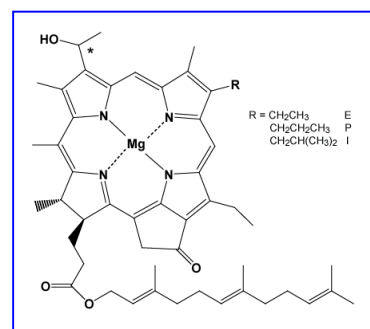
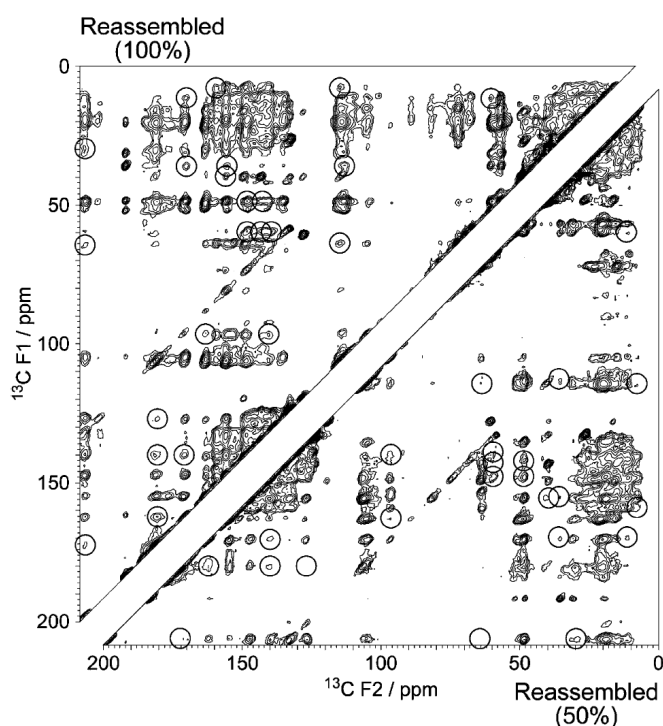


DARR

- Solid-state Correlation NMR Spectroscopy for Large Molecules -

Structural analysis of large molecules such as proteins using NMR is getting popular in the field of solid-state NMR. DARR (Dipolar Assisted Rotational Resonance) is one of techniques for analyzing large molecules in solids. The method can yield ^{13}C - ^{13}C correlations for ^{13}C -labeled samples, leading to intermolecular and intramolecular structures.

Figure shows DARR spectra of ^{13}C -labeled bacteriochlorophyll *c* (BChl *c*). Different rates of labelling distinguish intermolecular and intramolecular correlations, while variation of mixing times gives information on ^{13}C - ^{13}C distances.



Sample:

- 100% labelled BChl *c* (upper left)
- 50% labelled BChl *c* (lower right)

Spectrometer: JNM-ECA600

Probe: 4mm CPMAS

Mixing time: 200 ms

Reference

Y. Kakitani, K. Harada, T. Mizoguchi, and Y. Koyama, *Biochemistry*, 46, 6513-6524 (2007): "Isotopic Replacement of Pigments and a Lipid in Chlorosomes from *Chlorobium Limicola*: Characterization of the Resultant Chlorosome."