SUPPLEMENTARY MATERIAL
A THz spectrometer using band pass filters

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In figure S1 there is a photo of the apparatus. The globar (black body source) is inside the concentrator (first mirror). The second mirror and the chopper are almost hidden by a shield (not described in the text). The sample holder in the picture has no samples. The step motor that rotates the 18 filters hides the window of the pyroelectric detector. The box supporting the step motor contains the battery power supply for the pyroelectric detector.

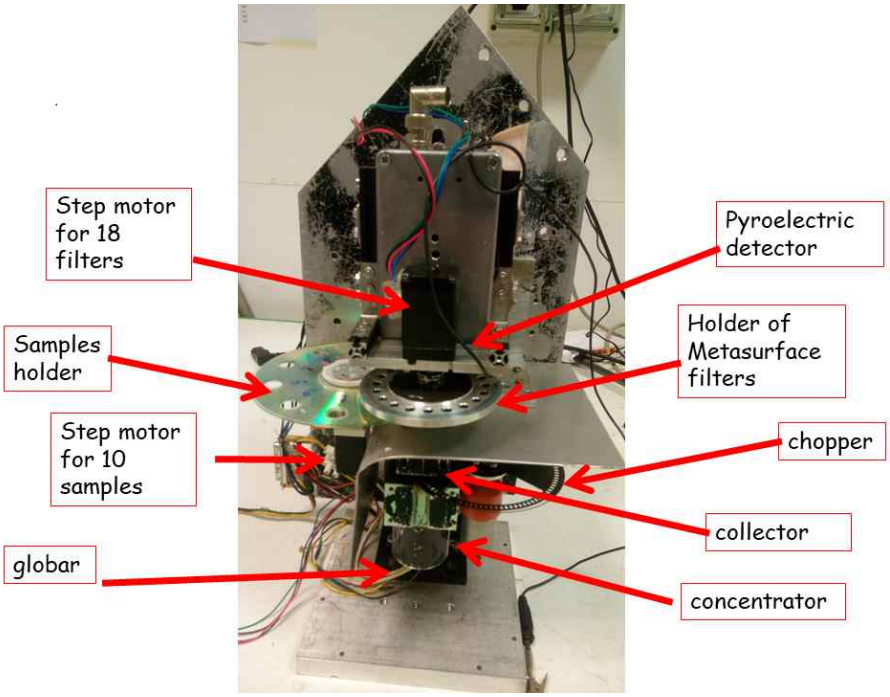

Figure S 1: Photo of the apparatus.

In figure S2 $\cdots$ figure S17 a comparison between the samples with FTIR (left) and metasurface filters apparatus (MFA, right) is shown. Some of the measures (Calcium silicate, Sodium carbonate, Zinc oxide) with FTIR have an artifact due to the interference between the two faces of the samples: in these cases we have smoothed the results. For Lithium carbonate, even if needed, we didn't smooth data to give an idea of the effect of non-smoothing.

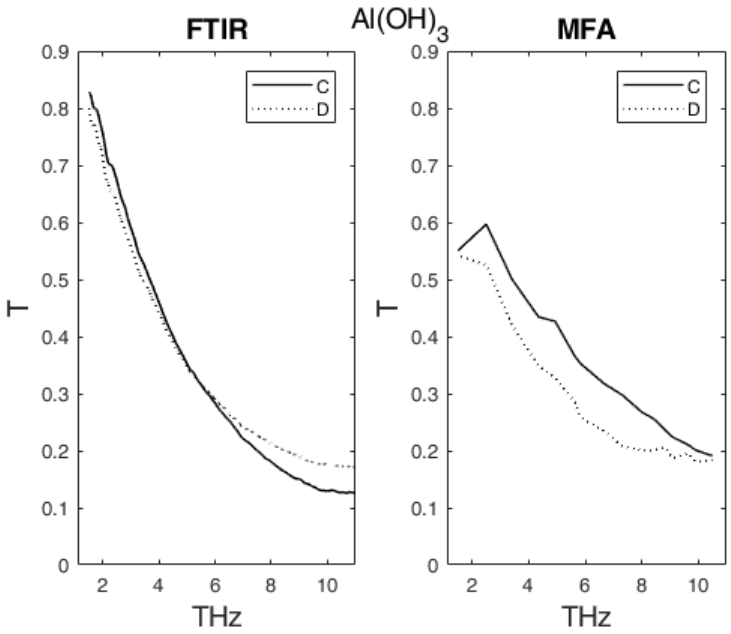

Figure S 2: Aluminium hydroxide

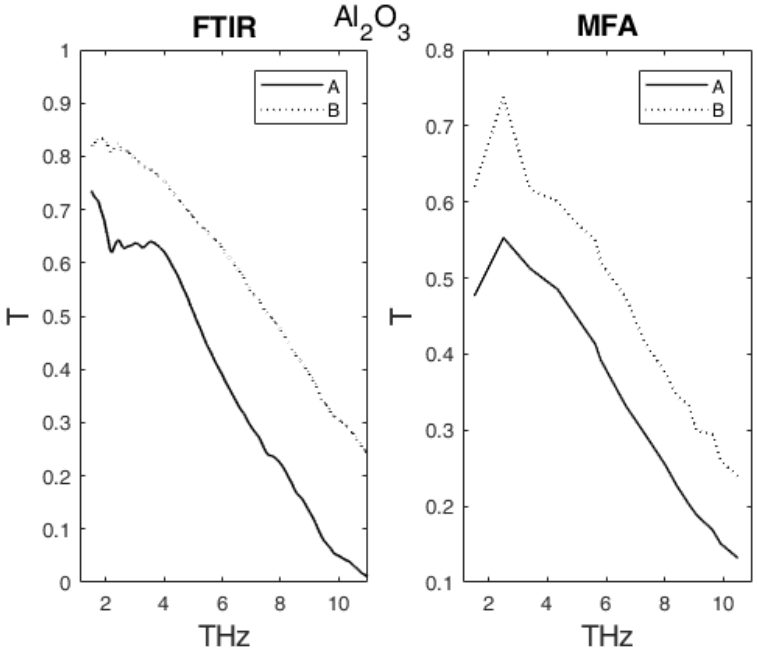

Figure S 3: Aluminum oxide

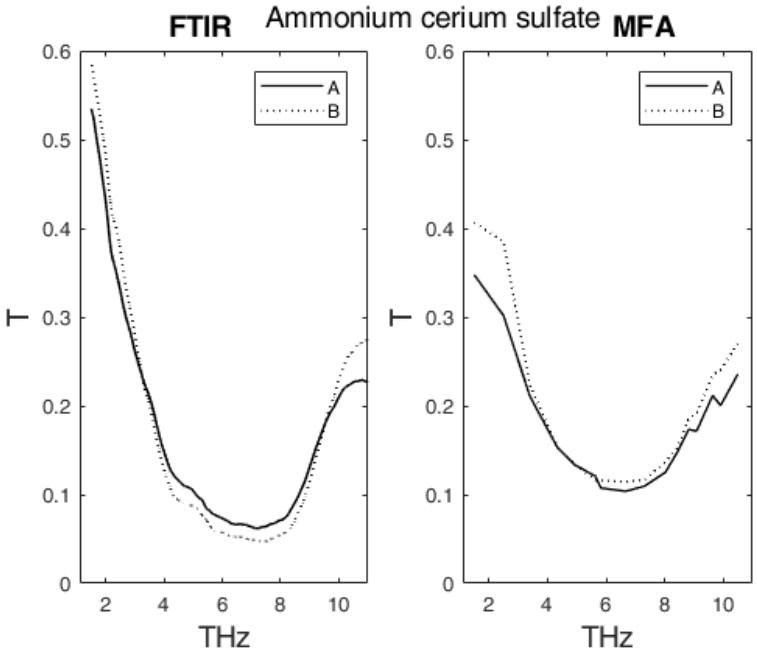

Figure S 4: Ammonium cerium(IV) sulfate

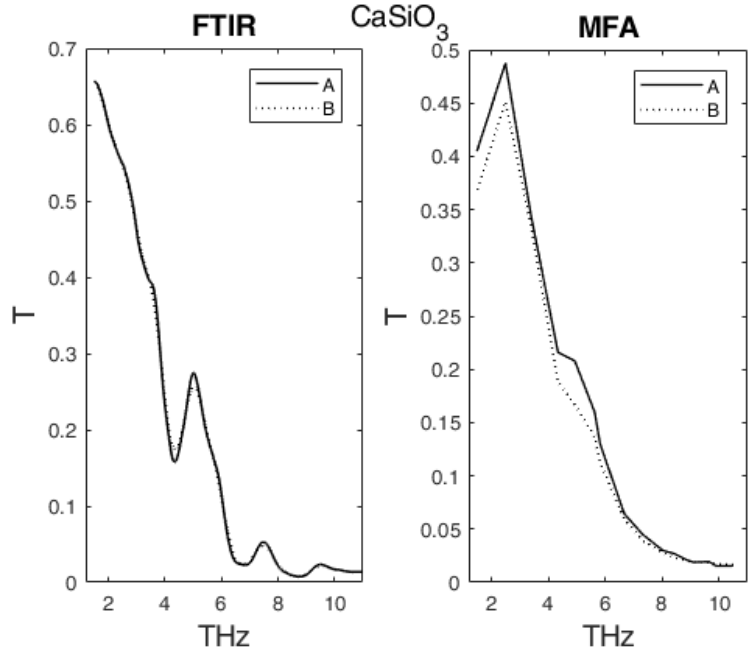

Figure S 5: Calcium silicate

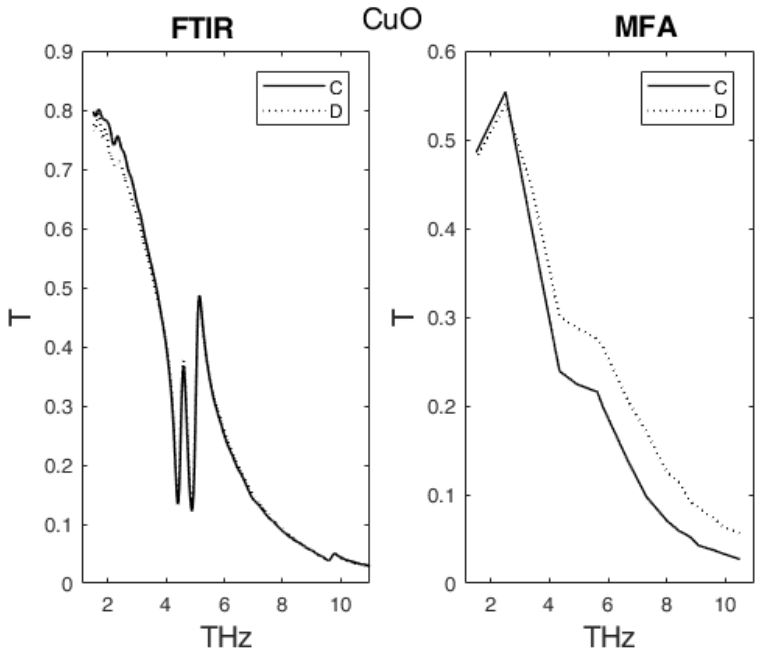

Figure S 6: Copper oxide

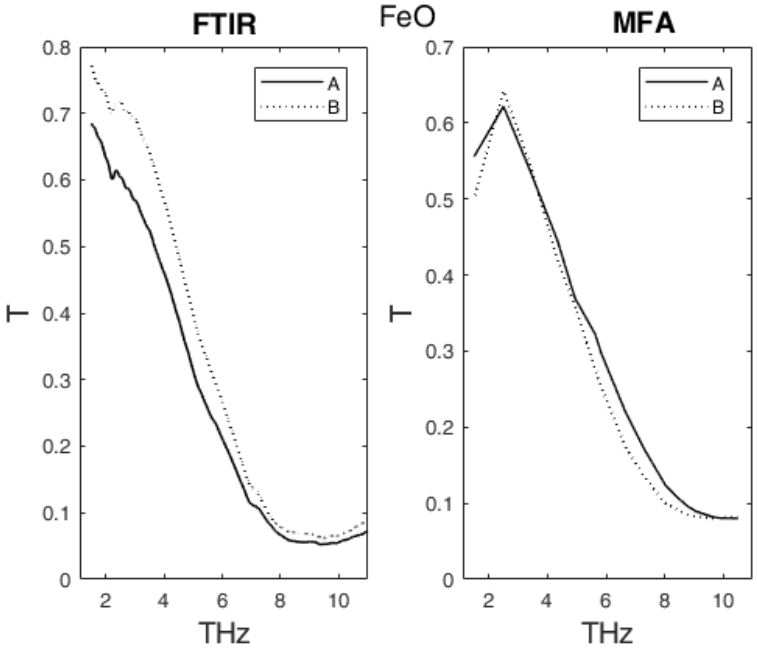

Figure S 7: Iron(II) oxide

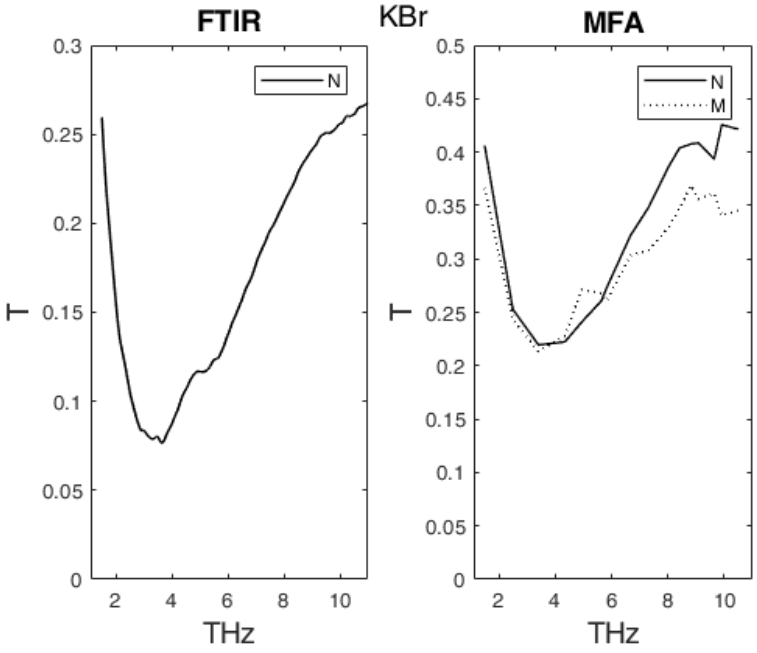

Figure S 8: Potassium bromide

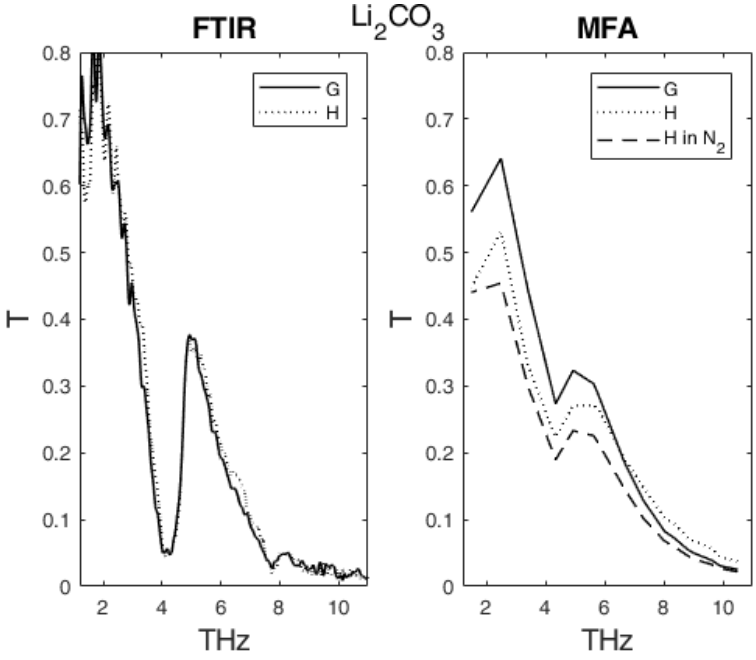

Figure S 9: Lithium carbonate

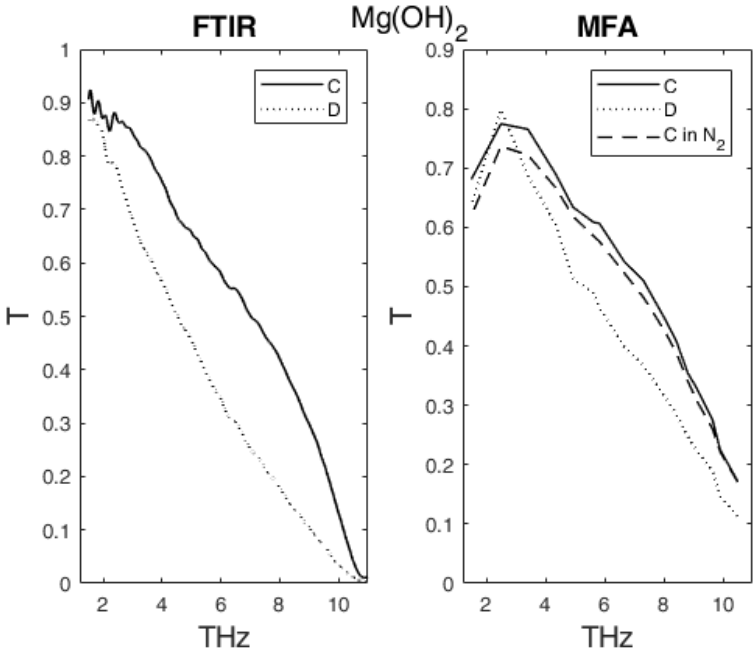

Figure S 10: Magnesium hydroxide

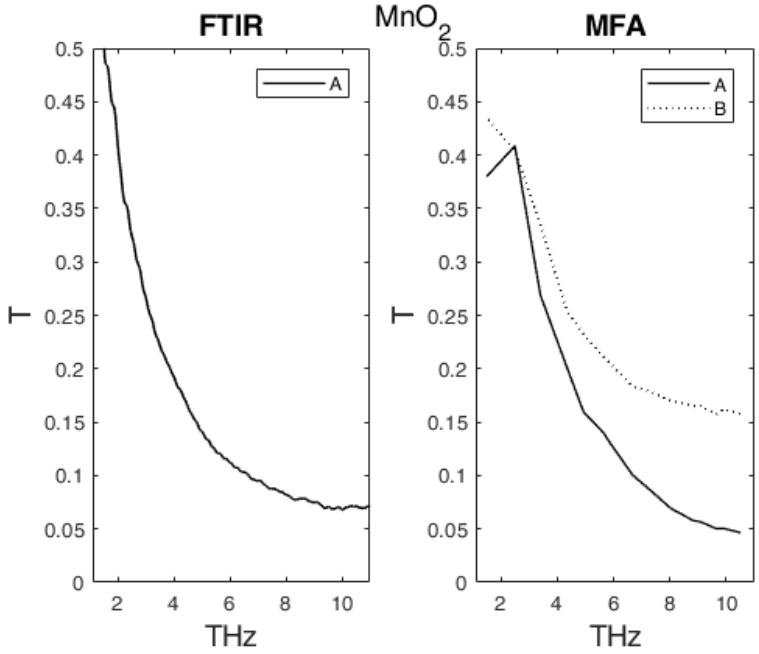

Figure S 11: Manganese(IV) oxide

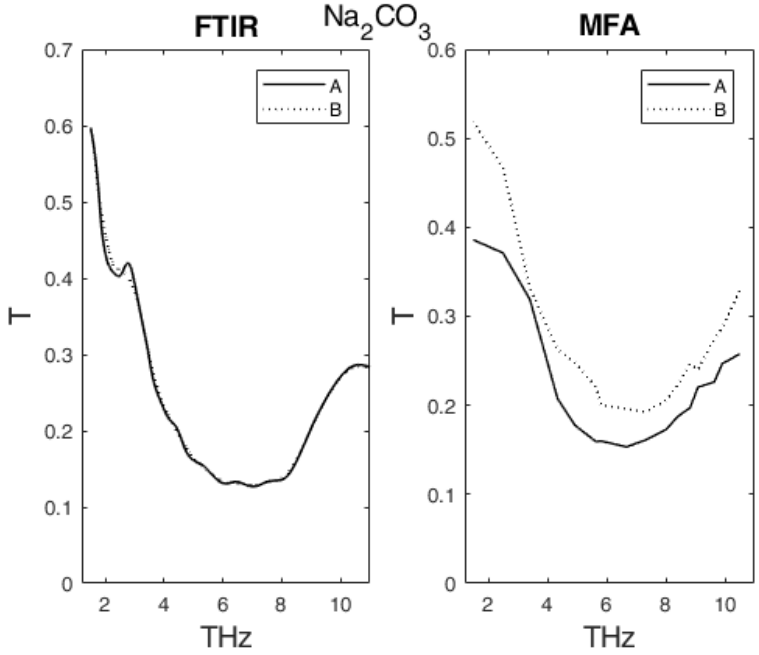

Figure S 12: Sodium carbonate

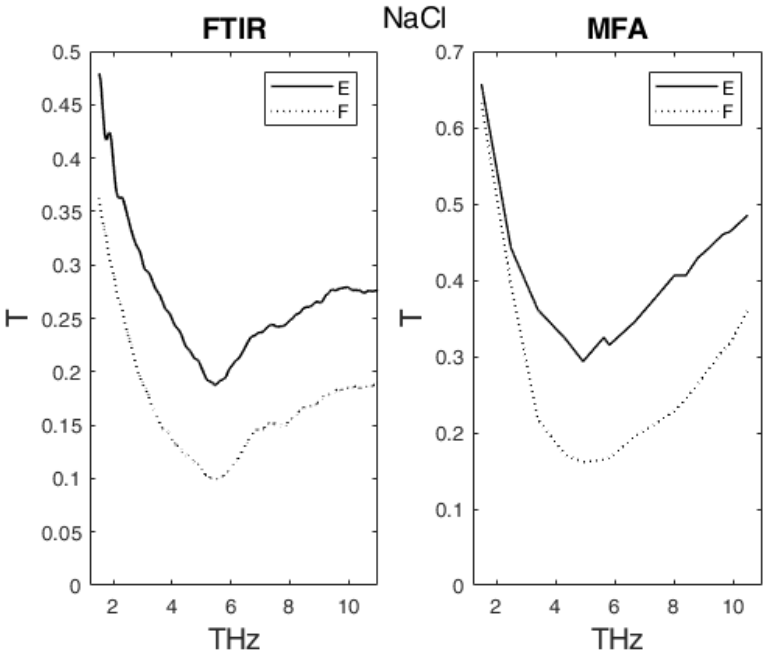

Figure S 13: Sodium chloride

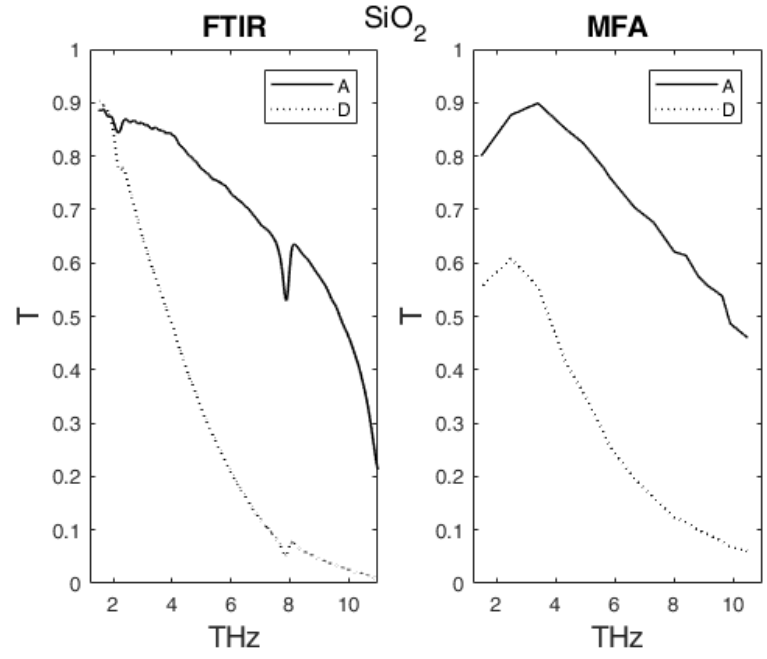

Figure S 14: Silicon dioxide

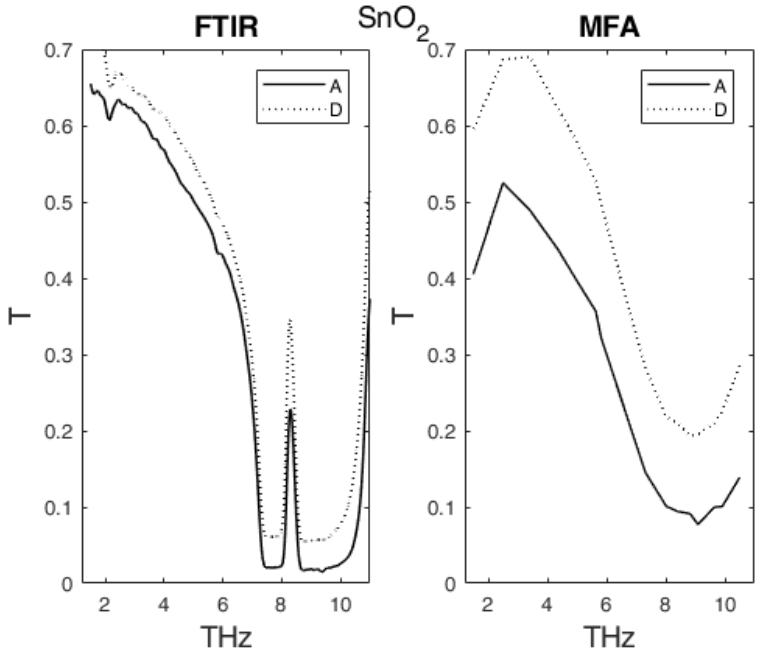

Figure S 15: Tin(IV) oxide

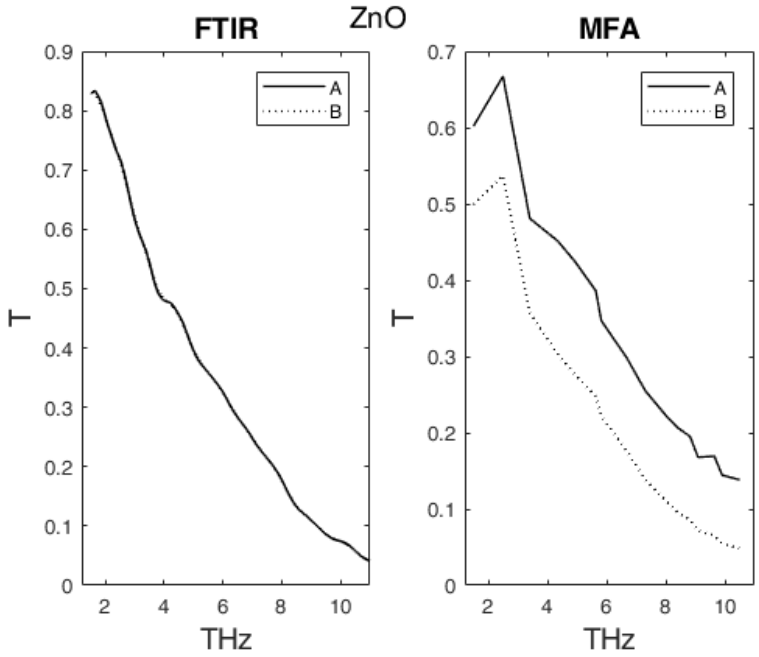

Figure S 16: Zinc oxide

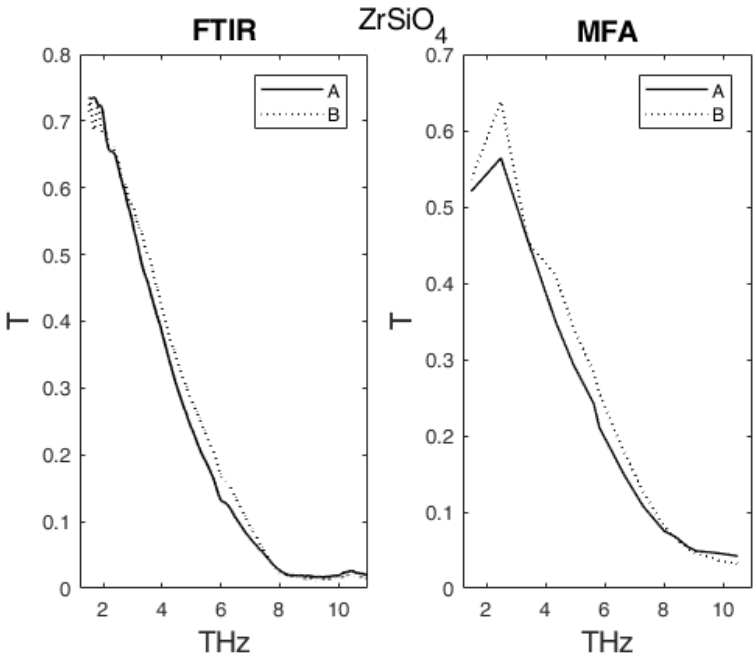

Figure S 17: Zirconium silicate