

Supplementary Information

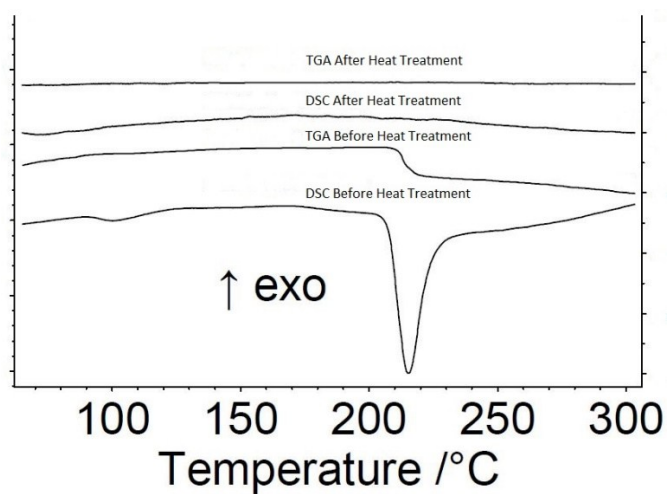


Figure S1. DSC/TGA of $17\mu\text{m } \text{I}_2\text{O}_5$ before and after heat treatment.

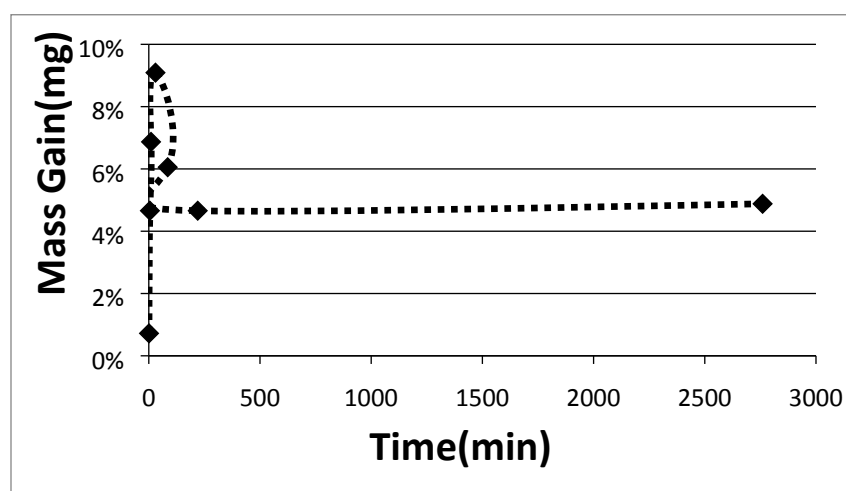


Figure S2. Mass gain percentage as a function of time for $5\mu\text{m } \text{I}_2\text{O}_5$ up to 2880 minutes

Supplemental Table S1. Concentration of iodic acids in $17\mu\text{m}$ I_2O_5 calculated without the assumption that the concentration of HIO_3 in samples with mass loss greater than 5.11% is 100%. Samples with mass loss greater than 5.11% are underlined. All samples where Eq. 3a and 3b are not applicable are shaded.

Exposure Time (min)	Calculated Using Eq. 3a and 3b		Calculated Using Eq. 5a and 6a		Total Mass loss(%)
	X_{HIO_3}	$X_{\text{HI}_3\text{O}_8}$	X_{HIO_3}	$X_{\text{HI}_3\text{O}_8}$	
1	0.0%	1.1%	0.4%	1.1%	0.02%
5	0.0%	4.5%	1.6%	4.5%	0.08%
10	0.0%	3.4%	1.2%	3.4%	0.06%
15	47.8%	13.0%	36.4%	13.0%	1.86%
30	79.2%	5.7%	54.8%	5.7%	2.80%
180	157.2%	12.5%	109.1%	12.5%	5.58%
900	217.4%	9.6%	148.2%	9.6%	7.58%
2680	249.0%	16.4%	171.7%	16.4%	8.78%

Supplemental Table S2: Concentration of iodic acids in $5\mu\text{m}$ I_2O_5 calculated without the assumption that the concentration of HIO_3 in samples with mass loss greater than 5.11% is 100%. Samples with mass loss greater than 5.11% are underlined. All samples where Eq. 3a and 3b are not applicable are shaded.

Exposure Time (min)	Calculated Using Eq. 3a and 3b		Calculated Using Eq. 5a and 6a		Total Mass loss(%)
	X_{HIO_3}	$X_{\text{HI}_3\text{O}_8}$	X_{HIO_3}	$X_{\text{HI}_3\text{O}_8}$	
1	32.9%	23.8%	30.1%	23.8%	1.54%
5	59.0%	32.3%	50.5%	32.3%	2.58%
10	135.8%	16.4%	96.2%	16.4%	4.92%
30	139.0%	18.1%	99.0%	18.1%	5.06%
85	133.5%	28.3%	98.8%	28.3%	5.05%
220	141.1%	27.8%	103.6%	27.8%	5.30%
2880	142.9%	23.8%	103.4%	23.8%	5.29%