

APPENDIX B

The appendix contains infrared spectra of samples listed in Table 1 and Table 1A, which are not contained elsewhere in the paper. Some are included here because they are helpful but not necessary to the discussions in the text; others, because they show significant differences due to the use of KBr rather than TlBr. At least one spectrum of each of the nearly pure samples in Table 1 and Table 1A are also included here to give a fuller picture of the variation present in infrared spectra of the manganese oxides.

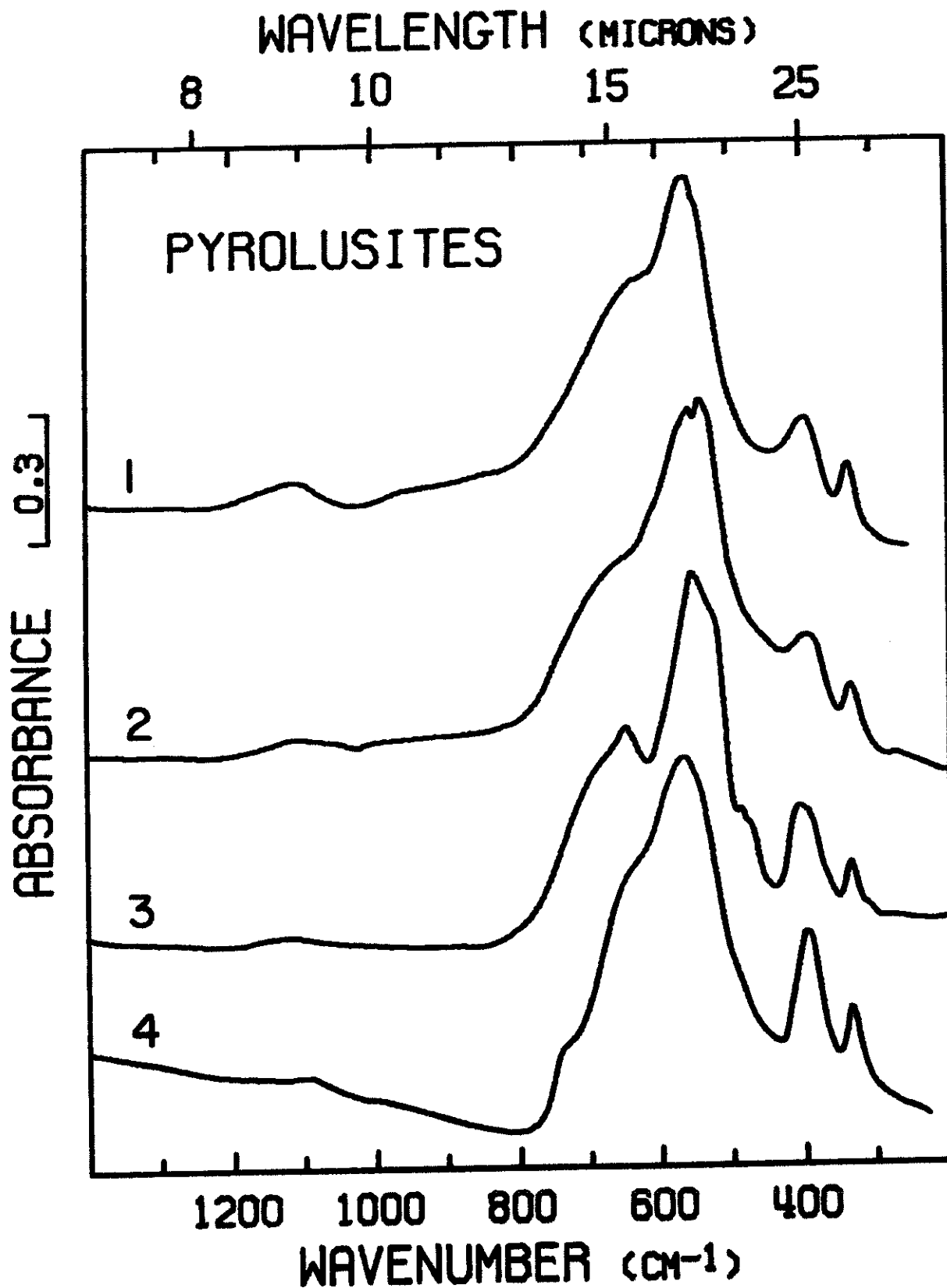


Figure 1B. Infrared spectra of pyrolusites. Presentation intensities and pellet types: #1, 230%, T1Br; #2, 223%, T1Br; #3, 142%, T1Br; #4, 148%, KBr.

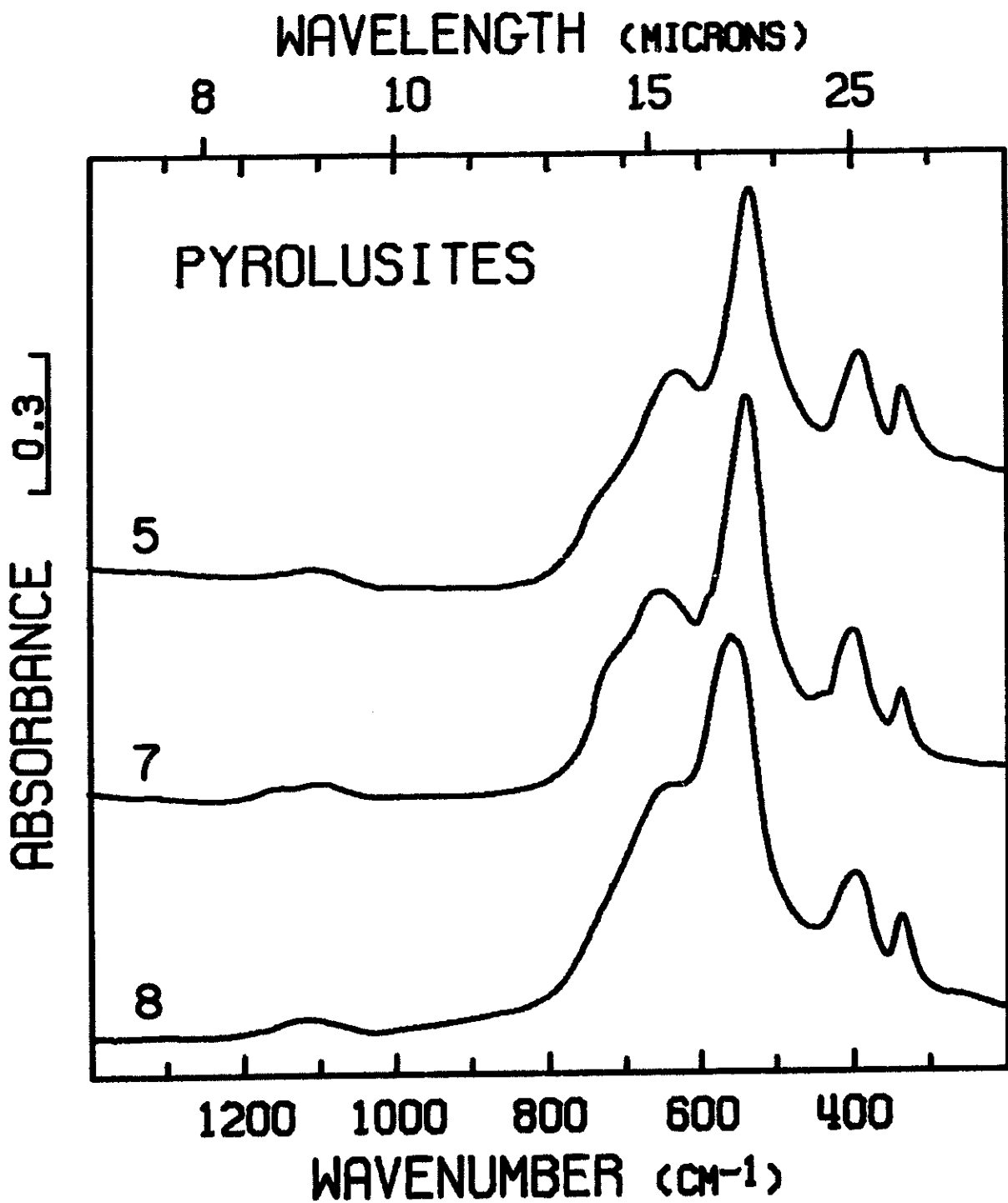


Figure 2B. Infrared spectra of pyrolusites, continued. Presentation intensities and pellet types: #5, 264%, T1Br; #7, 101%, T1Br; #8, 177%, T1Br.

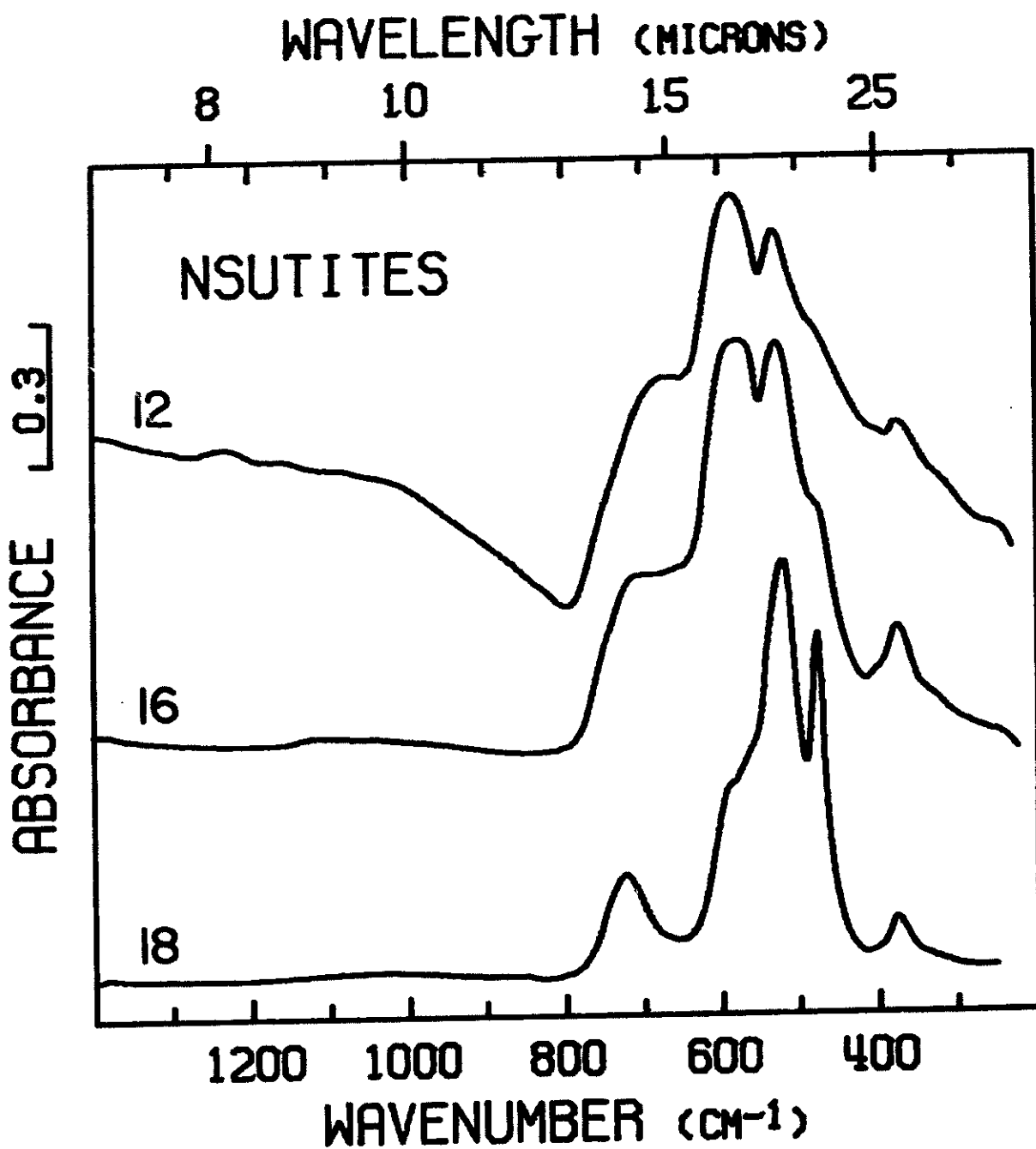


Figure 3B. Infrared spectra of nsutites. Presentation intensities and pellet types: #12, 280%, KBr; #16, 147%, KBr; #18, 79%, KBr.

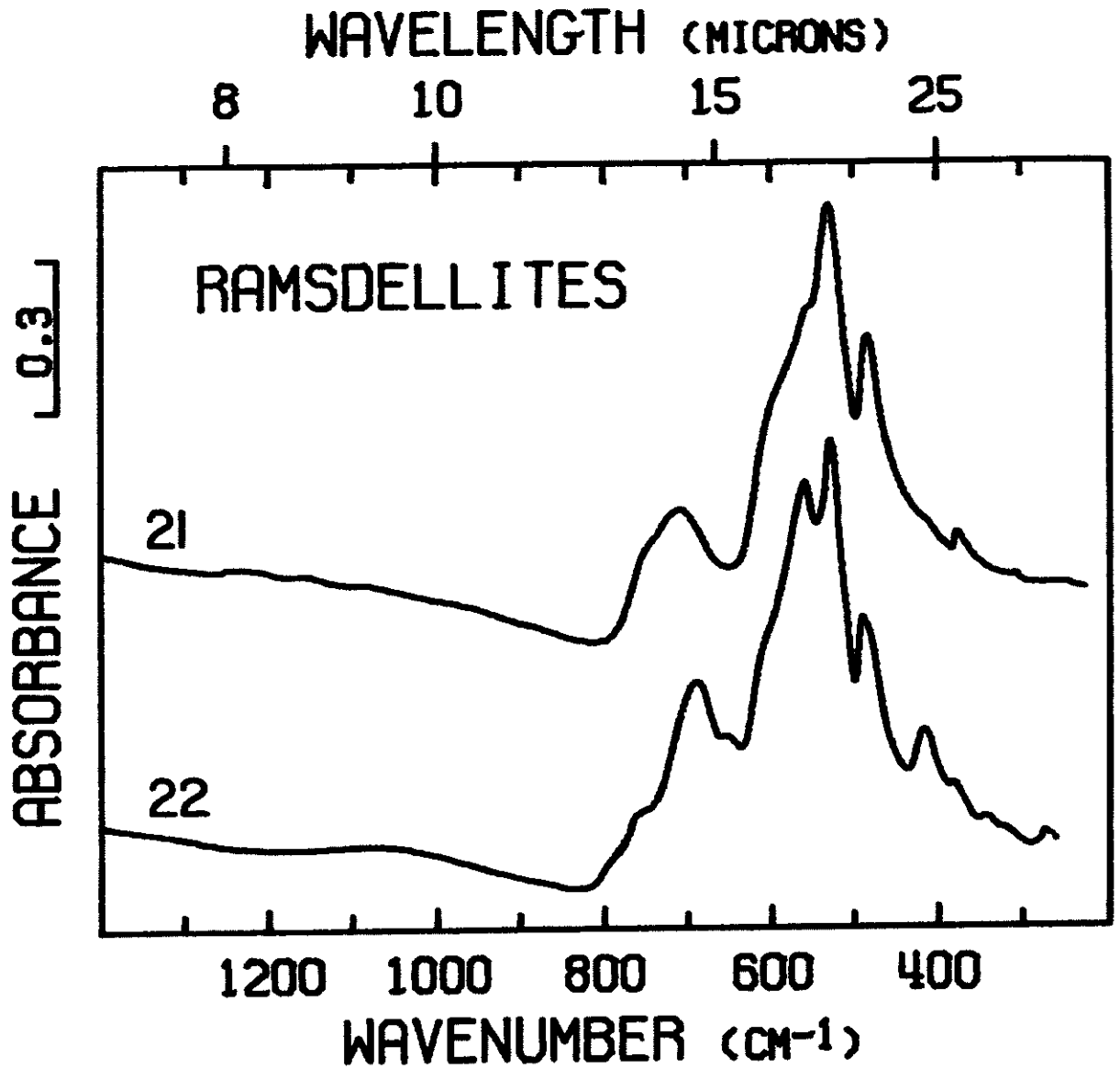


Figure 4B. Infrared spectra of ramsdellites. Presentation intensities and pellet types: #21, 161%, KBr; #22, 161%, KBr.

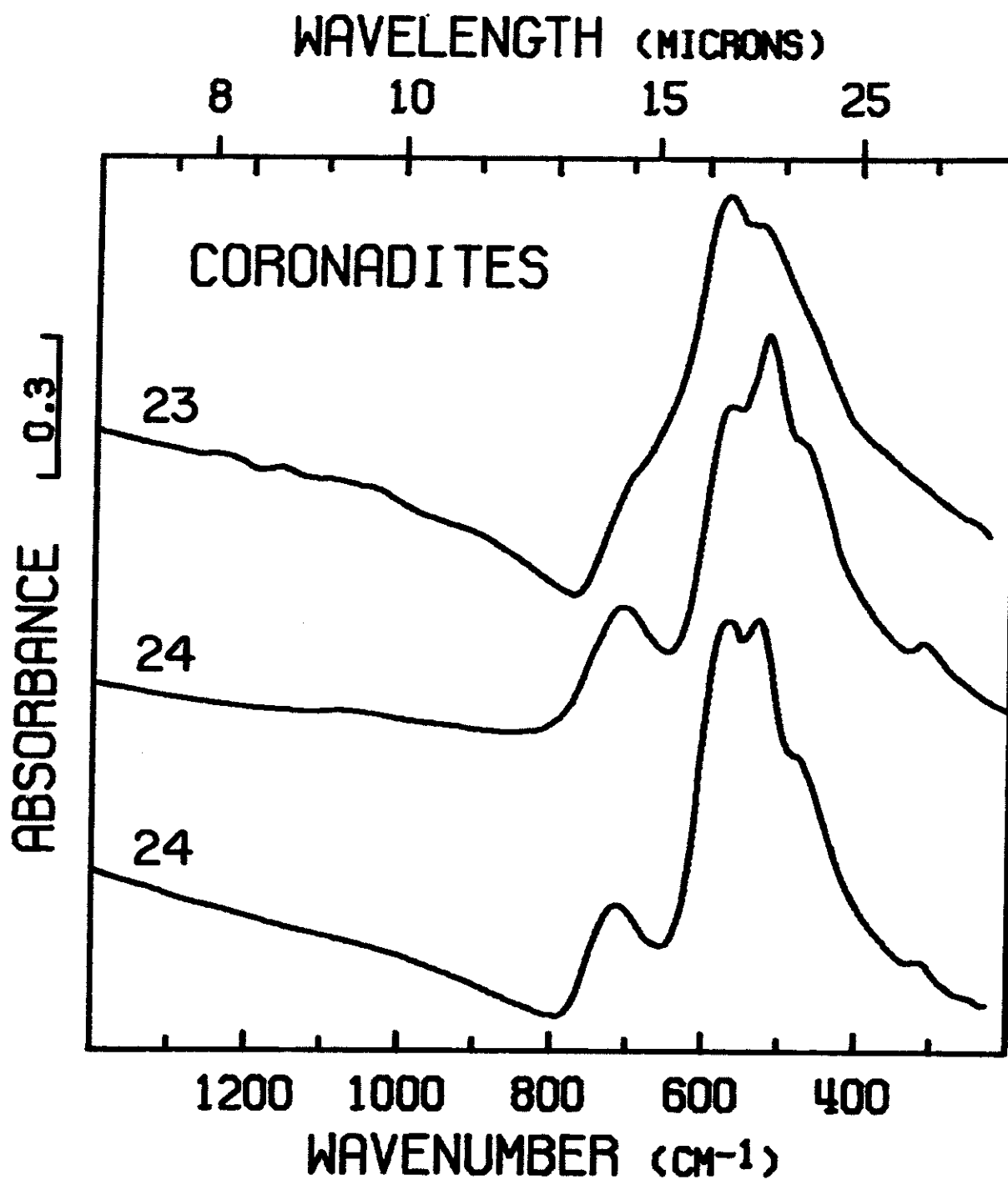


Figure 5B. Infrared spectra of coronadites. Presentation intensities and pellet types: #23, 404%, KBr; #24, 256%, TlBr; #24, 294%, KBr.

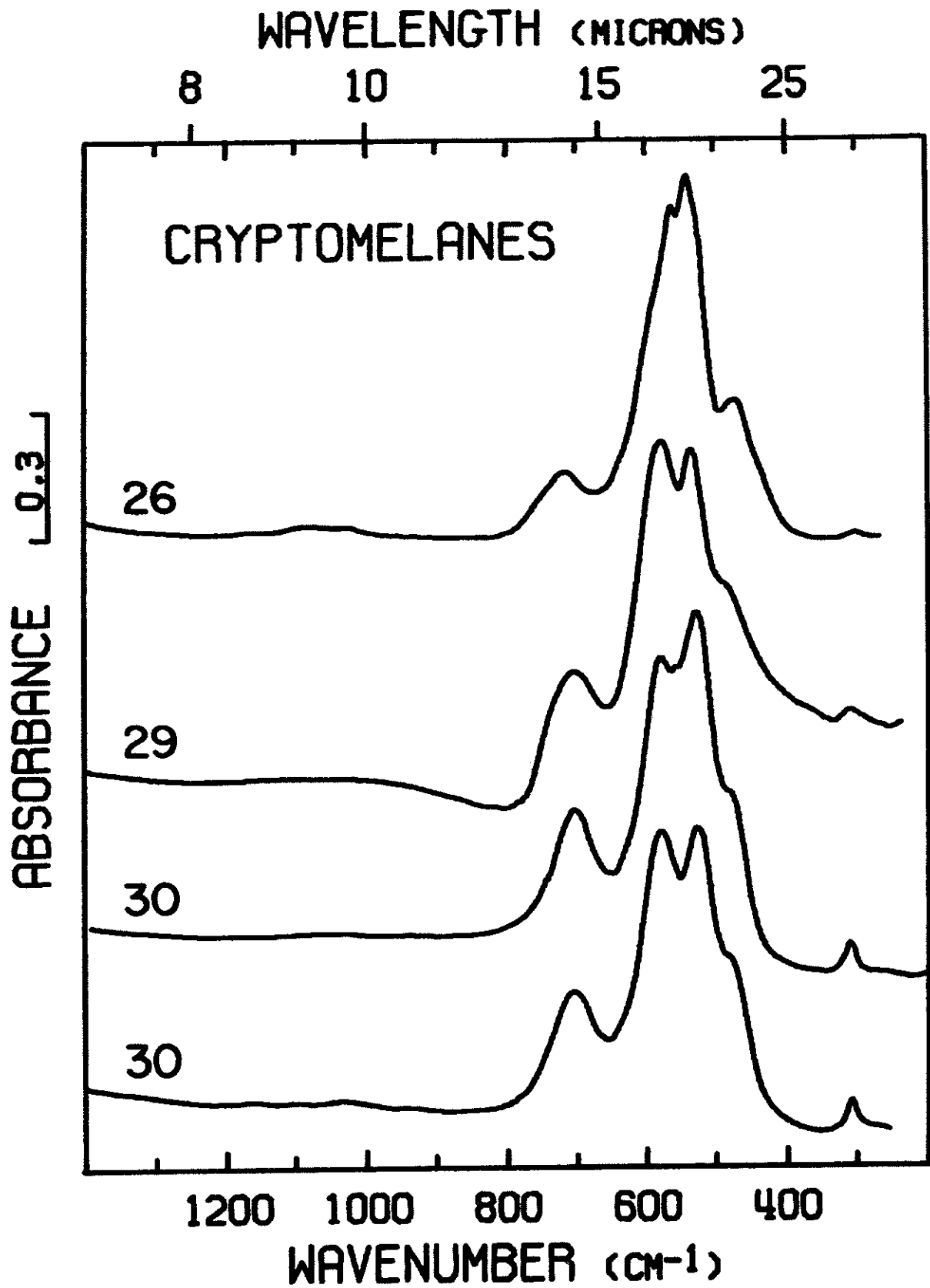


Figure 6B. Infrared spectra of cryptomelanes. Presentation intensities and pellet types: #26, 87%, KBr; #29, 243%, KBr; #30, 124%, TlBr; #30, 183%, KBr.

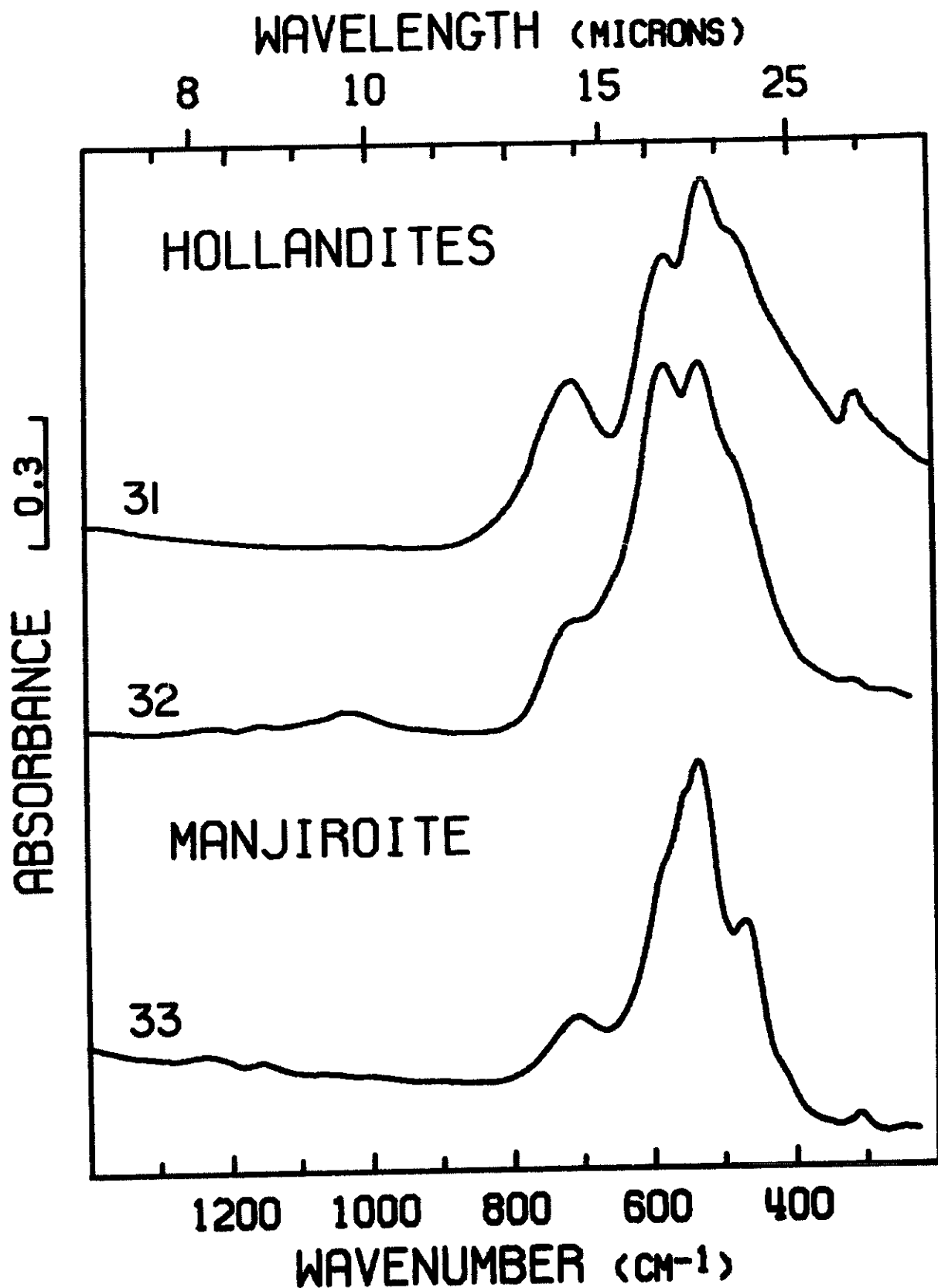


Figure 7B. Infrared spectra of hollandites and manjiroite.
 Presentation intensities and pellet types: #31, 252%, T1Br; #32, 186%, KBr; #33, 118%, KBr.

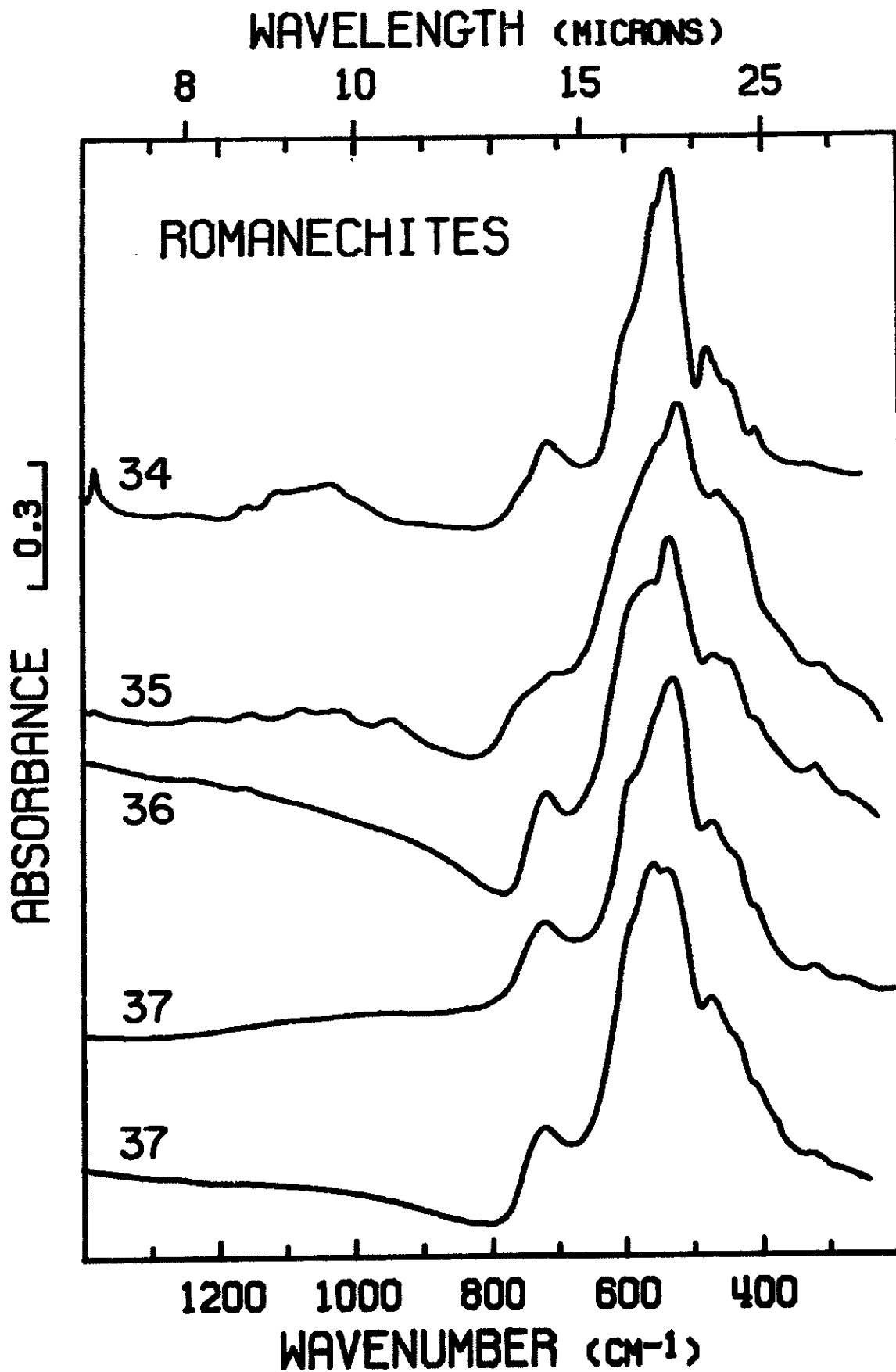


Figure 8B. Infrared spectra of romanechites. Presentation intensities and pellet types: #34, 102%, KBr; #35, 207%, KBr; #36, 280%, KBr; #37, 138%, TlBr; #37, 180%, KBr.

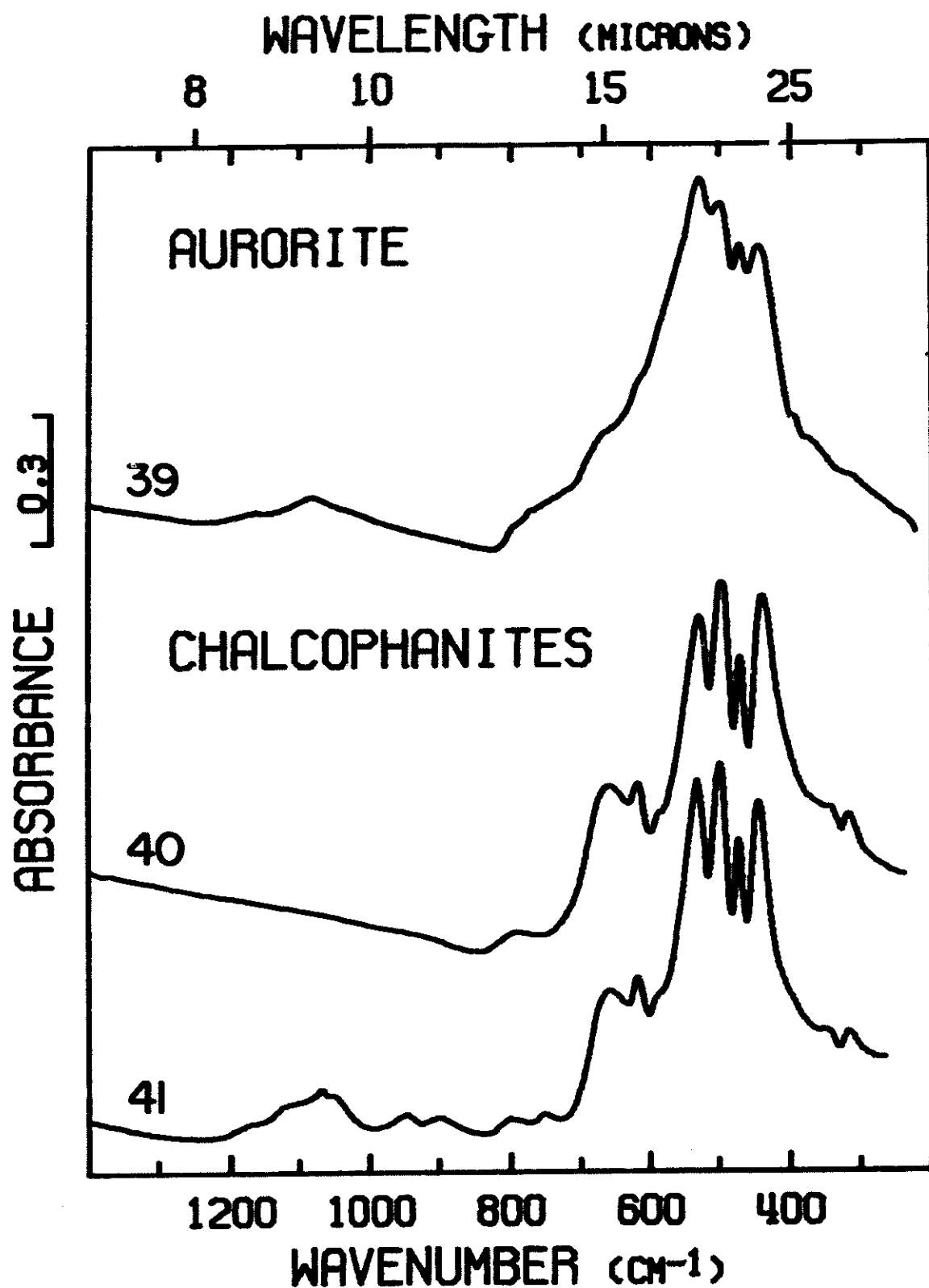


Figure 9B. Infrared spectra of aurorite and chalcophanites.
 Presentation intensities and pellet types: #39, 256%, KBr; #40, 164%, KBr; #41, uncertain, KBr.

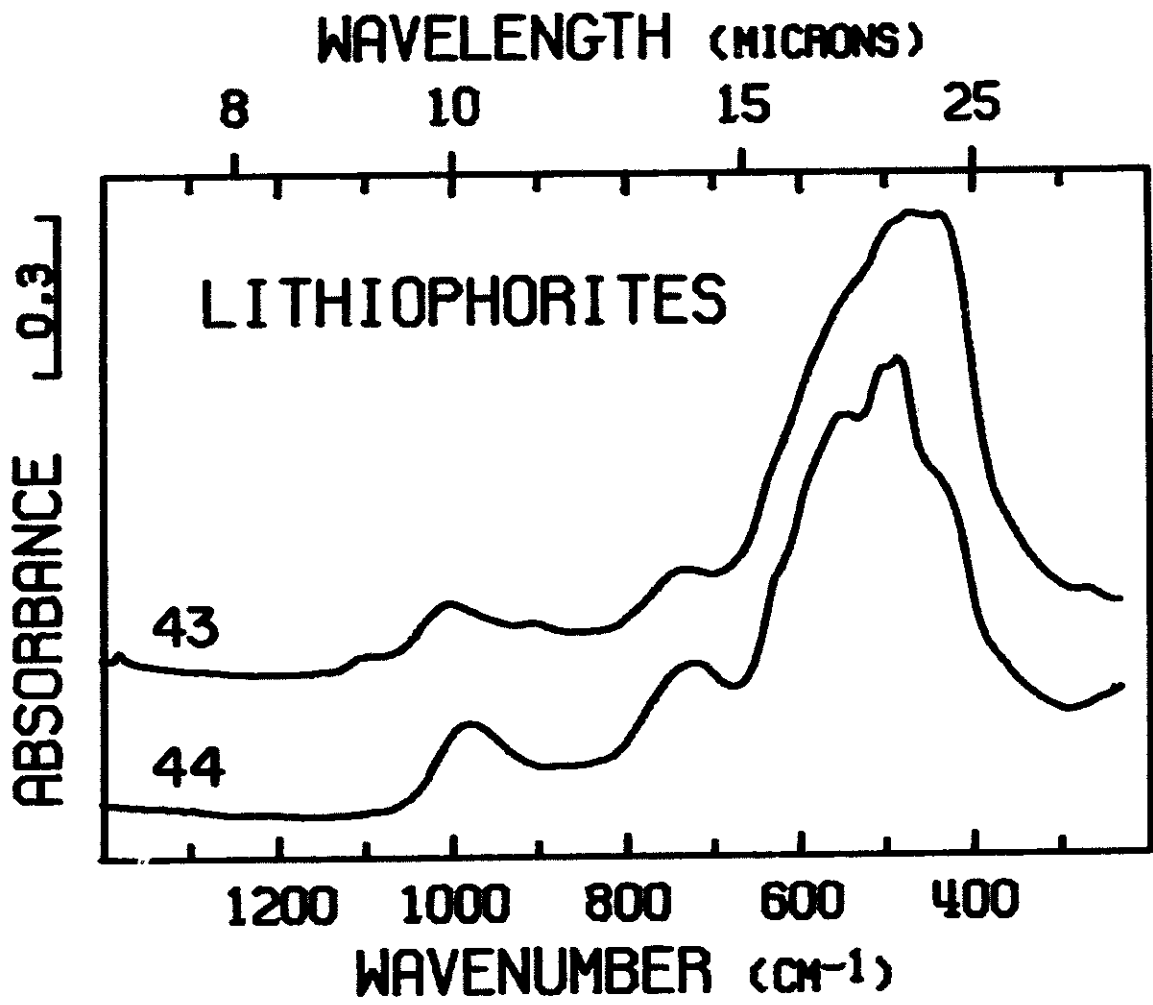


Figure 10B. Infrared spectra of lithiophorites. Presentation intensities and pellet types: #43, 151%, KBr; #44, 167%, KBr.

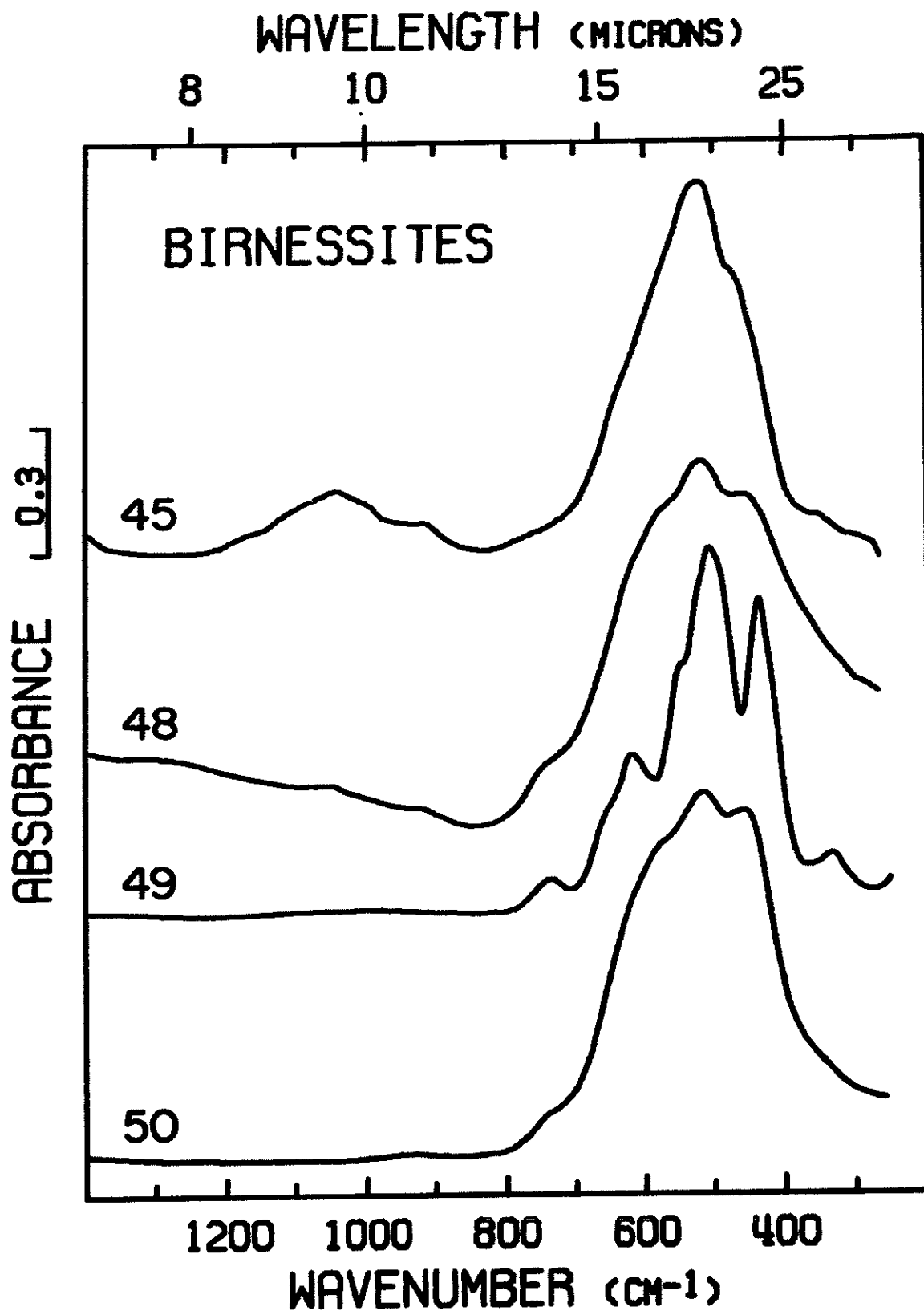


Figure 11B. Infrared spectra of birnessites. Presentation intensities and pellet types: #45, uncertain, KBr; #48, 350%, KBr; #49, 101%, KBr; #50, 163%, KBr.

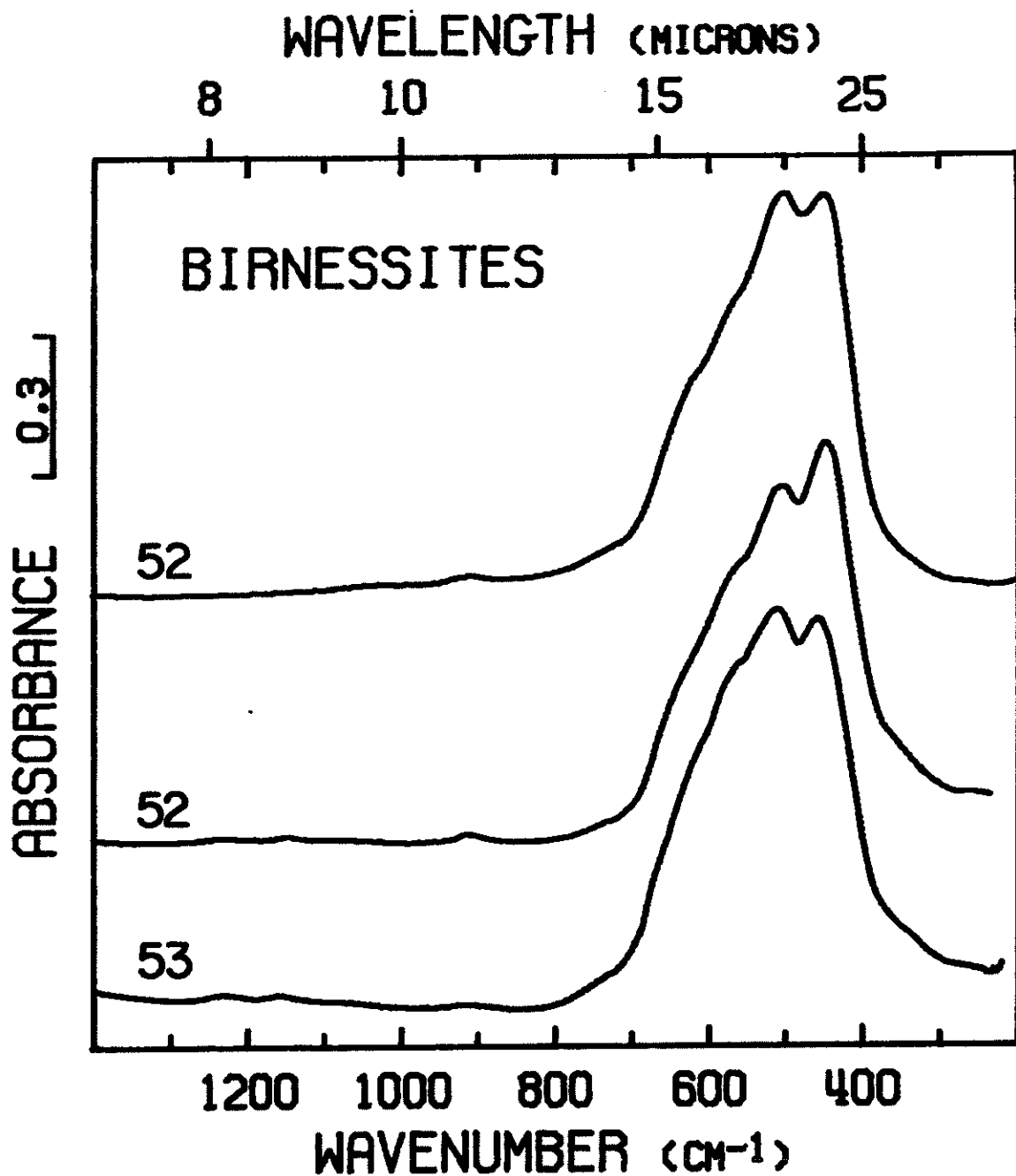


Figure 12B. Infrared spectra of birnessites, continued. Presentation intensities and pellet types: #52, 114%, TlBr; #52, 114%, KBr; #53, 140%, KBr.

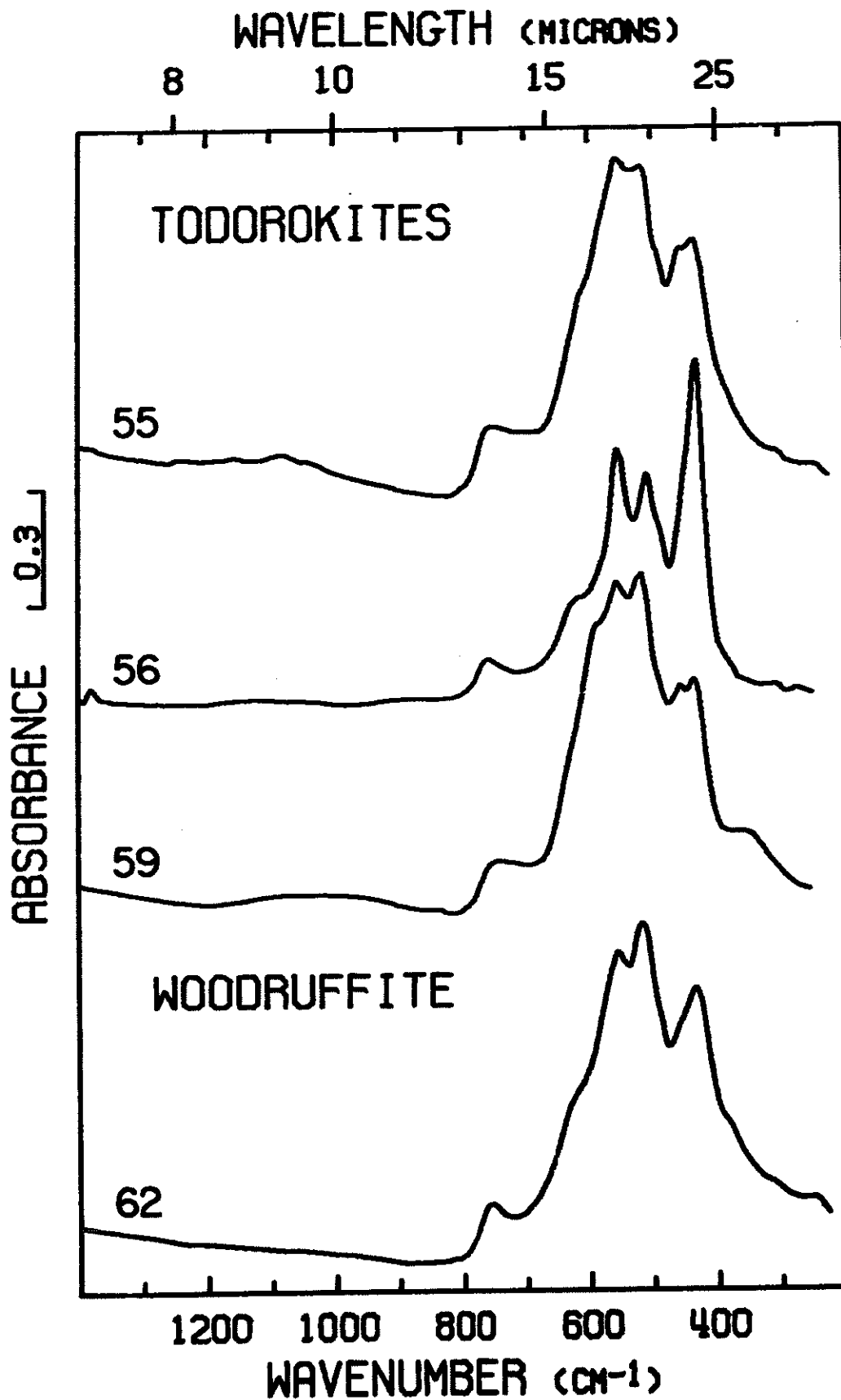


Figure 13B. Infrared spectra of todorokites and woodruffite. Presentation in intensities and pellet types: #55, 155%, KBr; #56, 198%, KBr; #59, 172%, KBr; #62, 175%, KBr.

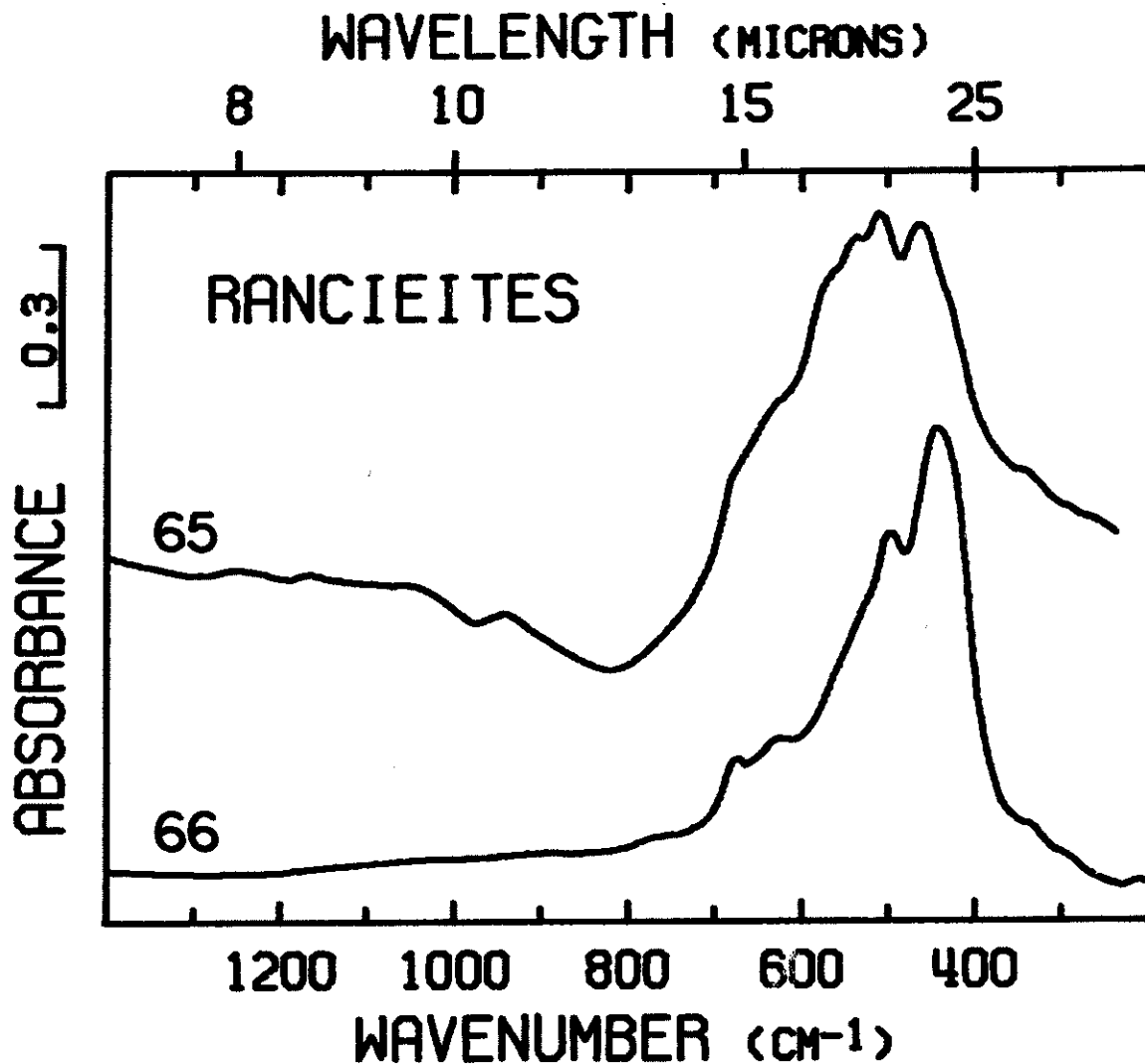


Figure 14B. Infrared spectra of rancieites. Presentation intensities and pellet types: #65, 412%, KBr; #66, 112%, TlBr. Absorption of braunite impurity removed from the spectrum of #65 (see text footnote 3).

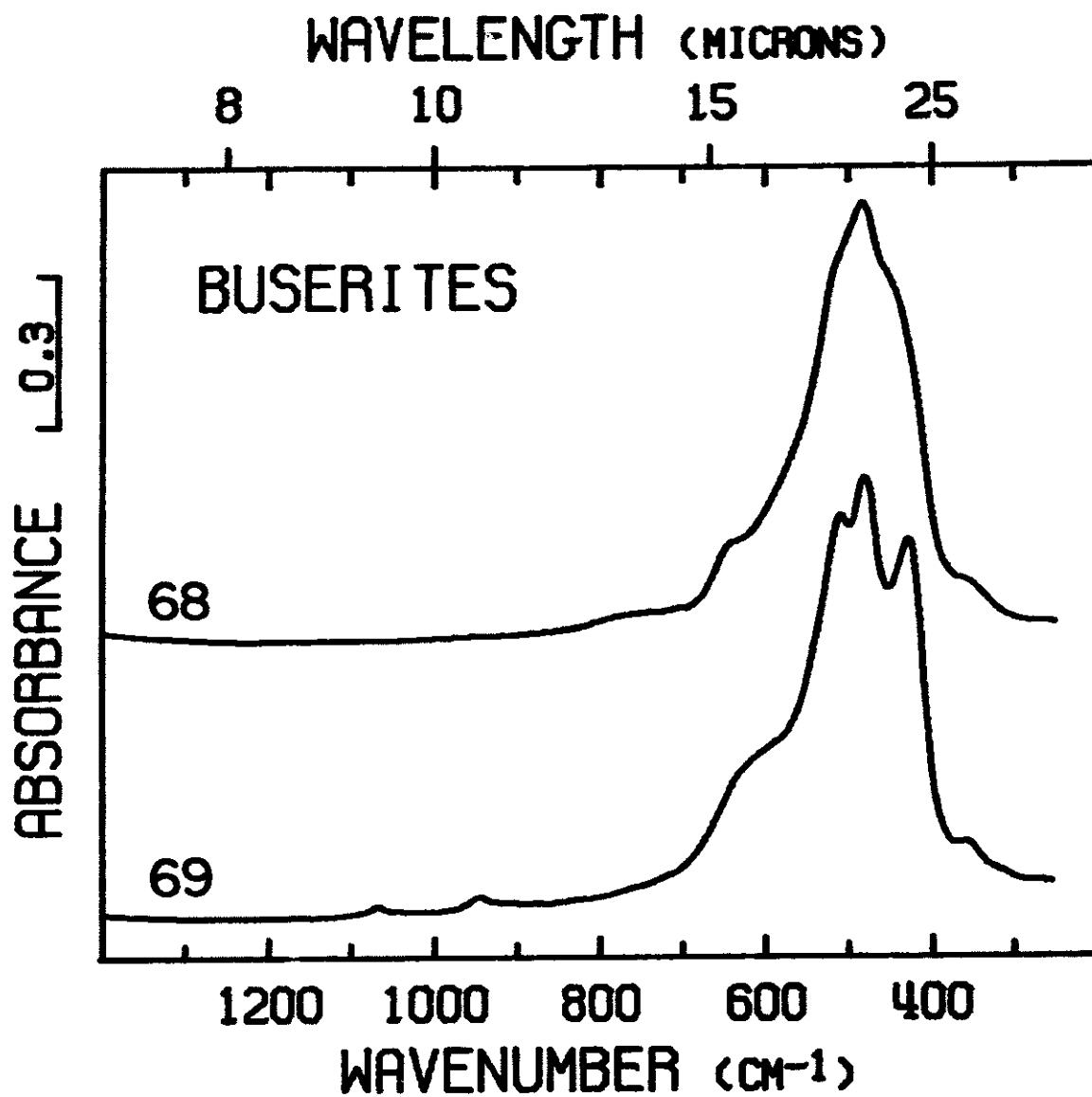


Figure 15B. Infrared spectra of buserites. Presentation intensities and pellet types: #68, 120%, KBr; #69, 97%, KBr.

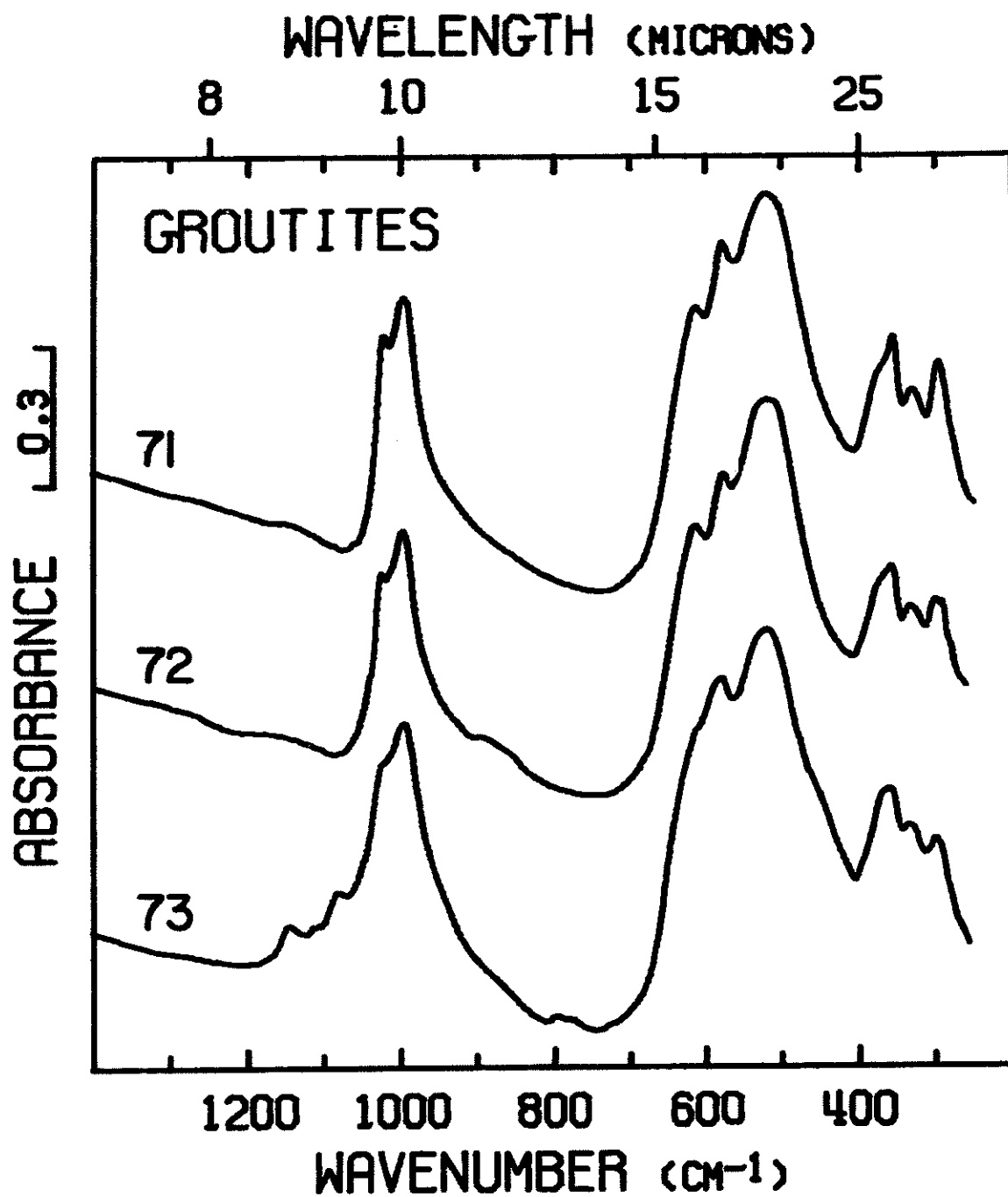


Figure 16B. Infrared spectra of groutites. Presentation intensities and pellet types: #71, 244%, KBr; #72, 256%, KBr; #73, 296%, KBr.

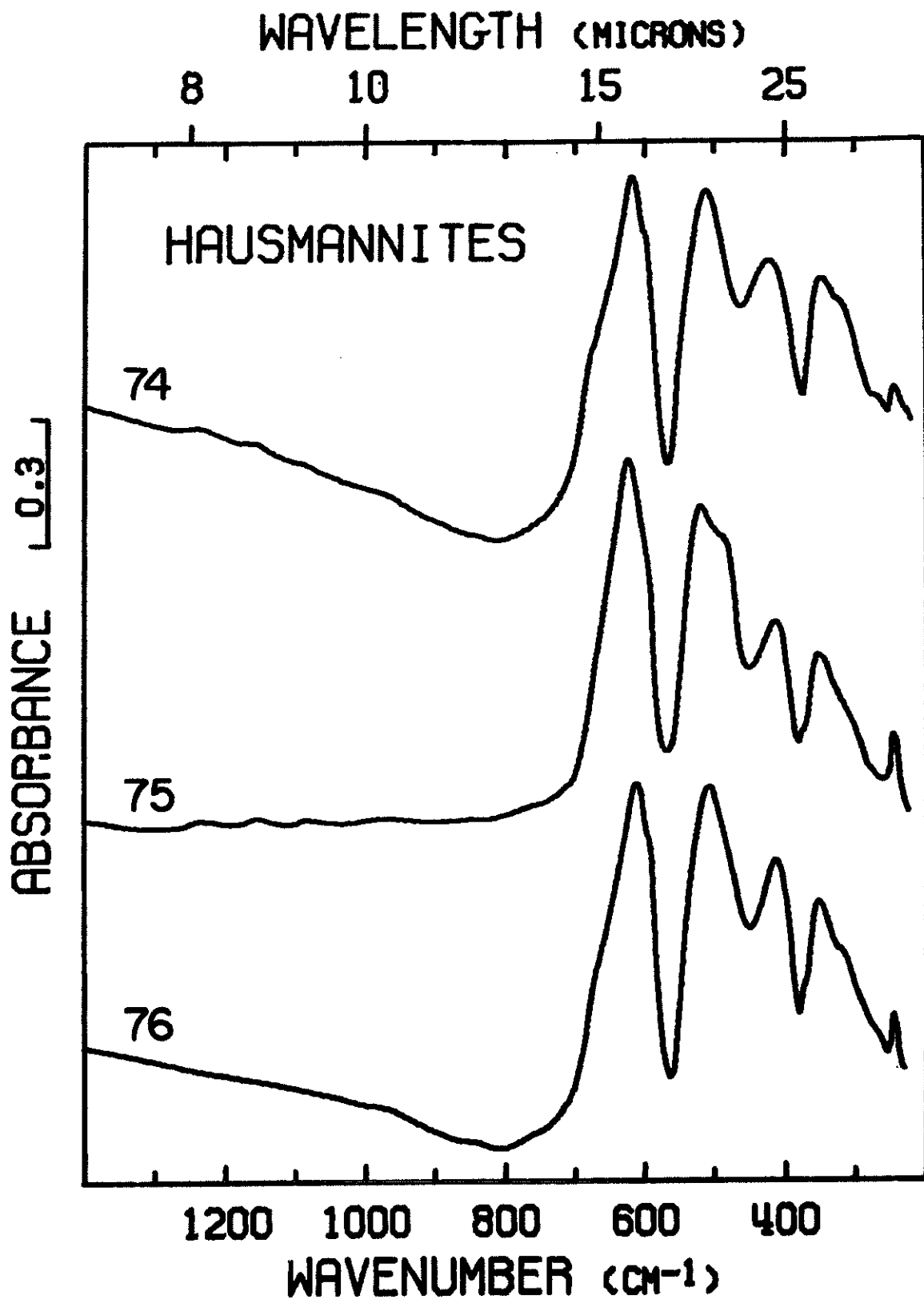


Figure 17B. Infrared spectra of hausmannites. Presentation intensities and pellet types: #74, 316%, KBr; #75, 188%, KBr; #76, 276%, KBr.

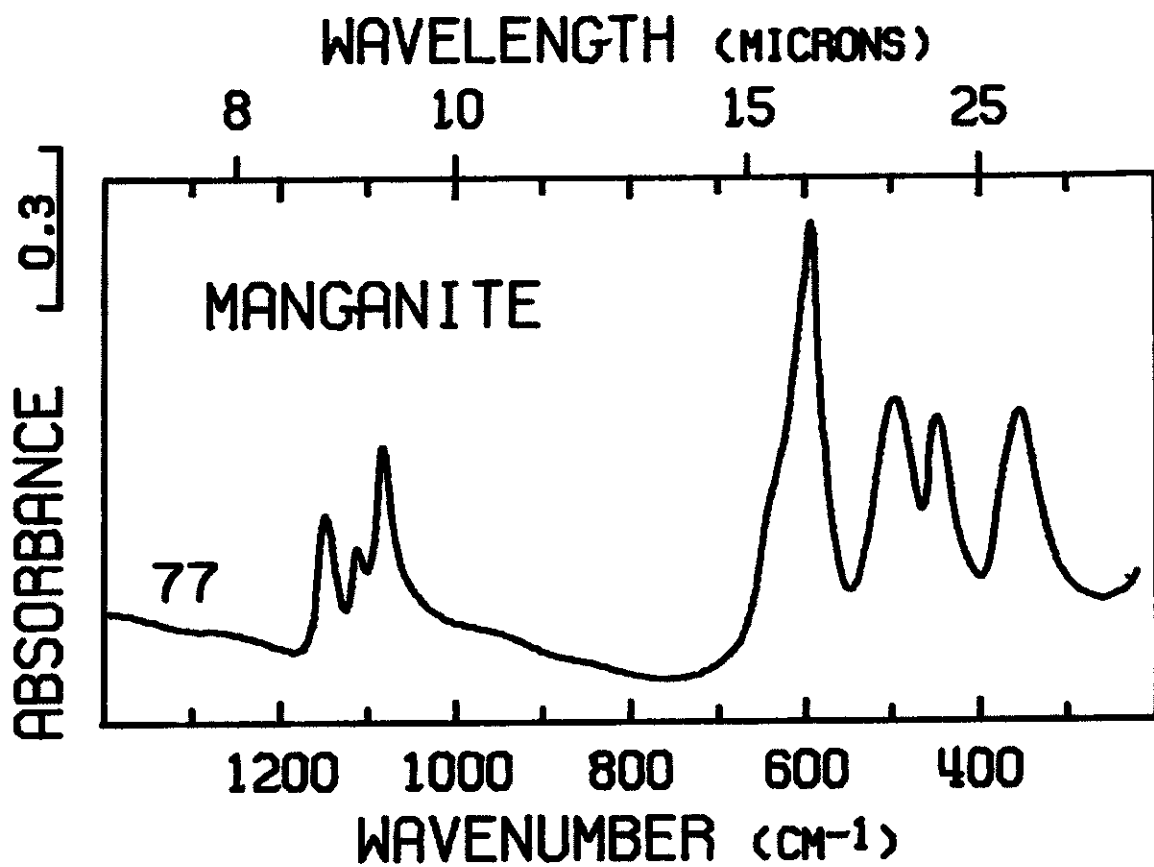


Figure 18B. Infrared spectrum of manganite. Presentation intensity and pellet type: 149%, KBr.

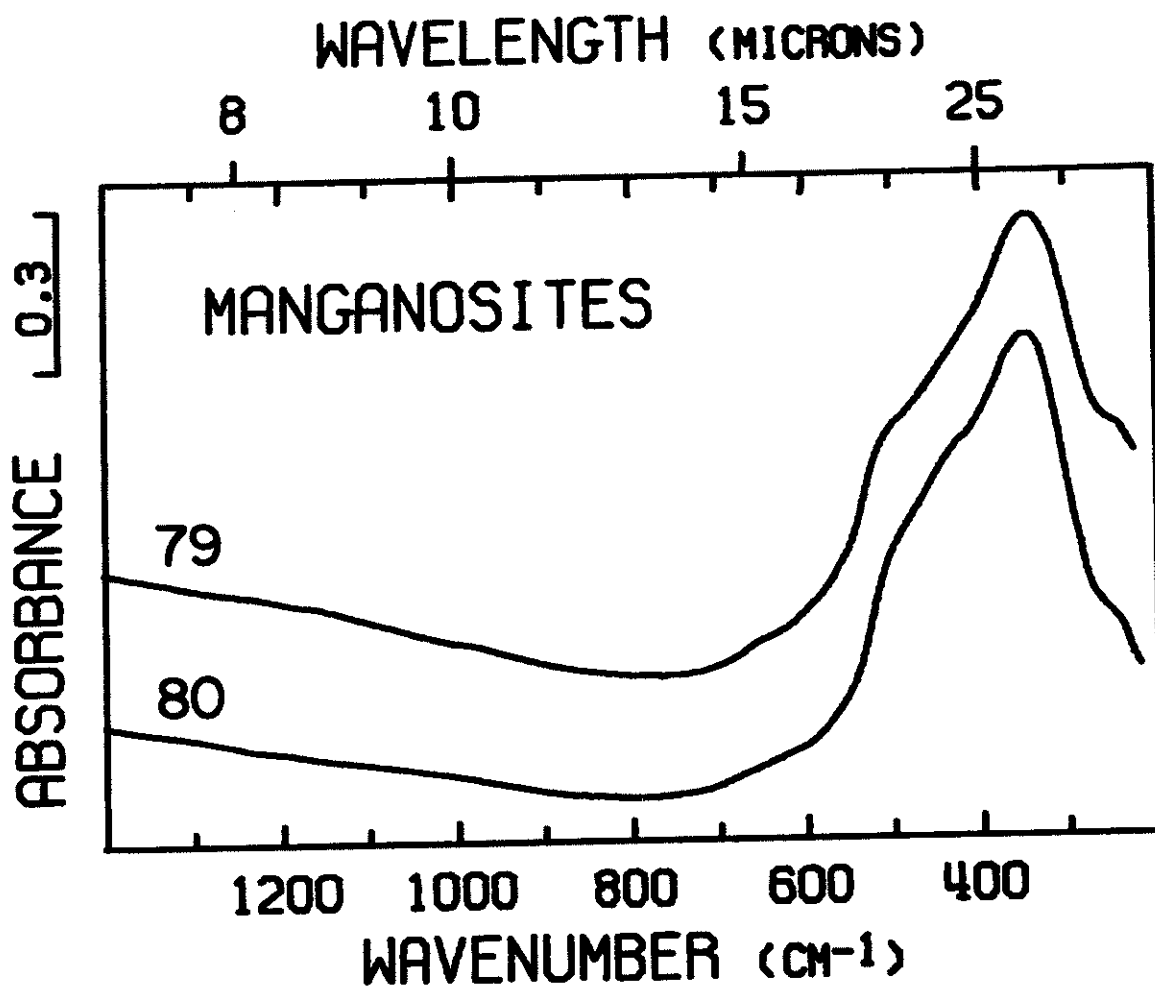


Figure 19B. Infrared spectra of manganosites. Presentation intensities and pellet types: #79, 260%, KBr; #80, 242%, KBr.

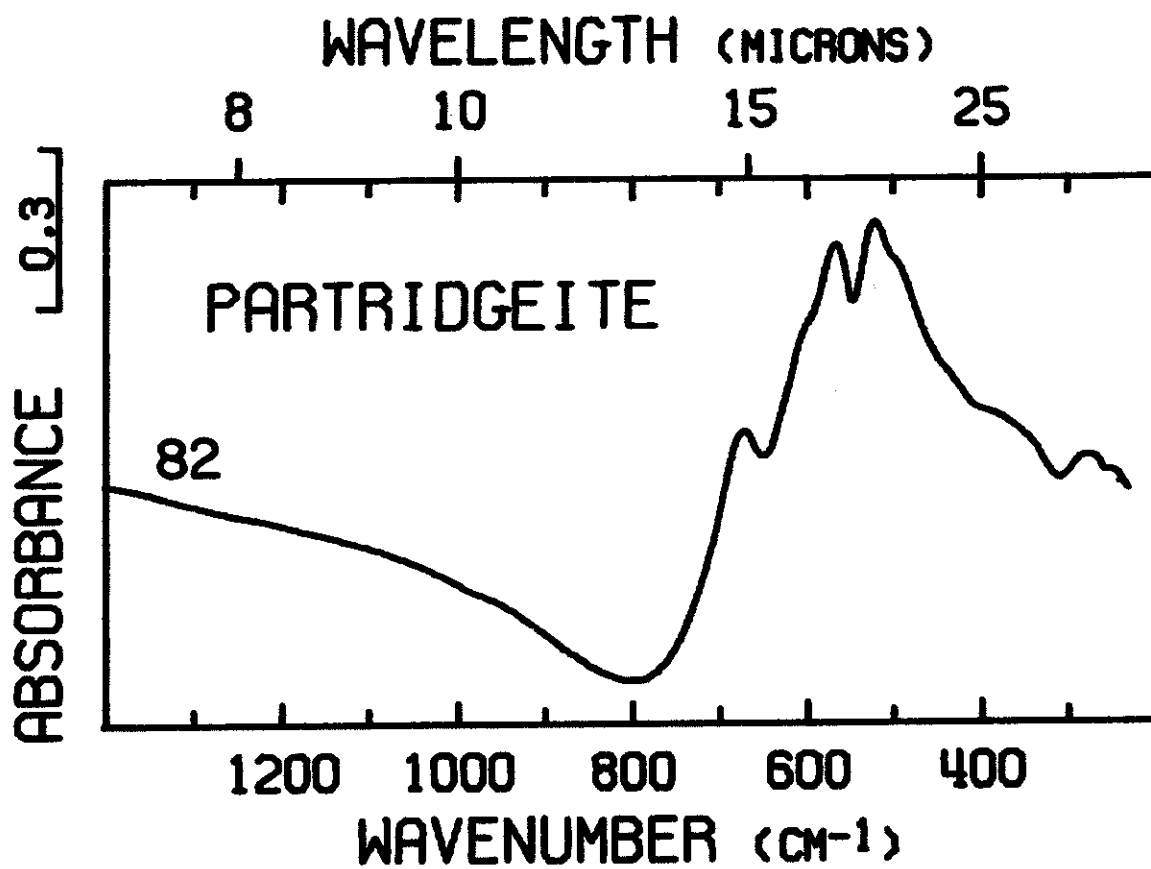


Figure 20B. Infrared spectrum of partridgeite. Presentation intensity and pellet type: 294%, KBr.