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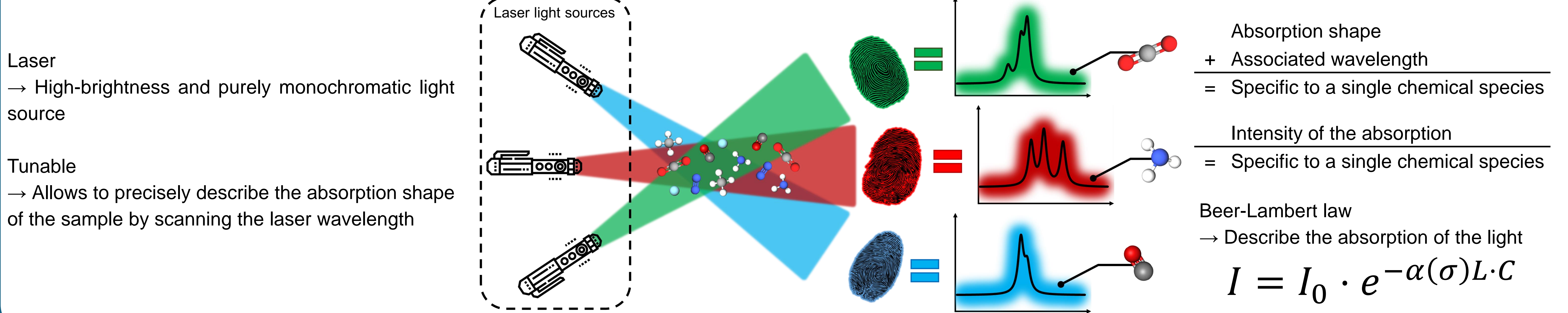
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Infrared laser spectroscopy as a versatile tool for environmental quality monitoring

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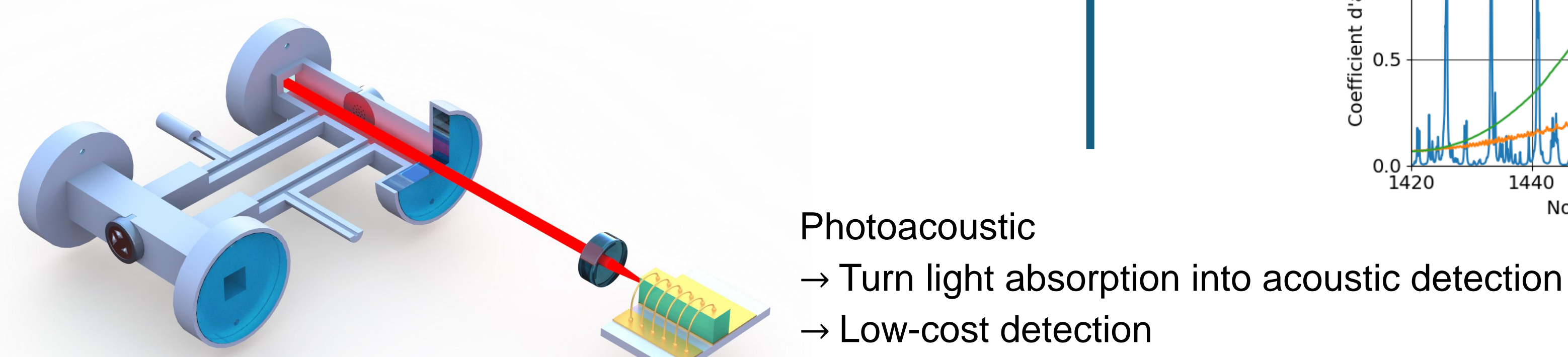
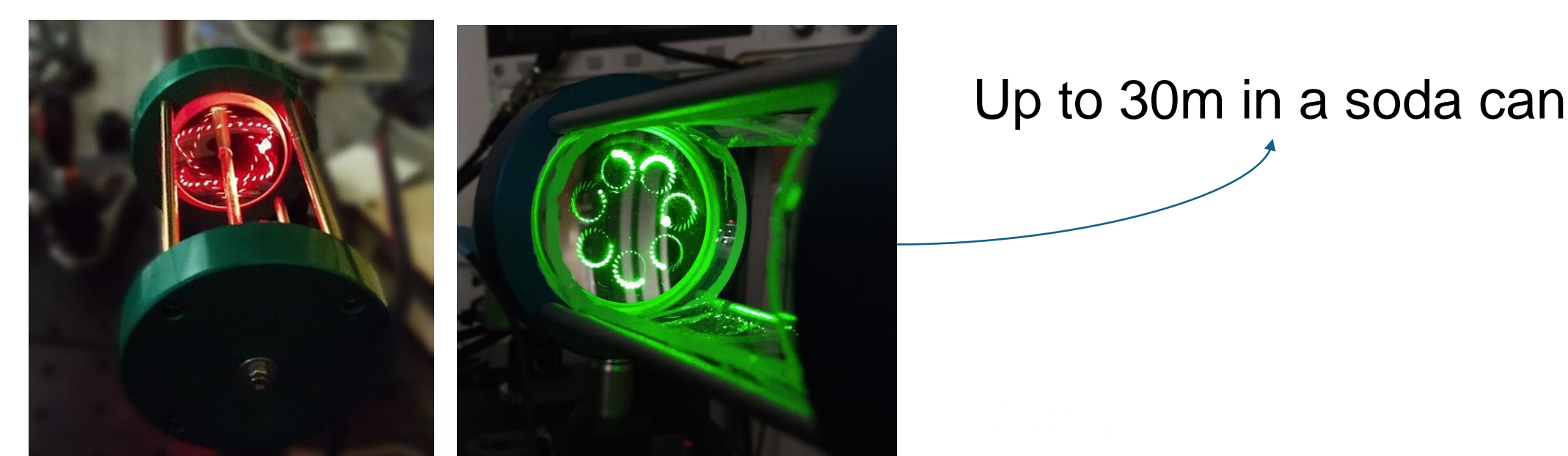
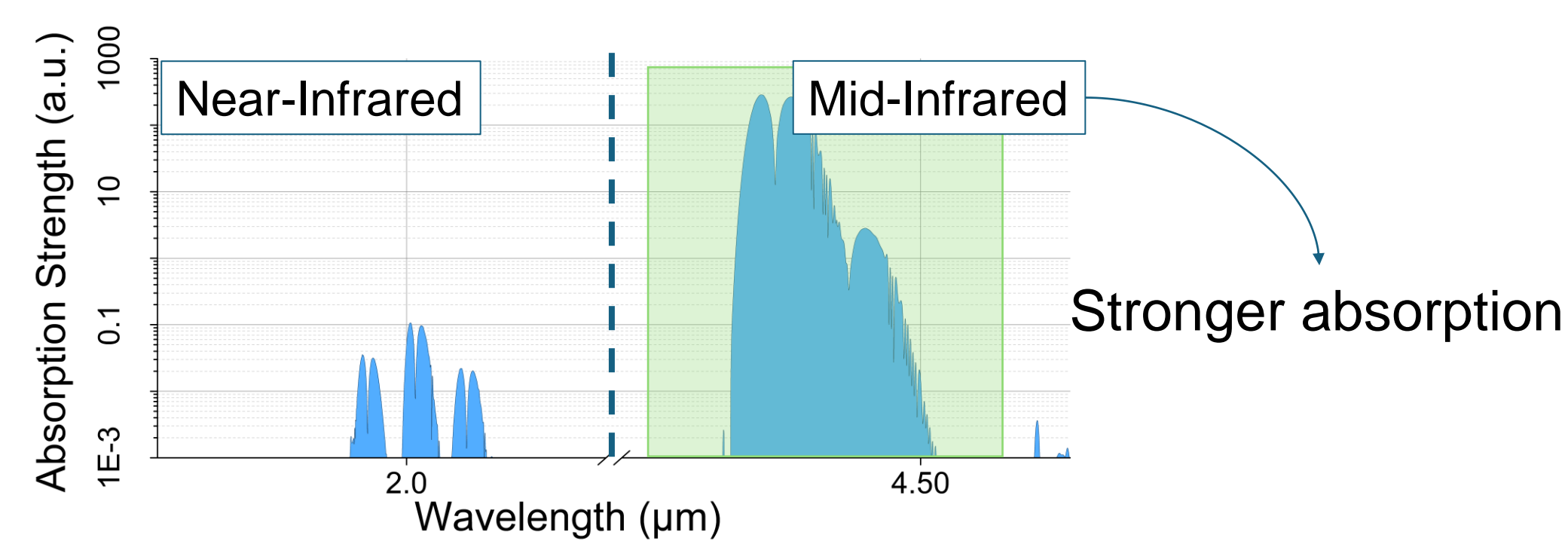
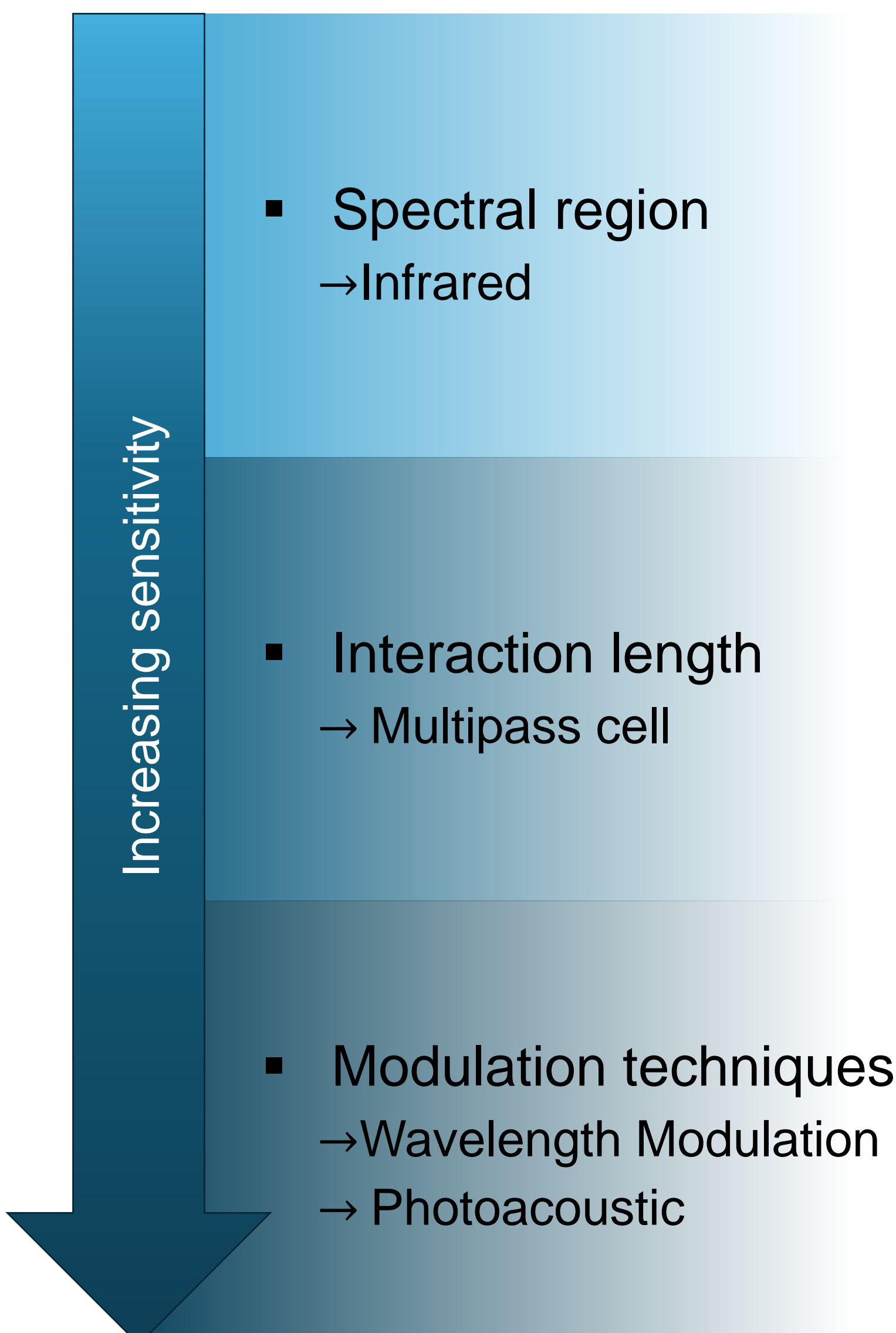
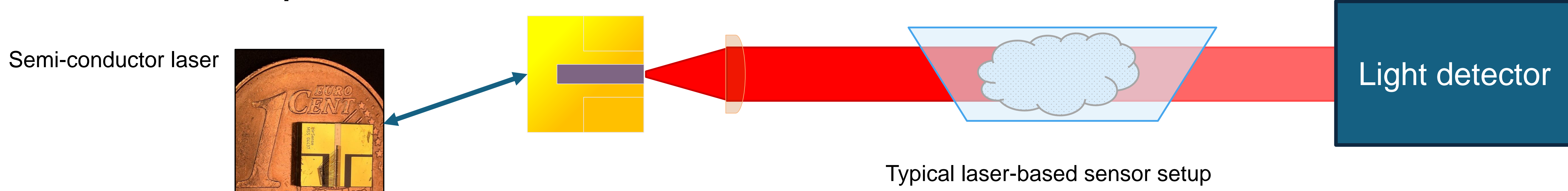
Tunable Laser Absorption Spectroscopy



Absorption shape only rely on the chemical species
Intensity only rely on molecular concentration and interaction length

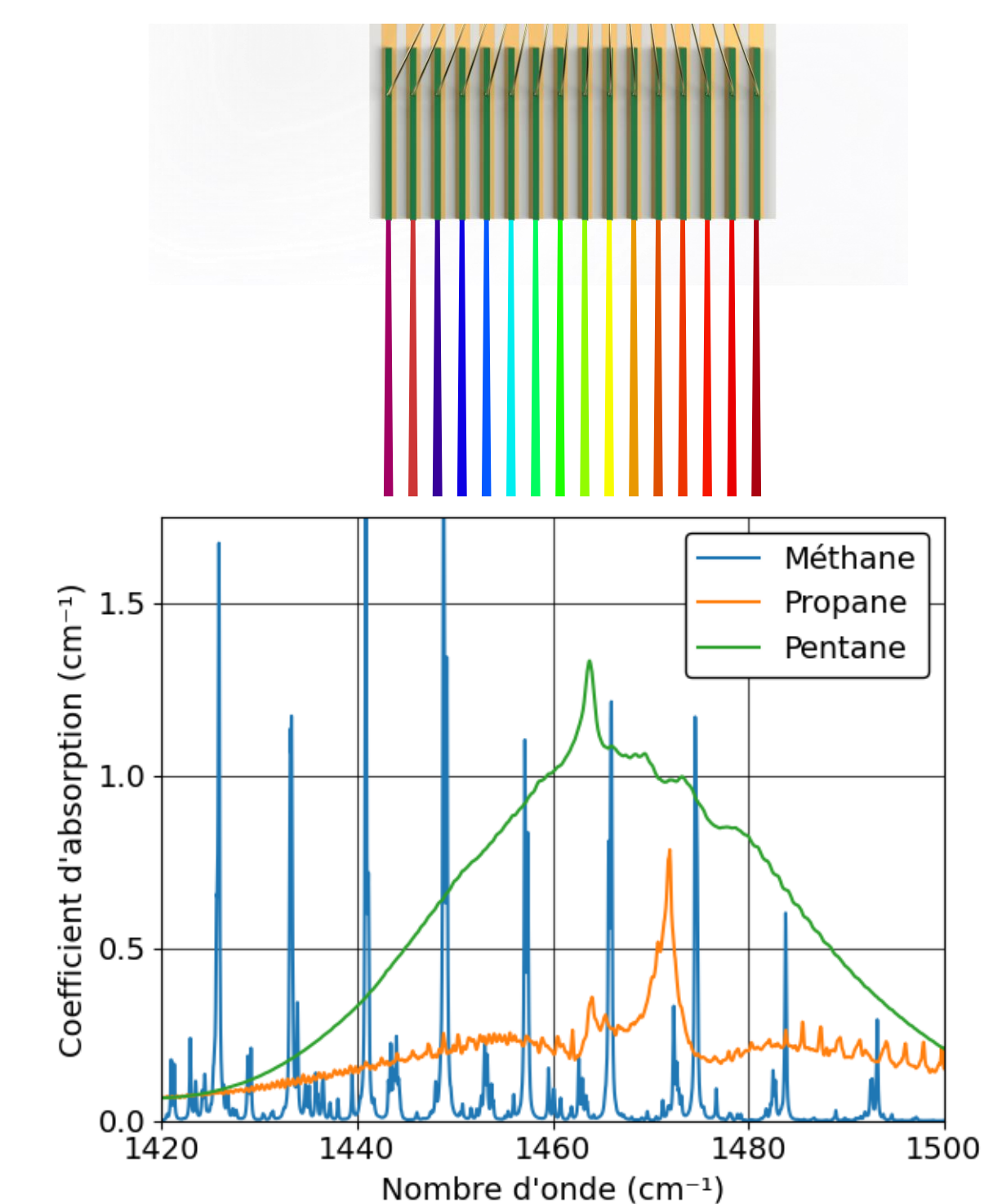
→ **Calibration free method**

Measurement techniques



Multiplexed laser source

1. Detect large number of species with narrow signature
2. Detect species with broadband signature
→ Volatile Organic Compounds



Measurement methods can be adapted to a wide range of needs and constraints.

Applications

- Long-term measurement
→ Follow evolution and compare data with high reliability.
- Leak detection
→ Detect and locate leaks of potential environmental pollutants.
- Large-scale sensor deployment
→ Use these measurements to understand emission mechanisms through modeling.

Example of outdoor measure campaign

