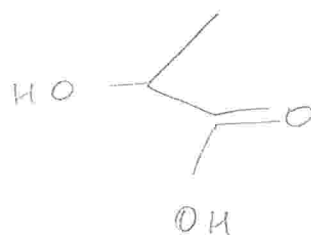


# CHM151: CHIRALITY



ACHIRAL

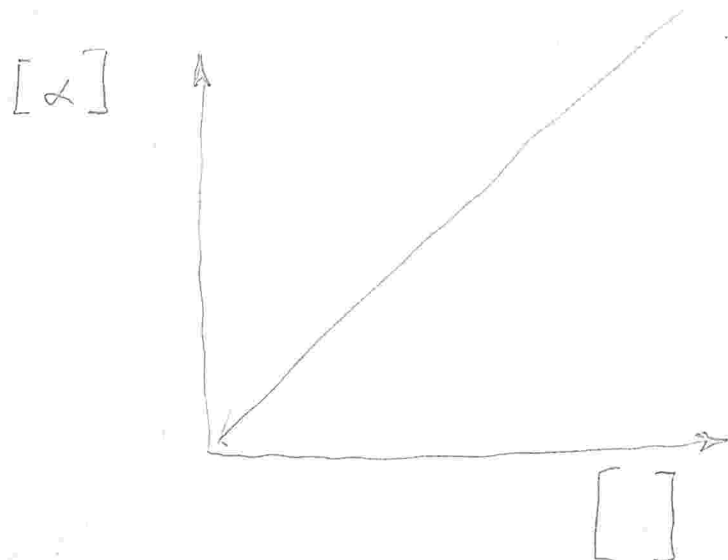


CHIRAL

ALL OPTICAL ACTIVITY IS DUE TO CHIRAL COMPOUNDS.  
ROTATING THE PLANE OF THE IRRADIATED LIGHT.

"NEAT" SUBSTANCE

PURE SUBSTANCE  
WITHOUT ANY  
SOLVENT PRESENT.



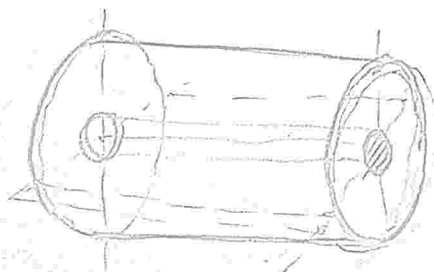
— WANTED, BUT NOT ALWAYS  
THE CASE

REQUIRED DATA FOR SP. ROT  $[\alpha]_D$ :

• SOLVENT

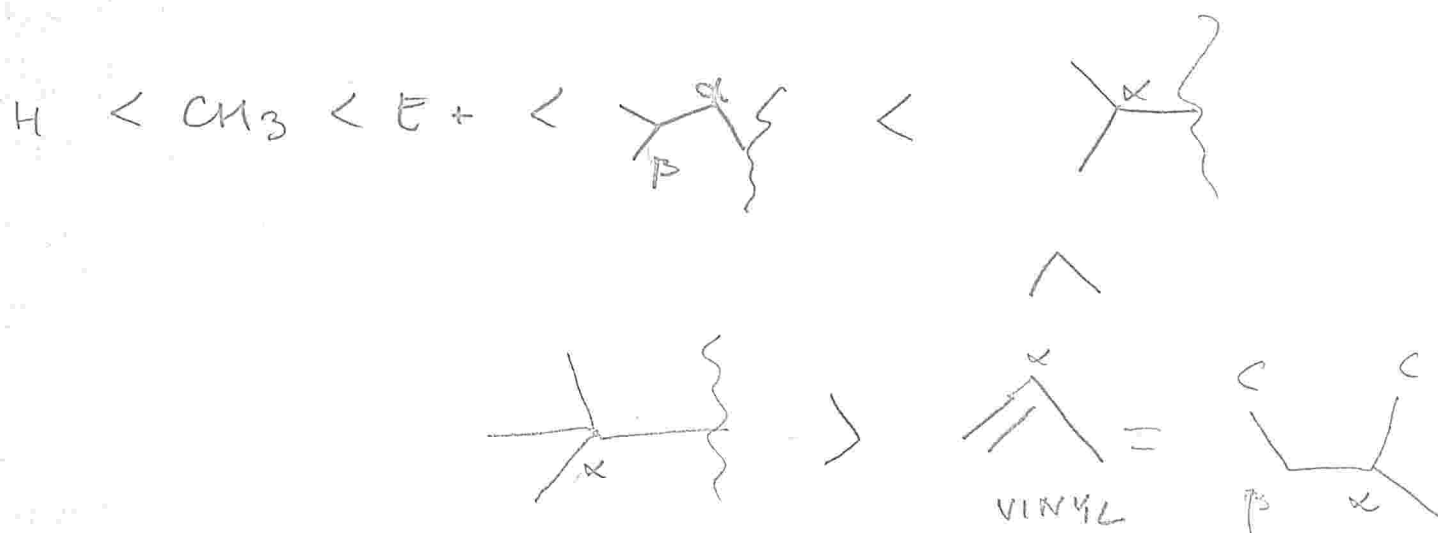
•  $[C]$ 

SPECIFIC ROTATION



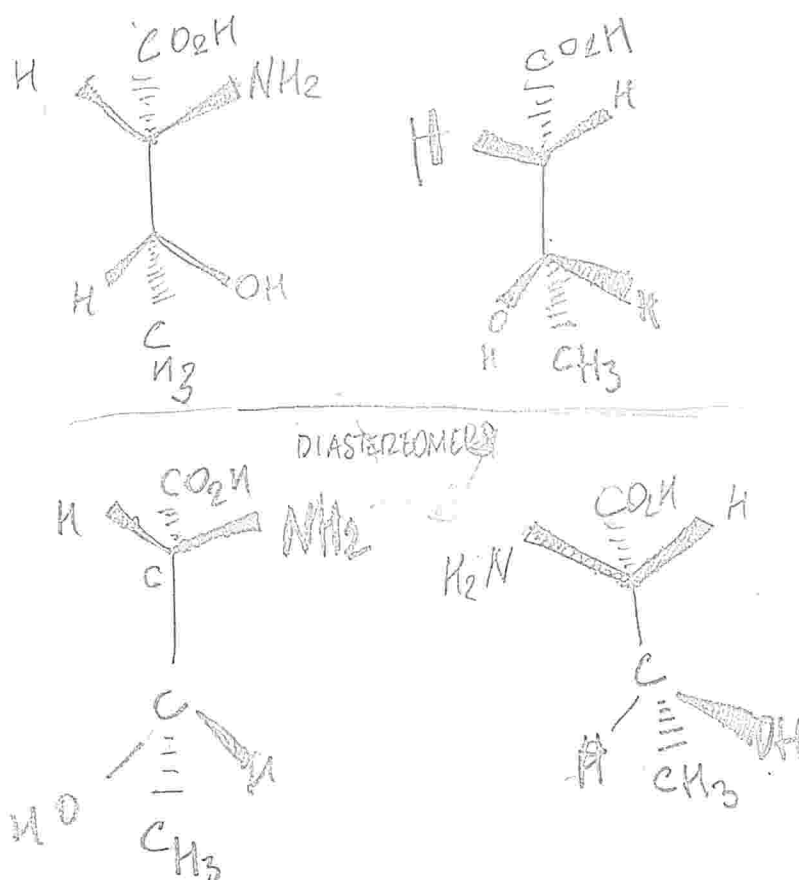
ROTATION OBSERVED  
FOR 1 g/mL IN  
SOLUTION IN CELL WITH  
10 CM PATH USING  
LIGHT FROM SODIUM  
METAL VAPOUR (589 nm)

# CIP RANKINGS



## DIASTEREOMERS

FISHER PROJECTION



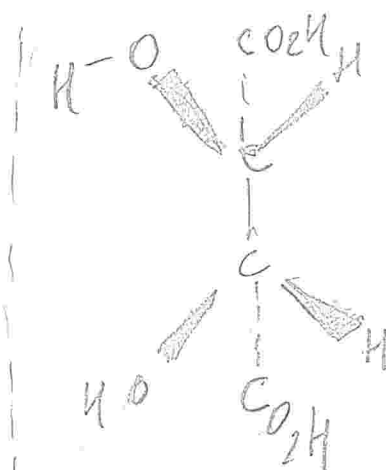
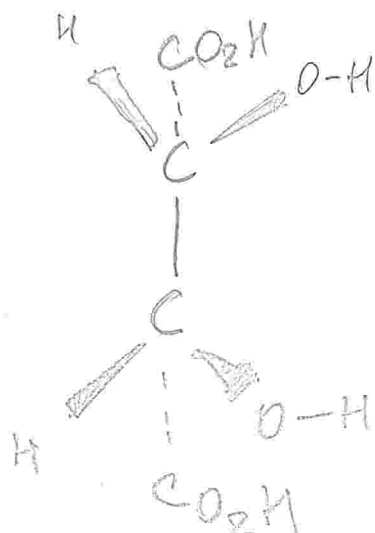
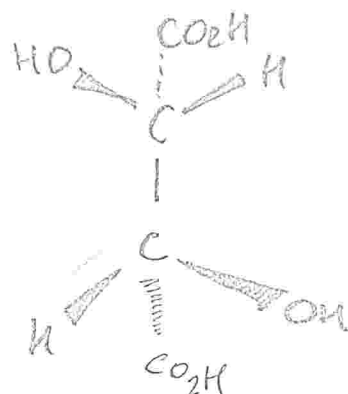
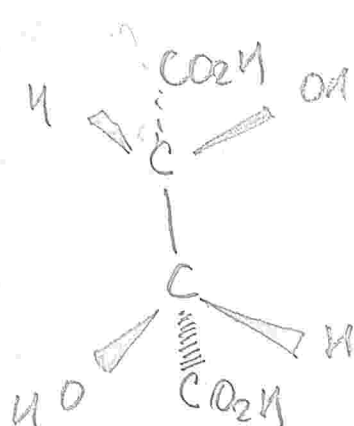
? EXAMPLES OF DIASTEREOMERS

? EXAMPLES OF ENANTIOMERS

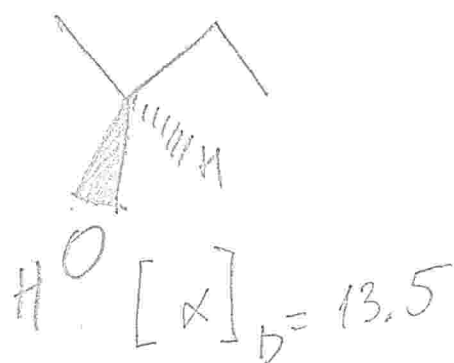
# MESO COMPOUNDS

CONTAIN CHIRALITY CENTRES  
BUT ARE NOT CHIRAL

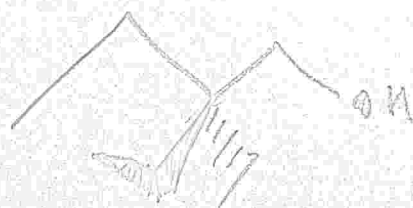
## EXAMPLE



$$[\alpha]_D = +33.2$$



$$[\alpha]_D = +13.5$$



$$[\alpha]_D = -5.8$$



$$[\alpha]_D = +4.0$$

# PROBLEMS ON CHIRALITY AND MESO COMPOUNDS

NAME:

