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Computational Medicine, Dept. of Medical Sciences
Signals & Systems, Dept. of Electrical Engineering
Uppsala University, March 2020
----- COMBO-M Initiated
Select mode for COMBO-M:
1. Intra-Plate Analysis
2. Inter-Plate Analysis
1
---- Intra-Plate Analysis ---
Choose feature extraction method:
1. Multi Resolution Histograms
2. Local Binary Patterns
3. Multi Resolution Local Binary Patterns
4. Local Eigenfilters
1
Video Collection folder: F:\CUSP9A\Mendeley\5-8\9094
Backup exists...
COMBO-Pick Specification: F:\CUSP9A\Mendeley\M059K 190429 9094.xlsx
Mode for COMBO-M: Analysis...
Image Quality Control already performed...
Enter hours after drug addition for the 1st recorded time point/frame:
0
Enter probability of false alarm (%) for the NHST:
5
Blank wells not included in the video collection folder ...
------ AQDTEM (PHHC) Run: 1 of 4 (Parameter Pair: r = 0.250000, b = 0.125000) ✓
Started -----
Starting parallel pool (parpool) using the 'local' profile ...
Connected to the parallel pool (number of workers: 4).
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Extraction of hierarchical histograms started...

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Parallel mapreduce execution on the parallel pool:
*********
     MAPREDUCE PROGRESS
********
   0% Reduce
Map
Map 1% Reduce 0%
Map 2% Reduce
Map 3% Reduce 0%
Map 4% Reduce 0%
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Map 38% Reduce
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Map 39% Reduce 0%
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Map	40%	Reduce	0%
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Map	67%	Reduce	0%
Map	68%	Reduce	0%
Map	69 %	Reduce	0%
Map	70%	Reduce	0%
Map	71%	Reduce	0%
Map	72 %	Reduce	0%
Map	73%	Reduce	0%
Map	74 %		0%
Map	75 %	Reduce	0%
Map	76 %	Reduce	0%
Map	77 %	Reduce	0%
Map	78 %	Reduce	0%
Map	79 %	Reduce	0%
Map	80%	Reduce	0%
Map	81%	Reduce	0%
Map	82 %	Reduce	0%
Map	83%	Reduce	0%
Map	84%	Reduce	0%
Map	85%	Reduce	0%
Map	86%	Reduce	0%
Map	87%	Reduce	0%
Map	888	Reduce	0%
Map	89%	Reduce	0%

```
Map 90% Reduce
                0 %
Map 91% Reduce 0%
Map 92% Reduce 0%
Map 93% Reduce 0%
Map 94% Reduce 0%
Map 95% Reduce 0%
Map 96% Reduce 0%
Map 97% Reduce 0%
Map 98% Reduce 0%
Map 99% Reduce 0%
Map 100% Reduce
Map 100% Reduce 100%
Extraction of hierarchical histograms completed...
Time elapsed for processing of wells: 0.00 (hrs) 2.00 (min) 11.99 (sec)
Parallel pool using the 'local' profile is shutting down.
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 3.0551e+00
Total number of morphologically interesting wells found: 184
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t1 - t22: 184
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 2.9269e+00
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Total number of morphologically interesting wells found: 184
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t2 - t22: 184
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 2.6923e+00
Total number of morphologically interesting wells found: 190
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t3 - t22: 190
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 2.4391e+00
Total number of morphologically interesting wells found: 198
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t4 - t22: 198
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
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False Alarm Threshold: 2.1503e+00

Total number of morphologically interesting wells found: 214 Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt t5 - t22: 214 Detection of false alarm threshold in process ... Detection of false alarm completed ... False Alarm Threshold: 2.0102e+00 Total number of morphologically interesting wells found: 217 _____ Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt t6 - t22: 217 Detection of false alarm threshold in process ... Detection of false alarm completed ... False Alarm Threshold: 1.9246e+00 Total number of morphologically interesting wells found: 215 Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt t7 - t22: 215

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Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.8432e+00
Total number of morphologically interesting wells found: 213
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t8 - t22: 213
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.7792e+00
Total number of morphologically interesting wells found: 211
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t9 - t22: 211
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.6636e+00
Total number of morphologically interesting wells found: 212
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
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t10 - t22: 212
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.5911e+00
Total number of morphologically interesting wells found: 207
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t11 - t22: 207
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.4867e+00
Total number of morphologically interesting wells found: 203
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t12 - t22: 203
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.3539e+00
Total number of morphologically interesting wells found: 205
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______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t13 - t22: 205
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.2284e+00
Total number of morphologically interesting wells found: 202
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t14 - t22: 202
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.1178e+00
Total number of morphologically interesting wells found: 196
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t15 - t22: 196
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.0240e+00
```

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Total number of morphologically interesting wells found: 190
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t16 - t22: 190
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 9.2313e-01
Total number of morphologically interesting wells found: 188
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t17 - t22: 188
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 8.8296e-01
Total number of morphologically interesting wells found: 166
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t18 - t22: 166
Detection of false alarm threshold in process ...
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Detection of false alarm completed ...
False Alarm Threshold: 7.5869e-01
Total number of morphologically interesting wells found: 161
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t19 - t22: 161
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 6.8734e-01
Total number of morphologically interesting wells found: 147
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t20 - t22: 147
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 4.7020e-01
Total number of morphologically interesting wells found: 149
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t21 - t22: 149
```

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Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 2.1880e-01
Total number of morphologically interesting wells found: 159
-----
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t22 - t22: 159
----- AQDTEM (PHHC) Run: 1 of 4 (Parameter Pair: r = 0.2500, b = 0.1250) ✓
Completed -----
----- AQDTEM (PHHC) Run: 2 of 4 (Parameter Pair: r = 0.250000, b = 0.500000) ✓
Started -----
Starting parallel pool (parpool) using the 'local' profile ...
Connected to the parallel pool (number of workers: 4).
Extraction of hierarchical histograms started...
Parallel mapreduce execution on the parallel pool:
********
     MAPREDUCE PROGRESS
********
Map 0% Reduce 0%
Map 1% Reduce 0%
   2% Reduce 0%
Map
Map 3% Reduce 0%
Map 4% Reduce 0%
Map 5% Reduce 0%
Map 6% Reduce 0%
Map 7% Reduce 0%
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Map 99% Reduce
              0%
Map 100% Reduce
Map 100% Reduce 100%
```

Extraction of hierarchical histograms completed...

Time elapsed for processing of wells: 0.00 (hrs) 3.00 (min) 28.37 (sec)

```
Parallel pool using the 'local' profile is shutting down.
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.4560e+01
Total number of morphologically interesting wells found: 94
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t1 - t22: 94
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.3772e+01
Total number of morphologically interesting wells found: 105
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t2 - t22: 105
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.2314e+01
Total number of morphologically interesting wells found: 132
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```

```
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t3 - t22: 132
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.1527e+01
Total number of morphologically interesting wells found: 138
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t4 - t22: 138
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.1020e+01
Total number of morphologically interesting wells found: 134
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t5 - t22: 134
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.0775e+01
```

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Total number of morphologically interesting wells found: 130
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t6 - t22: 130
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.0306e+01
Total number of morphologically interesting wells found: 122
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t7 - t22: 122
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 9.8624e+00
Total number of morphologically interesting wells found: 124
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t8 - t22: 124
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
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False Alarm Threshold: 9.4941e+00
Total number of morphologically interesting wells found: 115
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t9 - t22: 115
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 9.1865e+00
Total number of morphologically interesting wells found: 104
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t10 - t22: 104
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 8.2071e+00
Total number of morphologically interesting wells found: 113
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t11 - t22: 113
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Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 7.4844e+00
Total number of morphologically interesting wells found: 135
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t12 - t22: 135
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 6.9378e+00
Total number of morphologically interesting wells found: 130
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t13 - t22: 130
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 6.3146e+00
Total number of morphologically interesting wells found: 129
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
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t14 - t22: 129
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 5.8232e+00
Total number of morphologically interesting wells found: 112
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t15 - t22: 112
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 5.5645e+00
Total number of morphologically interesting wells found: 83
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t16 - t22: 83
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 4.5366e+00
Total number of morphologically interesting wells found: 108
```

```
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t17 - t22: 108
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 3.9852e+00
Total number of morphologically interesting wells found: 88
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t18 - t22: 88
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 3.0079e+00
Total number of morphologically interesting wells found: 121
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t19 - t22: 121
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 2.5111e+00
```

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Total number of morphologically interesting wells found: 76
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t20 - t22: 76
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.9114e+00
Total number of morphologically interesting wells found: 44
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t21 - t22: 44
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.1532e+00
Total number of morphologically interesting wells found: 26
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t22 - t22: 26
----- AQDTEM (PHHC) Run: 2 of 4 (Parameter Pair: r = 0.2500, b = 0.5000) ✓
```

Map 31% Reduce 0%

```
Completed -----
----- AQDTEM (PHHC) Run: 3 of 4 (Parameter Pair: r = 0.500000, b = 0.125000) ✓
Started -----
Starting parallel pool (parpool) using the 'local' profile ...
Connected to the parallel pool (number of workers: 4).
Extraction of hierarchical histograms started...
Parallel mapreduce execution on the parallel pool:
********
     MAPREDUCE PROGRESS
********
   0% Reduce
Map
             0%
Map 1% Reduce 0%
Map 2% Reduce 0%
Map 3% Reduce 0%
Map 4% Reduce 0%
Map 5% Reduce 0%
Map 6% Reduce 0%
Map 7% Reduce 0%
Map 8% Reduce 0%
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Map	32%	Reduce	0%
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Map	39%	Reduce	0%
Map	40%	Reduce	0%
Map	41 %	Reduce	0%
Map	42%	Reduce	0 %
Map	43%	Reduce	0 %
Map	44%	Reduce	0%
Map	45 %	Reduce	0%
Map	46%	Reduce	0%
Map	47 %	Reduce	0%
Map	48%	Reduce	0%
Map	49%	Reduce	0%
Map	50%	Reduce	0%
Map	51 %	Reduce	0%
Map	52 %	Reduce	0%
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Map	56%	Reduce	0 %
Map	57 %	Reduce	0 %
Map	58%	Reduce	0%
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Map	61 %	Reduce	0%
Map	62 %	Reduce	0%
Map	63%	Reduce	0%
Map	64%	Reduce	0%
Map	65 %	Reduce	0%
Map	66%	Reduce	0%
Map	67 %	Reduce	0%
Map	68%		0%
Map	69%	Reduce	0%
Map	70%	Reduce	0%
Map	71 %	Reduce	0%
Map	72 %	Reduce	0%
Map	73%	Reduce	0 %
Map	74 %		0%
Map	75%	Reduce	0%
Map	76 %		0%
Map	77 %	Reduce	0%
Map	78 %	Reduce	0%
Map	79%		0%
Map	80%		0%
Map	81%	Reduce	0%

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Map 82% Reduce
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Map 98% Reduce
               0%
Map 99% Reduce 0%
Map 100% Reduce
Map 100% Reduce 100%
Extraction of hierarchical histograms completed...
 Time elapsed for processing of wells: 0.00 (hrs) 2.00 (min) 25.29 (sec)
Parallel pool using the 'local' profile is shutting down.
Detection of false alarm threshold in process ...
 Detection of false alarm completed ...
 False Alarm Threshold: 1.4395e+00
Total number of morphologically interesting wells found: 230
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t1 - t22: 230
```

```
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.4146e+00
Total number of morphologically interesting wells found: 230
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t2 - t22: 230
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.3772e+00
Total number of morphologically interesting wells found: 227
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t3 - t22: 227
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.3347e+00
Total number of morphologically interesting wells found: 227
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
```

```
t4 - t22: 227
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.2763e+00
Total number of morphologically interesting wells found: 228
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t5 - t22: 228
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.2420e+00
Total number of morphologically interesting wells found: 225
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t6 - t22: 225
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.2032e+00
Total number of morphologically interesting wells found: 225
```

```
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t7 - t22: 225
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.1039e+00
Total number of morphologically interesting wells found: 226
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t8 - t22: 226
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.0600e+00
Total number of morphologically interesting wells found: 220
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t9 - t22: 220
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 9.9499e-01
```

```
Total number of morphologically interesting wells found: 219
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t10 - t22: 219
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 9.2143e-01
Total number of morphologically interesting wells found: 223
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t11 - t22: 223
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 8.3897e-01
Total number of morphologically interesting wells found: 224
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t12 - t22: 224
Detection of false alarm threshold in process ...
```

```
Detection of false alarm completed ...
False Alarm Threshold: 7.6858e-01
Total number of morphologically interesting wells found: 225
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t13 - t22: 225
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 7.0787e-01
Total number of morphologically interesting wells found: 225
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t14 - t22: 225
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 6.2130e-01
Total number of morphologically interesting wells found: 224
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t15 - t22: 224
```

```
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 5.4236e-01
Total number of morphologically interesting wells found: 225
-----
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t16 - t22: 225
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 4.8544e-01
Total number of morphologically interesting wells found: 223
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t17 - t22: 223
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 3.8630e-01
Total number of morphologically interesting wells found: 225
```

```
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t18 - t22: 225
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 3.1990e-01
Total number of morphologically interesting wells found: 226
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t19 - t22: 226
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 2.3744e-01
Total number of morphologically interesting wells found: 230
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t20 - t22: 230
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.4635e-01
```

```
Total number of morphologically interesting wells found: 237
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t21 - t22: 237
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 7.8442e-02
Total number of morphologically interesting wells found: 238
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t22 - t22: 238
----- AQDTEM (PHHC) Run: 3 of 4 (Parameter Pair: r = 0.5000, b = 0.1250) ✓
Completed -----
------ AQDTEM (PHHC) Run: 4 of 4 (Parameter Pair: r = 0.500000, b = 0.500000) ✓
Started -----
Starting parallel pool (parpool) using the 'local' profile ...
Connected to the parallel pool (number of workers: 4).
Extraction of hierarchical histograms started...
Parallel mapreduce execution on the parallel pool:
********
     MAPREDUCE PROGRESS
********
Map 0% Reduce 0%
Map 1% Reduce 0%
Map 2% Reduce 0%
```

Map	3%	Reduce	0%
Map	4 %	Reduce	0%
Map	5 %	Reduce	0%
Map	6 %	Reduce	0%
Map	7%	Reduce	0%
Map	8%	Reduce	0%
Map	9%	Reduce	0%
Map	10%	Reduce	0%
Map	11%	Reduce	0%
Map	12%	Reduce	0%
Map	13%	Reduce	0%
Map	14%	Reduce	0%
Map	15 %	Reduce	0%
Map	16%	Reduce	0%
Map	17 %	Reduce	0%
Map	18%	Reduce	0%
Map	19%	Reduce	0%
Map	20%	Reduce	0%
Map	21%	Reduce	0%
Map	22%	Reduce	0%
Map	23%	Reduce	0%
Map	24%	Reduce	0%
Map	25%	Reduce	0%
Map	26%	Reduce	0%
Map	27%	Reduce	0%
Map	28%	Reduce	0%
Map	29%	Reduce	0%
Map	30%	Reduce	0%
Map	31%	Reduce	0%
Map	32%	Reduce	0%
Map	33%	Reduce	0%
Map	34%	Reduce	0%
Map	35%	Reduce	0%
Map	36%	Reduce	0%
Map	37%	Reduce	0%
Map	38%	Reduce	0%
Map	39%	Reduce	0%
Map	40%	Reduce	0%
Map	41%	Reduce	0%
Map	42%	Reduce	0%
Map	43%	Reduce	0%
Map	44%	Reduce	0%
Map	45 %	Reduce	0%
Map	46%	Reduce	0%
Map	47 %	Reduce	0%
Map	48%	Reduce	0%
Map	49%	Reduce	0%
Map	50%	Reduce	0%
Map	51 %	Reduce	0%
Map	52 %	Reduce	0%

Map	53 %	Reduce	0 %
Map	54 %	Reduce	0%
Map	55%	Reduce	0%
Map	56%	Reduce	0%
Map	57 %	Reduce	0%
Map	58 %	Reduce	0%
Map	59 %	Reduce	0%
Map	60%	Reduce	0%
Map	61 %	Reduce	0%
Map	62 %	Reduce	0 %
Map	63%	Reduce	0%
Map	64 %	Reduce	0 %
Map	65 %	Reduce	0%
Map	66%	Reduce	0%
Map	67 %	Reduce	0%
Map	68%	Reduce	0%
Map	69 %	Reduce	0%
Map	70%	Reduce	0%
Map	71%	Reduce	0%
Map	72 %	Reduce	0%
Map	73 %	Reduce	0%
Map	74 %	Reduce	0%
Map	75%	Reduce	0%
Map	76%	Reduce	0%
Map	77%	Reduce	0%
Map	78%	Reduce	0%
Map	79 %	Reduce	0%
Map	80%	Reduce	0%
Map	81%	Reduce	0%
Map	82 %	Reduce	0 %
Map	83%	Reduce	0 %
Map	84 %	Reduce	0 %
Map	85 %	Reduce	0 %
Map	86%	Reduce	0 %
Map	87 %	Reduce	0 %
Map	888	Reduce	0 %
Map	89%	Reduce	0%
Map	90%	Reduce	0%
Map	91%	Reduce	0 %
Map	92 %	Reduce	0%
Map	93%	Reduce	0%
Map	94%	Reduce	0%
Map	95%	Reduce	0 %
Map	96%	Reduce	0%
Map	97%	Reduce	0%
Map	98%	Reduce	0%
Map	99%	Reduce	0%
Map	100%		0%
Map			100%
_			

```
Extraction of hierarchical histograms completed...
Time elapsed for processing of wells: 0.00 (hrs) 4.00 (min) 46.66 (sec)
Parallel pool using the 'local' profile is shutting down.
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 5.4311e+00
Total number of morphologically interesting wells found: 174
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t1 - t22: 174
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 5.2973e+00
Total number of morphologically interesting wells found: 171
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t2 - t22: 171
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
```

```
False Alarm Threshold: 5.0746e+00
Total number of morphologically interesting wells found: 166
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t3 - t22: 166
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 4.3988e+00
Total number of morphologically interesting wells found: 185
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t4 - t22: 185
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 4.0309e+00
Total number of morphologically interesting wells found: 191
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t5 - t22: 191
```

```
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 3.8238e+00
Total number of morphologically interesting wells found: 193
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t6 - t22: 193
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 3.6598e+00
Total number of morphologically interesting wells found: 190
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t7 - t22: 190
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 3.5012e+00
Total number of morphologically interesting wells found: 191
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
```

```
t8 - t22: 191
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 3.2401e+00
Total number of morphologically interesting wells found: 191
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t9 - t22: 191
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 3.0417e+00
Total number of morphologically interesting wells found: 192
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t10 - t22: 192
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 2.9151e+00
Total number of morphologically interesting wells found: 185
```

```
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t11 - t22: 185
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 2.6620e+00
Total number of morphologically interesting wells found: 187
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t12 - t22: 187
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 2.5386e+00
Total number of morphologically interesting wells found: 183
______
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t13 - t22: 183
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 2.2835e+00
```

```
Total number of morphologically interesting wells found: 185
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t14 - t22: 185
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 2.1064e+00
Total number of morphologically interesting wells found: 178
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t15 - t22: 178
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.8029e+00
Total number of morphologically interesting wells found: 187
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t16 - t22: 187
Detection of false alarm threshold in process ...
```

```
Detection of false alarm completed ...
False Alarm Threshold: 1.6193e+00
Total number of morphologically interesting wells found: 185
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t17 - t22: 185
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.4257e+00
Total number of morphologically interesting wells found: 178
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t18 - t22: 178
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 1.1952e+00
Total number of morphologically interesting wells found: 168
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
```

```
t19 - t22: 168
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 8.1425e-01
Total number of morphologically interesting wells found: 192
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t20 - t22: 192
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 6.2031e-01
Total number of morphologically interesting wells found: 178
_____
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t21 - t22: 178
Detection of false alarm threshold in process ...
Detection of false alarm completed ...
False Alarm Threshold: 3.2325e-01
Total number of morphologically interesting wells found: 183
-----
```

```
Saving results to directory: F:\CUSP9A\Mendeley\5-8\9094\Morphology\PHHC\txt
t22 - t22: 183
----- AQDTEM (PHHC) Run: 4 of 4 (Parameter Pair: r = 0.5000, b = 0.5000) ✓
Completed -----
 |---- Total Time elapsed for the AQDTEM: 0.00 (hrs) 14.00 (min) 56.17 (sec) -----|
----- Optimum Parameter Pair for [t1 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t2 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t3 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t4 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t5 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t6 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t7 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t8 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
```

```
----- Optimum Parameter Pair for [t9 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t10 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t11 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t12 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t13 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t14 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t15 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t16 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t17 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t18 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t19 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t20 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Optimum Parameter Pair for [t21 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
```

```
----- Optimum Parameter Pair for [t22 - t22]: -----
Run 3: (r, b) = (0.5000, 0.1250)
----- Run 1 ------
Retrieval of time evolving changes in cell culture morphology for untreated wells ✓
started...
Retrieval of time evolving changes in cell culture morphology for untreated wells ✓
completed...
Retrieval of time evolving changes in cell culture morphology for drug-treated wells 2
Retrieval of time evolving changes in cell culture morphology for durg-treated wells...
Generation of time evolving cell culture morphology curves started...
Generation of time evolving cell culture morphology curves completed ...
Generation of CSV file with time evolving changes in cell culture morphology started ...
Generation of CSV file with time evolving changes in cell culture morphology ✓
completed...
----- Run 2 -----
Retrieval of time evolving changes in cell culture morphology for untreated wells \( \sigma \)
started...
Retrieval of time evolving changes in cell culture morphology for untreated wells 2
completed...
Retrieval of time evolving changes in cell culture morphology for drug-treated wells 🗸
started...
Retrieval of time evolving changes in cell culture morphology for durg-treated wells...
Generation of time evolving cell culture morphology curves started...
Generation of time evolving cell culture morphology curves completed...
Generation of CSV file with time evolving changes in cell culture morphology started...
Generation of CSV file with time evolving changes in cell culture morphology ✓
completed...
```

Run 3
Retrieval of time evolving changes in cell culture morphology for untreated wells started Retrieval of time evolving changes in cell culture morphology for untreated wells completed
Retrieval of time evolving changes in cell culture morphology for drug-treated wells started Retrieval of time evolving changes in cell culture morphology for durg-treated wells
Generation of time evolving cell culture morphology curves started Generation of time evolving cell culture morphology curves completed
Generation of CSV file with time evolving changes in cell culture morphology started Generation of CSV file with time evolving changes in cell culture morphology ✓ completed
Run 4
Retrieval of time evolving changes in cell culture morphology for untreated wells started Retrieval of time evolving changes in cell culture morphology for untreated wells completed
Retrieval of time evolving changes in cell culture morphology for drug-treated wells started Retrieval of time evolving changes in cell culture morphology for durg-treated wells
Generation of time evolving cell culture morphology curves started Generation of time evolving cell culture morphology curves completed
Generation of CSV file with time evolving changes in cell culture morphology started Generation of CSV file with time evolving changes in cell culture morphology / completed

----- COMBO-M Completed

>>