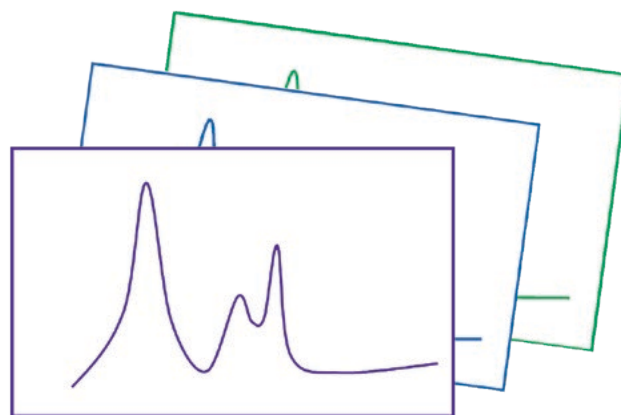


## Go Digital, Go Greener with ChemisTwin™

### Digital Reference Materials (dRMs) for cost-effective and sustainable spectroscopy

Digital reference materials (dRMs) are digital records of physical reference material measurement data. They are produced according to an ISO 9001-accredited quality framework and serve as digital twins of certified reference materials. These materials are used in analytical techniques such as nuclear magnetic resonance (NMR) and infrared (IR) spectroscopy.

dRMs provide an eco- and budget-friendly alternative to traditional physical reference materials, offering **traceability**, **quality assurance**, and **ease of access** through platforms like the ChemisTwin™ portal.



## Digital Reference Materials

### NMR spectroscopy

Within the NMR workflow in ChemisTwin™ platform, you will have two types of standard reference spectra.

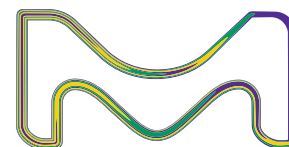
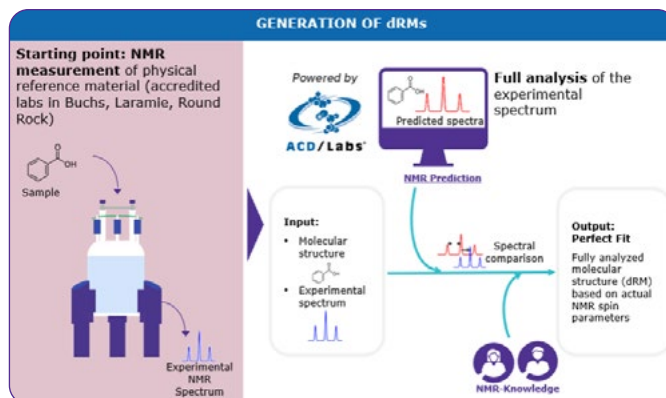
#### Digital Reference Materials (dRMs):

- Derived directly from our high-quality physical standards
- Each dRM is precisely linked to its physical counterpart, ensuring full traceability and accuracy
- Complete acquisition parameters are provided on the dRM information page

#### Theoretical Spectra:

- Generated through our advanced smart algorithm
- Complement our dRMs offerings & expand your analytical capabilities

These spectra can be requested at any time.



## IR spectroscopy

The ChemisTwin™ platform's IR workflow provides access to a comprehensive collection of recorded spectra from multiple sources.

### Certified Reference Materials (CMR) & Analytical Standards (AS):

- Each spectrum is traceable to a validated product, ensuring reliable and accurate analyses

### Sigma-Aldrich® Libraries:

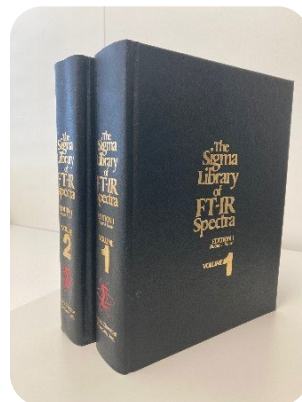
- Over 18,000 ATR and 10,000 transmission spectra available
- Covers a wide range of chemical compounds to meet diverse analytical needs

### Fresh Spectra from Quality Control (QC):

- Daily QC operations contribute around 5000 ATR spectra
- New IR data is released monthly, keeping your analyses up to date

### Third-Party Libraries:

- Our platform is open for collaboration, integrating diverse data sources



## User References

Users have the ability to create a personalized library where they can generate their own reference spectra, allowing for comparison with their own samples.

### User Reference Libraries:

- Only members of your organisation on the portal can view/use them, keeping your information secure and internal
- Create as many private custom libraries as desired
- Share the libraries with colleagues
- Compare your samples against your own reference spectra



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