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Editor's Page

The Editor's Introduction of the Review by Sevov and Goicoechea in This Issue of *Organometallics*

The preliminary report by Edward Zintl in *Naturwissenschaften* in 1929 of the formation of deeply colored sodium salts containing polynuclear anions of the type $[Na(NH_3)_y]_n[M_x]$ with elements of periodic groups 14−16 in liquid ammonia opened up a new and very interesting area of main-group solid-state chemistry. Such salts, on loss of their ammonia, formed intermetallic phases, Na_yM_x. These polynuclear species became known as Zintl anions (or salts) and Zintl phases. This new area was developed much further by Zintl and later workers. More recent advances in Zintl anion chemistry were facilitated by the advent of new polydentate ligands such as the crown ethers and cryptands. These allowed the preparation of well-defined crystalline salts which in many cases could be structurally characterized by X-ray crystallography. Recent research by Slavi Sevov of the University of Notre Dame, the senior author of the review in this issue of *Organometallics*, and Bryan Eichhorn of the University of Maryland has brought an exciting and fruitful connection between solid-state Zintl anion chemistry and both main-group and transition-metal organometallic chemistry.

In the review "Chemistry of Deltahedral Zintl Ions", Professor Sevov provides an excellent account of this fascinating new area of organometallic chemistry with its surprising and exotic structures. Our cover molecule is one of the many such Zintl anion derivatives prepared by Professor Sevov and his coworkers in their very innovative and exciting research, an organonickel complex of the $[Ge_9]^{4-}$ anion: a nickel-centered and $C_6H_5C{\equiv}CNi$-capped cluster, $[Ni@(Ge_9NiC{\equiv}CC_6H_5)]^{3-}$.

Professor Sevov has a strong background in synthetic and structural solid-state inorganic chemistry and in theoretical chemistry, and he has brought this experience to bear in the chemistry described in this review. After obtaining his B.S. (1983) and M.S. (1985) at the University of Sofia in his native Bulgaria, Professor Sevov spent 6 years carrying out solid-state research with John D. Corbett at Iowa State University, obtaining his Ph.D. in 1993. Two postdoctoral years in theoretical chemistry with the late Jeremy Burdett at the University of Chicago followed. He has been at the University of Notre Dame since 1995, where he has been a full professor since 2002. Professor Sevov's independent research has been focused on diverse aspects of solid-state chemistry. Perusal of his extensive publication list turns up many fascinating species: $[Zn_9Bi_{11}]^{5-}$, $[Rb_2(crypt)]Ge_9{\cdot}(en)$, with its linear chain of 9-atom Ge clusters, $Li_5Ca_7Sn_{11}$, with its columns of stacked aromatic $[Sn_5]^{6-}$ pentagons (analogous to $[C_5H_5]^-$), $Ba_3Li_4Sn_8$, which contains 1-dimensional chains of 1 ∞ $[Sn_8]^{10-}$ made of edge-sharing cyclodecane-like units in the all-chair conformation, and $Ba_{16}Na_{204}Sn_{310}$, which contains giant Sn clusters of 56 atoms, to name only a few more recent examples (see Sevov's review *Intermetallic Compounds* **2002**, *3*, 113−132).

I hope that this review by Professor Sevov and his postdoctoral coauthor, J. M. Goicoechea (Ph.D., University of Bath) will widen the horizons of our readers. It is clear that this area in which solid-state and organometallic chemistry come together is a fertile one in which many new and exciting results can be expected.

The cover molecule figure was kindly provided by Professor Arnold L. Rheingold.

Dietmar Seyferth

Editor

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