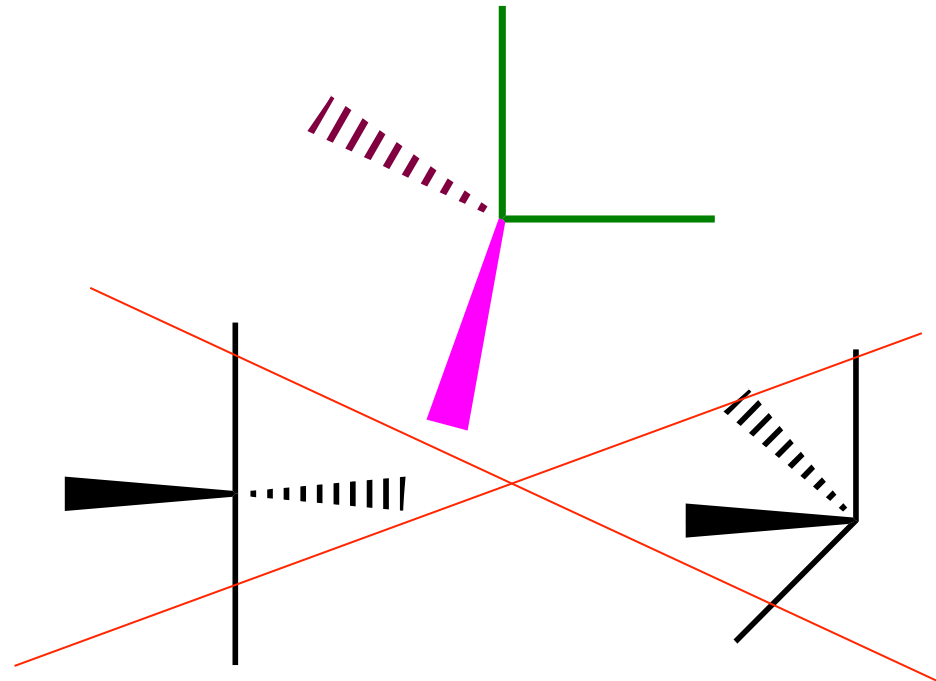
# REGOLE PER ASSEGNARE LA CONFIGURAZIONE R/S

1) BISOGNA DISPORRE IL CARBONIO ASIMMETRICO NELLO SPAZIO:

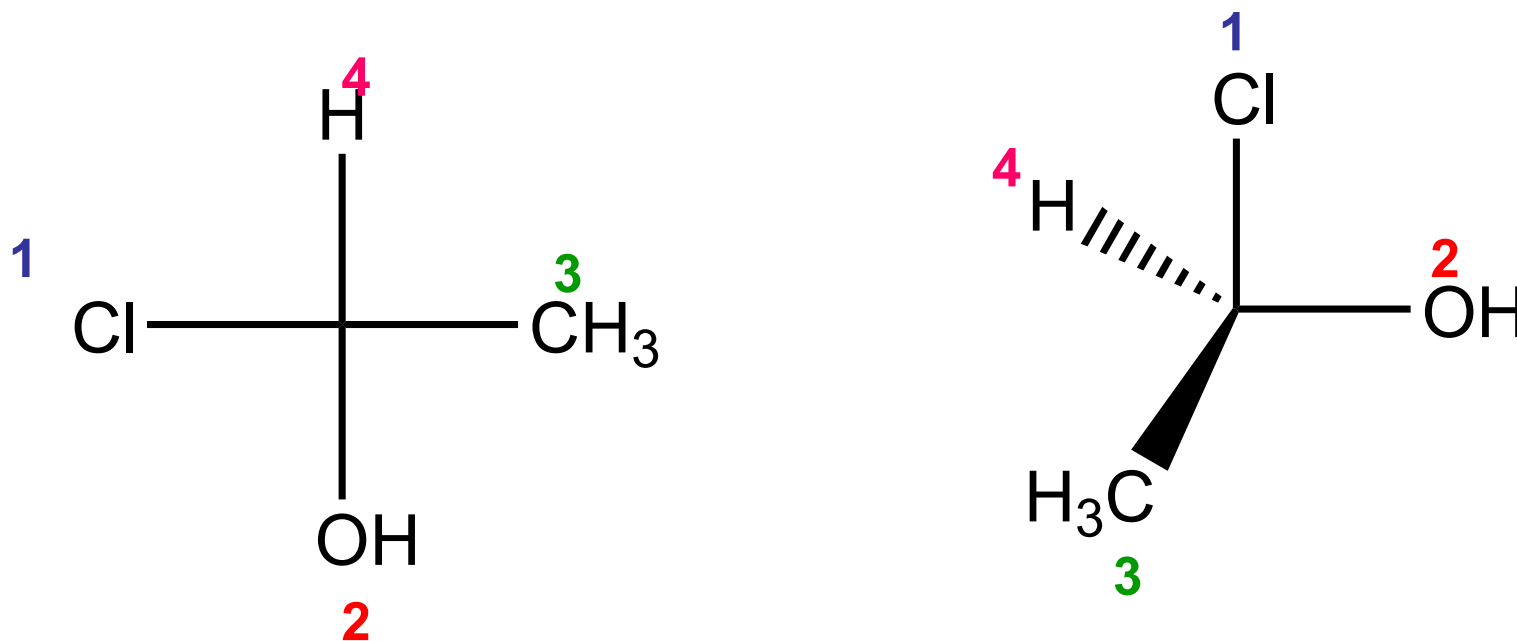
CROCE DI FISHER:



PROIEZIONE A CUNEI E TRATTEGGI:

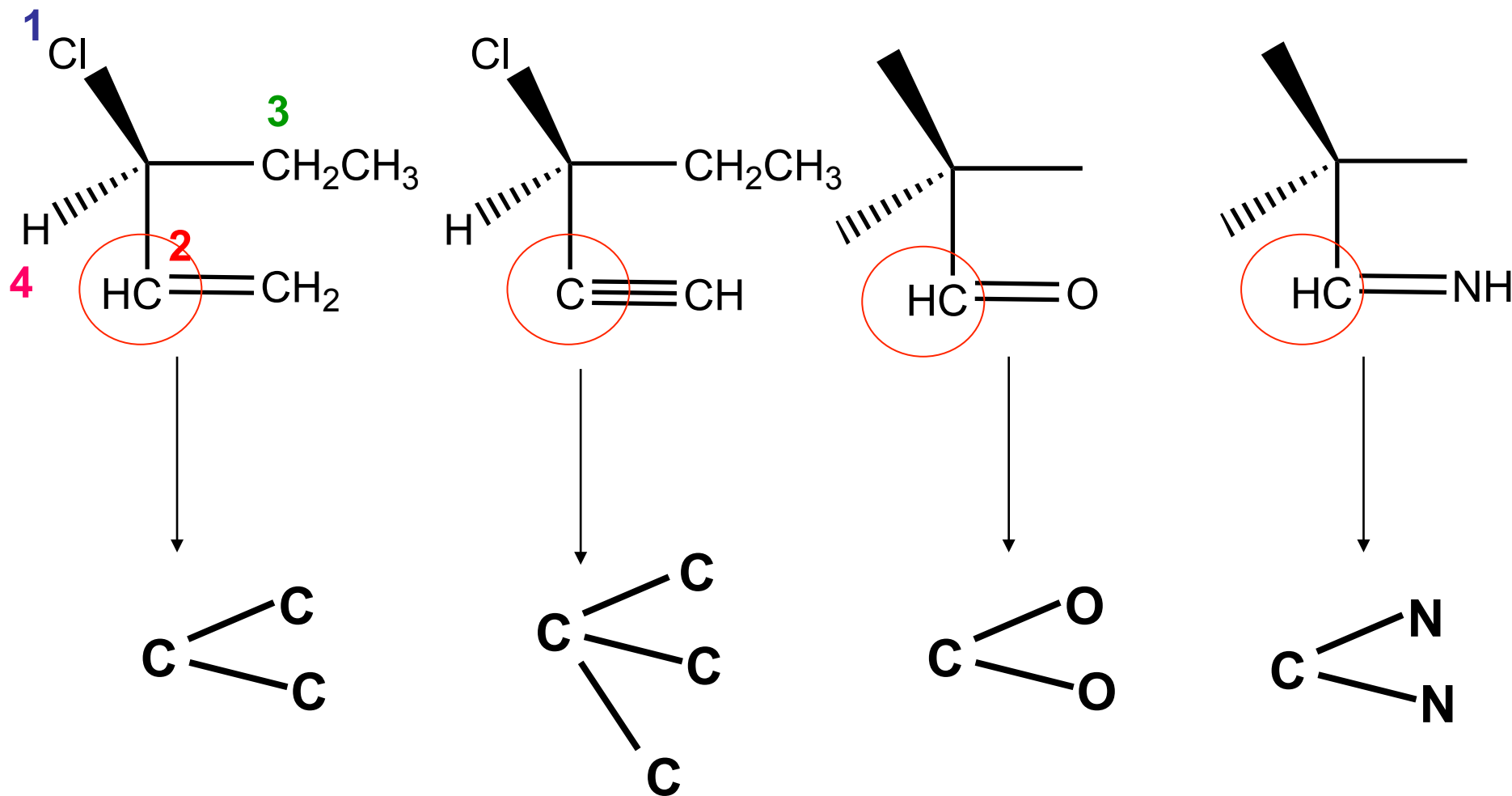


2) ASSEGNARE LA PRIORITA' AGLI ATOMI DIRETTAMENTE LEGATI AL C CHIRALE IN BASE AL LORO **NUMERO ATOMICO**

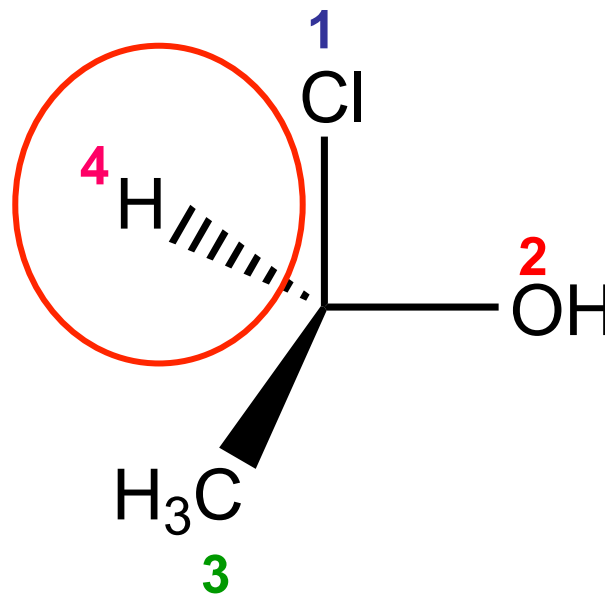
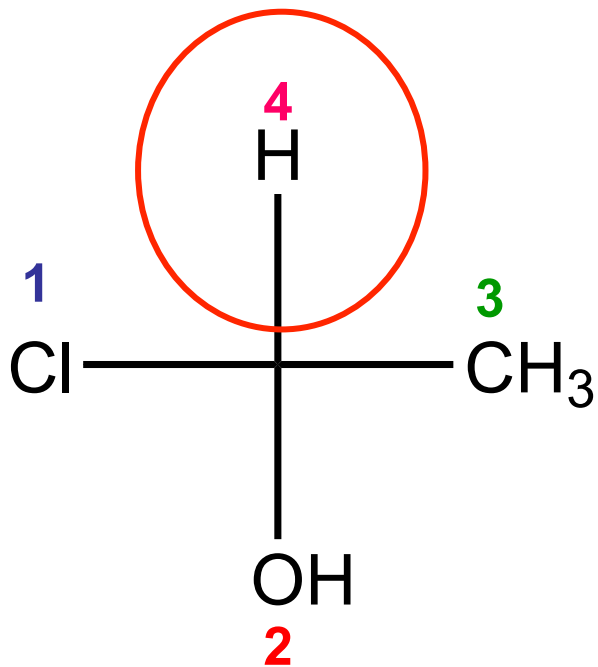


REGOLA DEI DOPPI E DEI TRIPLI LEGAMI

## REGOLA DEI DOPPI E DEI TRIPLI LEGAMI:



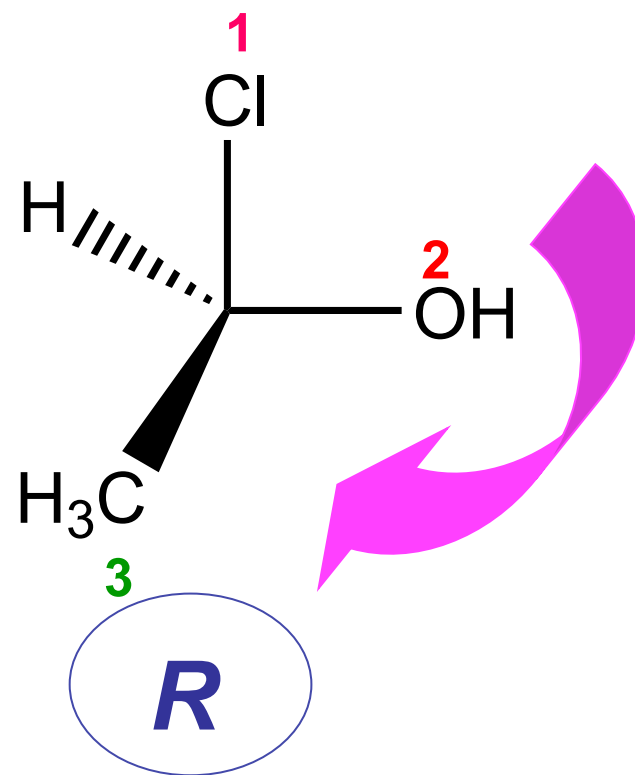
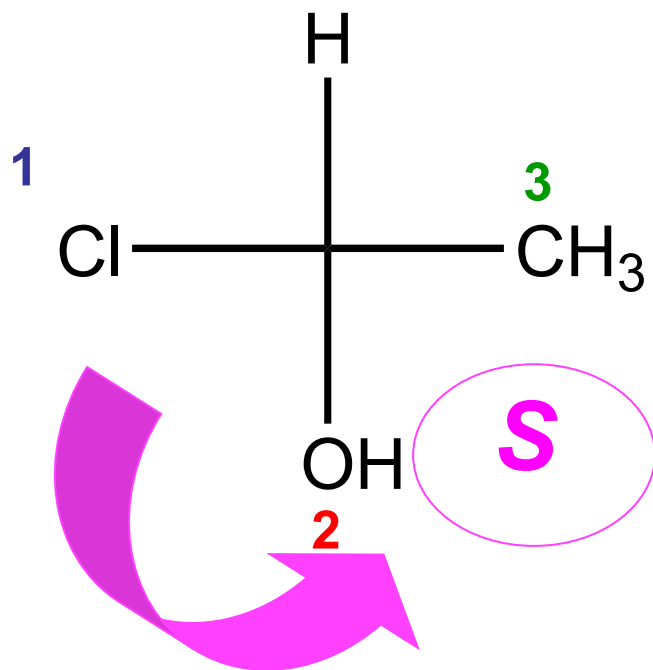
### 3) POSIZIONARE IL GRUPPO A PRIORITA' MINORE LONTANO DALL' OSSERVATORE



4) VERIFICARE IL SENSO DELLA ROTAZIONE DEI TRE GRUPPI A PRIORITA' MAGGIORE:

a) SENSO ORARIO... CONFIGURAZIONE *R*

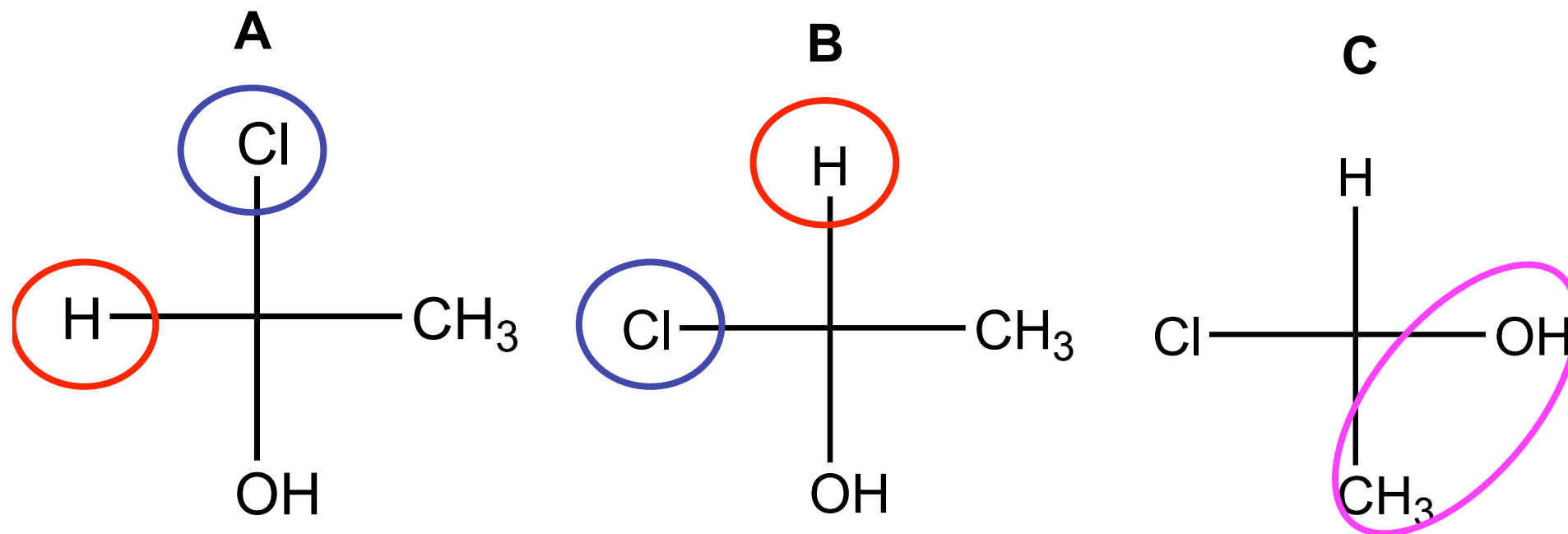
b) SENSO ANTIORARIO CONFIGURAZIONE *S*



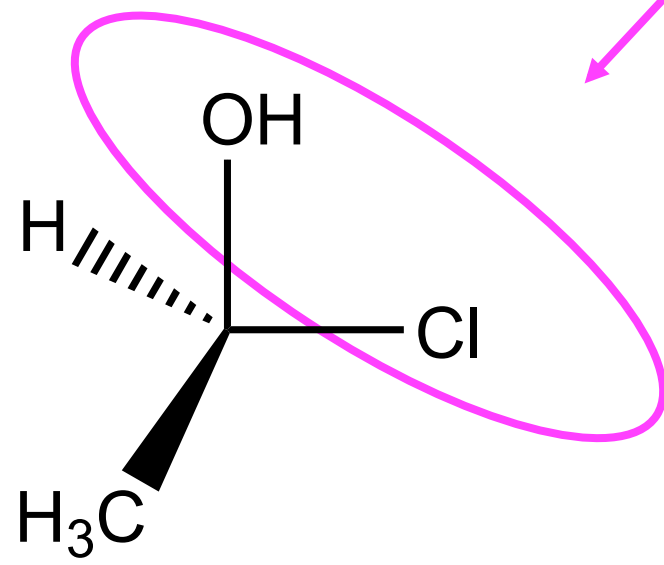
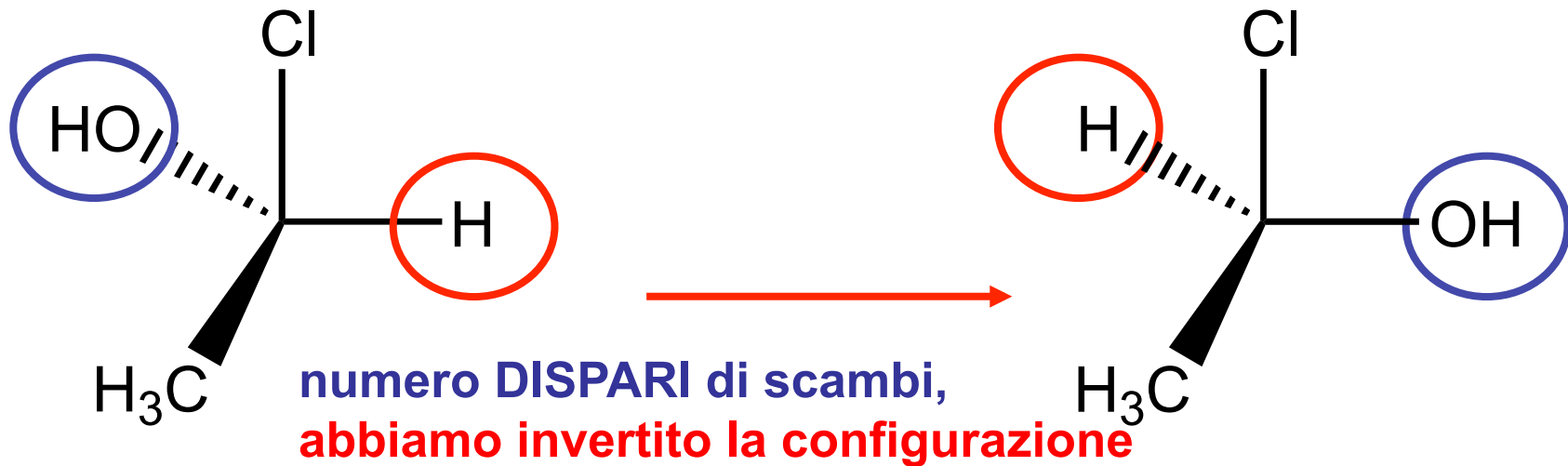
**COME FARE SE IL GRUPPO A PRIORITA' MINORE NON E' LONTANO  
DALL' OSSERVATORE...**

BISOGNA RICORDARE CHE UN **NUMERO DISPARI** DI SCAMBI TRA DUE O PIU' SOSTITUENTI **INVERTE** LA CONFIGURAZIONE DELLA MOLECOLA

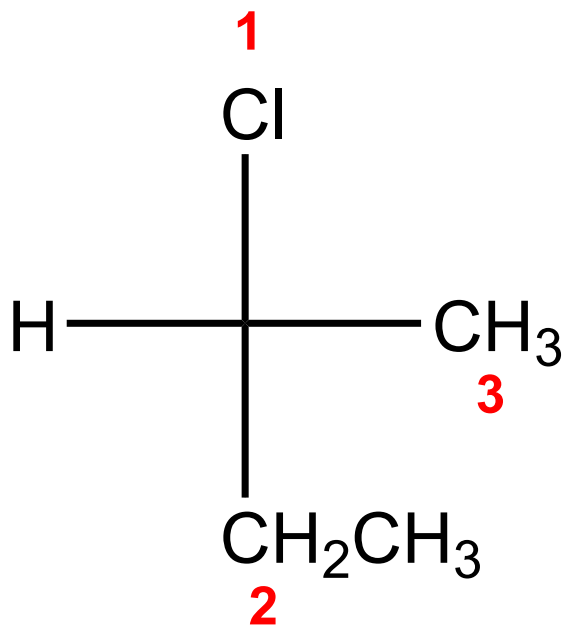
MENTRE UN **NUMERO PARI** DI SCAMBI TRA DUE O PIU' SOSTITUENTI **CONSERVA** LA CONFIGURAZIONE ORIGINALE DELLA MOLECOLA:



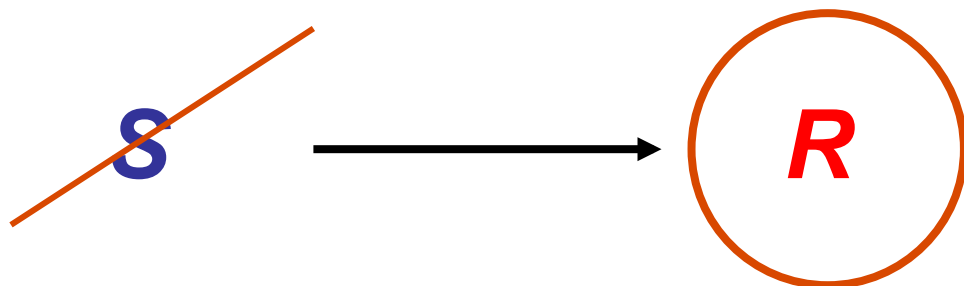
A e B hanno configurazione ottica **INVERTITA** perché abbiamo fatto Un numero **DISPARI** di scambi, **mentre A e C hanno la STESSA Configurazione** perché abbiamo effettuato un numero **PARI** di scambi.



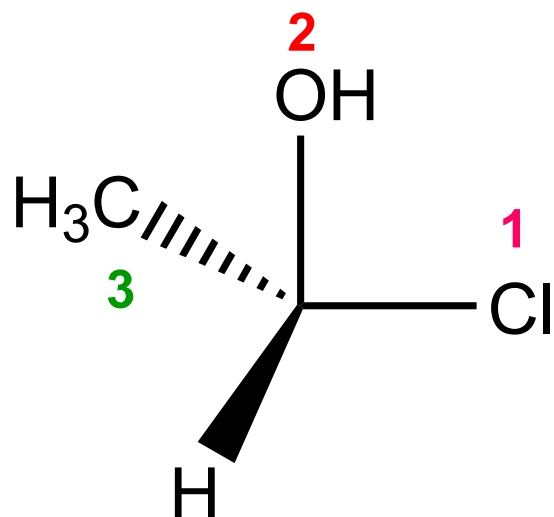
## 5) Regola pratica per evitare il doppio scambio:



Sulla croce di Fisher se il gruppo a priorità Minore non è sulla linea verticale, si può Calcolare la configurazione e poi **INVERTIRLA**:  
In questo caso il senso è **ANTIORARIO**, per cui Sarebbe configurazione **S** ma diventa **R**



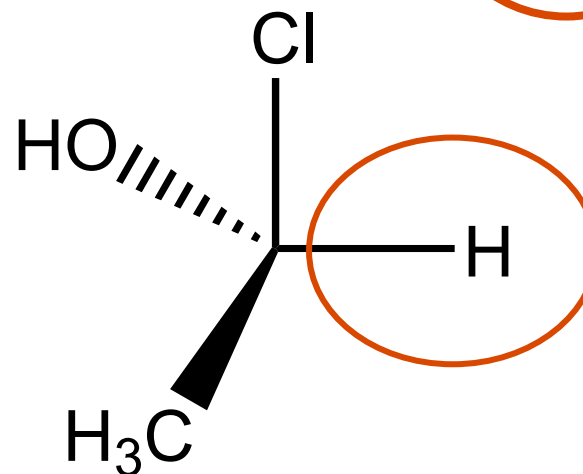
Nella proiezione a cunei e tratteggi si il gruppo a priorità Minore non è sulla linea tratteggiata, MA SUL CUNEO si può Calcolare la configurazione e poi INVERTIRLA, come nel caso Della proiezione di Fisher

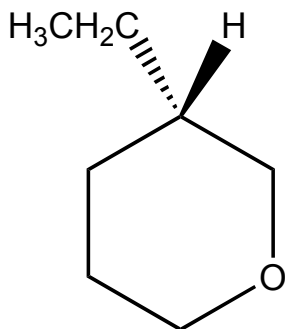
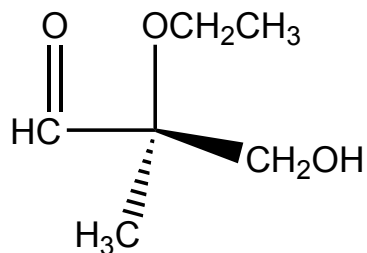
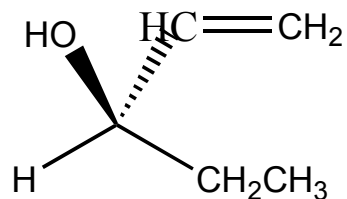
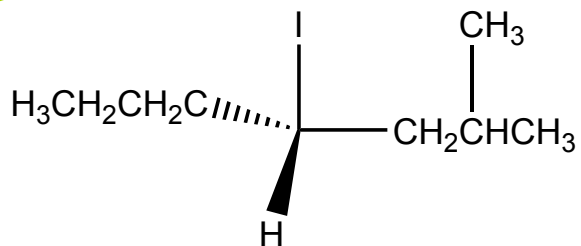


In questo caso il senso è ANTIORARIO, per cui Sarebbe configurazione **S** ma diventa **R**

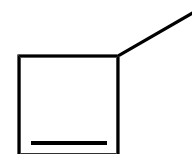
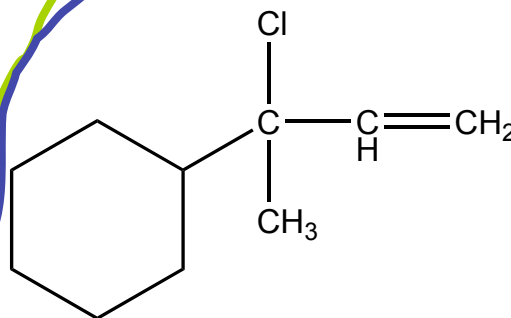
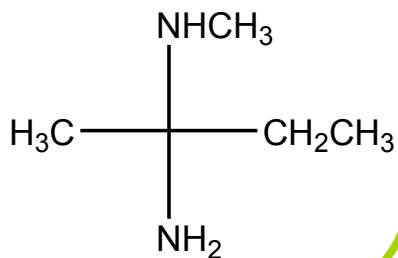
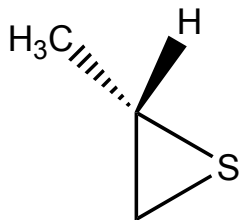


Ma se il gruppo a priorità Minore è sulla linea CONTINUA, Allora siamo obbligati a effettuare il DOPPIO SCAMBIO:

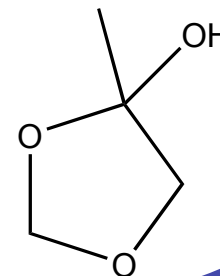




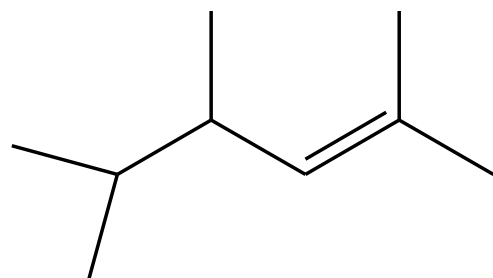
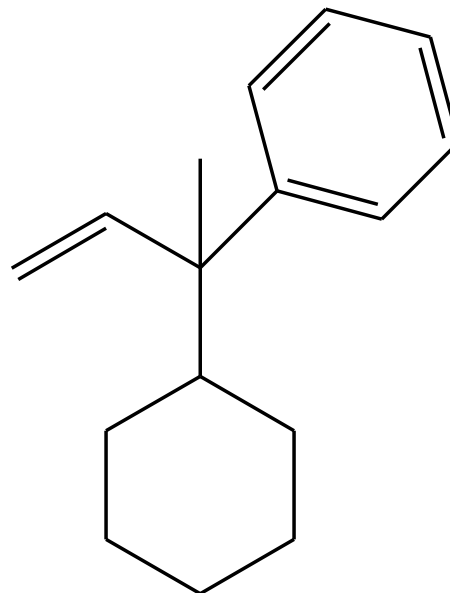
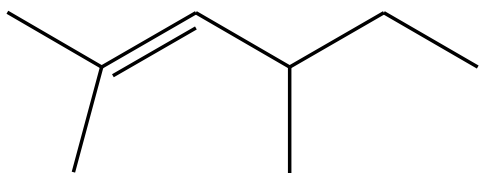
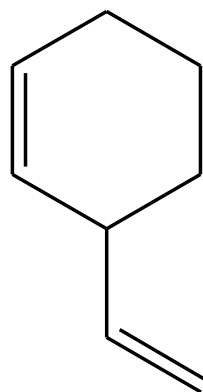
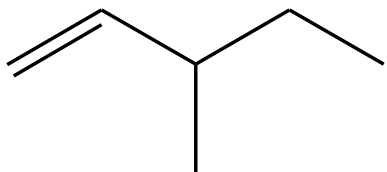
**ASSEGNARE  
LA CONFIGURAZIONE  
R/S ALLE SEGUENTI MOLECOLE**



**DISEGNARE L' ENANTIOMERO  
R e S DELLE SEGUENTI MOLECOLE**



Disegnare tutti i possibili stereoisomeri delle seguenti molecole:



Assegnare la configurazione R/S alle seguenti molecole e per ciascuna di esse disegnare l' enantiomero:

