

Organic Process Research & Development

Organic Process Research & Development **2010**, *14*, 299–299

Editorial

Reliable Procedures for All

Almost every chemist has been frustrated by the inability to repeat a literature procedure. The reasons are complex and multifold. As good graduate students, we'd distill the solvents over sodium acetophenone ketal, dry the flask in the oven overnight, use argon instead of nitrogen to purge, titrate the butyllithium, and pray twice before we repeat. Still we could not find the elusive missing 20% yield. Such is the process for becoming a process chemist. We learn not to take a literature yield at face value but treat it as a reference and a starting point for process development. However, would it be better if all the published procedures are generally repeatable by an average person reasonably skilled in the art without due stress and extra precaution? Hence, a call for *Organic Process Research & Development* (OPRD) authors to take the leadership for supplying the world with credible, repeatable, and useful procedures, and make this credibility the major reason to draw readers.

Readers for OPRD are sophisticated enough to discern that procedures are meant for their specific intended purposes and will go to different publications for different informational needs. Once published, papers will remain in the public domain forever to inform, educate, or mislead. Each of us can cite a few classic examples of good procedures that have withstood the test of time. The book series *Organic Synthesis* achieved its acclaim in the field by having a third party independently verify the procedures experimentally. Many procedures in OPRD, at least those that originated from industrial organizations, have already been checked and repeated at different scales and by different practitioners. I'd hazard to say that the reliability, hence, should be higher than those found in purely academic publications. For example, a random flipping of issue No. 6 (page 1138, 2009) of this journal (*Org. Process Res. Dev.* **2009**, *14*, 6, 1130–1140) led me to a well-written procedure

in the experimental section of a paper by Banks et al. The yield of 56% might not draw attention from a typical organic chemist. However, note that the isolated dry crystals weigh *113 kilograms*. That ought to be heavier than the average body weight of the OPRD editorial advisory board members (luckily we have the chief editor to provide much needed balance, as in many other cases). It is safe to assume that many people would consider this result more repeatable than a procedure carried out once at 113 milligram scale. Scaling down, after all, is a lot easier than scaling up.

Although synthetic procedure development is only part of the science involved in organic process research and development, it is the major focal point for academicians and their students. There are many reasons why we write and publish, and I believe none is greater than the desire to make a positive difference for other people and to enrich the body of human knowledge in general. OPRD is well positioned as a vehicle to do that. I think someday we can establish a system on the Internet so readers can rank the usefulness and robustness (not only by yield, as I still recommend that authors report yield range whenever available, instead of the highest yield on a good day or a simple average) of procedures for all the important reaction types, and I trust OPRD will be a major source for this information.

Tony Zhang
Guest Editor

Lilly Global R&D China,
ZhangJiang Hitech Park,
Shanghai, China

OP100019J