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### **Synchrotron Radiation Circular Dichroism Spectroscopy of Proteins**

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Beamline(s): U11

**Introduction:** The objectives of the project were: 1) to standardise/cross-correlate measurements made at the SRCD station at BNL with similar measurements made on SRCD instruments in the UK and Denmark [1], and 2) to measure SRCD spectra of a number of proteins with the aim of creating a database of beta-sheet and alpha-helical proteins with different fold motifs for fold recognition studies [2].

**Methods and Materials:** Samples of horse myoglobin (ICN Biochemicals) at a concentration of ~7 mg/ml in distilled water were examined in a short pathlength Grey cell.

**Results:** Firstly, attempts were made to cross-validate SRCD measurements with those obtained at the SRS, Daresbury, UK, and at ISA, Aarhus, Denmark. Preliminary data obtained on horse myoglobin were comparable to the spectra collected at the other sites, except the data extended to considerably lower wavelengths than was obtainable at ISA, and roughly comparable wavelengths to data obtained at the SRS [1]. Due to technical difficulties, limited spectra were obtained during the visit, but future visits will be made after modifications are made to the stations.

Secondly, discussions were held with BNL staff about data structures, with the goal of creating a consistent SRCD data format [3]; modifications were made to the existing station operation programmes for ease of operation and to optimise measurements necessary for biological (protein) experiments.

**Conclusions:** Future visits will concentrate on collection of novel spectra for fold recognition, after modifications to station U11.

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#### **References:**

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