ACCDON

Getting Your Paper Accepted

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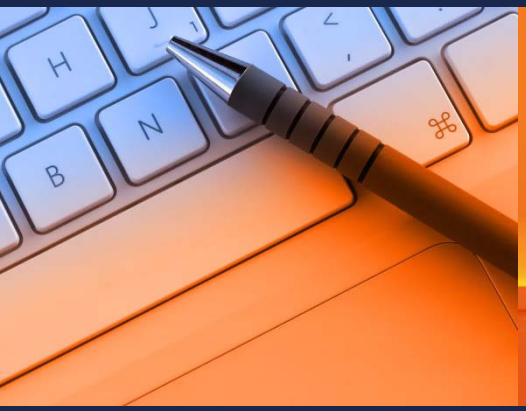
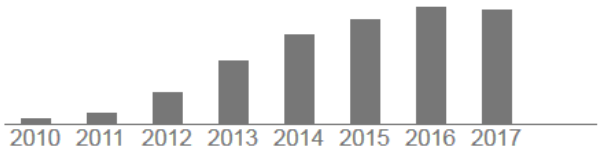


My Credentials

- Assistant Professor at UC San Diego
- Grants: $3.5M USD in two years
- Training at UT Austin (PhD in Chemistry) and Stanford (Postdoc in Radiology)
- http://jjokerst.eng.ucsd.edu/publications
- ~ 40 papers, around 150 peer reviews written
- H-index of 19; i10 of 24; ~3400 citations
- Perhaps 10 rejections

Citation indices	All	Since 2012
Citations	3465	3324
h-index	19	19
i10-index	24	24



Scope of the Presentation

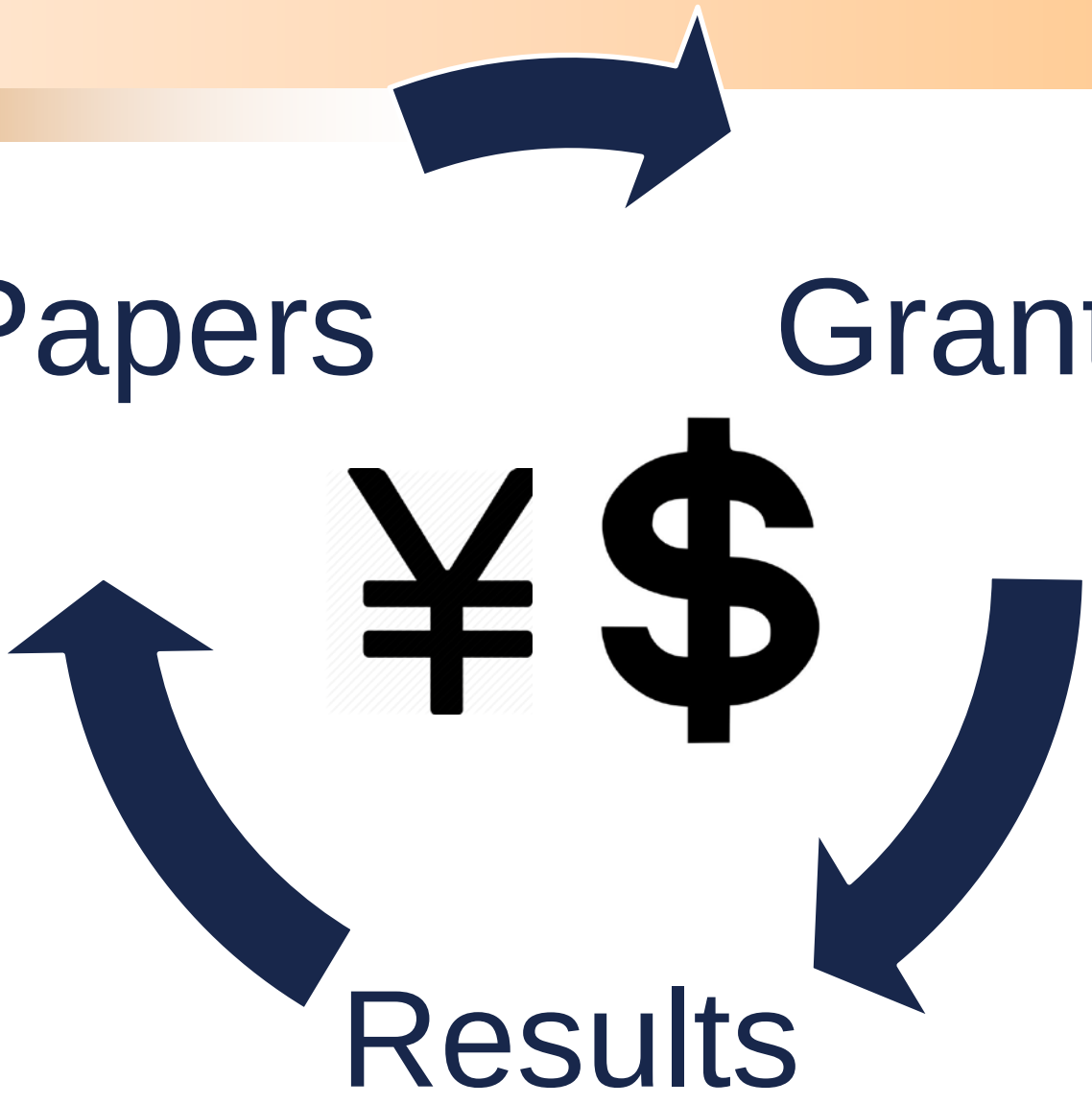
LetPub
Your Manuscript Editor

Overview of the Past, Current, and Future State of English Journal Publishing

Examination of the Review Process from The Scientists Editor's and Reviewer's Perspective

Frequent Organizational and Writing Errors

Tips for Successful Writing in the 21st Century


Papers
Grants
¥
$
Results

Goals

- Advice abounds on the internet
- Videos, articles, blog posts produced by publishers
  - does not account for human nature
  - overemphasis on the sanctity of the peer review system
    - assumes the author is usually wrong
    - or simply complaining
- Inherent asymmetry in the process: you spent a year on a paper; the reviewer spent an afternoon (if you're lucky)
- It is very possible that the reviewer doesn't "get it," but that may be because the author didn't explain it (sell it) well!
- Sometimes the reviewer is just a crank

What Makes a Good Paper

- We are assuming that the work is worth submitting
  - good science is a necessary *but not sufficient* criterion for acceptance
- The purpose of a paper is to instruct the reader and ultimately to change their behavior
  - to use your technique
  - to interpret their results in light of yours
  - to do *something* different
- Mistake: to assume a paper is archival and to get it out the door just for another paper

More Details

- All co-authors must read final version and agree with the conclusions
- To a zeroeth order approximation, you will be judged on the quality of your figures
  - the reader is not going to *study* your figures → the meaning must be obvious, since they will look there first
  - use fonts that seem absurdly large until shrunken to one column
  - look at other plots, micrographs, schematic drawings from your group and *copy the style*
- Eliminate jargon or define it early and without other jargon
  - your audience is a first-year graduate student in your field
- Read the prose out loud before submitting

Copyediting

- The copyeditor will do all this stuff, but if you do it all for the reviewers, you will look savvy and well prepared
- Variables are italicized *PV = nRT*
- Superscripted references go outside the punctuation when placed at the end of a sentence.[5]
- In the US, commas and periods go inside “quotation marks.” In the UK, they “go outside”.
- One space after a period
- Double space drafts
- Put final few drafts into template!
  - if no template, put figures near where they are mentioned in the text

Templates are Awesome

ACSNANO
www.acsnano.org

ARTICLE

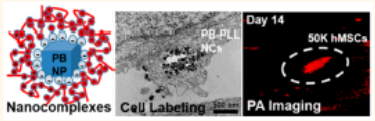
Photoacoustic Imaging of Human Mesenchymal Stem Cells Labeled with Prussian Blue–Poly(L-lysine) Nanocomplexes

Taeho Kim,[†] Jeanne E. Lemaster,[†] Fang Chen,[†,‡] Jin Li,[†] and Jesse V. Jokerst*[,†,‡,§]

[†]Department of NanoEngineering, [‡]Materials Science Program, and [§]Department of Radiology, University of California, San Diego (UCSD), La Jolla, California 92093, United States

Supporting Information

ABSTRACT: Acoustic imaging is affordable and accessible without ionizing radiation. Photoacoustic imaging increases the contrast of traditional ultrasound and can offer good spatial resolution when used at high frequencies with excellent temporal resolution. Prussian blue nanoparticles (PBNPs) are an emerging photoacoustic contrast agent with strong optical absorption in the near-infrared region. In this study, we developed a simple and efficient method to label human mesenchymal stem cells (hMSCs) with PBNPs and imaged them with photoacoustic imaging. First, PBNPs were synthesized by the reaction of $FeCl_3$ with $K_4[Fe(CN)_6]$ in the presence of citric acid and complexed with the cationic transfection agent poly-L-lysine (PLL). The PLL-coated PBNPs (PB–PLL nanocomplexes) have a maximum absorption peak at 715 nm and could efficiently label hMSCs. Cellular uptake of these nanocomplexes was studied using bright field, fluorescence, and transmission electron microscopy. The labeled stem cells were successfully differentiated into two downstream lineages of adipocytes and osteocytes, and they showed positive expression for surface markers of CD73, CD90, and CD105. No changes in viability or proliferation of the labeled cells were observed, and the secretome cytokine analysis indicated that the expression levels of 12 different proteins were not dysregulated by PBNP labeling. The optical properties of PBNPs were preserved postlabeling, suitable for the sensitive and quantitative detection of implanted cells. Labeled hMSCs exhibited strong photoacoustic contrast *in vitro* and *in vivo* when imaged at 730 nm, and the detection limit was 200 cells/μL *in vivo*. The photoacoustic signal increased as a function of cell concentration, indicating that the number of labeled cells can be quantified during and after cell transplantations. In hybrid ultrasound/photoacoustic imaging, this approach offers real-time and image-guided cellular injection even through an intact skull for brain intraparenchymal injections. Our labeling and imaging technique allowed the detection and monitoring of 5×10^4 mesenchymal stem cells in living mice over a period of 14 days.



KEYWORDS: *cell tracking, molecular imaging, mesenchymal stem cell, Prussian blue nanoparticles, photoacoustic, contrast agent*

Stem cell imaging is indispensable for monitoring and supporting regenerative medicine.[1−3] Imaging can determine the location and quantity of cells, and real-time imaging can ensure that cells are properly delivered to the target tissues upon implantation. Furthermore, the long-term fate and distribution patterns of implanted cells including anoikis-induced apoptosis can be monitored after implantation *via* cell tracking.[4,5] Magnetic resonance imaging (MRI) has long been the gold standard for stem cell tracking due to its excellent spatial resolution, soft tissue contrast, and low detection limits.[6−9] However, MRI has a relatively poor temporal resolution of minutes, which prevents its widespread utility in imaging of cell implantation. While micro-computed tomography (CT) imaging has good temporal resolution, it also has limited sensitivity and poor soft tissue contrast, which hampers its broad use in stem cell tracking applications.[10−12] Optical imaging also has good temporal resolution but is difficult to use clinically due to optical scatter that limits penetration depth.[13]

Photoacoustic imaging has recently been introduced to the field to overcome these limitations.[14−17] It is based on the photoacoustic effect: the generation of ultrasound by the heat dissipations from pulsed light incident. It is noninvasive and quantitative and has fast scan times. Its spatial (50−150 μm) and temporal resolution (100 ms) are excellent. Photoacoustic imaging can also be coupled with B-mode ultrasound for anatomical information in real time during cell transplantation events.[18−20]

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ACS APPLIED MATERIALS & INTERFACES
Research Article
www.acsami.org

Organosilica Nanoparticles with an Intrinsic Secondary Amine: An Efficient and Reusable Adsorbent for Dyes

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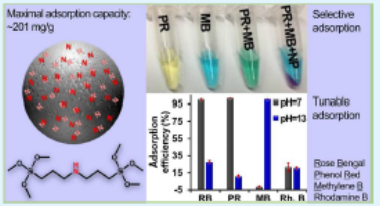
Supporting Information

ABSTRACT: Nanomaterials are promising tools in water remediation because of their large surface area and unique properties compared to bulky materials. We synthesized an organosilica nanoparticle (OSNP) and tuned its composition for anionic dye removal. The adsorption mechanisms are electrostatic attraction and hydrogen bonding between the amine on OSNP and the dye, and the surface charge of the OSNP can be tuned to adsorb either anionic or cationic dyes. Using phenol red as a model dye, we studied the effect of the amine group, pH, ionic strength, time, dye concentration, and nanomaterial mass on the adsorption. The theoretical maximum adsorption capacity was calculated to be 175.44 mg/g (0.47 mmol/g), which is higher than 67 out of 77 reported adsorbents. The experimental maximum adsorption capacity is around 201 mg/g (0.53 mmol/g). Furthermore, the nanoparticles are highly reusable and show stable dye removal and recovery efficiency over at least 10 cycles. In summary, the novel adsorbent system derived from the intrinsic amine group within the frame of OSNP are reusable and tunable for anionic or cationic dyes with high adsorption capacity and fast adsorption. These materials may also have utility in drug delivery or as a carrier for imaging agents.



KEYWORDS: *organosilica nanoparticles, phenol red, adsorbent, water remediation, nanomaterials*

INTRODUCTION

Industrial effluents can contain organic molecules, inorganic compounds, and polymers that pollute water intended for human consumption.[1] This has been linked to numerous health challenges[2] including stomach cancer[3] and environmental toxicity.[4] Colorants are especially challenging to remove because they are designed to be chemically stable, unreactive, and resistant to fading.[5] These colorants are used in many industrially important activities such as the manufacture of paper, textiles, and leather, as well as food processing, cosmetics, and plastics.[6] Thus, significant efforts have been dedicated to remediation technologies that can remove colorants from water.

There are many structural varieties of colorants, including acidic, basic, disperse, azo, diazo, anthroquinone-based, and metal complex dyes.[5] However, intensely colored, water-soluble anionic dyes are the most difficult to remove from wastewater because they are rarely affected by conventional treatment schema based on biological degradation in sewage treatment plants.[7,8] Next generation systems include chemical methods such as oxidation, ozonation, or photochemical/electrochemical degradation. Of these, dye flocculation is more common,[9] but the resulting aggregate is often difficult to separate from the solution.[10] Biological treatments can be self-sustaining, but are also time-consuming, specific to the type of biotic degradation, and can result in toxic byproducts.[11]

Physical methods are often more cost efficient and are useful for chemically stable dyes. These methods include membrane separation, ozonation, and adsorption. Adsorption is particularly common because of its reliability and affordability.[12] The most common adsorbent is activated carbon,[13] but it is relatively expensive and is difficult to reuse. A variety of natural carbon sources have also been proposed including peat,[14,15] wheat husk,[16,17] wood,[18,19] pine cones,[20,21] etc., which are low cost but requires long retention times.[5] More recently, mesoporous silica nanoparticles have been proposed as an adsorbent for dye removal.[22−27]

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Abuse of Templates…

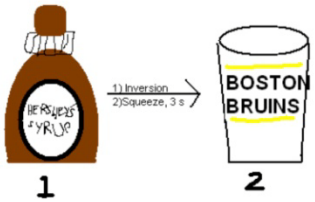
APPLIED CHOCOLATE MILK LETTERS
June 12, 2004

ABSTRACT

Described herein is an efficient and practical method for the preparation of milk-derived chocolate milk product without the need for costly spoon-washing techniques. Though the experimental procedure tested in this work utilized reduced fat (1% milkfat) milk, it is expected to be applicable to all of the different flavors, even skim milk, which is dull and flavorless, unless you have high cholesterol and are forced to like it.

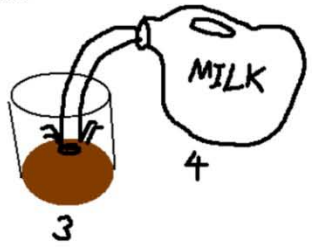
The rising costs of dishwashing detergent, the need for large amounts of water, and the time and energy associated with stirring activities represents the need for a major paradigm shift in the area of self-prepared flavored milks. The necessity for chocolate milk to accompany a Jiffy® muffin for dessert provided the impetus for this work. A procedure developed in Hilton, NY[1] was modified for the smaller scale production of single serving Hershey's syrup-promoted catalysis of regular milk into chocolate milk. The procedure is versatile enough to be applicable with minor modifications to the preparation of strawberry milk, should anyone wish to pollute his body with gross pink shit.

Figure 1. Hershey's syrup goes into the cup, it does this whenever it's told



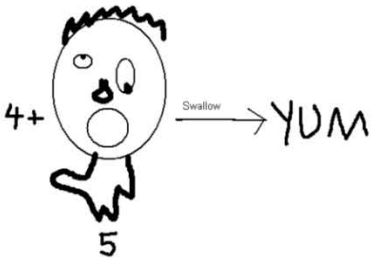
In a typical experiment, similar to that described by Gerzaldevitch, et al.,[2] Hershey's syrup **1** was charged into the Boston Bruins receptacle **2** (figure 1).[3] To the neat viscous brown material was added an equal volume of reduced fat Garelick Farms (1%) milk.[4] The heterogeneous phases were stirred externally by the gentle but firm sloshing in a circular manner by hand until such time as the two phases coagulated **3** (ca. 7 seconds on this scale). The cup is tilted 20° to the vertical, and the homogeneous diarrhea-like intermediate was immediately quenched with additional milk **4**[4] such that the total liquid level did not exceed the volume of the plastic cup.

Figure 2. It puts the milk in the cup or else it gets upchucked!



The material was a light brown homogeneous mixture and was ready for human consumption to alleviate corn muffin-promoted chocolate milk hankerings. A typical consumption experiment goes as follows: Doofberg **5** ingests an amount of material such that the total volume does not exceed its mouth capacity. Doofberg metabolizes the liquid and is happy.

Figure 3. Doofberg consumes chocolate milk prepared by the Lipomi Spoonless Method (LSM)



This method has proven to yield concentrateocontrolled installation of chocolate syrup to reduced fat milk without the need of internal spoon-assisted stirring. Efforts to apply this methodology to other chocolate-modified milks in various fat contents or container sizes are underway and will be reported in due course.

Acknolwedgements. Milk and chocolate syrup were obtained by the generous support of the Arnold and Mabel Beckman Foundation and by the National Institutes of Health. Thanks goes to the FleetCenter in Boston, MA for generously providing the souvenir cup that DJL has gotten way too much use out of. TRC thanks DJL for the free publication.

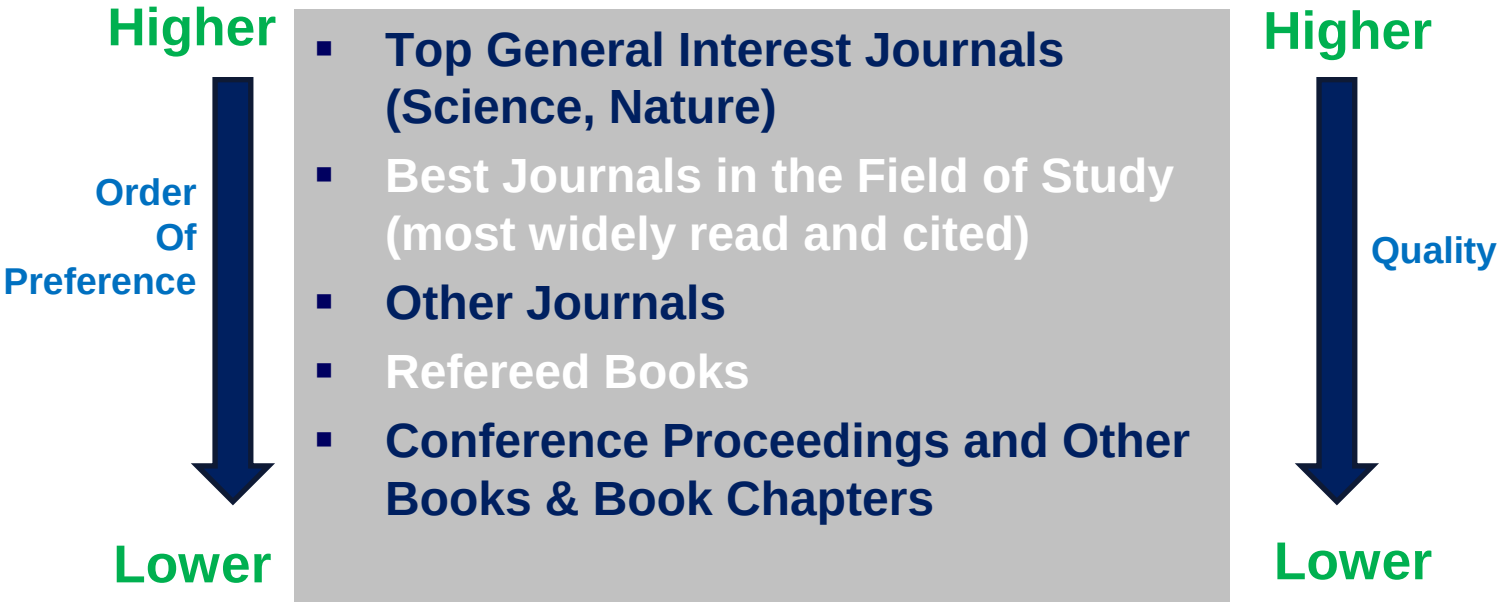
Supporting Information Not Available: No spectra (^{1}H and ^{13}C NMR, HRMS, FTIR, and optical rotation) available free of charge via the internet at http://people.bu.edu/djlipomi.

[2] Gerzaldevich, I, T.; Bitch, U. R. A. *Syrup Pouring Monthly*. **1969**, *78*. 539-890.

[3] Cups of other sports teams were not tested. However, with modification, the procedure should be transferable to other types of stadium souvenir beverage containers. .

[4] 1% Milk may be substituted here with tap water or hog lard, should one wish to prepare chocolate tap water or chocolate hog lard, respectively.

Hierarchy in Scientific Results



Modified From Randal Filer, Iset Policy Institute

Journals versus Book Chapters

Journals

- **Editorial Goals:** Journal editors are looking for something new and original that will receive considerable interest and citations (drives impact factors)
- Advantages
  - Peer review typically significant
  - More widely distributed
  - Cited and read more frequently
  - More available online
- Disadvantages
  - Page and figure limitations

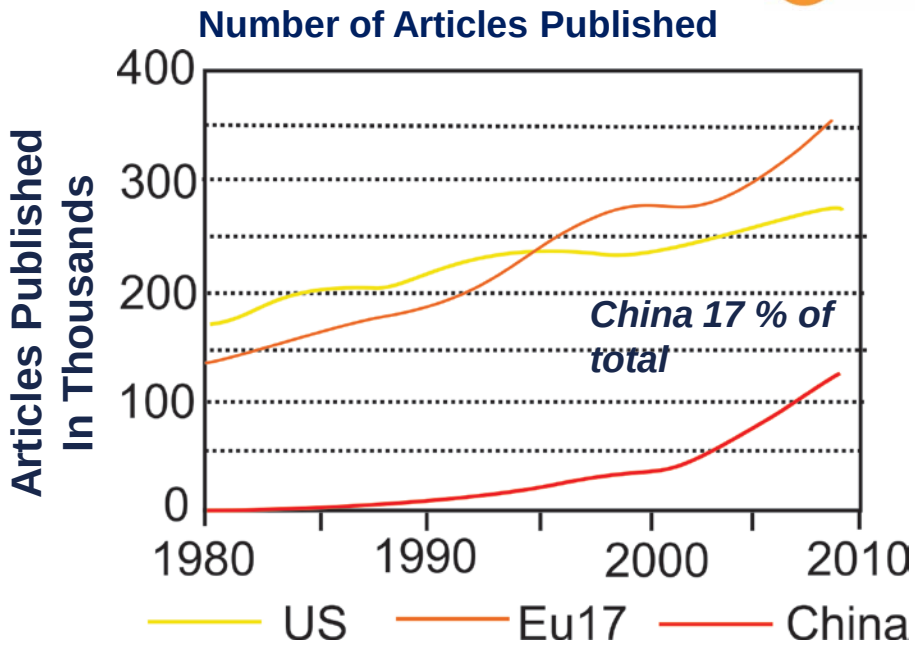
Book Chapters

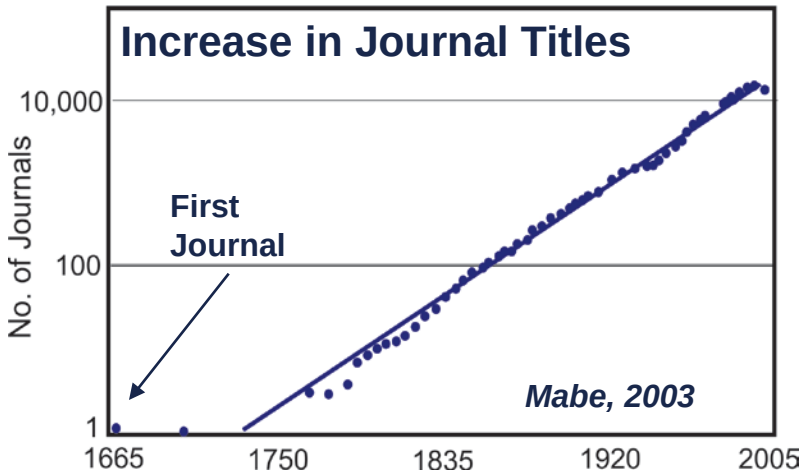
- **Editorial Goals:** Book editors are looking for materials that sells to as large of audience as possible
- Advantages
  - Typical less restrictive on length and figures
  - Author association with topic
- Disadvantages
  - Lower quality reviews
  - Less reputable
  - Less well distributed
  - Often require longer publication times
  - Less availability online

Peer-Reviewed Journals

English Language Journals

- ~28,100 peer-reviewed journals (all fields) (Plume & Van Weijen, 2014)
- Publish ~2.5 million articles per year
- ~3.5-4.5 % increase in published articles
- CrossRef database includes ~55 million journal articles





Thomson Reuter's Journal Citation Reports (most cited journals)

- 10,900 journals
- 2,550 publishers
- 8,700 are science related
- 3,200 are social science related
- 1.5 million articles published per year collectively

Peer-Reviewed Journals

- Method of sharing data and discoveries
- Maintain quality of science – allow only sound research to be disseminated
- Serve as an archive for scientific data and discovery
- Provide author services
  - Register author's findings/discoveries (precedence)
  - Serves as a indicator of researcher's impacts on field
    - primary reasons for publishing was to obtain funding and furthering author's career.

Publishing: The Perfect Business Model (Scam?)

- Libraries/Universities pay them for access
- Advertisers pay them for ad space
- Authors pay them for pay them for page charges
- Authors do the work (for free)
- Reviewers do the work (for free)
- Pay Editors poorly

- This is why I *strongly* prefer non-profits . . . American Chemical Society, Materials Research Society, American Cancer Society, etc.

Publishers

- **Wide range of publishers**
  - **Globally, 5000-10000 journal publishers**
  - **~650 main English-language publishers**
    - **73% are not-for-profit**
      - **Only publish 20% of journals**
      - **80% of journals published by for-profit publishers**
        - **9,240 journal of total 11,550 (English)**
        - **Elsevier - ~25% of total science titles**
- **Revenues are often high – US $25.2 Billion**
  - **US $10 Billion for journals**
  - **US $5 Billion in books**

Data from STM, 2015

Impact Factor

- **Formulated by Eugene Garfield, founder of the Institute of Scientific Information (ISI)**
- **Produced by Thomson Reuters and Published Annually in the ISI Citations Reports (starting in 1975), for journals indexed in ISI databases (Web of Science/Knowledge)**
- **It is the average number of times each paper published in that journal is cited during the preceding two years by other indexed journals**

Example:

$$\text{Impact Factor 2014} = \frac{\text{\# of times that all papers published in journal in 2012 \& 2013 were cited in indexed journals 2014}}{\text{\# of articles published in that journal in 2012 \& 2013}}$$

Impact of Increased Publication Volume on Scientists

Fallout of digital publishing and distribution

- Access to papers has, in general, increased and is dominated by online sources
- A larger number of journals combined with a larger volume of published articles has made it more of a challenge for our papers to get noticed

Not only do we need to get published, but we need to do it in such a way that the papers we publish will get read.

Balancing Quality, Quantity, and Professional Success

Quantity versus Quality

International Standard: To Maximize Quality	↓	↑
Academic/Institutional Demands Quantity	↑	↓

Always Strive to Maximize Quality

LetPub
Your Manuscript Editor

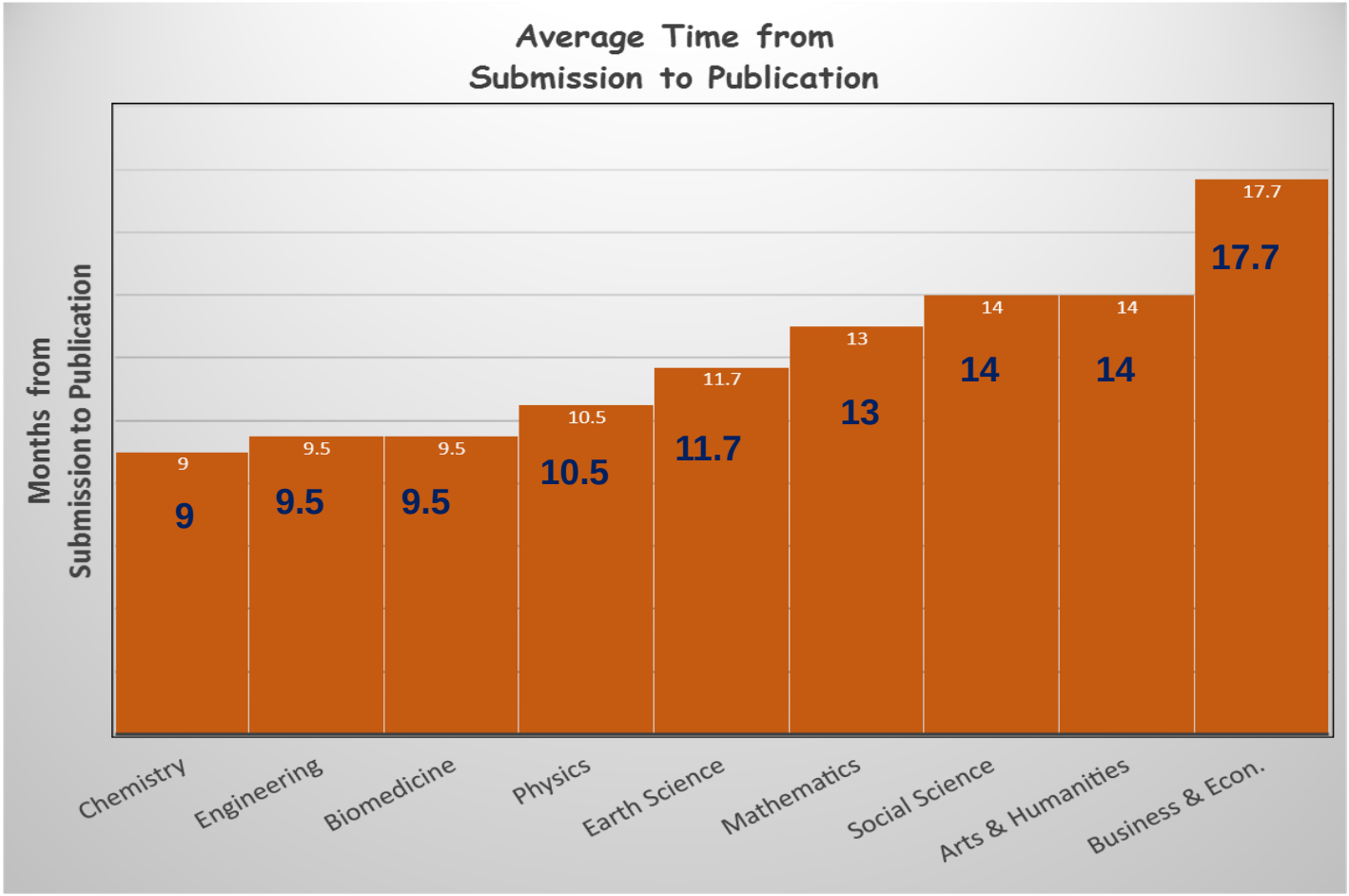
Research I Universities in the US require about 2 papers per year in refereed journals for Promotion & Tenure

Dreamtime.com

Reasons to Maximize Quality over Quantity

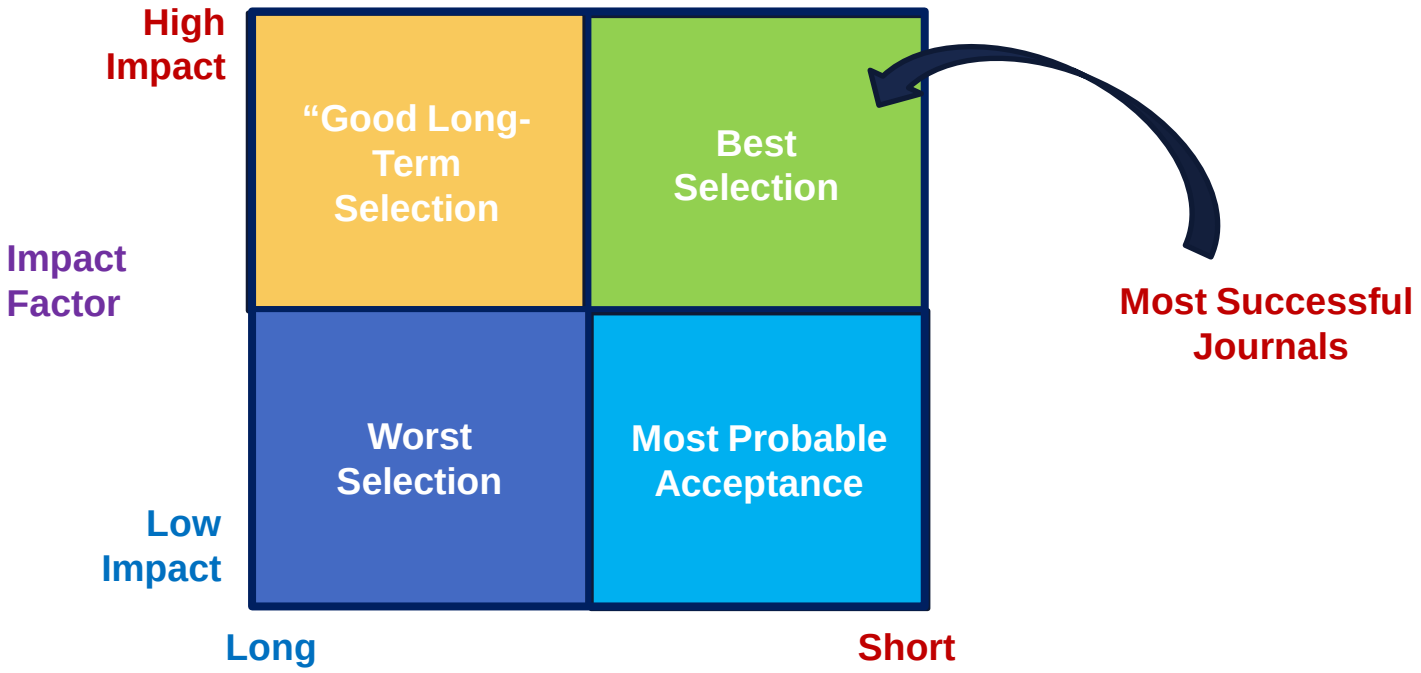
- You can publish a million papers, but if the papers are not of high quality, few other scientists will follow your works
- Good works get lost in the mix of lower quality articles
- First impressions count – especially important for early career scientists

Time Required for Publication



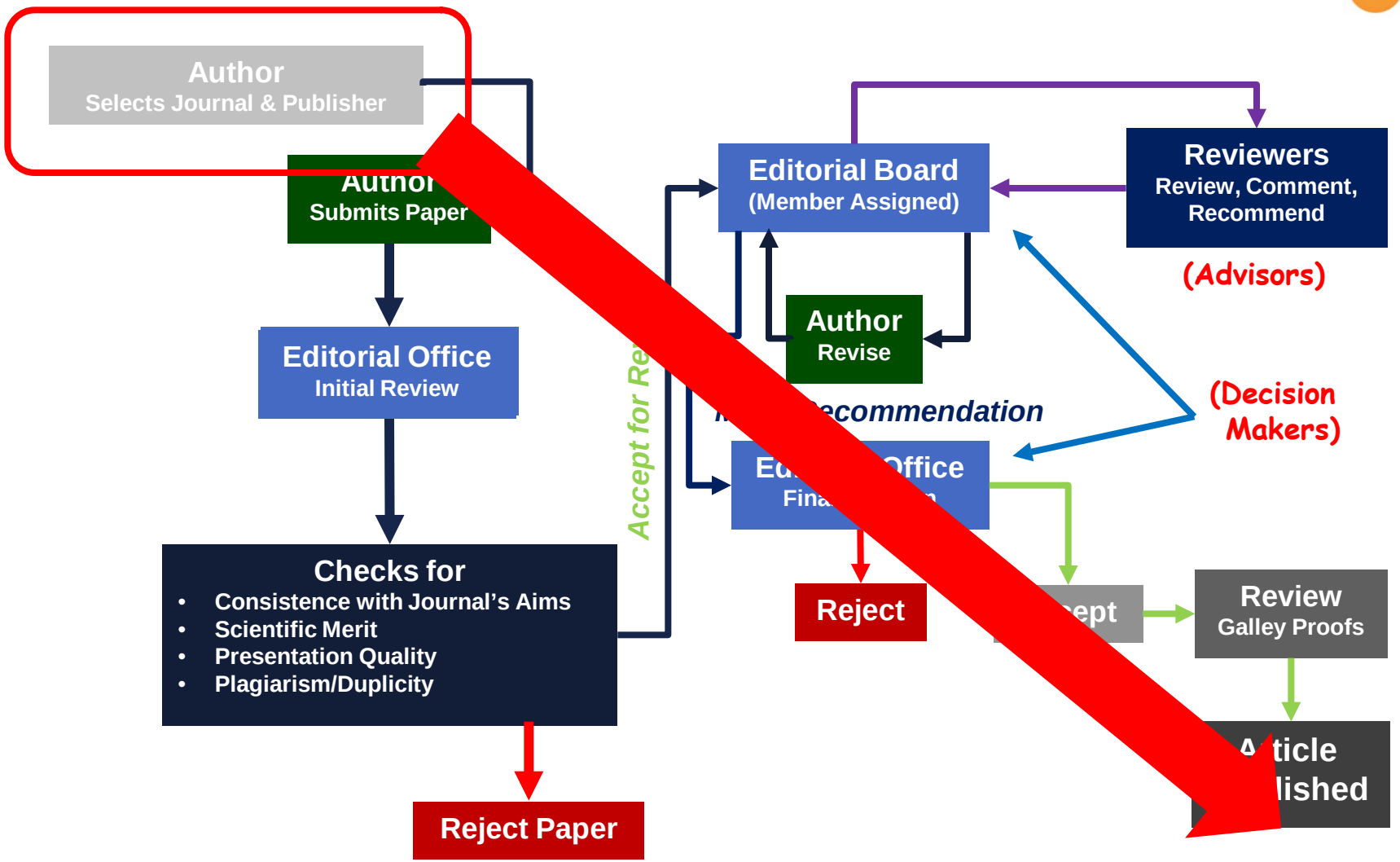
Acceptance times varies by discipline

Journal Selection Model

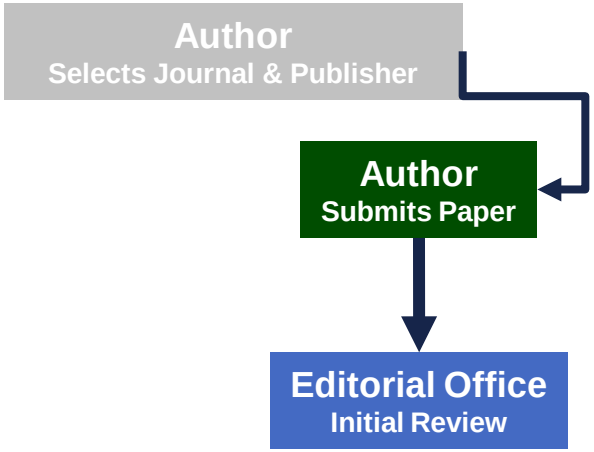


After Linda V. Knight and Theresa A. Steinbach, 2008

Typical Peer Review Process



Journal Editors



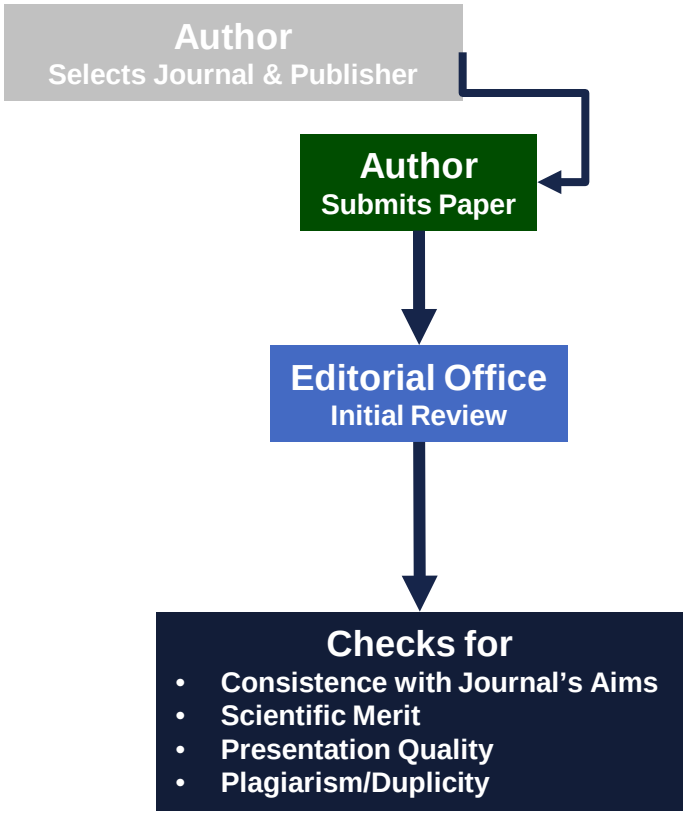
Duties/Tasks

- Find papers to fill journal pages; required to make a profit or kept journal solvent
- Maintain the journal's reputation by accepting high quality papers

- Few financial benefits; often serve for free
- Editorial duties are just one of many demands on editors' time:
  - Managing manuscript flow (deadlines)
  - Working with authors and reviewers
  - Other teaching, research, and/or managerial responsibilities

The Editor's Job is Made Easier by High Quality Papers – They Want to Accept Your Paper!

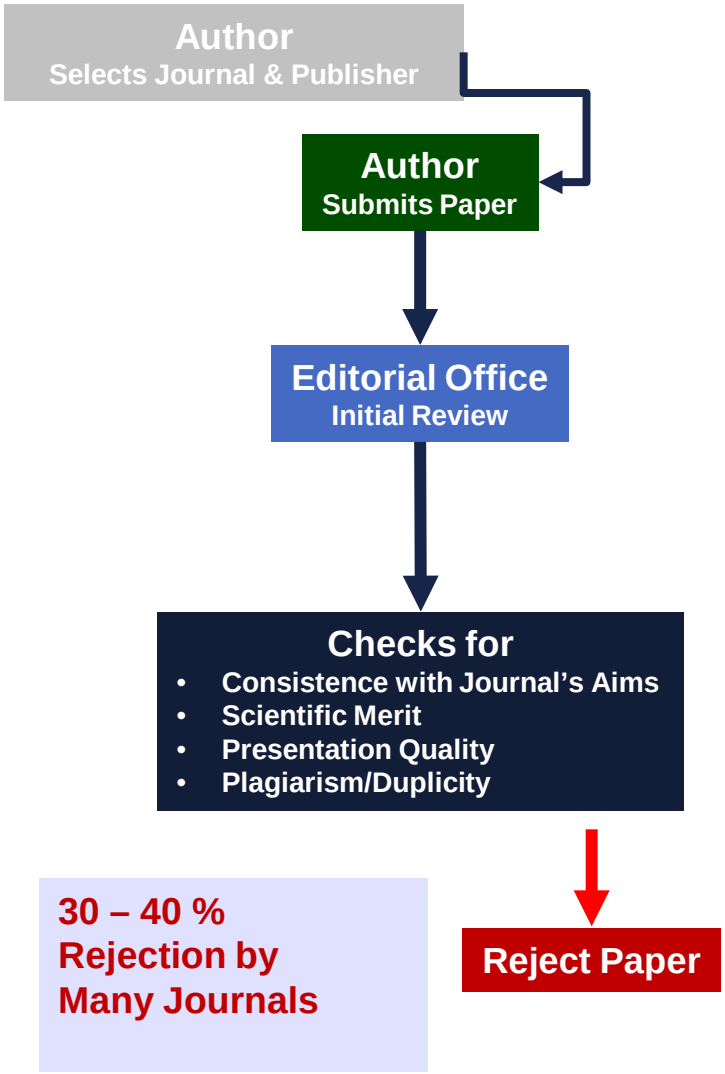
Paper Triage: Appearances Matter



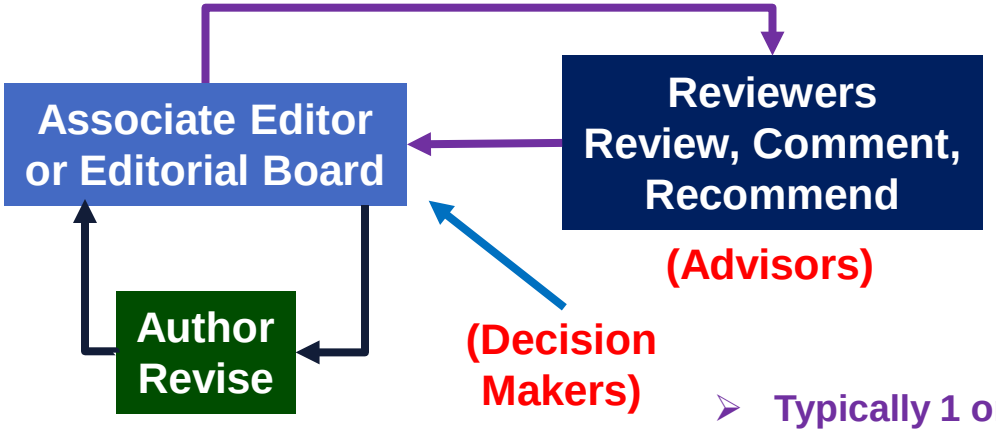
Performed to Save Time and Effort

- Paper inconsistent with journal's aims and goals
- Manuscript does not follow submission guidelines
  - Length, figure number or quality, key elements (e.g., title, key words, section headings)
- Paper has been submitted elsewhere or is very similar to a previously published article
- Manuscript is poorly written or organized such that the paper is difficult to comprehend

Typical Peer Review Process



Identifying a Primary Editor



- Typically 1 or 2 reviewers
- Advisory role only

- **Blind-Review: Authors do not know the reviewers**
- **Double-Blind Review: Authors do not know the reviewers & reviewers do not know the authors**

Journal Reviewer

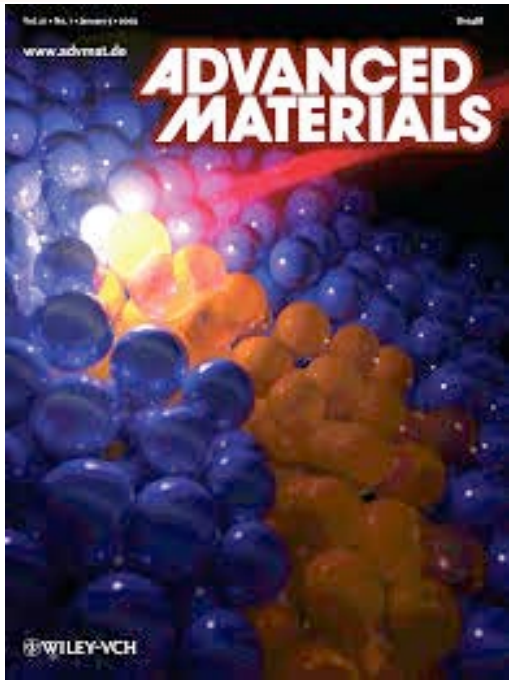
- Typical review takes 4-5 hours; 8+ hrs for less experienced reviewer (STM, 2015)
- Reviewing is unpaid professional service to the discipline for which there is little reward
  - Editors often ask 6 scientists to find 2 reviewers
- Like editors, reviewers have numerous other time commitments
  - Research, writing, teaching, advising students, etc.

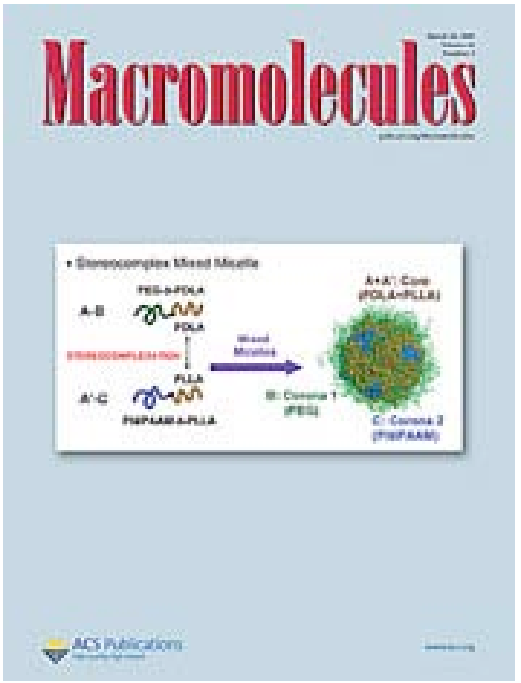
- Reviewers want to review papers that are easy to read, well-organized and describe novel "cutting-edge" research
  - They Want to Accept, Not Reject, Your Manuscript

The Players

- Any submission involves the interplay of three roles
  - The author
  - The editor
  - The reviewer(s) (usually 2-4 of them)
- The editor is usually a mid-career or senior scientist
- Some publishers (e.g., Nature, Wiley-VCH) use professional editors, as do some journals within publishers (e.g., *Energy & Environmental Science*)
- Editors are often your colleagues
- The roles revolve; most authors are reviewers several times per paper they submit

Where to Submit?





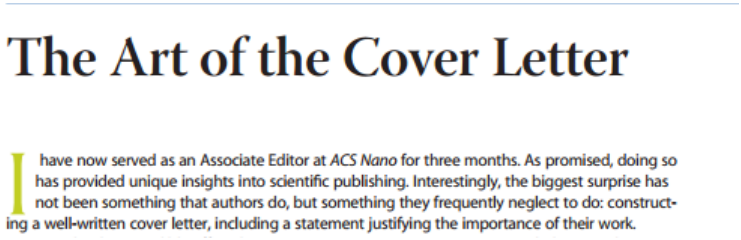
- Choice of journal should be made realistically
- Okay to push the envelope a little bit
- Not every paper belongs in *Science*
- Aiming too high annoys editors, and wastes your time

Goal of the Cover Letter

- Get it sent out of review
- Make the editor an advocate
- Remember:
  - You have been working on this for 6-24 months.
  - But this is the first the editor is seeing it.
- Thus, the cover letter needs to explain problem AND solution while building enthusiasm

Goal of the Cover Letter

- Novelty and significance of the work
  - What has been done
  - How it was received by the community
  - Fundamental limitation of existing technology
- How the work solves these problems
  - Is it the first or best?
- Why the paper is appropriate for *this* journal
  - Previous papers
  - How were they cited?



The Art of the Cover Letter

I have now served as an Associate Editor at *ACS Nano* for three months. As promised, doing so has provided unique insights into scientific publishing. Interestingly, the biggest surprise has not been something that authors do, but something they frequently neglect to do: constructing a well-written cover letter, including a statement justifying the importance of their work.

http://pubs.acs.org/doi/full/10.1021/nn100907e

Cover Letter for a Paper

- Find a good example from your group
  - Different fields have different conventions
- Same thing as other writing: revise, revise, revise
- Proofread
- Word limits?
- Figures?

The Cover Letter

- **Written to the editors; some journals call it the "letter to referees"**
- **Address them as human beings**
- **Not a recapitulation of the abstract (the editor has it already)**
- **What did you *really* do and why did you *really* do it?**

Bad Example: Just copy the abstract

Dear Editor,

Heparin anticoagulation therapy is an indispensable feature of clinical care, yet has a narrow therapeutic window and is the second most common ICU medication error. The active partial thromboplastin time (aPTT) monitors heparin, but suffers from long turnaround times, a variable reference range, limited utility with low molecular weight heparin, and poor correlation to dose. Here, we describe a photoacoustic imaging technique to monitor heparin concentration in real time using methylene blue as a simple and FDA-approved contrast agent. We found a strong correlation between heparin concentration and photoacoustic signal measured in phosphate buffered saline (PBS) and in blood (R^2>0.97). Clinically relevant heparin concentrations were detected in blood with a detection limit of 0.28 U/mL. We validated this imaging approach by correlation to the aPTT (Pearson's r = 0.86; p<0.05) as well as with protamine sulfate treatment. This technique also has good utility with low molecular weight heparin (enoxaparin) including a blood detection limit of 72 μg/mL. Finally, we described a nanoparticle-based hybrid material that can immobilize methylene blue for potentially applications as a wearable/implantable heparin sensor to maintain drug levels in the therapeutic window. To the best of our knowledge, this is the first report to use imaging data to monitor anticoagulation and the first use of photoacoustics as a tool for therapeutic drug monitoring.

Sincerely,

Jesse Jokerst

UNIVERSITY OF CALIFORNIA, SAN DIEGO

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ

April 25, 2016

Dear Editor,

Problem

Heparin anticoagulation therapy is a cornerstone of surgical and cardiovascular medicine because of its short half-life, reversible nature, and low cost—there are over 500,000,000 doses given annually worldwide. However, heparin therapy also suffers from a narrow therapeutic window and is the second most common medication error. This can result in hemorrhage and bleeding during overdose and emboli and clotting during underdose.

For these reasons, heparin therapy is monitored by the partial thromboplastin time (PTT) test—an *in vitro* test that requires venipuncture and large (>1.5 mL) blood volumes. The PTT suffers from long turnaround times, a variable reference range, limited utility with low molecular weight heparin, and poor correlation to dose. Thus, it can take a very long time for patients to reach the therapeutic window (**Fig. 1**). This is especially problematic in pediatrics because their hemostasis system is rapidly changing, and they do not have sufficient blood volume for repeat testing.

Solution

The work described here solves these major limitations. We identified a solution to monitoring anticoagulation using *imaging* rather than *in vitro* diagnostics and have detailed this in a manuscript entitled, "**Imaging Anticoagulation: Real-Time Photoacoustic-based Measurements of Clotting Time for Therapeutic Drug Monitoring**" submitted for publication in *Nature Communications*. This system is based on the simple, yet remarkable discovery that clinically approved phenothiazinium dyes produce dose-dependent photoacoustic signal when bound to heparin. We first validated this approach in buffer and blood, and then developed a novel nanoparticle-based material that could be coated onto venous catheters. These will not only deliver heparin, but also monitor heparin to quickly titrate the dose into the therapeutic window (**Fig. 1**). The strengths of this approach include a rapid turnaround time, excellent sensitivity, good correlation to hemostasis, and flexibility with both heparin and low molecular weight heparin.

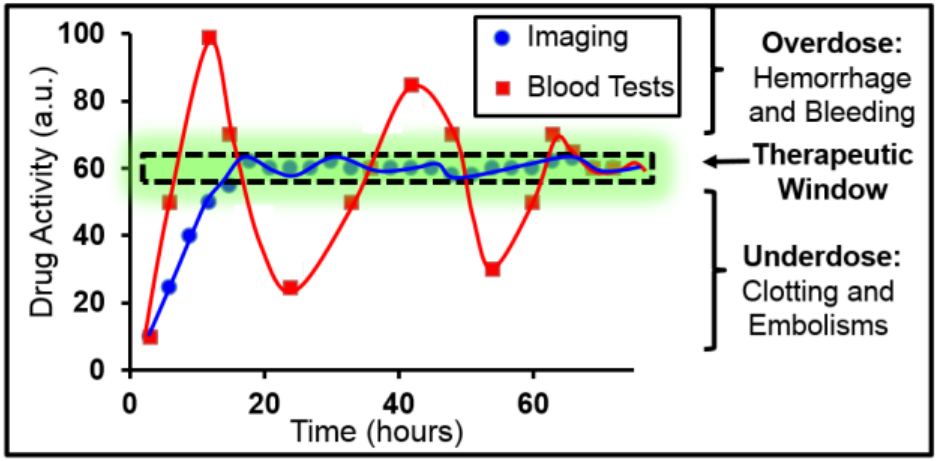


Fig. 1. The use of imaging in drug monitoring. The current approach (red square) to heparin monitoring involves peaks and troughs. Because the frequency of blood-based testing is low, it takes a very long time to reach the therapeutic window (safe and effective; green dashed box). Monitoring heparin via real-time imaging (blue circles) will quickly reach and maintain drug levels in the therapeutic window.

Context and Novelty Rationale

We hope that you find this manuscript suitable for publication in your prestigious journal. We understand that the primary function of *Nature Communications* is to publish the most exciting advances in cross-disciplinary fields. This paper combines nanotechnology, bioengineering, medicine, and imaging, and we think it is ideally suited for the readership of the journal.

We also note that there have been multiple recent publications in *Nature* series journals describing photoacoustic imaging (de la Zerda, Wilson, Pu, Kircher, Conkey, Lai, etc., etc.). These papers have garnered many citations because of the importance of photoacoustic imaging to medicine and biomedical engineering. However, we must emphasize that the work enclosed here is not an incremental extension of our existing work or the community's existing work. Indeed, the main elements of novelty and significance include:

1) the first description of photoacoustics for therapeutic drug monitoring;
2) the first report to use imaging to study anticoagulation therapy; and
3) the first report to describe photoacoustic signal in a device.

We think that these elements—combined with the incredible common use (and misuse) of heparin by the medical community—make this paper very significant to persons studying cardiovascular disease, clotting disorders, imaging, contrast agent development, and biosensors.

On the following page we suggest potential reviewers who may be helpful. We sincerely appreciate your consideration.

Reviewers and Editors

- Usually a journal will allow you to suggest reviewers
  - the editor does not have to take your suggestions!
- Suggesting reviewers
  - at least five, but up to ten or more
  - ideally they are independent
    - less than half the list should be your advisor's former students
    - people who will give you a constructive review
- Suggesting editors
  - find the associate editor closest to your topic
  - suggestions are used only sometimes

So You've Submitted Your Manuscript

- After a few days
  - rejected without review
  - assigned to an editor
- Then we wait for 4-8 weeks

Email Apnea: Decision on Manuscript…

- Accept as-is (almost never happens)
- Minor revisions (provisional accept)
- Major revisions (almost always accepted in the end)
- Reject and resubmit (major revisions + some hoops)
- Transfer (better than reject)
- Reject
  - they are not trying to destroy your career
  - it does not feel good now, but getting a real reaction is the only way we learn
  - *getting a reaction is key*; it helps refine your arguments

Examples of Referee Reports

Additional Questions:
Is this paper in the top 20% of manuscripts in the field?: No

If this paper is not in the top 20% of manuscripts in the field: It could be improved to be in the top 20% with further work.

Is it appealing to a broad audience?: No

Does the manuscript give a complete description of the procedures that could be reproduced by others in the field?: No

Are the literature references appropriate and up to date?: Yes

Provides significant insight into or the development of an important application: Poor

Work is original and significant: Fair

Conclusions adequately supported by data: Fair

Clarity of presentation: Poor

Potential for impact in materials science and engineering: Poor

Examples of Referee Reports

Recommendation: Other could be revised

Comments:
Decision: Reject

The authors have synthesized Organosilica nanoparticles (OSNPs) using the different ratios of bis(triethoxysilyl) ethane (BTSE) and bis(3-trimethoxysilyl- propyl) amine (TSPA). The nanoparticles have been successfully characterized using TEM and DLS spectra. The surface charge values and surface morphology/ porosity have been ascertained in terms of zeta potential and BET techniques. The as synthesized OSNPs are then used to selectively adsorb anionic dye (phenol red) from its mixture with a cationic dye (methylene blue). The maximum adsorption capacity of the OSNPs is found to be 175.44 mg/g that is claimed to be higher than 67 adsorbents among total of 77 reported adsorbents of its kind. The importance of adsorption parameters such as pH, time, dye concentration, adsorbent dosage, and ionic strength has been studied and optimal conditions have been found. The nanoparticles are found to be reusable for next 10 cycles which further strengthen their applicability. The manuscript lacks in certain ways and can be improved better. Hence it cannot be accepted to ACS Applied Materials & Interfaces with the current format. The below comments can be helpful to the authors to improve this manuscript.

1. Please add supplier details of methylene blue in chemicals section.
2. The author has used the 1:10 and 10:1 ratio of dyes in selectivity experiments. They should also explain the reason for taking such extreme ratios.
3. The time taken for 86% adsorption of phenol red over the OSNPs is very high (3days). The use of nanoparticles in dye adsorption is advantageous when it consumes small fractions of time. In the later sections the authors have stated that 2.4 mg of OSNPs can remove 100% dye. The authors are advised to optimize the parameters (pH, nanoparticles dosage, dye concentration) to obtain least reaction time.
4. Concentrations of salt (NaCl) for ionic strength testing are very high (1,2 and 4M). Authors should describe the reason for choosing such high concentrations.
5. The authors have explained that why the adsorption is lowest at low (1) and high (12, 13) pH values. Whereas no reason for maximum adsorption at pH=2 and 3 has been given. The reason for lowest adsorption at pH=1 is ascertained to higher concentration of H+, that are also present at pH=2 and 3. How the authors have distinguished the two cases in terms of adsorption is absent in the manuscript.
6. Selectivity of anything means that one's tool is specific to that analyte and it will not interact with other identical or near identical analytes. Whereas the other dye used for selectivity testing is a cationic dye. To explain the selectivity of the OSNPs, the authors should use the analytes which have atleast the same charge as their target analyte.
7. Phenol red has been desorbed from the OSNPs using the NaOH solution, which indicates that NaOH can leach the dye from nanoparticles surface. For the quantification of dye using UV spectrophotometer, the authors treated the dye solution with NaOH first in order to maintain the same pH values. Wouldn't such a practice will desorb the dye from the nanoparticles. Certain amendments in this process may lead to increased ad

The Response Letter

- Quote the referee reports verbatim
  - however, correct any typos (even if you would like to make the reviewer appear careless or dumb)
- Don't be emotional → if you want, write what makes you feel good just for fun, and then delete the mean version
- Put everything in the response letter (it may be the only thing they read!)
- Reproduce the responses even if multiple reviewers made the same point
  - reviewers may only read the part related to their own review
- Take a few days and sleep on it
- Use the appeal process sparingly
- Don't use the word "rebuttal" in the file or filename

Examples of Response Letters

UNIVERSITY OF CALIFORNIA, SAN DIEGO

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SANTA BARBARA • SANTA CRUZ

September 9, 2017

Dear Dr. Lee,

Thank you for your correspondence date February 1, 2017 related to our manuscript (ID: am-2017-001408) entitled "Organosilica nanoparticles with an intrinsic secondary amine: An efficient and reusable adsorbent for anionic small molecules", submitted for publication in *ACS Applied Materials & Interfaces*. We appreciate all the four reviewers' comments and your willingness to consider a re-submission.

We feel this paper would be a valuable addition to the journal because, to the best of our knowledge, there is no report detailing the use of organosilica nanoparticles (OSNP) with intrinsic amine for organic dye adsorption. Because the amine group is not only on the surface but also inside the silica frame, the OSNP retains the adsorption even after treated with basic solution.

We have thoughtfully reflected on the reviewers' comments and have performed additional experiments, analysis, and revisions to improve the manuscript and our conclusions. The experimental section and results and discussion have been reorganized. Most figures have been modified including six new figures in the supplementary. We also have performed many more experiments to better characterize this material and support our conclusions. Below, we detail these changes and specifically address each point raised by the reviewers. Reviewers original comments precede our response in bold. However, let me first outline the eight key new experiments.

A. Inductively coupled plasma analysis to determine the loss of OSNP during desorption of phenol red by NaOH.
B. CHN analysis to determine the amount of nitrogen/amine on the OSNP made with different fraction of bis(3-trimethoxysilyl-propyl)amine.
C. Solid-state ^{29}Si NMR spectra to evaluate the degree of condensation in the OSNP.
D. X-ray photoelectron spectroscopy analysis to determine the degree of protonation of OSNP at different pH values.
E. Dynamic light scattering to determine the zeta potential of OSNP treated with solutions from pH 1 to 13.
F. Adsorption of different dyes to determine the adsorption mechanism.
G. Short-term adsorption of phenol red at different dye concentrations to measure adsorption speed.
H. FT-IR experiments to confirm the template removal.

We think that these changes significantly improve this manuscript and now answer additional questions related to the nanomaterial properties, adsorption mechanisms, and tunable adsorption behavior. All changes to the original document are highlighted. We also include a clean version.

We hope that these changes make the manuscript suitable for immediate publication in your prestigious journal. We believe that this work now conforms to the primary function of *ACS Applied Materials & Interfaces* to publish the latest results in applied materials and interfacial processes that can be used for specific applications and is of great interest to the silica nanomaterial and environment communities.

Yours Sincerely,

Jesse V. Jokerst, Ph.D.
Assistant Professor
Department of NanoEngineering
University of California, San Diego
jjokerst@ucsd.edu

REVIEWER 1

Comments: The authors have synthesized organosilica nanoparticles (OSNPs) using the different ratios of bis(triethoxysilyl) ethane (BTSE) and bis(3-trimethoxysilyl- propyl) amine (TSPA). The nanoparticles have been successfully characterized using TEM and DLS spectra. The surface charge values and surface morphology/ porosity have been ascertained in terms of zeta potential and BET techniques. The as synthesized OSNPs are then used to selectively adsorb anionic dye (phenol red) from its mixture with a cationic dye (methylene blue). The maximum adsorption capacity of the OSNPs is found to be 175.44 mg/g that is claimed to be higher than 67 adsorbents among total of 77 reported adsorbents of its kind. The importance of adsorption parameters such as pH, time, dye concentration, adsorbent dosage, and ionic strength has been studied and optimal conditions have been found. The nanoparticles are found to be reusable for next 10 cycles which further strengthen their applicability. The manuscript lacks in certain ways and can be improved better. Hence it cannot be accepted to ACS Applied Materials & Interfaces with the current format. The below comments can be helpful to the authors to improve this manuscript.

We appreciate this referee for the helpful suggestions.

1. **Please add supplier details of methylene blue in chemicals section.**

   We regret not being more careful. We have added the supplier details of methylene blue and the new dyes we used in chemicals section. Page 3, Line 17, 19, and 20.

2. **The author has used the 1:10 and 10:1 ratio of dyes in selectivity experiments. They should also explain the reason for taking such extreme ratios.**

   The goal here was to study dye selectivity. Thus, we selected very extreme conditions to test selectivity. We have rewritten this section to explain our rationale. Page 11, Line 13-21.

From the Paper

EXPERIMENTAL SECTION

Chemicals.

Hexadecyltrimethylammonium bromide (CTAB, ≥99%), ammonium hydroxide (NH_4OH), bis(triethoxysilyl) ethane (BTSE), bis(3-trimethoxysilyl-propyl)amine (TSPA, 90%), dimethylhexadecylamine (DMHA), rhodamine B, sodium chloride, decane, and hydrochloric acid were purchased from Sigma Aldrich Inc. Phenol red was obtained from Acros Organics. Methylene blue and rose bengal disodium were purchased from the Fisher Scientific. Ethanol was purchased from VWR. Methanol was provided by Alfa Aesar. The water was Millipore grade with a resistivity larger than 18.2 MΩ·cm at room temperature (RT) unless specified otherwise.

were recorded using a Bruker AMX-600 spectrometer. X-ray photoelectron spectroscopy (XPS) analysis was performed using a Kratos Axis Ultra DLD instrument with monochromatic Al (Ka) radiation. The data was analyzed using Casa-XPS software, and two different components were fit to the N 1s signals, and the energy difference between these components was fixed at 1.8 eV[42]. An inductively coupled plasma optical emission spectrometer (ICP-OES, Optima 3000DV, Perkin Elmer) was used to quantify the loss of OSNP during the desorption treatment with base solution. All absorbance measurements used a SpectraMax M5 spectrophotometer from Molecular Devices.

Adsorption mechanism. 5 mg of OSNP with different compositions, zeta potential, and surface areas were added separately to 1 mL of 0.5 mg/ml (1.33 mM) phenol red. Upon mixing, the tubes were vortexed, reacted overnight, and then the supernatants were collected after centrifugation. For the dye investigation, 1.4 mg of OSNP made of 80% TSPA were added to 0.1 ml pH 7 or pH 13 solutions, and then 0.1 ml 0.2 mM of phenol red, rose Bengal, rhodamine B, and methylene blue were added to both solutions separately. The mixtures were then vortexed, reacted for 5 minutes, and centrifuged. For the refinement of dyes, phenol red (0.04 mM or 0.4 mM) and methylene blue (0.04 mM or 0.4 mM) were mixed at three molar ratios 10:1, 1:1, and 1:10. Then OSNP (80% TSPA) were added and allowed to adsorb dyes for 5 minutes before collection of supernatants.

Influence of crucial parameters. We used OSNP made of 80% TSPA to study the influence of crucial parameters. We first studied the effect of pH on the adsorption. 100 µL of solutions at different pH values were added to 100 µL of 0.5 mg/ml (1.33 mM) phenol red with vortexing. These solutions were then added to 100 µL of Millipore water containing 2 mg of OSNP with standing for 10 minutes before supernatant collection.

The effect of ionic strength was also investigated. NaCl solutions of different ionic strength were created and then mixed with 4 mg/ml (10.63 mM) phenol red at a ratio of 2:1. The mixtures were then added separately to 40 mg/ml OSNP solutions at a ratio of 3:1. The final mixtures were vortexed, stood for 30 minutes, and then the supernatant was collected. To study the effect of time, OSNP were added to phenol red solution at a ratio of 0.5 mg OSNP: 0.1 ml dye. The dye concentration varies from 0.015 mg/ml (0.04 mM) to 2 mg/ml (5.31 mM). The mixture was vortexed, allowed to react for XXX minutes, and then the supernatant was collected.

To study the effect of dye concentration, phenol red at 0 to 5 mg/ml (13.29 mM) were prepared, and then 2 mg of OSNP were added to 200 µL of each solution. The mixtures were vortexed, reacted for 30 minutes, and then the supernatant was collected for absorption spectroscopy.

We also studied the effect of adsorbent dosage. OSNP aqueous solutions at different concentrations were made, and 100 µL of each solution was then mixed with 100 µL of 5 mg/ml (13.29 mM) phenol red. These mixtures were vortexed and reacted for 30 minutes before supernatant collection for absorption spectroscopy.

After optimization of these adsorption parameters individually, we determined the experimental maximum adsorption capacity of OSNP at pH 3 in water with 1 hour of reaction; the dye concentration was 5 mg/ml (13.29 mM), and the OSNP dosage was 1 mg.

Final Steps

- If rejected, use the appeal process sparingly
  - wait at least one day before deciding to appeal

- If accepted, correct the proofs carefully
  - make your corrections before getting to the proof stage!
  - too many corrections will delay publication (“re-proofing”)
- After online posting, time to celebrate, share on social media
- Don’t read your own papers right after they’re published
- Small errors are inevitable; you will be forgiven for typos

Opinions

- Who owns the results?
- Publication fees: get out of these if possible because they are ridiculous
- Open access
  - OA journals vs. OA options
- Society journals vs. non-profit journals
- Blind reviewing
- Manuscript transfer “service”
- arXiv for mathematics & physics, no analogue for chemistry, biology, engineering
- Research funded by NIH must be publicly available (pre-copyedited version goes in a repository)

Other Resources

- ACS video series “Publishing 101” (American Chemical Society YouTube channel)
  - Especially George Whitesides interview
    - https://www.youtube.com/watch?v=q3mrRH2aS98&list=PL6544210348021339
- Andrea Armani’s website (USC)
- *A PhD is Not Enough!: A Guide to Survival in Science* by Peter J. Feibelman
- Writing in general
  - *The Elements of Style* by Strunk and White
  - *The Sense of Style* by Steven Pinker

Questions?