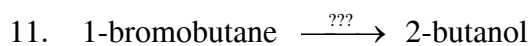
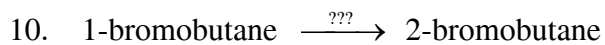
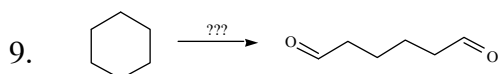
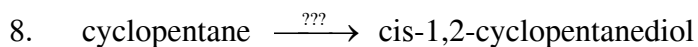
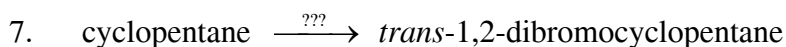
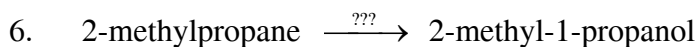
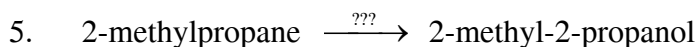
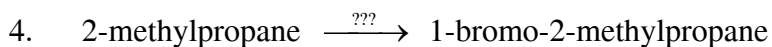
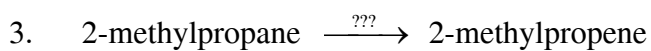
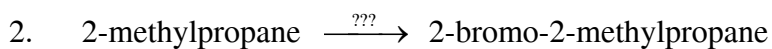
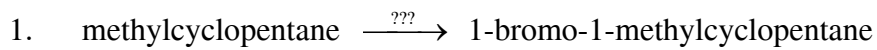


Synthesis Problems

Working synthesis problems is an excellent way to learn reactions. Show how the following syntheses can be performed. More than one step will usually be required. Show all reagents and all intermediate compounds in your synthetic scheme.

Alkanes and Alkenes



12. 2,3-dimethylbutane $\xrightarrow{??}$ acetone

13. 2-bromobutane $\xrightarrow{??}$ butane

Alkynes

1. acetylene $\xrightarrow{??}$ 1-hexyne

2. acetylene $\xrightarrow{??}$ 3-hexyne

3. acetylene $\xrightarrow{??}$ *cis*-3-hexene

4. acetylene $\xrightarrow{??}$ *trans*-3-hexene

5. acetylene $\xrightarrow{??}$ hexanal

6. acetylene $\xrightarrow{??}$ 2-hexanone

7. acetylene $\xrightarrow{??}$ 1,2-butanediol

8. acetylene $\xrightarrow{??}$ 1-butanol

9. *cis*-2-butene $\xrightarrow{??}$ *trans*-2-butene