

**Figure 1**: XPS spectra of Pu 4f for a-Pu after having been sputtered down to bare metal. The red trace shows the 5/2 and 7/2 peaks with highest intensity in the metal components. The blue and green traces show changes in the spectra after H<sub>2</sub> exposure. Note the decrease in the metal peaks and the increase in the 7/2 satellite.