

**EXPERIMENT 4****DETERMINATION OF RATE CONSTANT  
OF A DISSOCIATIVE REACTION**

Name : \_\_\_\_\_ Group : \_\_\_\_\_

Matric no. : \_\_\_\_\_ Date of exp. : \_\_\_\_\_

Lecturer : \_\_\_\_\_

**Part 1 : Experiment with acetone.**

Time (s)	V	V'	V'-V	$\log_{10} (V'-V)$
30				
60				
90				
120				
150				
180				
210				
240				
270				
300				
330				
360				
390				
420				
450				
480				
510				
540				
570				
600				
600 s				

**Part 2 : Experiment without acetone.**

Time (s)	V	V'	V'-V	$\log_{10} (V'-V)$
30				
60				
90				
120				
150				
180				
210				
240				
270				
300				
330				
360				
390				
420				
450				
480				
510				
540				
570				
600				
600 s				

Compare the two experiments conducted at the same temperature. What is the effect of acetone on the rate of reaction? Are the rate constants equivalent between them, within the experimental error? Is this expression consistent with the mechanism explained in equation (4) in page 12 or in equation (11) in page 13? Give your reasoning.