

Interstorm variability in the biolability of tree-derived dissolved organic matter (tree-DOM) in throughfall and stemflow

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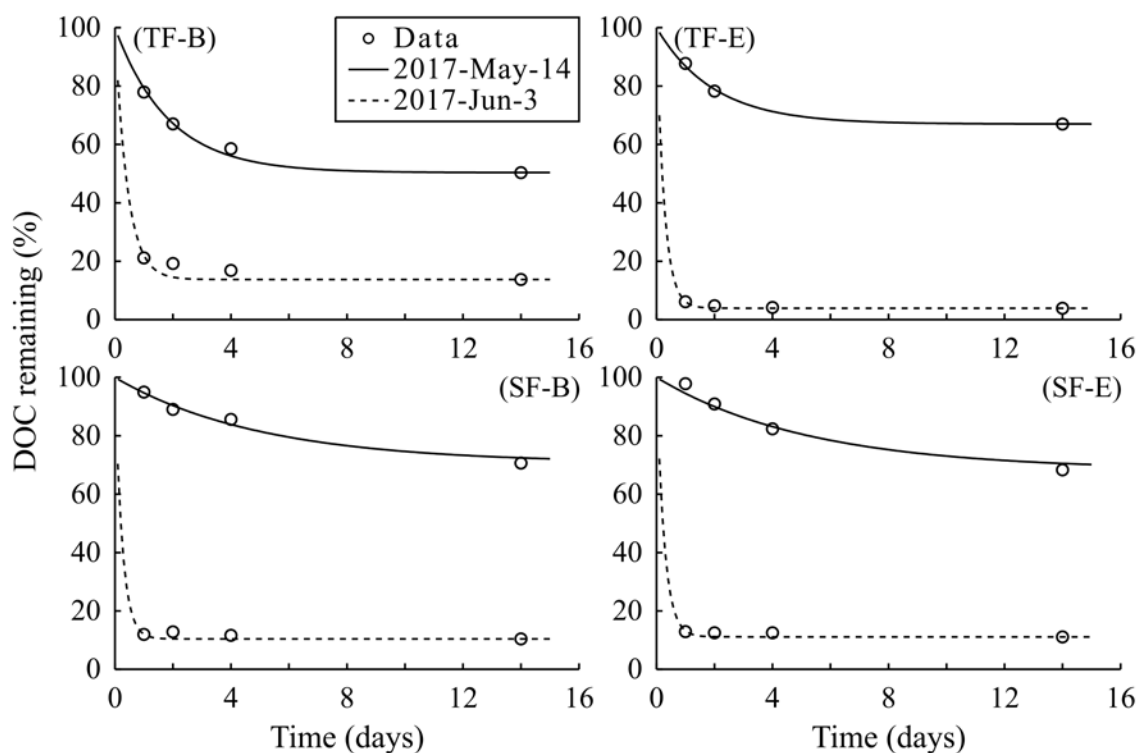


Figure S1. Example tree-DOM decomposition curves from storms of the highest and lowest tree-DOM biolability (Jun-3 and May-14, respectively) for a single archetypical collector of bare-canopy throughfall (TF-B), epiphyte-covered throughfall (TF-E), bare-canopy stemflow (SF-B), and epiphyte-covered stemflow (SF-E).

Table S1. Projected canopy areas of stemflow trees used to compute water and DOM yields.

Stemflow tree #	Projected canopy area (m ²)
1	5.0
2	13.1
3	5.4
4	5.7
5	18.1
6	18.0
7	7.2
8	11.4
9	14.0
10	15.7

Table S2. Raw dataset organized by date, sample number, cover and flux type, volume, and days 0, 1, 2, 4, and 14 carbon concentrations. *Gauge overflow.

Date	Sample	Flux	Volume (mL)	Day 0 (mg-C L ⁻¹)	Day 1 (mg-C L ⁻¹)	Day 2 (mg-C L ⁻¹)	Day 4 (mg-C L ⁻¹)	Day 14 (mg-C L ⁻¹)
2017-05-14	1	BS	69900*	20.28	19.26	18.05	17.36	14.32
2017-05-14	2	BS	69900*	28.06	28.02	26.98	24.25	20.92
2017-05-14	3	BS	69900*	31.23	28.52	26.79	25.48	17.55
2017-05-14	4	BS	69900*	19.17	18.27	16.70	17.22	12.29
2017-05-14	5	BS	69900*	51.18	49.86	54.52	47.09	47.86
2017-05-14	6	ES	6800	53.79	56.69	55.01	52.62	43.74
2017-05-14	7	ES	49300	44.06	36.17	36.51	33.84	27.96
2017-05-14	8	ES	69900*	26.45	26.03	23.90	22.28	19.09
2017-05-14	9	ES	69900*	47.97	46.94	43.60	39.52	32.77
2017-05-14	10	ES	69900*	48.88	50.03	46.05	41.51	38.70
2017-05-14	11	BT	4850	22.60	-	-	-	-
2017-05-14	12	BT	4980	19.21	-	-	-	-
2017-05-14	13	BT	5120	20.70	-	-	-	-
2017-05-14	14	BT	4950	19.08	-	-	-	-
2017-05-14	15	BT	4990	20.60	-	-	-	-
2017-05-14	16	BT	5150	20.35	-	-	-	-
2017-05-14	17	BT	4800	17.06	-	-	-	-
2017-05-14	18	BT	4750	14.67	-	-	-	-
2017-05-14	19	BT	2900	20.19	-	-	-	-
2017-05-14	20	BT	5100	14.49	-	-	-	-
2017-05-14	21	ET	5300	12.19	-	-	-	-
2017-05-14	22	ET	4900	20.99	-	-	-	-
2017-05-14	23	ET	4950	23.41	-	-	-	-
2017-05-14	24	ET	5050	21.99	-	-	-	-
2017-05-14	25	ET	5100	23.65	-	-	-	-
2017-05-14	26	ET	4950	23.27	-	-	-	-
2017-05-14	27	ET	5050	21.61	-	-	-	-
2017-05-14	28	ET	5080	21.59	-	-	-	-
2017-05-14	29	ET	4780	21.15	-	-	-	-
2017-05-14	30	ET	5300	21.40	-	-	-	-
2017-05-14	31	R	8725	-	-	-	-	-
2017-05-14	32	R	8725	-	-	-	-	-
2017-05-14	33	R	8725	-	-	-	-	-
2017-05-14	11-12	BT	-	-	20.66	18.14	16.50	12.63
2017-05-14	13-14	BT	-	-	19.60	17.70	16.66	13.04
2017-05-14	15-16	BT	-	-	21.57	19.27	17.98	13.64

2017-05-14	17-18	BT	-	-	17.41	15.57	13.03	13.96
2017-05-14	19-20	BT	-	-	12.90	11.10	9.69	8.34
2017-05-14	21-22	ET	-	-	16.99	15.37	11.61	13.61
2017-05-14	23-24	ET	-	-	20.59	24.46	21.11	19.30
2017-05-14	25-26	ET	-	-	28.92	25.38	22.63	19.38
2017-05-14	27-28	ET	-	-	26.91	25.16	22.62	19.26
2017-05-14	29-30	ET	-	-	27.29	25.85	22.33	17.64
2017-06-03	1	BS	11100	58.66	7.22	-	6.65	7.30
2017-06-03	2	BS	17100	82.07	10.04	14.68	12.91	8.66
2017-06-03	3	BS	7900	63.86	7.65	8.21	7.45	6.66
2017-06-03	4	BS	8300	56.98	7.48	7.02	6.58	7.82
2017-06-03	5	BS	1600	139.98	20.75	18.83	23.02	19.06
2017-06-03	6	ES	800	105.06	14.19	13.54	12.76	12.94
2017-06-03	7	ES	2400	95.09	12.33	10.96	11.01	10.56
2017-06-03	8	ES	3200	96.42	12.46	12.25	12.41	10.90
2017-06-03	9	ES	4000	140.12	19.50	15.57	16.95	12.89
2017-06-03	10	ES	4800	142.71	18.48	17.85	17.87	15.88
2017-06-03	11	BT	680	42.11	-	-	-	-
2017-06-03	12	BT	1000	59.96	-	-	-	-
2017-06-03	13	BT	1300	59.58	-	-	-	-
2017-06-03	14	BT	1040	60.94	-	-	-	-
2017-06-03	15	BT	1100	57.06	-	-	-	-
2017-06-03	16	BT	920	86.00	-	-	-	-
2017-06-03	17	BT	400	64.94	-	-	-	-
2017-06-03	18	BT	580	55.45	-	-	-	-
2017-06-03	19	BT	600	42.88	-	-	-	-
2017-06-03	20	BT	800	31.00	-	-	-	-
2017-06-03	21	ET	640	91.16	-	-	-	-
2017-06-03	22	ET	700	80.26	-	-	-	-
2017-06-03	23	ET	820	74.17	-	-	-	-
2017-06-03	24	ET	900	83.28	-	-	-	-
2017-06-03	25	ET	660	50.36	-	-	-	-
2017-06-03	26	ET	-	101.90	-	-	-	-
2017-06-03	27	ET	-	105.96	-	-	-	-
2017-06-03	28	ET	-	91.77	-	-	-	-
2017-06-03	29	ET	-	94.69	-	-	-	-
2017-06-03	30	ET	-	75.05	-	-	-	-
2017-06-03	31	R	1440	3.90	-	-	-	-
2017-06-03	32	R	1500	3.96	-	-	-	-
2017-06-03	33	R	1400	5.28	-	-	-	-
2017-06-03	11-12	BT	-	-	53.53	46.44	41.22	31.75

2017-06-03	13-14	BT	-	-	7.14	6.51	5.70	4.65
2017-06-03	15-16	BT	-	-	7.58	7.61	6.72	5.65
2017-06-03	17-18	BT	-	-	5.94	6.92	6.24	4.51
2017-06-03	19-20	BT	-	-	3.81	3.89	3.15	2.56
2017-06-03	21-22	ET	-	-	10.79	10.41	9.87	6.83
2017-06-03	23-24	ET	-	-	8.39	10.38	8.42	7.82
2017-06-03	25-26	ET	-	-	8.71	6.71	5.92	5.54
2017-06-03	27-28	ET	-	-	-	-	-	-
2017-06-03	29-30	ET	-	-	-	-	-	-
2017-07-30	1	BS	22300	26.44	16.83	15.72	17.26	4.16
2017-07-30	2	BS	29400	44.17	28.14	28.65	29.51	3.14
2017-07-30	3	BS	8700	34.44	22.08	22.35	25.97	1.43
2017-07-30	4	BS	8300	33.02	20.02	17.99	18.62	0.46
2017-07-30	5	BS	11100	64.46	64.48	68.13	72.63	16.02
2017-07-30	6	ES	1600	79.04	73.52	79.69	72.67	6.75
2017-07-30	7	ES	2400	68.03	36.32	33.64	35.68	2.34
2017-07-30	8	ES	9100	46.17	30.13	30.32	34.06	0.73
2017-07-30	9	ES	6400	86.09	57.71	60.70	60.82	16.91
2017-07-30	10	ES	6200	64.91	68.65	70.81	74.77	4.64
2017-07-30	11	BT	1800	-	-	-	-	-
2017-07-30	12	BT	1100	17.20	-	-	-	-
2017-07-30	13	BT	1580	17.84	-	-	-	-
2017-07-30	14	BT	1760	16.88	-	-	-	-
2017-07-30	15	BT	1780	13.01	-	-	-	-
2017-07-30	16	BT	1420	34.35	-	-	-	-
2017-07-30	17	BT	1080	34.49	-	-	-	-
2017-07-30	18	BT	1060	29.75	-	-	-	-
2017-07-30	19	BT	1000	27.25	-	-	-	-
2017-07-30	20	BT	860	24.11	-	-	-	-
2017-07-30	21	ET	230	82.27	-	-	-	-
2017-07-30	22	ET	520	59.55	-	-	-	-
2017-07-30	23	ET	740	44.79	-	-	-	-
2017-07-30	24	ET	900	46.54	-	-	-	-
2017-07-30	25	ET	1020	36.55	-	-	-	-
2017-07-30	26	ET	100	101.90	-	-	-	-
2017-07-30	27	ET	180	105.96	-	-	-	-
2017-07-30	28	ET	380	91.77	-	-	-	-
2017-07-30	29	ET	480	94.69	-	-	-	-
2017-07-30	30	ET	740	75.05	-	-	-	-
2017-07-30	31	R	1600	7.97	-	-	-	-
2017-07-30	32	R	1630	6.03	-	-	-	-

2017-07-30	33	R	1610	7.59	-	-	-	-
2017-07-30	11-12	BT	-	-	17.43	20.46	18.48	0.53
2017-07-30	13-14	BT	-	-	17.34	19.81	21.09	0.19
2017-07-30	15-16	BT	-	-	13.71	16.16	12.32	3.96
2017-07-30	17-18	BT	-	-	10.50	10.36	10.07	1.83
2017-07-30	19-20	BT	-	-	8.83	9.31	11.30	0.65
2017-07-30	21-22	ET	-	-	21.06	20.82	20.78	0.96
2017-07-30	23-24	ET	-	-	38.44	39.00	38.40	5.61
2017-07-30	25-26	ET	-	-	66.28	62.13	69.05	3.48
2017-07-30	27-28	ET	-	-	74.11	72.78	76.81	3.51
2017-07-30	29-30	ET	-	-	64.27	59.56	61.90	1.28
2017-08-28	1	BS	34200	30.90	16.36	15.28	16.78	15.00
2017-08-28	2	BS	70000	50.42	27.36	27.84	28.69	19.34
2017-08-28	3	BS	14300	41.27	21.46	21.72	25.24	25.10
2017-08-28	4	BS	42500	30.99	19.46	17.49	18.09	10.97
2017-08-28	5	BS	22300	114.34	62.67	66.22	70.59	85.02
2017-08-28	6	ES	1600	130.64	71.46	77.45	70.63	49.33
2017-08-28	7	ES	13500	62.25	35.30	32.70	34.67	34.10
2017-08-28	8	ES	22300	60.51	29.29	29.47	33.11	20.96
2017-08-28	9	ES	10300	100.14	56.09	59.00	59.12	73.75
2017-08-28	10	ES	15100	112.53	66.73	68.83	72.67	45.30
2017-08-28	11	BT	3120	32.69	-	-	-	-
2017-08-28	12	BT	3920	32.55	-	-	-	-
2017-08-28	13	BT	3400	28.62	-	-	-	-
2017-08-28	14	BT	4000	33.24	-	-	-	-
2017-08-28	15	BT	3340	34.51	-	-	-	-
2017-08-28	16	BT	3350	23.39	-	-	-	-
2017-08-28	17	BT	3590	19.38	-	-	-	-
2017-08-28	18	BT	3520	17.46	-	-	-	-
2017-08-28	19	BT	3400	16.07	-	-	-	-
2017-08-28	20	BT	2580	19.24	-	-	-	-
2017-08-28	21	ET	3400	23.82	-	-	-	-
2017-08-28	22	ET	2940	49.95	-	-	-	-
2017-08-28	23	ET	2960	69.08	-	-	-	-
2017-08-28	24	ET	2760	70.32	-	-	-	-
2017-08-28	25	ET	1800	83.94	-	-	-	-
2017-08-28	26	ET	1720	148.65	-	-	-	-
2017-08-28	27	ET	2580	136.61	-	-	-	-
2017-08-28	28	ET	2960	109.49	-	-	-	-
2017-08-28	29	ET	2600	103.44	-	-	-	-
2017-08-28	30	ET	1100	124.46	-	-	-	-

2017-08-28	31	R	4600	3.49	-	-	-	-
2017-08-28	32	R	4700	2.92	-	-	-	-
2017-08-28	33	R	4600	6.15	-	-	-	-
2017-08-28	11-12	BT	-	-	16.94	19.88	17.96	27.37
2017-08-28	13-14	BT	-	-	16.86	19.26	20.50	13.22
2017-08-28	15-16	BT	-	-	13.33	15.71	11.97	13.82
2017-08-28	17-18	BT	-	-	10.20	10.07	9.79	5.23
2017-08-28	19-20	BT	-	-	8.58	9.05	10.98	9.70
2017-08-28	21-22	ET	-	-	20.47	20.24	20.20	17.57
2017-08-28	23-24	ET	-	-	37.36	37.91	37.32	49.16
2017-08-28	25-26	ET	-	-	64.42	60.39	67.12	56.05
2017-08-28	27-28	ET	-	-	72.03	70.74	74.66	90.42
2017-08-28	29-30	ET	-	-	62.47	57.89	60.16	46.16
2017-10-23	1	BS	43700	18.91	18.75	43.26	40.74	
2017-10-23	2	BS	50900	34.30	33.97	33.81	33.59	
2017-10-23	3	BS	28600	30.48	29.61	15.77	15.45	
2017-10-23	4	BS	50100	21.51	21.13	7.33	7.10	
2017-10-23	5	BS	32600	57.94	58.49	-	13.18	
2017-10-23	6	ES	1600	-	-	-	-	-
2017-10-23	7	ES	19500	39.81	39.35	19.53	18.89	
2017-10-23	8	ES	34200	29.65	29.67	9.52	9.48	
2017-10-23	9	ES	17900	59.26	59.18	128.61	130.31	
2017-10-23	10	ES	31000	58.45	58.13	54.27	-	
2017-10-23	11	BT	4180	20.53	-	-	-	-
2017-10-23	12	BT	4760	20.66	-	-	-	-
2017-10-23	13	BT	5050	23.00	-	-	-	-
2017-10-23	14	BT	5660	22.50	-	-	-	-
2017-10-23	15	BT	5240	22.04	-	-	-	-
2017-10-23	16	BT	4100	29.97	-	-	-	-
2017-10-23	17	BT	3530	22.83	-	-	-	-
2017-10-23	18	BT	3680	18.37	-	-	-	-
2017-10-23	19	BT	4180	19.67	-	-	-	-
2017-10-23	20	BT	4620	14.43	-	-	-	-
2017-10-23	21	ET	5800	35.29	-	-	-	-
2017-10-23	22	ET	6080	30.36	-	-	-	-
2017-10-23	23	ET	6660	36.37	-	-	-	-
2017-10-23	24	ET	5580	28.47	-	-	-	-
2017-10-23	25	ET	4920	24.36	-	-	-	-
2017-10-23	26	ET	1200	116.29	-	-	-	-
2017-10-23	27	ET	1180	110.89	-	-	-	-
2017-10-23	28	ET	1530	102.18	-	-	-	-

2017-10-23	29	ET	1560	85.74	-	-	-	-
2017-10-23	30	ET	1560	72.09	-	-	-	-
2017-10-23	31	R	5580	1.56	-	-	-	-
2017-10-23	32	R	5160	2.28	-	-	-	-
2017-10-23	33	R	5160	3.27	-	-	-	-
2017-10-23	11-12	BT	-	-	20.36	11.01	11.42	-
2017-10-23	13-14	BT	-	-	21.44	7.52	6.82	-
2017-10-23	15-16	BT	-	-	25.92	52.38	49.99	-
2017-10-23	17-18	BT	-	-	19.77	17.72	17.47	-
2017-10-23	19-20	BT	-	-	16.98	8.56	7.71	-
2017-10-23	21-22	ET	-	-	32.04	9.15	9.20	-
2017-10-23	23-24	ET	-	-	37.88	82.20	73.77	-
2017-10-23	25-26	ET	-	-	69.21	48.68	46.10	-
2017-10-23	27-28	ET	-	-	109.21	49.32	46.62	-
2017-10-23	29-30	ET	-	-	82.61	18.24	18.32	-

Table S3. First order decay kinetics and derived percentage biolabile tree-derived dissolved organic matter (% tree-BDOM) for biolability experiments. Fit based upon equation 1 from Section 2.5 of the manuscript. Regression results reported for fits $p < 0.05$ and $r > 0.90$.

Date	Sampler	Flux	b (% biolabile)	k (day ⁻¹)	c (% recalcitrant)
2017-05-14	1	BS	29.37	0.20	70.63
2017-05-14	2	BS	25.45	0.16	74.55
2017-05-14	3	BS	43.81	0.18	56.19
2017-05-14	4	BS	35.86	0.15	64.14
2017-05-14	5	BS	-	-	-
2017-05-14	6	ES	-	-	-
2017-05-14	7	ES	36.54	0.34	63.46
2017-05-14	8	ES	27.83	0.20	72.17
2017-05-14	9	ES	31.69	0.19	68.31
2017-05-14	10	ES	22.64	0.24	77.36
2017-05-14	11-12	BT	39.51	0.19	60.49
2017-05-14	13-14	BT	34.52	0.17	65.48
2017-05-14	15-16	BT	33.40	0.13	66.60
2017-05-14	17-18	BT	-	-	-
2017-05-14	19-20	BT	49.65	0.53	50.35
2017-05-14	21-22	ET	-	-	-
2017-05-14	23-24	ET	-	-	-
2017-05-14	25-26	ET	33.00	0.22	67.00
2017-05-14	27-28	ET	28.44	0.17	71.56
2017-05-14	29-30	ET	35.35	0.15	64.65
2017-06-03	1	BS	88.10	2.34	11.90
2017-06-03	2	BS	89.45	3.79	10.55
2017-06-03	3	BS	89.57	4.01	10.43
2017-06-03	4	BS	87.47	2.16	12.53
2017-06-03	5	BS	86.39	4.27	13.61
2017-06-03	6	ES	87.69	4.29	12.31
2017-06-03	7	ES	88.90	3.86	11.10
2017-06-03	8	ES	88.69	3.98	11.31
2017-06-03	9	ES	90.80	2.92	9.20
2017-06-03	10	ES	88.87	3.86	11.13
2017-06-03	11-12	BT	39.79	0.18	60.21
2017-06-03	13-14	BT	86.25	2.34	13.75
2017-06-03	15-16	BT	73.50	1.86	26.50
2017-06-03	17-18	BT	59.84	4.98	40.16
2017-06-03	19-20	BT	88.29	2.60	11.71
2017-06-03	21-22	ET	81.16	5.39	18.84
2017-06-03	23-24	ET	87.67	10.97	12.33
2017-06-03	25-26	ET	96.08	3.74	3.92

2017-06-03	27-28	ET	-	-	-
2017-06-03	29-30	ET	-	-	-
2017-07-30	1	BS	31.69	3.32	68.31
2017-07-30	2	BS	34.86	7.17	65.14
2017-07-30	3	BS	31.86	0.80	68.14
2017-07-30	4	BS	43.63	2.43	56.37
2017-07-30	5	BS	-	-	-
2017-07-30	6	ES	-	-	-
2017-07-30	7	ES	47.56	4.03	52.44
2017-07-30	8	ES	26.23	1.12	73.77
2017-07-30	9	ES	29.35	5.98	70.65
2017-07-30	10	ES	-	-	-
2017-07-30	11-12	BT	64.27	6.13	35.73
2017-07-30	13-14	BT	65.02	7.27	34.98
2017-07-30	15-16	BT	81.57	3.52	18.43
2017-07-30	17-18	BT	83.28	4.76	16.72
2017-07-30	19-20	BT	69.79	6.76	30.21
2017-07-30	21-22	ET	75.14	5.42	24.86
2017-07-30	23-24	ET	51.50	6.81	48.50
2017-07-30	25-26	ET	-	-	-
2017-07-30	27-28	ET	20.27	0.04	79.73
2017-07-30	29-30	ET	25.22	2.39	74.78
2017-08-28	1	BS	51.45	2.44	48.55
2017-08-28	2	BS	61.63	0.87	38.37
2017-08-28	3	BS	48.01	4.83	51.99
2017-08-28	4	BS	64.60	0.53	35.40
2017-08-28	5	BS	38.26	-	61.74
2017-08-28	6	ES	62.24	0.74	37.76
2017-08-28	7	ES	45.22	3.25	54.78
2017-08-28	8	ES	65.37	1.13	34.63
2017-08-28	9	ES	40.96	-	59.04
2017-08-28	10	ES	59.75	0.56	40.25
2017-08-28	11-12	BT	44.92	8.13	55.08
2017-08-28	13-14	BT	57.52	0.78	42.48
2017-08-28	15-16	BT	58.63	2.01	41.37
2017-08-28	17-18	BT	71.62	0.53	28.38
2017-08-28	19-20	BT	44.34	7.14	55.66
2017-08-28	21-22	ET	51.11	1.58	48.89
2017-08-28	23-24	ET	46.44	6.60	53.56
2017-08-28	25-26	ET	51.50	1.84	48.50
2017-08-28	27-28	ET	38.87	-	61.13
2017-08-28	29-30	ET	57.92	1.09	42.08
2017-10-23	1	BS	-	-	-

2017-10-23	2	BS	2.07	0.65	97.93
2017-10-23	3	BS	49.30	0.59	50.70
2017-10-23	4	BS	67.00	0.57	33.00
2017-10-23	5	BS	77.25	0.37	22.75
2017-10-23	6	ES	-	-	-
2017-10-23	7	ES	52.54	0.56	47.46
2017-10-23	8	ES	68.04	0.57	31.96
2017-10-23	9	ES	-	-	-
2017-10-23	10	ES	7.14	0.57	92.86
2017-10-23	11-12	BT	44.58	0.61	55.42
2017-10-23	13-14	BT	69.99	0.59	30.01
2017-10-23	15-16	BT	-	-	-
2017-10-23	17-18	BT	15.00	0.66	85.00
2017-10-23	19-20	BT	54.41	0.52	45.59
2017-10-23	21-22	ET	71.92	0.15	28.08
2017-10-23	23-24	ET	-	-	-
2017-10-23	25-26	ET	-	-	-
2017-10-23	27-28	ET	56.01	1.55	43.99
2017-10-23	29-30	ET	76.79	0.57	23.21
