

X-PULSE 90

OXFORD
INSTRUMENTS

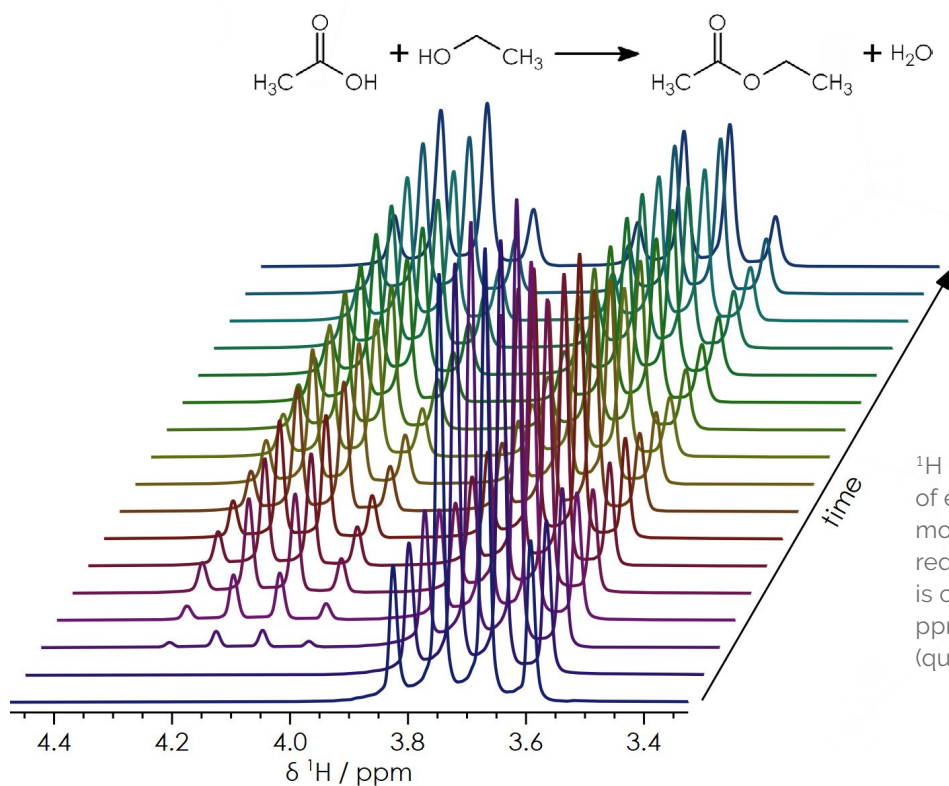
Broadband NMR Spectroscopy
at 90 MHz on the Benchtop



X-Pulse 90 Accessories: Customise your Benchtop NMR Spectrometer

Flow Cell

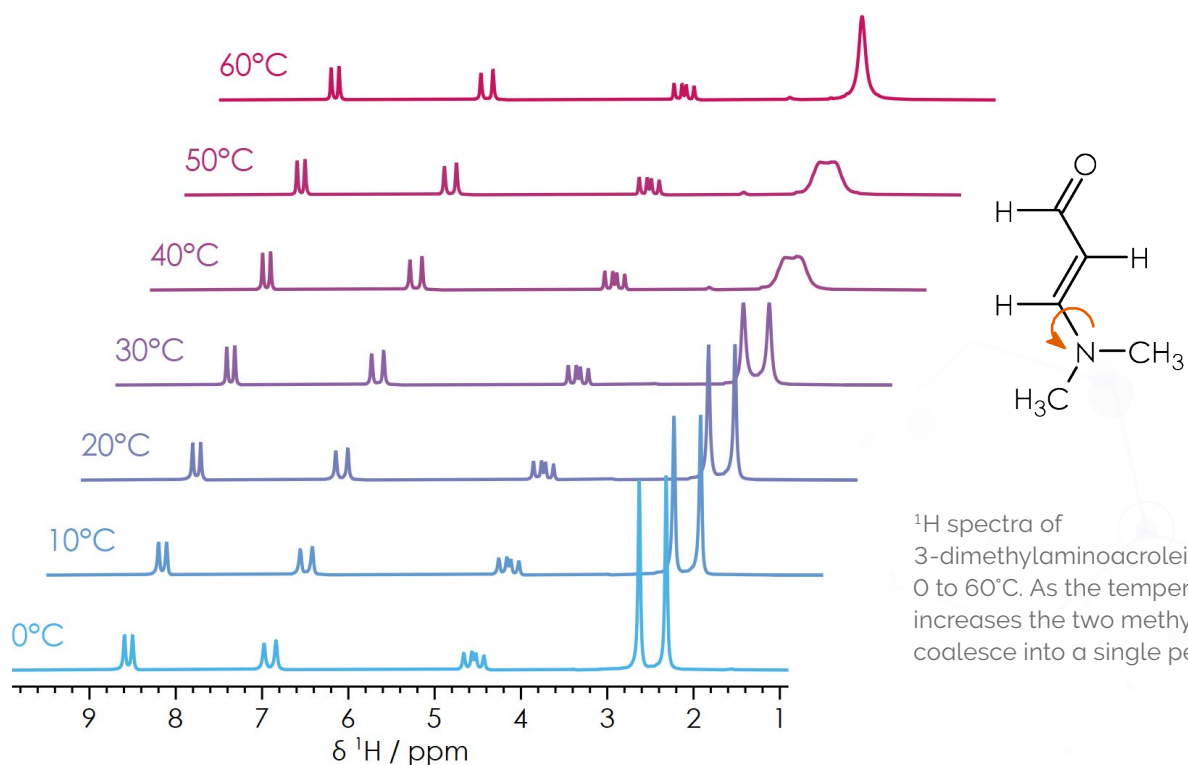
X-Pulse 90 with a flow cell simplifies real-time reaction monitoring and mechanistic studies. The removable probe enables easy installation, and the external deuterium lock eliminates the need for costly deuterated solvents. With a well-oriented diffusion gradient for accurate measurement in flow, and exceptional instrument stability, any spectral changes reflect the reaction itself.



^1H spectra of the reaction of ethanol and acetic acid, monitored by flowNMR. As the reaction progresses, ethanol is consumed (quartet at 3.7 ppm) and ethyl acetate formed (quartet at 4.1 ppm).

Variable Temperature (VT)

The X-Pulse 90, with its wide variable temperature range (0-60°C), enables detailed studies of reaction kinetics and a broader range of reactions. This capability also allows users to analyse mixture behaviour, such as assessing battery electrolyte performance across various temperatures, including below room temperature.



^1H spectra of 3-dimethylaminoacrolein at 0 to 60°C. As the temperature increases the two methyl signals coalesce into a single peak.

Automation with X-Auto

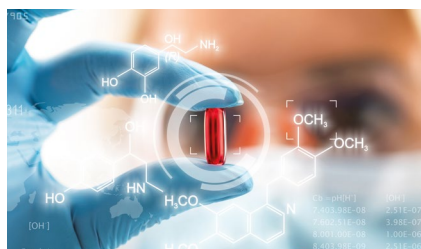
X-Pulse 90 with an X-Auto autosampler boosts productivity, enabling automated data collection with its 25-sample capacity. It allows efficient, remote operation to maximize instrument usage and is fully controlled through the software, simplifying experiment queue creation and management.



X-Pulse 90 Specifications

Magnetic field strength (operating frequency)	90 MHz
Sensitivity	>320:1 for ^1H on a $^1\text{H}/^{19}\text{F}$ only system (^1H 1% ethyl benzene) >240:1 for a dual channel probe (^1H 1% ethyl benzene)
Resolution	20% CHCl_3 in acetone- d_6 : Linewidth at 50% <0.35 Hz Linewidth at 0.55% <15 Hz
Nuclei Available	As standard: ^1H and ^{19}F Dual-X: Choose two nuclei from our broadband range Broadband: All nuclei resonances ^{29}Si - ^{31}P (19%-41% ^1H)
3D Pulse Field Gradients	x, y, z >0.5 T/m diffusion gradient (z) as standard
Autosampler Compatible	X-Auto* - 25 positions
Variable Temperature Range	0-60°C*
Size	Magnet 39 cm x 54 cm x 43 cm Electronics 37 cm x 52 cm x 26 cm
Weight	Magnet: 115 kg Electronics: 22 kg
NMR Tube Compatibility	4 mm and 5 mm diameter 7 inch minimum
PC	Windows PC and monitor included as standard
Software	SpinFlow - easy-to-use acquisition software catering to both occasional users and experts, with functionality for advanced users to write and execute custom pulse sequences using a Python®-based language

*Options



Visit nmr.oxinst.com/x-pulse-90

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