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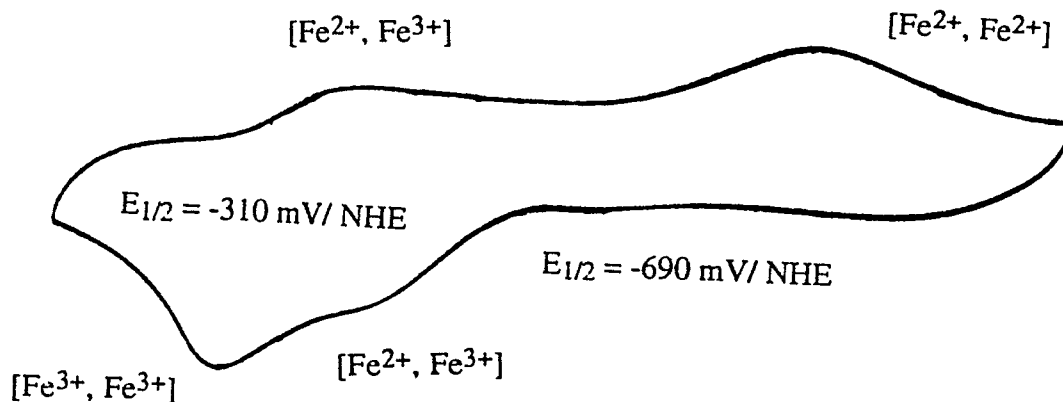
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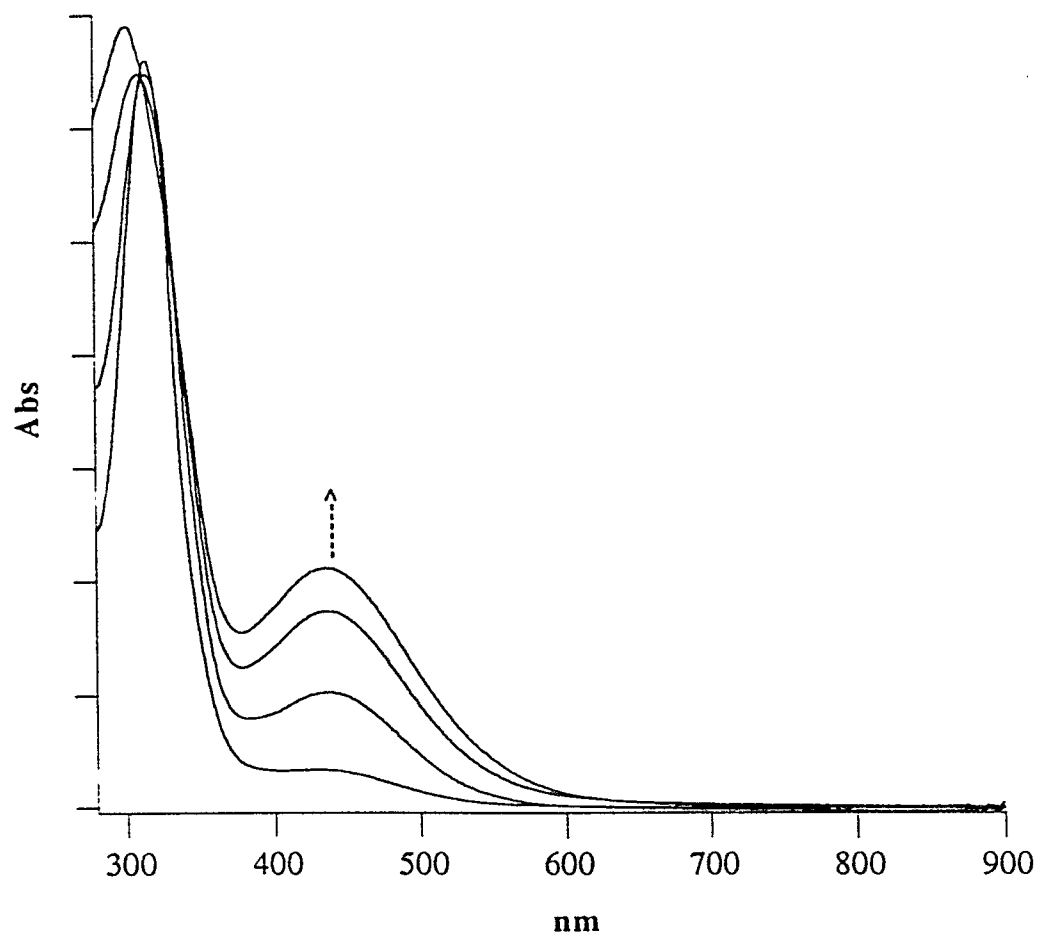
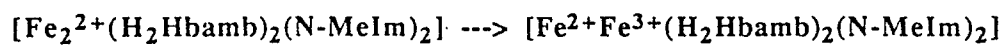
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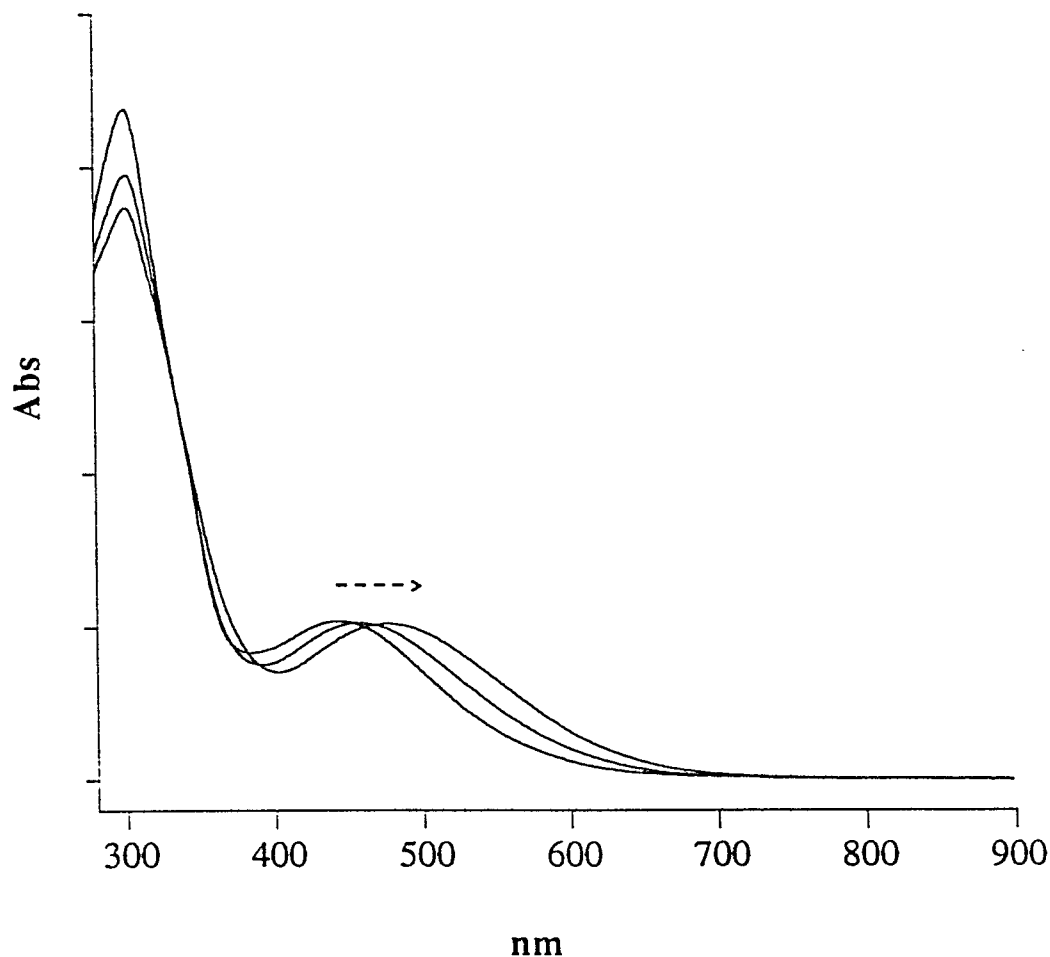
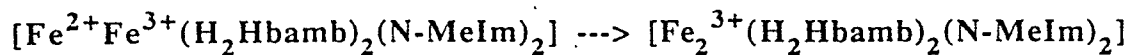


Cyclic Voltammogram of a 1mM solution of $[Fe_2^{2+}(H_2Hbamb)_2(N-MeIm)_2]$ in DMF containing 0.1M tetra-n-butylammonium tetrafluoroborate at 100mVs^{-1} . Voltage readings are referenced to a Ag wire electrode. Ferrocene was added as an internal calibrant.

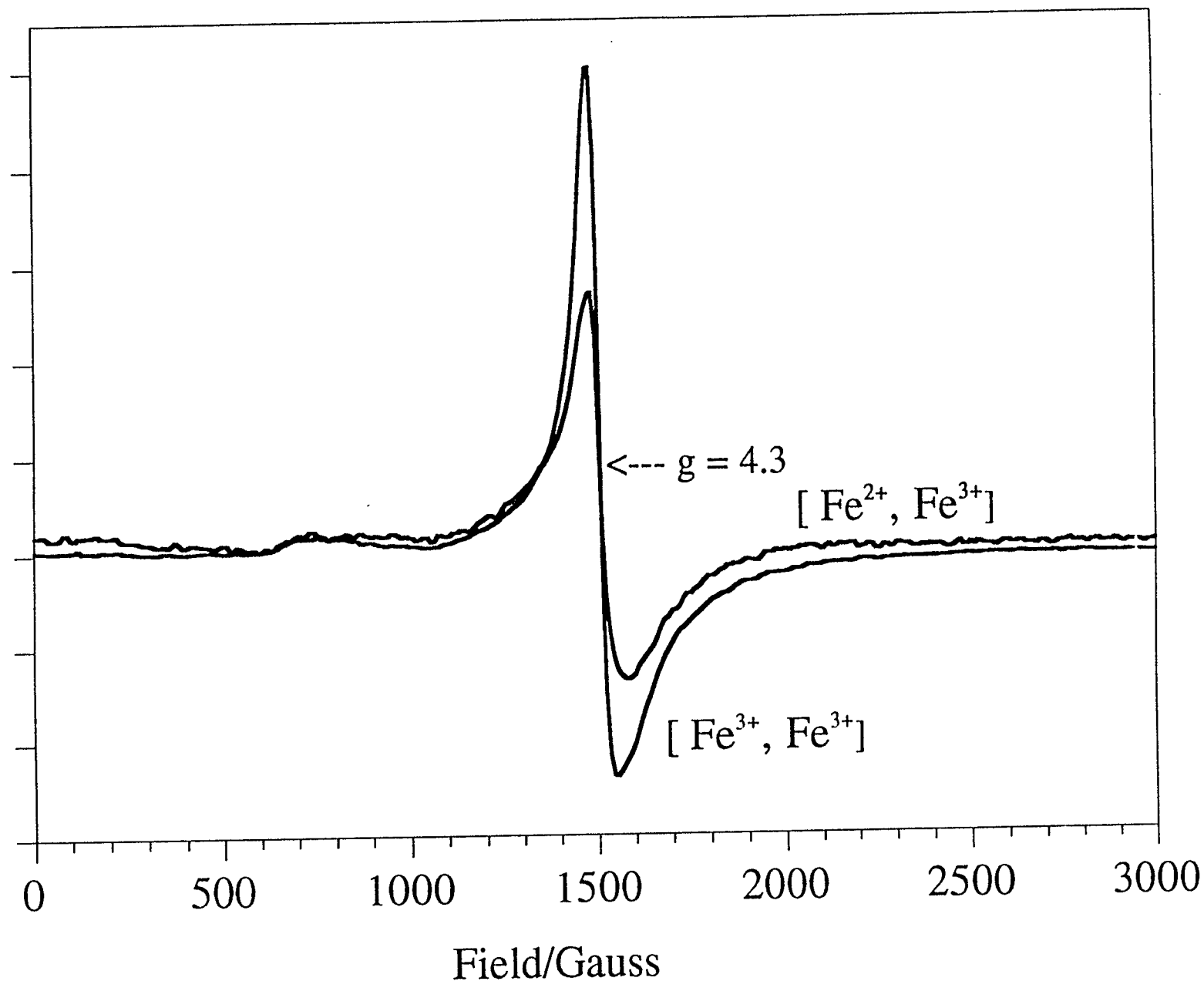
$[Fe^{2+}, Fe^{2+}] \rightarrow [Fe^{2+}, Fe^{3+}]$, $E_{1/2} = -690 \text{ mV/NHE}$ (quasi-reversible, $\Delta E = 450\text{mV}$, scan rate dependent, $K_{com} = 2.7 \times 10^6$); $[Fe^{2+}, Fe^{3+}] \rightarrow [Fe^{3+}, Fe^{3+}]$, $E_{1/2} = -310 \text{ mV/NHE}$ (reversible, $\Delta E = 70 \text{ mV}$).



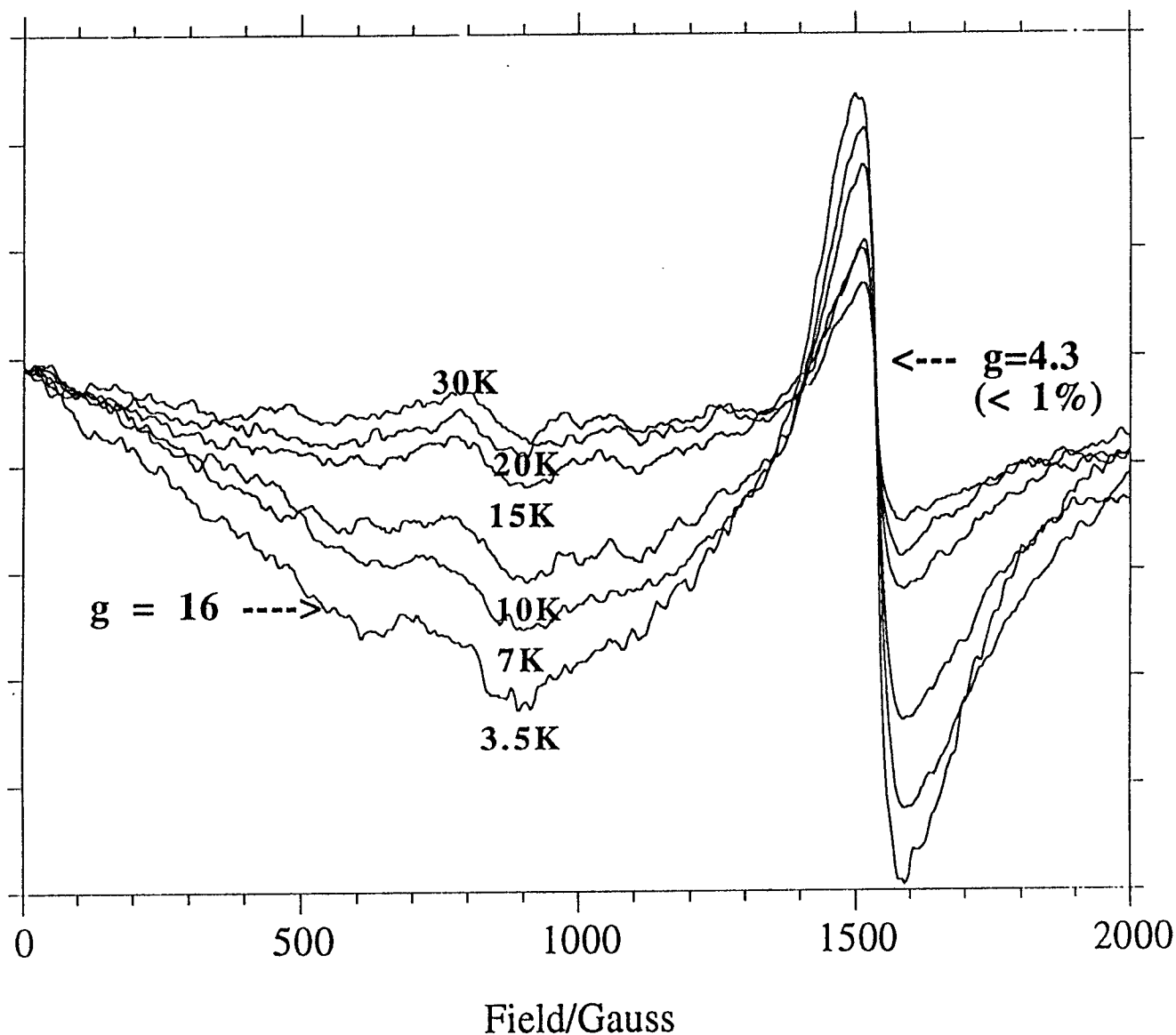
Stoichiometric iodine titration of a 1mM solution of $[\text{Fe}_2^{2+}(\text{H}_2\text{Hbamb})_2(\text{N-MeIm})_2]$ in DMF, followed by UV-vis, showing the formation of $[\text{Fe}^{2+} + \text{Fe}^{3+}(\text{H}_2\text{Hbamb})_2(\text{N-MeIm})_2]$ with isosbestic point at 325nm.



Stoichiometric iodine titration of a 1mM solution of $[\text{Fe}^{2+}\text{Fe}^{3+}(\text{H}_2\text{Hbamb})_2(\text{N-MeIm})_2]$ in DMF, followed by UV-vis, showing the formation of $[\text{Fe}_2^{3+}(\text{H}_2\text{Hbamb})_2(\text{N-MeIm})_2]$ with isosbestic points at 335 nm and 457 nm.



X - band epr spectra of 1mM solutions of $[\text{Fe}^{2+}\text{Fe}^{3+}(\text{H}_2\text{Hbamb})_2(\text{N-MeIm})(\text{I}^-)]$ and $[\text{Fe}_2^{3+}(\text{H}_2\text{Hbamb})_2(\text{N-MeIm})_2](2\text{I}^-)$ in DMF at 6K. (Observed power = 7.2×10^{-3} mW; Observe attenuation = -40 dB; Modulation Amp. = 20 Gauss; sensitivity = 1mV).



Variable temperature X-band EPR spectra of frozen solutions of 10mM $[\text{Fe}_2^{2+}(\text{H}_2\text{Hbamb})_2(\text{N-MeIm})_2]$ in DMF obtained with an observed microwave power of 5×10^{-3} mW. Signal at $g = 4.3$ is due to slight oxidation of sample (< 1%).