



**Experiment title:** Structural studies of 4-way DNA Holliday junctions, Structural studies of nucleic acid motifs using a defined supramolecular scaffold.

**Experiment number:**  
LS672

Beamline:  
**ID02**

**Date of experiment:**  
from 11<sup>th</sup> April 1997 to: 14<sup>th</sup> April 1997

**Date of report:**  
13<sup>th</sup> August

shifts:  
8

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**Report:**

We collected three data sets during our beam time two of which are useful and are being used in ongoing structural determinations.

A partial data set for an RNA aptamer bound to bacteriophage MS2 was collected to **2.8Å** resolution. This data has been combined with data collected at SRS, Daresbury ( $R_{\text{symm}}$  0.186, 0.367 in the highest resolution shell). The structure has now been refined to an R factor of 21% and the structure is being prepared for publication.

A partial data set for an RNA/antibiotic complex bound to bacteriophage MS2 was collected to **2.8Å** resolution,  $R_{\text{symm}}$  0.193 (0.249 in the highest resolution shell). Inspection of the resulting electron density maps did not however reveal clear evidence for the antibiotic.

Data were collected from crystals containing T7 endonuclease I, which diffracted to **2.8Å** resolution, however the crystals were seen to be disordered along one crystal axis. Data from DNA Holliday junction alone crystals were also collected but none of the crystals diffracted to beyond **6.7Å**

The final data collected were for a Q44K Met repressor mutant/19mer DNA complex to 2.3Å resolution,  $R_{\text{symm}}$  0.046 (0.197 in the highest resolution shell). The structure has been refined to an  $R_{\text{free}}$  of 31%, conventional R factor of 27%.

We are pleased with the data collected during this beam time and would like to thank the beam line staff, in particular Julien Lescar and Bjarne Rasmussen, for their assistance.