

Fig. A5

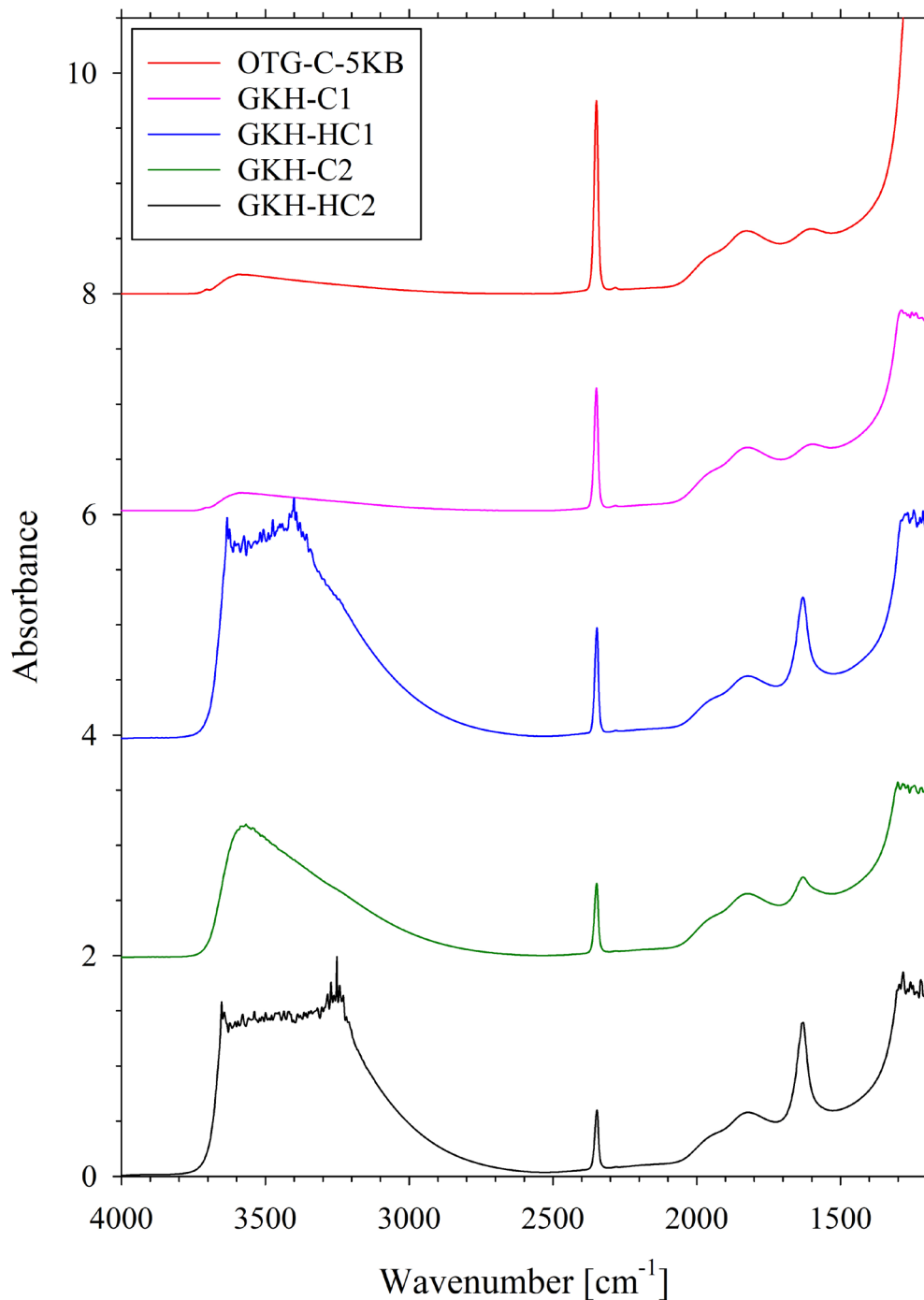


FIGURE A5: MIR transmission spectra of granitic samples with decreasing CO₂ content from top to bottom (0.27 wt% – 0.08 wt%). Spectra were normalized to a thickness of 100 μ m and are shifted in y-direction to improve visibility. For the water-rich samples with more than 2.3 wt% water (GKH-HC2, GKH-HC1), the fundamental OH stretching vibration at about 3550 cm^{-1} shows total absorption and for GKH-C2 (1.17 wt% water) this band exceeds the linearity limit of 2 absorbance units of the detector (note that the original sample thickness was 212 μ m). All three hydrous glass transmission spectra display a band at about 1635 cm^{-1} , which is due to the bending vibration of H₂O molecules. The sharp peak at 2350 cm^{-1} is the ν_3 asymmetric stretching vibration of CO₂ molecules. No carbonate signal is visible in these spectra, which is expected to give rise to a doublet in the range of 1350 to 1650 cm^{-1} (Brooker et al. 1999).