

1. The two reactions below give products with different regiochemical outcomes. Show the intermediates that explain the difference as well as the major product for each reaction.

Reaction	Intermediate	Major Product
$\text{CH}_3\text{CH}=\text{CH}_2 + \text{HBr} \longrightarrow$	$\text{CH}_3\overset{+}{\text{C}}\text{H}-\text{CH}_3$	$\text{CH}_3\overset{\text{Br}}{\underset{ }{\text{C}}}\text{HCH}_3$
$\text{CH}_3\text{CH}=\text{CH}_2 + \text{HBr} \xrightarrow{\text{HOOH}}$	$\text{CH}_3\overset{\cdot}{\text{C}}\text{HCH}_2\text{Br}$	$\text{CH}_3\text{CH}_2\text{CH}_2\text{Br}$

2. Draw the mechanism for the reaction between cyclopentene and bromine.



