

The temperature rises slowly in the spectrometer



Overview

The Source temperature setting maybe found on the ES Source tab, the Extended tab or the Advanced tab on the Tune page, depending on the instrument. Replace the cartridge heater (part number depends on instrument type, see additional information below). As a safety precaution, set the source temperature to 20 C (the lowest allowable temperature in the SW). Temperature control is essential in spectroscopic experiments because it affects the physical and chemical properties of the. Nuclear magnetic resonance spectroscopy (NMR) is a widely used and powerful method that takes advantage of the magnetic properties of certain nuclei. NMR observes. NMR) Spectroscopy. The concepts implicit and fundamental to the operation of a modern NMR spectrometer, with generic illustrations where appropriate, will be described. Some basic understanding of NMR spect itic ular. Part of the book series: Techniques in Visible and Ultraviolet Spectrometry (TVUS,volume 2)) The fluorescence efficiency of many compounds is very sensitive to temperature variations and for accurate work, temperature regulation is necessary [1, 2]. necessary, until the digestion is complete (generally indicated when the digestate is light in color or does not change in appearance with continued refluxing).



Article Content

Aug 21, 2025

Spectrophotometer Temperature Handling Guide

Using the device when its temperature is too cold (less than 10°C) or too hot (greater than 40°C) can lead to the thermal contraction/expansion of the internal optics, which therefore adversely impacts ...

May 21, 2026

TN44483 Sample preparation guide for trace elemental samples

Cool the sample and add another 3 mL portion of concentrated HNO to the 3 beaker. Cover the beaker with a non-ribbed watch glass and returned to the hot plate. Increase the temperature of the hot plate ...

Sep 20, 2025

4.7: NMR Spectroscopy

¹³C NMR spectroscopy has been used to study the effects of low-temperature annealing (at 650 °C) on thin films of amorphous carbon. The thin films were synthesized from a ¹³C ...

Feb 19, 2026

Temperature effects and photodecomposition in fluorescence ...

Fluorescence yields and decay times usually decrease with increasing temperature due to enhancement of the probability for internal conversion and intersystem crossing to the triplet manifold.

Sep 11, 2025

Source heater does not reach setpoint temperature

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Apr 19, 2026

Basic NMR Concepts

NMR spectrometer. In general, a higher S/N specification means that the instrument is more sensitive. It is also useful in roughly determining the time requirement

Oct 15, 2025

Analysis of temperature-induced spectral drift in the solar ...

Temperature change is another main reason that affects the measurement accuracy of spectrometer. Due to the material property of thermal expansion, the temperature fluctuation ...

Sep 13, 2025

Temperature Effects in Spectroscopy

Explore how temperature influences spectroscopic results and learn techniques to mitigate its effects for more accurate data.

Aug 16, 2025

Mass Spectrometer Troubleshooting

What kind of system baselines? System blank – Should only see a rise in baseline with temperature (column bleed) Solvent blank – May contain contaminant peaks (e.g. phthalates, siloxanes, etc.) ...

Jun 04, 2026

NMR Chemical Shift

The first-generation NMR spectrometers used what is called “ continuous wave field sweep ” in which the frequency of rf radiation was kept constant and the magnetic field strength was slowly increased ...

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For more information, pricing, or custom solutions, please contact us:

Website: <https://www.iiss.co.za>

Email: sales@iiss.co.za

Phone: +27 63 174 2895

Address: Unit 8, Innovation Park, 15 Rivonia Road, Sandton, Johannesburg, 2196, South Africa

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