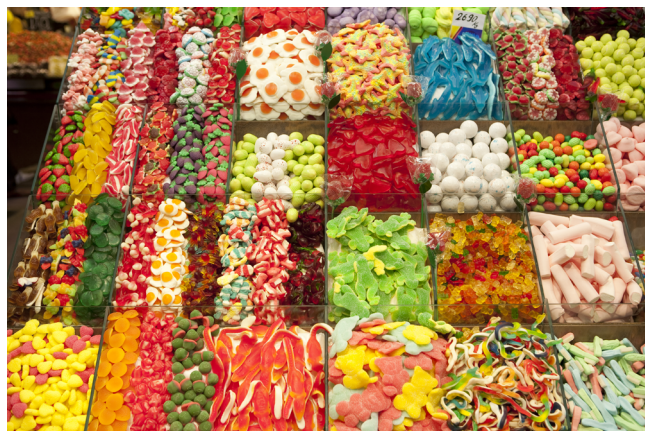


Titles and Table of Contents Images: The Candy Store Analogy



Everyone is familiar with the scenario of the indecisive kid in the candy store—the vast array of choices can be overwhelming to anyone, since the final choice of what to buy is predicated upon many sources of information that are convoluted to become a train of thought, and ultimately a decision. Possible variables that influence the decision include the name of the candy (its title), one's past experience with candy (was it good/interesting?), one's learned preferences (I like chocolate/graphene, but I do not like mints/oligonucleic acids), and a host of intangibles. It is similar for readers who may be shopping in a scientific “candy store”, or journal, for potential papers—each reader must make a decision regarding which paper to click on, download, and read, all of which are actual separate and not entirely connected actions. The types of scientific candy stores frequented by readers may be quite varied, as some will skim tables of contents on journal web sites, and others will rely on social media or RSS feeds, search engine results, and/or a mix of any or all of these. So the question for all authors is this:

How does one maximize the chances that one's paper will be downloaded?

Both the title and the table of contents (ToC) image are important tools for authors to give potential interested readers insight into what a paper is about. As has been summarized in an earlier editorial, a reader may make a decision to click on a paper within 100 ms.¹ A clear title and compelling ToC image will play a significant role during this short time, and we cannot emphasize enough the importance of these two parts of a paper. As scientists, we spend months or years working toward submission of a manuscript, and it would be a shame to present this new scientific insight to the world with an overly complicated title and/or a poorly executed ToC image. Scientists are humans, and so like dining at a high-end gourmet restaurant, the esthetics of presentation of the meal (or in our case, the paper) is an important part of the enjoyment and, ultimately, consumption of the meal (the scientific results). Time taken to develop an interesting and nicely presented ToC

image and title reflects pride in one's research, and since it is typically the first encounter of a potential reader with this particular piece of work, a good first impression is critical, the impact of which cannot be underestimated.

■ TITLE

A good title is one that is succinct, makes the focus obvious, and is free of acronyms and excessive jargon. The title may be difficult to write if one has not developed a clear emphasis for the paper and, thus, should serve as a red flag for authors that their manuscript requires more thought. A title that states that the material described within has promise for a laundry list of applications sounds unappealing, as does a title that places too much emphasis on the results being the highest, biggest, smallest, grandest, most novel, brightest, most efficient, best, etc.; the latter “superlative” papers suggest that the work contained within is merely a series of incremental improvements, which may not be creative or interesting. As an author, you are telling a story, so be honest with your readers and portray the theme and subject matter of your story as lucidly as possible. Do not mislead, and hence frustrate, your readers; since your first readers are almost always the editors and reviewers, annoyance that the title does not accurately reflect the content of your paper could lead to negative consequences.

■ TABLE OF CONTENTS (ToC) IMAGES

The *Chemistry of Materials* Author Guidelines tries to provide the very basic premises of how to conceive of a good ToC image:

“The TOC/abstract graphic should capture the reader's attention and, in conjunction with the manuscript title, should give the reader a quick visual impression of the essence of the paper without providing specific results.... Some of the best images are simple, relatively free of text and technical characters, and make use of color for visual impact. It is best to stay away from complex structure schemes and small-sized details.”

Do not simply cut and paste a figure from your manuscript to use as the ToC image, as they typically are ill-suited due to a high level of scientific detail, and they lack in the context to make them rapidly understood. One very useful article on how to design scientific figures, “A Brief Guide to Designing Effective Figures for the Scientific Paper,” is a helpful place to look for pointers on graphical design, layout, and many “do not do this, and why” examples.² While it may seem obvious, make sure that your font or other details are not too small to discern when shrunk down to the size they will appear on a screen or on the printed PDF page. Ensure that the ToC image resonates with your title so that it enthralls your (potential) readers to want to look further. This is a scientific candy store, with many other exciting papers within easy reach, so think about why authors will want to choose to spend time out of their busy day downloading and reading your paper.

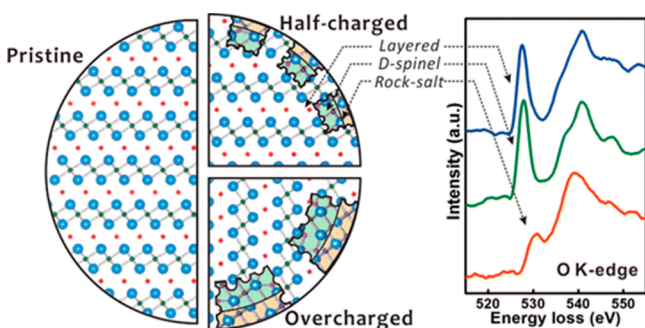
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When considering the design of your ToC, remember that your graphic should fit within a horizontal rectangle; the width is 8.47 cm (3.33 in. or 240 points) and height is 4.76 cm (1.875 in. or 135 points). A vertical (portrait) ToC image orientation would result in a very small image and a great deal of white space, which is why it is not acceptable.

■ EFFECTIVE EXAMPLES FROM CHEMISTRY OF MATERIALS

While simplicity and clarity with respect to writing a good title and designing a compelling ToC image are important, it is very difficult to describe a step-by-step “how-to” process to be successful. Each paper is unique. To try to help, three effective but very different examples from *Chemistry of Materials* have been provided.

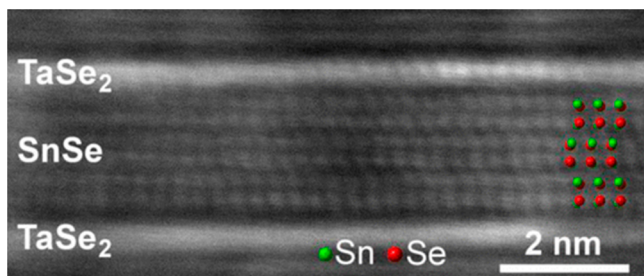
Example 1: “Investigation of Changes in the Surface Structure of $\text{Li}_x\text{Ni}_{0.8}\text{Co}_{0.15}\text{Al}_{0.05}\text{O}_2$ Cathode Materials Induced by the Initial Charge” by Chang, Stach and co-workers.³



ToC image reprinted with permission from ACS.

The title of this manuscript is exceptionally clear while conveying a substantial amount of information—future readers know that they will learn that the initial applied charge will affect the surface structure of this cathode material, which leads the curious reader to want to find out how, and in what way. The ToC image nicely complements the title as it shows a cartoon image of the pristine material, accompanied by suggested interpretations of the changes observed at the surface. The connection with the spectra on the right is uncomplicated, and provides insight to the reader as to the type of spectroscopic techniques that were used to investigate the effects on the surface. This ToC image could have been far more complicated (and hence less effective), but the judicious choice of colors, the interesting graphical representation of the crystal lattice, and the substantial differences in the resulting spectra made it easy to interpret.

Example 2: “Synthesis of $[(\text{SnSe})_{1.15}]_m(\text{TaSe}_2)_n$ Ferecrystals: Structurally Tunable Metallic Compounds” by Johnson and co-workers.⁴



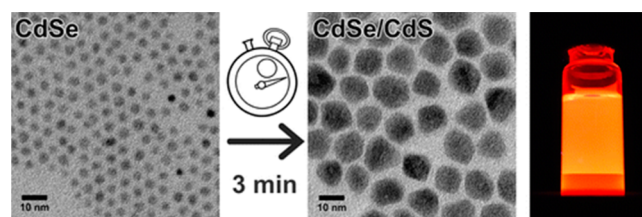
ToC image reprinted with permission from ACS.

Starting with the title of this paper, the authors introduce both the composition and the interesting aspect of this material.

Through their synthetic chemistry, it is immediately obvious that the structure can be controlled and that these compounds have interesting electronic properties. The ToC image is very different from the first example (above), in that they use an actual TEM image as the background. The clear use of text to label the different composition layers and the red and green dots enable the reader to rapidly interpret, with atomic precision, the TEM image.

Example 3: “Flash” Synthesis of CdSe/CdS Core–Shell Quantum Dots” by Hens and co-workers.⁵

The title here projects that the concept of speed with respect to nanoparticle synthesis is the obvious focus of the paper. The use of the word “Flash” ties in well with the stopwatch in the ToC image, and hence makes the point that the nanocrystal synthesis is fast. The glowing vial suggests that the quality of the resulting nanoparticles is not compromised. The message is rapidly understood and is graphically interesting and compelling.



ToC image reprinted with permission from ACS.

To summarize, before you press the “submit” button, do give a few more minutes consideration to your title and ToC image. You have worked hard to reach this point to submit your work—does it not deserve to make a good first impression? We think it does. As always, we would be happy to hear from you.

Jillian M. Buriak, Editor-in-Chief

■ AUTHOR INFORMATION

Notes

Views expressed in this editorial are those of the author and not necessarily the views of the ACS.

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