

Take Home Exam Ch 19-21, 24
AP Chemistry
(40 pts)

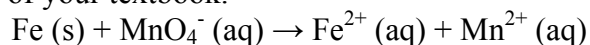
Name:
I have neither given nor received aid on this exam,
except from my group; list names if applicable:
Period: 1 2 3 4 Date: 4/12/06

Complete in pencil; erase mistakes completely. If you need more space, attach further sheets as is necessary. For problems involving calculations, no credit will be given if work is not shown.

1. Using the following data, calculate the value of K_{sp} for $\text{Ba}(\text{NO}_3)_2$.
 ΔG°_f (kJ/mol): Ba^{2+} (aq) = -561 NO_3^- (aq) = -109 $\text{Ba}(\text{NO}_3)_2$ (s) = -797

$$K_{sp} =$$

2. Balanced the following reaction; show your work! Then, calculate E°_{cell} for the reaction. Use the values in Appendix E of your textbook.



Balanced reaction:

$$E^\circ_{\text{cell}} =$$

3. If the atomic mass of ^{56}Fe is 55.9349, determine the nuclear binding energy per nucleon.
Given: mass of proton, $m_p = 1.67262 \times 10^{-27}$ kg
mass of neutron, $m_n = 1.67493 \times 10^{-27}$ kg
mass of electron, $m_e = 9.10939 \times 10^{-31}$ kg

$$\Delta E =$$

