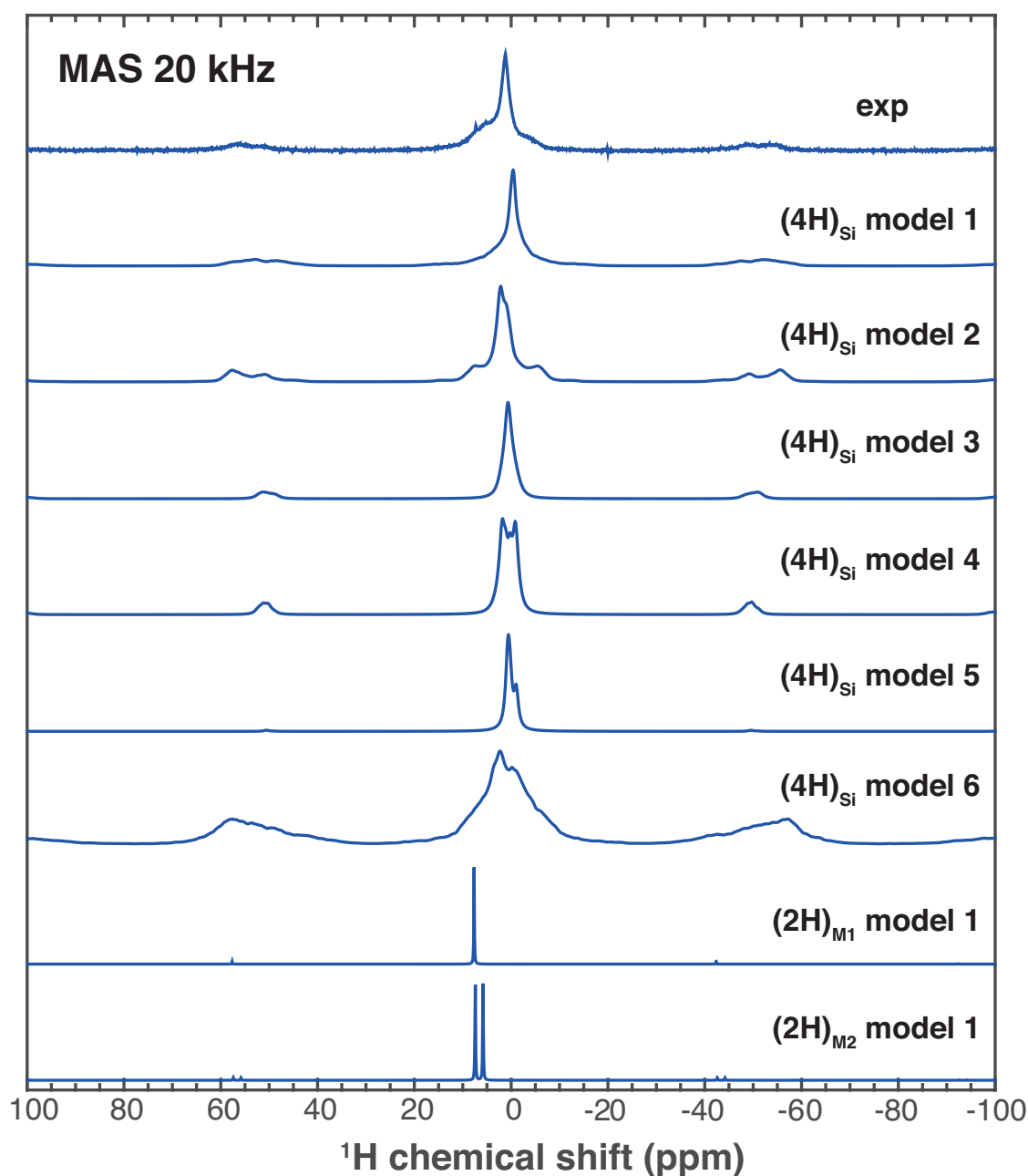


Supplementary Figure 1. Comparison of experimental ^1H static NMR spectrum for hydrous forsterite as in Figure 2, with simulated ^1H static NMR powder spectra for all the forsterite 2x1x2 supercell models, as labelled, using the SIMPSON program (Bak et al. 2000).



Supplementary Figure 2. Comparison of experimental ^1H MAS NMR spectrum for hydrous forsterite as in Figure 2, with simulated ^1H MAS NMR powder spectra for all the forsterite 2x1x2 supercell models, as labelled, using the SIMPSON program (Bak et al. 2000), all at a spinning rate of 20 kHz.

Reference Cited

Bak, M., Rasmussen, J.T., and Nielsen, N.C. (2000) SIMPSON: A General Simulation Program for Solid-State NMR Spectroscopy *Journal of Magnetic Resonance*, 147, 296-330.