



## BENEFRI - Small Molecule Crystallography Service

Helen Stoeckli-Evans\*

**Abstract:** BENEFRI is a convention involving the Universities of Bern, Neuchâtel and Fribourg. It was established in 1993 and the branch convention in chemistry was signed in 1994. The objective is to promote co-operation between the Institutes of Chemistry of the three universities. In this way it is hoped to economize on equipment and to establish joint teaching and research projects. The BENEFRI – Small Molecule Crystallography Service – was established in 1997 with this view in mind.

**Keywords:** Powder diffraction · Service crystallography · Structural chemistry · X-ray diffraction

Thanks to a Federal subsidy, a National Science Foundation R'EQUIP grant [1] and contributions from the three universities, two STOE® Image Plate Diffraction Systems, a Mark I and a Mark II, both equipped with Oxford Cryosystems Cryostreamers, are available for data collection.

In the last six years the service has measured and resolved the structures of over 900 new compounds (organic and inorganic, in the fields of material sciences, synthetic chemistry and natural products), for the service, for our own research and for collaborative projects. The structures have been highly varied (Figs. 1–4) and always interesting, and a certain number have been published in more than 80 articles in well known scientific journals. A list of publications is available on the service web-site at page <http://www.unine.ch/chim/benefri-smcs/benefripub.html>. At present the staff for the service consists of Helen Stoeckli-Evans,

Prof. Assoc. Neuchâtel, responsible for the service, Antonia Neels Dr. ès Sc., Maître Assistante, Neuchâtel, and a post-doc, financed by the three universities. The service is open to other university customers

and industry; details can be obtained on visiting the service web site <http://www.unine.ch/chim/benefri-smcs/smcs.html>

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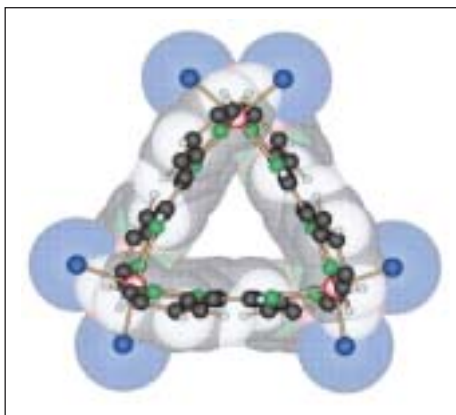


Fig. 1. A molecular triangle [2]

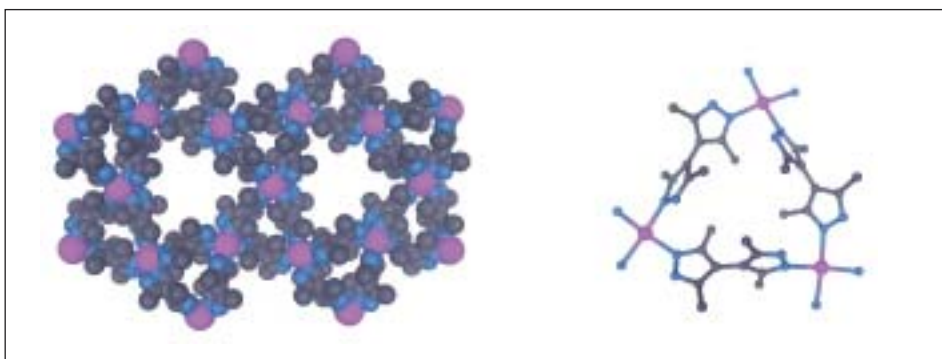


Fig. 2. A new type of coordination network  $[[M(4MeBPZ)_2]^{2+}]_n$  consisting of rigid triangular fragments [3]

\*Correspondence: Prof. H. Stoeckli-Evans  
Institut de Chimie  
Laboratoire de Cristallographie,  
Université de Neuchâtel  
Avenue de Bellevaux 51  
C.P. 2  
CH-2007 Neuchâtel  
Tel.: +41 32 718 24 26  
Fax: +41 32 718 25 11  
E-Mail: [helen.stoeckli-evans@unine.ch](mailto:helen.stoeckli-evans@unine.ch)

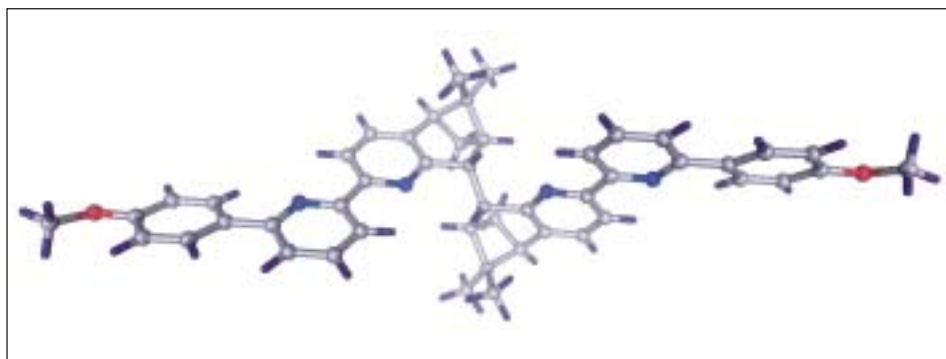


Fig. 3. {*p*-MeOC<sub>6</sub>H<sub>4</sub>}-[5,6]-CHIRAGEN[0] [4]

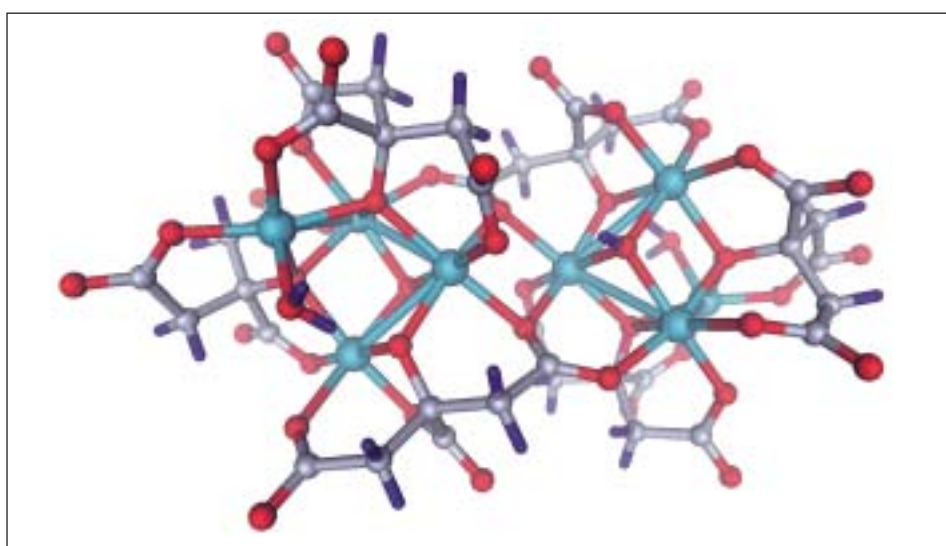


Fig. 4. Spin cluster  $[\text{Ni}_8(\text{cit})_6(\text{OH})_2(\text{H}_2\text{O})_2]^{10-}$ , (cit = citric acid) [5]

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