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2	Electronic Supplementary Information (ESI)
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4	Hygroscopic and phase transition properties of alkyl aminium sulfates
5	at low relative humidities
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24 Figure S3. Images of MMAS (A/S=2.0) particles undergoing (a) dehumidification and (b)

25 humidification captured at the specific RH shown in the bottom right corner. Arrows

26 indicate the chronological order of taking particle images during dehumidification and

27 humidification.

Figure S4. Raman spectra of an MMAS (A/S=2.0) particle undergoing deliquescence at 43±2% RH recorded at three positions. Numbers in the particle image indicate the positions where the spectra were taken. Signals of the fluorocarbon substrate are shaded in grey.

Figure S5. Images of MEAS (A/S=2.0) particles undergoing (a) dehumidification and (b)
humidification captured at the specific RH shown in the bottom right corner. Arrows
indicate the chronological order of taking particle images during dehumidification and
humidification.

Figure S6. Raman spectra of an MEAS (A/S=2.0) particle at different RH during
humidification. Signals of the fluorocarbon substrate are shaded in grey.

39 Table S1.

Time (min)	RH (%)	A/S	Accumulative TMA
			evaporation (%)
0	96 ± 2	1.68 ± 0.03	
117	55 ± 2	1.63 ± 0.03	3
177	24 ± 2	1.44 ± 0.02	14
240	< 3	1.01 ± 0.02	40

41 Figure S1.



44 Figure S2.



Figure S3.





50 Figure S4.



Figure S5.

(a)	(b)
 10 μm	
36% RH	33% RH
0	0
20% RH	24% RH
0	
9% RH	17% RH
<3% RH	1 12% RH

56 Figure S6.

