

SUPPORTING INFORMATION

For

**Time Resolved Infrared Spectroscopy.
Kinetic Studies of Weakly Binding Ligands
in an Iron-Iron Hydrogenase Model
Compound.**

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S2-S5 - Difference IR spectra for several **1**-Solv and **1**-L complexes.

S6 - Plot of k_{obs} vs. [pyridine] for the displacement of DHF from **1**-(η^2 -DHF).

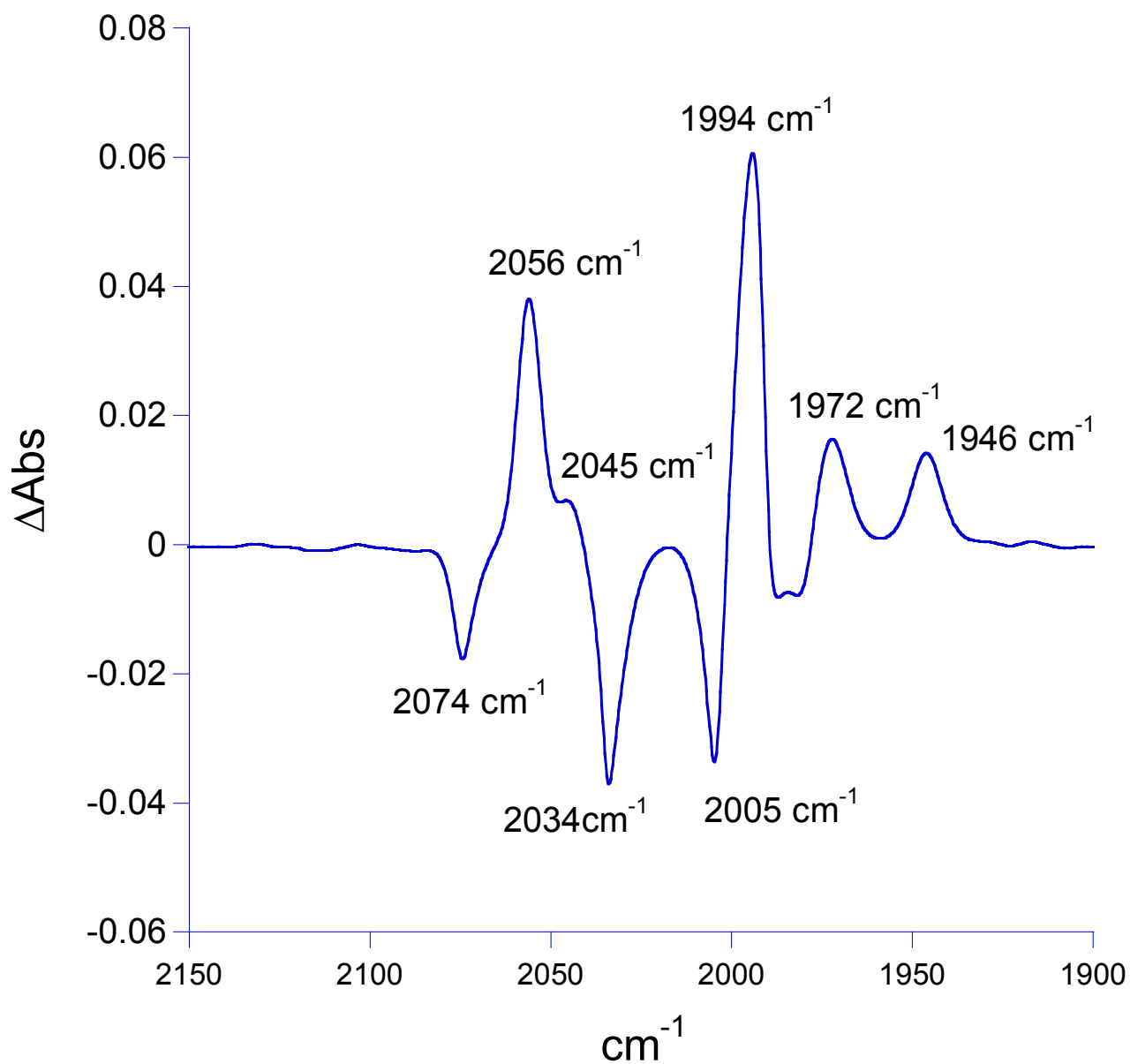


Figure S-1: Difference FTIR spectrum following photolysis of a cyclohexane solution of **1**-CO in the presence of 3-hexyne at 293K. Positive peaks are due to the **1**-(η^2 -3-hexyne) adduct while negative peaks are due to depletion of the parent upon photolysis.

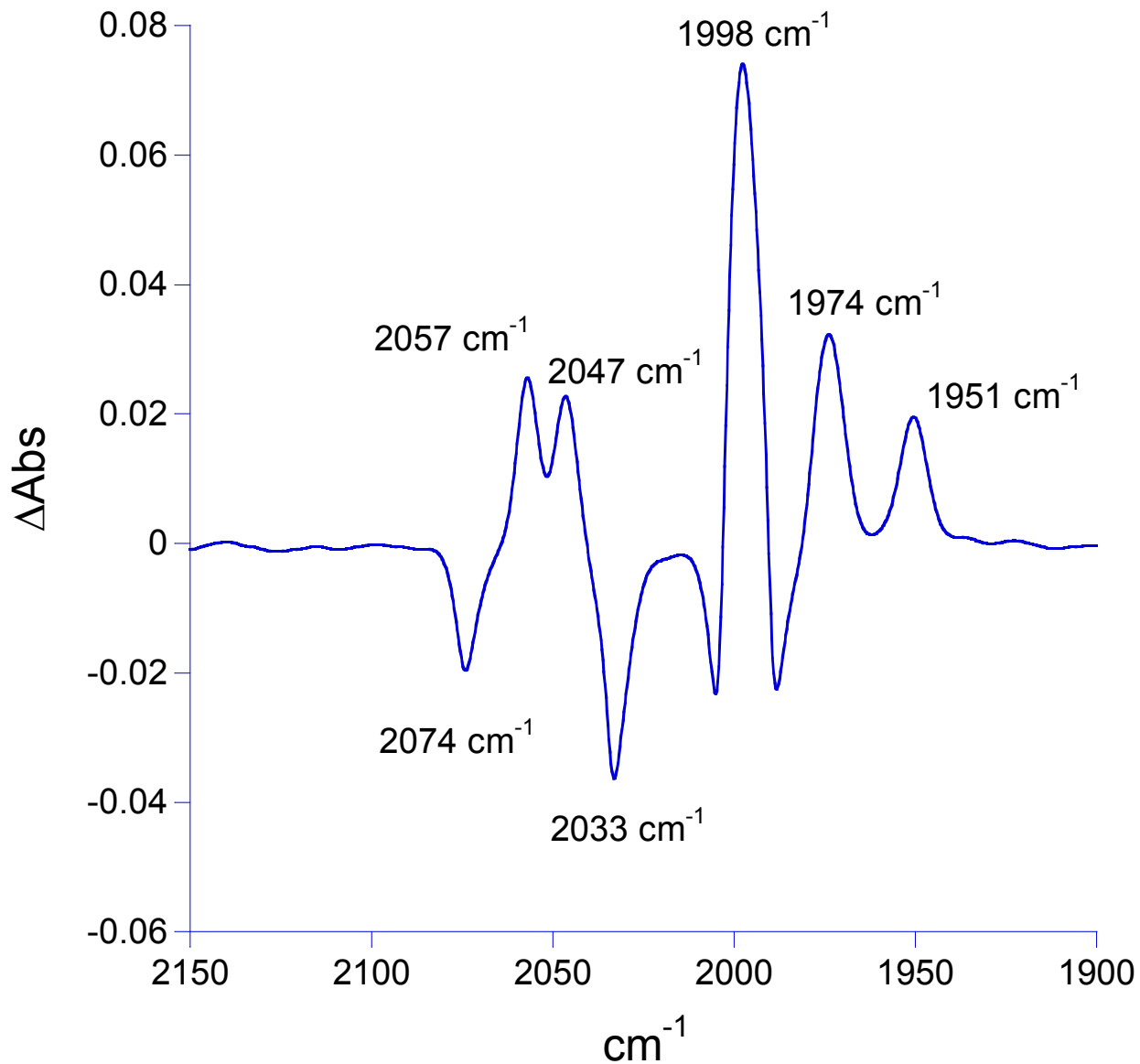


Figure S-2: Difference FTIR spectrum following photolysis of a cyclohexane solution of **1**-CO in the presence of *cis*-cyclooctene at 293K. Positive peaks are due to the **1**-(η^2 -cyclooctene) adduct while negative peaks are due to depletion of the parent upon photolysis.

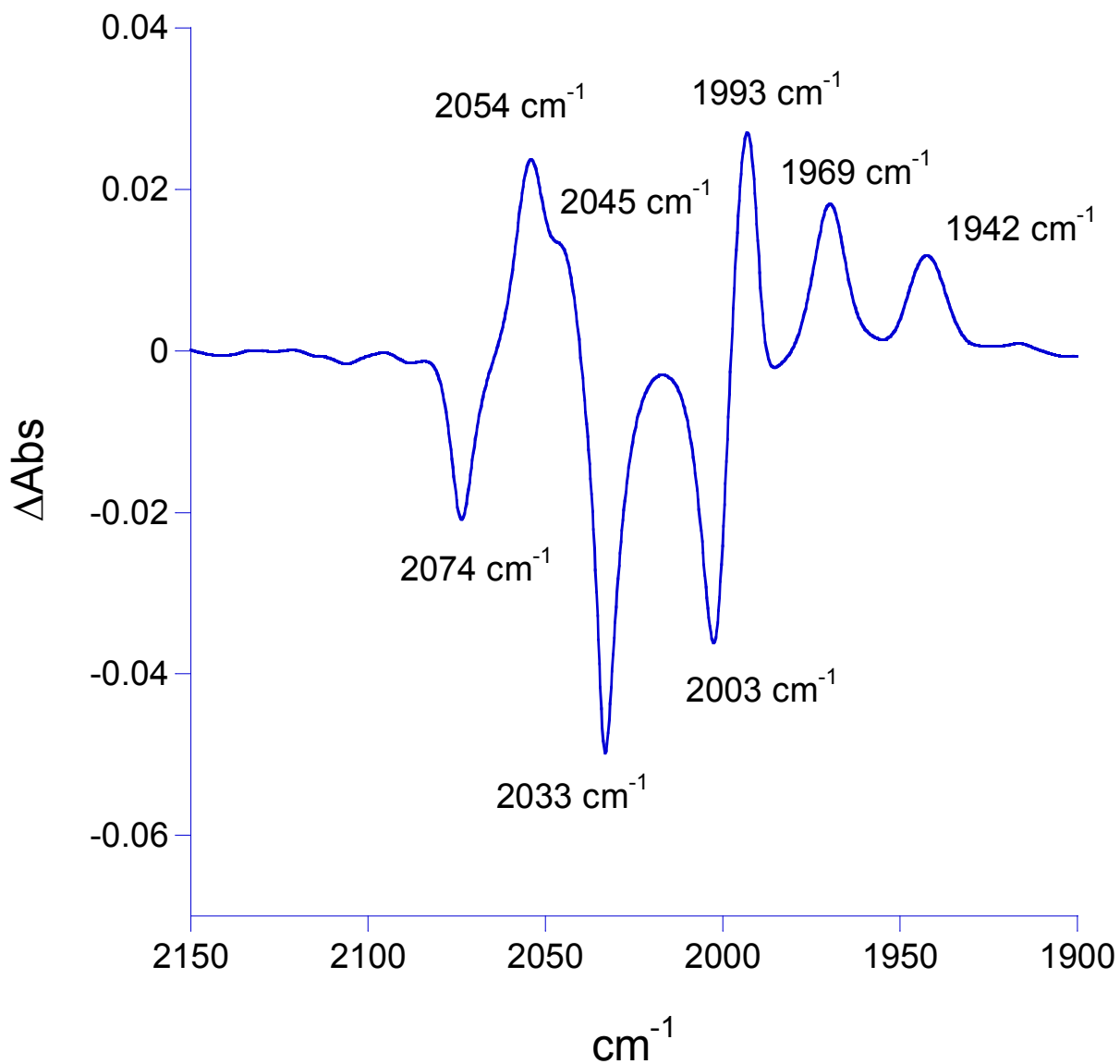


Figure S-3: Difference FTIR spectrum following photolysis of a cyclohexane solution of **1**-CO in the presence of DHF at 293K. Positive peaks are due to the **1**-(η^2 -DHF) adduct while negative peaks are due to depletion of the parent upon photolysis.

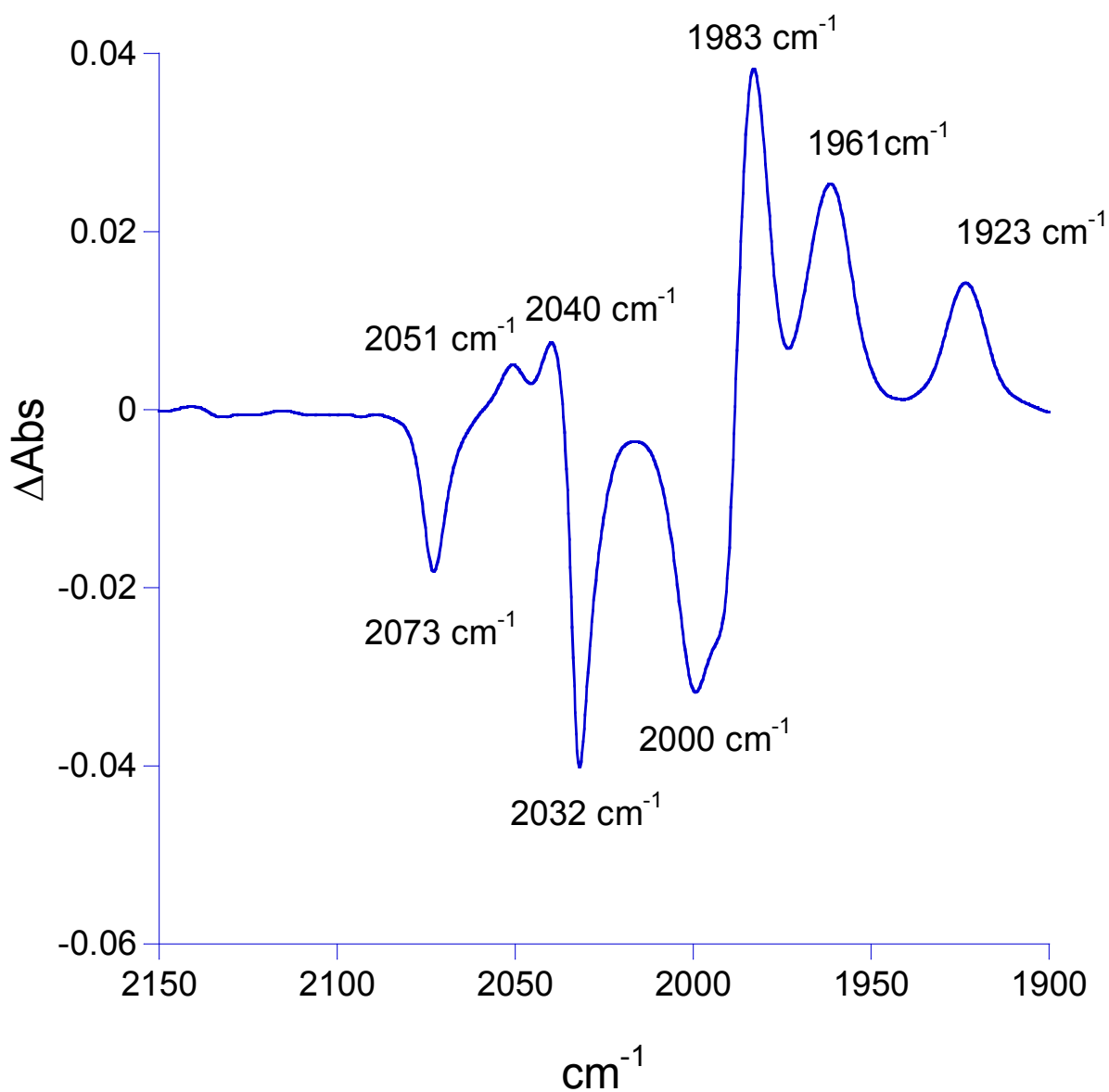


Figure S-4: Difference FTIR spectrum following photolysis of a cyclohexane solution of **1**-CO in the presence of THF at 293K. Positive peaks are due to the **1**-THF adduct while negative peaks are due to depletion of the parent upon photolysis.

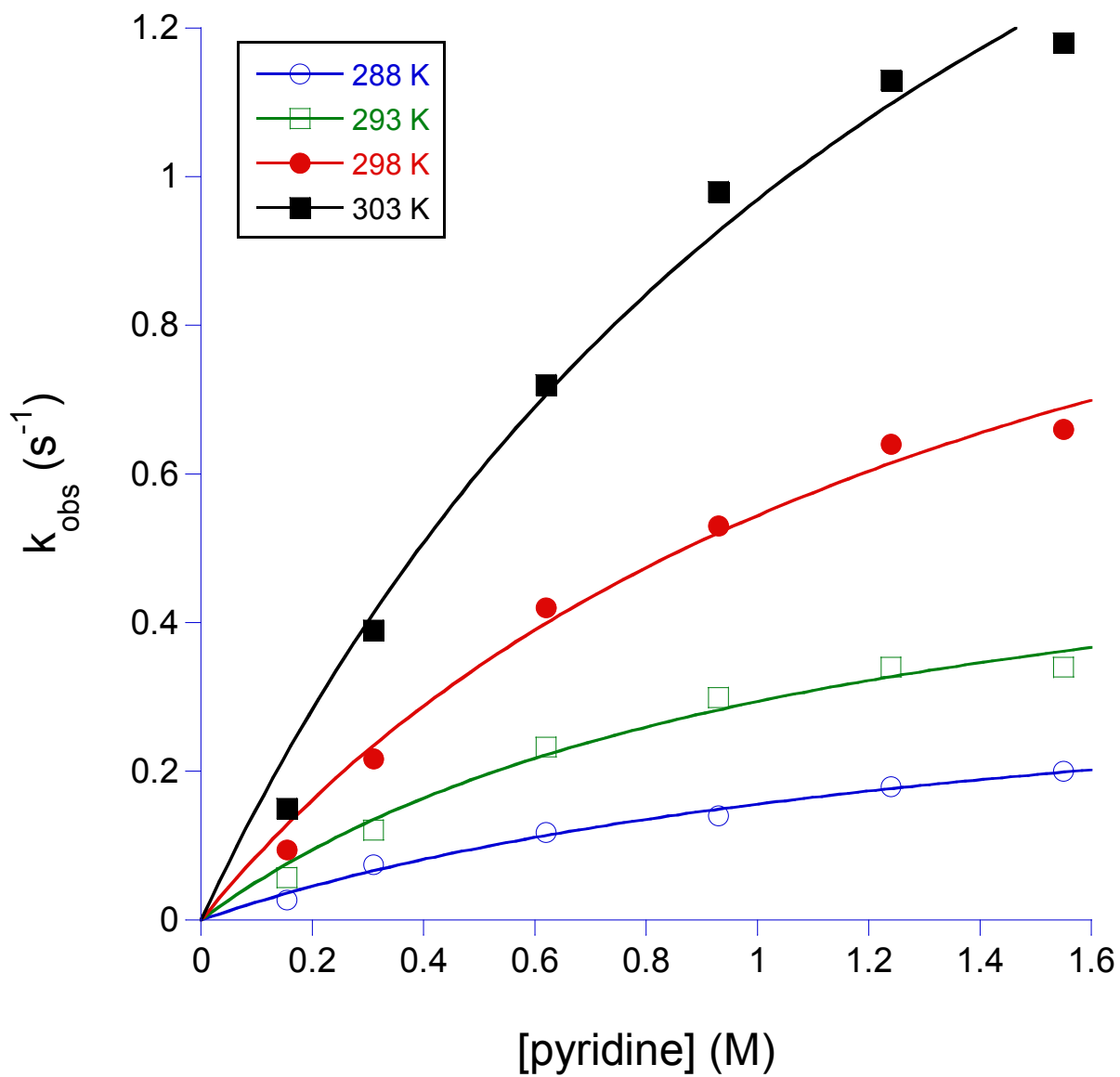


Figure S-5: A plot of k_{obs} vs. [pyridine] for the reaction: $1-(\eta^2\text{-DHF}) + \text{pyridine} \rightarrow 1\text{-pyridine} + \text{DHF}$ at several temperatures. In this reaction, [DHF] was held constant at 3.3 M.