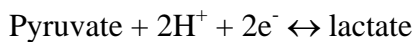


Problem Set #7  
Due 4/28/11

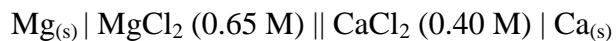
Unless otherwise stated, all problems are at 25°C.

1. For the half-reaction



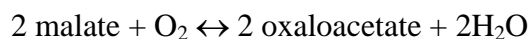
- A. Find E when pH = 4.25, [pyruvate] =  $8.6 \times 10^{-3}$  M and [lactate] =  $3.4 \times 10^{-2}$  M
- B. What should the pH of the solution be adjusted to in order to provide a half-cell potential (E) of -0.060 V?

2. A. Calculate the total cell potential for the following:



- B. Will this cell provide energy (work) as written? Why or why not?

3. A. Find the equilibrium constant for the reaction



- B. Will this reaction provide energy (work) as written? Why or why not?

4. Harris Chapter 13, Problem 19

5. Harris Chapter 13, Problem 48

6. Harris Chapter 15, Problem 3

---

Suggested/Review Problems:

1. Harris Chapter 13, Problem 8

2. Harris Chapter 13, Problem 10
3. Harris Chapter 13, Problem 13
4. Harris Chapter 13, Problem 17 (a,b,c)
5. Harris Chapter 13, Problem 21
6. Harris Chapter 13, Problem 27
7. Harris Chapter 13, Problem 40
8. Harris Chapter 13, Problem 47
9. Harris Chapter 14, Problem 23
10. Harris Chapter 15, Problem 2