

PORPHYRINS FOR MOLECULAR ELECTRONICS

L. Dubois^a, A. Fateeva^a, M. Claeys-Bruno^b, J.C. Marchon^a and P. Maldivi^a

^a DRFMC/SCIB, CEA-Grenoble, 17, avenue des Martyrs, 38054 Grenoble Cedex 9, France
(e-mail : lionel.dubois@cea.fr)

^b Université Paul Cézanne, Faculté des Sciences et Techniques, Laboratoire de Méthodologie de la Recherche Expérimentale UMR 6171, Avenue Escadrille Normandie Niemen 13397 Marseille, France.
lionel.dubois@cea.fr

Porphyrins possess unique properties like stability, possibilities of a wide range of modifications, redox activity etc... In our laboratory, we want to develop the use of these molecules in the field of molecular or hybrid electronics [1], and more especially for information storage devices.

For that, we try to develop the synthesis of a new kind of chiral porphyrin **1** and **2** derived from cyclohexene carboxaldehyde or erythruronic acid. We think that this kind of porphyrins can be easily functionalized to associate different functionality like bistability, fluorescence etc.. These properties are important and can be used to store and read information in molecules.

In this poster, we present the results we have obtained in these two fields at the moment.

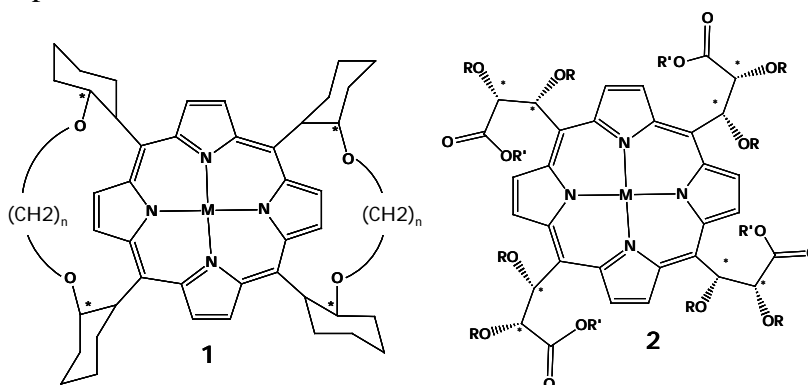


Figure 1: structure of the different systems studied.

REFERENCES

1. Kuhr WG, Gallo AR, Manning RW, and Rhodine CW. *Material Research Society Bulletin.*, **11** (2004), 838-842.
2. Veyrat M, Ramasseul R, Turowska-Tyrk I, Scheidt WR, Autret M, Kadish KM and Marchon JC. *Inorg. Chem.*, **38** (1999), 1772-1779.