



ESRF

	Experiment title: Crystal structure of the Semliki Forest Virus glycoprotein spike	Experiment number: LS 1332
Beamline: BM 14	Date of experiment: from: 29-APR-1999 to: 1-May-1999	Date of report: 26-Feb-1999
Shifts: 6	Local contact(s): Vivian Stojanoff	<i>Received at ESRF:</i> 2 MAR. 1999

Names and affiliations of applicants (* indicates experimentalists):

Félix A. Rey*

Structural Molecular Virology group

Laboratoire de Génétique des Virus – CNRS UPR 9053

1, Avenue de la Terrasse Bât. 14C

91198 Gif-sur-Yvette Cedex France

Julien Lescar*

ESRF BP 220

38043 Grenoble Cedex - France

Report:

The official beam-time allocated to our project was not yet used (is coming up at the end of April) We have however tested our crystals in this beam-line, to check the feasibility of the project. In the context of the “Joint Structural biology group”, we used nine hours of beam-time to collect a data-set of a Ta_6Cl_{14} derivative that diffracts better than native crystals but does not merge (see report attached for project LS 1237). We collected the data on a MAR-CCD detector at the wavelength corresponding to the tantalum L_{III} absorption edge ($\lambda = 1.25\text{\AA}$). The anomalous signal was strong only at very low resolution, showing that this compound does not bind in a specific way. It does however seem to stabilize the unit cell and the crystals are less anisotropic, suggesting that it could be used to obtain the same derivatives already used to calculate an electron density map shown in the accompanying report. Since the cell parameters are different by 3 to 4%, it could be then possible to average the resulting electron density in the two unit cells.

In addition, we tried to collect some data at the Uranyl L_{III} edge, wavelength 0.72\AA . It seems that this wavelength is at the very edge of what can be attained in BM14 with reasonable intensity. It is clear that a good part of the 48 hours attributed to this project at the end of April will be used for the optimisation of the intensity at this wavelength.

We thank Vivian Stojanoff for her competent help during these tests.