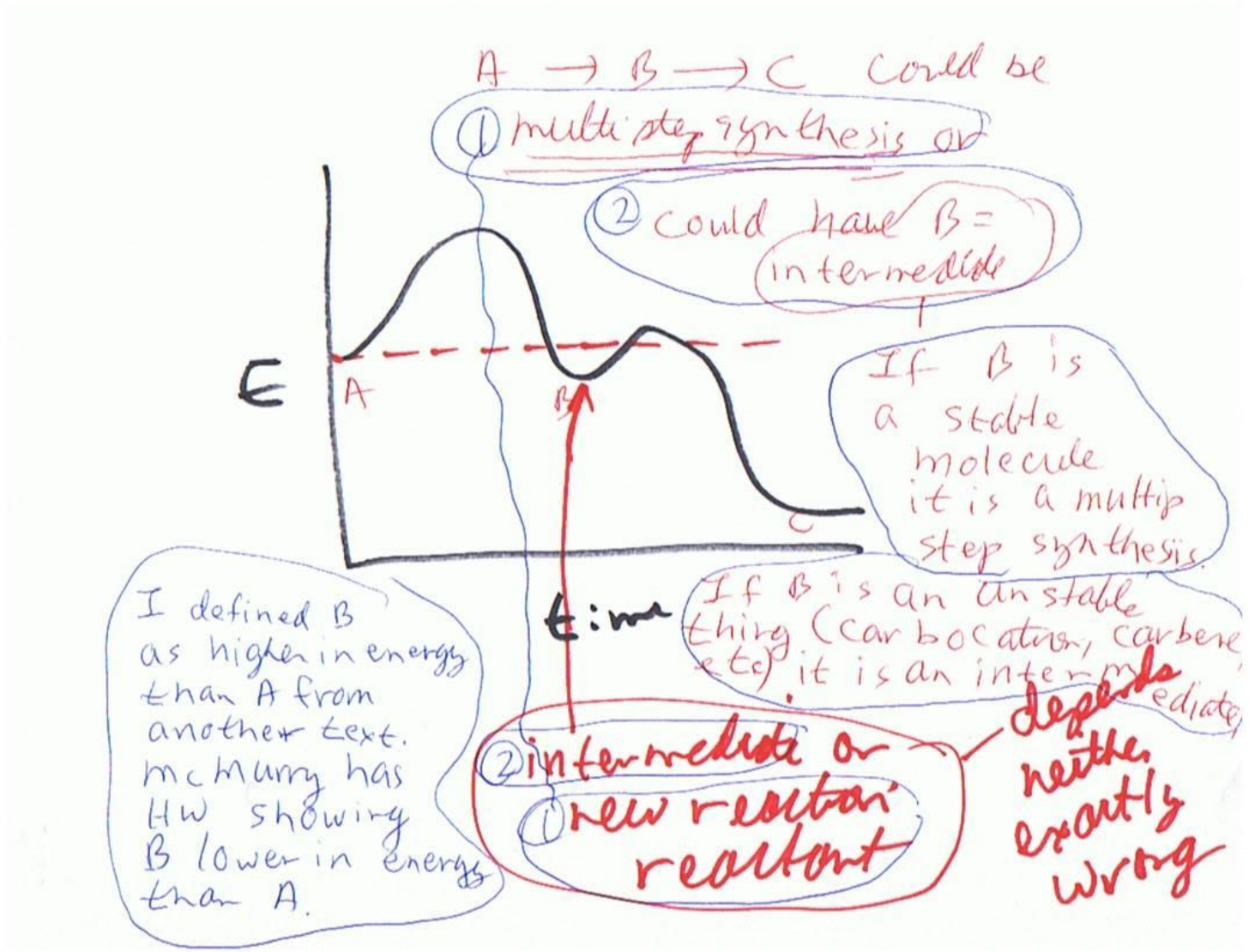
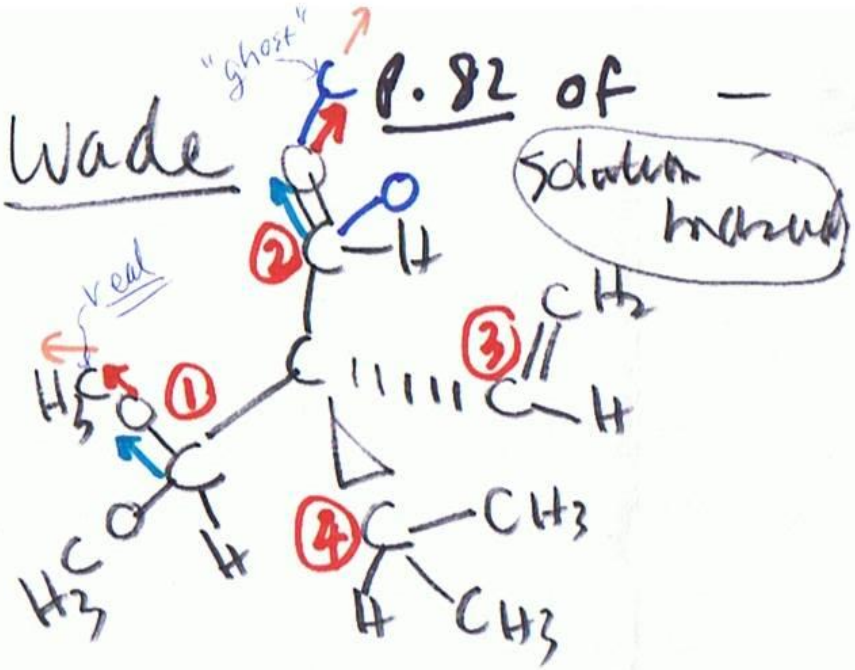
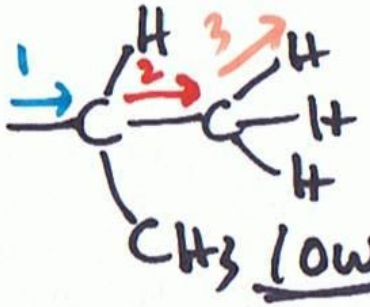
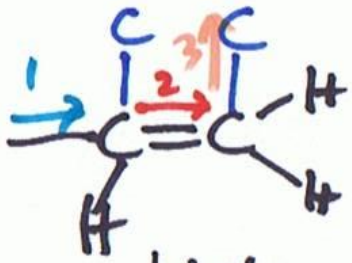

A → B → C could be
① multi step synthesis or
② could have B = intermediate
If B is a stable molecule it is a multip step synthesis
E
A
B
C
time
If B is an unstable thing (carbocation, carbene, etc) it is an intermediate
I defined B as higher in energy than A from another text. McMurry has HW showing B lower in energy than A.
② intermediate or
① new reactant/ reactant
depends neither exactly wrong

Wade p. 82 of —





vs.



lower

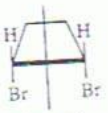
higher

Wade - Organic Chemistry

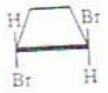
5-5

(a) 

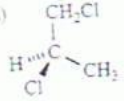
plane of symmetry

(b) 

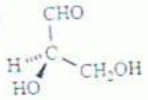
plane of symmetry

(c) 

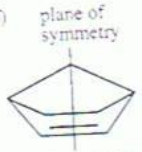
chiral—no plane of symmetry

(d) 

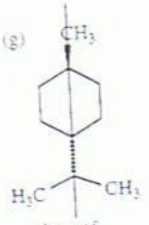
chiral—no plane of symmetry

(e) 

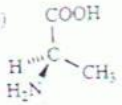
chiral—no plane of symmetry

(f) 

this view is from the right side of the structure as drawn in the text

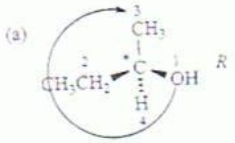
(g) 

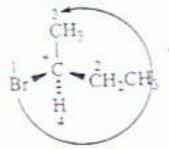
plane of symmetry

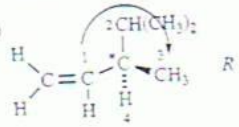
(h) 

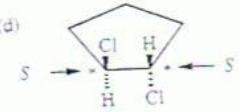
chiral—no plane of symmetry

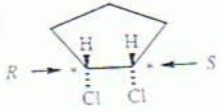
5-6 ALWAYS place the 4th priority group away from you. Then determine if the sequence 1→2→3 is clockwise (*R*) or counter-clockwise (*S*). (There is a Problem-Solving Hint near the end of section 5-3 in the text that describes what to do when the 4th priority group is closest to you.)

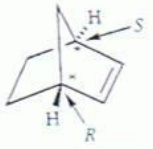
(a) 

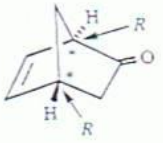
(b) rotate CH_3 up 

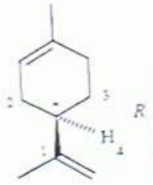
(c) only one asymmetric carbon 

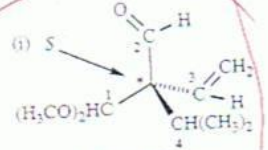
(d) 

(e) 

(f) 

(g) 

(h) 

(i) 

see next page for an explanation of part (i)

5-6 continued

Part (i) deserves some explanation. The difference between groups 1 and 2 hinge on what is on the "extra" oxygen

5-7 There are no asymmetric carbons in 5-3 (a), (b), (d), (e), or (i).

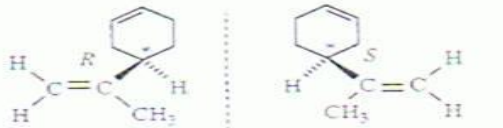
(c)

(f)

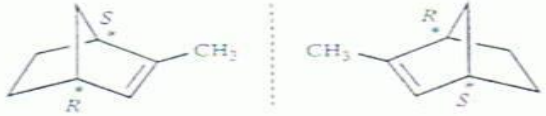
(g)

(h)

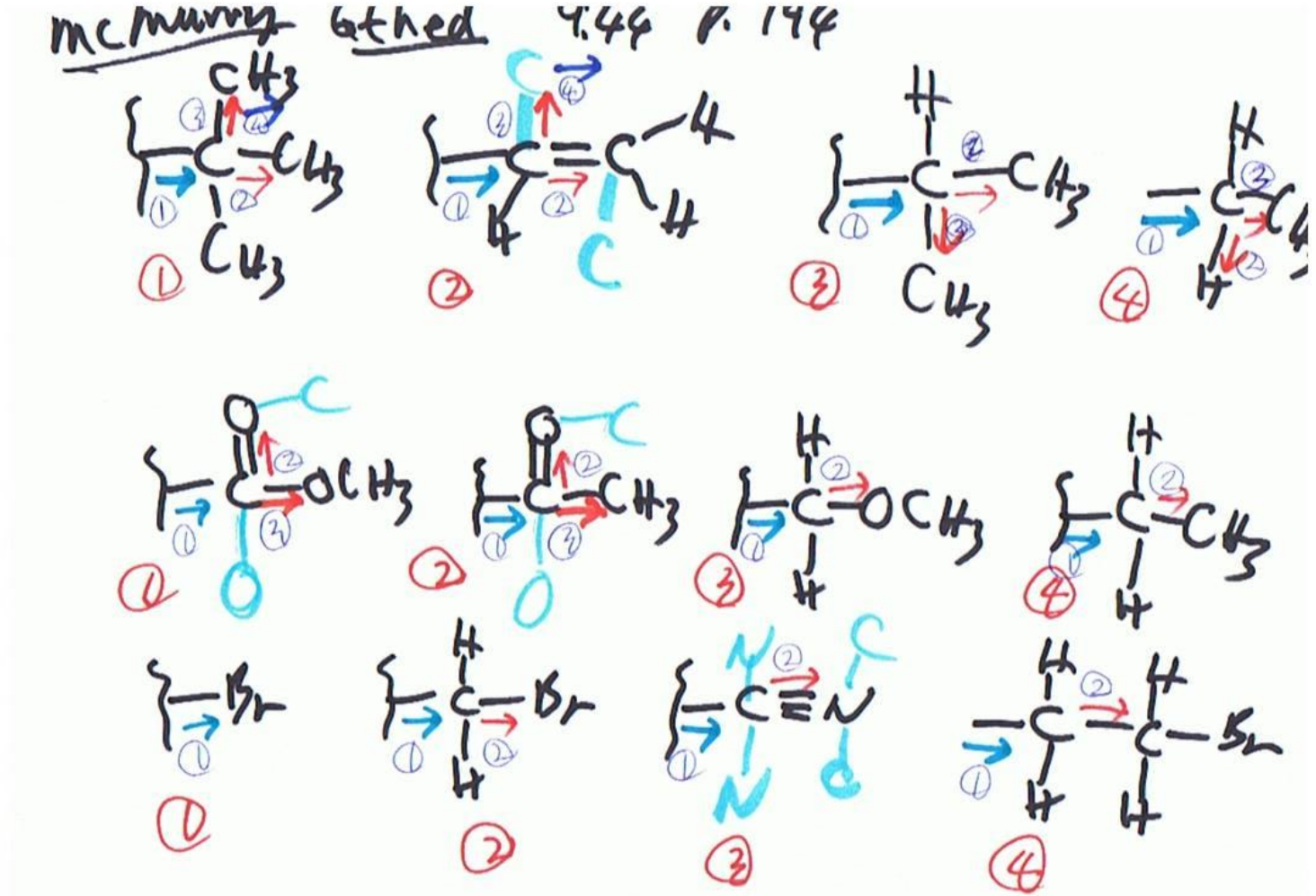
(j)



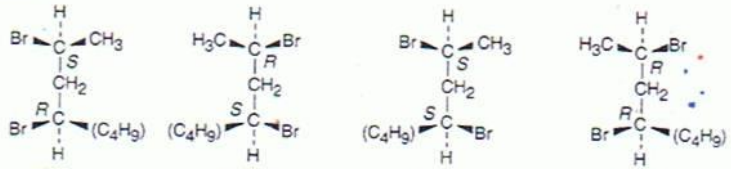
(k)



McMurry 6th ed 4.44 p. 194

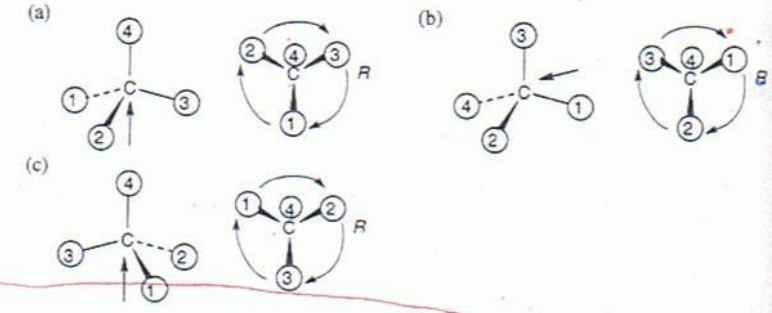


9.41–9.42



The (2*R*,4*S*) stereoisomer is the enantiomer of the (2*S*,4*R*) stereoisomer.
The (2*S*,4*S*) and (2*R*,4*R*) stereoisomers are diastereomers of the (2*S*,4*R*) stereoisomer.

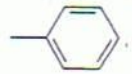
9.43



9.44

Highest ⟶ *Lowest*

(a) $-C(CH_3)_3$, $-CH{=}CH_2$, $-CH(CH_3)_2$, $-CH_2CH_3$

(b)  , $-C{\equiv}CH$, $-C(CH_3)_3$, $-CH{=}CH_2$

(c) $-COOCH_3$, $-COCH_3$, $-CH_2OCH_3$, $-CH_2CH_3$

(d) $-Br$, $-CH_2Br$, $-CN$, $-CH_2CH_2Br$

9.45