

**Lambert-Beer law:**  $A = \varepsilon C d$

A= Abs;  $\varepsilon$  = abs coefficient; C = concentration; d= thickness

$$\begin{cases} A_{glassA} = \varepsilon_{Fe^{2+}} C_{Fe^{2+} glassA} d_{glassA} + \varepsilon_{Fe^{3+}} C_{Fe^{3+} glassA} d_{glassA} \\ A_{glassB} = \varepsilon_{Fe^{2+}} C_{Fe^{2+} glassB} d_{glassB} + \varepsilon_{Fe^{3+}} C_{Fe^{3+} glassB} d_{glassB} \end{cases}$$

$$\begin{cases} \varepsilon_{Fe^{2+}} = \frac{A_{glassA} - \varepsilon_{Fe^{3+}} C_{Fe^{3+} glassA} d_{glassA}}{C_{Fe^{2+} glassA} d_{glassA}} \\ A_{glassB} = \varepsilon_{Fe^{2+}} C_{Fe^{2+} glassB} d_{glassB} + \varepsilon_{Fe^{3+}} C_{Fe^{3+} glassB} d_{glassB} \end{cases}$$

$$\begin{cases} \varepsilon_{Fe^{2+}} = \frac{A_{glassA} - \varepsilon_{Fe^{3+}} C_{Fe^{3+} glassA} d_{glassA}}{C_{Fe^{2+} glassA} d_{glassA}} \\ \varepsilon_{Fe^{3+}} = \frac{A_{glassB} C_{Fe^{2+} glassA} d_{glassA} - A_{glassA} C_{Fe^{2+} glassB} d_{glassB}}{d_{glassA} d_{glassB} (C_{Fe^{3+} glassB} C_{Fe^{2+} glassA} - C_{Fe^{3+} glassA} C_{Fe^{2+} glassB})} \end{cases}$$