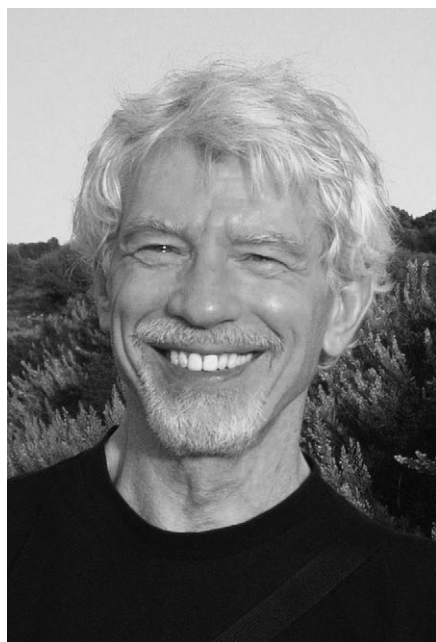


Advanced Synthesis & Catalysis Enters Its 10th Year

Joe P. Richmond^a

^a Editor, Advanced Synthesis & Catalysis, Otto-Schuster-Str. 20, 73760 Ostfildern, Germany
Fax: (+49)-711-1205604; phone: (+49)-711-1205603; e-mail: asc@wiley-vch.de



As *Advanced Synthesis & Catalysis* (ASC) enters its 10th year, it is enjoying unprecedented success among primary organic chemistry journals in terms of Impact Factor.^[1] From 2007 to 2008, the 2-year Impact Factor jumped from 4.977 to 5.619 and the 5-year Impact Factor from 5.193 to 5.458. The lead over other primary organic and organometallic chemistry journals increased further^[2] (see Figure 1).

The obvious questions are “Why so high?” and “Why such a jump in one year? I think one factor is that the important publications in ASC have reached a critical mass such that if you are working in the field, you want to scan the new articles in Early View even before their publication in print. As the journal was starting, one could have considered that it was sufficient to wait for articles to appear in abstracting services; then the articles would be seen with considerable delay or missed completely. Now with the high Impact Factor and the increase in the number of pub-

lished articles, they are seen sooner and cited more readily.

But there are other prestigious, high-quality journals in the field that already publish a critical mass of important papers and also need to be scanned routinely, such as *Organic Letters*, *Organometallics* and *Journal of Organic Chemistry*. Also, *Organic and Biomolecular Chemistry* and the *European Journal of Organic Chemistry* publish solid and useful organic chemistry and increased their Impact Factors to over 3 in 2008. An explanation why ASC has become the impact leader is the unique focus of the journal on practical and efficient organic synthesis, often enantioselective, mainly achieved *via* new methods of homogeneous, heterogeneous, organic and enzyme catalysis. The other leading organic and organometallic chemistry journals mentioned above play a crucial role by publishing reliable results which move the entire field forward. The question a referee asks is whether the work is solid and important to the field. When refereeing an ASC manuscript, on the other hand, the reviewer asks further whether the work reported is “high impact”. Results that constitute a significant advance in “synthesis and catalysis” find a prestigious home in ASC, with a readership that appreciates the value of the work. You might say that ASC has the advantage of selecting the best from work in an area of organic chemistry that is seen as highly significant and future oriented. The rejection rate for manuscripts submitted in 2009 was 59%, up from 55% in 2008.

A standard organic chemistry journal has the aim to publish work on all aspects of the field; that (asymmetric) catalysis for synthesis is currently highly in vogue does not mean that other areas are less important to the science. A comparison with the Impact Factor development of *Organic Letters* (OL) is I think instructive (see Figure 2). OL has developed into the best general organic chemistry journal, much to the credit of the Editors and the American Chemical Society. The Impact Factor of OL has increased steadily over the years and now exceeds 5. Nevertheless, I do not think that OL will surpass ASC in the future – the direct comparison is not even quite fair. OL has a broader focus and a different mandate from that of ASC; as a broad-based communications jour-

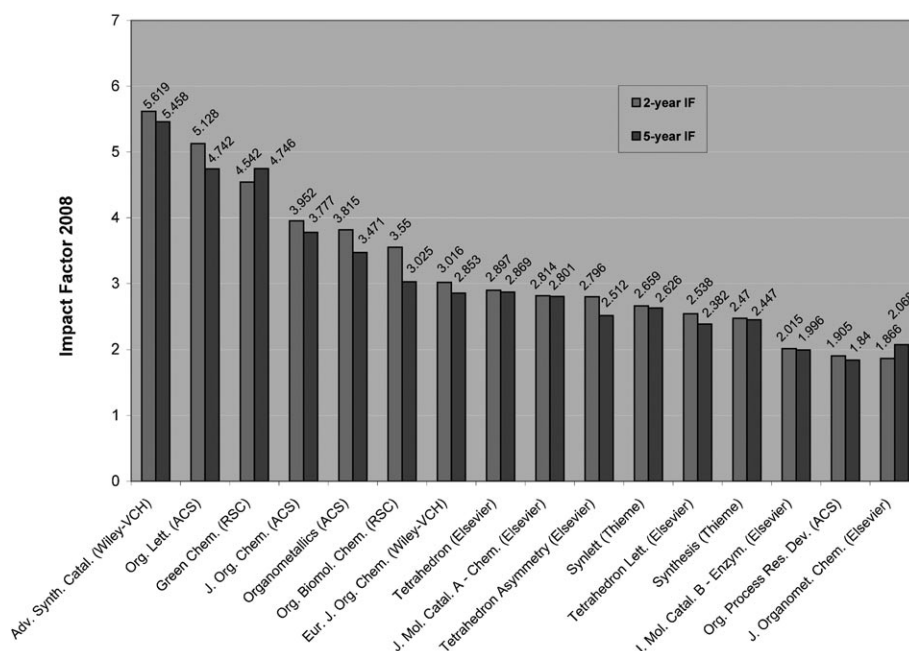


Figure 1. 2008 2-year and 5-year impact factors for primary organic, organometallic and related journals.

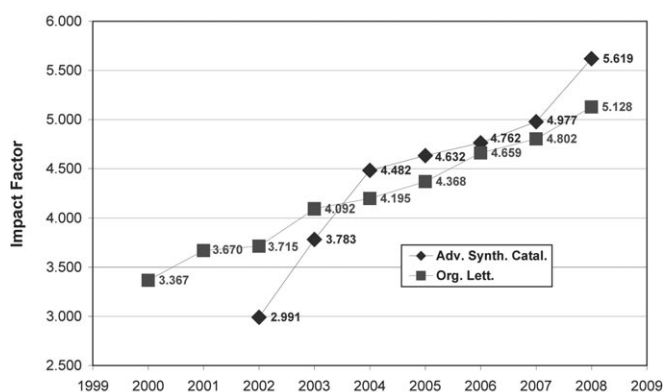


Figure 2. Development of the impact factors of *Organic Letters* and *Advance Synthesis & Catalysis*.

nal for organic chemistry it has gained the respect of the community.

Back in the 1960s, physical organic chemistry was highly popular – quite rightfully because it allowed chemists for the first time to understand reactions mechanistically. Thereby it became possible to improve known reactions and design new ones. In the last quarter of the 20th century organic chemistry road the wave of synthesis, which demonstrated the practical consequences of the science with significant applications in industry. Nevertheless, it is recognized that some of the most important discoveries in synthetic methodology were achieved by chemists with strong physical organic or physical organometallic

backgrounds. While that period of organic synthesis was characterized by stoichiometric, non-enantioselective reactions and reagents, this century is becoming the age of asymmetric catalysis. It was the foresight of the ASC Editorial Board back in 2000 to focus ASC on practical synthesis and catalysis, as detailed in the editorials by Ryoji Noyori^[3] and Eric Jacobsen.^[4] The launching of ASC was very timely, considering that the Nobel Prize in Chemistry was awarded for asymmetric catalysis in hydrogenation and oxidation reactions just one year later. The ASC Editors also realized that the challenge is interdisciplinary and requires the collaboration of organic, inorganic, and organometallic chemists and engineers. Although ASC is not a general chemistry journal, the contributions come from authors in a broad range of disciplines and departments, all with the same goal of achieving practical, efficient, and environmentally friendly organic synthesis.

Catalysis is nothing new: there are a number of traditional catalysis journals. Nevertheless, their focus is quite different from that of ASC, since they are mostly concerned with physical chemical, surface science and engineering studies of non-enantioselective heterogeneous catalytic processes of interest to industry. This is very important work, since heterogeneous processes have enormous economic significance in bulk chemical and polymer production, as well as in the petroleum industry. Parallel to this traditional heterogeneous catalysis work, a new area of heterogeneous catalysis for organic synthesis has emerged in recent years, which has now found its home in ASC.

A further development in this century has been the rapid growth of organocatalysis. Here powerful methods are being discovered for asymmetric synthesis catalyzed by small organic molecules with relatively simple procedures. Organocatalysis has captured the imagination of academic and industrial chemists alike. *ASC* has been an important medium for the publication of organocatalysis. This year, the *ASC* Editorial Board has decided to feature organocatalysis on the cover in recognition of its significance and its prominent place in *ASC*. The cover design was prepared by David MacMillan and co-workers.

Today, numerous papers in the very top general chemistry journals, *Angewandte Chemie* and *Journal of the American Chemical Society*, are concerned with catalysis. Many traditional organic chemistry journals now publish a considerable number of catalysis papers. I am very pleased to see the launching of the new catalysis journal *ChemCatChem*, which will offer a further opportunity for authors to publish solid work on all aspects of the field. More information about this new journal can be found in the editorial written by Peter Göllitz and David Smith.^[5]

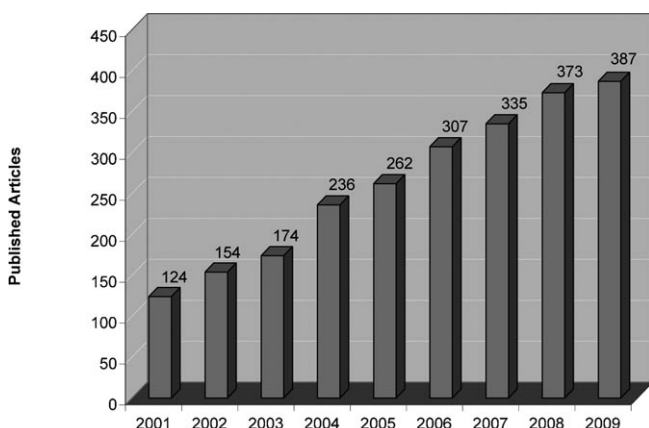


Figure 3. Increase in size of *Advanced Synthesis & Catalysis* 2001–2009: published articles.

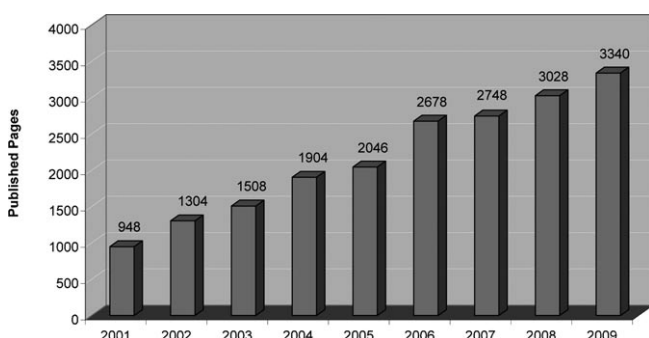


Figure 4. Increase in size of *Advanced Synthesis & Catalysis* 2001–2009: published pages.

In the meantime, *ASC* has continued to show significant advances in every area. The number of published articles (Figure 3) and the number of printed pages (Figure 4) have further increased.

With 3340 pages in 2009, *ASC* is still a relatively small and highly selective journal. To put this into perspective, *OL* published 5737 pages in 2009 while *Tetrahedron Letters* published 7398 pages, albeit down from its peak of 10361 pages in the year 2000. The *Journal of Organic Chemistry* published 9580 pages in 2009 and the *European Journal of Organic Chemistry* published 6413 pages. Interestingly, with 10,950, *Tetrahedron* continues to publish the largest number of pages in organic chemistry. Table 1 lists the number of pages published in 2009 in the principal organic and organometallic chemistry journals, which published peer-reviewed, original research articles. These data are readily available from the websites of the respective journals. Their Impact Factors are shown in Figure 1. These journals published over 75,000 pages in 2009, much of which was perhaps not highly cited, but was conscientiously carried out, peer reviewed and published in respected journals. This research constitutes a valuable part of the organic chemistry archive. In addition, there are a number of specialized journals in areas such as medicinal, carbohydrate and heterocyclic chemistry, as well as a number of quite low-impact journals, which are popping up or which are still holding on. In all, it is safe to say that about 100,000 pages of organic and organometallic chemistry are published every year. *ASC* publishes only a small fraction of these pages, but is hopefully playing a leading role by publishing high-impact articles with seminal character.

Table 1. Pages published in 2009 in the principal primary organic and organometallic chemistry journals.

Journal	Pages
<i>Tetrahedron</i> (Elsevier)	10950
<i>J. Org. Chem.</i> (ACS)	9580
<i>Tetrahedron Lett.</i> (Elsevier)	7398
<i>Organometallics</i> (ACS)	7058
<i>Eur. J. Org. Chem.</i> (Wiley-VCH)	6413
<i>Org. Lett.</i> (ACS)	5737
<i>Org. Biomol. Chem.</i> (RSC)	5280
<i>Synthesis</i> (Thieme)	4273
<i>J. Organomet. Chem.</i> (Elsevier)	4270
<i>Synlett</i> (Thieme)	3386
<i>Adv. Synth. Catal.</i> (Wiley-VCH)	3340
<i>Tetrahedron: Asymmetry</i> (Elsevier)	2650
<i>J. Mol. Catal. A: Chem.</i> (Elsevier)	1726
<i>J. Mol. Catal. B: Enzym.</i> (Elsevier)	1642
<i>Org. Process Res. Dev.</i> (ACS)	1432
Total	75135

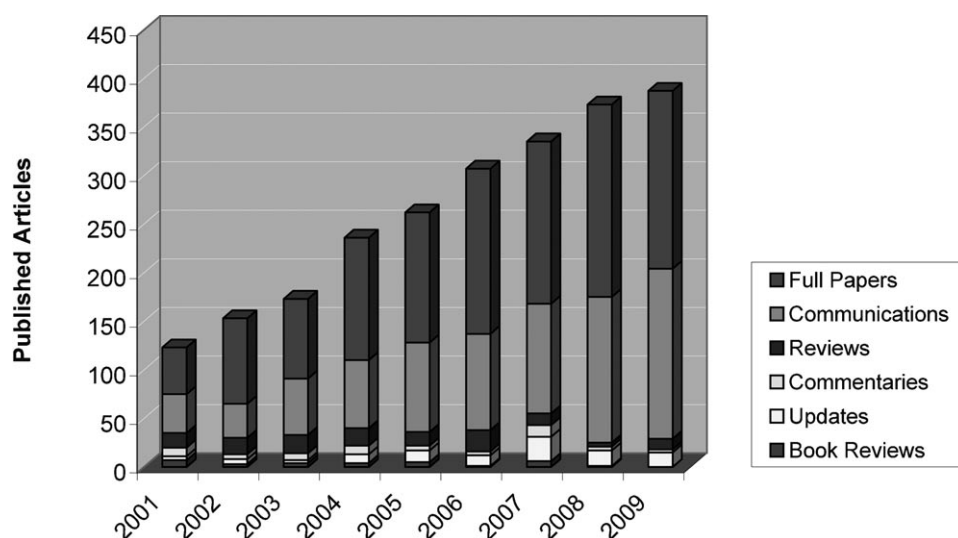


Figure 5. *Advanced Synthesis & Catalysis* publications by section 2001–2009.

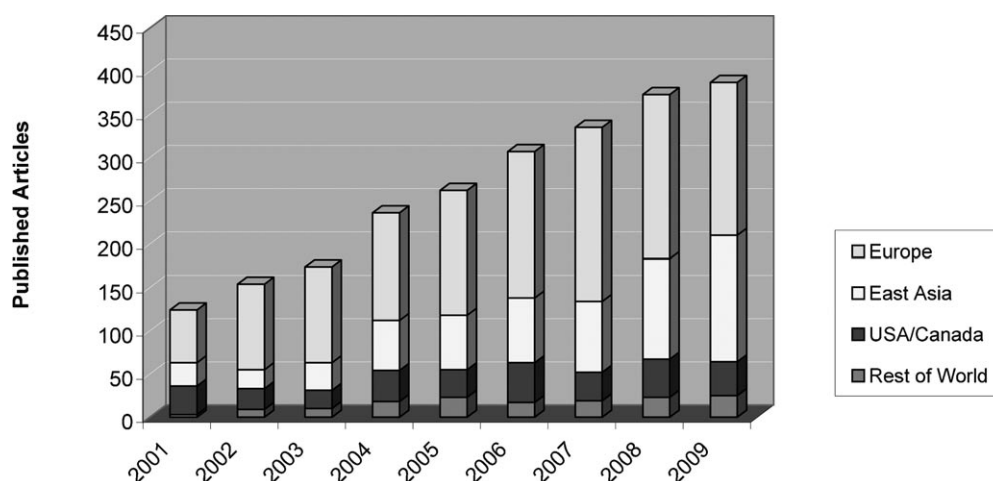


Figure 6. *Advanced Synthesis & Catalysis* publications by region 2001–2009.

The number of communications published in 2009 increased again markedly, by 17%, while the number of full papers actually decreased by 8%. For the first time, the number of communications published is almost equal to the number of full papers (see Figure 5). I expect that this trend will continue.

The regional distribution of publication in *ASC* in 2009 showed a further increase in the percentage from East Asia (see Figure 6), led by the Chinese. Europe continues to have the largest proportion with 46%, but East Asia increased from 31% in 2008 to 38% in 2009.

Publication by country (Figure 7) shows China to be the leader for the second year. Germany continues to be the second in terms of publications in *ASC*, followed by the United States and Japan. France, Spain, Italy and the Netherlands are also well represented.

With an increase from 71 to 97, or 37% in one year, the number of publications from China in *ASC* is increasing tremendously (see Figure 8). Considering the submission statistics, given below, the growth of high-quality research from China will continue in 2010. That China in such a short time has been able to increase the amount of quality science done is truly spectacular. With the rise of China as a leading power, not only in science, we are living in a period of global change, the significance and consequences of which are perhaps beyond our full comprehension.

In 2009 *ASC* did not have any special thematic issues, and as in 2008, the number of invited articles published in the journal was smaller than in any previous year (see Figure 9). Thus, although the total number of published articles increased by 4% (from

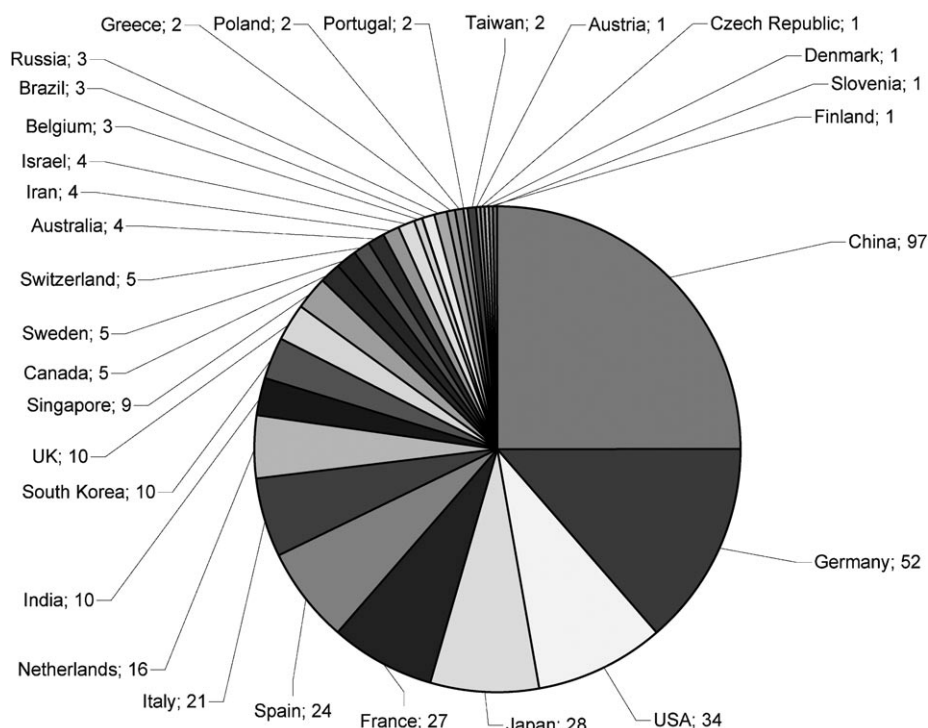


Figure 7. *Advanced Synthesis & Catalysis* publications by country 2009.

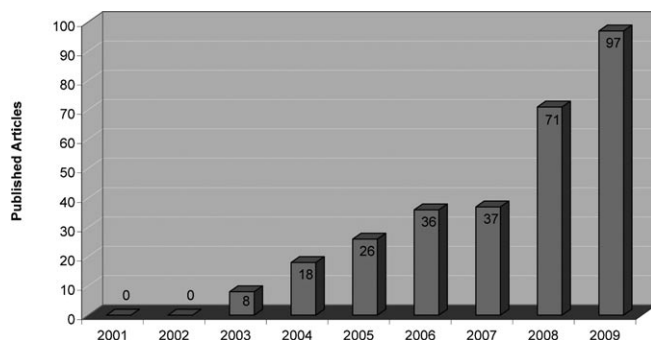


Figure 8. *Advanced Synthesis & Catalysis* publications from China 2001–2009.

373 to 387), the number of unsolicited articles published increased by 11% (from 327 to 362).

The number of submissions to *ASC* has increased again in 2009 by 11%, from 819 to 909 (see Figure 10), thus surpassing the linear projection based on submissions from 2001 to 2008.^[6] The linear projection to the end of 2010 shown in Figure 10 puts the submissions at about 1000, a round number to finish the first ten years of *ASC*.

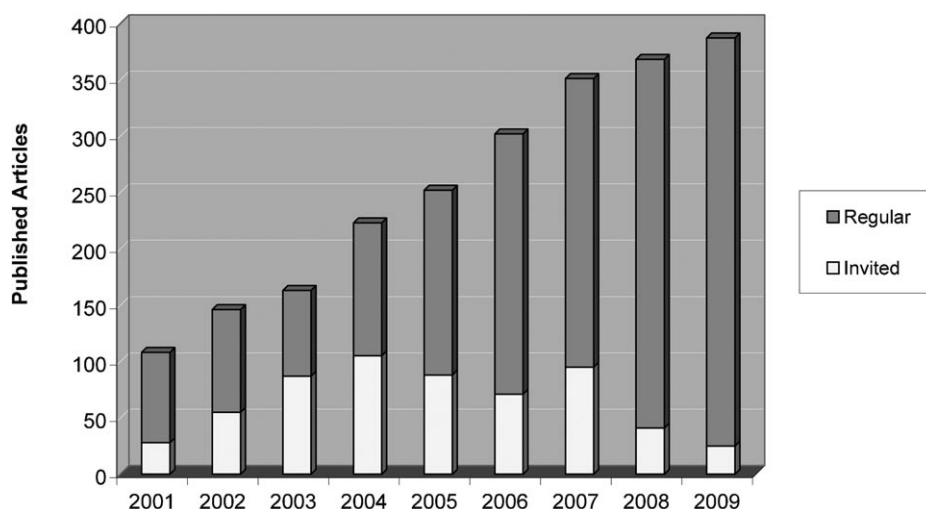


Figure 9. Peer reviewed articles published in *Advanced Synthesis & Catalysis* 2001–2009: invited vs. regular.

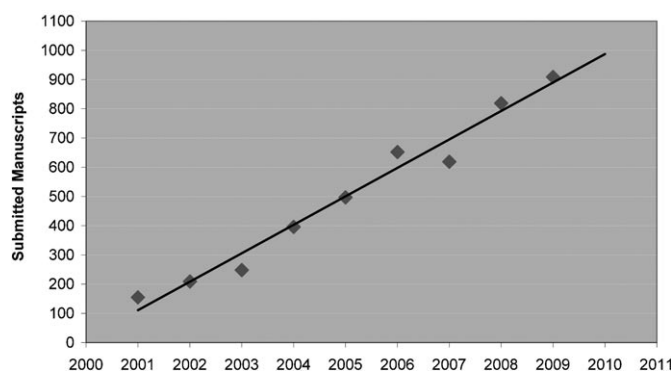


Figure 10. Submissions to *Advanced Synthesis & Catalysis* 2001–2009 and projected to 2010.

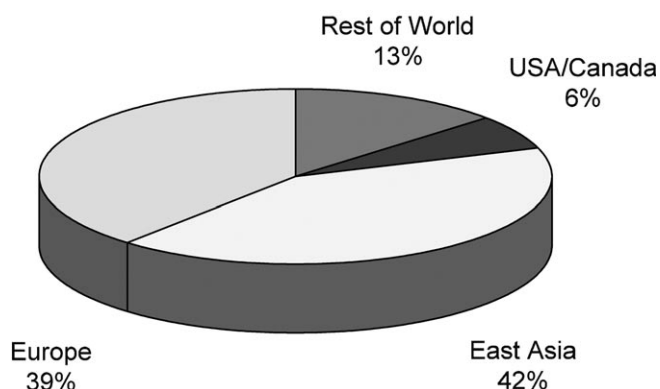


Figure 11. Submissions to *Advanced Synthesis & Catalysis* 2009 by region.

With the growth of submissions from China, it is not surprising that in the regional statistics, East Asia has now surpassed Europe (see Figure 11).

The distribution of submissions by country (see Figure 12) confirms predominance of China, with 223 submissions in 2008 and 284 in 2009 (an increase of 27%). The increase in published articles from China was greater than the increase in submissions, indicating a rise in the quality of the submissions. The rejection rate for Chinese manuscripts was 64%, somewhat greater than the overall rejection rate of 59%. The rejection rate for Chinese manuscripts was 68% in 2008. With the very high first Impact Factor of 4.197 in 2008, *Chemistry – An Asian Journal* has jumped into the ranks of the high-impact journals and is a timely response to the growth of Chinese chemistry.

The continued growth and success of *ASC* is largely due to the insight, contributions and support of the Editorial and Editorial Advisory Boards. Richard Dunmur, the senior associate editor who handles the copy-editing and proof correction, Sandra Müller, the production manager at Wiley-VCH, and the colleagues at Konrad Tritsch Print und digitale Medien GmbH are largely responsible for the high technical quality of the journal. The efficient handling of submitted manuscripts is largely due to the efforts of Thomas Kast and Tobias Burkert, as well as the new Editorial Assistant on the staff, Mariel Radlwimmer. Finally, thanks go to the authors and to the referees for the high scientific quality of the articles published in *ASC*.

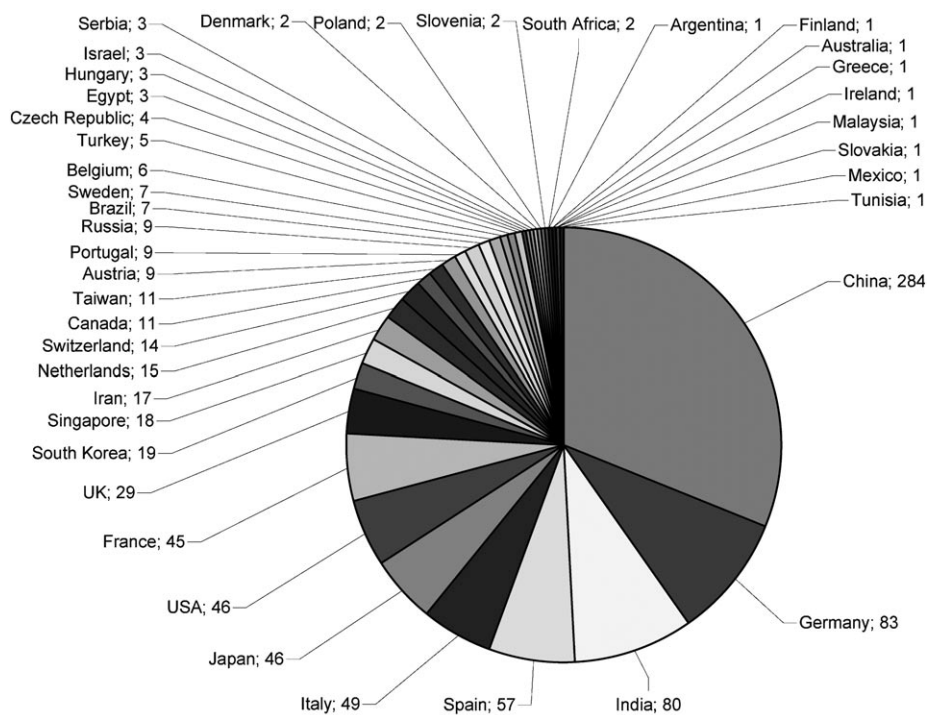


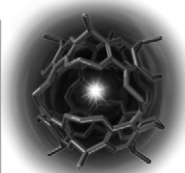
Figure 12. Submissions to *Advanced Synthesis & Catalysis* 2009 by country.

References

- [1] Source: Thomson Reuters Citation Report 2008.
 [2] J. P. Richmond, *Adv. Synth. Catal.* **2009**, *351*, 1467.
 [3] R. Noyori, *Adv. Synth. Catal.* **2001**, *343*, 1.
 [4] E. N. Jacobsen, *Adv. Synth. Catal.* **2002**, *344*, 1.
 [5] P. Göllitz, D. J. Smith, *ChemCatChem* **2009**, *1*, 3.
 [6] J. P. Richmond, *Adv. Synth. Catal.* **2009**, *351*, 25, see Figure 10.

Wiley-VCH BOOK SHOP

Wanda Sliwa and Cezary Kozłowski
Calixarenes and Resorcinarenes
 Synthesis, Properties and Applications

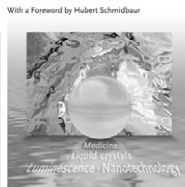


W. Sliwa / C. Kozłowski
Calixarenes and Resorcinarenes
 Synthesis, Properties and Applications

Drawing on reports published since 2005, this is the only monograph to cover the latest advances concerning the properties of calixarenes of various structures, while highlighting promising applications in science and new technologies.

324 pp, cl, € 129.00
 ISBN: 978-3-527-32263-3

Edited by Fabian Mohr
Gold Chemistry
 Applications and Future Directions in the Life Sciences



F. Mohr (ed.)
Gold Chemistry
 Applications and Future Directions in the Life Sciences

This up-to-date book on gold highlights new and current trends as well as future directions, covering all aspects of gold chemistry. An invaluable work for organic and inorganic chemists working in academia and industry, as well as material scientists.

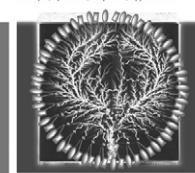
424 pp, cl, € 149.00. ISBN: 978-3-527-32086-8

F. Vögtle / G. Richardt / N. Werner
Dendrimer Chemistry
 Concepts, Syntheses, Properties, Applications

Written by internationally acclaimed authors, this textbook contains everything you need to know about this versatile class of compounds. While the focus is on synthesis and applications, it also contains chapters on analytics and other applications.

354 pp, pr, € 79.00
 ISBN: 978-3-527-32066-0

Fritz Vögtle, Gabriele Richardt, Nicole Werner
Dendrimer Chemistry
 Concepts, Syntheses, Properties, Applications

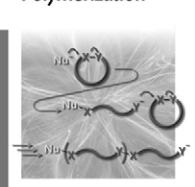


P. Dubois / O. Coulembier / J.-M. Raquez (eds.)
Handbook of Ring-Opening Polymerization

From general concepts to industrial applications, and from „green chemistry“ methods to stereochemistry -- here you will find all there is to know about this important reaction type.

425 pp, cl, € 149.00
 ISBN: 978-3-527-31953-4

Philippe Dubois, Olivier Coulembier and Jean-Marie Raquez (Eds.)
Handbook of Ring-Opening Polymerization



You can order online via <http://www.wiley-vch.de>

Wiley-VCH Verlag GmbH & Co. KGaA · POB 10 11 61 · D-69451 Weinheim, Germany
 Phone: 49 (0) 6201/606-400 · Fax: 49 (0) 6201/606-184 · E-Mail: service@wiley-vch.de

WILEY-VCH

BS_0903_C_OC3_1c_1-1h_gu