

Additional file 2

Table S1. Segmentation accuracy measured by Qseg, Sr and Es for 6 different methods. Results were validated based on 40 images. For each image the performances of segmentation methods is ranked based on the Qseg values in a descending order.

| Class | Image | Method | Model | Qseg | Sr | Es |
|-------|-----------------------|----------|----------|--------|--------|---------|
| 1 | 2014_11_07_FWW0070706 | DTSM | LLC | 0.9817 | 0.8145 | 0.2393 |
| 1 | 2014_11_07_FWW0070706 | SVM | LLC | 0.9801 | 0.7805 | 0.2602 |
| 1 | 2014_11_07_FWW0070706 | K-means | K-means | 0.9782 | 0.7907 | 0.2856 |
| 1 | 2014_11_07_FWW0070706 | Otsu | Otsu | 0.9781 | 0.8096 | 0.2868 |
| 1 | 2014_11_07_FWW0070706 | DTSM | ALC | 0.9706 | 0.6330 | 0.3850 |
| 1 | 2014_11_07_FWW0070706 | SVM | ALC | 0.9694 | 0.6044 | 0.4008 |
| 1 | 2014_11_07_FWW0070706 | DTSM | HLC | 0.9643 | 0.5562 | 0.4675 |
| 1 | 2014_11_07_FWW0070706 | SVM | HLC | 0.9568 | 0.4515 | 0.5651 |
| 1 | 2014_11_07_FWW0070706 | Rowmeans | Rowmeans | 0.5066 | 0.9994 | 6.4563 |
| 1 | 2014_11_11_FWW0070001 | SVM | LLC | 0.9909 | 0.8022 | 0.1996 |
| 1 | 2014_11_11_FWW0070001 | DTSM | LLC | 0.9900 | 0.7865 | 0.2183 |
| 1 | 2014_11_11_FWW0070001 | K-means | K-means | 0.9893 | 0.8164 | 0.2329 |
| 1 | 2014_11_11_FWW0070001 | SVM | ALC | 0.9798 | 0.5585 | 0.4415 |
| 1 | 2014_11_11_FWW0070001 | DTSM | ALC | 0.9738 | 0.4301 | 0.5727 |
| 1 | 2014_11_11_FWW0070001 | Otsu | Otsu | 0.9716 | 0.4026 | 0.6206 |
| 1 | 2014_11_11_FWW0070001 | DTSM | HLC | 0.9613 | 0.1538 | 0.8462 |
| 1 | 2014_11_11_FWW0070001 | SVM | HLC | 0.9543 | 0.0000 | 1.0000 |
| 1 | 2014_11_11_FWW0070001 | Rowmeans | Rowmeans | 0.2680 | 1.0000 | 16.0069 |
| 1 | 2014_11_18_FWW0070001 | SVM | LLC | 0.9837 | 0.9461 | 0.1022 |
| 1 | 2014_11_18_FWW0070001 | DTSM | LLC | 0.9815 | 0.9557 | 0.1159 |
| 1 | 2014_11_18_FWW0070001 | SVM | ALC | 0.9766 | 0.8654 | 0.1465 |
| 1 | 2014_11_18_FWW0070001 | DTSM | ALC | 0.9738 | 0.8709 | 0.1640 |
| 1 | 2014_11_18_FWW0070001 | Otsu | Otsu | 0.9693 | 0.9507 | 0.1925 |
| 1 | 2014_11_18_FWW0070001 | DTSM | HLC | 0.9621 | 0.8109 | 0.2376 |
| 1 | 2014_11_18_FWW0070001 | K-means | K-means | 0.9040 | 0.4027 | 0.6016 |
| 1 | 2014_11_18_FWW0070001 | SVM | HLC | 0.8784 | 0.2397 | 0.7617 |
| 1 | 2014_11_18_FWW0070001 | Rowmeans | Rowmeans | 0.2743 | 1.0000 | 4.5463 |
| 1 | 2014_11_25_FWW0070050 | DTSM | LLC | 0.9710 | 0.8391 | 0.1765 |
| 1 | 2014_11_25_FWW0070050 | SVM | LLC | 0.9697 | 0.8246 | 0.1842 |
| 1 | 2014_11_25_FWW0070050 | Rowmeans | Rowmeans | 0.9668 | 0.9343 | 0.2019 |
| 1 | 2014_11_25_FWW0070050 | Otsu | Otsu | 0.9419 | 0.9881 | 0.3532 |
| 1 | 2014_11_25_FWW0070050 | SVM | ALC | 0.9346 | 0.6063 | 0.3973 |
| 1 | 2014_11_25_FWW0070050 | DTSM | ALC | 0.9301 | 0.5814 | 0.4244 |
| 1 | 2014_11_25_FWW0070050 | DTSM | HLC | 0.9063 | 0.4434 | 0.5695 |
| 1 | 2014_11_25_FWW0070050 | K-means | K-means | 0.8907 | 0.3428 | 0.6638 |
| 1 | 2014_11_25_FWW0070050 | SVM | HLC | 0.8354 | 0.0000 | 1.0000 |
| 1 | 2014_11_28_FWW0070358 | Otsu | Otsu | 0.9866 | 0.9316 | 0.0974 |
| 1 | 2014_11_28_FWW0070358 | Rowmeans | Rowmeans | 0.9865 | 0.9305 | 0.0979 |

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| 1 | 2014_11_28_FWW0070358 | DTSM | LLC | 0.9817 | 0.8732 | 0.1329 |
| 1 | 2014_11_28_FWW0070358 | K-means | K-means | 0.9805 | 0.8641 | 0.1410 |
| 1 | 2014_11_28_FWW0070358 | SVM | LLC | 0.9790 | 0.8502 | 0.1520 |
| 1 | 2014_11_28_FWW0070358 | DTSM | HLC | 0.9752 | 0.8232 | 0.1799 |
| 1 | 2014_11_28_FWW0070358 | DTSM | ALC | 0.9736 | 0.8100 | 0.1914 |
| 1 | 2014_11_28_FWW0070358 | SVM | ALC | 0.9675 | 0.7644 | 0.2357 |
| 1 | 2014_11_28_FWW0070358 | SVM | HLC | 0.9111 | 0.3557 | 0.6444 |
| 1 | 2014_12_02_FWW0070001 | Rowmeans | Rowmeans | 0.9785 | 0.9235 | 0.2123 |
| 1 | 2014_12_02_FWW0070001 | K-means | K-means | 0.9784 | 0.8319 | 0.2137 |
| 1 | 2014_12_02_FWW0070001 | DTSM | LLC | 0.9761 | 0.7808 | 0.2365 |
| 1 | 2014_12_02_FWW0070001 | SVM | LLC | 0.9753 | 0.7616 | 0.2440 |
| 1 | 2014_12_02_FWW0070001 | Otsu | Otsu | 0.9735 | 0.7845 | 0.2616 |
| 1 | 2014_12_02_FWW0070001 | DTSM | ALC | 0.9537 | 0.5537 | 0.4573 |
| 1 | 2014_12_02_FWW0070001 | DTSM | HLC | 0.9508 | 0.5289 | 0.4863 |
| 1 | 2014_12_02_FWW0070001 | SVM | ALC | 0.9497 | 0.5062 | 0.4966 |
| 1 | 2014_12_02_FWW0070001 | SVM | HLC | 0.9260 | 0.2747 | 0.7308 |
| 1 | 2014_12_05_FWW0070357 | Rowmeans | Rowmeans | 0.9833 | 0.9664 | 0.0999 |
| 1 | 2014_12_05_FWW0070357 | Otsu | Otsu | 0.9824 | 0.9351 | 0.1054 |
| 1 | 2014_12_05_FWW0070357 | DTSM | LLC | 0.9810 | 0.8919 | 0.1138 |
| 1 | 2014_12_05_FWW0070357 | SVM | LLC | 0.9784 | 0.8720 | 0.1296 |
| 1 | 2014_12_05_FWW0070357 | DTSM | ALC | 0.9662 | 0.7995 | 0.2027 |
| 1 | 2014_12_05_FWW0070357 | DTSM | HLC | 0.9639 | 0.7870 | 0.2162 |
| 1 | 2014_12_05_FWW0070357 | SVM | ALC | 0.9553 | 0.7324 | 0.2680 |
| 1 | 2014_12_05_FWW0070357 | K-means | K-means | 0.9113 | 0.4686 | 0.5318 |
| 1 | 2014_12_05_FWW0070357 | SVM | HLC | 0.8620 | 0.1729 | 0.8271 |
| 1 | 2014_12_09_FWW0070005 | DTSM | LLC | 0.9822 | 0.8844 | 0.1635 |
| 1 | 2014_12_09_FWW0070005 | SVM | LLC | 0.9811 | 0.8553 | 0.1729 |
| 1 | 2014_12_09_FWW0070005 | SVM | ALC | 0.9706 | 0.7401 | 0.2691 |
| 1 | 2014_12_09_FWW0070005 | K-means | K-means | 0.9680 | 0.8252 | 0.2934 |
| 1 | 2014_12_09_FWW0070005 | DTSM | ALC | 0.9635 | 0.6863 | 0.3345 |
| 1 | 2014_12_09_FWW0070005 | DTSM | HLC | 0.9485 | 0.5604 | 0.4720 |
| 1 | 2014_12_09_FWW0070005 | SVM | HLC | 0.8909 | 0.0000 | 1.0000 |
| 1 | 2014_12_09_FWW0070005 | Otsu | Otsu | 0.5273 | 0.9897 | 4.3316 |
| 1 | 2014_12_09_FWW0070005 | Rowmeans | Rowmeans | 0.3389 | 0.9948 | 6.0579 |
| 1 | 2014_12_09_FWW0070358 | DTSM | LLC | 0.9695 | 0.8195 | 0.1888 |
| 1 | 2014_12_09_FWW0070358 | SVM | LLC | 0.9660 | 0.7957 | 0.2104 |
| 1 | 2014_12_09_FWW0070358 | Otsu | Otsu | 0.9592 | 0.7761 | 0.2525 |
| 1 | 2014_12_09_FWW0070358 | K-means | K-means | 0.9563 | 0.7433 | 0.2709 |
| 1 | 2014_12_09_FWW0070358 | Rowmeans | Rowmeans | 0.9534 | 0.7322 | 0.2886 |
| 1 | 2014_12_09_FWW0070358 | DTSM | ALC | 0.9448 | 0.6610 | 0.3419 |
| 1 | 2014_12_09_FWW0070358 | DTSM | HLC | 0.9416 | 0.6458 | 0.3620 |
| 1 | 2014_12_09_FWW0070358 | SVM | ALC | 0.9411 | 0.6386 | 0.3647 |
| 1 | 2014_12_09_FWW0070358 | SVM | HLC | 0.8386 | 0.0000 | 1.0000 |
| 1 | 2014_12_16_FWW0070714 | SVM | LLC | 0.9762 | 0.9581 | 0.1138 |
| 1 | 2014_12_16_FWW0070714 | DTSM | LLC | 0.9748 | 0.9771 | 0.1206 |

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| 1 | 2014_12_16_FWW0070714 | DTSM | ALC | 0.9715 | 0.9186 | 0.1364 |
| 1 | 2014_12_16_FWW0070714 | SVM | ALC | 0.9683 | 0.8785 | 0.1518 |
| 1 | 2014_12_16_FWW0070714 | DTSM | HLC | 0.9678 | 0.9276 | 0.1541 |
| 1 | 2014_12_16_FWW0070714 | Rowmeans | Rowmeans | 0.9515 | 0.8326 | 0.2322 |
| 1 | 2014_12_16_FWW0070714 | Otsu | Otsu | 0.9498 | 0.8233 | 0.2402 |
| 1 | 2014_12_16_FWW0070714 | SVM | HLC | 0.8852 | 0.4733 | 0.5495 |
| 1 | 2014_12_16_FWW0070714 | K-means | K-means | 0.8796 | 0.4256 | 0.5765 |
| 1 | 2015_01_09_FWW0070005 | DTSM | LLC | 0.9741 | 0.8024 | 0.2237 |
| 1 | 2015_01_09_FWW0070005 | SVM | LLC | 0.9724 | 0.7934 | 0.2383 |
| 1 | 2015_01_09_FWW0070005 | K-means | K-means | 0.9609 | 0.7576 | 0.3382 |
| 1 | 2015_01_09_FWW0070005 | SVM | ALC | 0.9563 | 0.6275 | 0.3780 |
| 1 | 2015_01_09_FWW0070005 | DTSM | ALC | 0.9348 | 0.4374 | 0.5635 |
| 1 | 2015_01_09_FWW0070005 | DTSM | HLC | 0.9290 | 0.4089 | 0.6138 |
| 1 | 2015_01_09_FWW0070005 | Rowmeans | Rowmeans | 0.9107 | 0.2352 | 0.7718 |
| 1 | 2015_01_09_FWW0070005 | SVM | HLC | 0.8844 | 0.0000 | 1.0000 |
| 1 | 2015_01_09_FWW0070005 | Otsu | Otsu | 0.8306 | 0.9581 | 1.4646 |
| 1 | 2015_01_15_FWW0070357 | K-means | K-means | 0.9769 | 0.8516 | 0.1790 |
| 1 | 2015_01_15_FWW0070357 | DTSM | LLC | 0.9738 | 0.8017 | 0.2034 |
| 1 | 2015_01_15_FWW0070357 | SVM | LLC | 0.9712 | 0.7814 | 0.2234 |
| 1 | 2015_01_15_FWW0070357 | SVM | ALC | 0.9551 | 0.6522 | 0.3483 |
| 1 | 2015_01_15_FWW0070357 | DTSM | ALC | 0.9520 | 0.6275 | 0.3728 |
| 1 | 2015_01_15_FWW0070357 | DTSM | HLC | 0.9429 | 0.5605 | 0.4432 |
| 1 | 2015_01_15_FWW0070357 | Otsu | Otsu | 0.9180 | 0.9980 | 0.6364 |
| 1 | 2015_01_15_FWW0070357 | Rowmeans | Rowmeans | 0.8711 | 0.0000 | 1.0000 |
| 1 | 2015_01_15_FWW0070357 | SVM | HLC | 0.8711 | 0.0000 | 1.0000 |
| 1 | 2015_03_05_FWW0070357 | SVM | LLC | 0.9714 | 0.7872 | 0.2520 |
| 1 | 2015_03_05_FWW0070357 | DTSM | LLC | 0.9685 | 0.7612 | 0.2776 |
| 1 | 2015_03_05_FWW0070357 | SVM | ALC | 0.9162 | 0.2625 | 0.7388 |
| 1 | 2015_03_05_FWW0070357 | DTSM | HLC | 0.9126 | 0.2409 | 0.7711 |
| 1 | 2015_03_05_FWW0070357 | DTSM | ALC | 0.9077 | 0.1865 | 0.8140 |
| 1 | 2015_03_05_FWW0070357 | SVM | HLC | 0.8866 | 0.0000 | 1.0000 |
| 1 | 2015_03_05_FWW0070357 | K-means | K-means | 0.8600 | 0.3630 | 1.2350 |
| 1 | 2015_03_05_FWW0070357 | Rowmeans | Rowmeans | 0.8495 | 0.2151 | 1.3273 |
| 1 | 2015_03_05_FWW0070357 | Otsu | Otsu | 0.1203 | 0.9048 | 7.7583 |
| 1 | 2015_03_23_FWW0070714 | SVM | LLC | 0.9591 | 0.7035 | 0.3093 |
| 1 | 2015_03_23_FWW0070714 | DTSM | LLC | 0.9560 | 0.6729 | 0.3329 |
| 1 | 2015_03_23_FWW0070714 | Otsu | Otsu | 0.9233 | 0.4630 | 0.5796 |
| 1 | 2015_03_23_FWW0070714 | SVM | ALC | 0.9182 | 0.3835 | 0.6186 |
| 1 | 2015_03_23_FWW0070714 | K-means | K-means | 0.9088 | 0.3143 | 0.6895 |
| 1 | 2015_03_23_FWW0070714 | DTSM | HLC | 0.9029 | 0.2665 | 0.7337 |
| 1 | 2015_03_23_FWW0070714 | DTSM | ALC | 0.9020 | 0.2597 | 0.7405 |
| 1 | 2015_03_23_FWW0070714 | SVM | HLC | 0.8773 | 0.0727 | 0.9273 |
| 1 | 2015_03_23_FWW0070714 | Rowmeans | Rowmeans | 0.8752 | 0.0564 | 0.9437 |
| 1 | 2015_03_26_FWW0070252 | DTSM | LLC | 0.9702 | 0.8102 | 0.1901 |
| 1 | 2015_03_26_FWW0070252 | SVM | LLC | 0.9693 | 0.8050 | 0.1963 |

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| 1 | 2015_03_26_FWW0070252 | K-means | K-means | 0.9606 | 0.7615 | 0.2520 |
| 1 | 2015_03_26_FWW0070252 | Otsu | Otsu | 0.9592 | 0.7705 | 0.2604 |
| 1 | 2015_03_26_FWW0070252 | SVM | ALC | 0.9480 | 0.6676 | 0.3324 |
| 1 | 2015_03_26_FWW0070252 | DTSM | ALC | 0.9452 | 0.6502 | 0.3498 |
| 1 | 2015_03_26_FWW0070252 | DTSM | HLC | 0.9419 | 0.6287 | 0.3713 |
| 1 | 2015_03_26_FWW0070252 | Rowmeans | Rowmeans | 0.9408 | 0.6218 | 0.3782 |
| 1 | 2015_03_26_FWW0070252 | SVM | HLC | 0.8434 | 0.0000 | 1.0000 |
| 1 | 2015_03_30_FWW0070714 | SVM | LLC | 0.9742 | 0.8635 | 0.1397 |
| 1 | 2015_03_30_FWW0070714 | DTSM | LLC | 0.9737 | 0.8622 | 0.1426 |
| 1 | 2015_03_30_FWW0070714 | Otsu | Otsu | 0.9722 | 0.9735 | 0.1503 |
| 1 | 2015_03_30_FWW0070714 | DTSM | ALC | 0.9511 | 0.7372 | 0.2648 |
| 1 | 2015_03_30_FWW0070714 | SVM | ALC | 0.9504 | 0.7318 | 0.2684 |
| 1 | 2015_03_30_FWW0070714 | DTSM | HLC | 0.9485 | 0.7252 | 0.2785 |
| 1 | 2015_03_30_FWW0070714 | K-means | K-means | 0.9460 | 0.7118 | 0.2923 |
| 1 | 2015_03_30_FWW0070714 | Rowmeans | Rowmeans | 0.8445 | 0.1587 | 0.8415 |
| 1 | 2015_03_30_FWW0070714 | SVM | HLC | 0.8264 | 0.0602 | 0.9399 |
| 1 | 2015_04_16_FWW0070001 | DTSM | LLC | 0.9275 | 0.7963 | 0.2062 |
| 1 | 2015_04_16_FWW0070001 | Otsu | Otsu | 0.9263 | 0.8025 | 0.2098 |
| 1 | 2015_04_16_FWW0070001 | SVM | LLC | 0.9212 | 0.7775 | 0.2242 |
| 1 | 2015_04_16_FWW0070001 | DTSM | HLC | 0.9004 | 0.7201 | 0.2834 |
| 1 | 2015_04_16_FWW0070001 | DTSM | ALC | 0.8930 | 0.6962 | 0.3045 |
| 1 | 2015_04_16_FWW0070001 | SVM | ALC | 0.8853 | 0.6741 | 0.3264 |
| 1 | 2015_04_16_FWW0070001 | K-means | K-means | 0.8791 | 0.6567 | 0.3438 |
| 1 | 2015_04_16_FWW0070001 | SVM | HLC | 0.7247 | 0.2170 | 0.7831 |
| 1 | 2015_04_16_FWW0070001 | Rowmeans | Rowmeans | 0.7075 | 0.1679 | 0.8322 |
| 1 | 2015_04_27_FWW0070272 | DTSM | LLC | 0.9733 | 0.9402 | 0.0861 |
| 1 | 2015_04_27_FWW0070272 | SVM | LLC | 0.9716 | 0.9216 | 0.0915 |
| 1 | 2015_04_27_FWW0070272 | DTSM | HLC | 0.9705 | 0.9322 | 0.0951 |
| 1 | 2015_04_27_FWW0070272 | DTSM | ALC | 0.9702 | 0.9173 | 0.0960 |
| 1 | 2015_04_27_FWW0070272 | Otsu | Otsu | 0.9613 | 0.8865 | 0.1249 |
| 1 | 2015_04_27_FWW0070272 | SVM | ALC | 0.9601 | 0.8806 | 0.1287 |
| 1 | 2015_04_27_FWW0070272 | SVM | HLC | 0.8911 | 0.6515 | 0.3509 |
| 1 | 2015_04_27_FWW0070272 | K-means | K-means | 0.8851 | 0.6295 | 0.3705 |
| 1 | 2015_04_27_FWW0070272 | Rowmeans | Rowmeans | 0.7918 | 0.3287 | 0.6713 |
| 1 | 2015_04_30_FWW0070357 | DTSM | LLC | 0.9345 | 0.9003 | 0.1006 |
| 1 | 2015_04_30_FWW0070357 | DTSM | HLC | 0.9253 | 0.8881 | 0.1148 |
| 1 | 2015_04_30_FWW0070357 | SVM | LLC | 0.8996 | 0.8459 | 0.1544 |
| 1 | 2015_04_30_FWW0070357 | DTSM | ALC | 0.8892 | 0.8299 | 0.1704 |
| 1 | 2015_04_30_FWW0070357 | Otsu | Otsu | 0.8805 | 0.8221 | 0.1837 |
| 1 | 2015_04_30_FWW0070357 | SVM | ALC | 0.8716 | 0.8027 | 0.1973 |
| 1 | 2015_04_30_FWW0070357 | K-means | K-means | 0.7175 | 0.5657 | 0.4343 |
| 1 | 2015_04_30_FWW0070357 | Rowmeans | Rowmeans | 0.6933 | 0.5288 | 0.4714 |
| 1 | 2015_04_30_FWW0070357 | SVM | HLC | 0.6419 | 0.4496 | 0.5505 |
| 1 | 2015_05_04_FWW0070714 | DTSM | LLC | 0.9706 | 0.9429 | 0.0596 |
| 1 | 2015_05_04_FWW0070714 | DTSM | HLC | 0.9691 | 0.9493 | 0.0626 |

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| 1 | 2015_05_04_FWW0070714 | Otsu | Otsu | 0.9665 | 0.9408 | 0.0681 |
| 1 | 2015_05_04_FWW0070714 | DTSM | ALC | 0.9495 | 0.8979 | 0.1026 |
| 1 | 2015_05_04_FWW0070714 | SVM | LLC | 0.9466 | 0.8930 | 0.1083 |
| 1 | 2015_05_04_FWW0070714 | SVM | HLC | 0.9194 | 0.8371 | 0.1636 |
| 1 | 2015_05_04_FWW0070714 | SVM | ALC | 0.9033 | 0.8037 | 0.1963 |
| 1 | 2015_05_04_FWW0070714 | K-means | K-means | 0.7970 | 0.5956 | 0.4121 |
| 1 | 2015_05_04_FWW0070714 | Rowmeans | Rowmeans | 0.5633 | 0.1136 | 0.8864 |
| 2 | 2014_11_07_FWW0070224 | SVM | HLC | 0.9812 | 0.5752 | 0.4927 |
| 2 | 2014_11_07_FWW0070224 | K-means | K-means | 0.9801 | 0.5056 | 0.5236 |
| 2 | 2014_11_07_FWW0070224 | DTSM | ALC | 0.9773 | 0.4173 | 0.5973 |
| 2 | 2014_11_07_FWW0070224 | DTSM | HLC | 0.9772 | 0.4202 | 0.5982 |
| 2 | 2014_11_07_FWW0070224 | SVM | ALC | 0.9017 | 0.7157 | 2.5827 |
| 2 | 2014_11_07_FWW0070224 | SVM | LLC | 0.7969 | 0.2276 | 5.3335 |
| 2 | 2014_11_07_FWW0070224 | DTSM | LLC | 0.7649 | 0.4431 | 6.1751 |
| 2 | 2014_11_07_FWW0070224 | Otsu | Otsu | 0.5795 | 0.9917 | 11.0429 |
| 2 | 2014_11_07_FWW0070224 | Rowmeans | Rowmeans | 0.5094 | 0.9971 | 12.8833 |
| 2 | 2014_11_07_FWW0070459 | DTSM | ALC | 0.9722 | 0.8015 | 0.3234 |
| 2 | 2014_11_07_FWW0070459 | DTSM | HLC | 0.9702 | 0.8212 | 0.3463 |
| 2 | 2014_11_07_FWW0070459 | SVM | HLC | 0.9694 | 0.8138 | 0.3552 |
| 2 | 2014_11_07_FWW0070459 | SVM | ALC | 0.9671 | 0.8648 | 0.3821 |
| 2 | 2014_11_07_FWW0070459 | K-means | K-means | 0.9577 | 0.6849 | 0.4921 |
| 2 | 2014_11_07_FWW0070459 | SVM | LLC | 0.9313 | 0.8338 | 0.7982 |
| 2 | 2014_11_07_FWW0070459 | DTSM | LLC | 0.9147 | 0.8600 | 0.9913 |
| 2 | 2014_11_07_FWW0070459 | Otsu | Otsu | 0.8034 | 0.9952 | 2.2856 |
| 2 | 2014_11_07_FWW0070459 | Rowmeans | Rowmeans | 0.6849 | 1.0000 | 3.6624 |
| 2 | 2014_12_12_FWW0070005 | DTSM | ALC | 0.9452 | 0.9564 | 0.2788 |
| 2 | 2014_12_12_FWW0070005 | DTSM | HLC | 0.9404 | 0.9638 | 0.3031 |
| 2 | 2014_12_12_FWW0070005 | SVM | HLC | 0.9050 | 0.9772 | 0.4829 |
| 2 | 2014_12_12_FWW0070005 | Otsu | Otsu | 0.8872 | 0.6344 | 0.5733 |
| 2 | 2014_12_12_FWW0070005 | Rowmeans | Rowmeans | 0.8851 | 0.5337 | 0.5841 |
| 2 | 2014_12_12_FWW0070005 | K-means | K-means | 0.8780 | 0.4774 | 0.6205 |
| 2 | 2014_12_12_FWW0070005 | SVM | LLC | 0.8369 | 0.9605 | 0.8295 |
| 2 | 2014_12_12_FWW0070005 | DTSM | LLC | 0.7938 | 0.9541 | 1.0482 |
| 2 | 2014_12_12_FWW0070005 | SVM | ALC | 0.7703 | 0.9166 | 1.1679 |
| 2 | 2014_12_12_FWW0070072 | DTSM | ALC | 0.9398 | 0.9427 | 0.2819 |
| 2 | 2014_12_12_FWW0070072 | DTSM | HLC | 0.9381 | 0.9552 | 0.2900 |
| 2 | 2014_12_12_FWW0070072 | SVM | HLC | 0.9148 | 0.9689 | 0.3989 |
| 2 | 2014_12_12_FWW0070072 | Rowmeans | Rowmeans | 0.8887 | 0.6505 | 0.5216 |
| 2 | 2014_12_12_FWW0070072 | Otsu | Otsu | 0.8871 | 0.6380 | 0.5287 |
| 2 | 2014_12_12_FWW0070072 | K-means | K-means | 0.8684 | 0.4779 | 0.6167 |
| 2 | 2014_12_12_FWW0070072 | SVM | LLC | 0.7898 | 0.9516 | 0.9848 |
| 2 | 2014_12_12_FWW0070072 | DTSM | LLC | 0.7561 | 0.9633 | 1.1425 |
| 2 | 2014_12_12_FWW0070072 | SVM | ALC | 0.7083 | 0.9332 | 1.3666 |
| 2 | 2014_12_19_FWW0070005 | DTSM | ALC | 0.9555 | 0.9194 | 0.1855 |
| 2 | 2014_12_19_FWW0070005 | DTSM | HLC | 0.9420 | 0.9354 | 0.2417 |

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|---|-----------------------|----------|----------|--------|--------|--------|
| 2 | 2014_12_19_FWW0070005 | Otsu | Otsu | 0.9303 | 0.8198 | 0.2903 |
| 2 | 2014_12_19_FWW0070005 | K-means | K-means | 0.9076 | 0.6529 | 0.3850 |
| 2 | 2014_12_19_FWW0070005 | SVM | LLC | 0.9048 | 0.8951 | 0.3966 |
| 2 | 2014_12_19_FWW0070005 | Rowmeans | Rowmeans | 0.8944 | 0.6009 | 0.4398 |
| 2 | 2014_12_19_FWW0070005 | SVM | HLC | 0.8833 | 0.9611 | 0.4862 |
| 2 | 2014_12_19_FWW0070005 | DTSM | LLC | 0.8805 | 0.9559 | 0.4978 |
| 2 | 2014_12_19_FWW0070005 | SVM | ALC | 0.6976 | 0.9798 | 1.2595 |
| 2 | 2014_12_19_FWW0070714 | DTSM | ALC | 0.9740 | 0.9035 | 0.2051 |
| 2 | 2014_12_19_FWW0070714 | DTSM | HLC | 0.9696 | 0.9110 | 0.2393 |
| 2 | 2014_12_19_FWW0070714 | SVM | HLC | 0.9651 | 0.9455 | 0.2754 |
| 2 | 2014_12_19_FWW0070714 | Otsu | Otsu | 0.9626 | 0.8121 | 0.2950 |
| 2 | 2014_12_19_FWW0070714 | K-means | K-means | 0.9520 | 0.6870 | 0.3780 |
| 2 | 2014_12_19_FWW0070714 | Rowmeans | Rowmeans | 0.9418 | 0.5870 | 0.4589 |
| 2 | 2014_12_19_FWW0070714 | SVM | LLC | 0.9365 | 0.9323 | 0.5004 |
| 2 | 2014_12_19_FWW0070714 | SVM | ALC | 0.9208 | 0.9683 | 0.6242 |
| 2 | 2014_12_19_FWW0070714 | DTSM | LLC | 0.9102 | 0.9394 | 0.7080 |
| 2 | 2014_12_23_FWW0070342 | DTSM | ALC | 0.9545 | 0.7638 | 0.2803 |
| 2 | 2014_12_23_FWW0070342 | SVM | LLC | 0.9543 | 0.8606 | 0.2819 |
| 2 | 2014_12_23_FWW0070342 | DTSM | HLC | 0.9520 | 0.7558 | 0.2956 |
| 2 | 2014_12_23_FWW0070342 | K-means | K-means | 0.9481 | 0.7370 | 0.3200 |
| 2 | 2014_12_23_FWW0070342 | SVM | ALC | 0.9467 | 0.8643 | 0.3284 |
| 2 | 2014_12_23_FWW0070342 | DTSM | LLC | 0.9424 | 0.8792 | 0.3552 |
| 2 | 2014_12_23_FWW0070342 | SVM | HLC | 0.9359 | 0.6636 | 0.3949 |
| 2 | 2014_12_23_FWW0070342 | Rowmeans | Rowmeans | 0.9189 | 0.5383 | 0.5001 |
| 2 | 2014_12_23_FWW0070342 | Otsu | Otsu | 0.8015 | 0.9733 | 1.2239 |
| 2 | 2014_12_23_FWW0070393 | SVM | HLC | 0.9601 | 0.8930 | 0.2031 |
| 2 | 2014_12_23_FWW0070393 | DTSM | HLC | 0.9573 | 0.8209 | 0.2170 |
| 2 | 2014_12_23_FWW0070393 | Otsu | Otsu | 0.9572 | 0.9182 | 0.2178 |
| 2 | 2014_12_23_FWW0070393 | DTSM | ALC | 0.9529 | 0.7905 | 0.2397 |
| 2 | 2014_12_23_FWW0070393 | SVM | ALC | 0.9527 | 0.9525 | 0.2407 |
| 2 | 2014_12_23_FWW0070393 | DTSM | LLC | 0.9371 | 0.8719 | 0.3200 |
| 2 | 2014_12_23_FWW0070393 | Rowmeans | Rowmeans | 0.9310 | 0.6773 | 0.3507 |
| 2 | 2014_12_23_FWW0070393 | K-means | K-means | 0.9282 | 0.6545 | 0.3651 |
| 2 | 2014_12_23_FWW0070393 | SVM | LLC | 0.9265 | 0.7662 | 0.3736 |
| 2 | 2015_01_13_FWW0070005 | DTSM | HLC | 0.9527 | 0.5843 | 0.4756 |
| 2 | 2015_01_13_FWW0070005 | SVM | HLC | 0.9484 | 0.6503 | 0.5198 |
| 2 | 2015_01_13_FWW0070005 | DTSM | ALC | 0.9466 | 0.5438 | 0.5377 |
| 2 | 2015_01_13_FWW0070005 | K-means | K-means | 0.9347 | 0.3505 | 0.6575 |
| 2 | 2015_01_13_FWW0070005 | Rowmeans | Rowmeans | 0.9337 | 0.5155 | 0.6671 |
| 2 | 2015_01_13_FWW0070005 | SVM | LLC | 0.9286 | 0.6431 | 0.7182 |
| 2 | 2015_01_13_FWW0070005 | SVM | ALC | 0.9250 | 0.7123 | 0.7551 |
| 2 | 2015_01_13_FWW0070005 | DTSM | LLC | 0.9235 | 0.6655 | 0.7701 |
| 2 | 2015_01_13_FWW0070005 | Otsu | Otsu | 0.9167 | 0.5743 | 0.8383 |
| 2 | 2015_01_13_FWW0070637 | SVM | HLC | 0.9728 | 0.8042 | 0.3182 |
| 2 | 2015_01_13_FWW0070637 | DTSM | ALC | 0.9697 | 0.7224 | 0.3540 |

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| 2 | 2015_01_13_FWW0070637 | Otsu | Otsu | 0.9697 | 0.8236 | 0.3546 |
| 2 | 2015_01_13_FWW0070637 | DTSM | HLC | 0.9692 | 0.7342 | 0.3600 |
| 2 | 2015_01_13_FWW0070637 | SVM | ALC | 0.9683 | 0.8603 | 0.3702 |
| 2 | 2015_01_13_FWW0070637 | K-means | K-means | 0.9681 | 0.6966 | 0.3730 |
| 2 | 2015_01_13_FWW0070637 | SVM | LLC | 0.9608 | 0.8221 | 0.4577 |
| 2 | 2015_01_13_FWW0070637 | DTSM | LLC | 0.9276 | 0.8476 | 0.8459 |
| 2 | 2015_01_13_FWW0070637 | Rowmeans | Rowmeans | 0.6506 | 0.9642 | 4.0823 |
| 2 | 2015_03_09_FWW0070089 | DTSM | HLC | 0.8887 | 0.4851 | 0.5239 |
| 2 | 2015_03_09_FWW0070089 | DTSM | LLC | 0.8851 | 0.4917 | 0.5411 |
| 2 | 2015_03_09_FWW0070089 | SVM | ALC | 0.8824 | 0.4801 | 0.5538 |
| 2 | 2015_03_09_FWW0070089 | SVM | LLC | 0.8705 | 0.4004 | 0.6096 |
| 2 | 2015_03_09_FWW0070089 | SVM | HLC | 0.8691 | 0.4120 | 0.6162 |
| 2 | 2015_03_09_FWW0070089 | DTSM | ALC | 0.8666 | 0.3761 | 0.6279 |
| 2 | 2015_03_09_FWW0070089 | K-means | K-means | 0.8628 | 0.3619 | 0.6459 |
| 2 | 2015_03_09_FWW0070089 | Otsu | Otsu | 0.8615 | 0.6854 | 0.6519 |
| 2 | 2015_03_09_FWW0070089 | Rowmeans | Rowmeans | 0.8392 | 0.2511 | 0.7571 |
| 2 | 2015_03_09_FWW0070714 | K-means | K-means | 0.9597 | 0.7042 | 0.3244 |
| 2 | 2015_03_09_FWW0070714 | DTSM | HLC | 0.9577 | 0.6742 | 0.3409 |
| 2 | 2015_03_09_FWW0070714 | SVM | ALC | 0.9538 | 0.6645 | 0.3722 |
| 2 | 2015_03_09_FWW0070714 | SVM | HLC | 0.9471 | 0.6043 | 0.4260 |
| 2 | 2015_03_09_FWW0070714 | Rowmeans | Rowmeans | 0.9370 | 0.5111 | 0.5075 |
| 2 | 2015_03_09_FWW0070714 | SVM | LLC | 0.9338 | 0.4702 | 0.5328 |
| 2 | 2015_03_09_FWW0070714 | DTSM | ALC | 0.9308 | 0.4443 | 0.5571 |
| 2 | 2015_03_09_FWW0070714 | DTSM | LLC | 0.8812 | 0.6945 | 0.9568 |
| 2 | 2015_03_09_FWW0070714 | Otsu | Otsu | 0.1508 | 0.9999 | 6.8382 |
| 2 | 2015_03_12_FWW0070714 | DTSM | HLC | 0.9090 | 0.6552 | 0.3522 |
| 2 | 2015_03_12_FWW0070714 | Otsu | Otsu | 0.9050 | 0.6976 | 0.3679 |
| 2 | 2015_03_12_FWW0070714 | K-means | K-means | 0.9040 | 0.6471 | 0.3714 |
| 2 | 2015_03_12_FWW0070714 | SVM | LLC | 0.9032 | 0.6349 | 0.3747 |
| 2 | 2015_03_12_FWW0070714 | DTSM | ALC | 0.8822 | 0.5477 | 0.4560 |
| 2 | 2015_03_12_FWW0070714 | SVM | ALC | 0.8608 | 0.4722 | 0.5389 |
| 2 | 2015_03_12_FWW0070714 | DTSM | LLC | 0.8589 | 0.8243 | 0.5462 |
| 2 | 2015_03_12_FWW0070714 | Rowmeans | Rowmeans | 0.8358 | 0.3783 | 0.6356 |
| 2 | 2015_03_12_FWW0070714 | SVM | HLC | 0.8157 | 0.2925 | 0.7132 |
| 2 | 2015_03_16_FWW0070001 | Otsu | Otsu | 0.8627 | 0.3488 | 0.6982 |
| 2 | 2015_03_16_FWW0070001 | K-means | K-means | 0.8621 | 0.3305 | 0.7013 |
| 2 | 2015_03_16_FWW0070001 | SVM | LLC | 0.8599 | 0.3002 | 0.7125 |
| 2 | 2015_03_16_FWW0070001 | Rowmeans | Rowmeans | 0.8594 | 0.3089 | 0.7151 |
| 2 | 2015_03_16_FWW0070001 | DTSM | HLC | 0.8575 | 0.2853 | 0.7247 |
| 2 | 2015_03_16_FWW0070001 | DTSM | ALC | 0.8574 | 0.2837 | 0.7255 |
| 2 | 2015_03_16_FWW0070001 | SVM | ALC | 0.8528 | 0.2656 | 0.7489 |
| 2 | 2015_03_16_FWW0070001 | SVM | HLC | 0.8346 | 0.1667 | 0.8412 |
| 2 | 2015_03_16_FWW0070001 | DTSM | LLC | 0.8173 | 0.3539 | 0.9292 |
| 2 | 2015_03_19_FWW0070714 | K-means | K-means | 0.9622 | 0.7389 | 0.3083 |
| 2 | 2015_03_19_FWW0070714 | Otsu | Otsu | 0.9541 | 0.6818 | 0.3743 |

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| 2 | 2015_03_19_FWW0070714 | SVM | ALC | 0.9143 | 0.3123 | 0.6981 |
| 2 | 2015_03_19_FWW0070714 | Rowmeans | Rowmeans | 0.9049 | 0.2296 | 0.7748 |
| 2 | 2015_03_19_FWW0070714 | DTSM | HLC | 0.9043 | 0.2230 | 0.7795 |
| 2 | 2015_03_19_FWW0070714 | SVM | HLC | 0.9021 | 0.2081 | 0.7976 |
| 2 | 2015_03_19_FWW0070714 | DTSM | ALC | 0.8979 | 0.1686 | 0.8317 |
| 2 | 2015_03_19_FWW0070714 | SVM | LLC | 0.8973 | 0.1637 | 0.8365 |
| 2 | 2015_03_19_FWW0070714 | DTSM | LLC | 0.8944 | 0.3086 | 0.8601 |
| 2 | 2015_04_07_FWW0070714 | SVM | ALC | 0.9471 | 0.8341 | 0.2341 |
| 2 | 2015_04_07_FWW0070714 | DTSM | HLC | 0.9414 | 0.7532 | 0.2593 |
| 2 | 2015_04_07_FWW0070714 | Otsu | Otsu | 0.9363 | 0.7761 | 0.2821 |
| 2 | 2015_04_07_FWW0070714 | K-means | K-means | 0.9261 | 0.6837 | 0.3272 |
| 2 | 2015_04_07_FWW0070714 | SVM | HLC | 0.9213 | 0.7459 | 0.3485 |
| 2 | 2015_04_07_FWW0070714 | DTSM | ALC | 0.9206 | 0.6529 | 0.3514 |
| 2 | 2015_04_07_FWW0070714 | SVM | LLC | 0.9019 | 0.5679 | 0.4344 |
| 2 | 2015_04_07_FWW0070714 | DTSM | LLC | 0.8615 | 0.7657 | 0.6134 |
| 2 | 2015_04_07_FWW0070714 | Rowmeans | Rowmeans | 0.8131 | 0.1744 | 0.8275 |
| 2 | 2015_04_09_FWW0070001 | DTSM | HLC | 0.9718 | 0.8398 | 0.1733 |
| 2 | 2015_04_09_FWW0070001 | SVM | ALC | 0.9709 | 0.8940 | 0.1791 |
| 2 | 2015_04_09_FWW0070001 | SVM | HLC | 0.9564 | 0.8182 | 0.2678 |
| 2 | 2015_04_09_FWW0070001 | DTSM | ALC | 0.9481 | 0.6863 | 0.3192 |
| 2 | 2015_04_09_FWW0070001 | DTSM | LLC | 0.9451 | 0.8226 | 0.3378 |
| 2 | 2015_04_09_FWW0070001 | SVM | LLC | 0.9308 | 0.5805 | 0.4254 |
| 2 | 2015_04_09_FWW0070001 | Otsu | Otsu | 0.9177 | 0.5125 | 0.5060 |
| 2 | 2015_04_09_FWW0070001 | K-means | K-means | 0.9052 | 0.4215 | 0.5827 |
| 2 | 2015_04_09_FWW0070001 | Rowmeans | Rowmeans | 0.9004 | 0.3969 | 0.6122 |
| 2 | 2015_04_13_FWW0070357 | Otsu | Otsu | 0.9341 | 0.8919 | 0.1657 |
| 2 | 2015_04_13_FWW0070357 | SVM | ALC | 0.8356 | 0.5962 | 0.4137 |
| 2 | 2015_04_13_FWW0070357 | DTSM | HLC | 0.7801 | 0.4476 | 0.5532 |
| 2 | 2015_04_13_FWW0070357 | SVM | HLC | 0.7731 | 0.4396 | 0.5709 |
| 2 | 2015_04_13_FWW0070357 | DTSM | LLC | 0.7678 | 0.4201 | 0.5843 |
| 2 | 2015_04_13_FWW0070357 | K-means | K-means | 0.7633 | 0.4567 | 0.5957 |
| 2 | 2015_04_13_FWW0070357 | DTSM | ALC | 0.7353 | 0.3342 | 0.6660 |
| 2 | 2015_04_13_FWW0070357 | Rowmeans | Rowmeans | 0.7321 | 0.3284 | 0.6740 |
| 2 | 2015_04_13_FWW0070357 | SVM | LLC | 0.7262 | 0.3113 | 0.6890 |
| 2 | 2015_04_20_FWW0070714 | DTSM | LLC | 0.9724 | 0.9315 | 0.1322 |
| 2 | 2015_04_20_FWW0070714 | DTSM | HLC | 0.9687 | 0.9100 | 0.1499 |
| 2 | 2015_04_20_FWW0070714 | DTSM | ALC | 0.9673 | 0.8615 | 0.1565 |
| 2 | 2015_04_20_FWW0070714 | SVM | LLC | 0.9495 | 0.7620 | 0.2419 |
| 2 | 2015_04_20_FWW0070714 | Otsu | Otsu | 0.9461 | 0.8115 | 0.2581 |
| 2 | 2015_04_20_FWW0070714 | SVM | ALC | 0.9315 | 0.9545 | 0.3280 |
| 2 | 2015_04_20_FWW0070714 | K-means | K-means | 0.9236 | 0.6394 | 0.3659 |
| 2 | 2015_04_20_FWW0070714 | SVM | HLC | 0.9186 | 0.9550 | 0.3900 |
| 2 | 2015_04_20_FWW0070714 | Rowmeans | Rowmeans | 0.7996 | 0.0402 | 0.9598 |
| 2 | 2015_04_23_FWW0070357 | K-means | K-means | 0.9645 | 0.9319 | 0.1249 |
| 2 | 2015_04_23_FWW0070357 | Otsu | Otsu | 0.9524 | 0.9699 | 0.1676 |

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|---|-----------------------|----------|----------|--------|--------|--------|
| 2 | 2015_04_23_FWW0070357 | SVM | ALC | 0.9307 | 0.7903 | 0.2438 |
| 2 | 2015_04_23_FWW0070357 | DTSM | HLC | 0.9270 | 0.7706 | 0.2570 |
| 2 | 2015_04_23_FWW0070357 | DTSM | ALC | 0.8940 | 0.6358 | 0.3729 |
| 2 | 2015_04_23_FWW0070357 | SVM | HLC | 0.8604 | 0.5303 | 0.4913 |
| 2 | 2015_04_23_FWW0070357 | SVM | LLC | 0.8347 | 0.4284 | 0.5818 |
| 2 | 2015_04_23_FWW0070357 | Rowmeans | Rowmeans | 0.7656 | 0.1768 | 0.8249 |
| 2 | 2015_04_23_FWW0070357 | DTSM | LLC | 0.7616 | 0.7956 | 0.8389 |
