

Run 1 (observations and growth rate at -40C and 50Pa)			
<b>Static Data</b>		Start Time (peltier on):	12:20 PM
Size of cold stage:	51 mm	End Time (peltier off):	13:00
Height of cold stage:	8 mm		
vacuum pressure (set)	50 Pa		
Z/TILT (distance of detector from stage)	5um	Side note: Would be intersted in determining the amount of water nessesary to grow the cystals and then have it run out at the correct atmospheric size	
vacuum current	12kv		
probe current	85		
Additional Comments	As time went on and the crystals grew at this temperature they got more circular and blob like at about the 12: 27-29 time marks		
Additional Comments	Almost all crystals were growing on the edges of the		
<b>Kinetic Data</b>			
Time	Action/observation	Temperature (actual)	Crystal Size
12:20	Set peltier to -40C		
12:23	First crystal growth seen		tiny specs of crystals seen
12:25	larger more defined crystals seen at -36 now (not hit 40)		crystals roughly 500um
12:27	Crystals are not larger but grow at -38 now (not hit 40)		crystals roughly 700um
12:29	Crystals are now growing more at -39 now (not hit 40 but		crystals roughly 1000um
12:32	Crystals are now holding const fluctuation between -38 a		crystals roughly 1000um but might be a little larger
12:37	crystals are showly (very slow) at about -38		crystals about 1500um
12:39	crystals are same at about -38		crystals are experiencing growth roughening
12:40	smaller "second wave" of crystal at about -38		smaller growing crystals are hexagonal (good for analysis) and are exoeuercubg growth roughening
12:43	larger crystals are growing at a at about -38		larger crystals are now about 2000um
12:44	smaller "second wave" crystals at about -38		smaller crystals are roughly 800um
12:47	smaller "second wave" crystals at about -38		"second wave" crystals are about 1000um
12:50	smaller "second wave" crystals at about -37		"second wave" crystals are about 1100 um
12:52	observation		while still containing growth roughness there are no identifiable facets (has been this way since they turned more blobular)
12:54	larger crystals	about -37	larger crystals can be up to 2500um now but have mostly merged into those around them
12:56	smaller "second wave" crystals at about -37		"second wave" crystals are about 1500um
12:57	observation	I belive that most if now a	most ice crystals have now merged into eachother with ice located almost exclusively at the edges of the slide
1:00	experiment ended		
Potential Conclusion: -40C is a little too cold for growing ice crystals at 50Pa and might be contibuting to the blobular structures at the later times in the SEM			
I will attempt to grow the crystals at -35C next and see if this holds them more constant			
Vial was roughly 2/3 - 1/2 full but most of the DI had melted (due to clean up procedure most likely) (hard to tell with the pointed bottom)			
*****Note: no images were taken for this run (I was fococussing on making more observations)*****			
Run 2			
<b>Static Data</b>		Start Time (peltier on):	3:03 AM
Size of cold stage:	51 mm	End Time (peltier off):	4:08
Height of cold stage:	8 mm		
vacuum pressure (set)	50 Pa	Actual vacume is closer to 80 (at least at start)	
Z/TILT (distance of detector from stage)	5.1um		
vacuum current	12kv		
probe current	85		
Additional Comments			
<b>Kinetic Data</b>			
Time	Action/observation	Temperature (actual)	Crystal Size
3:03	set temp to -35	23	
3:05	observed ice particles (but not	-9	
3:09	perfect growing ice crystals	-35	400x200um
3:11	growth roguhening observed on	-35	300x500um
3:14	Slight deformation observed (is	-35	400x700um
3:17	set temp to -30 (to try and get ablation)		
3:19	ablation occuring	-30.7	
3:19	setting temp to -35 to stop ablation		
3:20	crystal seems to be ever so slo	-35	
3:24	crustal seems to be growing ag	-35	
3:24	setting the temp to -33 to see if it will stopp growing		
3:27	The crystal seems to still be gri	-33.6	
3:28	setting the temp to -30 to induce ablation		
3:29	ablation occuring immediatly	-30.7	
3:36	setting to -32 to stop ablation		
3:48	it seems to be holding and not	-32.6	**side note: I took a 3D image (hopefully correctly) (it is not pretty but wanted to test)
3:48	setting the temp to -33 to test for growth at that temp		
3:51	it is growing at a low rate again	-33.6	
3:52	rouhness is slowly going away	-33.6	

[illegible]