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Fulerenos Endoédricos: Nuevas Estructuras, Mecanismos de Formación y Reactividad

Endohedral fullerenes are carbon cages containing incarcerated atoms, metals or clusters. The interaction between the cage and the incarcerated moiety can provide interesting electronic properties. Our research group has contributed extensively in the discovery of new endohedral fullerenes. Currently, we are focusing on the synthesis and discovery of new endohedral fullerenes that encapsulate new atoms and/ or of new clusters. These fullerenes could potentially possess new and interesting optoelectronic properties and have interesting applications, mainly in organic photovoltaic technologies of particular interest are Uranium-based endohedral compounds. The functionalization of fullerene cages has expanded their potential application in several fields, from biology to materials science. Our research group currently works in the regioselective addition to fullerene cages to obtain pure *bis*-adducts. These regioselectively prepared pure *bis*-adducts are being used as electron acceptors in OPV devices due to their high lying LUMO compared to those of their *mono*-adduct counterparts.

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