

Mapping stats (1x36mers) (for QC)

| Species | # | Raw fragments | Read Length | Unique | Unique dedup | Multi | Fraction aligned | Complexity | MACS2 NumPeaks | MACS2 RPM | MACS2 IDR NumPeaks | MACS2 IDR RPM | NSC | RSC | QC |
|-------------------|---|---------------|-------------|-------------|--------------|-------|------------------|------------|----------------|-----------|--------------------|---------------|--------|-------|----|
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_MPP8-KO_rep1-GSM2509501 | 26,864,146 | 1x36 | 21,390,501 | | | 0.80 | 0.89 | | | | | 1.169 | 0.963 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_MPP8-KO_rep2-GSM2509502 | 25,159,780 | 1x36 | 19,987,758 | | | 0.79 | 0.91 | | | | | 1.162 | 0.937 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_WT_rep1-GSM2509499 | 30,815,380 | 1x36 | 24,730,115 | | | 0.80 | 0.90 | | | | | 1.122 | 0.816 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_WT_rep2-GSM2509500 | 25,056,531 | 1x36 | 19,727,228 | | | 0.79 | 0.91 | | | | | 1.150 | 0.783 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MORC2-KO_rep1-GSM2509489 | 27,263,311 | 1x36 | 19,169,202 | | | 0.70 | 0.94 | | | | | 1.081 | 0.275 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MORC2-KO_rep2-GSM2509490 | 27,988,904 | 1x36 | 19,595,788 | | | 0.70 | 0.95 | | | | | 1.091 | 0.279 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MPP8-KO_rep1-GSM2509505 | 26,375,904 | 1x36 | 19,729,173 | | | 0.75 | 0.91 | | | | | 1.099 | 0.370 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MPP8-KO_rep2-GSM2509506 | 29,372,572 | 1x36 | 21,806,179 | | | 0.74 | 0.88 | | | | | 1.133 | 0.479 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_TASOR-KO_rep1-GSM2509491 | 23,582,862 | 1x36 | 16,473,785 | | | 0.70 | 0.95 | | | | | 1.101 | 0.279 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_TASOR-KO_rep2-GSM2509492 | 24,718,857 | 1x36 | 17,229,403 | | | 0.70 | 0.95 | | | | | 1.108 | 0.297 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep1-GSM2509487 | 36,249,888 | 1x36 | 25,909,467 | | | 0.71 | 0.92 | | | | | 1.066 | 0.244 | -2 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep2-GSM2509488 | 32,621,494 | 1x36 | 22,860,288 | | | 0.70 | 0.93 | | | | | 1.072 | 0.273 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep3-GSM2509503 | 25,636,116 | 1x36 | 19,200,935 | | | 0.75 | 0.93 | | | | | 1.112 | 0.446 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep4-GSM2509504 | 23,437,674 | 1x36 | 17,589,569 | | | 0.75 | 0.94 | | | | | 1.123 | 0.456 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_hESC_WT_rep1-GSM2789816 | 74,596,717 | 1x36 | 27,868,840 | | | 0.37 | 0.95 | | | | | 1.356 | 1.985 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_hESC_WT_rep2-GSM2789817 | 121,286,448 | 1x36 | 38,402,423 | | | 0.32 | 0.92 | | | | | 1.1586 | 1.351 | 1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_K562_WT_rep1-GSM2789810 | 33,943,816 | 1x36 | 59,501,216 | | | 1.75 | 0.73 | | | | | 1.030 | 0.196 | -2 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_K562_WT_rep2-GSM2789811 | 46,972,551 | 1x36 | 100,956,278 | | | 2.15 | 0.79 | | | | | 1.045 | 0.310 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_mESC_WT_rep1-GSM2789820 | 103,655,573 | 1x36 | 1,214,062 | | | 0.01 | 0.75 | | | | | 2.418 | 0.022 | -2 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_mESC_WT_rep2-GSM2789821 | 91,432,873 | 1x36 | 1,135,658 | | | 0.01 | 0.73 | | | | | 2.367 | 0.022 | -2 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_MPP8-KO_rep1-GSM2509509 | 24,923,312 | 1x36 | 20,417,792 | | | 0.82 | 0.93 | | | | | 1.076 | 0.429 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_MPP8-KO_rep2-GSM2509510 | 15,256,403 | 1x36 | 12,440,188 | | | 0.82 | 0.95 | | | | | 1.084 | 0.403 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_WT_rep1-GSM2509507 | 36,342,891 | 1x36 | 29,898,604 | | | 0.82 | 0.92 | | | | | 1.062 | 0.411 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_WT_rep2-GSM2509508 | 22,690,817 | 1x36 | 18,624,910 | | | 0.82 | 0.94 | | | | | 1.061 | 0.347 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_MORC2-KO_rep1-GSM2509495 | 18,019,895 | 1x36 | 13,540,177 | | | 0.75 | 0.85 | | | | | 1.453 | 3.441 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_MORC2-KO_rep2-GSM2509496 | 9,986,540 | 1x36 | 7,307,760 | | | 0.73 | 0.94 | | | | | 1.345 | 2.224 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_TASOR-KO_rep1-GSM2509497 | 24,394,835 | 1x36 | 18,506,667 | | | 0.76 | 0.92 | | | | | 1.255 | 1.357 | 1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_TASOR-KO_rep2-GSM2509498 | 8,861,546 | 1x36 | 6,844,241 | | | 0.77 | 0.96 | | | | | 1.169 | 0.785 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_WT_rep1-GSM2509493 | 5,851,503 | 1x36 | 4,516,361 | | | 0.77 | 0.97 | | | | | 1.147 | 0.717 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_WT_rep2-GSM2509494 | 9,464,991 | 1x36 | 7,391,497 | | | 0.78 | 0.97 | | | | | 1.121 | 0.550 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MORC2-KO_rep1-GSM2509481 | 12,385,520 | 1x36 | 9,780,407 | | | 0.79 | 0.95 | | | | | 1.109 | 0.597 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MORC2-KO_rep2-GSM2509482 | 11,446,921 | 1x36 | 9,002,991 | | | 0.79 | 0.93 | | | | | 1.156 | 0.760 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MPP8-KO_rep1-GSM2509483 | 11,811,162 | 1x36 | 9,119,465 | | | 0.77 | 0.94 | | | | | 1.226 | 1.074 | 1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MPP8-KO_rep2-GSM2509484 | 17,464,099 | 1x36 | 14,080,003 | | | 0.81 | 0.95 | | | | | 1.076 | 0.426 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_TASOR-KO_rep1-GSM2509485 | 12,179,740 | 1x36 | 9,805,160 | | | 0.81 | 0.95 | | | | | 1.076 | 0.411 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_TASOR-KO_rep2-GSM2509486 | 9,071,907 | 1x36 | 7,226,482 | | | 0.80 | 0.95 | | | | | 1.106 | 0.600 | 0 |

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|-------------------|---|---------------|-------------|------------|--------------|-------|------------------|------------|----------------|-----------|--------------------|---------------|-------|-------|----|
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_WT_rep1-GSM2509479 | 8,063,663 | 1x36 | 6,525,994 | | | 0.81 | 0.97 | | | | | 1.057 | 0.342 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_WT_rep2-GSM2509480 | 10,626,760 | 1x36 | 8,481,015 | | | 0.80 | 0.96 | | | | | 1.063 | 0.381 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_hESC_WT_rep1-GSM2789814 | 84,103,205 | 1x36 | 9,425,124 | | | 0.11 | 0.85 | | | | | 1.913 | 6.199 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_hESC_WT_rep2-GSM2789815 | 76,788,530 | 1x36 | 9,230,332 | | | 0.12 | 0.89 | | | | | 2.118 | 7.158 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MORC2-KO_rep1-GSM2509457 | 11,622,551 | 1x36 | 10,350,765 | | | 0.89 | 0.88 | | | | | 1.359 | 2.904 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MORC2-KO_rep2-GSM2509458 | 11,338,567 | 1x36 | 8,618,528 | | | 0.76 | 0.92 | | | | | 1.228 | 1.506 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MPP8-KO_rep1-GSM2509459 | 12,691,229 | 1x36 | 8,453,061 | | | 0.67 | 0.90 | | | | | 1.257 | 2.083 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MPP8-KO_rep2-GSM2509460 | 10,553,316 | 1x36 | 13,606,611 | | | 1.29 | 0.85 | | | | | 1.187 | 1.271 | 1 |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_TASOR-KO_rep1-GSM2509461 | 10,398,844 | 1x36 | 10,230,828 | | | 0.98 | 0.84 | | | | | 1.277 | 1.764 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_TASOR-KO_rep2-GSM2509462 | 16,749,490 | 1x36 | 8,945,334 | | | 0.53 | 0.86 | | | | | 1.302 | 2.469 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_WT_rep1-GSM2509455 | 12,726,801 | 1x36 | 68,858,919 | | | 5.41 | 0.31 | | | | | 1.293 | 1.406 | 1 |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_WT_rep2-GSM2509456 | 11,132,424 | 1x36 | 63,331,010 | | | 5.69 | 0.33 | | | | | 1.282 | 1.342 | 1 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_hESC_WT_rep1-GSM2789812 | 81,639,486 | 1x36 | 10,829,661 | | | 0.13 | 0.96 | | | | | 1.261 | 1.766 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_hESC_WT_rep2-GSM2789813 | 79,712,081 | 1x36 | 10,594,179 | | | 0.13 | 0.96 | | | | | 1.365 | 2.453 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_mESC_WT_rep1-GSM2789818 | 103,655,573 | 1x36 | 10,134,985 | | | 0.10 | 0.93 | | | | | 2.418 | 0.022 | -2 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_mESC_WT_rep2-GSM2789819 | 91,432,873 | 1x36 | 12,617,461 | | | 0.14 | 0.94 | | | | | 2.367 | 0.022 | -2 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MORC2-KO_rep1-GSM2509465 | 13,356,883 | 1x36 | 21,523,772 | | | 1.61 | 0.93 | | | | | 1.089 | 0.586 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MORC2-KO_rep2-GSM2509466 | 13,151,539 | 1x36 | 12,064,465 | | | 0.92 | 0.95 | | | | | 1.085 | 0.608 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MPP8-KO_rep1-GSM2509467 | 12,631,005 | 1x36 | 14,930,175 | | | 1.18 | 0.95 | | | | | 1.149 | 0.932 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MPP8-KO_rep2-GSM2509468 | 15,708,642 | 1x36 | 11,160,550 | | | 0.71 | 0.96 | | | | | 1.068 | 0.423 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_TASOR-KO_rep1-GSM2509469 | 26,880,948 | 1x36 | 66,508,916 | | | 2.47 | 0.72 | | | | | 1.076 | 0.483 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_TASOR-KO_rep2-GSM2509470 | 15,056,406 | 1x36 | 64,981,507 | | | 4.32 | 0.66 | | | | | 1.076 | 0.449 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_WT_rep1-GSM2509463 | 18,471,954 | 1x36 | 1,214,062 | | | 0.07 | 0.75 | | | | | 1.059 | 0.388 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_WT_rep2-GSM2509464 | 13,681,575 | 1x36 | 1,135,658 | | | 0.08 | 0.73 | | | | | 1.055 | 0.330 | -1 |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_MORC2-KO_rep1-GSM2789804 | 18,786,261 | 1x36 | 15,637,541 | | | 0.83 | 0.92 | | | | | 1.466 | 3.875 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_MORC2-KO_rep2-GSM2789805 | 14,267,522 | 1x36 | 11,846,926 | | | 0.83 | 0.93 | | | | | 1.493 | 3.849 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_MPP8-KO_rep1-GSM2789806 | 16,863,119 | 1x36 | 14,083,038 | | | 0.84 | 0.91 | | | | | 1.589 | 4.664 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_MPP8-KO_rep2-GSM2789807 | 15,364,187 | 1x36 | 12,827,149 | | | 0.83 | 0.91 | | | | | 1.594 | 4.817 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_TASOR-KO_rep1-GSM2789808 | 13,369,810 | 1x36 | 11,155,835 | | | 0.83 | 0.91 | | | | | 1.486 | 4.019 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_TASOR-KO_rep2-GSM2789809 | 15,262,669 | 1x36 | 12,720,959 | | | 0.83 | 0.92 | | | | | 1.457 | 3.853 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_WT_rep1-GSM2789802 | 30,887,649 | 1x36 | 25,799,998 | | | 0.84 | 0.89 | | | | | 1.361 | 3.257 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_WT_rep2-GSM2789803 | 25,360,426 | 1x36 | 21,172,439 | | | 0.83 | 0.91 | | | | | 1.393 | 3.250 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MORC2-KO_rep1-GSM2509473 | 20,642,268 | 1x36 | 16,691,876 | | | 0.81 | 0.91 | | | | | 1.117 | 0.834 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MORC2-KO_rep2-GSM2509474 | 14,445,345 | 1x36 | 11,612,306 | | | 0.80 | 0.91 | | | | | 1.139 | 0.989 | 0 |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MPP8-KO_rep1-GSM2509475 | 11,676,877 | 1x36 | 9,390,906 | | | 0.80 | 0.85 | | | | | 1.423 | 3.176 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MPP8-KO_rep2-GSM2509476 | 13,871,573 | 1x36 | 11,205,925 | | | 0.81 | 0.84 | | | | | 1.463 | 3.742 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_TASOR-KO_rep1-GSM2509477 | 12,504,223 | 1x36 | 10,034,484 | | | 0.80 | 0.80 | | | | | 1.883 | 5.631 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_TASOR-KO_rep2-GSM2509478 | 12,859,715 | 1x36 | 10,312,563 | | | 0.80 | 0.78 | | | | | 1.843 | 5.719 | 2 |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_WT_rep1-GSM2509471 | 15,006,948 | 1x36 | 12,042,477 | | | 0.80 | 0.90 | | | | | 1.145 | 1.142 | 1 |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_WT_rep2-GSM2509472 | 14,638,912 | 1x36 | 11,787,246 | | | 0.81 | 0.89 | | | | | 1.173 | 1.183 | 1 |

Mapping stats (2x36mers)

| Species | # | Raw fragments | Read Length | Unique | Unique dedup | Multi | Fraction aligned | Complexity | MACS2 NumPeaks | MACS2 RPM | MACS2 IDR NumPeaks | MACS2 IDR RPM | NSC | RSC | QC |
|-------------------|---|---------------|-------------|-------------|--------------|-------|------------------|------------|----------------|-----------|--------------------|---------------|-----|-----|----|
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_MPP8-KO_rep1-GSM2509501 | 26,864,146 | 2x36 | 43,608,160 | 38,482,930 | | 0.81 | 0.88 | 1,037 | 683 | 25 | 158 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_MPP8-KO_rep2-GSM2509502 | 25,159,780 | 2x36 | 40,760,836 | 37,012,624 | | 0.81 | 0.90 | 748 | 573 | 25 | 172 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_WT_rep1-GSM2509499 | 30,815,380 | 2x36 | 50,418,986 | 45,467,608 | | 0.82 | 0.89 | 1,670 | 1,049 | 72 | 377 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_WT_rep2-GSM2509500 | 25,056,531 | 2x36 | 39,448,116 | 35,849,172 | | 0.79 | 0.90 | 2,183 | 1,665 | 72 | 437 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MORC2-KO_rep1-GSM2509489 | 27,263,311 | 2x36 | 39,569,968 | 37,538,136 | | 0.73 | 0.94 | 64,124 | 105,446 | 27,722 | 139,555 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MORC2-KO_rep2-GSM2509490 | 27,988,904 | 2x36 | 40,326,878 | 38,315,212 | | 0.72 | 0.94 | 40,439 | 66,470 | 27,722 | 135,250 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MPP8-KO_rep1-GSM2509505 | 26,375,904 | 2x36 | 40,587,346 | 37,132,338 | | 0.77 | 0.91 | 47,950 | 62,360 | 16,545 | 88,191 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MPP8-KO_rep2-GSM2509506 | 29,372,572 | 2x36 | 44,567,562 | 39,328,446 | | 0.76 | 0.87 | 63,257 | 78,889 | 16,545 | 91,512 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_TASOR-KO_rep1-GSM2509491 | 23,582,862 | 2x36 | 33,877,084 | 32,460,926 | | 0.72 | 0.95 | 71,256 | 101,669 | 18,195 | 100,576 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_TASOR-KO_rep2-GSM2509492 | 24,718,857 | 2x36 | 35,351,946 | 33,716,548 | | 0.72 | 0.95 | 35,511 | 61,845 | 18,195 | 99,205 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep1-GSM2509487 | 36,249,888 | 2x36 | 53,434,386 | 49,419,006 | | 0.74 | 0.91 | 13,640 | 33,548 | 28,262 | 163,552 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep2-GSM2509488 | 32,621,494 | 2x36 | 47,302,244 | 44,156,742 | | 0.73 | 0.92 | 52,031 | 114,939 | 28,262 | 177,726 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep3-GSM2509503 | 25,636,116 | 2x36 | 39,593,700 | 36,960,606 | | 0.77 | 0.93 | 2,416 | 4,475 | 28,262 | 126,675 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep4-GSM2509504 | 23,437,674 | 2x36 | 36,337,182 | 34,115,586 | | 0.78 | 0.93 | 12,463 | 18,573 | 28,262 | 125,872 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_hESC_WT_rep1-GSM2789816 | 74,596,717 | 2x36 | 56,884,304 | 54,910,270 | | 0.38 | 0.95 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_hESC_WT_rep2-GSM2789817 | 121,286,448 | 2x36 | 78,278,974 | 72,255,248 | | 0.32 | 0.91 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_K562_WT_rep1-GSM2789810 | 33,943,816 | 2x36 | 121,118,738 | 81,397,956 | | 1.78 | 0.66 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_K562_WT_rep2-GSM2789811 | 46,972,551 | 2x36 | 203,853,650 | 152,031,728 | | 2.17 | 0.73 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_mESC_WT_rep1-GSM2789820 | 103,655,573 | 2x36 | 360,310 | 260,918 | | 0.00 | 0.70 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_mESC_WT_rep2-GSM2789821 | 91,432,873 | 2x36 | 421,658 | 295,914 | | 0.00 | 0.68 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_MPP8-KO_rep1-GSM2509509 | 24,923,312 | 2x36 | 41,511,510 | 39,032,774 | | 0.83 | 0.93 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_MPP8-KO_rep2-GSM2509510 | 15,256,403 | 2x36 | 24,674,374 | 23,571,600 | | 0.81 | 0.95 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_WT_rep1-GSM2509507 | 36,342,891 | 2x36 | 60,450,296 | 56,283,182 | | 0.83 | 0.92 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_WT_rep2-GSM2509508 | 22,690,817 | 2x36 | 37,536,346 | 35,640,532 | | 0.83 | 0.94 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_MORC2-KO_rep1-GSM2509495 | 18,019,895 | 2x36 | 18,233,602 | 15,593,506 | | 0.51 | 0.82 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_MORC2-KO_rep2-GSM2509496 | 9,986,540 | 2x36 | 14,001,188 | 13,196,996 | | 0.70 | 0.93 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_TASOR-KO_rep1-GSM2509497 | 24,394,835 | 2x36 | 38,607,304 | 35,825,370 | | 0.79 | 0.92 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_TASOR-KO_rep2-GSM2509498 | 8,861,546 | 2x36 | 14,195,988 | 13,747,368 | | 0.80 | 0.96 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_WT_rep1-GSM2509493 | 5,851,503 | 2x36 | 9,316,508 | 9,073,534 | | 0.80 | 0.97 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_WT_rep2-GSM2509494 | 9,464,991 | 2x36 | 15,245,140 | 14,870,316 | | 0.81 | 0.97 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MORC2-KO_rep1-GSM2509481 | 12,385,520 | 2x36 | 20,031,638 | 19,310,946 | | 0.81 | 0.95 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MORC2-KO_rep2-GSM2509482 | 11,446,921 | 2x36 | 18,404,436 | 17,157,866 | | 0.80 | 0.92 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MPP8-KO_rep1-GSM2509483 | 11,811,162 | 2x36 | 17,842,380 | 16,968,186 | | 0.76 | 0.94 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MPP8-KO_rep2-GSM2509484 | 17,464,099 | 2x36 | 28,948,326 | 27,734,880 | | 0.83 | 0.95 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_TASOR-KO_rep1-GSM2509485 | 12,179,740 | 2x36 | 20,192,034 | 19,378,676 | | 0.83 | 0.95 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_TASOR-KO_rep2-GSM2509486 | 9,071,907 | 2x36 | 14,874,484 | 14,178,572 | | 0.82 | 0.94 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_WT_rep1-GSM2509479 | 8,063,663 | 2x36 | 13,415,402 | 13,065,496 | | 0.83 | 0.97 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_WT_rep2-GSM2509480 | 10,626,760 | 2x36 | 17,373,540 | 16,879,362 | | 0.82 | 0.96 | | | | | | | |

Mapping stats (2x36mers)

| Species | # | Raw fragments | Read Length | Unique | Unique dedup | Multi | Fraction aligned | Complexity | MACS2 NumPeaks | MACS2 RPM | MACS2 IDR NumPeaks | MACS2 IDR RPM | NSC | RSC | QC |
|-------------------|--|---------------|-------------|-------------|--------------|-------|------------------|------------|----------------|-----------|--------------------|---------------|-----|-----|----|
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_hESC_WT_rep1-GSM2789814 | 84,103,205 | 2x36 | 19,273,656 | 15,960,756 | | 0.11 | 0.82 | 1,342,521 | 418,842 | 7,992 | 29,022 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_hESC_WT_rep2-GSM2789815 | 76,788,530 | 2x36 | 18,912,482 | 16,539,950 | | 0.12 | 0.87 | 1,379,331 | 445,694 | 7,992 | 27,100 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MORC2-KO_rep1-GSM2509457 | 11,622,551 | 2x36 | 21,248,154 | 18,258,538 | | 0.91 | 0.85 | 432 | 412 | 42 | 186 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MORC2-KO_rep2-GSM2509458 | 11,338,567 | 2x36 | 17,638,526 | 16,054,624 | | 0.78 | 0.90 | 169 | 184 | 42 | 185 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MPP8-KO_rep1-GSM2509459 | 12,691,229 | 2x36 | 17,265,876 | 15,420,848 | | 0.68 | 0.89 | 743 | 1,165 | 239 | 1,057 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MPP8-KO_rep2-GSM2509460 | 10,553,316 | 2x36 | 27,821,472 | 22,880,346 | | 1.32 | 0.82 | 177 | 470 | 239 | 751 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_TASOR-KO_rep1-GSM2509461 | 10,398,844 | 2x36 | 21,070,638 | 17,352,516 | | 1.01 | 0.82 | 275 | 690 | 562 | 2,080 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_TASOR-KO_rep2-GSM2509462 | 16,749,490 | 2x36 | 18,252,796 | 15,432,580 | | 0.54 | 0.84 | 937 | 1,768 | 562 | 2,305 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_WT_rep1-GSM2509455 | 12,726,801 | 2x36 | 138,565,774 | 36,278,398 | | 5.44 | 0.25 | 5,947 | 16,489 | 2,420 | 20,044 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_WT_rep2-GSM2509456 | 11,132,424 | 2x36 | 127,370,668 | 35,031,700 | | 5.72 | 0.27 | 4,359 | 15,488 | 2,420 | 21,376 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_hESC_WT_rep1-GSM2789812 | 81,639,486 | 2x36 | 22,068,474 | 21,270,764 | | 0.14 | 0.96 | 381,597 | 115,025 | 7,095 | 30,064 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_hESC_WT_rep2-GSM2789813 | 79,712,081 | 2x36 | 21,621,006 | 20,770,164 | | 0.14 | 0.95 | 717,974 | 180,377 | 7,095 | 29,905 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_mESC_WT_rep1-GSM2789818 | 103,655,573 | 2x36 | 20,803,092 | 19,389,340 | | 0.10 | 0.93 | 34 | 202,923 | 27 | 182,020 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_mESC_WT_rep2-GSM2789819 | 91,432,873 | 2x36 | 25,920,818 | 24,329,924 | | 0.14 | 0.93 | 40 | 214,339 | 27 | 187,690 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MORC2-KO_rep1-GSM2509465 | 13,356,883 | 2x36 | 44,305,152 | 41,506,740 | | 1.66 | 0.93 | 150 | 330 | 192 | 1,160 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MORC2-KO_rep2-GSM2509466 | 13,151,539 | 2x36 | 24,826,322 | 23,762,616 | | 0.94 | 0.95 | 55 | 132 | 192 | 986 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MPP8-KO_rep1-GSM2509467 | 12,631,005 | 2x36 | 30,409,326 | 29,105,896 | | 1.20 | 0.95 | 121 | 238 | 111 | 357 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MPP8-KO_rep2-GSM2509468 | 15,708,642 | 2x36 | 22,750,838 | 22,084,888 | | 0.72 | 0.96 | 34 | 120 | 111 | 362 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_TASOR-KO_rep1-GSM2509469 | 26,880,948 | 2x36 | 134,381,498 | 89,053,644 | | 2.50 | 0.65 | 99 | 266 | 184 | 609 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_TASOR-KO_rep2-GSM2509470 | 15,056,406 | 2x36 | 130,800,250 | 77,054,026 | | 4.34 | 0.58 | 69 | 209 | 184 | 614 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_WT_rep1-GSM2509463 | 18,471,954 | 2x36 | 360,240 | 260,744 | | 0.01 | 0.70 | 76 | 236 | 149 | 824 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_WT_rep2-GSM2509464 | 13,681,575 | 2x36 | 421,888 | 296,092 | | 0.02 | 0.68 | 39 | 88 | 149 | 703 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_MORC2-KO_rep1-GSM2789804 | 18,786,261 | 2x36 | 31,739,662 | 29,942,432 | | 0.84 | 0.92 | 41,783 | 298,779 | 17,914 | 324,217 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_MORC2-KO_rep2-GSM2789805 | 14,267,572 | 2x36 | 24,084,604 | 22,781,570 | | 0.84 | 0.92 | 38,272 | 303,224 | 17,914 | 338,280 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_MPP8-KO_rep1-GSM2789806 | 16,863,119 | 2x36 | 28,545,804 | 26,586,746 | | 0.85 | 0.90 | 35,398 | 306,069 | 19,646 | 377,020 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_MPP8-KO_rep2-GSM2789807 | 15,364,187 | 2x36 | 25,956,268 | 24,300,034 | | 0.84 | 0.91 | 43,978 | 367,556 | 19,646 | 372,208 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_TASOR-KO_rep1-GSM2789808 | 13,369,810 | 2x36 | 22,585,692 | 21,073,210 | | 0.84 | 0.90 | 46,838 | 410,483 | 19,244 | 433,369 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_TASOR-KO_rep2-GSM2789809 | 15,262,669 | 2x36 | 25,712,620 | 24,472,858 | | 0.84 | 0.92 | 44,887 | 389,476 | 19,244 | 422,968 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_WT_rep1-GSM2789802 | 30,887,649 | 2x36 | 52,609,520 | 48,118,914 | | 0.85 | 0.88 | 38,530 | 327,066 | 23,217 | 480,288 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Poll_Cell_K562_WT_rep2-GSM2789803 | 25,360,426 | 2x36 | 43,125,664 | 40,596,934 | | 0.85 | 0.91 | 46,561 | 354,117 | 23,217 | 488,324 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MORC2-KO_rep1-GSM2509473 | 20,642,268 | 2x36 | 34,347,092 | 31,094,742 | | 0.83 | 0.90 | 338 | 1,026 | 317 | 1,733 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MORC2-KO_rep2-GSM2509474 | 14,445,345 | 2x36 | 23,903,934 | 21,758,104 | | 0.83 | 0.90 | 245 | 733 | 317 | 1,576 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MPP8-KO_rep1-GSM2509475 | 11,676,877 | 2x36 | 19,334,430 | 16,254,836 | | 0.83 | 0.83 | 771 | 2,103 | 169 | 1,702 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MPP8-KO_rep2-GSM2509476 | 13,871,573 | 2x36 | 22,987,818 | 18,951,788 | | 0.83 | 0.82 | 327 | 1,659 | 169 | 1,601 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_TASOR-KO_rep1-GSM2509477 | 12,504,223 | 2x36 | 20,625,106 | 16,010,450 | | 0.82 | 0.77 | 1,488 | 4,176 | 318 | 3,346 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_TASOR-KO_rep2-GSM2509478 | 12,859,715 | 2x36 | 21,212,192 | 16,100,110 | | 0.82 | 0.75 | 1,609 | 4,358 | 318 | 3,423 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_WT_rep1-GSM2509471 | 15,006,948 | 2x36 | 24,742,396 | 22,116,592 | | 0.82 | 0.89 | 244 | 862 | 198 | 1,159 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_WT_rep2-GSM2509472 | 14,638,912 | 2x36 | 24,245,954 | 21,509,786 | | 0.83 | 0.88 | 271 | 835 | 198 | 1,129 | | | |

Mapping stats (2x75mers)

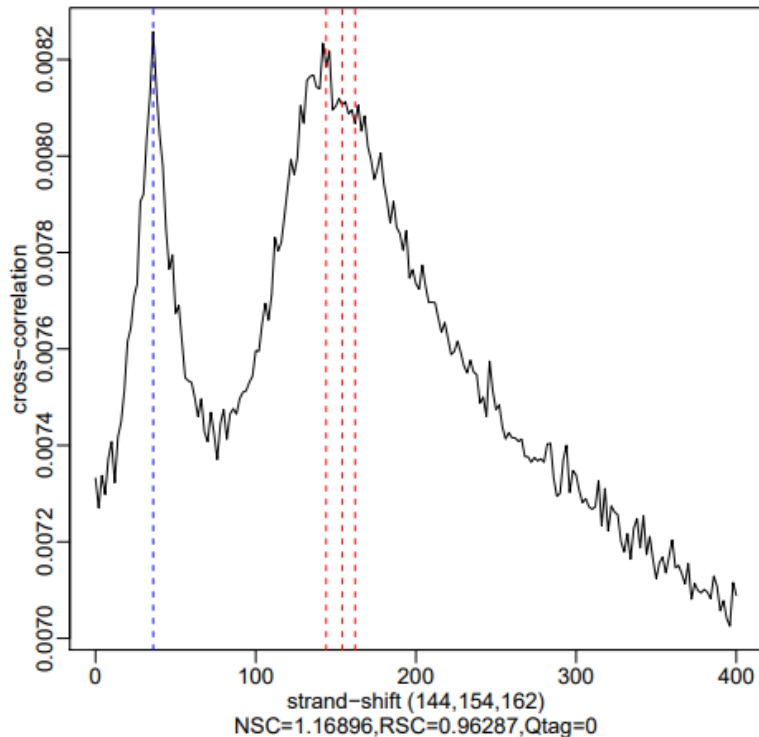
| Species | # | Raw fragments | Read Length | Unique | Unique dedup | Multi | Fraction aligned | Complexity | MACS2 NumPeaks | MACS2 RPM | MACS2 IDR NumPeaks | MACS2 IDR RPM | NSC | RSC | QC |
|-------------------|---|---------------|-------------|-------------|--------------|------------|------------------|------------|----------------|-----------|--------------------|---------------|-----|-----|----|
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_MPP8-KO_rep1-GSM2509501 | 26,864,146 | 2x75 | 44,766,582 | 39,501,814 | 3,402,540 | 0.90 | 0.87 | 1,306 | 957 | 22 | 76 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_MPP8-KO_rep2-GSM2509502 | 25,159,780 | 2x75 | 42,152,520 | 38,270,938 | 3,182,492 | 0.90 | 0.90 | 961 | 797 | 22 | 83 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_WT_rep1-GSM2509499 | 30,815,380 | 2x75 | 51,936,072 | 46,832,778 | 3,988,478 | 0.91 | 0.89 | 2,151 | 1,538 | 111 | 455 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me2_Cell_WT_rep2-GSM2509500 | 25,056,531 | 2x75 | 40,793,860 | 37,063,056 | 3,186,642 | 0.88 | 0.90 | 2,746 | 2,239 | 111 | 519 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MORC2-KO_rep1-GSM2509489 | 27,263,311 | 2x75 | 41,380,996 | 39,264,392 | 6,180,572 | 0.87 | 0.94 | 54,409 | 97,656 | 25,741 | 121,253 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MORC2-KO_rep2-GSM2509490 | 27,988,904 | 2x75 | 42,405,880 | 40,296,810 | 6,262,224 | 0.87 | 0.94 | 47,310 | 76,975 | 25,741 | 116,660 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MPP8-KO_rep1-GSM2509505 | 26,375,904 | 2x75 | 42,329,898 | 38,732,870 | 5,236,028 | 0.90 | 0.91 | 56,690 | 74,523 | 16,713 | 82,942 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_MPP8-KO_rep2-GSM2509506 | 29,372,572 | 2x75 | 46,553,984 | 41,082,894 | 5,669,172 | 0.89 | 0.87 | 75,464 | 94,027 | 16,713 | 86,046 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_TASOR-KO_rep1-GSM2509491 | 23,582,862 | 2x75 | 35,489,758 | 34,012,820 | 5,293,716 | 0.86 | 0.95 | 60,510 | 96,848 | 18,353 | 99,796 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_TASOR-KO_rep2-GSM2509492 | 24,718,857 | 2x75 | 37,313,884 | 35,589,654 | 5,638,102 | 0.87 | 0.94 | 38,608 | 68,011 | 18,353 | 98,597 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep1-GSM2509487 | 36,249,888 | 2x75 | 55,970,922 | 51,781,226 | 7,989,900 | 0.88 | 0.91 | 16,275 | 39,338 | 28,725 | 166,481 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep2-GSM2509488 | 32,621,494 | 2x75 | 49,702,668 | 46,411,792 | 7,459,902 | 0.88 | 0.92 | 47,176 | 113,278 | 28,725 | 180,866 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep3-GSM2509503 | 25,636,116 | 2x75 | 41,453,710 | 38,699,444 | 5,001,884 | 0.91 | 0.93 | 2,725 | 5,560 | 28,725 | 130,468 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_H3K9me3_Cell_WT_rep4-GSM2509504 | 23,437,674 | 2x75 | 38,065,364 | 35,743,202 | 4,596,946 | 0.91 | 0.93 | 14,803 | 23,161 | 28,725 | 129,494 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_hESC_WT_rep1-GSM2789816 | 74,596,717 | 2x75 | 57,798,354 | 55,798,948 | 3,973,922 | 0.41 | 0.95 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_hESC_WT_rep2-GSM2789817 | 121,286,448 | 2x75 | 79,737,408 | 73,601,690 | 5,710,798 | 0.35 | 0.91 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_K562_WT_rep1-GSM2789810 | 33,943,816 | 2x75 | 118,597,980 | 80,718,112 | 10,295,856 | 1.90 | 0.67 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_K562_WT_rep2-GSM2789811 | 46,972,551 | 2x75 | 199,457,480 | 150,041,148 | 15,139,794 | 2.28 | 0.74 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_mESC_WT_rep1-GSM2789820 | 103,655,573 | 2x75 | 101,598 | 94,060 | 43,130 | 0.00 | 0.92 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_Cell_mESC_WT_rep2-GSM2789821 | 91,432,873 | 2x75 | 162,222 | 146,022 | 48,214 | 0.00 | 0.89 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_MPP8-KO_rep1-GSM2509509 | 24,923,312 | 2x75 | 42,202,650 | 39,697,624 | 3,141,012 | 0.91 | 0.93 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_MPP8-KO_rep2-GSM2509510 | 15,256,403 | 2x75 | 25,207,748 | 24,089,382 | 1,857,784 | 0.89 | 0.95 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_WT_rep1-GSM2509507 | 36,342,891 | 2x75 | 61,508,994 | 57,287,900 | 4,655,332 | 0.91 | 0.92 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me2or3_Cell_WT_rep2-GSM2509508 | 22,690,817 | 2x75 | 38,225,180 | 36,307,640 | 2,862,458 | 0.91 | 0.94 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_MORC2-KO_rep1-GSM2509495 | 18,019,895 | 2x75 | 17,663,894 | 15,134,478 | 2,149,360 | 0.55 | 0.82 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_MORC2-KO_rep2-GSM2509496 | 9,986,540 | 2x75 | 14,284,786 | 13,462,662 | 1,140,612 | 0.77 | 0.93 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_TASOR-KO_rep1-GSM2509497 | 24,394,835 | 2x75 | 40,031,402 | 37,121,368 | 2,851,568 | 0.88 | 0.91 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_TASOR-KO_rep2-GSM2509498 | 8,861,546 | 2x75 | 14,657,396 | 14,201,348 | 1,134,240 | 0.89 | 0.96 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_WT_rep1-GSM2509493 | 5,851,503 | 2x75 | 9,599,126 | 9,351,330 | 713,810 | 0.88 | 0.97 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_H3K9me3_Cell_WT_rep2-GSM2509494 | 9,464,991 | 2x75 | 15,754,758 | 15,372,784 | 1,269,904 | 0.90 | 0.97 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MORC2-KO_rep1-GSM2509481 | 12,385,520 | 2x75 | 20,563,994 | 19,826,818 | 1,458,564 | 0.89 | 0.95 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MORC2-KO_rep2-GSM2509482 | 11,446,921 | 2x75 | 18,892,724 | 17,613,186 | 1,321,238 | 0.88 | 0.92 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MPP8-KO_rep1-GSM2509483 | 11,811,162 | 2x75 | 18,335,396 | 17,437,404 | 1,239,540 | 0.83 | 0.94 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_MPP8-KO_rep2-GSM2509484 | 17,464,099 | 2x75 | 29,674,194 | 28,433,142 | 2,189,608 | 0.91 | 0.95 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_TASOR-KO_rep1-GSM2509485 | 12,179,740 | 2x75 | 20,693,256 | 19,862,840 | 1,554,424 | 0.91 | 0.95 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_TASOR-KO_rep2-GSM2509486 | 9,071,907 | 2x75 | 15,275,446 | 14,562,980 | 1,148,884 | 0.91 | 0.94 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_WT_rep1-GSM2509479 | 8,063,663 | 2x75 | 13,629,890 | 13,277,724 | 979,180 | 0.91 | 0.97 | | | | | | | |
| hs1-T2T-CHM13v2.0 | ChIP_Input_MORC2-MPP8-TASOR_Cell_WT_rep2-GSM2509480 | 10,626,760 | 2x75 | 17,741,456 | 17,241,228 | 1,283,122 | 0.90 | 0.96 | | | | | | | |

Mapping stats (2x75mers)

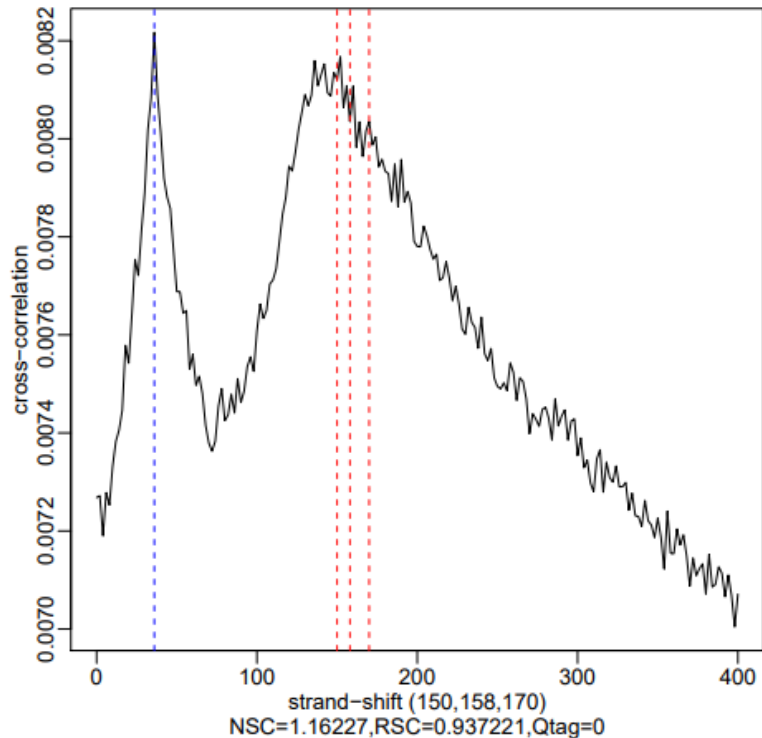
| Species | # | Raw fragments | Read Length | Unique | Unique dedup | Multi | Fraction aligned | Complexity | MACS2 NumPeaks | MACS2 RPM | MACS2 IDR NumPeaks | MACS2 IDR RPM | NSC | RSC | QC |
|-------------------|---|---------------|-------------|-------------|--------------|------------|------------------|------------|----------------|-----------|--------------------|---------------|-----|-----|----|
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_hESC_WT_rep1-GSM2789814 | 84,103,205 | 2x75 | 19,647,680 | 16,262,658 | 1,346,390 | 0.12 | 0.82 | 1,266,363 | 427,708 | 8,302 | 28,165 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_hESC_WT_rep2-GSM2789815 | 76,788,530 | 2x75 | 19,307,200 | 16,883,536 | 1,371,782 | 0.13 | 0.87 | 1,312,626 | 453,042 | 8,302 | 26,541 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MORC2-KO_rep1-GSM2509457 | 11,622,551 | 2x75 | 21,661,408 | 18,608,680 | 1,514,734 | 1.00 | 0.85 | 443 | 459 | 0 | 0 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MORC2-KO_rep2-GSM2509458 | 11,338,567 | 2x75 | 17,995,728 | 16,380,656 | 1,300,452 | 0.85 | 0.90 | 49 | 71 | 0 | 0 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MPP8-KO_rep1-GSM2509459 | 12,691,229 | 2x75 | 17,613,130 | 15,731,306 | 1,338,696 | 0.75 | 0.89 | 724 | 1,203 | 236 | 1,033 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_MPP8-KO_rep2-GSM2509460 | 10,553,316 | 2x75 | 28,362,020 | 23,310,820 | 2,142,394 | 1.45 | 0.81 | 174 | 451 | 236 | 784 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_TASOR-KO_rep1-GSM2509461 | 10,398,844 | 2x75 | 21,632,820 | 17,808,150 | 1,692,882 | 1.12 | 0.82 | 311 | 750 | 542 | 2,027 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_TASOR-KO_rep2-GSM2509462 | 16,749,490 | 2x75 | 18,726,866 | 15,830,338 | 1,436,770 | 0.60 | 0.84 | 920 | 1,811 | 542 | 2,241 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_WT_rep1-GSM2509455 | 12,726,801 | 2x75 | 135,151,646 | 36,162,838 | 10,664,896 | 5.73 | 0.26 | 6,742 | 21,194 | 2,777 | 24,885 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MORC2_Cell_WT_rep2-GSM2509456 | 11,132,424 | 2x75 | 123,919,806 | 34,943,352 | 9,655,914 | 6.00 | 0.28 | 5,180 | 19,966 | 2,777 | 26,132 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_hESC_WT_rep1-GSM2789812 | 81,639,486 | 2x75 | 22,493,104 | 21,683,522 | 1,666,064 | 0.15 | 0.96 | 337,938 | 118,861 | 7,382 | 31,081 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_hESC_WT_rep2-GSM2789813 | 79,712,081 | 2x75 | 22,080,650 | 21,214,334 | 1,730,406 | 0.15 | 0.95 | 654,432 | 190,674 | 7,382 | 30,880 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_mESC_WT_rep1-GSM2789818 | 103,655,573 | 2x75 | 21,241,020 | 19,799,448 | 1,668,626 | 0.11 | 0.93 | 0 | 0 | 0 | 0 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_mESC_WT_rep2-GSM2789819 | 91,432,873 | 2x75 | 26,352,232 | 24,742,536 | 2,088,714 | 0.16 | 0.93 | 0 | 0 | 0 | 0 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MORC2-KO_rep1-GSM2509465 | 13,356,883 | 2x75 | 45,205,836 | 42,358,502 | 3,625,838 | 1.83 | 0.93 | 184 | 419 | 234 | 1,387 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MORC2-KO_rep2-GSM2509466 | 13,151,539 | 2x75 | 25,340,178 | 24,260,514 | 2,035,592 | 1.04 | 0.95 | 64 | 156 | 234 | 1,188 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MPP8-KO_rep1-GSM2509467 | 12,631,005 | 2x75 | 31,007,364 | 29,681,578 | 2,422,388 | 1.32 | 0.95 | 126 | 271 | 115 | 344 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_MPP8-KO_rep2-GSM2509468 | 15,708,642 | 2x75 | 23,237,088 | 22,560,476 | 1,709,906 | 0.79 | 0.96 | 21 | 66 | 115 | 355 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_TASOR-KO_rep1-GSM2509469 | 26,880,948 | 2x75 | 131,943,512 | 88,437,258 | 11,373,312 | 2.67 | 0.66 | 99 | 278 | 196 | 678 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_TASOR-KO_rep2-GSM2509470 | 15,056,406 | 2x75 | 128,447,302 | 76,665,466 | 11,101,878 | 4.63 | 0.59 | 77 | 239 | 196 | 684 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_WT_rep1-GSM2509463 | 18,471,954 | 2x75 | 101,588 | 94,048 | 43,108 | 0.00 | 0.92 | 87 | 300 | 219 | 1,194 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_MPP8_Cell_WT_rep2-GSM2509464 | 13,681,575 | 2x75 | 162,228 | 146,032 | 48,206 | 0.01 | 0.89 | 49 | 123 | 219 | 1,026 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_PollI_Cell_K562_MORC2-KO_rep1-GSM2789804 | 18,786,261 | 2x75 | 31,730,452 | 29,951,026 | 2,037,242 | 0.90 | 0.92 | 43,980 | 299,364 | 19,085 | 322,461 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_PollI_Cell_K562_MORC2-KO_rep2-GSM2789805 | 14,267,572 | 2x75 | 24,123,032 | 22,831,758 | 1,559,952 | 0.90 | 0.92 | 39,470 | 300,523 | 19,085 | 335,624 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_PollI_Cell_K562_MPP8-KO_rep1-GSM2789806 | 16,863,119 | 2x75 | 28,495,554 | 26,564,054 | 1,802,364 | 0.90 | 0.90 | 35,955 | 304,038 | 20,279 | 369,541 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_PollI_Cell_K562_MPP8-KO_rep2-GSM2789807 | 15,364,187 | 2x75 | 25,917,340 | 24,284,004 | 1,637,620 | 0.90 | 0.91 | 45,928 | 364,667 | 20,279 | 365,038 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_PollI_Cell_K562_TASOR-KO_rep1-GSM2789808 | 13,369,810 | 2x75 | 22,511,124 | 21,021,090 | 1,443,908 | 0.90 | 0.91 | 48,615 | 407,038 | 19,712 | 428,535 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_PollI_Cell_K562_TASOR-KO_rep2-GSM2789809 | 15,262,669 | 2x75 | 25,663,440 | 24,440,918 | 1,671,564 | 0.90 | 0.92 | 46,765 | 387,551 | 19,712 | 418,307 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_PollI_Cell_K562_WT_rep1-GSM2789802 | 30,887,649 | 2x75 | 52,708,624 | 48,234,836 | 3,244,726 | 0.91 | 0.88 | 39,804 | 324,169 | 24,126 | 472,166 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_PollI_Cell_K562_WT_rep2-GSM2789803 | 25,360,426 | 2x75 | 43,175,728 | 40,661,252 | 2,650,312 | 0.90 | 0.91 | 48,859 | 354,796 | 24,126 | 479,700 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MORC2-KO_rep1-GSM2509473 | 20,642,268 | 2x75 | 35,062,758 | 31,743,290 | 2,604,522 | 0.91 | 0.90 | 400 | 1,126 | 360 | 1,780 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MORC2-KO_rep2-GSM2509474 | 14,445,345 | 2x75 | 24,406,090 | 22,817,220 | 1,878,750 | 0.91 | 0.90 | 259 | 774 | 360 | 1,572 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MPP8-KO_rep1-GSM2509475 | 11,676,877 | 2x75 | 19,772,608 | 16,619,990 | 1,499,836 | 0.91 | 0.83 | 764 | 2,187 | 212 | 1,775 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_MPP8-KO_rep2-GSM2509476 | 13,871,573 | 2x75 | 23,425,424 | 20,397,204 | 1,781,762 | 0.91 | 0.82 | 326 | 1,630 | 212 | 1,670 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_TASOR-KO_rep1-GSM2509477 | 12,504,223 | 2x75 | 21,007,314 | 16,310,284 | 1,615,276 | 0.90 | 0.77 | 1,524 | 4,256 | 338 | 3,292 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_TASOR-KO_rep2-GSM2509478 | 12,859,715 | 2x75 | 21,597,398 | 16,395,446 | 1,653,474 | 0.90 | 0.75 | 1,665 | 4,499 | 338 | 3,365 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_WT_rep1-GSM2509471 | 15,006,948 | 2x75 | 25,233,186 | 22,558,116 | 1,959,808 | 0.91 | 0.89 | 187 | 818 | 264 | 1,441 | | | |
| hs1-T2T-CHM13v2.0 | ChIP_TASOR_Cell_WT_rep2-GSM2509472 | 14,638,912 | 2x75 | 24,742,176 | 21,949,704 | 1,893,680 | 0.91 | 0.88 | 339 | 975 | 264 | 1,442 | | | |

Cross-correlation profiles

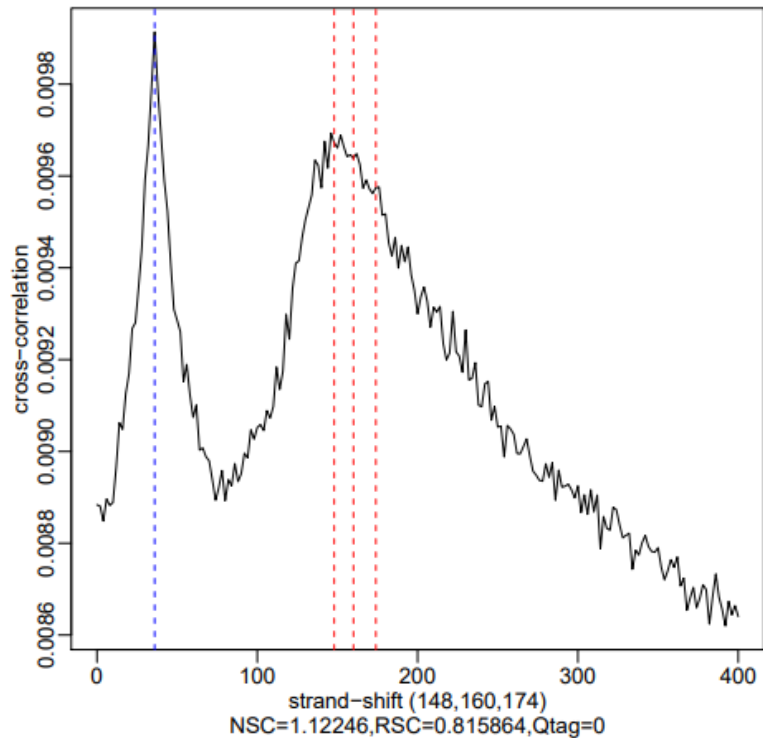
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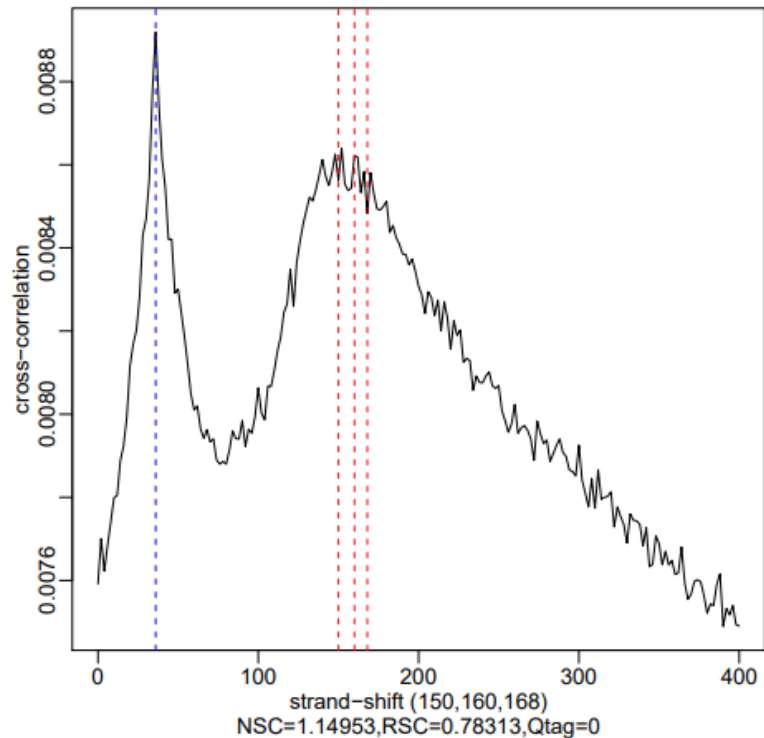
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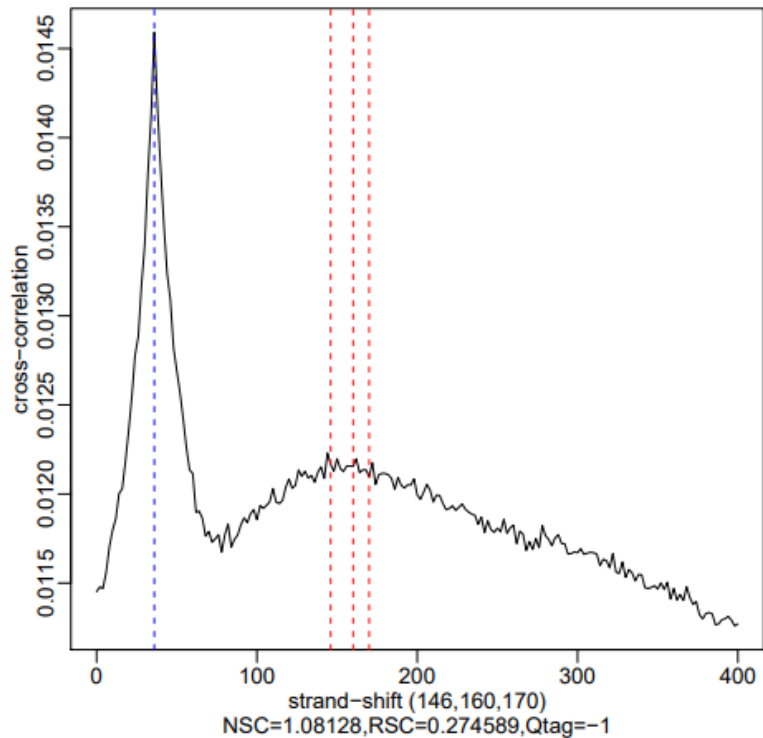
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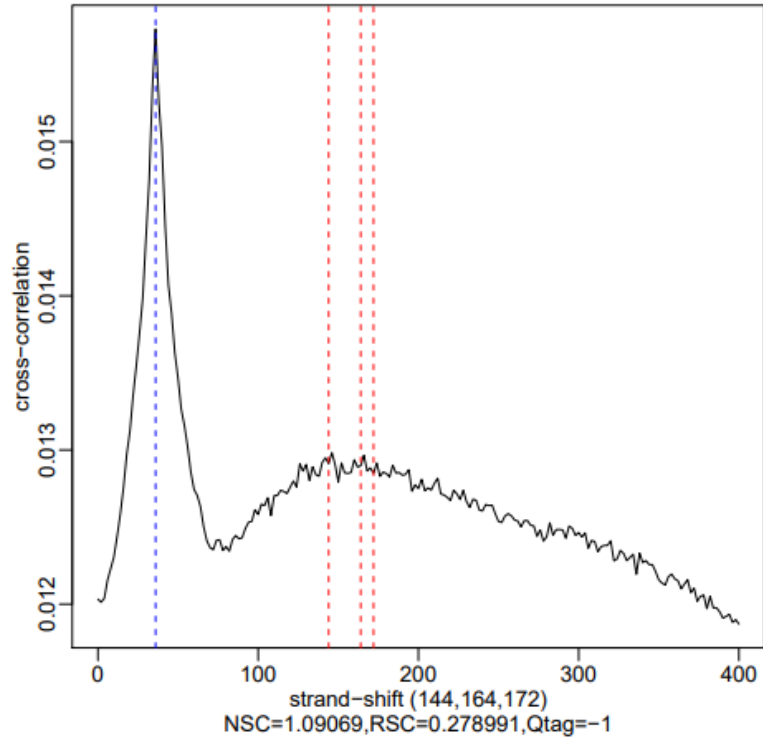
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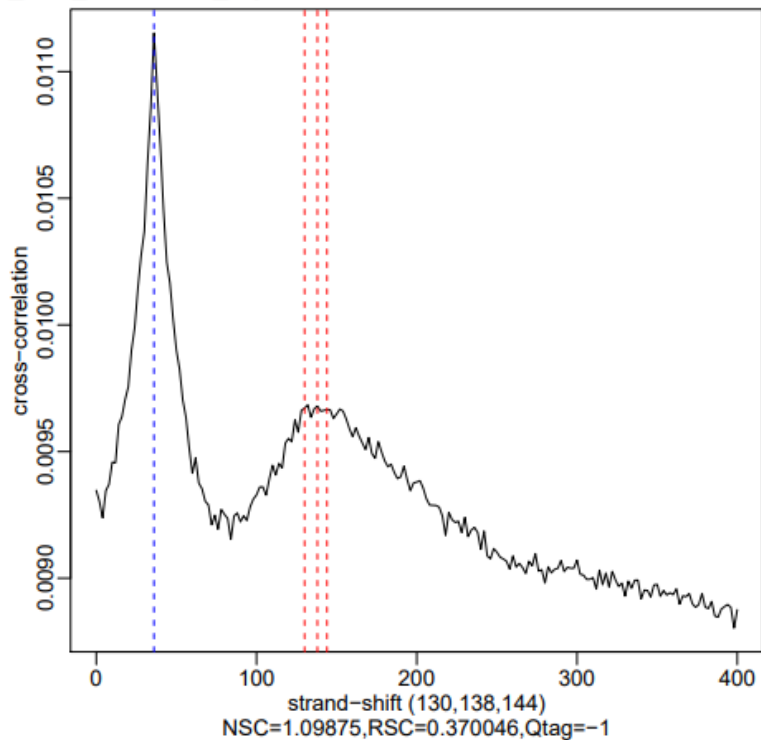
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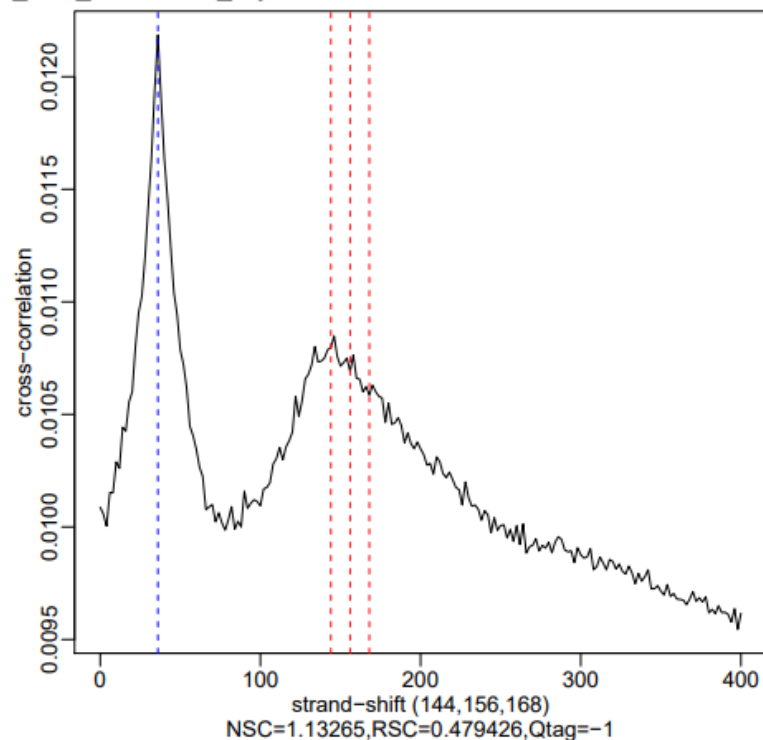
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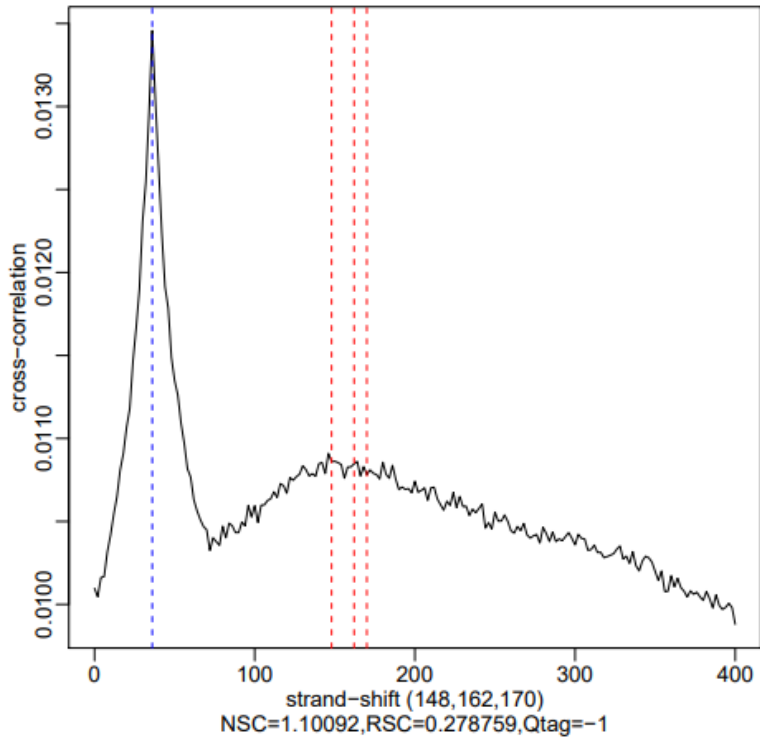
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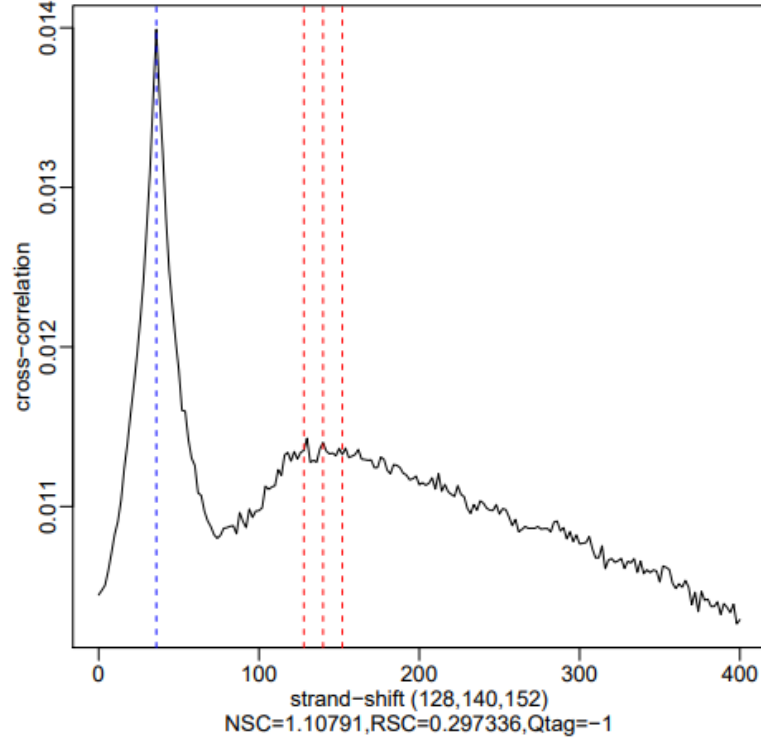
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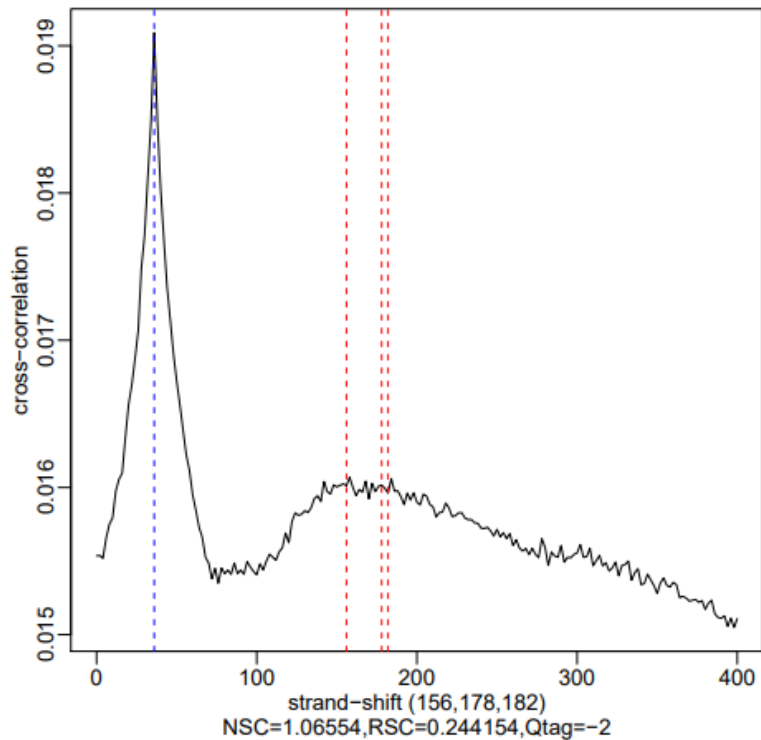
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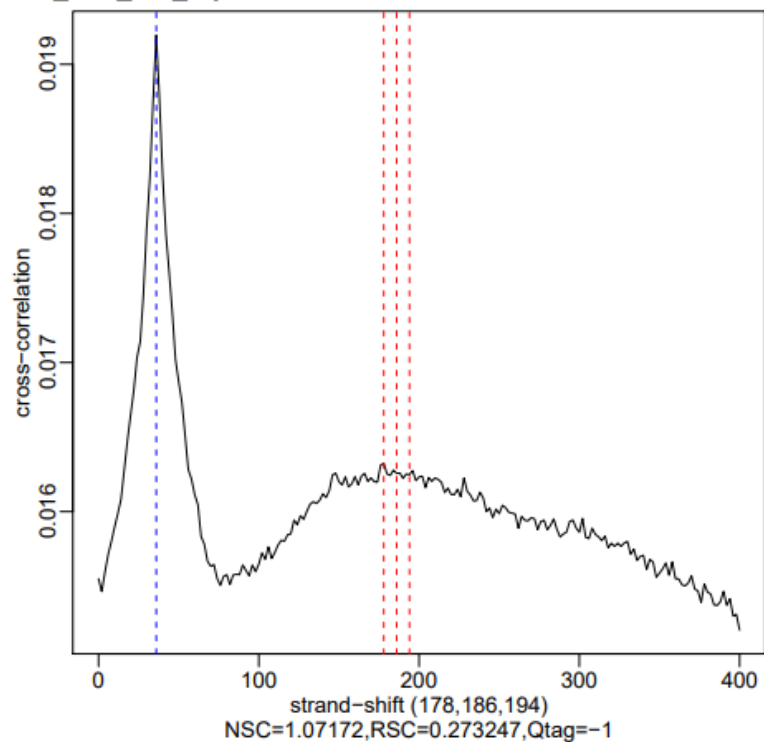
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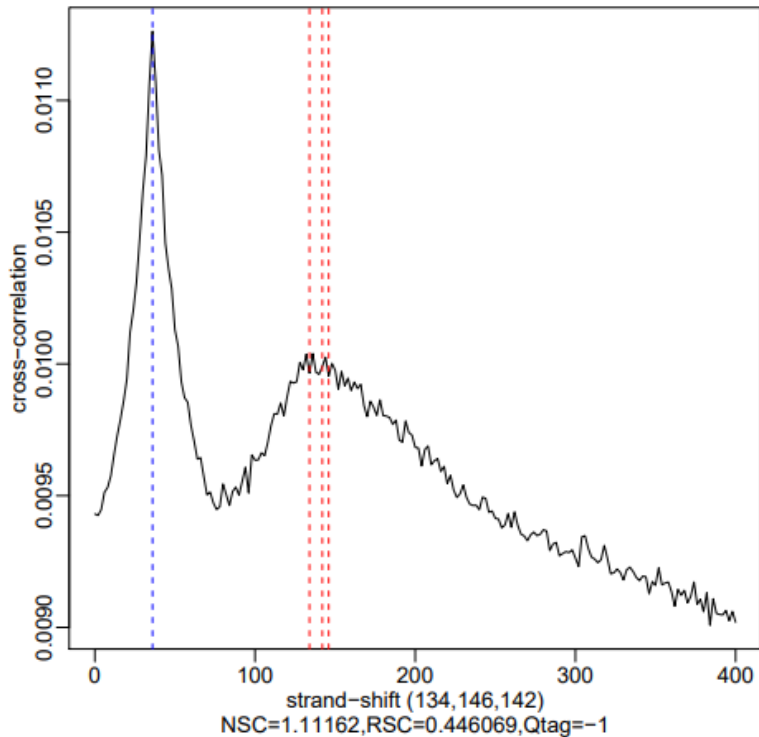
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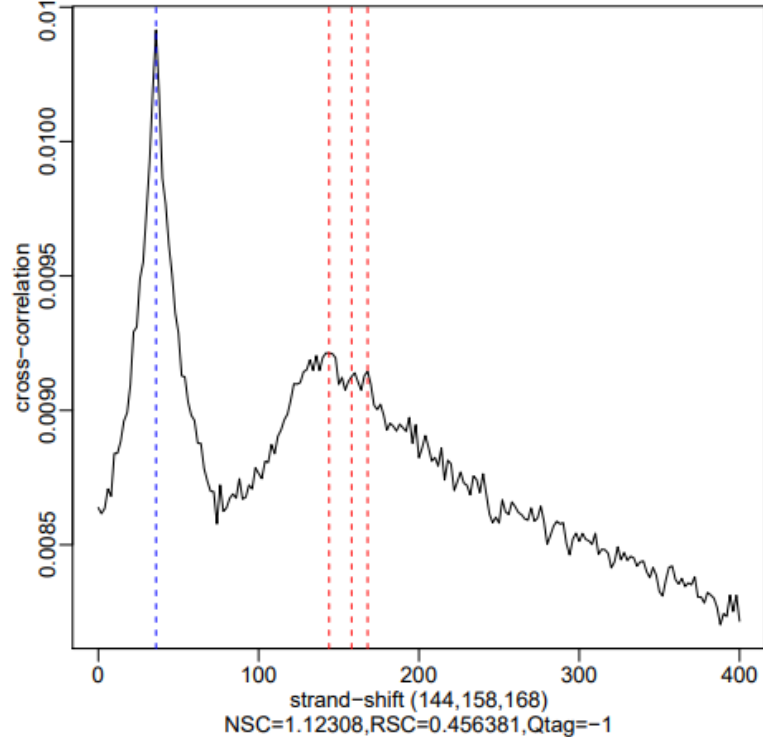
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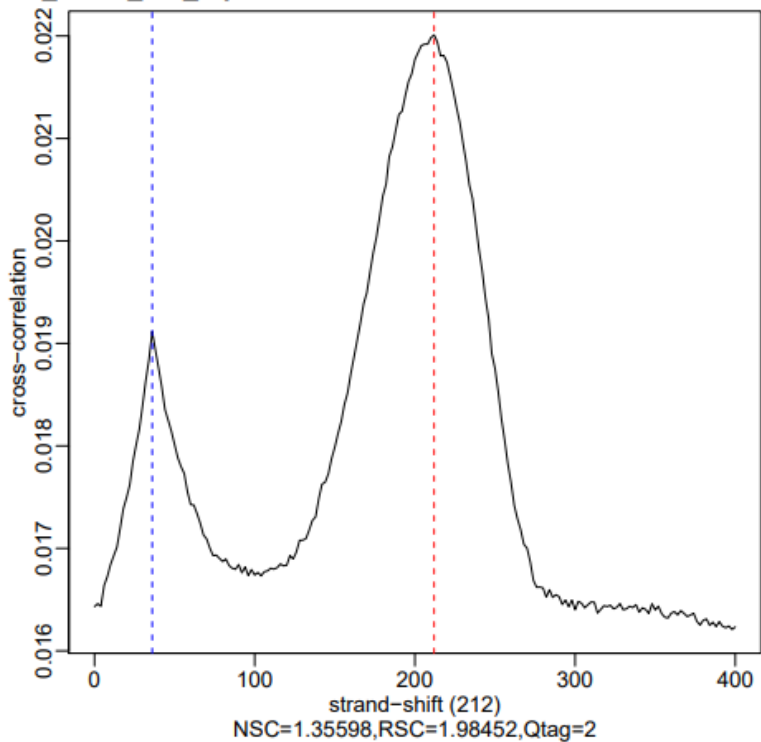
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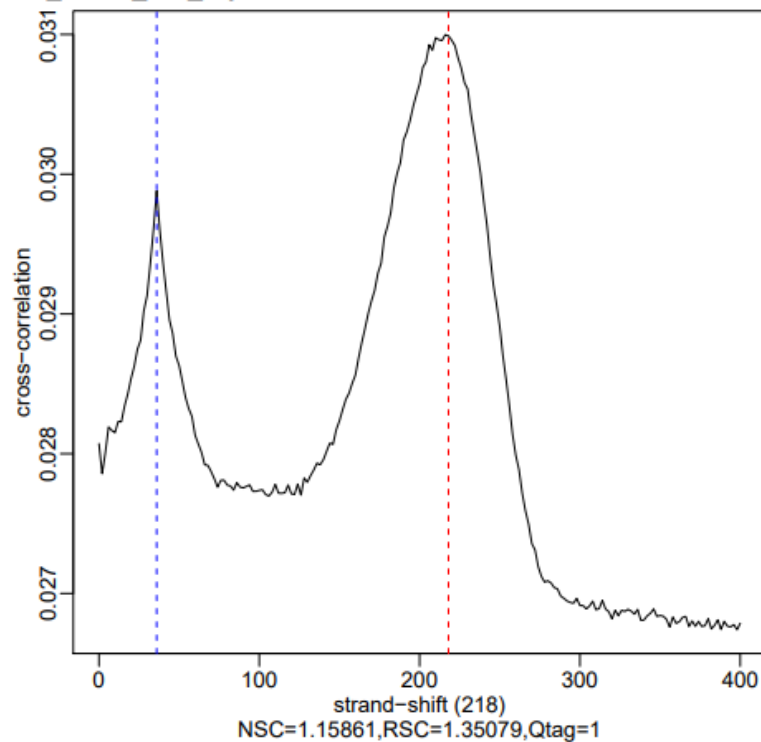
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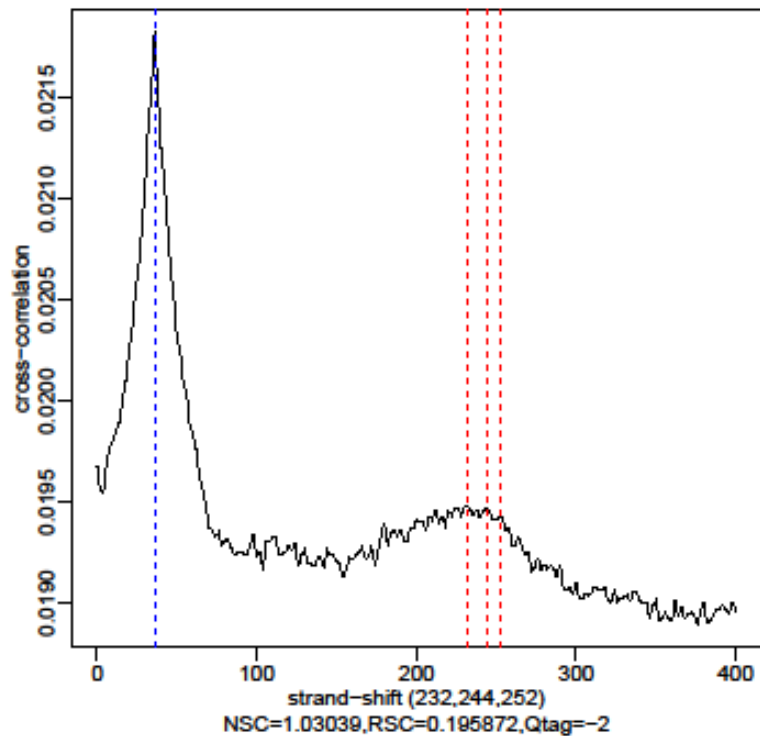
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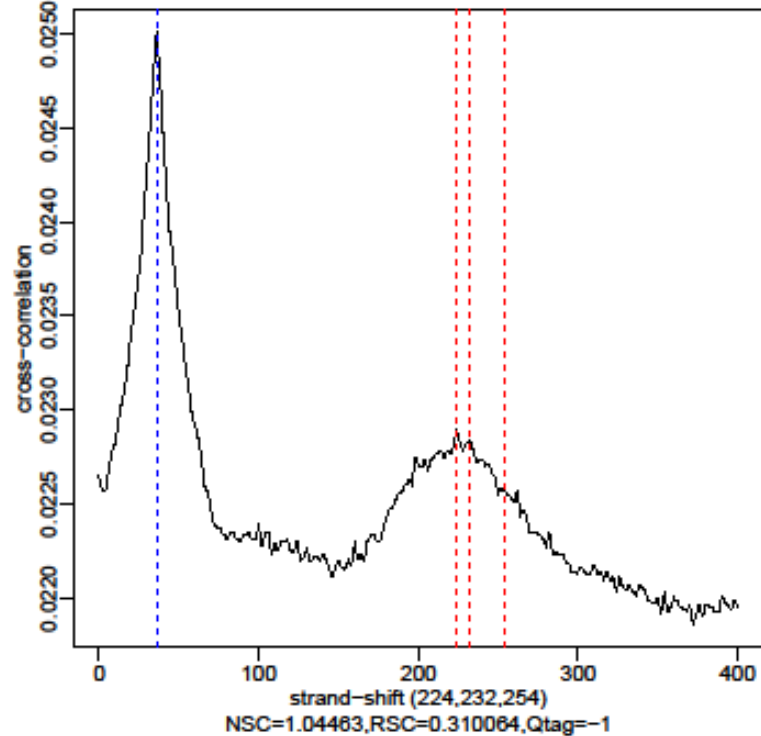
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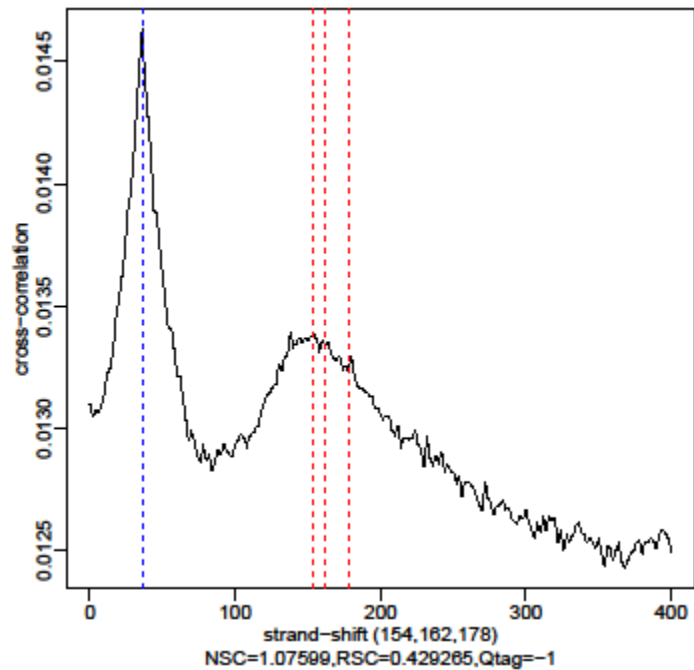
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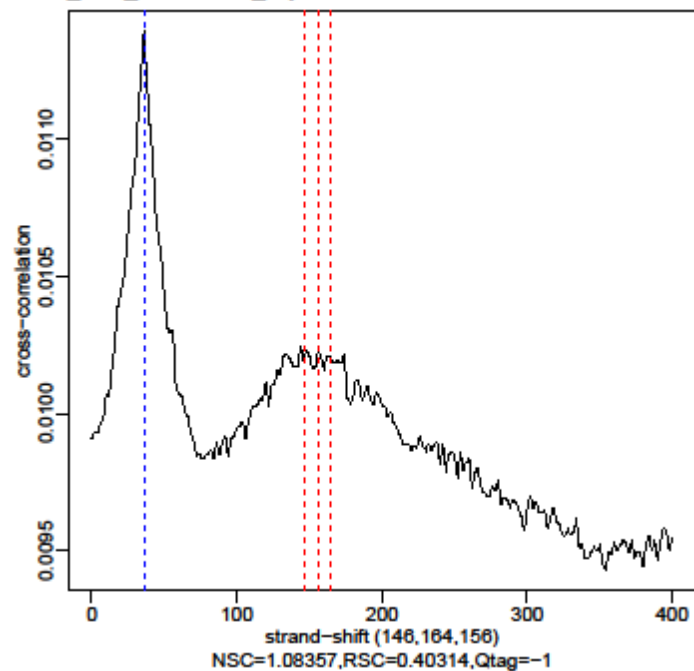
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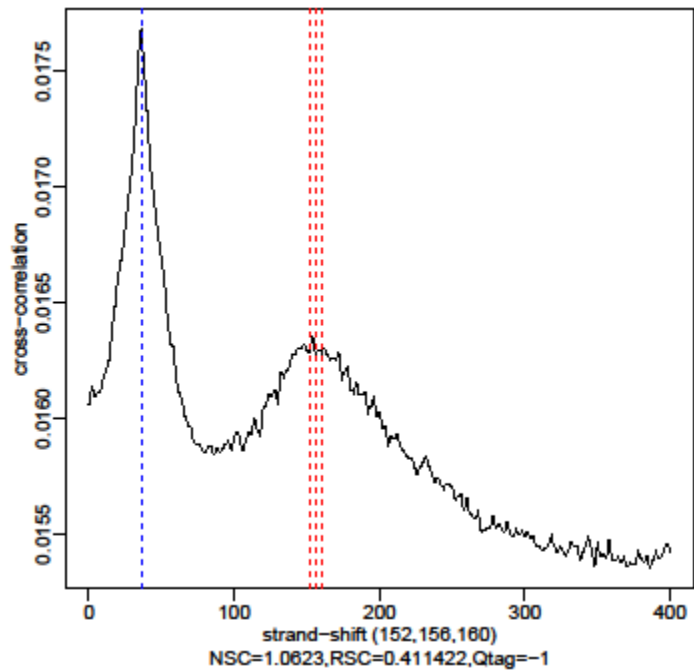
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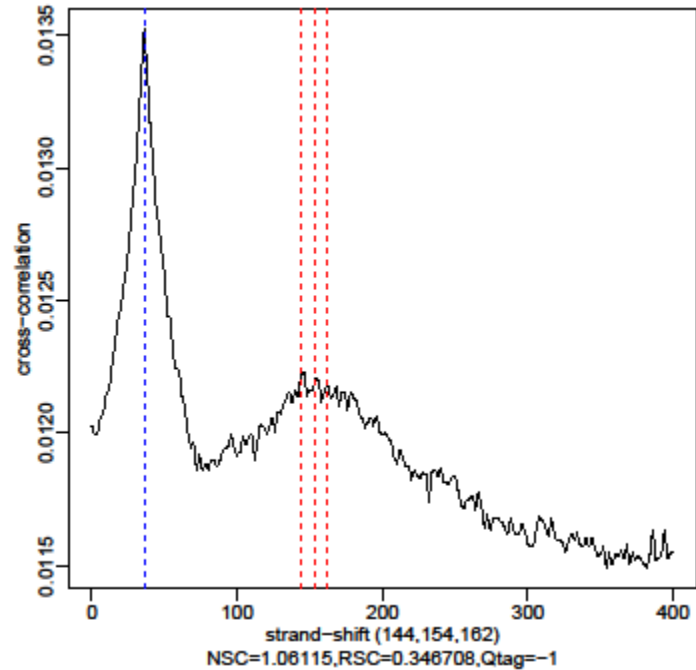
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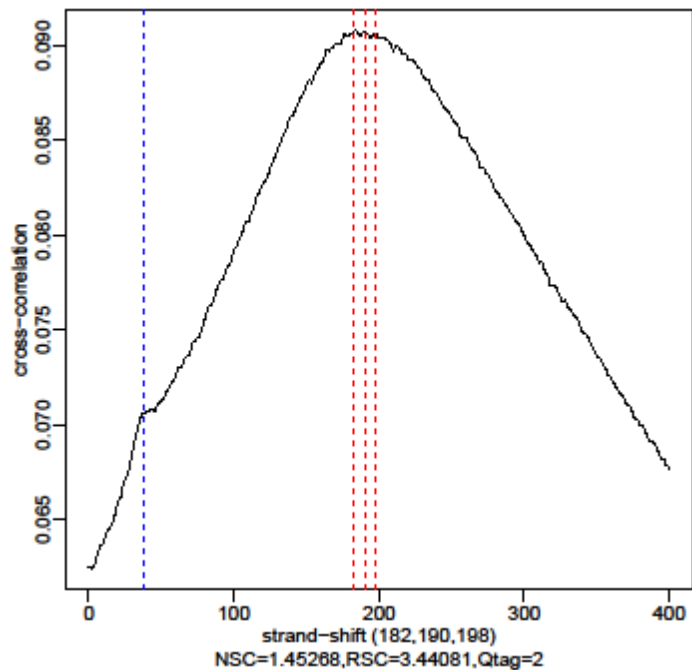
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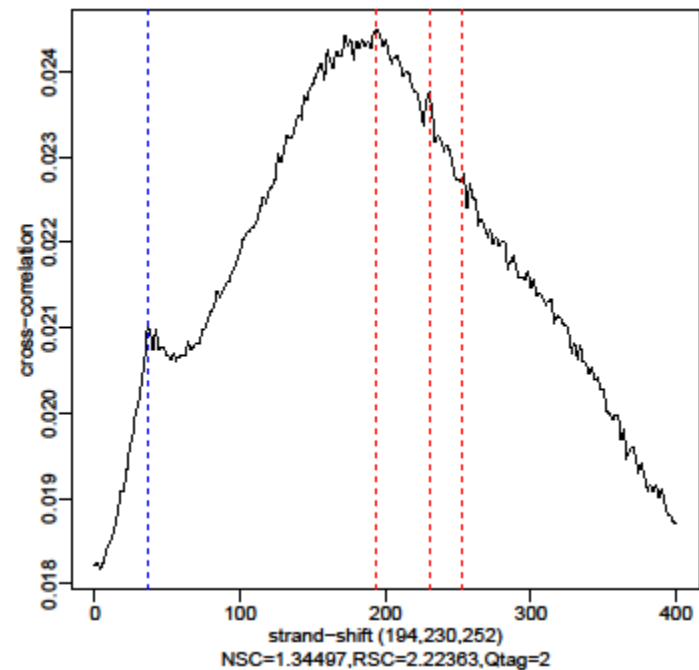
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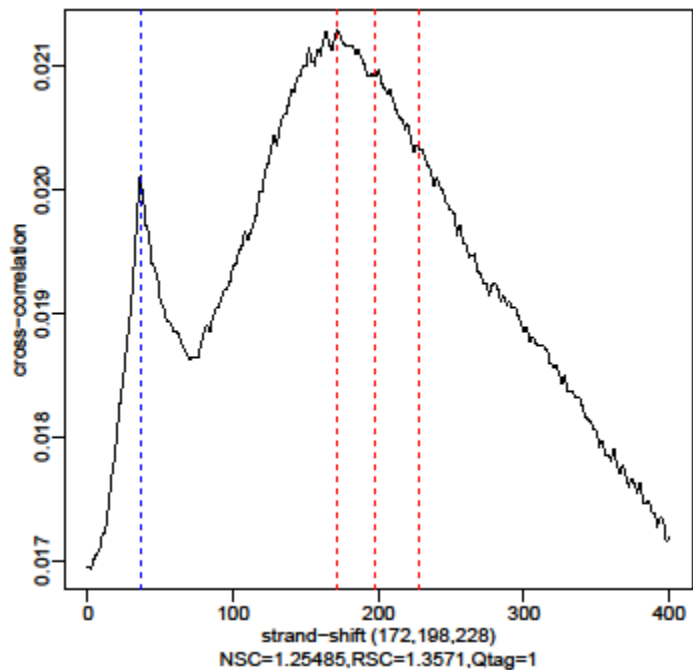
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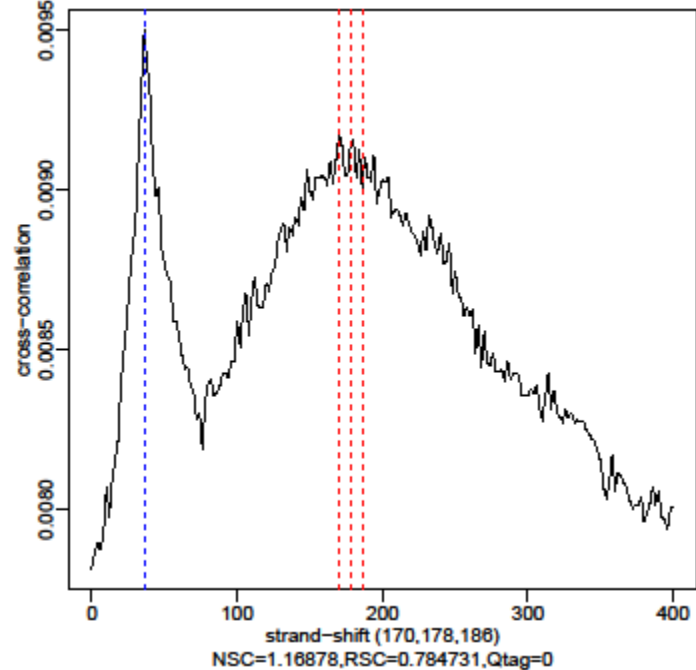
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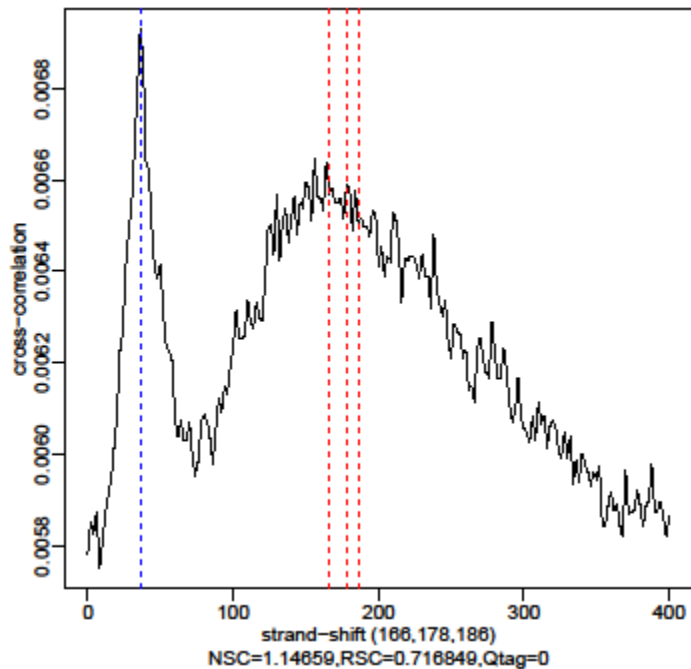
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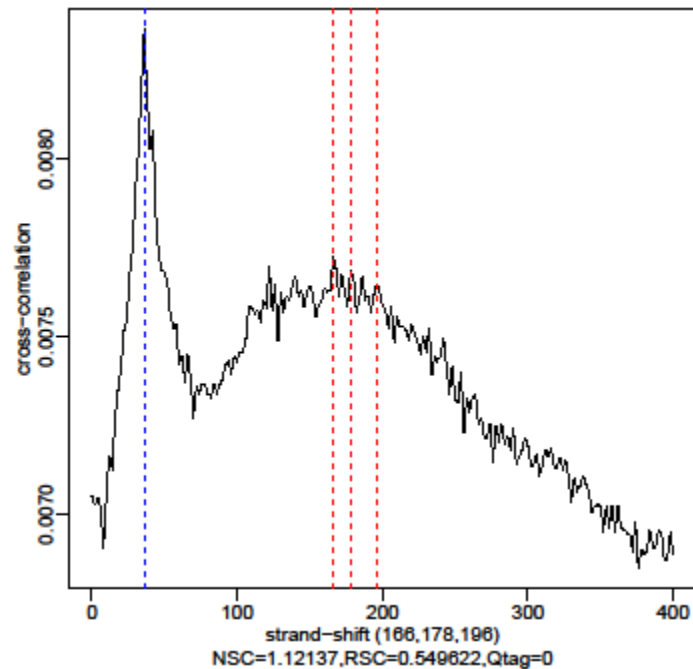
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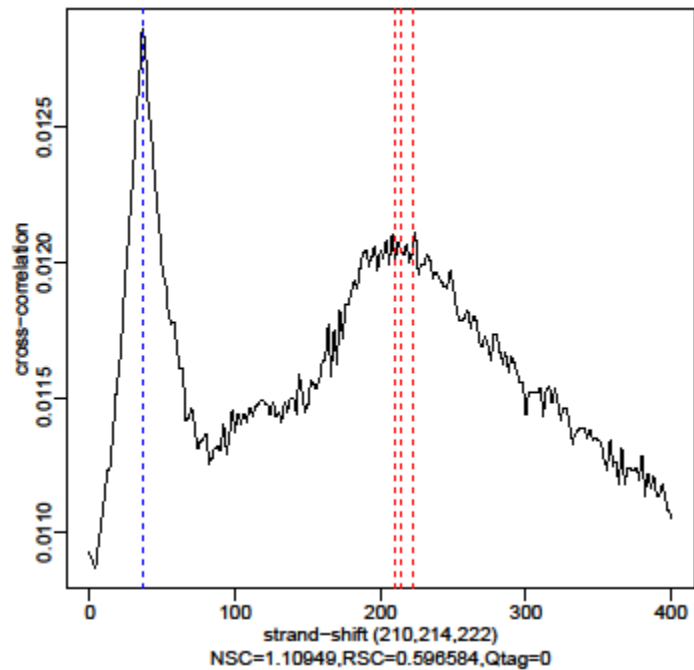
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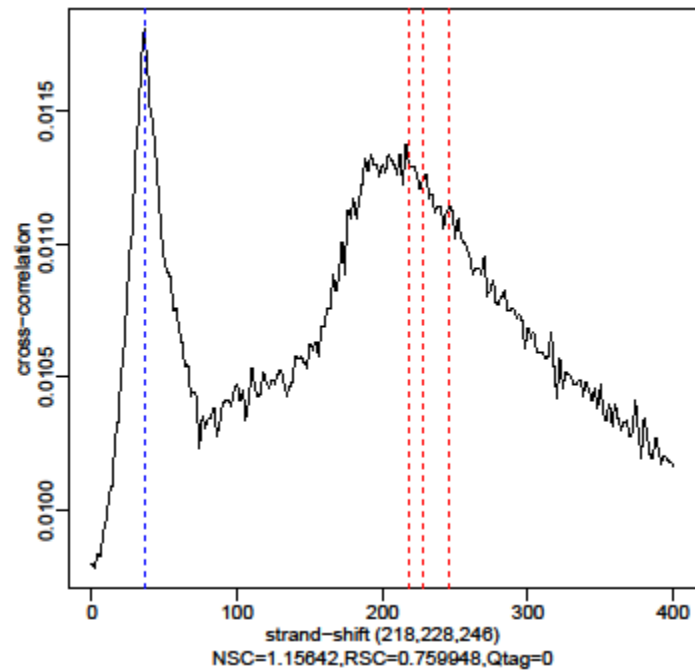
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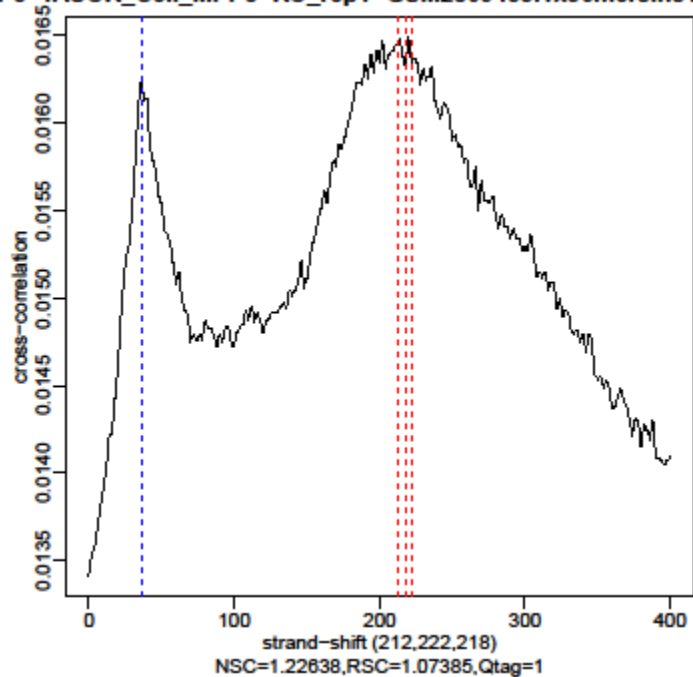
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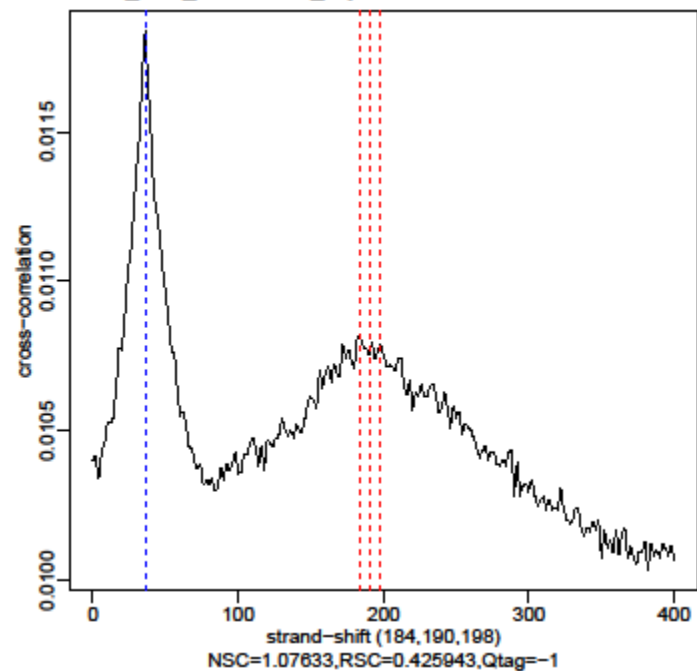
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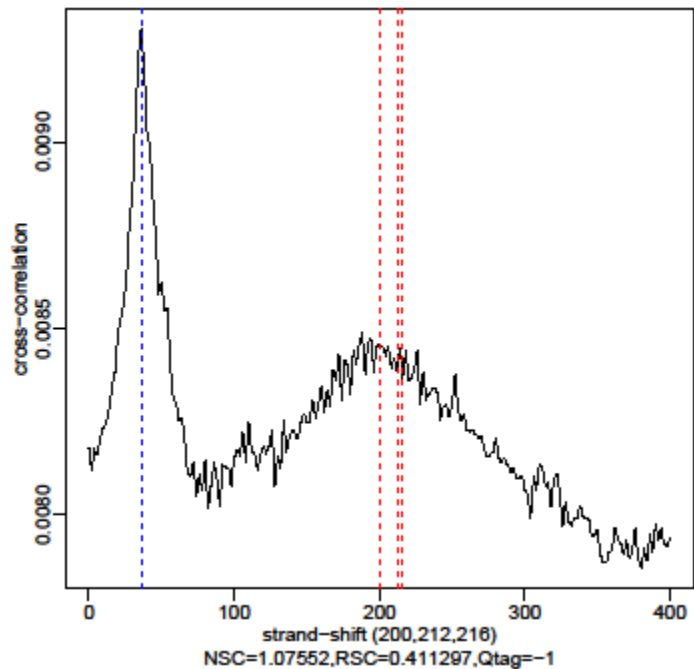
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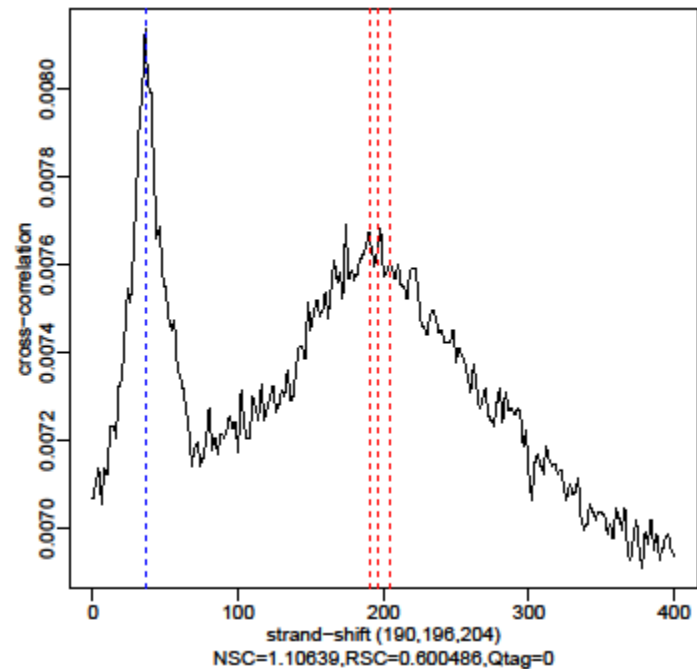
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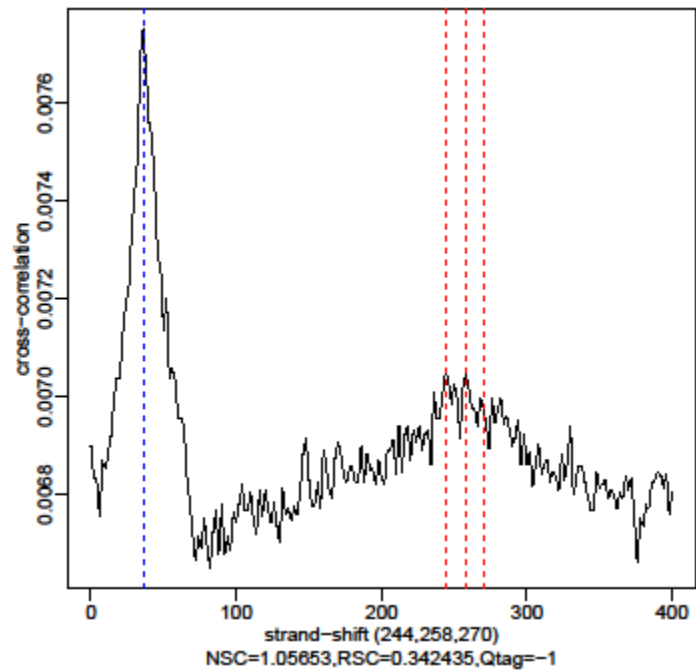
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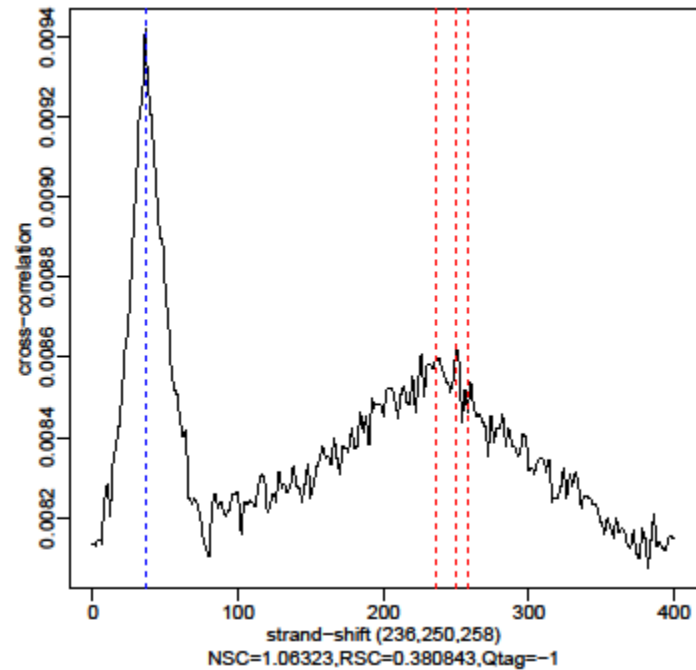
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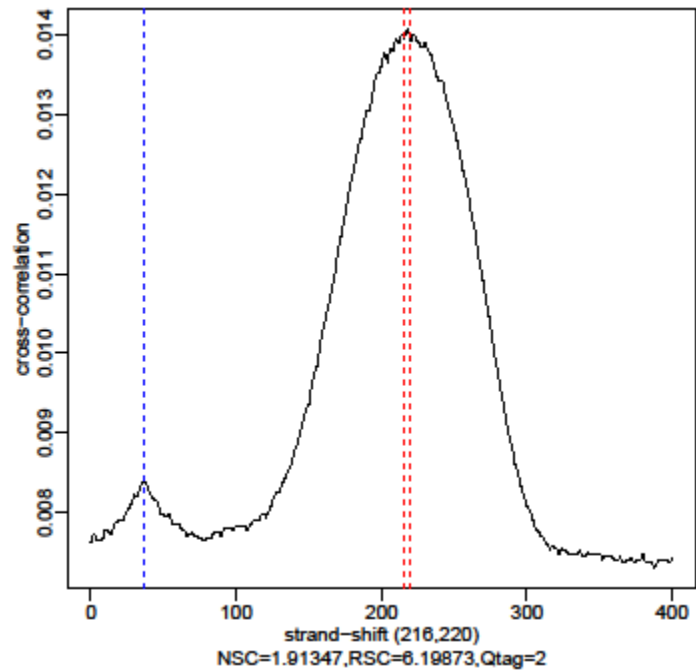
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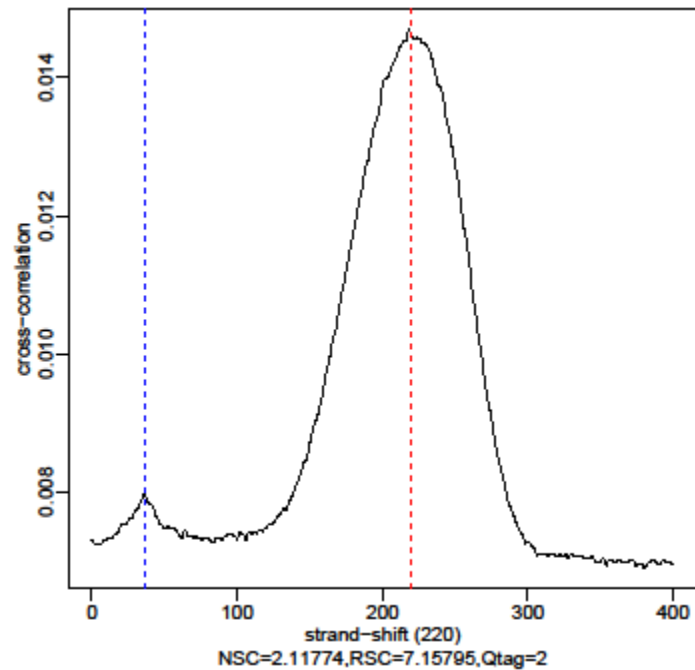
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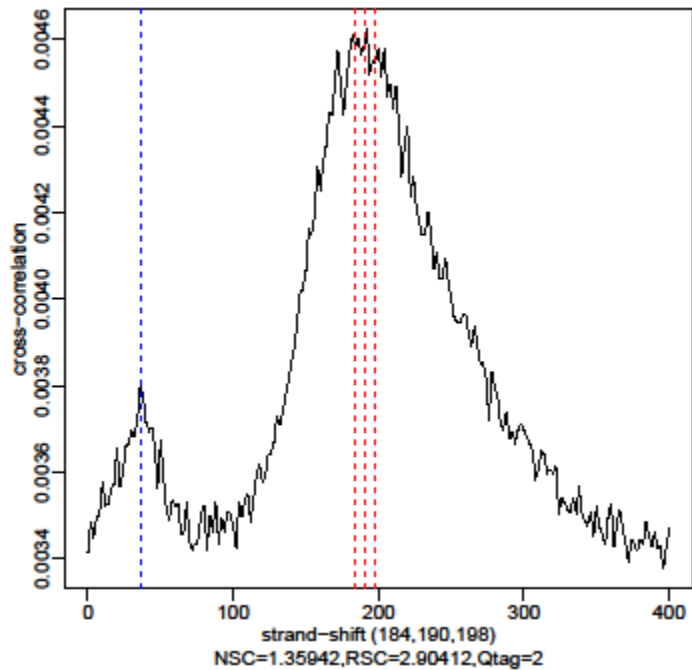
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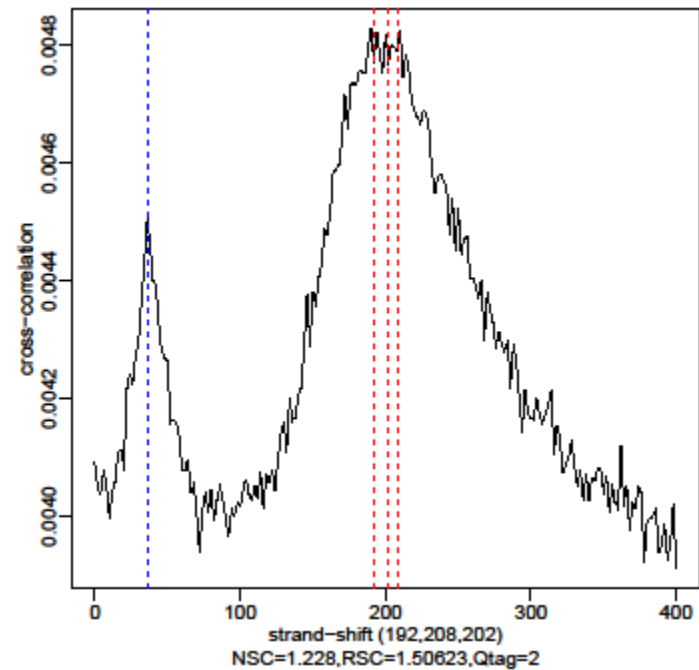
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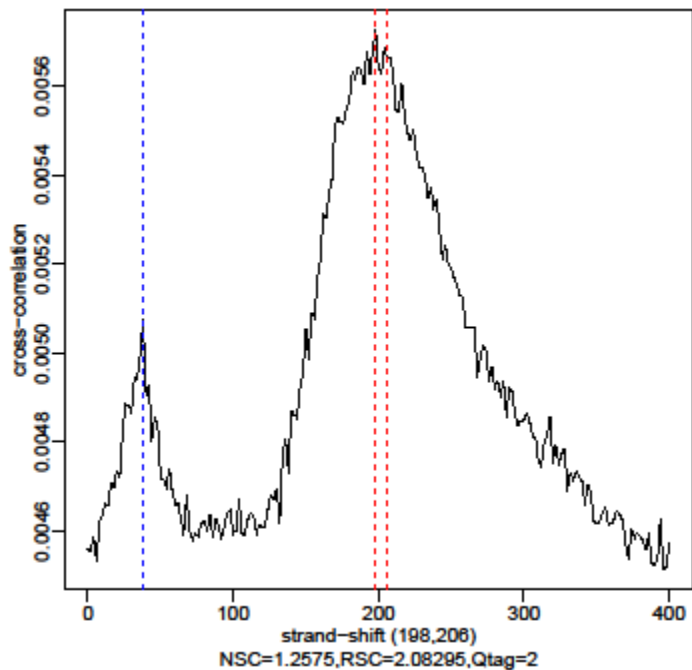
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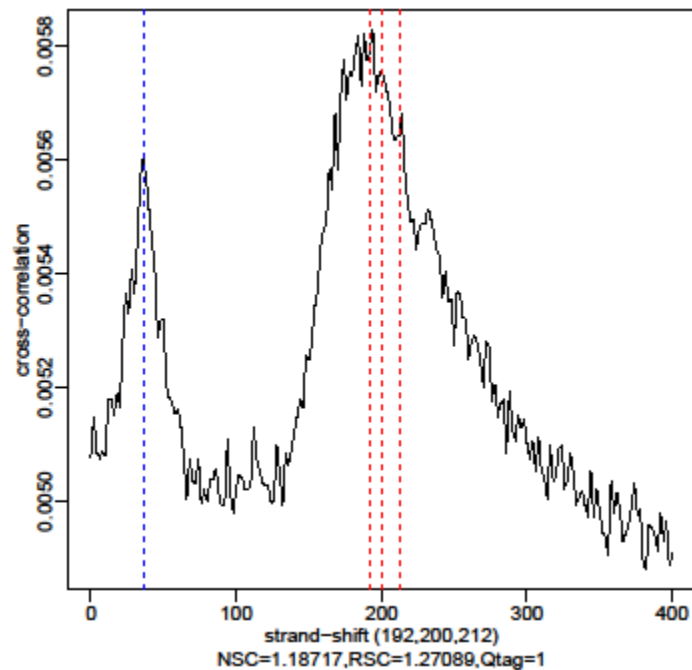
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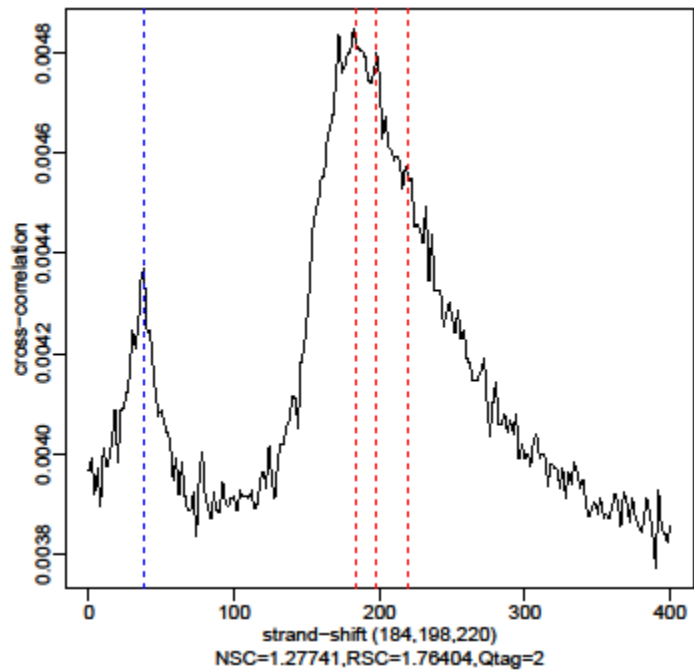
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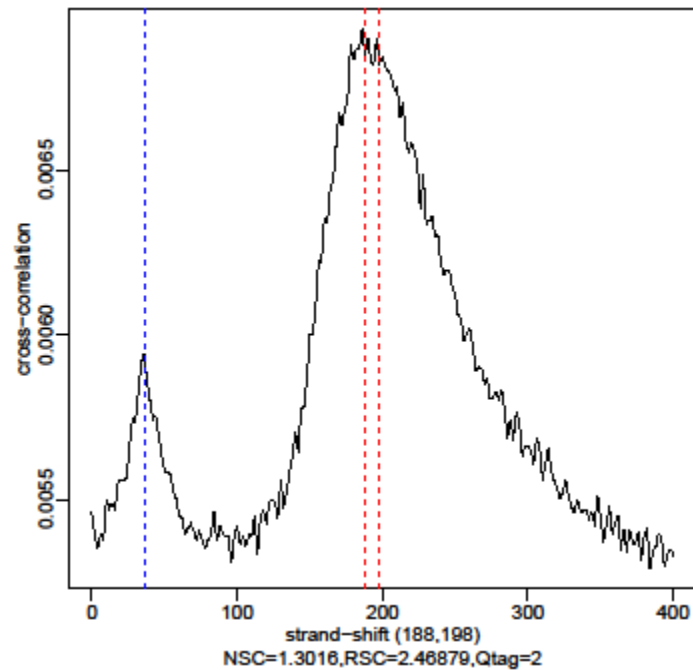
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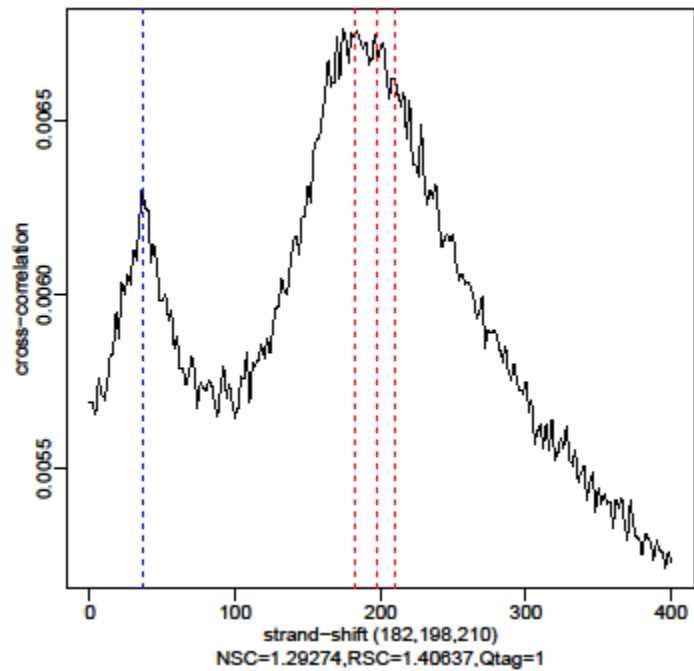
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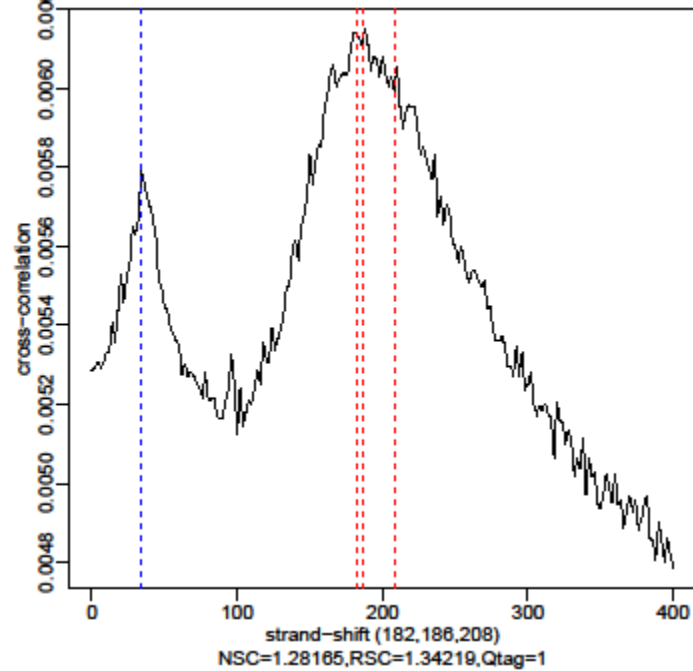
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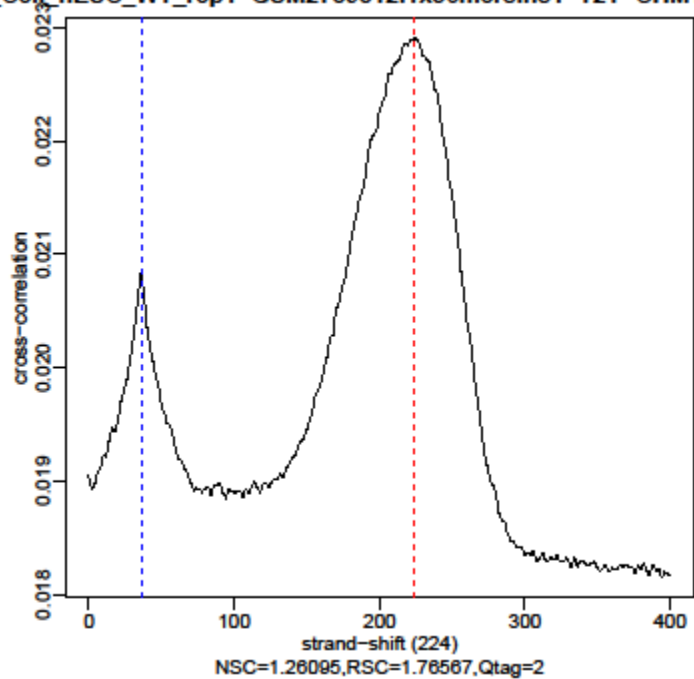
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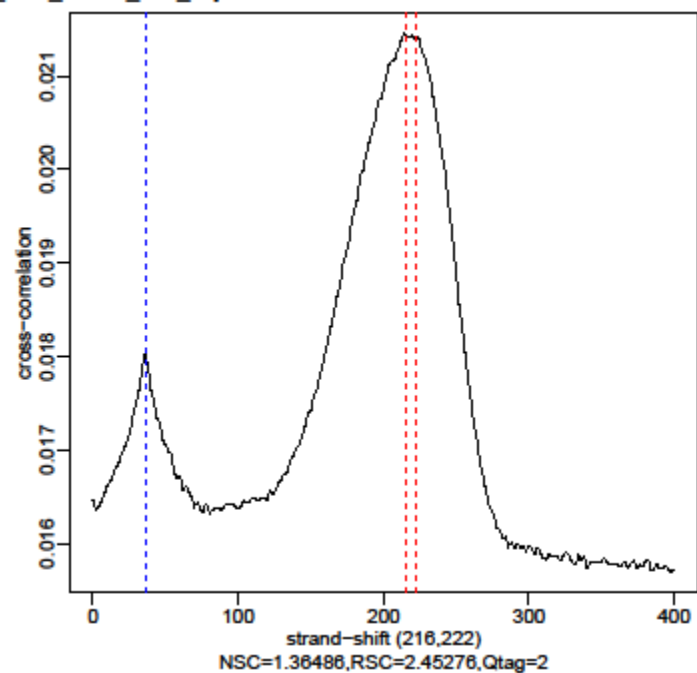
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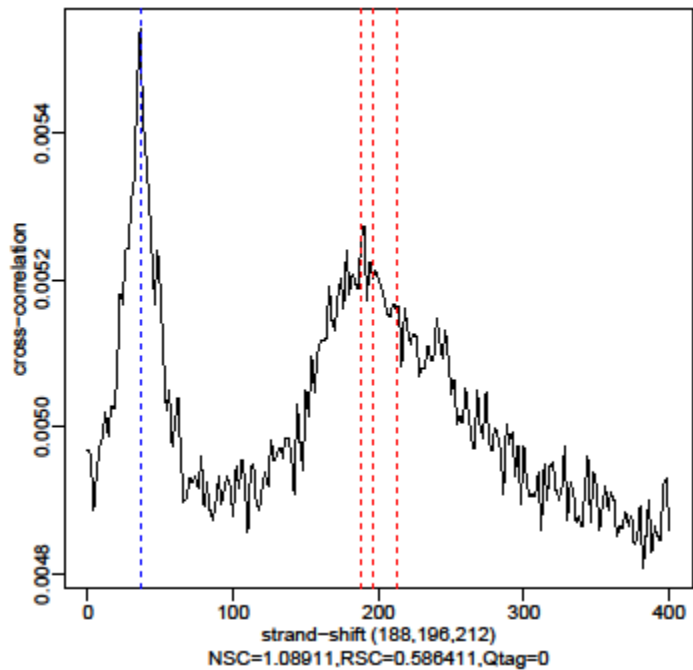
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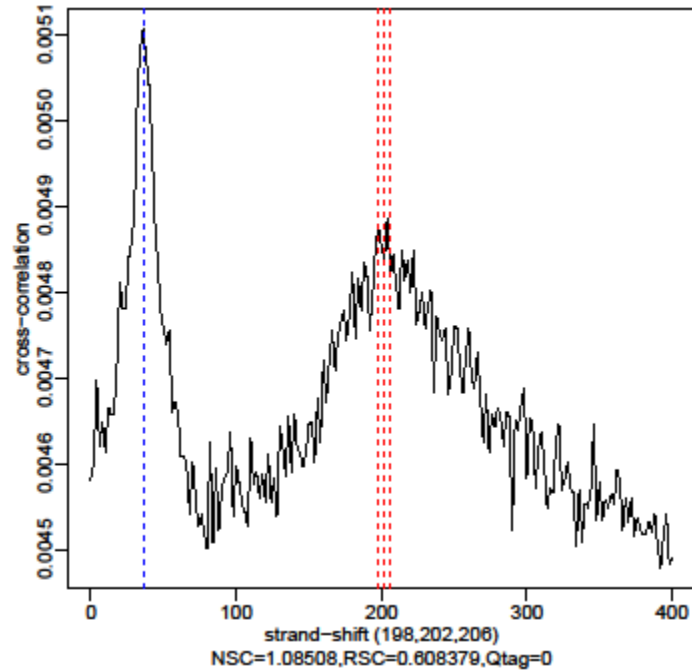
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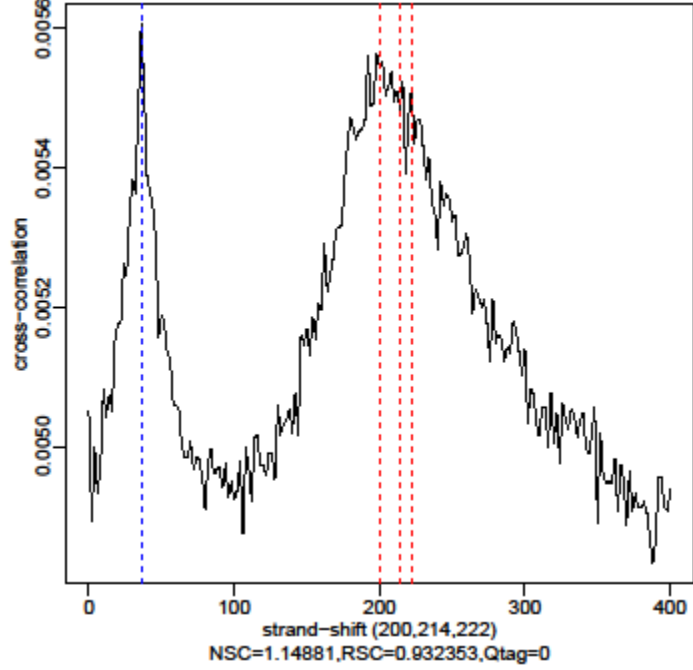
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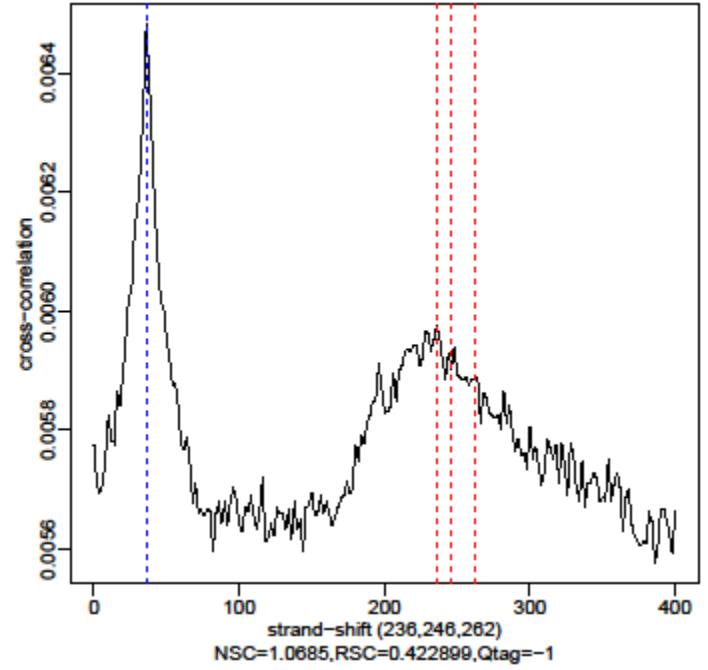
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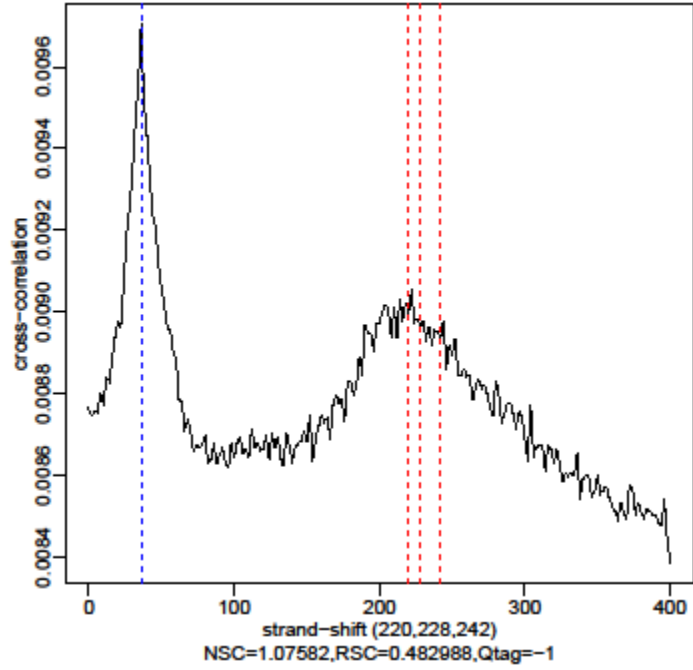
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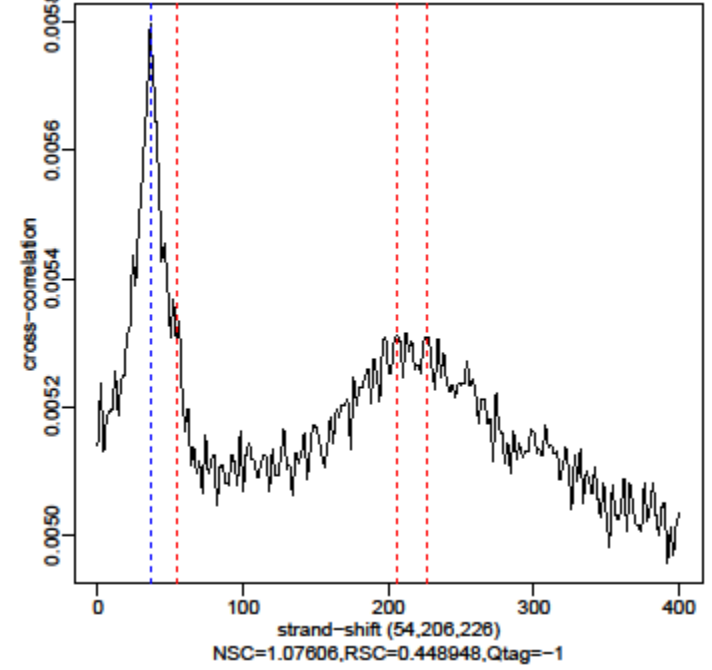
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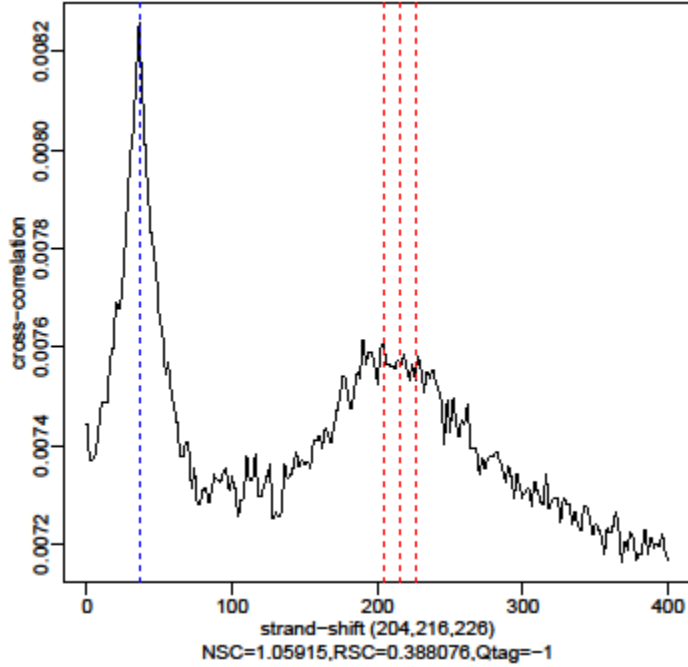
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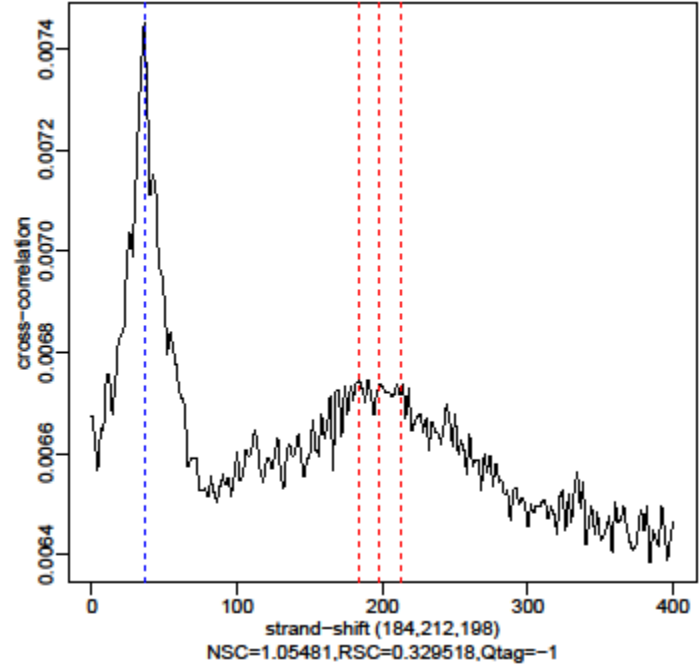
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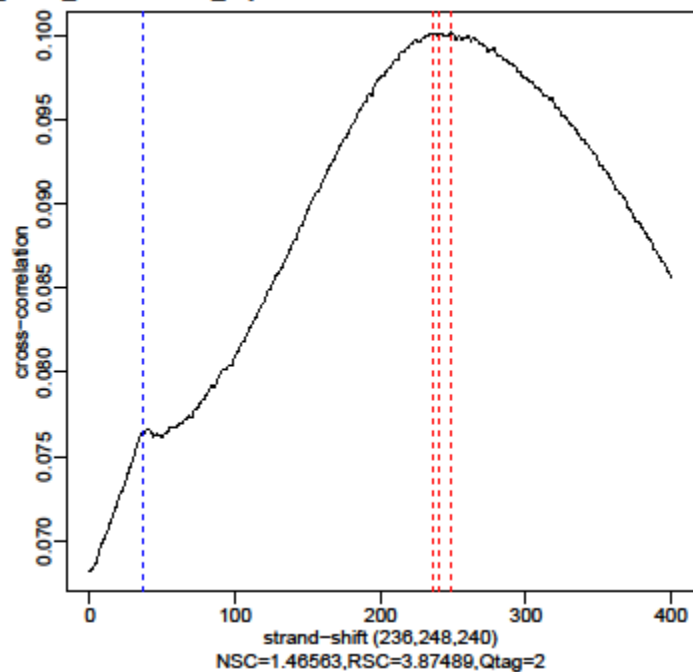
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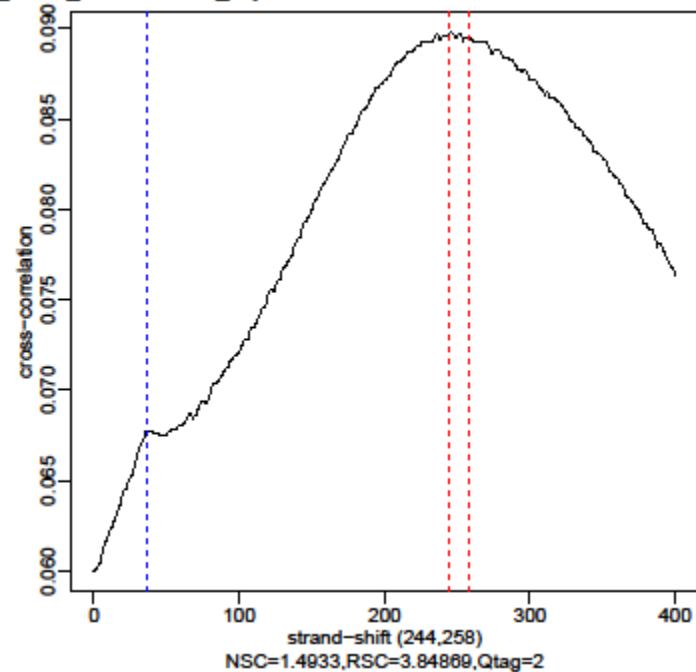
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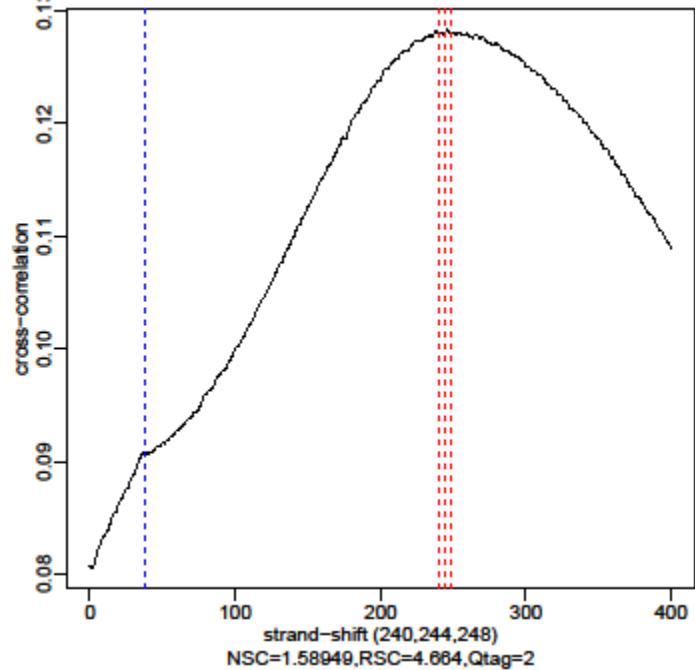
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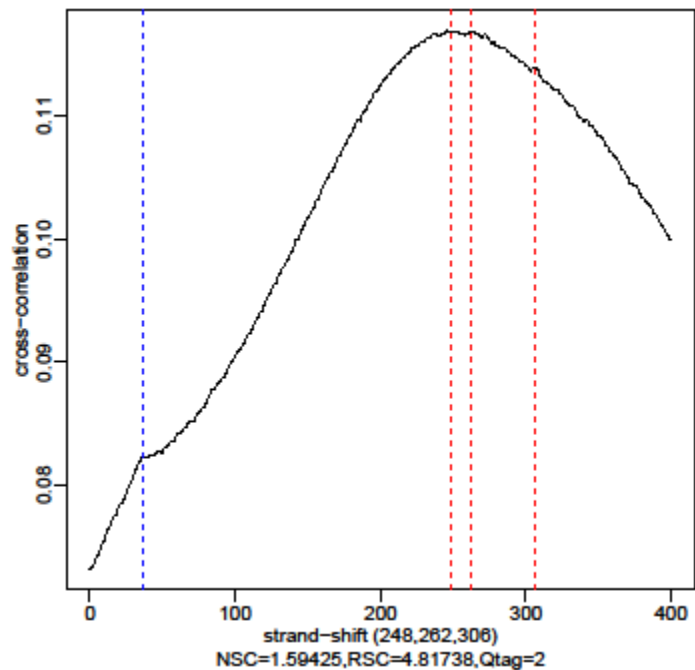
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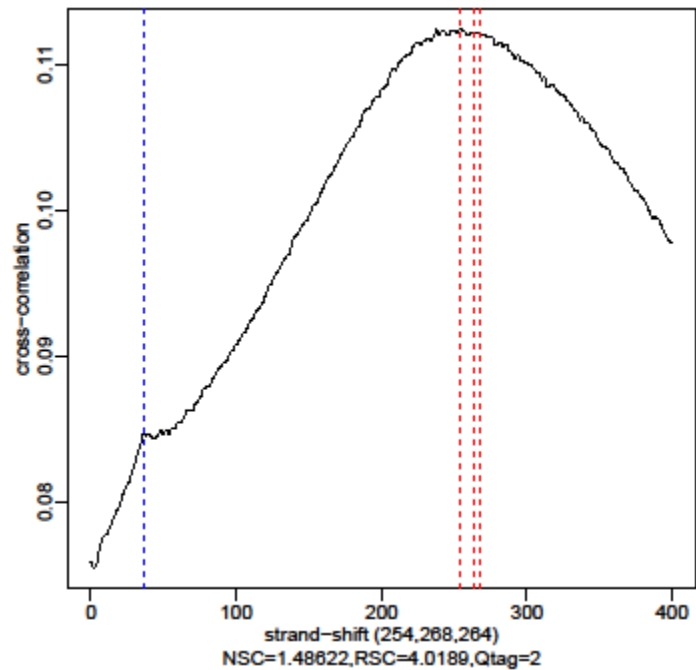
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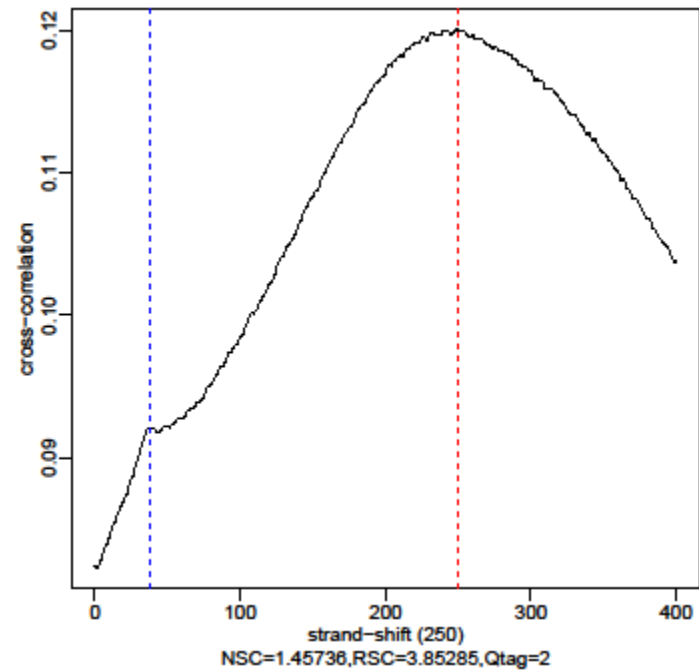
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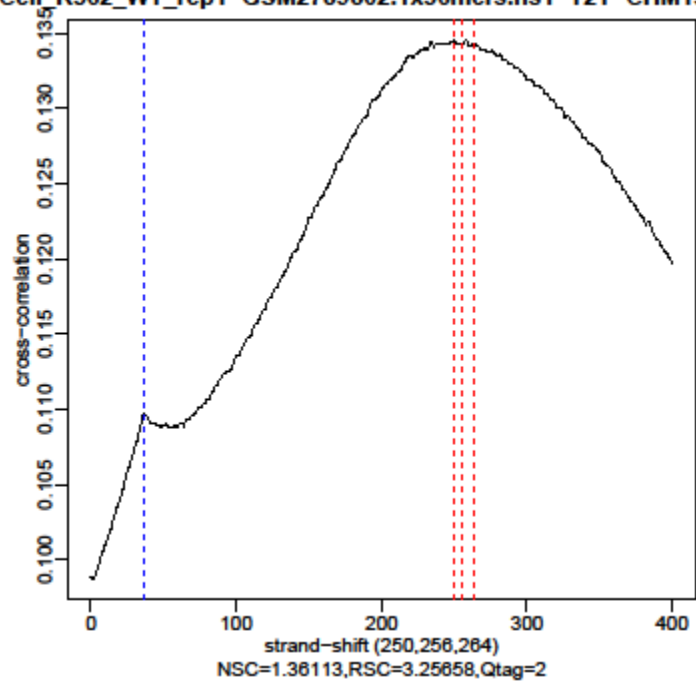
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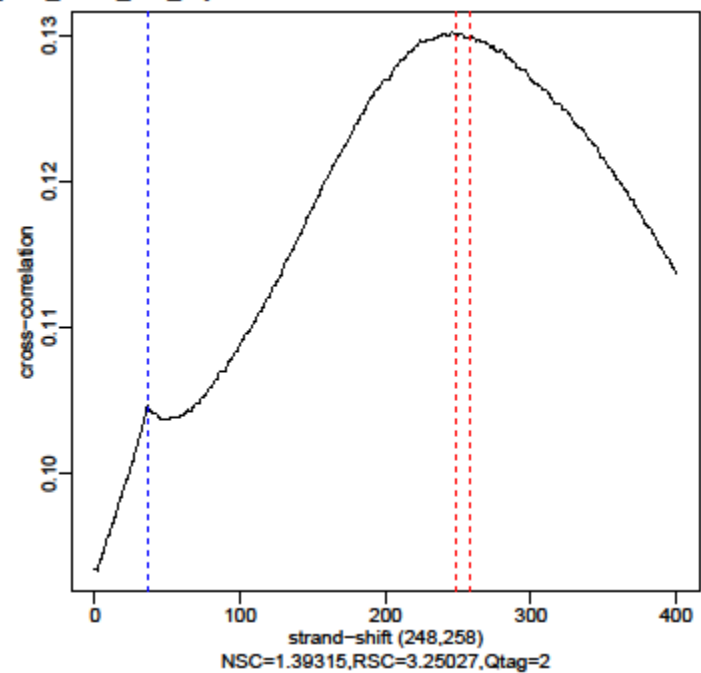
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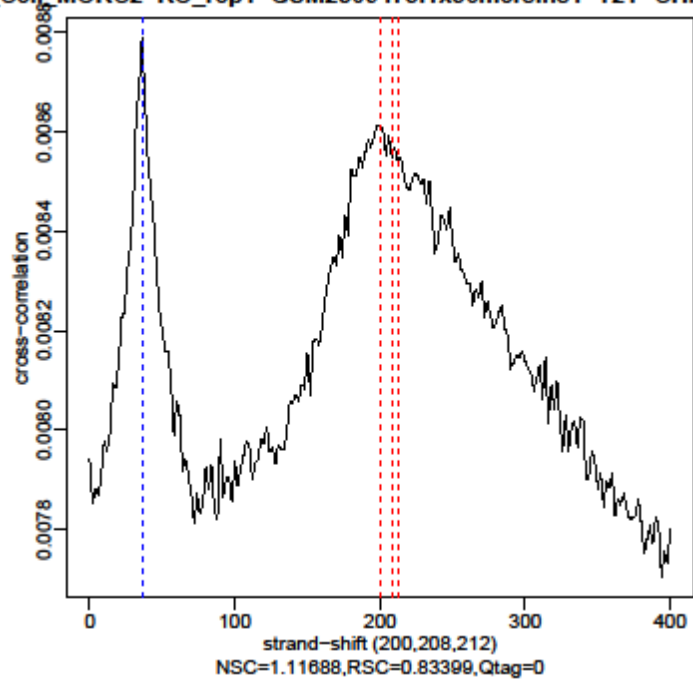
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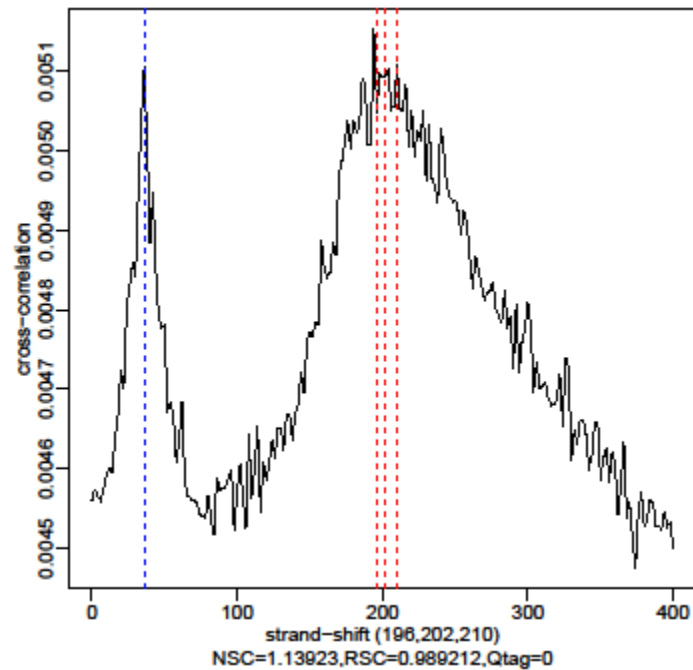
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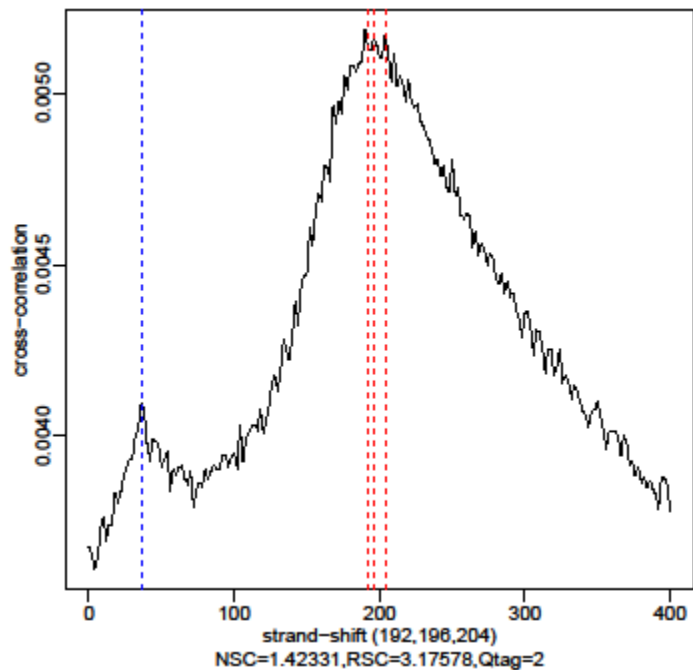
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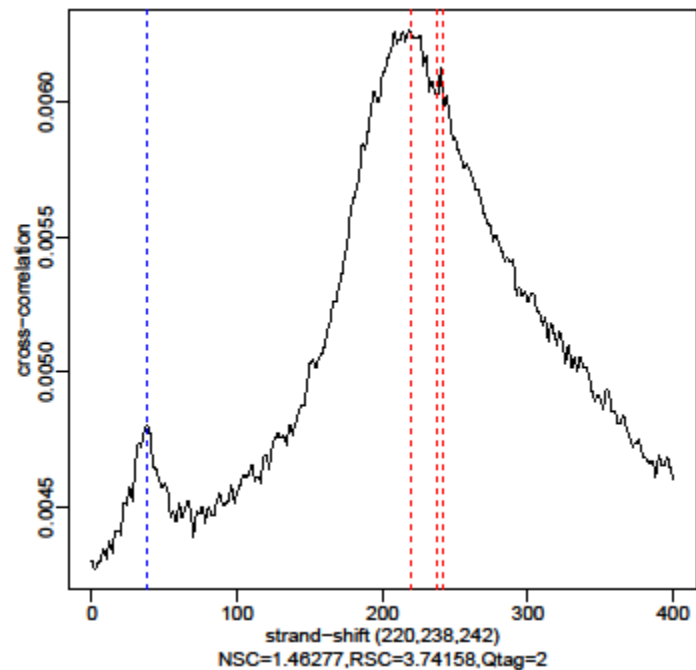
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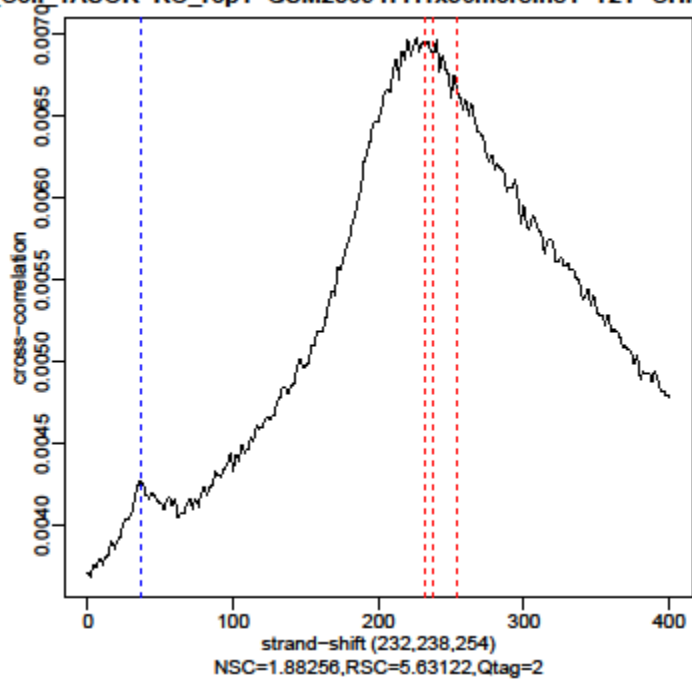
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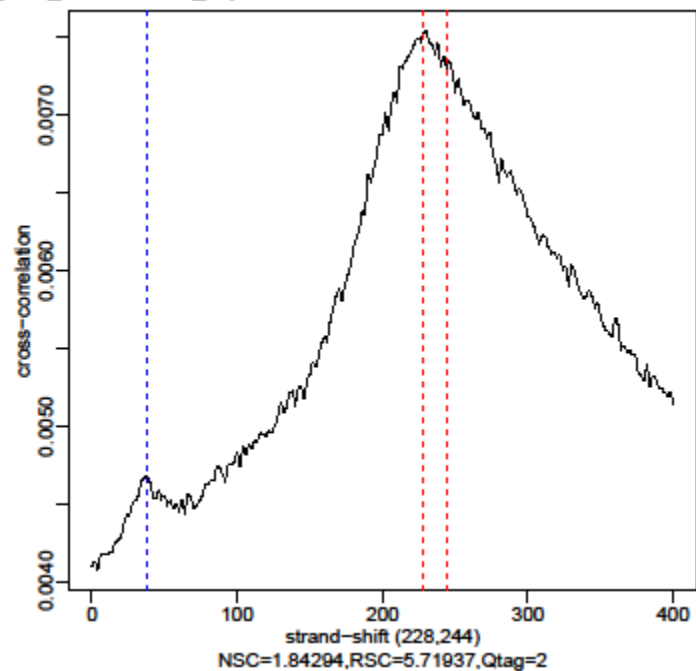
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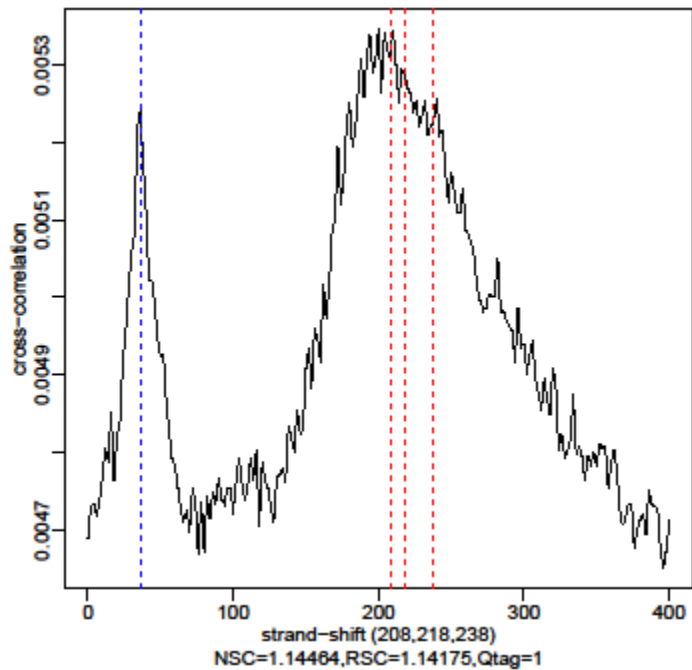
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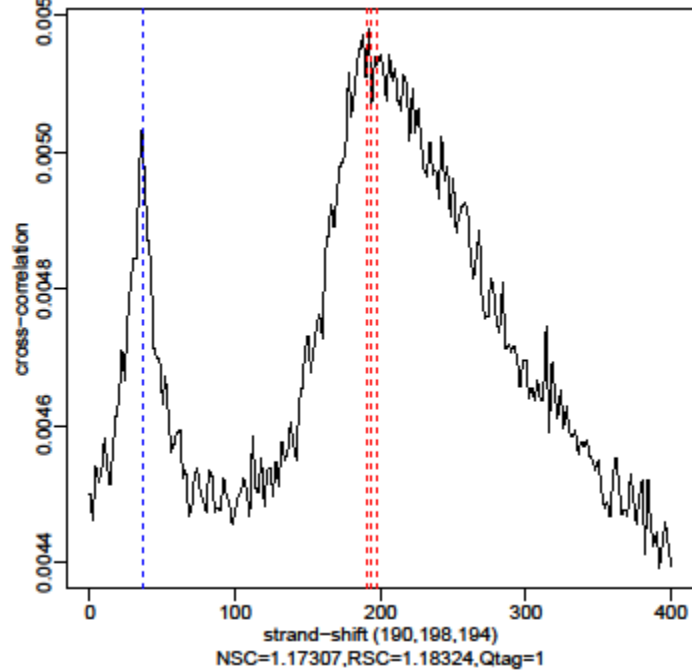
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SOR_Cell_WT_rep1-GSM2509471.1x36mers.hs1-T2T-CHM13v:



SOR_Cell_WT_rep2-GSM2509472.1x36mers.hs1-T2T-CHM13v:



Peak overlap (2x75mers post-IDR)

| #DataSet: | Regions | H3K9me2_MPP8-KO | H3K9me2_WT | H3K9me3_MORC2-KO | H3K9me3_MPP8-KO | H3K9me3_TASOR-KO | H3K9me3_WT | MORC2_MORC2-KO | MORC2_MPP8-KO | MORC2_TASOR-KO | MORC2_WT | MORC2_hESC_WT | MPP8_MORC2-KO | MPP8_MPP8-KO | MPP8_TASOR-KO | MPP8_WT | MPP8_hESC_WT | PoII_K562_MORC2-KO | PoII_K562_MPP8-KO | PoII_K562_TASOR-KO | PoII_K562_WT | TASOR_MORC2-KO | TASOR_MPP8-KO | TASOR_TASOR-KO | TASOR_WT |
|--------------------|---------|-----------------|------------|------------------|-----------------|------------------|------------|----------------|---------------|----------------|----------|---------------|---------------|--------------|---------------|---------|--------------|--------------------|-------------------|--------------------|--------------|----------------|---------------|----------------|----------|
| | | 22 | 111 | 25,741 | 16,713 | 18,353 | 28,725 | 0 | 236 | 542 | 2,777 | 8,302 | 234 | 115 | 196 | 219 | 7,382 | 19,085 | 20,279 | 19,712 | 24,126 | 360 | 212 | 338 | 264 |
| H3K9me2_MPP8-KO | 22 | 1.00 | 0.36 | 0.41 | 0.45 | 0.27 | 0.55 | 0.00 | 0.14 | 0.09 | 0.00 | 0.09 | 0.09 | 0.05 | 0.05 | 0.05 | 0.05 | 0.00 | 0.00 | 0.09 | 0.00 | 0.09 | 0.09 | 0.05 | 0.00 |
| H3K9me2_WT | 111 | 0.07 | 1.00 | 0.23 | 0.23 | 0.13 | 0.27 | 0.00 | 0.05 | 0.04 | 0.03 | 0.04 | 0.04 | 0.02 | 0.02 | 0.03 | 0.02 | 0.09 | 0.12 | 0.12 | 0.15 | 0.04 | 0.03 | 0.02 | 0.02 |
| H3K9me3_MORC2-KO | 25,741 | 0.00 | 0.00 | 1.00 | 0.36 | 0.45 | 0.62 | 0.00 | 0.00 | 0.00 | 0.03 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.08 | 0.03 | 0.03 | 0.03 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 |
| H3K9me3_MPP8-KO | 16,713 | 0.00 | 0.00 | 0.55 | 1.00 | 0.53 | 0.71 | 0.00 | 0.01 | 0.01 | 0.04 | 0.04 | 0.01 | 0.00 | 0.01 | 0.01 | 0.09 | 0.06 | 0.07 | 0.08 | 0.14 | 0.01 | 0.00 | 0.00 | 0.00 |
| H3K9me3_TASOR-KO | 18,353 | 0.00 | 0.00 | 0.62 | 0.48 | 1.00 | 0.70 | 0.00 | 0.01 | 0.01 | 0.03 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.09 | 0.04 | 0.04 | 0.04 | 0.08 | 0.01 | 0.00 | 0.00 | 0.00 |
| H3K9me3_WT | 28,725 | 0.00 | 0.00 | 0.50 | 0.37 | 0.42 | 1.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.04 | 0.00 | 0.00 | 0.00 | 0.01 | 0.08 | 0.05 | 0.06 | 0.06 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| MORC2_MORC2-KO | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MORC2_MPP8-KO | 236 | 0.01 | 0.02 | 0.58 | 0.64 | 0.56 | 0.63 | 0.00 | 1.00 | 0.64 | 0.63 | 0.56 | 0.07 | 0.06 | 0.05 | 0.08 | 0.40 | 0.46 | 0.47 | 0.45 | 0.60 | 0.03 | 0.03 | 0.03 | 0.06 |
| MORC2_TASOR-KO | 542 | 0.00 | 0.01 | 0.20 | 0.25 | 0.20 | 0.25 | 0.00 | 0.28 | 1.00 | 0.38 | 0.64 | 0.03 | 0.04 | 0.03 | 0.04 | 0.19 | 0.71 | 0.72 | 0.74 | 0.80 | 0.02 | 0.02 | 0.02 | 0.02 |
| MORC2_WT | 2,777 | 0.00 | 0.00 | 0.24 | 0.23 | 0.20 | 0.47 | 0.00 | 0.05 | 0.08 | 1.00 | 0.41 | 0.03 | 0.00 | 0.01 | 0.05 | 0.30 | 0.53 | 0.55 | 0.53 | 0.63 | 0.01 | 0.00 | 0.01 | 0.04 |
| MORC2_hESC_WT | 8,302 | 0.00 | 0.00 | 0.07 | 0.09 | 0.07 | 0.14 | 0.00 | 0.02 | 0.04 | 0.14 | 1.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.20 | 0.39 | 0.40 | 0.41 | 0.45 | 0.00 | 0.00 | 0.01 | 0.01 |
| MPP8_MORC2-KO | 234 | 0.01 | 0.02 | 0.58 | 0.38 | 0.43 | 0.67 | 0.00 | 0.07 | 0.06 | 0.37 | 0.24 | 1.00 | 0.06 | 0.18 | 0.30 | 0.36 | 0.34 | 0.32 | 0.28 | 0.37 | 0.31 | 0.04 | 0.03 | 0.21 |
| MPP8_MPP8-KO | 115 | 0.01 | 0.02 | 0.50 | 0.49 | 0.47 | 0.50 | 0.00 | 0.12 | 0.17 | 0.11 | 0.15 | 0.11 | 1.00 | 0.20 | 0.08 | 0.54 | 0.26 | 0.25 | 0.30 | 0.32 | 0.10 | 0.10 | 0.05 | 0.09 |
| MPP8_TASOR-KO | 196 | 0.01 | 0.01 | 0.32 | 0.41 | 0.35 | 0.48 | 0.00 | 0.06 | 0.08 | 0.09 | 0.14 | 0.20 | 0.12 | 1.00 | 0.15 | 0.39 | 0.20 | 0.27 | 0.22 | 0.28 | 0.09 | 0.05 | 0.05 | 0.05 |
| MPP8_WT | 219 | 0.00 | 0.01 | 0.43 | 0.40 | 0.37 | 0.79 | 0.00 | 0.09 | 0.09 | 0.75 | 0.41 | 0.32 | 0.05 | 0.15 | 1.00 | 0.60 | 0.53 | 0.51 | 0.47 | 0.68 | 0.08 | 0.02 | 0.01 | 0.33 |
| MPP8_hESC_WT | 7,382 | 0.00 | 0.00 | 0.27 | 0.22 | 0.23 | 0.35 | 0.00 | 0.01 | 0.01 | 0.12 | 0.23 | 0.01 | 0.01 | 0.01 | 0.02 | 1.00 | 0.26 | 0.25 | 0.26 | 0.38 | 0.01 | 0.00 | 0.00 | 0.01 |
| PoII_K562_MORC2-KO | 19,085 | 0.00 | 0.00 | 0.04 | 0.05 | 0.03 | 0.08 | 0.00 | 0.01 | 0.02 | 0.08 | 0.16 | 0.00 | 0.00 | 0.00 | 0.01 | 0.09 | 1.00 | 0.82 | 0.84 | 0.93 | 0.01 | 0.01 | 0.01 | 0.01 |
| PoII_K562_MPP8-KO | 20,279 | 0.00 | 0.00 | 0.03 | 0.05 | 0.03 | 0.08 | 0.00 | 0.01 | 0.02 | 0.07 | 0.15 | 0.00 | 0.00 | 0.00 | 0.01 | 0.08 | 0.77 | 1.00 | 0.82 | 0.92 | 0.01 | 0.01 | 0.01 | 0.01 |
| PoII_K562_TASOR-KO | 19,712 | 0.00 | 0.00 | 0.03 | 0.06 | 0.04 | 0.08 | 0.00 | 0.01 | 0.02 | 0.07 | 0.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.76 | 0.80 | 1.00 | 0.93 | 0.01 | 0.01 | 0.01 | 0.01 |
| PoII_K562_WT | 24,126 | 0.00 | 0.00 | 0.06 | 0.09 | 0.06 | 0.12 | 0.00 | 0.01 | 0.02 | 0.07 | 0.14 | 0.00 | 0.00 | 0.00 | 0.01 | 0.09 | 0.61 | 0.64 | 0.66 | 1.00 | 0.01 | 0.01 | 0.01 | 0.01 |
| TASOR_MORC2-KO | 360 | 0.01 | 0.01 | 0.34 | 0.25 | 0.26 | 0.41 | 0.00 | 0.01 | 0.03 | 0.09 | 0.11 | 0.20 | 0.03 | 0.05 | 0.05 | 0.11 | 0.33 | 0.33 | 0.34 | 0.36 | 1.00 | 0.31 | 0.29 | 0.36 |
| TASOR_MPP8-KO | 212 | 0.01 | 0.01 | 0.14 | 0.10 | 0.12 | 0.13 | 0.00 | 0.04 | 0.04 | 0.06 | 0.14 | 0.04 | 0.06 | 0.04 | 0.02 | 0.05 | 0.57 | 0.60 | 0.61 | 0.65 | 0.52 | 1.00 | 0.69 | 0.52 |
| TASOR_TASOR-KO | 338 | 0.00 | 0.01 | 0.04 | 0.04 | 0.03 | 0.04 | 0.00 | 0.02 | 0.03 | 0.05 | 0.16 | 0.02 | 0.02 | 0.03 | 0.01 | 0.04 | 0.67 | 0.71 | 0.74 | 0.76 | 0.31 | 0.43 | 1.00 | 0.34 |
| TASOR_WT | 264 | 0.00 | 0.01 | 0.25 | 0.21 | 0.22 | 0.44 | 0.00 | 0.05 | 0.05 | 0.40 | 0.31 | 0.19 | 0.04 | 0.04 | 0.27 | 0.33 | 0.68 | 0.70 | 0.67 | 0.78 | 0.49 | 0.42 | 0.44 | 1.00 |

ChromHMM state overlap

| # | H3K9me2_MPP8-KO | H3K9me2_WT | H3K9me3_MORC2-KO | H3K9me3_MPP8-KO | H3K9me3_TASOR-KO | H3K9me3_WT | MORC2_MORC2-KO | MORC2_MPP8-KO | MORC2_TASOR-KO | MORC2_WT | MORC2_hESC_WT | MPP8_MORC2-KO | MPP8_MPP8-KO | MPP8_TASOR-KO | MPP8_WT | MPP8_hESC_WT | PoIII_K562_MORC2-KO | PoIII_K562_MPP8-KO | PoIII_K562_TASOR-KO | PoIII_K562_WT | TASOR_MORC2-KO | TASOR_MPP8-KO | TASOR_TASOR-KO | TASOR_WT |
|----------|-----------------|------------|------------------|-----------------|------------------|------------|----------------|---------------|----------------|----------|---------------|---------------|--------------|---------------|---------|--------------|---------------------|--------------------|---------------------|---------------|----------------|---------------|----------------|----------|
| EnhA1 | 0.04 | 0.05 | 0.01 | 0.02 | 0.01 | 0.02 | 0.00 | 0.05 | 0.04 | 0.02 | 0.02 | 0.02 | 0.05 | 0.03 | 0.00 | 0.01 | 0.04 | 0.05 | 0.05 | 0.05 | 0.01 | 0.02 | 0.05 | 0.00 |
| EnhA2 | 0.00 | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.00 | 0.02 | 0.02 | 0.02 | 0.01 | 0.03 | 0.07 | 0.05 | 0.01 | 0.01 | 0.03 | 0.03 | 0.03 | 0.03 | 0.01 | 0.01 | 0.02 | 0.01 |
| EnhBiv | 0.04 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| EnhG1 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.02 | 0.04 | 0.04 | 0.05 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| EnhG2 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 |
| EnhWk | 0.08 | 0.14 | 0.04 | 0.07 | 0.04 | 0.06 | 0.00 | 0.08 | 0.10 | 0.06 | 0.10 | 0.04 | 0.06 | 0.09 | 0.02 | 0.06 | 0.10 | 0.10 | 0.12 | 0.15 | 0.03 | 0.04 | 0.05 | 0.02 |
| Het | 0.21 | 0.11 | 0.15 | 0.13 | 0.16 | 0.12 | 0.00 | 0.10 | 0.03 | 0.08 | 0.03 | 0.25 | 0.09 | 0.06 | 0.17 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.14 | 0.03 | 0.00 | 0.10 |
| Quies | 0.29 | 0.16 | 0.31 | 0.22 | 0.30 | 0.27 | 0.00 | 0.06 | 0.03 | 0.17 | 0.12 | 0.24 | 0.11 | 0.18 | 0.23 | 0.23 | 0.04 | 0.04 | 0.04 | 0.04 | 0.20 | 0.12 | 0.05 | 0.13 |
| ReprPC | 0.08 | 0.08 | 0.02 | 0.03 | 0.02 | 0.03 | 0.00 | 0.01 | 0.01 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| ReprPCWt | 0.08 | 0.20 | 0.13 | 0.11 | 0.11 | 0.12 | 0.00 | 0.02 | 0.02 | 0.02 | 0.07 | 0.02 | 0.01 | 0.06 | 0.02 | 0.07 | 0.01 | 0.01 | 0.01 | 0.02 | 0.05 | 0.03 | 0.02 | 0.01 |
| TssA | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.07 | 0.19 | 0.14 | 0.15 | 0.02 | 0.18 | 0.12 | 0.05 | 0.04 | 0.17 | 0.17 | 0.15 | 0.10 | 0.23 | 0.37 | 0.37 | 0.29 |
| TssBiv | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| TssFlnk | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.05 | 0.08 | 0.08 | 0.08 | 0.02 | 0.08 | 0.09 | 0.03 | 0.03 | 0.10 | 0.10 | 0.10 | 0.08 | 0.08 | 0.15 | 0.14 | 0.10 |
| TssFlnkD | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.06 | 0.12 | 0.05 | 0.08 | 0.00 | 0.03 | 0.06 | 0.02 | 0.02 | 0.08 | 0.08 | 0.08 | 0.07 | 0.02 | 0.03 | 0.06 | 0.03 |
| TssFlnkU | 0.00 | 0.05 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.10 | 0.22 | 0.10 | 0.12 | 0.01 | 0.08 | 0.09 | 0.03 | 0.02 | 0.15 | 0.15 | 0.13 | 0.10 | 0.09 | 0.15 | 0.18 | 0.13 |
| Tx | 0.00 | 0.02 | 0.05 | 0.05 | 0.04 | 0.05 | 0.00 | 0.05 | 0.01 | 0.05 | 0.02 | 0.04 | 0.01 | 0.01 | 0.06 | 0.07 | 0.07 | 0.06 | 0.06 | 0.08 | 0.02 | 0.01 | 0.00 | 0.02 |
| TxWk | 0.13 | 0.08 | 0.18 | 0.20 | 0.17 | 0.19 | 0.00 | 0.09 | 0.03 | 0.13 | 0.08 | 0.18 | 0.10 | 0.09 | 0.19 | 0.22 | 0.14 | 0.13 | 0.14 | 0.19 | 0.09 | 0.04 | 0.04 | 0.08 |
| ZNF/Rpts | 0.04 | 0.02 | 0.09 | 0.10 | 0.11 | 0.08 | 0.00 | 0.24 | 0.06 | 0.07 | 0.02 | 0.12 | 0.11 | 0.04 | 0.15 | 0.07 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 | 0.07 |

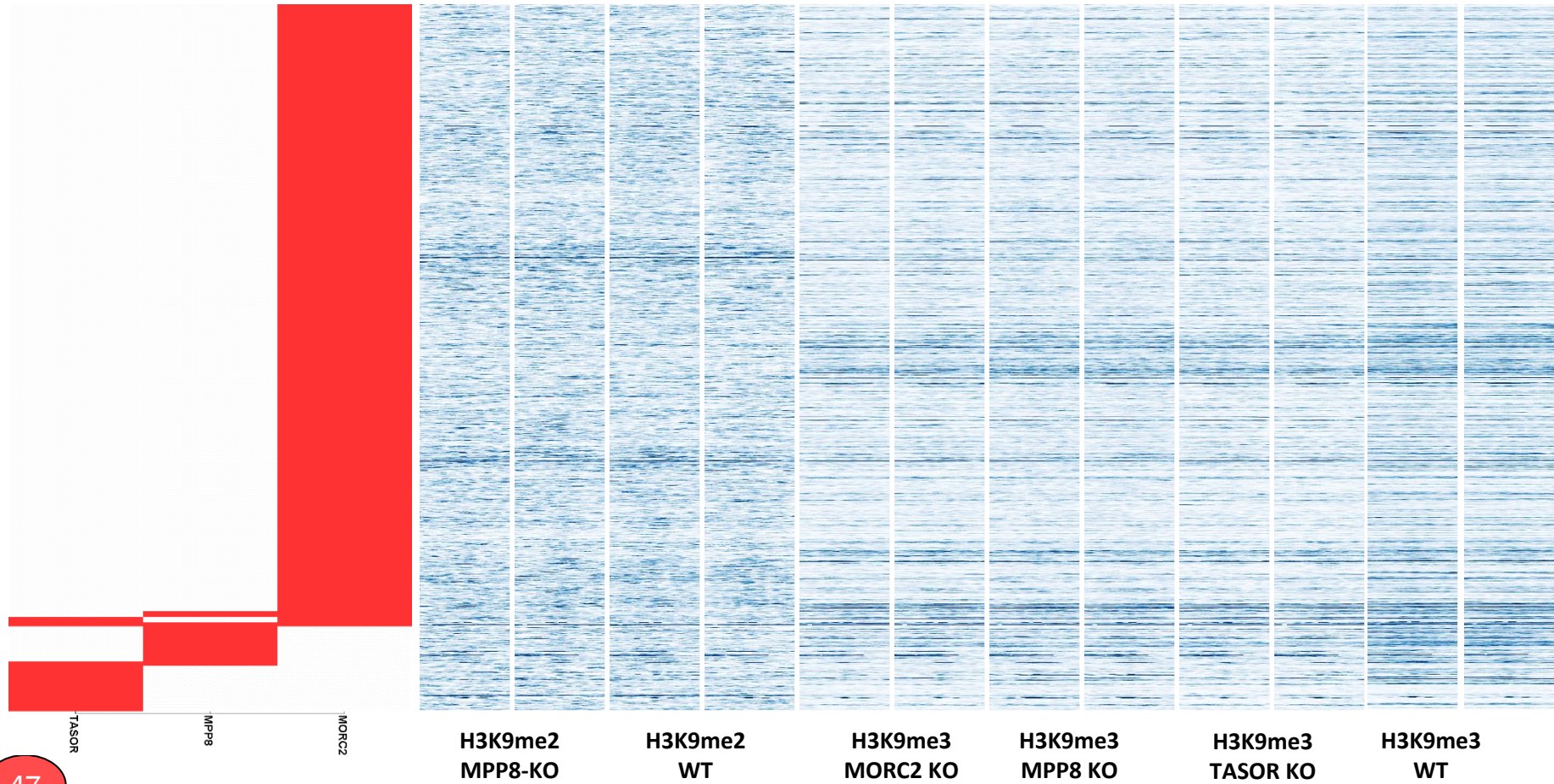
ChromHMM state overlap enrichment

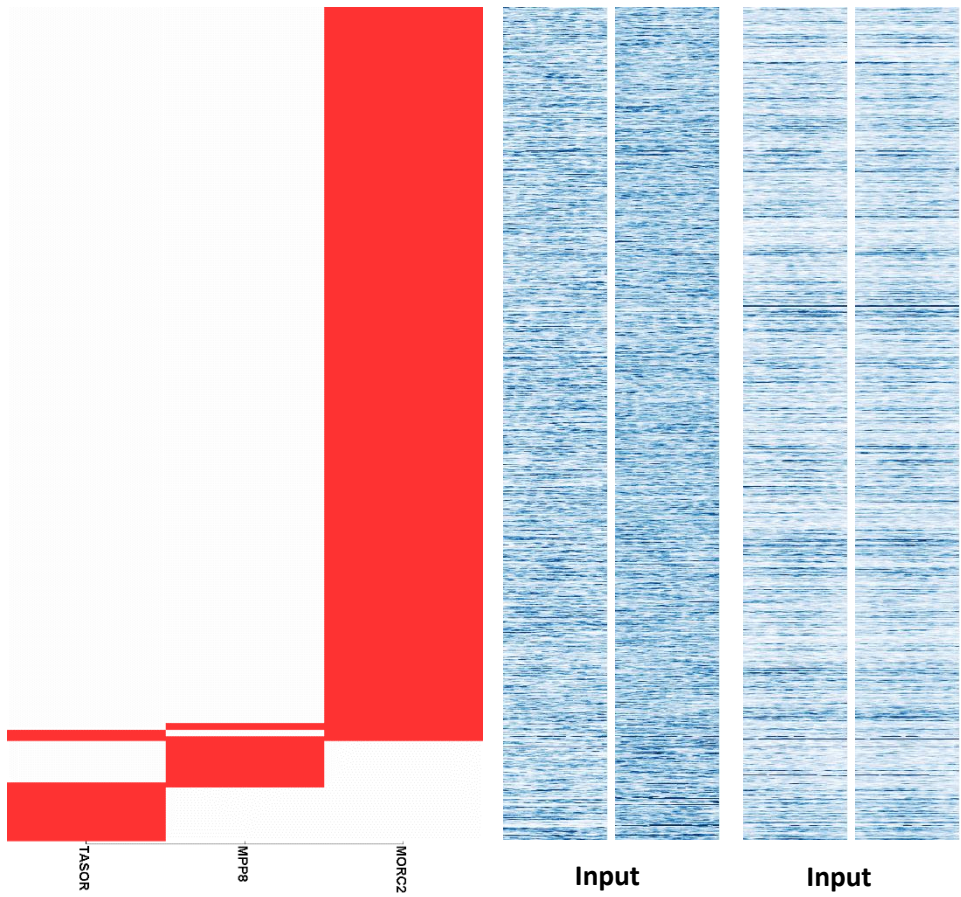
| | | H3K9me2_MPP8-KO | H3K9me2_WT | H3K9me3_MORC2-KO | H3K9me3_MPP8-KO | H3K9me3_TASOR-KO | H3K9me3_WT | MORC2_MORC2-KO | MORC2_MPP8-KO | MORC2_TASOR-KO | MORC2_WT | MORC2_hESC_WT | MPP8_MORC2-KO | MPP8_MPP8-KO | MPP8_TASOR-KO | MPP8_WT | MPP8_hESC_WT | PoII_K562_MORC2-KO | PoII_K562_MPP8-KO | PoII_K562_TASOR-KO | PoII_K562_WT | TASOR_MORC2-KO | TASOR_MPP8-KO | TASOR_TASOR-KO | TASOR_WT | |
|---------------|-------|-----------------|------------|------------------|-----------------|------------------|------------|----------------|---------------|----------------|----------|---------------|---------------|--------------|---------------|---------|--------------|--------------------|-------------------|--------------------|--------------|----------------|---------------|----------------|----------|--|
| Total: | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EnhA1 | 0.004 | 3.28 | 3.57 | 1.75 | 2.36 | 1.53 | 2.12 | ##### | 3.49 | 3.34 | 2.03 | 2.35 | 1.97 | 3.64 | 2.88 | -0.58 | 1.60 | 3.36 | 3.62 | 3.52 | 3.54 | 0.73 | 2.41 | 3.39 | 0.19 | |
| EnhA2 | 0.002 | ##### | 1.57 | 2.76 | 3.25 | 2.77 | 3.17 | ##### | 3.51 | 3.32 | 3.08 | 2.87 | 3.82 | 5.09 | 4.67 | 2.91 | 2.62 | 3.87 | 4.01 | 3.86 | 3.82 | 2.31 | 2.57 | 3.64 | 1.94 | |
| EnhBiv | 0.003 | 3.84 | 3.29 | -1.35 | 1.73 | 0.51 | 0.94 | ##### | -0.27 | 1.82 | -0.43 | 3.43 | ##### | ##### | -0.26 | ##### | 0.68 | 0.71 | 0.83 | 1.11 | 1.50 | ##### | -0.03 | 0.45 | ##### | |
| EnhG1 | 0.004 | ##### | 0.60 | 0.15 | 1.45 | 0.46 | 1.08 | ##### | 0.37 | -0.35 | 1.23 | 1.32 | 0.85 | 1.67 | 0.38 | -0.38 | 2.46 | 3.45 | 3.34 | 3.61 | 3.79 | ##### | ##### | -1.50 | -0.61 | |
| EnhG2 | 0.001 | ##### | 4.45 | 1.63 | 2.12 | 1.71 | 1.63 | ##### | 2.22 | 3.31 | 2.80 | 3.17 | 3.70 | 3.52 | ##### | 2.47 | 3.67 | 4.61 | 4.63 | 4.66 | 4.54 | ##### | 2.46 | 3.68 | 2.24 | |
| EnhWk | 0.023 | 1.87 | 2.64 | 0.69 | 1.59 | 0.69 | 1.38 | ##### | 1.72 | 2.19 | 1.33 | 2.11 | 0.70 | 1.38 | 2.02 | -0.18 | 1.42 | 2.07 | 2.16 | 2.44 | 2.69 | 0.32 | 0.70 | 0.98 | -0.22 | |
| Het | 0.025 | 3.06 | 2.19 | 2.58 | 2.40 | 2.68 | 2.32 | ##### | 2.03 | 0.09 | 1.63 | 0.06 | 3.35 | 1.84 | 1.29 | 2.79 | 2.04 | -2.42 | -2.46 | -2.82 | -2.36 | 2.52 | 0.33 | -2.64 | 1.94 | |
| Quies | 0.512 | -0.81 | -1.69 | -0.71 | -1.24 | -0.75 | -0.93 | ##### | -3.20 | -4.19 | -1.63 | -2.11 | -1.10 | -2.26 | -1.47 | -1.13 | -1.18 | -3.78 | -3.75 | -3.81 | -3.71 | -1.39 | -2.13 | -3.50 | -2.01 | |
| ReprPC | 0.037 | 1.17 | 1.10 | -0.81 | -0.28 | -1.09 | -0.51 | ##### | -1.94 | -2.07 | -3.20 | 0.38 | ##### | ##### | -3.93 | ##### | -0.99 | -3.06 | -3.00 | -2.56 | -1.82 | -3.96 | ##### | -3.22 | ##### | |
| ReprPCWk | 0.154 | -0.89 | 0.37 | -0.30 | -0.52 | -0.48 | -0.38 | ##### | -3.18 | -3.18 | -2.83 | -1.08 | -2.93 | -3.69 | -1.34 | -2.74 | -1.24 | -3.80 | -3.69 | -3.45 | -2.91 | -1.56 | -2.59 | -2.95 | -3.39 | |
| TssA | 0.004 | ##### | 2.06 | -1.18 | 0.87 | -0.11 | 1.09 | ##### | 4.15 | 5.57 | 5.11 | 5.17 | 2.31 | 5.49 | 4.89 | 3.49 | 3.23 | 5.40 | 5.38 | 5.16 | 4.65 | 5.80 | 6.50 | 6.49 | 6.14 | |
| TssBiv | 0.000 | ##### | ##### | ##### | 0.90 | -1.50 | -0.05 | ##### | 3.44 | 5.31 | 3.37 | 5.13 | 3.92 | ##### | 5.03 | ##### | 2.17 | 4.00 | 3.96 | 3.99 | 3.81 | ##### | ##### | 4.16 | 3.46 | |
| TssFlnk | 0.002 | ##### | 1.58 | 0.25 | 2.08 | 1.52 | 2.38 | ##### | 4.67 | 5.42 | 5.45 | 5.36 | 3.64 | 5.46 | 5.53 | 4.06 | 3.93 | 5.74 | 5.73 | 5.70 | 5.33 | 5.46 | 6.29 | 6.20 | 5.76 | |
| TssFlnkD | 0.002 | ##### | 2.54 | -1.25 | 1.50 | 0.39 | 1.35 | ##### | 4.96 | 5.96 | 4.66 | 5.33 | 0.79 | 3.93 | 4.84 | 3.37 | 2.98 | 5.31 | 5.31 | 5.41 | 5.10 | 3.10 | 4.01 | 4.94 | 3.79 | |
| TssFlnkU | 0.002 | ##### | 4.57 | -0.79 | 1.48 | 0.19 | 1.34 | ##### | 5.50 | 6.68 | 5.52 | 5.85 | 1.65 | 5.17 | 5.39 | 3.60 | 3.43 | 6.11 | 6.11 | 5.96 | 5.50 | 5.40 | 6.11 | 6.40 | 5.89 | |
| Tx | 0.024 | ##### | -0.10 | 0.93 | 1.15 | 0.87 | 1.06 | ##### | 0.99 | -0.88 | 1.04 | -0.64 | 0.61 | -2.04 | -0.74 | 1.38 | 1.58 | 1.47 | 1.34 | 1.36 | 1.75 | -0.19 | -2.10 | -2.61 | 0.01 | |
| TxWk | 0.106 | 0.24 | -0.42 | 0.73 | 0.92 | 0.68 | 0.82 | ##### | -0.17 | -1.62 | 0.31 | -0.37 | 0.73 | -0.07 | -0.20 | 0.86 | 1.03 | 0.40 | 0.30 | 0.42 | 0.87 | -0.27 | -1.41 | -1.32 | -0.35 | |
| ZNF,Rpts | 0.001 | 4.91 | 3.62 | 6.07 | 6.17 | 6.25 | 5.93 | ##### | 7.42 | 5.46 | 5.66 | 3.85 | 6.45 | 6.35 | 4.90 | 6.73 | 5.71 | 1.91 | 1.84 | 1.60 | 2.09 | 4.59 | 2.04 | -0.06 | 5.63 | |

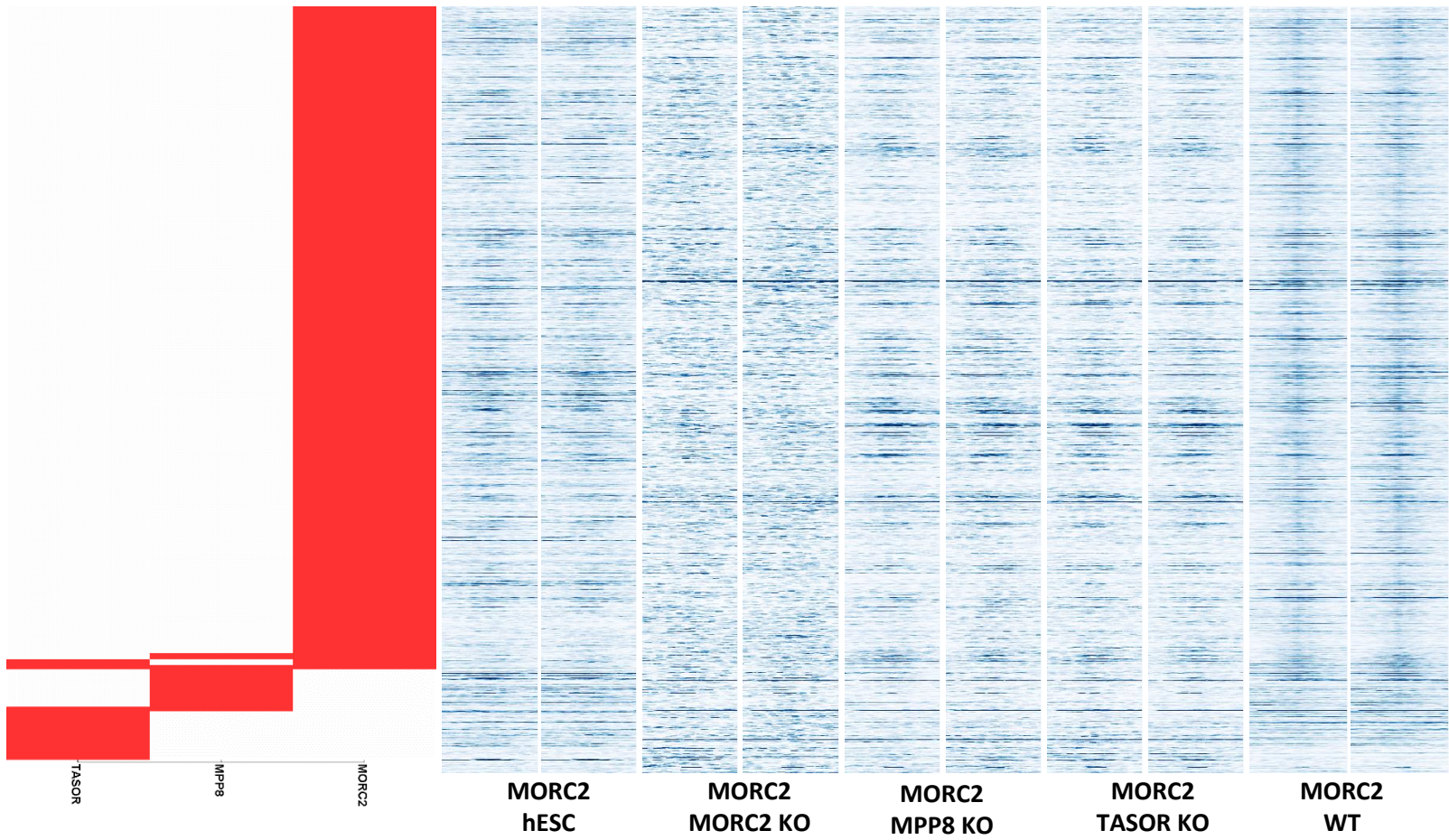
Peak clustering (MORC2, MPP8, TASOR WT only)

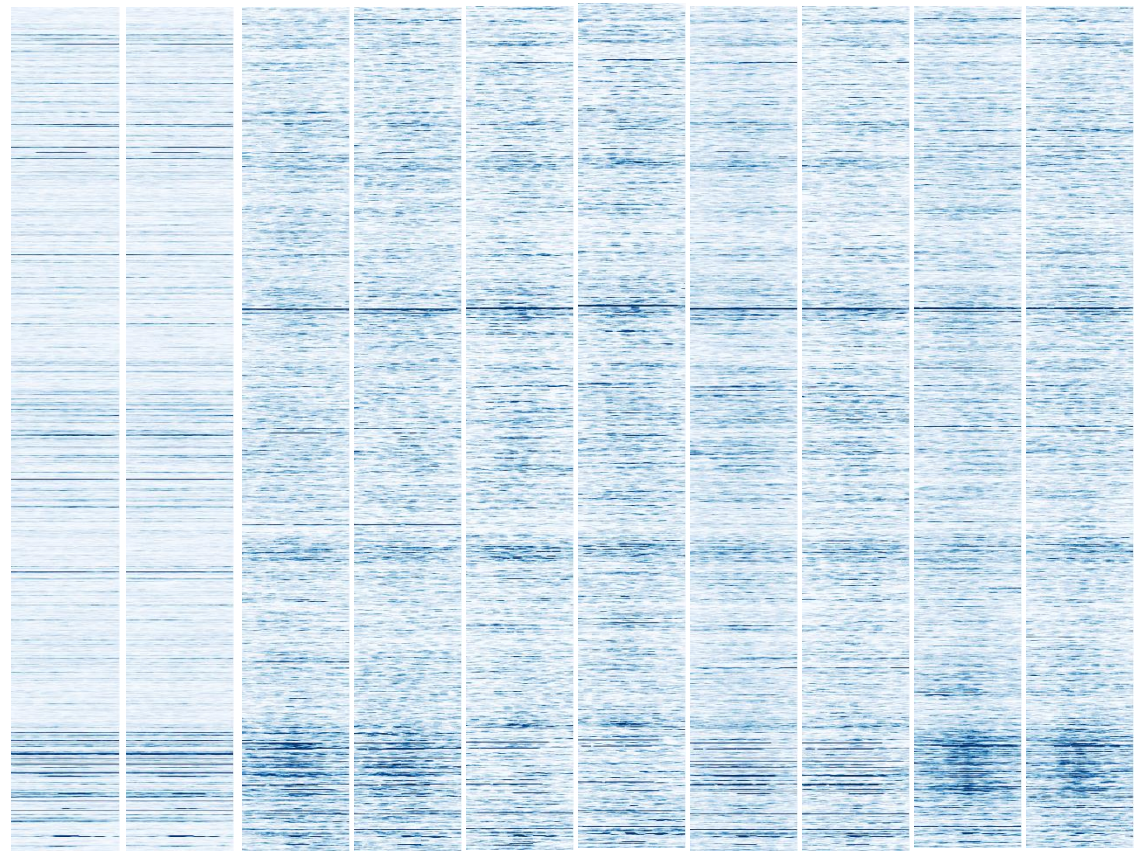
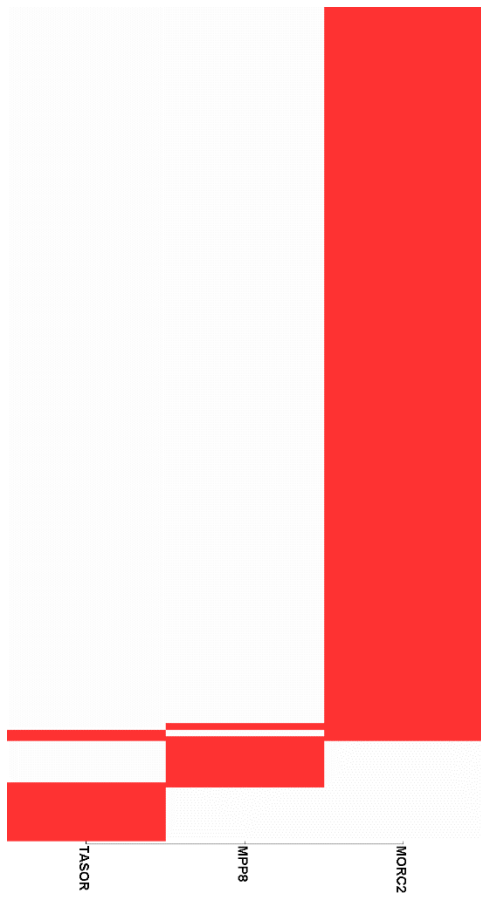


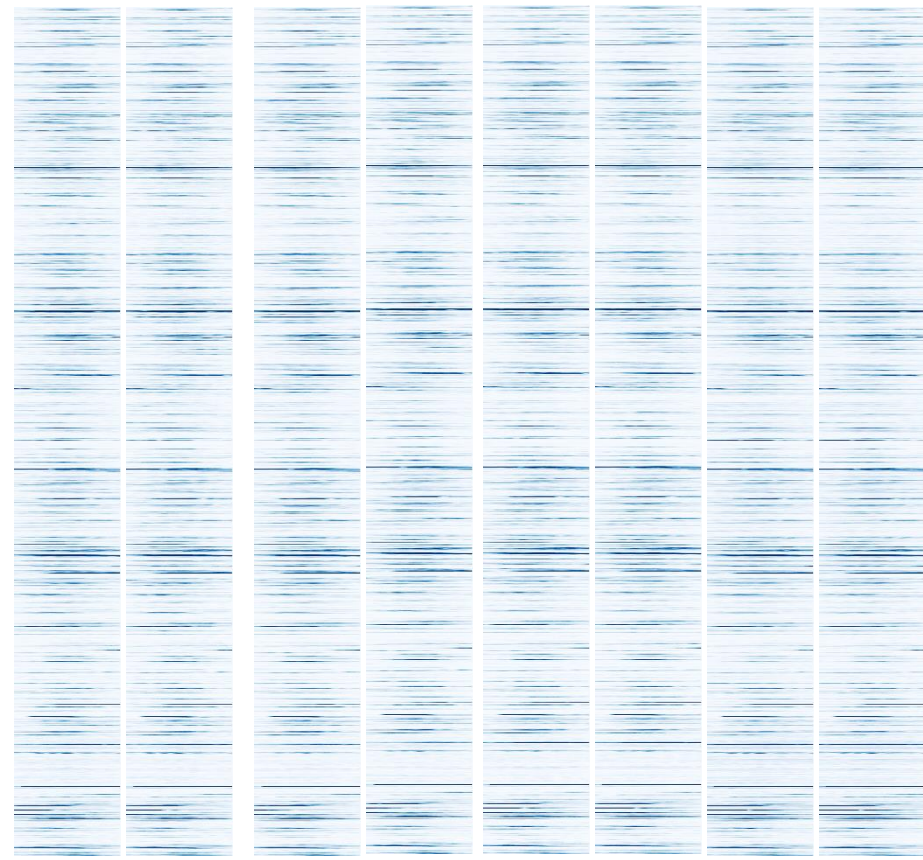
Peak clustering (MORC2, MPP8, TASOR WT only)









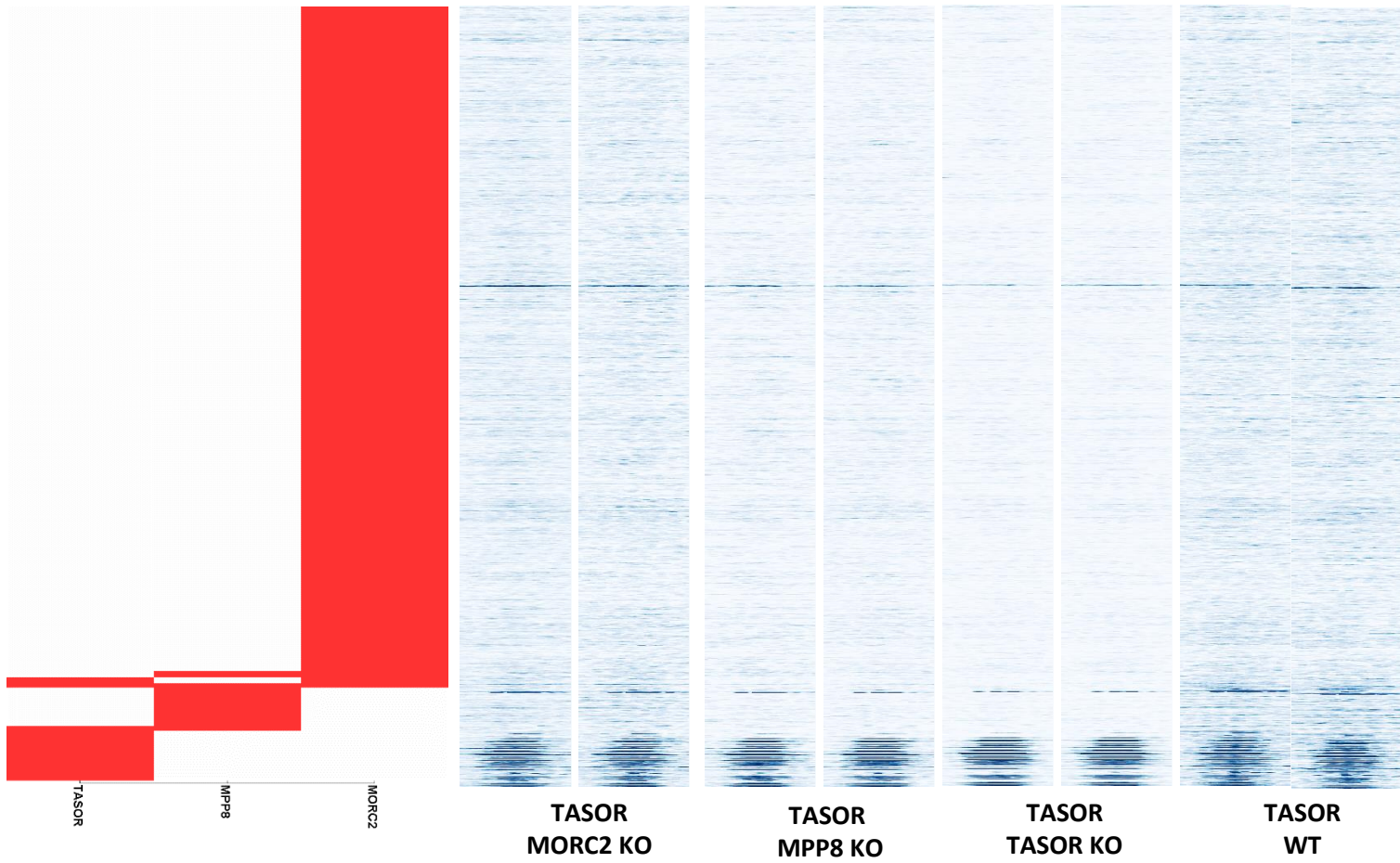


Pol2
MORC2 KO

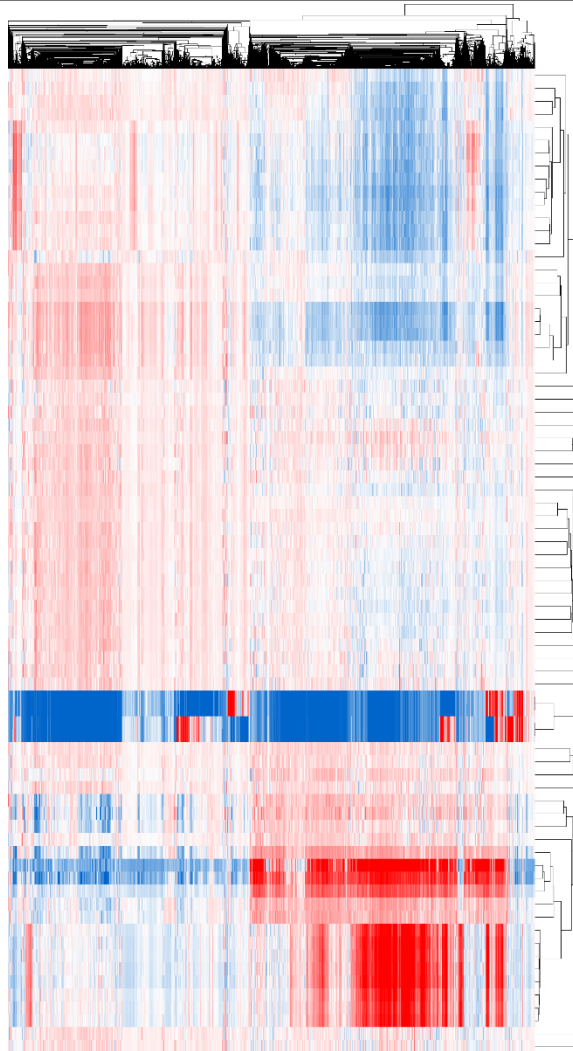
Pol2
MPP8 KO

Pol2
TASOR KO

Pol2
WT



Repeat families



ChIP_H3K9me2_Cell_WT_rep2-GSM2509500
ChIP_H3K9me2_Cell_MPP8-KO_rep2-GSM2509502
ChIP_H3K9me2_Cell_MPP8-KO_rep1-GSM2509501
ChIP_H3K9me2_Cell_WT_rep1-GSM2509499
ChIP_H3K9me3_Cell_MPP8_KO_rep2-GSM2509506
ChIP_H3K9me3_Cell_MORC2-KO_rep2-GSM2509490
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ChIP_H3K9me3_Cell_WT_rep4-GSM2509504
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ChIP_input_H3K9me2or3_Cell_WT_rep2-GSM2509508
ChIP_input_Cell_hESC_WT_rep2-GSM2789817
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ChIP_MORC2_Cell_hESC_WT_rep2-GSM2789815
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