We thank the editor for his suggestions. Below, we provide point-by-point responses to each comment. In the following context, **reviewers' comments and suggestions** are in **black, authors' responses** are in **red**, and **changes to the manuscripts and supplement information** in **blue**. We have also corrected typos and grammatical errors in the manuscript and supplement.

Reply to the editor:

The study by Li and co-workers is well-written and a substantial contribution to scientific progress in the field. Reviewer comments were addressed adequately.

I would like to follow up on the comments of both reviewers regarding the influence of improper knowledge of accommodation coefficient and surface tension. The authors now carefully discuss the sensitivities and it seems that this parametric uncertainty in some cases significantly exceeds the (sometimes quite small) error coming from determination of dDp/dt. Hence, I suggest not only discussing the uncertainty, but also propagating an estimate of these parametric uncertainties into the reported uncertainty in p_sat.

Response: Thanks for the suggestion. We now use the p_{sat} ranges that were estimated using $\alpha = 1$ and ± 50% variation in the chosen σ as the error bars for the measured p_{sat} values. This means that we have included the effect of uncertainty of surface tension to our uncertainty estimates of p_{sat}, but all values of p_{sat} reported in the main text were estimated using $\alpha = 1$. As reasoned in our reply to reviewers and in the second paragraph of Section 3 in the revised manuscript, we consider $\alpha = 1$ to be a reasonable choice and therefore have not accounted for other values of α in the uncertainty estimate of p_{sat}.

We have revised the error bars of p_{sat} values for this study in Table 2, and Figures 1e, 2, 4, and 5 accordingly. Now the presented uncertainty ranges for p_{sat} include ± 50% variation in the chosen σ and the fitting uncertainties (i.e., 95 % CrIs). The contributions of the fitting uncertainties to the presented uncertainty ranges are summarized in Table R1. The revised figures are also shown here below. We have also revised the text in Section 3 in the revised manuscript to explain the error bars.

Table R1. Relative contributions of the fitting uncertainties (95% credible intervals) to the presented error bars.

Cases of σ	PEG6	PEG7	PEG8	PEG9	PMA	STA	AZA	SBA	ERT	XYT	DOS
Base	32%	9%	19%	95%	18%	11%	50%	4%	43%	23%	11%
-50%	36%	10%	19%	80%	32%	16%	50%	4%	52%	28%	15%
50%	22%	8%	15%	51%	14%	42%	35%	3%	30%	18%	10%

Change:

Section 3

[…] Therefore, the optimized p_{sat} values were estimated using $\alpha = 1$ and the presented uncertainty ranges for p_{sat} include ± 50% variation in the chosen σ and the fitting uncertainties (i.e., 95 % CrIs). Dependent on the studied compounds, the contributions of the fitting uncertainties to the present uncertainty ranges varied from 3% to 95%.

Table 2. Summary of p_{sat} at 295 K for the organic compounds measured in this study.

Groups	Compounds	p_{sat} [Pa][a]
Polyethylene Glycol	PEG 6	$2.24^{+0.50}_{-0.39} \times 10^{-5}$
	PEG 7	$1.06^{+0.21}_{-0.17} \times 10^{-6}$
	PEG 8	$6.51^{+1.25}_{-1.06} \times 10^{-8}$
	PEG 9	$6.71^{+9.75}_{-3.86} \times 10^{-9}$
Monocarboxylic acid	Palmitic acid	$5.40^{+3.94}_{-2.30} \times 10^{-6}$
	Stearic acid	$2.42^{+1.97}_{-1.09} \times 10^{-7}$
Dicarboxylic acid	Azelaic acid	$7.61^{+5.16}_{-3.13} \times 10^{-6}$
	Sebacic acid	$1.07^{+0.23}_{-0.19} \times 10^{-7}$
Alcohol	meso-Erythritol	$3.75^{+1.15}_{-0.81} \times 10^{-5}$
	Xylitol	$1.71^{+0.48}_{-0.37} \times 10^{-6}$
Ester	DEHS	$7.52^{+1.81}_{-1.46} \times 10^{-7}$

[a] The optimized p_{sat} values were estimated using $\alpha = 1$ and the presented uncertainty ranges for p_{sat} include ± 50% variation in the chosen σ and the fitting uncertainties (i.e., 95 % CrIs).

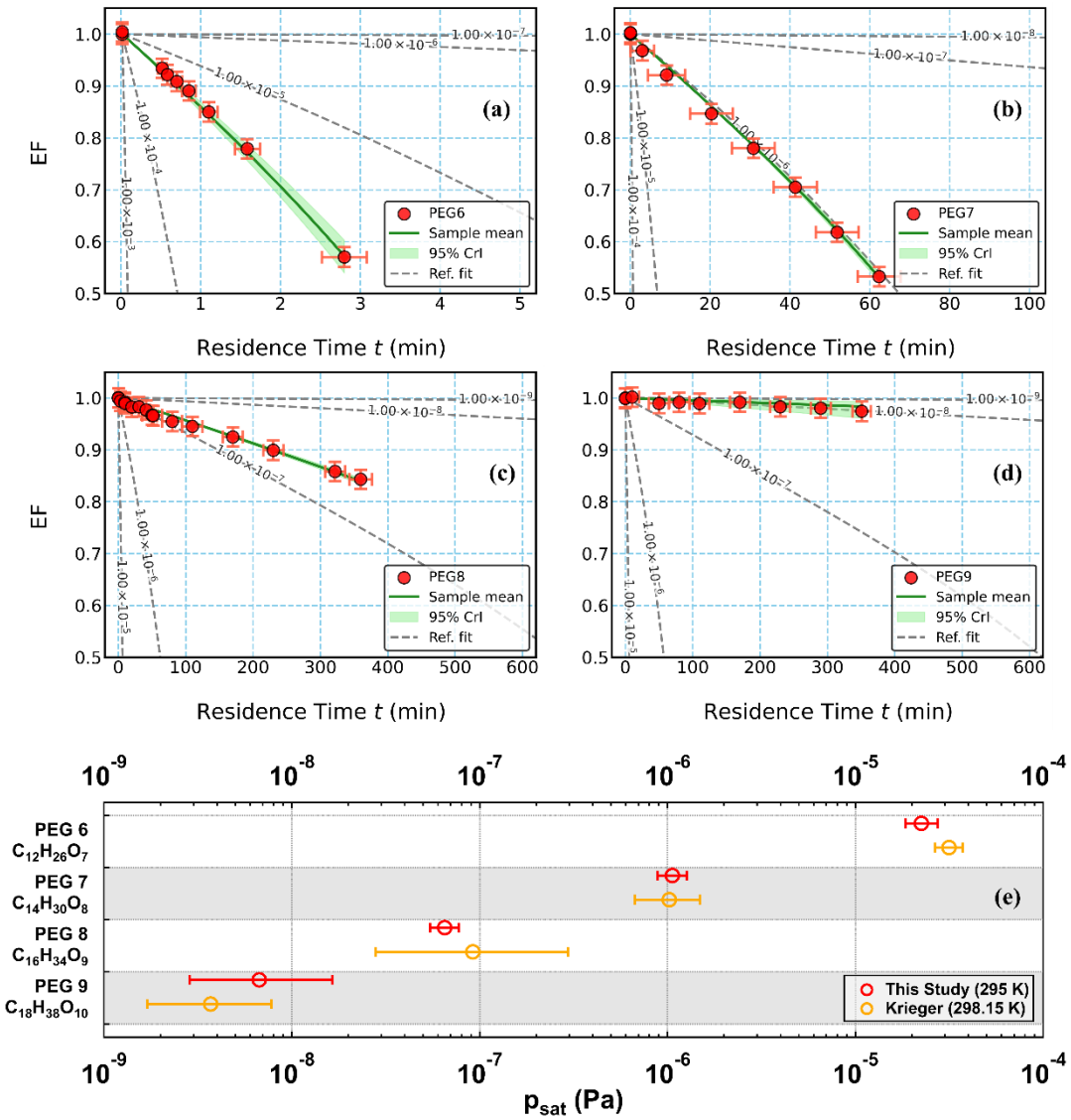

Figure 1. Panels (a) – (d): Measured evaporation factors (EFs; circles) as a function of residence time for PEGs (PEG 6 – 9), simulations with the average optimized p_{sat} values (solid green lines) and 95% credible intervals (95% CrIs; shaded areas in green), and simulated evaporation curves with a set of reference p_{sat} values (10^{-9} to 10^{-3} Pa, with one-decade intervals, dashed grey lines). All the simulated evaporation curves were computed using $\alpha = 1$ and the chosen σ shown in Table 1. For the measured data points of EF in (a) – (d), the error bars represent the maximum uncertainty of ±1.875% in particle size measurements on y-axis and the minimum and maximum residence times on x-axis. Panel (e): Measured p_{sat} values for PEGs in this study (red) together with the those reported by Krieger et al. (2018) (yellow). For the p_{sat} values from this study, they were estimated using $\alpha = 1$, with error bars including ± 50% variation in the chosen σ and the fitting uncertainties (i.e., 95 % CrIs).

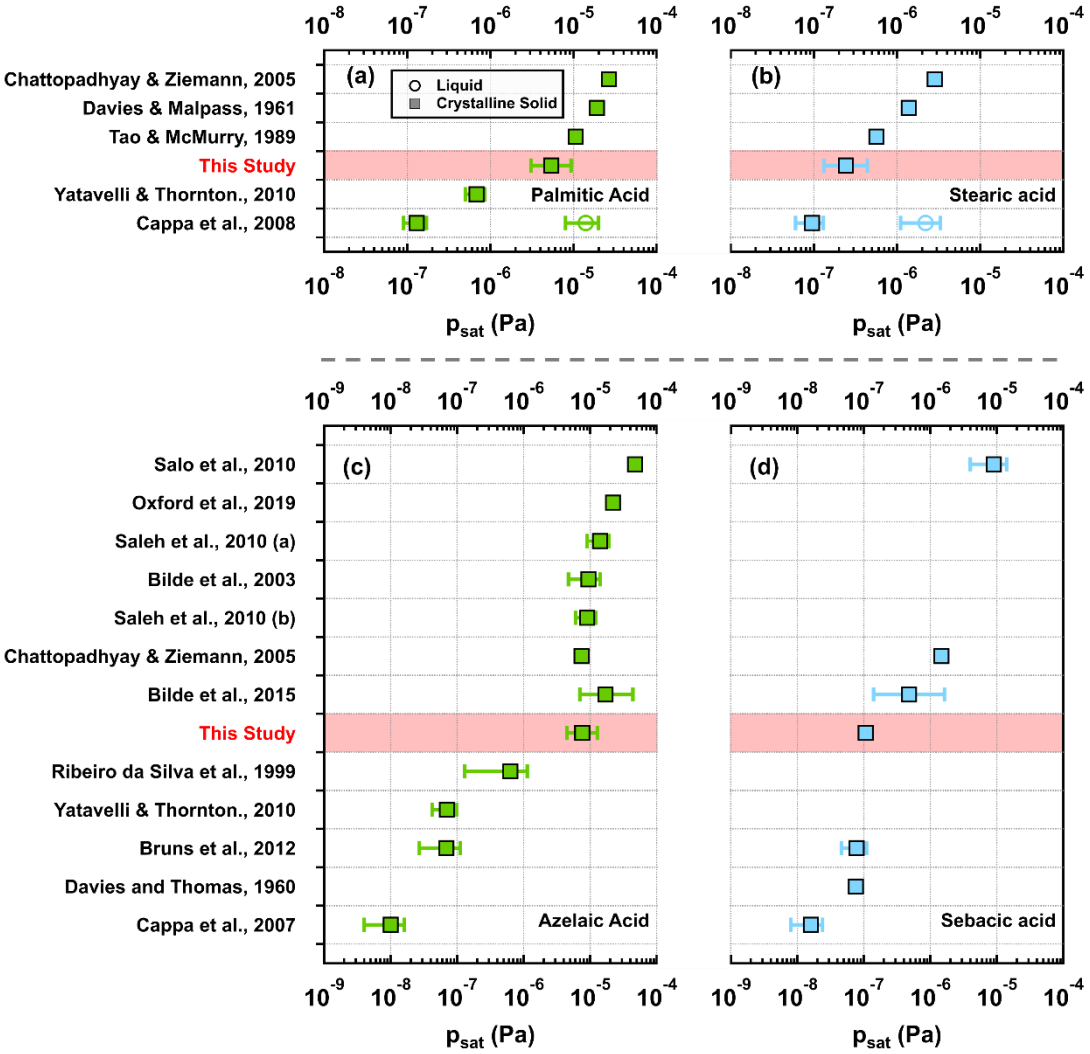

Figure 2. Measured p_{sat} values from this study (rectangle in red shaded area) together with those reported in literature for palmitic acid (a; green), stearic acid (b; blue), azelaic acid (c; green), and sebacic acid (d; blue). Note that the p_{sat} values and their uncertainties from Bilde et al. (2015) were based on the combined data sets of different studies but not from a particular study or experimental method. For the p_{sat} values from this study, they were estimated using $\alpha = 1$, with error bars including ± 50% variation in the chosen σ and the fitting uncertainties (i.e., 95 % CrIs).

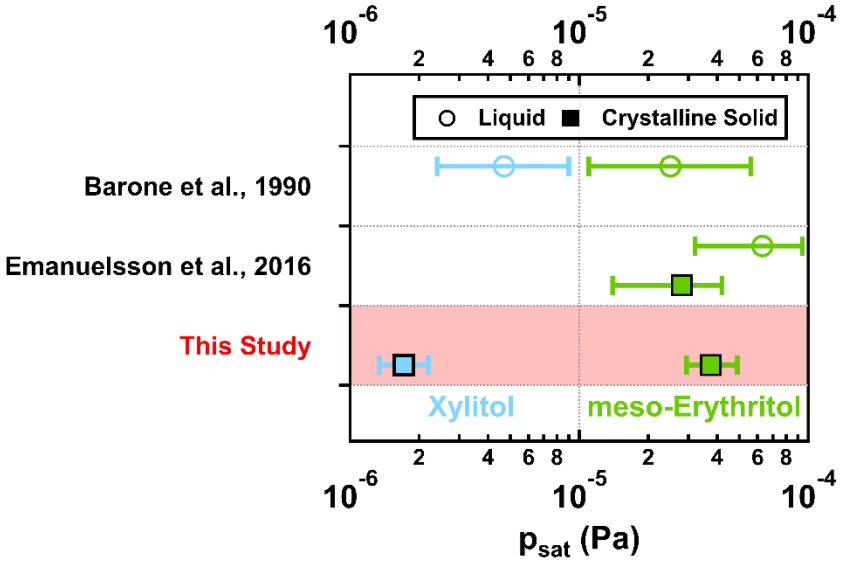

Figure 4. Measured p_{sat} values from this study (rectangle in red shaded area) together with those reported in literature for meso-erythritol (green) and xylitol (blue). For the p_{sat} values from this study, they were estimated using α = 1, with error bars including ± 50% variation in the chosen σ and the fitting uncertainties (i.e., 95 % CrIs).

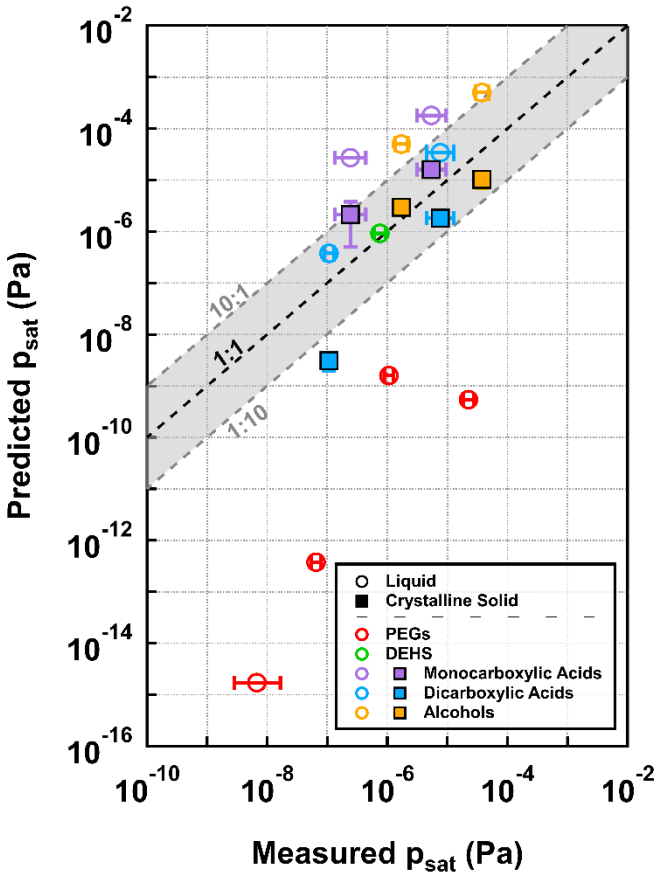

Figure 5. Comparison of p_{sat} values between the measurement in this study (x-axis) and different COSMO*therm* predictions (y-axis) at 295 K. The two different markers represent the comparisons of measured p_{sat} values with the COSMO*therm*-estimated p_{sat} values of liquid (open circles) and crystalline solid (filled squares) phase states, respectively. The error bar of each marker on x-axis represents the uncertainty range for the p_{sat} value estimated using $\alpha = 1$, which includes ± 50% variation in the chosen σ and the fitting uncertainties (i.e., 95 % CrIs). The error bar of each filled square on y-axis shows the range between the maximum and minimum COSMO*therm*-estimated crystalline solid p_{sat} values. The dashed black line is the 1:1 line, with grey shaded areas showing a deviation of one log unit.

Technical Comments:

l. 20 - I suggest indicating that DEHS is an ester in analogy to the other listed compounds

Response: We modified the sentence in the introduction.

Change: Introduction

[…] The compounds included four polyethylene glycols (PEG: PEG6, PEG7, PEG8 and PEG9), two monocarboxylic acids (palmitic acid and stearic acid), two dicarboxylic acids (azelaic acid and sebacic acid), two alcohols (meso-erythritol and xylitol), and one ester (di-2-ethylhexyl sebacate). […]

l. 176 - should read "molecular dynamics simulations"

Response: We corrected the typo.

Figure 3 - I suggest to decapitalize “NO” in legend to avoid confusion with nitrogen monoxide

Response: Now we use the “No solvent effect” in the legend.

Change: