## **Chemistry 2301**

## In-Class Solutions: E2 Reactions with Multiple Products

2. The tetrasubstituted alkene cannot form. Unlike the case above, the *cis*-dimethylcyclohexane cannot assume a chair conformer in which the H at carbon 2 and the leaving Br are anti-periplanar:

$$CH_3$$
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

So, because H2 and the leaving group can't be across from each other, the elimination can't take place at this position. However, the other H's can assume an anti-periplanar arrangement, and so the other two products can still form: