

Effectiveness of high magnetic fields in high-resolution solid-state NMR:

I. Case of organic compounds

Owing to recent developments of fast sample spinning and high-power decoupling, as well as application of ramp CP, advantages of high magnetic fields, namely, high sensitivity and resolution, can be fully enjoyed.

Fig. 1 and Fig.2 respectively show sensitivity and resolution enhancement in higher magnetic fields.

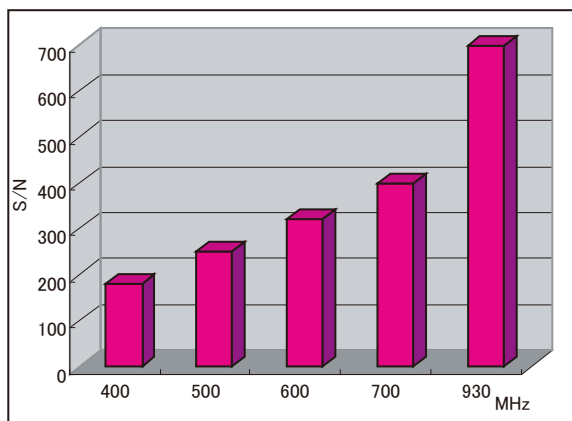


Fig. 1 Sensitivity enhancement along with magnetic fields

Sample: hexamethylbenzene
 Nuclei: ^{13}C
 Probe: 4mm CPMAS
 Method: CPMAS
 Accumulation times: 8

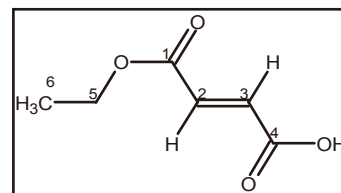
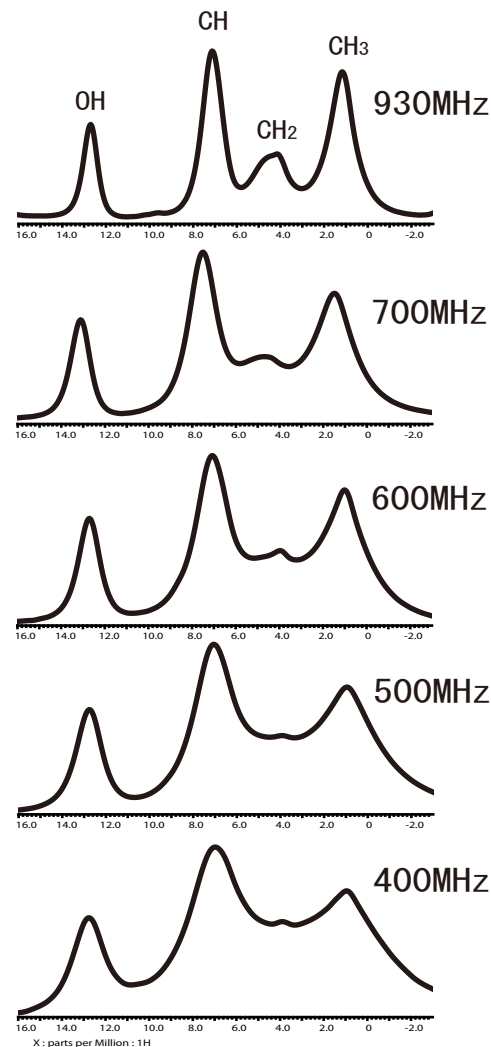


Fig. 2 Resolution enhancement along with magnetic fields

Sample: monoethyl fumarate
 Nuclei: ^1H
 Spinning frequency: 15kHz
 Method: single pulse