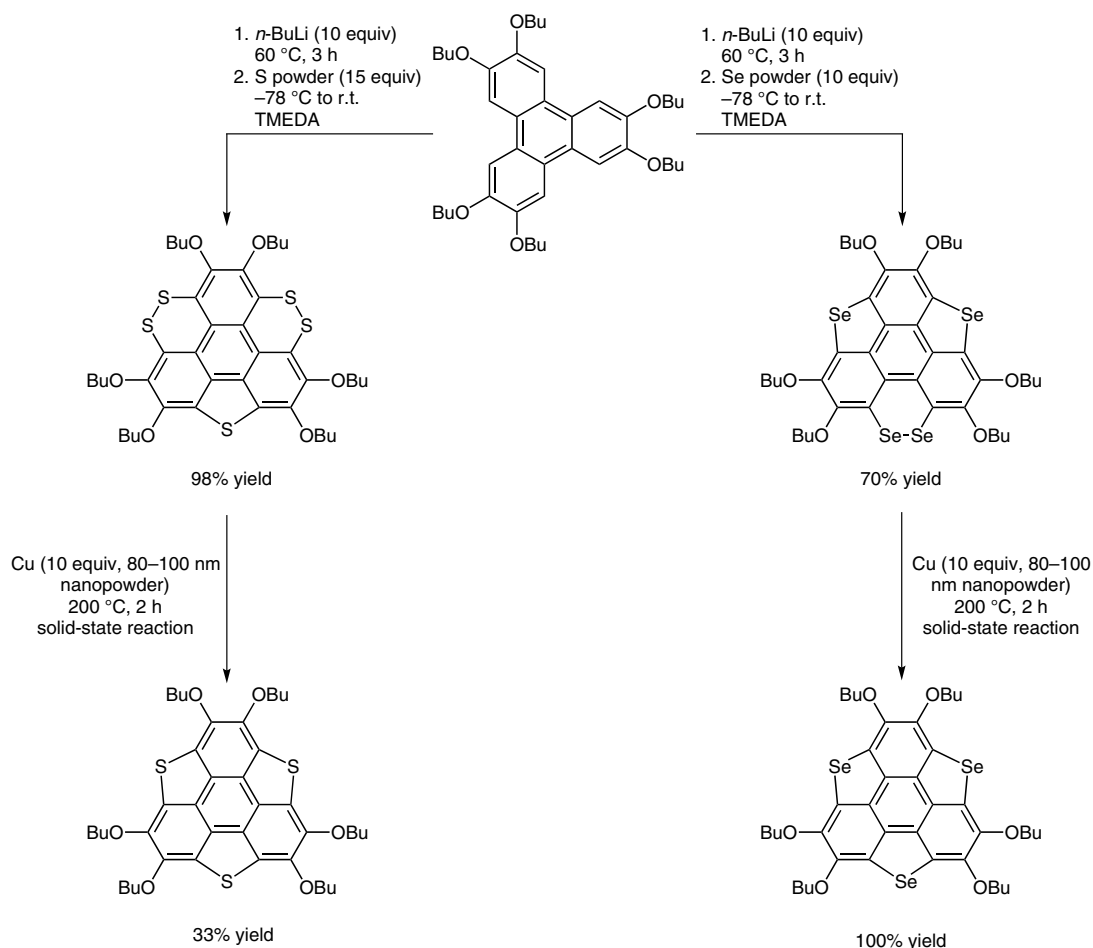


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Non-Pyrolytic, Large-Scale Synthesis of Trichalcogenasumanene: A Two-Step Approach
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‘Chalc’ing up a New Sumanene



Significance: Sumanenes are nanocarbon buckybowls with a six-membered benzene ring at their center. The authors report a new synthesis of sulfur- or selenium-substituted sumanenes from a triphenylene that avoids the very high temperature FVP methods (1000 °C) previously used. The new method employs much milder conditions and achieves much higher yields than the only other reported synthesis of trithiosumanene (K. Imamura et al. *Chem. Commun.* **1999**, 1859), and also provides access to the previously unknown triselenasumanene.

Comment: The reported synthesis circumvents the challenge of simultaneous insertion of chalcogens into the bay positions of triphenylene by first accessing 1,2-dichalcogenin rings. These six-membered rings presumably have less ring strain than the monochalcogen rings and can be converted into the desired trichalcogenosumanenes by using copper powder in a solid-state reaction. This reaction can be performed on multi-gram scale.

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