



For the reaction above, carried out in solution of 30°C, the following kinetic data were obtained:

Experiment	Initial Conc. of Reactants (mole·liter ⁻¹)		Initial Rate of Reaction (mole·liter ⁻¹ ·hr ⁻¹)
	A _o	B _o	
1	0.240	0.480	8.00
2	0.240	0.120	2.00
3	0.360	0.240	9.00
4	0.120	0.120	0.500
5	0.240	0.0600	1.00
6	0.0140	1.35	?

- Write the rate-law expression for this reaction.
- Calculate the value of the specific rate constant k at 30°C and specify its units.
- Calculate the value of the initial rate of this reaction at 30°C for the initial concentrations shown in experiment 6.
- Assume that the reaction goes to completion. Under the conditions specified for experiment 2, what would be the final molar concentration of C?