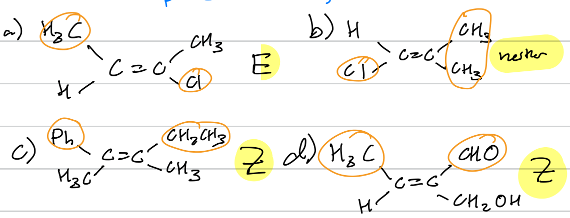
Ch7 HW - 7-41; 7-42a, e, f; 7-47; 7-49a; 7-50c, e; 7-51e; 7-52c, d; 7-54c; 7-55a, d, f; 7-58; 7-61b; 7-62b; 7-65; 7-68

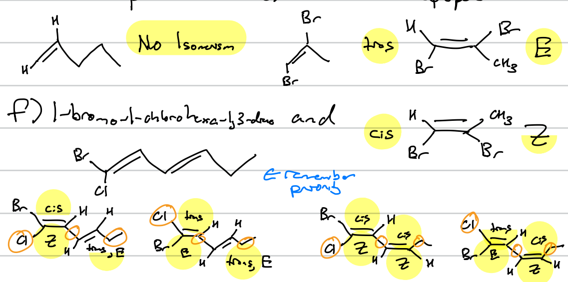
7-41 High priority same = Z, different = E



match for multiple double bonds

7-42 a) pent-1-ene e) 1,2-dibromopropene

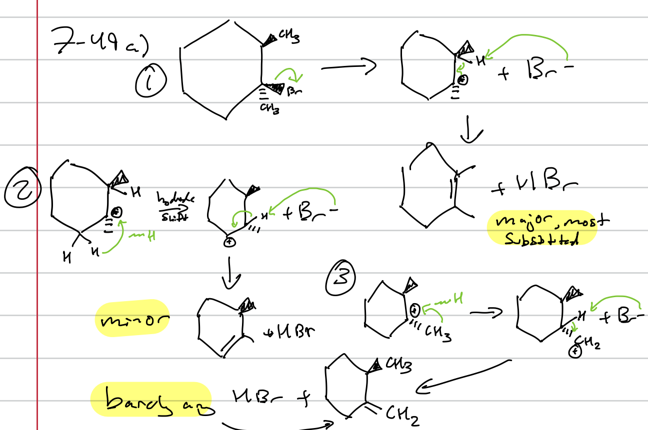
f) 1-bromo-1-chlorohexa-1,3-diene and



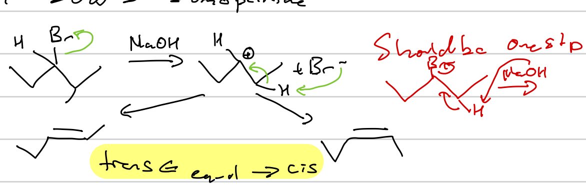
7-47 but-2-ene 4,4-dimethylpent-2-ene

In 4,4-dimethylpent-2-ene, tert-butyl group causes a strong steric effect which greatly decreases stability. The trans config places this group further from the methyl so stability is drastically increased and energy lowered.

7-49 a)



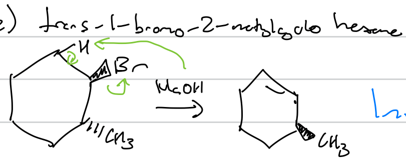
7-50 a) 3-bromopentane



Should be one step

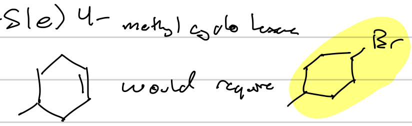
trans & equal → cis

e) trans-1-bromo-2-methylcyclohexane



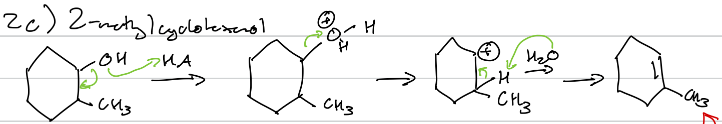
Inversion

7-51 e) 4-methylcyclohexene



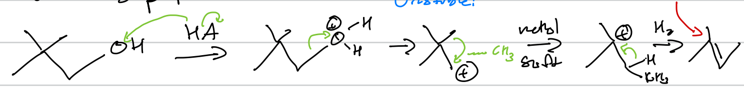
Polish up on E2 vs. E1, then look at comparison with S_N1 and S_N2.

7-52 c) 2-methylcyclohexanol



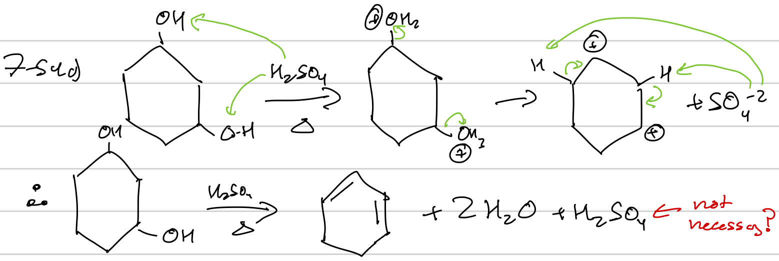
tri substituted

d) 2,2-dimethylpropan-1-ol



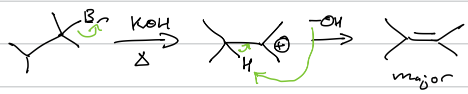
unstable!

7-54 d)

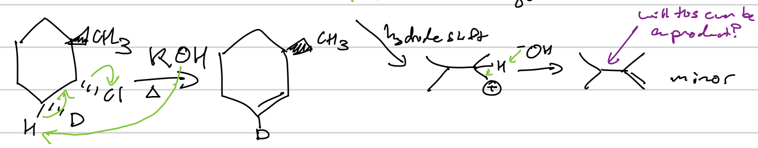


$+ 2H_2O + H_2SO_4$ ← not necessary?

7-55 a)

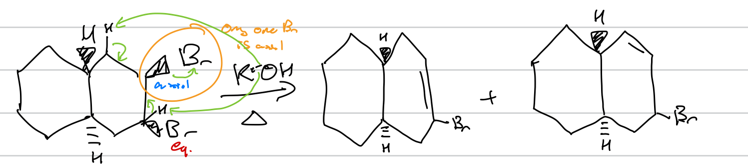


d)

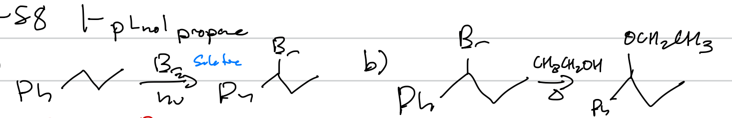


will this even be a product?

f)



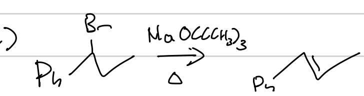
7-58 1-phenylpropane



Too much Br_2 may result in dibromination

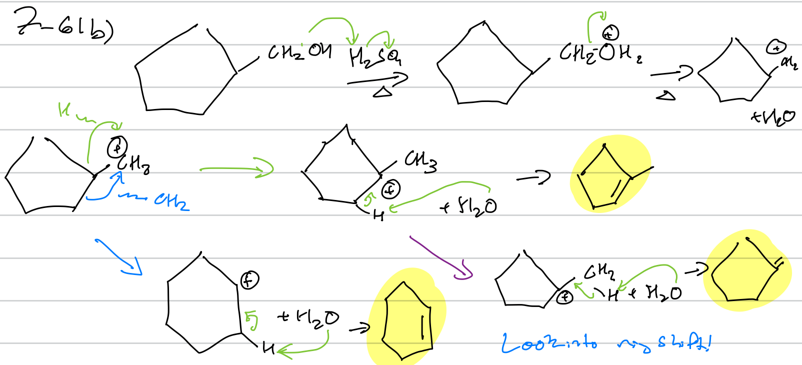
CH_3CH_2OH is weak Nuc, so too much heat may lead to some E1 product

c)



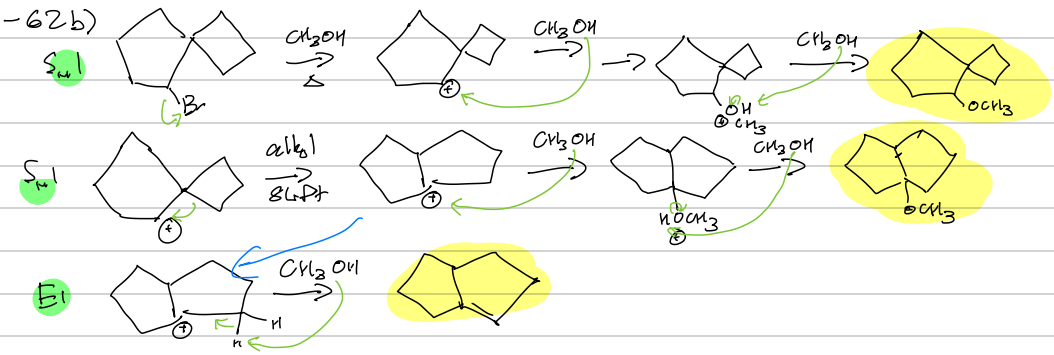
E2 reaction, as KOH is not used → S_N2

7-61 b)

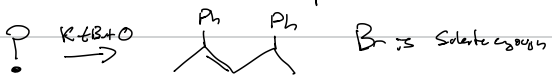


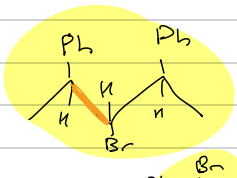
Look into ring shifts!

7-62b)



7-65 a) Form only 2,4-diphenylpent-2-ene

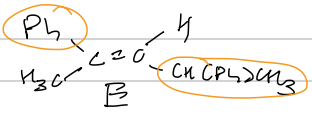


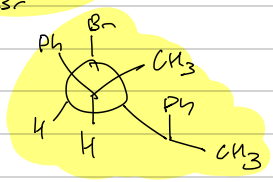


Rollup on "mucus synthesis" and Stereochemistry of reagents / reactants

b) Stereochemistry Such that

Br and H must be anti-coplanar





7-68) (±)-2,3-dibromobutane