



Figure 3. W-Band (94.9 GHz) EPR spectra of human Hb(NO)₄ at sample temperatures ranging from 7 to 200 K. The spectra were obtained in CW mode with field modulation of 10 G amplitude at a frequency of 100 kHz. Hb(NO)₄ was prepared by reaction of a phosphate-buffered (pH 7.4) saline solution of Hb A₀ (deoxygenated with ultrahigh-purity argon) with a deoxygenated aqueous solution of sodium nitrite (preceded by addition of sodium dithionite); excess reagents were removed by G-25 chromatography. For certain spectral features, highlighted with the shaded lines, the W-band spectra show a notable increase in resolution of temperature-dependent lineshape changes as compared to X- and Q-band spectra. EPR spectra exhibit both axial and rhombic spectral components in equilibrium that favors the axial components with increasing temperature.