



EXPERIMENT 1: CALCULATING RATE OF REACTION

Data Sheet

Table 1: 10 mL Undiluted (1.0-2.0%) IKI and 5 mL 3% H₂O₂

mL water displaced	Time (seconds)
2	18.9
4	45.7
6	65.9
8	98.4
10	123.6
12	138.4
14	152.2
16	197.4
18	242.3
20	278.1
22	327.6
Slope:	
Inverse Slope:	

Table 2: 10 mL 0.5-1.0% IKI and 5 mL 3% H₂O₂

mL water displaced	Time (seconds)
2	88.6

Reaction Rates



4	129.5
6	148.3
8	199.3
10	236.1
12	268.5
14	331.6
16	393.7
18	448.9
20	499.5
22	529.9
Slope:	
Inverse Slope:	

Table 3: 10 mL Undiluted (1.0-2.0%) IKI and 5 mL 2.25% H_2O_2

mL water displaced	Time (seconds)
2	24.1
4	49.5
6	78.2
8	133.3
10	186.7
12	203.5



14	214.9
16	262.7
18	321.6
20	363.5
22	397.2
Slope:	
Inverse Slope:	

Post-Lab Questions

1. Determine the order of the IKI in this reaction.
2. Determine the order of the H_2O_2 in this reaction.
3. Calculate the rate law constant.
4. What is the overall rate law?