

Components

| | | |
|---------------------------|---|--|
| CoolSpeK main body | 1 | Standard accessories |
| Temperature controller | 1 | A silicon tube ($\phi 5 \times \phi 9$, 3m) 1 |
| Liquid nitrogen reservoir | 1 | Tube sets for gas flow (urethane tube, connector of taper pipe threads, flow valve) |
| *cuvette is not supplied | | Tool kit |
| | | User's manual |

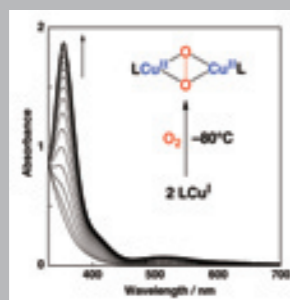
Outer size of the CoolSpeK main body (without options)
162.5mm (Height) × 90mm (Width) × 111mm (Length)

Specifications

| | |
|--|---|
| Liquid nitrogen reservoir | : Stainless, 2 Litre |
| Low-temperature sample chamber | : Aluminum, polyurethane foam for thermal insulation |
| Optical windows | : Quartz, Three-way |
| Suitable cell | : Outer dimension of 12.5mm × 12.5mm |
| Temperature control | : Regulated liq.N ₂ flow |
| Temperature range | : (standard) -80°C to room temperature (optional) -80°C to 100°C |
| Volume of Liq.N ₂ consumption | : 1Litre/hour |
| Precision of temperature control | : ±1°C or ±0.5% of indication value, whichever is greater (error of the sensor not included) |
| Quantity of dew condensation | : Less than 0.1OD/hour at -80°C with Unisoku spectrophotometer |
| Temperature sensor | : Resistance thermometer sensor (Pt-100 Class B) |
| Functions | : There are two built-in heaters in the main body. One is for prevention of dew condensation on optical windows. Another is for temperature control. |
| System electronics | : AC100V 1A (Transformer will be provided accordance with the voltage of destination country.) |
| Cryogen used | : Liquid nitrogen |

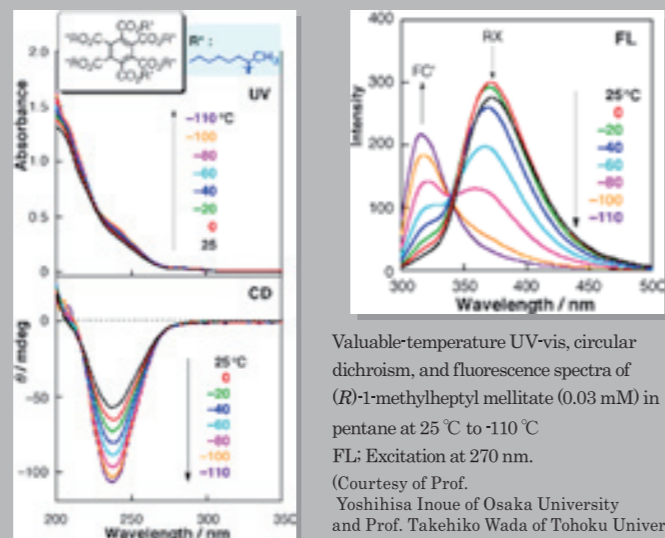
Application Examples

Time-dependent UV-vis Spectra



Spectral changes for the reaction of O₂ and a Cu(I) complex at -80 °C
Formation of a m⁻ peroxo dinuclear copper(II) complex can be easily monitored by the time-dependent UV-vis spectrum at low temperature.
(Courtesy of Prof. Shinobu Itoh of Osaka University)

Variable-temperature UV-vis, CD, and fluorescence spectra



Valuable-temperature UV-vis, circular dichroism, and fluorescence spectra of (R)-1-methylheptyl mellitate (0.03 mM) in pentane at 25 °C to -110 °C
FL: Excitation at 270 nm.
(Courtesy of Prof. Yoshihisa Inoue of Osaka University and Prof. Takehiko Wada of Tohoku University)

Cryostat for Spectrophotometer CoolSpeK UV/CD

USP-203-B/USP-203CD-B



For UV-Vis spectrophotometers
CoolSpeK UV USP-203-B

For Circular Dichroism (CD) spectrophotometers
CoolSpeK CD USP-203CD-B

User-friendly

-80 °C to +100 °C in units of 0.1 °C

Striking performance with liquid solution

Kinetics

Light weight and compact footprint

