

16 01 638 The influence of supersaturation on protein crystal quality grown by counter-diffusion technique

Beamline	Allocated Shifts	Start Date	Finish Date	Local Contact
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No report is available yet for this Project. A total of 10 data sets were collected under identical conditions for 10 crystals grown at different positions in the reactor. Those data have not been fully processed yet. Since a comparative analysis of crystal quality versus position (supersaturation) is undergoing the final results will be provided together with the submission of the manuscript.

Test experiment from crystals grown under magnetic field:

The use of magnetic field to improve protein crystal quality is a new tool under studied. Adding paramagnetic salts as an additive to the crystallization cocktail allows the use of low magnetic field to study this influence. The influence of Manganese, Copper, Iron and other paramagnetic ions on the quality of tetragonal lysozyme crystal grew under the influence of low inhomogeneous magnetic field is under studied. Finding the specific location of the atoms by SAD analysis will help on the interpretation of the results. Preliminary analysis of crystal grown in capillary by counter-diffusion method and diffracted at room temperature without crystal manipulation is summarized in table below.

Wavelength (Å)	1.89206
Space group	P4 ₃ 2 ₁ 2
Unit-cell parameters (Å)	a= 79.44, c=37.83
Resolution range (Å)	56.17-2.2
Number of observations	33479 (4243)
Number of unique reflections	6528 (895)
Data completeness (%)	99.3 (96.6)
Rmerge (%)	14.9 (28.9)
I/ σ _I	12.3 (5.7)
Multiplicity	5.1 (4.7)

Data were also collected with iron and copper but due to the low diffraction quality have not been processed.