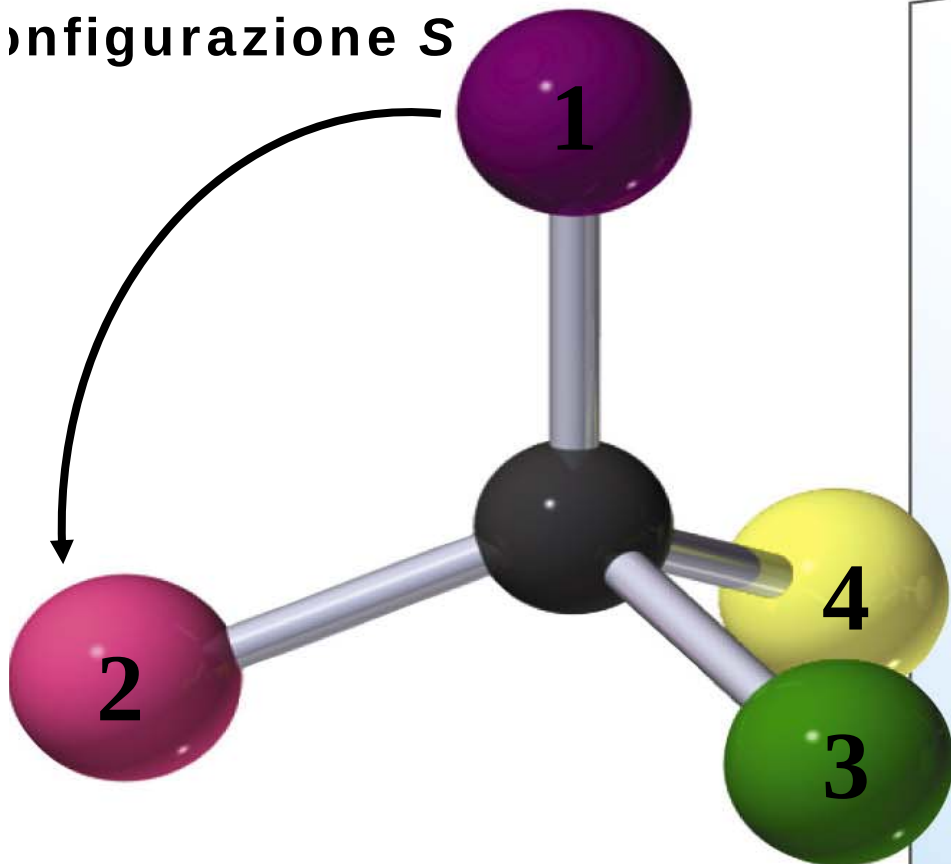
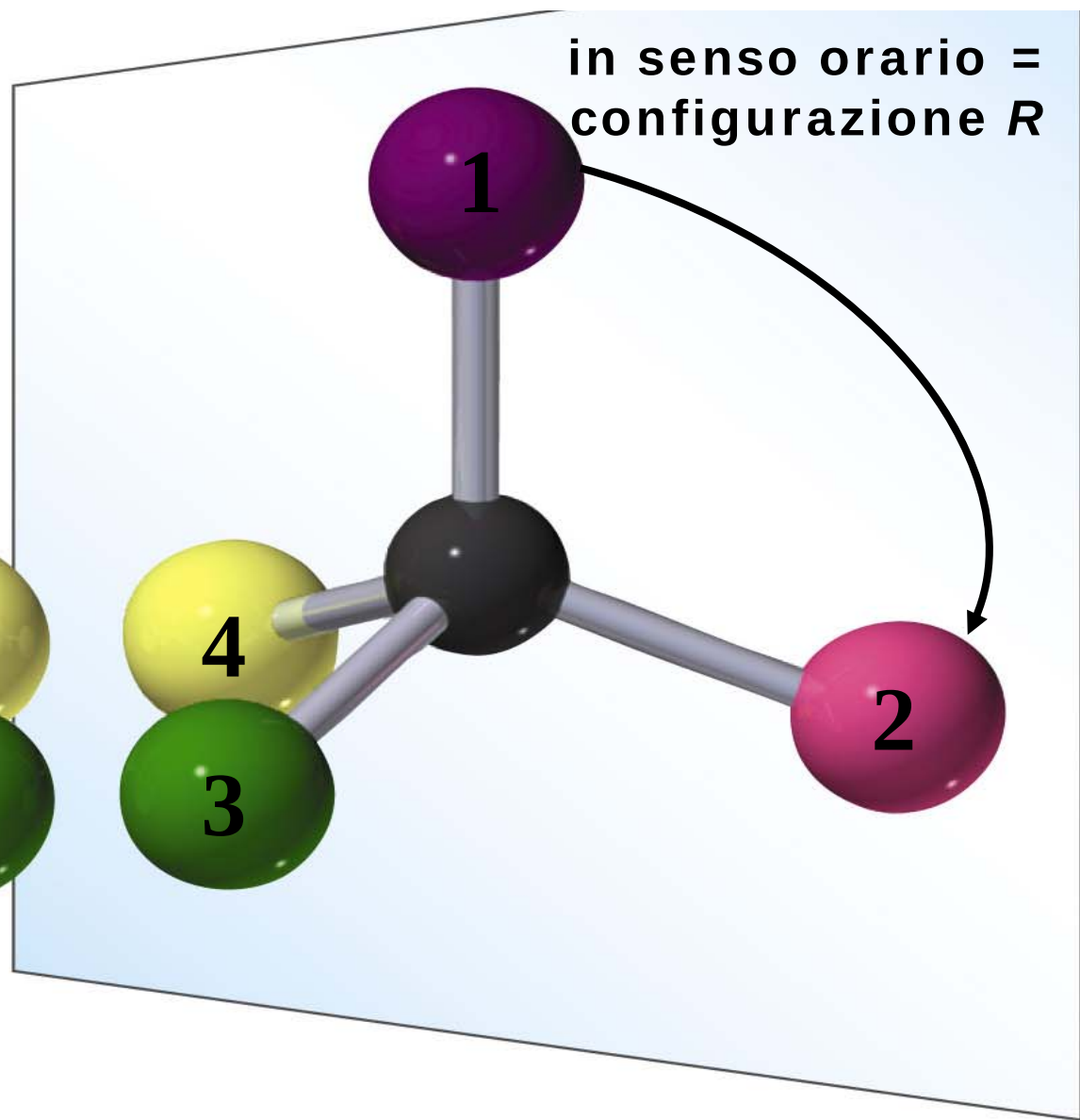


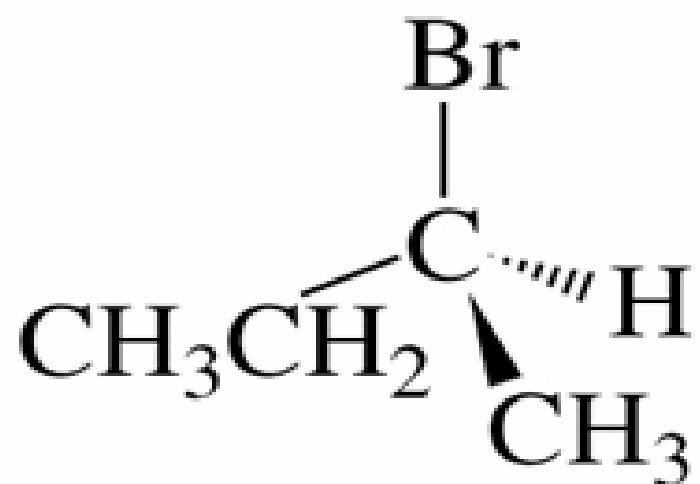
senso antiorario =
configurazione S



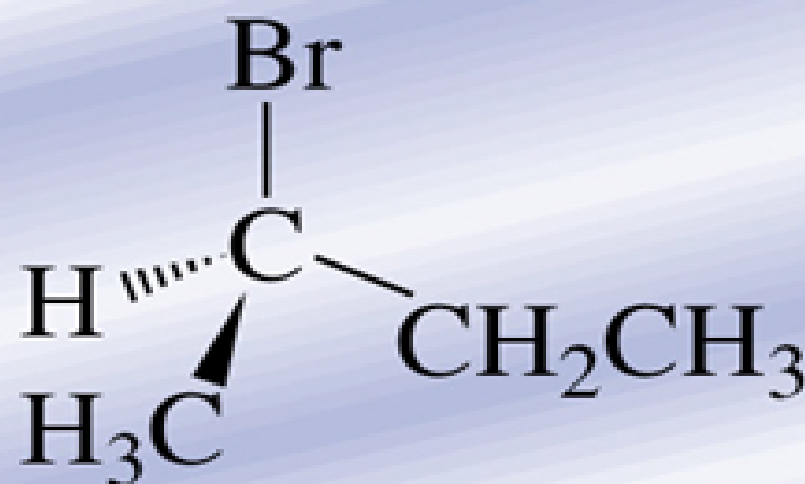
in senso orario =
configurazione R



**NON SOVRAPPONIBILE ALLA
SUA IMMAGINE SPECULARE**

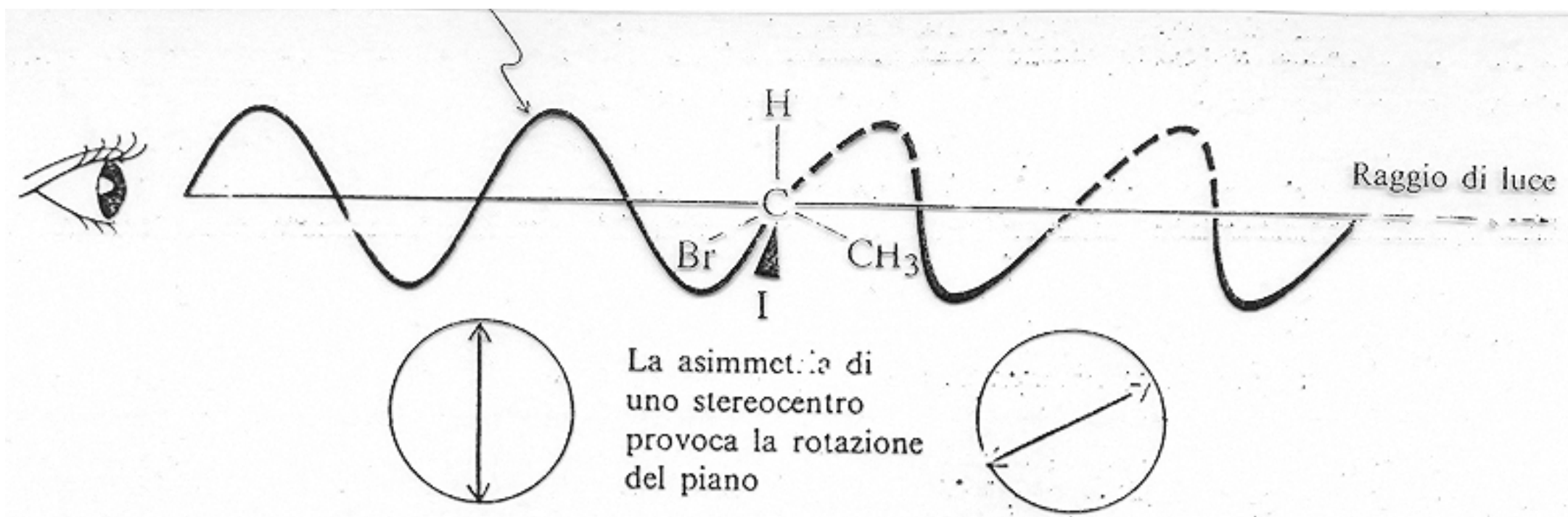


**molecola
chirale**



**immagine speculare
non sovrapponibile**

enantiomeri



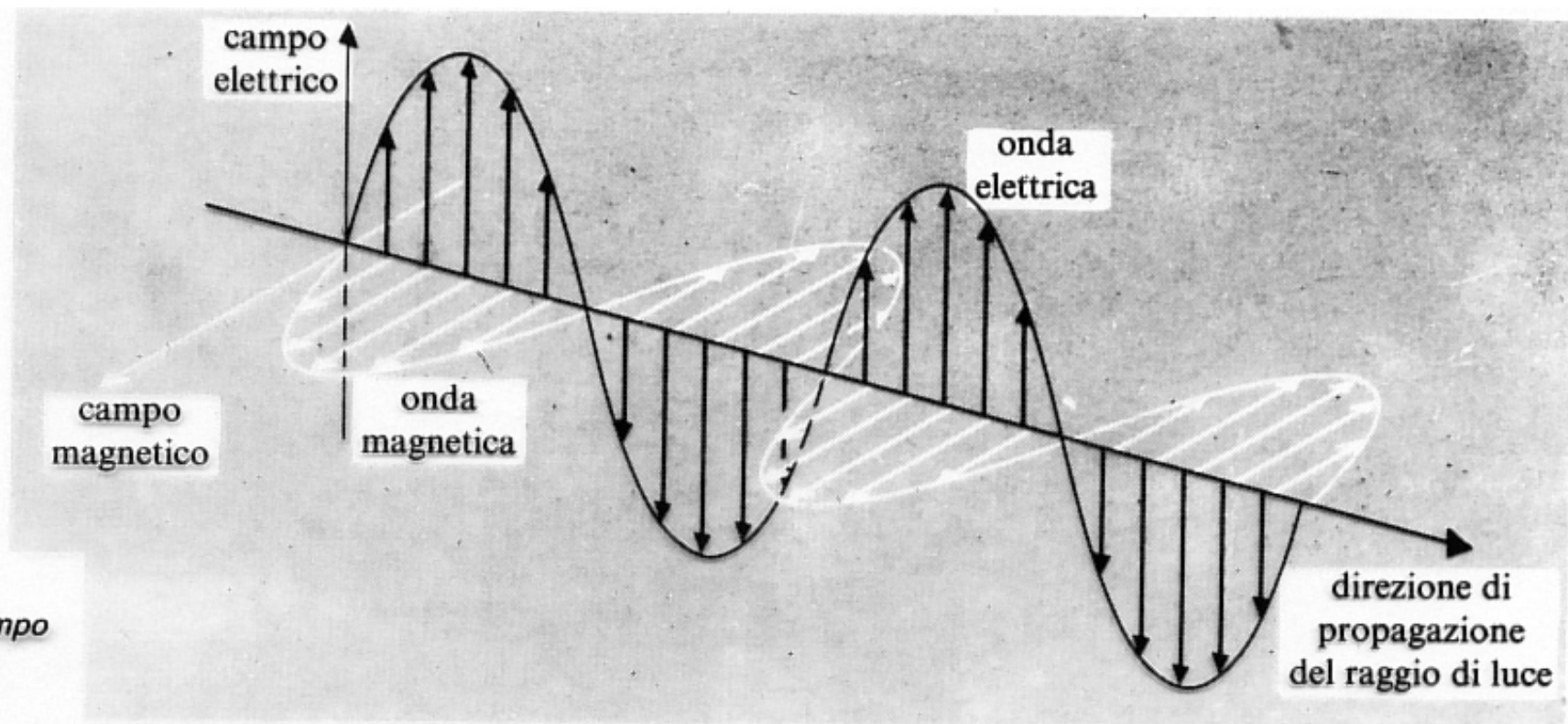


Figura 8.8
Il campo elettrico ed il campo magnetico oscillanti di un raggio di luce ordinaria.

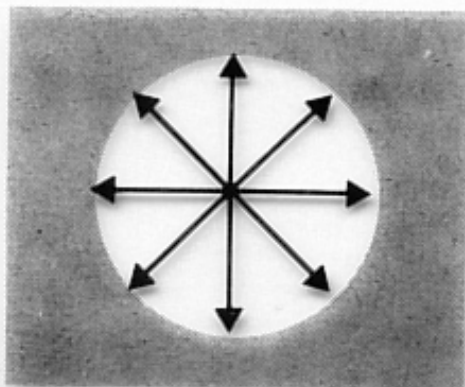


Figura 8.9
Nella luce ordinaria le vibrazioni del campo elettrico avvengono in tutti i piani perpendicolari alla direzione di propagazione del raggio (il raggio si propaga in direzione perpendicolare al piano della pagina).

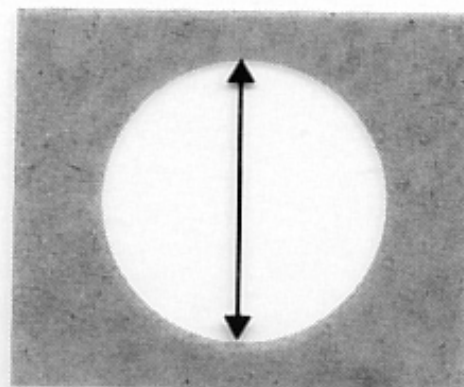
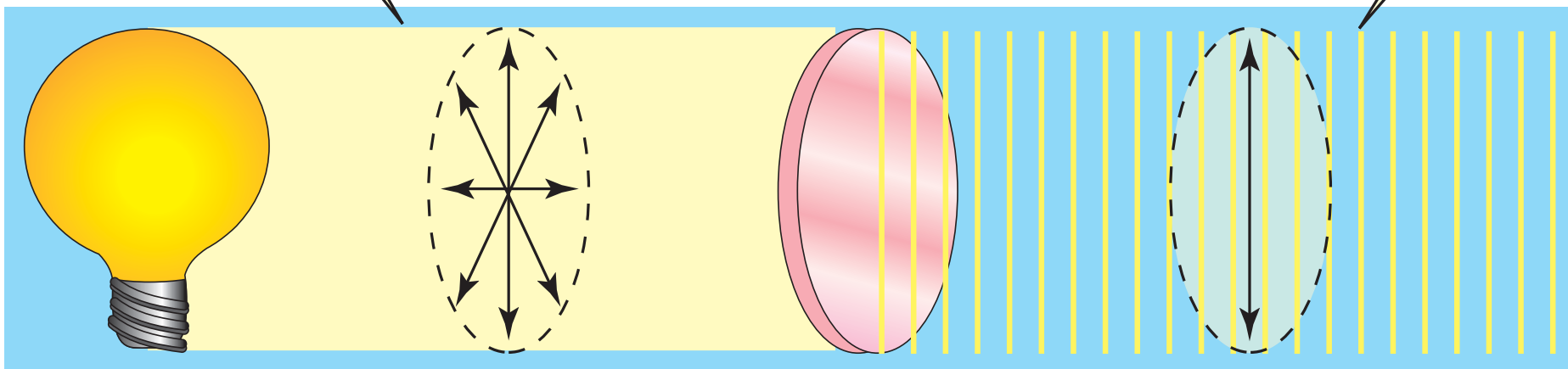


Figura 8.10
Il piano di vibrazione del campo elettrico nella luce polarizzata. In questo esempio il piano di polarizzazione è verticale.

le onde elettromagnetiche oscillano in tutte le direzioni

le onde elettromagnetiche oscillano in un unico piano

direzione della linea di propagazione della luce

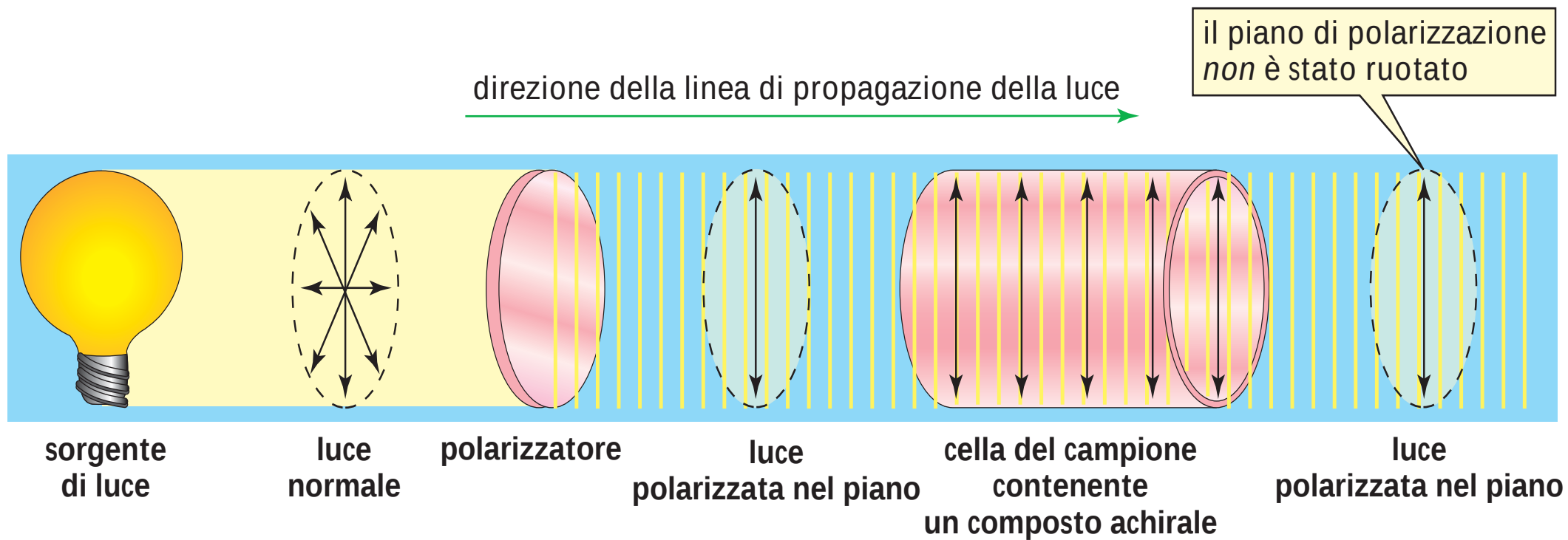


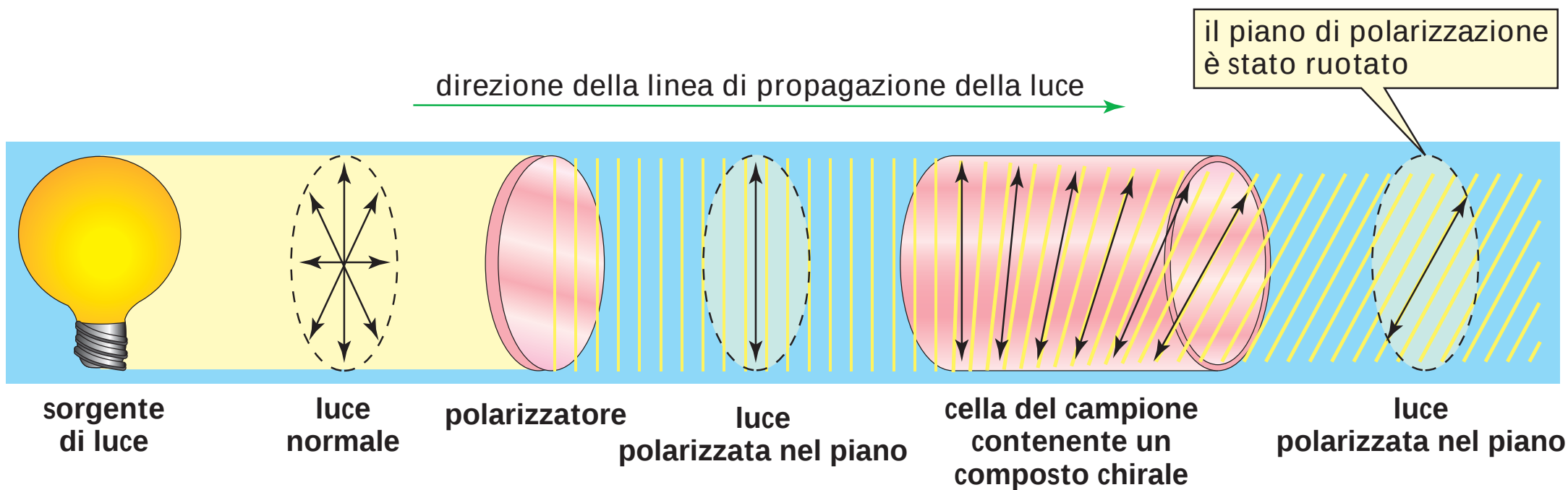
**sorgente
di luce**

**luce
normale**

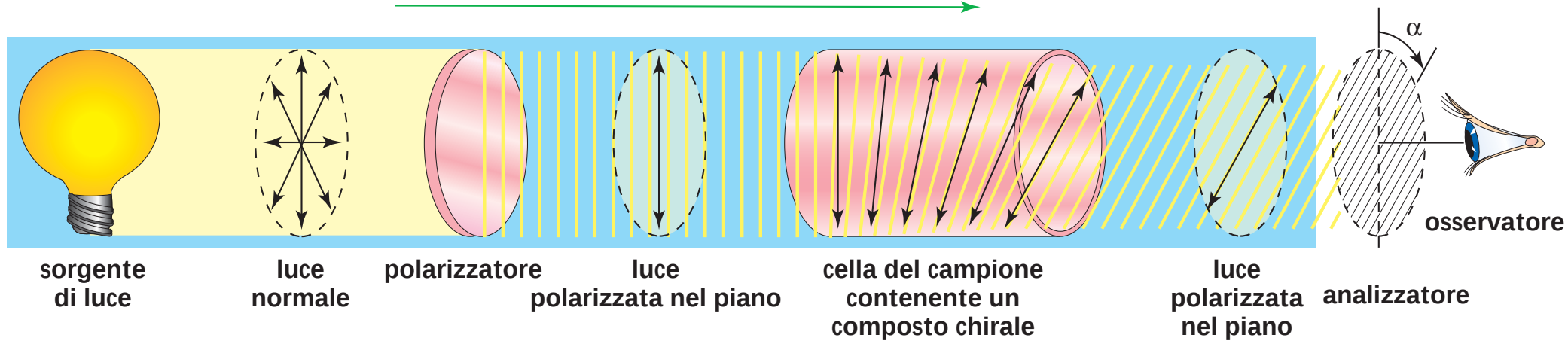
polarizzatore

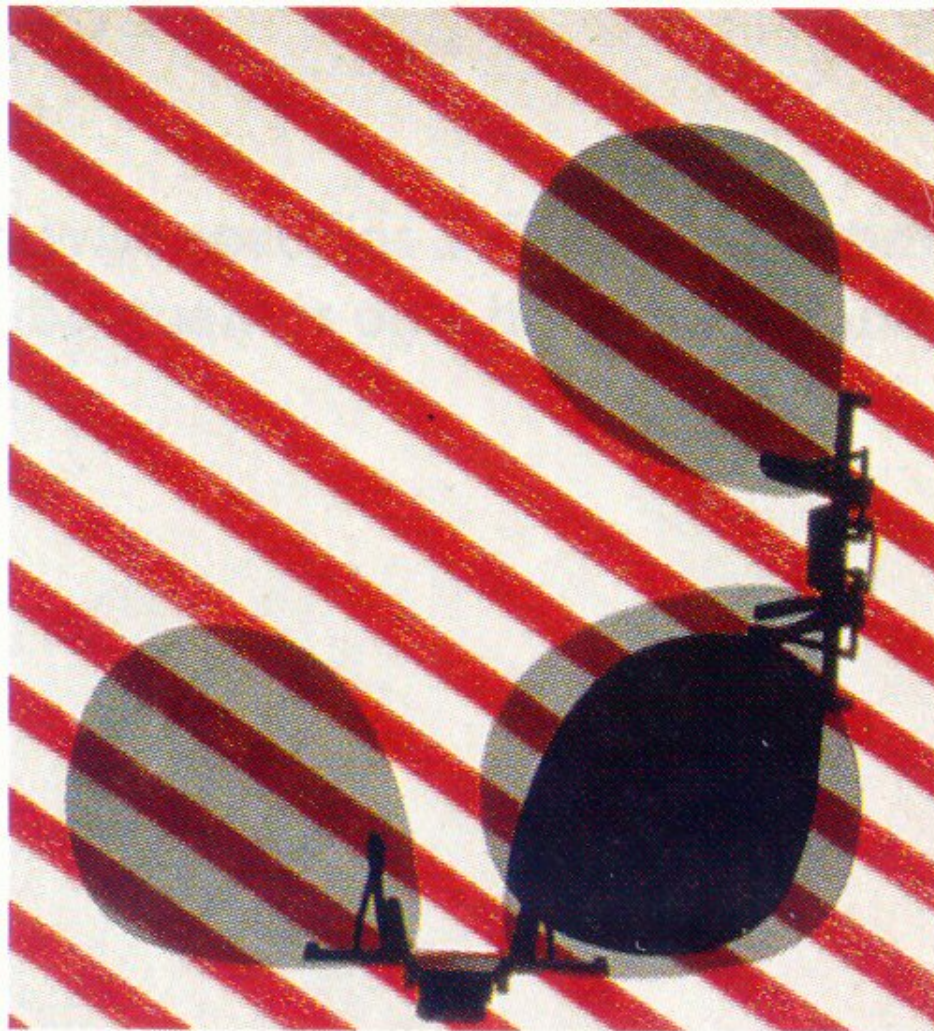
**luce polarizzata
nel piano**





direzione della linea di propagazione della luce





▲ When light is filtered through two polarized lenses at a 90° angle to one other, no light is transmitted through them.

Potere rotatorio specifico

$$[\alpha]_{\lambda} = \alpha / l \times c$$

$[\alpha]$ = potere rotatorio specifico

λ = lunghezza d'onda della luce
incidente

α = potere rotatorio sperimentale in
gradi

l = spessore del campione in dm

c = concentrazione della soluzione in g/ml



Un composto che ruota il piano della luce polarizzata si dice **otticamente attivo**.

Se un composto otticamente attivo ruota il piano della luce polarizzata in senso orario viene detto **destrogiro** e si indica con (+) (o con *d*).

Se un composto otticamente attivo ruota il piano della luce polarizzata in senso antiorario viene detto **levogiro** e si indica con (-) (o con *l*).

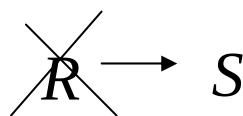
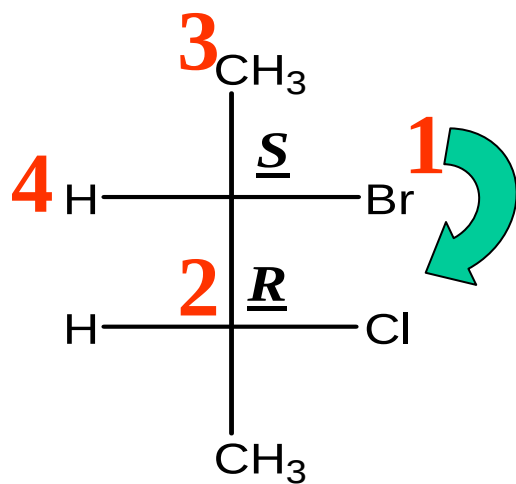
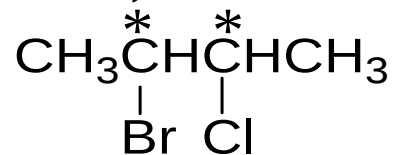
Non confondere i simboli (+) e (-) con *R* ed *S*.

(+) e (-) indicano la rotazione del piano della luce polarizzata.

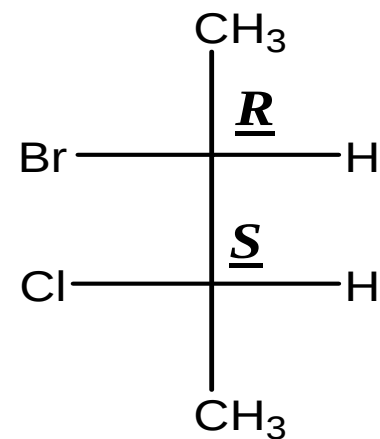
R ed *S* indicano la disposizione dei gruppi intorno al carbonio asimmetrico.

- Miscela racemica è una miscela formata da due enantiomeri in proporzioni uguali (50% di un enantiomero e 50% dell'altro)

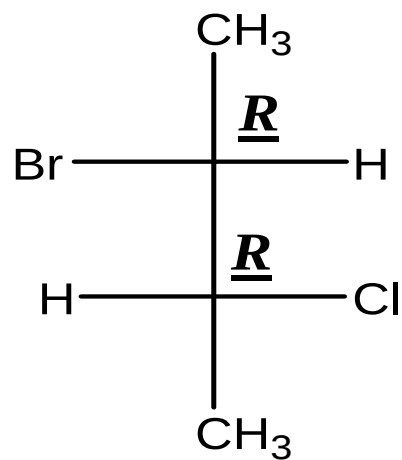
2-bromo, 3-clorobutano



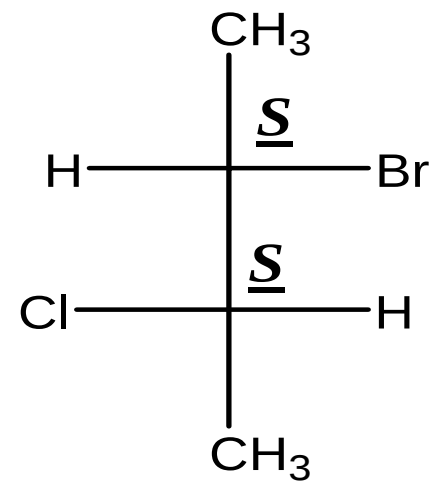
A



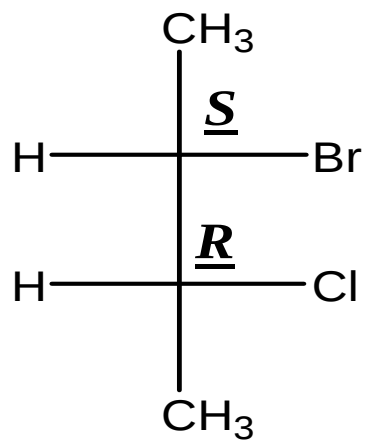
B



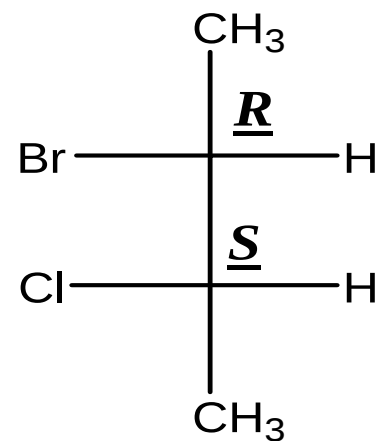
C



D

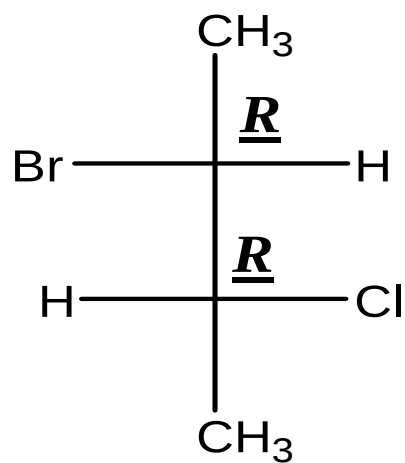


A

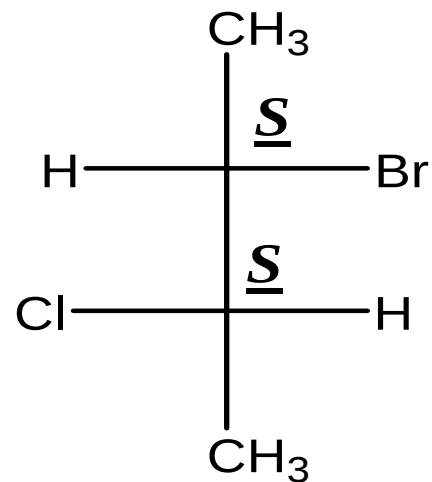


B

ENANTIOMERI

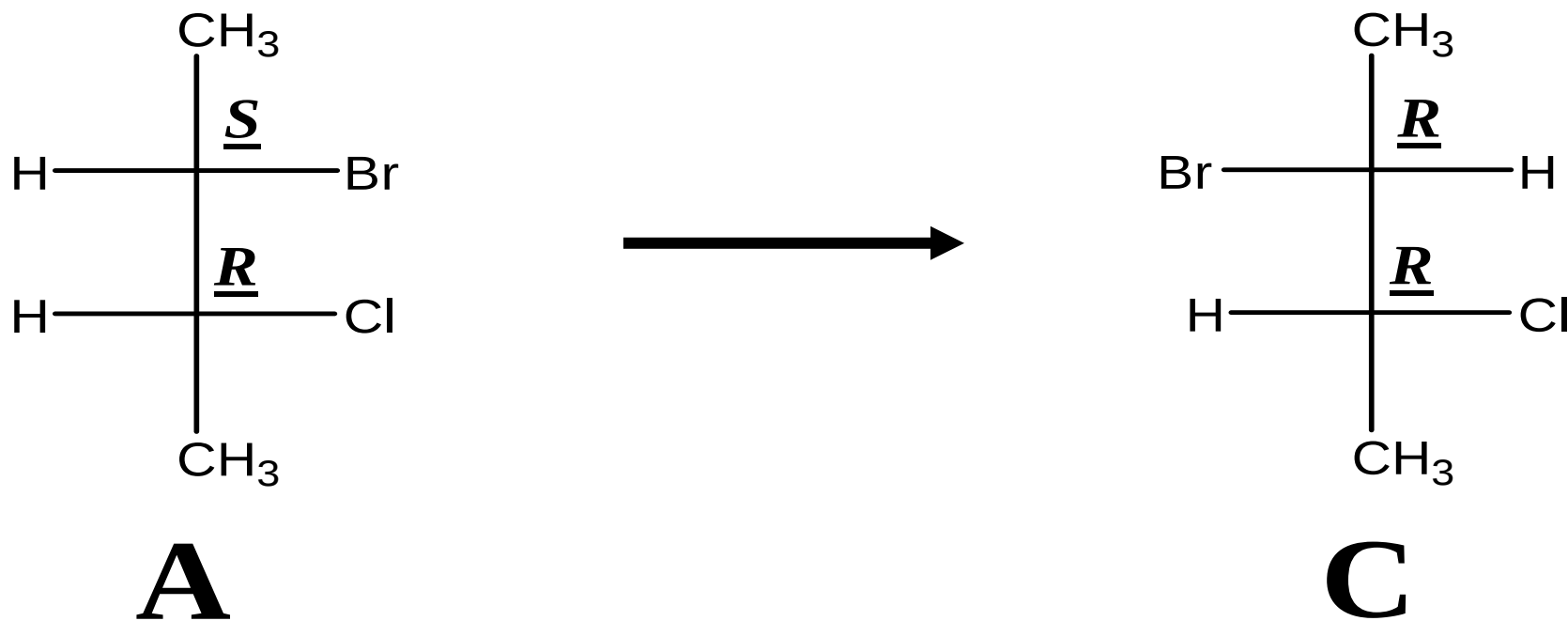


C



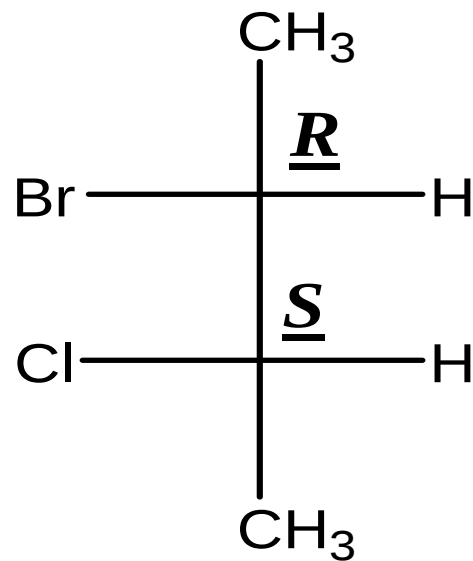
D

ENANTIOMERI

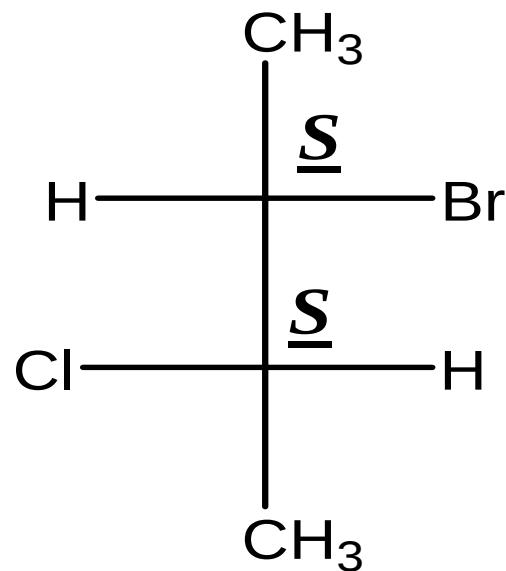


DIASTEREOISOMERI

I diastereoisomeri sono stereoisomeri che **non** sono l'uno l'immagine speculare dell'altro

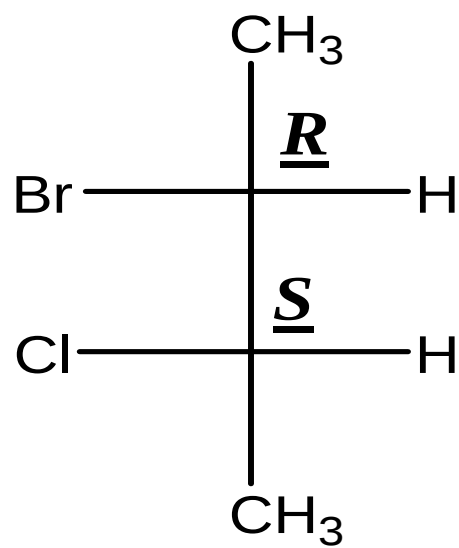


B

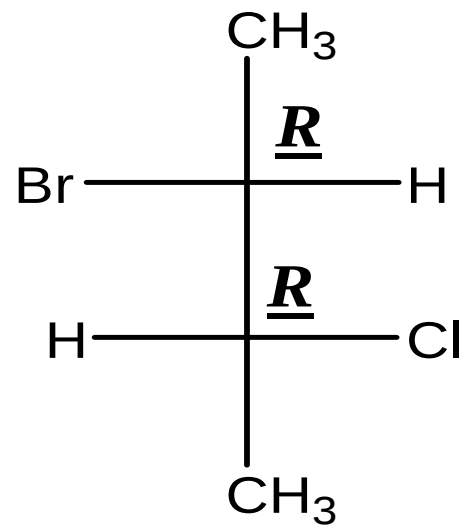


D

DIASTEREOISOMERI

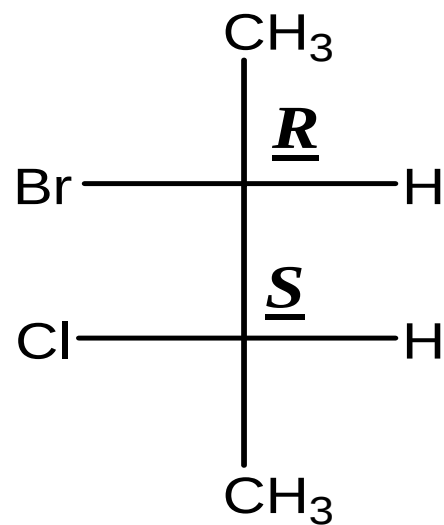


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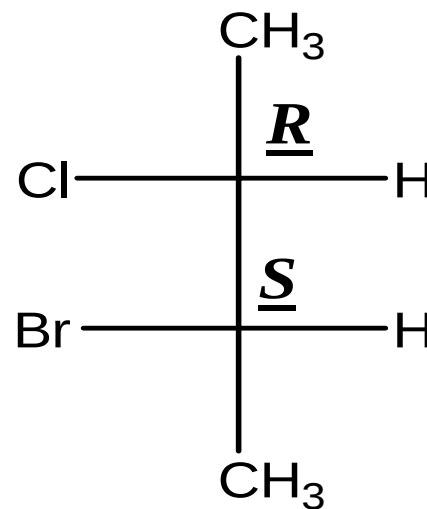


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DIASTEREOISOMERI



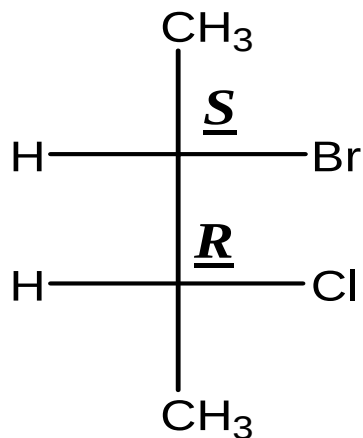
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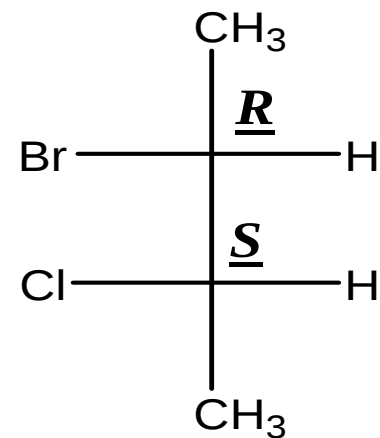
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DIASTEREOISOMERI

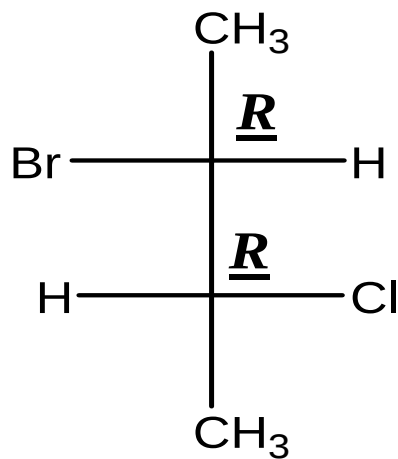
DUE COPPIE DI ENANTIOMERI



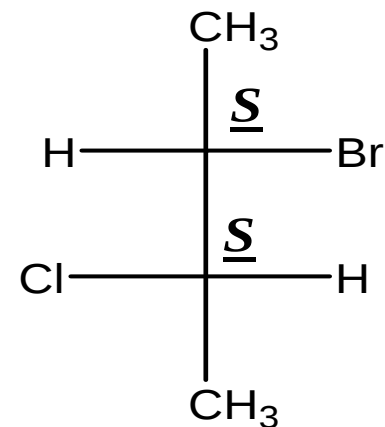
A



B



C



D

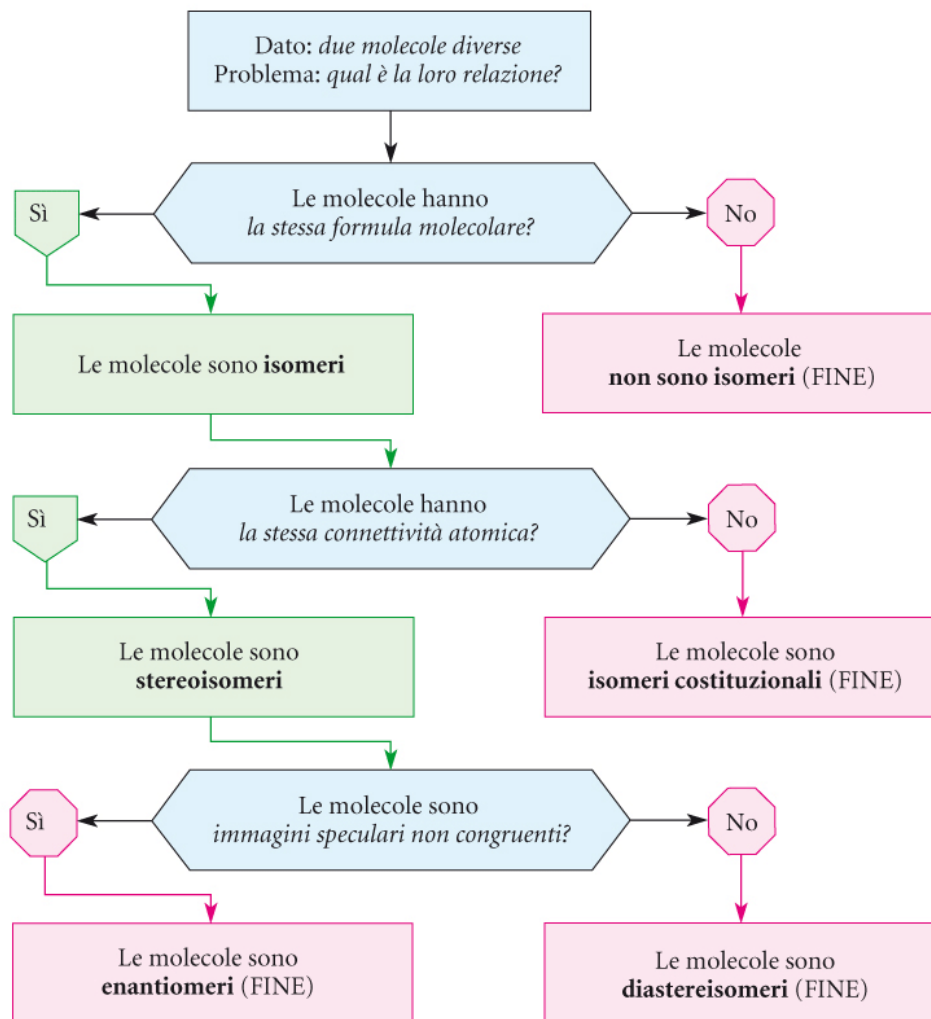


Figura 6.11 Metodo sistematico per analizzare la relazione tra due molecole non identiche. Data una coppia di molecole, spostati dall'alto dello schema verso il basso, ponendoti ciascuna domanda nell'ordine e seguendo le diramazioni appropriate. Quando giungi a una casella rossa con la scritta "FINE", la relazione isomerica è determinata.

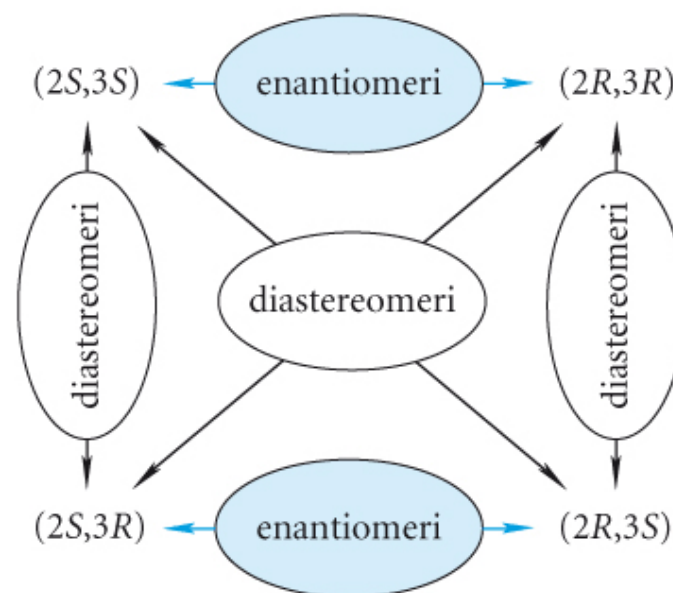
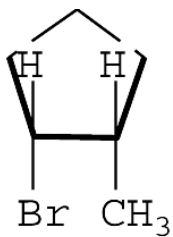
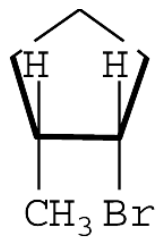


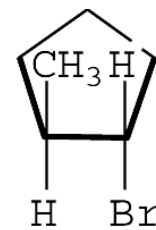
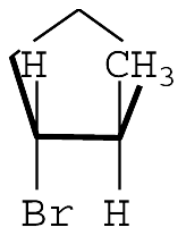
Figura 6.10 Relazioni tra gli stereoisomeri del 2,3-pentandiolo. La coppia di stereoisomeri alle estremità di ciascuna freccia a doppia punta ha la relazione indicata all'interno della freccia. Nota che gli enantiomeri hanno configurazioni diverse a entrambi i carboni asimmetrici.

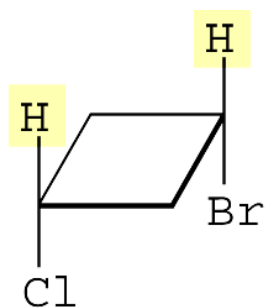


cis-1-bromo-2-metilciclopentano

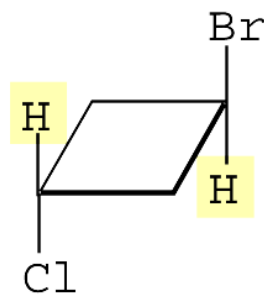


trans-1-bromo-2-metilciclopentano

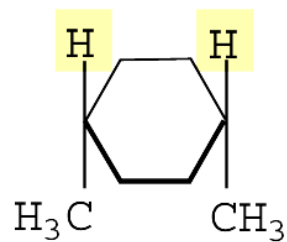




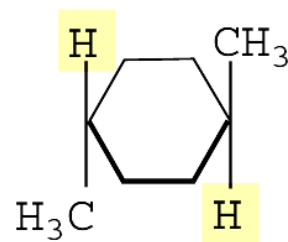
cis-1-bromo-3-clorociclobutano



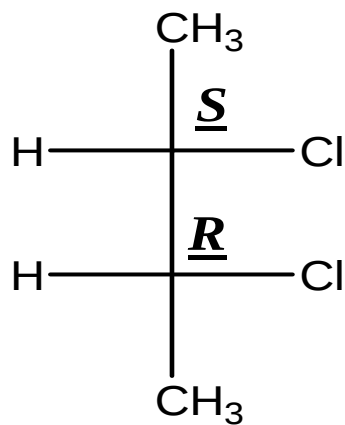
trans-1-bromo-3-clorociclobutano



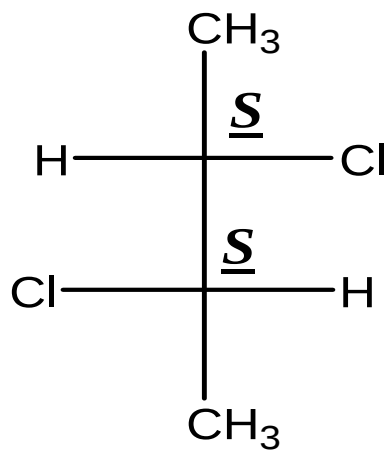
cis-1,4-dimetilcicloesano



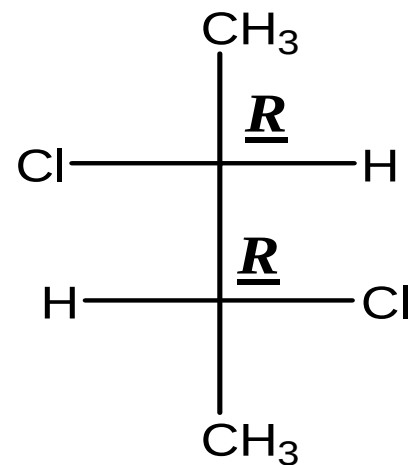
trans-1,4-dimetilcicloesano



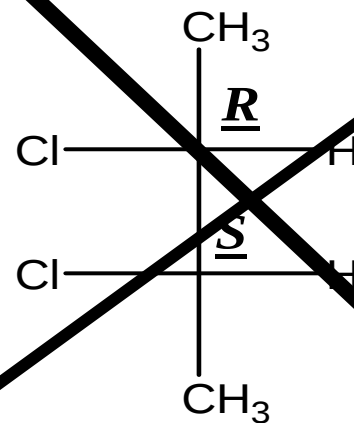
A



C

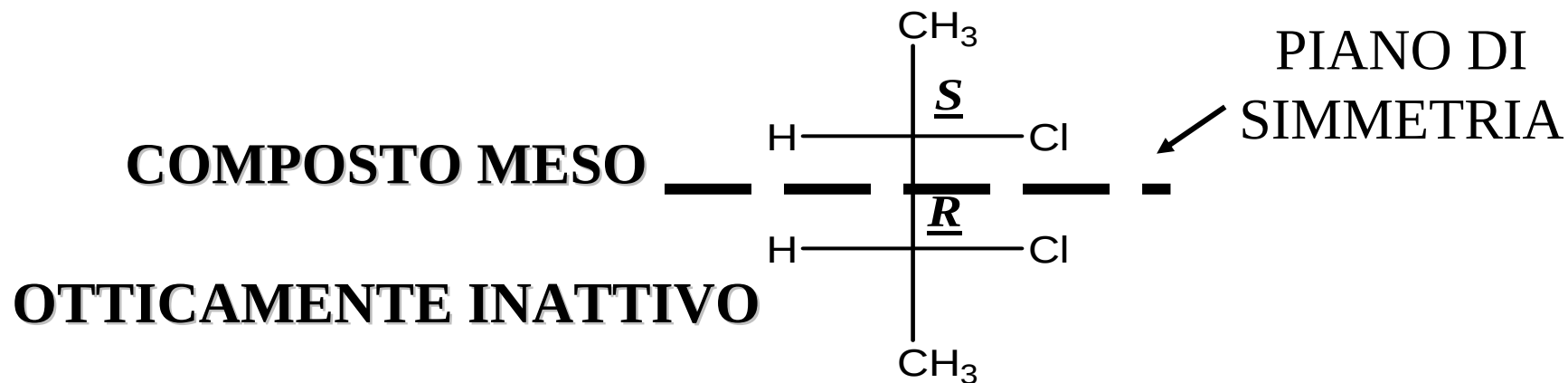


B



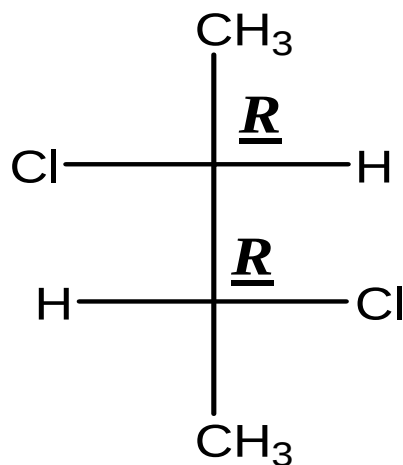
D

- Un **composto meso** è una molecola achirale in quanto è sovrapponibile alla sua immagine speculare.
- Esso presenta un **piano di simmetria** che divide la molecola in due parti, una l'immagine speculare dell'altra.

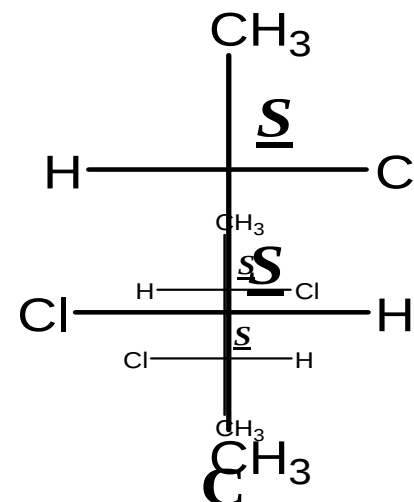


A

COPPIA DI ENANTIOMERI



B



C