(On) The nature of chemistry publishing

#ACSPhilly (#ACSPhiladelphia <sigh>)

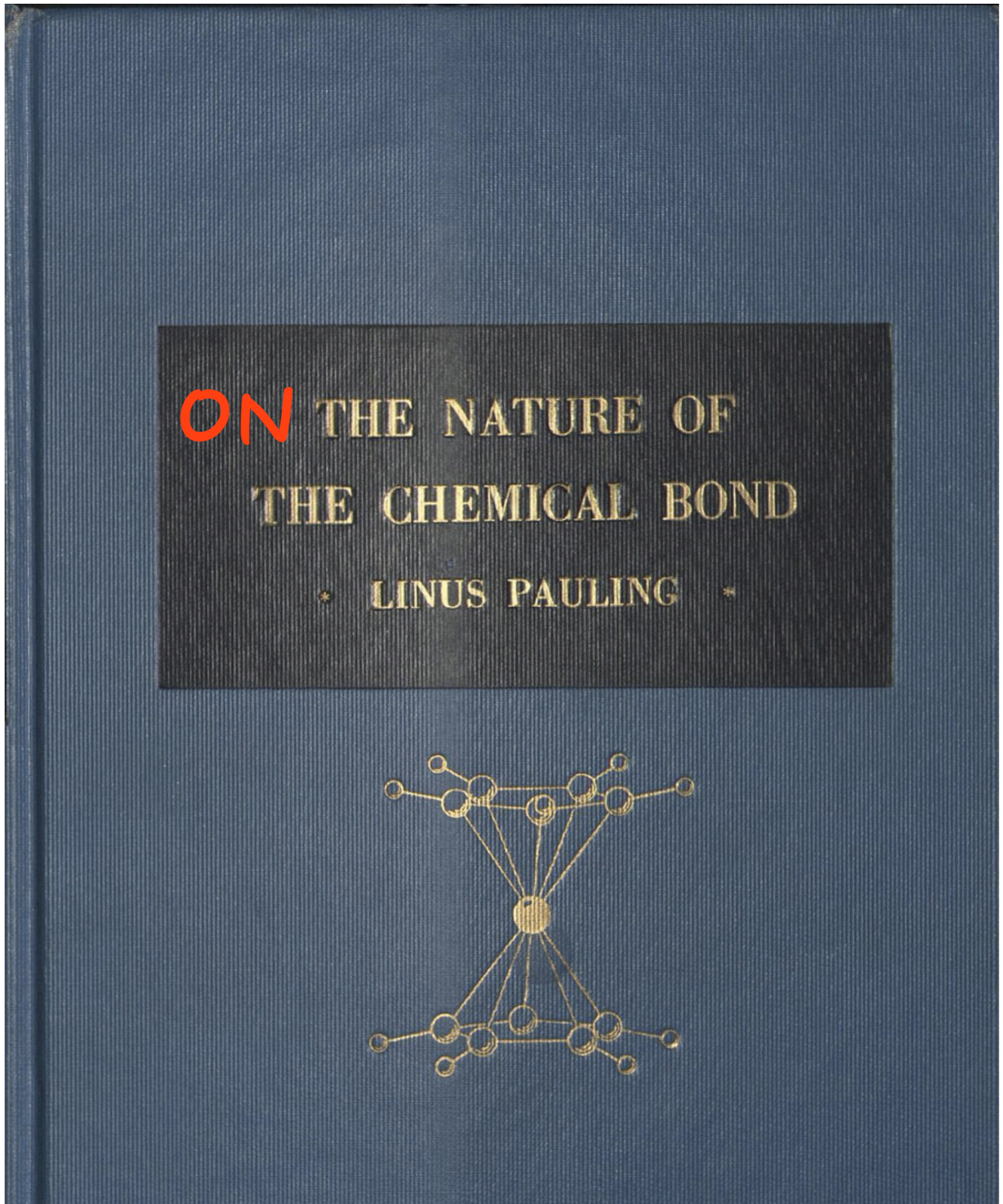
August 23, 2016

@stuartcantrill

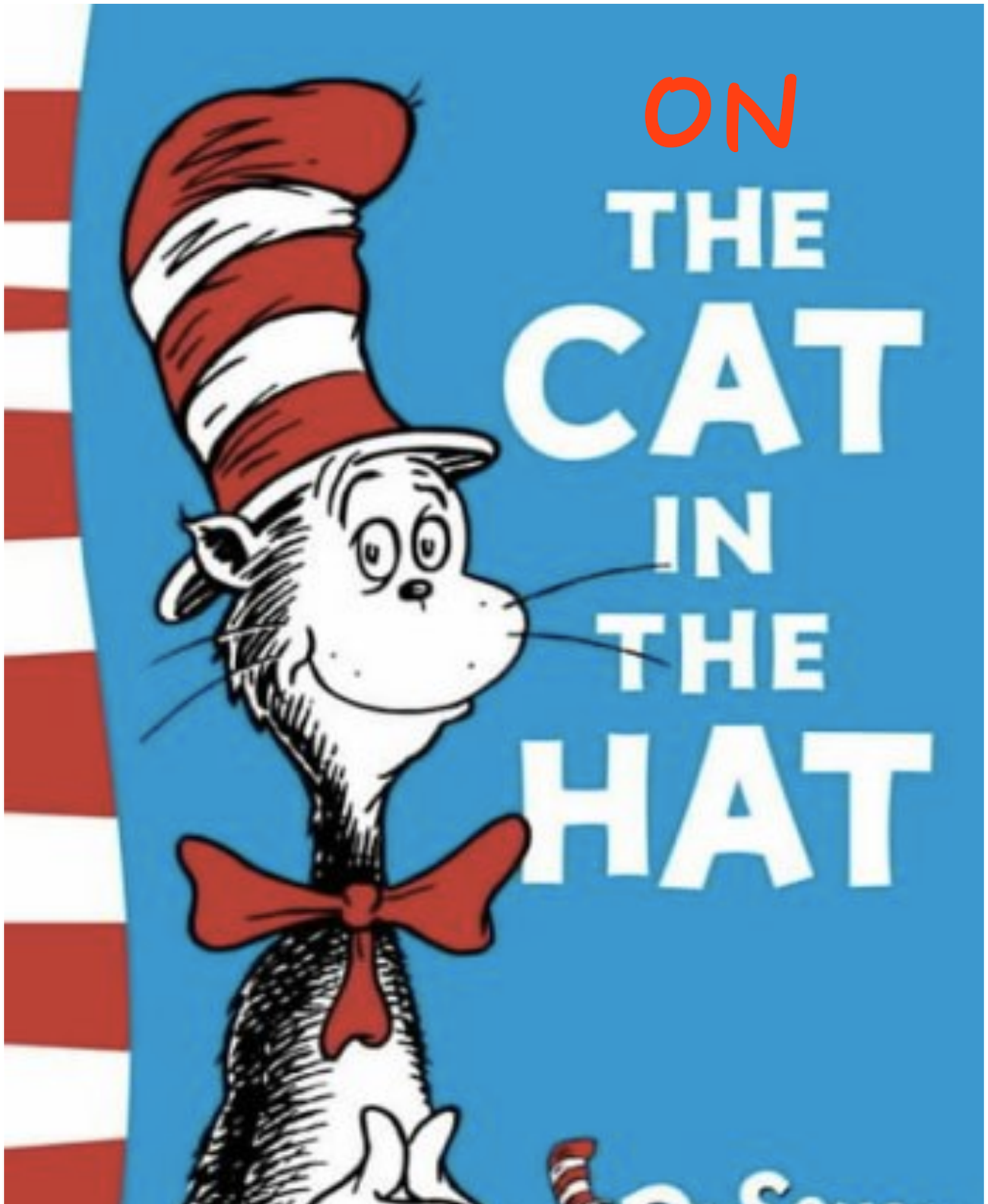
Chief Editor

@NatureChemistry

On ACS titles...



On ACS titles...



On ACS titles...

First published 1869

Was part of

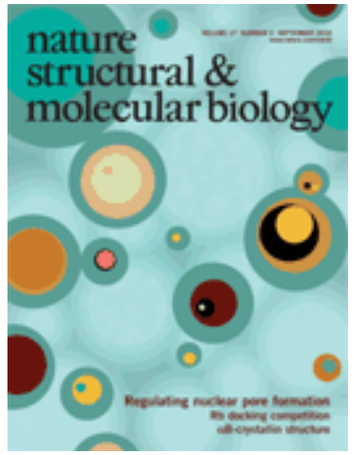
nature publishing group

and now part of

SPRINGER NATURE

1983

1992



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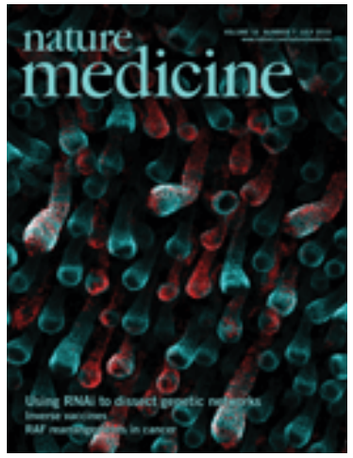

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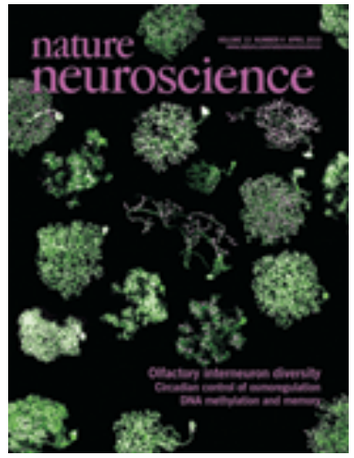

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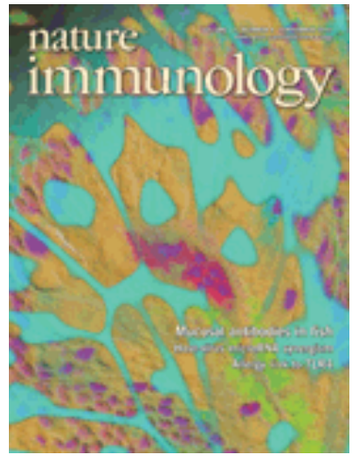

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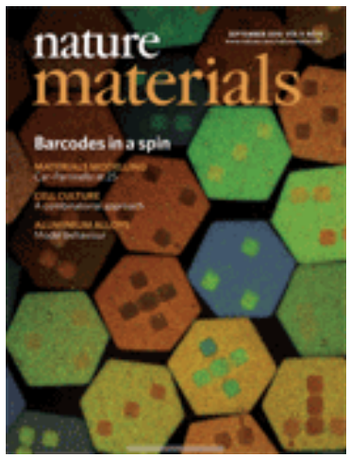

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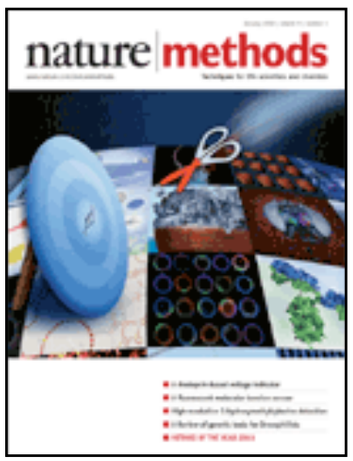

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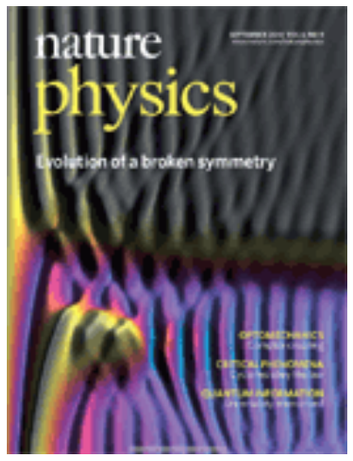

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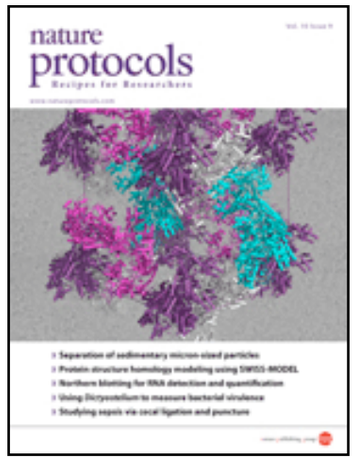

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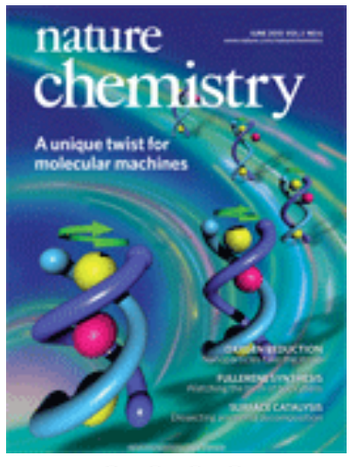

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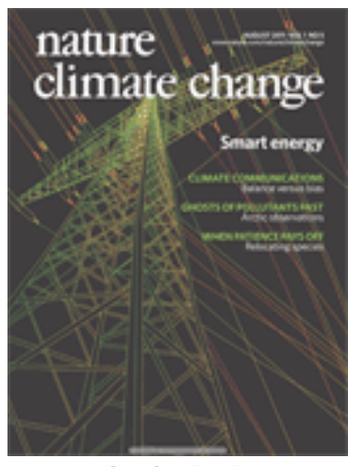

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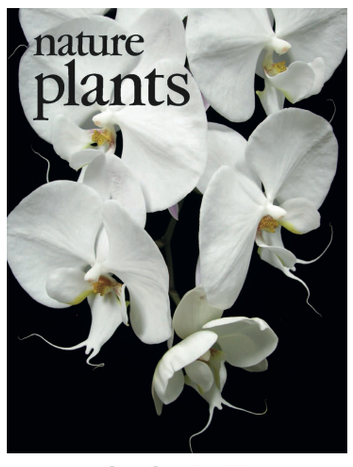
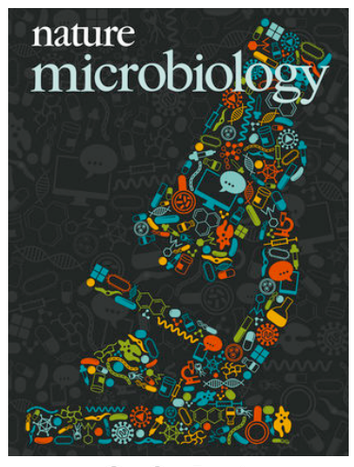
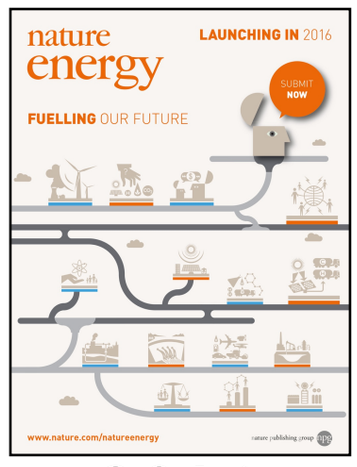


2015



2016



2016

...and
more...

Other NPG journals that publish research

nature COMMUNICATIONS — 2010

Over 3,100 papers in 2015

SCIENTIFIC REPORTS — 2011

Over 10,600 papers in 2015

Scientific Reports publishes original articles on the basis that they are technically sound and scientifically valid, and papers are peer reviewed on these criteria. The importance of an article is determined by its readership after publication.

In this issue **NATURE CHEMISTRY INSIGHT: Chemistry beyond the bench**

nature chemistry

SEPTEMBER 2011 VOL 3 NO 9
www.nature.com/naturechemistry

PORTABLE ANALYSIS
A sweet sensor

CARBON NANOTUBES
The inside story

PREBIOTIC CHEMISTRY
Synthesis single-handed

The changing face of chemistry

Professional full-time editors

Stuart Cantrill
Chief Editor
London
ACS/NPG

Gavin Armstrong
Senior Editor
London
RSC

Russell Johnson
Associate Editor
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NPG

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Chemistry World

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Nature Reviews Chemistry

Claire Hansell
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Senior Editor
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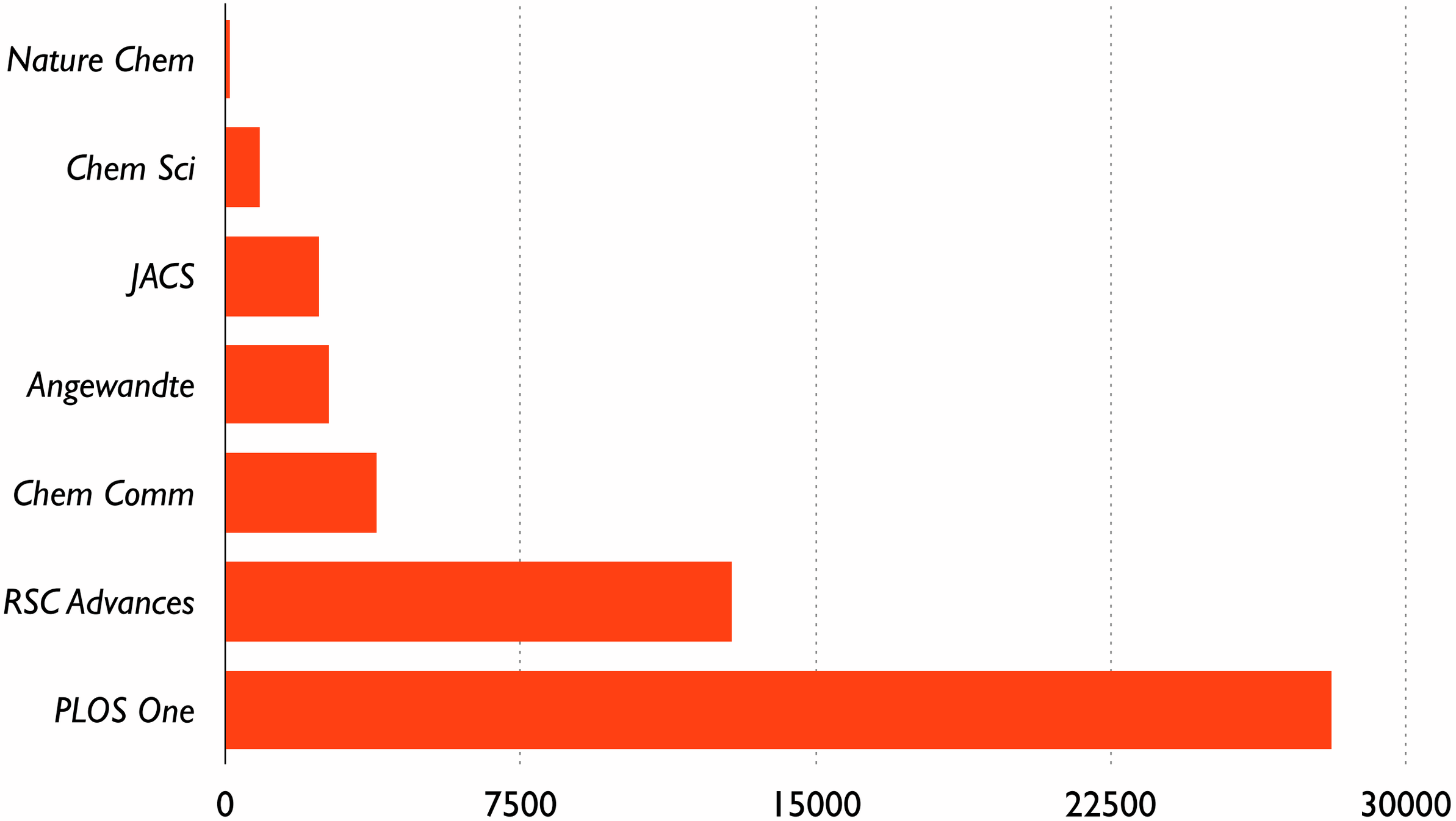
Wiley/NPG

No editorial board / No society involvement

2015 papers


Nature Chem
Chem Sci
JACS
Angewandte
Chem Comm
RSC Advances
PLOS One
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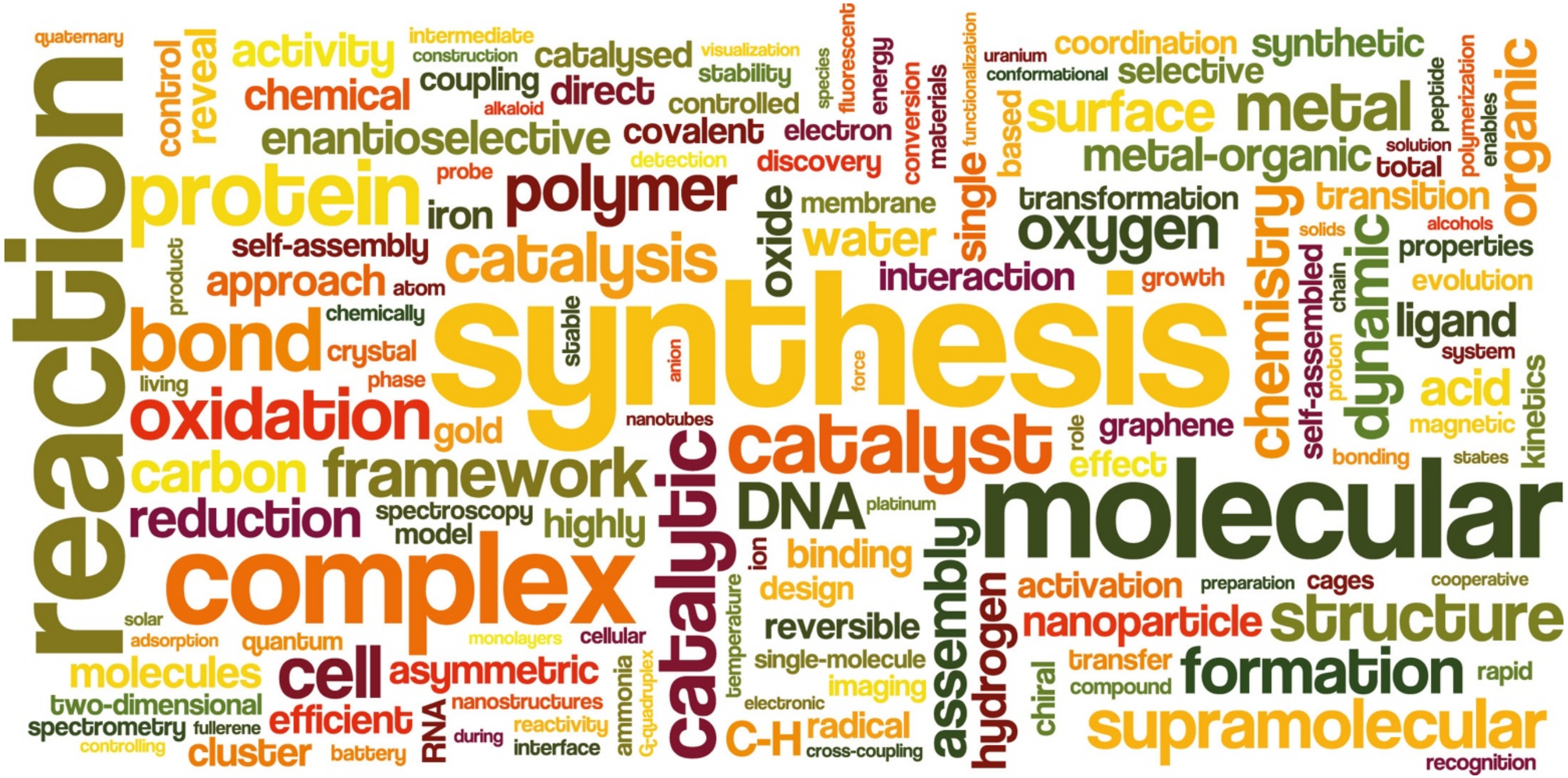
Our first five years...

5 years of *Nature Chemistry* Article titles



"*la chimie crée son objet*" – Marcellin Berthelot (1827-1907)

5 years of Articles (& Reviews/Perspectives)

631 papers with 3300 different authors

Most prolific author had 7 papers (2 with 6, 5 with 5)

7 single-author papers (4 Reviews, 3 Research)

Number of authors on a paper:
Mean = 6
Median = 5
Mode = 4

Most authors on a paper is 28

Not just research papers...

editorial

2D or not 2D?

Flat is the question.

Whether 'tis nobler in the mind to suffer
The slings and arrows of the outrageous
limitations of graphene,
Or to take arms against a sea of ordered
anthracenes,
And by photoirradiation polymerize them?

Polymers come in many different forms and are used in a huge variety of applications, from the mundane to the highly specialized. Naturally occurring biopolymers such as DNA and proteins underpin life itself, whereas synthetic polymers such as polyolefins and polyesters have played a crucial role in shaping the modern world. And what they all have in common is that they consist of repeating units — sometimes just one type and sometimes a collection of related building blocks. Conceptually, the simplest polymer architecture is one in which each repeat unit is linked to two neighbours to form a linear chain, and can be thought of as a 'one-dimensional' structure. But what of higher dimensions? be formed, and the functionality that can be introduced. Two-dimensional synthetic polymers arguably have the potential to overcome these limitations, particularly if large crystals can be grown. Single crystals of 3D framework materials — including fully organic ones[6] — have been reported, indicating a free-standing 2D analogue to be a realistic target.

Now, two Articles in this issue (page 774 and page 779) describe the formation of 2D polymers — through the photodimerization of rigid anthracene-based monomers — in a single-crystal-to-single-crystal fashion. Although 2D polymers have been synthesized before by topochemical solid-state polymerization[7], and 2D covalent–organic frameworks have also been made on surfaces and in thin films[8], these reports represent the first detailed characterization of the 2D polymerization process, where the monomer, intermediate states and polymer all retain their crystallinity. In what has been designated as the International polymer synthesis and surely discourages anyone from following it." Nevertheless, they persisted, and "the monomer used in our current *Nature Chemistry* paper is now available in three steps (even though five steps are described in the manuscript, which was correct at the time of submission) from cheap commercially available chemicals."

In an accompanying News and Views article (page 757), Neil Champness explains why we should be excited about this class of material: "consider a molecular-scale membrane comprising highly organized components with specific properties — be they optical, magnetic or electronic — and the ability to recognize specific target molecules through the incorporation of tailored recognition sites. Sounds like a chemist's dream!" Given the progress that has been made towards making single-crystal sheets of 2D polymers from readily available starting materials, he seems justified in saying that "the future of these materials is

feature

A few of our favourite things

To celebrate *Nature Chemistry* turning five years old, editors past and present each share the story of a paper that, for one reason or another, stands out from all the others they have shepherded into the journal.

Steric factors predicting a reaction
Dividing vesicles that leap into action
Polymer chains made of sulfurous strings
These are a few of our favourite things

PSII models and calcium in clusters
The power to split bonds that hafnium musters
Gels stuck together with sugary rings
These are a few of our favourite things

Supersized self-assembly

My own research background in supramolecular chemistry means that I typically handle many of the manuscripts submitted to the journal that involve the formation of host–guest complexes. In June 2010, when a manuscript with the title 'Macroscopic self-assembly through molecular recognition' from Akira Harada and co-workers appeared in our submission

co-workers set about using this molecular-level interaction to effect self-assembly at a macroscopic scale. They began by making a range of gels adorned with different host and guest groups. One host gel was functionalized with α-cyclodextrin (α-CD) and another with the slightly larger β-cyclodextrin (β-CD). Three different guest gels were also prepared; one decorated with *n*-butyl (*n*-Bu) groups, one with *t*-butyl (*t*-Bu) groups and one with much bulkier adamantyl (Ad) groups.

The first self-assembly experiment described in the paper shows that a piece of β-CD-gel (stained red) and a piece of Ad-gel (stained green) stick together in water. When a handful of pieces of β-CD-gel and Ad-gel were agitated in water, a self-assembled structure was formed with alternating red and green pieces. No interactions were observed between gels of the same colour or indeed with a

comments of one referee: "Simple yet clear and effective. I really enjoyed this work — it's the first piece of science that's actually made me smile in a long time."

Stuart Cantrill is an editor at Nature Chemistry.

The parameters of prediction

Predicting which catalyst (or perhaps which ligand) will provide the most selectivity in a given asymmetric transformation is fraught with difficulty, but this doesn't stifle the desire to try and do so. The problem is rooted in the very small differences in energy (often due to differences in steric interactions) between competing transition states. Predictions are most often made by analogy with the steric interactions in other well-studied systems. 'A values' for example — that many will recognize from undergraduate studies — are

Not just research papers...

interview

A chronicler of chemistry

Thomas Hager, author of popular science books that revisit some of the most significant developments in chemistry over the past century, talks to *Nature Chemistry* about the challenges of writing for a general audience, and how his dislike of chemistry was turned around by a fellow Oregonian of considerable repute.

Is the chemistry theme in many of your books simply a by-product of your interest in food and medicine or is there an underlying fascination with chemistry, too?
I was not a chemistry fan. I majored in biology as an undergraduate, and then did my graduate work in medical microbiology, molecular biology and immunology. Along the way I took the standard slate of chemistry courses, but didn't really take to them. I appreciated the field only later, while working with Linus Pauling on his biography. Interviewing Pauling was like taking the world's best class on the development of twentieth-century chemistry. I've been hooked ever since.

So you didn't enjoy the chemistry classes you took in college?
Organic chemistry was torture. Then I took a class on molecular orbital theory that

THOMAS HAGER

intriguing. I remember particularly some acidic — yet funny — stories that Erwin

the period, there is a lot of mystery and it becomes a combination of biography, history and detective story. The hard science arises naturally out of the story. I want the science to be as accurate as possible, but I emphasize storytelling. Readers seem to appreciate it. I get more complaints from scientists, who want more equations and diagrams, than I do from general readers looking for more excitement. It is a balancing act. And it is not particularly easy. I find that the historical scene-setting and personal-story parts of the process are more difficult than the science, because scientists in general keep very complete lab notes but very few personal records.

Deborah Blum was told that having the word 'chemistry' on the cover of her book *The Poisoner's Handbook* wouldn't be good for sales. Did you have any similar issues with the chemistry in your books?

commentary

Another four bricks in the wall

Shawn C. Burdette, Philip Ball, Kat Day, Eric R. Scerri and Brett F. Thornton

Of all the things humans can bestow names upon, new chemical elements are about the rarest. Our group of periodic table experts attempts to read the tea leaves and predict the names for elements 113, 115, 117 and 118.

The International Union of Pure and Applied Chemistry (IUPAC) officially announced the discovery of four new chemical elements in December[1], but what will those elements be called? The pronouncement sparked a huge amount of speculation from the serious to the whimsical. Shortly after the announcement, freelance science writer Philip Ball, Worcester Polytechnic Institute professor of chemistry and biochemistry Shawn Burdette, chemistry writer and blogger Kat Day, UCLA lecturer and author of several books on the periodic table Eric Scerri, and Stockholm University atmospheric chemistry researcher Brett Thornton put together their best bets in a blog post for The Sceptical Chymist[2], and suggested odds

EMMA SOFIA KARLSSON, STOCKHOLM, SWEDEN

of symbols in recent years. Copernicium has the relatively odd Cn symbol because Cp was used for cassiopium, a widely discussed alternative name for lutetium in the early twentieth century[9]. Rikenium, for the Japanese lab RIKEN, has also been proposed in the laboratory's annual reports[7]. There is certainly precedent for this possibility with livermorium and flerovium referencing LLNL and JINR, respectively. It does seem a little dull to name elements for a lab though.

Philip Ball: I imagine the Japanese team might think that japonium will more clearly advertise their own country to the world at large than nipponium. That's all a bit Eurocentric, as so much of the periodic

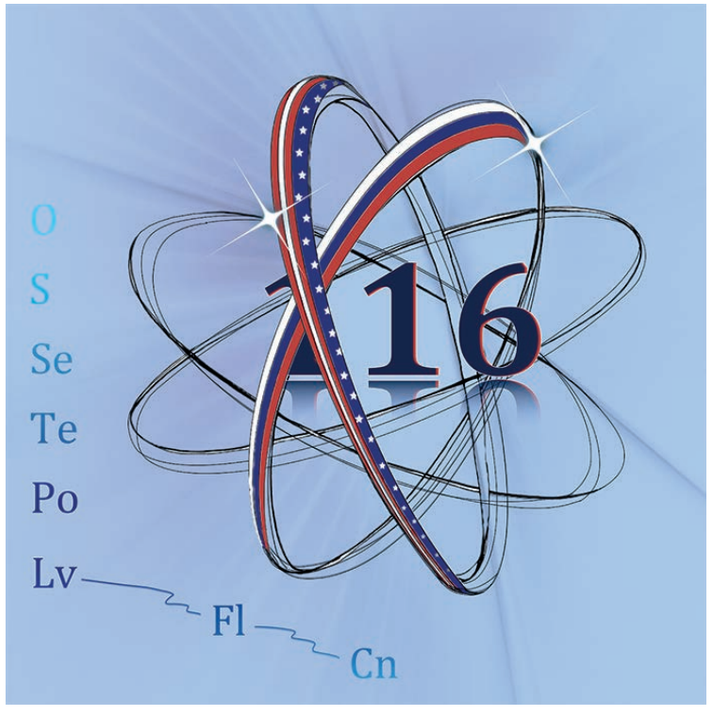
in your element

Uuh? No. It's livermorium!

Alpha decay into flerovium? It must be Lv, says **Kat Day**, as she tells us how little we know about element 116.

At the end of last year, the International Union of Pure and Applied Chemistry (IUPAC) announced the verification of the discoveries of four new chemical elements, 113, 115, 117 and 118, thus completing period 7 of the periodic table[1]. Though now named[2] (no doubt after having read the Sceptical Chymist blog post[3]), we shall wait until the public consultation period is over before In Your Element visits these ephemeral entities.

In the meantime, what do we know of their close neighbour, element 116? Well, after a false start[4], the element was first legitimately reported in 2000 by a collaborative team following experiments at the Joint Institute for Nuclear Research (JINR) in Dubna, Russia. There, scientists bombarded a ^{248}Cm target with accelerated ^{48}Ca ions. Just by simple summation of the respective atomic numbers, 96 and 20, one might predict that element 116 would make an appearance; and so it proved,



EMMA SOFIA KARLSSON, STOCKHOLM, SWEDEN

of only about sixty milliseconds before decaying into flerovium (Fl, element 114), and in turn copernicium (Cn, 112) (ref. 6). As a consequence, scientists have been unable to collect a significant quantity for

behaviour in polonium, which we'd expect to have very similar chemistry. The most stable class of polonium compounds are polonides, for example Na_2Po (ref. 8), so in theory Na_2Lv and its analogues should be attainable, though they are yet to be synthesized.

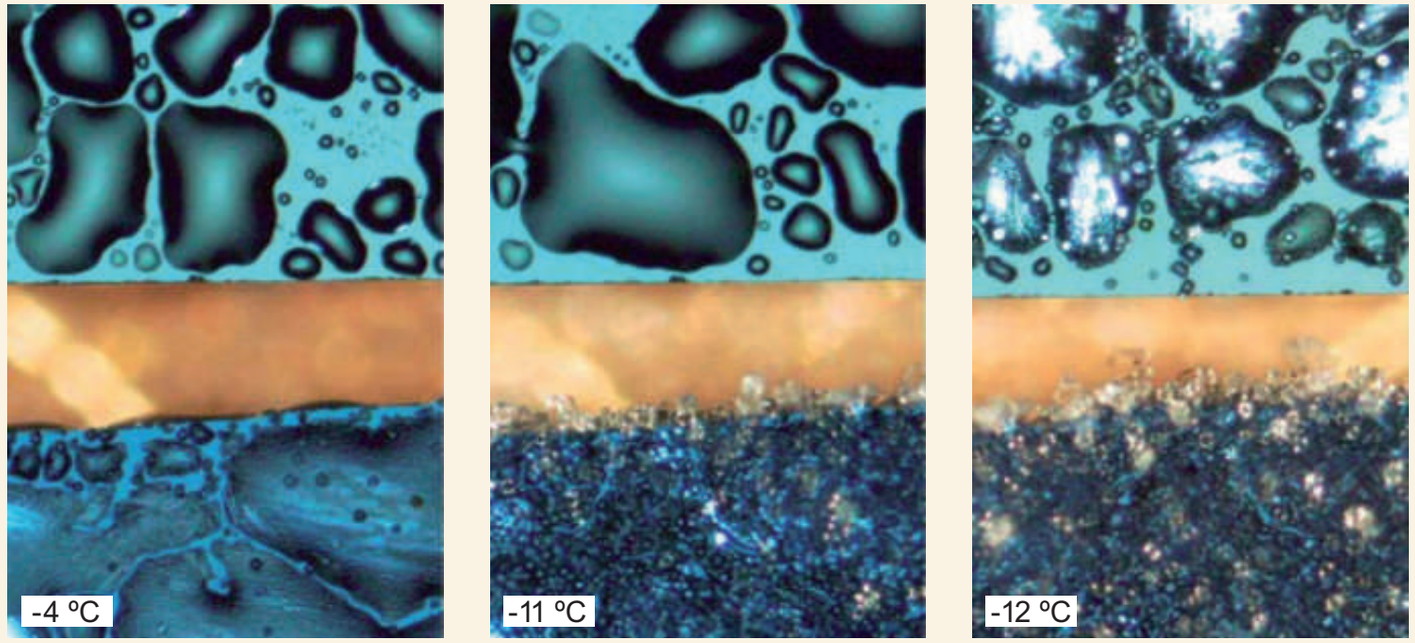
Experiments carried out in 2011 showed that the hydrides $^{213}BiH_3$ and $^{212m}PoH_2$ were surprisingly thermally stable[9]. LvH_2 would be expected to be less stable than the much lighter polonium hydride, but its chemical investigation might be possible in the gas phase, if a sufficiently stable isotope can be found.

Despite the considerable challenges posed by the short-lived nature of livermorium, scientists are keen to explore its chemistry experimentally. As Robert Eichler, head of the heavy elements research group at the Paul Scherrer Institute in Switzerland concludes, more model studies will be required to establish the most efficient way

Not just research papers...

SUPERCOOLED WATER

Ice ice maybe



Supercooled water can remain in the liquid state at temperatures as low as −40 °C — providing no seeding nuclei are available — but it has long been known that electric fields near charged surfaces can influence water's freezing temperature. It has so far, however, proved difficult to study the effect of the electric field alone, because nucleation is also induced by conducting surfaces. Now Igor Lubomirsky and colleagues at the Weizmann Institute of Science, Israel, have used pyroelectric materials — polar insulators that create a transitory electric field when heated or cooled — to do just that (*Science* **327,** 672–675; 2010).

Pyroelectric materials create equal but opposite charges at their opposing surfaces, so Lubomirsky and colleagues could use the same compound, $LiTaO_3$, to study the effects of both positive and negative charges on the freezing of supercooled water. The pyroelectric samples were exposed to a humid atmosphere and cooled until water droplets condensed on their surfaces and later froze. They found that supercooled water froze at −12.5 °C on an uncharged surface, −7 °C on a positively charged surface and −18 °C at a negatively charged surface.

Similar results were observed when experiments were repeated using $SrTiO_3$. Water droplets froze at −4 °C on positively charged pyroelectric quasi-amorphous films (pictured, bottom left) and at −12 °C on non-pyroelectric amorphous films (pictured, top right).

GAVIN ARMSTRONG

The original version of this story first appeared on the Research Highlights section of the *Nature Chemistry* website.

Not just research papers...

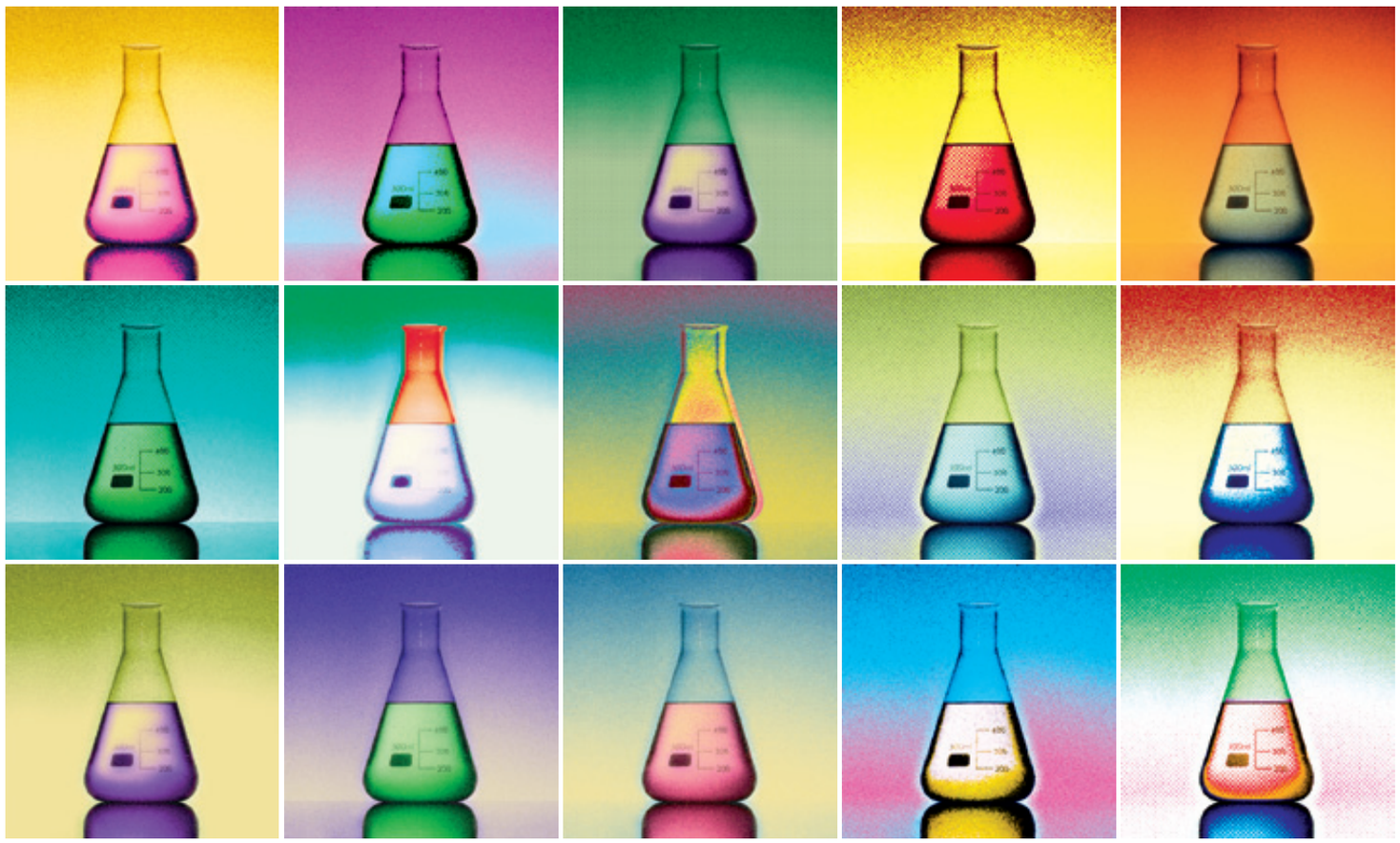
thesis

Attack of the clones

Michelle Francl suggests that self-plagiarism is a misleading term and that repeating yourself in publications isn't always a bad thing.

In the days before e-mail attachments, a collaborator posted me a set of papers related to a project. As I read through the stack, I caught myself reading the same paper twice, or so I thought. I flicked to the next article and it was *déjà vu* all over again, to quote Yogi Berra. It felt like a game of science Mad Libs: pick a substituent, a reaction time in hours, a journal name, a first and last name and fill in the blanks to produce a short, but passable, publication.

That triptych of papers remains the most impressive example of salami publication that I've seen. I vacillated between admiring the efficient audacity of the author, as one might a well-orchestrated jewel theft, and being annoyed at having to work out if there were any substantive differences between the papers apart from which derivative of the compound had been synthesized and characterized. When Andy Warhol did it with soup cans it might have been art, but for a reader teasing



© PEDRO ANTONIO SALAVERRÍA CALAHORRA/ISTOCK/THINKSTOCK

I wonder whether our unease with

pleasure of 'seeing it work out'. Merton's

Not just research papers...

news & views

METALLOBIOLOGY

Zinc differently

An extracellular ejection of zinc, known as a zinc spark, is triggered by the fertilization of a mammalian egg; however, the origin of this zinc was not clear. Now, a combination of four complementary techniques has revealed the source and provided an unprecedented quantification of the distribution of zinc in a maturing mammalian oocyte.

Kyle P. Carter and Amy E. Palmer

Zinc is the second most abundant transition metal in mammals. Approximately 10% of the human proteome needs a bound zinc ion to either fold correctly or function[1]. However, since excess zinc is toxic and zinc deficiency can lead to a number of pathological conditions, it is clear that cells must carefully control both the quantity and distribution of zinc ions. As early as the 1950s, there has been strong interest in visualizing zinc in human cells and tissues[2]. Development of new fluorescent probes over the last two decades has enabled the detection and measurement of zinc ions in living cells[3]. At the same time complementary elemental mapping methods such as X-ray fluorescence microscopy (XRM) have also been improved

quantitative terms". In this issue of *Nature Chemistry*, Tom O'Halloran, Theresa Woodruff and colleagues describe how they have developed a set of four physical techniques to precisely quantify zinc accumulation and release in oocytes, or egg cells[6]. The highlight of this study is how the team uses their data to calculate the absolute number of zinc ions that are accumulated and released during oocyte maturation and fertilization. Quantitative work of this nature enables us to infer definite connections between distinct observations, and enhances our sense of the biological numeracy touted by Phillips and Milo.

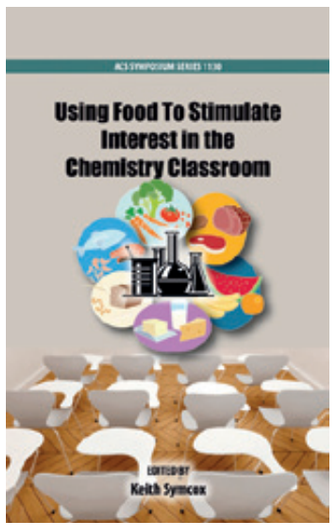
The O'Halloran and Woodruff groups use mammalian oocytes as a model system to study zinc biology. Previously, they

of zinc from the cells upon fertilization using a zinc-specific fluorescent dye outside of the oocytes. In later work they demonstrated that these 'zinc sparks' are necessary for the egg-to-embryo transition[9]. This zinc spark was believed to originate from vesicular structures, but the team could not rule out the possibility of zinc release from an alternative route — such as through an unidentified zinc transport protein in the plasma membrane. Now, the development of new tools — and some innovative combinations of them — have yielded a quantitative map of zinc in oocytes with unprecedented detail. These results suggest that zinc is released from these vesicular stores.

The present work features a new

Food for thought

REVIEWED BY MATTHEW HARTINGS
Matthew Hartings is an assistant professor of chemistry at American University in Washington DC, USA.



Using Food to Stimulate Interest in the Chemistry Classroom

Edited by Keith Symcox

AMERICAN CHEMICAL SOCIETY: 2013. 192 PP. $150.

The task of designing a new class can be greatly alleviated by finding a text that helps an instructor with content, scheduling and pace. For chemistry faculty, the course support that comes with a textbook can often be as important as the textbook itself. Unfortunately, when chemists try to branch out from traditional chemistry courses, there is very little support, and often no text, to guide the coursework. This circumstance is especially pertinent for food chemistry classes.

A lament that echoes the above concern texts come up short. As a faculty member who teaches a course on the chemistry of cooking, I have faced the same problems. The challenge of describing basic chemistry to non-specialists may seem trivial. I can attest to the fact that it is not. Writing lectures and designing laboratory experiments that contain accurate and pertinent chemistry while ensuring that they can be digested by students with varied appetites for chemistry, is difficult.

The ACS book will be most useful as a guiding post and a collection of references for the intrepid faculty member looking to add an 'interesting topics' course to their department's catalogue. The book's editor, Keith Symcox, has done a fine job in assembling a group of authors who teach their courses under very different circumstances. In my mind, this was a very smart decision. Although many of us have opinions on what our ideal class might look like and how it might be scheduled, we are constrained by our universities in how we can go about implementing those ideals. Having such diverse voices ensures

be motivated and engaged in order to want to respond to the authors' calls to design my own culinary chemistry class. For this reason, I do not believe that this book, alone, will entice new course offerings.

> Writing lectures and designing experiments that can be digested by students with varied appetites for chemistry is difficult.

The chapters that worked best for me are those that described their students' experiences and experiments with new techniques and problem solving. Malapati described an ethnic cuisine research project for students at Clarke University in which they had to learn and be able to describe the science behind cooking techniques with which they had little previous experience. Das really brings to life how his students are immersed in advanced

Not just research papers...

blogroll

Toxicity and death

Bloggers breathe life into wounded chemicals and contemplate the death of organic synthesis.

For about a week, the chemical blogosphere became a toxic environment, but the only thing that bloggers sought to poison was public misperception. In a carnival spearheaded by Matt Hartings of American University, over 20 bloggers authored posts about their favourite toxic chemicals (http://go.nature.com/dWTHzH). Hartings hosted the carnival on his site, ScienceGeist, in an effort to emphasize that many chemicals demonized in the media as 'toxic' have safe uses of immense practical value. "Chemicals aren't inherently good or bad," he writes, "in most cases, the danger is in the dosage."

Dr Rubidium, an analytical chemist who blogs at the Journal of Are You Fucking Kidding, contrasted several cases of homicide by the paralytic agent succinylcholine with its medical use in

Written by Paul Bracher, who blogs at http://blog.chembark.com

@Chemjobber @Doctor_Galactic @Chemtips

@ChemBark @CrimsonAlkemist @jdhowgego

@SeeArrOh @MustLoveScience @TRBranson

@BRSM_blog @vinylogous @organometallica

@curiouswavefn @tomwphillips @fluorogrol

@karlDcollins @TheCollapsedSci @seerymk

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@SyntheticRemark @DevilleSy @chronicleflask

@JessTheChemist @AWTaylor83 @reneewebs

@DrRubidium @V_Saggiomo @jaspevacek

@Sci_ents @MCeeP @lgamon @mantalek

@NaturesPoisons @chemicaljess @fxcoudert

Why journals?

Why not just publish your results on the internet yourself?

Why journals?

http://bit.ly/wrongontheinternet

From xkcd.com

Why journals?

Established & recognised venues where research can be found and archived

Hosting (online) and distribution (print)

Selected for validity (Peer review*)

*OK, it doesn't work all of the time, but does in most cases

Selected for interest/quality/significance* (Editors/Peer review)

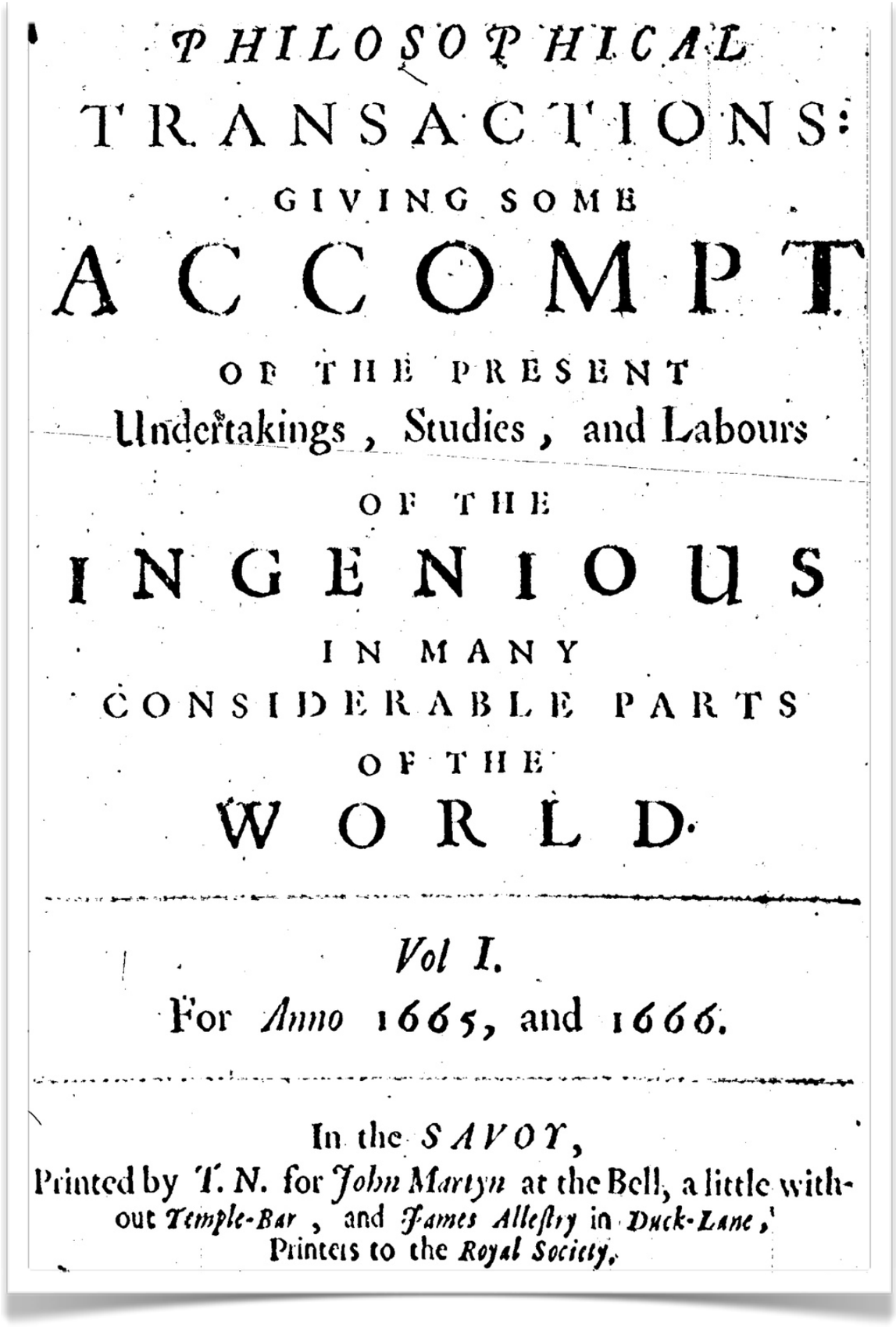
*OK, this is subjective, but it's at least a filter of some sort

Addition of metadata, navigation and links

Copy editing to ensure sense as well as conformity to technical/ community standards

Indexing in databases of the scientific literature

Amplification to society through press releases, mass media & social media



PHILOSOPHICAL
TRANSACTIONS:
GIVING SOME
ACCOMPT
OF THE PRESENT
Undertakings, Studies, and Labours
OF THE
INGENIOUS
IN MANY
CONSIDERABLE PARTS
OF THE
WORLD.

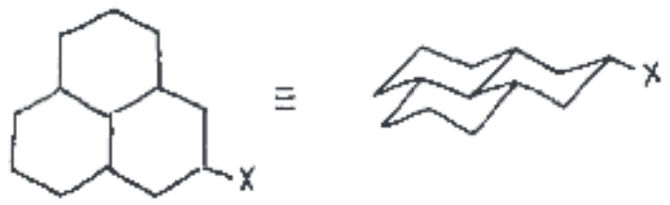
Vol I.
For Anno 1665, and 1666.

In the SAVOY,
Printed by T. N. for John Martyn at the Bell, a little without Temple-Bar, and James Allestry in Duck-Lane, Printers to the Royal Society.

Journal articles have been around for a while and haven't really changed that much until recently

To *trans, trans, trans*-tricyclo [7,3,1,O^{5,13}] tridecane

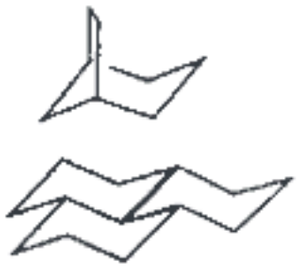
SIR — We are investigating the mechanisms of reactions of organic compounds in solution, in particular the relationship between a compound's reactivity and its molecular shape. We have prepared a number of new compounds, and the most recent of these has an especially pleasing shape and symmetry.



To celebrate this, we thought that a new form of reporting serious scientific results was appropriate, and the sonnet (Elizabethan rather than Petrarchan) seemed worth investigating. A fuller report, not in verse, is to be given today (17 December) at the Scottish meeting of the Perkin Division of the Royal Society of Chemistry at Strathclyde University.

Shall I compare thee to a single form
Of cyclohexane locked with bulky group?
Or should it be with that bicyclic norm
Whose ethane bridge 1,5 doth fix the hoop?

Thy undistorted, perfect, *trans*-fused rings
By force field calculation hold no strain;
No rapid rates which angle bending brings
As in bicyclo [3,2,1] octane.



Some help thy ground state conformation needs
To free an equatorial tosylate,
So ring-flip from an all-chair form precedes
Reaction from a boat transition state.

And then departs the leaving group when *trans*
Coplanar hydrogens the rate enhance.

H. MASKILL

Chemistry Department,
University of Stirling, UK

Online enhancements

NATURE CHEMISTRY | ARTICLE

Scalable enantioselective total synthesis of taxanes

Abraham Mendoza, Yoshihiro Ishihara & Phil S. Baran

Affiliations | Contributions | Corresponding author

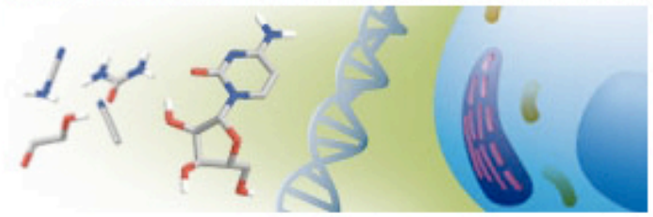
Nature Chemistry **4**, 21–25 (2012) | doi:10.1038/nchem.1196

Received 22 August 2011 | Accepted 10 October 2011 | Published online 06 November 2011

Abstract

Taxanes form a large family of terpenes comprising over 350 members, the most famous of which is Taxol (paclitaxel), a billion-dollar anticancer drug. Here, we describe the first practical and scalable synthetic entry to these natural products via a concise preparation of (+)-taxa-4(5),11(12)-dien-2-one, which has a suitable functional handle with which to access more oxidized members of its family. This route enables a gram-scale preparation of the 'parent' taxane —taxadiene—which is the largest quantity of this naturally occurring terpene ever isolated or prepared in pure form. The characteristic 6-8-6 tricyclic system of the taxane family, containing a bridgehead alkene, is forged via a vicinal difunctionalization/Diels–Alder strategy. Asymmetry is introduced by means of an enantioselective conjugate addition that forms an all-carbon quaternary centre, from which all other stereocentres are fixed through substrate control. This study lays a critical foundation for a planned access to minimally oxidized taxane analogues and

Selected feature



Web focus on prebiotic chemistry

Understanding how the simple molecules present on the early Earth may have given rise to the complex systems and processes of contemporary biology is widely regarded as one of chemistry's great unsolved questions. A collection of articles in this focus highlight some of the latest research in this area, including work that supports the RNA-world hypothesis.

See complete feature ▸

Science jobs from naturejobs

Group Leaders at Assistant Professor or Tenured Level
Leibniz Institute for Age Research - Fritz Lipmann Institute (FLI)

Postdoctoral Position
University of Southern California (USC)

Group leader position and postdoctoral positions at the Max Planck Institute for

Online enhancements

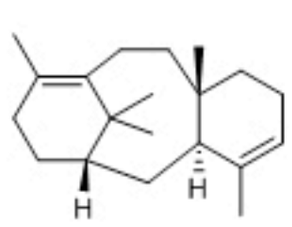
17 + 29% undesired diketone); *f*. 0.4 M KHMDS, $PhNTf_2$, THF, 0 °C, 1 h; *g*. 1.2 M Me_2Zn, $Pd(PPh_3)_4$ (5 mol %), THF, 0 °C to room temperature, 5 h (84% over two steps). TMSCl, trimethylsilyl chloride; CuTC, copper(I) thiophene-2-carboxylate; $PhNTf_2$, *N*-phenylbis(trifluoromethanesulfonimide); KHMDS, potassium hexamethyldisilazide; $Pd(PPh_3)_4$, tetrakis(triphenylphosphine)palladium.

Full size image (194 KB)

▲ Previous | Next ▼

Compound (+)-7

(+)-Taxa-4(5),11(12)-diene



View: Full Details | In PubChem

With the key taxane was then targeted, primarily as a means of spectrosc but also to demonstrate the feasibility of a large- ed **7**. Furthermore, taxadiene (**7**) is produced in negli be obtained from 750 kg of tree bark from *T. brevifol* ever been recorded. To this end, a three-step deoxyger eld overall on a gram scale (Fig. 3), to generate (+)-7, which was spectroscopically indistinguishable from natural **7** (ref. 34), previously synthesized (±)-**7** (ref. 37) and bioengineered (+)-7 (ref. 22). The optical rotation of $[\alpha]^D$ ($CHCl_3$) = +165° (*c* = 1.0) is reported herein for the first time and is comparable to that obtained for a bioengineered sample of (+)-7 (see Supplementary Information). This represents the largest quantity of pure (+)-7 isolated to date.

Bold compound number pop ups

Online enhancements

Compound pages

From

Scalable enantioselective total synthesis of taxanes

Abraham Mendoza, Yoshihiro Ishihara & Phil S. Baran

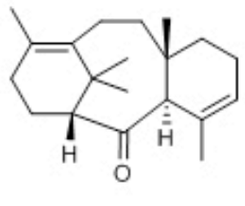
Nature Chemistry **4**, 21–25 (2012) | doi:10.1038/nchem.1196

Supplementary Information

◂ back to article

Compound (+)-6

(+)-Taxa-4(5),11(12)-dien-2-one



View in PubChem | View in 3D (6 KB) | Download ChemDraw file of structure (3 KB) | Download CML file (3 KB) | Download Molfile (2 KB)

Chemical Formula: $C_{20}H_{30}O$

Molecular Weight: 286.45

Elemental Analysis: C, 83.86; H, 10.56; O, 5.59

Standard InChI=1S/C20H30O/c1-13-8-9-16-18(21)17-14(2)7-6-11-20(17,5)12-10-1 t16-,17-,20-/m0/s1

Standard InChIKey: FNHWZFUZPRGYAH-ZWOKBUDYSA-N

SMILES: C[C@]12[C@@](C([C@]3([H])CCC(C)=C(CC2)C3(C)C)=O)([H])C(C)=CC

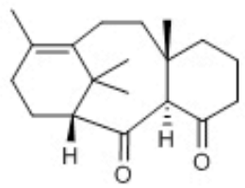
Compound data: CIF (13 KB)

Synthetic Procedure: *See article for the definitive version of this procedure and for*

To a flame-dried 500 mL round-bottomed flask equipped with a stir bar were added [illegible] (3.900 g, 16.51 mmol, 2.00 equiv) and 165 mL THF, and this solution was cooled to 0 °C. A dry solution of **(+)-17** (2.380 g, 8.252 mmol, 1.00 equiv) in THF (24 mL) was added, followed immediately by a 0.4 M solution (31 mL, 12.4 mmol, 1.50 equiv) of KHMDS in THF. This dark orange homogeneous solution was

Compound (+)-17

(1*R*,3*S*,8*S*)-8,12,15,15-Tetramethyl-tricyclo[9.3.1.$0^{3,8}$]pentadec-11-en-2,4-dione

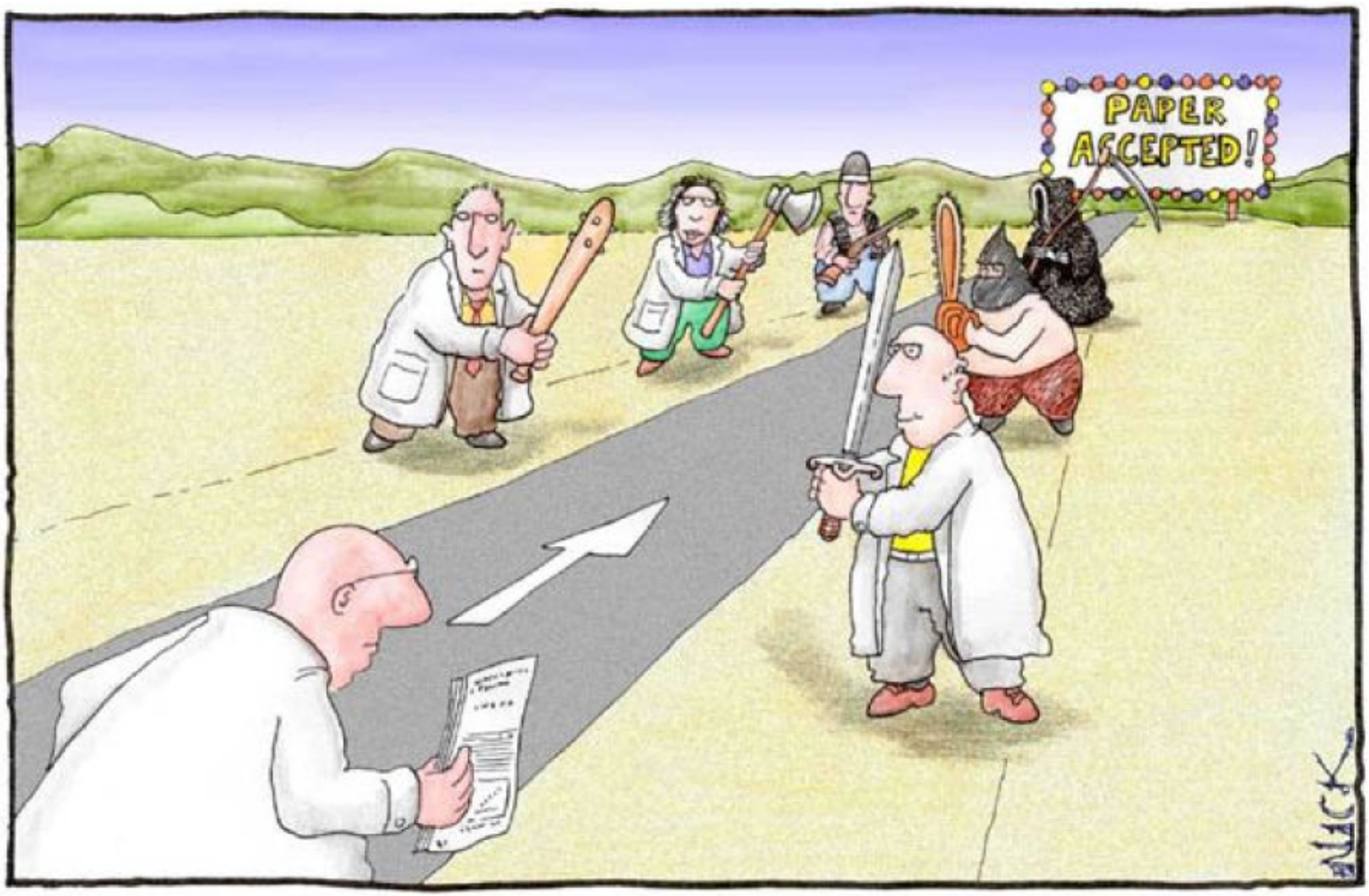


View: Full Details | In PubChem

The editorial process

Taken from: http://bit.ly/lotsofpapers

The editorial process



What are we looking for?

Original

(substantial advance, conceptual novelty, unexpected discovery)

Fundamental insight

(we learn something new)

Practical applicability

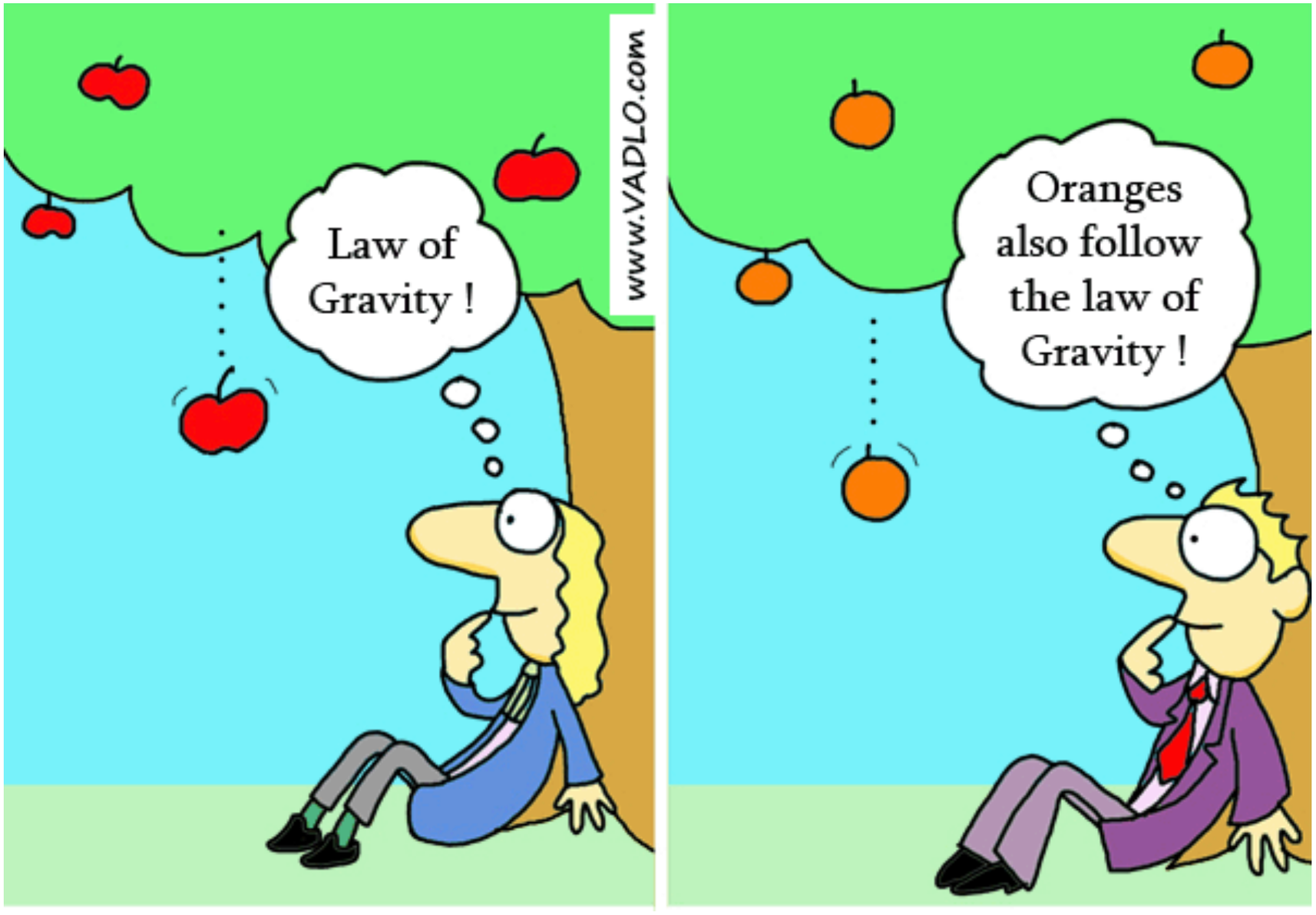
(we can do something new)

Broad interest and significant to chemistry in general

(chemists not working in the same area may find it interesting)

Technically solid (referees)

What are we looking for?



High-impact paper

Somewhat incremental

How to appeal a decision...

However tempting it might be, don't e-mail the editor
10 minutes after getting the decision...

When forwarding the decision e-mail to your co-authors complaining about how stupid the editor is, remember to hit the 'Forward' button, not the 'Reply' one...

Personal attacks on the editor or referees doesn't help
– ESPECIALLY IN CAPITAL LETTERS

Guessing the identity of referees doesn't help

Statements about author's reputation,
"don't you know who I am"...

Keep it about the science –
clear, well-reasoned, compelling and polite response to criticism

Contents lists available at ScienceDirect

Thermochimica Acta

journal homepage: www.elsevier.com/locate/tca

The quandary aspects of non-isothermal kinetics beyond the ICTAC kinetic committee recommendations

Jaroslav Šesták *

New Technology—Research Center in the Westbohemian Region (NTC), University of West Bohemia, Universitní str. 8, CZ-30114 Plzeň, Czech Republic

[147] P. Holba and J. Šesták's manuscript "Why the Piloyan determination of activation energy from DTA peaks is not correct "was insensibly rejected for publication as uninteresting by the chief editor of Nature Chemistry even without passing it to the standard reviewing. It shows the tragedy of contemporary science that its fate is decided by a clerk representing publisher and not a professional jury. It seems that journal is ashamed of the previous publication of erroneous paper [146] which remained uncorrected for nearly half a century not aspiring to admit any inflicted mistakes. Second, the introduction of thermal inertia would undermine the influential lobby of DTA instrument manufacturers who would not like to change expensive software that provides simple numerical values of the kinetic constants unintended for any revision of such an unproblematic practice.

Accepted in principle (AIP)

Editor provides extensive feedback on text & figures to the authors and ensures that style is followed

Authors submit final version of text and high-resolution files for publication

Manuscript formally accepted and handed over to our production team

Editor: Cover? News & Views? Press release?

Paper proofed out to authors, who return comments

Authors' corrections made, editor does 'final read'

Article published — online first, then in print

Some hints and tips on the publishing process from the ~~dark~~ other side...

Preparing submissions for *Nature Chemistry*

This guide outlines key details that authors need to know when preparing the initial versions of Articles for submission to *Nature Chemistry*. For details of how to prepare revisions, appeals and all other content types, authors should consult our guide to authors. For information about the common editorial policies of *Nature* journals please see authors & referees @ npg.

We do not require that papers conform strictly to our format guidelines at the initial submission stage. If revisions are requested, the handling editor will provide detailed instructions on style. But to ensure these are kept to a minimum and that we can handle your paper as swiftly as possible, please pay attention to the following points.

Main article file

Supply the main article as a single document containing, in order, the sections listed below. We encourage authors to embed each figure (with its legend) in this document at the appropriate point in the text for ease of reading. Alternatively, individual figure files can be uploaded separately if you prefer (in this case, group the figure legends together at the end of the main article file).

Title If possible, this should be 15 words or fewer and should not contain technical terms or abbreviations unless absolutely necessary. We don't allow multi-part titles, i.e., two phrases separated by punctuation of some kind.

Author list and affiliations The corresponding author(s) should be identified with an asterisk and their e-mail address(es) provided.

Abstract This should be 100-150 words long and contain no references. It should include a general introduction to the topic and a brief non-technical summary of your main results and their implications. Bold compound numbers or acronyms should be avoided whenever possible.

Main text The main text of articles (excluding the abstract, methods, figure captions, references, etc.) should typically not exceed 3,000 words. Section headings can be used, except for at the very start of this section (we don't use 'Introduction' as a heading).

Methods We strongly encourage authors to supply a section of up to 800 words that describes the methods considered to be the most essential to the paper. Additional methods, experimental procedures and characterization data should be placed in the supplementary information, which will be made available to referees during the peer-review process.

References The maximum number of references is 50. Only one publication is given for each number (so no compound references, i.e., 1a,b,c, etc..). Please make sure that the titles of the articles being cited are included for each reference. References should not contain notes; they should just provide a citation.

Acknowledgements (optional) Acknowledgements should be brief, and should not include thanks to anonymous referees and editors, or effusive comments. Grant or contribution numbers may be acknowledged.

Author contributions *Nature Chemistry* requires authors to include a statement to specify the individual contributions of each co-author. This can take the following format: "A.B. and C.D. conceived and designed the experiments: A. B. and E. F. performed the experiments: G. H. analyzed the data: A. B. and E. F. co-wrote the paper." See our authorship policies for more details.

Competing financial interests Submission of a competing financial interests statement is required for all content of the journal. This statement will be published at the end of Articles, regardless of whether or not a competing financial interest is reported.

Tables Each table should be accompanied by a short title sentence describing what the table shows. Further details can be included as footnotes to the table.

Figures

A *Nature Chemistry* Article may contain up to 6 display items (any combination of figures and/or tables). A limited number of molecular structures with associated compound numbers or names can also be included as uncaptioned display items — but these should be grouped together where possible. Please note that schemes are not used; they should simply be presented as figures (with a caption).

High-resolution images are not required at initial submission, but please ensure that the figures (whether embedded in the main article file or supplied separately) are of a sufficient resolution for their content to be clearly legible.

Figure legends Figure legends should begin with a brief sentence that serves as a general title for the whole figure before continuing with a detailed description of what is shown in each panel and the symbols used. The caption for each figure should not typically exceed 200 words.

Equations

Equations and mathematical expressions should be provided in the main text of the paper. Equations that are referred to in the text are identified by parenthetical numbers, such as (1), and are referred to in the manuscript as "equation (1)".

Compound numbering

Individual chemical compounds in *Nature Chemistry* papers should ideally be identified by bold numerals (**1**, **2**, **3**, etc.). All inorganic and organic compounds should be numbered, including those that are only mentioned in the manuscript or supplementary information, independent of whether they have been utilized in the reported experiments; standard buffers, reagents and solvents should not be numbered. Please number compounds in order of their appearance in the main text. Alphanumeric numbering can also be used, but try to be logical, for example, starting materials called **1a**, **1b**, **1c**... give products called **2a**, **2b**, **2c**... and so on.

Supplementary information

We strongly encourage authors to submit a supplementary information file with the manuscript that contains supporting experimental details, compound characterization and any other appropriate data that may prove useful to referees evaluating claims made in the paper (and ultimately to other researchers aiming to replicate any experiments).

Supplementary information is not copy-edited by *Nature Chemistry*, so authors should ensure that it is clearly and succinctly presented, and that the style and terminology conform with the rest of the paper. Authors should include the title of the manuscript and full author list on the first page, as well as a table of contents if the supplementary information is more than a few pages long. Mentions of supplementary information in the main article file should refer to specific sections of the supplementary information document whenever possible.

Crystallographic data

Manuscripts reporting new structures of small molecules from crystallographic analysis should be accompanied by a standard .cif file and a structural figure with probability ellipsoids should be included in the main supplementary information file. The structure factors for each structure should also be submitted, preferably embedded in the main .cif file, although they may be provided as a separate .cif file. The structure factors and structural output must be checked using IUCr's CheckCIF routine and a PDF copy of the output included with the submission, explaining any A- or B-level alerts. Crystallographic data for small molecules should be submitted to the Cambridge Structural Database and the deposition number referenced appropriately in the manuscript. Full access must be provided on publication.

Related manuscripts

It is a requirement of submission that you alert us to any related manuscripts from your group that are under consideration or in press at other journals, or are being written up for submission to other journals (see our editorial policies on duplicate submissions for details). Copies of these manuscripts should be clearly marked and included as separate files with your submission.

Cover letter

Authors should provide a cover letter that includes the affiliation and contact information for the corresponding author. Authors should briefly discuss the work's importance and explain why the work is considered appropriate for the diverse readership of *Nature Chemistry*. This should go beyond simply copying the text from the abstract or introduction in the manuscript.

Authors are encouraged to provide the names and contact information for qualified scientific reviewers; close collaborators should not be listed. We understand that conflicts of interest may exist and so authors can ask for a limited number of individuals to be excluded, but details should be given why they feel that these people would not be appropriate referees.

Finally, authors should indicate whether they have had any prior discussions with a *Nature Chemistry* editor about the work described in the manuscript.

Double-blind peer review

Authors who wish to anonymize their manuscripts for the purposes of double-blind peer review should not include author names or affiliations in the manuscript file or the supplementary information file.

No author information should be present in the metadata of the submitted files (this is usually found listed in the 'File' tab under 'Properties' in programmes such as Microsoft Word).

When referring to published work of your own avoid phrases such as 'we have shown' and use 'it has been shown' or similar instead.

Do not include unpublished work in the reference list.

The order in which the authors should appear on the paper in the event of publication must be clearly stated in the cover letter. Acknowledgements and author information/contributions should also be included in the cover letter.

Consider the journal format

C'mon, it's just one page...

How to write a paper...

ADVANCED MATERIALS

ESSAY

Whitesides' Group: Writing a Paper**

By *George M. Whitesides**

1. What is a Scientific Paper?

A paper is an organized description of hypotheses, data and conclusions, intended to instruct the reader. Papers are a central part of research. If your research does not generate papers, it might just as well not have been done. "Interesting and unpublished" is equivalent to "non-existent".

Realize that your objective in research is to formulate and test hypotheses, to draw conclusions from these tests, and to teach these conclusions to others. Your objective is not to "collect data".

A paper is not just an archival device for storing a completed research program; it is also a structure for *planning* your research in progress. If you clearly understand the purpose and form of a paper, it can be immensely useful to you in *organizing* and conducting your research. A good outline for the paper is also a good plan for the research program. You should write and rewrite these plans/outlines throughout the do *not* agree on the outline, any text is useless. Much of the *time* in writing a paper goes into the text; most of the *thought* goes into the organization of the data and into the analysis. It can be relatively efficient in time to go through several (even many) cycles of an outline before beginning to write text; writing many versions of the full text of a paper is slow.

All writing that I do—papers, reports, proposals (and, of course, slides for seminars)—I do from outlines. I urge you to learn how to use them as well.

2.2. How Should You Construct an Outline?

The classical approach is to start with a blank piece of paper, and write down, in any order, all important ideas that occur to you concerning the paper. Ask yourself the obvious questions: "Why did I do this work?"; "What does it mean?";

You might find it easiest to start with the results...

...or the figures

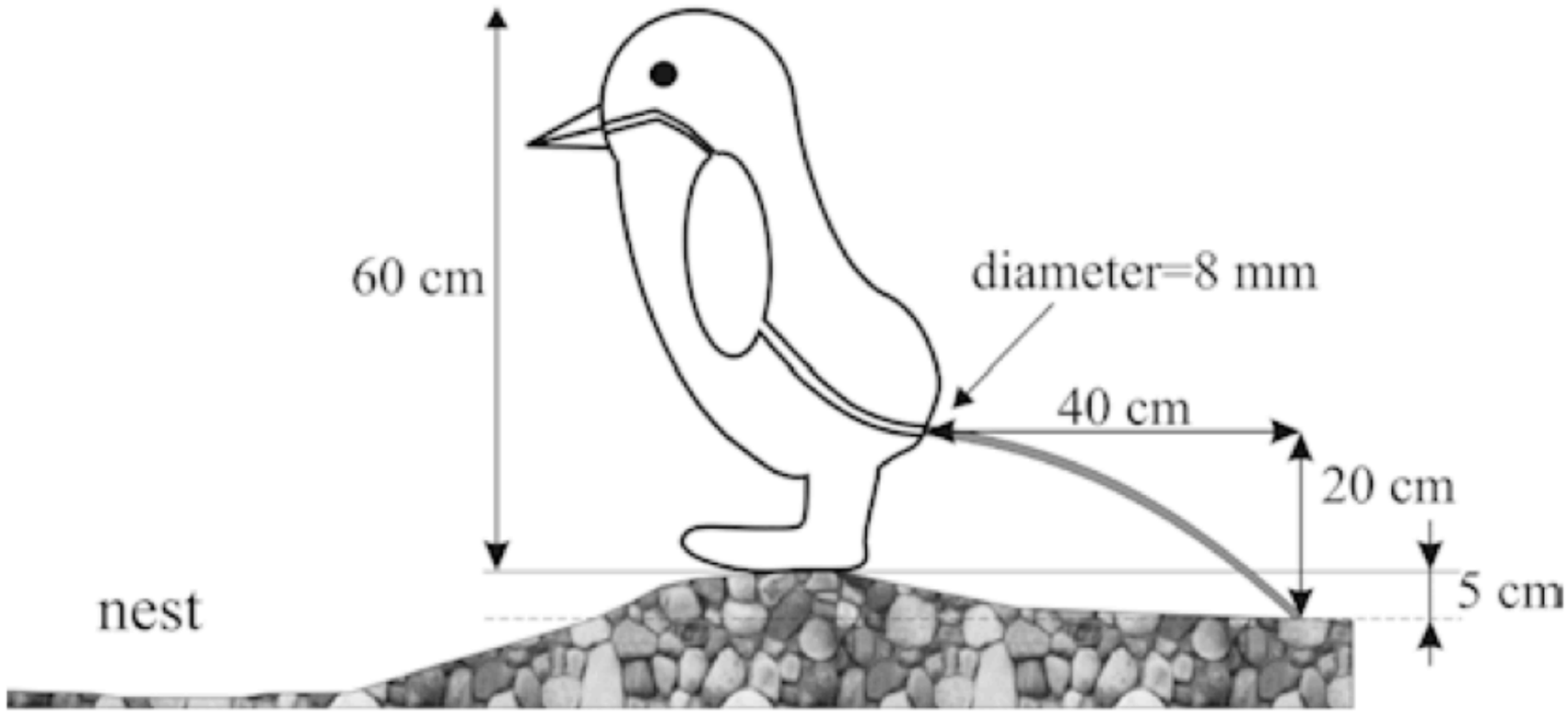


Fig. 1 Position of model penguin during defaecation and physical parameters used to calculate rectal pressure necessary to expel faecal material over a distance of 40 cm

(From: Pressures produced when penguins pooh – calculations on avian defaecation)

The text

Consider your audience

Avoid jargon

Acronyms Rarely Suit Everyone

Technical details go in the Methods/Supp Info

Text should be clear, direct and should avoid repetition (ideally at the level of a first-year graduate course)

Know your audience

more

Technical language

less

J. of Organic Chemistry – specialized chemistry audience

Angew. Chem. Int. Ed. – general chemistry audience

Science – general scientifically literate audience

New Scientist – scientifically literate/engaged lay audience

The Guardian – literate lay audience

The Daily Mail – lay audience

small

Size of audience

big

Text should be clear, direct and should avoid repetition (ideally at the level of a first-year graduate course)

Tell a story, one that people will want to read to the end

What problem/question are you addressing?

Why is this problem/question important/interesting?

What other work has been done in this area?

How did you go about tackling the problem?

What did you find?

What do your results mean?

This sentence has five words.
Here are five more words.
Five-word sentences are fine.
But several together become monotonous.
Listen to what is happening.
The writing is getting boring.
The sound of it drones.
It's like a stuck record.
The ear demands some variety.

– Gary Provost

Now listen.
I vary the sentence length, and I create music.
Music.
The writing sings.
It has a pleasant rhythm, a lilt, a harmony.
I use short sentences.
And I use sentences of medium length.
And sometimes when I am certain the reader is rested, I will engage him with a sentence of considerable length, a sentence that burns with energy and builds with all the impetus of a crescendo, the roll of the drums, the crash of the cymbals — sounds that say listen to this, it is important.

– Gary Provost

Don’t let the title, abstract or graphical abstract be afterthoughts...

...but do do them at the end

Constructing an abstract

Fertilization of a mammalian egg initiates a series of 'zinc sparks' that are necessary to induce the egg-to-embryo transition. Despite the importance of these zinc-efflux events little is known about their origin. To understand the molecular mechanism of the zinc spark we combined four physical approaches that resolve zinc distributions in single cells: a chemical probe for dynamic live-cell fluorescence imaging and a combination of scanning transmission electron microscopy with energy-dispersive spectroscopy, X-ray fluorescence microscopy and three-dimensional elemental tomography for high-resolution elemental mapping. We show that the zinc spark arises from a system of thousands of zinc-loaded vesicles, each of which contains, on average, 10^6 zinc atoms. These vesicles undergo dynamic movement during oocyte maturation and exocytosis at the time of fertilization. The discovery of these vesicles and the demonstration that zinc sparks originate from them provides a quantitative framework for understanding how zinc fluxes regulate cellular processes.

The background

The problem

The approach

(include techniques if crucial to the paper)

The findings

The implications

Graphical abstracts

...not too graphic...

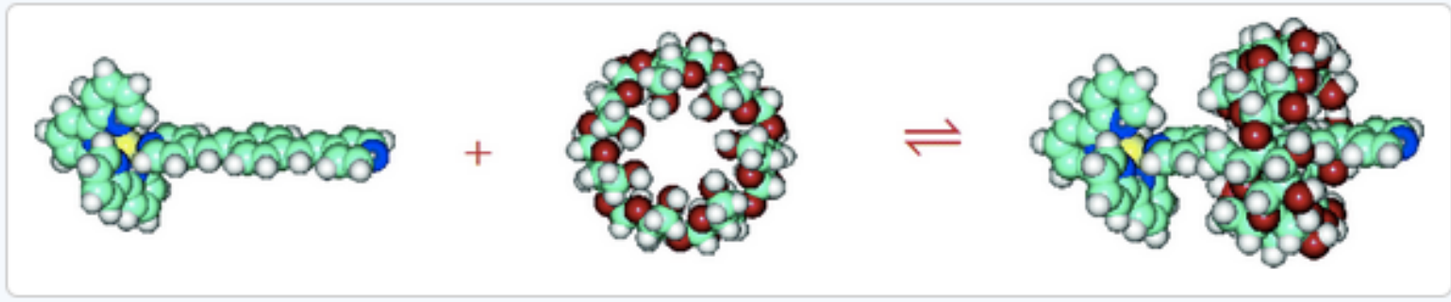
Article

{*trans*-1,4-Bis[(4-pyridyl)ethenyl]benzene}(2,2'-bipyridine)ruthenium(II) Complexes and Their Supramolecular Assemblies with β-Cyclodextrin

Sergio H. Toma ,[‡] Miriam Uemi ,[‡] Sofia Nikolaou ,[‡] Daniela M. Tomazela ,[‡] Marcos N. Eberlin ,[‡] and Henrique E. Toma *[‡]
Instituto de Química, Universidade de São Paulo USP, Caixa Postal 26077, CEP 05513, São Paulo, SP, Brazil, and Instituto de Química, Universidade Estadual de Campinas, Campinas, SP, Brazil

Inorg. Chem., **2004**, *43* (11), pp 3521–3527
DOI: 10.1021/ic0352250
Publication Date (Web): May 4, 2004

Abstract



Two novel ruthenium polypyridine complexes, $[Ru(bpy)_2Cl(BPEB)](PF_6)$ and $\{[Ru(bpy)_2Cl]_2(BPEB)\}(PF_6)_2$ (BPEB = *trans*-1,4-bis[2-(4-pyridyl)ethenyl]benzene), were synthesized and their characterization carried out by means of elemental analysis, UV–visible

Graphical abstracts

...not too abstract...

ChemComm

RSC Publishing

COMMUNICATION

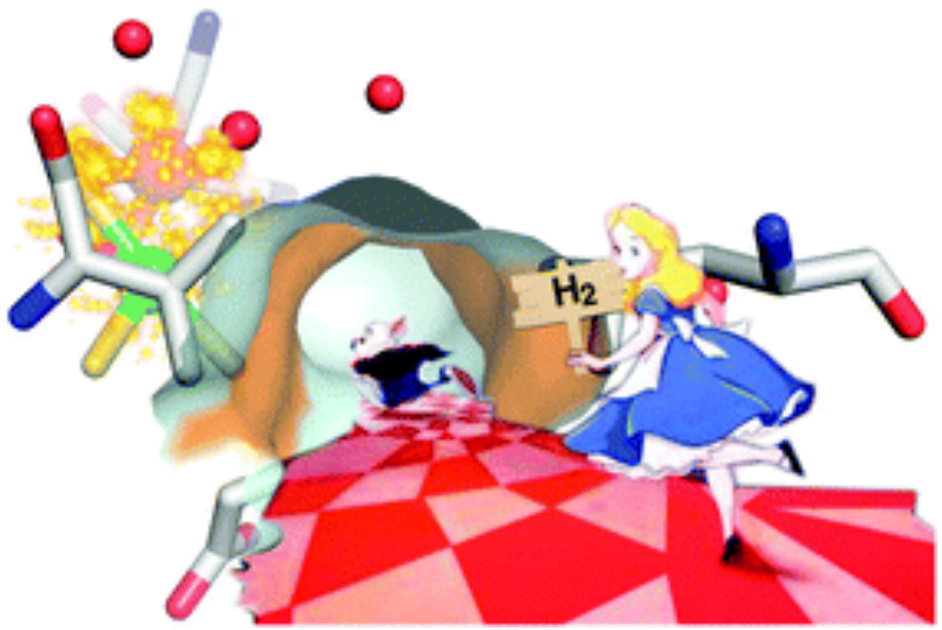
View Article Online
View Journal | View Issue

The mechanism of inhibition by H_2 of H_2-evolution by hydrogenases†

Cite this: *Chem. Commun.*, 2013, **49**, 6840

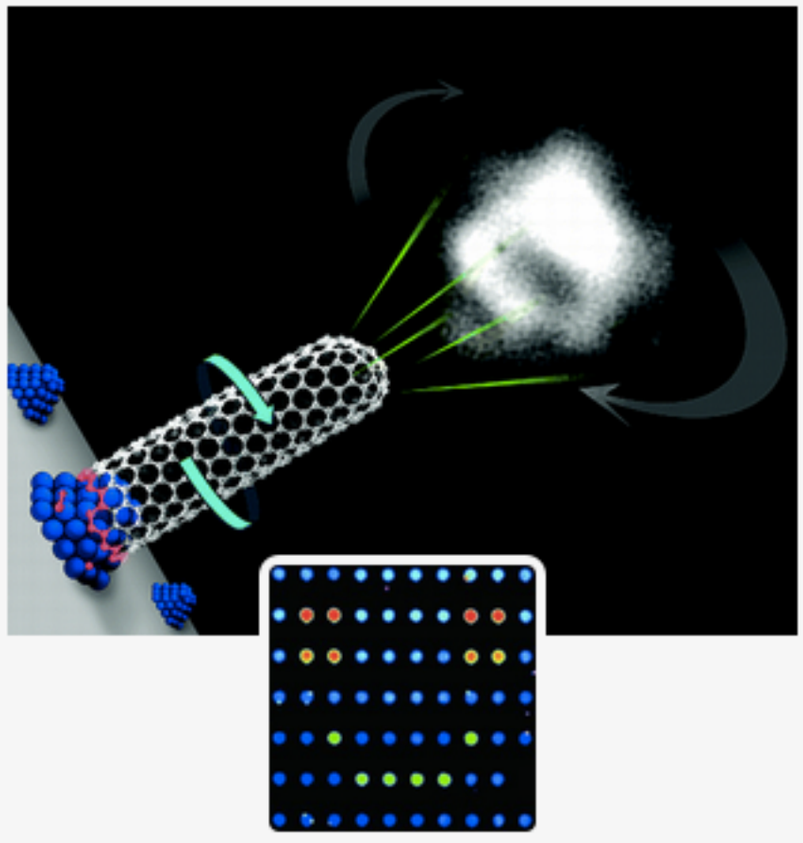
Received 3rd May 2013,
Accepted 10th June 2013

Vincent Fourmond,[a] Carole Baffert,[a] Kateryna Sybirna,[b] Sébastien Dementin,[a] Abbas Abou-Hamdan,[a] Isabelle Meynial-Salles,[c] Philippe Soucaille,[c] Hervé Bottin[b] and Christophe Léger*[a]



Graphical abstracts

...and try to avoid being featured on...



TOC ROFL

funny table-of-contents images from scientific journal articles. inspired by crazy TOC images and http://blogs.discovermagazine.com/discoblog/category/ncbi-rofl/

SUBMIT ARCHIVE

<Insert title here>

Your title should not be an abstract

JACS
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY

Article

pubs.acs.org/JACS

$[Cp_2TiCH_2CHMe(SiMe_3)]^+$, an Alkyl–Titanium Complex Which (a) Exists in Equilibrium between a β-Agostic and a Lower Energy γ-Agostic Isomer and (b) Undergoes Hydrogen Atom Exchange between α-, β-, and γ-Sites via a Combination of Conventional β-Hydrogen Elimination–Reinsertion and a Nonconventional CH Bond Activation Process Which Involves Proton Tunnelling

Alexandre F. Dunlop-Brière and Michael C. Baird*

Department of Chemistry, Queen's University, Kingston, ON K7L 3N6, Canada

Peter H. M. Budzelaar*

Department of Chemistry, University of Manitoba, Winnipeg, MB R3T 2N2, Canada

Supporting Information

ABSTRACT: The compound $[Cp_2Ti(Me)(CD_2Cl_2)][B(C_6F_5)_4]$ reacts with trimethylvinylsilane (TMVS) to form the 1,2-insertion product $[Cp_2TiCH_2CHMe(SiMe_3)]^+$ (**III**), which exists in solution as equilibrating β-

Try to avoid typos

Multi-format receiver for non-return-to-zero binary-phase-shift-keyed and non-return-to-zero amplitude-shit-keyed signals

Zhixin Liu, Shilin Xiao*, Lei Cai, and Zheng Liang

State Key Laboratory of Advanced Optical Communication Systems and Networks, Department of Electronic Engineering, Shanghai Jiao Tong University, Shanghai 200240, China

Corresponding author: slxiao@sjtu.edu.cn

Abstract: A Multi-format receiver for both non-return-to-zero binary-phase-shift-keyed (NRZ-BPSK) signal and non-return-to-zero amplitude-shift-keyed (NRZ-ASK) signal is demonstrated. Multi-format signal detection is based on incoherent BPSK demodulation and ASK-BPSK format conversion. Incoherent BPSK demodulation is realized by a Mach-Zehnder delay interferometer (MZDI) and a feedback decoder. Transmission experiments validate the feasibility of multi-format receiver. This receiver has potential to serve as a useful terminal block for all-optical

Potty-mouth titles?

OPEN ACCESS Freely available online

PLOS | NEGLECTED TROPICAL DISEASES

An In-Depth Analysis of a Piece of Shit: Distribution of *Schistosoma mansoni* and Hookworm Eggs in Human Stool

Stefanie J. Krauth[1,2,3], Jean T. Coulibaly[1,2,3,4], Stefanie Knopp[1,2], Mahamadou Traoré[3], Eliézer K. N'Goran[3,4], Jürg Utzinger[1,2]*

1 Department of Epidemiology and Public Health, Swiss Tropical and Public Health Institute, Basel, Switzerland, **2** University of Basel, Basel, Switzerland, **3** Centre Suisse de Recherches Scientifiques en Côte d'Ivoire, Abidjan, Côte d'Ivoire, **4** Unité de Formation et de Recherche Biosciences, Université de Cocody, Abidjan, Côte d'Ivoire

Abstract

Background: An accurate diagnosis of helminth infection is important to improve patient management. However, there is considerable intra- and inter-specimen variation of helminth egg counts in human feces. Homogenization of stool samples has been suggested to improve diagnostic accuracy, but there are no detailed investigations. Rapid disintegration of hookworm eggs constitutes another problem in epidemiological surveys. We studied the spatial distribution of *Schistosoma mansoni* and hookworm eggs in stool samples, the effect of homogenization, and determined egg counts over time in stool samples stored under different conditions.

Methodology: Whole-stool samples were collected from 222 individuals in a rural part of south Côte d'Ivoire. Samples were cut into four pieces and helminth egg locations from the front to the back and from the center to the surface were analyzed. Some samples were homogenized and fecal egg counts (FECs) compared before and after homogenization. The effect of stool storing methods on FECs was investigated over time, comparing stool storage on ice, covering stool samples with a

I was tempted, but not for $63

Arsole Aromaticity Revisited

Authors: Johansson, M. P.; Juselius, J.

Source: Letters in Organic Chemistry, Volume 2, Number 5, August 2005, pp. 469-474(6)

Publisher: Bentham Science Publishers

< previous article | view table of contents | next article >

ADD TO FAVOURITES

Abstract:

Using quantum chemical methodology, we reinvestigate the aromaticity of the much debated arsole, using the newly developed gauge-including magnetically induced currents (GIMIC) method. GIMIC provides a quantitative measure of the induced ring current strength, showing arsole to be moderately aromatic. Comparison is made with pyrrole, phosphole, and cyclopentadiene.

I'm sure this is completely innocent

nature COMMUNICATIONS

ARTICLE

Received 15 Apr 2010 | Accepted 19 Jan 2011 | Published 22 Feb 2011

DOI: 10.1038/ncomms1198

Chemical processes in the deep interior of Uranus

Ricky Chau[1], Sebastien Hamel[1] & William J. Nellis[2]

The unusual magnetic fields of the planets Uranus and Neptune represent important observables for constraining and developing deep interior models. Models suggests that the unusual non-dipolar and non-axial magnetic fields of these planets originate from a thin convective and conducting shell of material around a stably stratified fluid core. Here,

Is it a good idea to phrase the title of my paper as a question?

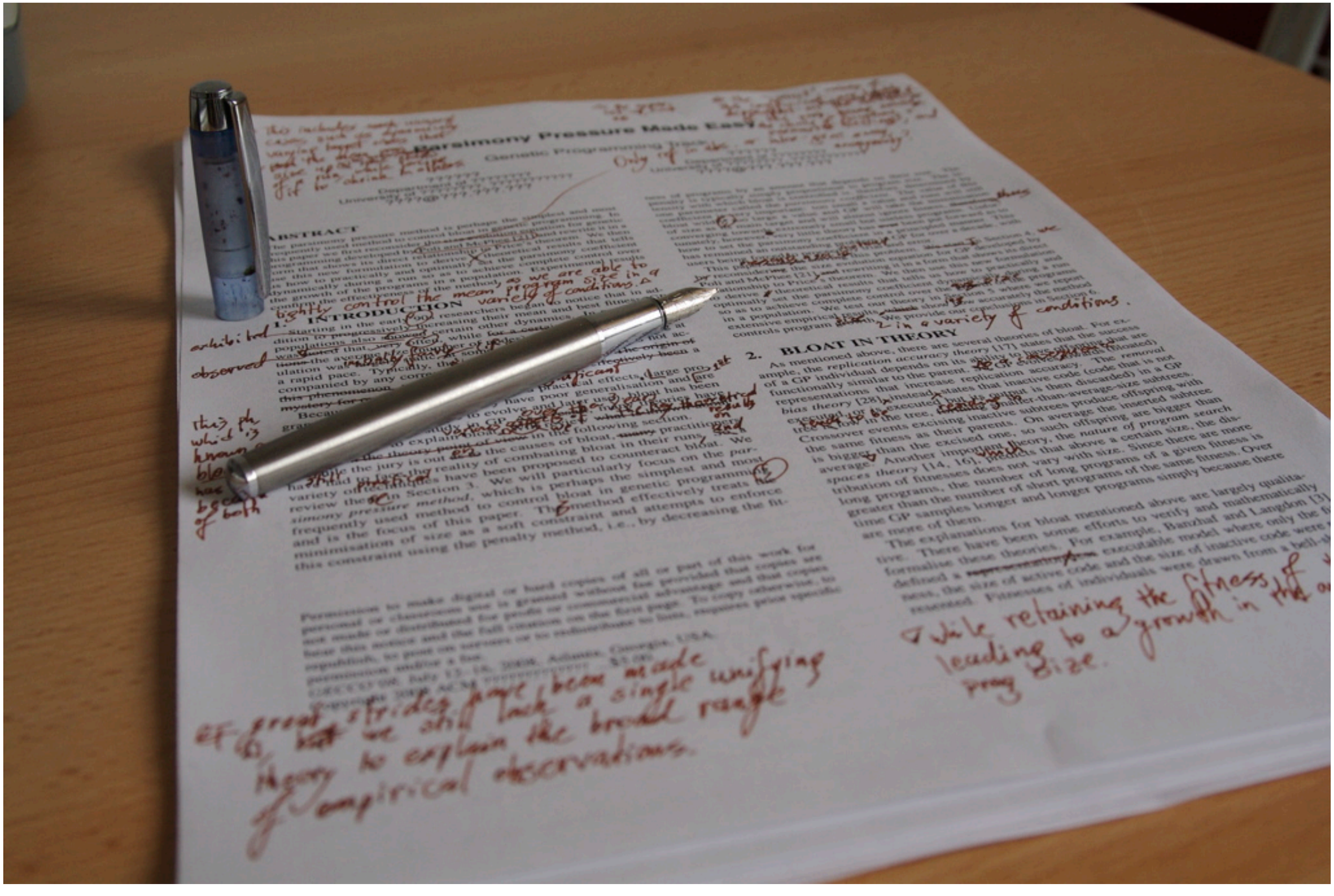
Betteridge's law of headlines...

Any headline that ends in a question mark can be answered by the word 'no'.

...modified for paper titles

The answer to any title phrased in the form of a yes/no question can typically be answered by the word 'no'.

A little help from your friends



Dear Editor...

Importance of a cover letter

November 26, 2002

Editor
Nature Genetics
345 Park Avenue South, 10th Floor
New York, NY 10010-1707
USA

Dear Editor,

It is not clear why a cover letter is required except to fulfill the silly British preoccupation with letterhead and other emblems of status.

Please accept my correspondence.

Sincerely,

What to do in a cover letter...

Point out related work and explain the advance reported in your manuscript

Suggest referees (you may also exclude a couple)

Identify related manuscripts in press or submitted elsewhere

Don’t include endorsements from other researchers

Drop the hype: no Holy Grails, no Rosetta Stones and no paradigm shifts

Avoid blunt comparisons with other papers we’ve published

What not to do in a cover letter...

June 05, 2014

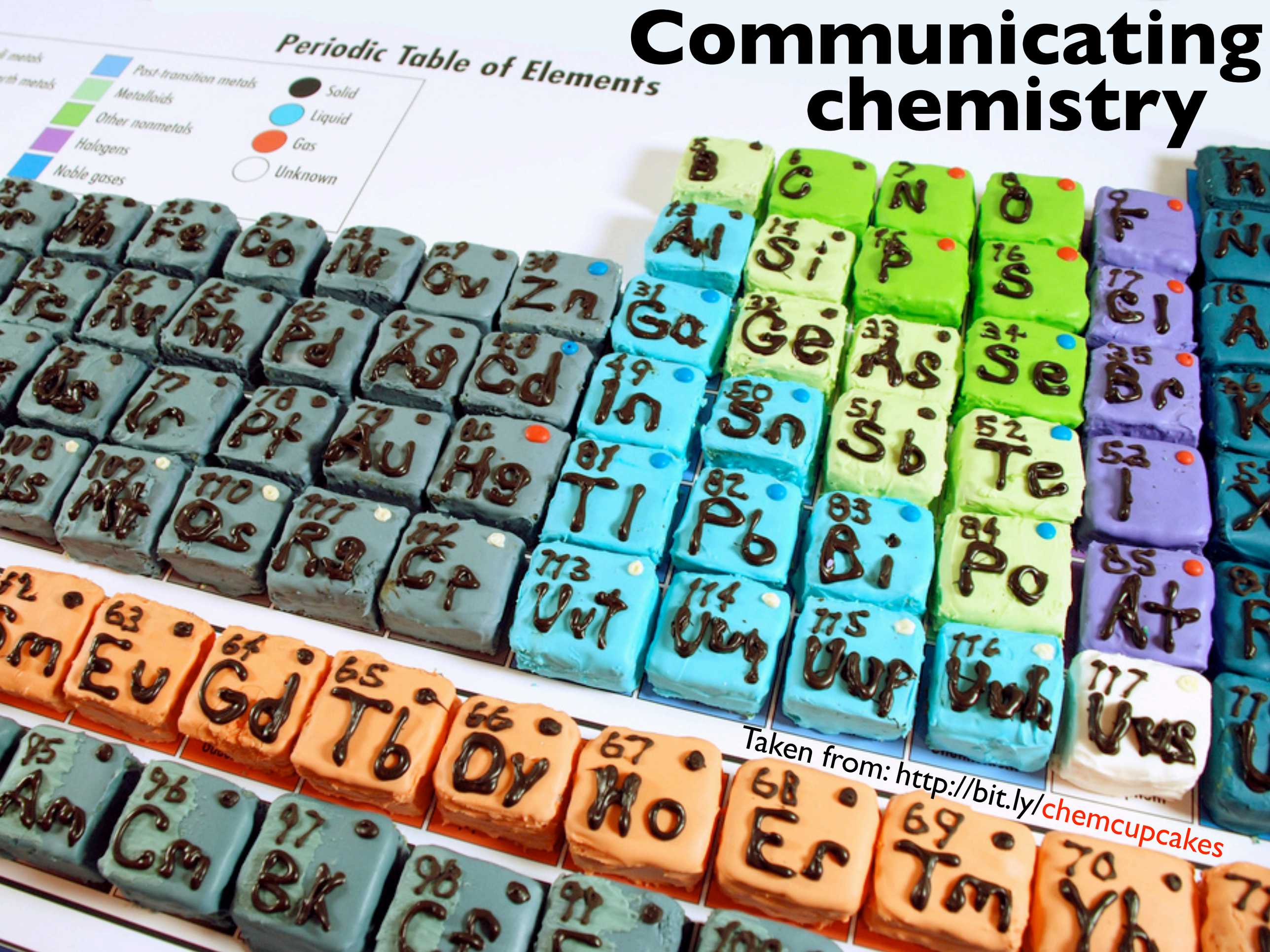
Dr. Robert D. Eagling
University of Utah,
Editor, *Nature Chemistry*

Dear Dr. Eagling,

Herewith I am sending you a manuscript "[redacted]" by [redacted] and myself for its publication in *Nature Chemistry*.

The manuscript is not under consideration for publication and has not been published elsewhere in any medium including electronic journals and computer databases of public nature.

Communicating chemistry



Taken from: http://bit.ly/chemcupcakes

Blogging...

The infinite monkey theorem states that a monkey hitting keys at random on a typewriter keyboard for an infinite amount of time will almost surely type a given text, such as the complete works of William Shakespeare.

The Sceptical Chymist...

Previous post
Blogroll: Chemistry in crowds

Next post
Reactions: Felice Grandinetti

NATURE CHEMISTRY | THE SCEPTICAL CHYMIST

50 things you might not know about Nature Chemistry

25 Apr 2013 | 00:59 BST | Posted by Stuart Cantrill | Category: Journal journeys | Edit

On Monday I realized that our May 2013 issue is our 50th issue. To celebrate, we have compiled 50 (hopefully) interesting tidbits of information about the journal that you might not have been aware of. Apologies for the length of this post, but it seemed like cheating to do fewer than 50…

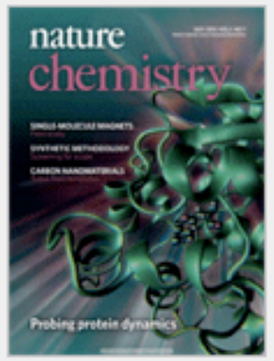
1. The first formal manuscript submission (*i.e.*, made through our online submission system rather than being e-mailed to us before that went live) arrived on the 25th July 2008. It was sent out to three referees and was then, alas, declined for publication on the 5th September 2008.

2. The first *Nature Chemistry* research Article was published on February 22nd 2009. The corresponding author was Makoto Fujita and the paper was entitled: *Minimal nucleotide duplex formation in water through enclathration in self-assembled hosts*. According to Web of Science, as of today it has been cited 62 times.

3. We published 471 research Articles (not including review-type articles) in the first 50 issues of *Nature Chemistry*. On average, that's just under 9-and-a-half papers per issue.

4. As of today, according to Web of Science our most cited research Article (in fact, our most-cited piece of

Current issue
July 2013, Vol 5 No 7 pp 547-636



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Recent comments on this blog

A sharply intellectual man. I appreciate the desire to learn Latin; pulling the veil of English dominance from the works ... Read more ▸

– Daniel Efford
Reactions: Felice Grandinetti

I'm a little confused. How could you reorganize the table as to make Neon the first noble gas while maintaining ... Read more ▸

– Daniel Efford
Neon behind the signs

nature chemistry

ARTICLES

PUBLISHED ONLINE: 2014

A comprehensive overview of chemical-free consumer products

Alexander F. G. Goldberg[1] and CJ Chemjobber[2]*

Manufacturers of consumer products, in particular edibles and cosmetics, have broadly employed the term 'Chemical free' in marketing campaigns and on product labels. Such characterization is often incorrectly used to imply — and interpreted to mean — that the product in question is healthy, derived from natural sources, or otherwise free from synthetic components. We have examined and subjected to rudimentary analysis an exhaustive number of such products, including but not limited to lotions and cosmetics, herbal supplements, household cleaners, food items, and beverages. Herein are described all those consumer products, to our knowledge, that are appropriately labelled as 'Chemical free'.

[1]Department of Organic Chemistry, Weizmann Institute of Science, Rehovot 76100, Israel, [2]3170 Road 40 1/2, Shell, WY 82441, USA.
*e-mail: chemjobber@gmail.com

The Sceptical Chymist...

nature chemistry

ARTICLES
PUBLISHED ONLINE: 2014

A comprehensive overview of chemical-free consumer products

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[1]Department of Organic Chemistry, Weizmann Institute of Science, Rehovot 76100, Israel, [2]3170 Road 40 1/2, Shell, WY 82441, USA.
*e-mail: chemjobber@gmail.com

References
1. 'Chemical-free' sunscreen: http://campl.us/bmnl
2. 'Chemical-free' chemistry set: http://sciencegeist.net/my-chemically-fueled-life/
3. 'Chemical-free' bassinets: http://www.nytimes.com/2012/03/15/garden/going-to-extreme-lengths-to-purge-household-toxins.html?pagewanted=1&_r=1&
4. 'Chemical-free' eggs: http://justlikecooking.blogspot.com/2012/07/chemophobia-vacation-style.html

Acknowledgments
CJC thanks Carmen Drahl for pioneering this important topic in the modern chemistry blogosphere. A.F.G.G. thanks the Azrieli Foundation for an Azrieli Postdoctoral Fellowship.

Author contributions
Both authors contributed equally to the main text.

Additional information
Correspondence should be addressed to chemjobber@gmail.com, including requests for reprints and permission information.

Competing financial interests
The authors declare no competing financial interests, though would have short-sold 'Rubber Ducky Sunscreen' on principle if it was publicly traded.


SOCIAL MEDIA EXPLAINED
TWITTER
I'M EATING A #DONUT
FACEBOOK
I LIKE DONUTS
FOURSQURE
THIS IS WHERE I EAT DONUTS
INSTAGRAM
HERE'S A VINTAGE PHOTO OF MY PONUT
YOU TUBE
HERE I AM EATING A DONUT
LINKED IN
MY SKILLS INCLUDE DONUT EATING
PINTEREST
HERE'S A PONUT RECIPE
LAST FM
NOW LISTENING TO "DONUTS"
G+
I'M A GOOGLE EMPLOYEE WHO EATS DONUTS.


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TWEETS 9,149 | FOLLOWING 627 | FOLLOWERS 154K | LIKES 147 | LISTS 6

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A chemistry journal from @SpringerNature. Tweets by @stuartcantrill, @organometallica, @tbfaust, @NChemGav, @RussJKJohnson & @annenotintokyo

London & New York
nature.com/nchem
Joined March 2009

Tweet to Message

608 Followers you know

532 Photos and videos

Tweets | Tweets & replies | Media

Pinned Tweet

Nature Chemistry @NatureChemistry · Jul 21

August issue live! Cyclic polymers, neptunium complexes, stable organic biradicals & more! nature.com/nchem/journal/ …

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MOF@OXFORD @MMCLabOx Follow

A I Cooper group @AICoop… Follow

Find friends

Trends · Change

#TuesdayMotivation
18K Tweets

#WhyYouAreNotMe
2,124 Tweets

#MySpaceshipWould
4,426 Tweets

#DTSDPD

#morningjoe

Analytics Home Tweets Audiences Events More Nature Chemistry Sign up for Twitter Ads

Account home

Nature Chemistry @NatureChemistry

Page updated daily

28 day summary with change over previous period

Tweets	Tweet impressions	Profile visits	Mentions	Followers
50 ↑233.3%	305K ↑215.3%	9,688 ↑28.2%	388 ↑128.2%	125K ↑2,417

Jan 2016 • 29 days so far...

TWEET HIGHLIGHTS

Top Tweet earned 34.2K impressions

Odds on names of those 4 new elements? **@philipcball**, **@scburdet**, **@chronicleflask**, **@ericscerri** & **@geochembrett** discuss bit.ly/1QyNkM1

2 20 23

View Tweet activity

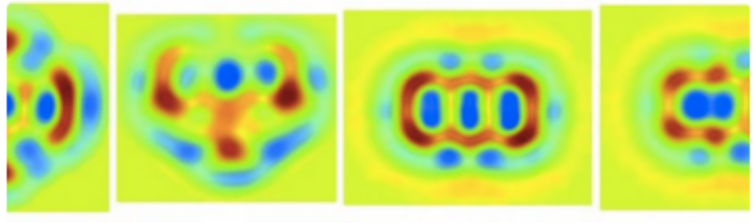
View all Tweet activity

Top Follower followed by 121K people

Top mention earned 601 engagements

C&EN
@cenmag · Jan 27

Poke! Chemists nudge molecule to react, then watch bonds break and form ow.ly/Xzouw New **@naturechemistry** pic.twitter.com/gGtLGkxe1A



ADVERTISE ON TWITTER

Get your Tweets in front of more people

Promoted Tweets and content open up your reach on Twitter to more people.

Get started

JAN 2016 SUMMARY

Tweets	Tweet impressions
50	306K

Profile visits	Mentions
9,859	394

How we've used Twitter

Commissioned News & Views articles

Commissioned In Your Element articles

Found papers to cover in Research Highlights

Ideas for Editorials

Highlight our journal content

Highlight content in other journals

Highlight interesting chemistry news stories

Interact with our community

Answer questions

Pose questions

Report from conferences

Retweets of job/postdoc opportunities

All you can tweet

Nature Chemistry signed up for a Twitter account in March 2009. More than 5,000 tweets later, what have we learned and how do we use it?

When cramming an informative and self-contained message into only 140 characters (including spaces!), clarity is a virtue.

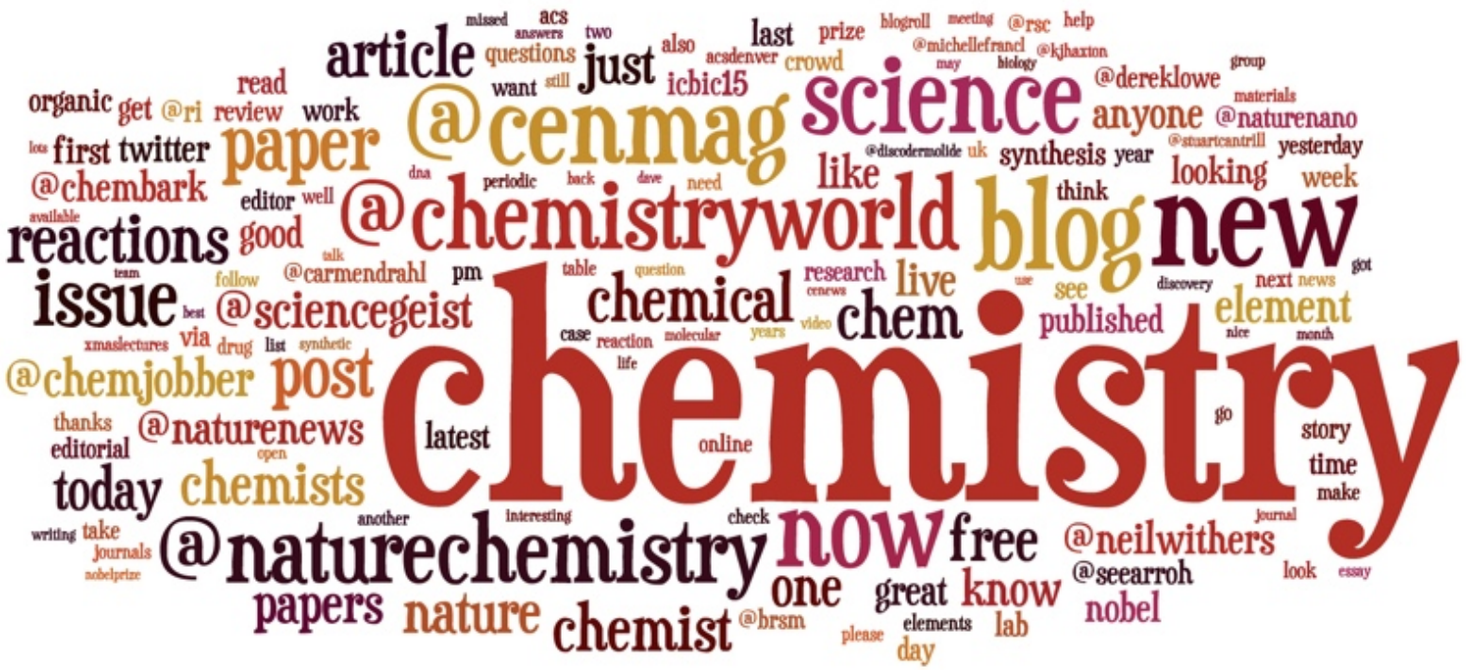
With subjects that sometimes rely on specialist language, such as chemistry, composing tweets can be quite challenging.

We use Twitter to point out any interesting chemistry-related content, including papers, news stories and blog posts.

We retweet chemistry-related job opportunities and internships that we think might be of interest to our followers.

Our tweets range from serious topics (chemical safety) to the light-hearted (such as chemistry-themed music parodies: http://bit.ly/cmmbk).

We share our Articles and other content from *Nature Chemistry* on Twitter, but that's only a small fraction of what we tweet about.



Our tweet referencing a tongue-in-cheek blog post by @DrRubidium about misuse of the term 'organic' is our most retweeted.

We commissioned @davidkroll to review @bstockwell's book, 'The quest for the cure', after he tweeted about it (http://bit.ly/qftcure).

http://bit.ly/twittertorial

Nature Chemistry @NatureChemistry #1

"All you can tweet" - an Editorial in 42 tweets that explains how @NatureChemistry uses Twitter - bit.ly/14bT1b5

1:31 PM - 20 Mar 2013

41 RETWEETS **11** FAVORITES

Nature Chemistry @NatureChemistry #2

Nature Chemistry signed up for a Twitter account in March 2009. More than 5,000 tweets later, what have we learned and how do we use it?

1:33 PM - 20 Mar 2013

Nature Chemistry @NatureChemistry #3

When cramming an informative and self-contained message into only 140 characters (including spaces!), clarity is a virtue.

1:34 PM - 20 Mar 2013

2 RETWEETS **3** FAVORITES

Nature Chemistry @NatureChemistry #40

Despite its limitations, Twitter is useful for quickly disseminating information to an audience who has chosen to listen.

3:38 PM - 20 Mar 2013

7 RETWEETS **3** FAVORITES

Nature Chemistry @NatureChemistry #41

If you're really busy and worried about Twitter being a distraction, you can just turn it off. It's not always easy to do that with e-mail.

3:40 PM - 20 Mar 2013

2 RETWEETS **1** FAVORITE

Nature Chemistry @NatureChemistry #42

Twitter length restrictions mean you can't wax lyrical about life, the universe and everything, but you can write an Editorial in 42 tweets.

3:43 PM - 20 Mar 2013

5 RETWEETS **2** FAVORITES

http://bit.ly/blogtwittertorial

All you can tweet

Nature Chemistry signed up for a Twitter account in March 2009. Nearly 5,000 tweets later, what have we learned and how do we use it?

When cramming an interesting, informative and self-contained message into only 140 characters (including spaces!), clarity is a virtue.

With subjects that sometimes rely on specialist language, such as chemistry, for example, composing tweets can be quite challenging.

We use Twitter to point out chemistry-related content, no matter where it is published, including papers, news stories and blog posts.

We retweet chemistry-related job opportunities and internships posted by others that we think might be of interest to our followers.

Our tweets range from serious topics (chemical safety) to the light-hearted (such as chemistry-themed music parodies: http://bit.ly/cmmbk).

We share our research articles and other content from *Nature Chemistry* on Twitter, but that's only a small fraction of what we tweet about.

Journal Twitter streams — especially automated ones — full of just their own content can resemble RSS feeds and are a missed opportunity.

There are quite a few chemistry journals with an active presence on Twitter and we maintain a list of them (http://bit.ly/chemjnls).

Only a tiny proportion of visitors to our website come through Twitter, but it's not just about that; we use it to engage with our audience.

Twitter provides a direct — and effectively instant — two-way connection between the journal's editors and its followers.

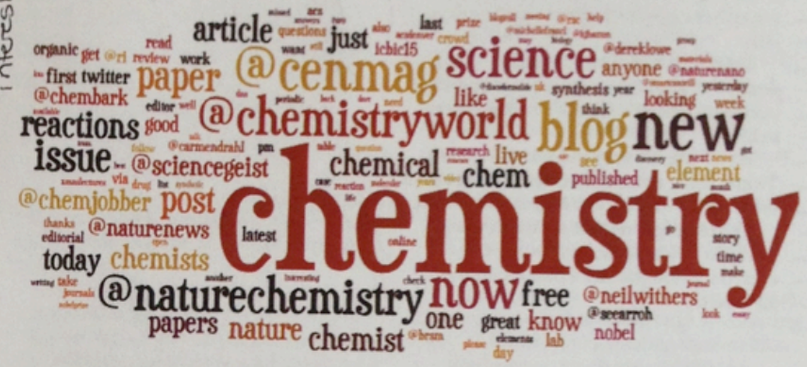
All of the *Nature Chemistry* editors (past and present) have contributed to the journal's Twitter feed, albeit some more than others.

Ideas for research highlights come from many different sources, including tweets by chemists about papers that catch their eye.

Twitter can be a great way to crowd-source answers to a question — there are lots of experts (and others) just waiting to chime in.

Have a problem with a reaction or want to know what the odd piece of glassware you found is? Ask Twitter, someone on there might know.

As of mid-February 2013 we had accrued more than 70,000 followers, aided by a short spell on Twitter's who-to-follow list for 'science'.



Using @TwitonomyApp (http://bit.ly/twitonomy) we have analysed just under 3,200 tweets that we sent between April 2011 and February 2013.

Of 3,197 tweets scrutinized by Twitonomy, 1,492 (47%) of them have, so far, been retweeted a total of 5,865 times (an average of 3.93 each).

Our tweet referencing a tongue-in-cheek blog post by @DrRubidium about misuse of the term 'organic' is our most retweeted (66 times).

From April 2011 to February 2013, we posted an average of 4.79 tweets per day, with an average of 0.39 links in each one.

A Wordle (http://www.wordle.net/) made from more than 3,000 of our tweets shows that the word 'chemistry' dominates (pictured).

Apart from 'chemistry' and its derivatives, other words that often appear in our tweets include, 'science', 'blog', 'paper' and 'new'.

Unsurprisingly, the vast majority of our tweets are about chemistry — whether in the context of concepts, publishing or people.

The accounts of other chemistry publications frequently get mentioned in our tweets, most notably those of @ChemistryWorld and @cenmag.

The Twitter handles of chemistry bloggers feature prominently in our tweets, including @ChemBark, @Chemjobber, @SeeArrOh and @sciencegeist.

Getting to know people (and their opinions) through Twitter has been useful and has led to the commissioning of content for the journal.

A Commentary article (http://bit.ly/chempublic) co-authored by @sciencegeist came about following numerous interactions with him on Twitter.

After spotting a tweet by @kevinbookermilb lauding a paper in @angew_chem we asked him to write about it for us (http://bit.ly/flowchem).

Twitter exchanges about our 'In Your Element' series of essays resulted in @DavidMLindsay, @SimonHiggins_60 and @kjhaxton each writing one.

We commissioned @davidkroll to review @bstockwell's book, 'The quest for the cure', after he tweeted about it (http://bit.ly/qftcure).

Bloggers we have got to know on Twitter (@JessTheChemist, @Synthetic Remark, @azmanam and @karlDcollins) have penned our Blogroll column.

In 2011 we used Twitter to ask who the greatest chemist of all time was — the responses inspired an Editorial (http://bit.ly/gr8chem).

A handful of chemistry editors and journalists are on Twitter and following them gives you a behind-the-scenes look at the publishing world.

Twitter is particularly useful for highlighting new chemistry blogs and was how we learned of those written by @BRSM_blog and @vinylogous.

Filtering tweets is relatively easy; you can control the signal-to-noise ratio by choosing who to follow and by creating themed lists.

Hashtags — which are included in tweets in the form of '#hashtag' — are handy for tracking or finding tweets on a particular topic.

A very active chemistry-related hashtag — popularized by @Doctor_Galactic — is #realtimechem, where chemists tweet about their daily lives.

New and old media collide...

Volume 92 Issue 39 | Web Exclusive
Issue Date: September 29, 2014 | Web Date: September 24, 2014

20 Chemists Worth Following On Twitter

A panelist-selected primer for newcomers to the social network

By Lauren K. Wolf

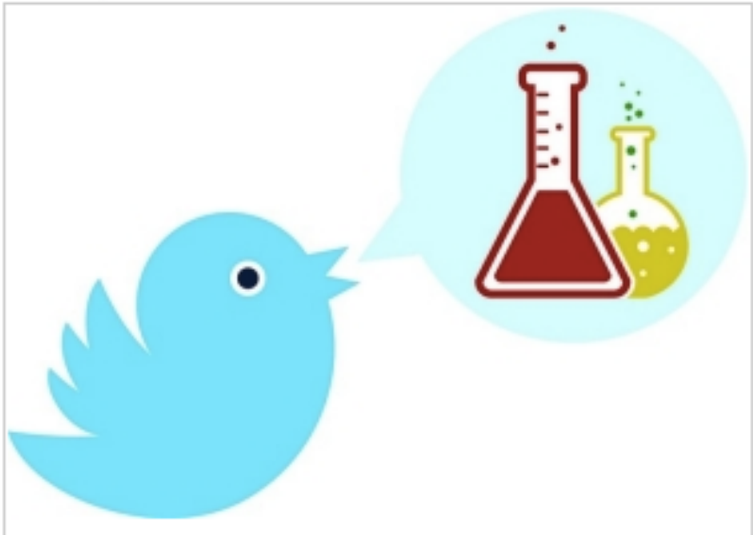
Department: Science & Technology
Keywords: twitter

Everybody loves a good "Top 10" list, right?

Turns out that's not always true. Last week, *Science* magazine published "**The Top 50 Science Stars of Twitter**," a list attempting to collect the most-followed, most-cited scientists regularly putting their thoughts into 140-character snippets. The list was assembled in response to comments made by genomics researcher **Neil Hall**, who suggested that scientists should **stop wasting time on Twitter** and publish more papers.

The list that *Science* produced was just as heavily criticized as Hall's comments. The chemistry community was particularly irked over the fact that neuroscientists, biologists—even physicists—made the list

[+]Enlarge



MOST POPULAR

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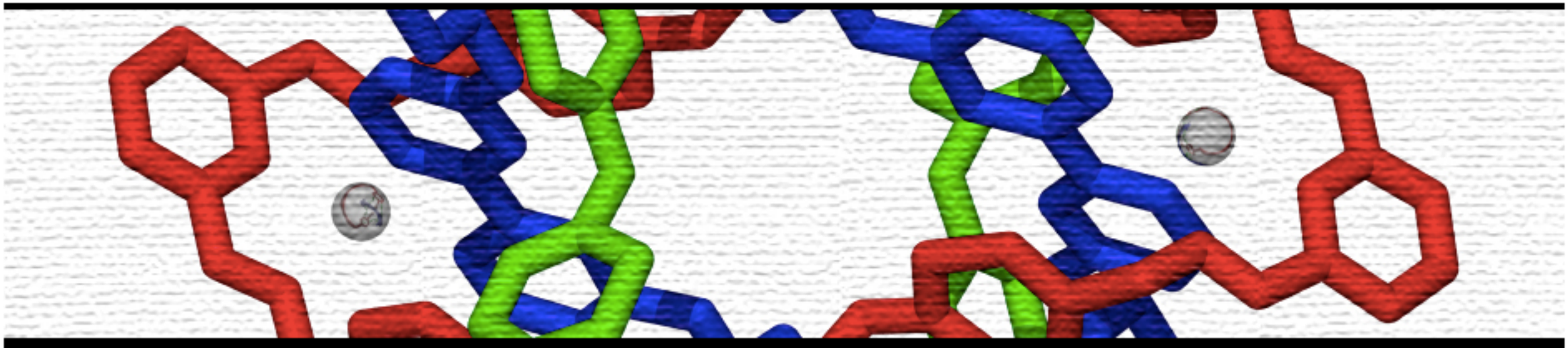
Why DuPont Shrunk Its Central Research Unit

New Details Emerge About Clinical Trial Tragedy In France

Cancer Drug Could Help Binge Drinkers

Chemists Killed In Terror Attack In Pakistan

*Most Viewed in the last 7 days



← Animal authors

I did a Nobel thing... →

100 chemists on Twitter

Posted on September 22, 2014

This is not a list of the top 100 chemists on Twitter. For a start, I'm not really comfortable defining 'top'. Most followers? Most tweets? Shiniest avatar? Funniest bio? Most well-known in the real world? (Define 'well-known' and 'real world', go on, I dare you). Secondly, not everyone on this list is necessarily a card-carrying chemist, but they are all people who, more often than not, have something to say on Twitter about chemistry in all its many guises.

This is essentially a starter pack for those interested in hearing about some chemistry on Twitter (and was, perhaps obviously, inspired by the list that *Science* put out last week that

Find me

E-mail: stuart at stuartcantrill.com

Twitter: @stuartcantrill

Recent posts

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- Chemistry journal citation distributions
- Back to the future (of chemistry publishing)
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- 115 years of JACS titles

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http://bit.ly/chemjnls

Should researchers tweet?

JMIR Publications
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Journal of Medical Internet Research

Current Issue Upcoming Issue Top Articles Browse by Year:

Published on 16.12.11 in Vol 13, No 4 (2011): Oct-Dec

This paper is in the following e-collection/theme issue:

Editorial Epublishing and Open Access Medicine 2.0: Social Media, Open, Participatory, Collaborative Medicine

Scientometrics, Infometrics, and Altmetrics

Editorial

Can Tweets Predict Citations? Metrics of Social Impact Based on Twitter and Correlation with Traditional Metrics of Scientific Impact

Gunther Eysenbach[1,2,3], MD, MPH, FACMI

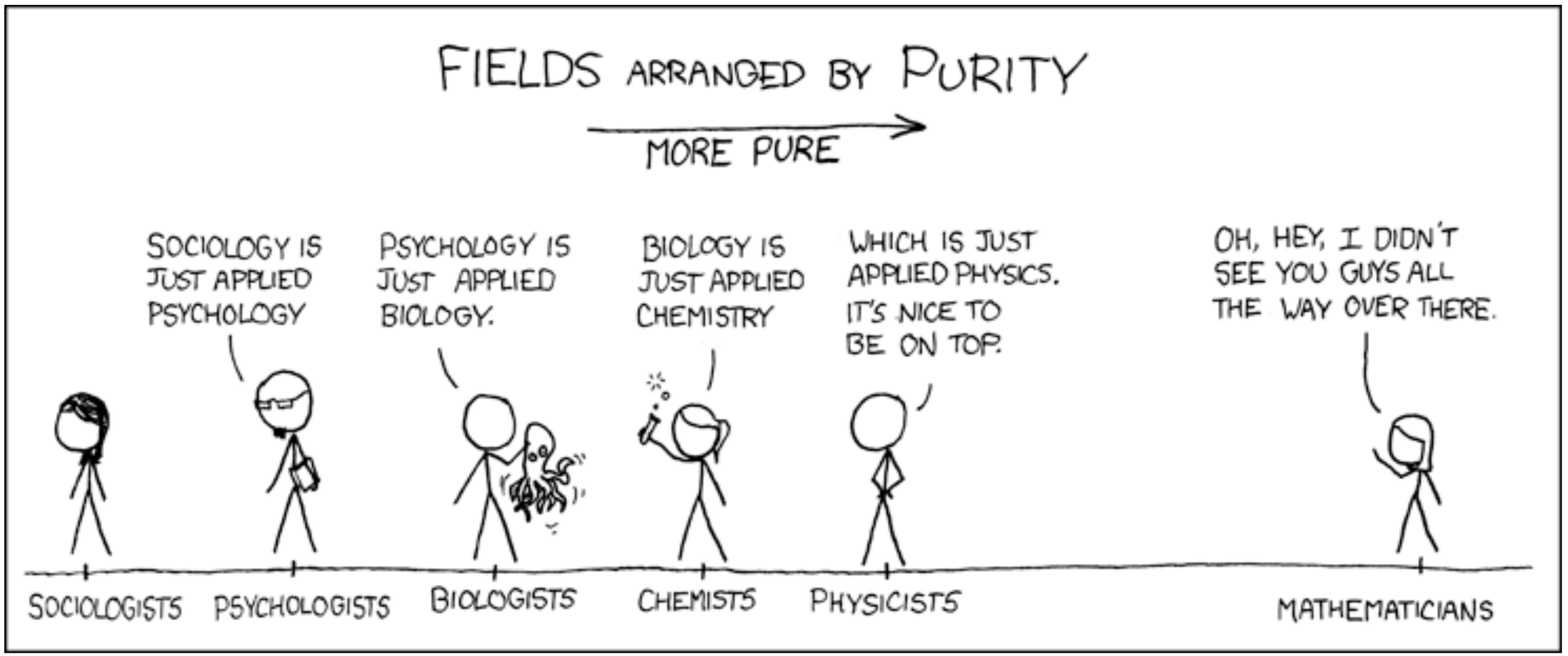
Highly tweeted articles were 11 times more likely to be highly cited than less-tweeted articles

(A total of 4208 tweets cited 286 distinct JMIR articles)

It's not all just cat pictures, but even when it is, they can be quite funny...

Thank you!

s.cantrill@nature.com
Twitter: @stuartcantrill
(and @NatureChemistry)



http://xkcd.com/435/