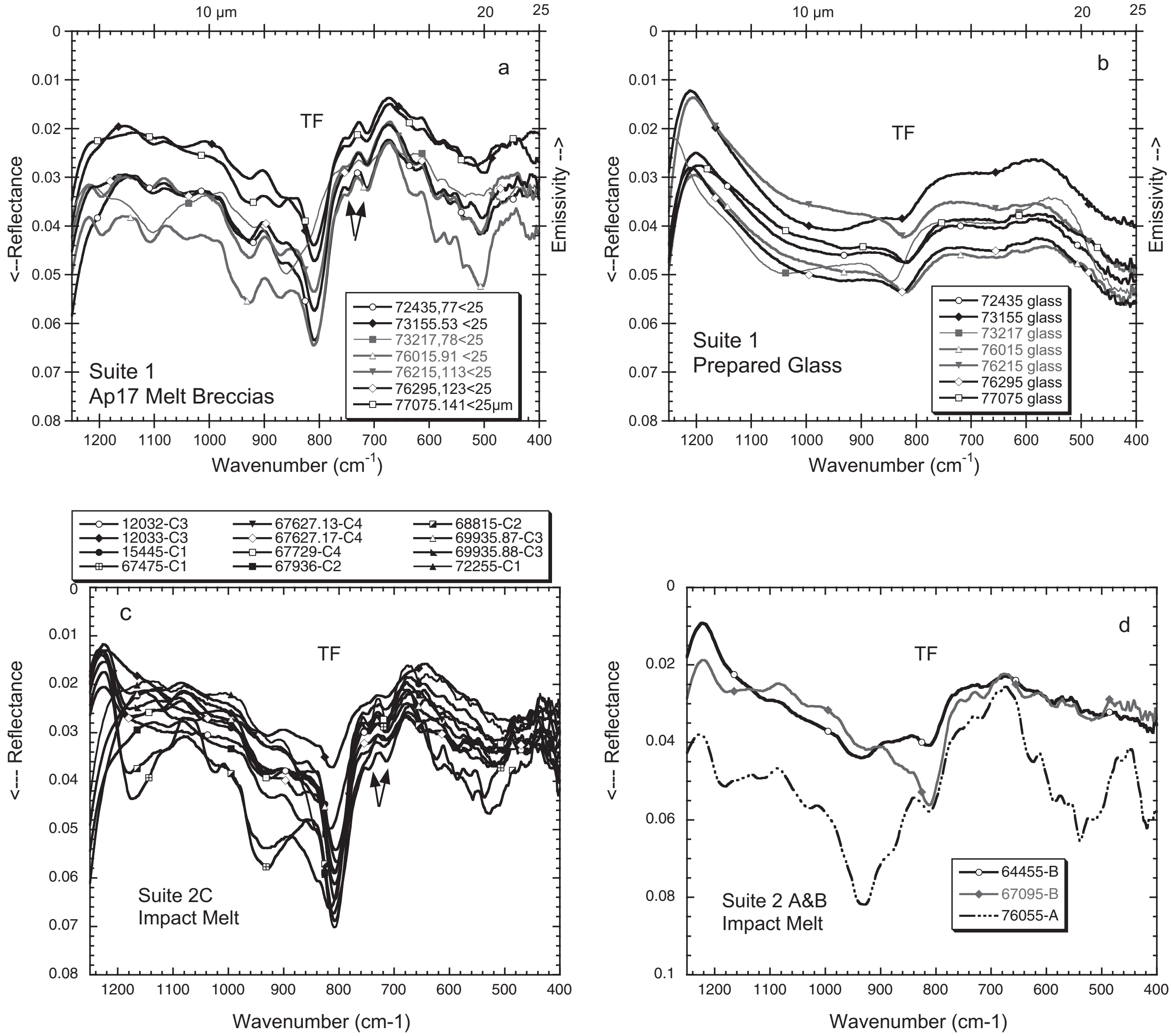

Fig. 9. FTIR reflectance spectra for Suite 1 and 2 samples in the mid-infrared. a) Suite 1 Crystalline Melt Breccias. b) Suite 1 Prepared Glass. c) Suite 2 Impact Melt Group A and B. d) Suite 2 Impact Melt Group C. TF indicates the transparency feature. The two small arrows indicate the plagioclase doublet highlighted in Fig. 1c.

seen in 1B and 2C spectra due to mixtures of abundant glass with another species (plagioclase, olivine, pyroxene)? As discussed below, the FTIR data suggest that this feature is due to iron-bearing microcrystalline plagioclase, although significant disordering of iron into the M1 site of pyroxene is not ruled out.

Although the FTIR biconical reflectance data presented in Fig. 9 do not provide quantitative information for emissivity comparisons, most of the observed features are directly linked to the minerals present. Detailed mid-infrared laboratory spectroscopic analyses of minerals and rocks are available throughout the literature (e.g., Salisbury et al. 1992; Salisbury 1993; Christensen et al. 2000) and need not be reviewed here. The wavelength of a Christiansen feature (ChF in Fig. 1c) of maximum emissivity (minimum reflectance) is observed to vary in a regular manner for silicates. The plagioclase-pyroxene-olivine trend seen for the ChF in Fig. 1c is well known for pure minerals. Linear mixing models are often applied to emissivity spectra to separate individual mineral components in mixtures when fine-grained material is not present. For samples with abundant small particles, however, mixing is not linear and a transparency feature (TF in Fig. 9) is also