Response to Editors comments:

Scientific comment:

Low GR (below 1 nm h-1) and low J (below 0.02 cm-3 s-1) are almost exclusively from TVM, which has the highest detection limit (15 nm). The time scale for growth is 50 h, 20 h, 10 h at the rate of 0.2 nm-1, 0.5 nm h-1 and 1 nm h-1, respectively. Such slow GR is typically only observed at very homogenous and sparsely populated Arctic / Antarctic environments. Considering coastal environment with land-sea breeze (time scale of 6 h or so) and emissions from 1 M population in the region, this result is surprising to me. Any comments or speculation, why the GR is so slow?

Response:

Note that "Lowest Detectable Size" (LDS) is replaced by "Smallest Detectable Size (SDS)" throughout the manuscript, including Fig. 9 as "smallest" goes well with size than "lowest"

There are two possibilities why GR is so slow/low from TVM. First, the CS is relatively higher in TVM (similar to a megacity like Delhi, as seen in Fig.9), which indicates a higher probability of condensable vapors lost on pre-existing particles, which may contribute to lower GR, and thus lower J_{SDS}. Secondly, in theory, the steepness of GR curve increases with decreasing particle size, since TVM, with the highest SDS among all the sites, has the lowest steepness of GR curve between SDS and 25 nm resulting lower GR and this lower J_{SDS}.

Technical comments:

Line 655: I would use less significant figures for the highest number concentrations.

Response: Done

Figure 5. Please consider logarithmic scale in the y-axis.

Response: Done.

Figure 6&7. To my eye, the black line is no thicker than any of the other. In Figure 7c, the grey curve goes outside the axis limits.

Response: In Figures 6&7, all lines have equal thickness. The figure caption is updated as "The black, blue, red, green, and grey lines indicate all data, winter (DJF), pre-monsoon (MAM), monsoon (JJAS), and post-monsoon (ON), respectively". We changed the y-axis range to show a grey curve within the plotting window.

Response to Reviewer's comments:

I think that this revised article incorporates the bulk of the comments that the two reviewers made to the initially submitted version. The authors also convincingly addressed some of the comments that they cannot incorporate in the edited manuscript. However, there are some comments that the authors have incompletely addressed:

1) Since the analysis on the "relative occurrence of Aitken mode and accumulation mode" (pages 18-21; Fig 6 and Fig 7) is not a standard analysis, I recommend providing some context for the reader. Perhaps a couple of sentences around line 377 when you introduce the concept.

Response: We have introduced the concept as "The relative occurrence of the number concentrations of size-segregated (Aitken and accumulation) particles was calculated to determine the maximum concentrations of a given particle mode in different seasons at all sites."

Technical corrections:
2) The authors should change the colorscales in figures 1, 4, and 9 (and now Fig S1 as well) to a uniform colorscale. The Copernicus guidelines (https://www.atmospheric-chemistry-and-physics.net/submission.html#figurestables) mentions: "For more information on the background and importance of addressing this issue, we refer to Stoelzle & Stein (2021) (https://hess.copernicus.org/articles/25/4549/2021/)." The cited article literally discusses why "rainbow colormap" (color scheme in question) is misleading. I understand that the aerosol community has used the jet/rainbow colorscale for decades and it is inconvenient for us to change from the "standard" rainbow/jet colorscale. But, given the guidelines, I have to point this out.
Response: The corresponding author is sorry to have missed incorporating this in the earlier revision. We have changed color schemes for figures 1, 4, 9, and S1.

3) Units missing in Table S1.
Response: Specified.

Overall, the article is much improved and should be published subject to technical corrections.