Summarize Your Work in 100 Milliseconds or Less... The Importance of the Table of Contents Image

The manuscript is finally complete—months and/or years of research packaged, trimmed, divided, molded, and painstakingly placed into the proper format, and then edited, edited, edited. The sometimes tumultuous back-and-forth of the manuscript between co-authors has led to the final version—it is no longer a draft. The visual figures, the subject of precise care with an eye to detail, are beautiful, organized, and compelling. The cover letter is precise and succinct, and yet simultaneously descriptive,[1] and the Methods section along with the Supporting Information are more than sufficient to allow those skilled in the art to reproduce every experiment. Sounds perfect, so press the "submit" button.

Just a second! In about one-quarter of the papers submitted, the table of contents (ToC) image is missing. While a lack of a ToC image will certainly not prevent a worthy paper from going out for review, it does suggest, more broadly, that the ToC image may not be viewed as an important component of the manuscript, and perhaps even a nuisance.

We cannot stress enough how important the ToC image is, as it is typically the ***first glimpse*** a potential reader has of your published paper. Whether it be through a directed citation search at www.pubs.acs.org, or *via* the search feature on the ACS site, or through a Google/Google Scholar search that lands the potential reader on the abstract page of www.pubs.acs.org, the ToC image appears below the title and authors and is therefore part of the data almost instantaneously processed by the busy potential reader. A decision is made—to click or not to click? An equation combining neural synaptic speeds (direct relationship), number of coffees consumed (direct relationship), and mental overload (inverse relationship) probably leads to a time calculation of a few hundred milliseconds in which the decision is made: should the potential reader download the paper or move on with their search? As scientists and authors, we want our papers read, and we want to make a lasting impact on our fields of research. Every one of us at *ACS Nano* also wants the potential reader to click on your *ACS Nano* paper because we know that every single paper that has made it through our review process is indeed special and top quality.

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So, perhaps it is best to consider what a ToC image must do, and then consider how this is best done. A good ToC image must, simultaneously:

(i) Resonate with the title (to provide synergistic support)
(ii) Instantly provide a sense of what is to be learned
(iii) Be clear and concise, while providing the information regarding (ii) above
(iv) Be compelling—ensure that everything in the ToC image is comprehensible and lucid, and yet exciting. What made you, as the writer, excited about your own work?

It sounds easy, but really it is not. Your cover letter forced you to summarize all of your excitement into a few lines to convince the editors to move forward with your paper. The ToC image requires you to go even further, and to do so in one image. A common mistake is simply to cut and paste a figure from the paper to use as the ToC, but this approach typically is unsuccessful because it is too specific or detailed and, therefore, does not do justice to the education side of a paper—what will the reader learn? Another common mistake is to cram too much into the figure so that it lacks clarity and ends up as a jumble of items. A recent *Advanced Materials* article[2] did a wonderful service to the scientific community by providing

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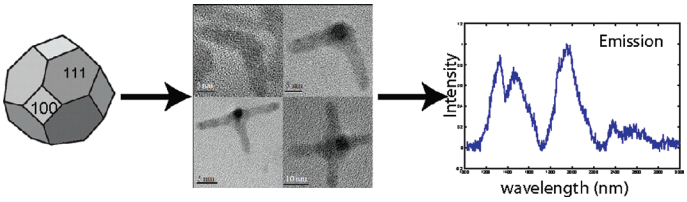
advice regarding the graphic artistry necessary to preparing figures, and it is a must-read before preparing any figure. Please look up the size requested for a ToC image, and use all the space (≤9 cm in width, and ≤4 cm in height, ≥300 dpi in resolution at final printed size).

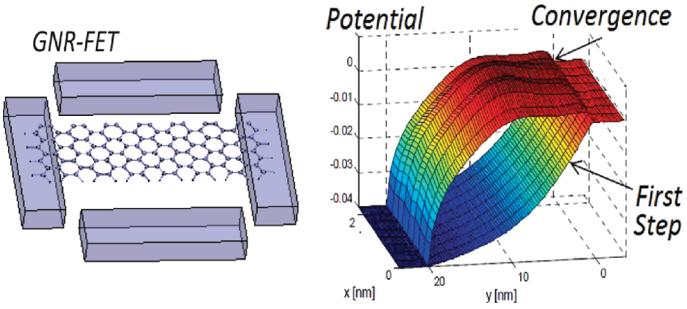
From the August issue of *ACS Nano*, I chose three ToC images that I thought were particularly good at portraying the essence of the work they represent in a clear and persuasive manner. I must say that it was not easy to pick three, and certainly there is a convolution of personal bias (in no particular order):

1. Shape-Controlled Colloidal Synthesis of Rock-Salt Lead Selenide Nanocrystals by Jawaid *et al.*[3]



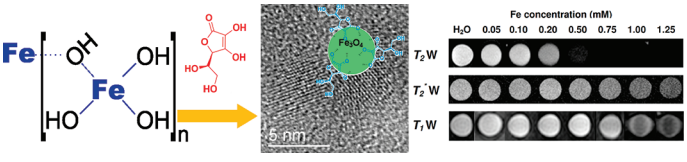
This ToC seems to have it all, and is well balanced—a simple three-dimensional scheme, a labeled transmission electron microscopy (TEM) image of different materials with intriguing shapes, and then the suggestion of photophysical properties of the resulting nanomaterials. The lack of bright colors does this ToC image justice as they might have overwhelmed the TEM images and henced downplayed their importance. The images resonate nicely with the title.

2. A Multichannel Model for the Self-Consistent Analysis of Coherent Transport in Graphene Nanoribbons by Mencarelli *et al.*[4]



The vivid ToC image projects the main concepts of the paper immediately: models of graphene in a FET configuration, accompanied by detailed electrical studies of the device. The scheme of the modeled graphene is clear, so that experimentalists and theorists alike can relate to the proposed device architectures. The authors point out two items of interest: a first step and a convergence in the plot on the right that seem, even for the unacquainted, a good place to educate oneself with respect to the electrical properties of this remarkable material.

3. Water-Soluble Superparamagnetic Magnetite Nanoparticles with Biocompatible Coating for Enhanced Magnetic Resonance Imaging by Xiao *et al.*[5]



The ToC image here quickly outlines a synthesis of iron oxide nanoparticles, with the reagents clearly displayed. The subsequent use of the magnetite nanoparticles in MRI is obvious from the gray scale plot on the right, and so the ToC suggests a complete body of work.

The ToC image is an important part of your paper and is likely to be the first impression a reader has of your work. Please imagine your paper from the perspective of a new reader, and consider what you think will best portray the story of your work. It is your story, after all.

Jillian Buriak
Associate Editor

REFERENCES AND NOTES

1. Hafner, J. H. The Art of the Cover Letter. *ACS Nano* **2010**, *4*, 2487.
2. Rolandi, M.; Cheng, K.; Pérez-Kriz, S. A Brief Guide to Designing Effective Figures for the Scientific Paper. *Adv. Mater.* **2011**, DOI: 10.1002/adma.201102518.
3. Jawaid, A. M.; Asunskis, D. J.; Snee, P. T. Shape-Controlled Colloidal Synthesis of Rock-Salt Lead Selenide Nanocrystals. *ACS Nano* **2011**, *5*, 6465–6471.
4. Mencarelli, D.; Pierantoni, L.; Farina, M.; Di Donato, A.; Rozzi, T. A Multichannel Model for the Self-Consistent Analysis of Coherent Transport in Graphene Nanoribbons. *ACS Nano* **2011**, *5*, 6109–6118.
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