



Supplement of

Viscosity controls humidity dependence of N₂O₅ uptake to citric acid aerosol

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1 Table S1. Measured uptake coefficients for citric acid (CA)

RH [%]	γ CA
17	$2.75 \pm 0.48 \times 10^{-4}$
27	$1.07 \pm 0.45 \times 10^{-3}$
36	$3.10 \pm 1.09 \times 10^{-4}$
45	$1.67 \pm 0.63 \times 10^{-3}$
53.3	$8.70 \pm 2.46 \times 10^{-4}$
61.5	$2.40 \pm 0.88 \times 10^{-3}$
70.3	$3.30 \pm 1.66 \times 10^{-3}$
53.3	$8.10 \pm 3.67 \times 10^{-4}$

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1 Table S2. Data for diffusivity of N₂O₅ in citric acid solutions as calculated according to the
 2 four parameterization methods presented in the main article.

Diffusivity N ₂ O ₅ in citric acid [cm ² s ⁻¹]				
RH [%]	Reid	Laguerie	Berkemeier	Lienhard
10	3.46×10 ⁻¹⁴	8.19×10 ⁻⁹	4.68×10 ⁻¹¹	9.42×10 ⁻¹⁴
20	2.88×10 ⁻¹²	1.46×10 ⁻⁸	1.27×10 ⁻¹⁰	2.39×10 ⁻¹²
30	8.64×10 ⁻¹¹	2.51×10 ⁻⁸	4.62×10 ⁻¹⁰	2.80×10 ⁻¹⁰
40	8.64×10 ⁻¹⁰	4.21×10 ⁻⁸	2.02×10 ⁻⁹	1.32×10 ⁻⁸
50	4.32×10 ⁻⁹	7.00×10 ⁻⁸	9.58×10 ⁻⁹	1.45×10 ⁻⁷
60	1.73×10 ⁻⁸	1.19×10 ⁻⁷	4.62×10 ⁻⁸	5.68×10 ⁻⁷
70	8.64×10 ⁻⁸	2.15×10 ⁻⁷	2.13×10 ⁻⁷	1.26×10 ⁻⁶
80	1.73×10 ⁻⁷	4.54×10 ⁻⁷	9.02×10 ⁻⁷	2.21×10 ⁻⁶
90	1.08×10 ⁻⁶	1.43×10 ⁻⁶	3.36×10 ⁻⁶	3.83×10 ⁻⁶

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