

Supporting Information

Vacuum ultraviolet photochemistry of sulfuric acid vapor: A combined experimental and theoretical study

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Table S1. Relative isotopic distribution in the photoionization mass spectra of Figure 1 and their assignments.

Group	Mass	Relative intensity (%)		Species
		Experimental	Literature ^a	
1	64	100	100	$^{32}\text{SO}_2^+$
	65	2	0.88	$^{33}\text{SO}_2^+$
	66	6	4.9	$^{34}\text{SO}_2^+$
2	80	100	100	$^{32}\text{SO}_3^+$
	81	28	0.91	$\text{H}^{32}\text{SO}_3^+$
	82	5	5.1	$^{34}\text{SO}_3^+$
3	98	100	100	$\text{H}_2^{32}\text{SO}_4^+$
	99	65	0.98	$\text{H}_2^{32}\text{SO}_4\text{H}^+$
	100	8	5.3	$\text{H}_2^{34}\text{SO}_4^+$

a. *J. Anal. At. Spectrom.*, 1999, 14, 5N-24N; Molecular Weight Calculator version 3, www.wsearch.com.au.

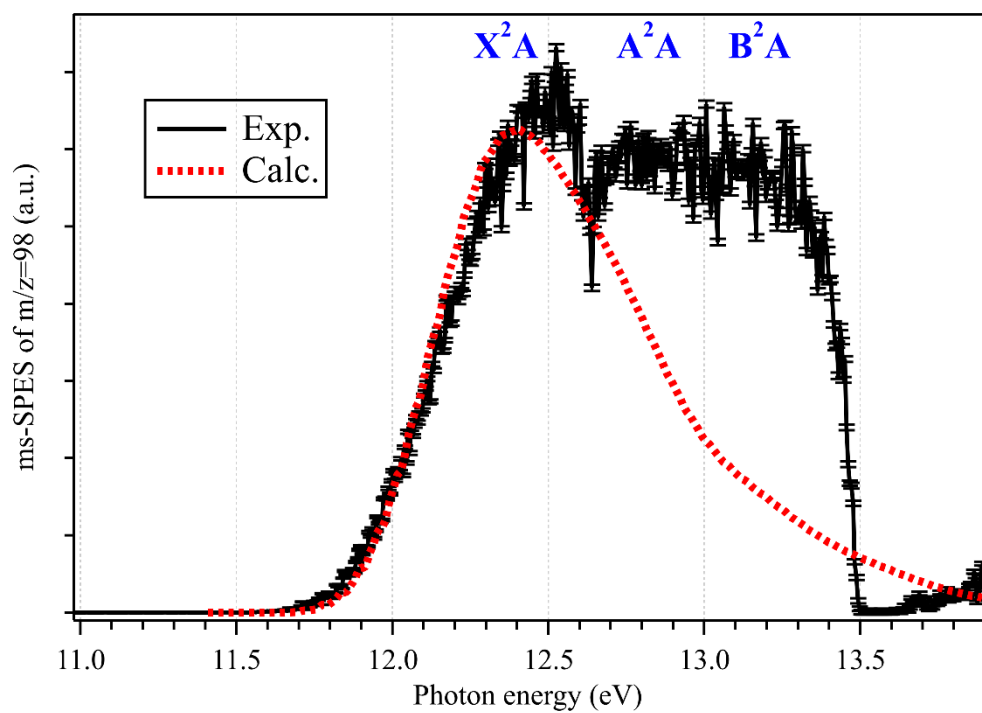


Figure S1. Slow photoelectron spectrum of H_2SO_4 (in black) and the calculated photoelectron spectrum corresponding to the X^2A ground electronic state of H_2SO_4^+ (in red).