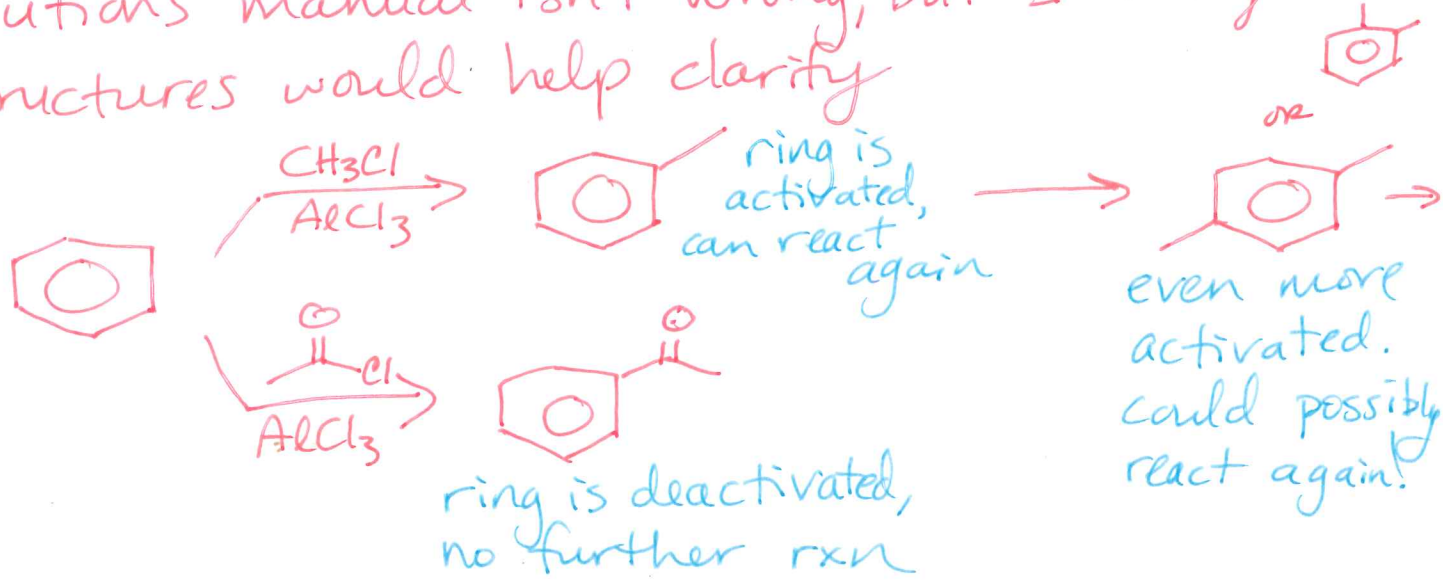
16.10 Explain why FC alkylations give polysub'n products but acylations don't

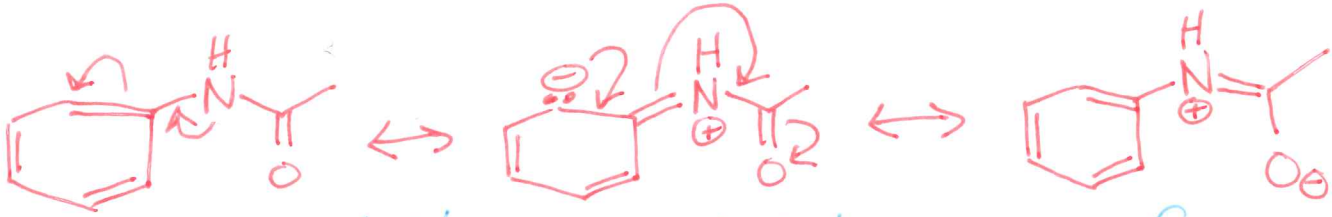
Solutions manual isn't wrong, but I thought structures would help clarity



16.12 Why is acetanilide less reactive than aniline toward EArS?

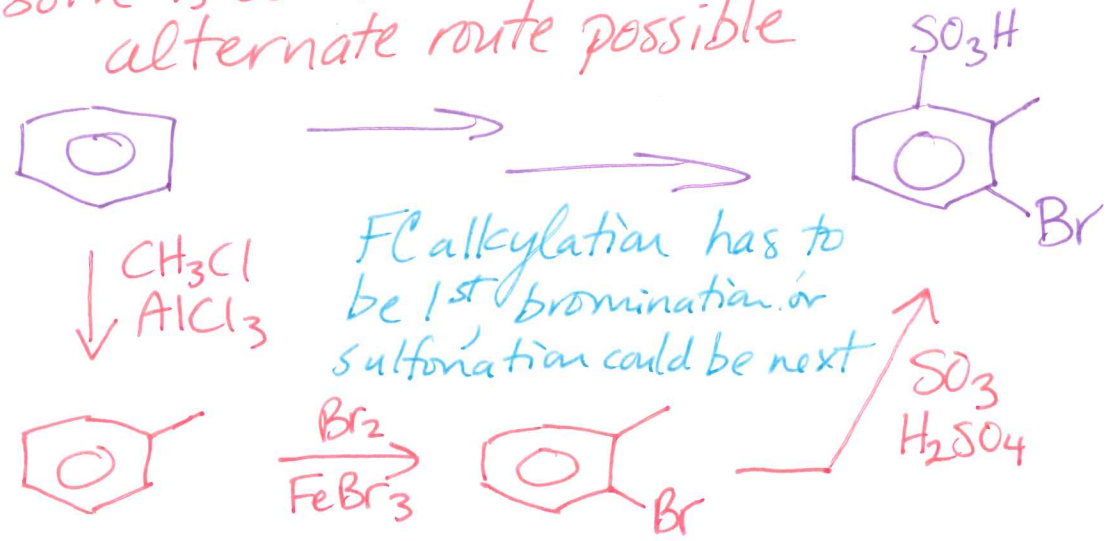
Sol'ns manual not wrong, other structures for clarity...

aniline's N can ONLY donate, makes ring more nucleophilic

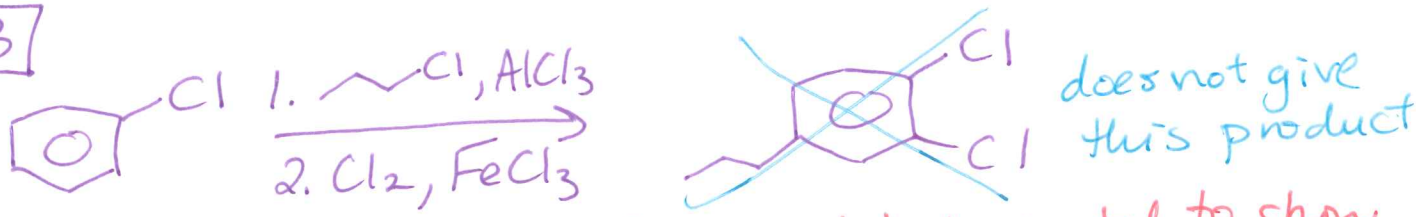


acetanilide's N can donate into or away from the ring. More stable resonance structure when O has ⊖ so Acetanilide's N is less likely to donate into ring than aniline's N.

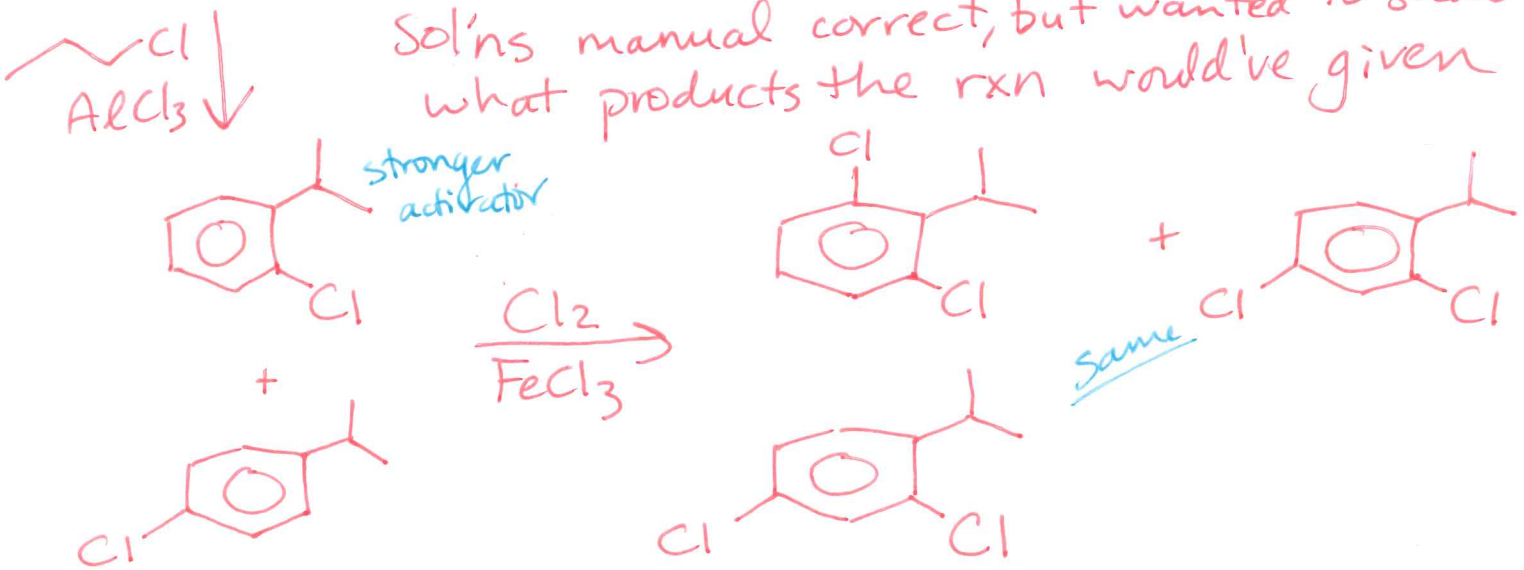
16.22 (d) sol'n is correct alternate route possible



16.23 (b)



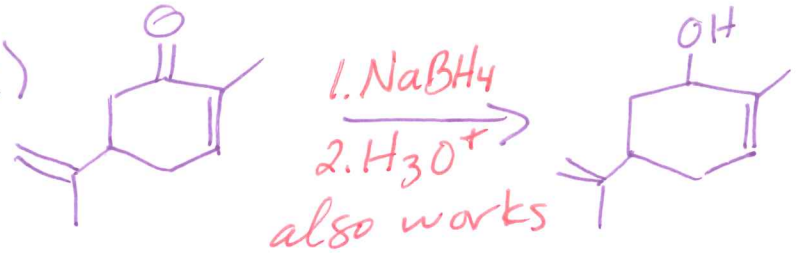
Sol'ns manual correct, but wanted to show what products the rxn would've given



messy, right? That's why it's not a good synthesis!

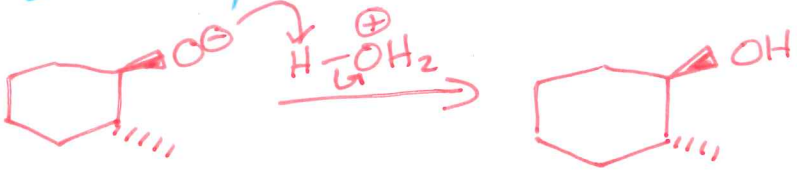
16.68 (a) Sol'n correct, alternate route:

17.7 (c)



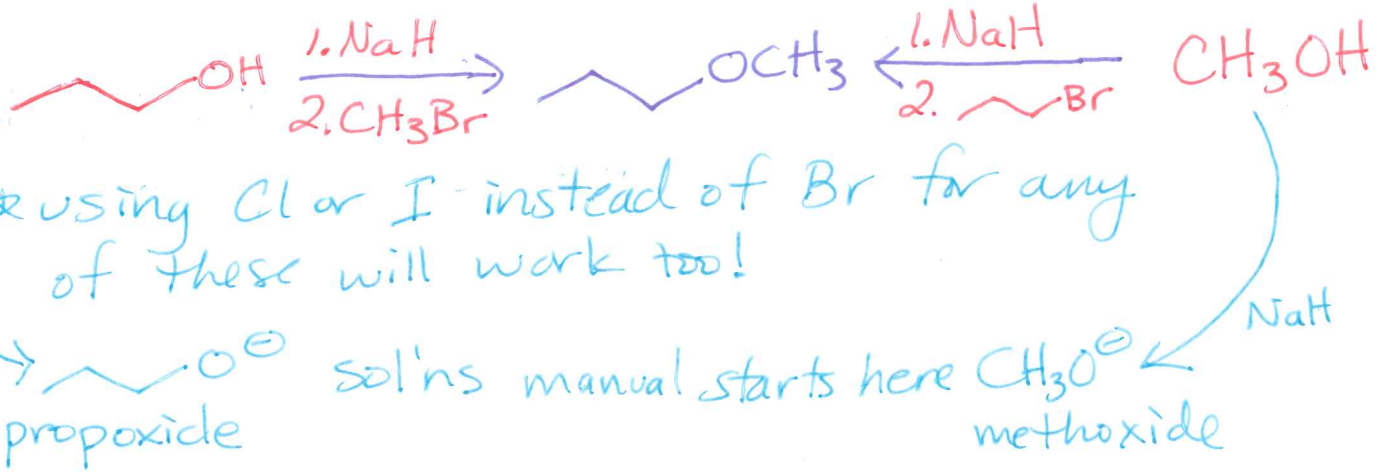
17.14 (a) & (c) Periodinane (DMP) could be used instead of CrO_3/H^+

17.41 I would expect you to draw the arrow-pushing for the 2nd step



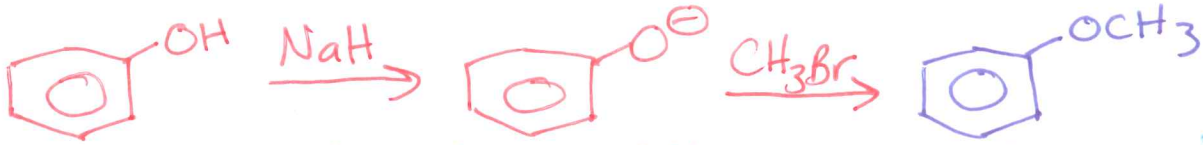
18.3 WE Synthesis should use NaH + alcohol (ROH) as first step (solutions starts with alkoxide, $RO^\ominus$)

(a)



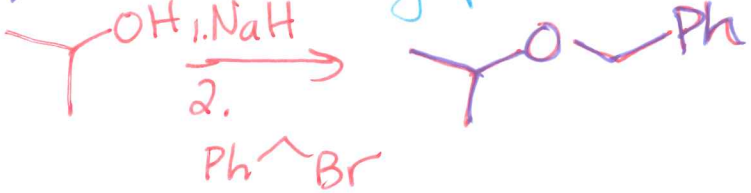
* using Cl or I instead of Br for any of these will work too!

(b)

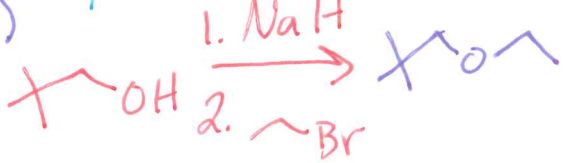


OK to show either way, showing $Br^\ominus$ by-product unnecessary

(c)

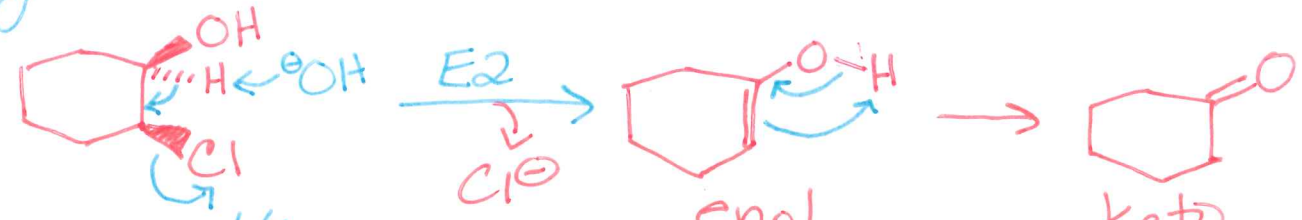


(d)



18.28 In case the solution is confusing using chair conformations, here's another way to show it:

↑ after deprotonation by NaOH



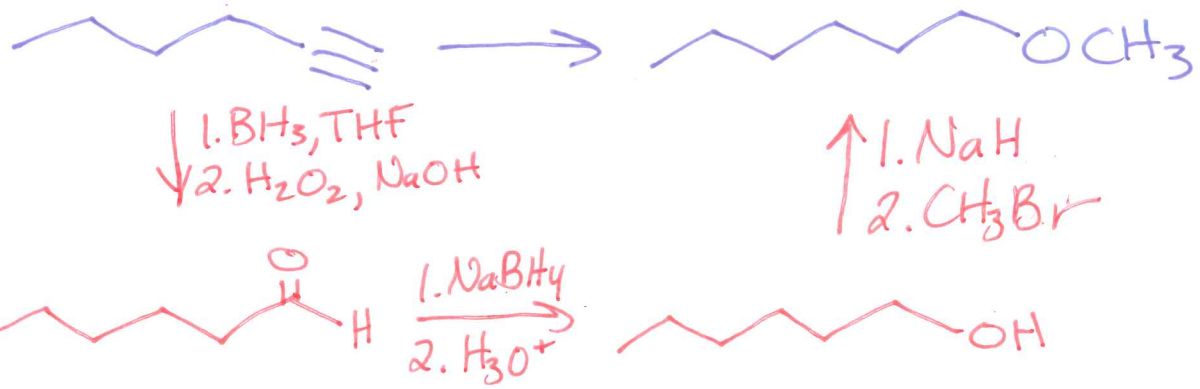
Can occur b/c H & Cl are anti-peri-planar (see Ch 11)

enol ⇌ keto

tautomerization learned in Ch 9. More on this in Chapter 22

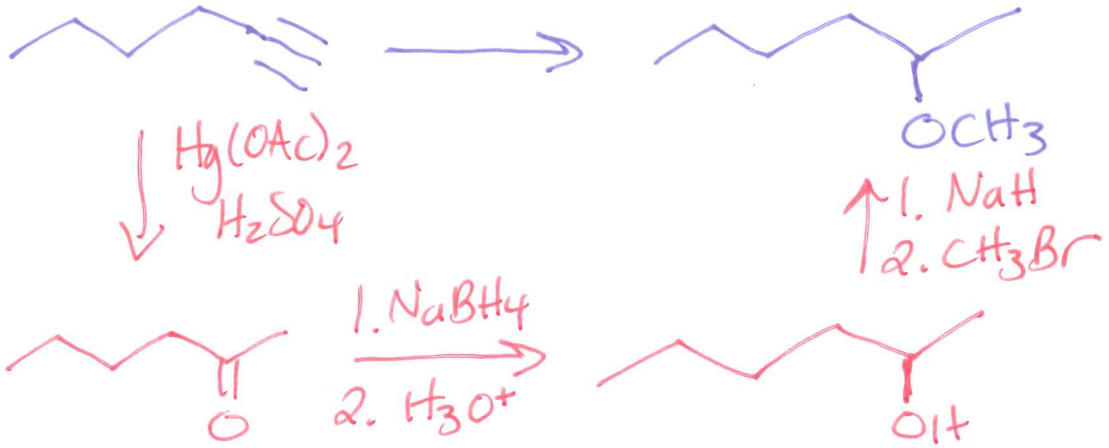
18.30

(d) Alternate solution

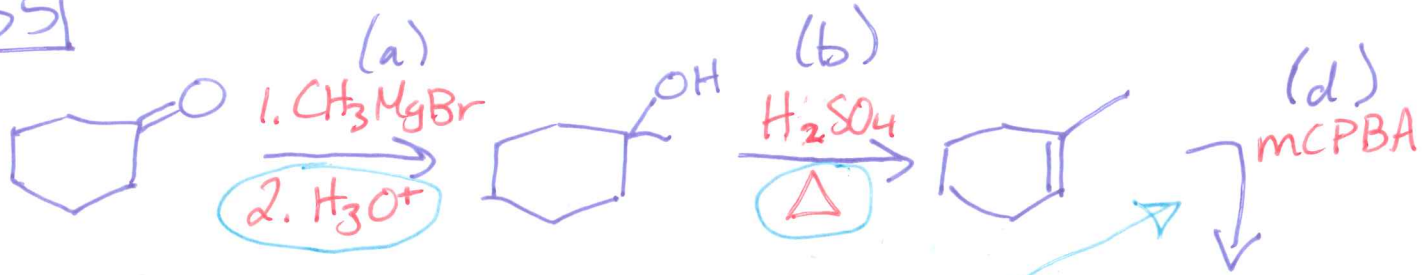


18.30

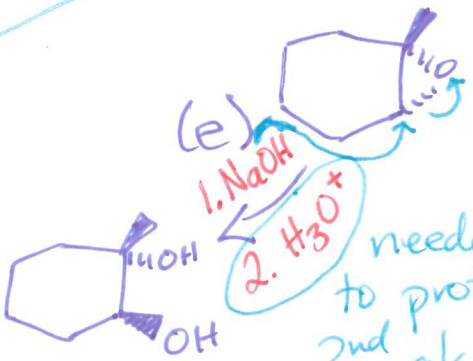
(e) Alternate sol'n



18.55



m-$ClC_6H_4CO_3H$ = mCPBA (1)



* cannot use H_3O^+ to open epoxide. would give other enantiomer