

Fourier Transform Infra-Red Spectrophotometer (FT-IR)

Model: IRAffinity-1

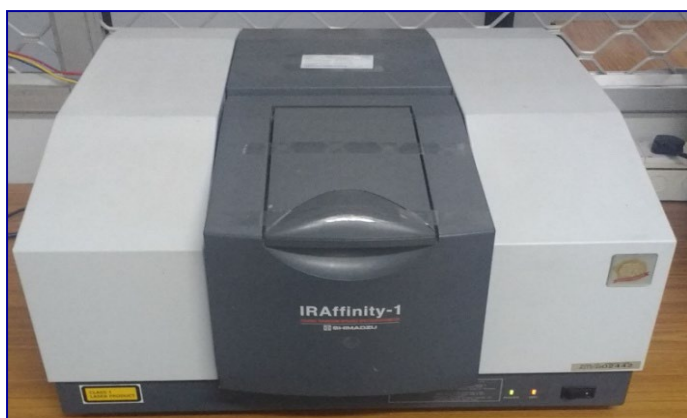
Model: Thermo Nicolet iS50 with inbuilt ATR

Make: Shimadzu, Japan

Make: Thermo Fisher Scientific, USA

Specification /Features:

S. No.	Specification	IRAffinity-1	Nicolet iS50
1	Spectral Range	4000-400 cm^{-1} (Mid IR Range)	4000-400 cm^{-1} (Mid IR Range) 700- 100 cm^{-1} (Far IR Range)
2	Beam Splitter	KBr Beam Splitter	Ge Coated KBr Beam Splitter (Mid IR) Solid Substrate Beam Splitter (Far IR)
3	Resolution	0.5 - 16 cm^{-1}	0.25- 32 cm^{-1}
4	Signal-to-Noise	30,000:1	55,000:1
5	Detector	DLaTGS- KBr	DLaTGS- KBr (Mid IR) DLaTGS-Polyethylene (FAR IR)
6	Software	IRsolution 1.60	OMNIC 9.9.535
7	Make	Shimadzu, Japan	Thermo Scientific Inst. LLC, USA



Applications:

Useful for multiple disciplines of research such as Physics, Chemistry, Material science, Metallurgy, Biological Sciences, Environmental Sciences, Earth Sciences, Nano Technology and Nano Science, Engineering Sciences, Pharmaceutical Sciences.

Capabilities:

- Absorbance and Transmittance spectrum identify the unknown compounds
- FT-IR Spectrum has two regions
 1. Fingerprint region ($600-1000 \text{ cm}^{-1}$)
 2. Functional group region ($1200-3600 \text{ cm}^{-1}$)
- Quantitative information such as additives and contaminants, Quality verification of materials
- Compositional analysis of organic, polymeric, and inorganic materials
- Powders, solids, gels, emulsions, liquids and polymers films can be analysis from FT-IR instruments

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