

### **derivative spectroscopy**

The first (second, ...) derivative absorption spectrum of a molecule is defined as the first (second, ...) derivative,  $dA(\tilde{\nu})/d\tilde{\nu}$ ,  $[dA(\tilde{\nu})/d\tilde{\nu}^2, \dots]$  of the absorbance  $A$  as a function of wavenumber,  $\tilde{\nu}$ . Wavelengths may be used in place of wavenumbers but the shape of the derivative spectra will be slightly different.

When derivative spectra are obtained at low temperature, they are called first (second, ...) derivative *low temperature absorption spectra* (specifying the solvent, temperature and solute concentration).

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