

REPORT ORGANIZATION

Most scientific research reports, irrespective of the field, parallel the method of scientific reasoning. That is: the problem is defined, a hypothesis is created, experiments are devised to test the hypothesis, experiments are conducted, and conclusions are drawn. This framework is consistent with the following organization of a research report:

Title
Abstract
Introduction
Experimental (Materials and Methods)
Results/Analysis of Data
Discussion/Conclusions and Summary
References

Title

The title should reflect the content and emphasis of the project described in the report. It should be as short as possible, but sufficiently descriptive and specific so the reader knows exactly what the paper is about. (See examples of descriptive titles at the end of these instructions)

Abstract

This is a summary of the work, usually only several sentences long. It contains only enough information to tell the reader what was done, what the conclusions are and how the results fit into what was previously known (to give a sense of the significance of the project). This should stand on its own to give a reader a summary of the work. **The abstract should be no more than 150 words.**

Introduction

This section provides detailed background information, necessary to understand the importance of the project, the techniques to be used, and the specific questions that will be addressed by the research project being described. Generally, this section contains the most references to outside sources (to describe previous related work and the relevance of the current work). Note that this should stand independent of the abstract (assume the reader has not read the abstract).

Experimental Methods/Theoretical Analysis

This section provides details (as much as possible) about the experiments conducted or the theory used in the research work.

If the work was experimental, the conditions, protocols, techniques, and experimental detection methods should be described in detail, as well as the reasons these particular procedures were employed. The source of each chemical used should be cited. The model number/source of instrumentation used should be included. If non-standard equipment is used, diagrams of the instrumentation should be included as a figure). [Note: if you keep a complete notebook, this section should be easy to write].

Results/Analysis

This section presents data and summarizes results. Data should be presented in Figures and Tables, and referred to by number within the text of the report.

Discussion/Conclusion

This section summarizes the data and its interpretation and may offer additional insights as to the importance/significance of the results. **Outline the main conclusions of the project.** Directions for future work are also suitably expressed here.

Signature Lines

After the Discussion/Conclusion, and before references, add a space for you to sign and date, and for your mentor to sign and date.

References

Literature references should be collated at the end of the report and cited in one of the formats described in **The ACS Style Guide** or standard journals. All references should be checked against the original literature. You must use the following format, which is a modification of that used for the *Journal of the American Chemical Society*:

- 1) Dutta, P. K.; Hutt, J. A. "Resonance raman spectroscopic studies of adriamycin and Cu(II)-adriamycin and Cu(II)adriamycin-DNA complexes" *Biochemistry* **1986**, 25, 691-695.
- 2) Castro, L.; Rodriguez, M.; Radi, R. "Aconitase is readily activated by peroxyntirate, but not by its precursor, nitric oxide" *J. Biol. Chem.* **1994**, 269, 29409-29415.

In the text, references are cited with a numerical superscript, such as the one following this text.¹ For multiple refs, use commas or hyphen, like this¹⁻³ or this,^{1,3} as appropriate..

General Instructions

Avoid using the 1st person: I, we, our, etc.
Use spell and grammar checkers.

Example Tables and Figures

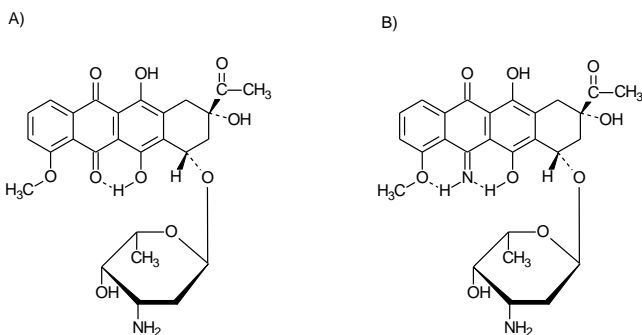


Figure 1. Chemical structures of anthracycline antibiotics daunorubicin (A) and 5-iminodaunorubicin (B).

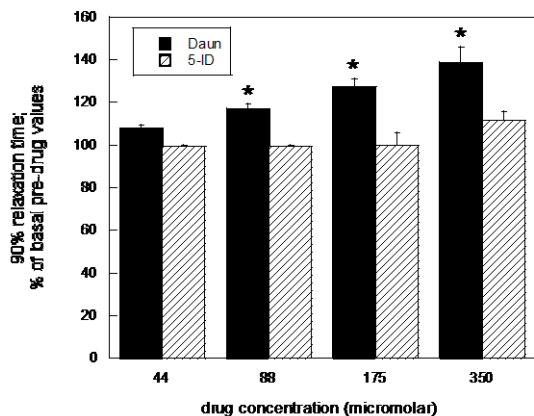


Figure 4. 90% relaxation time (percentage of pre-drug basal values) as a function of Daun or 5-ID concentration for isolated atrial preparations from adult rabbits. Values were obtained at 1 Hz. Data are averages of six and four separate experiments for Daun and 5-ID, respectively; error bars show SEM. (* = $p < 0.05$ Daun vs. 5-ID at each drug concentration; one-way ANOVA and Duncan's New Multiple Range post hoc test).

Table I. Rate of Calcium Release from Isolated SR as a Function of Drug Concentration (nmol Ca²⁺/mg SR/min)

Drug Concentration (μM)	Daun ^a	5-ID ^{a,b}
10	21 (± 5)	<i>n.d.</i>
30	132 (± 28)	<i>n.d.</i>
100	250 (± 17)	<i>n.d.</i>
125		<i>n.d.</i>
200		21 (± 2)
300	297 (± 49)	

^a SEM are shown in parentheses

^b *n.d.* = no Ca²⁺ release detected

EXAMPLES OF DESCRIPTIVE/DEFINITIVE TITLES

"X-ray Absorption Spectroscopic Studies of the Blue Copper Site: Metal and Ligand K-edge Studies to Probe the Origin of the EPR Hyperfine Splitting in Plastocyanin"

"Characterization of Thermal Diffusion in Polymer Solutions: Effect of Molecular Weight and Branching"

"Characterization of Liquid Electrophotographic Toner Particles Using Non-Polar Electrical Field Flow Fractionation and MALLS "

"Apparant cooperativity of Ca²⁺ binding associated with crystallization of Ca²⁺ binding protein from sarcoplasmic reticulum"

"Sarcoplasmic reticulum calcium release is stimulated and inhibited by daunorubicin and daunorubicinol"

"The major metabolite of doxorubicin is a potent inhibitor of membrane-associated ion pumps: A correlative study of cardiac muscle with isolated membrane fractions"