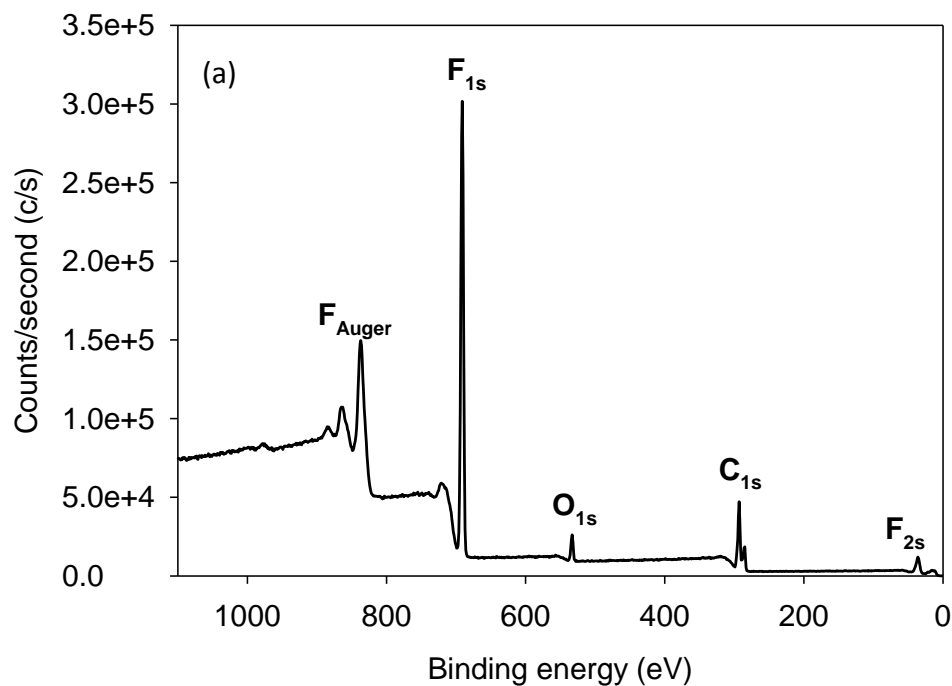


## Supplementary material

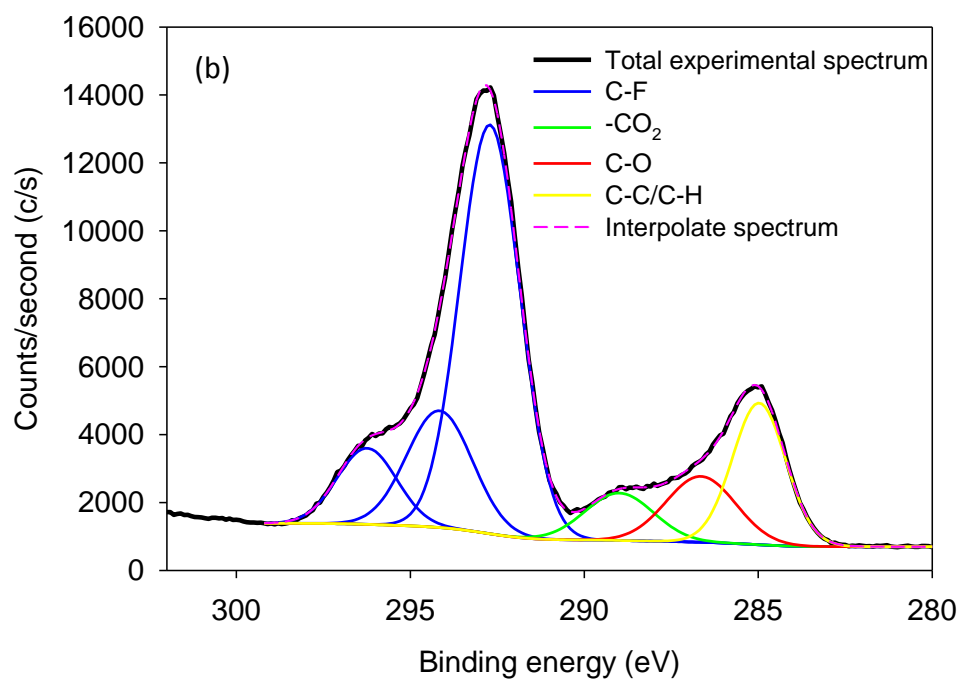
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3 Figure S1. XPS spectra of SOA: (a) survey spectrum and (b) deconvolution of the high-  
4 resolution spectra C1s region. The reported three peaks represent different states of Carbon,  
5 respectively C-F, C=O, C-O, C-C and C-H.



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9 Figure S2. Comparison of aerosol yield obtained in this study to those of other studies for the  
10 dark ozonolysis of  $\alpha$ -pinene. We adjusted our data to a SOA density of  $1.0 \text{ g m}^{-3}$  to facilitate  
11 the comparison with the literature. The solid black line shows the fit of our data for a two-  
12 product model  $Y = M_0 \sum_i \frac{\alpha_i K_i}{1 + K_i M_0}$  (Odum et al., 1996). We estimated  $\alpha_1=0.275$ ,  $\alpha_2=0.001$ ,  
13  $K_1=0.011$ ,  $K_2=0.001$ .

