

Mechanisms, Elementary Steps, and Evidence Limits

g11_u03_w11

Original fictional paper models only. No chemical activity is requested. A rate-model consistency check does not prove a mechanism.

1. Define mechanism model.

2. Define elementary step.

3. Define intermediate.

4. Define catalyst in a mechanism model.

5. Sum $A \rightarrow I$ and $I + B \rightarrow P$.

6. Identify intermediate.

7. Explain cancellation.

8. State why coefficients need not give a rate law.

9. Compare proposed $rate = k[A]$ with supplied dependence on $[A]$.

10. Compare it with supplied dependence on $[B]$.

11. State a consistency conclusion.

12. State what remains unproven.

13. Identify a slow-step hypothesis.

14. Explain why it is tentative.

15. A data point disagrees; list two checks.

16. Define molecularity as model language.

17. Distinguish model from observation.

18. State one missing measurement.

19. Explain why one data set cannot prove a pathway.

20. Write bounded conclusion.
