safety of GM soybean consumption by rats (*3, 4*). Another citation was the controversial study by Ewen and Pusztai (*5*), in which the effects of diets containing GM potatoes were examined in rats (*5*). The fourth citation corresponded to a study of the effects of the insecticidal lectin GNA on human blood cells (*6*). Only two additional studies did I consider to be related to health risks in GM foods (*7, 8*). In contrast to this very scant number of experimental studies, 37 citations were again letters to the editor, comments, opinions, or briefs. Most of them were written by proponents of the safety of transgenic foods, and only a minority showed scepticism or were opposed to the indiscriminate consumption of GM foods. However, the common denominator of all 37 citations was the fact that the opinions and comments were not based on experimental data.

One of the more surprising results of this review was the absence of citations of studies performed by biotechnology companies. If, as I assume, safety and toxicity studies of GM foods have been carried out by these companies, why have the results not been subjected to the judgment of the international scientific community, as would be the course if such research were published in reputed journals?

To corroborate my findings with Medline (*1–8*), I performed similar searches in a second database, Toxline (http://igm.nlm.nih.gov/). Among the citations found, there were no new references concerning direct studies on the potential toxicity or adverse health effects of GM foods. The only possible exception was a few articles, mostly reviews, on the risks for allergic patients and the potential allergenicity of novel foods.

With respect to the above findings, I suggest to biotechnology companies that they publish results of studies on the safety of GM foods in international peer-reviewed journals. The general population and the scientific community cannot be expected to take it on faith that the results of such studies are favorable. Informed decisions are made on the basis of experimental data, not faith.

Jose L. Domingo
Department of Toxicology, School of Medicine, "Rovira i Virgili" University, San Lorenzo 21, E-43201 Reus, Spain. E-mail: jlldr@fmcs.urv.es

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Scope of Olefin Polymerization Nickel Catalysts

In their report "Neutral single-component nickel (II) catalysts that tolerate heteroatoms" (21 Jan., p. 460), T. R. Younkin *et al.* describe the development of a family of polymerization catalysts that are tolerant of many functional groups and low-purity starting materials. Many of their observations are well in line with our results on bis(ylide)nickel- and palladium-based catalysts, which do not need a cocatalyst and work in the technologically relevant pressure and temperature ranges.

Our bis(ylide)nickel and palladium catalysts are well documented in scientific publications [for example, (*1–3*)] and the patent literature [for example, (*4–7*)]; a full list of references can be obtained from the author. Their structures in the solid states as well as in solution are characterized by specific combinations of intact and rearranged ylide ligands. They show high activity in ethylene polymerization even without any cocatalyst (*1*). The molecular weight of the polyethylenes produced can be controlled through the specific choice of the ligands (*2*). The ligands also control the formation from linear to branched products; for example, 57 short chain branches per 1000 carbon atoms have been reported for ethylene homopolymerization without the use of any comonomers (*3*). Long chain branching can be generated in ethylene homopolymerization with bifunctional Ni/Cr catalysts, again without comonomers (*3*). The catalyst family is further useful for a variety of polyermizations, including olefin (*2*) and nonpolar and polar cycloolefin (*6, 7*) (co)polymerizations. End-functionalized polyethylenes have been obtained with styrene, divinylbenzene, and related polar monomers (*4*). Bis(ylide)catalysts effectively tolerate polar functionalities (*1–7*), such as polar solvents and polar polymer solutions, including polyvinylalchole (*5*). The catalysts have even been shown to (co)polymerize polar monomers [(*3*) and German patent DE 3700196]. The tailoring potential and polar group tolerance of bis(ylide)catalysts has led to highly sophisticated, advanced materials for liquid crystal displays and nonlinear optics (*5*).

K. Aleksander Ostoja Starzewski
Bayer AG, Central Research Department, 51368 Leverkusen, Germany

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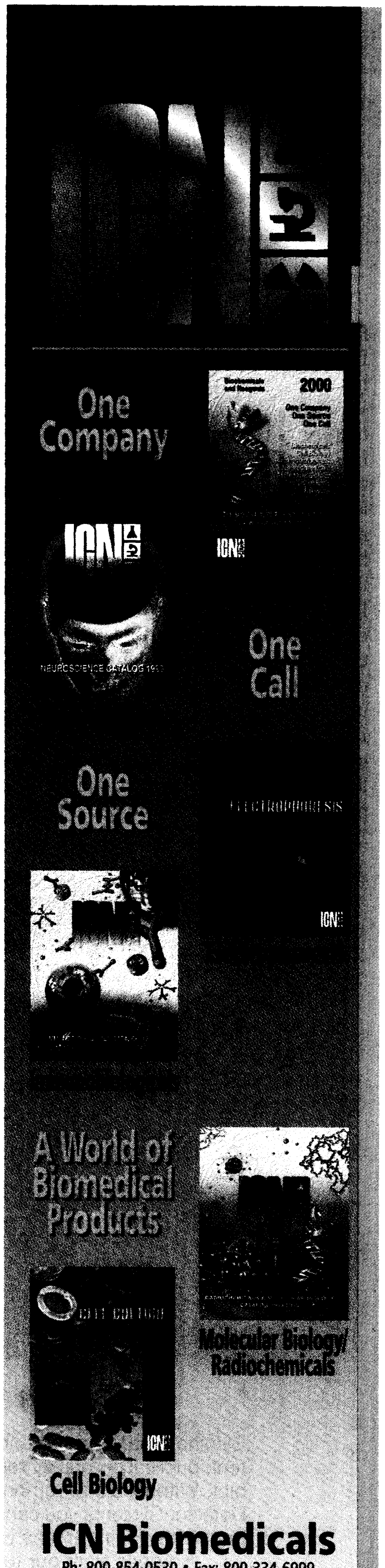

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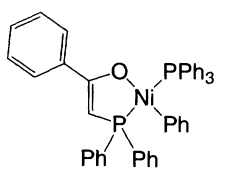
6. ———, patent DE 19637019, US 6040403, EPA 829493 (CA1998, 128, 217736), to Bayer AG, priority 12.09.96.
7. ——— and U. Denninger, patent DE 1964286, EPA 837079 (CA 1998, 128, 308903), to Bayer AG, priority 17.10.96.

Response

In our report, we attempted to outline the historical contributions of many researchers who made a significant intellectual impact on all aspects of our research, including Ziegler and Natta (*1*), the breakthroughs concerning early metal metallocenes and their activation with alkyl aluminum cocatalysts (*2*), and the demonstration that late-metal cationic catalysts can be used for the production of high molecular weight polyolefins (*3, 4*). We also focused on the contributions of Keim and co-workers, who first demonstrated that neutral complexes, such as **1** (see the figure), could be used to obtain high activity for the oligomerization and polymerization of ethylene at high pressures and temperatures (*3, 5*). As we pointed out in our report, these systems, which perform well in polar solvents, provided the early inspiration for the design of our catalysts. However, the Keim systems and their derivatives only provide higher molecular weight polymer at extremely high pressure or upon combination with phosphine-scavengers such as Ni(COD)_2 (*5, 6*). Our goal was to find catalysts that would operate under similar conditions to the cationic systems. The lesson of our work is that functional-group tolerance does not have to be sacrificed for high activity under moderate conditions. We cited some of the seminal works in the above areas and referred to several excellent reviews in the field of polyolefins (*1, 3, 7*). In addition, the Perspective by E. N. Jacobsen and R. Breinbauer ("Nickel comes full cycle," 21 Jan., p. 437) provided a thorough synopsis of how our systems fall into the "big picture" of polyolefin production.

Regarding the studies by K. A. Ostoja Starzewski and co-workers on catalyst **2**, we are very aware of his group's work. Several aspects of their findings were crucial for the work we began several years ago. Their ability to obtain oligomers with an increased catalytic rate relative to the Keim catalyst **1** (*8*) and to obtain high molecular weight polymer through ligand manipulation (*9*) led us to believe that further manipulation of a neutral metal center could increase the activity of such systems, allowing them to be competitive with extremely active early- and late-metal cationic catalysts while maintaining the functional-group tolerance demonstrated by neutral systems such as **1** and **2**.



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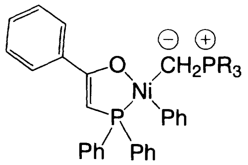

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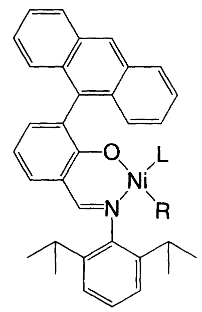
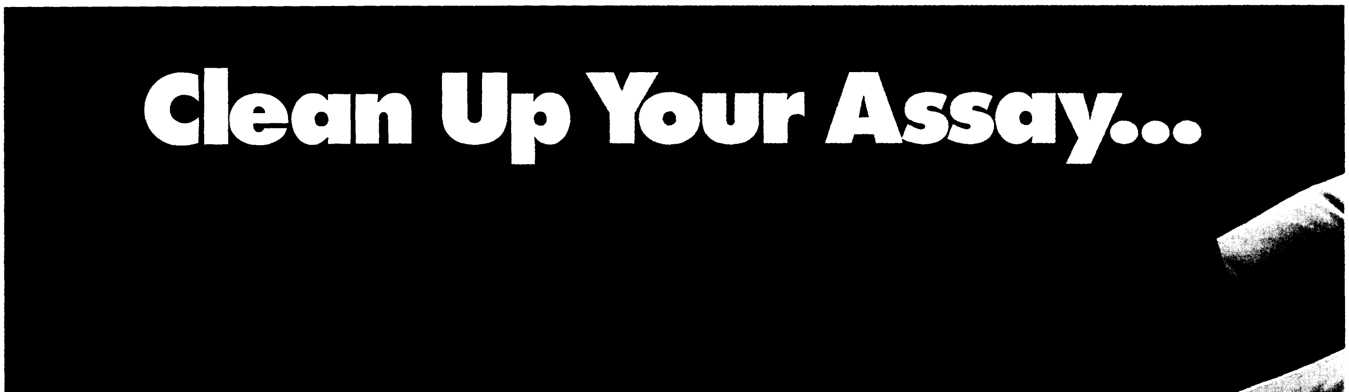


3

Most of the recent references concerning the Starzewski catalysts are centered on their activity as an acetylene polymerization catalyst (*10*). We make no claims concerning the polymerization of acetylene, and can make no claims as to the



performance of catalysts such as **3** for these purposes.

In our report, we showed that (i) the use of "harder" chelating bidentate ligands allows for the exclusive formation of higher molecular weight polymer; (ii) increasing the bulk of the ligand sphere provides catalysts that demonstrate higher activity at lower pressures and temperatures and may prevent the formation of deleterious decomposition products; (iii) these catalysts have a higher reactivity toward less active olefins, resulting in higher incorporation of functionalized olefin into the backbone of the polymer relative to catalysts **1** and **2**; and (iv) functional-group tolerance does not have to be sacrificed for high activity under the moderate conditions used in recent cationic, late-metal catalyst systems.

We hope that our findings, as well as those made by others, provide a solution to the problem of forming linear functionalized polyolefins from reasonable feedstocks under commercially viable conditions.

Todd R. Younkin, Eric F. Connor, Jason I. Henderson, Stefan K. Friedrich, Robert H. Grubbs,* Donald A. Bansleben
Arnold and Mabel Beckman Laboratories for Chemical Synthesis, California Institute of Technology, Pasadena, CA 91125, USA
*To whom correspondence should be addressed.

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Retraction

The Review article by G. Gaskell *et al.*, "Worlds apart? The reception of genetically modified foods in Europe and the U.S." (16 Jul. 1999, p. 384) is hereby retracted because, unknown to the authors, at the time of publication some of the data on which the article was based were not in the public domain. All the data sets in question are now in the public domain, or will be shortly, and may be obtained through the appropriate national data archives (*1*).

George Gaskell,[1] Martin Bauer,[2] John Durant,[3] Nicholas Allum[1]
[1]Methodology Institute, [2]Department of Social Psychology, London School of Economics, London WC2A 2AE, UK. [3]The Science Museum, Exhibition Road, London SW7 2DD, UK

References and Notes

1. The data sets are available through the Interuniversity Consortium for Political and Social Research (ICPSR) at the University of Michigan (http://www.icpsr.umich.edu/) to U.S. scholars (affiliated with U.S. universities) and through other counterpart national archives such as the Economic and Social Research Council data archive at the University of Essex (http://www.data-archive.ac.uk/) in the United Kingdom.

CORRECTIONS AND CLARIFICATIONS

News of the Week: "Some coral bouncing back from El Niño" by Dennis Normile (12 May, p. 941). A marine scientist at the Dauphin Island Sea Lab in Alabama who has studied reefs off the Belize coast in the Caribbean was misidentified. His name is Richard Aronson.

News Focus: "Superbugs on the hoof?" by Dan Ferber (5 May, p. 792). It was incorrectly stated that a 12-year-old Nebraska boy infected with ceftriaxone-resistant *Salmonella* was treated with ceftriaxone. The boy was treated with amoxicillin and ampicillin. Furthermore, it was not conclusively determined—as implied by the article—that cows carrying the resistant *Salmonella* had been treated with ceftiofur, an antibiotic similar to ceftriaxone.

Report: "A BAC-based physical map of the major autosomes of *Drosophila melanogaster*" by R. A. Hoskins *et al.* (24 Mar., p. 2271). The authors regret that they neglected to acknowledge the source of the reference photographs of *Drosophila* polytene chromosomes that accompany the in situ hybridization data in Fig. 2. The source of these photographs was a volume by V. Sorsa [*Chromosome Maps of Drosophila, Vol. II* (CRC Press, Boca Raton, FL, 1988)]. The authors are grateful to Tapio Heino, University of Helsinki, for his permission to reproduce these copyrighted photographs. Also, an article by T. I. Heino, A. O. Saura, and V. Sorsa [*Drosophila Info. Serv.* **73**, 619 (1994)] contains more detailed information of the DNA content of individual polytene bands than the aforementioned volume by Sorsa and should have been cited in the main text and Table 1 as the source of this information.