

Fullerenes: Production, Properties and Applications

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Abstract:

Earlier this year, Sir Harry Kroto passed away. Harry Kroto was one of the discoverers of the fullerene molecule C₆₀. In this talk I want to pay tribute to Harry Kroto by revisiting the fascinating story of the discovery of one of the most famous molecules in Chemistry. The discovery of C₆₀ was somewhat accidental, but the brilliant insight of the scientists who discovered it, practically opened up the road for nanotechnology and led to numerous scientific breakthroughs. I shall also touch upon developments on how to increase the yields of production of endohedral fullerenes. Endohedral fullerenes are fullerenes with atom(s) or clusters trapped inside their interior. These molecules are arguably the most exciting family of the fullerene structures. I shall also describe progress in the chemical functionalization and the application prospects of endohedral fullerenes.