## **Description of Additional Supplementary Files**

## File name: Supplementary Data 1

Description: Proteomic hits from mass spectrometry experiment.

## File name: Supplementary Movie 1

**Description:** Three dimensional variability analysis component 0 of the MoFe<sup>Alkaline-inactivated</sup> cryoEM map with density corresponding to  $\alpha$ -subunits color-coded in blue and  $\beta$ -subunits in yellow.

## File name: Supplementary Movie 2

**Description:** A morph between the MoFe<sup>Alkaline-inactivated</sup> and MoFe<sup>As-isolated</sup> structures illustrates a similar movement, with shifts apparent in  $\alpha$ III domain helices Pro  $\alpha$ 302 – Lys  $\alpha$ 315, Glu  $\alpha$ 318 – Arg  $\alpha$ 345, and Lys  $\alpha$ 426 – Met  $\alpha$ 434, and  $\beta$ -strand Lys  $\alpha$ 349 – Ile  $\alpha$ 355.