

CryoProbe Prodigy™

- Boost NMR Sensitivity without Breaking the Budget

The revolutionary CryoProbe Prodigy range delivers tremendous boosts in sensitivity at an affordable price. As the Prodigy package comprises in addition to the probe just a control unit and a liquid nitrogen vessel, siting is easy and no additional infrastructure is required. Combined with an optional automatic tuning accessory (ATMA), the Prodigy has the potential to become the probe of choice for routine industrial and academic labs alike.

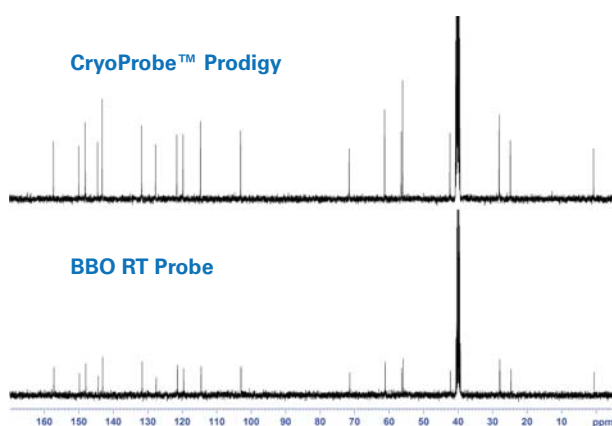
Applications in the Pharmaceutical and Chemical Industries

The broadband (BBO) configuration of the Prodigy enables time-consuming heteronuclear NMR experiments to be performed up to ten times faster, expanding on the versatility and flexibility known from broadband RT probes. In addition proton or fluorine detected experiments will benefit from the doubling in signal to noise. The CryoProbe Prodigy range enables small molecule routine labs in academia and the pharmaceutical and chemical industries to drastically increase their sample throughput.

CryoProbe Prodigy installed on an AVANCE III HD 600 MHz NMR system

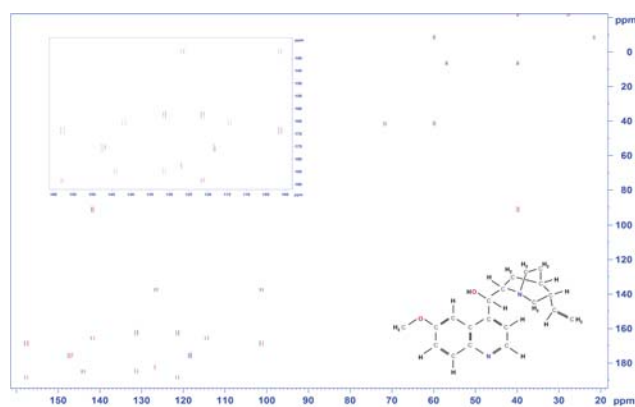


SNR Comparison with Conventional RT Probe



Comparison of the ^{13}C -sensitivity of a standard BBO probe with the CryoProbe Prodigy at 400 MHz. Sample: 50 mM quinine, 32 scans each.

INADEQUATE Experiment



INADEQUATE of 32 mg (100 mM) quinine in a standard 5 mm tube. Experiment time 16h.

Boost Your Sensitivity

CryoProbe Prodigy

Costing significantly less than a conventional CryoProbe, the broadband CryoProbe Prodigy uses nitrogen-cooled RF coils and preamplifiers to deliver a sensitivity enhancement over room temperature (RT) probes of a factor of 2 to 3 for X-nuclei from ^{15}N to ^{31}P . The sensitivity gain on the proton channel exceeds standard probe performance by a factor of 2 or more. CryoProbe Prodigy is designed for AVANCE™ III and AVANCE™ III HD spectrometers and is available at 400, 500, and 600 MHz.

CryoProbe Prodigy TCI

The CryoProbe Prodigy is now available as triple resonance inverse probe (TCI), delivering a gain in ^1H sensitivity of a factor of ~2.5 compared to a conventional TXI probe.

A 600 MHz Bruker AVANCE III HD NMR spectrometer equipped with the Prodigy TCI can now surpass conventional 950 MHz NMR RT-probe systems in proton sensitivity, making it a highly affordable, easy-to-use and cost-effective solution for routine and research NMR applications.

Beside the sensitivity gain, the Prodigy TCI fulfils all criteria for highly demanding experiments, such as excellent solvent suppression and RF power handling capabilities (eg fast methods and dynamics studies for proteins).

Features

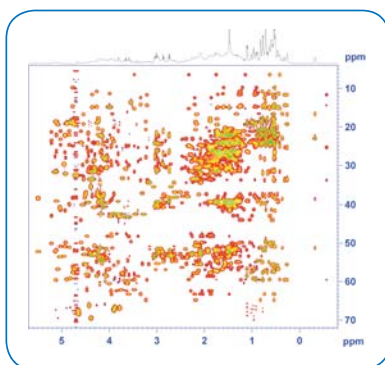
- Broadband technology covering nuclei from ^{15}N to ^{31}P
- SNR gain of a factor 2–3 on X-nuclei
- SNR gain of a factor of 2 or more on $^1\text{H}/^{19}\text{F}$ channel
- X Observe & Inverse detection in full automation

CryoProbe Prodigy Range

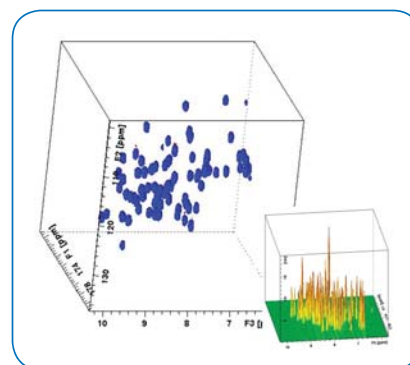
- Revolutionary sensitivity boost at affordable surcharge
- Drastic increase in sample throughput
- Ideal for small molecule routine labs in academia, pharmaceuticals and the chemical industry
- Minimum operating and maintenance costs and long service intervals

Features

- Triple resonance with ^2H decoupling
- S/N gain ^1H : factor ~2.5*
- Cold preamplifiers for ^1H , ^2H & ^{13}C
- Available at 500, 600 and 700 MHz



^1H , ^{13}C plane of a (H)CCH-TOCSY spectrum of a 1 mM ^{13}C , ^{15}N enriched ubiquitin sample. The rf-field gB1 for the CC-spinlock was 10 kHz with a 20 ms mixing time.



3D BEST-HNCO experiment recorded on 1 mM ^{13}C , ^{15}N enriched ubiquitin. With a relaxation delay of 100 ms the total experiment time was 10 min only.

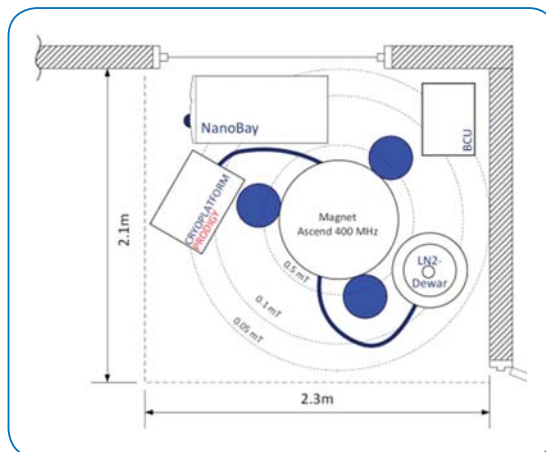
● HD Power for NMR



NanoBay 400HD

The boost in sensitivity of the CryoProbe is now accompanied by the most compact NMR console featuring full AVANCE III HD technology. The NanoBay 400 MHz console now incorporates preamplifiers that are 'CryoProbe ready' for ^1H , BB and ^2H nuclei. This means that the requirements for the lab space have again been reduced, needing less than 5m^2 for a complete NMR system. The console comprises the SmartVT™, the 2nd Generation DigiLock™, the new NMR Thermometer™ and same AVANCE III HD RF electronics as all other NMR consoles.

Together with the BCU SmartCooler™, Prodigy BBO CryoProbe, SampleXpress and Ascend 400 MHz NMR magnet, this forms a most powerful, versatile and compact NMR system.



Complete 400 MHz NMR system for small laboratories

● Bruker BioSpin

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