

| | Error rate | Gene Set Size | Predictor Size | Training Error | PAM Cross-Validation Error Rate |
|-------------------------------|---------------|---------------|----------------|------------------|---------------------------------|
| Menopausal Status - SAM | 0.5 ± 0 | 73 ± 18.5 | 25.7 ± 4.73 | 0.0667 ± 0.0577 | 0.3 ± 0.132 |
| Menopausal Status - Limma | 0.357 ± 0.244 | 3430 ± 82.5 | 29.9 ± 15.1 | 0.00714 ± 0.0189 | 0.4 ± 0.112 |
| ER- Limma | 0.55 ± 0.158 | 30.1 ± 7.78 | 16 ± 6.93 | 0.195 ± 0.0744 | 0.373 ± 0.0636 |
| PR - Limma | 0.556 ± 0.3 | 1710 ± 120 | 32.8 ± 16.6 | 0.0152 ± 0.0227 | 0.54 ± 0.11 |
| Lymph Node - Limma | 0.455 ± 0.35 | 14.9 ± 5.56 | 6.09 ± 4.93 | 0.233 ± 0.0653 | 0.466 ± 0.123 |
| HER2 - Limma | 0.5 ± 0 | 6850 ± 50.8 | 24.4 ± 5.5 | 0 ± 0 | 0.29 ± 0.0894 |
| Grade - Limma | 0.222 ± 0.264 | 2490 ± 111 | 251 ± 497 | 0.058 ± 0.0307 | 0.396 ± 0.105 |
| Adjacent vs Reduction - Limma | 0.5 ± 0.354 | 5480 ± 46.9 | 79.1 ± 107 | 0.0382 ± 0.0138 | 0.271 ± 0.0313 |
| Recurrence - Limma | 0.50 ± 0.41 | 8720 ± 19.48 | 31.25 ± 11.81 | 0.011 ± 0.022 | 0.283 ± 0.025 |

Supplementary Table S3: