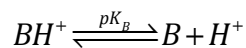
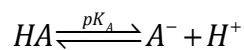


Physical Chemistry CUME

March 2017

LORIEAU

1. Consider these two reactions in a low dielectric environment (like oil, or the center of a membrane, $\epsilon=2$) versus a high dielectric environment (like water, $\epsilon=80$).



- Derive the pH equations for both reactions in terms of concentrations.
- Derive the ΔpK equation for both reactions between a low and high dielectric.
- What terms influence the ΔpK ?
- What would be the sign of the ΔpK between a high and low dielectric environment and why?
- How would the different dielectric constants influence the ΔG° of the reactants and products of each type of acid?