

# **Molecular Spectroscopy Market Report by Product Type (Consumables, Instruments), Technology (NMR Spectroscopy, Raman Spectroscopy, UV-Visible Spectroscopy, Mass Spectroscopy, Infrared Spectroscopy, Near-Infrared Spectroscopy, and Others), Application (Pharmaceutical Applications, Food and Beverage Testing, Biotechnology and Biopharmaceutical Applications, Environmental Testing, Academic Research, and Others), and Region 2024-2032**

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## **Abstracts**

The global molecular spectroscopy market size reached US\$ 6.8 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 8.7 Billion by 2032, exhibiting a growth rate (CAGR) of 2.7% during 2024-2032.

Molecular spectroscopy is identified as the subject of quantum physics that studies quantitative and qualitative characteristics of molecules through dispersion and interaction of electromagnetic radiations with various frequencies and energies. This procedure aids in producing an absorption pattern, or spectrum, in order to deduce compositional or structural information. On account of these properties, molecular spectroscopy is extensively employed in environmental testing, academic research, biotechnology, and food and beverage (F&B) assessments. At present, it is available in varying technology types, including nuclear magnetic resonance (NMR), Raman, ultraviolet (UV)-visible, mass, infrared and near-infrared spectroscopy.

### Molecular Spectroscopy Market Trends:

The widespread adoption of molecular spectroscopy across various industrial verticals, such as food and beverage (F&B), biotechnology, and particularly the healthcare sector, for introducing several efficient and accurate hybrid imaging systems, such as computed tomography (CT) and positron emitted tomography (PET) devices, is primarily driving the market toward growth. Moreover, rapid technological advancements in molecular spectroscopy and their widespread adoption in the pharmaceutical industry to discover newer molecules are also supporting the market growth. As compared to analytical techniques, they offer easier sample preparation and better outcomes from one single spectrum. In line with this, the rising environmental consciousness amongst consumers, along with numerous favorable initiatives undertaken by the government of several countries to promote the employment of molecular spectroscopy for environmental screening, treating wastewater and evaluating polycyclic aromatic hydrocarbons (PAH) levels to inhibit the depletion of natural resources are acting as other growth-inducing factors. Additionally, the rising usage of nuclear magnetic resonance (NMR) spectroscopy technology for implementing quality control, assessing the content purity, and determining the molecular structure of organic compounds is contributing to the market growth. Other factors, such as rising food safety concerns, significant expansion of the biotechnology industry, and the increasing application of Raman spectroscopy for coronavirus disease (COVID-19) testing are positively stimulating the market growth across the globe.

### Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global molecular spectroscopy market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on product type, technology and application.

### Breakup by Product Type:

- Consumables
- Instruments

### Breakup by Technology:

- NMR Spectroscopy
- Raman Spectroscopy
- UV-Visible Spectroscopy
- Mass Spectroscopy

Infrared Spectroscopy  
Near-Infrared Spectroscopy  
Others

Breakup by Application:

Pharmaceutical Applications  
Food and Beverage Testing  
Biotechnology and Biopharmaceutical Applications  
Environmental Testing  
Academic Research  
Others

Breakup by Region:

North America  
United States  
Canada  
Asia-Pacific  
China  
Japan  
India  
South Korea  
Australia  
Indonesia  
Others  
Europe  
Germany  
France  
United Kingdom  
Italy  
Spain  
Russia  
Others  
Latin America  
Brazil  
Mexico  
Others  
Middle East and Africa

### Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being ABB Ltd., Agilent Technologies Inc., Bruker Corporation, Hitachi Ltd., Horiba Ltd., JASCO Inc., JEOL Ltd., Medtronic plc, Merck KGaA, PerkinElmer Inc., Shimadzu Corporation, Thermo Fisher Scientific Inc. and VIAVI Solutions Inc.

### Key Questions Answered in This Report

1. What was the size of the global molecular spectroscopy market in 2023?
2. What is the expected growth rate of the global molecular spectroscopy market during 2024-2032?
3. What are the key factors driving the global molecular spectroscopy market?
4. What has been the impact of COVID-19 on the global molecular spectroscopy market?
5. What is the breakup of the global molecular spectroscopy market based on the product type?
6. What is the breakup of the global molecular spectroscopy market based on the technology?
7. What is the breakup of the global molecular spectroscopy market based on the application?
8. What are the key regions in the global molecular spectroscopy market?
9. Who are the key players/companies in the global molecular spectroscopy market?

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