



College of Environmental Sciences and Engineering

Peking University

Discussion and Open Mike

Summary of fragtable entries for sulfate

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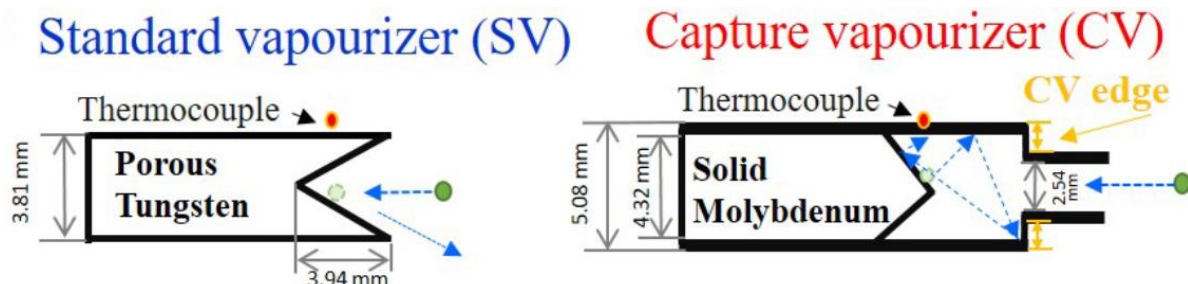
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Summary of fragtable entries for sulfate

- Capture vaporizer (CV) vs Standard vaporizer (SV)



Hu, et al. 2017

- RIESO₄ for CV and SV

Might be caused by the changes in the fragmentation pattern of sulfate in the CV.

Instrument	RIESO ₄	Ref.
AMS (with SV)	1.2 (default)	Most work
AMS (with CV)	1.5 ± 0.3	Xu, et al. 2017
HR-ToF-AMS (with CV)	1.7-2.4	Hu, et al. 2017
ACSM (with CV)	1.1	Hu, et al. 2017
ToF-ACSM (with CV)	1.45-1.6	PKU

Summary of fragtable entries for sulfate

Fragtable for CV and SV

m/z	Frag_sulfate	Frag_SO ₃				Frag_H ₂ SO ₄	
		SV(default)	CV(AMS, Xu, 2017)	CV(AMS, Hu, 2017)	CV(ToF-ACSM, PKU)	SV(AMS, default)	CV(AMS, Xu, 2017)
18	Frag_SO ₃ [18]	0.67*frag_SO ₃ [64], 0.67*frag_SO ₃ [48]	0.938*frag_SO ₃ [64], 0.938*frag_SO ₃ [48]	0.56*frag_SO ₃ [64], 0.56*frag_SO ₃ [48]	0.41*frag_SO ₃ [64], 0.41*frag_SO ₃ [48]		
32	Frag_SO ₃ [18], Frag_H ₂ SO ₄ [32]	0.21*frag_SO ₃ [64], 0.21*frag_SO ₃ [48]	0.105*frag_SO ₃ [64], 0.105*frag_SO ₃ [48]	0.05*frag_SO ₃ [64], 0.05*frag_SO ₃ [48]	0.14*frag_SO ₃ [64], 0.14*frag_SO ₃ [48]	0.068*frag_H ₂ SO ₄ [81], 0.068*frag_H ₂ SO ₄ [98]	0.034*frag_H ₂ SO ₄ [81], 0.034*frag_H ₂ SO ₄ [98]

Suggestion

- ? AMS/ACSM with capture vaporizer(CV) should have a modified fragmentation table.
- ? Different instruments should have their own fragmentation table.



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Thanks for your attention!

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