

Biological Application of Novel Fullerene Derivatives

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Many studies concerning fullerene applications in medicinal chemistry have been developed, discovering the possibility to use C₆₀ as antimicrobial agent, gene transvector or HIV protease inhibitor.

To perform these studies it is necessary to solve, as main problem, the lack of solubility of fullerene in polar solvents. The chemical functionalization seem to be the most useful approach to obtain soluble derivatives and we utilize the 1,3-dipolar cycloaddition of azomethine ylides bearing hydrophilic moieties to fullerene double bonds. Also the synthesis of bis- and tris-adducts results to be very successful in this field.

In this contribution we will present the biological studies performed on new fullerene adducts.