



ESRF	Experiment title: <i>x-ray diffraction experiment on crystals of gllslm (54-6): actin complex</i>	Experiment number: <i>LS-900</i>
Beamline: <i>ID143</i>	Date of Experiment: from: <i>05. Feb</i> to: <i>07. Feb. 1998</i>	Date of Report: <i>31. 8. 98</i>
Shifts: <i>6</i>	Local contact(s): <i>S. Wakatauki</i>	<i>Received at ESRF : 02 SEP. 1998</i>

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Report:

Report on experiment LS-900

We have tested the crystals of gelsolin (S4-6): actin complex in the beam under cryo-cooling conditions. The diffraction properties indicated that the crystals are intrinsically well ordered, the diffraction spots were observed up to 3.0 Å resolution. The diffraction pattern was nevertheless weak due to the particular morphology of the crystals which appear to be thin needles with dimensions of 0.01x0.01x0.40 mm³. We therefore did not proceed with the data collection which would have resulted in data of poor quality, and would be a bad starting point for molecular replacement experiments. We hope to obtain access to the micro-focusing beam-line at ESRF.

We therefore collected a native dataset on spectrin-like repeats from α -actinin (R2R3) and on the complex of Burton's tyrosine kinase PH domain:IP4 (wild type and E41K mutant)..

The crystals of R2R3 belong to hexagonal space group P6122 with cell dimensions a = b = 59.711 c = 390.738 Å and diffracted to 2.0 Å resolution. The collected data are 88.8 % complete (58.8% in the last shell from 2.03 - 2.0 Å). The high resolution data set was collected on the Weissenberg detector, and a subsequent low-resolution pass was performed on the same crystal and data collected to 3.27 Å with the CCD detector. 160533 reflections were collected, and merged to 26307 unique reflections with the overall R_{merge} of 0.078 (0.396 in the last resolution shell). We would like to point out that the Weissenberg geometry was of crucial importance for us to collect diffraction data beyond 3.2 Å resolution, because of the long dimension of the c-axis of the crystals. Detection of diffraction spots with standard equipment (CCD, image plate) resulted in non-resolvable spots beyond 3.0 - 3.2 Å resolution.

The crystals of BtkPH:IP4 belong to tetragonal space group I4₁22 with cell dimensions a = b = 110.784 Å, c = 215.600 Å and diffracted to 2.1 Å and 2.4 Å resolution for E41K mutant and wild type, respectively.

	Wild type	E41K
Measured reflections	92525	127821
Unique reflections	25487	39294
Rmerge(last shell)	0.044(0.346)	0.037(0.322)
Completeness%(last shell)	96.5(97.6)	99.4(99.5)

