

Supporting Information for

"Effect of myoglobin crowding on the dynamics of water: an infrared study"

S. Le Caër,^{1} G. Klein,¹ D. Ortiz,¹ M. Lima,² S. Devineau,¹ S. Pin,¹ J.-B. Brubach,³ P. Roy,³ S. Pommeret,¹ W. Leibl,⁴ R. Righini,² J.-P. Renault¹*

¹Institut Rayonnement Matière de Saclay

*LIDyL et Service Interdisciplinaire sur les Systèmes Moléculaires et les Matériaux, UMR 3299
CNRS/CEA*

Groupe Physico-Chimie sous Rayonnement, Bâtiment 546

F-91191 Gif-sur-Yvette Cedex, France

²University of Florence, Polo Scientifico,

Via Nello Carrara 1,

I-50019 Sesto Fiorentino, Italy

³SOLEIL, CNRS

L'Orme des Merisiers, St-Aubin BP 48

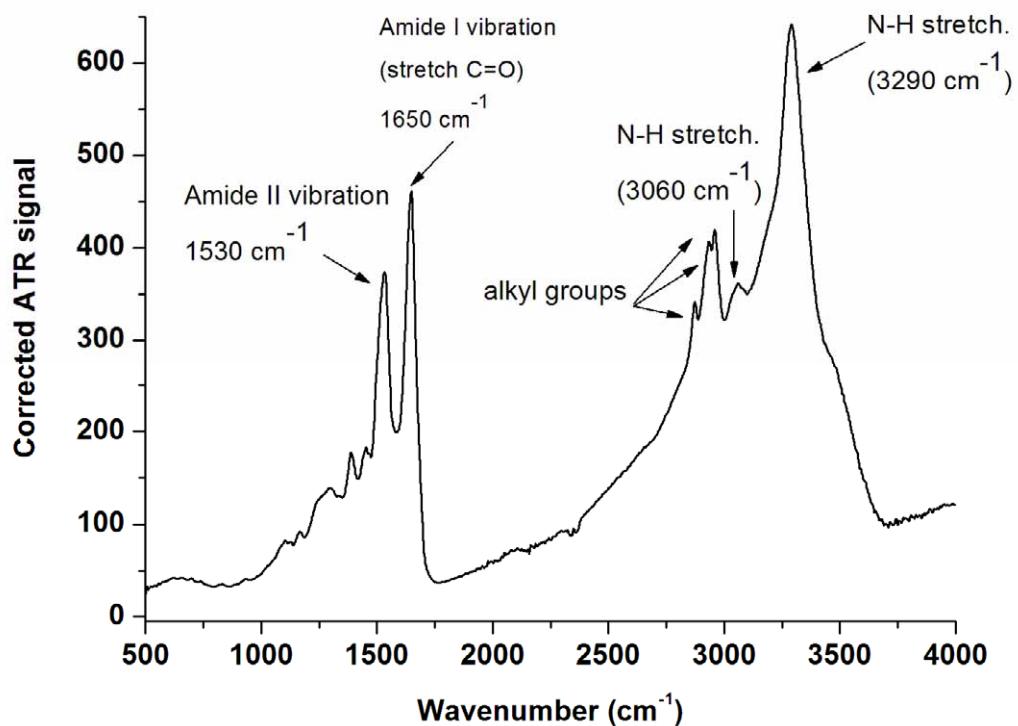
F-91192 Gif-sur-Yvette Cedex, France

⁴CEA

SB2SM, iBiTec S, UMR 8221,

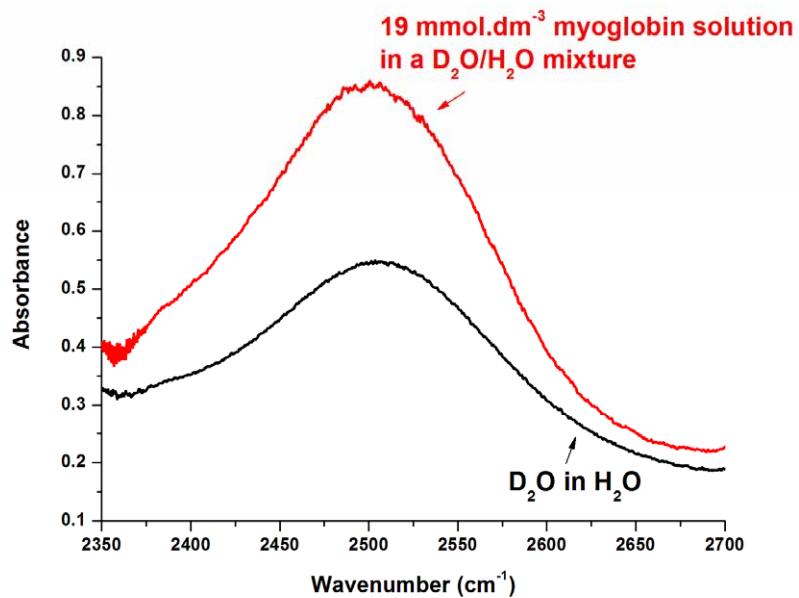
F-91191 Gif Sur Yvette, France

Figure 1



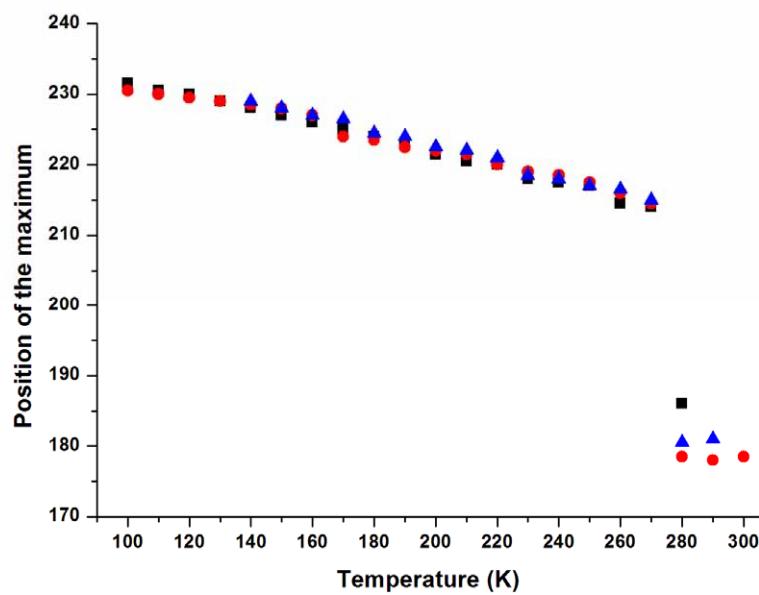
Attenuated Total Reflection (ATR) spectrum of lyophilized myoglobin. A standard correction is applied and takes into account the variation of penetration depth of light by multiplying the ATR signal by the wavenumber. The assignments of the main bands are listed on the figure.

Figure 2



O-D band of a 6% D₂O in H₂O mixture (in black) and for a 19 mmol.dm⁻³ myoglobin solution in the same D₂O/H₂O mixture (in red).

Figure 3



Evolution of the position of the sharp maximum of the far-infrared band as a function of the temperature for water (black squares), the 5 mmol.dm⁻³ myoglobin system (blue triangles) and the 20 mmol.dm⁻³ myoglobin sample (red circles). The positions obtained for ice are exactly the same for the three samples. The same type of curves is obtained for the broader maximum at 160 cm⁻¹ and for the minimum.