

How to Make the Cut

In an editorial from a few months ago on scientific ethics,¹ we mentioned that we were going to discuss how to make the cut, meaning how an article makes it through the prescreening stage, the motivations that lead an editor to make a call on whether a newly submitted article is a worthy addition to the literature (and thus goes to the next stage, technical peer review) or if it is redundant, and it is now time to come clean on our promises.

Given the increase in submissions to scientific journals across the board, it is generally impossible for editors to send every manuscript to referees, and therefore authors should understand clearly what the editors are looking for.

First of all, though, a disclaimer: the decision on whether to send a paper out to referees or not is a subjective decision. As editors are human, they will draw the line somewhere based on their previous experience, their knowledge of the literature, the type of journal, and a number of criteria broadly related to “novelty”; but there is no magical mathematical formula and thus different editors will make the cut at different heights.

Now that we have gotten the subjective measure out of the way, how do editors make the cut? Here we will go into more detail about what we are looking for at the *Journal of Applied Polymer Science*, and what is the checklist we go through when making decisions.

When looking at a new scientific paper, the first question we ask ourselves is “has this stuff been done already?” If the answer is positive, then we already have to make a choice. If there are ethical problems, we fall back into the cases we examined in our previous editorial on scientific ethics,¹ and if there are no ethical problems the paper is simply rejected.

But how do editors reach the conclusion of whether something has been done before or not?

First of all, we use the results of our anti-plagiarism software iThenticate² to find out quickly, aside from copied text, also a few key closely related manuscripts. You know that paper you published last year with the synthesis of that new plasticizer for PVC? That came up of course. The synthesis of the plasticizer in your current submission is very similar, and the properties are not any better. Your current paper is probably not going to make the cut.

As a second line of screening, the editor is going to take a look at the literature, through specialized databases or search engines (and of course by his/her knowledge of the field) to see to what extent there is precedent for the present findings. Has somebody else used that same cation exchange resin (or a closely-related one) for hazardous metal absorption and your results are not an improvement over the previous ones? Then you are out of luck: your paper will not make the cut.

Since the *Journal of Applied Polymer Science*, as the name implies, is an applied journal, we are much less concerned with how fancy a synthesis is than with how much it improves over previous literature for practical purposes. Does your composite have better mechanical properties than what has been made before, is your sensor or synthesis faster/stronger/cheaper/greener than previous literature? If the answer to at least one of these questions is yes, then your paper is likely to be sent to referees so that they can in turn evaluate the technical aspects of the paper.

At this point, the key concept of comparison comes into play. This is something we cannot

emphasize enough. Authors should **compare** their results **quantitatively** to previous literature, evaluate the performance of their materials or devices, and assess the advantages of their synthesis or processing procedures. The rationale behind this is obvious: if you do it yourself, you are not forcing the editor to do it for you and potentially not understand where the true breakthrough is.

Of course, not every paper can or should describe new materials with ever improved properties. We also publish many papers in which the main novelty lies in understanding a mechanism (for example in polymer degradation), or the role of some key variables in the processing of a

material. The novelty of these papers is assessed much the same way as in the previous cases, and comparison in the manuscript to previous literature is, here as well, the key to ensure that the novelty of your work is truly appreciated.

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REFERENCES

1. S. Tonzani, H. J. Crichton, *J. Appl. Polym. Sci.* **2013**, *127*, 1455.
2. Antiplagiarism software. Available at: <http://www.ithenticate.com/> (accessed on July 26, 2012).