

1 *Supplementary Information*

2 **Pre-existing Particle Composition Controls the Initial Viscosity and Aging of  $\alpha$ -Pinene-**  
3 **Derived Secondary Organic Aerosol**

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14 **Summary:**

15 2 pages, 1 figure, 1 table

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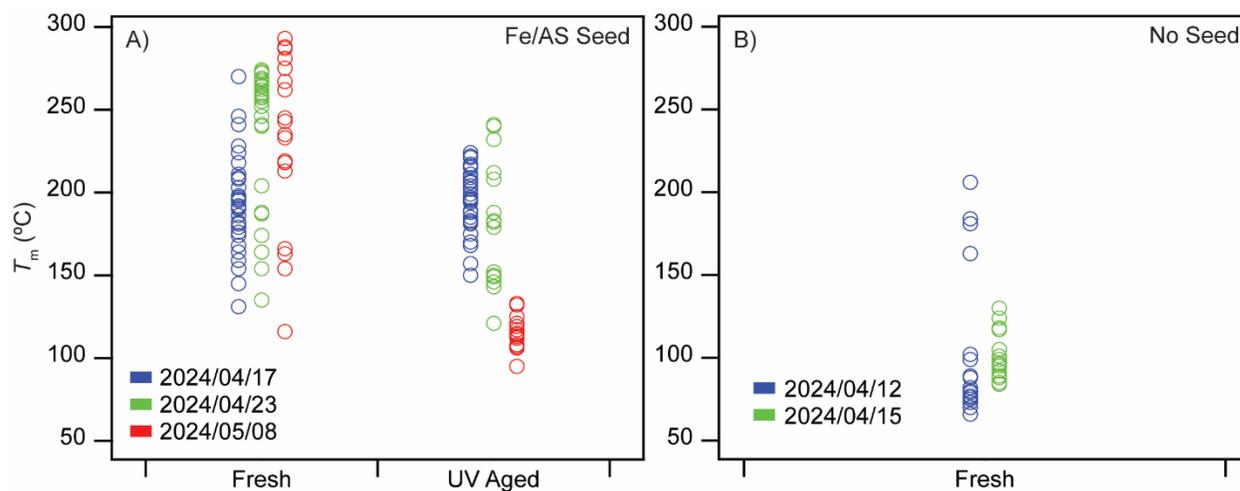
17 **Table S1.** Experimental conditions and analysis dates for each chamber experiment.

Seed Condition	% RH (Fresh, Aged)	Experiment Date (YYYY/MM/DD)	Analysis Date (YYYY/MM/DD)	Particles Analyzed (Fresh, Aged)
None	32, N/A	2024/04/12	2024/05/08	24, N/A
*None	81, 70	2024/04/15	2024/05/08-09	18, 16
*AS	80, 58	2024/04/16	2024/05/15	31, 17
*Fe/AS	82, 65	2024/04/17	2024/05/20-21	37, 38
Fe/AS	93, 70	2024/04/23	2024/06/12 (Fresh) ‡2025/04/11 (Aged)	38, 16
Fe/AS	89, 77	2024/05/08	‡2025/04/15	18, 18

18 \*Experiments used for EESI-MS analysis

19 ‡Samples analyzed in 2025 at Sandia National Laboratories

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**Figure S1.** NanoTA measurements for conditions which had multiple experiments conducted, split by experiment date for A) Fe/AS seeded SOA and B) unseeded SOA.

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