



	Experiment title: Structure analysis of light-responsive and human disease related proteins	Experiment number: MX-539
Beamline: ID 14-2	Date of experiment: from: 30/09/06 to: 02/10 /06	Date of report: 14.02.08 <i>Received at ESRF:</i>
Shifts: 6	Local contact(s): Dr. Emanuela FIORAVANTI	
Names and affiliations of applicants (* indicates experimentalists): Jacek Biesiadka*, Albert Guskov* and Wolfram Saenger Institut für Chemie/Kristallographie, Freie Universität Berlin, Takustr.6, D-14195 Berlin Norbert Krauß Institut für Biochemie, Universitäts-Klinikum Charite´ der Humboldt-Universität Berlin, Monbijoustr.2, D-10117 Berlin		

Report:

-

Photosystem II (PSII) is multisubunit complex embedded in the thylakoid membrane of higher plants, algae and cyanobacteria that catalyzes the oxidation of water to atmospheric oxygen.

So far the highest resolved structure of PSII with resolution of 3Å was obtained in the previous proposal period MX-335. But there is strong need to obtain higher resolution structure to overcome limitations of current model.

Apart from improving the preparation and crystallization of dimeric PSII, we have isolated PSII monomer that is enzymatically as active as dimer and shows the same subunit composition.

The aim of this experiment was to collect dataset from monomer crystals grown under different conditions. Unfortunately resolution was only around 7 Å and crystals showed a high degree of mosaicity. But we got an idea of best suiting cryo protectant.