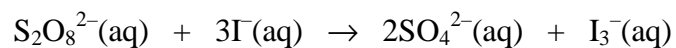


Marks
3

- Peroxydisulfate and iodide ions react according to the following equation.



The following rate data were collected at room temperature.

Experiment	$[\text{S}_2\text{O}_8^{2-}(\text{aq})]_0$ (M)	$[\text{I}^-(\text{aq})]_0$ (M)	Initial rate ($\text{mol L}^{-1} \text{s}^{-1}$)
1	0.080	0.034	2.2×10^{-4}
2	0.080	0.017	1.1×10^{-4}
3	0.160	0.017	2.2×10^{-4}

Determine the rate law for the reaction.

Calculate the value of the rate constant at room temperature.

Answer:

THE REMAINDER OF THIS PAGE IS FOR ROUGH WORKING ONLY.