Supplementary material for:

Photodissociation of medium-sized argon cluster cations in the visible region.

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Abstract

In this supplementary material, some additional data are provided, for reader's better idea, on the kinetics of fragmentation processes in photoexcited argon cluster cations, Ar_N^+, which amend the data presented in Subsec. III.B of the paper and provide a broader background for the discussions therein.

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Figure 1

The same as in Fig. 3 of the paper (*time evolution of relative abundances of ionic intermediate and final fragments,* Ar_K^+*, resulting from* Ar_9^+ *photoexcited by* $E_{\mathrm{phot}} = 2.35\,eV$ *as obtained via the MFQ-AMP/S(sepfrag) method*) with points calculated via the MFQ-AMP/S (solid dots) and MFQ-TFS/C (open circles) methods added for comparison.

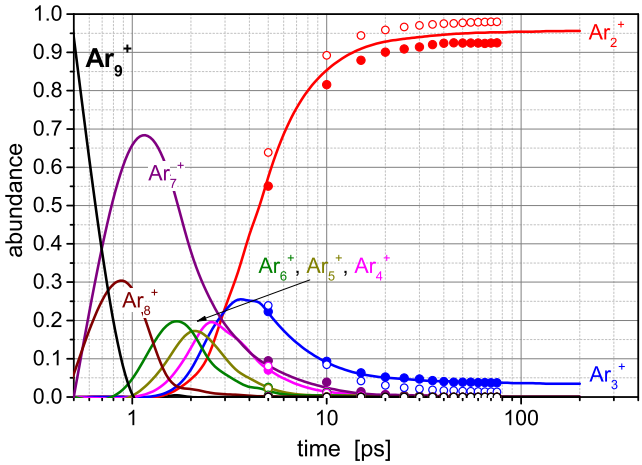

Figure 2

The same as in Fig. 4 of the paper (*time evolution of relative abundances of ionic intermediate and final fragments,* Ar_K^+*, resulting from* Ar_{19}^+ *photoexcited by* $E_{\mathrm{phot}} = 2.35\,eV$ *as obtained via the MFQ-AMP/S(sepfrag) method*) with points calculated via the MFQ-AMP/S (solid dots) and MFQ-TFS/C (open circles) methods added for comparison. Note that different time scales are used in the two panels (left panel $K \geq 8$ and right panel $K \leq 7$).

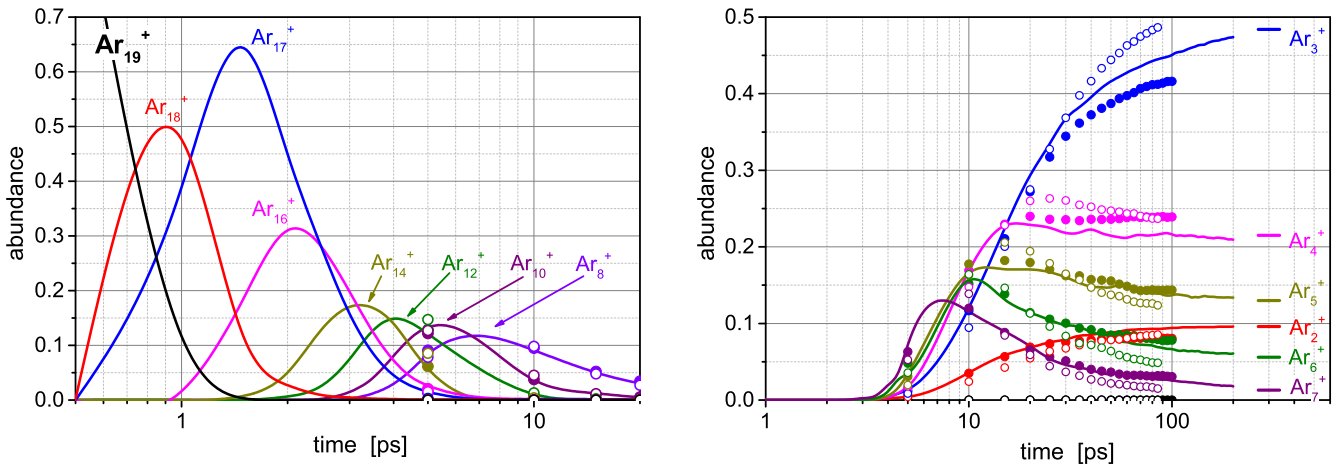

Figure 3 Time evolution of relative abundances of ionic intermediate and final fragments, Ar_K^+, resulting from Ar_6^+ (upper panel), Ar_{12}^+ (middle panels), and Ar_{15}^+ (bottom panels) photoexcited by $E_{\rm phot} = 2.35\,{\rm eV}$ as obtained via the MFQ-AMP/S(sepfrag) method (lines), MFQ-AMP/S method (full dots), and MFQ-TFS/C method (open circles).

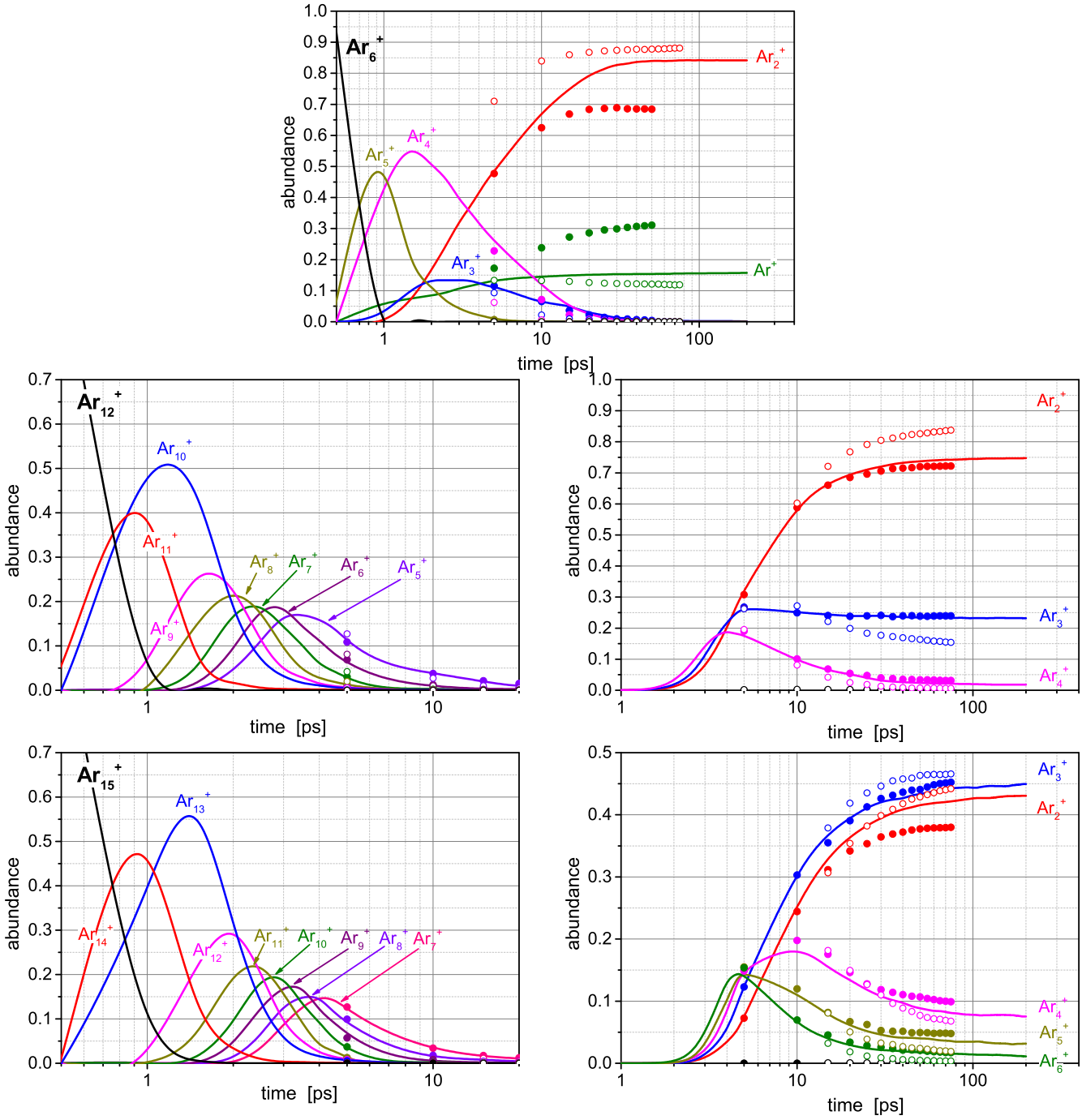

Figure 4 Representative least-squares fits of dissociation rate constants given in Table I of the paper: upper panel – Ar_{19}^+ and bottom panel – Ar_9^+; solid symbols – abundances resulting from MFQ-AMP/S(sepfrag) dynamical calculations, solid lines – least-squares fits of Eq. 8 of the paper, dashed line (in the upper panel) – least-squares fit of Eq. 9 of the paper.