



LUMA

Multi-Channel Absorbance Detector

Sensitive. Selective. Simple.





Shining a New Light on GC Trace Analysis



LUMA™ is a powerful new universal absorbance detector for gas chromatography. LUMA is the only **Universal** GC detector available that is designed to be **Sensitive**, **Selective** and **Simple** to operate.



LUMA™

Detector Benefits

- **Sensitivity** to low ppb levels
- **Universal Detection** – nearly every compound absorbs. Except carrier gases.
- **Channel Selectivity** to aid with compound identification
- **Easy-to-Use & Operate** – user installable, fits into existing laboratory workflows. Works with existing laboratory CDS software
- **Flexible** – Acquire up to 12-channels of data simultaneously from 120nm to 500nm
- **Low Cost-of-Ownership** – limited consumables. No additional software.





LUMA™ is a Universal Detector

Band 1 (120 - 130 nm)

Band 2 (130 - 143 nm)

Band 3 (144 - 155 nm)

Band 4 (156 - 167 nm)

Band 5 (168 - 175 nm)

Band 6 (176 - 185 nm)

Band 7 (186 - 198 nm)

Band 8 (199 - 215 nm)

Band 9 (217 - 240 nm)

Band 10 (243 - 279 nm)

Band 11 (284 - 355 nm)

Band 12 (367 - 500 nm)

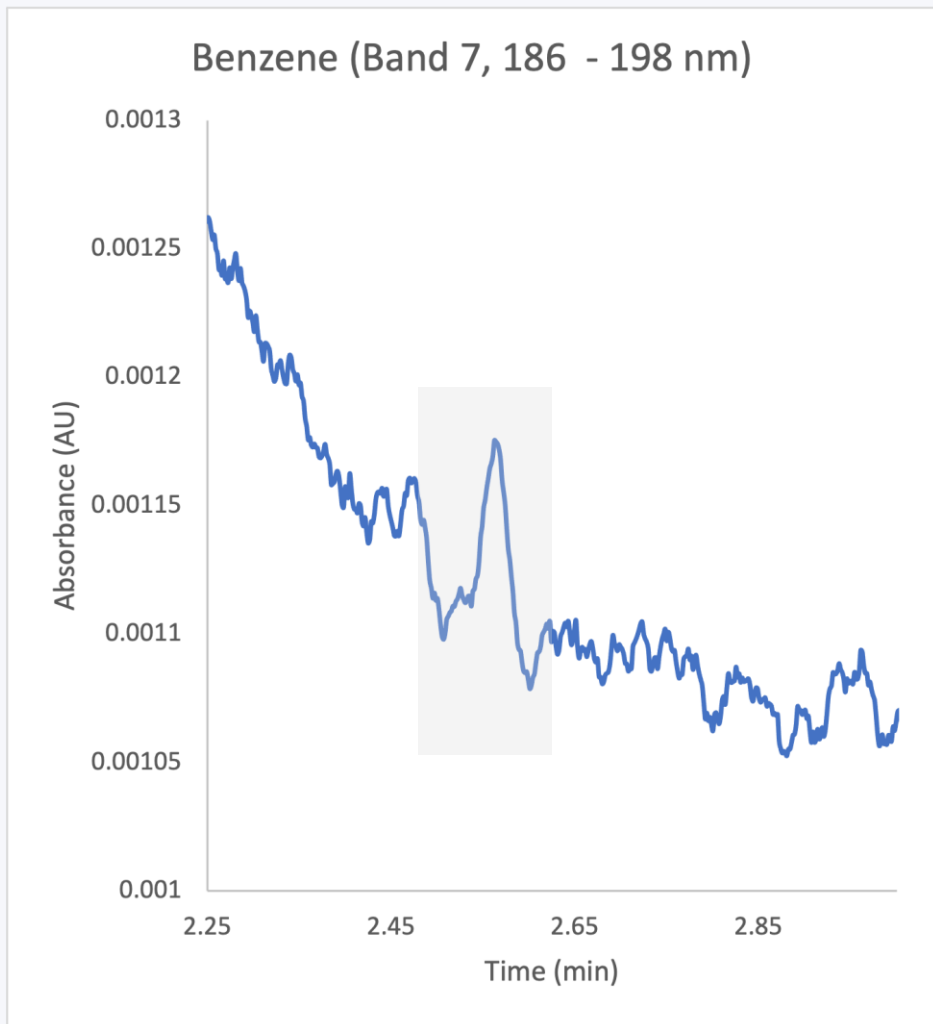
LUMA acquires data in discrete wavelength band from 120nm to 500nm. This broad range includes the Vacuum Ultraviolet (VUV) Region of the electromagnetic spectrum. This region is unique because all compounds absorb except for typical GC carrier gases Hydrogen, Helium, and Argon.

LUMA acquires data in 12 discrete wavelength bands as shown in the figure to the left. Each wavelength band can be configured as an output channel in your CDS. Each output channel is represented as an individual chromatogram.



LUMA™

Sensitivity for a Wide Range of Applications



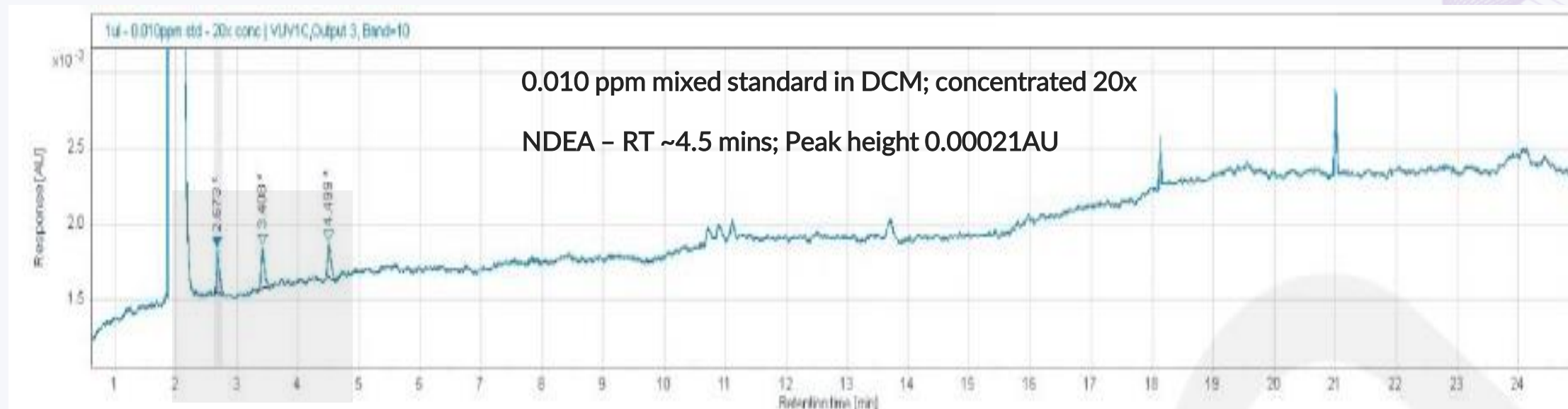
LUMA has the sensitivity required for the most demanding trace level applications.

Benzene, a common carcinogenic compound is highly regulated across multiple industries. In the chromatogram to the left, LUMA can see Benzene in Gasoline at an IDL of 500 femtograms (~4ppb).



LUMA™ Has Low Limits of Detection

Sensitivity for a Wide Range of Applications



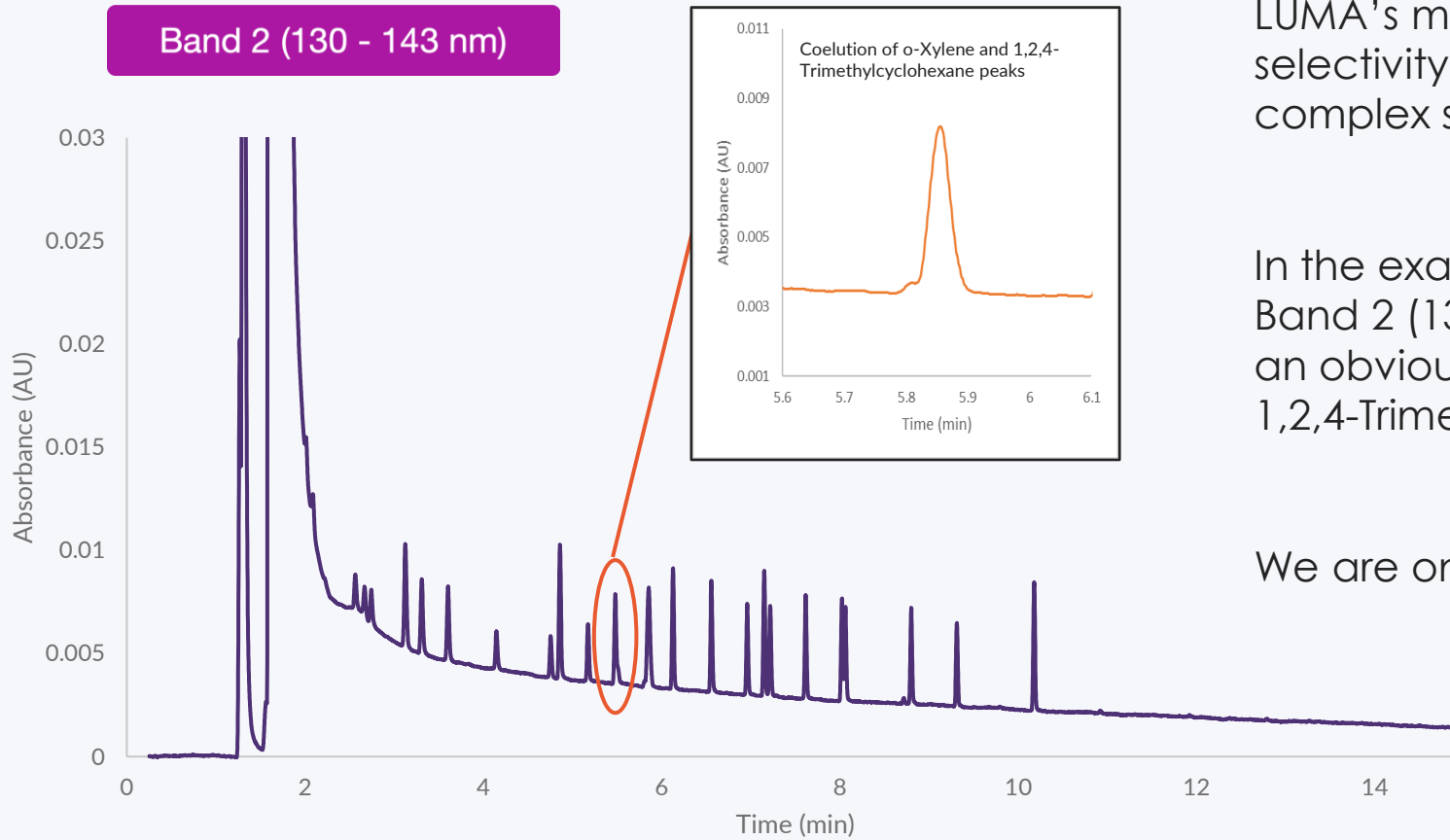
Nitrosamines are a class of compounds that are mutagenic impurities in many pharmaceutical products. Because they are carcinogenic strict measures are in place to ensure that their levels are not higher than the acceptable limits defined by the U.S. FDA and EMA. Because the limits are set very low, sensitivity is important to the identification and quantification of nitrosamine impurities.

In the above chromatogram, LUMA can detect NDMA at a level of 10 ppb.



LUMA™ Selectivity

Taking Advantage of Channel Selectivity



LUMA's multi-channel architecture and selectivity make it an ideal detector for complex samples.

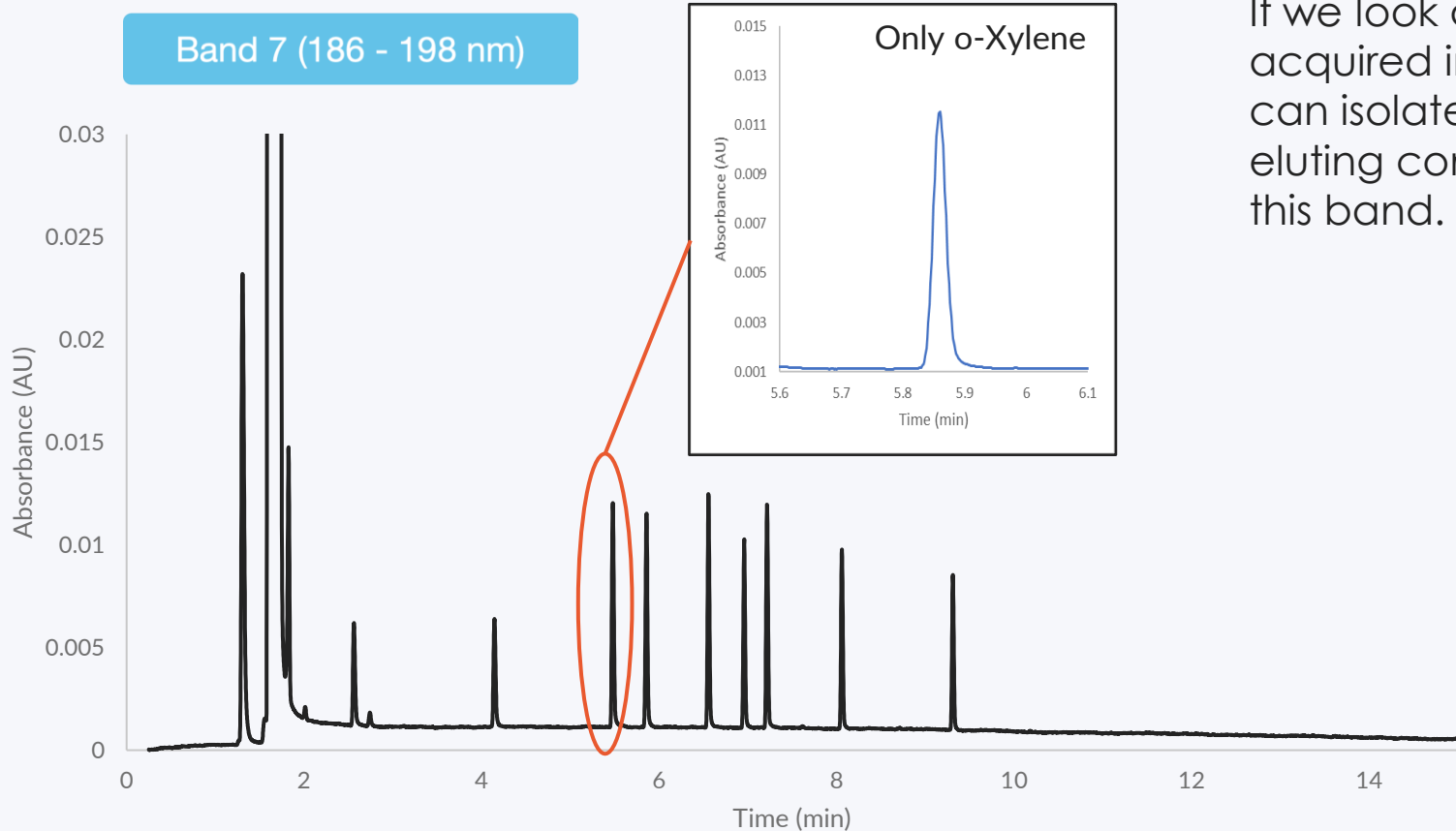
In the example to the left, acquired in Band 2 (130nm – 143-nm), you can see an obvious coelution of o-Xylene and 1,2,4-Trimethylcyclohexane.

We are only interested in o-Xylene.



Channel Selectivity

Taking Advantage of Channel Selectivity



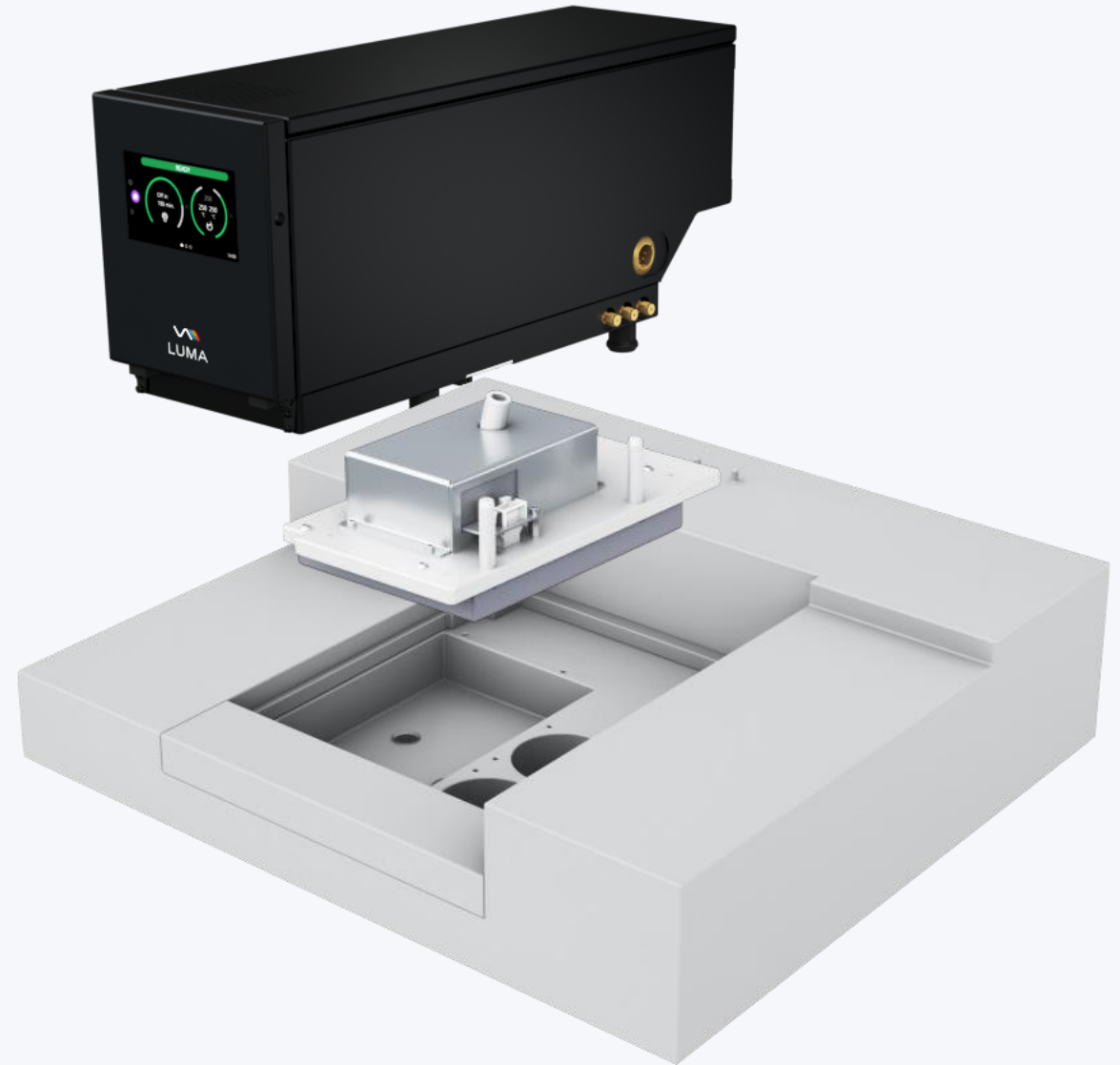
If we look at the chromatogram acquired in Band 7 (186 – 198 nm) we can isolate o-Xylene since the co-eluting compound does not absorb in this band.



LUMA™ is Easy-to-Use and Operate

User Installable

- Space saving design installs on top of GC
- Connects via Innovative GC Interface plate with built in transfer arm.
- Interface plate uses existing GC mounting locations. No GC modifications required.
- Self-aligning on mounting plate ensuring proper connectivity
- Column connection is made inside oven
- LUMA connects directly to the GC gas supply and uses the existing AUX EPCs
- Compatible with Agilent 6890, 7890, 8860, and 8890 model GCs





LUMA™ is Easy-to-Use and Operate

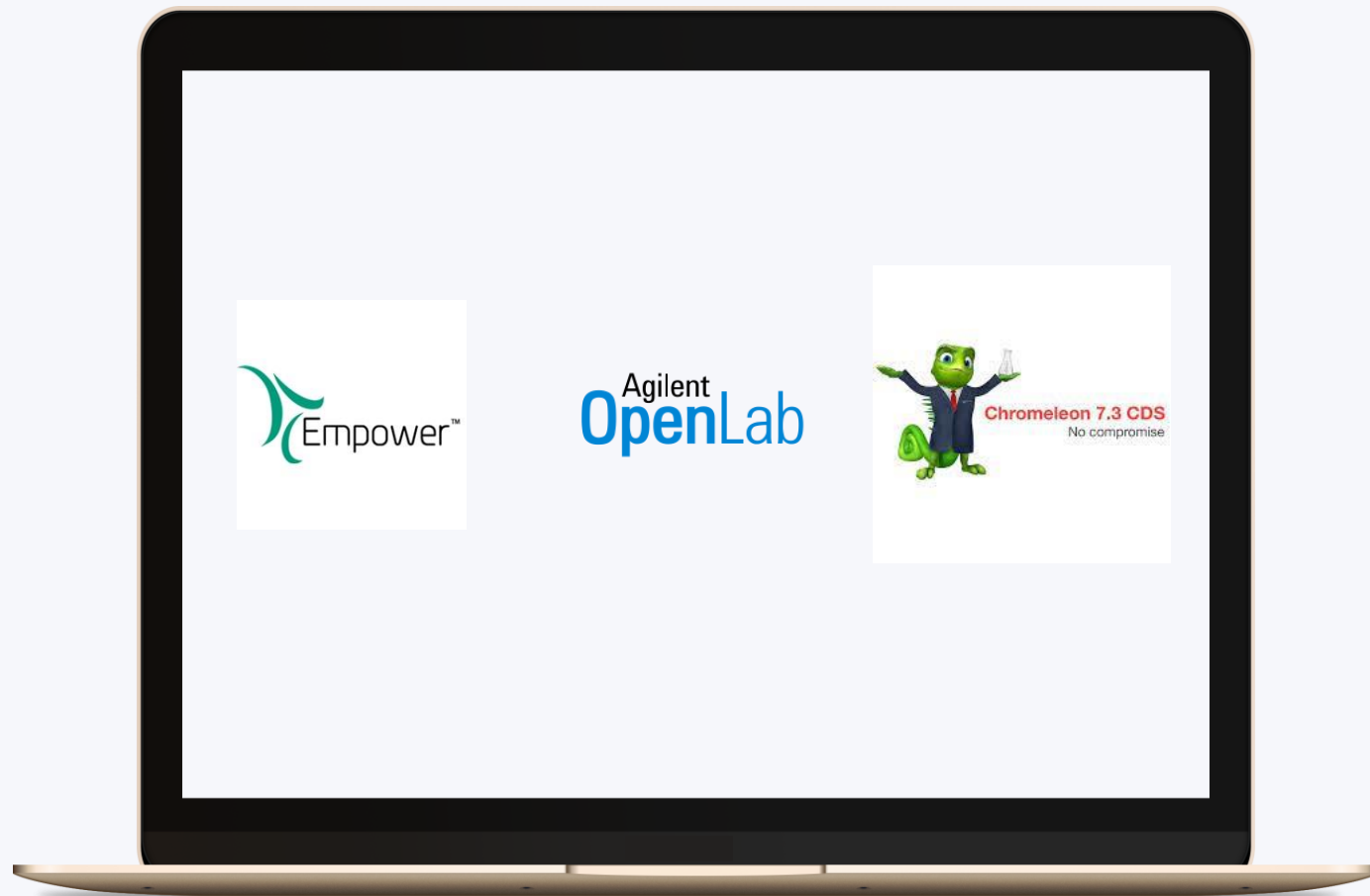
Minimal Training Required

LUMA works with most major CDS platforms including Empower 3, OpenLab, and Chromeleon so there is no new software to learn.

Because we have built instrument drivers for these platforms LUMA will appear as a native detector. All you need to do is configure a system that includes a GC and a LUMA detector.

Once configured you can create and run methods in your laboratory CDS quickly and easily.

We will be adding additional drivers for other CDS platforms as well.





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To learn More

<https://luma.vuvanalytics.com>

