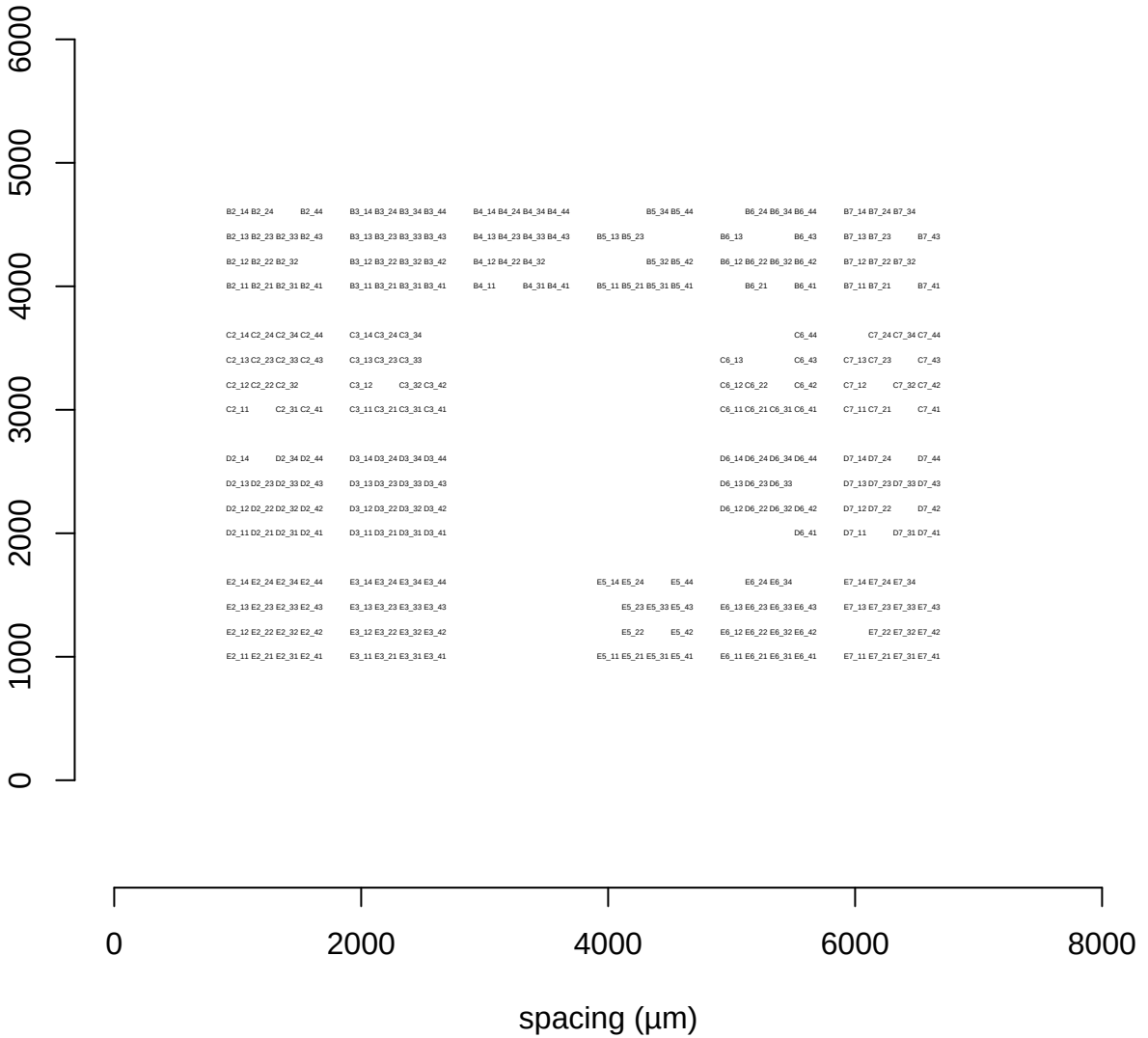
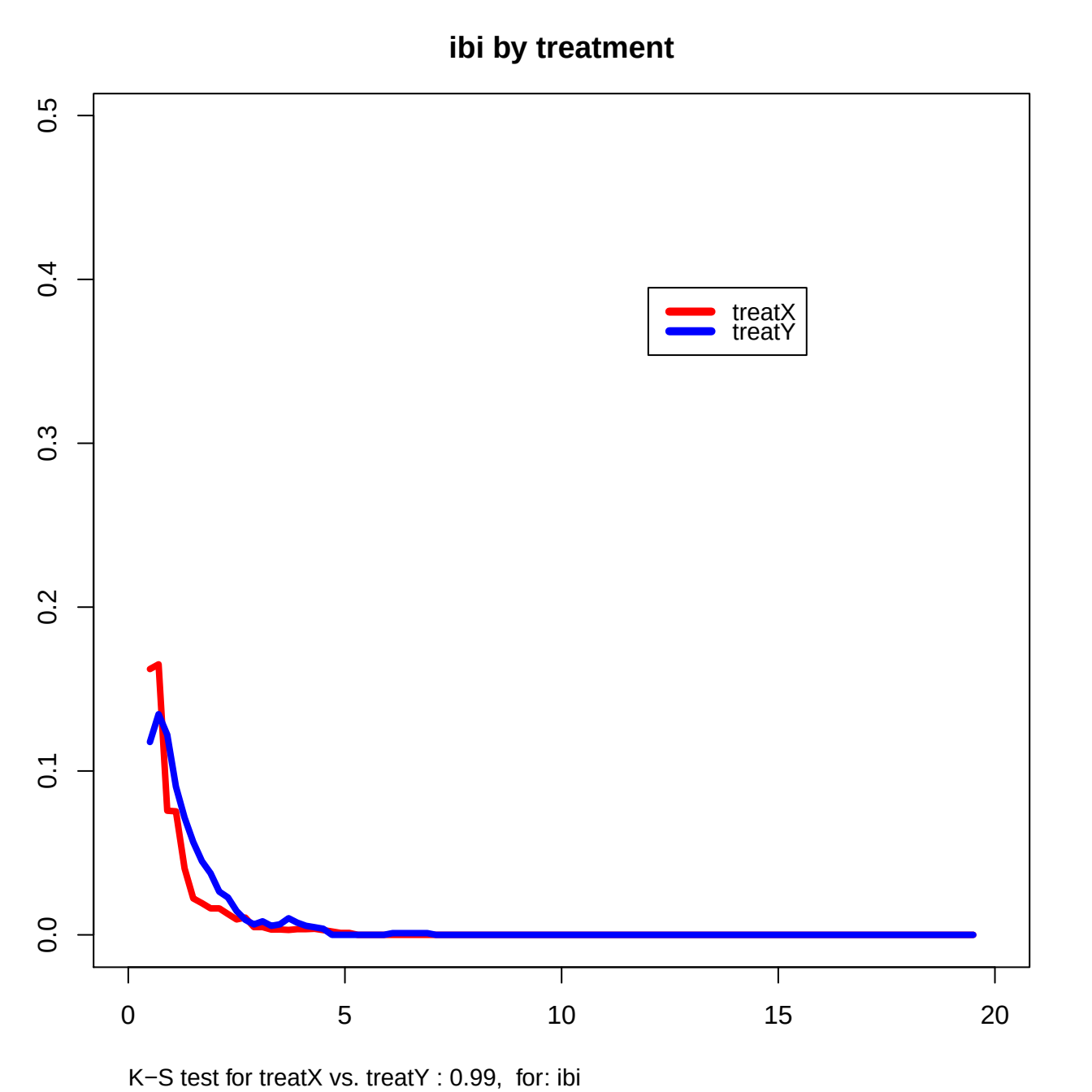
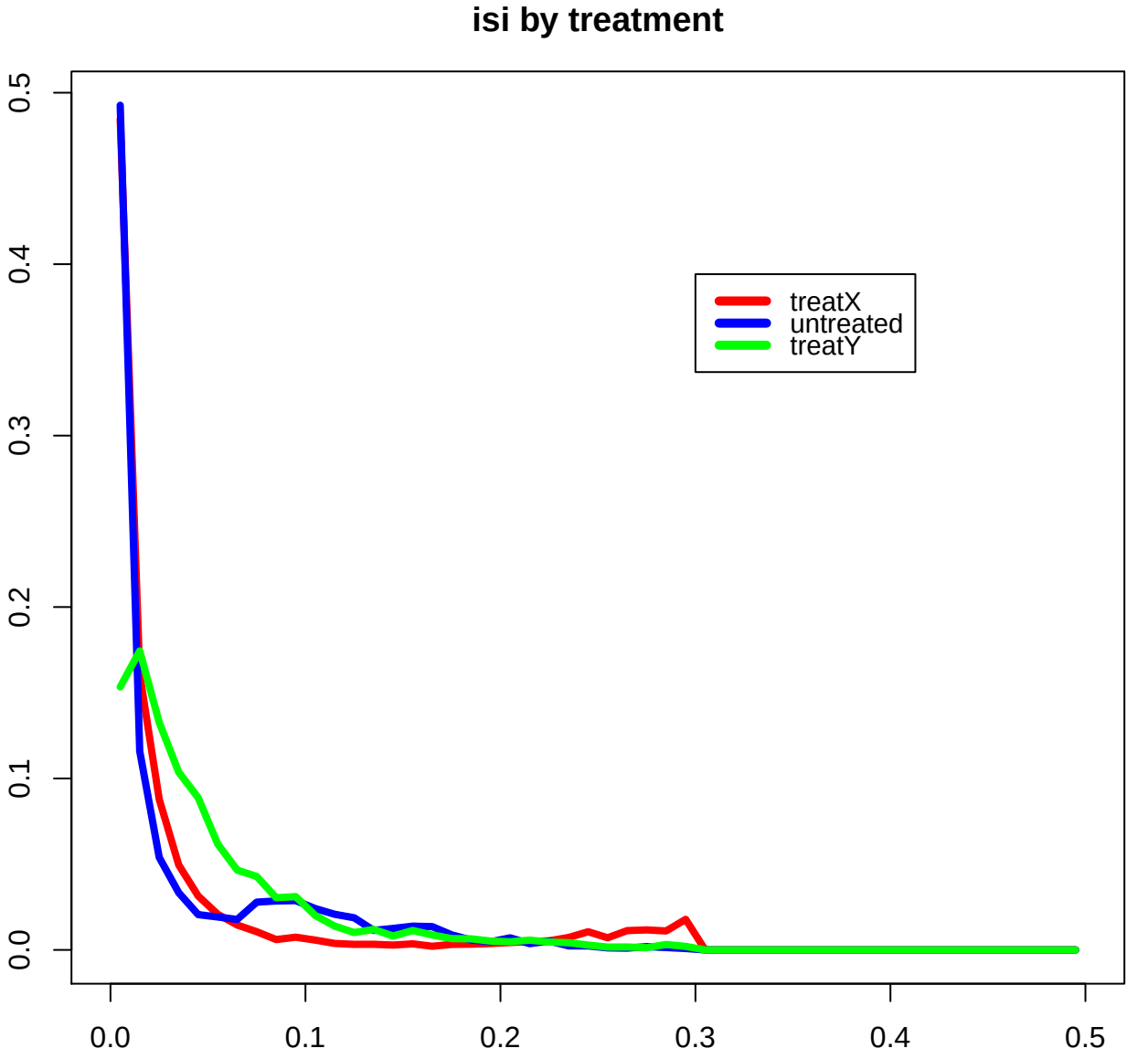
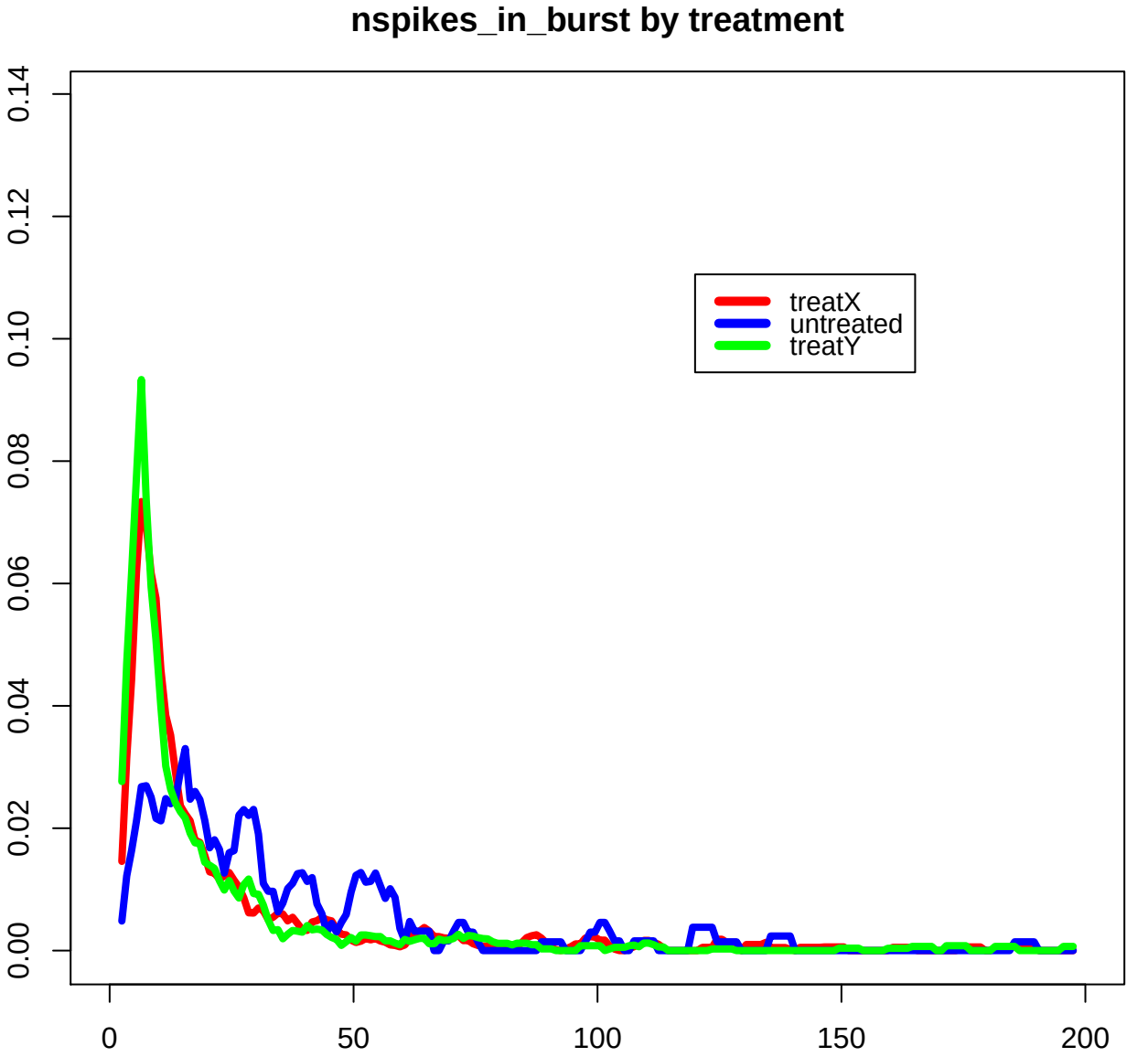

Electrode Layout
file= exampleRecording_1012016_plate1_DIV1
B2_14 B2_24 B2_44
B2_13 B2_23 B2_33 B2_43
B2_12 B2_22 B2_32
B2_11 B2_21 B2_31 B2_41
B3_14 B3_24 B3_34 B3_44
B3_13 B3_23 B3_33 B3_43
B3_12 B3_22 B3_32 B3_42
B3_11 B3_21 B3_31 B3_41
B4_14 B4_24 B4_34 B4_44
B4_13 B4_23 B4_33 B4_43
B4_12 B4_22 B4_32
B4_11 B4_31 B4_41
B5_34 B5_44
B5_13 B5_23
B5_32 B5_42
B5_11 B5_21 B5_31 B5_41
B6_24 B6_34 B6_44
B6_13 B6_43
B6_12 B6_22 B6_32 B6_42
B6_21 B6_41
B7_14 B7_24 B7_34
B7_13 B7_23 B7_43
B7_12 B7_22 B7_32
B7_11 B7_21 B7_41
C2_14 C2_24 C2_34 C2_44
C2_13 C2_23 C2_33 C2_43
C2_12 C2_22 C2_32
C2_11 C2_31 C2_41
C3_14 C3_24 C3_34
C3_13 C3_23 C3_33
C3_12 C3_32 C3_42
C3_11 C3_21 C3_31 C3_41
C6_44
C6_13 C6_43
C6_12 C6_22 C6_42
C6_11 C6_21 C6_31 C6_41
C7_24 C7_34 C7_44
C7_13 C7_23 C7_43
C7_12 C7_32 C7_42
C7_11 C7_21 C7_41
D2_14 D2_34 D2_44
D2_13 D2_23 D2_33 D2_43
D2_12 D2_22 D2_32 D2_42
D2_11 D2_21 D2_31 D2_41
D3_14 D3_24 D3_34 D3_44
D3_13 D3_23 D3_33 D3_43
D3_12 D3_22 D3_32 D3_42
D3_11 D3_21 D3_31 D3_41
D6_14 D6_24 D6_34 D6_44
D6_13 D6_23 D6_33
D6_12 D6_22 D6_32 D6_42
D6_41
D7_14 D7_24 D7_44
D7_13 D7_23 D7_33 D7_43
D7_12 D7_22 D7_42
D7_11 D7_31 D7_41
E2_14 E2_24 E2_34 E2_44
E2_13 E2_23 E2_33 E2_43
E2_12 E2_22 E2_32 E2_42
E2_11 E2_21 E2_31 E2_41
E3_14 E3_24 E3_34 E3_44
E3_13 E3_23 E3_33 E3_43
E3_12 E3_22 E3_32 E3_42
E3_11 E3_21 E3_31 E3_41
E5_14 E5_24 E5_44
E5_23 E5_33 E5_43
E5_22 E5_42
E5_11 E5_21 E5_31 E5_41
E6_24 E6_34
E6_13 E6_23 E6_33 E6_43
E6_12 E6_22 E6_32 E6_42
E6_11 E6_21 E6_31 E6_41
E7_14 E7_24 E7_34
E7_13 E7_23 E7_33 E7_43
E7_22 E7_32 E7_42
E7_11 E7_21 E7_31 E7_41
0
1000
2000
3000
4000
5000
6000
0
2000
4000
6000
8000
spacing (µm)

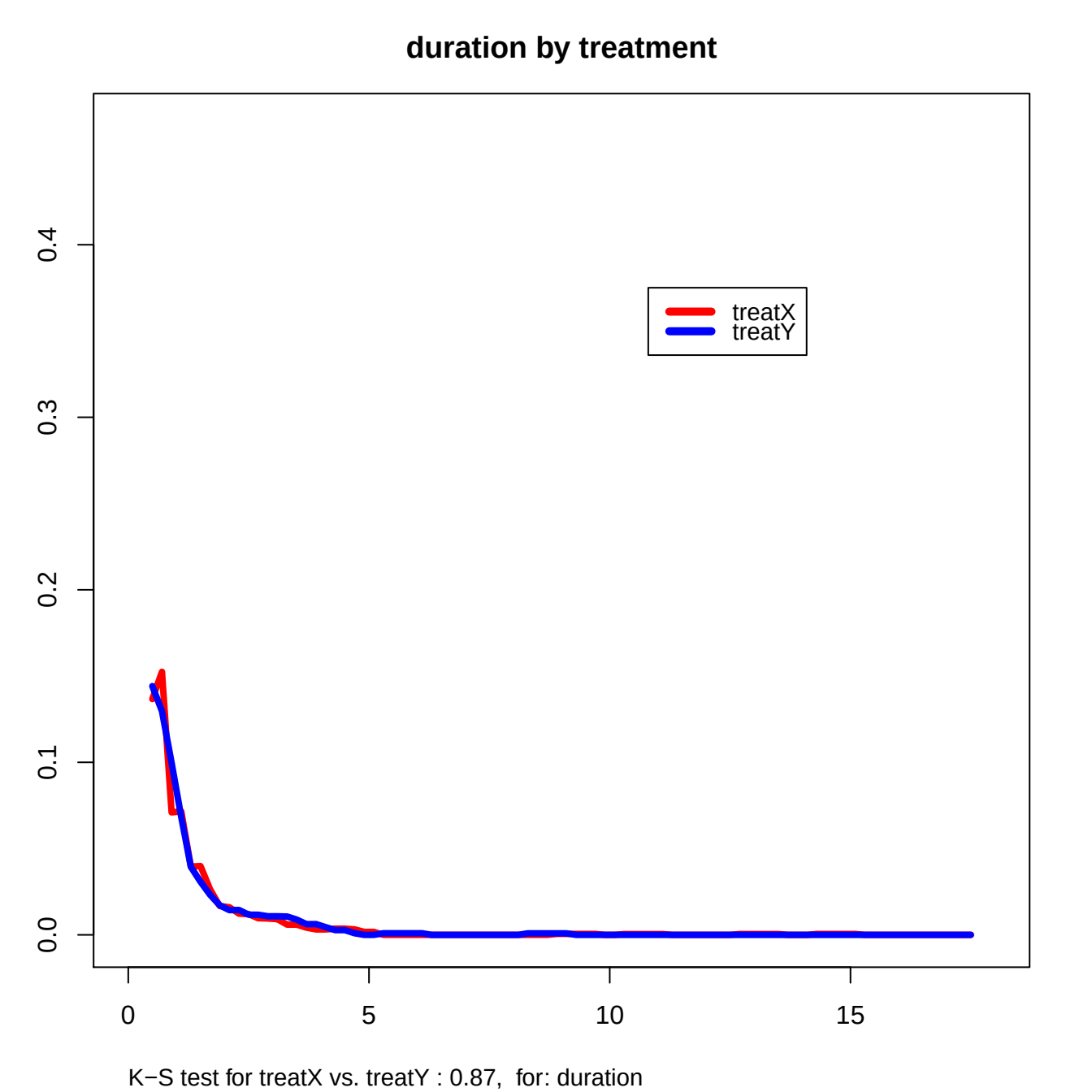

ibi by treatment
0.0
0.1
0.2
0.3
0.4
0.5
0
5
10
15
20
treatX
treatY
K−S test for treatX vs. treatY : 0.99, for: ibi

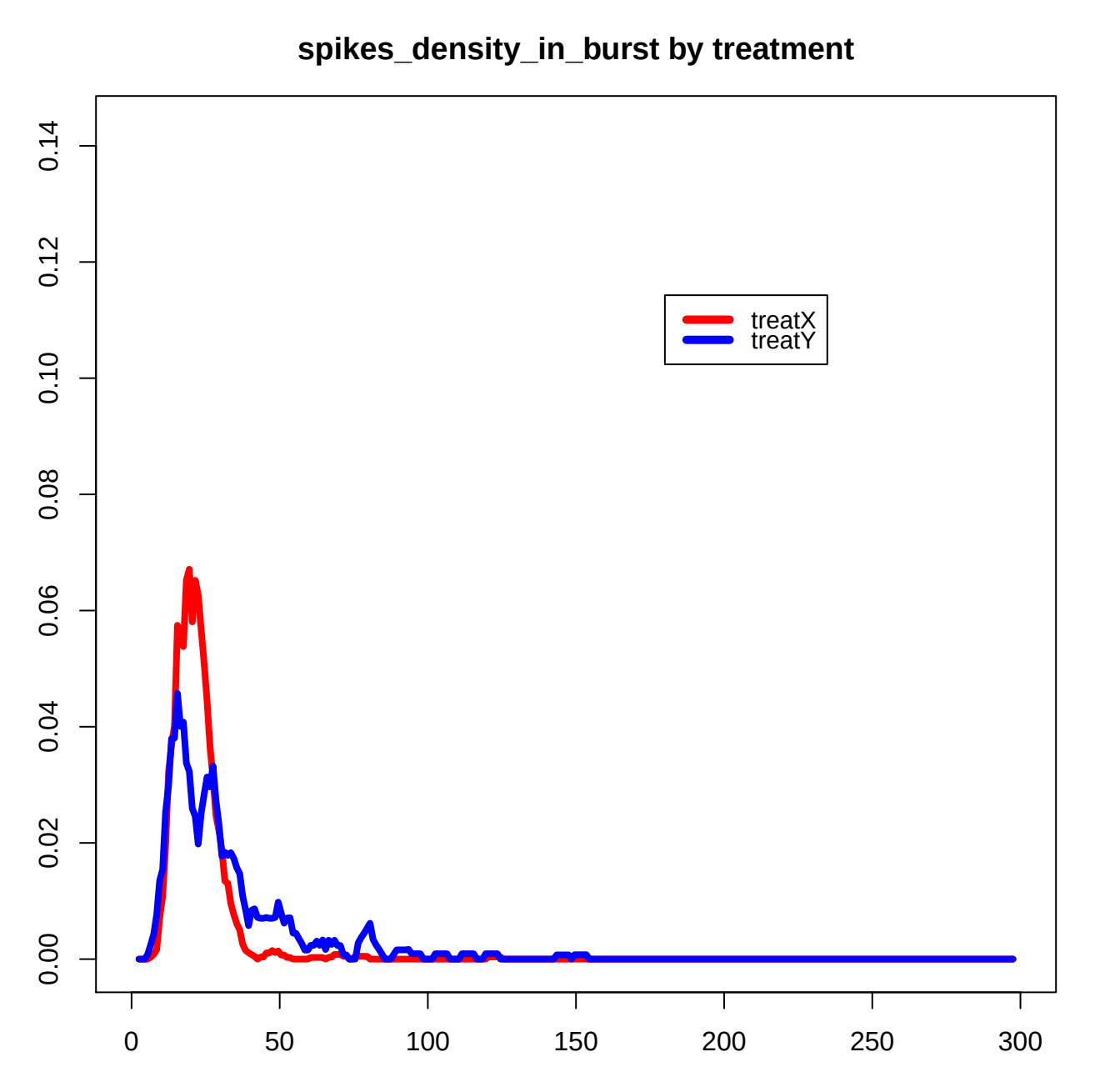


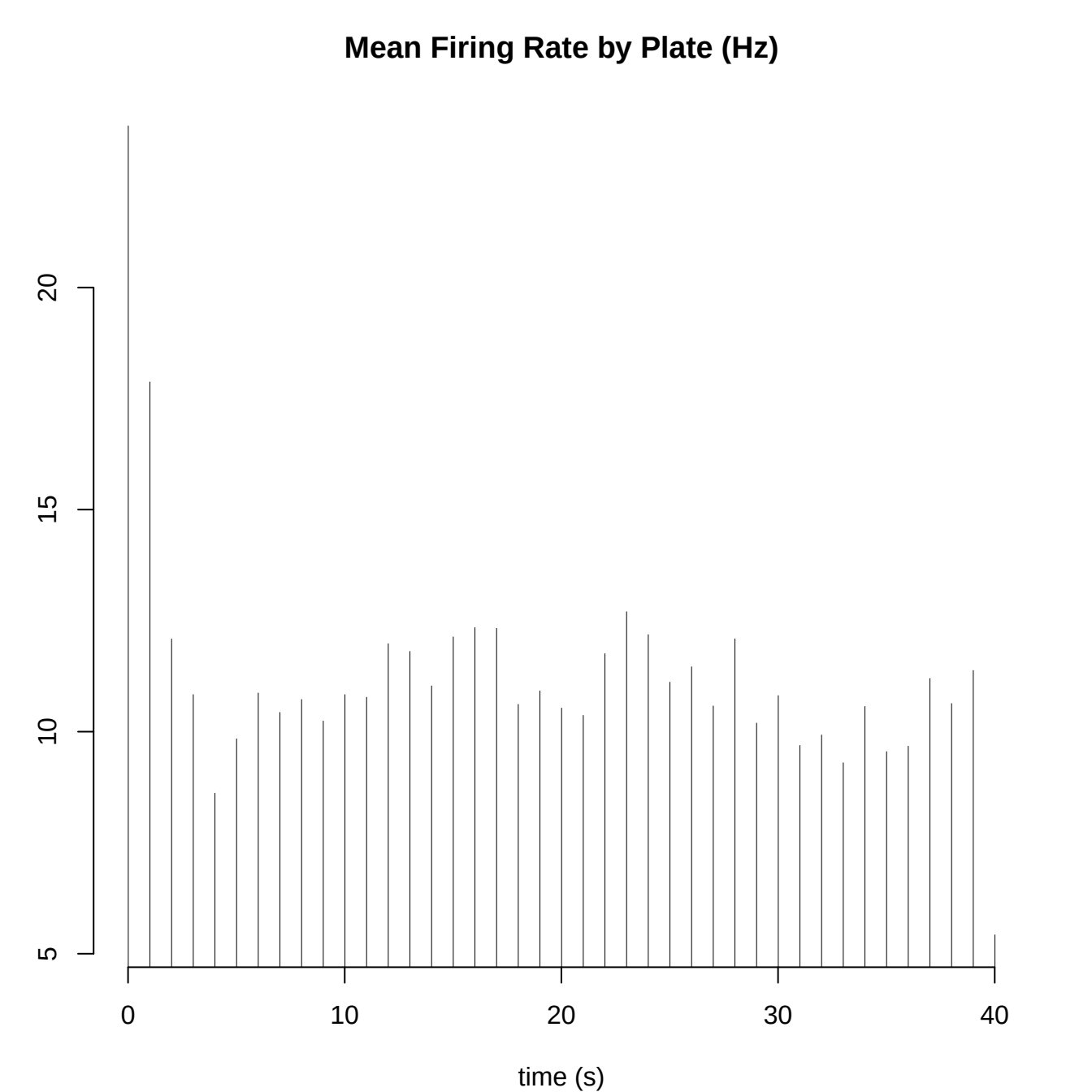
K−S test for treatX vs. untreated : 0.54, for: isi
K−S test for treatX vs. treatY : 0.96, for: isi
K−S test for untreated vs. treatY : 0.86, for: isi

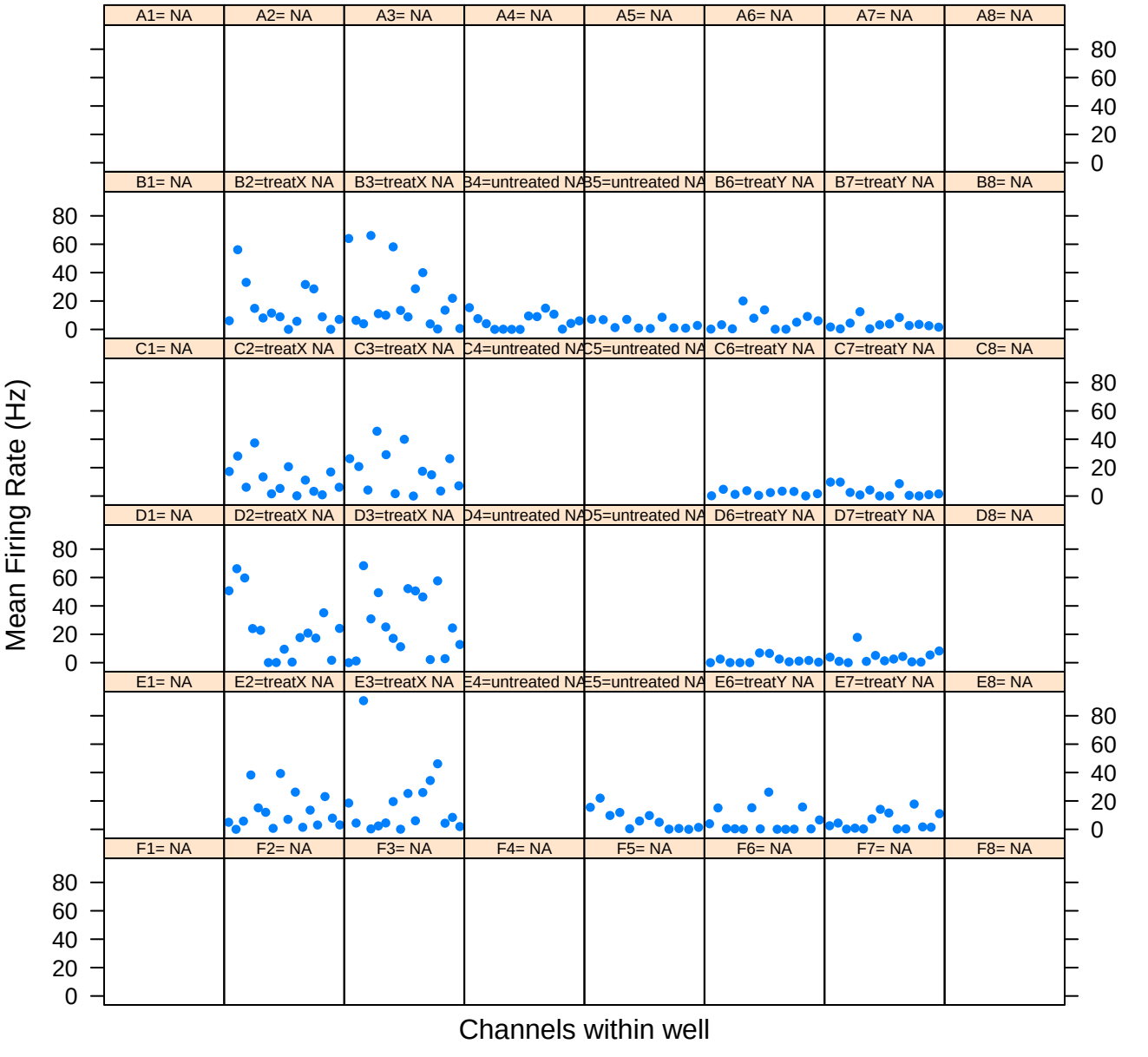


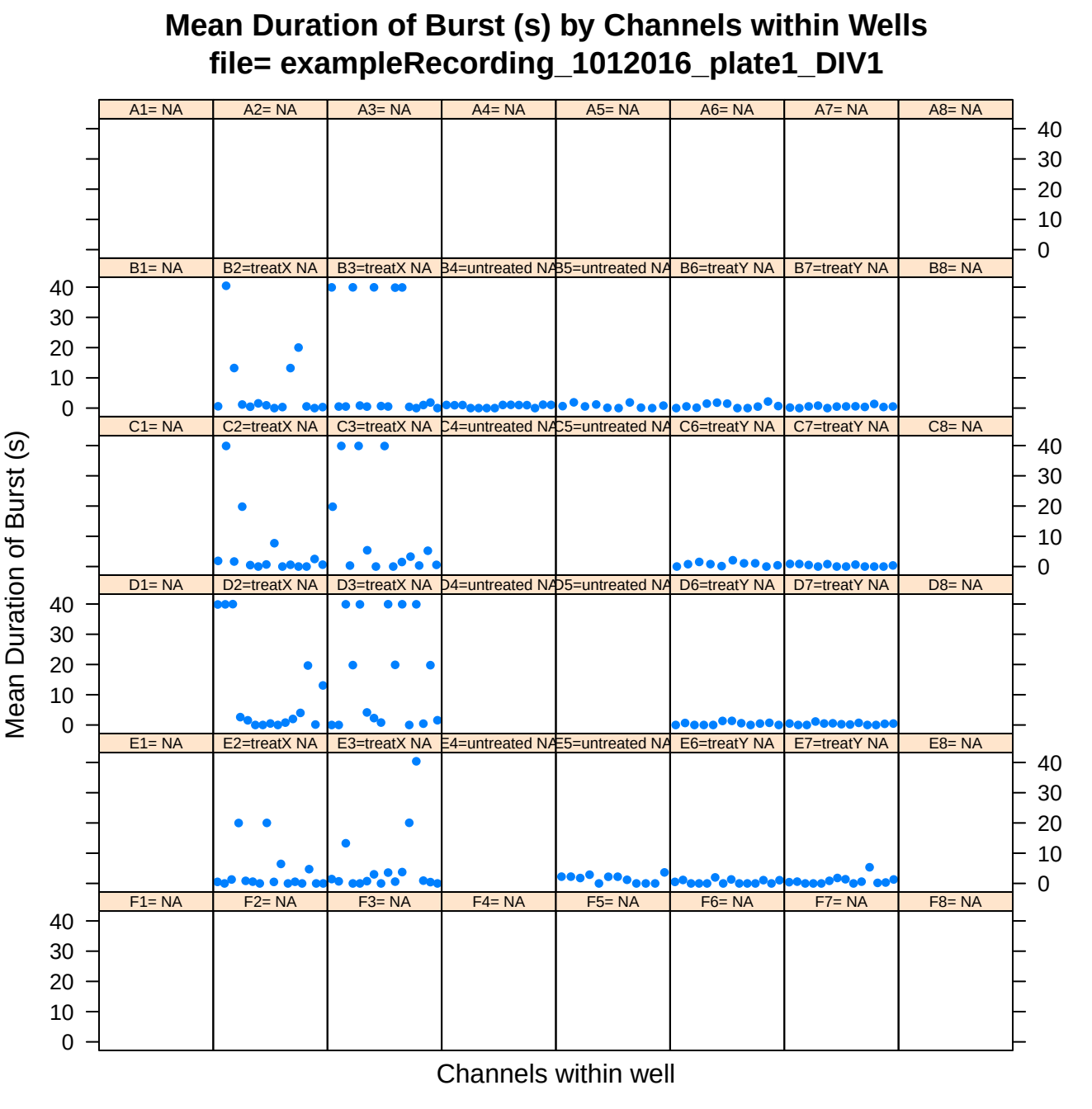
K−S test for treatX vs. untreated : 0.016, for: nspikes_in_burst
K−S test for treatX vs. treatY : 0.71, for: nspikes_in_burst
K−S test for untreated vs. treatY : 0.022, for: nspikes_in_burst

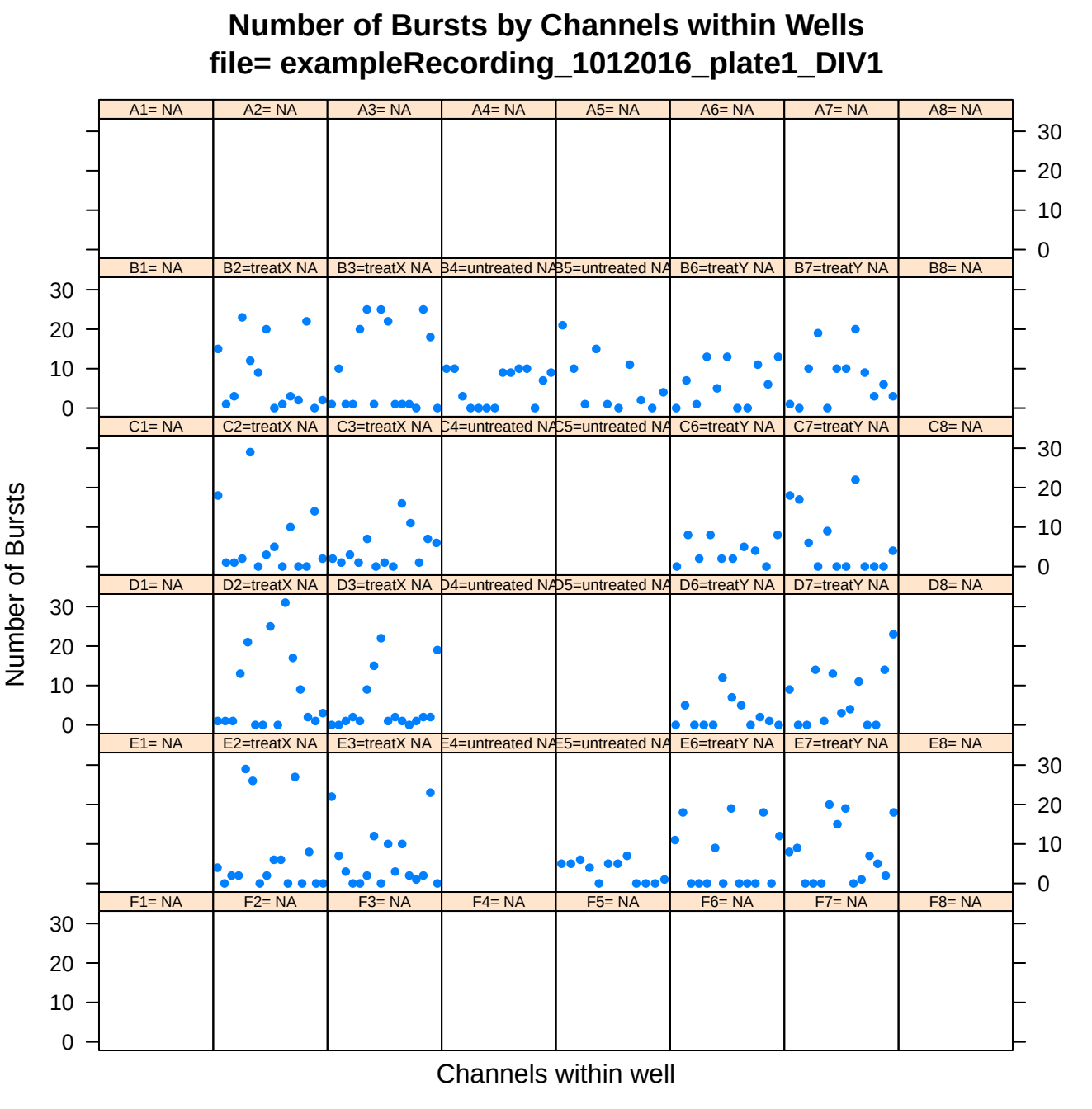

duration by treatment
treatX
treatY
0.0
0.1
0.2
0.3
0.4
0
5
10
15
K−S test for treatX vs. treatY : 0.87, for: duration

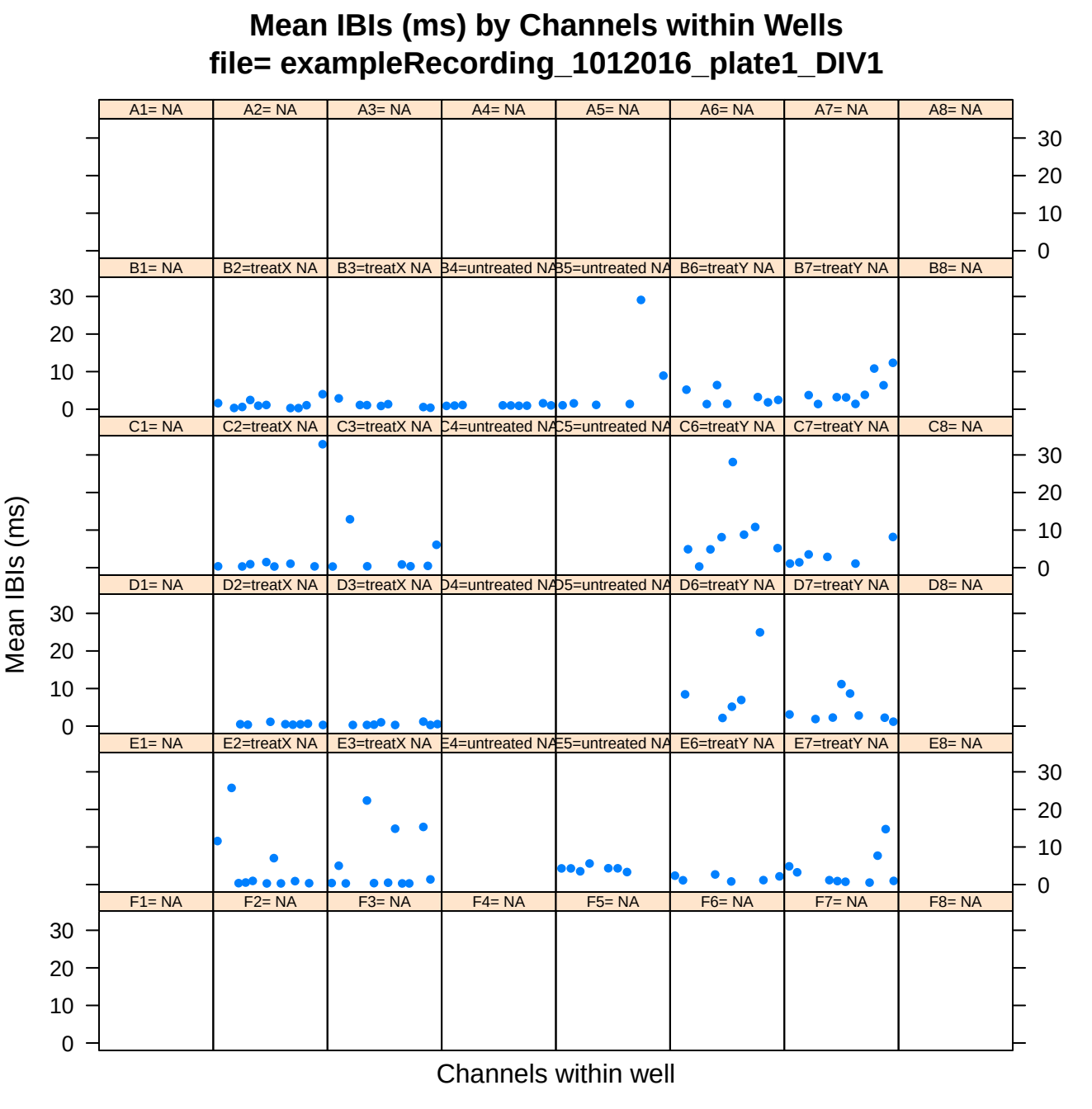

spikes_density_in_burst by treatment
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
50
100
150
200
250
300
treatX
treatY
K−S test for treatX vs. treatY : 0.016, for: spikes_density_in_burst

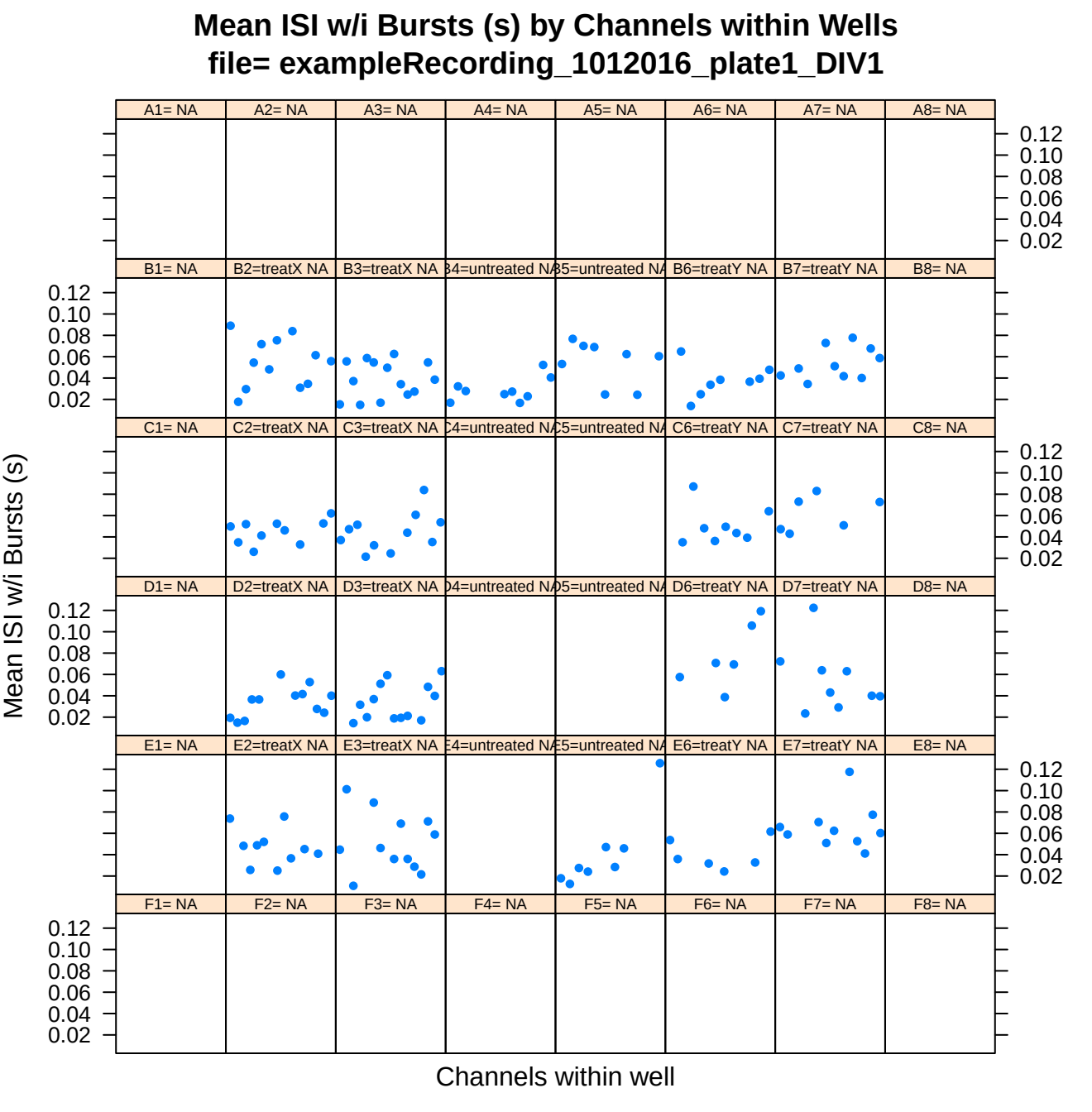

Mean Firing Rate by Plate (Hz)
5
10
15
20
0
10
20
30
40
time (s)

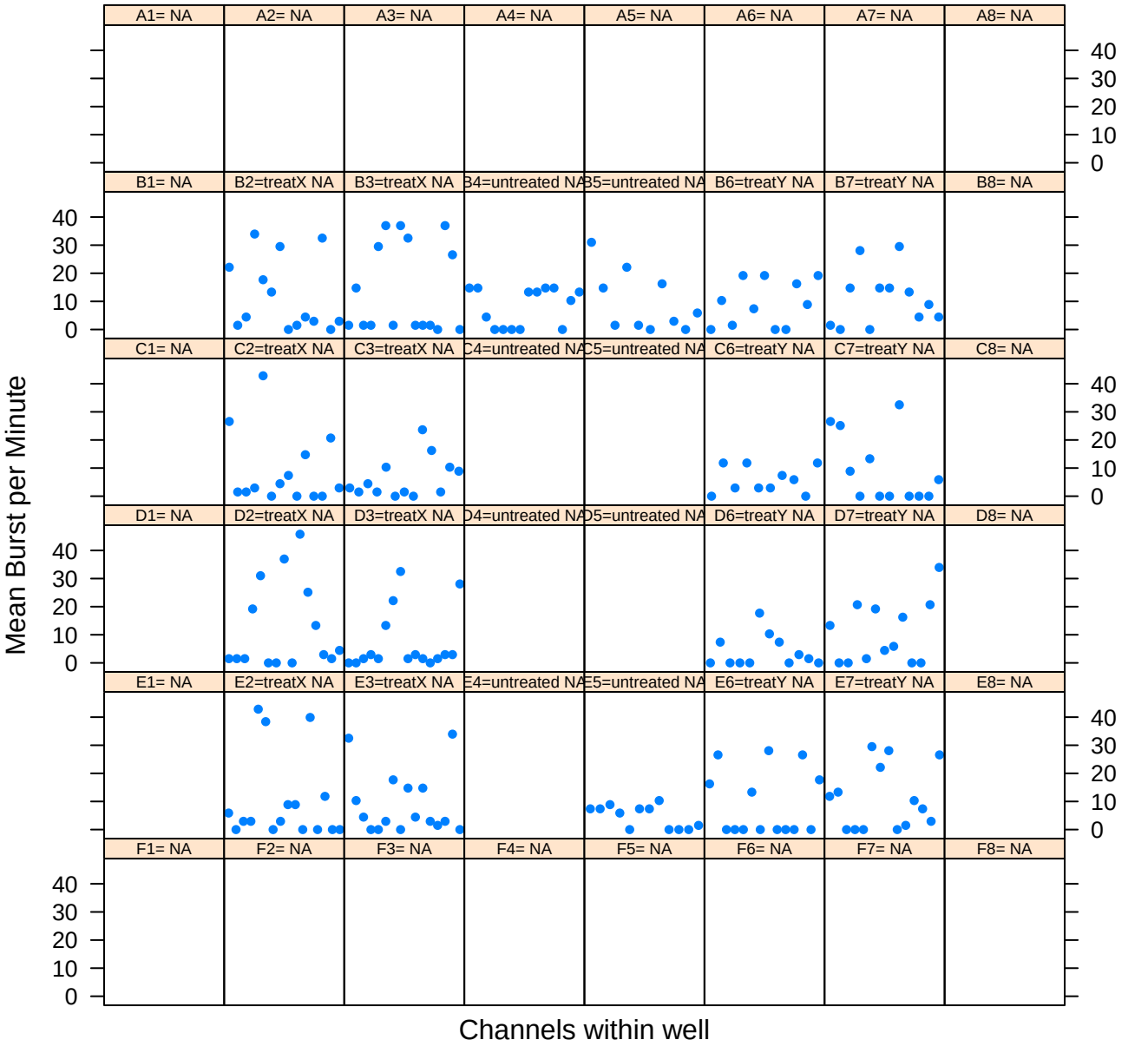

Mean Firing Rate (Hz) by Channels within Wells
file= exampleRecording_1012016_plate1_DIV1
A1= NA
A2= NA
A3= NA
A4= NA
A5= NA
A6= NA
A7= NA
A8= NA
B1= NA
B2=treatX NA
B3=treatX NA
B4=untreated NA
B5=untreated NA
B6=treatY NA
B7=treatY NA
B8= NA
C1= NA
C2=treatX NA
C3=treatX NA
C4=untreated NA
C5=untreated NA
C6=treatY NA
C7=treatY NA
C8= NA
D1= NA
D2=treatX NA
D3=treatX NA
D4=untreated NA
D5=untreated NA
D6=treatY NA
D7=treatY NA
D8= NA
E1= NA
E2=treatX NA
E3=treatX NA
E4=untreated NA
E5=untreated NA
E6=treatY NA
E7=treatY NA
E8= NA
F1= NA
F2= NA
F3= NA
F4= NA
F5= NA
F6= NA
F7= NA
F8= NA
0
20
40
60
80
Mean Firing Rate (Hz)
Channels within well

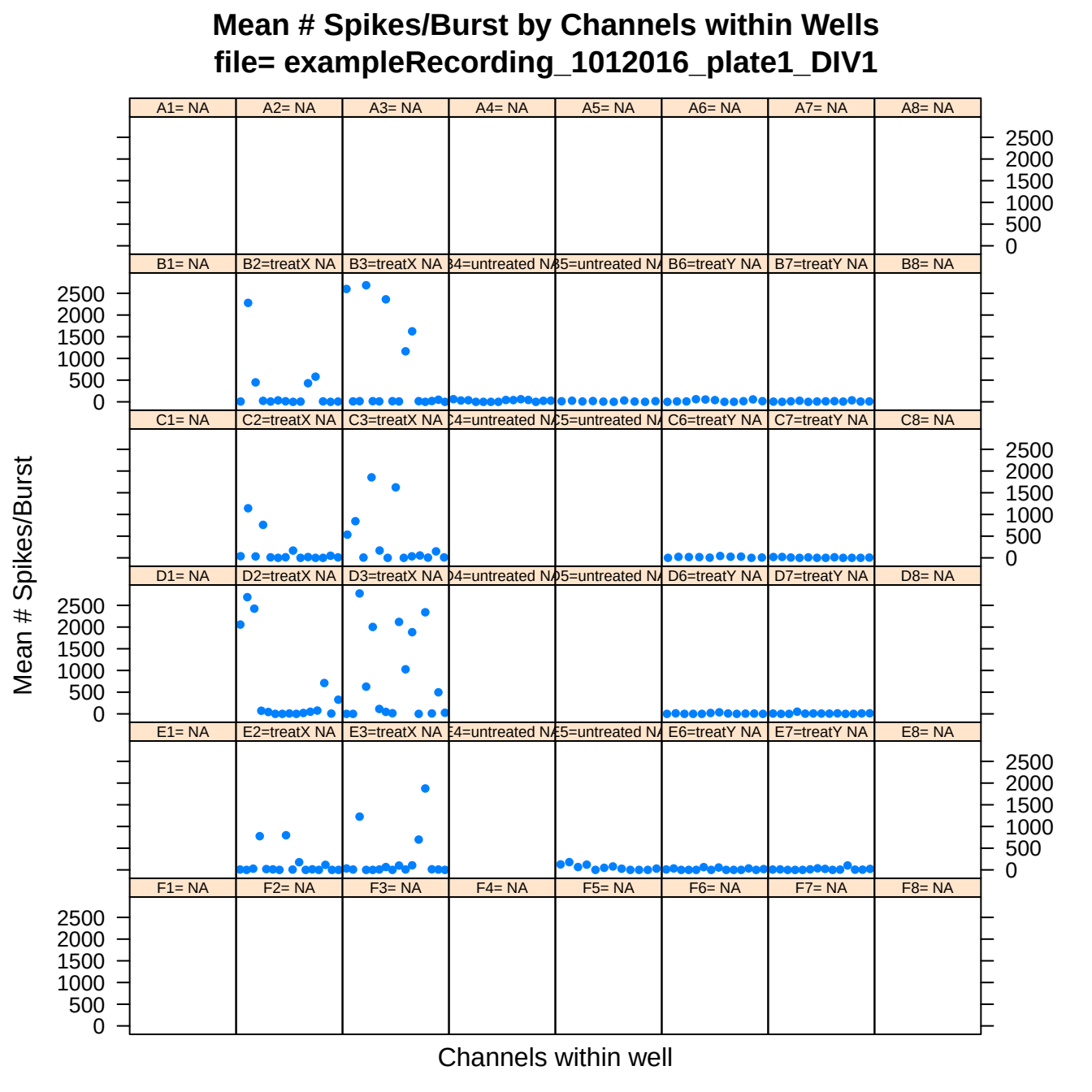

Mean Duration of Burst (s) by Channels within Wells
file= exampleRecording_1012016_plate1_DIV1
A1= NA
A2= NA
A3= NA
A4= NA
A5= NA
A6= NA
A7= NA
A8= NA
B1= NA
B2=treatX NA
B3=treatX NA
B4=untreated NA
B5=untreated NA
B6=treatY NA
B7=treatY NA
B8= NA
C1= NA
C2=treatX NA
C3=treatX NA
C4=untreated NA
C5=untreated NA
C6=treatY NA
C7=treatY NA
C8= NA
D1= NA
D2=treatX NA
D3=treatX NA
D4=untreated NA
D5=untreated NA
D6=treatY NA
D7=treatY NA
D8= NA
E1= NA
E2=treatX NA
E3=treatX NA
E4=untreated NA
E5=untreated NA
E6=treatY NA
E7=treatY NA
E8= NA
F1= NA
F2= NA
F3= NA
F4= NA
F5= NA
F6= NA
F7= NA
F8= NA
0
10
20
30
40
Mean Duration of Burst (s)
Channels within well

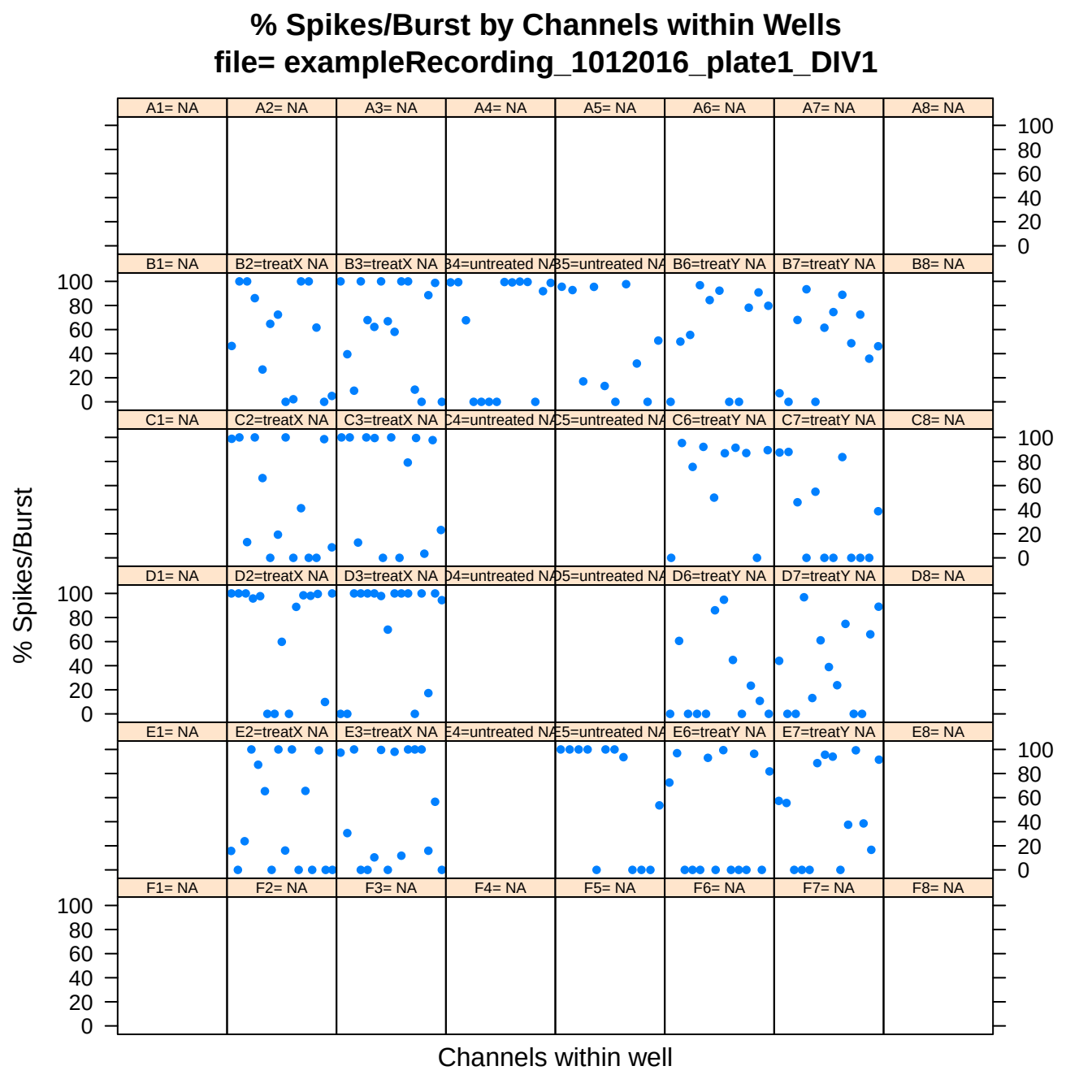

Number of Bursts by Channels within Wells
file= exampleRecording_1012016_plate1_DIV1
A1= NA
A2= NA
A3= NA
A4= NA
A5= NA
A6= NA
A7= NA
A8= NA
B1= NA
B2=treatX NA
B3=treatX NA
B4=untreated NA
B5=untreated NA
B6=treatY NA
B7=treatY NA
B8= NA
C1= NA
C2=treatX NA
C3=treatX NA
C4=untreated NA
C5=untreated NA
C6=treatY NA
C7=treatY NA
C8= NA
D1= NA
D2=treatX NA
D3=treatX NA
D4=untreated NA
D5=untreated NA
D6=treatY NA
D7=treatY NA
D8= NA
E1= NA
E2=treatX NA
E3=treatX NA
E4=untreated NA
E5=untreated NA
E6=treatY NA
E7=treatY NA
E8= NA
F1= NA
F2= NA
F3= NA
F4= NA
F5= NA
F6= NA
F7= NA
F8= NA
0
10
20
30
Number of Bursts
Channels within well


Mean IBIs (ms) by Channels within Wells
file= exampleRecording_1012016_plate1_DIV1
A1= NA
A2= NA
A3= NA
A4= NA
A5= NA
A6= NA
A7= NA
A8= NA
B1= NA
B2=treatX NA
B3=treatX NA
B4=untreated NA
B5=untreated NA
B6=treatY NA
B7=treatY NA
B8= NA
C1= NA
C2=treatX NA
C3=treatX NA
C4=untreated NA
C5=untreated NA
C6=treatY NA
C7=treatY NA
C8= NA
D1= NA
D2=treatX NA
D3=treatX NA
D4=untreated NA
D5=untreated NA
D6=treatY NA
D7=treatY NA
D8= NA
E1= NA
E2=treatX NA
E3=treatX NA
E4=untreated NA
E5=untreated NA
E6=treatY NA
E7=treatY NA
E8= NA
F1= NA
F2= NA
F3= NA
F4= NA
F5= NA
F6= NA
F7= NA
F8= NA
0
10
20
30
Mean IBIs (ms)
Channels within well


Mean ISI w/i Bursts (s) by Channels within Wells
file= exampleRecording_1012016_plate1_DIV1
A1= NA
A2= NA
A3= NA
A4= NA
A5= NA
A6= NA
A7= NA
A8= NA
B1= NA
B2=treatX NA
B3=treatX NA
B4=untreated NA
B5=untreated NA
B6=treatY NA
B7=treatY NA
B8= NA
C1= NA
C2=treatX NA
C3=treatX NA
C4=untreated NA
C5=untreated NA
C6=treatY NA
C7=treatY NA
C8= NA
D1= NA
D2=treatX NA
D3=treatX NA
D4=untreated NA
D5=untreated NA
D6=treatY NA
D7=treatY NA
D8= NA
E1= NA
E2=treatX NA
E3=treatX NA
E4=untreated NA
E5=untreated NA
E6=treatY NA
E7=treatY NA
E8= NA
F1= NA
F2= NA
F3= NA
F4= NA
F5= NA
F6= NA
F7= NA
F8= NA
0.12
0.10
0.08
0.06
0.04
0.02
Mean ISI w/i Bursts (s)
Channels within well


Mean Burst per Minute by Channels within Wells
file= exampleRecording_1012016_plate1_DIV1
A1= NA
A2= NA
A3= NA
A4= NA
A5= NA
A6= NA
A7= NA
A8= NA
B1= NA
B2=treatX NA
B3=treatX NA
B4=untreated NA
B5=untreated NA
B6=treatY NA
B7=treatY NA
B8= NA
C1= NA
C2=treatX NA
C3=treatX NA
C4=untreated NA
C5=untreated NA
C6=treatY NA
C7=treatY NA
C8= NA
D1= NA
D2=treatX NA
D3=treatX NA
D4=untreated NA
D5=untreated NA
D6=treatY NA
D7=treatY NA
D8= NA
E1= NA
E2=treatX NA
E3=treatX NA
E4=untreated NA
E5=untreated NA
E6=treatY NA
E7=treatY NA
E8= NA
F1= NA
F2= NA
F3= NA
F4= NA
F5= NA
F6= NA
F7= NA
F8= NA
0
10
20
30
40
Mean Burst per Minute
Channels within well


Mean # Spikes/Burst by Channels within Wells
file= exampleRecording_1012016_plate1_DIV1
A1= NA
A2= NA
A3= NA
A4= NA
A5= NA
A6= NA
A7= NA
A8= NA
B1= NA
B2=treatX NA
B3=treatX NA
B4=untreated NA
B5=untreated NA
B6=treatY NA
B7=treatY NA
B8= NA
C1= NA
C2=treatX NA
C3=treatX NA
C4=untreated NA
C5=untreated NA
C6=treatY NA
C7=treatY NA
C8= NA
D1= NA
D2=treatX NA
D3=treatX NA
D4=untreated NA
D5=untreated NA
D6=treatY NA
D7=treatY NA
D8= NA
E1= NA
E2=treatX NA
E3=treatX NA
E4=untreated NA
E5=untreated NA
E6=treatY NA
E7=treatY NA
E8= NA
F1= NA
F2= NA
F3= NA
F4= NA
F5= NA
F6= NA
F7= NA
F8= NA
0
500
1000
1500
2000
2500
Mean # Spikes/Burst
Channels within well


% Spikes/Burst by Channels within Wells
file= exampleRecording_1012016_plate1_DIV1
A1= NA
A2= NA
A3= NA
A4= NA
A5= NA
A6= NA
A7= NA
A8= NA
B1= NA
B2=treatX NA
B3=treatX NA
B4=untreated NA
B5=untreated NA
B6=treatY NA
B7=treatY NA
B8= NA
C1= NA
C2=treatX NA
C3=treatX NA
C4=untreated NA
C5=untreated NA
C6=treatY NA
C7=treatY NA
C8= NA
D1= NA
D2=treatX NA
D3=treatX NA
D4=untreated NA
D5=untreated NA
D6=treatY NA
D7=treatY NA
D8= NA
E1= NA
E2=treatX NA
E3=treatX NA
E4=untreated NA
E5=untreated NA
E6=treatY NA
E7=treatY NA
E8= NA
F1= NA
F2= NA
F3= NA
F4= NA
F5= NA
F6= NA
F7= NA
F8= NA
0
20
40
60
80
100
% Spikes/Burst
Channels within well