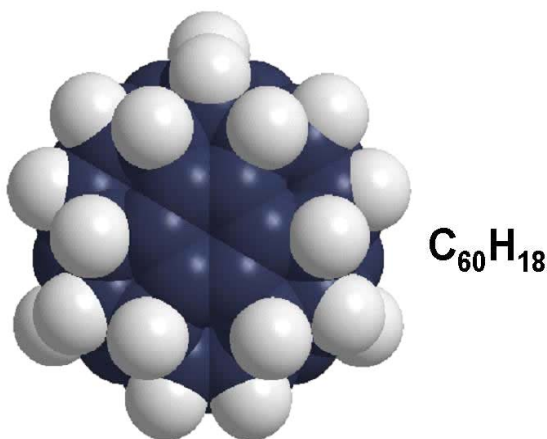


## Polyamine Hydrogenation of Nanostructured Carbons: [60]Fullerene, [70]Fullerene, Giant Fullerenes and Carbon Nano-Onions (CNOs)

We have shown that organic polyamines are efficient, effective reagents for the hydrogenation of [60]fullerene, [70]fullerene, giant fullerenes and carbon nano-onions.



When [60]fullerene is heated in diethylenetriamine, a known  $C_{60}H_{18}$  isomer with  $C_{3v}$  symmetry is produced and isolated in good purity without the need for chromatographic separation (see J. Briggs, et al., *Organic Letters* **2005**, 7, 5553). The reaction can be scaled upwards to kilogram levels without impacting yield or quality of product.

Other nanostructured carbons can also be hydrogenated in a similar manner and we are actively pursuing those chemistries.

### POLYAMINE HYDROGENATION PUBLICATIONS

Miller, G. P.; Kintigh, J.; Kim, E.; Weck, P. F.; Berber, S.; Tomanek, D., “**Hydrogenation of Single-Wall Carbon Nanotubes Using Polyamine Reagents: Combined Experimental and Theoretical Study**,” *J. Amer. Chem. Soc.*, **2008**, 130, 2296-2303.

Kintigh, J., Briggs, J., Letourneau, K., and Miller, G. P., “**Fullerenes produced via efficient polyamine hydrogenation of [60]fullerene, [70]fullerene and giant fullerenes**,” *J. Mater. Chem.*, **2007**, 17, 4647 - 4651. This is the feature article of the issue and is accompanied by our original artwork on the journal cover.

Briggs, J. B., Montgomery, M. N., Silva, L., and Miller, G. P., “**Facile, Scalable, Regioselective Synthesis of  $C_{3v}$   $C_{60}H_{18}$  Using Organic Polyamines**,” *Org. Lett.*, **2005**, 7, 5553.

