

## Additional file 2: kNN error rates for different feature selection methods

Additional file 2: Table S1: ‘Breast’ dataset

| N.genes | Wil-RS | mRMR  | MP    | POS   |
|---------|--------|-------|-------|-------|
| 1       | 0.425  | 0.486 | 0.510 | 0.417 |
| 2       | 0.463  | 0.474 | 0.480 | 0.368 |
| 3       | 0.471  | 0.465 | 0.468 | 0.360 |
| 4       | 0.457  | 0.452 | 0.447 | 0.356 |
| 5       | 0.467  | 0.456 | 0.434 | 0.360 |
| 6       | 0.470  | 0.453 | 0.432 | 0.348 |
| 7       | 0.470  | 0.450 | 0.418 | 0.351 |
| 8       | 0.454  | 0.449 | 0.415 | 0.342 |
| 9       | 0.451  | 0.441 | 0.417 | 0.340 |
| 10      | 0.441  | 0.439 | 0.406 | 0.337 |
| 20      | 0.430  | 0.423 | 0.348 | 0.340 |
| 30      | 0.438  | 0.431 | 0.354 | 0.341 |
| 40      | 0.417  | 0.413 | 0.359 | 0.362 |
| 50      | 0.438  | 0.404 | 0.354 | 0.377 |

Additional file 2: Table S2: ‘Srbct’ dataset

| N.genes | Wil-RS | mRMR  | MP    | POS   |
|---------|--------|-------|-------|-------|
| 1       | 0.422  | 0.452 | 0.064 | 0.135 |
| 2       | 0.180  | 0.435 | 0.094 | 0.098 |
| 3       | 0.157  | 0.398 | 0.054 | 0.063 |
| 4       | 0.185  | 0.376 | 0.043 | 0.050 |
| 5       | 0.189  | 0.361 | 0.043 | 0.051 |
| 6       | 0.252  | 0.345 | 0.042 | 0.046 |
| 7       | 0.299  | 0.332 | 0.040 | 0.044 |
| 8       | 0.364  | 0.321 | 0.041 | 0.040 |
| 9       | 0.394  | 0.308 | 0.041 | 0.040 |
| 10      | 0.424  | 0.308 | 0.041 | 0.037 |
| 20      | 0.367  | 0.265 | 0.018 | 0.007 |
| 30      | 0.383  | 0.246 | 0.005 | 0.008 |
| 40      | 0.477  | 0.192 | 0.008 | 0.009 |
| 50      | 0.460  | 0.099 | 0.011 | 0.009 |

Additional file 2: Table S3: ‘Lung’ dataset

| N.genes | Wil-RS | mRMR  | MP    | POS   |
|---------|--------|-------|-------|-------|
| 1       | 0.430  | 0.162 | 0.062 | 0.033 |
| 2       | 0.426  | 0.139 | 0.051 | 0.035 |
| 3       | 0.416  | 0.125 | 0.041 | 0.034 |
| 4       | 0.370  | 0.112 | 0.039 | 0.024 |
| 5       | 0.335  | 0.105 | 0.035 | 0.021 |
| 6       | 0.301  | 0.095 | 0.033 | 0.019 |
| 7       | 0.290  | 0.087 | 0.031 | 0.017 |
| 8       | 0.281  | 0.081 | 0.028 | 0.015 |
| 9       | 0.257  | 0.080 | 0.027 | 0.013 |
| 10      | 0.234  | 0.078 | 0.024 | 0.012 |
| 20      | 0.239  | 0.064 | 0.017 | 0.018 |
| 30      | 0.239  | 0.065 | 0.020 | 0.022 |
| 40      | 0.217  | 0.057 | 0.023 | 0.025 |
| 50      | 0.213  | 0.028 | 0.026 | 0.021 |

Additional file 2: Table S4: ‘GSE4045’ dataset

| N.genes | Wil-RS | mRMR  | MP    | POS   |
|---------|--------|-------|-------|-------|
| 1       | 0.180  | 0.235 | 0.227 | 0.213 |
| 2       | 0.132  | 0.228 | 0.172 | 0.165 |
| 3       | 0.125  | 0.231 | 0.153 | 0.142 |
| 4       | 0.124  | 0.227 | 0.144 | 0.166 |
| 5       | 0.115  | 0.225 | 0.148 | 0.160 |
| 6       | 0.115  | 0.231 | 0.153 | 0.172 |
| 7       | 0.114  | 0.229 | 0.147 | 0.171 |
| 8       | 0.111  | 0.231 | 0.149 | 0.171 |
| 9       | 0.106  | 0.229 | 0.148 | 0.166 |
| 10      | 0.110  | 0.221 | 0.150 | 0.165 |
| 20      | 0.083  | 0.211 | 0.147 | 0.157 |
| 30      | 0.070  | 0.221 | 0.147 | 0.154 |
| 40      | 0.070  | 0.209 | 0.144 | 0.158 |
| 50      | 0.078  | 0.214 | 0.137 | 0.166 |

Additional file 2: Table S5: 'GSE14333' dataset

| N.genes | Wil-RS | MP    | POS   |
|---------|--------|-------|-------|
| 1       | 0.469  | 0.472 | 0.472 |
| 2       | 0.443  | 0.480 | 0.476 |
| 3       | 0.434  | 0.488 | 0.474 |
| 4       | 0.431  | 0.488 | 0.478 |
| 5       | 0.429  | 0.489 | 0.482 |
| 6       | 0.422  | 0.487 | 0.483 |
| 7       | 0.419  | 0.483 | 0.483 |
| 8       | 0.419  | 0.480 | 0.482 |
| 9       | 0.420  | 0.475 | 0.482 |
| 10      | 0.423  | 0.476 | 0.483 |
| 20      | 0.443  | 0.459 | 0.470 |
| 30      | 0.454  | 0.468 | 0.456 |
| 40      | 0.453  | 0.482 | 0.456 |
| 50      | 0.453  | 0.497 | 0.456 |

Additional file 2: Table S6: 'GSE27854' dataset

| N.genes | Wil-RS | MP    | POS   |
|---------|--------|-------|-------|
| 1       | 0.432  | 0.491 | 0.492 |
| 2       | 0.427  | 0.463 | 0.483 |
| 3       | 0.420  | 0.460 | 0.472 |
| 4       | 0.426  | 0.463 | 0.463 |
| 5       | 0.434  | 0.459 | 0.439 |
| 6       | 0.431  | 0.460 | 0.436 |
| 7       | 0.437  | 0.467 | 0.431 |
| 8       | 0.436  | 0.469 | 0.431 |
| 9       | 0.441  | 0.463 | 0.428 |
| 10      | 0.442  | 0.464 | 0.428 |
| 20      | 0.453  | 0.480 | 0.431 |
| 30      | 0.449  | 0.476 | 0.425 |
| 40      | 0.454  | 0.474 | 0.432 |
| 50      | 0.456  | 0.475 | 0.437 |