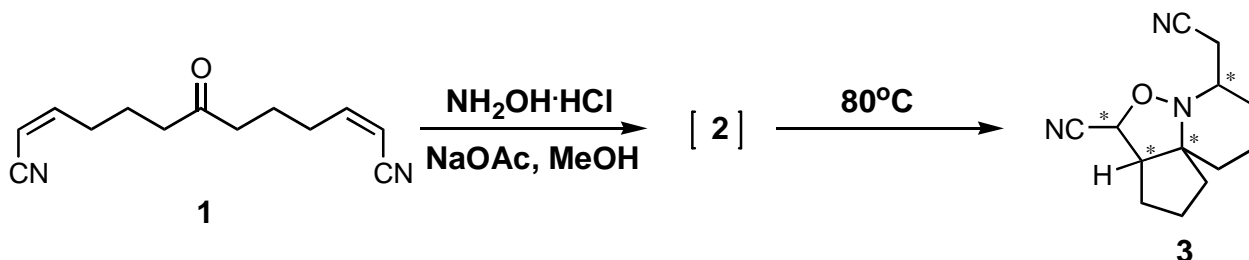
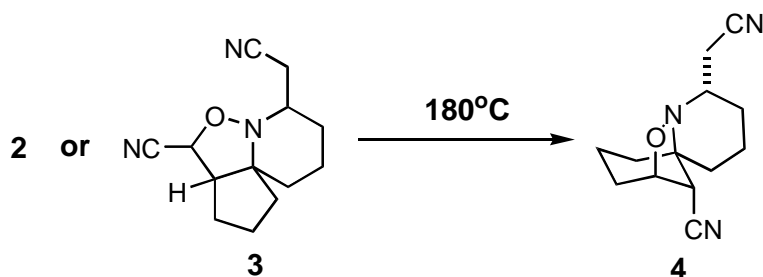


Group Meeting Problems – March 31, 2009

1. Please propose a mechanism for the conversion of **1** to **3**. Identify intermediate **2** and indicate the relative stereochemistry of **3**.



Heating either **2** or **3** at 180°C gave rise to tricyclic compound **4**. Please provide a mechanism for conversion of **3** into **4**.



2. Epoxide **1** reacts with thiophenol to afford in high selectivity either **2** or **3** depending on the reaction conditions. Provide a mechanism for this transformation and explain your predictions with clear 3D drawings. Draw the 2 chair conformations of **3** and predict why the conformation with the $-\text{SPh}$ in the equatorial position is the favoured conformation of **3**.

