

## Analytical Chemistry Services

### With the Covalent Platform

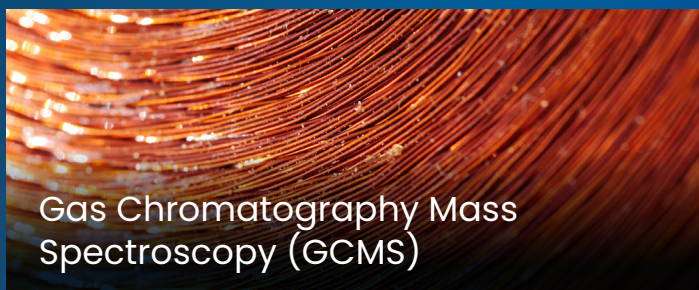
From control of the supply chain through to precision synthesis of advanced materials and devices, engineers and scientists rely on accurate chemical analysis to understand the raw substrates and products they develop. Analytical chemistry experts at Covalent use state-of-art spectroscopy instrumentation to help clients characterize the composition and molecular structures of solutions and materials: identifying and quantifying trace impurities and contaminants, validating yield, and evaluating the bulk chemistry of solid or liquid samples. The Covalent platform makes metrology partnership efficient and effective so clients can focus on propelling their research and development forward.

## The Solutions We Offer



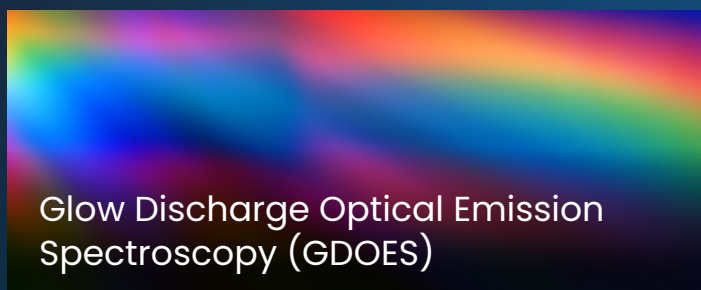
### Nuclear Magnetic Resonance Spectroscopy (NMR)

Powerful technique for measuring chemical composition, probing molecular structures, and analyzing dynamic molecular behavior such as substrate binding, catalysis, and real-time structural rearrangements.



### Gas Chromatography Mass Spectroscopy (GCMS)

Cost-effective elemental analysis optimized for organic compounds with the highest sensitivity available for detection of trace impurities and contaminants



### Glow Discharge Optical Emission Spectroscopy (GDOES)

Accurate measurement of the elemental composition of both conductive and insulating solids with faster data collection and depth profiling as compared to mass spectrometry methods



### Inductively Coupled Plasma Mass Spectroscopy (ICPMS and LA-ICPMS)

Flexible, highly sensitive element analysis with detection limits down to ng/L, a wide element detection range, and high precision to accommodate isotopic analysis

## Cutting-Edge Instruments

### JEOL JNM-ECZ500R

- 500 MHz
- Highly stable to deliver high speed and accuracy
- Accompanied by most powerful NMR data processing software available



### Agilent 7980A-5975B Gas Chromatograph and Mass Spectrometer

- Variable temperature range from 150 to 300 °C and detectable mass range from 0.1 to 1050.0 u
- Rapid measurement times with scan rate up to 10,000 u / sec



### HORIBA GD Profiler 2

- Simultaneous detection of all elements, including light elements: H, C, N, O, F, and Li
- Spectral range from 120 – 800 nm and depth resolutions as low as 1 nm
- Industry leading High Dynamic Detector maximizes data collection efficiency



### Thermo Scientific iCAP TQ ICPMS

- Triple quadrupole analyzer delivers maximum accuracy and detection limits as low as several ng/L for certain elements
- Isotopic ratio precision below 0.1% RSD and dynamic range spanning over 10 orders of magnitude



## Covalent's Analytical Chemistry Group

Scientists and engineers can count on the expert chemists in Covalent's Analytical Chemistry group to meet their most routine – or challenging – chemical characterization needs. The Covalent team relies on top-of-line spectroscopy instruments and advanced analytical software tools to provide affordable, efficient, and accurate chemical analysis services. They work together with clients to ensure that they unlock the key results and most impactful solutions that goes beyond high quality data. Partnering with Covalent's Analytical Chemistry Group can accelerate your analysis and empower you with the insight needed to optimize and troubleshoot your advanced materials, parts, and devices.

Get a quote at [covalentmetrology.com](https://covalentmetrology.com)