**In excel**

1. **Confidence condition (98%)**
   * Use λmax of the standard (STD) as reference.
   * Condition: the unknown’s λmax should fall within ±2% of the standard λmax.
   * In formula:

λstd×0.98<λunk<λstd×1.02

1. **Comparison against standard deviation**
   * Unknown (unk) should be within ±0.25 standard deviations of the standard intensity.
   * If normalized data are used (norm1, norm2), check accordingly:
     + unk(norm1) → ±0.25 std(norm1)
     + unk(norm2) → ±0.25 std(norm2)
2. **Decision rule**
   * If lower bound < solution < upper bound → condition is true (accepted).

**Step for spectra overlay**

1. **Loading the data that filtered out.**
2. **Draw the diagram for the spectral overlay comparison. (if there is 3-4 compound, see whether it can be hide some of them or not.)**
3. Discover the matches number.  
   for each candidate (bound +- 25%)
4. Confirm the compound.

Plotting

 **λ is always the X-axis**

* In spectral overlay, the wavelength (λ) is always plotted on the horizontal axis.

 **Plotting the data**

* Plot all λ values against their corresponding data.
* Example: if in Excel, λ starts at cell A37 and absorbance at G37, then plot (A37, G37) … up to (A316, G316).
* Some Excel rows may not be useful and can be ignored.

Plotting method

1. decide how many lines do u have base on the filtered result.
2. Increase the number of line in the plot.
3. Client decide what is the y axis in the graph. Because in excel, there is a lot of graph, the common point is that all x axis is the lambda, and y axis is any variable they want to compare. Maybe that is a graph for the area that the compound can lay in or it can the graph that comparing compound.
4. Plot the graph (adding the hide button for hiding some compound)

Challenges

If the filtering step yields no candidate compounds, then the spectral overlay cannot be performed.  
If the criteria need to be relaxed in order to allow more compounds to pass filtering, an algorithm or standard must be defined. However, this decision cannot be made unilaterally and should be determined by the client.