Chemistry 1310/2370 - Synthetic Organic Chemistry

Problem Set 2: Due Date 10/7/09 *Name:*

A. Read Godenschwager, P. F.; Collum, D. B., "Lithium hexamethyldisilazide-mediated enolizations: Influence of triethylamine on E/Z selectivities and enolate reactivities." *J. Am. Chem. Soc.* **2008**, *130*, 8726-8732, and answer the following questions:

a) Draw a chair-conformation for transition state **4**.

b) In transition state **4**, is the equatorial or the axial hydrogen removed by the base? Use a suitable drawing to support your answer.

c) Draw the transition state **3** in an analogous 3-dimensional fashion, trying to minimize steric interactions.

d) There is a curious result listed in Table 2 that should surprise you if you paid close attention to my lecture (and the recitation on Friday!)… What am I referring to?

e) Can you explain this seemingly contradictory result using a transition state model not unlike what we discussed for the THF/HMPA enolization with LDA?