The Influence of Isocyanides on the Reactivity of Digermenes

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Tetramesityldigermene is a prototypical digermene whose reactivity can be used to model the reactivity of Ge(100)-2x1 surface adducts.[1] In general, the reactions of digermenes are rapid and quantitative;[2] however, some reactions, such as the addition of phenylacetylene, have been observed to be unexpectedly slow.[3] Recently, the addition of 2,6-dimethylphenyl isocyanide, an electron donor, to tetramesityldigermene was found to accelerate the spontaneous reversion of tetramesityldigermene to hexamesitylcyclotrigermane.[4] Thus, we investigated the addition of phenylacetylene to tetramesityldigermene in the presence of 2,6-dimethylphenyl isocyanide to establish if the isocyanide could catalyze the addition of the alkyne to the digermene.

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