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From Primary Silylphosphanes and Arsanes to Novel Group 13-15 Clusters

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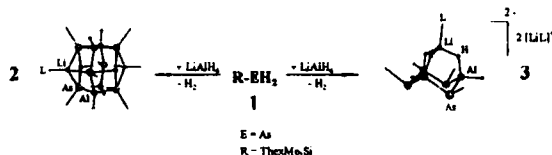
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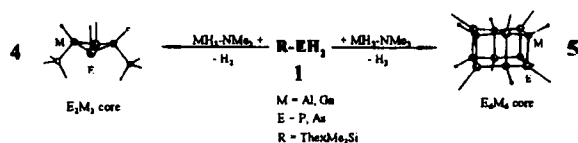
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The reaction of the primary silylphosphanes and -arsanes **1** with $[\text{LiAlH}_4]$ leads, under evolution of H_2 and depending on the solvent, to the different unusual clusters **2** and **3**. Compound **2** has a rhombododecahedral skeleton. Surprisingly, the same reaction of the starting materials in DME instead of Et_2O as solvent furnishes the triple ion pair **3**.



The metathesis reaction of the primary silylarsanes **1** with the adducts of $\text{AlH}_3(\text{NMe}_3)/\text{GaH}_3(\text{NMe}_3)$ gives, under liberation of H_2 , the heterocycles **4**. These compounds are thermally labile and rearrange to the corresponding clusters **5**.



References

- [1] M. Driess, K. Merz, H. Pritzkow and R. Janoschek, *Angew. Chem. Int. Ed. Engl.* 35 (1996) 2507.
- [2] M. Driess, S. Kuntz, K. Merz and H. Pritzkow, *Chem. Eu. J.* 1998 in press.

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