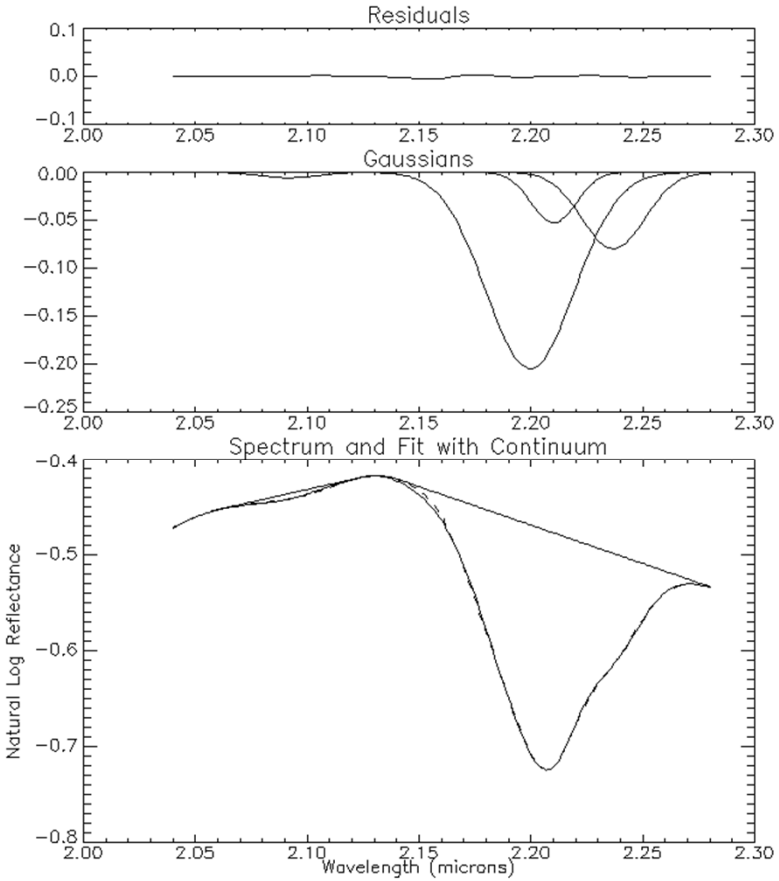
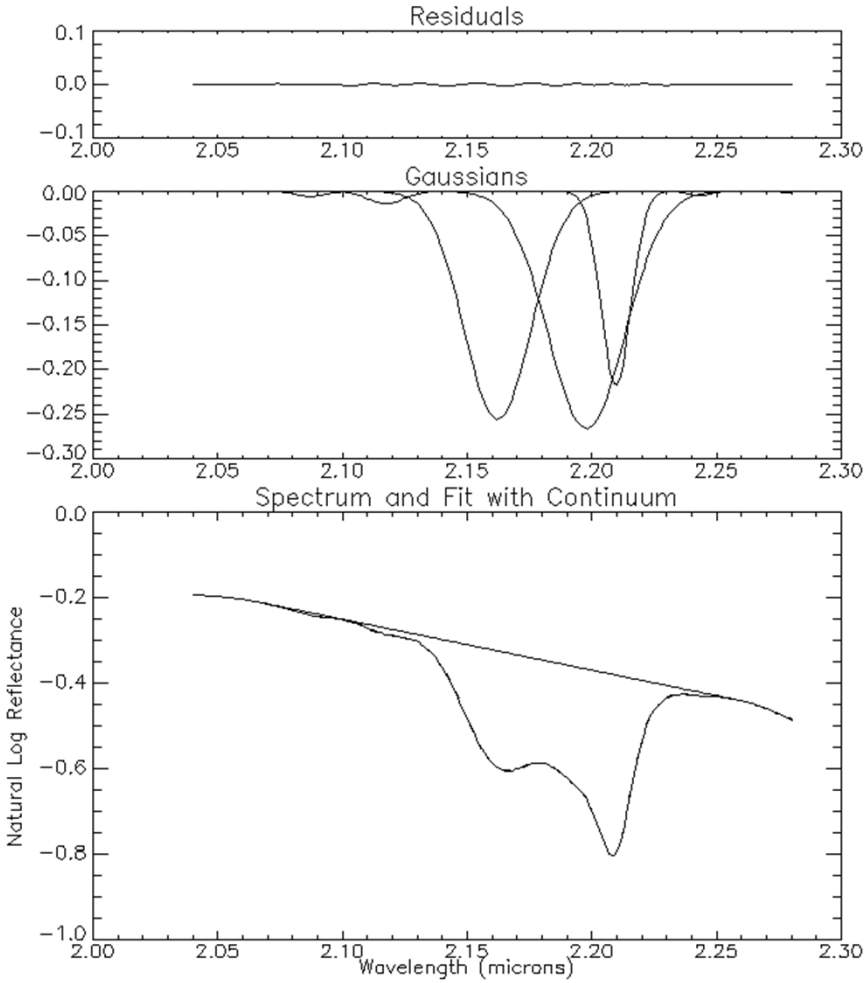
Interpretation of reflectance spectra of clay mineral-silica mixtures: implications for Martial clay mineralogy at Mawrth Vallis - Nancy K. McKeown, Janice L. Bishop, Javier Cuadros, Stephen Hillier, Elena Amador, Heather D. Makarewicz, Mario Parente, and Eli A. Silver

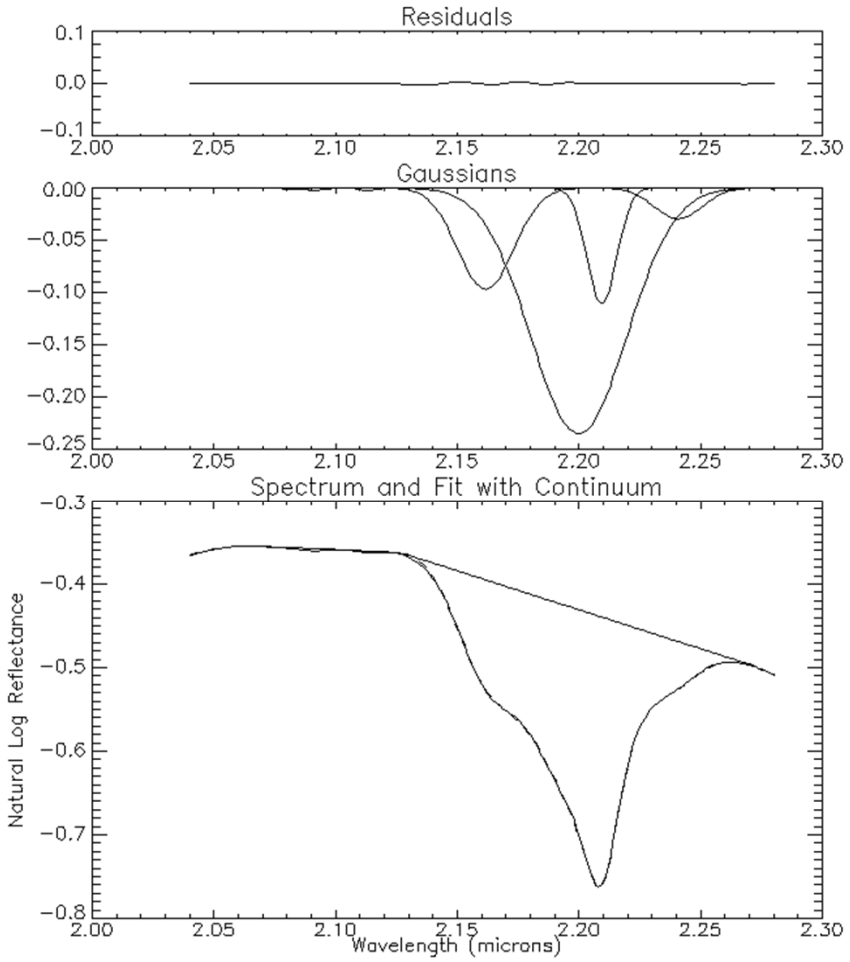
SOM1: MGM results for montmorillonite SWy-2, intimate mixture end member



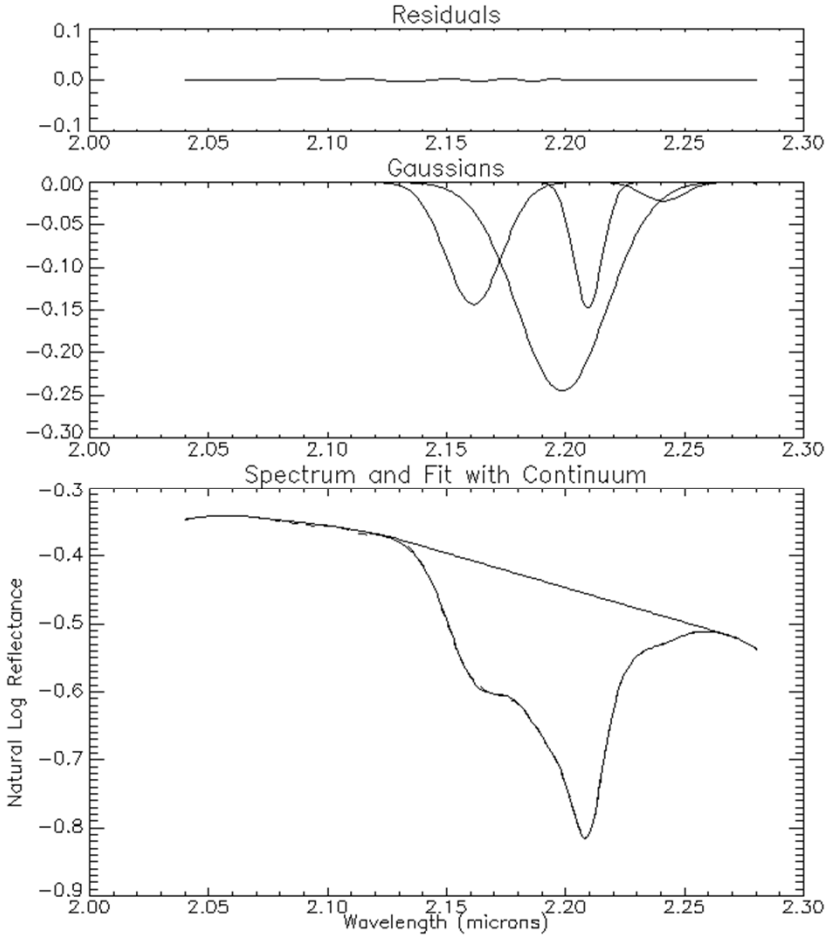
SOM2: MGM results for 100% kaolinite KGa-1, intimate mixture end member



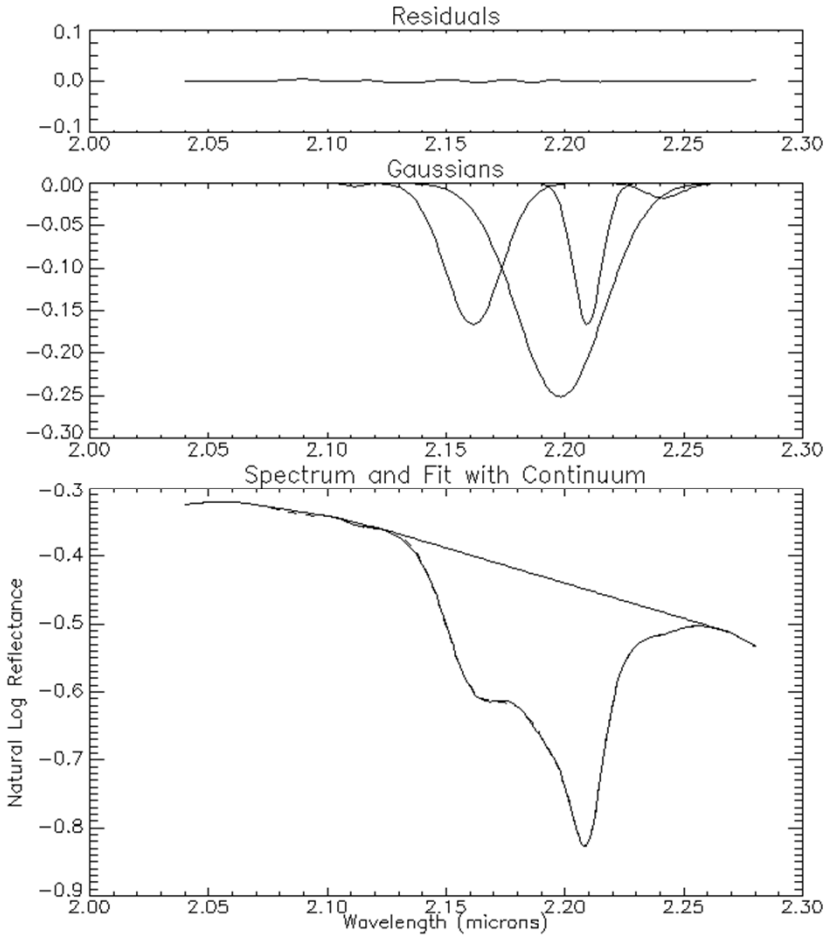
SOM3: MGM results for intimate mixture spectrum containing 25% kaolinite−75% montmorillonite



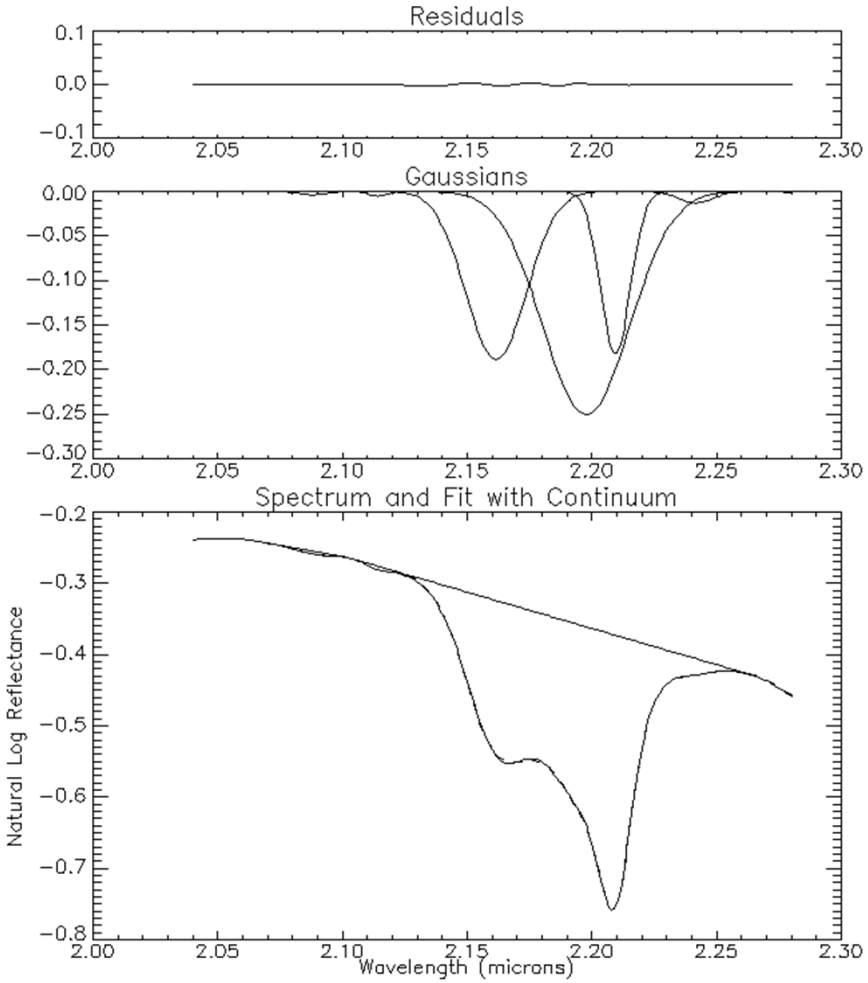
SOM4: MGM results for intimate mixture spectrum containing 50% kaolinite-50% montmorillonite



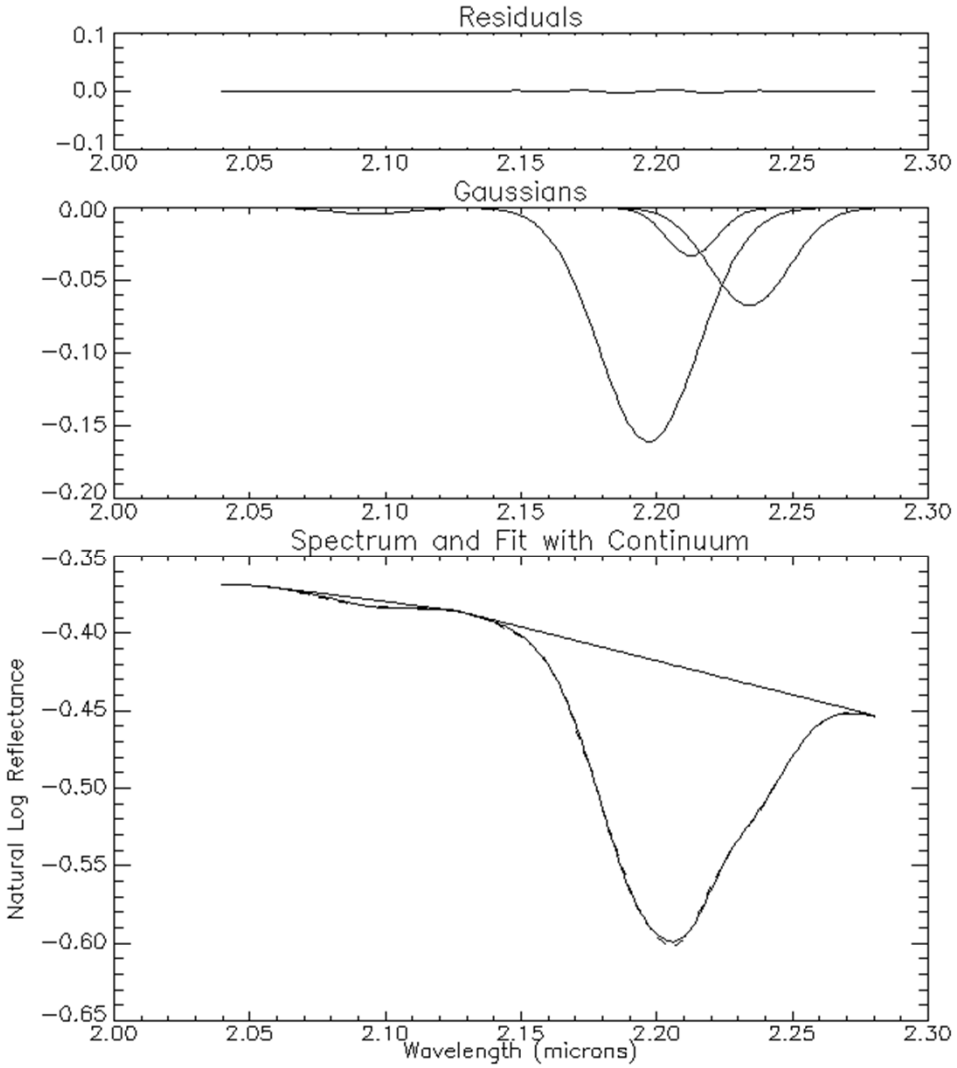
SOM5: MGM results for intimate mixture spectrum containing 60% kaolinite-40% montmorillonite



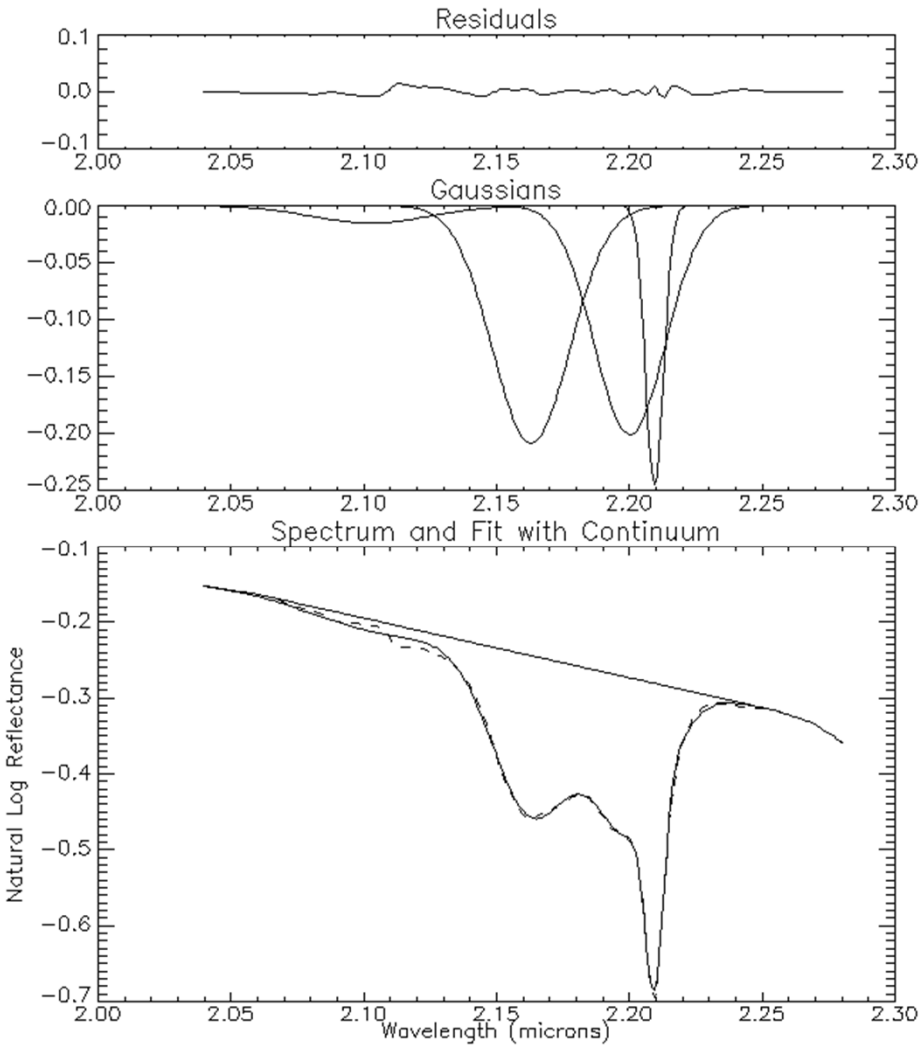
SOM6: MGM results for intimate mixture spectrum containing 75% kaolinite-25% montmorillonite



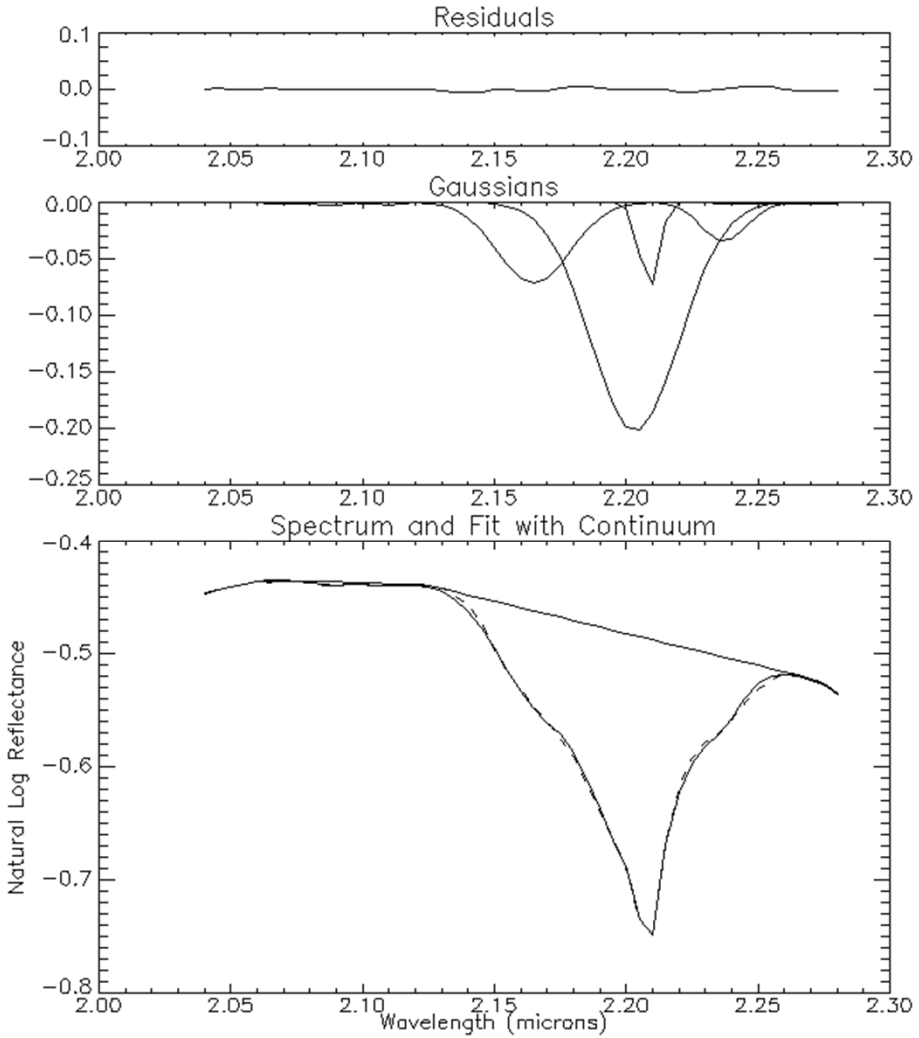
SOM7: MGM results for montmorillonite SWy-2, linear mixture end member



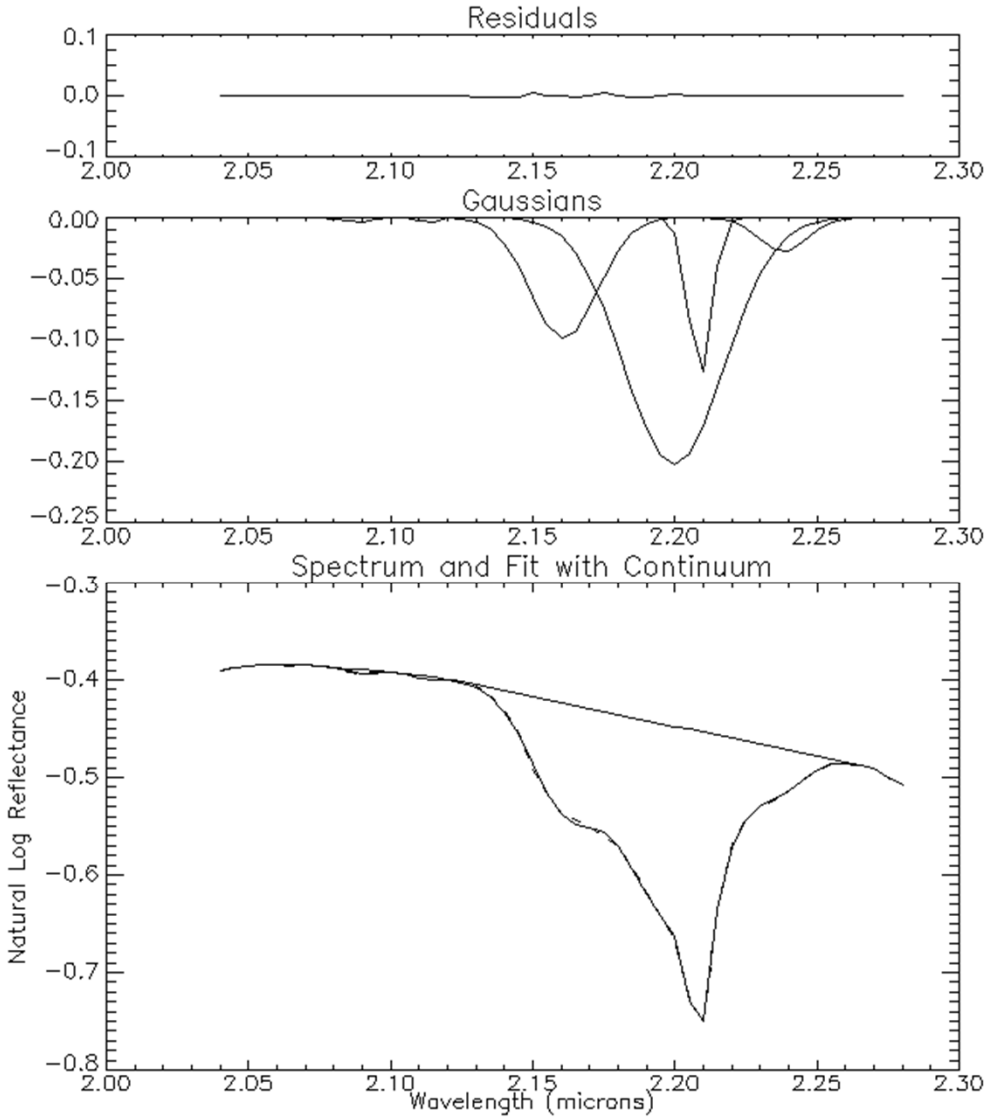
SOM8: MGM results for 100% kaolinite KGa-1, linear mixture end member



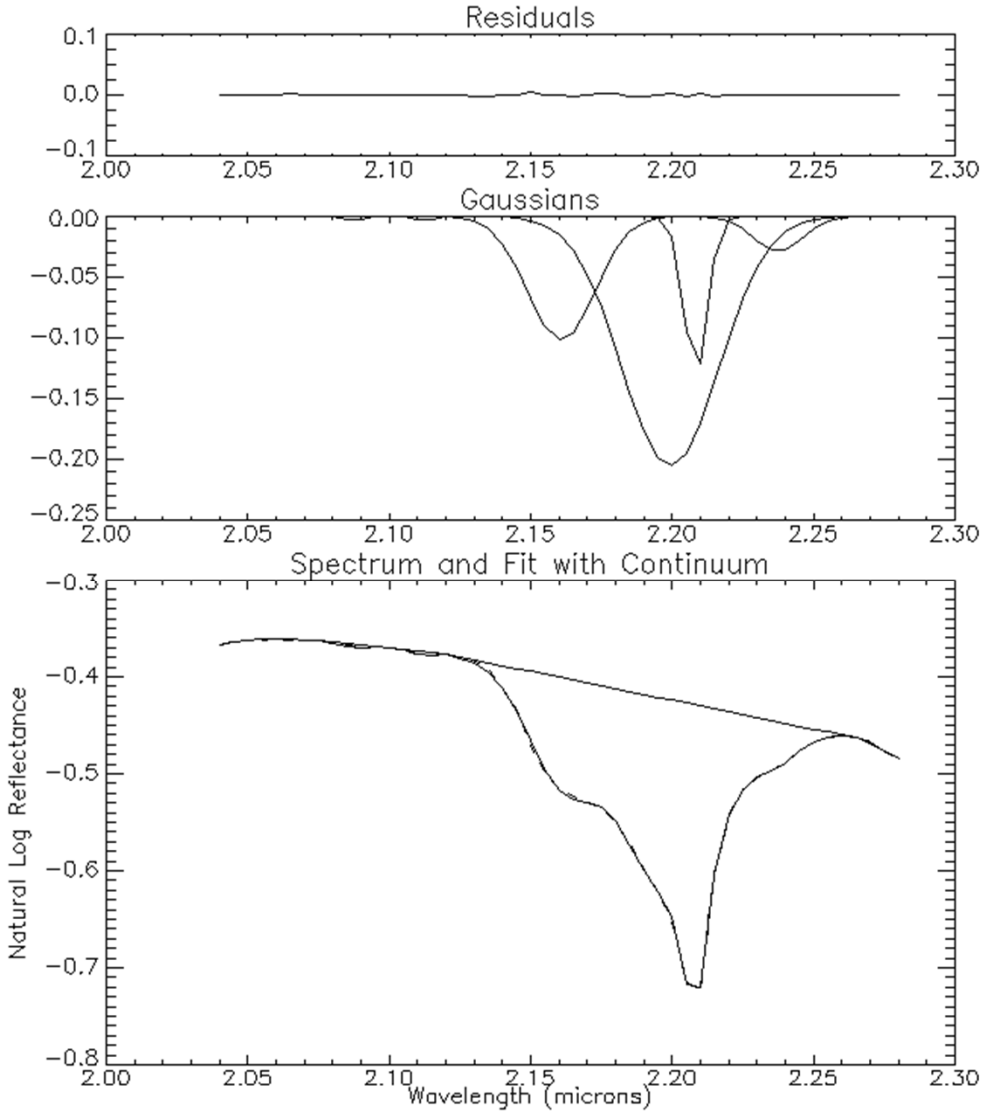
SOM9: MGM results for linear mixture spectrum containing 15% kaolinite-85% montmorillonite. For this and following linear mixtures, band 3 does not plot with a Gaussian shape. This is due to the paucity of data points and narrowness of the band in this region.



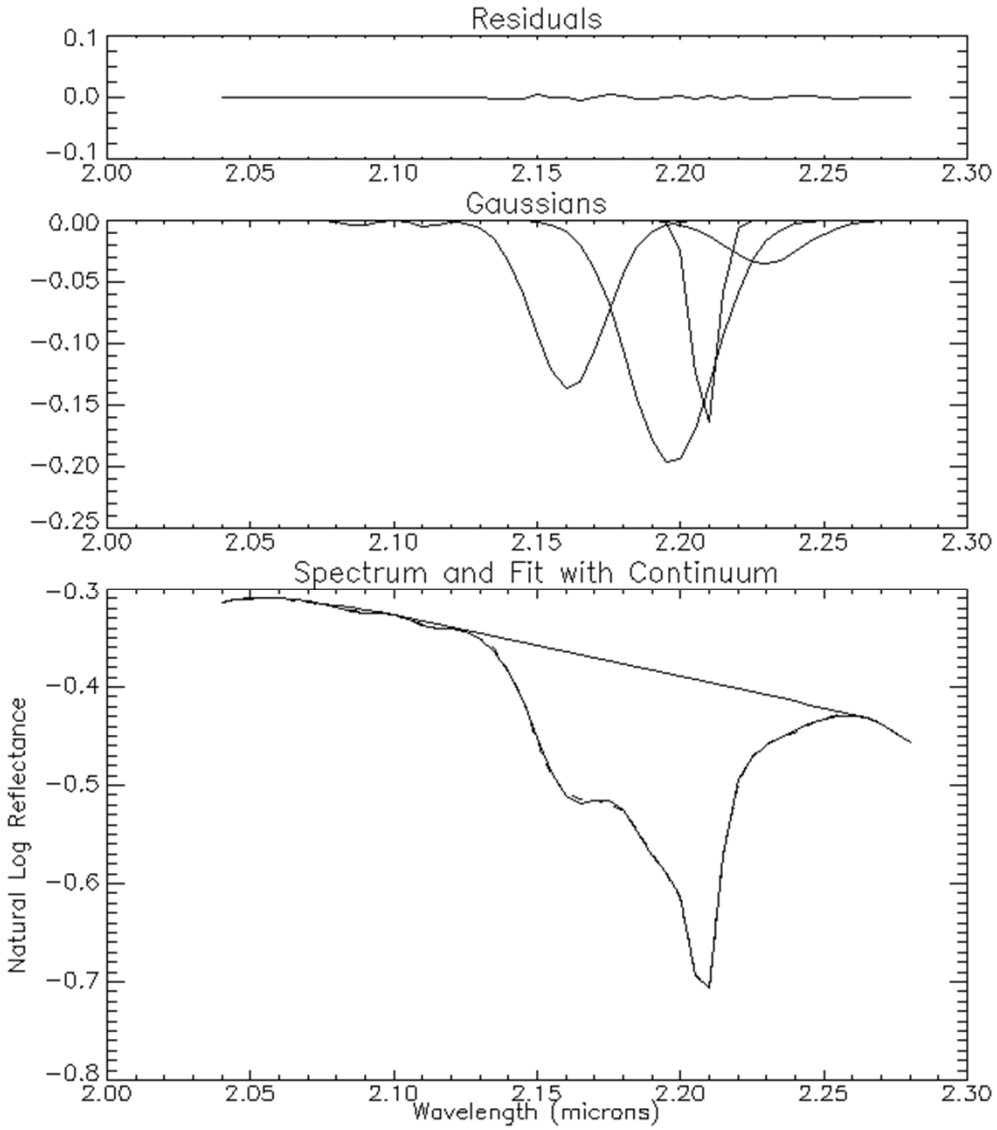
SOM10: MGM results for linear mixture spectrum containing 25% kaolinite-75% montmorillonite



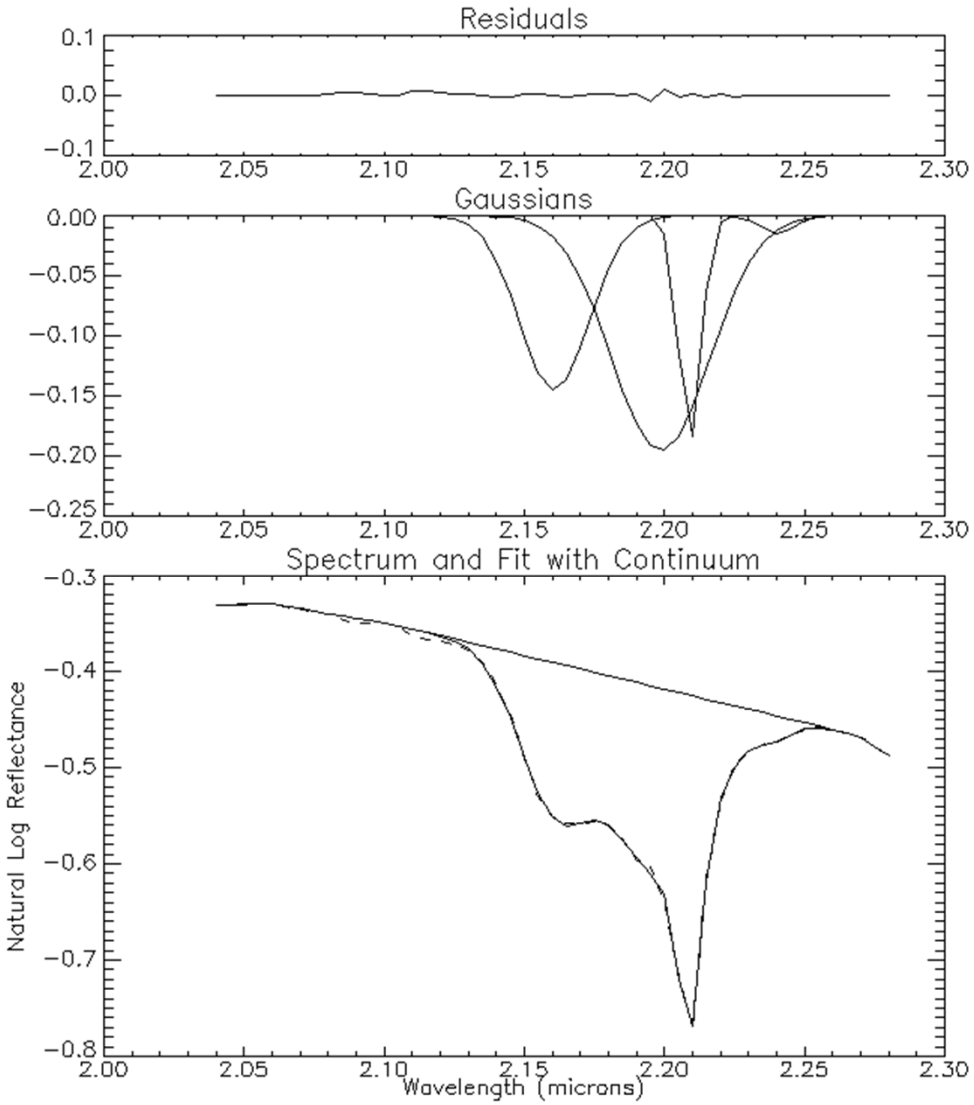
SOM11: MGM results for linear mixture spectrum containing 30% kaolinite-70% montmorillonite



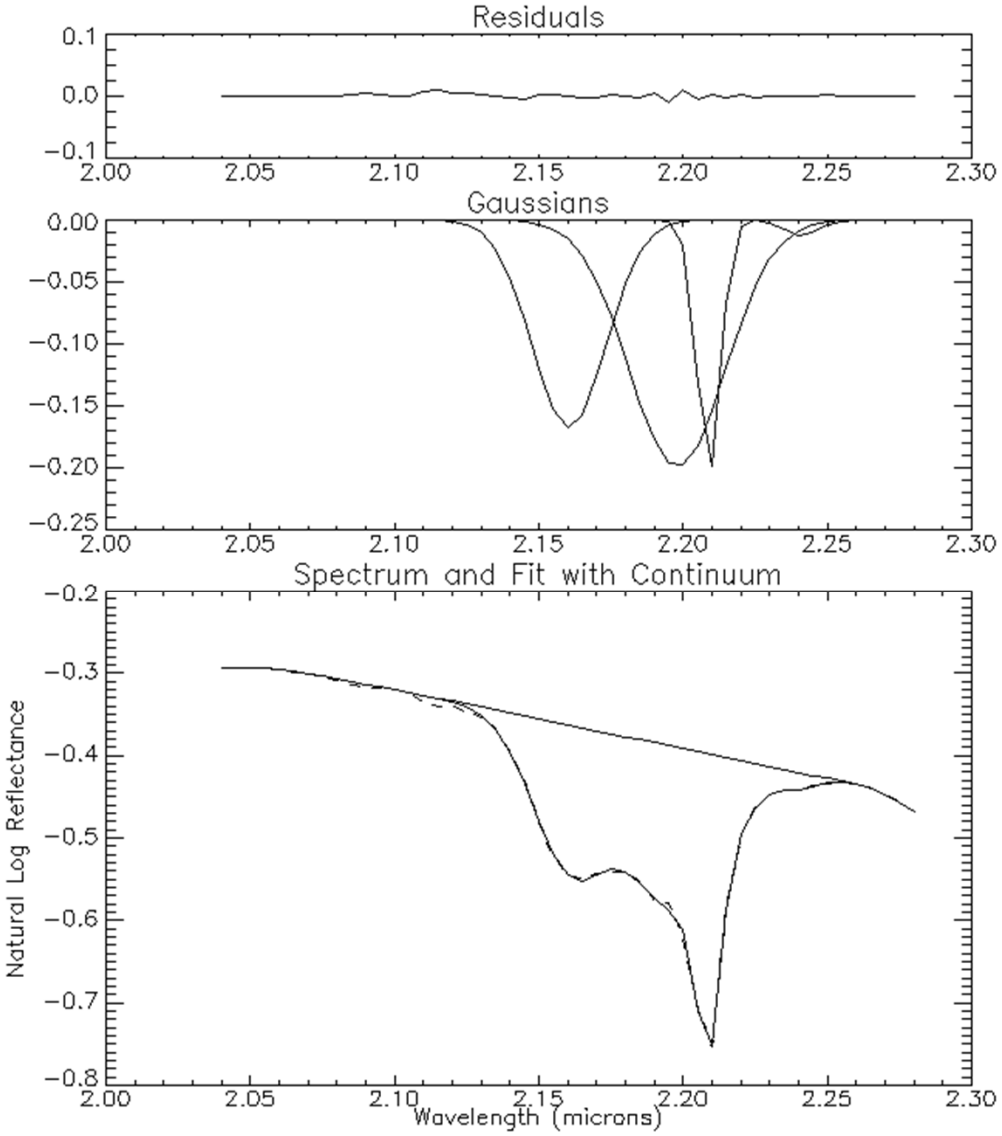
SOM12: MGM results for linear mixture spectrum containing 40% kaolinite-60% montmorillonite



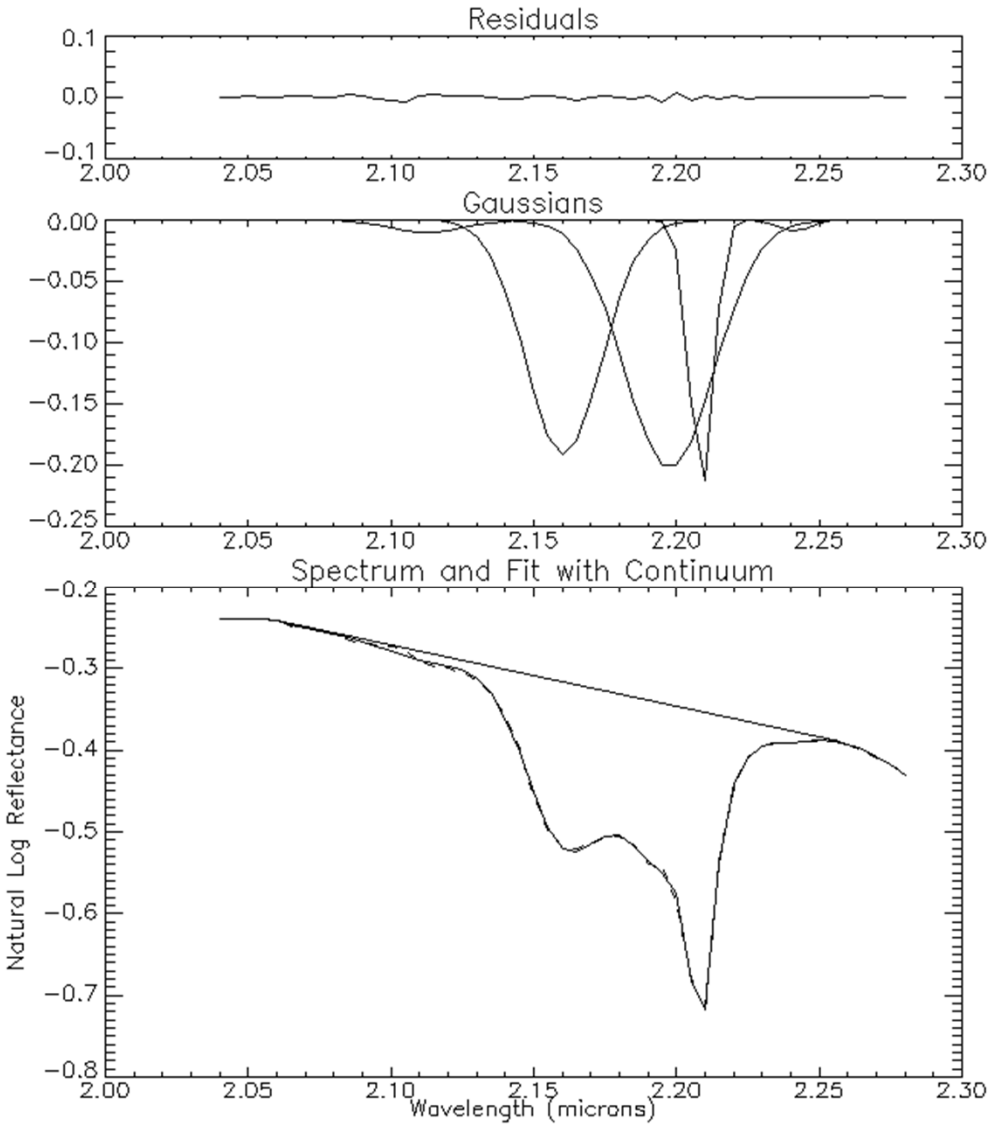
SOM13: MGM results for linear mixture spectrum containing 50% kaolinite-50% montmorillonite



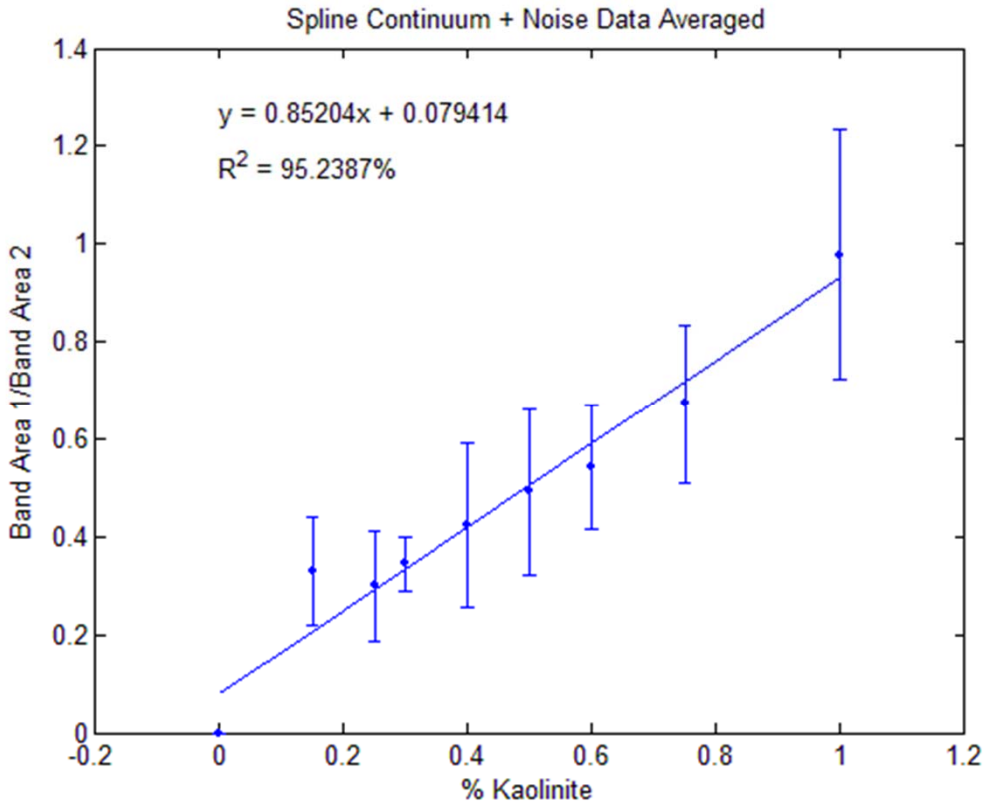
SOM14: MGM results for linear mixture spectrum containing 60% kaolinite-40% montmorillonite



SOM15: MGM results for linear mixture spectrum containing 75% kaolinite-25% montmorillonite



SOM16: From MGM, the area of band 1 (kaolinite 2.17 µm) divided by the area of band 2 plotted against the amount of kaolinite in the sample, scaled to unity for pure kaolinite. The ratio of these areas increases linearly with the amount of kaolinite in the sample.



SOM17: From MGM, the area of band 1 (kaolinite 2.17 µm) divided by the sum of the areas of bands 2, 3, and 4 (kaolinite and montmorillonite 2.20 µm and 2.21 µm, and montmorillonite 2.24 µm, respectively) plotted against the amount of kaolinite in the sample, scaled to unity. The ratio of these areas increases linearly with the amount of kaolinite in the sample.