Preclass Assignment
CHEM 1100-General Chemistry II
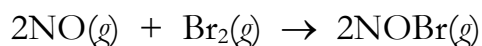
Name: **#8**

Section: 31, TR   **Due Date: Thursday 2/13/2020**

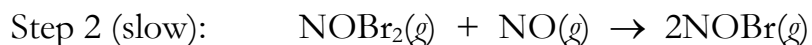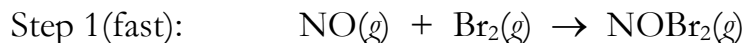The overall reaction between nitrogen monoxide and bromine may be written as follows:

$$2NO(g) + Br_2(g) \rightarrow 2NOBr(g)$$

The observed rate law is:

$$rate = k[NO]^2[Br_2]$$

1. Is it likely that the given chemical equation is an elementary step? Why or why not?

The following is a proposed mechanism:

Step 1 (fast): $NO(g) + Br_2(g) \rightarrow NOBr_2(g)$

Step 2 (slow): $NOBr_2(g) + NO(g) \rightarrow 2NOBr(g)$

2. Add up the elementary steps above and show that they add up to the overall equation.

3. Write the rate law based on the slow step and then stop. There is a problem!