Supporting Information

Slice imaging study of NO$_2$ photodissociation via the 1^{2}B$_2$ and 2^{2}B$_2$ states: The NO (X$^2\Pi$) + O (^{3}P$_J$) product channel

Zhaoxue Zhang,[a,b] Shuaikang Yang,[b] Zhenxing Li,[b*] Yao Chang,[b] Zijie Luo,[b] Yarui Zhao,[b] Shengrui Yu,[a*] Kaijun Yuan[b,c*] and Xueming Yang[b,d]

a Hangzhou Institute of Advanced Studies, Zhejiang Normal University, 1108 Gengwen Road, Hangzhou, Zhejiang 311231, P. R. China.

b State Key Laboratory of Molecular Reaction Dynamics and Dalian Coherent Light Source, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, 457 Zhongshan Road, Dalian, Liaoning 116023, P. R. China.

c University of Chinese Academy of Sciences, Beijing 100049, P. R. China

d Department of Chemistry, College of Science, Southern University of Science and Technology, Shenzhen 518055, P. R. China

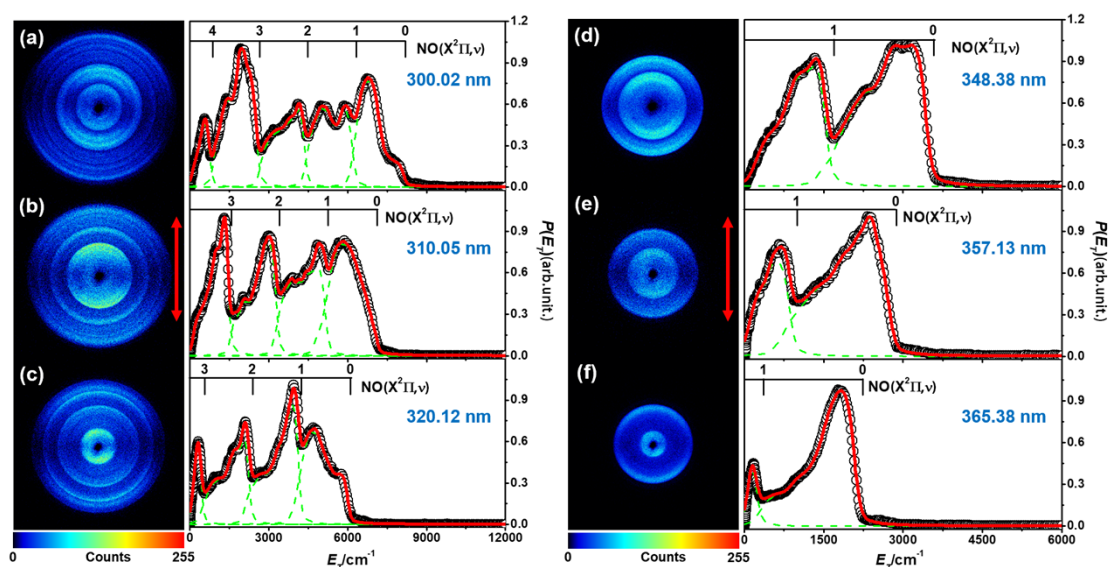*) To whom correspondence should be addressed. Email address: lzx2015@dicp.ac.cn, sryu@zjnu.cn, kjyuan@dicp.ac.cn.

Fig. S1 The images and TKER spectra of O(^{3}P$_1$) products from NO$_2$ dissociation at the wavelengths of (a) 300.02 nm, (b) 310.05 nm, (c) 320.12 nm, (d) 348.38 nm, (e) 357.13 nm and (f) 365.38 nm. The double headed red arrow indicates the polarization direction of the photolysis laser beam. The rings shown in the images correspond to the vibrational state of the NO(^{2}Π) co-products. The open circles represent the experimental data and the red solid curves display the best fitting of the experimental spectra. The dashed green curves represent the simulated NO vibrational profile.
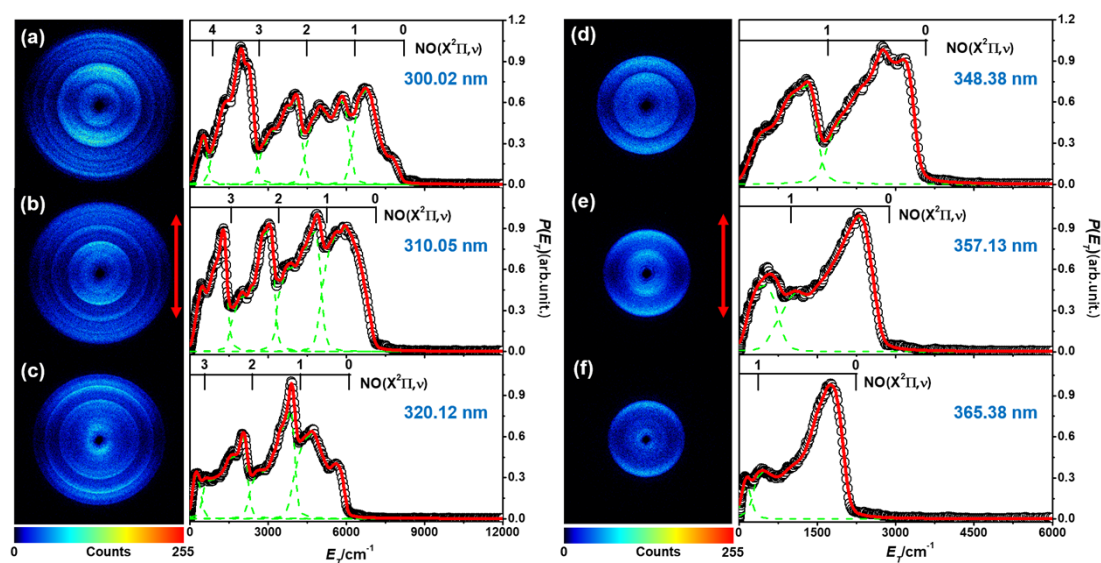
Fig. S2 The images and TKER spectra of O(^{3}P$_0$) products from NO$_2$ dissociation at the wavelengths of (a) 300.02 nm, (b) 310.05 nm, (c) 320.12 nm, (d) 348.38 nm, (e) 357.13 nm and (f) 365.38 nm. The double headed red arrow indicates the polarization direction of the photolysis laser beam. The rings shown in the images correspond to the vibrational state of the NO($^2\Pi$) co-products. The open circles represent the experimental data and the red solid curves display the best fitting of the experimental spectra. The dashed green curves represent the simulated NO vibrational profile.
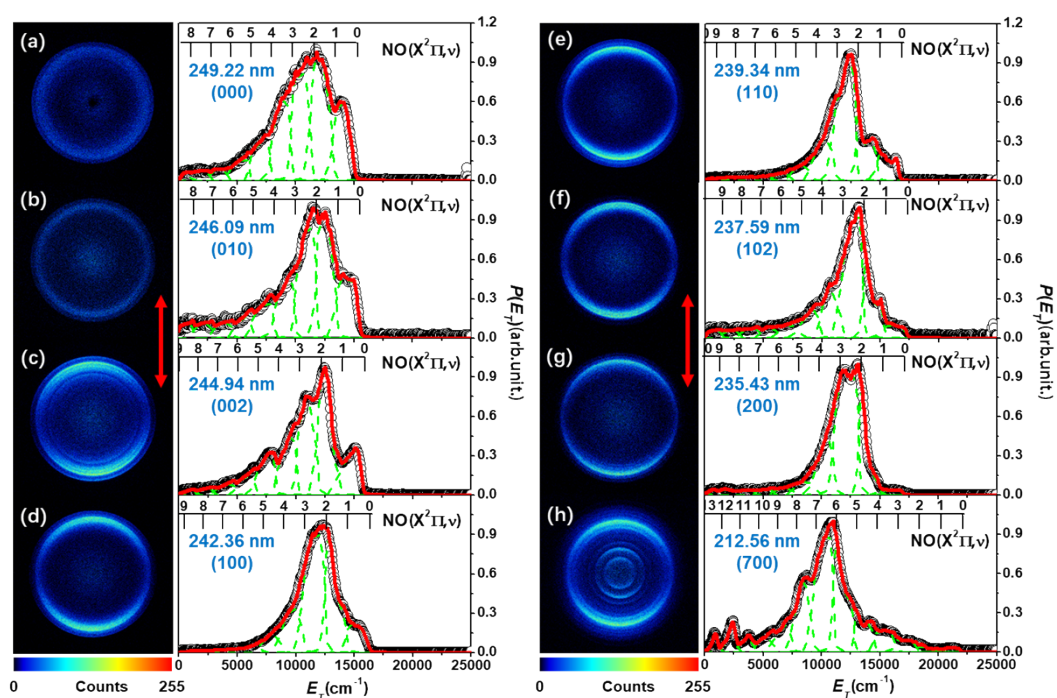

Fig. S3 The images and TKER spectra of O(^{3}P$_1$) products from NO$_2$ photodissociation at wavelengths (a) 249.22 nm, (b) 246.09 nm, (c) 244.94 nm, (d) 242.36 nm, (e) 239.34 nm, (f) 237.59 nm, (g) 235.43 nm and (h) 212.56 nm. The double headed red arrow indicates the polarization direction of the photolysis laser beam. The rings shown in the images correspond to the vibrational state of the NO($^2\Pi$) co-products. The open circles represent the experimental data and the red solid curves display the best fitting of the

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experimental spectra. The dashed green curves represent the simulated NO vibrational profile.
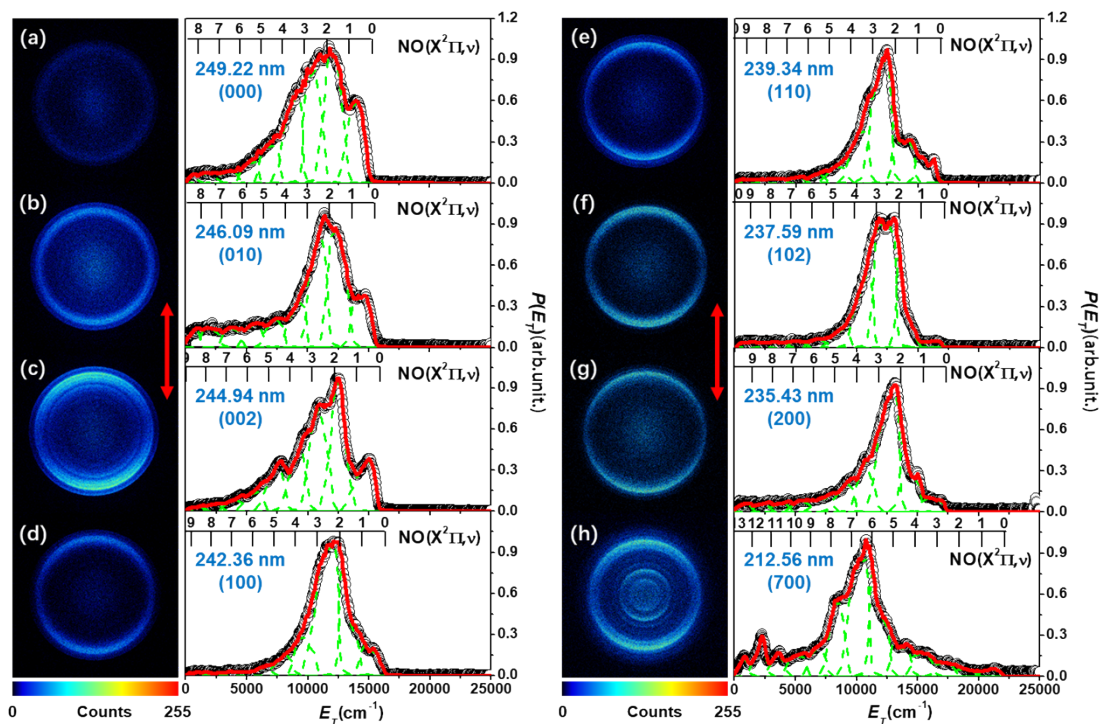

Fig. S4 The images and TKER spectra of $O(^3P_0)$ products from NO_2 photodissociation at wavelengths (a) 249.22 nm, (b) 246.09 nm, (c) 244.94 nm, (d) 242.36 nm, (e) 239.34 nm, (f) 237.59 nm, (g) 235.43 nm and (h) 212.56 nm. The double headed red arrow indicates the polarization direction of the photolysis laser beam. The rings shown in the images correspond to the vibrational state of the $NO(^2\Pi)$ co-products. The open circles represent the experimental data and the red solid curves display the best fitting of the experimental spectra. The dashed green curves represent the simulated NO vibrational profile.