Comment by the topic editor
The three reviewers indicated that the manuscript is suitable for publication in Aerosol Research subject to some revisions. The authors should answer the reviewers' comments/suggestions before a revised manuscript can be considered for final publication. In that case, the revised manuscript will be sent for another round of reviews by the same reviewers.

The topic editor further suggests modifying lines 128 to 132 in the manuscript by a larger explanation. Also, the authors should note that term α ln [(α/(1- α)] does not become negligible (as written in the manuscript), but tends to unity when α is very large.

Suggested change instead of lines 128 to 132:
The mean number of INPs per volume in the sample that are active at a given temperature can be calculated assuming that the locations of these INPs in the sample volume are statistically independent. Then, the probability of having a given number of droplets without INPs (that is, the fraction of no frozen droplets) is given by the binomial distribution, and the remaining fraction of droplets containing INPs (fraction of frozen droplets) leads to the relation:
Their Eq. (1)
Where f is the frozen fraction (i.e., the fraction of frozen droplets) and V is the droplet volume in each 130 vial of the assay and α is the number of droplets per sample (80 in this study).
Given that α >> 1 in our study, the term α ln [(α/(1- α)] is close to unity. Therefore Eq. (1) simplifies to Eq (2)

We thank the editor for this clarification and suggestion.
We have now incorporated the suggested change into the revised manuscript:

"The mean number of INPs per volume in the sample that are active at a given temperature can be calculated assuming that the locations of these INPs in the sample volume are statistically independent. Then, the probability of having a given number of droplets without INPs (that is, the fraction of no frozen droplets) is given by the binomial distribution, and the remaining fraction of droplets containing INPs (fraction of frozen droplets) leads to the following general Eq. (1):

$$N_v = \frac{-ln\,(1-f)}{V \cdot \alpha \cdot ln\,(\frac{\alpha}{\alpha-1})}, \qquad (1)$$

Where f is the frozen fraction (i.e., the fraction of frozen droplets) and V is the droplet volume in each vial of the assay and α is the number of droplets per sample (80 in this study).
Given that α >> 1 in our study, the term $\alpha \cdot ln\,(\frac{\alpha}{\alpha-1})$ is close to unity. Therefore Eq. (1) simplifies to Eq (2)

$$N_v = \frac{-ln\,(1-f)}{V}, \qquad (2)"$$

Subsequently this simplified form was used for the calculations in this study (Vali, 1971).