

PDF Quiz 2: Chemical Speciation and Thermodynamics Last Name: _____

RDCH 702

Assigned: 29-Aug-18

First Name: _____

Due: 10-Sep-18

1. Spontaneous reactions have a positive ΔH . _____
2. Spontaneous reactions have what values for ΔG ? _____
3. Consider the reduction potential data below. For a cell with Ag and Cu in the metal and monovalent ion, which element will be reduced? _____

Standard Reduction Potentials (in Volts), 25°C

Reaction	E°
$\text{Ag}^+ + \text{e}^- \rightarrow \text{Ag}$	+0.80
$\text{Fe}^{3+} + \text{e}^- \rightarrow \text{Fe}^{2+}$	+0.77
$\text{I}_2 + 2\text{e}^- \rightarrow 2\text{I}^-$	+0.54
$\text{Cu}^+ + \text{e}^- \rightarrow \text{Cu}$	+0.52

4. Carbonic acid would be a good buffer for which pH? _____
5. You have a carbonate solid in a solution that you wish to dissolve. It is taking a long time to dissolve the solid. What can be done to increase the rate of dissolution? Choose all that are correct.

Freeze solution Mix solution Evaporate solution in freeze drier Heat solution

Bubble CO_2 into solution Add dilute acid

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