## **Chemistry 2302**

## Workshop 18 Solutions More Synthesis with Enolates

The starting cyclohexanone needs to be substituted at one  $\alpha$ - and one  $\beta$ -position. The  $\alpha$ -substitution is fairly straightforward—just deprotonate an  $\alpha$ -proton with a strong base, and then add the methyl group. The  $\beta$ -substitution, on the other hand, can't be done directly on the ketone starting material. Reactions do take place at the  $\beta$ -position of  $\alpha,\beta$ - unsaturated ketones, however; if we can somehow turn our starting ketone into an  $\alpha,\beta$ - unsaturated ketone.