**Reviewer #2 (Remarks to the Author):**  
  
I thank the authors for their consideration of my comments and for making adjustments to the manuscript.  
  
I have two final points:  
  
1) In the new text:  
  
"The galactic cosmic ray field consists predominantly of protons with an energy distribution maximum of about 10 MeV and losses 99.9 % of their kinetic energy to the electron system of the target molecules."  
  
...a reference should be provided for these numbers.

**Response:** We have added the following reference “Bennett, C. J., Jamieson, C. S., Osamura, Y. & Kaiser, R. I. A Combined experimental and computational investigation on the synthesis of acetaldehyde [CH3CHO(X1A′)] in interstellar ices. *Astrophys. J.* 624, 1097-1115, (2005).”

2) The authors responded to my point #8 with the following reply:  
  
"Response: Previous work (Turner et al. ChemPhysChem, 2021, 22, 985-994) at this level of theory (CCSD(T)/CBS+ZPE) has been able to match experiment to within 0.05 eV in all known or even 0.01 eV in many cases. Hence, the IEs are similarly accurate here."

A sentence stating something along these lines should be added somewhere in the text.

**Response:** Following sentence has been added in the main manuscript on page 5 “ *It is important to stress here that the calculated IEs of the isomers can be lower by 0.05 eV or higher by 0.02 eV based on a comparison of experimental and calculated IEs of molecular benchmark systems.31*” to support our response and previous work (Turner et al. ChemPhysChem, 2021, 22, 985-994) has been cited.

**Reviewer #3 (Remarks to the Author):**

In revised version of the manuscript, the authors have addressed all of the points I raised in my review. I am satisfied with their answers and the present form of the manuscript. Therefore, I recommend the article to be published.

**Response:** Thank you.