

Advantages of the GC-UV Method

Labio introduces its new generation of GC/UV instruments that revolutionize analytical lab operations with intelligent technology. Designed to streamline workflows and enhance efficiency, these cutting-edge instruments significantly reduce instrument downtime and optimize run times, enabling maximum productivity in analytical labs.

The Labio GC/UV instruments incorporate state-of-the-art intelligent features that minimize downtime and ensure uninterrupted operation. With advanced diagnostics and self-monitoring capabilities, the instruments proactively detect and resolve issues, minimizing the need for manual intervention and reducing the risk of unexpected breakdowns. This intelligent technology not only saves valuable time but also enhances instrument reliability and extends the lifespan of the system.

the Labio GC/UV instruments offer optimized run times, allowing for faster analysis without compromising data quality. The intelligent algorithms and efficient sample handling mechanisms enable swift sample injection, precise separation, and rapid detection, resulting in shorter analytical cycles. By accelerating analysis times, labs can increase throughput, process more samples, and deliver results in a timely manner, thereby improving overall productivity.



Analyzing all molecules that are UV absorbent

Analytical Innovation in Chemistry

Reproducibility. Uptime. Efficiency.
Automation. Faster Measurements.



Highly characteristic absorbance spectra for nearly all chemical classes and functional groups

GC-UV combines the separation power of gas chromatography with the spectral analysis capabilities of UV detection. As compounds elute from the chromatographic column, they are continuously monitored for their absorption of UV light. This enables the generation of unique absorbance spectra that are specific to each compound.

Offering powerful analytical capabilities for complex sample analysis



Labio's GC-UV system offers advanced capabilities for analyzing complex samples containing high-boiling compounds. To optimize the analysis process, Labio utilizes their expertise in column selection based on the specific analytical needs.

In cases where improved sensitivity is essential, Labio utilizes columns specifically designed for enhanced UV detection. These columns maximize the UV absorbance of the analytes, enabling the detection of even trace-level compounds with exceptional sensitivity.



Labio's commitment to providing comprehensive analytical solutions extends to the selection of columns, ensuring that customers receive accurate and reliable results for their specific analytical needs. With Labio's expertise and dedication to quality, laboratories can trust that the chosen column will deliver optimal performance, facilitating successful analysis and scientific advancement.

Comprehensive compound identification and quantification

By leveraging the capabilities of GC-UV, scientists can confidently identify and quantify compounds, providing valuable insights into sample composition, purity assessment, and quality control. This knowledge is crucial for making informed decisions, ensuring regulatory compliance, and advancing scientific research in numerous fields.



In summary, GC-UV enables comprehensive compound identification and quantification through its combination of gas chromatography separation and ultraviolet spectral analysis. This powerful technique empowers scientists to unravel the complexities of sample matrices, facilitating precise analysis and contributing to advancements in analytical chemistry.



Expanding Horizons in Environmental Testing and Research

The versatility of GC-UV (Gas Chromatography-Ultraviolet) has made it an invaluable tool in various environmental testing applications, driving impactful research and advancements in the field. By combining the separation capabilities of gas chromatography with the spectral analysis of ultraviolet light, GC-UV offers unique capabilities for the analysis of environmental samples.

One area where GC-UV has been extensively utilized is in the analysis of volatile organic compounds (VOCs) in air and water samples. VOCs are important environmental pollutants that can have detrimental effects on human health and ecosystems. GC-UV enables the identification and quantification of these compounds, providing valuable insights into pollution sources, exposure risks, and remediation strategies.

GC-UV has also been instrumental in the analysis of polycyclic aromatic hydrocarbons (PAHs), which are persistent organic pollutants found in the environment. PAHs are of particular concern due to their carcinogenic properties. GC-UV facilitates the sensitive detection and quantification of PAHs, enabling researchers to assess their levels in soil, water, and air samples, and monitor environmental contamination. In addition to VOCs and PAHs, GC-UV has found applications in the analysis of pesticides, herbicides, and other chemical contaminants in environmental matrices.

Trace Analysis of Compounds

Environmental testing often involves the screening of multiple contaminants simultaneously.

GC-UV allow for high-throughput analysis, enabling the simultaneous detection of a wide range of pollutants in a single sample.



(PAH)s and other organic compounds in ashes from biomass combustion.



UV spectrophotometry for monitoring toxic gases.



Identification of compounds and specific functional groups in the wavelength region 168-330 nm using gas chromatography with UV detection.



The Use of Gas-Phase UV Spectra in the 168-330-nm Wavelength Region for Analytical Purposes. 1. Qualitative Measurements.

The Benefits of Nitrogen as Carrier Gas: An Cost-Effective Advantage for GC-UV Method

Nitrogen is generally more affordable than helium, which has been the traditional choice for carrier gas in many laboratories. By utilizing nitrogen, Users can achieve significant cost savings in their operations, allowing for more efficient resource allocation.



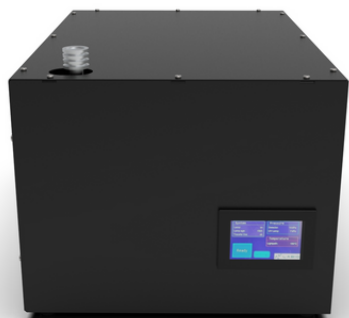
Unmatched and Reliable GC Separation with INSCAN

The continual pursuit of building the world's most trusted gas chromatography system is a dynamic and ongoing journey. At each stage, we strive to enhance speed, elevate functionality, and integrate cutting-edge analytical capabilities, all with a steadfast focus on delivering tangible business outcomes.

Meet your analytical needs today – and tomorrow

The GC-UV INSCAN 176 system provides simplicity as well as powerful precision. There is no need for vacuum pumps or external add-ons. The system is a completely integrated, easy to use. The technology can be used in a variety of sectors where the operator needs to measure specific or general non-targeted substances.

- 156-320 nm
- Very high sensitivity
- Very high selectivity
- Very good ability to identify isomers
- Very stable without required frequent major calibration
- Easy to use
- Mobile and compact



Unlock the potential of industrial analysis

The GC-UV INSCAN 178 is a game-changer in gas analysis, specifically designed to meet the rigorous demands of industrial environments. With its robustness, reliability, speed, and sensitivity, it stands in a class of its own, revolutionizing the way untargeted analysis is performed.

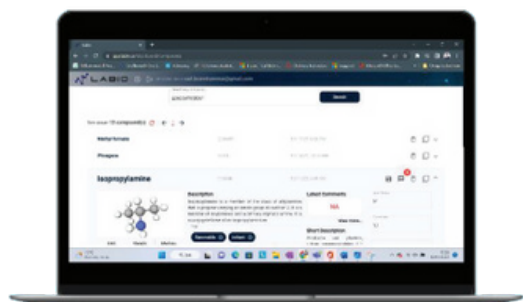
- 156-320nm
- High sensitivity
- Continuous analysis





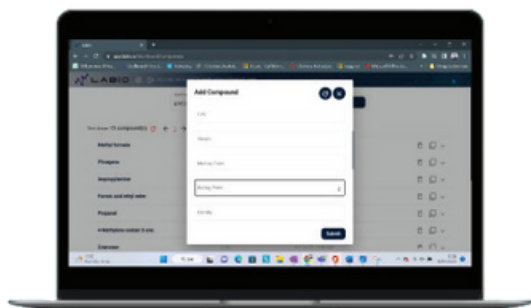
ChemExplorer Software: Comprehensive Information on Chemical Compounds

Labio offers an online chemical management software that enables automation and faster measurements – without no hardware connected. In the dashboard of the ChemExplorer™ users can explore, learn, search, and navigate through chemical compounds. With Labio's cutting-edge technology, you can now experience automation and accelerated measurements without the need for any hardware connections.



Enabling faster chemical measurements

Say goodbye to manual processes and time-consuming measurements. ChemExplorer™ automates chemical management tasks, streamlining workflows, and maximizing efficiency. Save valuable time and resources, allowing you to focus on more critical aspects of your work.



Confidentiality and Data Transfer: Build your own information

At Labio, we understand the importance of confidentiality and the secure transfer of data in your scientific endeavors. That's why we provide you with the tools and solutions to build your own information fortress and protect your valuable data.

1. Build your own Spectra Library.
2. Share data confidential within your organization.

Reimagine What's Possible for Your Applications



Using GC-UV for Trace Level Analysis of Unknowns

Trace level detection is a critical aspect of gas chromatography-ultraviolet (GC-UV) analysis. This technique is widely utilized for the identification and quantification of compounds present in very low concentrations within complex mixtures.

GC-UV excels in detecting compounds at trace levels due to its high sensitivity and selectivity. The separation power of gas chromatography allows for the isolation of target compounds from interfering substances, enabling accurate identification and quantification. The UV detection system complements this by providing selective and reliable detection based on the compounds' absorption of UV light at specific wavelengths. The ability of GC-UV to detect trace levels of compounds has broad applications in various fields. It is extensively employed in environmental monitoring, pharmaceutical analysis, food safety testing, forensic analysis, and many other areas where the presence of compounds at low concentrations needs to be identified and measured.

By utilizing GC-UV, researchers and analysts can confidently detect and quantify trace amounts of target compounds, even in complex samples. This capability is crucial for ensuring product safety, environmental compliance, and overall quality control.

Comply with strict global and national regulations



When it comes to complying with strict global and national regulations, utilizing GC-UV technology is a valuable asset. GC-UV enables laboratories and industries to meet regulatory requirements by accurately analyzing and monitoring compounds of interest while adhering to stringent guidelines.

With its ability to separate, identify, and quantify compounds in complex mixtures, GC-UV offers a reliable solution for compliance-related challenges. Whether it involves monitoring environmental pollutants, ensuring food safety, or conducting drug screening, GC-UV provides the necessary tools to meet regulatory standards.

By implementing GC-UV analysis, laboratories can confidently assess samples for the presence of regulated substances, such as harmful pollutants or restricted compounds. The combination of gas chromatography's separation capabilities and ultraviolet spectroscopy's selective detection enables precise identification and quantification, ensuring compliance with established limits and thresholds. In addition to its analytical capabilities, GC-UV also contributes to compliance by providing robust and reproducible results. The technology's reliability and consistency ensure that measurements are accurate and consistent over time, enabling laboratories to meet ongoing regulatory obligations with confidence.

This information is subject to change without notice.

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