

The manuscript described the compounds associated with the commercial production of polyglycolic acid from syngas. The manuscript is well written and goes into depth concerning the characterization by GC-MS and LC-HR-MS of products and byproducts associated with this industrial process. There is also a nice analysis of the high-resolution MS results and also an analysis of the oligomers produced from different process units.

Very few corrections are requested. They are summarized below:

Comments 1. The carrier gas (helium? hydrogen? nitrogen?) and flow rate should be added to Section 2.2 GC-MS Analysis. Also, the injection volume and any injector split ratio (if used) information should be added.

Response 1: Agree. The carrier gas was helium at a constant flow rate of 1.0 mL/min. The injection volume was 1 μ L in splitless injection mode. These have been added to Section 2.2 GC-MS Analysis.

Comments 2. On Line 106, a comment that the source fragmentation voltage was set at the maximum (100%). Some comments concerning the results of lower settings should be added. Comments regarding any observed excess fragmentation from this setting should be discussed.

Response 2: Agree. Thanks for your suggestion. We are sorry for that we miswrite the source fragmentation voltage as 100%. It has been corrected as 'The source fragmentation voltage was set at 100 V to eliminate the association of the target compounds with glycolide or methanol'. In fact, we investigated the results of different voltages and finally chose 100 V. Since the adduct ion peak is very stable, it is difficult to fracture.

Comments 3. Section 2.3 should reference the vendor of the Orbitrap, Thermo Fisher Scientific.

Response 3: Agree. It was referenced in Line 101.

Comments 4. The numbering in the References section (line 244-303) is duplicated. This should be corrected before publication.

Response 4: Agree. Thank you for pointing this out. The duplicated numbering has been corrected.

Comments 5. Line 81 should be "9600 spinning band distillation system"

Response 5: Agree. It has been corrected as suggested by the reviewer.

Comments 6. Line 88 should be "for the polymers"

Response 6: Agree. It has been corrected as suggested by the reviewer.

Comments 7. Line 225 should be "products and impurities"

Response 7: Agree. It has been corrected as suggested by the reviewer.