BrightSpec

Analytical Chemistry **Simplified.**

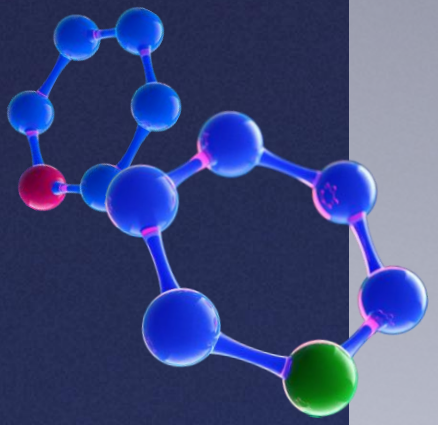
Providing simple, precise chemical analysis for leading pharmaceutical, chemical and consumer goods companies around the world.

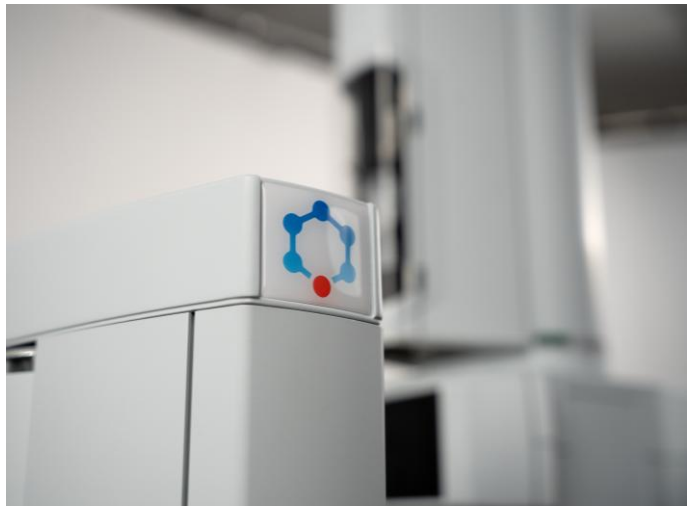
Spring 2025

Our BrightSpec MRR Product Family consists of three instruments with different strengths and target applications.

Chemists across academia, pharmaceutical, chemical and consumers goods companies rely on BrightSpec MRR to identify and quantity molecules in complex mixtures in a fraction of the time of their existing workflows.

The power of Molecular Rotational Resonance (MRR) is accentuated by an elegant software system that streamlines method prep and data analysis.





Specs	nanoMRR	isoMRR	spectraMRR
Mass Range	<150 AMU	50 to 300 AMU	50 to 300 AMU
Sampling	Liquid	Liquid, Headspace	Liquid, Headspace
Carrier Gas	None	Neon	Neon
Purge Gas	None	Nitrogen	Nitrogen
Reference Library	Limited	Full	Full
Chiral Analysis	No	Yes	Yes
Structure Analysis	No	No	Yes

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Meet the nanoMRR

The compact solution for high-precision molecular analysis.

Problem: Researchers and educators lack access to affordable, easy-to-use tools for introducing and exploring advanced molecular spectroscopy and physical chemistry techniques.

Designed for simplicity, nanoMRR delivers core molecular rotational resonance capabilities in a compact, accessible format. Ideal for education and basic research, it's our smallest, most affordable, and easiest-to-use platform—bringing the power of MRR to any benchtop.

Industries: Academia, Research

Applications: Quantitation of Key Analytes

Meet the isoMRR

Ultra-Precise Quantitation and Chiral Analysis, Streamlined

Problem: Analytical labs face growing pressure to achieve fast, accurate chemical quantitation and chiral analysis, but the complexity of traditional workflows slows them down.

Step up to isoMRR for robust, highly specific chemical quantitation. Built on the simplicity of MRR, the isoMRR platform adds advanced quantification capabilities across an array of chemical classes—making it ideal for QA/QC, and process optimization. It's the perfect balance of performance and ease of use for busy analytical labs.

Industries: Pharmaceutical, Chemical, Consumer Goods

Applications: Quantitation of Extensive Analytes

Meet the spectraMRR

Comprehensive Quantitation & Confident Structural ID

Problem: Scientists working with complex mixtures or unknowns struggle to confidently identify molecular structures and quantify components in a single streamlined workflow.

Our most powerful system, the spectraMRR combines all the capabilities of isoMRR with full structural identification. With proprietary simulation and spectral fitting tools, spectraMRR enables unambiguous structure assignment alongside mixture-compatible quantitation. Whether you're solving analytical puzzles or validating synthesis outcomes, spectraMRR gives you absolute confidence in your data—all in a scalable, user-friendly workflow.

Industries: Pharmaceutical, Chemical, Consumer Goods

Applications: Full Quantitation & Library Building, Structure Analysis, BrightHub Quantum Chemistry Pipeline

Compute with BrightHub

A Unique Digital Reference

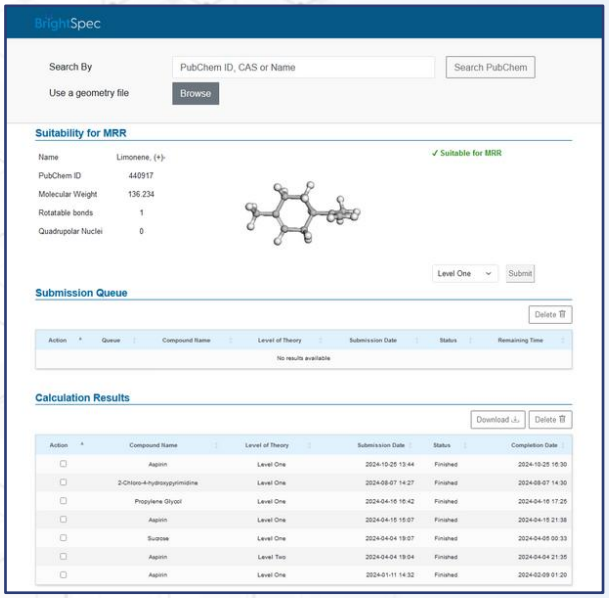
Simulation as a Standard

MRR enables structure identification even when reference materials are impossible. Rotational spectra can be predicted through the quantum chemistry simulation of three-dimensional molecular structure enabling a novel structure confirmation methodology.

No Expertise Required

The spectraMRR platform is supported by BrightHub, BrightSpec's proprietary quantum chemistry pipeline. BrightHub provides a simple standardized method for simulating rotational spectra. No expertise required, just import the results from BrightHub and go.

BrightHub helps users quickly determine analyte suitability for MRR and search our extensive library of reference analytes.



MRR's unique digital standard delivers molecular structure in complex samples without reference materials.

Solve with Edgar

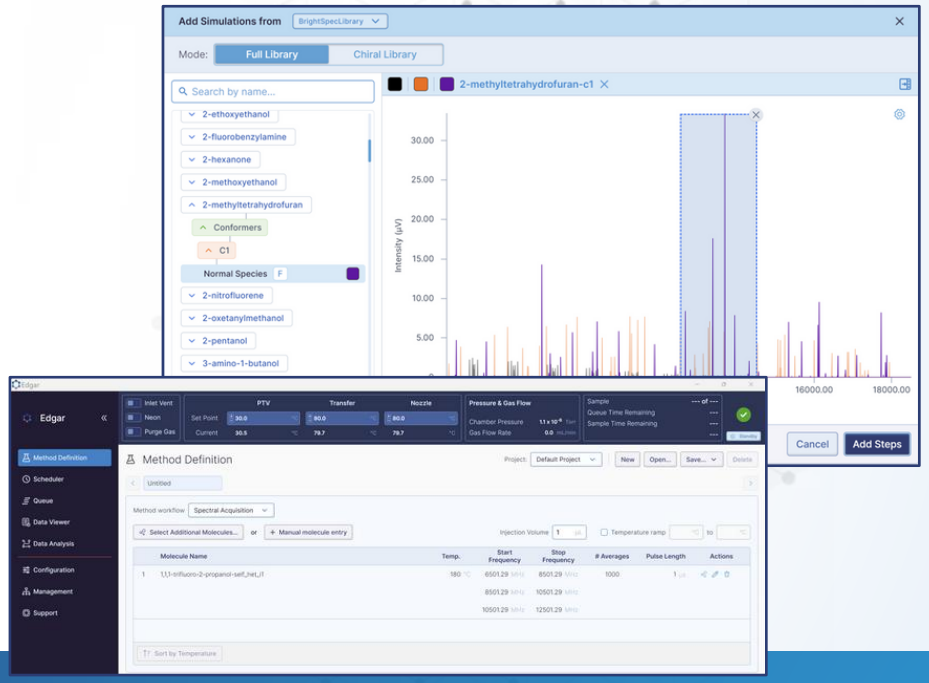
From Simulation to Spectra with Ease

Simulation as a Standard

Edgar, our acquisition and analysis software, then takes you from simulation to results in your sample with just a few clicks.

Edgar automates method development, sample analysis and spectral fitting, which makes MRR a truly scalable solution for modern analytical chemistry.

Whether working from a new structure identification or BrightSpec's proprietary libraries Edgar provides comprehensive workflows to solve your analytical challenges.



Edgar's intuitive workflows allow you to focus on your science and not method development.

Get In Touch

Learn how MRR can power your chemistry

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