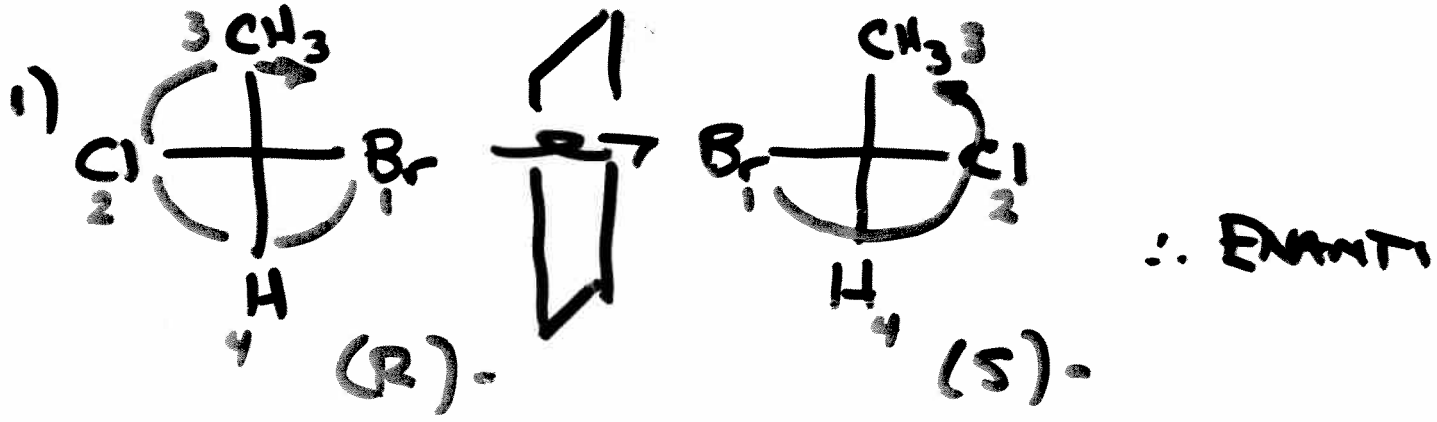
FISCHER PROJECTIONS

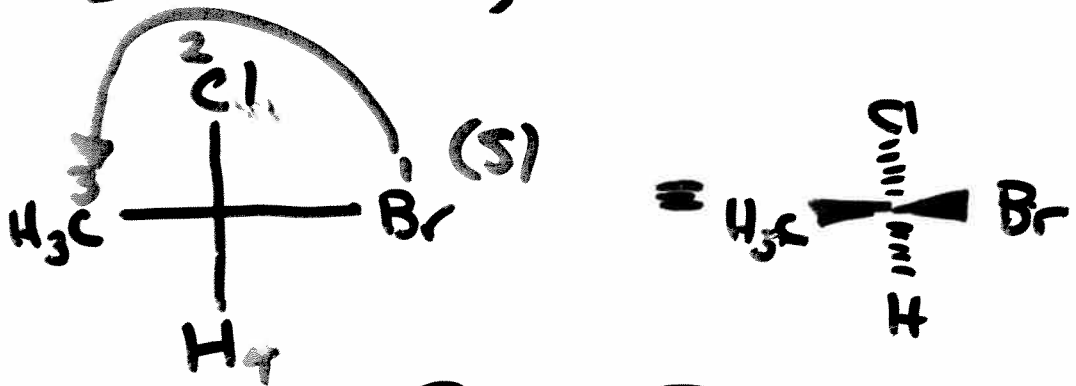
WHAT HAPPENS IF?

1) SWITCH 2 GROUPS. - ENANTIOMER -
2) 3 SITE XCHANGE - SAME
3) ROTATE BY 90° - ENANTIOMER
4) ROTATE BY 180° - SAME.

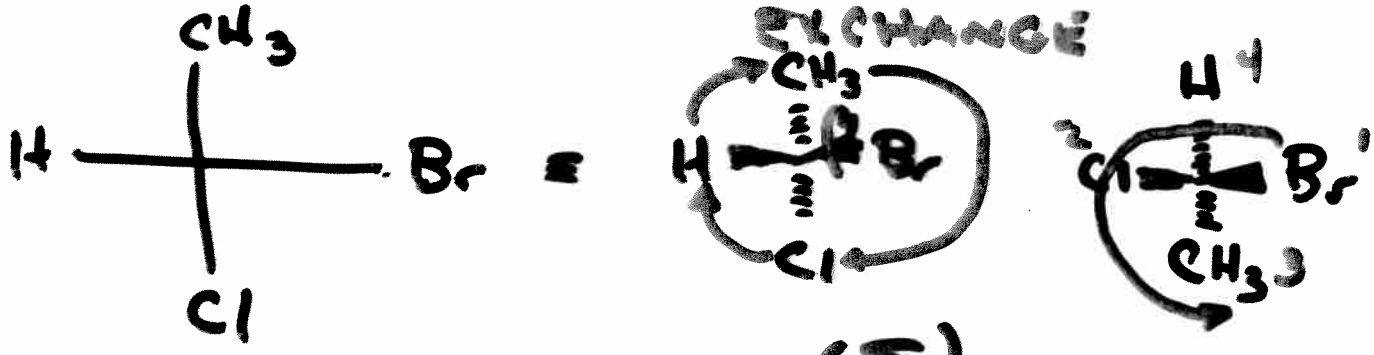


∴ ENANTI

SWITCH 2&3

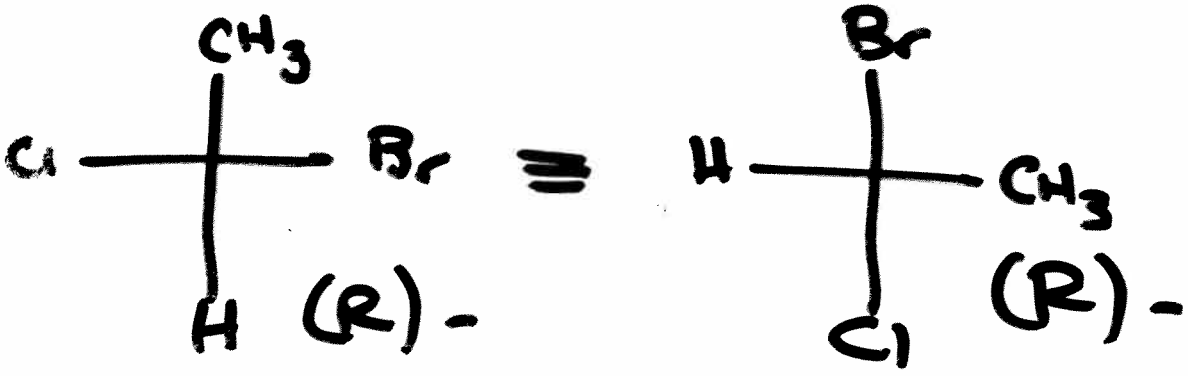


SWITCH (4) + (2)



(5)-

COROLLARY - IF YOU DO 2 SWITCHES OF 2, GET ORIGINAL BACK.



(R)- (R)-

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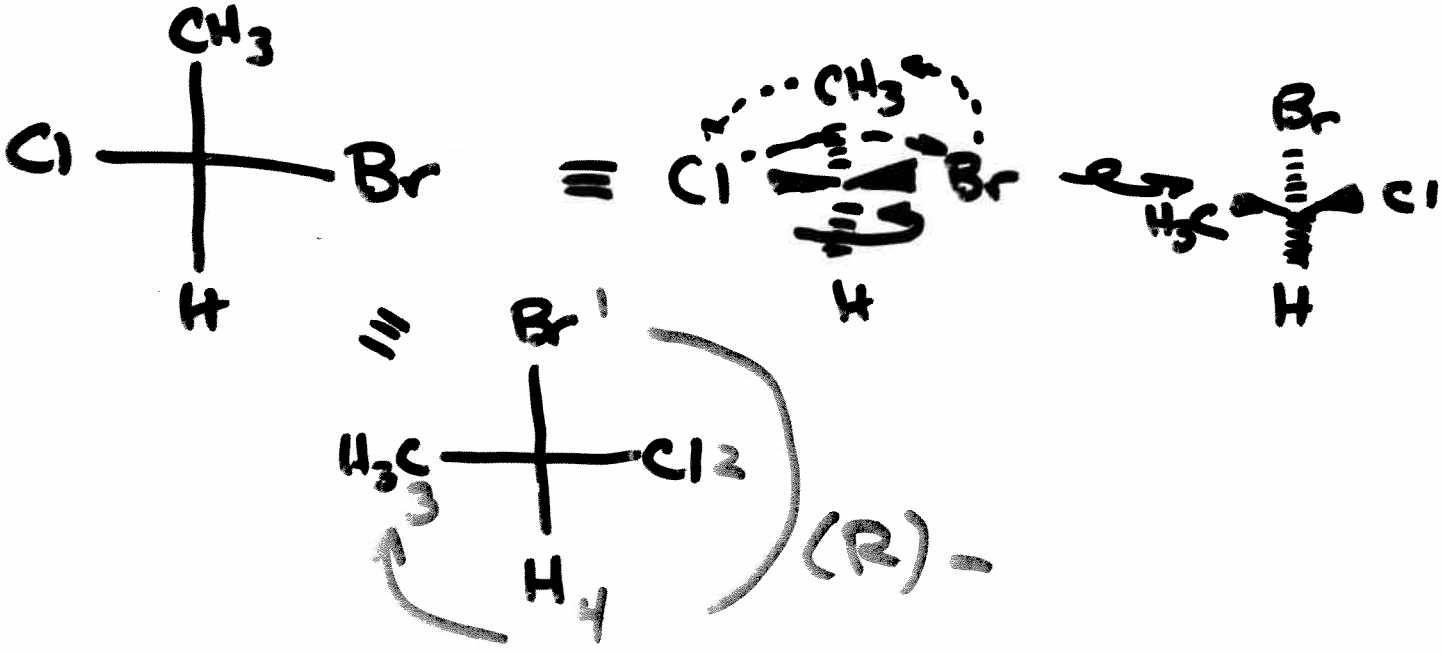
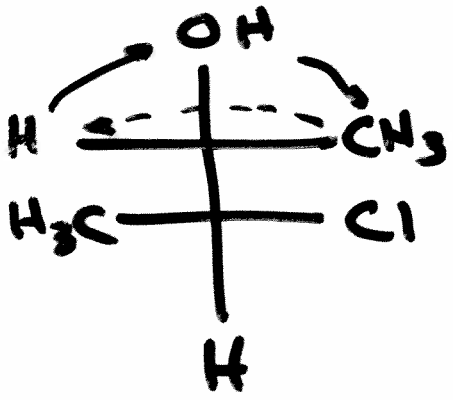
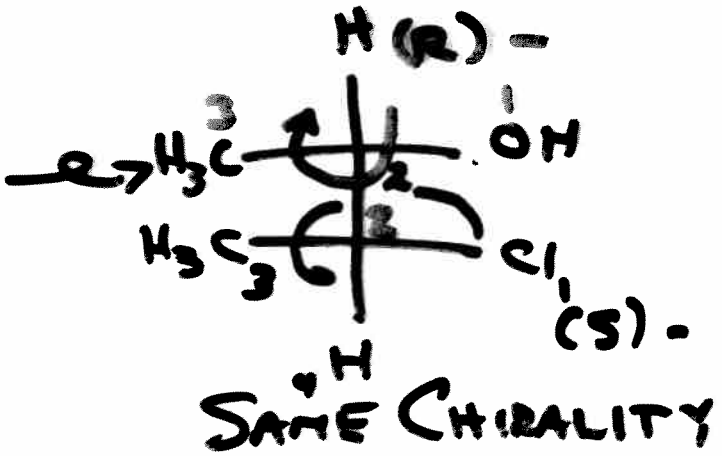
2) 3 SITE EXCHANGE



(R)-

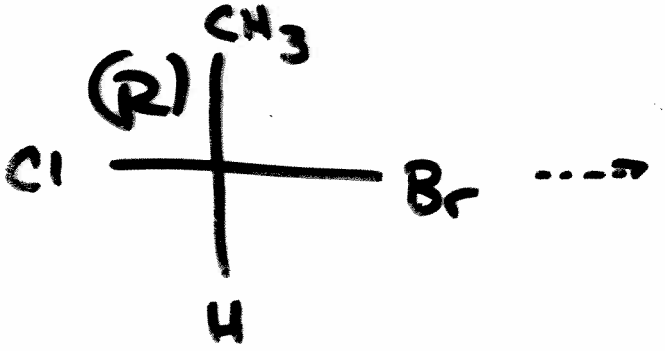


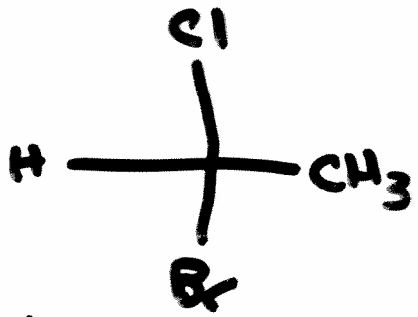


SAME CHIRALITY

∴ GIVES SAME ENANTIOMER

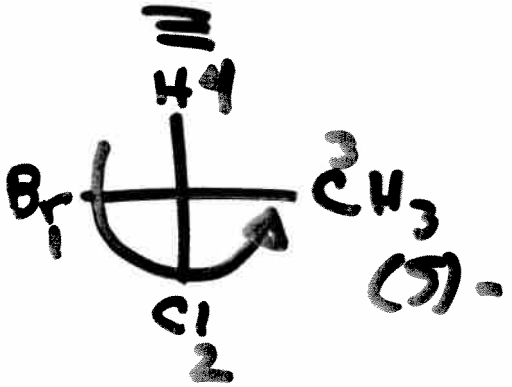
3) 90° ROTATION.



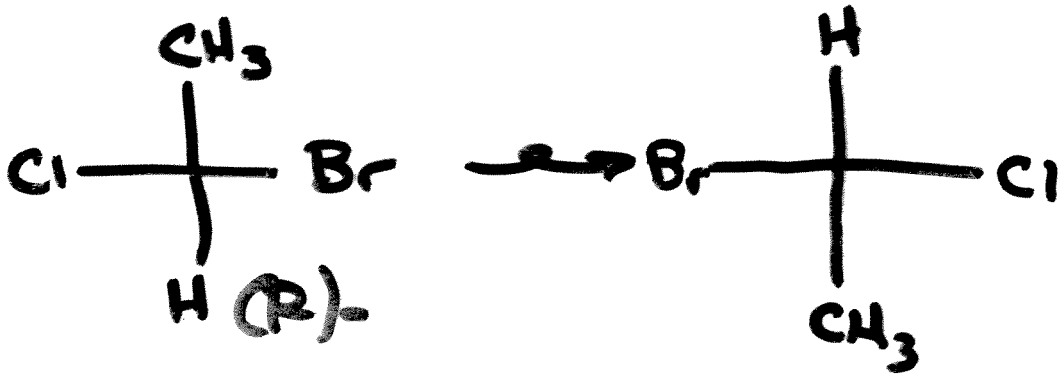


WHAT IS THIS?

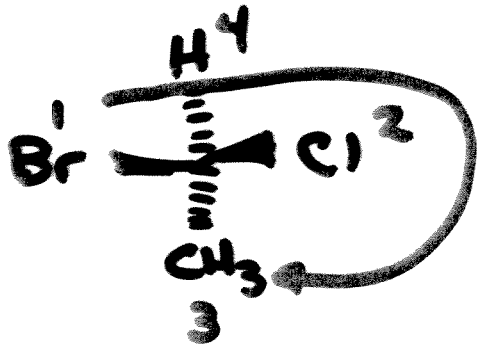
∴ A 90° ROTATION INVERTS THE ENANTIOMER YOU ARE DRAWING.



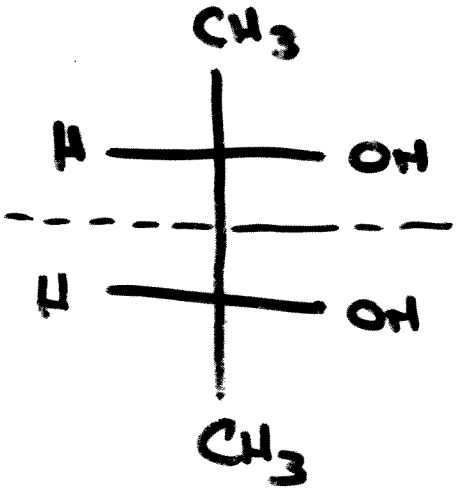
4) 180° ROTATION - SAME ENANT.



SAME AS 2 EXCHANGES OF TWO
∴ SAME.



(R)-

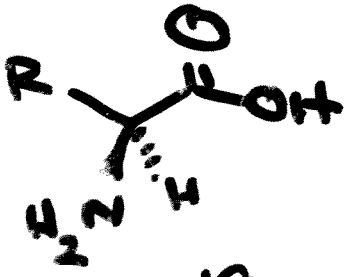


INTERNAL MIRROR PLANE

∴ MESO FORM.

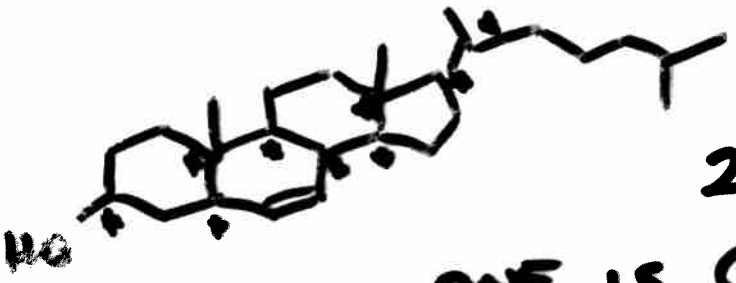
WHO CARES?

- MANY NATURAL MOLECULES ARE 1 ENANTIOMER



AMINO ACIDS, BUILDING BLOCK OF PROTEINS.

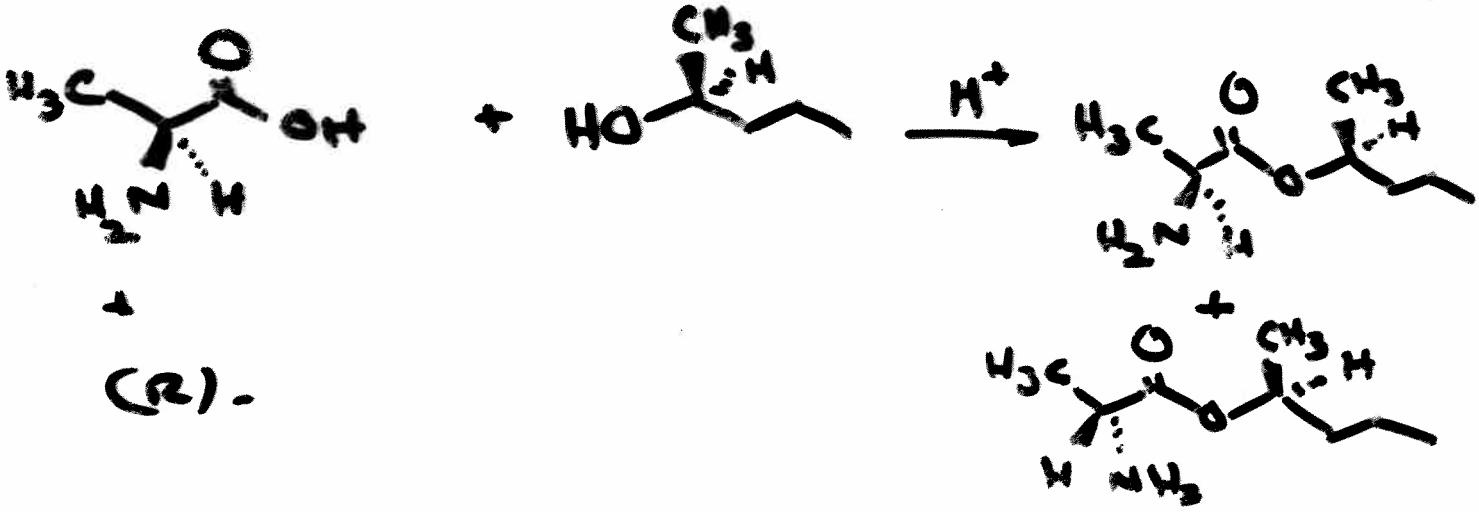
19 OF 20 ARE CHIRAL. 18 ARE (S)-



$2^9 = 512$ CPDS.

ONE IS CHOLESTEROL.

HOW DO YOU SEPARATE ENANTIOMERS

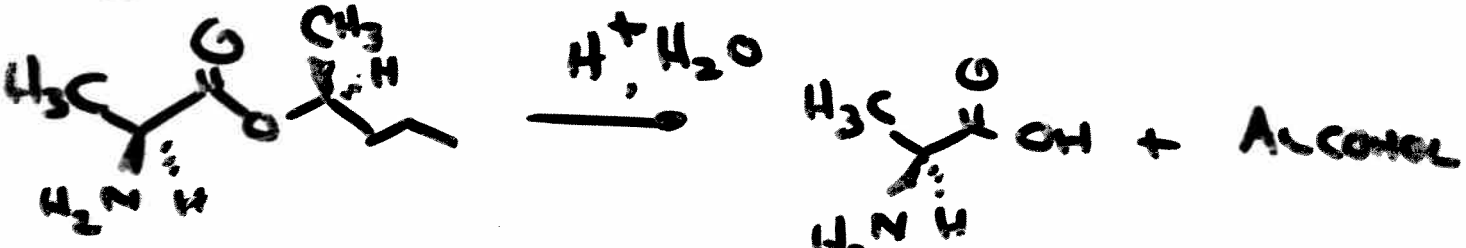


(R)-

DIASTEREOMERS

∴ CAN SEPARATE THEM.

GET



PURE (S) - PURE.

CALLED.... CLASSICAL RESOLUTION.