**Reply to Reviewer #A:**

**Comment 1.** Line 14, Before first abbreviation HETP, full name must be given.

**Reply 1. Thanks for your note. It was corrected in the revised manuscript according to your comment (page 1).**

**Comment 2.** Line 80, CO2, 2 should be written as subscript.

**Reply 2. Thanks. It was corrected in the revised manuscript based on your comment (page 3).**

**Comment 3.** Lines 234, 235, Properties must be detailed explain. Why the article was introduced in expression for Y?

**Reply 4. According to your note, the properties and were explained in detail in the revised manuscript (page 10). This is also to notice that the term of  was introduced and used in the expression of Y due to omission of the operational liquid density effect. In other words, the aforementioned term was utilized in order to plot a GPDC in which the effect of specific operational liquid in the column is removed (GPSA engineering data book, 12th edition, 2004).**

**Comment 5.** Line 259, 327: Diameter of column was 39.5 mm, not 40 mm.

**Reply 5. Thanks for your comment. It was corrected in the revised manuscript according to your comment (pages 12, 15).**