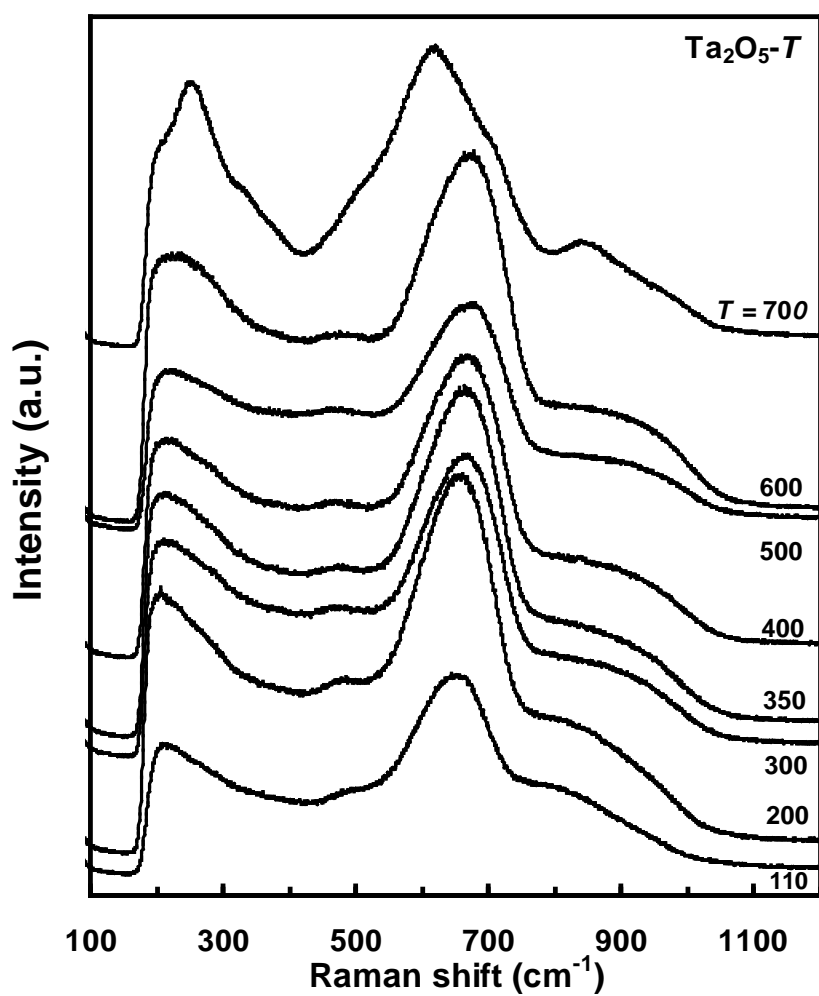


## Supplementary Information

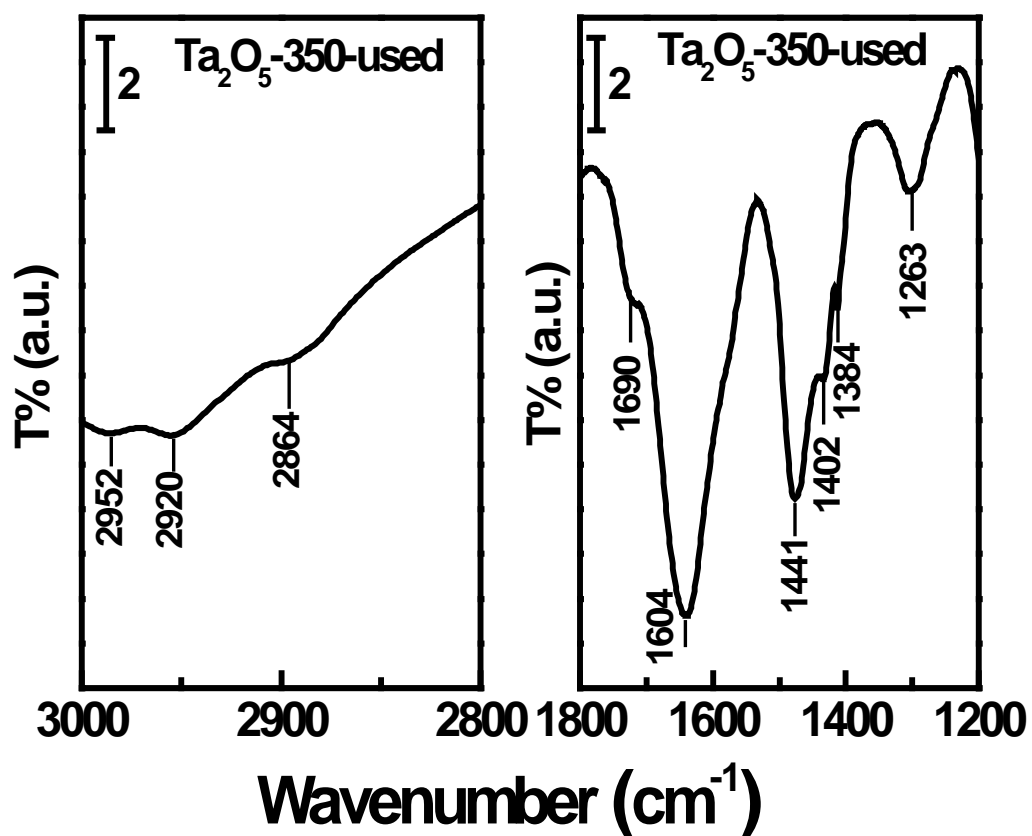
### **Sustainable production of acrolein: catalytic performance of hydrated tantalum oxides for gas-phase dehydration of glycerol†**

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**Figure S1** UV-Raman spectra of  $\text{Ta}_2\text{O}_5$ - $T$  samples of  $T = 110, 200, 300, 350, 400, 500, 600$  and  $700$  °C.



**Figure S2** IR spectra of the used  $\text{Ta}_2\text{O}_5$ -350 catalyst, obtained by unloading the catalyst after it had served the reaction for 10 h at 315 °C and  $\text{GHSV}_{\text{GL}} = 400 \text{ h}^{-1}$ .