

## Supporting Information

### Kinetic Study of *o*-Nitrotoluene Nitration in a Homogeneously Continuous Microflow

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**Number of pages: 5**

**Number of Tables: 3**

**Number of Figure: 1**

#### Table of Content

**Table S1.** Values and 95 % confidence intervals of  $k_1$  at different temperatures and  $\text{H}_2\text{SO}_4$  mass fractions.

**Table S2.** Values of  $M_c$  and  $\lg\left(\frac{c_{\text{NO}_2^+}}{c_{\text{HNO}_3}}\right)$  under different temperatures and  $\text{H}_2\text{SO}_4$  mass fraction.

**Table S3.** Values of  $nM_c$  and  $\lg\left(\frac{c_{\text{NO}_2^+}}{c_{\text{HNO}_3}}\right) + \lg k_2$  under different temperatures and  $\text{H}_2\text{SO}_4$  mass fraction.

**Figure S1.** The detailed high-resolution photograph of the flow setup.

**Table S1.** Values and 95 % confidence intervals of  $k_1$  at different temperatures and H<sub>2</sub>SO<sub>4</sub> mass fractions.

Mass fraction of H <sub>2</sub> SO <sub>4</sub> (%)	Temperature (°C)	$k_1 \times 10^2$ (L mol <sup>-1</sup> s <sup>-1</sup> )
88	10	42.38
	15	63.29
	20	81.01
	25	100.15
90	10	60.19
	15	70.01
	20	100.64
	25	133.89
92	10	66.76
	15	76.52
	20	135.10
	25	196.42
94	10	60.32
	15	87.48
	20	123.87
	25	161.91

**Table S2.** Values of  $M_c$  and  $\lg\left(c_{\text{NO}_2^+}/c_{\text{HNO}_3}\right)$  under different temperatures and  $\text{H}_2\text{SO}_4$  mass fraction.

Mass fraction of $\text{H}_2\text{SO}_4$ (%)	Temperature ( $^{\circ}\text{C}$ )	$\lg\left(c_{\text{NO}_2^+}/c_{\text{HNO}_3}\right)$	$M_c$
88	10	0.1707	-12.353
	15	0.1075	-12.211
	20	0.0406	-12.070
	25	-0.0241	-11.930
90	10	0.9320	-12.893
	15	0.8568	-12.745
	20	0.7841	-12.597
	25	0.7138	-12.450
92	10	1.6870	-13.432
	15	1.6058	-13.278
	20	1.5273	-13.124
	25	1.4515	-12.971
94	10	2.4418	-14.013
	15	2.3546	-13.852
	20	2.2705	-13.691
	25	2.1891	-13.532

**Table S3.** Values of  $nM_c$  and  $\lg\left(\frac{c_{\text{NO}_2^+}}{c_{\text{HNO}_3}}\right) + \lg k_2$  under different temperatures and  $\text{H}_2\text{SO}_4$  mass fraction.

Mass fraction of $\text{H}_2\text{SO}_4$ (%)	Temperature (°C)	$\lg\left(\frac{c_{\text{NO}_2^+}}{c_{\text{HNO}_3}}\right) + \lg k_2$	$nM_c$
88	10	15.797	-16.146
	15	15.965	-16.144
	20	16.139	-16.066
	25	16.271	-16.141
90	10	16.559	-16.851
	15	16.714	-16.849
	20	16.883	-16.767
	25	17.009	-16.846
92	10	17.314	-17.556
	15	17.463	-17.554
	20	17.626	-17.469
	25	17.747	-17.550
94	10	18.068	-18.315
	15	18.212	-18.313
	20	18.370	-18.224
	25	18.485	-18.309



**Figure S1.** The detailed high-resolution photograph of the flow setup.