

Synthesis of Uncharged Tris(trimethylsilyl)silyl-substituted P₇-Coinage Metal Derivatives

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The neutral, sterically shielded bis[tris(trimethylsilyl)silyl] substituted heptaphosphane [(Me₃Si)₃Si]₂P₇(SiMe₃) **2** is prepared in essentially quantitative yield upon reacting readily accessible P₇(SiMe₃)₃ **1**, [1] with two equivalents of tris(trimethylsilyl)silyl chloride. [2] [(Me₃Si)₃Si]₂P₇(SiMe₃) readily undergoes trimethylsilyl group elimination when reacted with main group- or transition metal halides. Hence, addition of coinage metal halides result in the formation of tetramers {[(Me₃Si)₃Si]₂P₇M}₄, M=Cu, Ag and the dimer {[(Me₃Si)₃Si]₂P₇Au}₂. c.f. Fig. 1

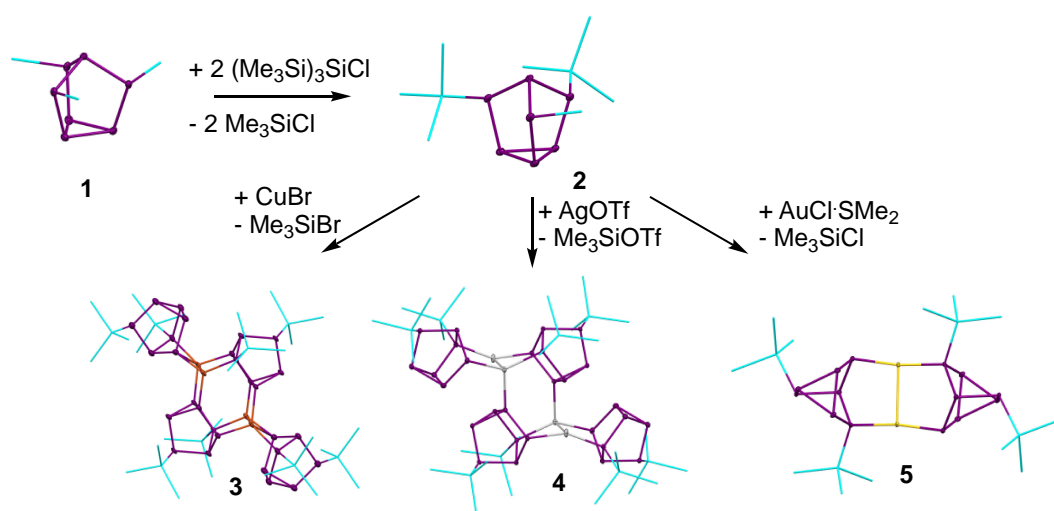


Figure 1. Preparation of {[(Me₃Si)₃Si]₂P₇M}₄ and {[(Me₃Si)₃Si]₂P₇M}₂.

While a structurally related anionic Au(I)-dimer was reported in literature, [3,4] **3-5** represent the first neutral coinage metal compounds based on P₇-oligophosphides. Structural and spectroscopic properties will be presented.

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