



	Experiment title: X-Ray Crystallographic Investigations on the Structures and Functions of the Photosystem I and II	Experiment number: LS-1932
Beamline: ID29	Date of experiment: from: 29 October 2001 to: 30 October 2001	Date of report: 28.08.2002
Shifts: 3	Local contact(s): Dr. Germaine Saine	<i>Received at ESRF:</i>
Names and affiliations of applicants (* indicates experimentalists): Jacek Biesiadka*, Bernhard Loll*, Grzegorz Raszewski* and Wolfram Saenger Institut für Chemie/Kristallographie, Freie Universität Berlin, Takustr. 6, D - 14195 Berlin Jan Kern* and Athina Zouni Max-Volmer-Institut für Biophysikalische Chemie und Biochemie, Technische Universität Berlin, Strasse des 17. Juni 135, D - 10623 Berlin Norbert Krauß Institut für Biochemie, Universitäts-Klinikum Charité der Humboldt-Universität Berlin, Monbijoustr. 2, D - 10117 Berlin		

Report:

We are elucidating the three-dimensional structure of the photosystem II (PSII) purified from the thermophilic cyanobacterium *Synechococcus elongatus*. Up to now we obtained electron density maps at relatively low resolutions, the most recent model determined at 3.8 Å (Zouni et al., 2001).

The aim of the experiment was to collect a data set at the Mn edge to improve experimental phasing using the anomalous signal of two Mn-clusters which are present in the PSII dimer. The current resolution of these data is 4.8 Å. Due to the low reproducibility of PSII preparation and crystallisation, the search for suitable crystals failed as we could not obtain diffraction data of resolutions better than 4.8 Å. Therefore we decided to continue with the search for well-diffracting crystals instead of collecting a low resolution data set.

Reference

Zouni, A., Witt, H.-T., Kern, J., Fromme, P., Krauß, N., Saenger, W., Orth, P. (2001) Crystal structure of photosystem II from *Synechococcus elongatus* at 3.8 Å resolution. *Nature* **409**, 739-743.