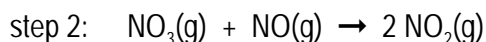
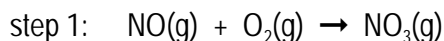


PRACTICE: REACTION MECHANISMS

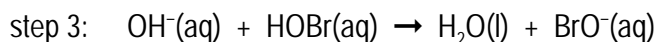
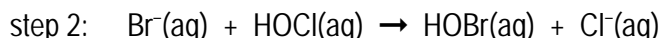
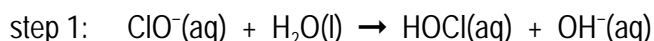
1. Consider the following reaction mechanism.



(a) Write the overall balanced chemical equation for the reaction.

(b) What is the reaction intermediate in this reaction?

2. Consider the following reaction mechanism.

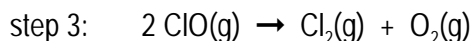
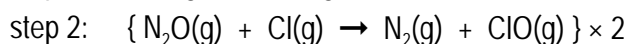
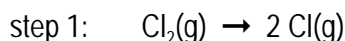


(a) Write the overall balanced chemical equation for the reaction.

(b) List the reaction intermediates.

(c) What is the catalyst in this reaction?

3. Consider the following reaction mechanism.



(a) Write the overall balanced chemical equation for the reaction.

(b) List the reaction intermediates.

(c) What is the catalyst in this reaction?

4. An certain chemical reaction occurs by a two-step reaction mechanism. Step 1 is endothermic and step 2 is exothermic. The overall reaction is endothermic. Sketch a potential-energy diagram for the reaction. Label the activation energies for step 1 ($E_{a,1}$) and step 2 ($E_{a,2}$).