

Automated tomographic assessment of structural defects of freeze-dried pharmaceuticals - supplementary material

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I. TRAINING SET

The table below shows the result of the visual inspection of the vials of the training data set by two independent experts. Each line corresponds to one of the 720 samples. The first column indicates the ID of the vial and the second column shows the formulation of the sample and its concentration. The columns 3-7 indicate the severity of the defects discussed in Sec. I of the manuscript. As explained in Sec. III B of the manuscript, these assessments are basically the labels for the training data set, i.e. the ground truth for the machine learning algorithm.

vial	formul., c	shrink. / coll.	cracks	foam.	blow-out (+ or ++)	loose skin (part. or compl.)
T 1/1	F1, 20%	2				
T 1/2	F1, 20%	2				
T 1/3	F1, 20%	4				
T 1/4	F1, 20%	3				
T 1/5	F1, 20%	4				
T 1/6	F1, 20%	2				
T 1/7	F1, 20%	4				
T 1/8	F1, 20%	3				
T 1/9	F1, 20%	2				
T 1/10	F1, 20%	3				
T 1/11	F1, 20%	2				
T 1/12	F1, 20%	3				
T 1/13	F1, 20%	2				
T 1/14	F1, 20%	2				
T 1/15	F1, 20%	2				
T 1/16	F1, 20%	3				
T 1/17	F1, 20%	1				
T 1/18	F1, 20%	1				
T 1/19	F1, 20%	2				
T 1/20	F1, 20%	3				
T 2/1	F1, 20%	2				
T 2/2	F1, 20%	2				
T 2/3	F1, 20%	2				
T 2/4	F1, 20%	4				
T 2/5	F1, 20%	4				
T 2/6	F1, 20%	4				
T 2/7	F1, 20%	2				
T 2/8	F1, 20%	4				
T 2/9	F1, 20%	4				
T 2/10	F1, 20%	4				
T 2/11	F1, 20%	4				
T 2/12	F1, 20%	4				
T 2/13	F1, 20%	1				
T 2/14	F1, 20%	4				
T 2/15	F1, 20%	4				

T 2/16	F1, 20%	4					
T 2/17	F1, 20%	3					
T 2/18	F1, 20%	4					
T 2/19	F1, 20%	3					
T 2/20	F1, 20%	4					
T 3/1	F1, 20%	3					
T 3/2	F1, 20%	2					
T 3/3	F1, 20%	4					
T 3/4	F1, 20%	4					
T 3/5	F1, 20%	4					
T 3/6	F1, 20%	4					
T 3/7	F1, 20%	4					
T 3/8	F1, 20%	3					
T 3/9	F1, 10%	4					
T 3/10	F1, 10%	4					
T 3/11	F1, 10%	4					
T 3/12	F1, 10%	4					
T 3/13	F1, 10%	4					
T 3/14	F1, 10%	3					
T 3/15	F1, 10%	3					
T 3/16	F1, 10%	4					
T 3/17	F1, 10%	4					
T 3/18	F1, 10%	4					
T 3/19	F1, 10%	3					
T 3/20	F1, 10%	4					
T 4/1	F1, 10%	3					
T 4/2	F1, 10%	4					
T 4/3	F1, 10%	4					
T 4/4	F1, 10%	3					
T 4/5	F1, 10%	4					
T 4/6	F1, 10%	4					
T 4/7	F1, 10%	4					
T 4/8	F1, 10%	4					
T 4/9	F1, 10%	4					
T 4/10	F1, 10%	4					
T 4/11	F1, 10%	4					
T 4/12	F1, 10%	4					
T 4/13	F1, 10%	4					
T 4/14	F1, 10%	3					
T 4/15	F1, 10%	4					
T 4/16	F1, 10%	4					
T 4/17	F1, 10%	4					
T 4/18	F1, 10%	4					
T 4/19	F1, 10%	4					
T 4/20	F1, 10%	3					
T 5/1	F1, 10%	3					
T 5/2	F1, 10%	3					
T 5/3	F1, 10%	4					
T 5/4	F1, 10%	4					
T 5/5	F1, 10%	4					
T 5/6	F1, 10%	4					
T 5/7	F1, 10%	4					
T 5/8	F1, 10%	4					
T 5/9	F1, 10%	4					
T 5/10	F1, 10%	4					
T 5/11	F1, 10%	3					
T 5/12	F1, 10%	4					
T 5/13	F1, 10%	4					
T 5/14	F1, 10%	4					
T 5/15	F1, 10%	4					
T 5/16	F1, 10%	4					
T 5/17	F1, 5%	2					
T 5/18	F1, 5%	3					
T 5/19	F1, 5%	3					

T 5/20	F1, 5%	3					
T 6/1	F1, 5%	2					
T 6/2	F1, 5%	2					
T 6/3	F1, 5%	3					
T 6/4	F1, 5%	4					
T 6/5	F1, 5%	4					
T 6/6	F1, 5%	3					
T 6/7	F1, 5%	3					
T 6/8	F1, 5%	3					
T 6/9	F1, 5%	3					
T 6/10	F1, 5%	3					
T 6/11	F1, 5%	3					
T 6/12	F1, 5%	3					
T 6/13	F1, 5%	3					
T 6/14	F1, 5%	4					
T 6/15	F1, 5%	4					
T 6/16	F1, 5%	4					
T 6/17	F1, 5%	2					
T 6/18	F1, 5%	3					
T 6/19	F1, 5%	3					
T 6/20	F1, 5%	3					
T 7/1	F1, 5%	2					
T 7/2	F1, 5%	2					
T 7/3	F1, 5%	4					
T 7/4	F1, 5%	4					
T 7/5	F1, 5%	3					
T 7/6	F1, 5%	3					
T 7/7	F1, 5%	4					
T 7/8	F1, 5%	4					
T 7/9	F1, 5%	3					
T 7/10	F1, 5%	3					
T 7/11	F1, 5%	2					
T 7/12	F1, 5%	3					
T 7/13	F1, 5%	3					
T 7/14	F1, 5%	3					
T 7/15	F1, 5%	2					
T 7/16	F1, 5%	3					
T 7/17	F1, 5%	4					
T 7/18	F1, 5%	2					
T 7/19	F1, 5%	3					
T 7/20	F1, 5%	2					
T 8/1	F1, 5%	2					
T 8/2	F1, 5%	3					
T 8/3	F1, 5%	4					
T 8/4	F1, 5%	2					
T 8/5	F1, 1%	3					
T 8/6	F1, 1%	4					
T 8/7	F1, 1%	3					
T 8/8	F1, 1%	3					
T 8/9	F1, 1%	3					
T 8/10	F1, 1%	3					
T 8/11	F1, 1%	3					
T 8/12	F1, 1%	3					
T 8/13	F1, 1%	3					
T 8/14	F1, 1%	4					
T 8/15	F1, 1%	3					
T 8/16	F1, 1%	3					
T 8/17	F1, 1%	3					
T 8/18	F1, 1%	3					
T 8/19	F1, 1%	4					
T 8/20	F1, 1%	3					
T 9/1	F1, 1%	4					
T 9/2	F1, 1%	3					
T 9/3	F1, 1%	3					

T 9/4	F1, 1%	4				
T 9/5	F1, 1%	3				
T 9/6	F1, 1%	3				
T 9/7	F1, 1%	3				
T 9/8	F1, 1%	3				
T 9/9	F1, 1%	3				
T 9/10	F1, 1%	3				
T 9/11	F1, 1%	3				
T 9/12	F1, 1%	3				
T 9/13	F1, 1%	4				
T 9/14	F1, 1%	3				
T 9/15	F1, 1%	3				
T 9/16	F1, 1%	3				
T 9/17	F1, 1%	3				
T 9/18	F1, 1%	3				
T 9/19	F1, 1%	4				
T 9/20	F1, 1%	4				
T 10/1	F1, 1%	3				
T 10/2	F1, 1%	3				
T 10/3	F1, 1%	3				
T 10/4	F1, 1%	3				
T 10/5	F1, 1%	3				
T 10/6	F1, 1%	3				
T 10/7	F1, 1%	4				
T 10/8	F1, 1%	4				
T 10/9	F1, 1%	3				
T 10/10	F1, 1%	3				
T 10/11	F1, 1%	4				
T 10/12	F1, 1%	3				
T 10/13	F2, 20%	5	+	+		
T 10/14	F2, 20%	4	+			
T 10/15	F2, 20%	4				
T 10/16	F2, 20%	4				
T 10/17	F2, 20%	4				
T 10/18	F2, 20%	4				
T 10/19	F2, 20%	3				
T 10/20	F2, 20%	3				
T 11/1	F2, 20%	2				
T 11/2	F2, 20%	3				
T 11/3	F2, 20%	3				
T 11/4	F2, 20%	2				
T 11/5	F2, 20%	3				
T 11/6	F2, 20%	3				
T 11/7	F2, 20%	3				
T 11/8	F2, 20%	4				
T 11/9	F2, 20%	3				
T 11/10	F2, 20%	4				
T 11/11	F2, 20%	4				
T 11/12	F2, 20%	4				
T 11/13	F2, 20%	3				
T 11/14	F2, 20%	3				
T 11/15	F2, 20%	3				
T 11/16	F2, 20%	2				
T 11/17	F2, 20%	1				
T 11/18	F2, 20%	2				
T 11/19	F2, 20%	3				
T 11/20	F2, 20%	2				
T 12/1	F2, 20%	1				
T 12/2	F2, 20%	1				
T 12/3	F2, 20%	2				
T 12/4	F2, 20%	2				
T 12/5	F2, 20%	1	(+)			
T 12/6	F2, 20%	3				
T 12/7	F2, 20%	2				

T 12/8	F2, 20%	2				
T 12/9	F2, 20%	2	(+)			
T 12/10	F2, 20%	3				
T 12/11	F2, 20%	2				
T 12/12	F2, 20%	2	(+)			
T 12/13	F2, 20%	3	(+)			
T 12/14	F2, 20%	3				
T 12/15	F2, 20%	3				
T 12/16	F2, 20%	2				
T 12/17	F2, 20%	2				
T 12/18	F2, 20%	2				
T 12/19	F2, 20%	1				
T 12/20	F2, 20%	2				
M 1/1	F2, 10%	3				
M 1/2	F2, 10%	3				
M 1/3	F2, 10%	3				
M 1/4	F2, 10%	2				
M 1/5	F2, 10%	3				
M 1/6	F2, 10%	3				
M 1/7	F2, 10%	3				
M 1/8	F2, 10%	2				
M 1/9	F2, 10%	3				
M 1/10	F2, 10%	3				
M 1/11	F2, 10%	3				
M 1/12	F2, 10%	3				
M 1/13	F2, 10%	3				
M 1/14	F2, 10%	3				
M 1/15	F2, 10%	3				
M 1/16	F2, 10%	3				
M 1/17	F2, 10%	3				
M 1/18	F2, 10%	3				
M 1/19	F2, 10%	3				
M 1/20	F2, 10%	3				
M 2/1	F2, 10%	3				
M 2/2	F2, 10%	3				
M 2/3	F2, 10%	3				
M 2/4	F2, 10%	3				
M 2/5	F2, 10%	3				
M 2/6	F2, 10%	3				
M 2/7	F2, 10%	3				
M 2/8	F2, 10%	3				
M 2/9	F2, 10%	3				
M 2/10	F2, 10%	3				
M 2/11	F2, 10%	3				
M 2/12	F2, 10%	3				
M 2/13	F2, 10%	3				
M 2/14	F2, 10%	3				
M 2/15	F2, 10%	3				
M 2/16	F2, 10%	3				
M 2/17	F2, 10%	3				
M 2/18	F2, 10%	3				
M 2/19	F2, 10%	3				
M 2/20	F2, 10%	3				
M 3/1	F2, 10%	3				
M 3/2	F2, 10%	3				
M 3/3	F2, 10%	3				
M 3/4	F2, 10%	3				
M 3/5	F2, 10%	3				
M 3/6	F2, 10%	3				
M 3/7	F2, 10%	3				
M 3/8	F2, 10%	3				
M 3/9	F2, 5%	3				
M 3/10	F2, 5%	3				
M 3/11	F2, 5%	3				

M 3/12	F2, 5%	3				
M 3/13	F2, 5%	3				
M 3/14	F2, 5%	3				
M 3/15	F2, 5%	3				
M 3/16	F2, 5%	3				
M 3/17	F2, 5%	4				
M 3/18	F2, 5%	3				
M 3/19	F2, 5%	3				
M 3/20	F2, 5%	2				
M 4/1	F2, 5%	3				
M 4/2	F2, 5%	3				
M 4/3	F2, 5%	3				
M 4/4	F2, 5%	3				
M 4/5	F2, 5%	3				
M 4/6	F2, 5%	3				
M 4/7	F2, 5%	3				
M 4/8	F2, 5%	3				
M 4/9	F2, 5%	3				
M 4/10	F2, 5%	3				
M 4/11	F2, 5%	3				
M 4/12	F2, 5%	3				
M 4/13	F2, 5%	4				
M 4/14	F2, 5%	4				
M 4/15	F2, 5%	3				
M 4/16	F2, 5%	3				
M 4/17	F2, 5%	4				
M 4/18	F2, 5%	3				
M 4/19	F2, 5%	3				
M 4/20	F2, 5%	2				
M 5/1	F2, 5%	3				
M 5/2	F2, 5%	3				
M 5/3	F2, 5%	3				
M 5/4	F2, 5%	3				
M 5/5	F2, 5%	3				
M 5/6	F2, 5%	3				
M 5/7	F2, 5%	4				
M 5/8	F2, 5%	4				
M 5/9	F2, 5%	3				
M 5/10	F2, 5%	4				
M 5/11	F2, 5%	3				
M 5/12	F2, 5%	4				
M 5/13	F2, 5%	4				
M 5/14	F2, 5%	3				
M 5/15	F2, 5%	3				
M 5/16	F2, 5%	4				
M 5/17	F2, 1%	2	+			
M 5/18	F2, 1%	2				
M 5/19	F2, 1%	2	+			
M 5/20	F2, 1%	2				
M 6/1	F2, 1%	2				
M 6/2	F2, 1%	2				
M 6/3	F2, 1%	2	+			
M 6/4	F2, 1%	2				
M 6/5	F2, 1%	2	+			
M 6/6	F2, 1%	2				
M 6/7	F2, 1%	2	+			
M 6/8	F2, 1%	2				
M 6/9	F2, 1%	2	+			
M 6/10	F2, 1%	2				
M 6/11	F2, 1%	2				
M 6/12	F2, 1%	2				
M 6/13	F2, 1%	2				
M 6/14	F2, 1%	2				
M 6/15	F2, 1%	2				

M 6/16	F2, 1%	2					
M 6/17	F2, 1%	2	+				
M 6/18	F2, 1%	2					
M 6/19	F2, 1%	2					
M 6/20	F2, 1%	2					
M 7/1	F2, 1%	2					
M 7/2	F2, 1%	2					
M 7/3	F2, 1%	2					
M 7/4	F2, 1%	2					
M 7/5	F2, 1%	2	+				
M 7/6	F2, 1%	2					
M 7/7	F2, 1%	2					
M 7/8	F2, 1%	2					
M 7/9	F2, 1%	2					
M 7/10	F2, 1%	2					
M 7/11	F2, 1%	2					
M 7/12	F2, 1%	2					
M 7/13	F2, 1%	2	+				
M 7/14	F2, 1%	2					
M 7/15	F2, 1%	2					
M 7/16	F2, 1%	2	+				
M 7/17	F2, 1%	2					
M 7/18	F2, 1%	2					
M 7/19	F2, 1%	2					
M 7/20	F2, 1%	2					
M 8/1	F2, 1%	2	+				
M 8/2	F2, 1%	2					
M 8/3	F2, 1%	2					
M 8/4	F2, 1%	2	(+)				
M 8/5	F3, 20%	5		+			
M 8/6	F3, 20%	5		+			c
M 8/7	F3, 20%	5		+	+		p
M 8/8	F3, 20%	4		+			
M 8/9	F3, 20%	4		+			
M 8/10	F3, 20%	5		+			c
M 8/11	F3, 20%	5		+			p
M 8/12	F3, 20%	4		+			
M 8/13	F3, 20%	4		+			
M 8/14	F3, 20%	4		+			
M 8/15	F3, 20%	5		+			c
M 8/16	F3, 20%	5		+	++		p
M 8/17	F3, 20%	5		+	++		p
M 8/18	F3, 20%	5		+	+		p
M 8/19	F3, 20%	5			++		
M 8/20	F3, 20%	5		+	+		p
M 9/1	F3, 20%	5		+	+		p
M 9/2	F3, 20%	5		+	+		p
M 9/3	F3, 20%	5		+			
M 9/4	F3, 20%	5		+			p
M 9/5	F3, 20%	4		+			
M 9/6	F3, 20%	4		+			
M 9/7	F3, 20%	4		+			
M 9/8	F3, 20%	4		+			
M 9/9	F3, 20%	5		+			
M 9/10	F3, 20%	5		+			
M 9/11	F3, 20%	5		+	++		
M 9/12	F3, 20%	5		+	++		
M 9/13	F3, 20%	4		+			
M 9/14	F3, 20%	5		+			
M 9/15	F3, 20%	5		+			c
M 9/16	F3, 20%	5		+	++		p
M 9/17	F3, 20%	5		+			
M 9/18	F3, 20%	5		+			c
M 9/19	F3, 20%	5		+	++		

M 9/20	F3, 20%	5		+	++	
M 10/1	F3, 20%	5		+		p
M 10/2	F3, 20%	5		+	++	p
M 10/3	F3, 20%	5		+		p
M 10/4	F3, 20%	5		+	++	
M 10/5	F3, 20%	5		+		c
M 10/6	F3, 20%	5		+		c
M 10/7	F3, 20%	5		+	+	p
M 10/8	F3, 20%	5		+		p
M 10/9	F3, 20%	5		+		
M 10/10	F3, 20%	5		+		
M 10/11	F3, 20%	4		+		
M 10/12	F3, 20%	4		+	+	p
M 10/13	F3, 10%	5		(+)		c
M 10/14	F3, 10%	5		(+)		c
M 10/15	F3, 10%	5		(+)		p
M 10/16	F3, 10%	5		(+)		c
M 10/17	F3, 10%	5		(+)		c
M 10/18	F3, 10%	5		(+)		p
M 10/19	F3, 10%	5		(+)		p
M 10/20	F3, 10%	5		(+)		p
M 11/1	F3, 10%	5		(+)		p
M 11/2	F3, 10%	5		(+)		p
M 11/3	F3, 10%	5		(+)		p
M 11/4	F3, 10%	5		(+)		p
M 11/5	F3, 10%	5		(+)		p
M 11/6	F3, 10%	5		(+)		p
M 11/7	F3, 10%	5		(+)		p
M 11/8	F3, 10%	5		(+)		c
M 11/9	F3, 10%	5		(+)		c
M 11/10	F3, 10%	5		(+)		c
M 11/11	F3, 10%	5		(+)		c
M 11/12	F3, 10%	5		(+)		c
M 11/13	F3, 10%	5		(+)		p
M 11/14	F3, 10%	5		(+)		p
M 11/15	F3, 10%	5		(+)		c
M 11/16	F3, 10%	5		(+)		p
M 11/17	F3, 10%	5		(+)		p
M 11/18	F3, 10%	5		(+)		c
M 11/19	F3, 10%	5		(+)		p
M 11/20	F3, 10%	5		(+)		p
M 12/1	F3, 10%	5		(+)		p
M 12/2	F3, 10%	5		(+)		p
M 12/3	F3, 10%	5		(+)		p
M 12/4	F3, 10%	5		(+)		p
M 12/5	F3, 10%	5		(+)		p
M 12/6	F3, 10%	5		(+)		p
M 12/7	F3, 10%	5		(+)		p
M 12/8	F3, 10%	5		(+)		p
M 12/9	F3, 10%	5		(+)		p
M 12/10	F3, 10%	5		(+)		p
M 12/11	F3, 10%	5		(+)		p
M 12/12	F3, 10%	5		(+)		p
M 12/13	F3, 10%	5		(+)		p
M 12/14	F3, 10%	5		(+)		p
M 12/15	F3, 10%	5		(+)		p
M 12/16	F3, 10%	5		(+)		p
M 12/17	F3, 10%	5		(+)		p
M 12/18	F3, 10%	5		(+)		p
M 12/19	F3, 10%	5		(+)		p
M 12/20	F3, 10%	5		(+)		p
B 1/1	F3, 5%	3				
B 1/2	F3, 5%	4				
B 1/3	F3, 5%	4				

B 1/4	F3, 5%	4				
B 1/5	F3, 5%	4				
B 1/6	F3, 5%	4				
B 1/7	F3, 5%	4				
B 1/8	F3, 5%	4				
B 1/9	F3, 5%	3				
B 1/10	F3, 5%	4				
B 1/11	F3, 5%	3				
B 1/12	F3, 5%	4				
B 1/13	F3, 5%	4				
B 1/14	F3, 5%	4				
B 1/15	F3, 5%	4				
B 1/16	F3, 5%	4				
B 1/17	F3, 5%	4				
B 1/18	F3, 5%	4				
B 1/19	F3, 5%	4				
B 1/20	F3, 5%	3				
B 2/1	F3, 5%	4				
B 2/2	F3, 5%	4				
B 2/3	F3, 5%	4				
B 2/4	F3, 5%	4				
B 2/5	F3, 5%	4				
B 2/6	F3, 5%	4				
B 2/7	F3, 5%	4				
B 2/8	F3, 5%	4				
B 2/9	F3, 5%	4				
B 2/10	F3, 5%	4				
B 2/11	F3, 5%	4				
B 2/12	F3, 5%	4				
B 2/13	F3, 5%	4				
B 2/14	F3, 5%	4				
B 2/15	F3, 5%	4				
B 2/16	F3, 5%	4				
B 2/17	F3, 5%	4				
B 2/18	F3, 5%	4				
B 2/19	F3, 5%	4				
B 2/20	F3, 5%	3				
B 3/1	F3, 5%	4				
B 3/2	F3, 5%	4				
B 3/3	F3, 5%	4				
B 3/4	F3, 5%	4				
B 3/5	F3, 5%	4				
B 3/6	F3, 5%	4				
B 3/7	F3, 5%	4				
B 3/8	F3, 5%	4				
B 3/9	F3, 1%	5				
B 3/10	F3, 1%	5				
B 3/11	F3, 1%	5				
B 3/12	F3, 1%	5				
B 3/13	F3, 1%	5				
B 3/14	F3, 1%	5				
B 3/15	F3, 1%	5				
B 3/16	F3, 1%	5				
B 3/17	F3, 1%	5				
B 3/18	F3, 1%	5				
B 3/19	F3, 1%	5				
B 3/20	F3, 1%	4				
B 4/1	F3, 1%	3				
B 4/2	F3, 1%	5				
B 4/3	F3, 1%	5				
B 4/4	F3, 1%	5				
B 4/5	F3, 1%	5				
B 4/6	F3, 1%	5				
B 4/7	F3, 1%	5				

B 4/8	F3, 1%	5					
B 4/9	F3, 1%	5					
B 4/10	F3, 1%	5					
B 4/11	F3, 1%	5					
B 4/12	F3, 1%	5					
B 4/13	F3, 1%	5					
B 4/14	F3, 1%	5					
B 4/15	F3, 1%	5					
B 4/16	F3, 1%	5					
B 4/17	F3, 1%	5					
B 4/18	F3, 1%	4					
B 4/19	F3, 1%	4					
B 4/20	F3, 1%	4					
B 5/1	F3, 1%	4					
B 5/2	F3, 1%	3					
B 5/3	F3, 1%	5					
B 5/4	F3, 1%	5					
B 5/5	F3, 1%	5					
B 5/6	F3, 1%	5					
B 5/7	F3, 1%	5				c	
B 5/8	F3, 1%	5					
B 5/9	F3, 1%	5					
B 5/10	F3, 1%	4					
B 5/11	F3, 1%	5					
B 5/12	F3, 1%	5					
B 5/13	F3, 1%	5					
B 5/14	F3, 1%	5					
B 5/15	F3, 1%	5					
B 5/16	F3, 1%	5					
B 5/17	F4, 10%	5				p	
B 5/18	F4, 10%	5				c	
B 5/19	F4, 10%	5				p	
B 5/20	F4, 10%	5				p	
B 6/1	F4, 10%	5				p	
B 6/2	F4, 10%	5				p	
B 6/3	F4, 10%	5				c	
B 6/4	F4, 10%	5				c	
B 6/5	F4, 10%	5				c	
B 6/6	F4, 10%	5				c	
B 6/7	F4, 10%	5				c	
B 6/8	F4, 10%	5				c	
B 6/9	F4, 10%	5				c	
B 6/10	F4, 10%	5				c	
B 6/11	F4, 10%	5				c	
B 6/12	F4, 10%	5				c	
B 6/13	F4, 10%	5				c	
B 6/14	F4, 10%	5				c	
B 6/15	F4, 10%	5				c	
B 6/16	F4, 10%	5				c	
B 6/17	F4, 10%	5				c	
B 6/18	F4, 10%	5				c	
B 6/19	F4, 10%	5				c	
B 6/20	F4, 10%	4					
B 7/1	F4, 10%	5					
B 7/2	F4, 10%	4					
B 7/3	F4, 10%	5				c	
B 7/4	F4, 10%	5				c	
B 7/5	F4, 10%	5				c	
B 7/6	F4, 10%	5				c	
B 7/7	F4, 10%	5				c	
B 7/8	F4, 10%	5				c	
B 7/9	F4, 10%	5				c	
B 7/10	F4, 10%	5				c	
B 7/11	F4, 10%	5				c	

B 7/12	F4, 10%	5					c
B 7/13	F4, 10%	5					c
B 7/14	F4, 10%	5					c
B 7/15	F4, 10%	5					c
B 7/16	F4, 10%	5					c
B 7/17	F4, 10%	5					c
B 7/18	F4, 10%	5					c
B 7/19	F4, 10%	5					p
B 7/20	F4, 10%	5					p
B 8/1	F4, 10%	5					p
B 8/2	F4, 10%	5					c
B 8/3	F4, 10%	5					c
B 8/4	F4, 10%	5					c
B 8/5	F4, 5%	4					
B 8/6	F4, 5%	5					c
B 8/7	F4, 5%	5					c
B 8/8	F4, 5%	5					p
B 8/9	F4, 5%	5					p
B 8/10	F4, 5%	5					p
B 8/11	F4, 5%	5					p
B 8/12	F4, 5%	5					c
B 8/13	F4, 5%	5					c
B 8/14	F4, 5%	5					p
B 8/15	F4, 5%	5					p
B 8/16	F4, 5%	5					c
B 8/17	F4, 5%	4					
B 8/18	F4, 5%	4					
B 8/19	F4, 5%	4					
B 8/20	F4, 5%	4					
B 9/1	F4, 5%	3					
B 9/2	F4, 5%	5					
B 9/3	F4, 5%	5					p
B 9/4	F4, 5%	5					p
B 9/5	F4, 5%	5					p
B 9/6	F4, 5%	5					c
B 9/7	F4, 5%	5					p
B 9/8	F4, 5%	4					
B 9/9	F4, 5%	5					c
B 9/10	F4, 5%	5					p
B 9/11	F4, 5%	5					p
B 9/12	F4, 5%	5					c
B 9/13	F4, 5%	5					p
B 9/14	F4, 5%	5					c
B 9/15	F4, 5%	5					c
B 9/16	F4, 5%	5					p
B 9/17	F4, 5%	5					p
B 9/18	F4, 5%	5					p
B 9/19	F4, 5%	5					p
B 9/20	F4, 5%	5					p
B 10/1	F4, 5%	3					
B 10/2	F4, 5%	4					
B 10/3	F4, 5%	5					p
B 10/4	F4, 5%	4					
B 10/5	F4, 5%	5					c
B 10/6	F4, 5%	3					
B 10/7	F4, 5%	5					c
B 10/8	F4, 5%	5					p
B 10/9	F4, 5%	4					
B 10/10	F4, 5%	5					p
B 10/11	F4, 5%	5					c
B 10/12	F4, 5%	5					c
B 10/13	F4, 1%	4					
B 10/14	F4, 1%	3					
B 10/15	F4, 1%	3					

B 10/16	F4, 1%	4				
B 10/17	F4, 1%	3				
B 10/18	F4, 1%	3				
B 10/19	F4, 1%	3				
B 10/20	F4, 1%	3				
B 11/1	F4, 1%	3				
B 11/2	F4, 1%	3				
B 11/3	F4, 1%	3				
B 11/4	F4, 1%	3				
B 11/5	F4, 1%	3				
B 11/6	F4, 1%	3				
B 11/7	F4, 1%	3				
B 11/8	F4, 1%	3				
B 11/9	F4, 1%	4				
B 11/10	F4, 1%	4				
B 11/11	F4, 1%	3				
B 11/12	F4, 1%	3				
B 11/13	F4, 1%	4				
B 11/14	F4, 1%	3				
B 11/15	F4, 1%	3				
B 11/16	F4, 1%	3				
B 11/17	F4, 1%	4				
B 11/18	F4, 1%	3				
B 11/19	F4, 1%	3				
B 11/20	F4, 1%	3				
B 12/1	F4, 1%	3				
B 12/2	F4, 1%	3				
B 12/3	F4, 1%	3				
B 12/4	F4, 1%	3				
B 12/5	F4, 1%	3				
B 12/6	F4, 1%	3				
B 12/7	F4, 1%	3				
B 12/8	F4, 1%	3				
B 12/9	F4, 1%	3				
B 12/10	F4, 1%	3				
B 12/11	F4, 1%	3				
B 12/12	F4, 1%	4				
B 12/13	F4, 1%	3				
B 12/14	F4, 1%	4				
B 12/15	F4, 1%	4				
B 12/16	F4, 1%	3				
B 12/17	F4, 1%	3				
B 12/18	F4, 1%	3				
B 12/19	F4, 1%	3				
B 12/20	F4, 1%	3				