

***Interactive comment on “Effects of temperature on the heterogeneous oxidation of sulfur dioxide by ozone on calcium carbonate” by L. Y. Wu et al.***

**Anonymous Referee #1**

Received and published: 18 February 2011

Text is full of vague expressions (transition state, for example), that could mean many things and usually are used in different context. Authors should clearly revisit the text to use adequate language, proper for the context of current field

Figures 1 and 2 are not informative and, even more so, confusing. Why are there negative-positive peaks  $\sim 870$  cm<sup>-1</sup> in Figure 1 and why are they alternating with no particular order in temperature? If they are subtraction artifacts, how can authors believe other data shown in their spectra?

I personally don't think authors revealed the nature of sulfate formation "hump" shown in Figures 5 and 7. A proper molecular mechanistic explanation must be given borderline with chemistry or any other more rigid discipline to explain underlying phenomena.

---

C292

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 3493, 2011.

C293