

Authorship and Peer Review

September 11th, 2018

Publication of Experimental Work is Crucial

- Reports **new findings**, which can serve to advance the field
- Put results into the larger context of the body of work in a field
- Allows others to repeat or extend the work described
- Gives professional **credit** to the author...
 - Often crucial for advancement in the field (jobs, grants, students, etc.)
- ...as well as holds them **responsible** for the validity of the work reported

Authorship: Some Definitions

Senior Author: principle investigator or leader of the group

- customarily the last name listed in the byline
- responsibilities include:
 - list of co-authors (along with the first author)
 - oversees response to the peer-review process

First Author: did the most significant amount of experimental work and interpretation of results

Other co-authors: everyone else on the paper
















- generally listed in descending order of contribution

“Acknowledgements”: place to mention other people or organizations who do not qualify as authors but who require acknowledgement for certain contributions

- technical support (crystallography, NMR data, etc.)
- “helpful discussions”
- editorial assistance
- *also the place where funding is acknowledged*

NIH Authorship Guide

General Guidelines for Authorship Contributions

Contributions	Authorship? (■ yes; ■ no)	Comments	
Design & interpretation of results	original idea, planning & input	 Yes	An idea alone may not warrant authorship, unless highly original & unique
	other intellectual contribution	 Yes	Yes, but assuming active involvement
Supervisory role	supervision of the project	 Yes	Yes, but assuming active involvement
	training, education	 No	
	mentoring of 1st author	 No	No, unless substantive contribution made to study
Administrative & technical support	resources: \$	 No	Acknowledgements yes, authorship no
	resources: animals, reagents	 No	No if already published; yes if novel
	resources: patients	 No	Maybe, depending on circumstances
Data acquisition	original experimental work	 Yes	
	technical experimental work	 No	No if routine; yes if novel methods added, or specific role, e.g., statistics, imaging etc.
	data analysis (assays)	 Yes	Yes, unless only very basic
	data analysis (statistics)	 Yes	Yes, unless only very basic (t-tests e.g.)
Writing & other	drafting of manuscript	 Yes	Warrants first authorship
	reading/ commenting on manuscript	 No	Substantial feedback can be acknowledged
	none	 No	Includes honorary authorship for lab chiefs, celebrities etc.

Authorship Abuse

“Coercion Authorship”: when senior people (department chairs, etc.) force authorship on papers of junior investigators for which they have not had any intellectual contribution

“Gift Authorships”: authorships granted out of friendship or to gain favor with someone

“Mutual Support Authorship”: Agreement between investigators to put their names on each others papers to increase publication numbers

“Duplication Authorship”: Same work in multiple journals

“Ghost Authors”: authors whose names are omitted

-can be purposely removed to be deceitful - recent example in the Vioxx case – authors were hired by the company to write a paper demonstrating favorable studies regarding the drug, and an academic was then paid to put their name to the paper to legitimize it

“Denial of Authorship”: Publication of a work without acknowledging key collaborators

For Discussion: Hypothetical Case Study 1

Suzanne Booth is recruited as a postdoctoral fellow in a laboratory where research centers on the cell biology of a specific mammalian cell type. Suzanne's training has been in eukaryotic gene cloning and molecular genetics; no such technology is available in this laboratory. Suzanne completely trains a senior-level graduate student working in the group. Under Suzanne's supervision, the student proceeds to build a cDNA library and isolates by molecular cloning a gene for a membrane protein. Several months later, a manuscript describing this work is prepared for submission. The principal investigator of the laboratory, Professor Jack Taylor, and the student are listed as coauthors. Suzanne is listed in the "Acknowledgement" section of the paper. She is upset with this disposition and confronts Dr. Taylor. Dr. Taylor says that he has strict rules about authorship and that Suzanne's contribution was a technical one that does not merit authorship. Dr. Taylor quotes from several different standards-of-conduct documents indicating that authorship must be strictly based on intellectual and conceptual contributions to the work being prepared for publication. Technical assistance, no matter how complex or broad in scope, is not grounds for authorship. Does Suzanne have a case for authorship?

For Discussion: Contemporary Publishing Issues

Preprint Servers (e.g., ChemRxiv)

What are some merits of this type of publishing?

1. More-rapid dissemination of results
2. Open access of some form of the work

What are some downfalls of this type of publishing?

1. Lower quality work (for example, not peer reviewed)
2. Intellectual property concerns (e.g., patents related to work)
3. Major changes can occur during peer review

Open-Access Publishing

Upside(s) of open-access publishing?

1. Allows the funder of the work (often taxpayers) to view the work easily
2. NIH and DOE already have requirements for submission of work into open-access online repository

Downside(s)?

1. Lower quality of end product (less money/resources for publishers)

Peer Review Process

After submission of a manuscript:

- An editor is chosen whom reads the paper and decides to reject or send it for review
- It is sent out to reviewers in the field (often recommended by the authors)
- Reviewers read and return the paper (2-4 weeks) with comments and suggestions
- The editor reads the review and either accepts, rejects or returns the paper to the authors
- Authors respond to the comments and adjust their manuscript accordingly
- The revised manuscript is usually sent back out for review and the process starts over

Being a Peer Reviewer

- Decide if you are qualified to be a reviewer

Conflicts of interest

1. Authors are colleagues, trainee, collaborator etc..
2. Commercial conflicts

How to conduct the review

1. Confidentiality is mandatory!!
 - Manuscripts should not be shared with others
 - One should never contact the authors
 - Literature citations (are they correct)
 - Is the work original
 - Presentation is the work clearly represented?
 - Are the arguments well supported and logical?
 - Is the writing clear?
 - Is the experimental section well written with key data?
 - The prepared written response should not be adversarial

Dos and Don'ts: Thoughts on How To Respond to Reviewer Comments

Gabbai, F.P.; Chirik, P.J. *Organometallics*, **2018**, *37*, 2655-2655

ACS Ethical Obligations of Reviewers (Summary)

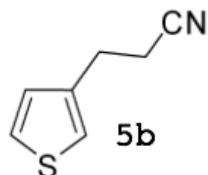
1. Every scientist has an obligation to do a fair share of reviewing.
2. A chosen reviewer who feels inadequately qualified to judge the research reported in a manuscript should return it promptly to the editor.
3. A reviewer (or referee) of a manuscript should judge objectively the quality of the complete manuscript and the Supporting Information, including the experimental and theoretical data, the interpretations and exposition, with due regard to the maintenance of high scientific and literary standards. A reviewer should respect the intellectual independence of the authors.
4. A reviewer should be sensitive to the appearance of a conflict of interest when the manuscript under review is closely related to the reviewer's work in progress or published. If in doubt, the reviewer should return the manuscript promptly without review, advising the editor of the conflict of interest or bias. Alternatively, the reviewer may wish to furnish a signed review stating the reviewer's interest in the work, with the understanding that it may, at the editor's discretion, be transmitted to the author.
5. A reviewer should not evaluate a manuscript authored or co-authored by a person with whom the reviewer has a personal or professional connection.

ACS Ethical Obligations of Reviewers (Summary)

6. Confidentiality and peer reviewer anonymity are expectations throughout the editorial review process in order to allow for candid discussion and evaluation regarding submitted scientific content.
7. Reviewers should explain and support their judgments adequately so that editors and authors may understand the basis of their comments
8. A reviewer should be alert to failure of authors to cite relevant work by other scientists.
9. A reviewer should act promptly, submitting a report in a timely manner.
10. Reviewers should not use or disclose unpublished information, arguments, or interpretations contained in a manuscript under consideration, except with the consent of the author.
11. The review of a submitted manuscript may sometimes justify criticism, even severe criticism, from a reviewer. When appropriate, such criticism may be offered in published papers. However, in no case is personal criticism of the author considered to be appropriate.
12. Reviewers should notify editors of concerns with respect to manuscripts that report research that, based on current understanding, can be reasonably expected to provide knowledge, products, or technologies that could be directly misapplied by others to pose a threat to public health and safety, agricultural crops and other plants, animals, the environment, or materiel.

Case Study 1 Peer Review

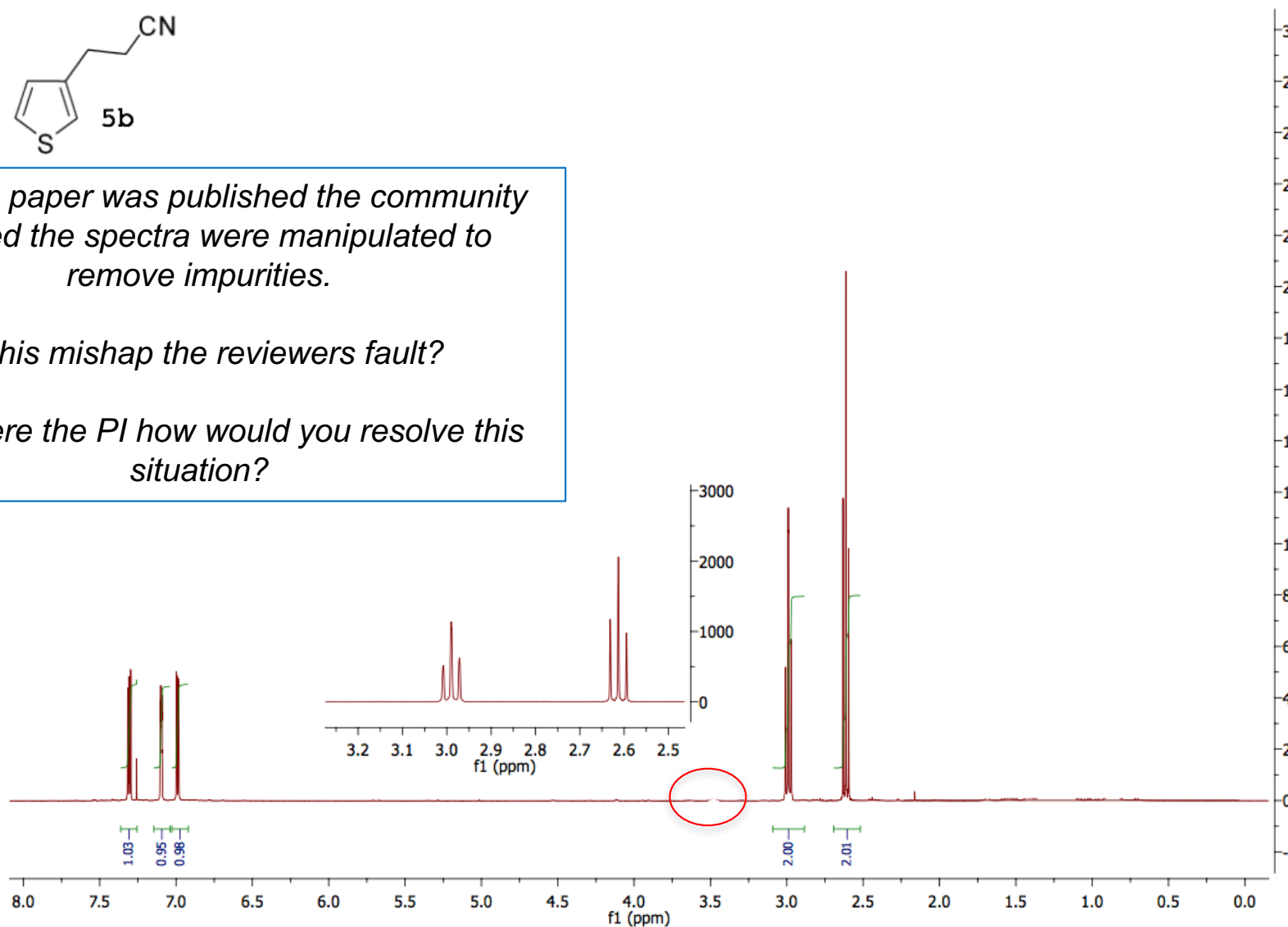
Monoalkylation of Acetonitrile by Primary Alcohols Catalyzed by Iridium Complexes



After this paper was published the community realized the spectra were manipulated to remove impurities.

Is this mishap the reviewers fault?

If you were the PI how would you resolve this situation?



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Case Study 1 Peer Review (solution)

Monoalkylation of Acetonitrile by Primary Alcohols Catalyzed by Iridium Complexes

In the Supporting Information of this paper, spectra for **3b–d,j,k,m**, **5b–e**, and **7a,c–f** were found to have been edited to remove solvents and impurities. Original products were located, and the spectra were recorded and have been replaced for **3a** to **7f** except for **3c**, **3d**, and **3j**. Compounds **3c**, **3d**, and **3j** were resynthesized, and new spectra are provided for those compounds. Except as stated below, yields remained as previously reported.

In Table 2, entry 2, compound **3c** was resynthesized, and the yield should be 75%.

In Table 2, entry 3, compound **3d** was resynthesized, and the yield should be 80%.

In Table 2, entry 9, a note (c) should be added: 50 equiv of CH_3CN were necessary to perform a complete conversion of **2j**. The yield for **3j** should be 67%.

Case Study 2 Peer Review

Peter Schwartz developed a new technology that allowed the the assembly of materials on a nanoscopic level using DNA linkage while working as a postdoctoral researcher in the lab of Professor Chad Mirkin at Northwestern University. Upon leaving the university he submitted a manuscript to *Langmuir*, and was accepted. However, Prof. Mirkin objected to the manuscript, saying that it was only a piece of a much larger work that was incomplete and had not been replicated yet. Mirkin also indicated to the editor that Schwartz was taking research from his group and passing it off as his own. Then Schwartz argued that the paper was based solely on his own findings and that Mirkin's obstruction of the paper was hurting his chances of advancing, since to junior scientists publications are crucial. How would you handle this situation?

Case Study 2 Peer Review (solution)

Monoalkylation of Acetonitrile by Primary Alcohols Catalyzed by Iridium Complexes

Addendum. This work was done in the laboratories of the Mirkin Group at Northwestern University while Peter Schwartz was a postdoctoral associate working with us. While we all contributed to many of the ideas and experiments presented in the manuscript, to the best of our knowledge much of the work has yet to be reproduced by Schwartz or by us. We believe that some of the conclusions may be erroneous, and we intend to correct them in a future manuscript that credits all of those involved with the work. Until the data have been reproduced and the proper control experiments have been done, none of us feels comfortable including our names as coauthors.