

Benchtop Micro-ESR™

Active Spectrum introduces the world's smallest and least-expensive electron spin resonance spectrometer.

Industrial, scientific and educational applications of electron spin resonance are now extraordinarily cost-effective.

The Benchtop Micro-ESR™ includes our patented miniature electron spin resonance spectrometer, operating at 3.4 GHz with a sweep range from $g=1.8$ to $g=2.2$ and sub-micromolar sensitivity in aqueous solution.

Also included are an automatic temperature controller and full Windows XP computer system, integrated touchscreen, Ethernet and multiple USB ports.



Benchtop Micro-ESR™

Availability

Active Spectrum's Benchtop Micro-ESR™ spectrometer is currently available with approximately 8-week lead times. Please contact James White at +1 650-610-0720 or jwhite@activespectrum.com to order or to discuss your application in more detail.

Applications

Active Spectrum's Benchtop Micro-ESR™ spectrometer is targeted for use in industrial, marine, laboratory and educational applications. Some sample applications are:

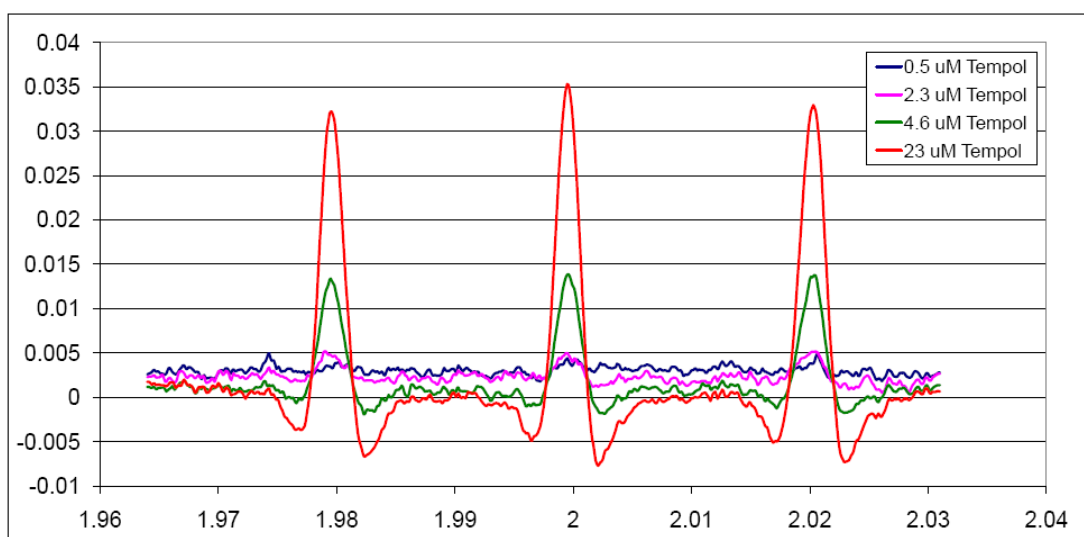
- Spin-trapping (PBN, TEMPOL, DMPO).
- Shelf life of food products (vegetable oil, beer, wine).
- Biodiesel oxidative stability.
- Analysis of asphaltene and vanadium content in crude oil.
- Detection of raw fuel dilution in marine engines.
- Thermal coking.
- Soot (both airborne and in solution).
- Analysis of catalysts.

Specifications

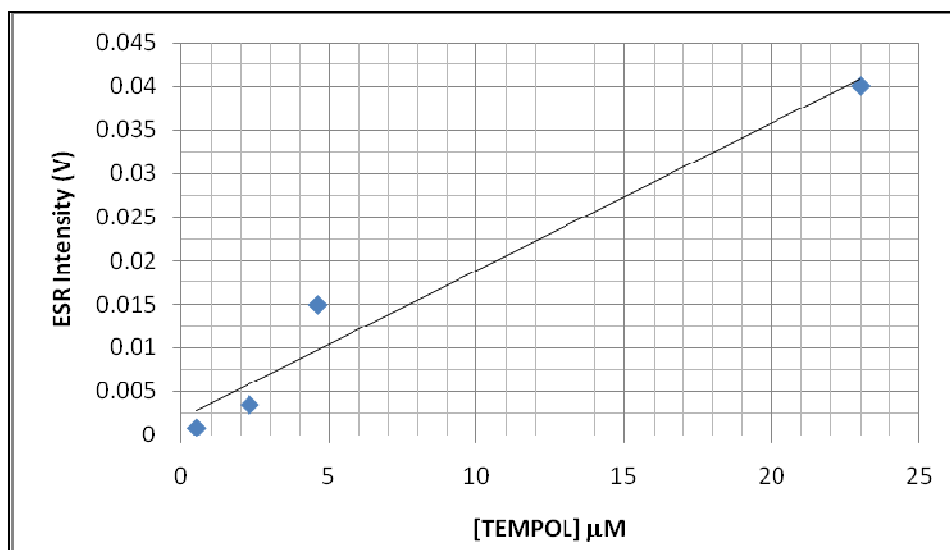
The Benchtop Micro-ESR™ spectrometer can be used to measure free radicals in any liquid or solid sample loaded into ø2.4mm (or smaller) sample tubes.

Sensitivity Limit	0.5 µM in aqueous solution
Sample Tubes	ø2.4 mm Borosilicate or Suprasil 310 Quartz
Minimum sample size	25 µL
Magnet Assembly	1180 Gauss ± 135 Gauss
Magnetic Field Uniformity	0.1 Gauss
Supply Voltage	15 VDC / 5.0A (120V/240V Wall Adapter Included)
Interface	Ethernet, 802.11 wireless and USB
Dimensions	11.25" x 10" x 10" Case

Sample Results



TEMPOL in Aqueous Solution



Sweep settings: 5 sweeps averaged @ 1000 points per sweep. Approximately 8 minutes total scan time.