	Experiment title: High resolution structure of human carbonic anhydrase II.	**Experiment number**: MX-394
Beamline:	**Date of experiment**: from:050714 to:050715	**Date of report**: 050725
Shifts: 3	**Local contact(s)**: Edward Mitchell	*Received at ESRF:*

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Report:

Background

Carbonic anhydrase is a zinc metalloenzyme found in almost all organisms. The enzyme catalyzes the reversible hydration of carbon dioxide to bicarbonate. The human isoform II of carbonic anhydrase (HCAII) is the most studied carbonic anhydrase and is one of the fastest enzymes known with a maximum turnover rate of 10^6 s^{-1}. The three-dimensional structure of HCAII has been known since 1972. We have recently been able to grow crystals diffracting to better than 1 Å but structure displayed considerable double conformation rendered it impossible to determine positions of important hydrogen atoms. From a high resolution structure it would be possible to learn more about the detailed catalytic mechanism. We have modified the crystallization conditions and wanted to test how well these new crystals diffracted.

Result

No measurements were possible since the dewar with the crystal did not arrive to ESRF due to problems connected to the French national holiday (14/7).