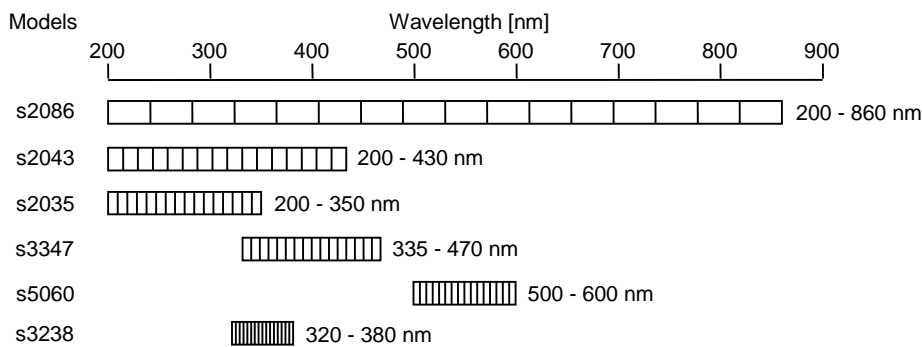


Selecting the best spectrometer for the MH-5000

The MH-5000 series has some models depend on embedded spectrometers. This is an important decision to select the suitable model for your measurement. This document provides an overview of selecting the best model for your needs. Following figure shows the typical wavelength range and resolution of the spectrometers.

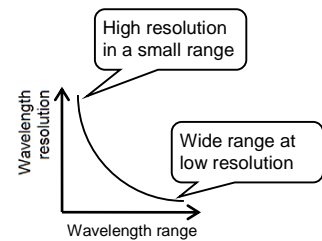


The definition of models

s2086

860 nm, the end of the measurement range

200 nm, the starting point of the measurement

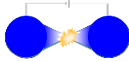


The range is inversely proportional to the resolution.

The wide range model covers many emission lines of the elements.

The high resolution model allows clear separation of nearby emission peaks.

Following sections show the difference of spectra depending on the models. ●

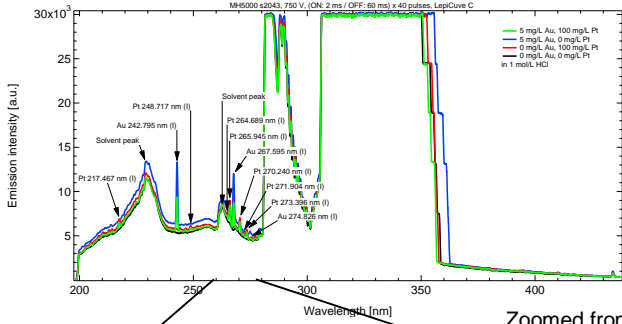


01

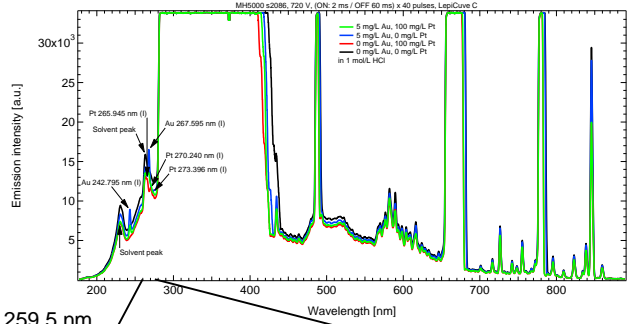
Gold (Au) and Platinum (Pt)

Gold and platinum standard solutions were measured with both the s2043 and s2086, which emission lines located closely.

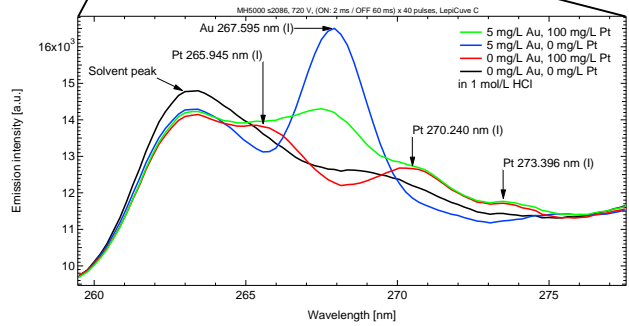
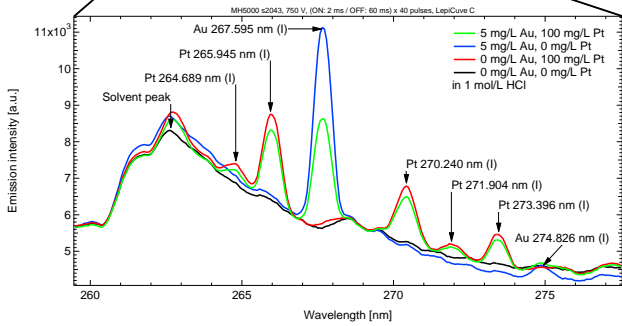
Model s2043



Model s2086



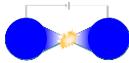
Zoomed from 259.5 nm to 277.5 nm



The gold emission lines and the platinum emission lines were clearly separated with the s2043

The gold emission line and the platinum emission lines could not be separated with the s2086.



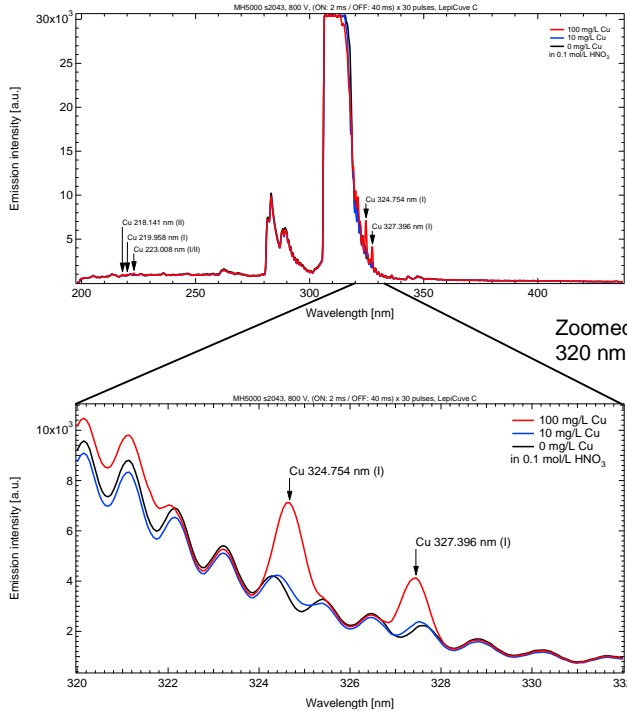


02

Copper (Cu)

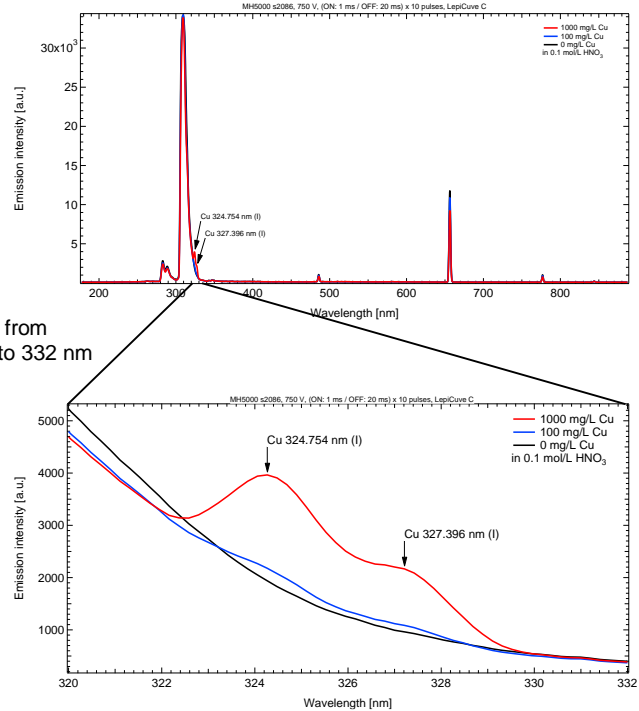
Copper standard solutions were measured with both the s2043 and s2086. The strongest copper emission line was located close to the OH peak near 300 nm. The measurement conditions were adjusted not to overlap with this OH peak.

Model s2043



The two different copper emission lines were separated with the s2043. The copper emission lines observed clearly with 100 mg/L of copper solution with s2043, allowing for stronger measurement conditions than the s2086.

Model s2086



The two different copper lines seem unseparated with the s2086. The measurement condition was restricted not to overlap with the OH peak, and the emission lines did not clearly observed with 100 mg/L of copper solution. Finally, they clearly observed with 1000 mg/L.

We also provide the elemental emission spectra of each spectrometer that will help you to select the best model for your needs. ●

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