ESRF	**Experiment title: Structure determination of RusA, a DNA Holliday junction resolvase**	**Experiment number**: 1487
Beamline:	**Date of experiment**: from: 29 Oct 1999 to: 1 Nov 1999	**Date of report**: 28 Feb 2001
Shifts:	**Local contact(s)**: Michel Roth	*Received at ESRF:*

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Report:

The experiment was proposed to enable the structure determination of the *E.coli* Holliday junction resolvase enzyme, RusA. This work forms part of an ongoing project funded by a Royal Society Fellowship to JBR that is aimed at a structural understanding of the enzymes involved in homologous DNA recombination. Crystals had been grown of the RusA enzyme with incorporated selenomethionine. These crystals had been frozen in cryoprotectant and tested for their diffraction quality on home lab. sources. They showed good diffraction to a d_{min} of at least 3.5Å and their space group assignment and cell parameters were confirmed ($P6_122/P6_522$; a=b=159Å c=122Å $\alpha=\beta=90°$ $\gamma=120°$). A total of 6 crystals were then stored under liq.N_2 for subsequent transportation to the ESRF in a “dry-shipper” transport dewar. However, upon testing the diffraction from the crystals on station BM30, there was evidence of a significant degradation in their quality which rendered them unsuitable for data collection. It should be added that this was in marked contrast to the diffraction from crystals of other enzymes for which successful full MAD data collection experiments were preformed during the allocated beam time (see report on experiement no. 1486). The structure determination of RusA is still being pursued and it is intended that an application for beam time will be made again in the future.