

Organic Process Research & Development

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Editorial

In Praise of Heterocyclic Chemistry and Academic Research

I was struck whilst reading the Highlights from the Literature, sent in by our regular contributors, by how much excellent heterocyclic chemistry is being picked out particularly related to nitrogen heterocycles. Of course the pharmaceutical and agrochemical industry has always been a hotbed of heterocyclic chemistry, and modern new chemical entities often have 3, 4, or 5 different heterocyclic rings, many with 2, 3, or 4 different substituents. The syntheses of these molecules and their intermediates and building blocks are quite challenging, and we need more and more alternative methods which can be adapted for scale up.

Since we rely mostly on our academic colleagues to invent new methods that we can modify and adapt to our own needs, it is vital that industry plays a part in ensuring, in the future, that new methods are discovered. Industry gets to use the methods for free, provided the academic groups have not patented the methodology (although this is an increasing trend), and even then the methods can usually be used in discovery and early process research, without infringing the patent. (N.B. Opinions vary on how much process R&D can be carried out on a patented process and expert advice from a qualified patent agent should be sought.)

Most times, however, industry can take up any published paper and use it without having to pay anything. Industry can generate huge profits on the back of the accumulated chemical literature without having to return a penny to those academics and universities who made the original discoveries, in terms of synthetic methodology, and who thus enabled the synthesis both on a gram and tonne scale, of the active molecule. Universities have, of course the option of patenting their discoveries, but often this just frightens away industry from using that method/catalyst/ligand, and alternative ways around the patent are easily found. So most academics publish without patenting and are usually delighted when industry uses the methodology, par-

ticularly on large scale. They may even get some consultancy fees from the user.

But surely industry should be funding much more academic research into synthetic methods than it does at present, so that it can reap the benefits in the future. Synthetic research does not need expensive equipment or huge budgets, just good students and postdocs. It can also be useful to academic research if there is some industrial input, particularly from a process R&D group, when it is a synthetic methodology research project. However, in hard economic times it is this external funding, along with training budgets, that tends to be the first to be eliminated or reduced. For those in industry reading this, I urge you to fight hard to ensure the external funding is not cut and, when the good times return, to plead for an increase.

We have had a tremendous response to the idea of a Special Issue in 2009 in memory of Chris Schmid, and I thank all who have volunteered to provide a paper and to assist with the reviewing of papers. This promises to be a bumper issue but we would like still more papers. For those who have not volunteered yet, there is still time to do so. The deadline for receipt of papers in the editorial office is 1 Sept 2008, so now is the time to start writing.

We are still finding the number of referees is diminishing as scientists take early retirement or move to nonscientific jobs. We would welcome more volunteers, particularly from younger scientists who have been working a few years in industry, for the onerous but rewarding task of reviewing papers. Please e-mail oprd@scientificupdate.co.uk if you wish to volunteer.

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Editor

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