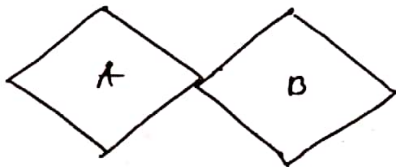


Spiro compound

(5)

When two or more rings are joined by single tetrahedral carbon then it is called Spiro compound.

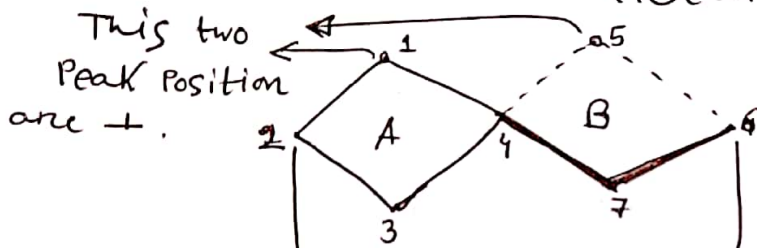
Spiro means \rightarrow Twist



\leftarrow A and B both rings are not present in same plane; they twist to each other. So actual

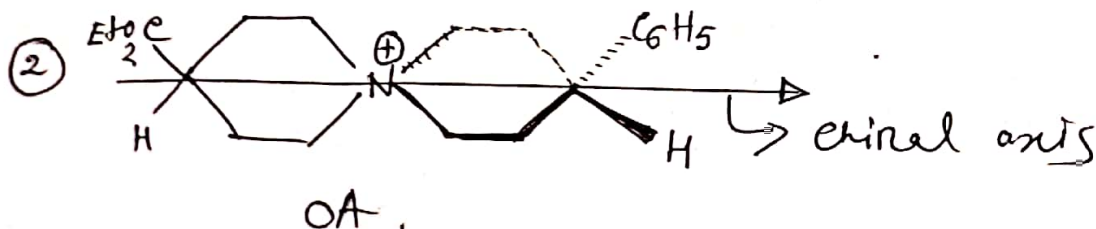
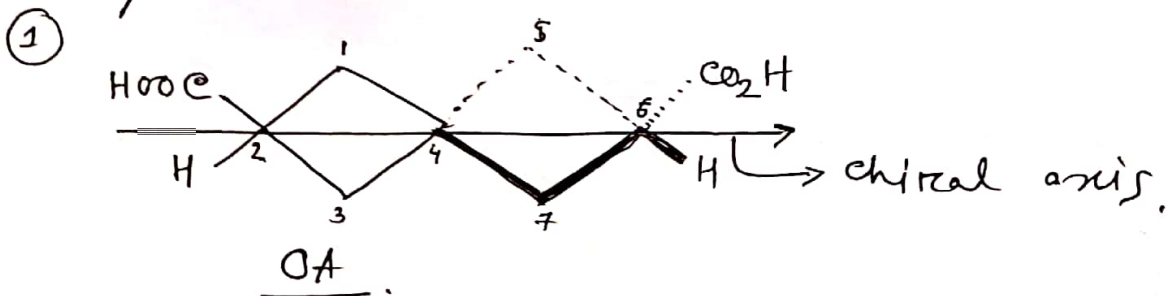
Spiro comp.

Picture is

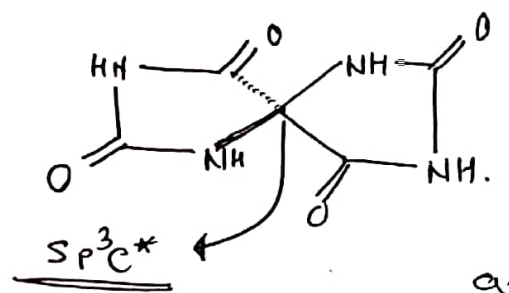


Group or atoms then A and B

both are unsymmetrical and there will be a chiral axis passing through C_2/C_6 . For example



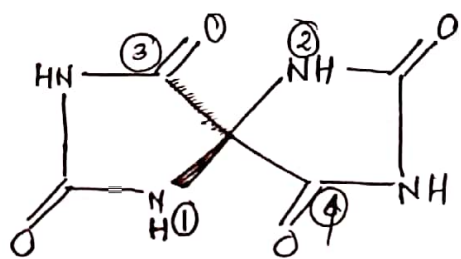
3



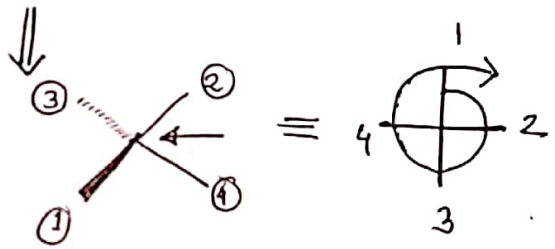
show this example.
 Here this compound is optically active both for axial chirality and also for central chirality.

HW - Find R/S on this centre?

see below

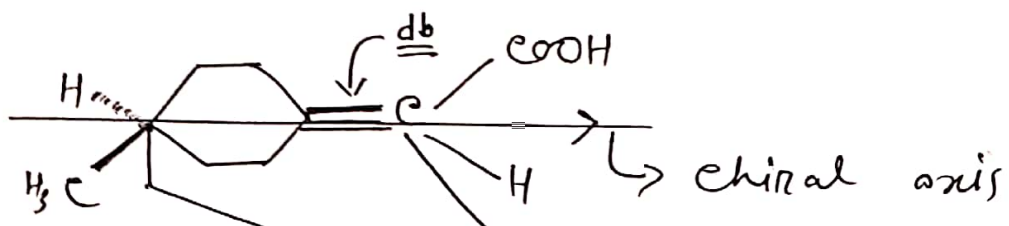


Priority sequence:



R → S
 (as 4 is in horizontal not below the plane)

Hemispitane or Alkylidene cyclohexane

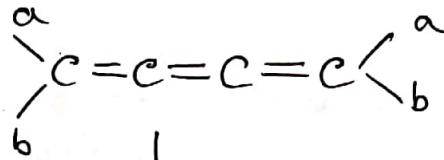
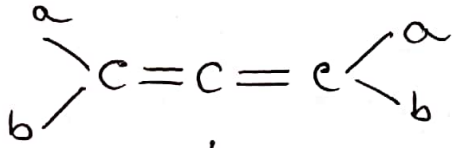


Condition:-

This position should contain two different group or atoms. to make both cyclic and db. system unsymmetrical. so it is optically active.

Allene Compounds

Cumulative (successive) double bonded compound is called allene compounds.

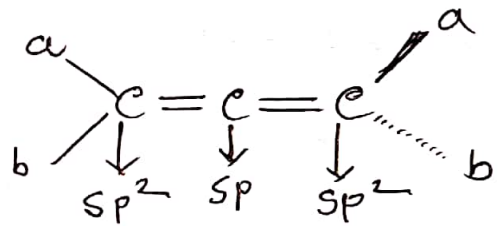
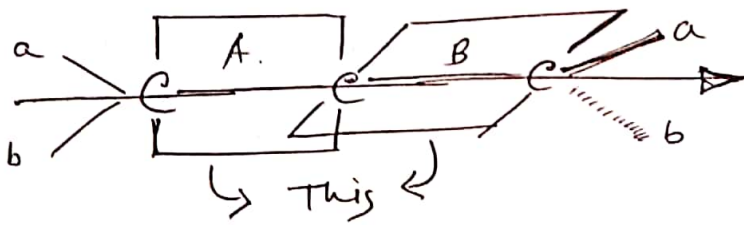


Allenes with even no. of db.

Allenes with odd no. of db. ↓ Shows geometrical isomerism when $a \neq b$.

↓
This type of comp. shows optical isomerism when $a \neq b$.

str. of allene.



↳ This ↳
2 Planes are perpendicular to each other.

Both A and B planes are unsymmetrical. ∴ $a \neq b$. So this comp. has chiral axis. and it will show optical activity due to presence of axial chirality.

eg 2,3-Pentadiene... OA and resolvable

