Part I

From the last four digits of a number from the Department of Chemistry phone list (included) construct pairs of rate constants as two-digit number $\times 10^{-5}$ M⁻¹-sec⁻¹ for a faculty member at 300 K and 315 K. For example, my last four digits are 5417, hence two possible rate constants are simply 54 $\times 10^{-5}$ M⁻¹-sec⁻¹ and 17 $\times 10^{-5}$ M⁻¹-sec⁻¹. The larger of these rate constants would of course be at the higher temperature. Construct a two point Erying plot and calculate ΔH^{\neq} and ΔS^{\neq} . After you have convinced yourself that your calculations are correct, submit your values in kJ/mol and J/mol-K, respectively, to Sue Winters (winters@mail.chem.tamu.edu) *via* email by Monday, September 11, 2006.

Part II

Ms. Winters will compile a list of these values (hopefully none of you will chose the same faculty member) and e-mail them to each of you. Each of you are then required to make an isokinetic plot of ΔH^{\neq} (y-axis) vs ΔS^{\neq} (x-axis) with correlation coefficient and turn these in on Thursday, September 14, 2006.