INSTITUT DES SCIENCES
ET INGÉNIERIE CHIMIQUES

Solid-State NMR Request Form

Name / Contact E-mail:

Supervisor / P. I. :

Please send completed form to: claudia.avalos@epfl.ch

Questions for User

What is the chemical formula and structure of your compound?

Would you expect any impurities due to sample preparation? If so, what would those be?

Which nucleus would you like to probe?

What do you want to know about your compound? For example: Atomic proximities, dynamics, temperature behavior?

Do you want quantitative results? No (Chemical shift information is sufficient)

Is the sample a rigid, soft or mobile solid? (rubber or gel?) Rigid

Is your sample heterogeneous? No

Is your sample paramagnetic? No

General info for User

What kind of solid-state NMR experiments can be run at the ISIC NMR facility?
1. Wide range of nuclei already measured here at EPFL: ^{1,2}H, ^{7}Li, ^{13}C, ^{15,14}N, ^{19}F, ^{27}Al, ^{29}Si, ^{31}P, ^{79}Br, ^{87}Rb, ^{113}Cd, ^{119}Sn, ^{133}Cs, ^{207}Pb and many more.
2. MAS rate, up to 100 kHz.
3. 2D experiments: HETCOR, MQMAS, PASS, MAT many more experiments.
4. Temperature control/variation 100 K to 400 K.
5. Dynamic nuclear polarization experiments, up to 0.5 THz microwave irradiation

Services provided by solid-state NMR facility
Depending on the user request, the solid-state NMR specialist will acquire, process and analyze the data. The interpretation of data will be done jointly with student/user followed by the delivery of a report.

When should you use solid-state NMR vs liquid-state NMR for your measurement?
Your sample is not soluble in any known solvents or the structure changes in solution. You want to know about atomic proximities, molecular stacking and molecular dynamics of your sample in the solid phase

How much sample do you need?
30 to 50 mg of sample is appropriate for the measurement, if you are unable to obtain more sample please contact the current solid-state NMR specialist to see if it will still be possible to complete the measurement.

Any information that you would like to add?

For example, is your sample sensitive to air? Would you like to know is site A close to site B (qualitative) or what is the distance between site A and B (quantitative)