Supplement of

Long-term Assessment of Primary and Secondary Organic Aerosols in Shanghai Megacity throughout China's Clean Air Actions since 2010

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This file includes Figure S1 to Figure S14.

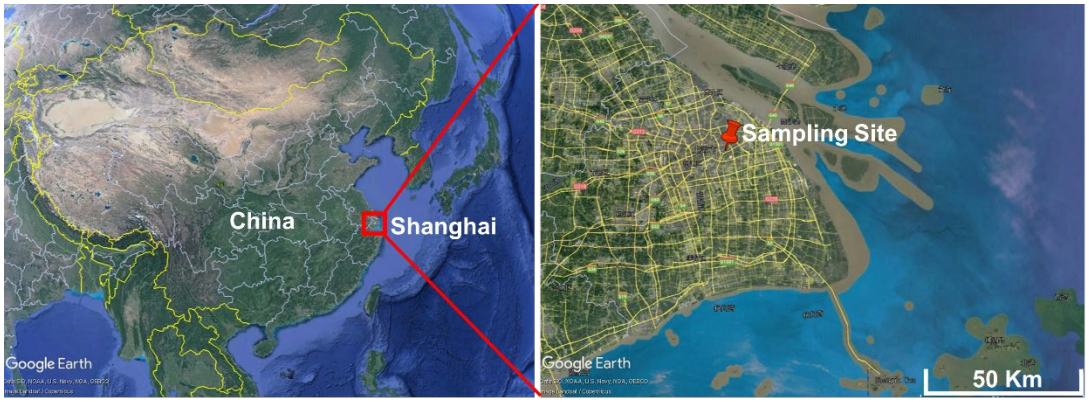

Figure S1. Location of the sampling site. The images were obtained from © Google Maps.

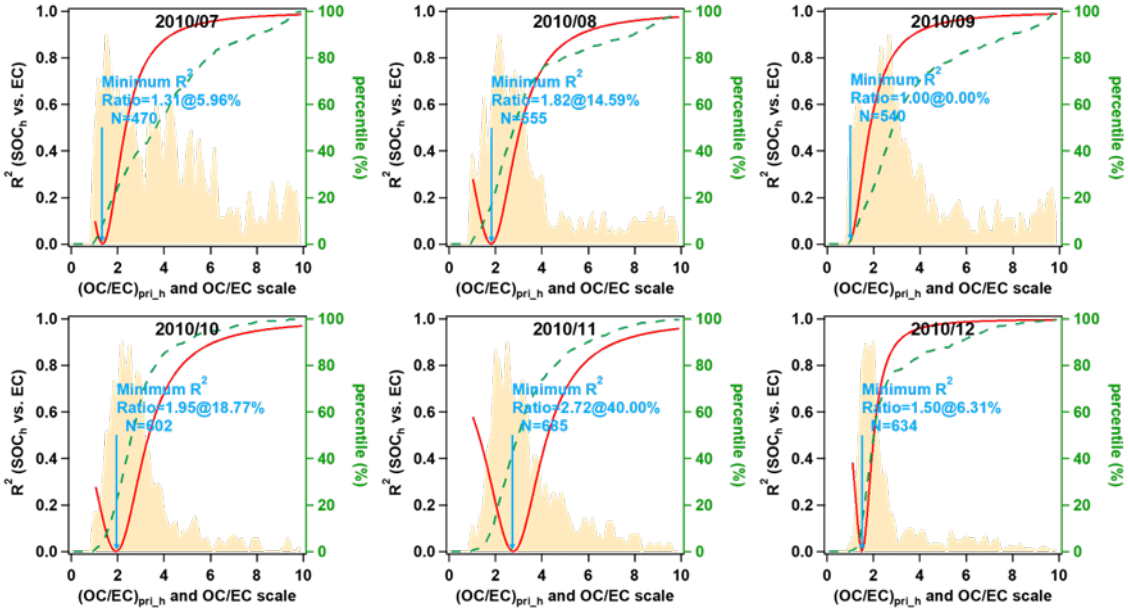

Figure S2. Illustration of $(OC/EC)_{pri}$ estimation for each month in 2010. The red curve shows the correlation coefficient (R^2) between SOC and EC as a function of assumed $(OC/EC)_{pri}$ values. The shaded area represents the frequency distribution of the OC/EC ratio for the entire OC and EC data set. The green dashed curve displays the cumulative frequency curve of the OC/EC ratio.

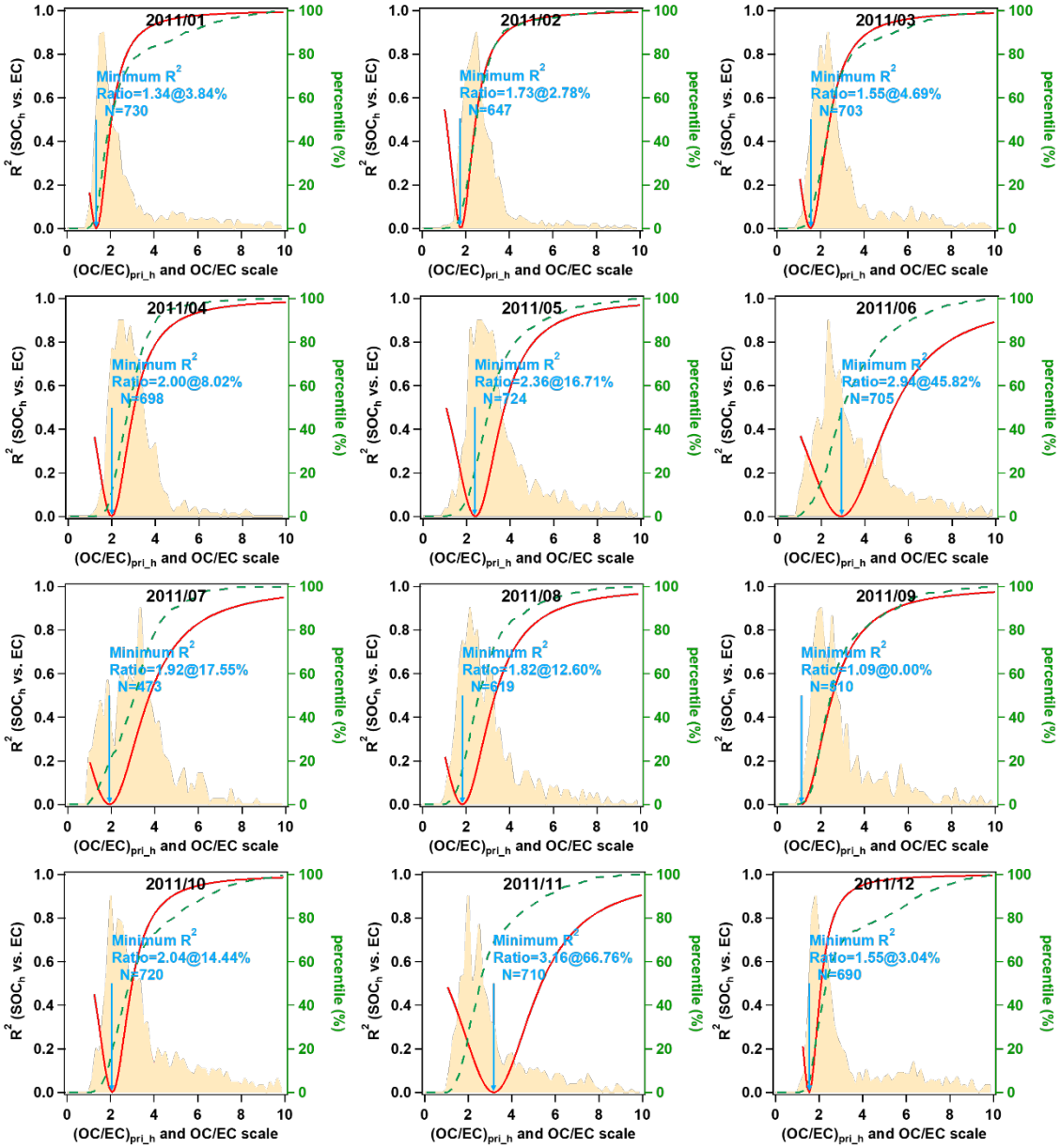

Figure S3. Illustration of $(OC/EC)_{pri}$ estimation for each month in **2011**. The red curve shows the correlation coefficient (R^2) between SOC and EC as a function of assumed $(OC/EC)_{pri}$ values. The shaded area represents the frequency distribution of the OC/EC ratio for the entire OC and EC data set. The green dashed curve displays the cumulative frequency curve of the OC/EC ratio.

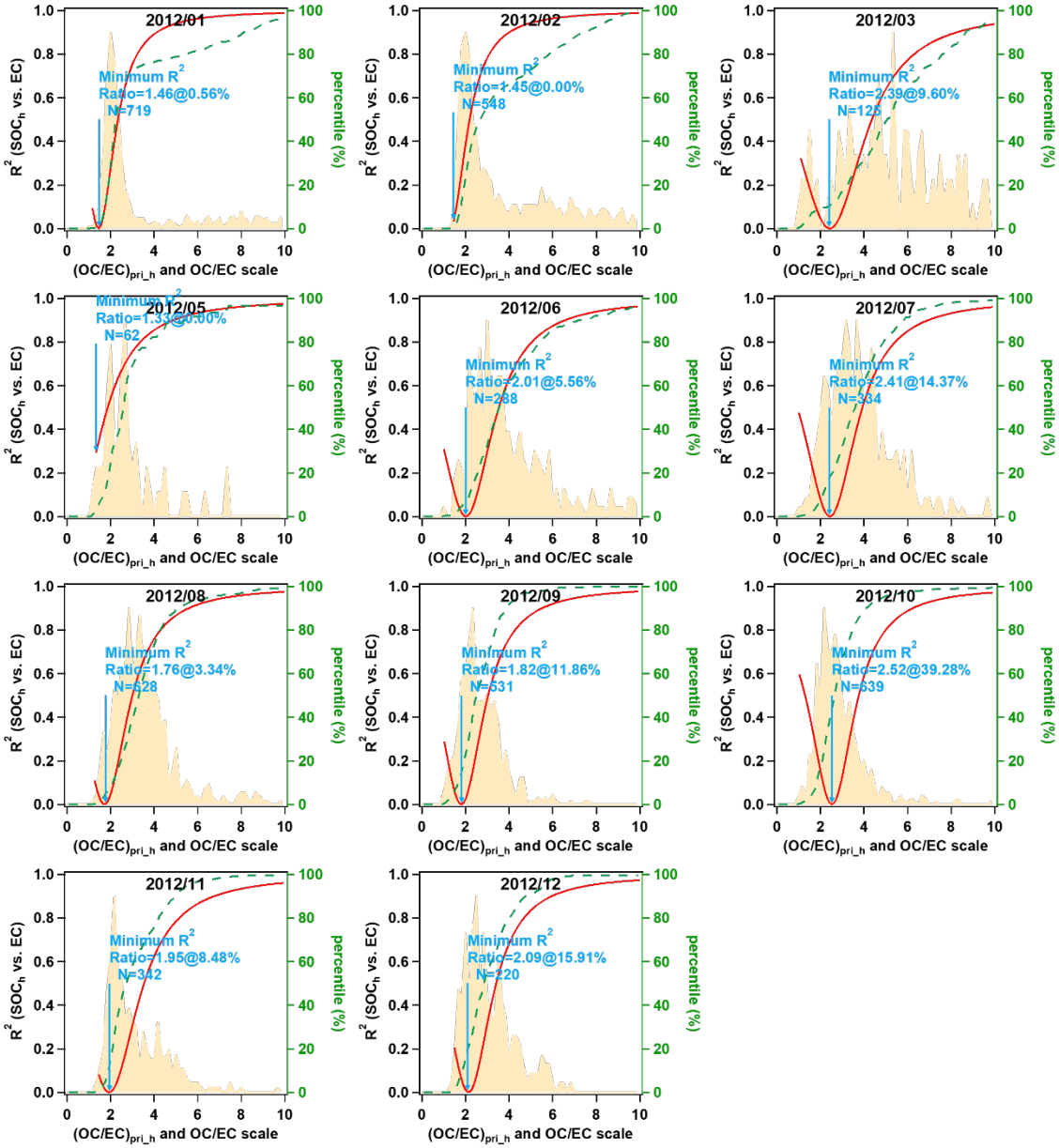

Figure S4. Illustration of $(OC/EC)_{pri}$ estimation for each month in **2012**. The red curve shows the correlation coefficient (R^2) between SOC and EC as a function of assumed $(OC/EC)_{pri}$ values. The shaded area represents the frequency distribution of the OC/EC ratio for the entire OC and EC data set. The green dashed curve displays the cumulative frequency curve of the OC/EC ratio.

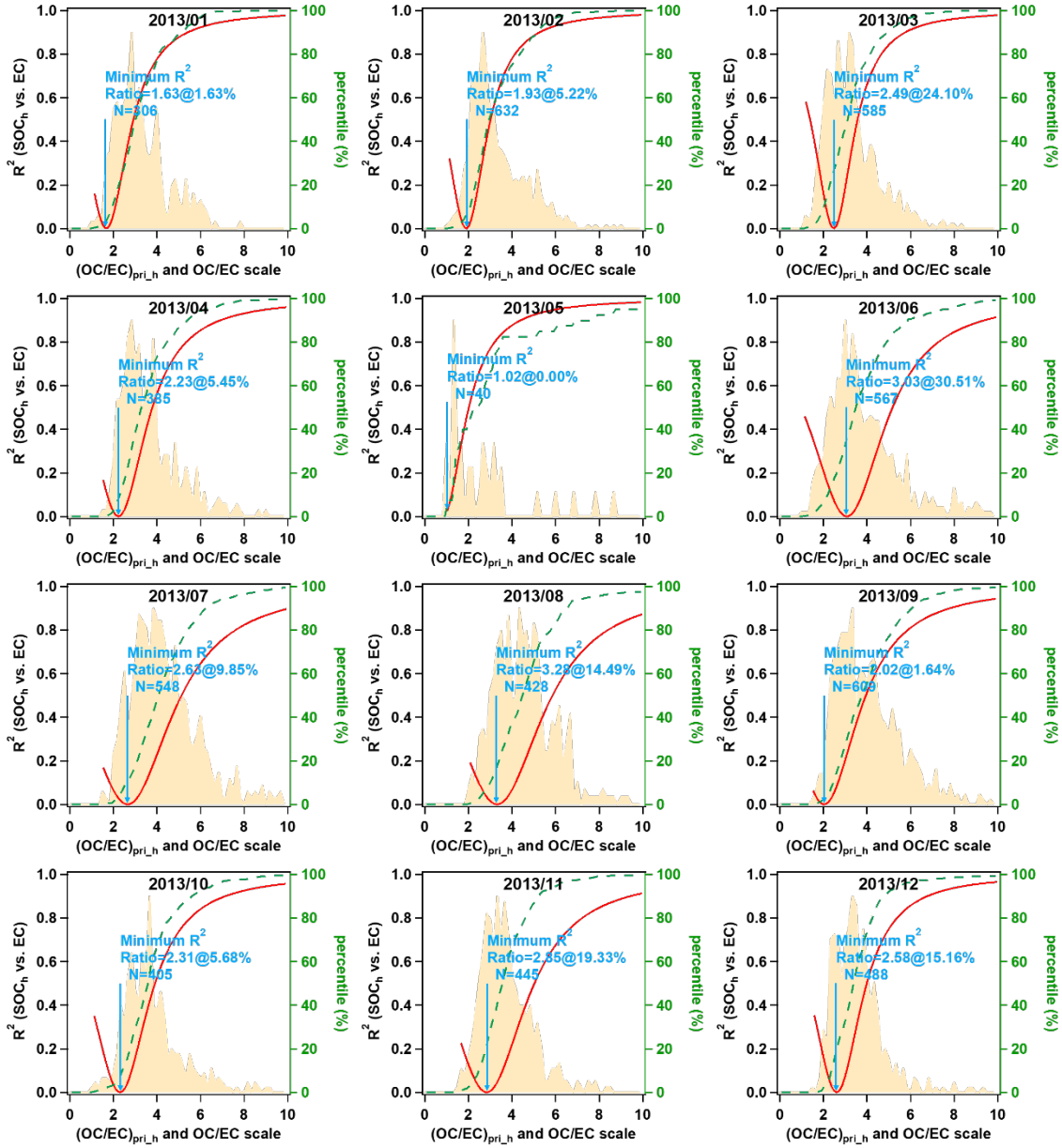

Figure S5. Illustration of $(OC/EC)_{pri}$ estimation for each month in **2013**. The red curve shows the correlation coefficient (R^2) between SOC and EC as a function of assumed $(OC/EC)_{pri}$ values. The shaded area represents the frequency distribution of the OC/EC ratio for the entire OC and EC data set. The green dashed curve displays the cumulative frequency curve of the OC/EC ratio.

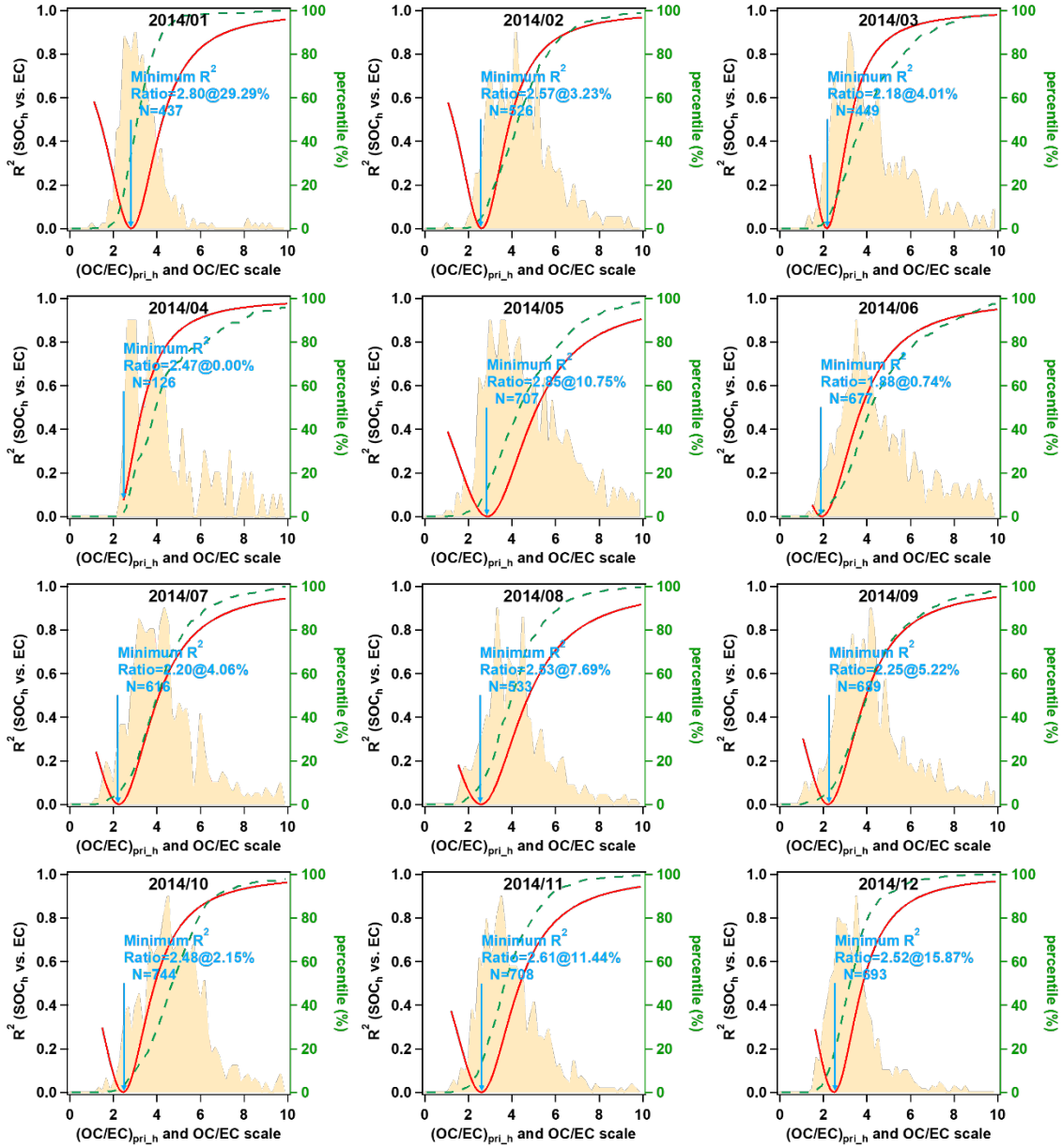

Figure S6. Illustration of $(OC/EC)_{pri}$ estimation for each month in **2014**. The red curve shows the correlation coefficient (R^2) between SOC and EC as a function of assumed $(OC/EC)_{pri}$ values. The shaded area represents the frequency distribution of the OC/EC ratio for the entire OC and EC data set. The green dashed curve displays the cumulative frequency curve of the OC/EC ratio.

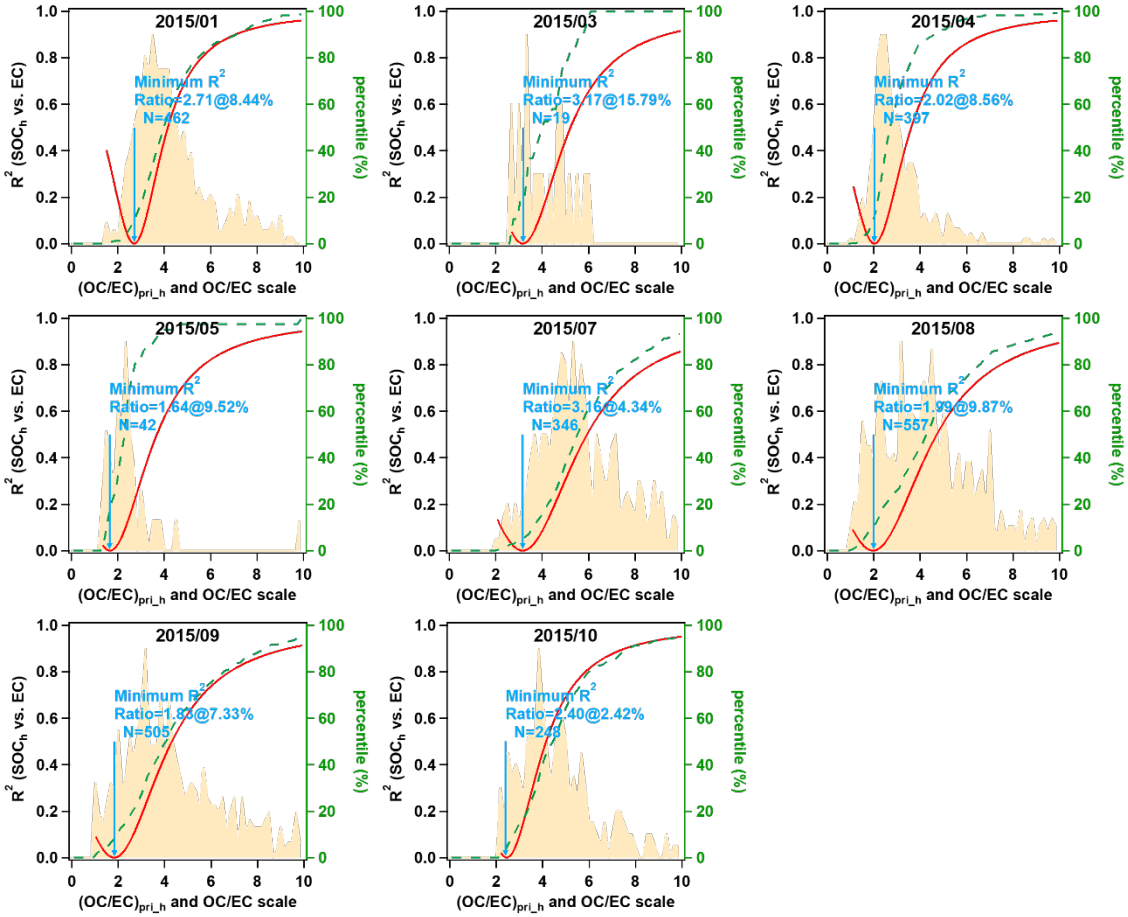

Figure S7. Illustration of $(OC/EC)_{pri}$ estimation for each month in **2015**. The red curve shows the correlation coefficient (R^2) between SOC and EC as a function of assumed $(OC/EC)_{pri}$ values. The shaded area represents the frequency distribution of the OC/EC ratio for the entire OC and EC data set. The green dashed curve displays the cumulative frequency curve of the OC/EC ratio.

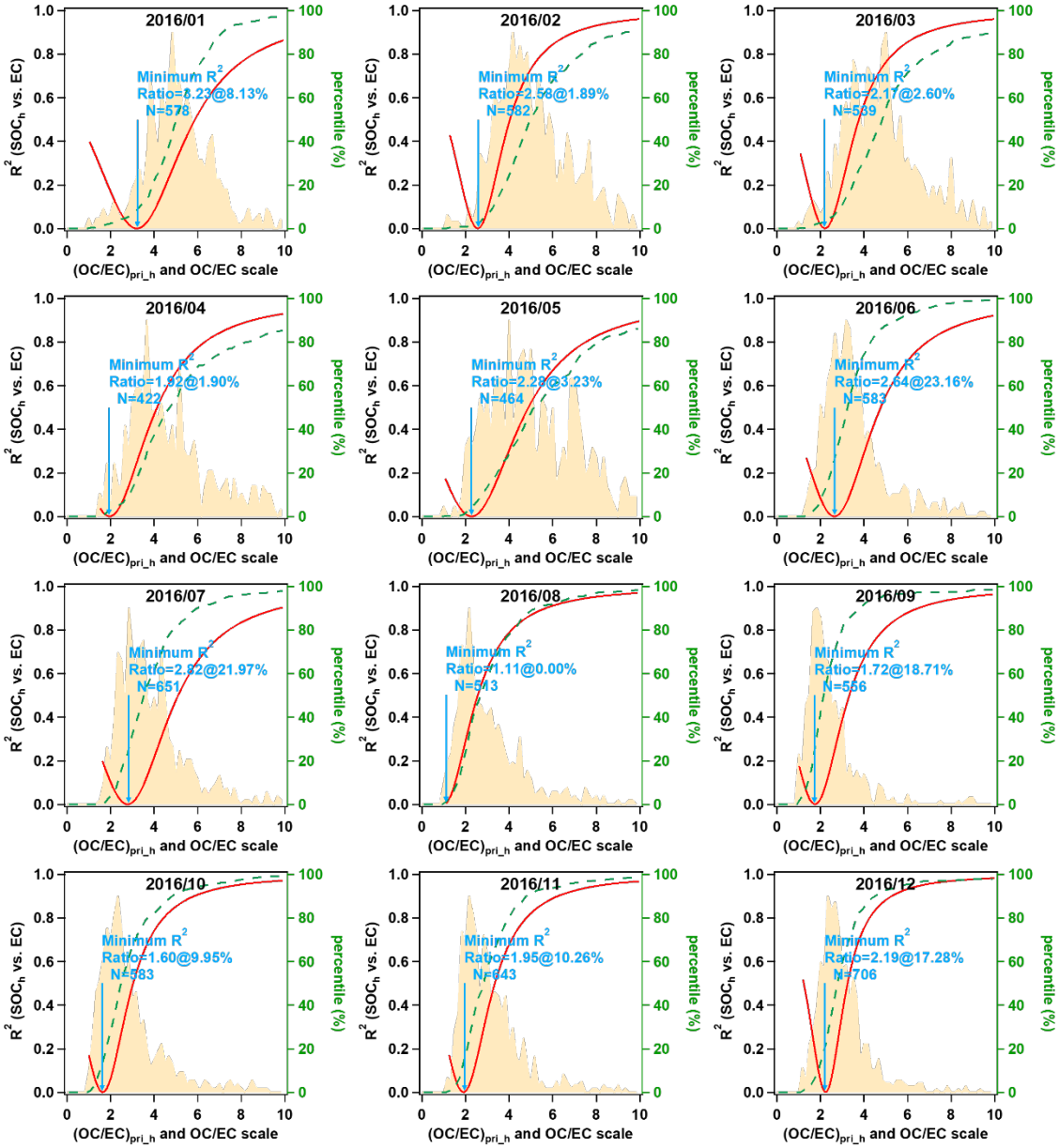

Figure S8. Illustration of $(OC/EC)_{pri}$ estimation for each month in **2016**. The red curve shows the correlation coefficient (R^2) between SOC and EC as a function of assumed $(OC/EC)_{pri}$ values. The shaded area represents the frequency distribution of the OC/EC ratio for the entire OC and EC data set. The green dashed curve displays the cumulative frequency curve of the OC/EC ratio.

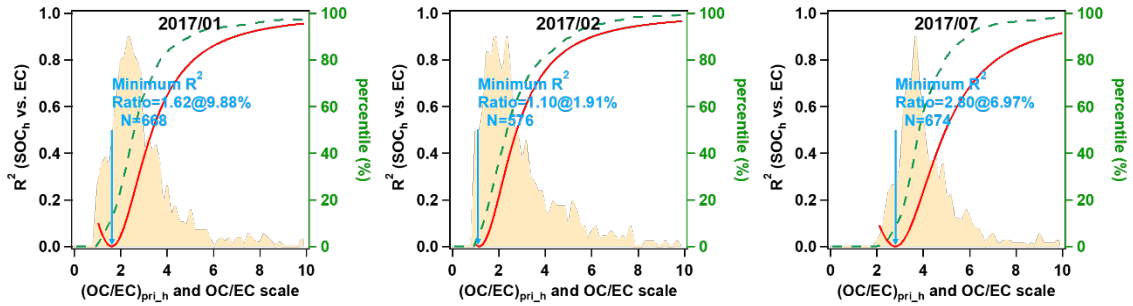

Figure S9. Illustration of $(OC/EC)_{pri}$ estimation for each month in **2017**. The red curve shows the correlation coefficient (R^2) between SOC and EC as a function of assumed $(OC/EC)_{pri}$ values. The shaded area represents the frequency distribution of the OC/EC ratio for the entire OC and EC data set. The green dashed curve displays the cumulative frequency curve of the OC/EC ratio.

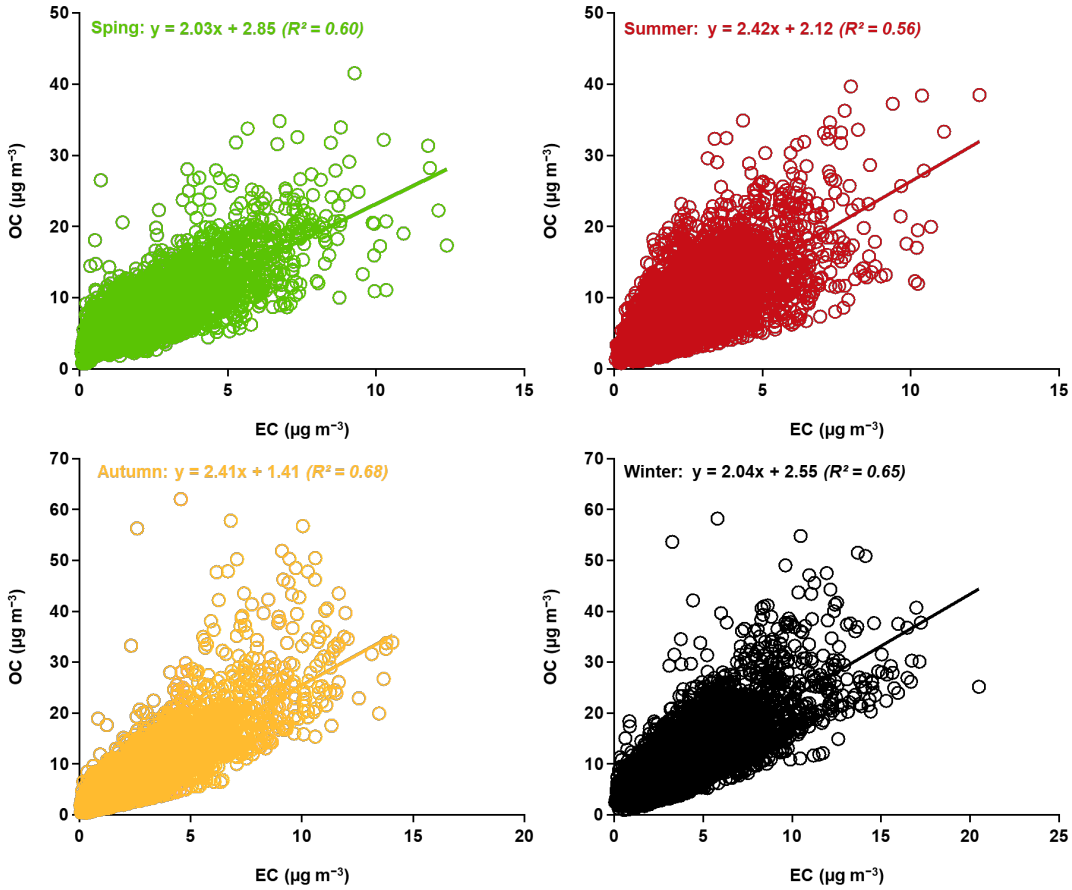

Figure S10. Correlation between EC and OC mass concentrations during different seasons.

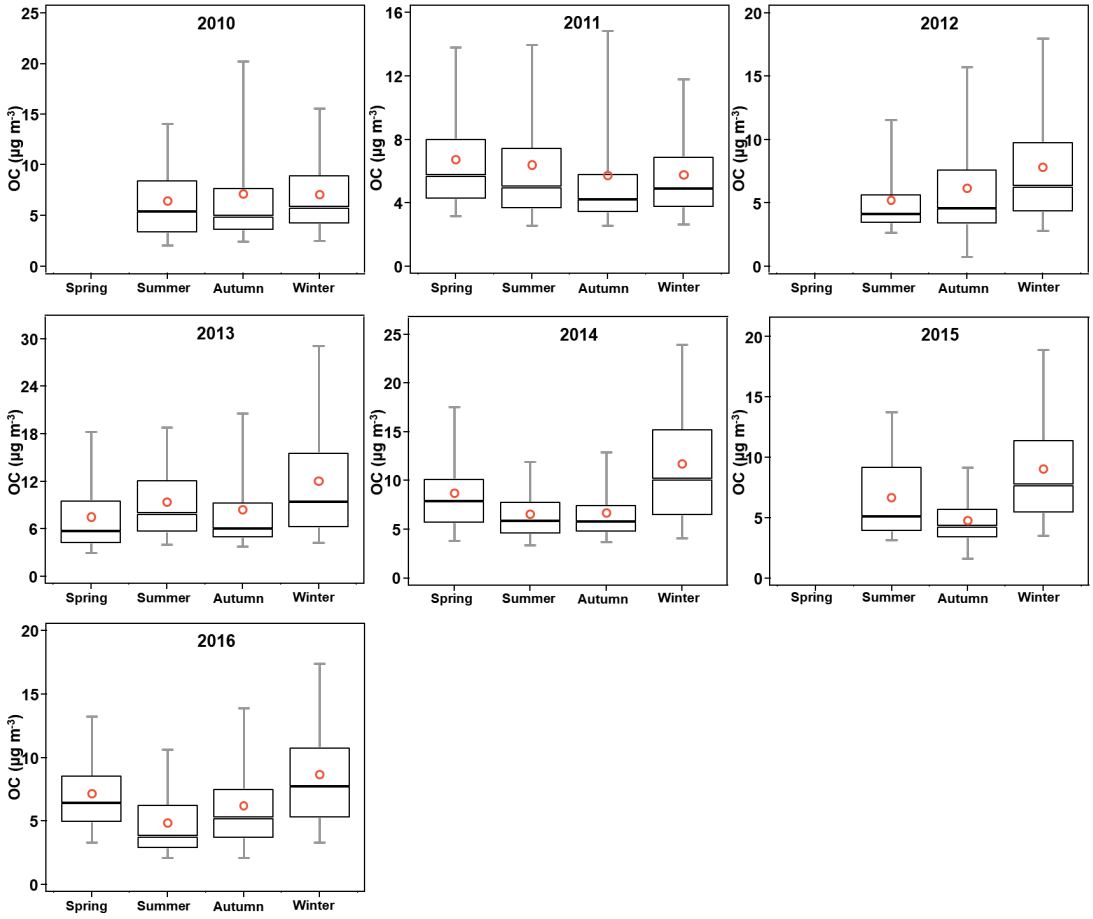

Figure S11. 2010-2016 OC concentrations in different seasons (spring: March, April, May; summer: June, July, August; fall: September, October, November; winter: December, January, February). 2017 only has summer data so seasonal changes are not discussed.

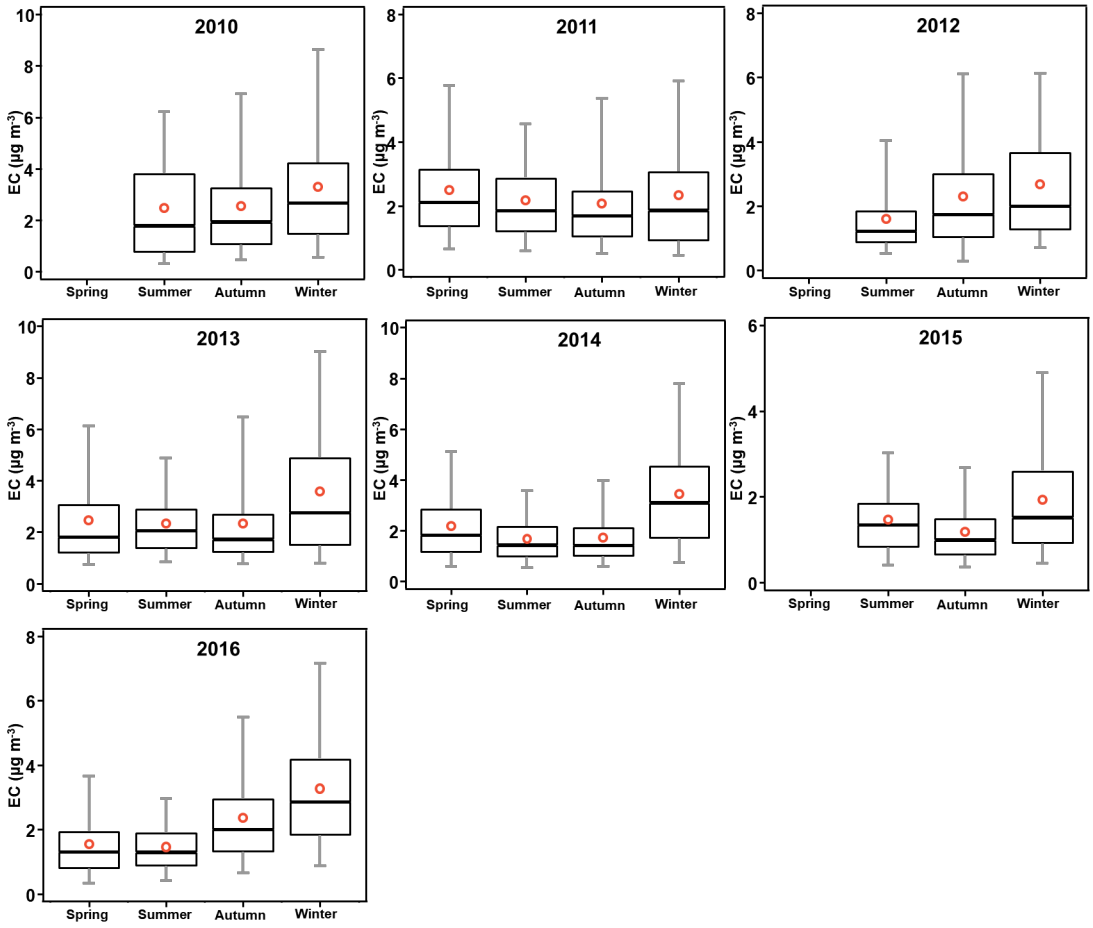

Figure S12. 2010-2016 EC concentrations in different seasons (spring: March, April, May; summer: June, July, August; fall: September, October, November; winter: December, January, February). 2017 only has summer data so seasonal changes are not discussed.

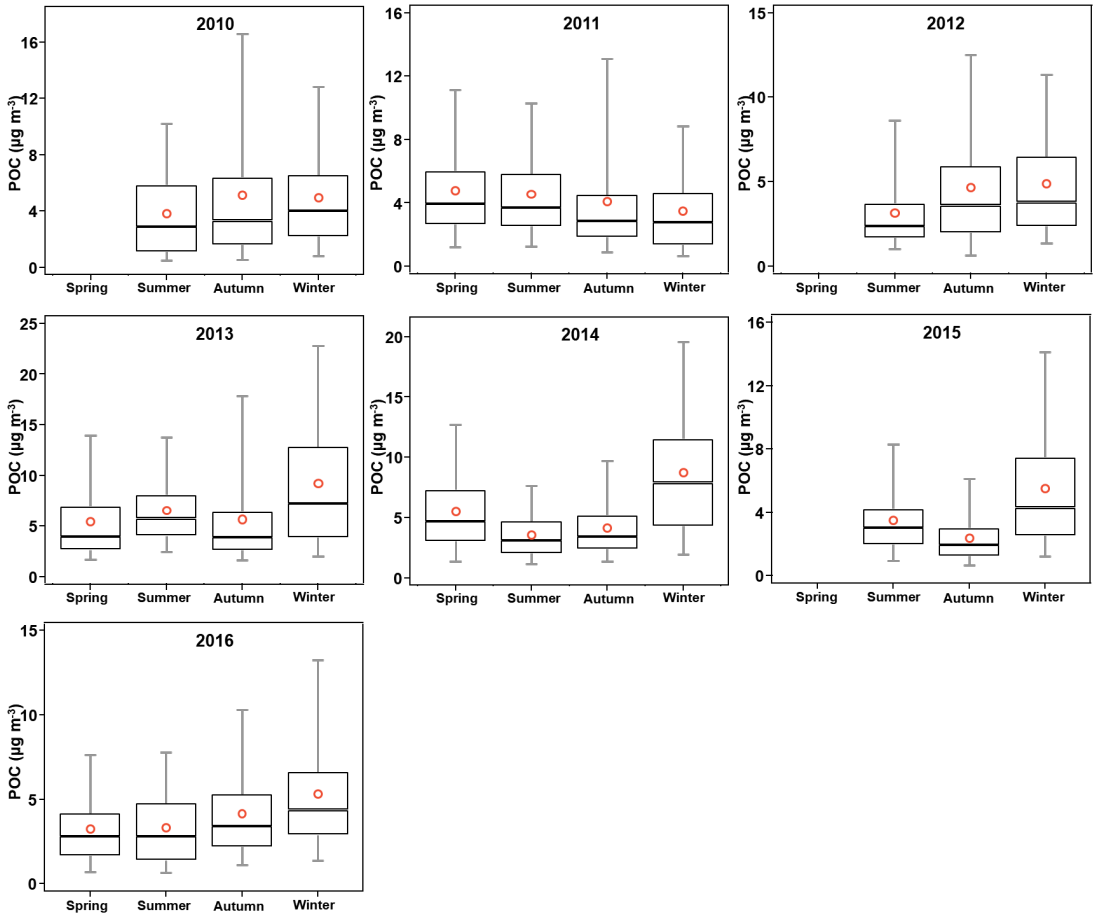

Figure S13. 2010-2016 POC concentrations in different seasons (spring: March, April, May; summer: June, July, August; fall: September, October, November; winter: December, January, February). 2017 only has summer data so seasonal changes are not discussed.

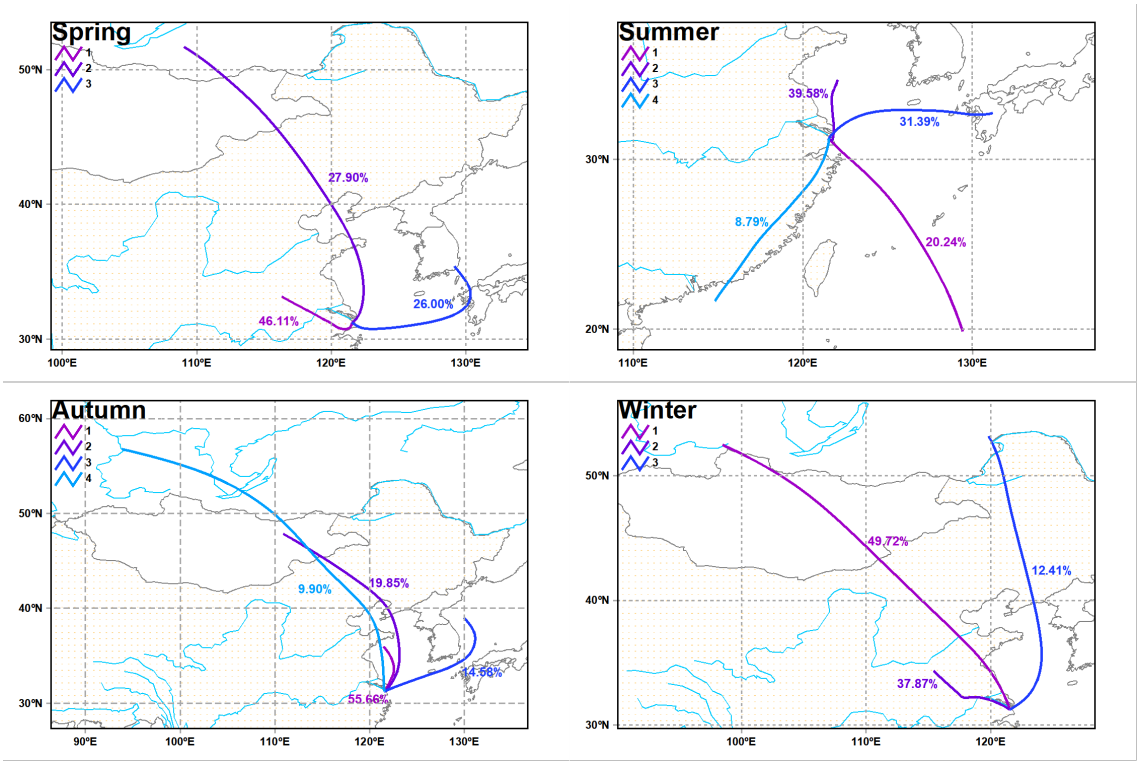

Figure S14. 72h backward trajectories for four seasons in 2014.