If I had one year of paid leave I would … work for a Buddhist temple on a mountain whilst studying to become a priest.

In a spare hour, I … listen to “new wave” music.

If I could be any age I would be … a child aged 6 in elementary school, as I was full of adventure but not yet involved in chemistry.

My favorite time of day is … dawn.

I admire … my parents and grandparents.

My favorite molecule is … penicillin.

My science “heroes” are … Professor Sir Jack E. Baldwin and Professor Sir Robert Robinson.

The most important thing I learned from my parents is … to be sincere, polite, and patient.

My favorite painter is … Marc Chagall.

My favorite musicians are … Marc Almond and Billy Mackenzie.

My favorite book is … *L’Aiguille creuse* (The Hollow Needle) by Maurice Leblanc.

My motto is … “be creative and original”.

The greatest scientific advance of the last decade was … the invention of the iPad.

When I was eighteen I wanted to be … a professional music critic or a music producer.

Chemistry is fun because … I can create something exciting.

My favorite drink is … coffee.

The most important future applications of my research are … drug development and energy generation.
Has your approach to publishing your results changed since the start of your career?

At the early stage of my research career, I was very happy to publish any results, even more trivial chemistry. After acceptance of submitted manuscripts, I was always curious to see the reprints of papers from publishers, since the reprints always looked very different from the original manuscripts, which were written double-spaced on A4 paper. Besides, the cover art, colors, and/or styles of the reprints also interested me, for example those of Tetrahedron Lett. were blue and those of J. Am. Chem. Soc. light yellow. I suppose I did chemistry for my own enjoyment, more like a child. However, I now think that research is important not only for me, but also for everyone else in the world. I have told my students that the quality and significance of research is important in order to attract many people with general interests.

What do you think the future holds for your field of research?

Fluorination and trifluoromethylation reactions are one of the oldest research topics in fluorine chemistry, and these topics have been developed gradually. To our great pleasure, they have attracted more attention than ever in the last ten years, as if they have emerged as a new research area, thus resulting in significant progress. However, there are still many challenges in fluoroorganic chemistry, such as direct pentafluorosulfanylation of aromatic compounds. Fluorine in medicinal chemistry and chemical biology is rather immature, despite large successes in the pharmaceutical and agrochemical markets. The biological aspect of fluorine effects also needs to be deeply researched. Since I was in pharmaceutical sciences in the early stage of my career and am now in engineering, I would fuse these two areas for further progress in the field. I have been interested in thalidomide for over 15 years. Thalidomide was a popular drug for the relief of morning sickness in pregnant women in the 1950s; however, it was withdrawn from the market because of unexpected teratogenic side effects. Since the one of the enantiomers of thalidomide was responsible for these effects, we designed fluorinated thalidomide as a non-epimerizable isostere of thalidomide. The structural similarities between fluorinated and non fluorinated thalidomide led us to expect that they have similar chemical, physiological, and biological properties. However, the results are more than unexpected. Their crystallographic structures, polarities, stabilities, and biological activities are very different. Furthermore, from the biological point of view, most of the properties of fluorinated thalidomide are beneficial. Thus, fluorine is not just a small atom next to hydrogen for designing isosteres, but also an “eccentric” atom that can generate something unexpected.

My 5 top papers:


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These are not the final page numbers!