



	<b>Experiment title:</b> Elucidation of the catalytic mechanism of Ni-Fe hydrogenases	<b>Experiment number:</b> LS767
<b>Beamline:</b> BM14	<b>Date of experiment:</b> from: 02 dec 97 to: 03 dec 97	<b>Date of report:</b> 01/20/98
<b>Shifts:</b> 3	<b>Local contact(s):</b> Vivian Stojanoff	<i>Received at ESRF:</i>

**Names and affiliations of applicants** (\* indicates experimentalists):

FONTECILLA-CAMPS Juan-Carlos\*

LCCP/IBS 41 av des Martyrs 38027Grenoble Cdx 1

tel : 04 76 88 59 18 / fax : 04 76 88 59 22 / email : [juan@lccp.ibs.fr](mailto:juan@lccp.ibs.fr)

GARCIN Elsa\*

VERNEDE Xavier\*

MONTET Yag1\*

VOLBEDA Anne

FREY Michel

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**Report:**

One biological approach to elucidate the catalytic mechanism of hydrogenases involves the study of site-directed mutants. We are now studying mutants of *the D. fructosovorans* Ni-Fe hydrogenase, which will allow us to probe the role of the three Fe diatomic ligands located in the active site (two CN and one CO). In this experiment, we have used one crystal of the Ser493-> Ala mutant (the residue Ser493 makes hydrogen bond with one of the three diatomic ligands).

We have collected one data set at 2.5 Angstroms resolution which are of medium quality (space group =P21, R=9%, C= 95%). The construction and the refinement of the mutant structure are now underway.