	Experiment title:	Experiment number:
	Structure analysis of light-responsive and human disease related proteins	MX-679
Beamline: BM30A	**Date of experiment**: from: 08/11/07 to: 09/11 /07	**Date of report**: 15.02.08
Shifts: 3	**Local contact(s)**: Dr. Richard KAHN	*Received at ESRF:*

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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 3A 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.

A key feature of PSII is water oxidation occurring at the Mn4Ca cluster, the only missing part of it, is position of chloride ion. We successfully crystallized PSII with possibly incorporated bromide (as its peak is within the wavelength range accessible at synchrotron source).

During this experiment we collected one complete dataset, see statistics below. Though fluorescence scan showed a prominent peak corresponding to bromide, we found very low anomalous signal in processed data.

Space group P212121 a=133.1 b=227.7 c=309.4	
Wavelength [Å]	0.919
Resolution [Å]	25-4.3
Rsym	0.101(0.450)

Completness [%]	90.4
I/sigma	6.39 (2.69)
Number of observations	333230
Number of unique	111683