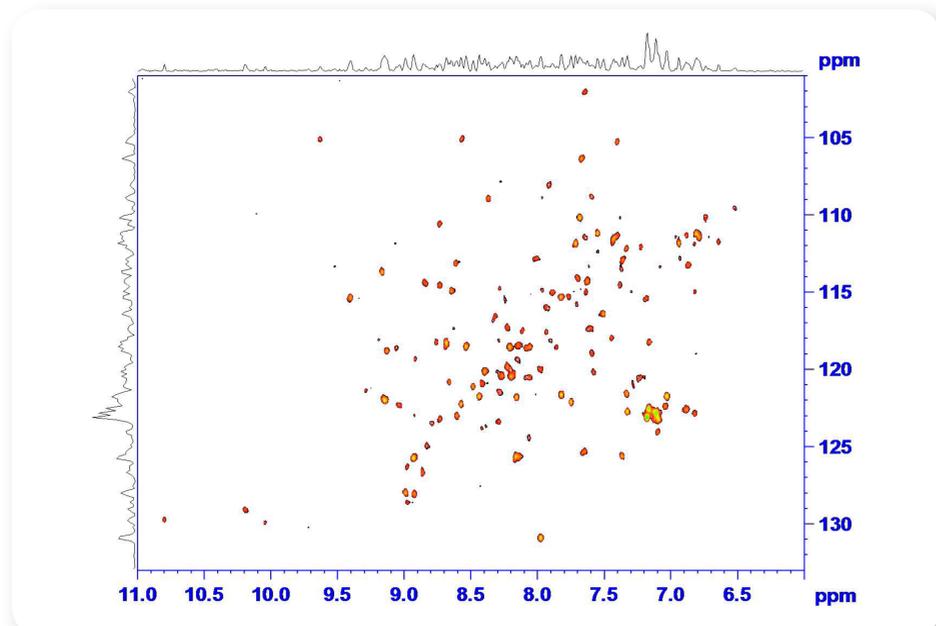


3mm 800 MHz TCI CryoProbe



Achieving More with Less!

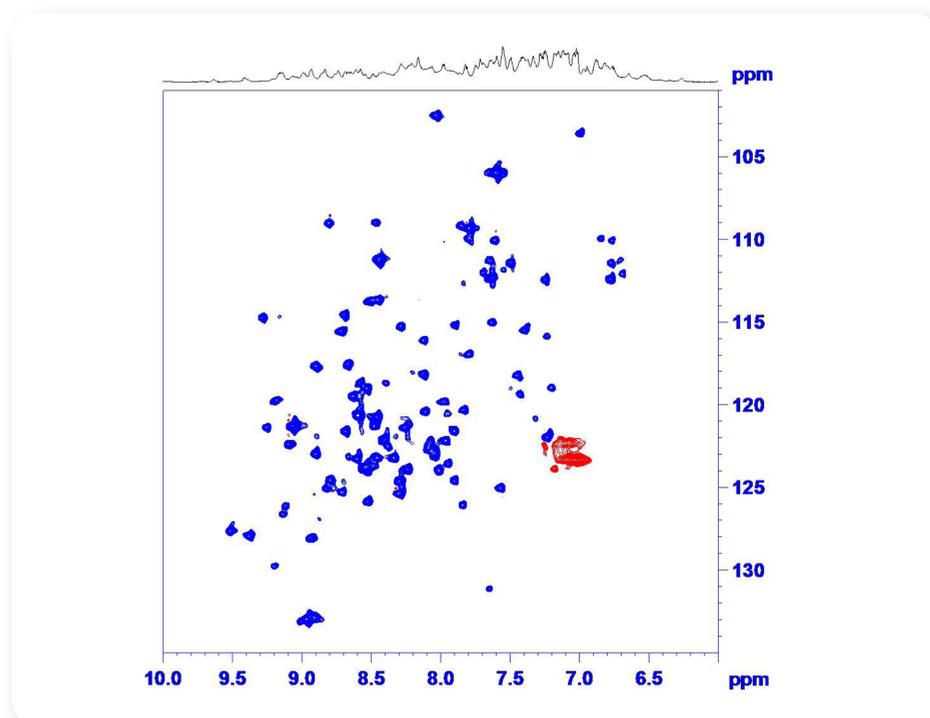
NMR is among the first choices of analytical techniques to access atomic level information for biologically relevant molecules. This holds as well as for structural biology, as for the rather recently growing research area of intrinsically disordered proteins and for metabonomics studies, where samples like in bio-NMR may simply be limited in total amount and/or volume.



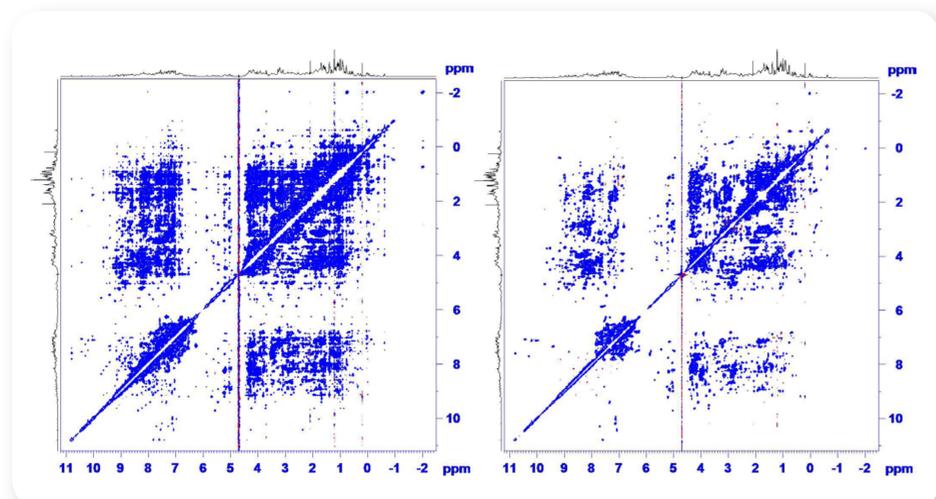
^1H - ^{15}N HSQC with 180 μl solution of 2mM Lysozyme at natural abundance, equivalent to 7 μM ^{15}N species. Experimental time 38 minutes; ns = 16 and 128 increments.

With actively cooled preamplifier electronics for ^1H , ^{13}C and ^2H the 5mm TCI are offering maximum versatility. In order to reduce sample noise pick-up many experiments are run using 3mm samples in 5mm CryoProbes. Using a purposely designed 3mm TCI CryoProbe achieves signal-to-noise increase of 25-50% at 800 MHz.

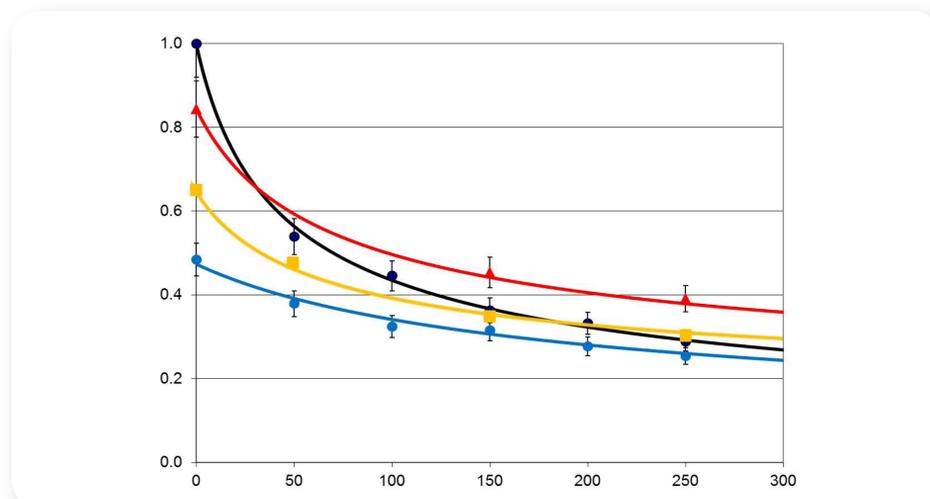
An additional benefit for the smaller diameter CryoProbe is reaching the same pulse width with ~30-40% less power, thus further improving the known excellent RF power handling of Bruker CryoProbes. This is especially desirable for rapid pulsing experiments such as sofast-HMQC and BEST triple resonance implementations, as well as for the whole suite of protein dynamics measurements.



Sofast-HMQC of 100 μM ubiquitin in $\text{H}_2\text{O}:\text{D}_2\text{O}$ 95:5. Experiment time 19 seconds.



Excitation Sculpting 2D NOESY (left) and TOCSY (right) spectra of 180 μl 2mM Lysozyme in $\text{H}_2\text{O}:\text{D}_2\text{O}$ 90:10. Experimental time for both spectra: 3 hours (ns = 8; TD 2k x 1k). 120ms NOESY mixing, 80ms 13.9 kHz TOCSY mixing. No water filtering, no baseline correction applied for data shown.



Sensitivity as a function of NaCl at constant concentration:
5mm TCI: Dark blue: 5mm tube, Red: shaped tube, Light blue: 3mm tube in 5mm TCI
3mm TCI: Yellow: 3mm tube

