Experimental report
Beam-line: ID14ih4
Date: 04-05 December 2003

The purpose of this experiment was:

1. To collect a whole native data set on nucleoplasmin crystals.
2. To collect a derivative data set, using the SAD technique on nucleoplasmin crystals. The anomalous scatter was bromine.
3. To collect a native data set on MeCP2 crystals.

Data sets:

1. Bromine derivatives of nucleoplasmin.

We collected 5 data sets at the bromine energy peak (K 1s 13.474 keV). The crystals diffracted from 2.5 to 3.5 A resolution. 240 images were taken for each data set with an oscillation angle of 0.5º, an exposure time of 2 seconds with 2 passes. None of them showed any anomalous signal. Space group was P212121, with cell parameters a=67.1 A, b=94.6 A, c=176.1 A, $\alpha=\beta=\gamma=90º$.

2. Nucleoplasmin native crystals.

We collected 5 native data sets. The crystals diffracted from 2.7 to 1.8 A resolution. It were taken 300 images, with an oscillation angle of 0.5º and exposure time between 2-4 seconds. The distance to the detector was 200 mm for all the data sets. After the processing of the data, we used only the best diffracting one to solve the structure of nucleoplasmin by the molecular replacement method. A summary of the final statistics are described below:

Space group	P212121
Cell dimensions (A, º)	a=67.034, b= 94.601, c=176.100, $\alpha=\beta=\gamma=90$
Resolution (A)	40-2.2 (2.32-2.2)
Average multiplicity	6.0 (6.2)
Completeness (%)	100 (100)
Rmerge	0.097 (0.648)
I/sigmaI	17.3 (6.4)
Rfactor/Rfree (%)	19.47/26.17

3. MeCP2 native crystals.

Unfortunately any of the crystals we tried diffracted well enough to at least let us estimate the space group. They badly diffracted to low resolution, between 5-10 A.