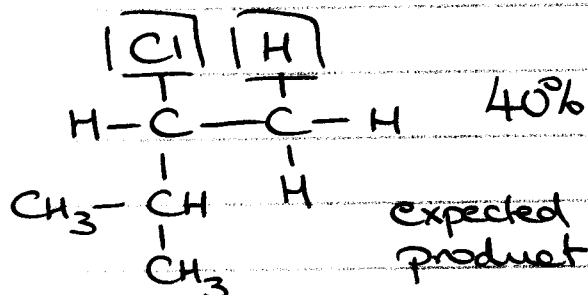
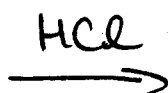
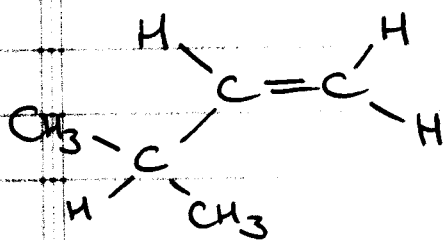
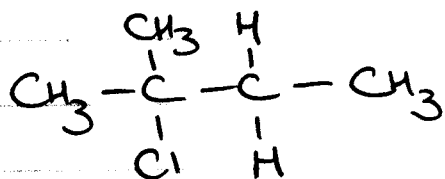


- ① CARBOCATION REARRANGEMENT
- ② ADDITION of Br₂/Cl₂
- ③ ADDITION of HOCl/HOBr
- ④ OXYMERCURATION

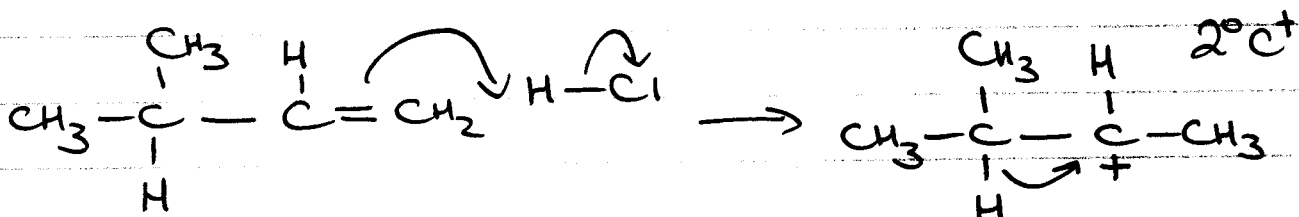
① C⁺ REARRANGEMENT

2-CHLORO-3-METHYLBUTANE

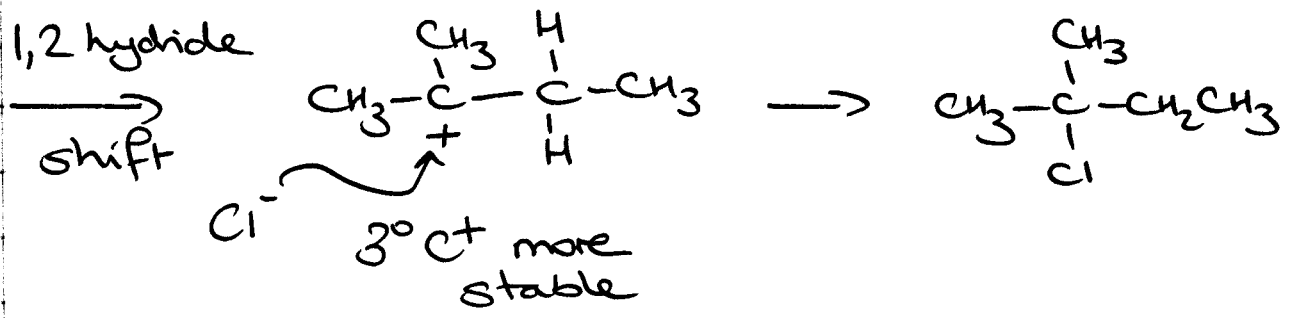
- other 60%



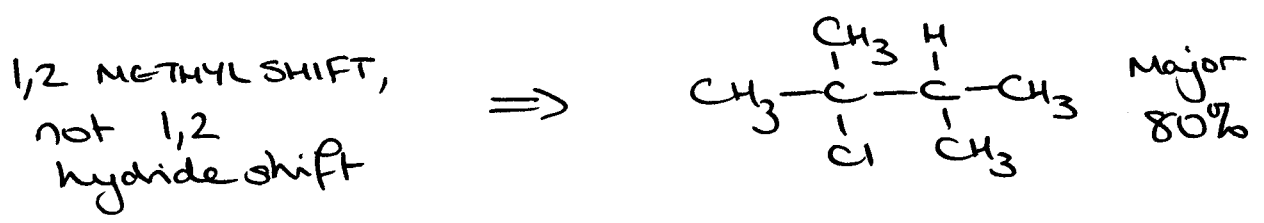
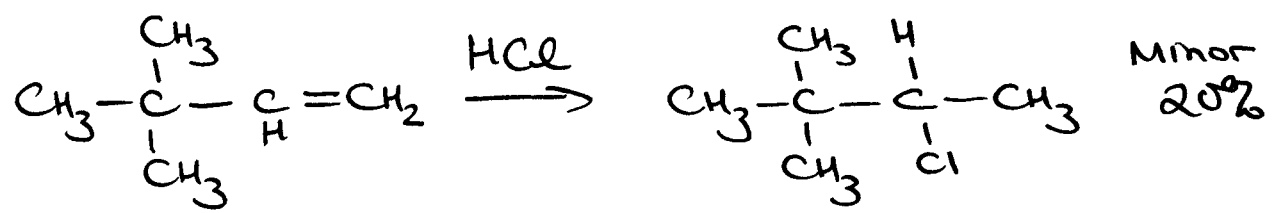
2-CHLORO-2-METHYLBUTANE

WHY? — MECHANISM

2



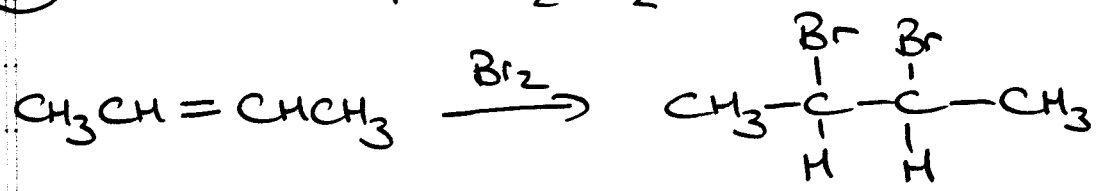
Rearrangement is possible anytime you form a CARBOCATION, so can also happen w/ ACID catalyzed hydration



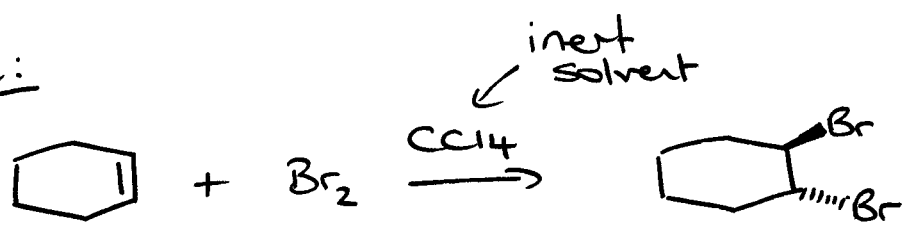
2° C⁺ → 3° C⁺
(rarely go in the reverse direction)

Don't worry about 1° C⁺ as in reality they do not form during reactions in solution as they are so unstable

② ADDITION OF Br₂/Cl₂

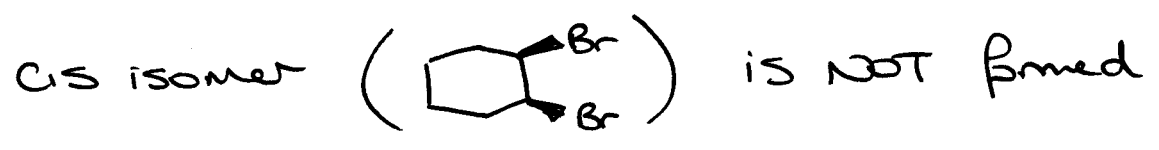


note:



trans 1,2 dibromocyclohexane

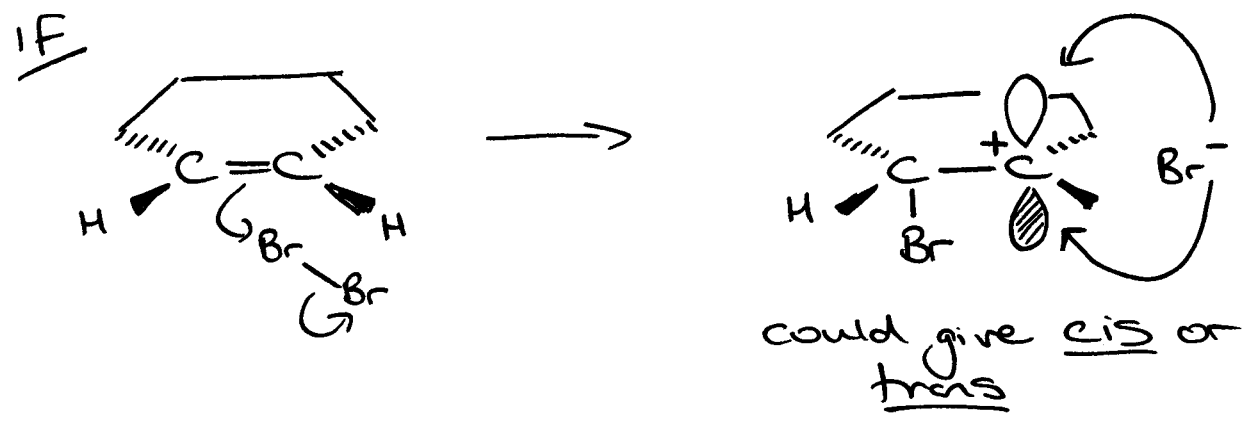
STEREOSPECIFIC reaction



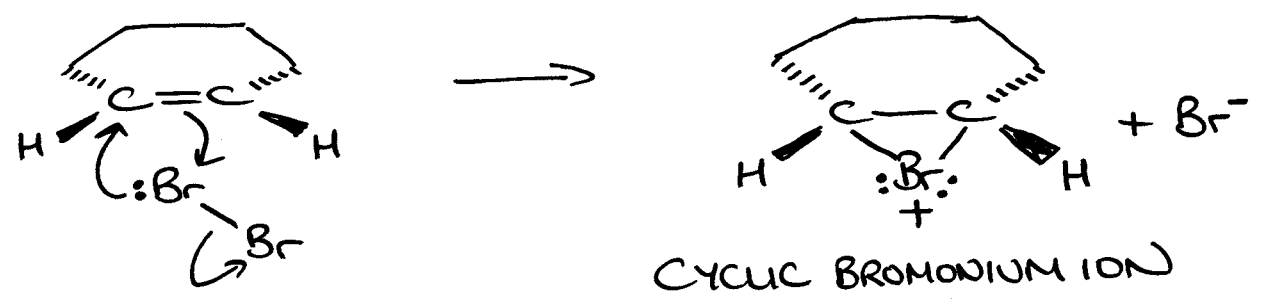
NOTE:

STEREOSPECIFIC exclusion (REGIO)
 STERESELECTIVE preference

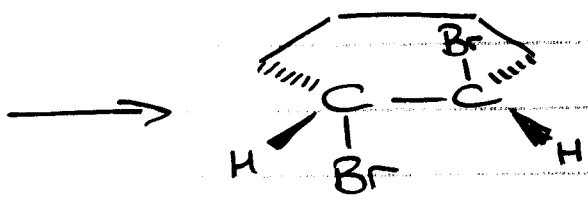
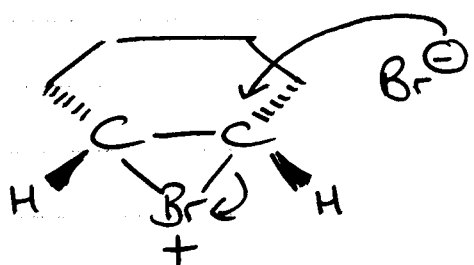
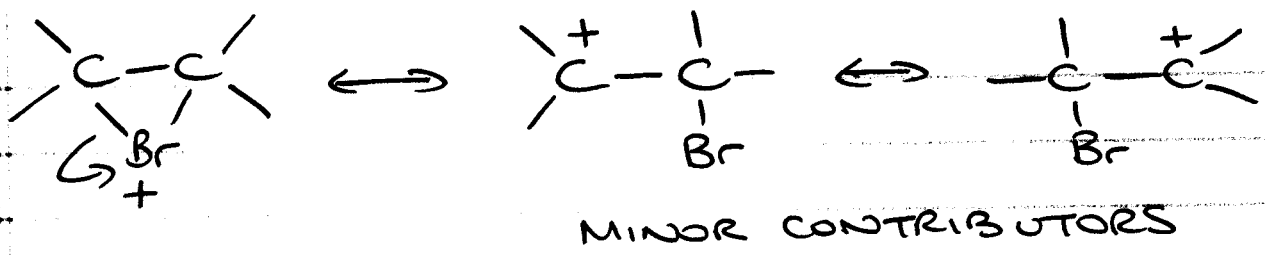
- consider mechanism



mechanism is:



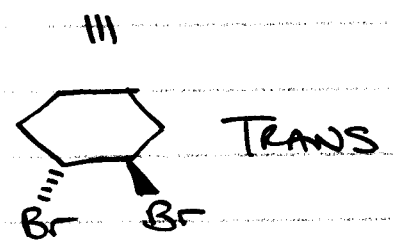
(4)



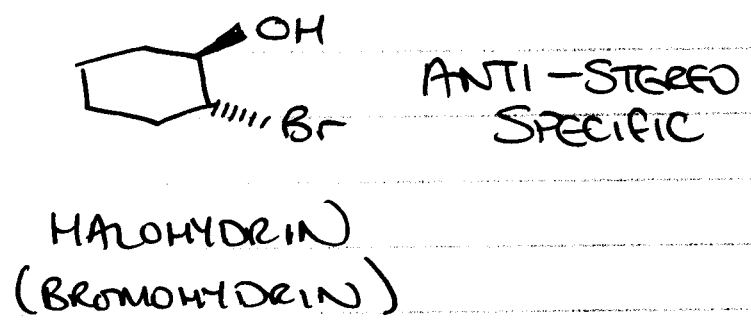
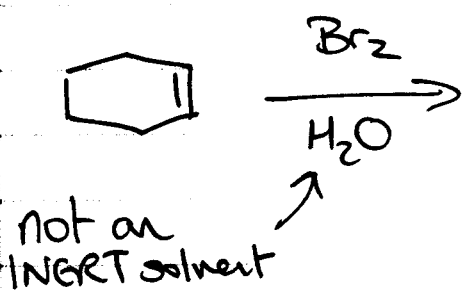
Bottom face attacked is blocked

attack occurs from TOP FACE
⇒ ANTI-STEREOSPECIFICITY

IF OTHER C ATOM ATTACHED, OTHER ENANTIOMER FORMED



③ ADDITION of HOCl/HOBr



- also REGIOSPECIFIC

