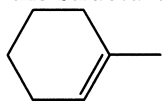


## Chapter 13: "Alicyclics" Worksheet

1. Give the structures and of the chief organic products expected from the reaction of



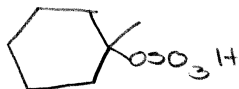
with:

HBr



"Mark"

H<sub>2</sub>SO<sub>4</sub>



"Mark"

H<sub>2</sub>O, H<sup>+</sup>

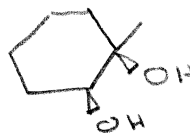


"Mark"

KMnO<sub>4</sub>

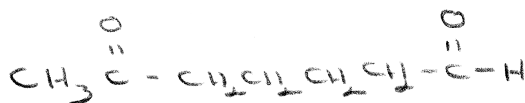
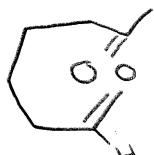


OR

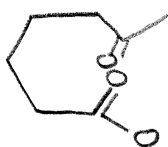


"Syn"

O<sub>3</sub>; then Zn/H<sub>2</sub>O



KMnO<sub>4</sub>, heat



H<sub>2</sub>O, Hg(OAc)<sub>2</sub>; Then NaBH<sub>4</sub>



"Mark"

(BH<sub>3</sub>)<sub>2</sub>; Then H<sub>2</sub>O<sub>2</sub>, NaOH



"Anti-Mark"

$\text{Cl}_2(\text{aq})$



"Cl" as electrophile

HBr, peroxides



"Anti-Mark"

$\text{CH}_2\text{N}_2$ , hv



PBA

