

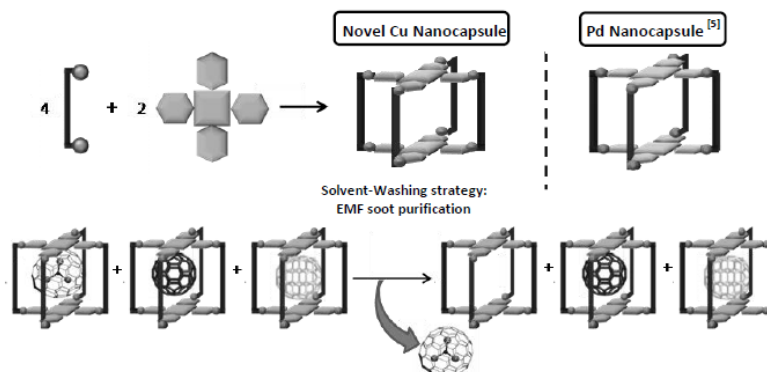
# SELECTIVE SEPARATION OF FULLERENES AND ENDOHEDRAL METALLOFULLERENES MEDIATED BY SUPRAMOLECULAR NANOCAPSULES

C. Fuertes<sup>1</sup>, C. García-Simón<sup>1</sup>, L. Gómez<sup>1</sup>, M. Costas\*<sup>1</sup>, X. Ribas\*<sup>1</sup>

<sup>1</sup> Institut de Química Computacional i Catàlisi, Departament de Química, Universitat de Girona, E17071, Girona, Catalonia, Spain

Presenting author: [Carlos.Fuertes@udg.edu](mailto:Carlos.Fuertes@udg.edu)

From the early stages of fullerene research, it was shown that fullerenes were in general able to host atoms and even small molecules in their interior.<sup>[1]</sup> Generally, fullerenes and Endohedral Metallofullerenes (EMFs), which are produced as a soot, need to be purified by a multistage high-performance liquid chromatography (HPLC).<sup>[2]</sup> However, this conventional purification process may not be used for the effective purification of milligrams quantity of fullerenes or EMFs. To overcome these difficulties, large efforts have been geared toward the design of an efficient alternative strategy to obtain highly pure fullerenes <sup>[3]</sup> and EMFs <sup>[4]</sup>. In this context, a three-dimensional tetragonal prismatic molecular receptor (**4·(BArF)<sub>8</sub>**) has been reported as a suitable tool for fullerenes soot purification.<sup>[5]</sup> The nanocapsule was prepared by coordination-driven self-assembly reaction of two tetracarboxylate Zn<sup>II</sup>-porphyrin and four Pd<sup>II</sup>-based molecular clips. The exceptional behavior of (**4·(BArF)<sub>8</sub>**) encouraged us to consider this system as an effective tool towards the design a strategy for EMFs soot purification. Moreover, the better features showed by Cu(II) instead of Pd(II) related with the metal-ligand bond lability, prompt us to design a novel Cu(II) based molecular receptor for fullerenes and EMFs soot purification, in analogy to **4·(BArF)<sub>8</sub>**.



## References

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