QU3-5

QUESTION:

A 2.50-g sample of powdered zinc is added to 100.0 mL of a 2.00-M aqueous solution of hydrobromic acid in a calorimeter with a total heat capacity of 448 J/K. The observed increase in temperature is 21.1 K at a constant pressure of one bar. Using these data, calculate the standard enthalpy of reaction.

$$Zn\left(s\right)+2HBr\left(aq\right)\rightarrow ZnBr\_{2}\left(aq\right)+ H\_{2}(g)$$

$∆H\_{rxn}^{°}=$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_