Problem Set 1 Answers

MCDB 108B

1. a) C→D; E→F
b) $K_{eq} = 1$
c) $MAR_{ss} = 1$
d) $MAR_{ss} = 1$
e) $MAR_{ss} = 10^{-5}$

2. a) F
b) F
c) T
d) T
e) F

3. a) 1) [B]/[A] = 0.1; 2) $[B]/[A] = 10^{-6}$
b) net B will form.

4. In each case, the initial MAR is displaced far away from K_{eq}.

5. a) F, F, F
b) F
c) T

6. a) $K_{eq} \approx 10^{3}$
b) $\Delta G \approx 0$
c) there would be net formation of neither

7. a) A→B; C→D; J→K
b) A→B; C→D; J→K
c) H→I
d) G→H
e) F→G
f) $MAR = 10^{-3}$

8. Discuss in section

9. a) $\Delta G^{o} = -14.8$ kcal/mol
b) $K_{eq} = 31$

10. a) Discuss in section
b) β-L –pyranosyl – (1-2) – β-D - furanoside
c) No