

1 **Three dominant synoptic atmospheric circulation**
2 **patterns influencing severe winter haze in eastern China**

3 **Supplementary material**

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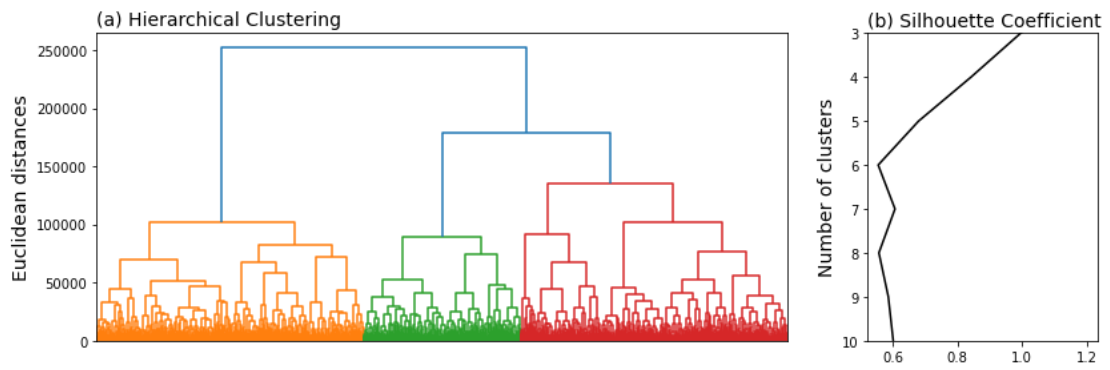
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17 **Figure S1.** (a) Hierarchical clustering tree and (b) silhouette coefficient of GPH anomalies at 500-

18 hPa in NDJF.