

# Bis-, Tris- and Tetrakis(lithiomethyl)germanes: New Building Blocks for Organogermanium Compounds

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*Dedicated to Professor Hubert Schmidbaur on the occasion of his 70<sup>th</sup> birthday*

Bis(lithiomethyl)germanes,  $\text{R}_2\text{Ge}(\text{CH}_2\text{Li})_2$ , tris(lithiomethyl)germanes,  $\text{RGe}(\text{CH}_2\text{Li})_3$ , and tetrakis(lithiomethyl)germane,  $\text{Ge}(\text{CH}_2\text{Li})_4$ , were prepared by the reductive C-S bond cleavage with lithium naphthalenide ( $\text{LiC}_{10}\text{H}_8$ ) or lithium *p,p'*-di-*tert*-butylbiphenylide (LiDBB) and characterized by trapping with  $\text{Bu}_3\text{SnCl}$ . The bis(lithiomethyl)germanes were used for the synthesis of 1,1-dimethyl-3,3-diphenyl-1-germa-3-silacyclobutane, 1,1-diethyl-3,3-diphenyl-1-germa-3-silacyclobutane, 1,1,3,3-tetraphenyl-1-germa-3-silacyclobutane and 1,1,3,3-tetraphenyl-1,3-digerma-cyclobutane. The single-crystal X-ray diffraction studies of methyltris(phenylthiomethyl)germane and tetrakis(phenylthiomethyl)germane, starting materials for the corresponding poly(lithiomethyl)germanes, indicate tetrahedrally arranged substituents at the germanium atoms.

**Key words:** Polyolithium Compounds, Metalation, 1-Germa-3-silacyclobutane, 1,3-Dilithium, (Stannylmethyl)germanes