Run 1 (did a non-ice crystal K2SO4 run)								
Static Data								
Size of cold stage:	51 mm							
Height of cold stage:	8 mm							
vacuum pressure (set)	50 Pa							
Z/TILT (distance of detector from stage)	5um							
vacuum current	12kv							
probe current	85							
Additional Comments								
Additional Comments								
Kinetic Data								
Time	Action/observation	Temperature (actual)	Crystal Size					
1:43	pressurizing chamber	25.9	,					
	pressure at 50 pa							
	took Spectral imaging of crystals (20200722PureK2SO4T0)	22.4						
		22.4						
	set temp to -34							
	took Spectral imaging of crystals (20200722PureK2SO4T1)	-34.8						
	finished spectral image	-34.8						
waiting		-34.8						
1:15	took Spectral imaging of crystals (20200722PureK2SO4T2)	-34.8						
12:25	took Spectral imaging of crystals (20200722PureK2SO4T3)	-34.8						
12:35	took Spectral imaging of crystals (20200722PureK2SO4T4)	-34.8						
12:45	took Spectral imaging of crystals (20200722PureK2SO4T5)	-34.8						
	took Spectral imaging of crystals (20200722PureK2SO4T6)	-34.8						
	set temp to -30	04.0						
	took Spectral imaging of crystals (20200722PureK2SO4T7)	-30.8						
	took Spectral imaging of crystals (20200722PureK2SO4T8)	-30.8						
	took Spectral imaging of crystals (20200722PureK2SO4T9)	-30.8						
	took Spectral imaging of crystals (20200722PureK2SO4T10)	-30.8						
	experment ended							
Run 1 (Ice crystal with K2SO4 run)								
Static Data								
Size of cold stage:	51 mm							
Height of cold stage:	8 mm							
vacuum pressure (set)	50 Pa							
Z/TILT (distance of detector from stage)	5um							
vacuum current	12kv							
	85							
probe current								
Additional Comments	copper was cleaned between the two runs to make sure a "fresh"	' "non-contaminated" batch	of K2SO4 was	used				
Additional Comments								
Kingtia Data								
Kinetic Data								
Time	Action/observation	Temperature (actual)	Crystal Size					
Time	Action/observation pressurized chamber	Temperature (actual) 26.5						
Time 2:08								
Time 2:08 2:10	pressurized chamber pressure at 120	26.5						
Time 2:08 2:10 2:11	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01)	26.5						
Time 2:08 2:10 2:11 2:18	pressurized chamber pressure at 120	26.5 26.5						
Time  2:08 2:10 2:11 2:12 2:18 took 2 pictures	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)	26.5						
Time 2:08 2:10 2:12 2:12 2:18 took 2 pictures	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa) set to -33 for slower growth	26.5 26.5 -34.2						
Time  2:08 2:10 2:12 2:18 took 2 pictures  2:22 2:24	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa) set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02)	26.5 26.5 -34.2						
Time  2:08 2:10 2:11 2:12 2:18 took 2 pictures  2:22 2:24	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa) set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image	26.5 26.5 -34.2						
Time  2:08 2:10 2:11 2:12 2:18 took 2 pictures  2:22 2:24	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa) set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02)	26.5 26.5 -34.2						
Time  2:08 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa) set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?)	26.5 26.5 -34.2 -33.7 -30.7						
Time  2:08 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa) set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30	26.5 26.5 -34.2 -33.7						
Time  2:08 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa) set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?)	26.5 26.5 -34.2 -33.7 -30.7						
Time  2:08 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35 2:42	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa) set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03)	26.5 26.5 -34.2 -33.7 -33.7 -30.7						
Time  2:08 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:23 2:33 2:35 2:44 2:43	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa) set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image	26.5 26.5 -34.2 -33.7 -33.7 -30.7 -30.8 -30.8						
Time  2:08 2:10 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:23 2:33 2:35 2:44 2:43 2:51	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa) set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U03)	26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8						
Time  2:08 2:10 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:23 2:33 2:35 2:44 2:43 2:51	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U03) took image	26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8						
Time  2:08 2:10 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:23 2:33 2:35 2:42 2:43 2:51 2:55 2:58	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8						
Time  2:08 2:10 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35 2:42 2:43 2:51 2:55 2:58	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U05)	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8		y observed in elemental coll	ayis image) however	er, look ahke at th	e K+ levels on ico	vs SO42. Invole
Time  2:08 2:10 2:11 2:11 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35 2:42 2:43 2:51 2:55 2:55 0bservation:	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U06) It seems like 1 freeze/thaw cycle is not enough to produce the elec	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8	vrstals (not clearly	y observed in elemental anla	ıyis image) howeve	er, look abkc at th	e K+ levels on ice	vs SO42- levels
Time  2:08 2:10 2:11 2:11 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35 2:42 2:43 2:51 2:55 0bservation: 3:05	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U06) It seems like 1 freeze/thaw cycle is not enough to produce the electook image	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8	vrstals (not clearly	observed in elemental anla	ıyis image) howeve	er, look abkc at th	e K+ levels on ice	vs SO42- levels
Time  2:08 2:11 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35 2:42 2:43 2:51 2:55 2:55 0bservation:  3:05	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U06) It seems like 1 freeze/thaw cycle is not enough to produce the electook image set temp to -34	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8	rstals (not clearly	observed in elemental anla	ıyis image) howeve	er, look abkc at th	e K+ levels on ice	vs SO42- levels
Time  2:08 2:11 2:11 2:12 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35 2:42 2:43 2:51 2:55 2:55 0bservation:  3:05 3:06	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U06) It seems like 1 freeze/thaw cycle is not enough to produce the electook image set temp to -34	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8	rstals (not clearly	y observed in elemental anla	syis image) howeve	er, look abkc at th	e K+ levels on ice	vs SO42- levels
Time  2:08 2:10 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35 2:42 2:43 2:51 2:55 0bservation: 3:05 3:08	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U06) It seems like 1 freeze/thaw cycle is not enough to produce the electook image set temp to -34 took image took image	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8	rstals (not clearly	y observed in elemental anla	ıyis image) howeve	er, look abkc at th	e K+ levels on ice	vs SO42- levels
Time  2:08 2:10 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:25 2:30 2:33 2:35 2:42 2:43 2:51 2:55 0bservation:  3:05 3:06 3:10	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U06) It seems like 1 freeze/thaw cycle is not enough to produce the electook image set temp to -34 took image took image	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8	rstals (not clearly	y observed in elemental anla	ıyis image) howeve	er, look abkc at th	e K+ levels on ice	vs SO42- levels
Time  2:08 2:10 2:11 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35 2:42 2:42 2:43 2:51 2:55 2:55 0bservation: 3:05 3:08 3:10 3:11	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U06) It seems like 1 freeze/thaw cycle is not enough to produce the electook image set temp to -34 took image set temp to -34 took image set temp to -30 set temp to -30	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8	rstals (not clearly	observed in elemental anla	ıyis image) howeve	er, look abke at th	e K+ levels on ice	vs SO42- levels
Time  2:08 2:10 2:11 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35 2:42 2:42 2:43 2:51 2:55 2:55 0bservation: 3:05 3:08 3:10 3:11	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U06) It seems like 1 freeze/thaw cycle is not enough to produce the electook image set temp to -34 took image took image	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8	rstals (not clearly	observed in elemental ank	ıyis image) howeve	er, look abkc at th	e K+ levels on ice	vs SO42- levels
Time  2:08 2:10 2:11 2:11 2:11 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35 2:42 2:43 2:51 2:55 0bservation:  3:05 3:08 3:10 3:11	pressurized chamber pressure at 120 took "pre" Spectral imaging of crystals (20200722lceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722lceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722lceK2SO4U03) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U04) took image took Spectral imaging of crystals (20200722lceK2SO4U05) took image took Spectral imaging of crystals (20200722lceK2SO4U06) It seems like 1 freeze/thaw cycle is not enough to produce the electook image set temp to -34 took image set temp to -34 took image set temp to -30 set temp to -30	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8	rstals (not clearly	observed in elemental anla	ıyis image) howeve	er, look abkc at th	e K+ levels on ice	vs SO42- levels
Time  2:08 2:11 2:11 2:12 2:18 took 2 pictures  2:22 2:24 2:29 2:30 2:33 2:35 2:42 2:43 2:51 2:55 0bservation:  3:05 3:06 3:10 3:11 3:11	pressurized chamber pressure at 120  took "pre" Spectral imaging of crystals (20200722IceK2SO4U01) set temp to -34 (pressure is at 60 Pa)  set to -33 for slower growth took Spectral imaging of crystals (20200722IceK2SO4U02) took image set temp to -30 took image (is it abalting?) took Spectral imaging of crystals (20200722IceK2SO4U03) took image took Spectral imaging of crystals (20200722IceK2SO4U04) took image took Spectral imaging of crystals (20200722IceK2SO4U04) took image took Spectral imaging of crystals (20200722IceK2SO4U05) took image took Spectral imaging of crystals (20200722IceK2SO4U06) It seems like 1 freeze/thaw cycle is not enough to produce the eletook image set temp to -34 took image set temp to -34 took image set temp to -30 set temp to -30 set temp to -33 set temp to -33	26.5 26.5 26.5 -34.2 -33.7 -30.7 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8 -30.8	rstals (not clearly	observed in elemental anla	ıyis image) howeve	er, look abkc at th	e K+ levels on ice	vs SO42- levels
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