

The formation of unprecedented multimetallic calixarene based nanocontainers

Ivan Khariushin^{a,e} Pr. S. Ferlay,^a Pr. V. Bulach,^a Dr. S. Baudron,^a Dr. A. Ovsyannikov,^b Pr. I. Antipin,^b Pr. K. Rissanen,^c Pr. V.P. Fedin^d

^a "Synthesis and Functions of Molecular Architectures", UMR 7140, CMC, Université de Strasbourg CNRS, 4 Rue Blaise Pascal 67081, Strasbourg, FRANCE.

^b Arbuzov Institute of Organic and Physical Chemistry, FRC Kazan Scientific Center, Russian Academy of Sciences, Arbuzova 8, Kazan, 420088, Russian Federation

^c University of Jyväskylä, Seminaarinkatu 15, Jyväskylän yliopisto, 40014, Finland

^d Nikolaev Institute of inorganic chemistry, Lavrent'ev 3, Novosibirsk. 630090, Russian Federation

^e Kazan Federal University, Kremlyovskaya 18, Kazan, 420008, Russian Federation

Multimetallic nanocontainers or cages attract significant attention due to their unique structure and potential applications. Octahedral cages can be formed by combining calixarene metallic complexes, connected with each other *via* linear or triangular connectors.^[1] Such type of compounds presents symmetry, well-defined and large cavities (diameter between > 12 Å) and also stability in solution and also in the solid state. Moreover, there is a possibility for cages to exhibit outstanding chemical and physical behavior due to presence of metallic centers within their structure, like porosity or catalytic properties. Moreover, presence in the cage structure of chiral species opens possibilities for enantiomers separation and asymmetric catalysis.^{[2],[3]}

In this work, new type of multimetallic cages are targeted using sulfonatothiacalix[4]arene and different metallo-organic connectors, like Co(III)-dipyrin of porphyrin based connectors. Their gas adsorption properties are also discussed.

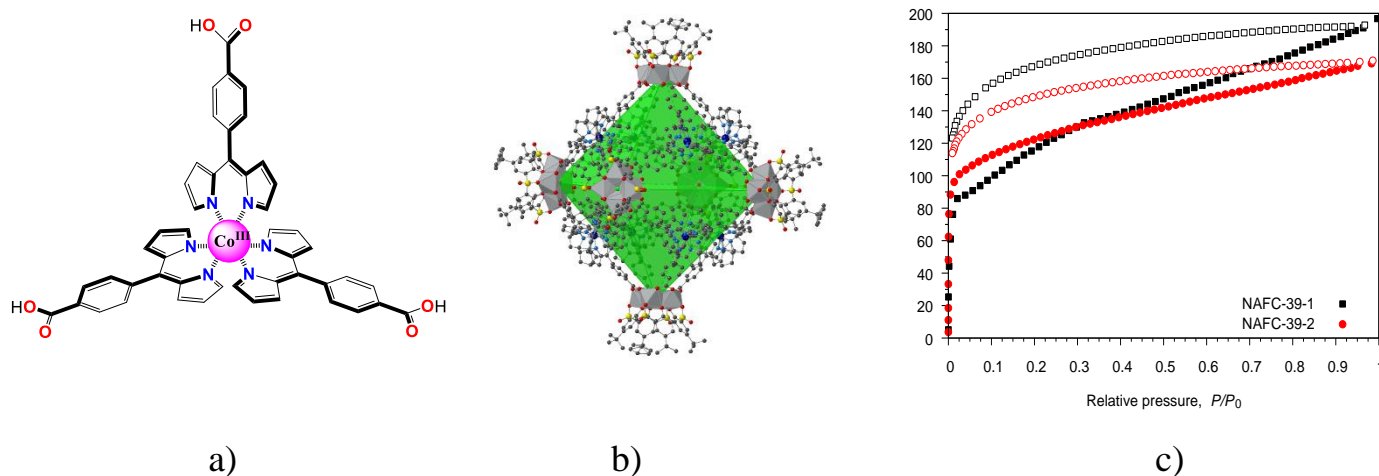


Figure 1: Co(III)-dipyrin based connector (a); The structure of cage based on sulfonatothiacalix[4]arene and Co(III)-dipyrin connector (b); nitrogen sorption isotherms of the formed cages (c).

References

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