Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary information

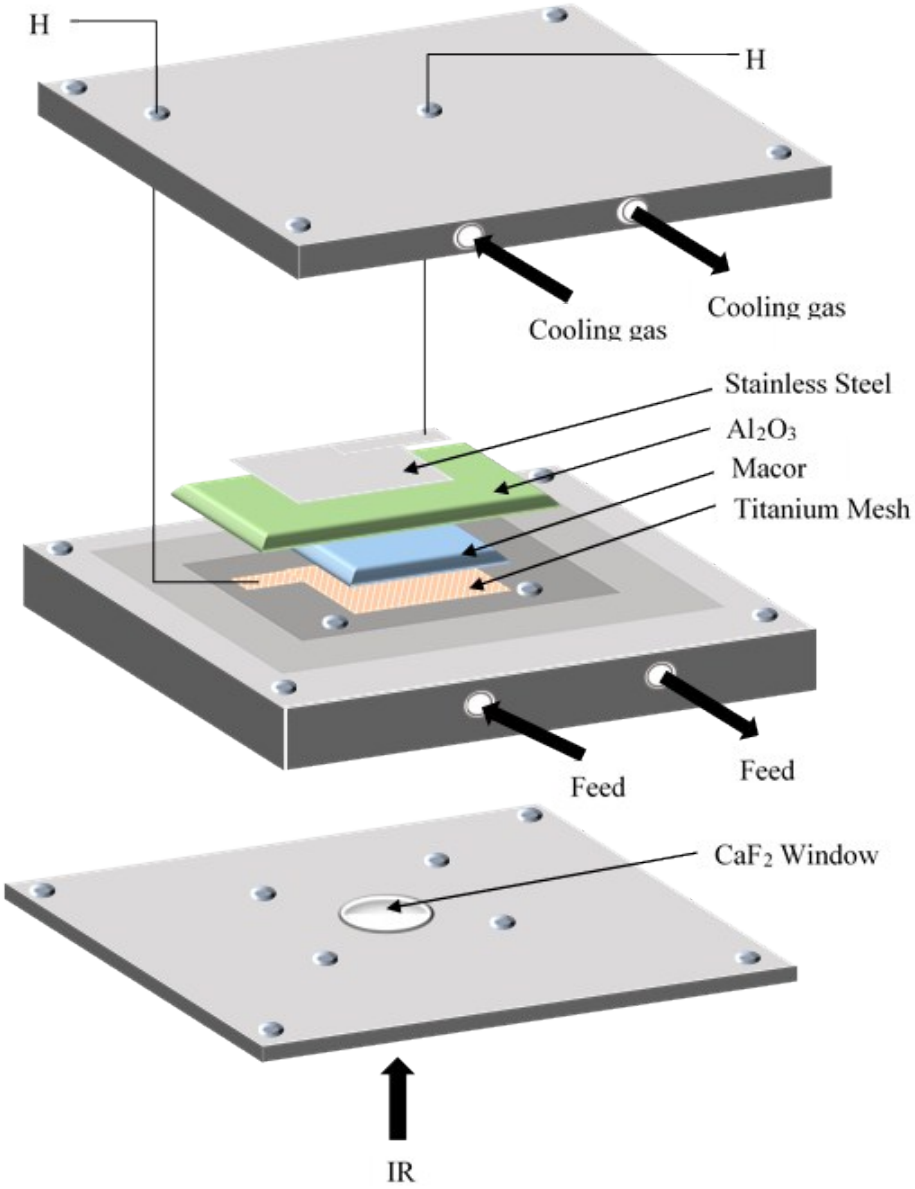


Figure S1. The non-thermal plasma reflectance cell.

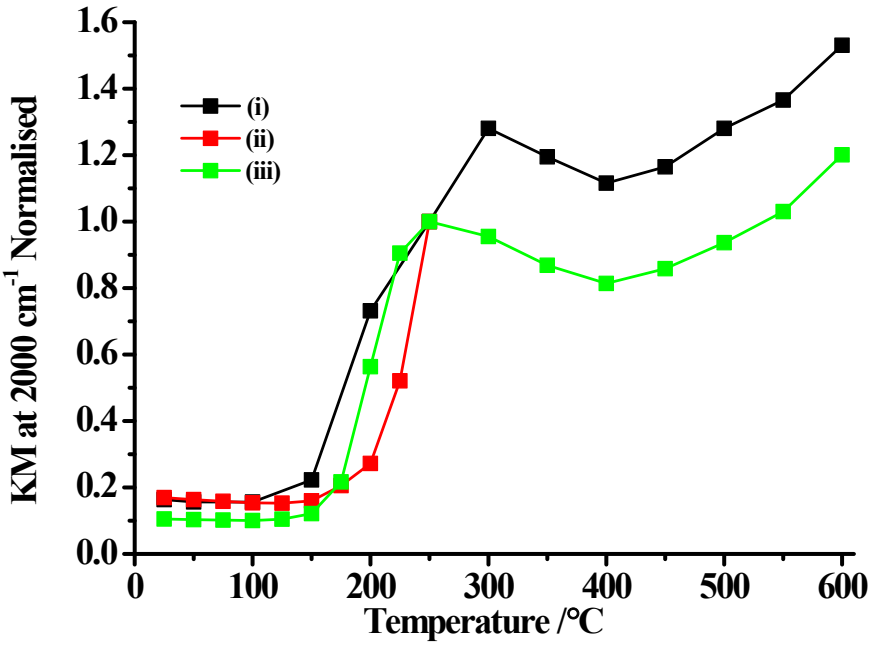


Figure S2. The plots in (i) Figure 2 and (ii) Figure 4, and the analogous plot from a repeat of the experiment in Figure 2 carried out 20 months later. The experiment shown in Figure 2 was carried out 3 months after that in Figure 2. In each case, the plots were normalized to the maximum value of the Kubelka-Munk function at 2000 cm^{-1} and 250 °C to facilitate comparison.

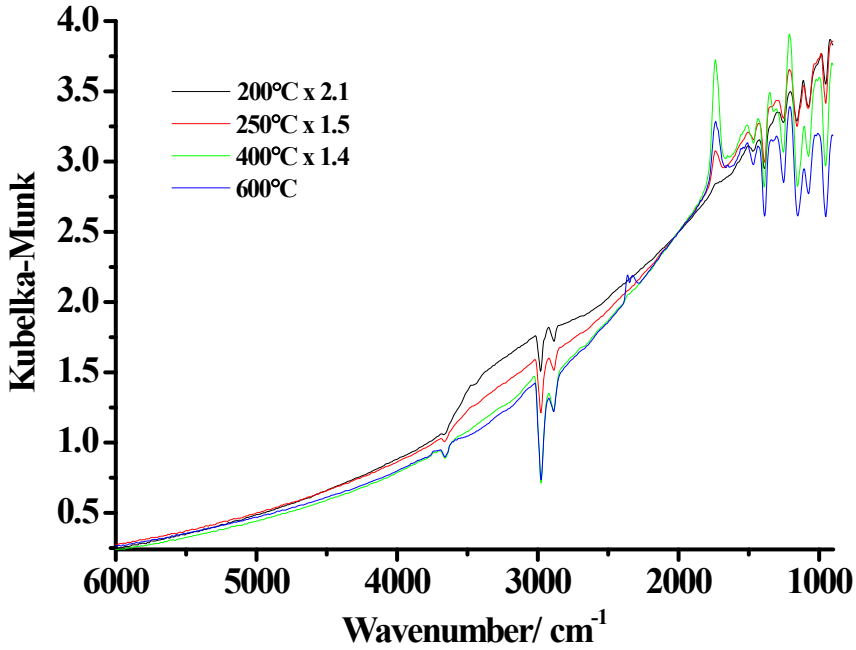
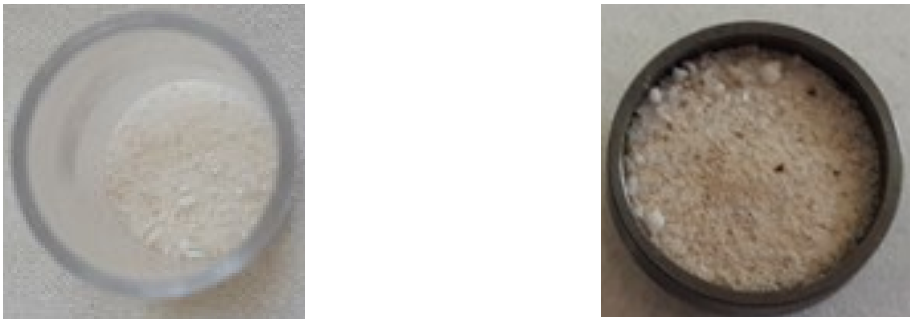


Figure S3. The spectra collected at 200, 250, 400 and 600 °C in Fig. 1, with those taken at 200, 250 and 400 °C enhanced by a factor of 2.1, 1.5 and 1.4, respectively, in order to match their Kubelka-Munk functions at 2000 cm^{-1} with that of the spectrum taken at 600 °C.



(a) (b)

Figure S4. Photographs of the SnO_2 powder employed in the experiment in Fig. 1 (a) before and (b) after the experiment.

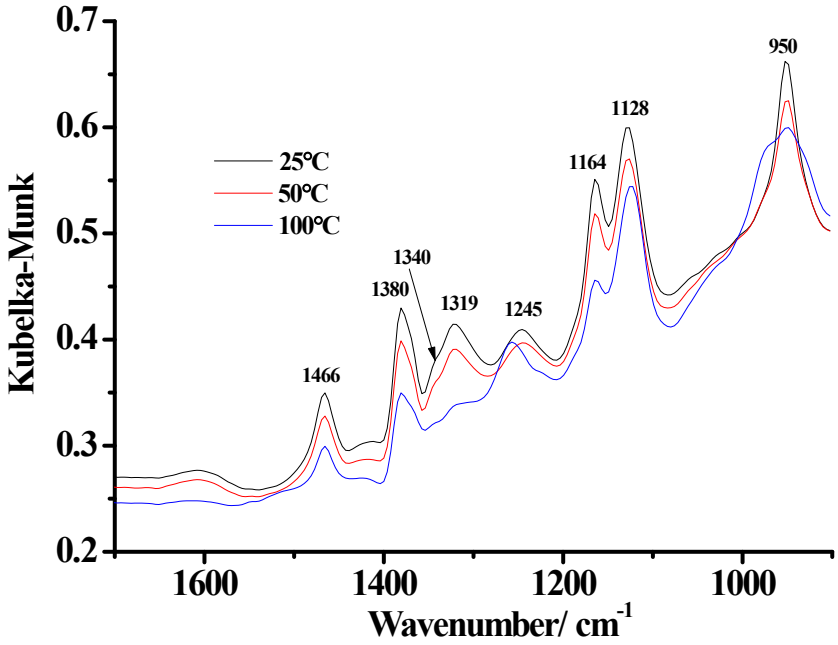


Figure S5. The spectra collected up to 100 °C in Fig. 1 over the spectral range 900 – 1700 cm^{-1}.

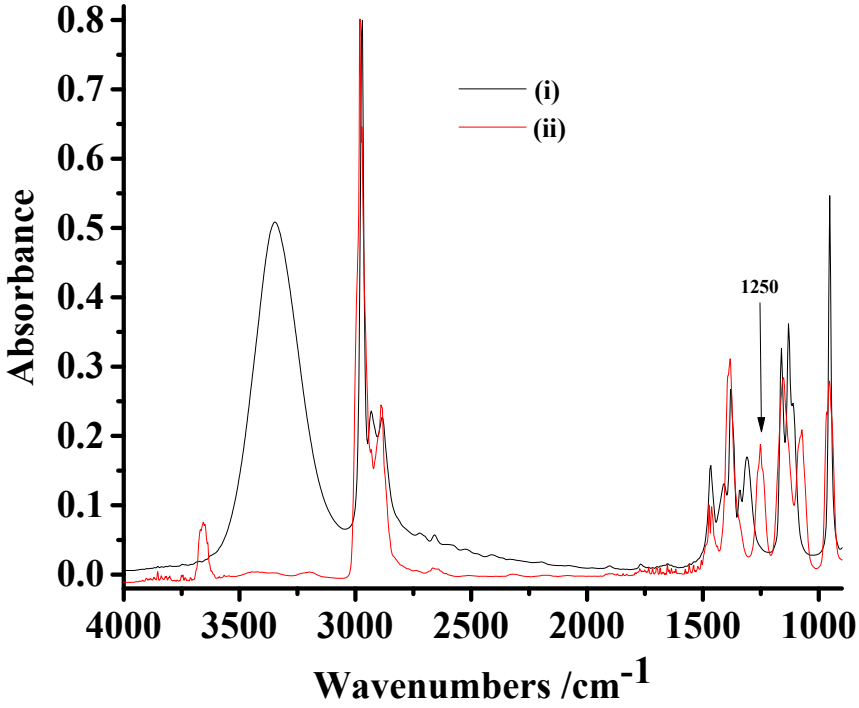


Figure S6. (i) FTIR spectrum of isopropyl alcohol: the 50 μL of the alcohol was sandwiched between two 2 mm thick CaF_2 plates. The spectrum has been scaled by a factor of 0.68 for clarity. (ii) FTIR spectrum of isopropyl alcohol vapour in a 5.1 cm pathlength transmission cell. Spectra collected at 4 cm^{-1} resolution, 100 scans per scanset, 100 seconds data collection time.

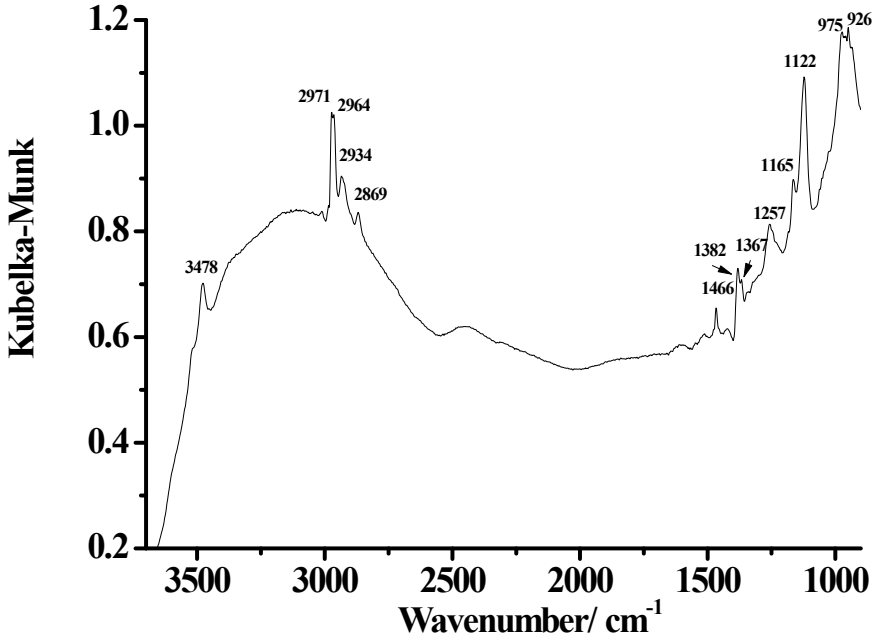


Figure S7. The spectrum collected at 150 ºC in Fig. 4(a).

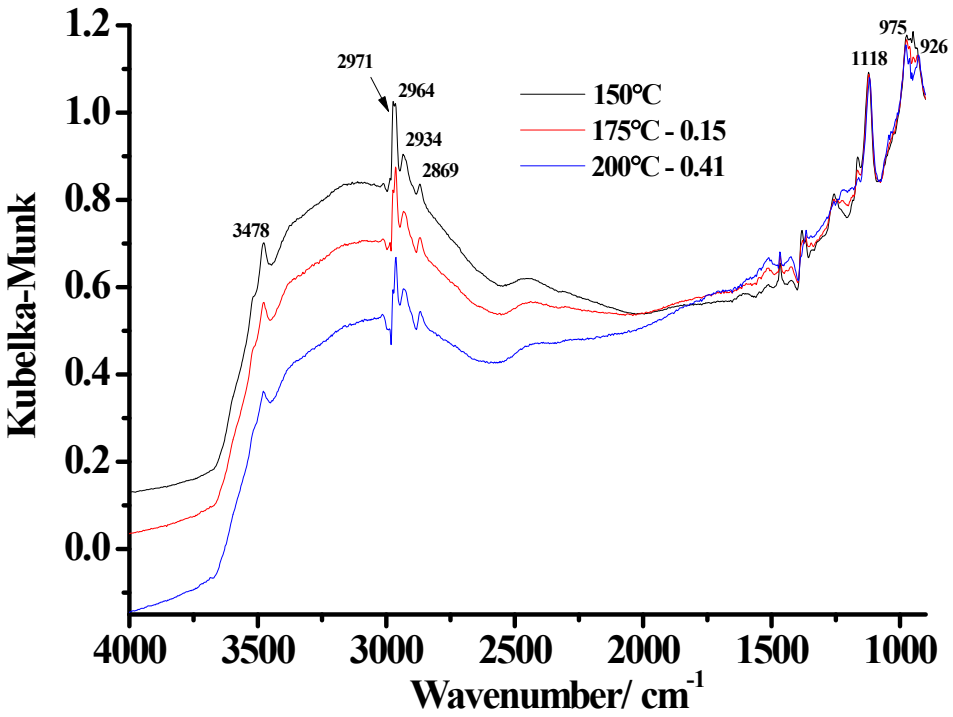


Figure S8. The spectra obtained at 175 and 200 ºC in Fig. 4(a). The baselines of the spectra were offset down to overlie the spectrum taken at 150 ºC.

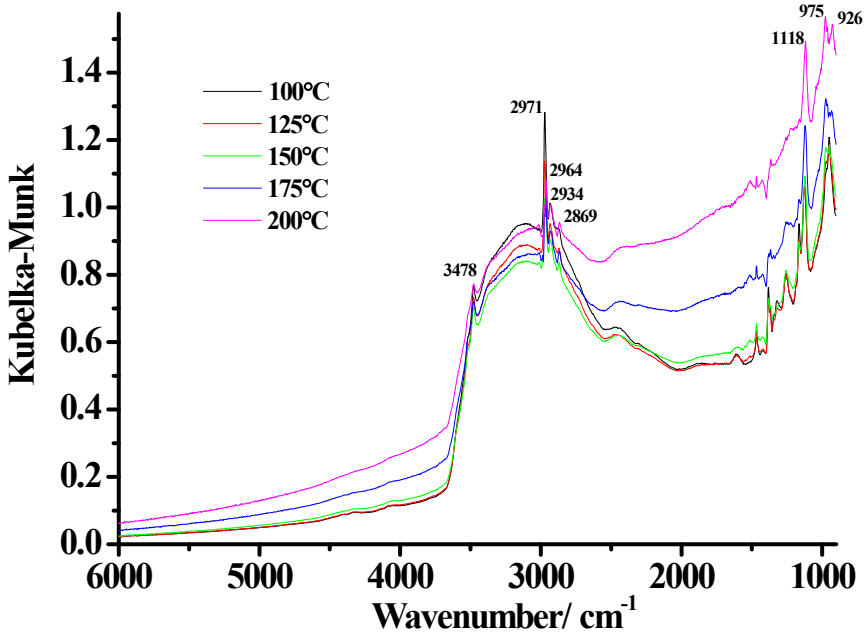


Figure S9. The spectra in the experiment shown in Fig. 4(a) collected between 100 and 200ºC.

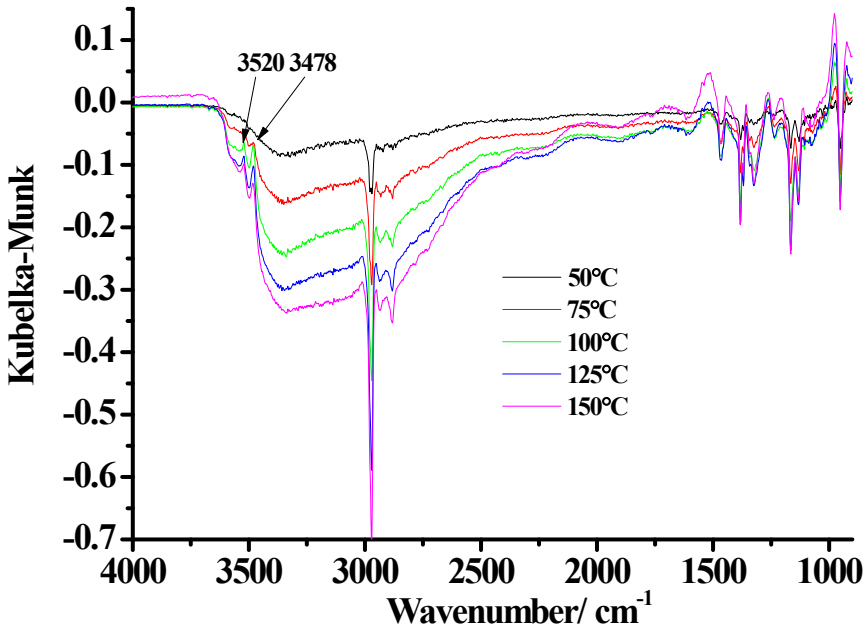


Figure S10. The spectra collected up up to 150ºC in Fig. 1. The spectra have all had that taken at 25ºC subtracted in order to remove the effect of the free electron absorption.

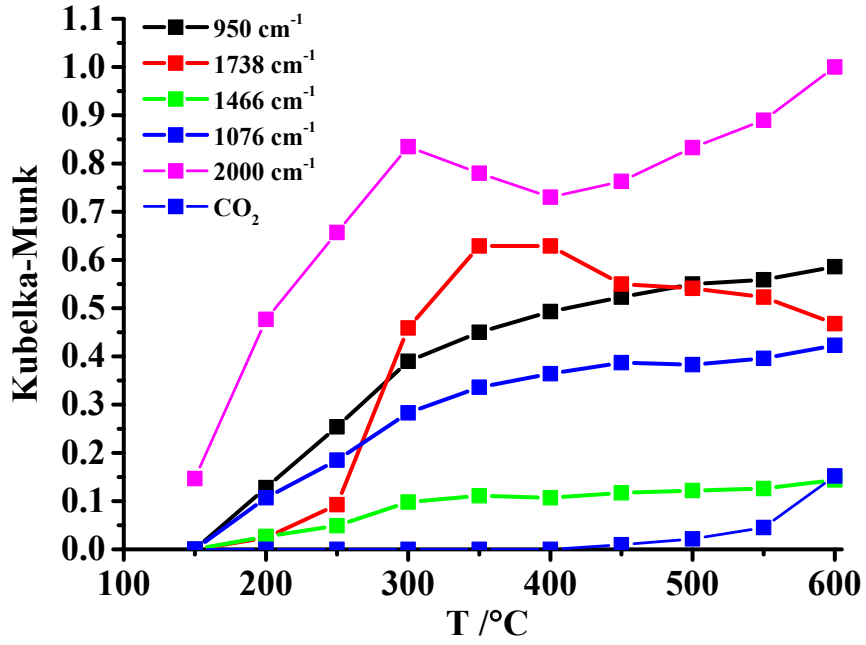


Figure S11. Plots of the intensities of the various features in Fig. 1.

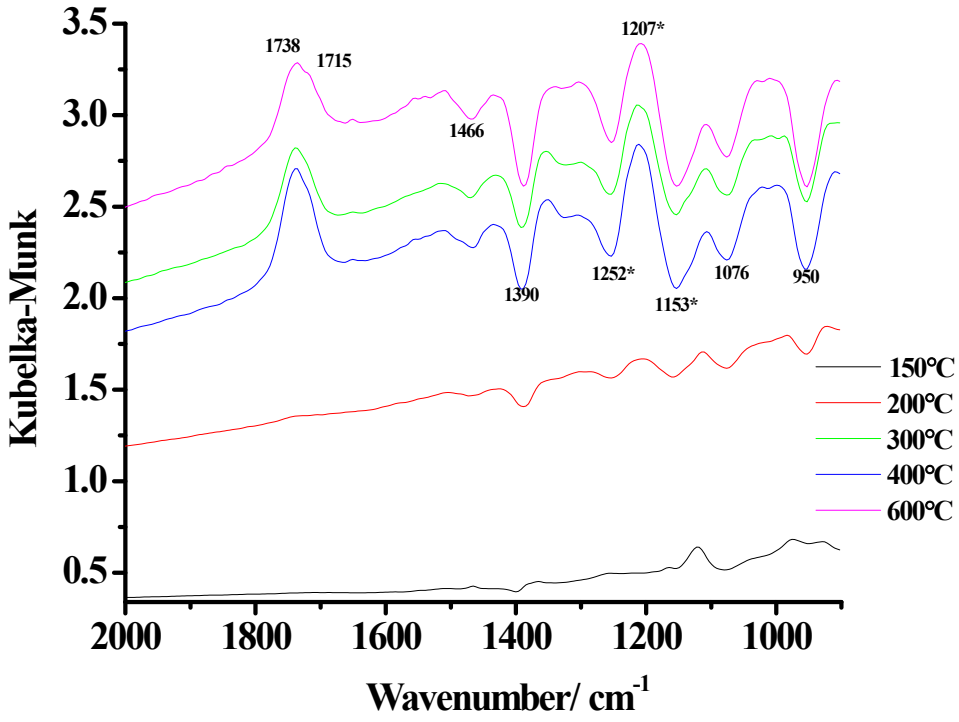


Figure S12. Selected spectra from Fig. 1.

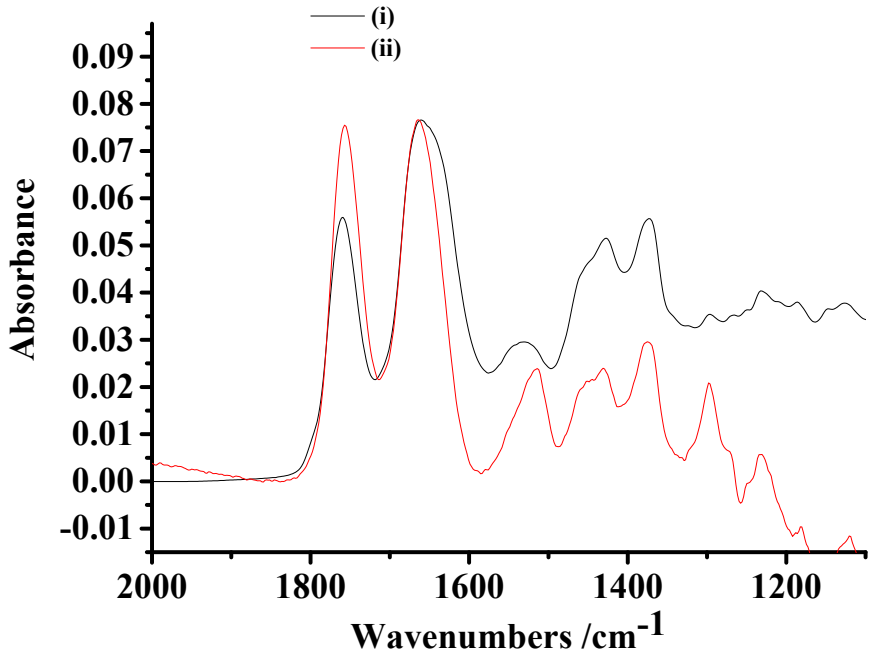


Figure S13. Spectra of the liquid films remaining on (i) the windows of the plasma transmission cell and (ii) the windows and Ti/Macor of the plasma reflectance cell after operation for 20 minutes at 27W and 16W using N_2/IPA as the feed, respectively, for 20 minutes.