

Table S10. N-Replete Transcriptional Start Sites at 24 Hours Post Starvation Identified by TSSAR.

| Position | Strand | ID         | Score | Difference | p.Value | Positional.Ur Class | Comment   |
|----------|--------|------------|-------|------------|---------|---------------------|---|
| 158 +    |        | TSS_000003 | 1000  | 390        | 0       | 5 P                 | 16nt upstream of gene PMM0001;                                |
| 1089 +   |        | TSS_000014 | 1000  | 101        | 0       | 15 IP               | within gene(s) PMM0001; 244nt upstream of gene PMM0002;       |
| 1991 +   |        | TSS_000017 | 1000  | 160        | 0       | 4 IP                | within gene(s) PMM0002; 53nt upstream of gene PMM0003;        |
| 2084 +   |        | TSS_000020 | 1000  | 2180       | 0       | 1 I                 | within gene(s) PMM0003;                                       |
| 3197 +   |        | TSS_000029 | 1000  | 197        | 0       | 5 I                 | within gene(s) PMM0003;                                       |
| 5103 +   |        | TSS_000034 | 1000  | 114        | 0       | 0 I                 | within gene(s) PMM0004;                                       |
| 8361 -   |        | TSS_012240 | 1000  | 519        | 0       | 0 P                 | 33nt upstream of gene PMM0005;                                |
| 9568 +   |        | TSS_000039 | 1000  | 153        | 0       | 5 Ai                | antisense to gene(s) PMM0007;                                 |
| 10218 -  |        | TSS_012245 | 1000  | 459        | 0       | 0 I                 | within gene(s) PMM0007;                                       |
| 10339 +  |        | TSS_000042 | 1000  | 1741       | 0       | 4 P                 | 28nt upstream of gene PMM0008;                                |
| 10349 +  |        | TSS_000045 | 1000  | 547        | 0       | 3 P                 | 18nt upstream of gene PMM0008;                                |
| 11776 +  |        | TSS_000056 | 1000  | 171        | 0       | 4 P                 | 17nt upstream of gene PMM0010;                                |
| 14116 -  |        | TSS_012254 | 1000  | 1436       | 0       | 3 Ai                | antisense to gene(s) PMM0011;                                 |
| 14568 +  |        | TSS_000073 | 1000  | 435        | 0       | 0 P                 | 17nt upstream of gene PMM0012;                                |
| 14964 -  |        | TSS_012257 | 1000  | 235        | 0       | 6 Ai                | antisense to gene(s) PMM0012;                                 |
| 16016 +  |        | TSS_000082 | 1000  | 22430      | 0       | 3 P                 | 2nt upstream of gene PMM0013;                                 |
| 16255 -  |        | TSS_012262 | 1000  | 254        | 0       | 1 Ai                | antisense to gene(s) PMM0013;                                 |
| 16313 -  |        | TSS_012263 | 1000  | 186        | 0       | 1 Ai                | antisense to gene(s) PMM0013;                                 |
| 16507 +  |        | TSS_000097 | 1000  | 119        | 0       | 3 I                 | within gene(s) PMM0013;                                       |
| 17671 +  |        | TSS_000102 | 1000  | 409        | 0       | 2 PAi               | 41nt upstream of gene PMM0015; antisense to gene(s) PMM0014;  |
| 18081 -  |        | TSS_012267 | 1000  | 140        | 0       | 0 Ai                | antisense to gene(s) PMM0015;                                 |
| 18267 +  |        | TSS_000109 | 1000  | 751        | 0       | 3 P                 | 16nt upstream of gene PMM0016;                                |
| 18637 +  |        | TSS_000129 | 1000  | 103        | 0       | 3 I                 | within gene(s) PMM0016;                                       |
| 18649 +  |        | TSS_000132 | 1000  | 113        | 0       | 0 I                 | within gene(s) PMM0016;                                       |
| 18667 +  |        | TSS_000135 | 1000  | 146        | 0       | 15 I                | within gene(s) PMM0016;                                       |
| 18739 +  |        | TSS_000142 | 1000  | 106        | 0       | 6 I                 | within gene(s) PMM0016;                                       |
| 18784 -  |        | TSS_012272 | 1000  | 115        | 0       | 1 Ai                | antisense to gene(s) PMM0016;                                 |
| 18852 -  |        | TSS_012276 | 1000  | 158        | 0       | 0 Ai                | antisense to gene(s) PMM0016;                                 |
| 23179 -  |        | TSS_012283 | 1000  | 141        | 0       | 1 I                 | within gene(s) PMM0022;                                       |
| 24122 +  |        | TSS_000171 | 1000  | 1355       | 0       | 3 P                 | 28nt upstream of gene PMM0023;                                |
| 24891 +  |        | TSS_000195 | 1000  | 111        | 0       | 0 I                 | within gene(s) PMM0023;                                       |
| 25886 -  |        | TSS_012300 | 1000  | 872        | 0       | 0 I                 | within gene(s) PMM0024;                                       |
| 26468 -  |        | TSS_012304 | 1000  | 295        | 0       | 0 I                 | within gene(s) PMM0025;                                       |
| 27273 +  |        | TSS_000221 | 1000  | 1554       | 0       | 2 P                 | 14nt upstream of gene PMM0026;                                |
| 27294 -  |        | TSS_012316 | 1000  | 155        | 0       | 0 PAi               | 51nt upstream of gene PMM0025; antisense to gene(s) PMM0026;  |
| 27367 +  |        | TSS_000223 | 1000  | 647        | 0       | 0 I                 | within gene(s) PMM0026;                                       |
| 27478 -  |        | TSS_012318 | 1000  | 286        | 0       | 1 PAi               | 235nt upstream of gene PMM0025; antisense to gene(s) PMM0026; |
| 27552 +  |        | TSS_000225 | 1000  | 105        | 0       | 4 I                 | within gene(s) PMM0026;                                       |
| 27755 +  |        | TSS_000229 | 1000  | 504        | 0       | 0 IP                | within gene(s) PMM0026; 92nt upstream of gene PMM0027;        |
| 30271 +  |        | TSS_000235 | 1000  | 480        | 0       | 2 I                 | within gene(s) PMM0030;                                       |
| 30946 -  |        | TSS_012332 | 1000  | 194        | 0       | 1 P                 | 16nt upstream of gene PMM0031;                                |
| 31307 -  |        | TSS_012336 | 1000  | 167        | 0       | 4 I                 | within gene(s) PMM0032;                                       |
| 31319 -  |        | TSS_012338 | 1000  | 119        | 0       | 1 I                 | within gene(s) PMM0032;                                       |
| 31334 -  |        | TSS_012341 | 1000  | 269        | 0       | 6 I                 | within gene(s) PMM0032;                                       |
| 31393 -  |        | TSS_012345 | 1000  | 481        | 0       | 2 I                 | within gene(s) PMM0032;                                       |
| 31536 -  |        | TSS_012353 | 1000  | 5579       | 0       | 3 P                 | 16nt upstream of gene PMM0032;                                |
| 31640 +  |        | TSS_000246 | 1000  | 312        | 0       | 1 Ai                | antisense to gene(s) PMM0033;                                 |
| 31718 +  |        | TSS_000248 | 1000  | 129        | 0       | 0 Ai                | antisense to gene(s) PMM0033;                                 |
| 32109 -  |        | TSS_012361 | 1000  | 117        | 0       | 4 P                 | 18nt upstream of gene PMM0033;                                |
| 32374 +  |        | TSS_000251 | 1000  | 190        | 0       | 4 I                 | within gene(s) PMM0034;                                       |
| 33078 +  |        | TSS_000258 | 1000  | 177        | 0       | 1 Ai                | antisense to gene(s) PMM0035;                                 |
| 33332 +  |        | TSS_000259 | 1000  | 241        | 0       | 1 Ai                | antisense to gene(s) PMM0035;                                 |
| 33511 -  |        | TSS_012383 | 1000  | 106        | 0       | 9 I                 | within gene(s) PMM0035;                                       |
| 33713 -  |        | TSS_012393 | 1000  | 3236       | 0       | 2 P                 | 16nt upstream of gene PMM0035;                                |
| 34926 +  |        | TSS_000264 | 1000  | 274        | 0       | 0 I                 | within gene(s) PMM0037;                                       |
| 37053 -  |        | TSS_012401 | 1000  | 167        | 0       | 0 Ai                | antisense to gene(s) PMM0038;                                 |
| 37342 +  |        | TSS_000274 | 1000  | 564        | 0       | 0 P                 | 18nt upstream of gene PMM0039;                                |
| 43346 +  |        | TSS_000284 | 1000  | 152        | 0       | 0 Ai                | antisense to gene(s) PMM0043;                                 |
| 43359 +  |        | TSS_000285 | 1000  | 141        | 0       | 0 Ai                | antisense to gene(s) PMM0043;                                 |
| 44029 +  |        | TSS_000286 | 1000  | 404        | 0       | 1 Ai                | antisense to gene(s) PMM0043;                                 |
| 44177 -  |        | TSS_012440 | 1000  | 255        | 0       | 0 I                 | within gene(s) PMM0043;                                       |
| 44205 -  |        | TSS_012441 | 1000  | 488        | 0       | 0 P                 | 15nt upstream of gene PMM0043;                                |
| 44220 -  |        | TSS_012442 | 1000  | 517        | 0       | 0 P                 | 30nt upstream of gene PMM0043;                                |
| 44838 -  |        | TSS_012445 | 1000  | 363        | 0       | 2 Ai                | antisense to gene(s) PMM0044;                                 |
| 47672 -  |        | TSS_012458 | 1000  | 213        | 0       | 5 I                 | within gene(s) PMM0045;                                       |
| 49002 +  |        | TSS_000313 | 1000  | 3015       | 0       | 3 P                 | 15nt upstream of gene PMM0046;                                |
| 49452 -  |        | TSS_012463 | 1000  | 166        | 0       | 0 Ai                | antisense to gene(s) PMM0046;                                 |
| 50616 +  |        | TSS_000326 | 1000  | 393        | 0       | 0 P                 | 56nt upstream of gene PMM0048;                                |
| 50659 +  |        | TSS_000328 | 1000  | 647        | 0       | 3 P                 | 13nt upstream of gene PMM0048;                                |
| 52823 +  |        | TSS_000359 | 1000  | 301        | 0       | 5 P                 | 44nt upstream of gene PMM0050;                                |
| 52948 -  |        | TSS_012475 | 1000  | 240        | 0       | 1 PAi               | 186nt upstream of gene PMM0049; antisense to gene(s) PMM0050; |
| 54387 -  |        | TSS_012485 | 1000  | 272        | 0       | 21 I                | within gene(s) PMM0051;                                       |
| 56405 +  |        | TSS_000369 | 1000  | 166        | 0       | 1 O                 | -   |
| 56601 -  |        | TSS_012500 | 1000  | 1923       | 0       | 0 O                 | -   |
| 58844 +  |        | TSS_000377 | 1000  | 476        | 0       | 1 P                 | 207nt upstream of gene PMM0056;                               |
| 59479 +  |        | TSS_000381 | 1000  | 431        | 0       | 1 P                 | 17nt upstream of gene PMM0057;                                |
| 63006 +  |        | TSS_000395 | 1000  | 1695       | 0       | 0 IP                | within gene(s) PMM0057; 126nt upstream of gene PMM0058;       |

|          |            |      |       |   |      |   |
|----------|------------|------|-------|---|------|---|
| 63116 +  | TSS_000396 | 1000 | 340   | 0 | 1 P  | 16nt upstream of gene PMM0058;                          |
| 63461 +  | TSS_000399 | 1000 | 157   | 0 | 3 I  | within gene(s) PMM0058;                                 |
| 65570 -  | TSS_012538 | 1000 | 101   | 0 | 0 P  | 121nt upstream of gene PMM0059;                         |
| 65752 +  | TSS_000405 | 1000 | 224   | 0 | 1 P  | 89nt upstream of gene PMM0060;                          |
| 66151 +  | TSS_000408 | 1000 | 184   | 0 | 0 I  | within gene(s) PMM0060;                                 |
| 66518 +  | TSS_000412 | 1000 | 155   | 0 | 5 I  | within gene(s) PMM0060;                                 |
| 67529 -  | TSS_012545 | 1000 | 229   | 0 | 1 P  | 16nt upstream of gene PMM0061;                          |
| 67586 +  | TSS_000421 | 1000 | 2519  | 0 | 2 P  | 66nt upstream of gene PMM0062;                          |
| 67872 -  | TSS_012547 | 1000 | 135   | 0 | 0 Ai | antisense to gene(s) PMM0063;                           |
| 67893 +  | TSS_000426 | 1000 | 396   | 0 | 6 I  | within gene(s) PMM0063;                                 |
| 68237 +  | TSS_000443 | 1000 | 272   | 0 | 3 I  | within gene(s) PMM0063;                                 |
| 68332 +  | TSS_000452 | 1000 | 115   | 0 | 28 I | within gene(s) PMM0063;                                 |
| 68340 -  | TSS_012555 | 1000 | 171   | 0 | 2 Ai | antisense to gene(s) PMM0063;                           |
| 68356 -  | TSS_012557 | 1000 | 110   | 0 | 0 Ai | antisense to gene(s) PMM0063;                           |
| 68372 -  | TSS_012558 | 1000 | 107   | 0 | 0 Ai | antisense to gene(s) PMM0063;                           |
| 68394 -  | TSS_012559 | 1000 | 138   | 0 | 0 Ai | antisense to gene(s) PMM0063;                           |
| 68438 -  | TSS_012562 | 1000 | 187   | 0 | 8 Ai | antisense to gene(s) PMM0063;                           |
| 68453 +  | TSS_000466 | 1000 | 209   | 0 | 1 I  | within gene(s) PMM0063;                                 |
| 68473 +  | TSS_000468 | 1000 | 121   | 0 | 0 I  | within gene(s) PMM0063;                                 |
| 68533 +  | TSS_000473 | 1000 | 182   | 0 | 0 I  | within gene(s) PMM0063;                                 |
| 68543 +  | TSS_000475 | 1000 | 138   | 0 | 1 I  | within gene(s) PMM0063;                                 |
| 68569 +  | TSS_000482 | 1000 | 270   | 0 | 15 I | within gene(s) PMM0063;                                 |
| 68620 +  | TSS_000486 | 1000 | 466   | 0 | 21 I | within gene(s) PMM0063;                                 |
| 68680 +  | TSS_000496 | 1000 | 178   | 0 | 3 I  | within gene(s) PMM0063;                                 |
| 69179 -  | TSS_012565 | 1000 | 248   | 0 | 1 IP | within gene(s) PMM0065; 143nt upstream of gene PMM0064; |
| 70887 -  | TSS_012578 | 1000 | 159   | 0 | 0 I  | within gene(s) PMM0065;                                 |
| 72400 -  | TSS_012584 | 1000 | 119   | 0 | 0 P  | 32nt upstream of gene PMM0068;                          |
| 73190 -  | TSS_012586 | 1000 | 105   | 0 | 0 Ai | antisense to gene(s) PMM0069;                           |
| 73910 -  | TSS_012589 | 1000 | 196   | 0 | 0 Ai | antisense to gene(s) PMM0069;                           |
| 74082 -  | TSS_012590 | 1000 | 150   | 0 | 0 Ai | antisense to gene(s) PMM0069;                           |
| 74118 -  | TSS_012591 | 1000 | 277   | 0 | 0 Ai | antisense to gene(s) PMM0069;                           |
| 78158 -  | TSS_012609 | 1000 | 307   | 0 | 1 I  | within gene(s) PMM0073;                                 |
| 78218 -  | TSS_012611 | 1000 | 355   | 0 | 0 I  | within gene(s) PMM0073;                                 |
| 78295 -  | TSS_012612 | 1000 | 270   | 0 | 7 I  | within gene(s) PMM0073;                                 |
| 78481 -  | TSS_012619 | 1000 | 248   | 0 | 0 I  | within gene(s) PMM0073;                                 |
| 79127 -  | TSS_012635 | 1000 | 125   | 0 | 4 P  | 6nt upstream of gene PMM0073;                           |
| 79154 -  | TSS_012637 | 1000 | 728   | 0 | 4 P  | 33nt upstream of gene PMM0073;                          |
| 80289 +  | TSS_000522 | 1000 | 240   | 0 | 6 I  | within gene(s) PMM0075;                                 |
| 80352 +  | TSS_000525 | 1000 | 188   | 0 | 0 I  | within gene(s) PMM0075;                                 |
| 82229 -  | TSS_012648 | 1000 | 143   | 0 | 0 Ai | antisense to gene(s) PMM0076;                           |
| 89200 -  | TSS_012665 | 1000 | 195   | 0 | 4 Ai | antisense to gene(s) PMM0083;                           |
| 90051 +  | TSS_000566 | 1000 | 301   | 0 | 0 I  | within gene(s) PMM0084;                                 |
| 91200 +  | TSS_000576 | 1000 | 2612  | 0 | 7 IP | within gene(s) PMM0084; 60nt upstream of gene PMM0085;  |
| 91487 -  | TSS_012680 | 1000 | 412   | 0 | 0 Ai | antisense to gene(s) PMM0085;                           |
| 91711 -  | TSS_012685 | 1000 | 764   | 0 | 1 Ai | antisense to gene(s) PMM0085;                           |
| 91842 +  | TSS_000586 | 1000 | 102   | 0 | 9 I  | within gene(s) PMM0085;                                 |
| 92293 -  | TSS_012688 | 1000 | 2120  | 0 | 2 P  | 20nt upstream of gene PMM0086;                          |
| 92350 +  | TSS_000587 | 1000 | 911   | 0 | 0 P  | 40nt upstream of gene PMM0087;                          |
| 92747 +  | TSS_000592 | 1000 | 1110  | 0 | 0 P  | 17nt upstream of gene PMM0088;                          |
| 93143 -  | TSS_012692 | 1000 | 707   | 0 | 2 O  | -   |
| 94679 -  | TSS_012694 | 1000 | 172   | 0 | 3 Ai | antisense to gene(s) PMM0089;                           |
| 96428 +  | TSS_000605 | 1000 | 227   | 0 | 2 P  | 24nt upstream of gene PMM0091;                          |
| 96699 +  | TSS_000625 | 1000 | 108   | 0 | 1 IP | within gene(s) PMM0091; 121nt upstream of gene PMM0092; |
| 96919 -  | TSS_012702 | 1000 | 171   | 0 | 0 Ai | antisense to gene(s) PMM0092;                           |
| 97181 +  | TSS_000633 | 1000 | 17424 | 0 | 10 P | 19nt upstream of gene PMM0093;                          |
| 98015 -  | TSS_012706 | 1000 | 440   | 0 | 4 I  | within gene(s) PMM0095;                                 |
| 98676 -  | TSS_012710 | 1000 | 208   | 0 | 1 P  | 16nt upstream of gene PMM0095;                          |
| 101137 + | TSS_000642 | 1000 | 105   | 0 | 0 Ai | antisense to gene(s) PMM0098;                           |
| 105437 - | TSS_012728 | 1000 | 221   | 0 | 2 I  | within gene(s) PMM0101;                                 |
| 105946 - | TSS_012734 | 1000 | 381   | 0 | 0 P  | 30nt upstream of gene PMM0101;                          |
| 107836 - | TSS_012739 | 1000 | 106   | 0 | 0 I  | within gene(s) PMM0103;                                 |
| 110281 + | TSS_000666 | 1000 | 992   | 0 | 1 Ai | antisense to gene(s) PMM0106;                           |
| 114786 + | TSS_000679 | 1000 | 166   | 0 | 1 Ai | antisense to gene(s) PMM0114;                           |
| 115971 + | TSS_000686 | 1000 | 110   | 0 | 0 Ai | antisense to gene(s) PMM0115;                           |
| 116575 + | TSS_000689 | 1000 | 102   | 0 | 6 I  | within gene(s) PMM0116;                                 |
| 118346 - | TSS_012782 | 1000 | 223   | 0 | 0 Ai | antisense to gene(s) PMM0118;                           |
| 119698 - | TSS_012793 | 1000 | 215   | 0 | 2 P  | 16nt upstream of gene PMM0120;                          |
| 119798 + | TSS_000715 | 1000 | 1367  | 0 | 2 P  | 28nt upstream of gene PMM0121;                          |
| 120990 - | TSS_012801 | 1000 | 579   | 0 | 5 IP | within gene(s) PMM0123; 240nt upstream of gene PMM0122; |
| 121764 - | TSS_012809 | 1000 | 115   | 0 | 0 P  | 29nt upstream of gene PMM0123;                          |
| 122897 + | TSS_000726 | 1000 | 625   | 0 | 2 O  | -   |
| 123251 + | TSS_000727 | 1000 | 625   | 0 | 0 P  | 68nt upstream of gene PMM0126;                          |
| 123779 + | TSS_000730 | 1000 | 1378  | 0 | 1 I  | within gene(s) PMM0126;                                 |
| 123796 + | TSS_000731 | 1000 | 337   | 0 | 0 I  | within gene(s) PMM0126;                                 |
| 125323 + | TSS_000740 | 1000 | 1838  | 0 | 1 P  | 35nt upstream of gene PMM0128;                          |
| 125778 + | TSS_000763 | 1000 | 161   | 0 | 9 I  | within gene(s) PMM0128;                                 |
| 125808 + | TSS_000769 | 1000 | 158   | 0 | 0 I  | within gene(s) PMM0128;                                 |
| 129278 - | TSS_012839 | 1000 | 142   | 0 | 3 I  | within gene(s) PMM0131;                                 |
| 130071 - | TSS_012841 | 1000 | 198   | 0 | 3 P  | 34nt upstream of gene PMM0131;                          |

|          |            |      |       |   |       |   |
|----------|------------|------|-------|---|-------|---|
| 130794 + | TSS_000781 | 1000 | 2032  | 0 | 0 Ai  | antisense to gene(s) PMM0133;                                 |
| 130807 + | TSS_000782 | 1000 | 1063  | 0 | 0 Ai  | antisense to gene(s) PMM0133;                                 |
| 132850 - | TSS_012851 | 1000 | 264   | 0 | 0 Ai  | antisense to gene(s) PMM0134;                                 |
| 134228 - | TSS_012858 | 1000 | 2202  | 0 | 6 Ai  | antisense to gene(s) PMM0135;                                 |
| 134332 + | TSS_000831 | 1000 | 312   | 0 | 1 P   | 17nt upstream of gene PMM0136;                                |
| 135334 + | TSS_000836 | 1000 | 249   | 0 | 2 IP  | within gene(s) PMM0136; 37nt upstream of gene PMM0137;        |
| 139049 + | TSS_000845 | 1000 | 133   | 0 | 0 P   | 49nt upstream of gene PMM0142;                                |
| 139888 + | TSS_000852 | 1000 | 1082  | 0 | 1 Ai  | antisense to gene(s) PMM0143;                                 |
| 140081 - | TSS_012872 | 1000 | 676   | 0 | 1 I   | within gene(s) PMM0143;                                       |
| 141905 - | TSS_012895 | 1000 | 661   | 0 | 0 P   | 38nt upstream of gene PMM0144;                                |
| 141924 + | TSS_000856 | 1000 | 216   | 0 | 5 P   | 34nt upstream of gene PMM0145;                                |
| 142832 - | TSS_012900 | 1000 | 134   | 0 | 0 Ai  | antisense to gene(s) PMM0146;                                 |
| 143021 - | TSS_012905 | 1000 | 105   | 0 | 2 I   | within gene(s) PMM0147;                                       |
| 143488 - | TSS_012909 | 1000 | 614   | 0 | 3 I   | within gene(s) PMM0147;                                       |
| 143536 - | TSS_012917 | 1000 | 144   | 0 | 12 I  | within gene(s) PMM0147;                                       |
| 143883 - | TSS_012923 | 1000 | 234   | 0 | 12 P  | 14nt upstream of gene PMM0147;                                |
| 143931 + | TSS_000878 | 1000 | 224   | 0 | 3 P   | 23nt upstream of gene PMM0148;                                |
| 144701 + | TSS_000885 | 1000 | 1350  | 0 | 4 P   | 15nt upstream of gene PMM0149;                                |
| 144965 + | TSS_000889 | 1000 | 349   | 0 | 6 I   | within gene(s) PMM0149;                                       |
| 145139 + | TSS_000894 | 1000 | 158   | 0 | 0 I   | within gene(s) PMM0149;                                       |
| 145211 + | TSS_000895 | 1000 | 313   | 0 | 6 I   | within gene(s) PMM0149;                                       |
| 145226 + | TSS_000900 | 1000 | 526   | 0 | 3 I   | within gene(s) PMM0149;                                       |
| 145511 + | TSS_000909 | 1000 | 253   | 0 | 1 I   | within gene(s) PMM0149;                                       |
| 145715 + | TSS_000918 | 1000 | 199   | 0 | 10 I  | within gene(s) PMM0149;                                       |
| 145730 + | TSS_000921 | 1000 | 117   | 0 | 6 I   | within gene(s) PMM0149;                                       |
| 145799 + | TSS_000926 | 1000 | 120   | 0 | 0 I   | within gene(s) PMM0149;                                       |
| 146423 - | TSS_012937 | 1000 | 177   | 0 | 0 Ai  | antisense to gene(s) PMM0149;                                 |
| 146543 + | TSS_000941 | 1000 | 103   | 0 | 3 I   | within gene(s) PMM0149;                                       |
| 146611 + | TSS_000943 | 1000 | 105   | 0 | 1 IP  | within gene(s) PMM0149; 202nt upstream of gene PMM0150;       |
| 146794 + | TSS_000945 | 1000 | 18717 | 0 | 2 P   | 19nt upstream of gene PMM0150;                                |
| 147116 + | TSS_000949 | 1000 | 103   | 0 | 0 I   | within gene(s) PMM0150;                                       |
| 147332 + | TSS_000953 | 1000 | 388   | 0 | 0 I   | within gene(s) PMM0150;                                       |
| 147440 + | TSS_000956 | 1000 | 128   | 0 | 0 I   | within gene(s) PMM0150;                                       |
| 147622 - | TSS_012941 | 1000 | 141   | 0 | 0 Ai  | antisense to gene(s) PMM0150;                                 |
| 147731 - | TSS_012942 | 1000 | 149   | 0 | 1 Ai  | antisense to gene(s) PMM0150;                                 |
| 147807 + | TSS_000964 | 1000 | 178   | 0 | 0 I   | within gene(s) PMM0150;                                       |
| 148515 + | TSS_000977 | 1000 | 166   | 0 | 1 P   | 169nt upstream of gene PMM0151;                               |
| 149427 + | TSS_000981 | 1000 | 324   | 0 | 1 P   | 20nt upstream of gene PMM0152;                                |
| 150290 + | TSS_000993 | 1000 | 207   | 0 | 0 I   | within gene(s) PMM0152;                                       |
| 150329 + | TSS_000995 | 1000 | 110   | 0 | 3 I   | within gene(s) PMM0152;                                       |
| 150387 - | TSS_012948 | 1000 | 195   | 0 | 4 Ai  | antisense to gene(s) PMM0152;                                 |
| 151372 + | TSS_001000 | 1000 | 121   | 0 | 0 PAi | 205nt upstream of gene PMM0154; antisense to gene(s) PMM0153; |
| 151412 + | TSS_001002 | 1000 | 339   | 0 | 2 PAi | 165nt upstream of gene PMM0154; antisense to gene(s) PMM0153; |
| 151546 - | TSS_012959 | 1000 | 164   | 0 | 2 P   | 47nt upstream of gene PMM0153;                                |
| 151556 + | TSS_001004 | 1000 | 883   | 0 | 5 P   | 21nt upstream of gene PMM0154;                                |
| 151566 + | TSS_001006 | 1000 | 2253  | 0 | 1 P   | 11nt upstream of gene PMM0154;                                |
| 154617 - | TSS_012990 | 1000 | 3508  | 0 | 42 IP | within gene(s) PMM0159; 214nt upstream of gene PMM0158;       |
| 154809 - | TSS_012997 | 1000 | 157   | 0 | 0 I   | within gene(s) PMM0159;                                       |
| 154964 - | TSS_013012 | 1000 | 308   | 0 | 3 I   | within gene(s) PMM0159;                                       |
| 155061 - | TSS_013013 | 1000 | 435   | 0 | 1 P   | 18nt upstream of gene PMM0159;                                |
| 155927 - | TSS_013021 | 1000 | 131   | 0 | 6 I   | within gene(s) PMM0160;                                       |
| 156247 - | TSS_013026 | 1000 | 130   | 0 | 4 P   | 16nt upstream of gene PMM0160;                                |
| 157478 - | TSS_013037 | 1000 | 175   | 0 | 0 P   | 26nt upstream of gene PMM0161;                                |
| 160552 - | TSS_013063 | 1000 | 146   | 0 | 1 I   | within gene(s) PMM0164;                                       |
| 160684 - | TSS_013067 | 1000 | 1079  | 0 | 5 P   | 18nt upstream of gene PMM0164;                                |
| 161048 + | TSS_001026 | 1000 | 468   | 0 | 0 P   | 21nt upstream of gene PMM0166;                                |
| 161898 + | TSS_001033 | 1000 | 107   | 0 | 0 Ai  | antisense to gene(s) PMM0167;                                 |
| 162263 - | TSS_013073 | 1000 | 233   | 0 | 2 P   | 61nt upstream of gene PMM0167;                                |
| 162318 + | TSS_001035 | 1000 | 994   | 0 | 2 P   | 21nt upstream of gene PMM0168;                                |
| 163802 - | TSS_013084 | 1000 | 390   | 0 | 0 P   | 32nt upstream of gene PMM0169;                                |
| 163830 + | TSS_001044 | 1000 | 286   | 0 | 0 I   | within gene(s) PMM0170;                                       |
| 165910 + | TSS_001051 | 1000 | 15044 | 0 | 3 P   | 15nt upstream of gene PMM0172;                                |
| 166513 + | TSS_001075 | 1000 | 234   | 0 | 7 I   | within gene(s) PMM0172;                                       |
| 166534 + | TSS_001080 | 1000 | 103   | 0 | 12 I  | within gene(s) PMM0172;                                       |
| 166564 + | TSS_001089 | 1000 | 517   | 0 | 22 I  | within gene(s) PMM0172;                                       |
| 166591 + | TSS_001096 | 1000 | 132   | 0 | 12 I  | within gene(s) PMM0172;                                       |
| 166605 - | TSS_013092 | 1000 | 285   | 0 | 0 Ai  | antisense to gene(s) PMM0172;                                 |
| 172122 - | TSS_013102 | 1000 | 101   | 0 | 0 Ai  | antisense to gene(s) PMM0177;                                 |
| 173360 - | TSS_013104 | 1000 | 421   | 0 | 2 P   | 17nt upstream of gene PMM0179;                                |
| 173404 + | TSS_001120 | 1000 | 709   | 0 | 0 P   | 16nt upstream of gene PMM0180;                                |
| 178914 - | TSS_013117 | 1000 | 831   | 0 | 2 I   | within gene(s) PMM0187;                                       |
| 180315 + | TSS_001133 | 1000 | 135   | 0 | 0 Ai  | antisense to gene(s) PMM0188;                                 |
| 182433 - | TSS_013121 | 1000 | 260   | 0 | 2 PAi | 92nt upstream of gene PMM0189; antisense to gene(s) PMM0190;  |
| 183419 - | TSS_013124 | 1000 | 166   | 0 | 0 I   | within gene(s) PMM0191;                                       |
| 188865 + | TSS_001152 | 1000 | 540   | 0 | 1 P   | 18nt upstream of gene PMM0195;                                |
| 189007 + | TSS_001154 | 1000 | 259   | 0 | 0 I   | within gene(s) PMM0195;                                       |
| 189285 + | TSS_001161 | 1000 | 135   | 0 | 0 I   | within gene(s) PMM0195;                                       |
| 189333 + | TSS_001165 | 1000 | 143   | 0 | 7 I   | within gene(s) PMM0195;                                       |
| 189342 + | TSS_001167 | 1000 | 177   | 0 | 0 I   | within gene(s) PMM0195;                                       |

|          |            |      |       |   |      |   |
|----------|------------|------|-------|---|------|---|
| 189435 + | TSS_001174 | 1000 | 116   | 0 | 6 I  | within gene(s) PMM0195;                                 |
| 189468 + | TSS_001181 | 1000 | 246   | 0 | 12 I | within gene(s) PMM0195;                                 |
| 189748 - | TSS_013141 | 1000 | 122   | 0 | 0 Ai | antisense to gene(s) PMM0195;                           |
| 195220 - | TSS_013155 | 1000 | 112   | 0 | 0 IP | within gene(s) PMM0201; 249nt upstream of gene PMM0200; |
| 195266 + | TSS_001210 | 1000 | 1474  | 0 | 4 Ai | antisense to gene(s) PMM0201;                           |
| 195316 - | TSS_013163 | 1000 | 254   | 0 | 12 I | within gene(s) PMM0201;                                 |
| 195328 - | TSS_013165 | 1000 | 292   | 0 | 3 I  | within gene(s) PMM0201;                                 |
| 195358 - | TSS_013168 | 1000 | 103   | 0 | 0 I  | within gene(s) PMM0201;                                 |
| 195367 - | TSS_013169 | 1000 | 241   | 0 | 3 I  | within gene(s) PMM0201;                                 |
| 195388 - | TSS_013173 | 1000 | 213   | 0 | 1 I  | within gene(s) PMM0201;                                 |
| 195626 - | TSS_013181 | 1000 | 119   | 0 | 7 IP | within gene(s) PMM0202; 214nt upstream of gene PMM0201; |
| 195665 - | TSS_013184 | 1000 | 263   | 0 | 4 I  | within gene(s) PMM0202;                                 |
| 195760 - | TSS_013191 | 1000 | 393   | 0 | 2 I  | within gene(s) PMM0202;                                 |
| 195809 - | TSS_013197 | 1000 | 229   | 0 | 3 I  | within gene(s) PMM0202;                                 |
| 195869 - | TSS_013204 | 1000 | 151   | 0 | 2 I  | within gene(s) PMM0202;                                 |
| 196098 - | TSS_013208 | 1000 | 103   | 0 | 0 P  | 130nt upstream of gene PMM0202;                         |
| 196510 + | TSS_001220 | 1000 | 230   | 0 | 1 Ai | antisense to gene(s) PMM0203;                           |
| 196627 - | TSS_013229 | 1000 | 117   | 0 | 6 I  | within gene(s) PMM0203;                                 |
| 196639 - | TSS_013230 | 1000 | 171   | 0 | 0 I  | within gene(s) PMM0203;                                 |
| 196677 + | TSS_001223 | 1000 | 173   | 0 | 0 Ai | antisense to gene(s) PMM0203;                           |
| 197001 - | TSS_013242 | 1000 | 854   | 0 | 2 IP | within gene(s) PMM0204; 133nt upstream of gene PMM0203; |
| 197448 - | TSS_013256 | 1000 | 559   | 0 | 3 IP | within gene(s) PMM0205; 88nt upstream of gene PMM0204;  |
| 197685 + | TSS_001226 | 1000 | 156   | 0 | 0 Ai | antisense to gene(s) PMM0205;                           |
| 197771 - | TSS_013269 | 1000 | 182   | 0 | 0 I  | within gene(s) PMM0205;                                 |
| 197837 - | TSS_013272 | 1000 | 161   | 0 | 0 I  | within gene(s) PMM0205;                                 |
| 197876 - | TSS_013276 | 1000 | 156   | 0 | 5 I  | within gene(s) PMM0205;                                 |
| 198069 - | TSS_013284 | 1000 | 654   | 0 | 5 P  | 34nt upstream of gene PMM0205;                          |
| 198181 - | TSS_013289 | 1000 | 290   | 0 | 0 IP | within gene(s) PMM0206; 146nt upstream of gene PMM0205; |
| 198382 - | TSS_013290 | 1000 | 250   | 0 | 0 P  | 33nt upstream of gene PMM0206;                          |
| 199933 - | TSS_013297 | 1000 | 141   | 0 | 3 I  | within gene(s) PMM0207;                                 |
| 201442 + | TSS_001235 | 1000 | 3101  | 0 | 5 P  | 14nt upstream of gene PMM0208;                          |
| 202297 - | TSS_013306 | 1000 | 118   | 0 | 0 Ai | antisense to gene(s) PMM0208;                           |
| 202306 - | TSS_013307 | 1000 | 116   | 0 | 0 Ai | antisense to gene(s) PMM0208;                           |
| 203176 - | TSS_013316 | 1000 | 193   | 0 | 1 I  | within gene(s) PMM0209;                                 |
| 203219 - | TSS_013318 | 1000 | 609   | 0 | 0 I  | within gene(s) PMM0209;                                 |
| 204910 + | TSS_001276 | 1000 | 1328  | 0 | 4 P  | 82nt upstream of gene PMM0211;                          |
| 205563 - | TSS_013326 | 1000 | 206   | 0 | 6 Ai | antisense to gene(s) PMM0211;                           |
| 205900 - | TSS_013334 | 1000 | 1548  | 0 | 1 Ai | antisense to gene(s) PMM0211;                           |
| 206424 - | TSS_013337 | 1000 | 495   | 0 | 2 IP | within gene(s) PMM0213; 172nt upstream of gene PMM0212; |
| 207635 - | TSS_013349 | 1000 | 102   | 0 | 0 I  | within gene(s) PMM0214;                                 |
| 207653 - | TSS_013350 | 1000 | 125   | 0 | 12 I | within gene(s) PMM0214;                                 |
| 207728 - | TSS_013359 | 1000 | 117   | 0 | 17 I | within gene(s) PMM0214;                                 |
| 208325 - | TSS_013395 | 1000 | 139   | 0 | 1 I  | within gene(s) PMM0214;                                 |
| 208516 - | TSS_013400 | 1000 | 108   | 0 | 1 I  | within gene(s) PMM0214;                                 |
| 208538 - | TSS_013405 | 1000 | 194   | 0 | 12 I | within gene(s) PMM0214;                                 |
| 208631 + | TSS_001325 | 1000 | 111   | 0 | 0 Ai | antisense to gene(s) PMM0214;                           |
| 208702 + | TSS_001327 | 1000 | 226   | 0 | 1 Ai | antisense to gene(s) PMM0214;                           |
| 208724 - | TSS_013417 | 1000 | 122   | 0 | 13 I | within gene(s) PMM0214;                                 |
| 208811 - | TSS_013426 | 1000 | 206   | 0 | 1 I  | within gene(s) PMM0214;                                 |
| 208944 - | TSS_013435 | 1000 | 7143  | 0 | 4 P  | 28nt upstream of gene PMM0214;                          |
| 209113 + | TSS_001329 | 1000 | 527   | 0 | 1 P  | 31nt upstream of gene PMM0215;                          |
| 210185 + | TSS_001341 | 1000 | 193   | 0 | 1 P  | 16nt upstream of gene PMM0216;                          |
| 211988 - | TSS_013443 | 1000 | 664   | 0 | 1 Ai | antisense to gene(s) PMM0217;                           |
| 213029 + | TSS_001353 | 1000 | 472   | 0 | 6 P  | 33nt upstream of gene PMM0218;                          |
| 214116 + | TSS_001359 | 1000 | 1375  | 0 | 3 P  | 17nt upstream of gene PMM0219;                          |
| 214675 - | TSS_013448 | 1000 | 4502  | 0 | 5 P  | 19nt upstream of gene PMM0220;                          |
| 216078 + | TSS_001365 | 1000 | 104   | 0 | 0 I  | within gene(s) PMM0222;                                 |
| 216861 + | TSS_001367 | 1000 | 22207 | 0 | 4 I  | within gene(s) PMM0223;                                 |
| 216876 + | TSS_001370 | 1000 | 682   | 0 | 0 I  | within gene(s) PMM0223;                                 |
| 216900 + | TSS_001373 | 1000 | 1252  | 0 | 3 I  | within gene(s) PMM0223;                                 |
| 216909 + | TSS_001374 | 1000 | 527   | 0 | 3 I  | within gene(s) PMM0223;                                 |
| 216924 + | TSS_001376 | 1000 | 460   | 0 | 0 I  | within gene(s) PMM0223;                                 |
| 216936 + | TSS_001377 | 1000 | 1402  | 0 | 12 I | within gene(s) PMM0223;                                 |
| 217002 + | TSS_001393 | 1000 | 7965  | 0 | 63 I | within gene(s) PMM0223;                                 |
| 217029 + | TSS_001399 | 1000 | 4334  | 0 | 1 I  | within gene(s) PMM0223;                                 |
| 217050 + | TSS_001403 | 1000 | 2180  | 0 | 10 I | within gene(s) PMM0223;                                 |
| 217078 + | TSS_001407 | 1000 | 907   | 0 | 9 I  | within gene(s) PMM0223;                                 |
| 217090 - | TSS_013455 | 1000 | 782   | 0 | 6 Ai | antisense to gene(s) PMM0223;                           |
| 217099 + | TSS_001412 | 1000 | 1655  | 0 | 16 I | within gene(s) PMM0223;                                 |
| 217119 + | TSS_001416 | 1000 | 1887  | 0 | 15 I | within gene(s) PMM0223;                                 |
| 217164 + | TSS_001427 | 1000 | 2250  | 0 | 16 I | within gene(s) PMM0223;                                 |
| 217169 - | TSS_013457 | 1000 | 4802  | 0 | 1 Ai | antisense to gene(s) PMM0223;                           |
| 217173 + | TSS_001429 | 1000 | 561   | 0 | 0 I  | within gene(s) PMM0223;                                 |
| 217184 - | TSS_013459 | 1000 | 230   | 0 | 0 Ai | antisense to gene(s) PMM0223;                           |
| 217185 + | TSS_001430 | 1000 | 482   | 0 | 0 I  | within gene(s) PMM0223;                                 |
| 217194 + | TSS_001433 | 1000 | 10329 | 0 | 27 I | within gene(s) PMM0223;                                 |
| 217301 - | TSS_013460 | 1000 | 198   | 0 | 0 Ai | antisense to gene(s) PMM0223;                           |
| 217328 - | TSS_013461 | 1000 | 1610  | 0 | 0 Ai | antisense to gene(s) PMM0223;                           |
| 217407 - | TSS_013465 | 1000 | 310   | 0 | 1 Ai | antisense to gene(s) PMM0223;                           |

|          |            |      |      |   |       |   |
|----------|------------|------|------|---|-------|---|
| 217415 - | TSS_013466 | 1000 | 272  | 0 | 0 Ai  | antisense to gene(s) PMM0223;                                 |
| 217496 - | TSS_013468 | 1000 | 103  | 0 | 1 Ai  | antisense to gene(s) PMM0223;                                 |
| 217587 - | TSS_013469 | 1000 | 110  | 0 | 0 Ai  | antisense to gene(s) PMM0223;                                 |
| 217670 - | TSS_013471 | 1000 | 298  | 0 | 4 Ai  | antisense to gene(s) PMM0223;                                 |
| 217681 - | TSS_013472 | 1000 | 175  | 0 | 0 Ai  | antisense to gene(s) PMM0223;                                 |
| 217716 - | TSS_013473 | 1000 | 120  | 0 | 5 Ai  | antisense to gene(s) PMM0223;                                 |
| 217753 - | TSS_013476 | 1000 | 103  | 0 | 0 Ai  | antisense to gene(s) PMM0223;                                 |
| 217826 - | TSS_013477 | 1000 | 202  | 0 | 0 Ai  | antisense to gene(s) PMM0223;                                 |
| 217978 + | TSS_001452 | 1000 | 1703 | 0 | 2 P   | 24nt upstream of gene PMM0224;                                |
| 218599 + | TSS_001466 | 1000 | 337  | 0 | 10 I  | within gene(s) PMM0224;                                       |
| 218695 + | TSS_001473 | 1000 | 155  | 0 | 6 I   | within gene(s) PMM0224;                                       |
| 220029 - | TSS_013495 | 1000 | 367  | 0 | 7 I   | within gene(s) PMM0226;                                       |
| 220073 + | TSS_001486 | 1000 | 789  | 0 | 0 Ai  | antisense to gene(s) PMM0226;                                 |
| 220087 + | TSS_001487 | 1000 | 338  | 0 | 0 Ai  | antisense to gene(s) PMM0226;                                 |
| 220272 - | TSS_013525 | 1000 | 759  | 0 | 55 I  | within gene(s) PMM0226;                                       |
| 220296 - | TSS_013530 | 1000 | 615  | 0 | 1 I   | within gene(s) PMM0226;                                       |
| 220320 - | TSS_013532 | 1000 | 314  | 0 | 9 I   | within gene(s) PMM0226;                                       |
| 220338 - | TSS_013537 | 1000 | 217  | 0 | 26 I  | within gene(s) PMM0226;                                       |
| 220370 - | TSS_013543 | 1000 | 470  | 0 | 0 I   | within gene(s) PMM0226;                                       |
| 220389 - | TSS_013544 | 1000 | 114  | 0 | 0 I   | within gene(s) PMM0226;                                       |
| 220444 + | TSS_001491 | 1000 | 196  | 0 | 4 Ai  | antisense to gene(s) PMM0226;                                 |
| 220458 - | TSS_013546 | 1000 | 112  | 0 | 0 I   | within gene(s) PMM0226;                                       |
| 220473 - | TSS_013547 | 1000 | 119  | 0 | 0 I   | within gene(s) PMM0226;                                       |
| 220509 - | TSS_013550 | 1000 | 104  | 0 | 15 I  | within gene(s) PMM0226;                                       |
| 220578 - | TSS_013562 | 1000 | 854  | 0 | 24 I  | within gene(s) PMM0226;                                       |
| 220608 - | TSS_013569 | 1000 | 125  | 0 | 14 I  | within gene(s) PMM0226;                                       |
| 220686 - | TSS_013580 | 1000 | 122  | 0 | 0 I   | within gene(s) PMM0226;                                       |
| 220786 + | TSS_001495 | 1000 | 255  | 0 | 3 Ai  | antisense to gene(s) PMM0226;                                 |
| 220908 - | TSS_013595 | 1000 | 110  | 0 | 3 I   | within gene(s) PMM0226;                                       |
| 220950 - | TSS_013600 | 1000 | 239  | 0 | 13 I  | within gene(s) PMM0226;                                       |
| 221025 - | TSS_013608 | 1000 | 174  | 0 | 15 I  | within gene(s) PMM0226;                                       |
| 221070 - | TSS_013616 | 1000 | 140  | 0 | 2 I   | within gene(s) PMM0226;                                       |
| 221154 - | TSS_013622 | 1000 | 399  | 0 | 3 I   | within gene(s) PMM0226;                                       |
| 221163 - | TSS_013623 | 1000 | 109  | 0 | 0 I   | within gene(s) PMM0226;                                       |
| 221259 - | TSS_013627 | 1000 | 216  | 0 | 4 I   | within gene(s) PMM0226;                                       |
| 221460 - | TSS_013640 | 1000 | 228  | 0 | 13 I  | within gene(s) PMM0226;                                       |
| 221632 - | TSS_013648 | 1000 | 4835 | 0 | 1 P   | 16nt upstream of gene PMM0226;                                |
| 221701 + | TSS_001506 | 1000 | 245  | 0 | 0 Ai  | antisense to gene(s) PMM0227;                                 |
| 221978 + | TSS_001509 | 1000 | 227  | 0 | 0 Ai  | antisense to gene(s) PMM0227;                                 |
| 222942 + | TSS_001514 | 1000 | 143  | 0 | 0 Ai  | antisense to gene(s) PMM0228;                                 |
| 223242 - | TSS_013665 | 1000 | 299  | 0 | 21 I  | within gene(s) PMM0228;                                       |
| 223269 - | TSS_013672 | 1000 | 851  | 0 | 9 I   | within gene(s) PMM0228;                                       |
| 223311 - | TSS_013681 | 1000 | 520  | 0 | 28 I  | within gene(s) PMM0228;                                       |
| 223335 - | TSS_013687 | 1000 | 149  | 0 | 0 I   | within gene(s) PMM0228;                                       |
| 223386 - | TSS_013689 | 1000 | 419  | 0 | 6 I   | within gene(s) PMM0228;                                       |
| 223434 - | TSS_013692 | 1000 | 152  | 0 | 0 I   | within gene(s) PMM0228;                                       |
| 223554 - | TSS_013700 | 1000 | 111  | 0 | 17 I  | within gene(s) PMM0228;                                       |
| 223578 - | TSS_013707 | 1000 | 1224 | 0 | 19 I  | within gene(s) PMM0228;                                       |
| 223651 - | TSS_013715 | 1000 | 111  | 0 | 1 I   | within gene(s) PMM0228;                                       |
| 223762 - | TSS_013717 | 1000 | 1382 | 0 | 0 P   | 55nt upstream of gene PMM0228;                                |
| 223847 - | TSS_013718 | 1000 | 598  | 0 | 1 P   | 140nt upstream of gene PMM0228;                               |
| 225530 + | TSS_001522 | 1000 | 147  | 0 | 4 P   | 60nt upstream of gene PMM0231;                                |
| 225576 + | TSS_001523 | 1000 | 691  | 0 | 0 P   | 14nt upstream of gene PMM0231;                                |
| 225783 + | TSS_001526 | 1000 | 171  | 0 | 0 P   | 26nt upstream of gene PMM0232;                                |
| 227959 + | TSS_001530 | 1000 | 871  | 0 | 0 P   | 28nt upstream of gene PMM0235;                                |
| 228961 + | TSS_001540 | 1000 | 108  | 0 | 3 O   | -   |
| 229314 - | TSS_013733 | 1000 | 167  | 0 | 0 O   | -   |
| 229472 + | TSS_001546 | 1000 | 155  | 0 | 4 P   | 167nt upstream of gene PMM0237;                               |
| 230878 - | TSS_013736 | 1000 | 561  | 0 | 5 Ai  | antisense to gene(s) PMM0238;                                 |
| 232150 + | TSS_001575 | 1000 | 162  | 0 | 1 I   | within gene(s) PMM0238;                                       |
| 237523 - | TSS_013760 | 1000 | 1703 | 0 | 3 IP  | within gene(s) PMM0244; 199nt upstream of gene PMM0243;       |
| 237737 - | TSS_013761 | 1000 | 206  | 0 | 0 I   | within gene(s) PMM0244;                                       |
| 238520 - | TSS_013765 | 1000 | 682  | 0 | 1 P   | 20nt upstream of gene PMM0245;                                |
| 238693 + | TSS_001588 | 1000 | 2458 | 0 | 3 P   | 12nt upstream of gene PMM0246;                                |
| 239672 - | TSS_013767 | 1000 | 133  | 0 | 3 Ai  | antisense to gene(s) PMM0247;                                 |
| 241176 - | TSS_013770 | 1000 | 188  | 0 | 0 IP  | within gene(s) PMM0250; 35nt upstream of gene PMM0249;        |
| 242059 + | TSS_001595 | 1000 | 179  | 0 | 0 PAI | 162nt upstream of gene PMM0252; antisense to gene(s) PMM0251; |
| 242165 - | TSS_013773 | 1000 | 419  | 0 | 4 P   | 24nt upstream of gene PMM0251;                                |
| 242185 + | TSS_001596 | 1000 | 1358 | 0 | 1 P   | 36nt upstream of gene PMM0252;                                |
| 242475 + | TSS_001599 | 1000 | 227  | 0 | 1 P   | 27nt upstream of gene PMM0253;                                |
| 242483 + | TSS_001600 | 1000 | 515  | 0 | 0 P   | 19nt upstream of gene PMM0253;                                |
| 244978 + | TSS_001603 | 1000 | 173  | 0 | 4 Ai  | antisense to gene(s) PMM0255;                                 |
| 245524 - | TSS_013782 | 1000 | 628  | 0 | 10 IP | within gene(s) PMM0256; 219nt upstream of gene PMM0255;       |
| 245888 - | TSS_013791 | 1000 | 129  | 0 | 2 I   | within gene(s) PMM0256;                                       |
| 246248 + | TSS_001607 | 1000 | 2696 | 0 | 1 Ai  | antisense to gene(s) PMM0256;                                 |
| 246731 - | TSS_013797 | 1000 | 1762 | 0 | 3 IP  | within gene(s) PMM0257; 20nt upstream of gene PMM0256;        |
| 248216 - | TSS_013802 | 1000 | 185  | 0 | 0 IP  | within gene(s) PMM0258; 190nt upstream of gene PMM0257;       |
| 249242 - | TSS_013846 | 1000 | 576  | 0 | 2 I   | within gene(s) PMM0258;                                       |
| 249485 + | TSS_001622 | 1000 | 142  | 0 | 2 P   | 22nt upstream of gene PMM0259;                                |

|          |            |      |        |          |      |                                |
|----------|------------|------|--------|----------|------|--------------------------------|
| 251358 + | TSS_001626 | 1000 | 137    | 0        | 3 Ai | antisense to gene(s) PMM0261;  |
| 252586 + | TSS_001630 | 1000 | 405015 | 0        | 3 P  | 46nt upstream of gene PMM0263; |
| 252656 + | TSS_001635 | 1000 | 4233   | 0        | 7 I  | within gene(s) PMM0263;        |
| 252667 + | TSS_001637 | 1000 | 774    | 0        | 0 I  | within gene(s) PMM0263;        |
| 252710 + | TSS_001642 | 1000 | 1535   | 0        | 4 I  | within gene(s) PMM0263;        |
| 252719 + | TSS_001643 | 1000 | 3100   | 0        | 18 I | within gene(s) PMM0263;        |
| 252761 + | TSS_001651 | 1000 | 440    | 0        | 0 I  | within gene(s) PMM0263;        |
| 252794 + | TSS_001652 | 1000 | 619    | 0        | 0 I  | within gene(s) PMM0263;        |
| 252809 + | TSS_001654 | 1000 | 1363   | 0        | 6 I  | within gene(s) PMM0263;        |
| 252835 - | TSS_013858 | 1000 | 233    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 252851 + | TSS_001657 | 1000 | 192    | 2.10E-07 | 0 I  | within gene(s) PMM0263;        |
| 252875 + | TSS_001661 | 1000 | 3906   | 0        | 3 I  | within gene(s) PMM0263;        |
| 252893 + | TSS_001662 | 1000 | 3058   | 0        | 0 I  | within gene(s) PMM0263;        |
| 252895 - | TSS_013859 | 1000 | 260    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 252904 - | TSS_013860 | 1000 | 192    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 252905 + | TSS_001664 | 1000 | 551    | 0        | 6 I  | within gene(s) PMM0263;        |
| 252926 + | TSS_001667 | 1000 | 2293   | 0        | 6 I  | within gene(s) PMM0263;        |
| 252936 + | TSS_001670 | 1000 | 254    | 0        | 0 I  | within gene(s) PMM0263;        |
| 252950 + | TSS_001671 | 1000 | 335    | 0        | 0 I  | within gene(s) PMM0263;        |
| 252986 + | TSS_001672 | 1000 | 1023   | 0        | 0 I  | within gene(s) PMM0263;        |
| 253009 + | TSS_001675 | 1000 | 488    | 0        | 2 I  | within gene(s) PMM0263;        |
| 253023 - | TSS_013863 | 1000 | 1132   | 0        | 4 Ai | antisense to gene(s) PMM0263;  |
| 253040 + | TSS_001677 | 1000 | 458    | 0        | 15 I | within gene(s) PMM0263;        |
| 253056 + | TSS_001681 | 1000 | 213    | 0        | 0 I  | within gene(s) PMM0263;        |
| 253072 + | TSS_001682 | 1000 | 4448   | 0        | 1 I  | within gene(s) PMM0263;        |
| 253088 + | TSS_001687 | 1000 | 300    | 0        | 8 I  | within gene(s) PMM0263;        |
| 253106 + | TSS_001688 | 1000 | 197    | 0        | 0 I  | within gene(s) PMM0263;        |
| 253114 - | TSS_013866 | 1000 | 417    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 253118 + | TSS_001691 | 1000 | 209    | 0        | 3 I  | within gene(s) PMM0263;        |
| 253136 + | TSS_001692 | 1000 | 1226   | 0        | 1 I  | within gene(s) PMM0263;        |
| 253148 + | TSS_001696 | 1000 | 1243   | 0        | 13 I | within gene(s) PMM0263;        |
| 253169 + | TSS_001701 | 1000 | 7594   | 0        | 2 I  | within gene(s) PMM0263;        |
| 253220 + | TSS_001705 | 1000 | 901    | 0        | 11 I | within gene(s) PMM0263;        |
| 253244 + | TSS_001710 | 1000 | 563    | 0        | 9 I  | within gene(s) PMM0263;        |
| 253257 - | TSS_013868 | 1000 | 110    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 253265 + | TSS_001713 | 1000 | 601    | 0        | 12 I | within gene(s) PMM0263;        |
| 253271 - | TSS_013871 | 1000 | 673    | 0        | 7 Ai | antisense to gene(s) PMM0263;  |
| 253279 - | TSS_013872 | 1000 | 957    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 253286 + | TSS_001715 | 1000 | 549    | 0        | 1 I  | within gene(s) PMM0263;        |
| 253289 - | TSS_013873 | 1000 | 1018   | 0        | 5 Ai | antisense to gene(s) PMM0263;  |
| 253302 + | TSS_001718 | 1000 | 347    | 0        | 3 I  | within gene(s) PMM0263;        |
| 253321 - | TSS_013876 | 1000 | 577    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 253328 + | TSS_001724 | 1000 | 3290   | 0        | 90 I | within gene(s) PMM0263;        |
| 253329 - | TSS_013877 | 1000 | 137    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 253357 - | TSS_013878 | 1000 | 357    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 253418 + | TSS_001749 | 1000 | 922    | 0        | 15 I | within gene(s) PMM0263;        |
| 253435 - | TSS_013880 | 1000 | 394    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 253452 - | TSS_013882 | 1000 | 300    | 0        | 1 Ai | antisense to gene(s) PMM0263;  |
| 253460 + | TSS_001754 | 1000 | 314    | 0        | 0 I  | within gene(s) PMM0263;        |
| 253469 + | TSS_001755 | 1000 | 194    | 6.70E-08 | 0 I  | within gene(s) PMM0263;        |
| 253481 + | TSS_001758 | 1000 | 219    | 0        | 3 I  | within gene(s) PMM0263;        |
| 253491 + | TSS_001760 | 1000 | 662    | 0        | 1 I  | within gene(s) PMM0263;        |
| 253498 - | TSS_013883 | 1000 | 404    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 253502 + | TSS_001761 | 1000 | 198    | 1.40E-06 | 0 I  | within gene(s) PMM0263;        |
| 253520 - | TSS_013885 | 1000 | 139    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 253529 + | TSS_001767 | 1000 | 2214   | 0        | 30 I | within gene(s) PMM0263;        |
| 253548 + | TSS_001773 | 1000 | 317    | 0        | 2 I  | within gene(s) PMM0263;        |
| 253562 + | TSS_001776 | 1000 | 570    | 0        | 12 I | within gene(s) PMM0263;        |
| 253580 + | TSS_001780 | 1000 | 2353   | 0        | 1 I  | within gene(s) PMM0263;        |
| 253592 + | TSS_001782 | 1000 | 1016   | 0        | 1 I  | within gene(s) PMM0263;        |
| 253606 - | TSS_013886 | 1000 | 2753   | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 253616 + | TSS_001791 | 1000 | 2271   | 0        | 18 I | within gene(s) PMM0263;        |
| 253641 + | TSS_001798 | 1000 | 1958   | 0        | 18 I | within gene(s) PMM0263;        |
| 253648 - | TSS_013888 | 1000 | 122    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 253667 + | TSS_001802 | 1000 | 4912   | 0        | 12 I | within gene(s) PMM0263;        |
| 253688 + | TSS_001809 | 1000 | 398    | 0        | 0 I  | within gene(s) PMM0263;        |
| 253698 + | TSS_001810 | 1000 | 472    | 0        | 0 I  | within gene(s) PMM0263;        |
| 253739 + | TSS_001815 | 1000 | 7231   | 0        | 42 I | within gene(s) PMM0263;        |
| 253778 + | TSS_001825 | 1000 | 1132   | 0        | 3 I  | within gene(s) PMM0263;        |
| 253787 + | TSS_001826 | 1000 | 1973   | 0        | 6 I  | within gene(s) PMM0263;        |
| 253811 + | TSS_001830 | 1000 | 705    | 0        | 0 I  | within gene(s) PMM0263;        |
| 253820 + | TSS_001831 | 1000 | 300    | 0        | 1 I  | within gene(s) PMM0263;        |
| 253836 + | TSS_001834 | 1000 | 2785   | 0        | 1 I  | within gene(s) PMM0263;        |
| 253848 + | TSS_001838 | 1000 | 251    | 0        | 4 I  | within gene(s) PMM0263;        |
| 254043 - | TSS_013889 | 1000 | 234    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 254055 - | TSS_013890 | 1000 | 442    | 0        | 0 Ai | antisense to gene(s) PMM0263;  |
| 254183 + | TSS_001848 | 1000 | 363    | 0        | 5 I  | within gene(s) PMM0264;        |
| 255509 + | TSS_001850 | 1000 | 218    | 0        | 1 I  | within gene(s) PMM0265;        |
| 255521 + | TSS_001853 | 1000 | 355    | 0        | 15 I | within gene(s) PMM0265;        |

|          |            |      |       |   |       |   |
|----------|------------|------|-------|---|-------|---|
| 255551 + | TSS_001859 | 1000 | 144   | 0 | 0 I   | within gene(s) PMM0265;                                       |
| 255644 + | TSS_001862 | 1000 | 211   | 0 | 21 I  | within gene(s) PMM0265;                                       |
| 255683 + | TSS_001869 | 1000 | 172   | 0 | 3 I   | within gene(s) PMM0265;                                       |
| 255731 + | TSS_001878 | 1000 | 183   | 0 | 24 I  | within gene(s) PMM0265;                                       |
| 255746 + | TSS_001882 | 1000 | 236   | 0 | 9 I   | within gene(s) PMM0265;                                       |
| 255779 + | TSS_001890 | 1000 | 144   | 0 | 15 I  | within gene(s) PMM0265;                                       |
| 255812 + | TSS_001896 | 1000 | 115   | 0 | 1 I   | within gene(s) PMM0265;                                       |
| 256772 + | TSS_001902 | 1000 | 121   | 0 | 0 Ai  | antisense to gene(s) PMM0266;                                 |
| 258284 + | TSS_001904 | 1000 | 109   | 0 | 0 Ai  | antisense to gene(s) PMM0268;                                 |
| 258297 + | TSS_001906 | 1000 | 144   | 0 | 1 Ai  | antisense to gene(s) PMM0268;                                 |
| 258382 + | TSS_001908 | 1000 | 152   | 0 | 0 Ai  | antisense to gene(s) PMM0268;                                 |
| 258478 - | TSS_013913 | 1000 | 570   | 0 | 3 I   | within gene(s) PMM0268;                                       |
| 258539 + | TSS_001909 | 1000 | 349   | 0 | 0 Ai  | antisense to gene(s) PMM0268;                                 |
| 258616 - | TSS_013923 | 1000 | 187   | 0 | 3 P   | 12nt upstream of gene PMM0268;                                |
| 261925 + | TSS_001924 | 1000 | 4850  | 0 | 4 P   | 23nt upstream of gene PMM0272;                                |
| 263126 - | TSS_013938 | 1000 | 511   | 0 | 4 P   | 19nt upstream of gene PMM0273;                                |
| 263543 + | TSS_001932 | 1000 | 376   | 0 | 1 Ai  | antisense to gene(s) PMM0274;                                 |
| 264561 - | TSS_013945 | 1000 | 144   | 0 | 0 P   | 135nt upstream of gene PMM0274;                               |
| 264640 + | TSS_001936 | 1000 | 207   | 0 | 2 P   | 18nt upstream of gene PMM0275;                                |
| 269162 + | TSS_001954 | 1000 | 439   | 0 | 2 I   | within gene(s) PMM0279;                                       |
| 271937 - | TSS_013985 | 1000 | 349   | 0 | 0 IP  | within gene(s) PMM0282; 173nt upstream of gene PMM0281;       |
| 273322 + | TSS_001964 | 1000 | 325   | 0 | 3 I   | within gene(s) PMM0284;                                       |
| 274872 - | TSS_014014 | 1000 | 194   | 0 | 0 I   | within gene(s) PMM0285;                                       |
| 277117 + | TSS_001970 | 1000 | 394   | 0 | 0 PAi | 54nt upstream of gene PMM0288; antisense to gene(s) PMM0287;  |
| 277159 + | TSS_001971 | 1000 | 179   | 0 | 0 P   | 12nt upstream of gene PMM0288;                                |
| 279001 + | TSS_001990 | 1000 | 122   | 0 | 0 I   | within gene(s) PMM0288;                                       |
| 280333 - | TSS_014032 | 1000 | 1154  | 0 | 1 IP  | within gene(s) PMM0290; 149nt upstream of gene PMM0289;       |
| 281596 + | TSS_002000 | 1000 | 108   | 0 | 0 I   | within gene(s) PMM0291;                                       |
| 283477 - | TSS_014053 | 1000 | 165   | 0 | 21 I  | within gene(s) PMM0293;                                       |
| 283519 - | TSS_014060 | 1000 | 395   | 0 | 16 I  | within gene(s) PMM0293;                                       |
| 283774 - | TSS_014078 | 1000 | 116   | 0 | 0 IP  | within gene(s) PMM0294; 15nt upstream of gene PMM0293;        |
| 283811 - | TSS_014079 | 1000 | 3495  | 0 | 0 IP  | within gene(s) PMM0294; 52nt upstream of gene PMM0293;        |
| 283840 - | TSS_014080 | 1000 | 200   | 0 | 0 IP  | within gene(s) PMM0294; 81nt upstream of gene PMM0293;        |
| 283853 - | TSS_014081 | 1000 | 276   | 0 | 0 IP  | within gene(s) PMM0294; 94nt upstream of gene PMM0293;        |
| 283904 - | TSS_014083 | 1000 | 2729  | 0 | 1 IP  | within gene(s) PMM0294; 145nt upstream of gene PMM0293;       |
| 284179 - | TSS_014085 | 1000 | 608   | 0 | 10 P  | 53nt upstream of gene PMM0294;                                |
| 284302 - | TSS_014090 | 1000 | 3581  | 0 | 2 PAi | 176nt upstream of gene PMM0294; antisense to gene(s) PMM0295; |
| 284638 + | TSS_002014 | 1000 | 1602  | 0 | 1 I   | within gene(s) PMM0296;                                       |
| 284851 + | TSS_002022 | 1000 | 374   | 0 | 1 I   | within gene(s) PMM0296;                                       |
| 285126 + | TSS_002034 | 1000 | 120   | 0 | 6 I   | within gene(s) PMM0296;                                       |
| 285147 + | TSS_002037 | 1000 | 164   | 0 | 1 I   | within gene(s) PMM0296;                                       |
| 285370 + | TSS_002047 | 1000 | 117   | 0 | 5 I   | within gene(s) PMM0296;                                       |
| 285545 - | TSS_014101 | 1000 | 215   | 0 | 1 Ai  | antisense to gene(s) PMM0296;                                 |
| 285768 + | TSS_002051 | 1000 | 35742 | 0 | 2 P   | 9nt upstream of gene PMM0297;                                 |
| 285794 + | TSS_002053 | 1000 | 171   | 0 | 5 IP  | within gene(s) PMM0297; 240nt upstream of gene PMM0298;       |
| 285818 + | TSS_002057 | 1000 | 112   | 0 | 3 IP  | within gene(s) PMM0297; 216nt upstream of gene PMM0298;       |
| 285844 + | TSS_002062 | 1000 | 239   | 0 | 3 IP  | within gene(s) PMM0297; 190nt upstream of gene PMM0298;       |
| 285930 + | TSS_002069 | 1000 | 230   | 0 | 21 IP | within gene(s) PMM0297; 104nt upstream of gene PMM0298;       |
| 285945 + | TSS_002073 | 1000 | 454   | 0 | 10 IP | within gene(s) PMM0297; 89nt upstream of gene PMM0298;        |
| 285990 + | TSS_002081 | 1000 | 239   | 0 | 13 IP | within gene(s) PMM0297; 44nt upstream of gene PMM0298;        |
| 286014 + | TSS_002083 | 1000 | 128   | 0 | 0 IP  | within gene(s) PMM0297; 20nt upstream of gene PMM0298;        |
| 286058 + | TSS_002088 | 1000 | 406   | 0 | 12 IP | within gene(s) PMM0298; 131nt upstream of gene PMM0299;       |
| 286103 + | TSS_002092 | 1000 | 151   | 0 | 6 IP  | within gene(s) PMM0298; 86nt upstream of gene PMM0299;        |
| 286115 + | TSS_002093 | 1000 | 151   | 0 | 0 IP  | within gene(s) PMM0298; 74nt upstream of gene PMM0299;        |
| 286157 + | TSS_002097 | 1000 | 124   | 0 | 16 IP | within gene(s) PMM0298; 32nt upstream of gene PMM0299;        |
| 286195 + | TSS_002101 | 1000 | 595   | 0 | 41 IP | within gene(s) PMM0299; 123nt upstream of gene PMM0300;       |
| 286246 + | TSS_002118 | 1000 | 426   | 0 | 6 IP  | within gene(s) PMM0299; 72nt upstream of gene PMM0300;        |
| 286270 + | TSS_002122 | 1000 | 1598  | 0 | 22 IP | within gene(s) PMM0299; 48nt upstream of gene PMM0300;        |
| 286292 + | TSS_002129 | 1000 | 114   | 0 | 1 IP  | within gene(s) PMM0299; 26nt upstream of gene PMM0300;        |
| 286319 + | TSS_002130 | 1000 | 329   | 0 | 2 I   | within gene(s) PMM0300;                                       |
| 286339 + | TSS_002134 | 1000 | 425   | 0 | 18 I  | within gene(s) PMM0300;                                       |
| 286530 - | TSS_014108 | 1000 | 138   | 0 | 0 Ad  | antisense to gene(s) PMM0300 (19nt downstream);               |
| 286877 + | TSS_002145 | 1000 | 240   | 0 | 1 Ai  | antisense to gene(s) PMM0301;                                 |
| 287552 - | TSS_014122 | 1000 | 785   | 0 | 1 PAi | 83nt upstream of gene PMM0301; antisense to gene(s) PMM0302;  |
| 287702 - | TSS_014125 | 1000 | 482   | 0 | 4 PAi | 233nt upstream of gene PMM0301; antisense to gene(s) PMM0302; |
| 290102 + | TSS_002152 | 1000 | 155   | 0 | 0 Ai  | antisense to gene(s) PMM0303;                                 |
| 290195 + | TSS_002153 | 1000 | 211   | 0 | 0 Ai  | antisense to gene(s) PMM0303;                                 |
| 291317 - | TSS_014133 | 1000 | 188   | 0 | 0 I   | within gene(s) PMM0304;                                       |
| 293682 + | TSS_002156 | 1000 | 792   | 0 | 2 P   | 28nt upstream of gene PMM0305;                                |
| 294128 - | TSS_014143 | 1000 | 291   | 0 | 1 Ai  | antisense to gene(s) PMM0305;                                 |
| 294947 - | TSS_014151 | 1000 | 1188  | 0 | 2 P   | 21nt upstream of gene PMM0307;                                |
| 298142 - | TSS_014173 | 1000 | 106   | 0 | 15 I  | within gene(s) PMM0311;                                       |
| 298181 - | TSS_014179 | 1000 | 134   | 0 | 3 I   | within gene(s) PMM0311;                                       |
| 298704 + | TSS_002169 | 1000 | 109   | 0 | 0 Ai  | antisense to gene(s) PMM0311;                                 |
| 299042 - | TSS_014213 | 1000 | 5214  | 0 | 6 P   | 18nt upstream of gene PMM0311;                                |
| 299206 + | TSS_002170 | 1000 | 116   | 0 | 1 Ai  | antisense to gene(s) PMM0312;                                 |
| 299219 + | TSS_002173 | 1000 | 140   | 0 | 1 Ai  | antisense to gene(s) PMM0312;                                 |
| 299410 - | TSS_014226 | 1000 | 151   | 0 | 14 I  | within gene(s) PMM0312;                                       |
| 299442 - | TSS_014231 | 1000 | 156   | 0 | 1 I   | within gene(s) PMM0312;                                       |

|          |            |      |      |   |       |   |
|----------|------------|------|------|---|-------|---|
| 299500 - | TSS_014235 | 1000 | 135  | 0 | 0 I   | within gene(s) PMM0312;                                 |
| 299534 + | TSS_002176 | 1000 | 133  | 0 | 0 Ai  | antisense to gene(s) PMM0312;                           |
| 299595 + | TSS_002178 | 1000 | 109  | 0 | 1 Ai  | antisense to gene(s) PMM0312;                           |
| 299713 - | TSS_014243 | 1000 | 210  | 0 | 21 I  | within gene(s) PMM0312;                                 |
| 299749 - | TSS_014249 | 1000 | 164  | 0 | 6 I   | within gene(s) PMM0312;                                 |
| 299824 - | TSS_014254 | 1000 | 154  | 0 | 3 I   | within gene(s) PMM0312;                                 |
| 299836 - | TSS_014256 | 1000 | 193  | 0 | 3 I   | within gene(s) PMM0312;                                 |
| 299850 + | TSS_002182 | 1000 | 128  | 0 | 1 Ai  | antisense to gene(s) PMM0312;                           |
| 299950 - | TSS_014263 | 1000 | 170  | 0 | 3 I   | within gene(s) PMM0312;                                 |
| 300325 - | TSS_014272 | 1000 | 5818 | 0 | 10 P  | 75nt upstream of gene PMM0312;                          |
| 300858 - | TSS_014280 | 1000 | 3547 | 0 | 12 P  | 21nt upstream of gene PMM0313;                          |
| 301015 + | TSS_002184 | 1000 | 128  | 0 | 0 Ai  | antisense to gene(s) PMM0314;                           |
| 301023 + | TSS_002185 | 1000 | 334  | 0 | 0 Ai  | antisense to gene(s) PMM0314;                           |
| 301087 + | TSS_002187 | 1000 | 101  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301149 + | TSS_002188 | 1000 | 121  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301160 + | TSS_002189 | 1000 | 276  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301163 - | TSS_014292 | 1000 | 356  | 0 | 12 IP | within gene(s) PMM0315; 124nt upstream of gene PMM0314; |
| 301180 - | TSS_014297 | 1000 | 604  | 0 | 6 IP  | within gene(s) PMM0315; 141nt upstream of gene PMM0314; |
| 301201 - | TSS_014300 | 1000 | 143  | 0 | 0 IP  | within gene(s) PMM0315; 162nt upstream of gene PMM0314; |
| 301210 - | TSS_014301 | 1000 | 114  | 0 | 0 IP  | within gene(s) PMM0315; 171nt upstream of gene PMM0314; |
| 301222 - | TSS_014302 | 1000 | 363  | 0 | 6 IP  | within gene(s) PMM0315; 183nt upstream of gene PMM0314; |
| 301258 - | TSS_014308 | 1000 | 216  | 0 | 6 IP  | within gene(s) PMM0315; 219nt upstream of gene PMM0314; |
| 301351 + | TSS_002191 | 1000 | 122  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301547 + | TSS_002196 | 1000 | 176  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301603 - | TSS_014309 | 1000 | 155  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 301607 + | TSS_002198 | 1000 | 129  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301612 - | TSS_014311 | 1000 | 844  | 0 | 7 I   | within gene(s) PMM0315;                                 |
| 301642 - | TSS_014318 | 1000 | 1131 | 0 | 27 I  | within gene(s) PMM0315;                                 |
| 301654 + | TSS_002200 | 1000 | 106  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301672 - | TSS_014326 | 1000 | 166  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 301701 - | TSS_014331 | 1000 | 2179 | 0 | 30 I  | within gene(s) PMM0315;                                 |
| 301721 + | TSS_002203 | 1000 | 413  | 0 | 1 Ai  | antisense to gene(s) PMM0315;                           |
| 301735 + | TSS_002204 | 1000 | 242  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301735 - | TSS_014339 | 1000 | 210  | 0 | 6 I   | within gene(s) PMM0315;                                 |
| 301769 + | TSS_002207 | 1000 | 101  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301771 - | TSS_014341 | 1000 | 191  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 301780 + | TSS_002208 | 1000 | 136  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301782 - | TSS_014342 | 1000 | 539  | 0 | 7 I   | within gene(s) PMM0315;                                 |
| 301810 - | TSS_014345 | 1000 | 235  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 301834 - | TSS_014347 | 1000 | 1025 | 0 | 10 I  | within gene(s) PMM0315;                                 |
| 301852 - | TSS_014351 | 1000 | 250  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 301897 - | TSS_014355 | 1000 | 592  | 0 | 12 I  | within gene(s) PMM0315;                                 |
| 301915 - | TSS_014359 | 1000 | 1235 | 0 | 13 I  | within gene(s) PMM0315;                                 |
| 301916 + | TSS_002211 | 1000 | 1234 | 0 | 3 Ai  | antisense to gene(s) PMM0315;                           |
| 301936 - | TSS_014364 | 1000 | 535  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 301937 + | TSS_002212 | 1000 | 934  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301945 - | TSS_014365 | 1000 | 260  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 301964 + | TSS_002214 | 1000 | 213  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 301981 - | TSS_014366 | 1000 | 255  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302004 - | TSS_014368 | 1000 | 504  | 0 | 9 I   | within gene(s) PMM0315;                                 |
| 302023 - | TSS_014373 | 1000 | 1487 | 0 | 2 I   | within gene(s) PMM0315;                                 |
| 302044 - | TSS_014374 | 1000 | 215  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302062 - | TSS_014377 | 1000 | 2764 | 0 | 3 I   | within gene(s) PMM0315;                                 |
| 302080 - | TSS_014378 | 1000 | 496  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302091 - | TSS_014379 | 1000 | 216  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302107 - | TSS_014383 | 1000 | 2117 | 0 | 15 I  | within gene(s) PMM0315;                                 |
| 302114 + | TSS_002216 | 1000 | 281  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 302122 + | TSS_002218 | 1000 | 1237 | 0 | 1 Ai  | antisense to gene(s) PMM0315;                           |
| 302134 - | TSS_014387 | 1000 | 439  | 0 | 11 I  | within gene(s) PMM0315;                                 |
| 302152 - | TSS_014391 | 1000 | 238  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302153 + | TSS_002219 | 1000 | 128  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 302182 - | TSS_014397 | 1000 | 3993 | 0 | 40 I  | within gene(s) PMM0315;                                 |
| 302221 - | TSS_014410 | 1000 | 1888 | 0 | 1 I   | within gene(s) PMM0315;                                 |
| 302233 - | TSS_014411 | 1000 | 315  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302244 - | TSS_014412 | 1000 | 372  | 0 | 4 I   | within gene(s) PMM0315;                                 |
| 302272 - | TSS_014414 | 1000 | 2063 | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302293 - | TSS_014415 | 1000 | 564  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302320 + | TSS_002222 | 1000 | 103  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 302327 + | TSS_002223 | 1000 | 263  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 302329 - | TSS_014418 | 1000 | 991  | 0 | 3 I   | within gene(s) PMM0315;                                 |
| 302338 - | TSS_014419 | 1000 | 779  | 0 | 9 I   | within gene(s) PMM0315;                                 |
| 302364 - | TSS_014423 | 1000 | 187  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302368 + | TSS_002224 | 1000 | 150  | 0 | 0 Ai  | antisense to gene(s) PMM0315;                           |
| 302385 - | TSS_014425 | 1000 | 454  | 0 | 4 I   | within gene(s) PMM0315;                                 |
| 302398 - | TSS_014428 | 1000 | 177  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302418 - | TSS_014429 | 1000 | 165  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302449 - | TSS_014430 | 1000 | 177  | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302461 - | TSS_014431 | 1000 | 1714 | 0 | 0 I   | within gene(s) PMM0315;                                 |
| 302479 - | TSS_014433 | 1000 | 238  | 0 | 1 I   | within gene(s) PMM0315;                                 |



|          |            |      |       |   |       |   |
|----------|------------|------|-------|---|-------|---|
| 302497 - | TSS_014435 | 1000 | 12881 | 0 | 2 I   | within gene(s) PMM0315;                                       |
| 302527 - | TSS_014438 | 1000 | 252   | 0 | 3 I   | within gene(s) PMM0315;                                       |
| 302539 - | TSS_014440 | 1000 | 532   | 0 | 4 I   | within gene(s) PMM0315;                                       |
| 302557 - | TSS_014442 | 1000 | 518   | 0 | 0 I   | within gene(s) PMM0315;                                       |
| 302590 - | TSS_014444 | 1000 | 3404  | 0 | 2 P   | 3nt upstream of gene PMM0315;                                 |
| 302980 + | TSS_002230 | 1000 | 174   | 0 | 6 I   | within gene(s) PMM0316;                                       |
| 303250 - | TSS_014450 | 1000 | 146   | 0 | 6 O   | -   |
| 303256 + | TSS_002235 | 1000 | 1872  | 0 | 18 P  | 24nt upstream of gene PMM0317;                                |
| 305403 - | TSS_014460 | 1000 | 281   | 0 | 0 I   | within gene(s) PMM0320;                                       |
| 305442 - | TSS_014461 | 1000 | 202   | 0 | 0 I   | within gene(s) PMM0320;                                       |
| 305463 - | TSS_014464 | 1000 | 164   | 0 | 5 I   | within gene(s) PMM0320;                                       |
| 305727 - | TSS_014468 | 1000 | 455   | 0 | 3 IP  | within gene(s) PMM0321; 174nt upstream of gene PMM0320;       |
| 306386 - | TSS_014473 | 1000 | 927   | 0 | 2 P   | 15nt upstream of gene PMM0321;                                |
| 308744 - | TSS_014482 | 1000 | 104   | 0 | 0 I   | within gene(s) PMM0324;                                       |
| 308747 + | TSS_002255 | 1000 | 205   | 0 | 0 Ai  | antisense to gene(s) PMM0324;                                 |
| 308758 + | TSS_002257 | 1000 | 12029 | 0 | 3 Ai  | antisense to gene(s) PMM0324;                                 |
| 308935 + | TSS_002262 | 1000 | 103   | 0 | 0 Ai  | antisense to gene(s) PMM0324;                                 |
| 309008 + | TSS_002264 | 1000 | 431   | 0 | 0 Ai  | antisense to gene(s) PMM0324;                                 |
| 309261 - | TSS_014494 | 1000 | 101   | 0 | 9 I   | within gene(s) PMM0324;                                       |
| 309313 + | TSS_002268 | 1000 | 103   | 0 | 7 Ai  | antisense to gene(s) PMM0324;                                 |
| 309678 - | TSS_014511 | 1000 | 140   | 0 | 0 I   | within gene(s) PMM0324;                                       |
| 309757 - | TSS_014512 | 1000 | 280   | 0 | 0 P   | 22nt upstream of gene PMM0324;                                |
| 309902 - | TSS_014513 | 1000 | 734   | 0 | 0 PAi | 167nt upstream of gene PMM0324; antisense to gene(s) PMM0325; |
| 309920 + | TSS_002273 | 1000 | 139   | 0 | 3 I   | within gene(s) PMM0325;                                       |
| 309929 - | TSS_014515 | 1000 | 7467  | 0 | 1 PAi | 194nt upstream of gene PMM0324; antisense to gene(s) PMM0325; |
| 309975 - | TSS_014516 | 1000 | 160   | 0 | 4 PAi | 240nt upstream of gene PMM0324; antisense to gene(s) PMM0325; |
| 310002 + | TSS_002278 | 1000 | 152   | 0 | 15 I  | within gene(s) PMM0325;                                       |
| 310023 + | TSS_002281 | 1000 | 684   | 0 | 0 I   | within gene(s) PMM0325;                                       |
| 310049 + | TSS_002282 | 1000 | 127   | 0 | 4 I   | within gene(s) PMM0325;                                       |
| 310070 + | TSS_002286 | 1000 | 122   | 0 | 6 I   | within gene(s) PMM0325;                                       |
| 310100 + | TSS_002287 | 1000 | 266   | 0 | 0 I   | within gene(s) PMM0325;                                       |
| 310271 + | TSS_002299 | 1000 | 527   | 0 | 6 IP  | within gene(s) PMM0325; 234nt upstream of gene PMM0326;       |
| 310445 + | TSS_002308 | 1000 | 158   | 0 | 12 IP | within gene(s) PMM0325; 60nt upstream of gene PMM0326;        |
| 310480 + | TSS_002309 | 1000 | 470   | 0 | 2 P   | 25nt upstream of gene PMM0326;                                |
| 310538 + | TSS_002311 | 1000 | 286   | 0 | 0 I   | within gene(s) PMM0326;                                       |
| 310550 + | TSS_002312 | 1000 | 106   | 0 | 0 I   | within gene(s) PMM0326;                                       |
| 310559 + | TSS_002314 | 1000 | 319   | 0 | 17 I  | within gene(s) PMM0326;                                       |
| 310592 + | TSS_002325 | 1000 | 568   | 0 | 18 I  | within gene(s) PMM0326;                                       |
| 310622 + | TSS_002328 | 1000 | 300   | 0 | 3 I   | within gene(s) PMM0326;                                       |
| 310640 + | TSS_002330 | 1000 | 177   | 0 | 3 I   | within gene(s) PMM0326;                                       |
| 310655 + | TSS_002332 | 1000 | 175   | 0 | 1 I   | within gene(s) PMM0326;                                       |
| 310676 + | TSS_002338 | 1000 | 106   | 0 | 12 I  | within gene(s) PMM0326;                                       |
| 310715 + | TSS_002340 | 1000 | 113   | 0 | 0 I   | within gene(s) PMM0326;                                       |
| 310880 + | TSS_002347 | 1000 | 312   | 0 | 12 I  | within gene(s) PMM0326;                                       |
| 311306 + | TSS_002354 | 1000 | 214   | 0 | 0 Ai  | antisense to gene(s) PMM0327;                                 |
| 311725 + | TSS_002356 | 1000 | 138   | 0 | 0 Ai  | antisense to gene(s) PMM0327;                                 |
| 312157 - | TSS_014554 | 1000 | 172   | 0 | 0 I   | within gene(s) PMM0327;                                       |
| 312178 - | TSS_014556 | 1000 | 103   | 0 | 20 I  | within gene(s) PMM0327;                                       |
| 312446 - | TSS_014568 | 1000 | 2192  | 0 | 3 P   | 16nt upstream of gene PMM0327;                                |
| 312554 + | TSS_002359 | 1000 | 1555  | 0 | 0 O   | -   |
| 312873 - | TSS_014570 | 1000 | 710   | 0 | 1 O   | -   |
| 313132 - | TSS_014578 | 1000 | 168   | 0 | 0 O   | -   |
| 313374 - | TSS_014581 | 1000 | 297   | 0 | 1 O   | -   |
| 313535 - | TSS_014584 | 1000 | 407   | 0 | 6 O   | -   |
| 314529 - | TSS_014597 | 1000 | 419   | 0 | 1 O   | -   |
| 314912 + | TSS_002449 | 1000 | 272   | 0 | 0 O   | -   |
| 314959 + | TSS_002450 | 1000 | 323   | 0 | 0 O   | -   |
| 315077 + | TSS_002462 | 1000 | 10220 | 0 | 27 O  | -   |
| 315908 - | TSS_014609 | 1000 | 197   | 0 | 1 O   | -   |
| 316320 - | TSS_014614 | 1000 | 105   | 0 | 1 O   | -   |
| 318987 + | TSS_002591 | 1000 | 102   | 0 | 0 Ai  | antisense to gene(s) PMM0328;                                 |
| 319201 - | TSS_014641 | 1000 | 112   | 0 | 3 IP  | within gene(s) PMM0329; 148nt upstream of gene PMM0328;       |
| 319230 - | TSS_014644 | 1000 | 134   | 0 | 14 IP | within gene(s) PMM0329; 177nt upstream of gene PMM0328;       |
| 319267 - | TSS_014649 | 1000 | 270   | 0 | 0 P   | 0nt upstream of gene PMM0329;                                 |
| 319282 - | TSS_014651 | 1000 | 40065 | 0 | 7 P   | 15nt upstream of gene PMM0329;                                |
| 322362 + | TSS_002597 | 1000 | 253   | 0 | 0 P   | 0nt upstream of gene PMM0333;                                 |
| 323620 - | TSS_014665 | 1000 | 765   | 0 | 5 P   | 21nt upstream of gene PMM0334;                                |
| 324251 - | TSS_014668 | 1000 | 19240 | 0 | 4 O   | -   |
| 324470 - | TSS_014673 | 1000 | 1416  | 0 | 3 O   | -   |
| 324964 + | TSS_002611 | 1000 | 1325  | 0 | 1 I   | within gene(s) PMM0335;                                       |
| 325272 - | TSS_014690 | 1000 | 231   | 0 | 24 I  | within gene(s) PMM0336;                                       |
| 325302 - | TSS_014697 | 1000 | 173   | 0 | 45 I  | within gene(s) PMM0336;                                       |
| 325368 - | TSS_014711 | 1000 | 183   | 0 | 33 I  | within gene(s) PMM0336;                                       |
| 325410 - | TSS_014717 | 1000 | 180   | 0 | 6 I   | within gene(s) PMM0336;                                       |
| 325485 - | TSS_014725 | 1000 | 110   | 0 | 18 I  | within gene(s) PMM0336;                                       |
| 325506 - | TSS_014730 | 1000 | 228   | 0 | 10 I  | within gene(s) PMM0336;                                       |
| 325557 - | TSS_014734 | 1000 | 27733 | 0 | 3 P   | 15nt upstream of gene PMM0336;                                |
| 326449 - | TSS_014742 | 1000 | 345   | 0 | 1 P   | 15nt upstream of gene PMM0337;                                |
| 326712 + | TSS_002625 | 1000 | 1119  | 0 | 2 O   | -   |

|          |            |      |       |   |       |   |
|----------|------------|------|-------|---|-------|---|
| 327570 - | TSS_014758 | 1000 | 6136  | 0 | 2 O   | -   |
| 327681 + | TSS_002628 | 1000 | 329   | 0 | 1 Ai  | antisense to gene(s) PMM0339;                           |
| 328681 - | TSS_014764 | 1000 | 194   | 0 | 1 I   | within gene(s) PMM0339;                                 |
| 329348 - | TSS_014767 | 1000 | 548   | 0 | 0 P   | 157nt upstream of gene PMM0339;                         |
| 330221 - | TSS_014769 | 1000 | 258   | 0 | 0 P   | 15nt upstream of gene PMM0341;                          |
| 330306 + | TSS_002637 | 1000 | 1096  | 0 | 1 P   | 35nt upstream of gene PMM0342;                          |
| 330978 - | TSS_014771 | 1000 | 346   | 0 | 1 O   | -   |
| 331018 - | TSS_014773 | 1000 | 368   | 0 | 0 O   | -   |
| 332301 + | TSS_002642 | 1000 | 147   | 0 | 6 P   | 16nt upstream of gene PMM0345;                          |
| 332821 + | TSS_002648 | 1000 | 2219  | 0 | 3 I   | within gene(s) PMM0346;                                 |
| 332939 - | TSS_014781 | 1000 | 146   | 0 | 1 Ai  | antisense to gene(s) PMM0346;                           |
| 332983 - | TSS_014782 | 1000 | 138   | 0 | 0 Ai  | antisense to gene(s) PMM0346;                           |
| 333569 - | TSS_014786 | 1000 | 290   | 0 | 0 P   | 108nt upstream of gene PMM0347;                         |
| 333947 - | TSS_014789 | 1000 | 63918 | 0 | 2 P   | 20nt upstream of gene PMM0348;                          |
| 339021 + | TSS_002660 | 1000 | 311   | 0 | 1 P   | 18nt upstream of gene PMM0355;                          |
| 339316 - | TSS_014798 | 1000 | 364   | 0 | 0 Ai  | antisense to gene(s) PMM0355;                           |
| 339338 - | TSS_014799 | 1000 | 102   | 0 | 0 Ai  | antisense to gene(s) PMM0355;                           |
| 340326 + | TSS_002664 | 1000 | 386   | 0 | 2 I   | within gene(s) PMM0356;                                 |
| 345398 + | TSS_002677 | 1000 | 117   | 0 | 3 P   | 22nt upstream of gene PMM0363;                          |
| 346829 + | TSS_002680 | 1000 | 171   | 0 | 3 O   | -   |
| 347280 + | TSS_002683 | 1000 | 10178 | 0 | 3 P   | 16nt upstream of gene PMM0364;                          |
| 348066 - | TSS_014820 | 1000 | 3096  | 0 | 2 P   | 21nt upstream of gene PMM0365;                          |
| 348206 + | TSS_002695 | 1000 | 590   | 0 | 5 P   | 17nt upstream of gene PMM0366;                          |
| 348397 + | TSS_002700 | 1000 | 224   | 0 | 1 I   | within gene(s) PMM0366;                                 |
| 348935 + | TSS_002704 | 1000 | 367   | 0 | 1 P   | 33nt upstream of gene PMM0367;                          |
| 349333 - | TSS_014827 | 1000 | 193   | 0 | 2 Ai  | antisense to gene(s) PMM0367;                           |
| 349634 - | TSS_014829 | 1000 | 230   | 0 | 0 I   | within gene(s) PMM0368;                                 |
| 349709 - | TSS_014830 | 1000 | 995   | 0 | 1 P   | 18nt upstream of gene PMM0368;                          |
| 350069 - | TSS_014833 | 1000 | 458   | 0 | 0 O   | -   |
| 350388 + | TSS_002708 | 1000 | 281   | 0 | 1 O   | -   |
| 350523 - | TSS_014836 | 1000 | 42611 | 0 | 4 O   | -   |
| 351169 - | TSS_014841 | 1000 | 17808 | 0 | 6 O   | -   |
| 352103 - | TSS_014849 | 1000 | 492   | 0 | 2 O   | -   |
| 352188 + | TSS_002716 | 1000 | 2285  | 0 | 2 P   | 7nt upstream of gene PMM0369;                           |
| 352957 + | TSS_002718 | 1000 | 719   | 0 | 0 P   | 18nt upstream of gene PMM0370;                          |
| 353380 + | TSS_002743 | 1000 | 146   | 0 | 10 I  | within gene(s) PMM0370;                                 |
| 353529 - | TSS_014853 | 1000 | 231   | 0 | 0 Ai  | antisense to gene(s) PMM0370;                           |
| 353732 - | TSS_014854 | 1000 | 369   | 0 | 1 Ai  | antisense to gene(s) PMM0370;                           |
| 353890 + | TSS_002773 | 1000 | 327   | 0 | 14 I  | within gene(s) PMM0370;                                 |
| 353992 + | TSS_002784 | 1000 | 149   | 0 | 4 I   | within gene(s) PMM0370;                                 |
| 354088 + | TSS_002792 | 1000 | 253   | 0 | 9 I   | within gene(s) PMM0370;                                 |
| 354139 + | TSS_002799 | 1000 | 281   | 0 | 18 I  | within gene(s) PMM0370;                                 |
| 354178 + | TSS_002804 | 1000 | 435   | 0 | 1 I   | within gene(s) PMM0370;                                 |
| 354259 + | TSS_002811 | 1000 | 123   | 0 | 4 I   | within gene(s) PMM0370;                                 |
| 354439 - | TSS_014861 | 1000 | 133   | 0 | 1 Ai  | antisense to gene(s) PMM0370;                           |
| 354451 + | TSS_002830 | 1000 | 290   | 0 | 63 IP | within gene(s) PMM0370; 240nt upstream of gene PMM0371; |
| 355412 - | TSS_014865 | 1000 | 235   | 0 | 0 Ai  | antisense to gene(s) PMM0371;                           |
| 356060 - | TSS_014866 | 1000 | 162   | 0 | 0 Ai  | antisense to gene(s) PMM0372;                           |
| 356326 + | TSS_002838 | 1000 | 133   | 0 | 1 IP  | within gene(s) PMM0372; 51nt upstream of gene PMM0373;  |
| 358183 - | TSS_014873 | 1000 | 1142  | 0 | 2 P   | 16nt upstream of gene PMM0377;                          |
| 358512 - | TSS_014878 | 1000 | 14280 | 0 | 2 P   | 22nt upstream of gene PMM0378;                          |
| 358753 - | TSS_014881 | 1000 | 4805  | 0 | 2 O   | -   |
| 359627 - | TSS_014883 | 1000 | 606   | 0 | 0 O   | -   |
| 359991 - | TSS_014887 | 1000 | 1644  | 0 | 2 P   | 20nt upstream of gene PMM0379;                          |
| 361648 + | TSS_002848 | 1000 | 212   | 0 | 0 O   | -   |
| 361663 + | TSS_002849 | 1000 | 370   | 0 | 0 O   | -   |
| 362873 - | TSS_014893 | 1000 | 1115  | 0 | 2 P   | 140nt upstream of gene PMM0383;                         |
| 366442 - | TSS_014908 | 1000 | 199   | 0 | 2 O   | -   |
| 366522 - | TSS_014910 | 1000 | 550   | 0 | 0 O   | -   |
| 367091 - | TSS_014913 | 1000 | 131   | 0 | 1 I   | within gene(s) PMM0386;                                 |
| 367935 - | TSS_014915 | 1000 | 292   | 0 | 1 O   | -   |
| 368274 + | TSS_002869 | 1000 | 500   | 0 | 2 O   | -   |
| 368514 - | TSS_014919 | 1000 | 288   | 0 | 4 O   | -   |
| 370969 + | TSS_002878 | 1000 | 2033  | 0 | 1 P   | 24nt upstream of gene PMM0391;                          |
| 374270 + | TSS_002886 | 1000 | 574   | 0 | 0 P   | 97nt upstream of gene PMM0395;                          |
| 374286 + | TSS_002888 | 1000 | 16296 | 0 | 2 P   | 81nt upstream of gene PMM0395;                          |
| 374685 + | TSS_002913 | 1000 | 115   | 0 | 0 I   | within gene(s) PMM0395;                                 |
| 374701 + | TSS_002916 | 1000 | 256   | 0 | 9 IP  | within gene(s) PMM0395; 249nt upstream of gene PMM0396; |
| 374727 + | TSS_002923 | 1000 | 214   | 0 | 22 IP | within gene(s) PMM0395; 223nt upstream of gene PMM0396; |
| 374754 + | TSS_002928 | 1000 | 188   | 0 | 10 IP | within gene(s) PMM0395; 196nt upstream of gene PMM0396; |
| 377675 - | TSS_014946 | 1000 | 201   | 0 | 1 I   | within gene(s) PMM0398;                                 |
| 379061 - | TSS_014950 | 1000 | 133   | 0 | 2 P   | 24nt upstream of gene PMM0400;                          |
| 380710 - | TSS_014955 | 1000 | 132   | 0 | 0 Ai  | antisense to gene(s) PMM0402;                           |
| 381726 + | TSS_002957 | 1000 | 2507  | 0 | 2 P   | 14nt upstream of gene PMM0403;                          |
| 383390 + | TSS_002967 | 1000 | 156   | 0 | 3 O   | -   |
| 383585 + | TSS_002969 | 1000 | 7185  | 0 | 4 P   | 85nt upstream of gene PMM0405;                          |
| 383856 + | TSS_002991 | 1000 | 118   | 0 | 4 I   | within gene(s) PMM0405;                                 |
| 383907 + | TSS_002996 | 1000 | 130   | 0 | 0 I   | within gene(s) PMM0405;                                 |
| 383961 + | TSS_003003 | 1000 | 151   | 0 | 24 I  | within gene(s) PMM0405;                                 |

|          |            |      |      |          |    |    |   |
|----------|------------|------|------|----------|----|----|---|
| 384035 - | TSS_014959 | 1000 | 524  | 0        | 1  | Ai | antisense to gene(s) PMM0405;                           |
| 384144 + | TSS_003021 | 1000 | 167  | 0        | 22 | I  | within gene(s) PMM0405;                                 |
| 384162 + | TSS_003026 | 1000 | 229  | 0        | 3  | I  | within gene(s) PMM0405;                                 |
| 384195 + | TSS_003031 | 1000 | 278  | 0        | 11 | I  | within gene(s) PMM0405;                                 |
| 384519 + | TSS_003048 | 1000 | 485  | 0        | 15 | I  | within gene(s) PMM0405;                                 |
| 384720 + | TSS_003070 | 1000 | 576  | 0        | 15 | I  | within gene(s) PMM0405;                                 |
| 385716 + | TSS_003083 | 1000 | 476  | 0        | 0  | I  | within gene(s) PMM0406;                                 |
| 386282 + | TSS_003086 | 1000 | 336  | 0        | 0  | Ai | antisense to gene(s) PMM0407;                           |
| 386350 - | TSS_014967 | 1000 | 113  | 0        | 15 | I  | within gene(s) PMM0407;                                 |
| 386383 - | TSS_014973 | 1000 | 403  | 0        | 18 | I  | within gene(s) PMM0407;                                 |
| 386391 + | TSS_003089 | 1000 | 101  | 0        | 0  | Ai | antisense to gene(s) PMM0407;                           |
| 386402 + | TSS_003090 | 1000 | 233  | 0        | 0  | Ai | antisense to gene(s) PMM0407;                           |
| 386404 - | TSS_014977 | 1000 | 321  | 0        | 0  | I  | within gene(s) PMM0407;                                 |
| 386413 - | TSS_014978 | 1000 | 129  | 0        | 0  | I  | within gene(s) PMM0407;                                 |
| 386467 - | TSS_014989 | 1000 | 1475 | 0        | 39 | I  | within gene(s) PMM0407;                                 |
| 386503 - | TSS_014998 | 1000 | 744  | 0        | 24 | I  | within gene(s) PMM0407;                                 |
| 386514 + | TSS_003093 | 1000 | 499  | 0        | 4  | Ai | antisense to gene(s) PMM0407;                           |
| 386530 - | TSS_015001 | 1000 | 297  | 0        | 3  | I  | within gene(s) PMM0407;                                 |
| 386539 - | TSS_015002 | 1000 | 288  | 0        | 0  | I  | within gene(s) PMM0407;                                 |
| 386551 - | TSS_015003 | 1000 | 547  | 0        | 0  | I  | within gene(s) PMM0407;                                 |
| 386598 - | TSS_015004 | 1000 | 213  | 0        | 1  | I  | within gene(s) PMM0407;                                 |
| 386603 + | TSS_003094 | 1000 | 2388 | 0        | 1  | Ai | antisense to gene(s) PMM0407;                           |
| 386611 - | TSS_015008 | 1000 | 722  | 0        | 48 | I  | within gene(s) PMM0407;                                 |
| 386615 + | TSS_003096 | 1000 | 185  | 0        | 0  | Ai | antisense to gene(s) PMM0407;                           |
| 386674 - | TSS_015022 | 1000 | 501  | 0        | 12 | I  | within gene(s) PMM0407;                                 |
| 386701 - | TSS_015027 | 1000 | 1492 | 0        | 36 | I  | within gene(s) PMM0407;                                 |
| 386764 - | TSS_015044 | 1000 | 776  | 0        | 33 | I  | within gene(s) PMM0407;                                 |
| 386777 + | TSS_003099 | 1000 | 280  | 0        | 7  | Ai | antisense to gene(s) PMM0407;                           |
| 386789 + | TSS_003100 | 1000 | 124  | 0        | 0  | Ai | antisense to gene(s) PMM0407;                           |
| 386815 - | TSS_015056 | 1000 | 1476 | 0        | 33 | I  | within gene(s) PMM0407;                                 |
| 386824 - | TSS_015057 | 1000 | 339  | 0        | 12 | I  | within gene(s) PMM0407;                                 |
| 386845 - | TSS_015060 | 1000 | 210  | 0        | 0  | I  | within gene(s) PMM0407;                                 |
| 386860 - | TSS_015061 | 1000 | 155  | 2.40E-07 | 0  | I  | within gene(s) PMM0407;                                 |
| 386861 + | TSS_003101 | 1000 | 385  | 0        | 13 | Ai | antisense to gene(s) PMM0407;                           |
| 386881 - | TSS_015066 | 1000 | 964  | 0        | 12 | I  | within gene(s) PMM0407;                                 |
| 386908 - | TSS_015072 | 1000 | 306  | 0        | 12 | I  | within gene(s) PMM0407;                                 |
| 386920 - | TSS_015075 | 1000 | 340  | 0        | 11 | I  | within gene(s) PMM0407;                                 |
| 386950 - | TSS_015083 | 1000 | 363  | 0        | 30 | I  | within gene(s) PMM0407;                                 |
| 386989 - | TSS_015093 | 1000 | 618  | 0        | 22 | I  | within gene(s) PMM0407;                                 |
| 387013 - | TSS_015096 | 1000 | 180  | 0        | 0  | I  | within gene(s) PMM0407;                                 |
| 387022 - | TSS_015097 | 1000 | 274  | 0        | 0  | I  | within gene(s) PMM0407;                                 |
| 387042 - | TSS_015101 | 1000 | 990  | 0        | 18 | I  | within gene(s) PMM0407;                                 |
| 387073 - | TSS_015107 | 1000 | 275  | 0        | 9  | I  | within gene(s) PMM0407;                                 |
| 387097 - | TSS_015110 | 1000 | 355  | 0        | 0  | I  | within gene(s) PMM0407;                                 |
| 387112 - | TSS_015112 | 1000 | 615  | 0        | 3  | I  | within gene(s) PMM0407;                                 |
| 387133 - | TSS_015113 | 1000 | 438  | 0        | 6  | I  | within gene(s) PMM0407;                                 |
| 387181 - | TSS_015115 | 1000 | 211  | 0        | 3  | P  | 24nt upstream of gene PMM0407;                          |
| 390342 - | TSS_015125 | 1000 | 126  | 0        | 4  | I  | within gene(s) PMM0410;                                 |
| 390555 - | TSS_015132 | 1000 | 461  | 0        | 1  | I  | within gene(s) PMM0410;                                 |
| 390616 - | TSS_015133 | 1000 | 535  | 0        | 1  | P  | 55nt upstream of gene PMM0410;                          |
| 390631 + | TSS_003117 | 1000 | 169  | 0        | 3  | P  | 26nt upstream of gene PMM0411;                          |
| 392813 + | TSS_003122 | 1000 | 428  | 0        | 2  | P  | 15nt upstream of gene PMM0414;                          |
| 395057 + | TSS_003125 | 1000 | 115  | 0        | 0  | Ai | antisense to gene(s) PMM0416;                           |
| 395539 - | TSS_015144 | 1000 | 1564 | 0        | 2  | P  | 16nt upstream of gene PMM0416;                          |
| 398147 + | TSS_003134 | 1000 | 878  | 0        | 2  | P  | 32nt upstream of gene PMM0420;                          |
| 398719 + | TSS_003137 | 1000 | 240  | 0        | 0  | I  | within gene(s) PMM0420;                                 |
| 401612 - | TSS_015174 | 1000 | 529  | 0        | 0  | P  | 18nt upstream of gene PMM0422;                          |
| 401747 + | TSS_003152 | 1000 | 5391 | 0        | 3  | O  | -   |
| 401864 - | TSS_015178 | 1000 | 234  | 0        | 1  | O  | -   |
| 402007 - | TSS_015179 | 1000 | 163  | 0        | 0  | O  | -   |
| 405550 + | TSS_003160 | 1000 | 150  | 0        | 1  | I  | within gene(s) PMM0426;                                 |
| 409230 - | TSS_015202 | 1000 | 254  | 0        | 3  | P  | 20nt upstream of gene PMM0429;                          |
| 409244 + | TSS_003170 | 1000 | 110  | 0        | 0  | P  | 26nt upstream of gene PMM0430;                          |
| 409562 - | TSS_015204 | 1000 | 231  | 0        | 0  | Ai | antisense to gene(s) PMM0430;                           |
| 412935 + | TSS_003178 | 1000 | 192  | 0        | 6  | Ai | antisense to gene(s) PMM0435;                           |
| 413484 + | TSS_003181 | 1000 | 407  | 0        | 3  | Ai | antisense to gene(s) PMM0435;                           |
| 414354 + | TSS_003187 | 1000 | 111  | 0        | 0  | P  | 130nt upstream of gene PMM0436;                         |
| 414359 - | TSS_015235 | 1000 | 855  | 0        | 0  | P  | 44nt upstream of gene PMM0435;                          |
| 414382 + | TSS_003188 | 1000 | 677  | 0        | 2  | P  | 102nt upstream of gene PMM0436;                         |
| 417856 + | TSS_003241 | 1000 | 164  | 0        | 0  | I  | within gene(s) PMM0438;                                 |
| 419521 - | TSS_015250 | 1000 | 296  | 0        | 1  | Ai | antisense to gene(s) PMM0440;                           |
| 422795 - | TSS_015261 | 1000 | 777  | 0        | 6  | P  | 16nt upstream of gene PMM0443;                          |
| 423632 - | TSS_015273 | 1000 | 184  | 0        | 12 | IP | within gene(s) PMM0445; 153nt upstream of gene PMM0444; |
| 423797 - | TSS_015279 | 1000 | 130  | 0        | 6  | I  | within gene(s) PMM0445;                                 |
| 423830 - | TSS_015282 | 1000 | 249  | 0        | 0  | I  | within gene(s) PMM0445;                                 |
| 423865 + | TSS_003255 | 1000 | 202  | 0        | 0  | Ai | antisense to gene(s) PMM0445;                           |
| 423944 - | TSS_015286 | 1000 | 256  | 0        | 3  | I  | within gene(s) PMM0445;                                 |
| 424676 + | TSS_003263 | 1000 | 182  | 0        | 0  | Ai | antisense to gene(s) PMM0445;                           |
| 424706 - | TSS_015303 | 1000 | 344  | 0        | 3  | I  | within gene(s) PMM0445;                                 |

|          |            |      |       |   |       |   |
|----------|------------|------|-------|---|-------|---|
| 424756 - | TSS_015306 | 1000 | 161   | 0 | 0 I   | within gene(s) PMM0445;                                       |
| 424769 - | TSS_015308 | 1000 | 133   | 0 | 1 I   | within gene(s) PMM0445;                                       |
| 424790 - | TSS_015311 | 1000 | 333   | 0 | 16 I  | within gene(s) PMM0445;                                       |
| 424880 - | TSS_015322 | 1000 | 795   | 0 | 6 I   | within gene(s) PMM0445;                                       |
| 425395 - | TSS_015338 | 1000 | 378   | 0 | 0 I   | within gene(s) PMM0446;                                       |
| 425512 - | TSS_015340 | 1000 | 108   | 0 | 2 I   | within gene(s) PMM0446;                                       |
| 426162 + | TSS_003268 | 1000 | 769   | 0 | 1 P   | 8nt upstream of gene PMM0447;                                 |
| 427201 + | TSS_003284 | 1000 | 168   | 0 | 18 I  | within gene(s) PMM0448;                                       |
| 427279 + | TSS_003287 | 1000 | 181   | 0 | 2 I   | within gene(s) PMM0448;                                       |
| 427561 + | TSS_003295 | 1000 | 170   | 0 | 3 I   | within gene(s) PMM0448;                                       |
| 427588 + | TSS_003296 | 1000 | 218   | 0 | 4 I   | within gene(s) PMM0448;                                       |
| 427696 + | TSS_003302 | 1000 | 175   | 0 | 0 I   | within gene(s) PMM0448;                                       |
| 427762 + | TSS_003304 | 1000 | 102   | 0 | 0 I   | within gene(s) PMM0448;                                       |
| 429348 + | TSS_003311 | 1000 | 127   | 0 | 1 I   | within gene(s) PMM0450;                                       |
| 429366 + | TSS_003313 | 1000 | 131   | 0 | 3 I   | within gene(s) PMM0450;                                       |
| 429988 - | TSS_015366 | 1000 | 115   | 0 | 1 Ai  | antisense to gene(s) PMM0450;                                 |
| 430126 + | TSS_003318 | 1000 | 227   | 0 | 0 I   | within gene(s) PMM0451;                                       |
| 430701 + | TSS_003331 | 1000 | 159   | 0 | 0 Ai  | antisense to gene(s) PMM0452;                                 |
| 431111 + | TSS_003335 | 1000 | 108   | 0 | 0 Ai  | antisense to gene(s) PMM0452;                                 |
| 431182 - | TSS_015382 | 1000 | 263   | 0 | 12 I  | within gene(s) PMM0452;                                       |
| 431251 - | TSS_015393 | 1000 | 189   | 0 | 1 I   | within gene(s) PMM0452;                                       |
| 431412 + | TSS_003342 | 1000 | 189   | 0 | 1 Ai  | antisense to gene(s) PMM0452;                                 |
| 431485 - | TSS_015420 | 1000 | 202   | 0 | 48 I  | within gene(s) PMM0452;                                       |
| 431803 - | TSS_015441 | 1000 | 153   | 0 | 3 I   | within gene(s) PMM0452;                                       |
| 431848 - | TSS_015444 | 1000 | 147   | 0 | 21 I  | within gene(s) PMM0452;                                       |
| 431908 - | TSS_015458 | 1000 | 102   | 0 | 13 I  | within gene(s) PMM0452;                                       |
| 431932 - | TSS_015461 | 1000 | 133   | 0 | 0 I   | within gene(s) PMM0452;                                       |
| 431969 + | TSS_003346 | 1000 | 246   | 0 | 1 Ai  | antisense to gene(s) PMM0452;                                 |
| 431983 - | TSS_015465 | 1000 | 122   | 0 | 12 I  | within gene(s) PMM0452;                                       |
| 432058 - | TSS_015478 | 1000 | 285   | 0 | 9 I   | within gene(s) PMM0452;                                       |
| 432085 - | TSS_015482 | 1000 | 103   | 0 | 0 I   | within gene(s) PMM0452;                                       |
| 432121 - | TSS_015487 | 1000 | 101   | 0 | 24 I  | within gene(s) PMM0452;                                       |
| 432175 - | TSS_015496 | 1000 | 122   | 0 | 1 I   | within gene(s) PMM0452;                                       |
| 432210 - | TSS_015499 | 1000 | 218   | 0 | 2 I   | within gene(s) PMM0452;                                       |
| 432317 - | TSS_015501 | 1000 | 4064  | 0 | 3 P   | 16nt upstream of gene PMM0452;                                |
| 432436 + | TSS_003350 | 1000 | 157   | 0 | 0 O   | -   |
| 433380 - | TSS_015515 | 1000 | 128   | 0 | 0 P   | 16nt upstream of gene PMM0453;                                |
| 433437 + | TSS_003353 | 1000 | 463   | 0 | 1 P   | 21nt upstream of gene PMM0454;                                |
| 433825 - | TSS_015516 | 1000 | 154   | 0 | 0 Ai  | antisense to gene(s) PMM0454;                                 |
| 433897 + | TSS_003357 | 1000 | 245   | 0 | 2 I   | within gene(s) PMM0454;                                       |
| 434016 - | TSS_015517 | 1000 | 142   | 0 | 0 Ai  | antisense to gene(s) PMM0454;                                 |
| 435917 - | TSS_015522 | 1000 | 289   | 0 | 0 P   | 19nt upstream of gene PMM0456;                                |
| 437733 + | TSS_003368 | 1000 | 117   | 0 | 0 Ai  | antisense to gene(s) PMM0458;                                 |
| 440026 - | TSS_015530 | 1000 | 101   | 0 | 0 IP  | within gene(s) PMM0461; 221nt upstream of gene PMM0460;       |
| 440050 - | TSS_015531 | 1000 | 247   | 0 | 15 IP | within gene(s) PMM0461; 245nt upstream of gene PMM0460;       |
| 440074 - | TSS_015536 | 1000 | 149   | 0 | 12 I  | within gene(s) PMM0461;                                       |
| 440245 - | TSS_015543 | 1000 | 193   | 0 | 18 I  | within gene(s) PMM0461;                                       |
| 440290 - | TSS_015549 | 1000 | 152   | 0 | 12 I  | within gene(s) PMM0461;                                       |
| 440581 - | TSS_015578 | 1000 | 142   | 0 | 0 I   | within gene(s) PMM0461;                                       |
| 440695 - | TSS_015590 | 1000 | 130   | 0 | 1 I   | within gene(s) PMM0461;                                       |
| 440885 - | TSS_015602 | 1000 | 193   | 0 | 9 IP  | within gene(s) PMM0462; 115nt upstream of gene PMM0461;       |
| 441035 + | TSS_003385 | 1000 | 163   | 0 | 6 Ai  | antisense to gene(s) PMM0462;                                 |
| 441185 - | TSS_015628 | 1000 | 176   | 0 | 2 I   | within gene(s) PMM0462;                                       |
| 441340 - | TSS_015633 | 1000 | 1201  | 0 | 3 P   | 29nt upstream of gene PMM0462;                                |
| 442840 - | TSS_015647 | 1000 | 1913  | 0 | 6 P   | 17nt upstream of gene PMM0465;                                |
| 444471 + | TSS_003391 | 1000 | 119   | 0 | 0 PAi | 157nt upstream of gene PMM0467; antisense to gene(s) PMM0466; |
| 445213 + | TSS_003396 | 1000 | 417   | 0 | 1 Ai  | antisense to gene(s) PMM0468;                                 |
| 445437 + | TSS_003398 | 1000 | 1014  | 0 | 1 Ai  | antisense to gene(s) PMM0469;                                 |
| 445454 - | TSS_015663 | 1000 | 152   | 0 | 48 IP | within gene(s) PMM0469; 120nt upstream of gene PMM0468;       |
| 445514 - | TSS_015674 | 1000 | 153   | 0 | 3 IP  | within gene(s) PMM0469; 180nt upstream of gene PMM0468;       |
| 445523 - | TSS_015675 | 1000 | 150   | 0 | 0 IP  | within gene(s) PMM0469; 189nt upstream of gene PMM0468;       |
| 445547 - | TSS_015676 | 1000 | 1874  | 0 | 12 IP | within gene(s) PMM0469; 213nt upstream of gene PMM0468;       |
| 445571 - | TSS_015680 | 1000 | 951   | 0 | 15 IP | within gene(s) PMM0469; 237nt upstream of gene PMM0468;       |
| 445575 + | TSS_003400 | 1000 | 519   | 0 | 0 Ai  | antisense to gene(s) PMM0469;                                 |
| 445601 - | TSS_015688 | 1000 | 1052  | 0 | 12 I  | within gene(s) PMM0469;                                       |
| 445625 - | TSS_015694 | 1000 | 349   | 0 | 27 I  | within gene(s) PMM0469;                                       |
| 445658 - | TSS_015701 | 1000 | 425   | 0 | 3 I   | within gene(s) PMM0469;                                       |
| 445694 - | TSS_015710 | 1000 | 687   | 0 | 39 I  | within gene(s) PMM0469;                                       |
| 445754 - | TSS_015718 | 1000 | 128   | 0 | 6 I   | within gene(s) PMM0469;                                       |
| 445796 - | TSS_015722 | 1000 | 354   | 0 | 1 I   | within gene(s) PMM0469;                                       |
| 445823 - | TSS_015724 | 1000 | 168   | 0 | 0 I   | within gene(s) PMM0469;                                       |
| 445832 - | TSS_015726 | 1000 | 107   | 0 | 1 I   | within gene(s) PMM0469;                                       |
| 445961 - | TSS_015730 | 1000 | 35375 | 0 | 4 P   | 42nt upstream of gene PMM0469;                                |
| 445980 + | TSS_003402 | 1000 | 233   | 0 | 1 P   | 14nt upstream of gene PMM0470;                                |
| 446547 + | TSS_003409 | 1000 | 130   | 0 | 0 I   | within gene(s) PMM0470;                                       |
| 446903 + | TSS_003415 | 1000 | 323   | 0 | 0 IP  | within gene(s) PMM0470; 167nt upstream of gene PMM0471;       |
| 447381 + | TSS_003419 | 1000 | 1090  | 0 | 4 P   | 29nt upstream of gene PMM0472;                                |
| 450442 + | TSS_003425 | 1000 | 163   | 0 | 2 Ai  | antisense to gene(s) PMM0474;                                 |
| 450594 - | TSS_015752 | 1000 | 159   | 0 | 0 P   | 113nt upstream of gene PMM0474;                               |

|          |            |      |      |   |       |   |
|----------|------------|------|------|---|-------|---|
| 450629 - | TSS_015754 | 1000 | 1372 | 0 | 1 P   | 148nt upstream of gene PMM0474;                               |
| 450680 - | TSS_015756 | 1000 | 453  | 0 | 0 IP  | within gene(s) PMM0475; 199nt upstream of gene PMM0474;       |
| 450696 - | TSS_015757 | 1000 | 170  | 0 | 0 IP  | within gene(s) PMM0475; 215nt upstream of gene PMM0474;       |
| 450716 - | TSS_015759 | 1000 | 5264 | 0 | 3 IP  | within gene(s) PMM0475; 235nt upstream of gene PMM0474;       |
| 450872 + | TSS_003429 | 1000 | 322  | 0 | 2 Ai  | antisense to gene(s) PMM0475;                                 |
| 450998 + | TSS_003430 | 1000 | 232  | 0 | 1 Ai  | antisense to gene(s) PMM0475;                                 |
| 451103 - | TSS_015769 | 1000 | 123  | 0 | 0 I   | within gene(s) PMM0475;                                       |
| 451134 - | TSS_015776 | 1000 | 5175 | 0 | 8 P   | 4nt upstream of gene PMM0475;                                 |
| 451442 + | TSS_003436 | 1000 | 339  | 0 | 4 PAi | 101nt upstream of gene PMM0477; antisense to gene(s) PMM0476; |
| 451486 + | TSS_003438 | 1000 | 1598 | 0 | 0 P   | 57nt upstream of gene PMM0477;                                |
| 451522 - | TSS_015780 | 1000 | 276  | 0 | 0 P   | 69nt upstream of gene PMM0476;                                |
| 451687 + | TSS_003447 | 1000 | 167  | 0 | 1 I   | within gene(s) PMM0477;                                       |
| 451719 - | TSS_015782 | 1000 | 165  | 0 | 2 Ai  | antisense to gene(s) PMM0477;                                 |
| 451771 + | TSS_003454 | 1000 | 109  | 0 | 3 I   | within gene(s) PMM0477;                                       |
| 451802 + | TSS_003460 | 1000 | 164  | 0 | 18 I  | within gene(s) PMM0477;                                       |
| 451813 + | TSS_003462 | 1000 | 272  | 0 | 0 I   | within gene(s) PMM0477;                                       |
| 451849 + | TSS_003466 | 1000 | 111  | 0 | 27 I  | within gene(s) PMM0477;                                       |
| 451908 - | TSS_015791 | 1000 | 174  | 0 | 0 Ai  | antisense to gene(s) PMM0477;                                 |
| 451913 + | TSS_003477 | 1000 | 630  | 0 | 12 I  | within gene(s) PMM0477;                                       |
| 451936 + | TSS_003482 | 1000 | 254  | 0 | 1 I   | within gene(s) PMM0477;                                       |
| 452077 + | TSS_003490 | 1000 | 162  | 0 | 0 I   | within gene(s) PMM0477;                                       |
| 452104 + | TSS_003496 | 1000 | 267  | 0 | 12 I  | within gene(s) PMM0477;                                       |
| 452132 + | TSS_003499 | 1000 | 9103 | 0 | 2 I   | within gene(s) PMM0477;                                       |
| 453247 + | TSS_003505 | 1000 | 415  | 0 | 2 P   | 22nt upstream of gene PMM0479;                                |
| 453732 - | TSS_015806 | 1000 | 223  | 0 | 0 Ai  | antisense to gene(s) PMM0479;                                 |
| 453884 + | TSS_003522 | 1000 | 111  | 0 | 4 I   | within gene(s) PMM0479;                                       |
| 454387 + | TSS_003528 | 1000 | 1038 | 0 | 3 P   | 17nt upstream of gene PMM0480;                                |
| 455492 + | TSS_003534 | 1000 | 107  | 0 | 0 O   | -   |
| 455674 - | TSS_015815 | 1000 | 127  | 0 | 3 O   | -   |
| 455989 + | TSS_003549 | 1000 | 124  | 0 | 0 I   | within gene(s) PMM0482;                                       |
| 456019 + | TSS_003551 | 1000 | 111  | 0 | 0 I   | within gene(s) PMM0482;                                       |
| 456144 - | TSS_015821 | 1000 | 474  | 0 | 1 Ai  | antisense to gene(s) PMM0482;                                 |
| 456205 + | TSS_003565 | 1000 | 242  | 0 | 9 I   | within gene(s) PMM0482;                                       |
| 456226 + | TSS_003567 | 1000 | 186  | 0 | 24 I  | within gene(s) PMM0482;                                       |
| 456319 + | TSS_003586 | 1000 | 408  | 0 | 24 I  | within gene(s) PMM0482;                                       |
| 456568 + | TSS_003593 | 1000 | 195  | 0 | 1 I   | within gene(s) PMM0482;                                       |
| 456940 + | TSS_003598 | 1000 | 247  | 0 | 3 Ai  | antisense to gene(s) PMM0483;                                 |
| 457405 + | TSS_003604 | 1000 | 717  | 0 | 2 Ai  | antisense to gene(s) PMM0483;                                 |
| 457551 + | TSS_003606 | 1000 | 216  | 0 | 1 Ai  | antisense to gene(s) PMM0483;                                 |
| 457975 - | TSS_015843 | 1000 | 1133 | 0 | 5 P   | 36nt upstream of gene PMM0483;                                |
| 458013 - | TSS_015848 | 1000 | 281  | 0 | 2 P   | 74nt upstream of gene PMM0483;                                |
| 459029 - | TSS_015851 | 1000 | 132  | 0 | 0 P   | 17nt upstream of gene PMM0484;                                |
| 459043 + | TSS_003609 | 1000 | 110  | 0 | 0 P   | 42nt upstream of gene PMM0485;                                |
| 465840 + | TSS_003624 | 1000 | 476  | 0 | 3 P   | 16nt upstream of gene PMM0493;                                |
| 466192 + | TSS_003626 | 1000 | 630  | 0 | 1 I   | within gene(s) PMM0493;                                       |
| 466610 + | TSS_003628 | 1000 | 123  | 0 | 0 I   | within gene(s) PMM0493;                                       |
| 467553 + | TSS_003634 | 1000 | 331  | 0 | 2 I   | within gene(s) PMM0494;                                       |
| 468497 - | TSS_015872 | 1000 | 578  | 0 | 2 I   | within gene(s) PMM0495;                                       |
| 469000 - | TSS_015877 | 1000 | 273  | 0 | 0 P   | 32nt upstream of gene PMM0495;                                |
| 469311 - | TSS_015884 | 1000 | 237  | 0 | 0 I   | within gene(s) PMM0496;                                       |
| 469398 - | TSS_015896 | 1000 | 113  | 0 | 4 I   | within gene(s) PMM0496;                                       |
| 469488 + | TSS_003655 | 1000 | 210  | 0 | 1 Ai  | antisense to gene(s) PMM0496;                                 |
| 470267 - | TSS_015927 | 1000 | 2917 | 0 | 2 P   | 14nt upstream of gene PMM0496;                                |
| 474859 - | TSS_015937 | 1000 | 302  | 0 | 0 IP  | within gene(s) PMM0500; 37nt upstream of gene PMM0499;        |
| 475324 - | TSS_015943 | 1000 | 355  | 0 | 4 I   | within gene(s) PMM0500;                                       |
| 475383 - | TSS_015946 | 1000 | 372  | 0 | 0 P   | 19nt upstream of gene PMM0500;                                |
| 475534 - | TSS_015947 | 1000 | 212  | 0 | 0 PAi | 170nt upstream of gene PMM0500; antisense to gene(s) PMM0501; |
| 475685 + | TSS_003668 | 1000 | 794  | 0 | 10 Ai | antisense to gene(s) PMM0502;                                 |
| 475749 + | TSS_003674 | 1000 | 1996 | 0 | 3 Ai  | antisense to gene(s) PMM0502;                                 |
| 476045 - | TSS_015955 | 1000 | 835  | 0 | 1 P   | 16nt upstream of gene PMM0502;                                |
| 479542 - | TSS_015968 | 1000 | 525  | 0 | 2 P   | 26nt upstream of gene PMM0506;                                |
| 479651 - | TSS_015969 | 1000 | 120  | 0 | 0 IP  | within gene(s) PMM0507; 135nt upstream of gene PMM0506;       |
| 480046 - | TSS_015974 | 1000 | 102  | 0 | 1 P   | 11nt upstream of gene PMM0507;                                |
| 480066 - | TSS_015976 | 1000 | 197  | 0 | 3 IP  | within gene(s) PMM0508; 31nt upstream of gene PMM0507;        |
| 481882 - | TSS_015993 | 1000 | 759  | 0 | 1 P   | 18nt upstream of gene PMM0508;                                |
| 482442 + | TSS_003692 | 1000 | 534  | 0 | 1 P   | 36nt upstream of gene PMM0510;                                |
| 483044 - | TSS_015997 | 1000 | 302  | 0 | 0 Ai  | antisense to gene(s) PMM0511;                                 |
| 483869 + | TSS_003698 | 1000 | 267  | 0 | 3 I   | within gene(s) PMM0513;                                       |
| 486912 - | TSS_016007 | 1000 | 564  | 0 | 6 P   | 21nt upstream of gene PMM0515;                                |
| 487573 + | TSS_003706 | 1000 | 112  | 0 | 0 I   | within gene(s) PMM0516;                                       |
| 490431 + | TSS_003711 | 1000 | 135  | 0 | 2 I   | within gene(s) PMM0518;                                       |
| 490807 + | TSS_003714 | 1000 | 103  | 0 | 6 I   | within gene(s) PMM0519;                                       |
| 490882 + | TSS_003723 | 1000 | 129  | 0 | 21 I  | within gene(s) PMM0519;                                       |
| 491260 + | TSS_003750 | 1000 | 473  | 0 | 60 I  | within gene(s) PMM0519;                                       |
| 491487 - | TSS_016016 | 1000 | 117  | 0 | 6 Ai  | antisense to gene(s) PMM0519;                                 |
| 493398 - | TSS_016028 | 1000 | 420  | 0 | 4 I   | within gene(s) PMM0521;                                       |
| 493513 - | TSS_016031 | 1000 | 261  | 0 | 0 IP  | within gene(s) PMM0522; 82nt upstream of gene PMM0521;        |
| 493630 + | TSS_003770 | 1000 | 228  | 0 | 3 Ai  | antisense to gene(s) PMM0522;                                 |
| 493755 + | TSS_003772 | 1000 | 177  | 0 | 0 Ai  | antisense to gene(s) PMM0522;                                 |

|          |            |      |      |   |       |   |
|----------|------------|------|------|---|-------|---|
| 493996 - | TSS_016037 | 1000 | 106  | 0 | 3 I   | within gene(s) PMM0522;                                 |
| 494163 - | TSS_016039 | 1000 | 768  | 0 | 0 I   | within gene(s) PMM0522;                                 |
| 494177 - | TSS_016040 | 1000 | 697  | 0 | 0 P   | 13nt upstream of gene PMM0522;                          |
| 494529 + | TSS_003777 | 1000 | 140  | 0 | 0 Ai  | antisense to gene(s) PMM0523;                           |
| 495001 - | TSS_016044 | 1000 | 845  | 0 | 8 P   | 12nt upstream of gene PMM0523;                          |
| 496211 + | TSS_003781 | 1000 | 1148 | 0 | 2 P   | 44nt upstream of gene PMM0525;                          |
| 497254 + | TSS_003787 | 1000 | 213  | 0 | 6 I   | within gene(s) PMM0525;                                 |
| 497550 + | TSS_003791 | 1000 | 2737 | 0 | 2 P   | 15nt upstream of gene PMM0526;                          |
| 498172 + | TSS_003811 | 1000 | 101  | 0 | 4 I   | within gene(s) PMM0526;                                 |
| 498247 + | TSS_003820 | 1000 | 117  | 0 | 12 I  | within gene(s) PMM0526;                                 |
| 498643 + | TSS_003834 | 1000 | 183  | 0 | 0 I   | within gene(s) PMM0526;                                 |
| 498840 + | TSS_003848 | 1000 | 239  | 0 | 4 I   | within gene(s) PMM0526;                                 |
| 498873 + | TSS_003853 | 1000 | 190  | 0 | 4 I   | within gene(s) PMM0526;                                 |
| 498964 - | TSS_016059 | 1000 | 239  | 0 | 2 Ai  | antisense to gene(s) PMM0526;                           |
| 499020 + | TSS_003860 | 1000 | 266  | 0 | 3 I   | within gene(s) PMM0526;                                 |
| 499041 + | TSS_003864 | 1000 | 147  | 0 | 15 I  | within gene(s) PMM0526;                                 |
| 499074 + | TSS_003873 | 1000 | 251  | 0 | 30 I  | within gene(s) PMM0526;                                 |
| 502199 - | TSS_016078 | 1000 | 103  | 0 | 0 I   | within gene(s) PMM0530;                                 |
| 502675 + | TSS_003891 | 1000 | 266  | 0 | 0 P   | 47nt upstream of gene PMM0531;                          |
| 502682 - | TSS_016095 | 1000 | 1170 | 0 | 11 P  | 24nt upstream of gene PMM0530;                          |
| 503597 + | TSS_003898 | 1000 | 1133 | 0 | 1 P   | 34nt upstream of gene PMM0532;                          |
| 503618 + | TSS_003904 | 1000 | 143  | 0 | 10 P  | 13nt upstream of gene PMM0532;                          |
| 503904 + | TSS_003912 | 1000 | 150  | 0 | 12 I  | within gene(s) PMM0532;                                 |
| 504000 + | TSS_003918 | 1000 | 276  | 0 | 0 I   | within gene(s) PMM0532;                                 |
| 504156 + | TSS_003933 | 1000 | 127  | 0 | 6 I   | within gene(s) PMM0532;                                 |
| 504428 + | TSS_003938 | 1000 | 244  | 0 | 5 P   | 29nt upstream of gene PMM0533;                          |
| 505257 - | TSS_016103 | 1000 | 124  | 0 | 0 Ai  | antisense to gene(s) PMM0533;                           |
| 505261 + | TSS_003942 | 1000 | 495  | 0 | 7 IP  | within gene(s) PMM0533; 240nt upstream of gene PMM0534; |
| 505757 + | TSS_003947 | 1000 | 174  | 0 | 0 I   | within gene(s) PMM0534;                                 |
| 506152 + | TSS_003950 | 1000 | 131  | 0 | 0 I   | within gene(s) PMM0534;                                 |
| 507310 + | TSS_003955 | 1000 | 458  | 0 | 0 P   | 62nt upstream of gene PMM0536;                          |
| 507537 + | TSS_003963 | 1000 | 199  | 0 | 45 I  | within gene(s) PMM0536;                                 |
| 507738 + | TSS_003980 | 1000 | 180  | 0 | 6 I   | within gene(s) PMM0536;                                 |
| 507970 - | TSS_016106 | 1000 | 106  | 0 | 1 Ai  | antisense to gene(s) PMM0536;                           |
| 508770 - | TSS_016108 | 1000 | 132  | 0 | 0 I   | within gene(s) PMM0537;                                 |
| 510847 + | TSS_003987 | 1000 | 554  | 0 | 2 P   | 19nt upstream of gene PMM0540;                          |
| 512559 + | TSS_003996 | 1000 | 180  | 0 | 0 Ai  | antisense to gene(s) PMM0543;                           |
| 512746 - | TSS_016115 | 1000 | 197  | 0 | 13 I  | within gene(s) PMM0543;                                 |
| 512853 + | TSS_003999 | 1000 | 3420 | 0 | 3 Ai  | antisense to gene(s) PMM0543;                           |
| 512911 - | TSS_016128 | 1000 | 284  | 0 | 3 I   | within gene(s) PMM0543;                                 |
| 512922 - | TSS_016131 | 1000 | 101  | 0 | 1 I   | within gene(s) PMM0543;                                 |
| 512932 - | TSS_016133 | 1000 | 162  | 0 | 3 I   | within gene(s) PMM0543;                                 |
| 512959 - | TSS_016136 | 1000 | 1058 | 0 | 9 I   | within gene(s) PMM0543;                                 |
| 513022 - | TSS_016140 | 1000 | 546  | 0 | 5 I   | within gene(s) PMM0543;                                 |
| 513034 - | TSS_016143 | 1000 | 148  | 0 | 0 I   | within gene(s) PMM0543;                                 |
| 513036 + | TSS_004003 | 1000 | 195  | 0 | 1 Ai  | antisense to gene(s) PMM0543;                           |
| 513063 + | TSS_004005 | 1000 | 176  | 0 | 0 Ai  | antisense to gene(s) PMM0543;                           |
| 513094 - | TSS_016147 | 1000 | 119  | 0 | 9 I   | within gene(s) PMM0543;                                 |
| 513118 - | TSS_016152 | 1000 | 195  | 0 | 6 I   | within gene(s) PMM0543;                                 |
| 513169 - | TSS_016159 | 1000 | 197  | 0 | 30 I  | within gene(s) PMM0543;                                 |
| 513340 - | TSS_016180 | 1000 | 148  | 0 | 0 I   | within gene(s) PMM0543;                                 |
| 513385 - | TSS_016182 | 1000 | 9602 | 0 | 5 P   | 24nt upstream of gene PMM0543;                          |
| 513547 + | TSS_004010 | 1000 | 303  | 0 | 0 Ad  | antisense to gene(s) PMM0544 (7nt downstream);          |
| 513696 - | TSS_016189 | 1000 | 125  | 0 | 9 I   | within gene(s) PMM0544;                                 |
| 513757 + | TSS_004016 | 1000 | 142  | 0 | 1 Ai  | antisense to gene(s) PMM0544;                           |
| 513854 - | TSS_016197 | 1000 | 120  | 0 | 7 I   | within gene(s) PMM0544;                                 |
| 513927 - | TSS_016202 | 1000 | 213  | 0 | 4 I   | within gene(s) PMM0544;                                 |
| 514062 - | TSS_016216 | 1000 | 112  | 0 | 9 I   | within gene(s) PMM0544;                                 |
| 514308 - | TSS_016240 | 1000 | 145  | 0 | 9 I   | within gene(s) PMM0544;                                 |
| 514356 - | TSS_016250 | 1000 | 795  | 0 | 15 I  | within gene(s) PMM0544;                                 |
| 514455 - | TSS_016255 | 1000 | 153  | 0 | 5 I   | within gene(s) PMM0544;                                 |
| 514479 - | TSS_016258 | 1000 | 131  | 0 | 9 I   | within gene(s) PMM0544;                                 |
| 514548 - | TSS_016269 | 1000 | 132  | 0 | 22 I  | within gene(s) PMM0544;                                 |
| 514620 - | TSS_016277 | 1000 | 108  | 0 | 6 I   | within gene(s) PMM0544;                                 |
| 514665 - | TSS_016284 | 1000 | 267  | 0 | 12 I  | within gene(s) PMM0544;                                 |
| 514869 - | TSS_016298 | 1000 | 160  | 0 | 9 I   | within gene(s) PMM0544;                                 |
| 514896 - | TSS_016302 | 1000 | 335  | 0 | 24 I  | within gene(s) PMM0544;                                 |
| 514960 + | TSS_004027 | 1000 | 205  | 0 | 0 Ai  | antisense to gene(s) PMM0544;                           |
| 515006 + | TSS_004029 | 1000 | 360  | 0 | 4 Ai  | antisense to gene(s) PMM0544;                           |
| 515091 - | TSS_016319 | 1000 | 541  | 0 | 15 I  | within gene(s) PMM0544;                                 |
| 515115 - | TSS_016324 | 1000 | 286  | 0 | 1 I   | within gene(s) PMM0544;                                 |
| 515154 - | TSS_016327 | 1000 | 468  | 0 | 9 IP  | within gene(s) PMM0545; 21nt upstream of gene PMM0544;  |
| 515174 - | TSS_016331 | 1000 | 218  | 0 | 13 IP | within gene(s) PMM0545; 41nt upstream of gene PMM0544;  |
| 515202 - | TSS_016338 | 1000 | 218  | 0 | 15 IP | within gene(s) PMM0545; 69nt upstream of gene PMM0544;  |
| 515274 - | TSS_016344 | 1000 | 104  | 0 | 3 IP  | within gene(s) PMM0545; 141nt upstream of gene PMM0544; |
| 515289 - | TSS_016346 | 1000 | 109  | 0 | 0 IP  | within gene(s) PMM0545; 156nt upstream of gene PMM0544; |
| 515316 - | TSS_016347 | 1000 | 220  | 0 | 0 IP  | within gene(s) PMM0545; 183nt upstream of gene PMM0544; |
| 515331 - | TSS_016349 | 1000 | 123  | 0 | 9 IP  | within gene(s) PMM0545; 198nt upstream of gene PMM0544; |
| 515349 - | TSS_016352 | 1000 | 630  | 0 | 37 IP | within gene(s) PMM0545; 216nt upstream of gene PMM0544; |

|          |            |      |      |   |       |   |
|----------|------------|------|------|---|-------|---|
| 515412 - | TSS_016371 | 1000 | 224  | 0 | 9 I   | within gene(s) PMM0545;                                 |
| 515454 - | TSS_016377 | 1000 | 218  | 0 | 15 I  | within gene(s) PMM0545;                                 |
| 515461 + | TSS_004038 | 1000 | 136  | 0 | 0 Ai  | antisense to gene(s) PMM0545;                           |
| 515529 - | TSS_016382 | 1000 | 105  | 0 | 0 I   | within gene(s) PMM0545;                                 |
| 515643 - | TSS_016385 | 1000 | 112  | 0 | 15 I  | within gene(s) PMM0545;                                 |
| 515694 - | TSS_016394 | 1000 | 206  | 0 | 6 I   | within gene(s) PMM0545;                                 |
| 515718 - | TSS_016398 | 1000 | 235  | 0 | 3 I   | within gene(s) PMM0545;                                 |
| 515763 - | TSS_016406 | 1000 | 296  | 0 | 21 I  | within gene(s) PMM0545;                                 |
| 515778 - | TSS_016410 | 1000 | 216  | 0 | 3 I   | within gene(s) PMM0545;                                 |
| 515800 + | TSS_004042 | 1000 | 457  | 0 | 1 Ai  | antisense to gene(s) PMM0545;                           |
| 515817 - | TSS_016415 | 1000 | 244  | 0 | 21 I  | within gene(s) PMM0545;                                 |
| 515884 + | TSS_004045 | 1000 | 179  | 0 | 0 Ai  | antisense to gene(s) PMM0545;                           |
| 515916 + | TSS_004046 | 1000 | 270  | 0 | 4 Ai  | antisense to gene(s) PMM0545;                           |
| 515930 + | TSS_004049 | 1000 | 368  | 0 | 0 Ai  | antisense to gene(s) PMM0545;                           |
| 515964 - | TSS_016428 | 1000 | 169  | 0 | 0 I   | within gene(s) PMM0545;                                 |
| 515970 + | TSS_004050 | 1000 | 268  | 0 | 0 Ai  | antisense to gene(s) PMM0545;                           |
| 515985 - | TSS_016431 | 1000 | 146  | 0 | 9 I   | within gene(s) PMM0545;                                 |
| 516012 - | TSS_016439 | 1000 | 198  | 0 | 27 I  | within gene(s) PMM0545;                                 |
| 516030 - | TSS_016442 | 1000 | 103  | 0 | 3 I   | within gene(s) PMM0545;                                 |
| 516048 - | TSS_016445 | 1000 | 452  | 0 | 13 I  | within gene(s) PMM0545;                                 |
| 516078 - | TSS_016451 | 1000 | 156  | 0 | 10 I  | within gene(s) PMM0545;                                 |
| 516105 - | TSS_016456 | 1000 | 406  | 0 | 9 I   | within gene(s) PMM0545;                                 |
| 516144 - | TSS_016460 | 1000 | 233  | 0 | 15 I  | within gene(s) PMM0545;                                 |
| 516192 - | TSS_016468 | 1000 | 1112 | 0 | 6 I   | within gene(s) PMM0545;                                 |
| 516228 - | TSS_016472 | 1000 | 203  | 0 | 4 I   | within gene(s) PMM0545;                                 |
| 516267 - | TSS_016474 | 1000 | 256  | 0 | 0 I   | within gene(s) PMM0545;                                 |
| 516294 - | TSS_016475 | 1000 | 167  | 0 | 0 I   | within gene(s) PMM0545;                                 |
| 516308 - | TSS_016478 | 1000 | 189  | 0 | 9 I   | within gene(s) PMM0545;                                 |
| 516345 - | TSS_016482 | 1000 | 236  | 0 | 3 I   | within gene(s) PMM0545;                                 |
| 516813 - | TSS_016487 | 1000 | 135  | 0 | 2 I   | within gene(s) PMM0546;                                 |
| 516902 - | TSS_016495 | 1000 | 117  | 0 | 9 I   | within gene(s) PMM0546;                                 |
| 518401 - | TSS_016499 | 1000 | 148  | 0 | 1 P   | 18nt upstream of gene PMM0548;                          |
| 518485 - | TSS_016501 | 1000 | 462  | 0 | 0 P   | 102nt upstream of gene PMM0548;                         |
| 518726 + | TSS_004064 | 1000 | 204  | 0 | 0 I   | within gene(s) PMM0549;                                 |
| 518824 + | TSS_004071 | 1000 | 115  | 0 | 0 I   | within gene(s) PMM0549;                                 |
| 518878 + | TSS_004074 | 1000 | 236  | 0 | 9 IP  | within gene(s) PMM0549; 209nt upstream of gene PMM0550; |
| 518917 + | TSS_004083 | 1000 | 347  | 0 | 10 IP | within gene(s) PMM0549; 170nt upstream of gene PMM0550; |
| 518971 + | TSS_004097 | 1000 | 784  | 0 | 43 IP | within gene(s) PMM0549; 116nt upstream of gene PMM0550; |
| 519004 + | TSS_004103 | 1000 | 283  | 0 | 1 IP  | within gene(s) PMM0549; 83nt upstream of gene PMM0550;  |
| 519082 - | TSS_016506 | 1000 | 525  | 0 | 1 O   | -   |
| 519114 + | TSS_004106 | 1000 | 126  | 0 | 8 I   | within gene(s) PMM0550;                                 |
| 519198 + | TSS_004113 | 1000 | 164  | 0 | 15 I  | within gene(s) PMM0550;                                 |
| 519216 + | TSS_004117 | 1000 | 943  | 0 | 19 I  | within gene(s) PMM0550;                                 |
| 519246 + | TSS_004125 | 1000 | 301  | 0 | 0 I   | within gene(s) PMM0550;                                 |
| 519258 + | TSS_004126 | 1000 | 211  | 0 | 0 I   | within gene(s) PMM0550;                                 |
| 519354 + | TSS_004129 | 1000 | 262  | 0 | 1 I   | within gene(s) PMM0550;                                 |
| 519381 + | TSS_004131 | 1000 | 236  | 0 | 0 I   | within gene(s) PMM0550;                                 |
| 519402 + | TSS_004134 | 1000 | 176  | 0 | 2 I   | within gene(s) PMM0550;                                 |
| 519459 + | TSS_004139 | 1000 | 210  | 0 | 4 I   | within gene(s) PMM0550;                                 |
| 519513 + | TSS_004149 | 1000 | 795  | 0 | 15 I  | within gene(s) PMM0550;                                 |
| 519545 - | TSS_016512 | 1000 | 130  | 0 | 0 Ai  | antisense to gene(s) PMM0550;                           |
| 519562 + | TSS_004154 | 1000 | 190  | 0 | 12 I  | within gene(s) PMM0550;                                 |
| 519579 + | TSS_004157 | 1000 | 514  | 0 | 3 I   | within gene(s) PMM0550;                                 |
| 519588 + | TSS_004158 | 1000 | 636  | 0 | 0 I   | within gene(s) PMM0550;                                 |
| 519602 - | TSS_016514 | 1000 | 131  | 0 | 0 Ai  | antisense to gene(s) PMM0550;                           |
| 519603 + | TSS_004159 | 1000 | 403  | 0 | 5 I   | within gene(s) PMM0550;                                 |
| 519669 + | TSS_004167 | 1000 | 570  | 0 | 23 I  | within gene(s) PMM0550;                                 |
| 519693 - | TSS_016515 | 1000 | 145  | 0 | 0 Ai  | antisense to gene(s) PMM0550;                           |
| 519837 + | TSS_004174 | 1000 | 122  | 0 | 21 I  | within gene(s) PMM0550;                                 |
| 519874 + | TSS_004180 | 1000 | 137  | 0 | 0 I   | within gene(s) PMM0550;                                 |
| 519993 + | TSS_004189 | 1000 | 2383 | 0 | 19 I  | within gene(s) PMM0550;                                 |
| 520013 - | TSS_016518 | 1000 | 143  | 0 | 1 Ai  | antisense to gene(s) PMM0550;                           |
| 520043 - | TSS_016520 | 1000 | 196  | 0 | 0 Ai  | antisense to gene(s) PMM0550;                           |
| 520056 - | TSS_016521 | 1000 | 392  | 0 | 0 Ai  | antisense to gene(s) PMM0550;                           |
| 520155 + | TSS_004196 | 1000 | 281  | 0 | 9 I   | within gene(s) PMM0550;                                 |
| 520175 - | TSS_016522 | 1000 | 466  | 0 | 0 Ai  | antisense to gene(s) PMM0550;                           |
| 520182 + | TSS_004197 | 1000 | 247  | 0 | 0 I   | within gene(s) PMM0550;                                 |
| 520216 + | TSS_004200 | 1000 | 167  | 0 | 4 I   | within gene(s) PMM0550;                                 |
| 520224 + | TSS_004201 | 1000 | 1236 | 0 | 1 I   | within gene(s) PMM0550;                                 |
| 520239 + | TSS_004203 | 1000 | 261  | 0 | 6 I   | within gene(s) PMM0550;                                 |
| 520278 + | TSS_004207 | 1000 | 226  | 0 | 7 I   | within gene(s) PMM0550;                                 |
| 520352 - | TSS_016523 | 1000 | 185  | 0 | 12 Ai | antisense to gene(s) PMM0550;                           |
| 520384 - | TSS_016528 | 1000 | 468  | 0 | 0 Ai  | antisense to gene(s) PMM0550;                           |
| 520485 + | TSS_004219 | 1000 | 194  | 0 | 0 IP  | within gene(s) PMM0550; 107nt upstream of gene PMM0551; |
| 520703 + | TSS_004232 | 1000 | 117  | 0 | 3 I   | within gene(s) PMM0551;                                 |
| 521513 + | TSS_004239 | 1000 | 216  | 0 | 6 I   | within gene(s) PMM0552;                                 |
| 521558 + | TSS_004245 | 1000 | 119  | 0 | 12 I  | within gene(s) PMM0552;                                 |
| 521579 + | TSS_004249 | 1000 | 184  | 0 | 0 I   | within gene(s) PMM0552;                                 |
| 521588 + | TSS_004250 | 1000 | 101  | 0 | 0 I   | within gene(s) PMM0552;                                 |

|          |            |      |      |   |       |   |
|----------|------------|------|------|---|-------|---|
| 521628 + | TSS_004253 | 1000 | 109  | 0 | 0 I   | within gene(s) PMM0552;                                 |
| 521779 - | TSS_016542 | 1000 | 262  | 0 | 0 Ai  | antisense to gene(s) PMM0552;                           |
| 521930 + | TSS_004274 | 1000 | 105  | 0 | 0 I   | within gene(s) PMM0552;                                 |
| 521945 - | TSS_016544 | 1000 | 103  | 0 | 0 Ai  | antisense to gene(s) PMM0552;                           |
| 521962 - | TSS_016547 | 1000 | 444  | 0 | 4 Ai  | antisense to gene(s) PMM0552;                           |
| 521966 + | TSS_004277 | 1000 | 137  | 0 | 6 I   | within gene(s) PMM0552;                                 |
| 521993 + | TSS_004282 | 1000 | 277  | 0 | 9 I   | within gene(s) PMM0552;                                 |
| 522030 + | TSS_004286 | 1000 | 137  | 0 | 1 I   | within gene(s) PMM0552;                                 |
| 522065 + | TSS_004290 | 1000 | 111  | 0 | 15 I  | within gene(s) PMM0552;                                 |
| 522119 + | TSS_004299 | 1000 | 273  | 0 | 6 I   | within gene(s) PMM0552;                                 |
| 522140 + | TSS_004302 | 1000 | 229  | 0 | 16 I  | within gene(s) PMM0552;                                 |
| 522292 - | TSS_016555 | 1000 | 314  | 0 | 0 Ai  | antisense to gene(s) PMM0552;                           |
| 522328 - | TSS_016556 | 1000 | 172  | 0 | 1 Ai  | antisense to gene(s) PMM0552;                           |
| 522365 + | TSS_004320 | 1000 | 138  | 0 | 9 I   | within gene(s) PMM0552;                                 |
| 522474 - | TSS_016558 | 1000 | 128  | 0 | 0 Ai  | antisense to gene(s) PMM0552;                           |
| 522506 + | TSS_004335 | 1000 | 179  | 0 | 18 I  | within gene(s) PMM0552;                                 |
| 522611 + | TSS_004340 | 1000 | 115  | 0 | 1 I   | within gene(s) PMM0552;                                 |
| 522626 + | TSS_004343 | 1000 | 187  | 0 | 3 I   | within gene(s) PMM0552;                                 |
| 522659 + | TSS_004345 | 1000 | 159  | 0 | 6 I   | within gene(s) PMM0552;                                 |
| 522690 + | TSS_004349 | 1000 | 166  | 0 | 1 I   | within gene(s) PMM0552;                                 |
| 523106 - | TSS_016565 | 1000 | 488  | 0 | 11 Ai | antisense to gene(s) PMM0552;                           |
| 523135 - | TSS_016568 | 1000 | 321  | 0 | 0 Ai  | antisense to gene(s) PMM0552;                           |
| 523142 - | TSS_016569 | 1000 | 149  | 0 | 2 Ai  | antisense to gene(s) PMM0552;                           |
| 523163 - | TSS_016571 | 1000 | 485  | 0 | 0 Ai  | antisense to gene(s) PMM0552;                           |
| 523173 - | TSS_016573 | 1000 | 750  | 0 | 4 Ai  | antisense to gene(s) PMM0552;                           |
| 524269 - | TSS_016582 | 1000 | 121  | 0 | 0 Ai  | antisense to gene(s) PMM0553;                           |
| 524632 - | TSS_016585 | 1000 | 3311 | 0 | 2 Ai  | antisense to gene(s) PMM0553;                           |
| 524671 + | TSS_004398 | 1000 | 165  | 0 | 0 IP  | within gene(s) PMM0553; 191nt upstream of gene PMM0554; |
| 524738 + | TSS_004401 | 1000 | 201  | 0 | 0 IP  | within gene(s) PMM0553; 124nt upstream of gene PMM0554; |
| 524791 + | TSS_004403 | 1000 | 1207 | 0 | 1 IP  | within gene(s) PMM0553; 71nt upstream of gene PMM0554;  |
| 525973 - | TSS_016593 | 1000 | 4448 | 0 | 4 P   | 18nt upstream of gene PMM0557;                          |
| 526448 - | TSS_016600 | 1000 | 1231 | 0 | 4 P   | 15nt upstream of gene PMM0558;                          |
| 527220 + | TSS_004421 | 1000 | 1521 | 0 | 0 P   | 22nt upstream of gene PMM0560;                          |
| 527254 + | TSS_004422 | 1000 | 538  | 0 | 6 I   | within gene(s) PMM0560;                                 |
| 529035 + | TSS_004436 | 1000 | 185  | 0 | 4 I   | within gene(s) PMM0561;                                 |
| 529358 + | TSS_004440 | 1000 | 217  | 0 | 9 I   | within gene(s) PMM0561;                                 |
| 531559 - | TSS_016614 | 1000 | 118  | 0 | 0 P   | 40nt upstream of gene PMM0564;                          |
| 531701 + | TSS_004455 | 1000 | 301  | 0 | 4 P   | 15nt upstream of gene PMM0565;                          |
| 532356 - | TSS_016617 | 1000 | 307  | 0 | 1 Ai  | antisense to gene(s) PMM0565;                           |
| 532769 + | TSS_004463 | 1000 | 114  | 0 | 3 I   | within gene(s) PMM0565;                                 |
| 534371 + | TSS_004467 | 1000 | 229  | 0 | 7 P   | 6nt upstream of gene PMM0567;                           |
| 538166 + | TSS_004476 | 1000 | 743  | 0 | 2 P   | 179nt upstream of gene PMM0570;                         |
| 539865 + | TSS_004481 | 1000 | 333  | 0 | 0 Ad  | antisense to gene(s) PMM0573 (15nt downstream);         |
| 539992 + | TSS_004483 | 1000 | 931  | 0 | 0 Ai  | antisense to gene(s) PMM0573;                           |
| 540074 + | TSS_004487 | 1000 | 127  | 0 | 8 Ai  | antisense to gene(s) PMM0573;                           |
| 540155 - | TSS_016636 | 1000 | 305  | 0 | 1 P   | 1nt upstream of gene PMM0573;                           |
| 540186 - | TSS_016640 | 1000 | 221  | 0 | 9 P   | 32nt upstream of gene PMM0573;                          |
| 540220 - | TSS_016647 | 1000 | 183  | 0 | 12 P  | 66nt upstream of gene PMM0573;                          |
| 540317 - | TSS_016649 | 1000 | 211  | 0 | 0 P   | 163nt upstream of gene PMM0573;                         |
| 541550 + | TSS_004494 | 1000 | 213  | 0 | 0 Ai  | antisense to gene(s) PMM0577;                           |
| 541837 - | TSS_016665 | 1000 | 313  | 0 | 6 I   | within gene(s) PMM0577;                                 |
| 542147 - | TSS_016682 | 1000 | 2965 | 0 | 6 I   | within gene(s) PMM0577;                                 |
| 542296 - | TSS_016691 | 1000 | 174  | 0 | 1 I   | within gene(s) PMM0577;                                 |
| 542434 - | TSS_016694 | 1000 | 106  | 0 | 1 P   | 0nt upstream of gene PMM0577;                           |
| 543050 + | TSS_004501 | 1000 | 112  | 0 | 0 Ai  | antisense to gene(s) PMM0578;                           |
| 543260 + | TSS_004503 | 1000 | 297  | 0 | 2 P   | 50nt upstream of gene PMM0579;                          |
| 543284 - | TSS_016706 | 1000 | 630  | 0 | 4 P   | 38nt upstream of gene PMM0578;                          |
| 546045 - | TSS_016715 | 1000 | 1774 | 0 | 1 I   | within gene(s) PMM0580;                                 |
| 546519 + | TSS_004514 | 1000 | 129  | 0 | 0 Ai  | antisense to gene(s) PMM0581;                           |
| 546530 + | TSS_004516 | 1000 | 1329 | 0 | 2 Ai  | antisense to gene(s) PMM0581;                           |
| 546549 + | TSS_004518 | 1000 | 129  | 0 | 0 Ai  | antisense to gene(s) PMM0581;                           |
| 546713 - | TSS_016728 | 1000 | 169  | 0 | 39 I  | within gene(s) PMM0581;                                 |
| 546779 - | TSS_016741 | 1000 | 497  | 0 | 12 I  | within gene(s) PMM0581;                                 |
| 546808 - | TSS_016750 | 1000 | 203  | 0 | 18 I  | within gene(s) PMM0581;                                 |
| 546819 - | TSS_016752 | 1000 | 374  | 0 | 5 I   | within gene(s) PMM0581;                                 |
| 548375 - | TSS_016777 | 1000 | 101  | 0 | 0 I   | within gene(s) PMM0583;                                 |
| 548771 - | TSS_016788 | 1000 | 131  | 0 | 3 I   | within gene(s) PMM0583;                                 |
| 548961 - | TSS_016799 | 1000 | 2954 | 0 | 2 P   | 43nt upstream of gene PMM0583;                          |
| 550115 + | TSS_004533 | 1000 | 163  | 0 | 0 Ai  | antisense to gene(s) PMM0584;                           |
| 551319 - | TSS_016819 | 1000 | 362  | 0 | 2 P   | 13nt upstream of gene PMM0584;                          |
| 561219 - | TSS_016844 | 1000 | 223  | 0 | 6 I   | within gene(s) PMM0593;                                 |
| 562701 + | TSS_004552 | 1000 | 288  | 0 | 0 Ai  | antisense to gene(s) PMM0594;                           |
| 562722 + | TSS_004554 | 1000 | 104  | 0 | 6 Ai  | antisense to gene(s) PMM0594;                           |
| 563071 - | TSS_016879 | 1000 | 104  | 0 | 1 I   | within gene(s) PMM0594;                                 |
| 563080 - | TSS_016880 | 1000 | 137  | 0 | 0 I   | within gene(s) PMM0594;                                 |
| 563864 - | TSS_016891 | 1000 | 134  | 0 | 2 I   | within gene(s) PMM0594;                                 |
| 564355 + | TSS_004563 | 1000 | 144  | 0 | 1 Ai  | antisense to gene(s) PMM0595;                           |
| 564712 - | TSS_016901 | 1000 | 117  | 0 | 9 I   | within gene(s) PMM0595;                                 |
| 564862 - | TSS_016905 | 1000 | 117  | 0 | 0 I   | within gene(s) PMM0595;                                 |



|          |            |      |      |   |       |   |
|----------|------------|------|------|---|-------|---|
| 565234 - | TSS_016908 | 1000 | 146  | 0 | 4 IP  | within gene(s) PMM0596; 90nt upstream of gene PMM0595;  |
| 565420 - | TSS_016911 | 1000 | 947  | 0 | 1 I   | within gene(s) PMM0596;                                 |
| 569418 - | TSS_016928 | 1000 | 134  | 0 | 7 I   | within gene(s) PMM0599;                                 |
| 569475 - | TSS_016934 | 1000 | 113  | 0 | 6 I   | within gene(s) PMM0599;                                 |
| 569600 - | TSS_016938 | 1000 | 965  | 0 | 8 P   | 20nt upstream of gene PMM0599;                          |
| 570717 + | TSS_004588 | 1000 | 196  | 0 | 6 I   | within gene(s) PMM0600;                                 |
| 571704 + | TSS_004596 | 1000 | 107  | 0 | 2 I   | within gene(s) PMM0601;                                 |
| 573409 + | TSS_004610 | 1000 | 115  | 0 | 0 I   | within gene(s) PMM0603;                                 |
| 573526 - | TSS_016952 | 1000 | 587  | 0 | 1 Ai  | antisense to gene(s) PMM0603;                           |
| 574977 + | TSS_004617 | 1000 | 210  | 0 | 1 Ai  | antisense to gene(s) PMM0605;                           |
| 575199 - | TSS_016959 | 1000 | 1743 | 0 | 1 P   | 16nt upstream of gene PMM0605;                          |
| 577744 + | TSS_004624 | 1000 | 127  | 0 | 0 I   | within gene(s) PMM0608;                                 |
| 578017 - | TSS_016965 | 1000 | 216  | 0 | 0 Ai  | antisense to gene(s) PMM0608;                           |
| 578318 + | TSS_004631 | 1000 | 726  | 0 | 2 IP  | within gene(s) PMM0608; 247nt upstream of gene PMM0609; |
| 579495 + | TSS_004642 | 1000 | 269  | 0 | 0 I   | within gene(s) PMM0609;                                 |
| 582602 - | TSS_016978 | 1000 | 424  | 0 | 3 I   | within gene(s) PMM0611;                                 |
| 582767 - | TSS_016981 | 1000 | 104  | 0 | 5 P   | 17nt upstream of gene PMM0611;                          |
| 584058 - | TSS_016987 | 1000 | 140  | 0 | 2 I   | within gene(s) PMM0613;                                 |
| 585123 + | TSS_004661 | 1000 | 1375 | 0 | 6 P   | 120nt upstream of gene PMM0614;                         |
| 585737 + | TSS_004665 | 1000 | 536  | 0 | 1 IP  | within gene(s) PMM0614; 160nt upstream of gene PMM0615; |
| 585797 + | TSS_004667 | 1000 | 331  | 0 | 4 IP  | within gene(s) PMM0614; 100nt upstream of gene PMM0615; |
| 586359 + | TSS_004675 | 1000 | 162  | 0 | 3 I   | within gene(s) PMM0615;                                 |
| 587070 - | TSS_016994 | 1000 | 193  | 0 | 0 Ai  | antisense to gene(s) PMM0616;                           |
| 588622 + | TSS_004680 | 1000 | 1026 | 0 | 2 P   | 9nt upstream of gene PMM0618;                           |
| 588874 + | TSS_004682 | 1000 | 226  | 0 | 1 I   | within gene(s) PMM0618;                                 |
| 589671 + | TSS_004687 | 1000 | 141  | 0 | 0 P   | 29nt upstream of gene PMM0619;                          |
| 590069 + | TSS_004693 | 1000 | 307  | 0 | 12 I  | within gene(s) PMM0619;                                 |
| 590180 + | TSS_004706 | 1000 | 375  | 0 | 40 I  | within gene(s) PMM0619;                                 |
| 590216 + | TSS_004714 | 1000 | 425  | 0 | 0 I   | within gene(s) PMM0619;                                 |
| 590314 - | TSS_016999 | 1000 | 246  | 0 | 1 Ai  | antisense to gene(s) PMM0619;                           |
| 590488 - | TSS_017002 | 1000 | 116  | 0 | 0 Ai  | antisense to gene(s) PMM0619;                           |
| 590670 - | TSS_017003 | 1000 | 1429 | 0 | 3 Ai  | antisense to gene(s) PMM0619;                           |
| 590828 + | TSS_004731 | 1000 | 116  | 0 | 0 I   | within gene(s) PMM0619;                                 |
| 591023 + | TSS_004751 | 1000 | 467  | 0 | 19 I  | within gene(s) PMM0619;                                 |
| 591039 + | TSS_004755 | 1000 | 118  | 0 | 12 I  | within gene(s) PMM0619;                                 |
| 591055 - | TSS_017007 | 1000 | 597  | 0 | 0 Ai  | antisense to gene(s) PMM0619;                           |
| 591103 - | TSS_017008 | 1000 | 143  | 0 | 0 Ai  | antisense to gene(s) PMM0619;                           |
| 591311 + | TSS_004771 | 1000 | 111  | 0 | 0 I   | within gene(s) PMM0619;                                 |
| 593663 - | TSS_017024 | 1000 | 145  | 0 | 0 I   | within gene(s) PMM0622;                                 |
| 593808 - | TSS_017026 | 1000 | 704  | 0 | 1 P   | 16nt upstream of gene PMM0622;                          |
| 594678 + | TSS_004781 | 1000 | 155  | 0 | 2 I   | within gene(s) PMM0623;                                 |
| 595886 + | TSS_004785 | 1000 | 109  | 0 | 1 P   | 18nt upstream of gene PMM0626;                          |
| 596385 - | TSS_017034 | 1000 | 971  | 0 | 1 O   | -   |
| 597035 - | TSS_017037 | 1000 | 4954 | 0 | 2 Ai  | antisense to gene(s) PMM0627;                           |
| 597084 - | TSS_017039 | 1000 | 134  | 0 | 0 Ai  | antisense to gene(s) PMM0627;                           |
| 597087 + | TSS_004789 | 1000 | 1155 | 0 | 12 I  | within gene(s) PMM0627;                                 |
| 597111 + | TSS_004792 | 1000 | 635  | 0 | 0 I   | within gene(s) PMM0627;                                 |
| 597120 + | TSS_004793 | 1000 | 1575 | 0 | 4 I   | within gene(s) PMM0627;                                 |
| 597162 + | TSS_004802 | 1000 | 2440 | 0 | 34 I  | within gene(s) PMM0627;                                 |
| 597165 - | TSS_017040 | 1000 | 2739 | 0 | 0 Ai  | antisense to gene(s) PMM0627;                           |
| 597182 - | TSS_017041 | 1000 | 128  | 0 | 0 Ai  | antisense to gene(s) PMM0627;                           |
| 597189 + | TSS_004809 | 1000 | 1932 | 0 | 3 I   | within gene(s) PMM0627;                                 |
| 597198 + | TSS_004810 | 1000 | 1041 | 0 | 0 I   | within gene(s) PMM0627;                                 |
| 597249 - | TSS_017043 | 1000 | 112  | 0 | 0 Ai  | antisense to gene(s) PMM0627;                           |
| 597255 + | TSS_004828 | 1000 | 2444 | 0 | 51 I  | within gene(s) PMM0627;                                 |
| 597291 + | TSS_004833 | 1000 | 1178 | 0 | 18 I  | within gene(s) PMM0627;                                 |
| 597318 + | TSS_004836 | 1000 | 499  | 0 | 0 I   | within gene(s) PMM0627;                                 |
| 597430 - | TSS_017047 | 1000 | 230  | 0 | 4 Ai  | antisense to gene(s) PMM0627;                           |
| 600230 + | TSS_004848 | 1000 | 424  | 0 | 0 P   | 26nt upstream of gene PMM0631;                          |
| 602377 - | TSS_017057 | 1000 | 241  | 0 | 0 I   | within gene(s) PMM0633;                                 |
| 602756 - | TSS_017058 | 1000 | 109  | 0 | 0 I   | within gene(s) PMM0633;                                 |
| 602896 - | TSS_017063 | 1000 | 500  | 0 | 5 P   | 98nt upstream of gene PMM0633;                          |
| 605794 + | TSS_004856 | 1000 | 158  | 0 | 6 P   | 19nt upstream of gene PMM0637;                          |
| 609209 - | TSS_017089 | 1000 | 488  | 0 | 0 Ai  | antisense to gene(s) PMM0640;                           |
| 609497 + | TSS_004864 | 1000 | 132  | 0 | 0 I   | within gene(s) PMM0640;                                 |
| 610210 + | TSS_004870 | 1000 | 2978 | 0 | 7 P   | 16nt upstream of gene PMM0641;                          |
| 610941 + | TSS_004876 | 1000 | 7037 | 0 | 3 P   | 17nt upstream of gene PMM0642;                          |
| 611411 + | TSS_004908 | 1000 | 643  | 0 | 30 I  | within gene(s) PMM0642;                                 |
| 611447 + | TSS_004914 | 1000 | 260  | 0 | 0 I   | within gene(s) PMM0642;                                 |
| 611474 + | TSS_004915 | 1000 | 244  | 0 | 3 I   | within gene(s) PMM0642;                                 |
| 611513 + | TSS_004918 | 1000 | 311  | 0 | 1 I   | within gene(s) PMM0642;                                 |
| 611588 + | TSS_004923 | 1000 | 107  | 0 | 0 I   | within gene(s) PMM0642;                                 |
| 611626 - | TSS_017094 | 1000 | 727  | 0 | 10 Ai | antisense to gene(s) PMM0642;                           |
| 611674 - | TSS_017098 | 1000 | 424  | 0 | 0 Ai  | antisense to gene(s) PMM0642;                           |
| 611699 - | TSS_017099 | 1000 | 346  | 0 | 4 Ai  | antisense to gene(s) PMM0642;                           |
| 611855 + | TSS_004954 | 1000 | 219  | 0 | 9 I   | within gene(s) PMM0642;                                 |
| 611880 + | TSS_004956 | 1000 | 110  | 0 | 1 I   | within gene(s) PMM0642;                                 |
| 611903 + | TSS_004959 | 1000 | 149  | 0 | 16 I  | within gene(s) PMM0642;                                 |
| 612008 + | TSS_004968 | 1000 | 228  | 0 | 9 I   | within gene(s) PMM0642;                                 |

|          |            |      |       |   |    |    |   |
|----------|------------|------|-------|---|----|----|---|
| 612040 - | TSS_017104 | 1000 | 160   | 0 | 0  | Ai | antisense to gene(s) PMM0642;                           |
| 612065 + | TSS_004979 | 1000 | 109   | 0 | 3  | IP | within gene(s) PMM0642; 236nt upstream of gene PMM0643; |
| 612104 + | TSS_004986 | 1000 | 190   | 0 | 24 | IP | within gene(s) PMM0642; 197nt upstream of gene PMM0643; |
| 614001 - | TSS_017120 | 1000 | 109   | 0 | 1  | I  | within gene(s) PMM0644;                                 |
| 614082 - | TSS_017123 | 1000 | 278   | 0 | 7  | I  | within gene(s) PMM0644;                                 |
| 614781 - | TSS_017134 | 1000 | 313   | 0 | 2  | P  | 15nt upstream of gene PMM0644;                          |
| 617157 - | TSS_017143 | 1000 | 6978  | 0 | 9  | Ai | antisense to gene(s) PMM0646;                           |
| 618720 + | TSS_005009 | 1000 | 242   | 0 | 8  | Ai | antisense to gene(s) PMM0648;                           |
| 619598 + | TSS_005011 | 1000 | 192   | 0 | 1  | P  | 18nt upstream of gene PMM0649;                          |
| 620989 - | TSS_017156 | 1000 | 2374  | 0 | 5  | P  | 13nt upstream of gene PMM0651;                          |
| 621700 - | TSS_017160 | 1000 | 256   | 0 | 0  | P  | 156nt upstream of gene PMM0652;                         |
| 624033 - | TSS_017166 | 1000 | 187   | 0 | 5  | O  | -   |
| 624976 + | TSS_005022 | 1000 | 226   | 0 | 2  | I  | within gene(s) PMM0658;                                 |
| 626301 + | TSS_005026 | 1000 | 364   | 0 | 0  | I  | within gene(s) PMM0659;                                 |
| 627045 - | TSS_017175 | 1000 | 1291  | 0 | 7  | O  | -   |
| 627516 + | TSS_005030 | 1000 | 155   | 0 | 0  | O  | -   |
| 627971 - | TSS_017179 | 1000 | 12326 | 0 | 3  | O  | -   |
| 628169 + | TSS_005033 | 1000 | 2374  | 0 | 2  | O  | -   |
| 628451 - | TSS_017189 | 1000 | 105   | 0 | 9  | I  | within gene(s) PMM0660;                                 |
| 628505 - | TSS_017195 | 1000 | 230   | 0 | 6  | I  | within gene(s) PMM0660;                                 |
| 628656 - | TSS_017199 | 1000 | 421   | 0 | 0  | P  | 10nt upstream of gene PMM0660;                          |
| 629265 - | TSS_017220 | 1000 | 106   | 0 | 7  | I  | within gene(s) PMM0661;                                 |
| 629355 - | TSS_017224 | 1000 | 120   | 0 | 1  | I  | within gene(s) PMM0661;                                 |
| 629366 - | TSS_017226 | 1000 | 129   | 0 | 4  | I  | within gene(s) PMM0661;                                 |
| 629577 - | TSS_017238 | 1000 | 171   | 0 | 12 | I  | within gene(s) PMM0661;                                 |
| 629618 - | TSS_017242 | 1000 | 201   | 0 | 3  | I  | within gene(s) PMM0661;                                 |
| 629637 - | TSS_017246 | 1000 | 227   | 0 | 15 | I  | within gene(s) PMM0661;                                 |
| 629655 - | TSS_017250 | 1000 | 123   | 0 | 8  | I  | within gene(s) PMM0661;                                 |
| 629664 + | TSS_005044 | 1000 | 170   | 0 | 9  | Ai | antisense to gene(s) PMM0661;                           |
| 630039 - | TSS_017281 | 1000 | 127   | 0 | 9  | I  | within gene(s) PMM0661;                                 |
| 630075 - | TSS_017285 | 1000 | 309   | 0 | 3  | I  | within gene(s) PMM0661;                                 |
| 630111 - | TSS_017287 | 1000 | 120   | 0 | 0  | I  | within gene(s) PMM0661;                                 |
| 630158 + | TSS_005056 | 1000 | 180   | 0 | 7  | Ai | antisense to gene(s) PMM0661;                           |
| 630201 - | TSS_017296 | 1000 | 176   | 0 | 7  | I  | within gene(s) PMM0661;                                 |
| 630210 - | TSS_017298 | 1000 | 145   | 0 | 6  | I  | within gene(s) PMM0661;                                 |
| 630270 - | TSS_017308 | 1000 | 132   | 0 | 11 | I  | within gene(s) PMM0661;                                 |
| 630363 - | TSS_017323 | 1000 | 348   | 0 | 24 | I  | within gene(s) PMM0661;                                 |
| 630390 - | TSS_017328 | 1000 | 105   | 0 | 3  | I  | within gene(s) PMM0661;                                 |
| 630465 - | TSS_017336 | 1000 | 292   | 0 | 6  | I  | within gene(s) PMM0661;                                 |
| 630554 + | TSS_005061 | 1000 | 172   | 0 | 0  | Ai | antisense to gene(s) PMM0661;                           |
| 630684 - | TSS_017348 | 1000 | 211   | 0 | 18 | I  | within gene(s) PMM0661;                                 |
| 630807 - | TSS_017356 | 1000 | 169   | 0 | 21 | I  | within gene(s) PMM0661;                                 |
| 631086 - | TSS_017372 | 1000 | 1344  | 0 | 0  | I  | within gene(s) PMM0661;                                 |
| 631116 - | TSS_017374 | 1000 | 5069  | 0 | 1  | I  | within gene(s) PMM0661;                                 |
| 631165 + | TSS_005067 | 1000 | 151   | 0 | 0  | P  | 27nt upstream of gene PMM0662;                          |
| 633583 + | TSS_005079 | 1000 | 450   | 0 | 1  | P  | 23nt upstream of gene PMM0664;                          |
| 633593 + | TSS_005080 | 1000 | 110   | 0 | 0  | P  | 13nt upstream of gene PMM0664;                          |
| 635224 - | TSS_017386 | 1000 | 190   | 0 | 0  | IP | within gene(s) PMM0666; 40nt upstream of gene PMM0665;  |
| 635265 - | TSS_017387 | 1000 | 170   | 0 | 0  | IP | within gene(s) PMM0666; 81nt upstream of gene PMM0665;  |
| 638295 + | TSS_005094 | 1000 | 225   | 0 | 1  | Ai | antisense to gene(s) PMM0670;                           |
| 638760 - | TSS_017397 | 1000 | 126   | 0 | 3  | IP | within gene(s) PMM0671; 217nt upstream of gene PMM0670; |
| 643136 + | TSS_005099 | 1000 | 170   | 0 | 2  | P  | 21nt upstream of gene PMM0675;                          |
| 643669 + | TSS_005100 | 1000 | 328   | 0 | 0  | P  | 25nt upstream of gene PMM0676;                          |
| 644589 + | TSS_005112 | 1000 | 147   | 0 | 3  | I  | within gene(s) PMM0676;                                 |
| 644684 + | TSS_005115 | 1000 | 116   | 0 | 1  | I  | within gene(s) PMM0676;                                 |
| 644903 - | TSS_017410 | 1000 | 122   | 0 | 2  | Ai | antisense to gene(s) PMM0676;                           |
| 644914 - | TSS_017412 | 1000 | 711   | 0 | 0  | Ad | antisense to gene(s) PMM0676 (4nt downstream);          |
| 647282 - | TSS_017416 | 1000 | 1813  | 0 | 2  | P  | 69nt upstream of gene PMM0678;                          |
| 649461 + | TSS_005130 | 1000 | 142   | 0 | 6  | I  | within gene(s) PMM0681;                                 |
| 651413 + | TSS_005134 | 1000 | 267   | 0 | 0  | I  | within gene(s) PMM0683;                                 |
| 652626 + | TSS_005137 | 1000 | 1641  | 0 | 0  | O  | -   |
| 652951 + | TSS_005140 | 1000 | 185   | 0 | 4  | I  | within gene(s) PMM0684;                                 |
| 653026 + | TSS_005146 | 1000 | 143   | 0 | 0  | I  | within gene(s) PMM0684;                                 |
| 653294 + | TSS_005154 | 1000 | 137   | 0 | 9  | P  | 83nt upstream of gene PMM0685;                          |
| 653400 - | TSS_017433 | 1000 | 626   | 0 | 1  | Ai | antisense to gene(s) PMM0685;                           |
| 653980 - | TSS_017439 | 1000 | 14157 | 0 | 2  | O  | -   |
| 655603 - | TSS_017444 | 1000 | 2100  | 0 | 2  | I  | within gene(s) PMM0687;                                 |
| 655934 - | TSS_017447 | 1000 | 2080  | 0 | 1  | O  | -   |
| 656634 - | TSS_017452 | 1000 | 101   | 0 | 2  | P  | 42nt upstream of gene PMM0688;                          |
| 656661 - | TSS_017455 | 1000 | 108   | 0 | 0  | P  | 69nt upstream of gene PMM0688;                          |
| 656679 - | TSS_017457 | 1000 | 427   | 0 | 0  | P  | 87nt upstream of gene PMM0688;                          |
| 656913 - | TSS_017458 | 1000 | 122   | 0 | 12 | O  | -   |
| 656940 - | TSS_017462 | 1000 | 151   | 0 | 2  | O  | -   |
| 657528 - | TSS_017467 | 1000 | 1763  | 0 | 4  | O  | -   |
| 657710 + | TSS_005164 | 1000 | 143   | 0 | 2  | O  | -   |
| 657998 + | TSS_005168 | 1000 | 187   | 0 | 4  | O  | -   |
| 659043 - | TSS_017475 | 1000 | 1276  | 0 | 3  | P  | 15nt upstream of gene PMM0690;                          |
| 659754 + | TSS_005173 | 1000 | 900   | 0 | 1  | Ad | antisense to gene(s) PMM0691 (2nt downstream);          |
| 660094 - | TSS_017481 | 1000 | 248   | 0 | 4  | P  | 133nt upstream of gene PMM0691;                         |

|          |            |      |       |   |       |  |
|----------|------------|------|-------|---|-------|--|
| 660419 - | TSS_017484 | 1000 | 270   | 0 | 6 P   | 22nt upstream of gene PMM0692;                               |
| 661103 - | TSS_017487 | 1000 | 126   | 0 | 2 I   | within gene(s) PMM0693;                                      |
| 661983 + | TSS_005183 | 1000 | 205   | 0 | 2 O   | -  |
| 663678 - | TSS_017493 | 1000 | 374   | 0 | 7 P   | 16nt upstream of gene PMM0697;                               |
| 664058 - | TSS_017496 | 1000 | 110   | 0 | 0 I   | within gene(s) PMM0698;                                      |
| 665165 + | TSS_005193 | 1000 | 1780  | 0 | 4 P   | 16nt upstream of gene PMM0699;                               |
| 667292 + | TSS_005197 | 1000 | 210   | 0 | 2 P   | 14nt upstream of gene PMM0703;                               |
| 668059 + | TSS_005202 | 1000 | 362   | 0 | 2 I   | within gene(s) PMM0704;                                      |
| 669388 + | TSS_005206 | 1000 | 150   | 0 | 0 P   | 12nt upstream of gene PMM0705;                               |
| 671615 - | TSS_017508 | 1000 | 140   | 0 | 0 I   | within gene(s) PMM0707;                                      |
| 674151 + | TSS_005222 | 1000 | 1011  | 0 | 0 Ai  | antisense to gene(s) PMM0709;                                |
| 674830 - | TSS_017525 | 1000 | 353   | 0 | 1 I   | within gene(s) PMM0709;                                      |
| 674981 + | TSS_005227 | 1000 | 140   | 0 | 0 Ai  | antisense to gene(s) PMM0709;                                |
| 675828 + | TSS_005232 | 1000 | 16597 | 0 | 6 P   | 26nt upstream of gene PMM0710;                               |
| 675938 + | TSS_005239 | 1000 | 194   | 0 | 0 I   | within gene(s) PMM0710;                                      |
| 675986 + | TSS_005241 | 1000 | 124   | 0 | 0 I   | within gene(s) PMM0710;                                      |
| 676023 + | TSS_005244 | 1000 | 176   | 0 | 7 I   | within gene(s) PMM0710;                                      |
| 676095 - | TSS_017530 | 1000 | 107   | 0 | 0 Ai  | antisense to gene(s) PMM0710;                                |
| 676283 + | TSS_005259 | 1000 | 278   | 0 | 1 I   | within gene(s) PMM0710;                                      |
| 676460 + | TSS_005272 | 1000 | 152   | 0 | 0 I   | within gene(s) PMM0710;                                      |
| 676791 - | TSS_017538 | 1000 | 535   | 0 | 1 Ai  | antisense to gene(s) PMM0710;                                |
| 678373 + | TSS_005278 | 1000 | 152   | 0 | 0 Ai  | antisense to gene(s) PMM0712;                                |
| 678437 + | TSS_005281 | 1000 | 224   | 0 | 0 Ai  | antisense to gene(s) PMM0712;                                |
| 680440 - | TSS_017549 | 1000 | 586   | 0 | 0 P   | 15nt upstream of gene PMM0713;                               |
| 680511 - | TSS_017550 | 1000 | 173   | 0 | 0 PAi | 86nt upstream of gene PMM0713; antisense to gene(s) PMM0714; |
| 682685 - | TSS_017552 | 1000 | 125   | 0 | 0 P   | 0nt upstream of gene PMM0717;                                |
| 685615 - | TSS_017554 | 1000 | 1310  | 0 | 5 P   | 13nt upstream of gene PMM0722;                               |
| 687667 + | TSS_005297 | 1000 | 369   | 0 | 0 IP  | within gene(s) PMM0724; 61nt upstream of gene PMM0725;       |
| 688326 - | TSS_017561 | 1000 | 370   | 0 | 0 Ai  | antisense to gene(s) PMM0725;                                |
| 688353 + | TSS_005306 | 1000 | 251   | 0 | 0 I   | within gene(s) PMM0725;                                      |
| 688629 + | TSS_005307 | 1000 | 111   | 0 | 0 O   | -  |
| 688866 + | TSS_005310 | 1000 | 2158  | 0 | 1 O   | -  |
| 689153 + | TSS_005313 | 1000 | 398   | 0 | 0 O   | -  |
| 689593 - | TSS_017567 | 1000 | 140   | 0 | 10 P  | 17nt upstream of gene PMM0726;                               |
| 696382 - | TSS_017574 | 1000 | 200   | 0 | 0 P   | 18nt upstream of gene PMM0732;                               |
| 698300 - | TSS_017577 | 1000 | 328   | 0 | 3 P   | 15nt upstream of gene PMM0734;                               |
| 699080 + | TSS_005320 | 1000 | 117   | 0 | 7 O   | -  |
| 702227 - | TSS_017592 | 1000 | 174   | 0 | 1 P   | 16nt upstream of gene PMM0739;                               |
| 702332 + | TSS_005328 | 1000 | 1152  | 0 | 5 P   | 11nt upstream of gene PMM0740;                               |
| 702507 - | TSS_017593 | 1000 | 130   | 0 | 0 O   | -  |
| 702516 - | TSS_017594 | 1000 | 599   | 0 | 0 O   | -  |
| 703275 + | TSS_005333 | 1000 | 789   | 0 | 1 P   | 17nt upstream of gene PMM0742;                               |
| 704155 + | TSS_005356 | 1000 | 193   | 0 | 1 Ai  | antisense to gene(s) PMM0743;                                |
| 704189 + | TSS_005357 | 1000 | 128   | 0 | 0 Ai  | antisense to gene(s) PMM0743;                                |
| 704207 + | TSS_005358 | 1000 | 382   | 0 | 0 Ai  | antisense to gene(s) PMM0743;                                |
| 704304 - | TSS_017608 | 1000 | 125   | 0 | 0 I   | within gene(s) PMM0743;                                      |
| 704315 + | TSS_005362 | 1000 | 356   | 0 | 1 Ai  | antisense to gene(s) PMM0743;                                |
| 704361 - | TSS_017609 | 1000 | 258   | 0 | 0 I   | within gene(s) PMM0743;                                      |
| 704397 - | TSS_017615 | 1000 | 332   | 0 | 33 I  | within gene(s) PMM0743;                                      |
| 704440 - | TSS_017622 | 1000 | 115   | 0 | 8 I   | within gene(s) PMM0743;                                      |
| 704459 - | TSS_017630 | 1000 | 296   | 0 | 0 I   | within gene(s) PMM0743;                                      |
| 704526 - | TSS_017634 | 1000 | 197   | 0 | 7 I   | within gene(s) PMM0743;                                      |
| 704718 - | TSS_017651 | 1000 | 128   | 0 | 0 I   | within gene(s) PMM0743;                                      |
| 704789 + | TSS_005369 | 1000 | 150   | 0 | 0 Ai  | antisense to gene(s) PMM0743;                                |
| 704796 - | TSS_017660 | 1000 | 183   | 0 | 7 I   | within gene(s) PMM0743;                                      |
| 704808 - | TSS_017661 | 1000 | 219   | 0 | 0 I   | within gene(s) PMM0743;                                      |
| 704823 - | TSS_017665 | 1000 | 266   | 0 | 9 I   | within gene(s) PMM0743;                                      |
| 704949 + | TSS_005374 | 1000 | 217   | 0 | 9 Ai  | antisense to gene(s) PMM0743;                                |
| 705078 - | TSS_017674 | 1000 | 306   | 0 | 19 I  | within gene(s) PMM0743;                                      |
| 705171 - | TSS_017692 | 1000 | 101   | 0 | 15 I  | within gene(s) PMM0743;                                      |
| 705360 - | TSS_017698 | 1000 | 117   | 0 | 6 I   | within gene(s) PMM0743;                                      |
| 705461 - | TSS_017704 | 1000 | 206   | 0 | 0 I   | within gene(s) PMM0743;                                      |
| 705815 - | TSS_017714 | 1000 | 336   | 0 | 1 P   | 23nt upstream of gene PMM0743;                               |
| 708310 + | TSS_005389 | 1000 | 1266  | 0 | 2 Ai  | antisense to gene(s) PMM0746;                                |
| 708607 - | TSS_017719 | 1000 | 445   | 0 | 6 P   | 14nt upstream of gene PMM0746;                               |
| 710247 + | TSS_005394 | 1000 | 268   | 0 | 1 IP  | within gene(s) PMM0748; 23nt upstream of gene PMM0749;       |
| 710300 + | TSS_005396 | 1000 | 145   | 0 | 1 I   | within gene(s) PMM0749;                                      |
| 711092 + | TSS_005403 | 1000 | 139   | 0 | 0 I   | within gene(s) PMM0749;                                      |
| 711431 - | TSS_017726 | 1000 | 165   | 0 | 1 Ai  | antisense to gene(s) PMM0749;                                |
| 711539 + | TSS_005404 | 1000 | 1596  | 0 | 1 I   | within gene(s) PMM0750;                                      |
| 711829 - | TSS_017729 | 1000 | 660   | 0 | 6 Ai  | antisense to gene(s) PMM0750;                                |
| 712163 + | TSS_005407 | 1000 | 1585  | 0 | 0 IP  | within gene(s) PMM0750; 42nt upstream of gene PMM0751;       |
| 713413 + | TSS_005414 | 1000 | 163   | 0 | 7 P   | 65nt upstream of gene PMM0753;                               |
| 713700 + | TSS_005425 | 1000 | 384   | 0 | 5 I   | within gene(s) PMM0753;                                      |
| 713901 + | TSS_005434 | 1000 | 266   | 0 | 14 I  | within gene(s) PMM0753;                                      |
| 713922 + | TSS_005437 | 1000 | 263   | 0 | 0 I   | within gene(s) PMM0753;                                      |
| 713937 + | TSS_005438 | 1000 | 172   | 0 | 4 I   | within gene(s) PMM0753;                                      |
| 713970 + | TSS_005442 | 1000 | 151   | 0 | 0 I   | within gene(s) PMM0753;                                      |
| 714097 + | TSS_005458 | 1000 | 1136  | 0 | 27 IP | within gene(s) PMM0753; 130nt upstream of gene PMM0754;      |

|          |            |      |      |   |    |    |   |
|----------|------------|------|------|---|----|----|---|
| 714137 - | TSS_017743 | 1000 | 104  | 0 | 0  | Ai | antisense to gene(s) PMM0753;                           |
| 714364 - | TSS_017747 | 1000 | 175  | 0 | 1  | Ai | antisense to gene(s) PMM0754;                           |
| 714683 + | TSS_005473 | 1000 | 130  | 0 | 0  | IP | within gene(s) PMM0754; 206nt upstream of gene PMM0755; |
| 714804 - | TSS_017750 | 1000 | 124  | 0 | 0  | Ai | antisense to gene(s) PMM0754;                           |
| 720208 + | TSS_005489 | 1000 | 133  | 0 | 0  | Ai | antisense to gene(s) PMM0758;                           |
| 720550 - | TSS_017776 | 1000 | 199  | 0 | 21 | I  | within gene(s) PMM0758;                                 |
| 720569 + | TSS_005492 | 1000 | 118  | 0 | 0  | Ai | antisense to gene(s) PMM0758;                           |
| 720579 - | TSS_017781 | 1000 | 150  | 0 | 0  | I  | within gene(s) PMM0758;                                 |
| 720641 - | TSS_017783 | 1000 | 627  | 0 | 10 | I  | within gene(s) PMM0758;                                 |
| 720675 - | TSS_017788 | 1000 | 171  | 0 | 0  | I  | within gene(s) PMM0758;                                 |
| 720702 - | TSS_017792 | 1000 | 144  | 0 | 4  | I  | within gene(s) PMM0758;                                 |
| 723610 - | TSS_017826 | 1000 | 104  | 0 | 0  | I  | within gene(s) PMM0760;                                 |
| 723718 - | TSS_017834 | 1000 | 308  | 0 | 18 | I  | within gene(s) PMM0760;                                 |
| 723763 - | TSS_017849 | 1000 | 1768 | 0 | 51 | I  | within gene(s) PMM0760;                                 |
| 723796 - | TSS_017856 | 1000 | 112  | 0 | 12 | I  | within gene(s) PMM0760;                                 |
| 723823 - | TSS_017860 | 1000 | 152  | 0 | 39 | I  | within gene(s) PMM0760;                                 |
| 723871 - | TSS_017869 | 1000 | 395  | 0 | 2  | I  | within gene(s) PMM0760;                                 |
| 723880 - | TSS_017871 | 1000 | 206  | 0 | 3  | I  | within gene(s) PMM0760;                                 |
| 723898 - | TSS_017873 | 1000 | 120  | 0 | 9  | I  | within gene(s) PMM0760;                                 |
| 723931 - | TSS_017878 | 1000 | 123  | 0 | 0  | I  | within gene(s) PMM0760;                                 |
| 723949 - | TSS_017881 | 1000 | 164  | 0 | 3  | I  | within gene(s) PMM0760;                                 |
| 723979 - | TSS_017884 | 1000 | 107  | 0 | 0  | I  | within gene(s) PMM0760;                                 |
| 723994 - | TSS_017886 | 1000 | 317  | 0 | 6  | I  | within gene(s) PMM0760;                                 |
| 724072 - | TSS_017894 | 1000 | 126  | 0 | 4  | I  | within gene(s) PMM0760;                                 |
| 724249 - | TSS_017907 | 1000 | 134  | 0 | 9  | I  | within gene(s) PMM0760;                                 |
| 724284 - | TSS_017912 | 1000 | 186  | 0 | 8  | I  | within gene(s) PMM0760;                                 |
| 724366 - | TSS_017922 | 1000 | 140  | 0 | 6  | I  | within gene(s) PMM0760;                                 |
| 724438 - | TSS_017929 | 1000 | 274  | 0 | 18 | I  | within gene(s) PMM0760;                                 |
| 724578 - | TSS_017934 | 1000 | 4421 | 0 | 2  | P  | 20nt upstream of gene PMM0760;                          |
| 725488 + | TSS_005512 | 1000 | 167  | 0 | 0  | P  | 25nt upstream of gene PMM0762;                          |
| 725918 + | TSS_005516 | 1000 | 105  | 0 | 0  | I  | within gene(s) PMM0762;                                 |
| 726575 + | TSS_005537 | 1000 | 139  | 0 | 6  | I  | within gene(s) PMM0762;                                 |
| 728301 - | TSS_017946 | 1000 | 241  | 0 | 0  | Ai | antisense to gene(s) PMM0764;                           |
| 729871 - | TSS_017964 | 1000 | 198  | 0 | 5  | I  | within gene(s) PMM0766;                                 |
| 729981 - | TSS_017976 | 1000 | 186  | 0 | 8  | I  | within gene(s) PMM0766;                                 |
| 730261 - | TSS_017980 | 1000 | 806  | 0 | 4  | P  | 15nt upstream of gene PMM0766;                          |
| 730331 + | TSS_005584 | 1000 | 584  | 0 | 0  | P  | 103nt upstream of gene PMM0767;                         |
| 730435 + | TSS_005585 | 1000 | 1049 | 0 | 0  | I  | within gene(s) PMM0767;                                 |
| 730710 + | TSS_005595 | 1000 | 121  | 0 | 12 | I  | within gene(s) PMM0767;                                 |
| 730737 + | TSS_005601 | 1000 | 459  | 0 | 4  | I  | within gene(s) PMM0767;                                 |
| 730749 + | TSS_005603 | 1000 | 126  | 0 | 0  | I  | within gene(s) PMM0767;                                 |
| 731037 + | TSS_005621 | 1000 | 226  | 0 | 9  | I  | within gene(s) PMM0767;                                 |
| 731067 + | TSS_005629 | 1000 | 362  | 0 | 15 | I  | within gene(s) PMM0767;                                 |
| 731240 - | TSS_017991 | 1000 | 184  | 0 | 0  | Ai | antisense to gene(s) PMM0767;                           |
| 732872 + | TSS_005638 | 1000 | 1624 | 0 | 6  | P  | 21nt upstream of gene PMM0769;                          |
| 733079 + | TSS_005643 | 1000 | 108  | 0 | 1  | I  | within gene(s) PMM0769;                                 |
| 733157 + | TSS_005647 | 1000 | 149  | 0 | 0  | I  | within gene(s) PMM0769;                                 |
| 733214 - | TSS_017999 | 1000 | 125  | 0 | 0  | Ai | antisense to gene(s) PMM0769;                           |
| 733226 - | TSS_018000 | 1000 | 346  | 0 | 0  | Ai | antisense to gene(s) PMM0769;                           |
| 733478 + | TSS_005661 | 1000 | 150  | 0 | 9  | I  | within gene(s) PMM0769;                                 |
| 733779 + | TSS_005676 | 1000 | 126  | 0 | 10 | I  | within gene(s) PMM0769;                                 |
| 733808 + | TSS_005678 | 1000 | 144  | 0 | 0  | I  | within gene(s) PMM0769;                                 |
| 733838 + | TSS_005688 | 1000 | 346  | 0 | 19 | I  | within gene(s) PMM0769;                                 |
| 733922 + | TSS_005698 | 1000 | 123  | 0 | 6  | I  | within gene(s) PMM0769;                                 |
| 733937 + | TSS_005699 | 1000 | 113  | 0 | 0  | I  | within gene(s) PMM0769;                                 |
| 734059 - | TSS_018005 | 1000 | 1114 | 0 | 1  | Ai | antisense to gene(s) PMM0769;                           |
| 734072 - | TSS_018007 | 1000 | 350  | 0 | 7  | Ai | antisense to gene(s) PMM0769;                           |
| 734116 - | TSS_018013 | 1000 | 419  | 0 | 6  | Ai | antisense to gene(s) PMM0769;                           |
| 734269 + | TSS_005709 | 1000 | 3600 | 0 | 4  | P  | 18nt upstream of gene PMM0770;                          |
| 737785 - | TSS_018026 | 1000 | 139  | 0 | 0  | I  | within gene(s) PMM0774;                                 |
| 737882 - | TSS_018030 | 1000 | 141  | 0 | 0  | I  | within gene(s) PMM0774;                                 |
| 738561 + | TSS_005734 | 1000 | 324  | 0 | 0  | Ai | antisense to gene(s) PMM0774;                           |
| 738616 - | TSS_018037 | 1000 | 190  | 0 | 0  | I  | within gene(s) PMM0774;                                 |
| 738854 - | TSS_018041 | 1000 | 125  | 0 | 6  | I  | within gene(s) PMM0774;                                 |
| 738964 - | TSS_018045 | 1000 | 178  | 0 | 0  | I  | within gene(s) PMM0774;                                 |
| 739095 - | TSS_018047 | 1000 | 1506 | 0 | 2  | P  | 13nt upstream of gene PMM0774;                          |
| 739318 - | TSS_018051 | 1000 | 144  | 0 | 28 | IP | within gene(s) PMM0775; 236nt upstream of gene PMM0774; |
| 739410 - | TSS_018057 | 1000 | 1619 | 0 | 10 | P  | 14nt upstream of gene PMM0775;                          |
| 740068 + | TSS_005740 | 1000 | 514  | 0 | 2  | P  | 38nt upstream of gene PMM0777;                          |
| 741992 + | TSS_005763 | 1000 | 836  | 0 | 0  | P  | 15nt upstream of gene PMM0779;                          |
| 743202 - | TSS_018073 | 1000 | 124  | 0 | 3  | I  | within gene(s) PMM0781;                                 |
| 743244 - | TSS_018078 | 1000 | 128  | 0 | 9  | I  | within gene(s) PMM0781;                                 |
| 743280 - | TSS_018086 | 1000 | 232  | 0 | 12 | I  | within gene(s) PMM0781;                                 |
| 743304 - | TSS_018090 | 1000 | 311  | 0 | 6  | I  | within gene(s) PMM0781;                                 |
| 743337 - | TSS_018092 | 1000 | 115  | 0 | 3  | I  | within gene(s) PMM0781;                                 |
| 743394 - | TSS_018096 | 1000 | 520  | 0 | 9  | I  | within gene(s) PMM0781;                                 |
| 743405 - | TSS_018098 | 1000 | 154  | 0 | 0  | I  | within gene(s) PMM0781;                                 |
| 743421 - | TSS_018100 | 1000 | 936  | 0 | 18 | I  | within gene(s) PMM0781;                                 |
| 743442 - | TSS_018105 | 1000 | 137  | 0 | 0  | I  | within gene(s) PMM0781;                                 |

|          |            |      |       |          |       |   |
|----------|------------|------|-------|----------|-------|---|
| 743454 - | TSS_018107 | 1000 | 399   | 0        | 3 I   | within gene(s) PMM0781;                                 |
| 743484 - | TSS_018111 | 1000 | 260   | 0        | 14 I  | within gene(s) PMM0781;                                 |
| 743520 - | TSS_018115 | 1000 | 186   | 0        | 9 I   | within gene(s) PMM0781;                                 |
| 743544 - | TSS_018118 | 1000 | 116   | 0        | 0 I   | within gene(s) PMM0781;                                 |
| 743565 - | TSS_018119 | 1000 | 258   | 0        | 6 I   | within gene(s) PMM0781;                                 |
| 743601 - | TSS_018121 | 1000 | 141   | 0        | 6 I   | within gene(s) PMM0781;                                 |
| 743622 - | TSS_018124 | 1000 | 490   | 0        | 1 I   | within gene(s) PMM0781;                                 |
| 743631 - | TSS_018125 | 1000 | 327   | 0        | 3 I   | within gene(s) PMM0781;                                 |
| 743664 - | TSS_018132 | 1000 | 529   | 0        | 15 I  | within gene(s) PMM0781;                                 |
| 743682 - | TSS_018133 | 1000 | 234   | 0        | 3 I   | within gene(s) PMM0781;                                 |
| 743694 - | TSS_018135 | 1000 | 277   | 0        | 0 I   | within gene(s) PMM0781;                                 |
| 743706 - | TSS_018136 | 1000 | 113   | 3.90E-06 | 0 I   | within gene(s) PMM0781;                                 |
| 743715 - | TSS_018138 | 1000 | 209   | 0        | 10 I  | within gene(s) PMM0781;                                 |
| 743745 - | TSS_018142 | 1000 | 930   | 0        | 1 I   | within gene(s) PMM0781;                                 |
| 743763 - | TSS_018143 | 1000 | 175   | 0        | 9 I   | within gene(s) PMM0781;                                 |
| 743790 - | TSS_018147 | 1000 | 384   | 0        | 3 I   | within gene(s) PMM0781;                                 |
| 743799 - | TSS_018148 | 1000 | 2366  | 0        | 33 I  | within gene(s) PMM0781;                                 |
| 743847 - | TSS_018161 | 1000 | 200   | 0        | 6 I   | within gene(s) PMM0781;                                 |
| 743859 - | TSS_018165 | 1000 | 407   | 0        | 27 I  | within gene(s) PMM0781;                                 |
| 743904 - | TSS_018172 | 1000 | 107   | 0        | 0 I   | within gene(s) PMM0781;                                 |
| 743916 - | TSS_018174 | 1000 | 482   | 0        | 4 I   | within gene(s) PMM0781;                                 |
| 743937 - | TSS_018176 | 1000 | 281   | 0        | 0 I   | within gene(s) PMM0781;                                 |
| 743949 - | TSS_018180 | 1000 | 152   | 0        | 6 I   | within gene(s) PMM0781;                                 |
| 744091 - | TSS_018186 | 1000 | 10061 | 0        | 3 P   | 43nt upstream of gene PMM0781;                          |
| 745876 + | TSS_005780 | 1000 | 222   | 0        | 2 Ai  | antisense to gene(s) PMM0784;                           |
| 746288 - | TSS_018207 | 1000 | 242   | 0        | 2 I   | within gene(s) PMM0784;                                 |
| 746583 - | TSS_018218 | 1000 | 1201  | 0        | 5 P   | 17nt upstream of gene PMM0784;                          |
| 747217 - | TSS_018230 | 1000 | 233   | 0        | 5 I   | within gene(s) PMM0785;                                 |
| 747247 - | TSS_018238 | 1000 | 107   | 0        | 6 I   | within gene(s) PMM0785;                                 |
| 747387 - | TSS_018250 | 1000 | 335   | 0        | 9 I   | within gene(s) PMM0785;                                 |
| 747484 - | TSS_018255 | 1000 | 162   | 0        | 4 I   | within gene(s) PMM0785;                                 |
| 749173 - | TSS_018266 | 1000 | 399   | 0        | 4 I   | within gene(s) PMM0787;                                 |
| 752029 - | TSS_018281 | 1000 | 206   | 0        | 8 P   | 25nt upstream of gene PMM0790;                          |
| 752047 + | TSS_005807 | 1000 | 1287  | 0        | 12 Ai | antisense to gene(s) PMM0791;                           |
| 755386 - | TSS_018286 | 1000 | 457   | 0        | 3 IP  | within gene(s) PMM0795; 114nt upstream of gene PMM0794; |
| 757822 - | TSS_018294 | 1000 | 112   | 0        | 0 P   | 66nt upstream of gene PMM0796;                          |
| 760249 - | TSS_018301 | 1000 | 150   | 0        | 11 P  | 17nt upstream of gene PMM0800;                          |
| 760930 - | TSS_018307 | 1000 | 128   | 0        | 5 P   | 14nt upstream of gene PMM0801;                          |
| 762992 + | TSS_005820 | 1000 | 1228  | 0        | 0 P   | 16nt upstream of gene PMM0804;                          |
| 763062 + | TSS_005822 | 1000 | 462   | 0        | 17 I  | within gene(s) PMM0804;                                 |
| 763152 + | TSS_005834 | 1000 | 120   | 0        | 0 I   | within gene(s) PMM0804;                                 |
| 763194 + | TSS_005841 | 1000 | 149   | 0        | 27 I  | within gene(s) PMM0804;                                 |
| 763266 + | TSS_005848 | 1000 | 203   | 0        | 7 I   | within gene(s) PMM0804;                                 |
| 764067 + | TSS_005860 | 1000 | 372   | 0        | 0 Ai  | antisense to gene(s) PMM0806;                           |
| 764468 - | TSS_018319 | 1000 | 159   | 0        | 3 P   | 26nt upstream of gene PMM0806;                          |
| 768634 - | TSS_018326 | 1000 | 1152  | 0        | 4 P   | 16nt upstream of gene PMM0810;                          |
| 769201 - | TSS_018331 | 1000 | 161   | 0        | 0 O   | -   |
| 771730 - | TSS_018339 | 1000 | 207   | 0        | 1 P   | 22nt upstream of gene PMM0814;                          |
| 772207 - | TSS_018340 | 1000 | 545   | 0        | 0 O   | -   |
| 773190 - | TSS_018345 | 1000 | 185   | 0        | 1 I   | within gene(s) PMM0815;                                 |
| 773322 - | TSS_018353 | 1000 | 168   | 0        | 23 IP | within gene(s) PMM0816; 129nt upstream of gene PMM0815; |
| 773791 - | TSS_018372 | 1000 | 139   | 0        | 0 IP  | within gene(s) PMM0818; 98nt upstream of gene PMM0817;  |
| 773820 - | TSS_018373 | 1000 | 662   | 0        | 0 P   | 20nt upstream of gene PMM0818;                          |
| 774773 - | TSS_018379 | 1000 | 6267  | 0        | 3 P   | 18nt upstream of gene PMM0819;                          |
| 775070 - | TSS_018384 | 1000 | 163   | 0        | 1 P   | 49nt upstream of gene PMM0820;                          |
| 775810 - | TSS_018385 | 1000 | 202   | 0        | 0 O   | -   |
| 776471 - | TSS_018388 | 1000 | 234   | 0        | 4 O   | -   |
| 777149 - | TSS_018394 | 1000 | 450   | 0        | 0 I   | within gene(s) PMM0821;                                 |
| 778499 - | TSS_018398 | 1000 | 109   | 0        | 0 IP  | within gene(s) PMM0824; 166nt upstream of gene PMM0823; |
| 778555 - | TSS_018404 | 1000 | 106   | 0        | 6 IP  | within gene(s) PMM0824; 222nt upstream of gene PMM0823; |
| 778980 - | TSS_018407 | 1000 | 141   | 0        | 2 P   | 19nt upstream of gene PMM0824;                          |
| 780730 - | TSS_018415 | 1000 | 111   | 0        | 0 Ai  | antisense to gene(s) PMM0825;                           |
| 781041 + | TSS_005911 | 1000 | 110   | 0        | 15 I  | within gene(s) PMM0825;                                 |
| 784601 + | TSS_005930 | 1000 | 213   | 0        | 0 P   | 14nt upstream of gene PMM0829;                          |
| 784835 + | TSS_005931 | 1000 | 116   | 0        | 0 I   | within gene(s) PMM0829;                                 |
| 786463 - | TSS_018434 | 1000 | 128   | 0        | 4 I   | within gene(s) PMM0831;                                 |
| 786571 - | TSS_018445 | 1000 | 243   | 0        | 3 I   | within gene(s) PMM0831;                                 |
| 786988 - | TSS_018480 | 1000 | 165   | 0        | 7 I   | within gene(s) PMM0831;                                 |
| 787168 - | TSS_018491 | 1000 | 235   | 0        | 12 I  | within gene(s) PMM0831;                                 |
| 787885 - | TSS_018528 | 1000 | 359   | 0        | 18 I  | within gene(s) PMM0831;                                 |
| 787909 - | TSS_018536 | 1000 | 702   | 0        | 16 I  | within gene(s) PMM0831;                                 |
| 787995 + | TSS_005953 | 1000 | 205   | 0        | 0 Ai  | antisense to gene(s) PMM0831;                           |
| 788167 - | TSS_018557 | 1000 | 183   | 0        | 6 I   | within gene(s) PMM0831;                                 |
| 788179 - | TSS_018558 | 1000 | 111   | 0        | 3 I   | within gene(s) PMM0831;                                 |
| 788562 - | TSS_018585 | 1000 | 200   | 0        | 10 I  | within gene(s) PMM0831;                                 |
| 788662 - | TSS_018593 | 1000 | 130   | 0        | 3 I   | within gene(s) PMM0831;                                 |
| 788713 - | TSS_018599 | 1000 | 172   | 0        | 1 I   | within gene(s) PMM0831;                                 |
| 788890 - | TSS_018602 | 1000 | 178   | 0        | 1 I   | within gene(s) PMM0831;                                 |
| 788971 - | TSS_018609 | 1000 | 120   | 0        | 9 I   | within gene(s) PMM0831;                                 |

|          |            |      |       |   |       |   |
|----------|------------|------|-------|---|-------|---|
| 789218 + | TSS_005965 | 1000 | 200   | 0 | 0 Ai  | antisense to gene(s) PMM0831;   |
| 789844 - | TSS_018653 | 1000 | 194   | 0 | 2 I   | within gene(s) PMM0831;   |
| 790093 - | TSS_018659 | 1000 | 106   | 0 | 9 I   | within gene(s) PMM0831;   |
| 796520 + | TSS_005979 | 1000 | 478   | 0 | 1 Ai  | antisense to gene(s) PMM0839;   |
| 803495 - | TSS_018701 | 1000 | 116   | 0 | 12 I  | within gene(s) PMM0844;   |
| 803921 - | TSS_018715 | 1000 | 151   | 0 | 28 I  | within gene(s) PMM0844;   |
| 804065 - | TSS_018738 | 1000 | 174   | 0 | 15 I  | within gene(s) PMM0844;   |
| 804298 - | TSS_018752 | 1000 | 2345  | 0 | 2 P   | 14nt upstream of gene PMM0844;  |
| 807760 - | TSS_018764 | 1000 | 138   | 0 | 2 P   | 27nt upstream of gene PMM0847;  |
| 808842 + | TSS_006000 | 1000 | 4247  | 0 | 6 P   | 117nt upstream of gene PMM0851;   |
| 810059 - | TSS_018774 | 1000 | 158   | 0 | 0 IAd | within gene(s) PMM0853; antisense to gene(s) PMM0852 (24nt downstream); |
| 810098 - | TSS_018777 | 1000 | 116   | 0 | 0 I   | within gene(s) PMM0853;   |
| 810137 - | TSS_018778 | 1000 | 202   | 0 | 0 I   | within gene(s) PMM0853;   |
| 810158 - | TSS_018782 | 1000 | 159   | 0 | 9 I   | within gene(s) PMM0853;   |
| 810173 - | TSS_018786 | 1000 | 634   | 0 | 6 I   | within gene(s) PMM0853;   |
| 810203 - | TSS_018788 | 1000 | 232   | 0 | 6 I   | within gene(s) PMM0853;   |
| 811735 - | TSS_018794 | 1000 | 401   | 0 | 0 Ai  | antisense to gene(s) PMM0854;   |
| 813130 + | TSS_006018 | 1000 | 196   | 0 | 1 Ai  | antisense to gene(s) PMM0856;   |
| 813260 - | TSS_018817 | 1000 | 147   | 0 | 6 I   | within gene(s) PMM0856;   |
| 813272 - | TSS_018819 | 1000 | 148   | 0 | 15 I  | within gene(s) PMM0856;   |
| 813326 - | TSS_018830 | 1000 | 131   | 0 | 21 I  | within gene(s) PMM0856;   |
| 813356 - | TSS_018832 | 1000 | 203   | 0 | 12 I  | within gene(s) PMM0856;   |
| 813434 - | TSS_018842 | 1000 | 130   | 0 | 9 I   | within gene(s) PMM0856;   |
| 813446 - | TSS_018846 | 1000 | 111   | 0 | 1 I   | within gene(s) PMM0856;   |
| 813572 - | TSS_018849 | 1000 | 4557  | 0 | 12 P  | 45nt upstream of gene PMM0856;  |
| 813592 - | TSS_018852 | 1000 | 1278  | 0 | 1 P   | 65nt upstream of gene PMM0856;  |
| 814913 + | TSS_006024 | 1000 | 1390  | 0 | 1 O   | -   |
| 816976 + | TSS_006029 | 1000 | 1166  | 0 | 2 O   | -   |
| 817333 + | TSS_006032 | 1000 | 1276  | 0 | 3 O   | -   |
| 819054 + | TSS_006040 | 1000 | 268   | 0 | 7 P   | 79nt upstream of gene PMM0861;  |
| 819132 + | TSS_006054 | 1000 | 586   | 0 | 15 P  | 1nt upstream of gene PMM0861;   |
| 819403 - | TSS_018879 | 1000 | 128   | 0 | 2 O   | -   |
| 826236 - | TSS_018925 | 1000 | 434   | 0 | 7 IP  | within gene(s) PMM0870; 156nt upstream of gene PMM0869;                 |
| 827556 - | TSS_018930 | 1000 | 259   | 0 | 0 Ai  | antisense to gene(s) PMM0871;   |
| 828957 + | TSS_006074 | 1000 | 11299 | 0 | 2 I   | within gene(s) PMM0872;   |
| 832333 + | TSS_006082 | 1000 | 460   | 0 | 3 P   | 14nt upstream of gene PMM0876;  |
| 832360 - | TSS_018940 | 1000 | 147   | 0 | 0 PAi | 122nt upstream of gene PMM0875; antisense to gene(s) PMM0876;           |
| 832529 - | TSS_018941 | 1000 | 187   | 0 | 2 Ai  | antisense to gene(s) PMM0876;   |
| 834878 - | TSS_018948 | 1000 | 914   | 0 | 3 I   | within gene(s) PMM0877;   |
| 836586 - | TSS_018952 | 1000 | 115   | 0 | 0 I   | within gene(s) PMM0878;   |
| 836727 - | TSS_018962 | 1000 | 166   | 0 | 4 I   | within gene(s) PMM0878;   |
| 837146 - | TSS_018966 | 1000 | 481   | 0 | 2 P   | 38nt upstream of gene PMM0878;  |
| 840244 - | TSS_018973 | 1000 | 140   | 0 | 2 Ai  | antisense to gene(s) PMM0879;   |
| 841241 - | TSS_018977 | 1000 | 123   | 0 | 0 I   | within gene(s) PMM0880;   |
| 842149 - | TSS_018980 | 1000 | 104   | 0 | 0 I   | within gene(s) PMM0881;   |
| 844688 - | TSS_018997 | 1000 | 279   | 0 | 0 P   | 6nt upstream of gene PMM0883;   |
| 844697 - | TSS_018999 | 1000 | 4073  | 0 | 5 P   | 15nt upstream of gene PMM0883;  |
| 855371 + | TSS_006122 | 1000 | 116   | 0 | 3 I   | within gene(s) PMM0893;   |
| 857390 - | TSS_019035 | 1000 | 224   | 0 | 12 I  | within gene(s) PMM0894;   |
| 857431 - | TSS_019043 | 1000 | 124   | 0 | 6 I   | within gene(s) PMM0894;   |
| 857485 - | TSS_019046 | 1000 | 317   | 0 | 0 I   | within gene(s) PMM0894;   |
| 857549 - | TSS_019049 | 1000 | 5917  | 0 | 3 P   | 18nt upstream of gene PMM0894;  |
| 858604 - | TSS_019057 | 1000 | 141   | 0 | 0 I   | within gene(s) PMM0896;   |
| 858648 - | TSS_019060 | 1000 | 204   | 0 | 8 I   | within gene(s) PMM0896;   |
| 858686 - | TSS_019062 | 1000 | 559   | 0 | 0 I   | within gene(s) PMM0896;   |
| 858957 - | TSS_019063 | 1000 | 601   | 0 | 0 IP  | within gene(s) PMM0897; 21nt upstream of gene PMM0896;                  |
| 859899 + | TSS_006139 | 1000 | 455   | 0 | 0 Ai  | antisense to gene(s) PMM0897;   |
| 860406 - | TSS_019075 | 1000 | 1509  | 0 | 1 I   | within gene(s) PMM0897;   |
| 860930 - | TSS_019078 | 1000 | 124   | 0 | 0 P   | 13nt upstream of gene PMM0897;  |
| 860982 - | TSS_019081 | 1000 | 254   | 0 | 2 P   | 65nt upstream of gene PMM0897;  |
| 862187 + | TSS_006152 | 1000 | 143   | 0 | 6 I   | within gene(s) PMM0899;   |
| 862487 - | TSS_019085 | 1000 | 138   | 0 | 0 Ai  | antisense to gene(s) PMM0899;   |
| 863809 + | TSS_006157 | 1000 | 2174  | 0 | 2 P   | 23nt upstream of gene PMM0901;  |
| 863967 + | TSS_006162 | 1000 | 277   | 0 | 4 I   | within gene(s) PMM0901;   |
| 865761 + | TSS_006187 | 1000 | 426   | 0 | 1 P   | 15nt upstream of gene PMM0902;  |
| 865990 - | TSS_019095 | 1000 | 157   | 0 | 0 Ai  | antisense to gene(s) PMM0902;   |
| 865997 - | TSS_019096 | 1000 | 121   | 0 | 0 Ai  | antisense to gene(s) PMM0902;   |
| 867262 + | TSS_006189 | 1000 | 163   | 0 | 18 I  | within gene(s) PMM0906;   |
| 867288 + | TSS_006196 | 1000 | 1246  | 0 | 1 I   | within gene(s) PMM0906;   |
| 867467 - | TSS_019099 | 1000 | 185   | 0 | 0 Ai  | antisense to gene(s) PMM0906;   |
| 867687 + | TSS_006204 | 1000 | 140   | 0 | 0 Ai  | antisense to gene(s) PMM0907;   |
| 867708 + | TSS_006205 | 1000 | 128   | 0 | 0 Ai  | antisense to gene(s) PMM0907;   |
| 867992 - | TSS_019108 | 1000 | 108   | 0 | 1 I   | within gene(s) PMM0907;   |
| 869043 + | TSS_006212 | 1000 | 101   | 0 | 0 Ai  | antisense to gene(s) PMM0907;   |
| 869052 + | TSS_006214 | 1000 | 242   | 0 | 7 Ai  | antisense to gene(s) PMM0907;   |
| 869447 - | TSS_019140 | 1000 | 7656  | 0 | 5 P   | 16nt upstream of gene PMM0907;  |
| 869708 + | TSS_006221 | 1000 | 149   | 0 | 0 I   | within gene(s) PMM0908;   |
| 870149 + | TSS_006225 | 1000 | 494   | 0 | 2 I   | within gene(s) PMM0908;   |
| 873315 + | TSS_006251 | 1000 | 102   | 0 | 0 I   | within gene(s) PMM0912;   |

|          |            |      |       |   |       |   |
|----------|------------|------|-------|---|-------|---|
| 873612 + | TSS_006256 | 1000 | 462   | 0 | 0 I   | within gene(s) PMM0912;                                 |
| 881167 - | TSS_019172 | 1000 | 1103  | 0 | 2 P   | 15nt upstream of gene PMM0919;                          |
| 881330 + | TSS_006279 | 1000 | 226   | 0 | 1 P   | 37nt upstream of gene PMM0920;                          |
| 881367 + | TSS_006280 | 1000 | 127   | 0 | 0 P   | Ont upstream of gene PMM0920;                           |
| 881514 + | TSS_006287 | 1000 | 178   | 0 | 3 I   | within gene(s) PMM0920;                                 |
| 881640 + | TSS_006301 | 1000 | 189   | 0 | 17 I  | within gene(s) PMM0920;                                 |
| 881661 + | TSS_006306 | 1000 | 148   | 0 | 33 I  | within gene(s) PMM0920;                                 |
| 881697 + | TSS_006315 | 1000 | 148   | 0 | 9 I   | within gene(s) PMM0920;                                 |
| 881724 + | TSS_006320 | 1000 | 127   | 0 | 17 I  | within gene(s) PMM0920;                                 |
| 881760 + | TSS_006324 | 1000 | 153   | 0 | 17 I  | within gene(s) PMM0920;                                 |
| 881833 + | TSS_006334 | 1000 | 214   | 0 | 4 I   | within gene(s) PMM0920;                                 |
| 881871 + | TSS_006341 | 1000 | 343   | 0 | 27 I  | within gene(s) PMM0920;                                 |
| 881904 + | TSS_006344 | 1000 | 203   | 0 | 0 I   | within gene(s) PMM0920;                                 |
| 881949 + | TSS_006351 | 1000 | 131   | 0 | 12 I  | within gene(s) PMM0920;                                 |
| 882006 + | TSS_006361 | 1000 | 206   | 0 | 27 I  | within gene(s) PMM0920;                                 |
| 882039 + | TSS_006368 | 1000 | 126   | 0 | 1 I   | within gene(s) PMM0920;                                 |
| 882142 + | TSS_006383 | 1000 | 125   | 0 | 30 I  | within gene(s) PMM0920;                                 |
| 882186 - | TSS_019184 | 1000 | 400   | 0 | 0 Ai  | antisense to gene(s) PMM0920;                           |
| 882219 - | TSS_019186 | 1000 | 280   | 0 | 1 Ai  | antisense to gene(s) PMM0920;                           |
| 882256 - | TSS_019187 | 1000 | 132   | 0 | 5 Ai  | antisense to gene(s) PMM0920;                           |
| 882363 + | TSS_006409 | 1000 | 106   | 0 | 3 I   | within gene(s) PMM0920;                                 |
| 882426 + | TSS_006416 | 1000 | 253   | 0 | 12 I  | within gene(s) PMM0920;                                 |
| 882438 + | TSS_006418 | 1000 | 106   | 0 | 3 I   | within gene(s) PMM0920;                                 |
| 882462 + | TSS_006422 | 1000 | 134   | 0 | 18 I  | within gene(s) PMM0920;                                 |
| 882489 + | TSS_006429 | 1000 | 196   | 0 | 9 I   | within gene(s) PMM0920;                                 |
| 882673 - | TSS_019193 | 1000 | 186   | 0 | 5 Ai  | antisense to gene(s) PMM0920;                           |
| 886557 + | TSS_006463 | 1000 | 1306  | 0 | 7 P   | 14nt upstream of gene PMM0926;                          |
| 886578 + | TSS_006466 | 1000 | 146   | 0 | 4 I   | within gene(s) PMM0926;                                 |
| 889213 + | TSS_006469 | 1000 | 210   | 0 | 0 Ai  | antisense to gene(s) PMM0929;                           |
| 890971 + | TSS_006473 | 1000 | 104   | 0 | 0 Ai  | antisense to gene(s) PMM0930;                           |
| 891212 + | TSS_006480 | 1000 | 229   | 0 | 1 Ai  | antisense to gene(s) PMM0930;                           |
| 891599 - | TSS_019242 | 1000 | 3369  | 0 | 1 P   | 21nt upstream of gene PMM0930;                          |
| 894754 + | TSS_006491 | 1000 | 103   | 0 | 0 P   | 45nt upstream of gene PMM0936;                          |
| 899977 + | TSS_006504 | 1000 | 744   | 0 | 3 P   | 13nt upstream of gene PMM0941;                          |
| 900041 + | TSS_006505 | 1000 | 753   | 0 | 1 I   | within gene(s) PMM0941;                                 |
| 900053 + | TSS_006507 | 1000 | 449   | 0 | 0 I   | within gene(s) PMM0941;                                 |
| 900080 + | TSS_006510 | 1000 | 158   | 0 | 12 I  | within gene(s) PMM0941;                                 |
| 900096 + | TSS_006514 | 1000 | 275   | 0 | 1 I   | within gene(s) PMM0941;                                 |
| 900199 - | TSS_019253 | 1000 | 223   | 0 | 4 Ai  | antisense to gene(s) PMM0941;                           |
| 900229 - | TSS_019257 | 1000 | 260   | 0 | 0 Ai  | antisense to gene(s) PMM0941;                           |
| 900245 + | TSS_006525 | 1000 | 292   | 0 | 15 IP | within gene(s) PMM0941; 105nt upstream of gene PMM0942; |
| 901047 + | TSS_006536 | 1000 | 25028 | 0 | 9 P   | 14nt upstream of gene PMM0943;                          |
| 901085 + | TSS_006538 | 1000 | 152   | 0 | 0 I   | within gene(s) PMM0943;                                 |
| 901115 + | TSS_006539 | 1000 | 190   | 0 | 1 IP  | within gene(s) PMM0943; 225nt upstream of gene PMM0944; |
| 901142 + | TSS_006542 | 1000 | 105   | 0 | 0 IP  | within gene(s) PMM0943; 198nt upstream of gene PMM0944; |
| 905299 - | TSS_019274 | 1000 | 1149  | 0 | 2 P   | 14nt upstream of gene PMM0945;                          |
| 906542 - | TSS_019293 | 1000 | 167   | 0 | 0 I   | within gene(s) PMM0946;                                 |
| 907099 - | TSS_019296 | 1000 | 1089  | 0 | 2 P   | 6nt upstream of gene PMM0947;                           |
| 913344 + | TSS_006564 | 1000 | 311   | 0 | 0 I   | within gene(s) PMM0954;                                 |
| 913440 + | TSS_006565 | 1000 | 310   | 0 | 0 IP  | within gene(s) PMM0954; 246nt upstream of gene PMM0955; |
| 913823 + | TSS_006568 | 1000 | 234   | 0 | 3 I   | within gene(s) PMM0955;                                 |
| 914442 + | TSS_006570 | 1000 | 275   | 0 | 1 O   | -   |
| 914689 - | TSS_019319 | 1000 | 390   | 0 | 1 O   | -   |
| 915624 + | TSS_006575 | 1000 | 240   | 0 | 2 P   | 2nt upstream of gene PMM0957;                           |
| 916151 - | TSS_019326 | 1000 | 109   | 0 | 0 O   | -   |
| 916169 - | TSS_019327 | 1000 | 262   | 0 | 0 O   | -   |
| 916221 - | TSS_019328 | 1000 | 206   | 0 | 2 O   | -   |
| 916530 - | TSS_019330 | 1000 | 519   | 0 | 1 P   | 16nt upstream of gene PMM0958;                          |
| 918232 + | TSS_006581 | 1000 | 173   | 0 | 0 Ai  | antisense to gene(s) PMM0960;                           |
| 919141 - | TSS_019336 | 1000 | 149   | 0 | 0 I   | within gene(s) PMM0961;                                 |
| 920682 - | TSS_019338 | 1000 | 139   | 0 | 0 Ai  | antisense to gene(s) PMM0962;                           |
| 922689 + | TSS_006603 | 1000 | 170   | 0 | 2 Ai  | antisense to gene(s) PMM0963;                           |
| 923723 - | TSS_019354 | 1000 | 553   | 0 | 0 I   | within gene(s) PMM0965;                                 |
| 923809 - | TSS_019356 | 1000 | 130   | 0 | 4 IP  | within gene(s) PMM0966; 85nt upstream of gene PMM0965;  |
| 924547 - | TSS_019359 | 1000 | 591   | 0 | 0 I   | within gene(s) PMM0966;                                 |
| 926578 + | TSS_006618 | 1000 | 136   | 0 | 0 I   | within gene(s) PMM0970;                                 |
| 926625 + | TSS_006619 | 1000 | 205   | 0 | 0 I   | within gene(s) PMM0970;                                 |
| 926661 + | TSS_006626 | 1000 | 357   | 0 | 25 I  | within gene(s) PMM0970;                                 |
| 926710 - | TSS_019363 | 1000 | 151   | 0 | 0 Ai  | antisense to gene(s) PMM0970;                           |
| 926805 + | TSS_006637 | 1000 | 175   | 0 | 15 I  | within gene(s) PMM0970;                                 |
| 926853 + | TSS_006640 | 1000 | 170   | 0 | 3 I   | within gene(s) PMM0970;                                 |
| 926913 + | TSS_006649 | 1000 | 171   | 0 | 42 I  | within gene(s) PMM0970;                                 |
| 926952 + | TSS_006658 | 1000 | 243   | 0 | 0 I   | within gene(s) PMM0970;                                 |
| 927021 + | TSS_006664 | 1000 | 122   | 0 | 12 I  | within gene(s) PMM0970;                                 |
| 927117 + | TSS_006682 | 1000 | 128   | 0 | 6 I   | within gene(s) PMM0970;                                 |
| 927237 + | TSS_006688 | 1000 | 120   | 0 | 8 I   | within gene(s) PMM0970;                                 |
| 927259 + | TSS_006691 | 1000 | 188   | 0 | 0 I   | within gene(s) PMM0970;                                 |
| 927291 + | TSS_006694 | 1000 | 149   | 0 | 3 I   | within gene(s) PMM0970;                                 |
| 927369 + | TSS_006706 | 1000 | 163   | 0 | 18 I  | within gene(s) PMM0970;                                 |

|           |            |      |       |   |       |   |
|-----------|------------|------|-------|---|-------|---|
| 927379 +  | TSS_006708 | 1000 | 151   | 0 | 2 I   | within gene(s) PMM0970;                                 |
| 927405 +  | TSS_006712 | 1000 | 190   | 0 | 1 I   | within gene(s) PMM0970;                                 |
| 927417 +  | TSS_006714 | 1000 | 108   | 0 | 0 I   | within gene(s) PMM0970;                                 |
| 927442 +  | TSS_006719 | 1000 | 586   | 0 | 18 I  | within gene(s) PMM0970;                                 |
| 927568 -  | TSS_019368 | 1000 | 924   | 0 | 0 Ai  | antisense to gene(s) PMM0970;                           |
| 927597 -  | TSS_019369 | 1000 | 134   | 0 | 0 Ai  | antisense to gene(s) PMM0970;                           |
| 927626 -  | TSS_019371 | 1000 | 181   | 0 | 0 Ai  | antisense to gene(s) PMM0970;                           |
| 927755 -  | TSS_019374 | 1000 | 102   | 0 | 0 Ai  | antisense to gene(s) PMM0970;                           |
| 929465 -  | TSS_019380 | 1000 | 132   | 0 | 1 Ai  | antisense to gene(s) PMM0972;                           |
| 930117 +  | TSS_006741 | 1000 | 131   | 0 | 0 IP  | within gene(s) PMM0972; 135nt upstream of gene PMM0973; |
| 930151 +  | TSS_006742 | 1000 | 233   | 0 | 1 IP  | within gene(s) PMM0972; 101nt upstream of gene PMM0973; |
| 930208 -  | TSS_019384 | 1000 | 623   | 0 | 2 Ai  | antisense to gene(s) PMM0972;                           |
| 932988 +  | TSS_006751 | 1000 | 104   | 0 | 2 P   | 2nt upstream of gene PMM0975;                           |
| 933017 +  | TSS_006752 | 1000 | 351   | 0 | 0 I   | within gene(s) PMM0975;                                 |
| 936929 +  | TSS_006756 | 1000 | 475   | 0 | 1 O   | -   |
| 937963 +  | TSS_006759 | 1000 | 1239  | 0 | 1 P   | 15nt upstream of gene PMM0982;                          |
| 939028 -  | TSS_019397 | 1000 | 181   | 0 | 0 P   | 17nt upstream of gene PMM0983;                          |
| 939290 -  | TSS_019398 | 1000 | 187   | 0 | 0 O   | -   |
| 941587 +  | TSS_006765 | 1000 | 388   | 0 | 6 P   | 17nt upstream of gene PMM0987;                          |
| 942377 -  | TSS_019402 | 1000 | 287   | 0 | 0 P   | 126nt upstream of gene PMM0988;                         |
| 945784 +  | TSS_006773 | 1000 | 913   | 0 | 3 P   | 20nt upstream of gene PMM0992;                          |
| 946441 +  | TSS_006775 | 1000 | 317   | 0 | 0 Ai  | antisense to gene(s) PMM0993;                           |
| 946927 -  | TSS_019408 | 1000 | 831   | 0 | 4 P   | 16nt upstream of gene PMM0993;                          |
| 949329 -  | TSS_019422 | 1000 | 10118 | 0 | 2 O   | -   |
| 950002 +  | TSS_006783 | 1000 | 318   | 0 | 0 P   | 15nt upstream of gene PMM0999;                          |
| 950681 +  | TSS_006784 | 1000 | 127   | 0 | 0 P   | 15nt upstream of gene PMM1001;                          |
| 956897 -  | TSS_019435 | 1000 | 2117  | 0 | 3 P   | 17nt upstream of gene PMM1005;                          |
| 957665 +  | TSS_006793 | 1000 | 137   | 0 | 0 Ai  | antisense to gene(s) PMM1007;                           |
| 957700 +  | TSS_006796 | 1000 | 226   | 0 | 4 Ai  | antisense to gene(s) PMM1007;                           |
| 957713 +  | TSS_006799 | 1000 | 148   | 0 | 3 Ai  | antisense to gene(s) PMM1007;                           |
| 957732 -  | TSS_019441 | 1000 | 238   | 0 | 150 I | within gene(s) PMM1007;                                 |
| 957751 +  | TSS_006803 | 1000 | 226   | 0 | 4 Ai  | antisense to gene(s) PMM1007;                           |
| 957764 +  | TSS_006806 | 1000 | 148   | 0 | 3 Ai  | antisense to gene(s) PMM1007;                           |
| 957802 +  | TSS_006810 | 1000 | 226   | 0 | 4 Ai  | antisense to gene(s) PMM1007;                           |
| 957815 +  | TSS_006813 | 1000 | 148   | 0 | 0 Ai  | antisense to gene(s) PMM1007;                           |
| 957885 -  | TSS_019487 | 1000 | 240   | 0 | 0 I   | within gene(s) PMM1007;                                 |
| 957904 +  | TSS_006816 | 1000 | 226   | 0 | 4 Ai  | antisense to gene(s) PMM1007;                           |
| 957917 +  | TSS_006819 | 1000 | 148   | 0 | 3 Ai  | antisense to gene(s) PMM1007;                           |
| 957955 +  | TSS_006823 | 1000 | 226   | 0 | 4 Ai  | antisense to gene(s) PMM1007;                           |
| 957968 +  | TSS_006826 | 1000 | 148   | 0 | 3 Ai  | antisense to gene(s) PMM1007;                           |
| 957987 -  | TSS_019503 | 1000 | 238   | 0 | 135 I | within gene(s) PMM1007;                                 |
| 958006 +  | TSS_006830 | 1000 | 226   | 0 | 16 Ai | antisense to gene(s) PMM1007;                           |
| 958089 -  | TSS_019533 | 1000 | 240   | 0 | 12 I  | within gene(s) PMM1007;                                 |
| 958314 -  | TSS_019543 | 1000 | 172   | 0 | 0 P   | 15nt upstream of gene PMM1007;                          |
| 960692 -  | TSS_019548 | 1000 | 159   | 0 | 2 P   | 16nt upstream of gene PMM1011;                          |
| 961818 +  | TSS_006844 | 1000 | 358   | 0 | 3 P   | 14nt upstream of gene PMM1013;                          |
| 965105 +  | TSS_006852 | 1000 | 312   | 0 | 0 O   | -   |
| 971676 -  | TSS_019563 | 1000 | 220   | 0 | 0 P   | 4nt upstream of gene PMM1026;                           |
| 972175 -  | TSS_019564 | 1000 | 1054  | 0 | 2 O   | -   |
| 972740 +  | TSS_006873 | 1000 | 413   | 0 | 0 P   | 166nt upstream of gene PMM1028;                         |
| 973076 -  | TSS_019568 | 1000 | 257   | 0 | 0 Ai  | antisense to gene(s) PMM1028;                           |
| 973232 +  | TSS_006877 | 1000 | 1174  | 0 | 0 O   | -   |
| 974212 +  | TSS_006881 | 1000 | 429   | 0 | 2 P   | 36nt upstream of gene PMM1030;                          |
| 974221 +  | TSS_006882 | 1000 | 1393  | 0 | 1 P   | 27nt upstream of gene PMM1030;                          |
| 975550 +  | TSS_006890 | 1000 | 139   | 0 | 0 P   | 17nt upstream of gene PMM1032;                          |
| 977043 +  | TSS_006918 | 1000 | 1054  | 0 | 4 P   | 32nt upstream of gene PMM1033;                          |
| 977685 -  | TSS_019581 | 1000 | 102   | 0 | 0 Ai  | antisense to gene(s) PMM1033;                           |
| 978424 +  | TSS_006960 | 1000 | 127   | 0 | 0 I   | within gene(s) PMM1033 PMM1034;                         |
| 979706 -  | TSS_019594 | 1000 | 118   | 0 | 1 O   | -   |
| 981600 +  | TSS_006968 | 1000 | 109   | 0 | 0 I   | within gene(s) PMM1038;                                 |
| 984870 +  | TSS_006981 | 1000 | 285   | 0 | 4 I   | within gene(s) PMM1041;                                 |
| 985398 +  | TSS_006982 | 1000 | 421   | 0 | 0 IP  | within gene(s) PMM1041; 91nt upstream of gene PMM1042;  |
| 985474 +  | TSS_006987 | 1000 | 4489  | 0 | 7 P   | 15nt upstream of gene PMM1042;                          |
| 985522 +  | TSS_006988 | 1000 | 560   | 0 | 0 I   | within gene(s) PMM1042;                                 |
| 985651 +  | TSS_006989 | 1000 | 246   | 0 | 0 I   | within gene(s) PMM1042;                                 |
| 995402 +  | TSS_007000 | 1000 | 104   | 0 | 0 Ad  | antisense to gene(s) PMM1053 (3nt downstream);          |
| 996144 -  | TSS_019620 | 1000 | 314   | 0 | 0 IP  | within gene(s) PMM1054; 183nt upstream of gene PMM1053; |
| 996203 -  | TSS_019622 | 1000 | 101   | 0 | 0 IP  | within gene(s) PMM1054; 242nt upstream of gene PMM1053; |
| 997065 -  | TSS_019632 | 1000 | 145   | 0 | 1 I   | within gene(s) PMM1055;                                 |
| 998966 +  | TSS_007010 | 1000 | 1564  | 0 | 2 P   | 23nt upstream of gene PMM1058;                          |
| 1000663 - | TSS_019650 | 1000 | 843   | 0 | 2 P   | 16nt upstream of gene PMM1061;                          |
| 1000796 - | TSS_019653 | 1000 | 13371 | 0 | 3 P   | 149nt upstream of gene PMM1061;                         |
| 1000995 - | TSS_019655 | 1000 | 262   | 0 | 1 I   | within gene(s) PMM1062;                                 |
| 1001106 + | TSS_007017 | 1000 | 609   | 0 | 0 Ai  | antisense to gene(s) PMM1062;                           |
| 1002186 + | TSS_007023 | 1000 | 971   | 0 | 8 P   | 13nt upstream of gene PMM1063;                          |
| 1004709 + | TSS_007051 | 1000 | 101   | 0 | 9 IP  | within gene(s) PMM1063; 118nt upstream of gene PMM1064; |
| 1008963 + | TSS_007084 | 1000 | 529   | 0 | 0 I   | within gene(s) PMM1066;                                 |
| 1009566 + | TSS_007103 | 1000 | 143   | 0 | 0 P   | 29nt upstream of gene PMM1067;                          |
| 1009601 + | TSS_007105 | 1000 | 128   | 0 | 3 I   | within gene(s) PMM1067;                                 |



|           |            |      |      |   |       |   |
|-----------|------------|------|------|---|-------|---|
| 1011515 + | TSS_007111 | 1000 | 130  | 0 | 0 P   | 31nt upstream of gene PMM1069;                          |
| 1012301 + | TSS_007119 | 1000 | 305  | 0 | 0 IP  | within gene(s) PMM1069; 179nt upstream of gene PMM1070; |
| 1013805 - | TSS_019690 | 1000 | 176  | 0 | 0 Ai  | antisense to gene(s) PMM1071;                           |
| 1013842 - | TSS_019691 | 1000 | 123  | 0 | 0 Ai  | antisense to gene(s) PMM1071;                           |
| 1018128 - | TSS_019714 | 1000 | 1079 | 0 | 0 P   | 18nt upstream of gene PMM1074;                          |
| 1018304 + | TSS_007142 | 1000 | 403  | 0 | 1 Ai  | antisense to gene(s) PMM1075;                           |
| 1018315 + | TSS_007146 | 1000 | 182  | 0 | 8 Ai  | antisense to gene(s) PMM1075;                           |
| 1018329 + | TSS_007149 | 1000 | 113  | 0 | 0 Ai  | antisense to gene(s) PMM1075;                           |
| 1018424 - | TSS_019721 | 1000 | 390  | 0 | 4 I   | within gene(s) PMM1075;                                 |
| 1018453 + | TSS_007152 | 1000 | 148  | 0 | 1 Ai  | antisense to gene(s) PMM1075;                           |
| 1018466 - | TSS_019726 | 1000 | 137  | 0 | 6 I   | within gene(s) PMM1075;                                 |
| 1018469 + | TSS_007153 | 1000 | 335  | 0 | 0 Ai  | antisense to gene(s) PMM1075;                           |
| 1018476 + | TSS_007154 | 1000 | 183  | 0 | 0 Ai  | antisense to gene(s) PMM1075;                           |
| 1018484 - | TSS_019728 | 1000 | 101  | 0 | 3 I   | within gene(s) PMM1075;                                 |
| 1018496 - | TSS_019730 | 1000 | 101  | 0 | 3 I   | within gene(s) PMM1075;                                 |
| 1018534 + | TSS_007155 | 1000 | 119  | 0 | 0 Ai  | antisense to gene(s) PMM1075;                           |
| 1018598 + | TSS_007158 | 1000 | 717  | 0 | 3 Ai  | antisense to gene(s) PMM1075;                           |
| 1018619 - | TSS_019744 | 1000 | 138  | 0 | 12 I  | within gene(s) PMM1075;                                 |
| 1018629 + | TSS_007160 | 1000 | 134  | 0 | 4 Ai  | antisense to gene(s) PMM1075;                           |
| 1018655 - | TSS_019748 | 1000 | 1853 | 0 | 1 I   | within gene(s) PMM1075;                                 |
| 1018673 - | TSS_019751 | 1000 | 563  | 0 | 12 I  | within gene(s) PMM1075;                                 |
| 1018700 - | TSS_019754 | 1000 | 113  | 0 | 6 I   | within gene(s) PMM1075;                                 |
| 1018735 - | TSS_019761 | 1000 | 443  | 0 | 23 I  | within gene(s) PMM1075;                                 |
| 1018757 - | TSS_019766 | 1000 | 1526 | 0 | 15 I  | within gene(s) PMM1075;                                 |
| 1018758 + | TSS_007163 | 1000 | 166  | 0 | 1 Ai  | antisense to gene(s) PMM1075;                           |
| 1018769 - | TSS_019768 | 1000 | 235  | 0 | 0 I   | within gene(s) PMM1075;                                 |
| 1018796 - | TSS_019773 | 1000 | 315  | 0 | 30 I  | within gene(s) PMM1075;                                 |
| 1018832 - | TSS_019781 | 1000 | 178  | 0 | 6 I   | within gene(s) PMM1075;                                 |
| 1018856 - | TSS_019785 | 1000 | 512  | 0 | 12 I  | within gene(s) PMM1075;                                 |
| 1018865 - | TSS_019786 | 1000 | 119  | 0 | 0 I   | within gene(s) PMM1075;                                 |
| 1018895 - | TSS_019790 | 1000 | 109  | 0 | 15 I  | within gene(s) PMM1075;                                 |
| 1018949 - | TSS_019803 | 1000 | 273  | 0 | 67 I  | within gene(s) PMM1075;                                 |
| 1018979 - | TSS_019809 | 1000 | 204  | 0 | 6 I   | within gene(s) PMM1075;                                 |
| 1019132 - | TSS_019821 | 1000 | 104  | 0 | 0 I   | within gene(s) PMM1075;                                 |
| 1019153 - | TSS_019823 | 1000 | 511  | 0 | 12 I  | within gene(s) PMM1075;                                 |
| 1019195 - | TSS_019830 | 1000 | 338  | 0 | 18 I  | within gene(s) PMM1075;                                 |
| 1019219 - | TSS_019832 | 1000 | 772  | 0 | 0 I   | within gene(s) PMM1075;                                 |
| 1019366 - | TSS_019833 | 1000 | 1178 | 0 | 0 P   | 30nt upstream of gene PMM1075;                          |
| 1020266 + | TSS_007170 | 1000 | 296  | 0 | 0 Ai  | antisense to gene(s) PMM1077;                           |
| 1020379 - | TSS_019839 | 1000 | 3267 | 0 | 2 I   | within gene(s) PMM1077;                                 |
| 1020982 - | TSS_019844 | 1000 | 183  | 0 | 1 I   | within gene(s) PMM1077;                                 |
| 1021282 - | TSS_019845 | 1000 | 340  | 0 | 0 I   | within gene(s) PMM1077;                                 |
| 1022015 + | TSS_007175 | 1000 | 204  | 0 | 4 P   | 18nt upstream of gene PMM1079;                          |
| 1022762 - | TSS_019850 | 1000 | 260  | 0 | 0 I   | within gene(s) PMM1080;                                 |
| 1022836 + | TSS_007180 | 1000 | 109  | 0 | 0 Ai  | antisense to gene(s) PMM1080;                           |
| 1022879 + | TSS_007181 | 1000 | 166  | 0 | 0 Ai  | antisense to gene(s) PMM1080;                           |
| 1022993 - | TSS_019866 | 1000 | 166  | 0 | 27 I  | within gene(s) PMM1080;                                 |
| 1023018 - | TSS_019870 | 1000 | 207  | 0 | 5 I   | within gene(s) PMM1080;                                 |
| 1023140 + | TSS_007186 | 1000 | 219  | 0 | 6 Ai  | antisense to gene(s) PMM1080;                           |
| 1023402 - | TSS_019885 | 1000 | 151  | 0 | 0 I   | within gene(s) PMM1080;                                 |
| 1023493 - | TSS_019889 | 1000 | 2030 | 0 | 1 P   | 19nt upstream of gene PMM1080;                          |
| 1024480 + | TSS_007197 | 1000 | 289  | 0 | 10 I  | within gene(s) PMM1081;                                 |
| 1024757 - | TSS_019891 | 1000 | 170  | 0 | 0 Ai  | antisense to gene(s) PMM1081;                           |
| 1029223 - | TSS_019902 | 1000 | 177  | 0 | 0 Ai  | antisense to gene(s) PMM1085;                           |
| 1029801 - | TSS_019903 | 1000 | 272  | 0 | 0 Ai  | antisense to gene(s) PMM1085;                           |
| 1032141 + | TSS_007211 | 1000 | 505  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1032155 + | TSS_007212 | 1000 | 1041 | 0 | 1 Ai  | antisense to gene(s) PMM1088;                           |
| 1032254 - | TSS_019934 | 1000 | 231  | 0 | 15 IP | within gene(s) PMM1088; 245nt upstream of gene PMM1087; |
| 1032281 - | TSS_019940 | 1000 | 160  | 0 | 10 I  | within gene(s) PMM1088;                                 |
| 1032308 - | TSS_019946 | 1000 | 239  | 0 | 27 I  | within gene(s) PMM1088;                                 |
| 1032374 - | TSS_019958 | 1000 | 136  | 0 | 24 I  | within gene(s) PMM1088;                                 |
| 1032392 - | TSS_019962 | 1000 | 140  | 0 | 5 I   | within gene(s) PMM1088;                                 |
| 1032423 + | TSS_007216 | 1000 | 347  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1032451 + | TSS_007217 | 1000 | 132  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1032479 + | TSS_007219 | 1000 | 149  | 0 | 4 Ai  | antisense to gene(s) PMM1088;                           |
| 1032608 + | TSS_007223 | 1000 | 148  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1032676 - | TSS_019982 | 1000 | 110  | 0 | 5 I   | within gene(s) PMM1088;                                 |
| 1032686 - | TSS_019984 | 1000 | 191  | 0 | 4 I   | within gene(s) PMM1088;                                 |
| 1032714 + | TSS_007226 | 1000 | 239  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1032743 - | TSS_020001 | 1000 | 176  | 0 | 46 I  | within gene(s) PMM1088;                                 |
| 1032755 - | TSS_020003 | 1000 | 148  | 0 | 9 I   | within gene(s) PMM1088;                                 |
| 1032779 - | TSS_020009 | 1000 | 209  | 0 | 9 I   | within gene(s) PMM1088;                                 |
| 1032803 - | TSS_020015 | 1000 | 216  | 0 | 18 I  | within gene(s) PMM1088;                                 |
| 1032827 - | TSS_020019 | 1000 | 524  | 0 | 3 I   | within gene(s) PMM1088;                                 |
| 1032845 - | TSS_020021 | 1000 | 393  | 0 | 0 I   | within gene(s) PMM1088;                                 |
| 1032863 - | TSS_020023 | 1000 | 250  | 0 | 18 I  | within gene(s) PMM1088;                                 |
| 1032902 - | TSS_020031 | 1000 | 140  | 0 | 12 I  | within gene(s) PMM1088;                                 |
| 1032953 - | TSS_020038 | 1000 | 236  | 0 | 3 I   | within gene(s) PMM1088;                                 |
| 1033079 - | TSS_020049 | 1000 | 138  | 0 | 6 I   | within gene(s) PMM1088;                                 |

|           |            |      |      |   |       |   |
|-----------|------------|------|------|---|-------|---|
| 1033127 - | TSS_020057 | 1000 | 123  | 0 | 33 I  | within gene(s) PMM1088;                                 |
| 1033178 - | TSS_020068 | 1000 | 162  | 0 | 30 I  | within gene(s) PMM1088;                                 |
| 1033268 + | TSS_007234 | 1000 | 115  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1033286 - | TSS_020077 | 1000 | 155  | 0 | 0 I   | within gene(s) PMM1088;                                 |
| 1033346 - | TSS_020085 | 1000 | 359  | 0 | 24 I  | within gene(s) PMM1088;                                 |
| 1033361 - | TSS_020088 | 1000 | 149  | 0 | 6 I   | within gene(s) PMM1088;                                 |
| 1033430 - | TSS_020107 | 1000 | 537  | 0 | 78 I  | within gene(s) PMM1088;                                 |
| 1033472 - | TSS_020114 | 1000 | 349  | 0 | 12 I  | within gene(s) PMM1088;                                 |
| 1033493 - | TSS_020118 | 1000 | 446  | 0 | 0 I   | within gene(s) PMM1088;                                 |
| 1033547 - | TSS_020123 | 1000 | 210  | 0 | 12 I  | within gene(s) PMM1088;                                 |
| 1033637 - | TSS_020131 | 1000 | 125  | 0 | 12 I  | within gene(s) PMM1088;                                 |
| 1033667 - | TSS_020136 | 1000 | 252  | 0 | 6 I   | within gene(s) PMM1088;                                 |
| 1033688 - | TSS_020139 | 1000 | 166  | 0 | 9 I   | within gene(s) PMM1088;                                 |
| 1033787 + | TSS_007237 | 1000 | 119  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1033787 - | TSS_020149 | 1000 | 171  | 0 | 15 I  | within gene(s) PMM1088;                                 |
| 1033806 + | TSS_007238 | 1000 | 128  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1033847 - | TSS_020167 | 1000 | 272  | 0 | 54 I  | within gene(s) PMM1088;                                 |
| 1033868 - | TSS_020171 | 1000 | 450  | 0 | 7 I   | within gene(s) PMM1088;                                 |
| 1033904 - | TSS_020178 | 1000 | 198  | 0 | 21 I  | within gene(s) PMM1088;                                 |
| 1033940 - | TSS_020186 | 1000 | 719  | 0 | 21 I  | within gene(s) PMM1088;                                 |
| 1033961 - | TSS_020189 | 1000 | 175  | 0 | 0 I   | within gene(s) PMM1088;                                 |
| 1034009 - | TSS_020191 | 1000 | 201  | 0 | 6 I   | within gene(s) PMM1088;                                 |
| 1034030 - | TSS_020194 | 1000 | 117  | 0 | 9 I   | within gene(s) PMM1088;                                 |
| 1034052 + | TSS_007240 | 1000 | 110  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1034057 - | TSS_020197 | 1000 | 105  | 0 | 3 I   | within gene(s) PMM1088;                                 |
| 1034120 - | TSS_020203 | 1000 | 211  | 0 | 19 I  | within gene(s) PMM1088;                                 |
| 1034144 - | TSS_020208 | 1000 | 157  | 0 | 12 I  | within gene(s) PMM1088;                                 |
| 1034168 - | TSS_020212 | 1000 | 115  | 0 | 12 I  | within gene(s) PMM1088;                                 |
| 1034221 + | TSS_007248 | 1000 | 227  | 0 | 13 Ai | antisense to gene(s) PMM1088;                           |
| 1034242 + | TSS_007250 | 1000 | 201  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1034242 - | TSS_020219 | 1000 | 592  | 0 | 1 I   | within gene(s) PMM1088;                                 |
| 1034266 + | TSS_007252 | 1000 | 105  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1034282 - | TSS_020225 | 1000 | 134  | 0 | 12 I  | within gene(s) PMM1088;                                 |
| 1034297 - | TSS_020227 | 1000 | 335  | 0 | 13 I  | within gene(s) PMM1088;                                 |
| 1034333 - | TSS_020233 | 1000 | 173  | 0 | 3 I   | within gene(s) PMM1088;                                 |
| 1034343 + | TSS_007254 | 1000 | 188  | 0 | 0 Ai  | antisense to gene(s) PMM1088;                           |
| 1034369 - | TSS_020240 | 1000 | 340  | 0 | 33 I  | within gene(s) PMM1088;                                 |
| 1034380 + | TSS_007258 | 1000 | 400  | 0 | 4 Ai  | antisense to gene(s) PMM1088;                           |
| 1034390 - | TSS_020243 | 1000 | 311  | 0 | 9 I   | within gene(s) PMM1088;                                 |
| 1034423 - | TSS_020254 | 1000 | 486  | 0 | 30 I  | within gene(s) PMM1088;                                 |
| 1034447 - | TSS_020260 | 1000 | 240  | 0 | 0 I   | within gene(s) PMM1088;                                 |
| 1034467 - | TSS_020261 | 1000 | 220  | 0 | 1 I   | within gene(s) PMM1088;                                 |
| 1034492 - | TSS_020263 | 1000 | 134  | 0 | 0 I   | within gene(s) PMM1088;                                 |
| 1034507 - | TSS_020265 | 1000 | 280  | 0 | 9 I   | within gene(s) PMM1088;                                 |
| 1035252 + | TSS_007260 | 1000 | 628  | 0 | 1 P   | 14nt upstream of gene PMM1090;                          |
| 1036076 + | TSS_007272 | 1000 | 611  | 0 | 7 I   | within gene(s) PMM1090;                                 |
| 1037521 + | TSS_007286 | 1000 | 147  | 0 | 0 IP  | within gene(s) PMM1091; 41nt upstream of gene PMM1092;  |
| 1037579 - | TSS_020276 | 1000 | 412  | 0 | 0 Ai  | antisense to gene(s) PMM1092;                           |
| 1038879 - | TSS_020281 | 1000 | 156  | 0 | 0 Ai  | antisense to gene(s) PMM1093;                           |
| 1039004 + | TSS_007298 | 1000 | 170  | 0 | 2 I   | within gene(s) PMM1093;                                 |
| 1041219 + | TSS_007306 | 1000 | 129  | 0 | 0 Ai  | antisense to gene(s) PMM1096;                           |
| 1041770 + | TSS_007307 | 1000 | 804  | 0 | 1 Ai  | antisense to gene(s) PMM1097;                           |
| 1042334 - | TSS_020287 | 1000 | 231  | 0 | 0 P   | 14nt upstream of gene PMM1097;                          |
| 1042406 + | TSS_007312 | 1000 | 3259 | 0 | 1 P   | 20nt upstream of gene PMM1098;                          |
| 1042483 + | TSS_007317 | 1000 | 107  | 0 | 9 I   | within gene(s) PMM1098;                                 |
| 1042908 - | TSS_020293 | 1000 | 181  | 0 | 1 Ai  | antisense to gene(s) PMM1098;                           |
| 1043114 + | TSS_007337 | 1000 | 133  | 0 | 0 Ai  | antisense to gene(s) PMM1099;                           |
| 1057074 - | TSS_020304 | 1000 | 2912 | 0 | 1 P   | 35nt upstream of gene PMM1107;                          |
| 1057110 - | TSS_020306 | 1000 | 166  | 0 | 0 P   | 71nt upstream of gene PMM1107;                          |
| 1058110 + | TSS_007360 | 1000 | 156  | 0 | 1 I   | within gene(s) PMM1109;                                 |
| 1058522 + | TSS_007366 | 1000 | 689  | 0 | 3 IP  | within gene(s) PMM1110; 95nt upstream of gene PMM1111;  |
| 1059299 + | TSS_007373 | 1000 | 651  | 0 | 2 P   | 47nt upstream of gene PMM1113;                          |
| 1059838 + | TSS_007383 | 1000 | 116  | 0 | 2 I   | within gene(s) PMM1113;                                 |
| 1059858 + | TSS_007385 | 1000 | 422  | 0 | 2 I   | within gene(s) PMM1113;                                 |
| 1063653 - | TSS_020334 | 1000 | 106  | 0 | 9 IP  | within gene(s) PMM1117; 84nt upstream of gene PMM1116;  |
| 1063680 - | TSS_020336 | 1000 | 119  | 0 | 4 IP  | within gene(s) PMM1117; 111nt upstream of gene PMM1116; |
| 1063850 + | TSS_007403 | 1000 | 185  | 0 | 4 O   | -   |
| 1064477 + | TSS_007404 | 1000 | 130  | 0 | 0 P   | 24nt upstream of gene PMM1118;                          |
| 1065133 + | TSS_007407 | 1000 | 116  | 0 | 0 Ai  | antisense to gene(s) PMM1119;                           |
| 1065289 + | TSS_007411 | 1000 | 749  | 0 | 0 Ai  | antisense to gene(s) PMM1119;                           |
| 1065304 + | TSS_007412 | 1000 | 1804 | 0 | 0 Ai  | antisense to gene(s) PMM1119;                           |
| 1065312 + | TSS_007413 | 1000 | 491  | 0 | 0 Ai  | antisense to gene(s) PMM1119;                           |
| 1065322 + | TSS_007414 | 1000 | 129  | 0 | 0 Ai  | antisense to gene(s) PMM1119;                           |
| 1065335 + | TSS_007415 | 1000 | 113  | 0 | 0 Ai  | antisense to gene(s) PMM1119;                           |
| 1065409 + | TSS_007417 | 1000 | 523  | 0 | 5 Ai  | antisense to gene(s) PMM1119;                           |
| 1065446 + | TSS_007421 | 1000 | 287  | 0 | 0 Ai  | antisense to gene(s) PMM1119;                           |
| 1065544 + | TSS_007422 | 1000 | 132  | 0 | 0 Ai  | antisense to gene(s) PMM1119;                           |
| 1065751 + | TSS_007424 | 1000 | 249  | 0 | 0 Ai  | antisense to gene(s) PMM1119;                           |
| 1068349 + | TSS_007435 | 1000 | 116  | 0 | 0 Ai  | antisense to gene(s) PMM1121;                           |

|           |            |      |      |   |       |  |
|-----------|------------|------|------|---|-------|--|
| 1068501 - | TSS_020346 | 1000 | 652  | 0 | 3 I   | within gene(s) PMM1121;                                |
| 1068505 + | TSS_007440 | 1000 | 749  | 0 | 0 Ai  | antisense to gene(s) PMM1121;                          |
| 1068519 - | TSS_020348 | 1000 | 1699 | 0 | 15 I  | within gene(s) PMM1121;                                |
| 1068520 + | TSS_007441 | 1000 | 1804 | 0 | 0 Ai  | antisense to gene(s) PMM1121;                          |
| 1068528 + | TSS_007442 | 1000 | 491  | 0 | 0 Ai  | antisense to gene(s) PMM1121;                          |
| 1068538 + | TSS_007443 | 1000 | 129  | 0 | 0 Ai  | antisense to gene(s) PMM1121;                          |
| 1068551 + | TSS_007444 | 1000 | 113  | 0 | 0 Ai  | antisense to gene(s) PMM1121;                          |
| 1068552 - | TSS_020353 | 1000 | 395  | 0 | 3 I   | within gene(s) PMM1121;                                |
| 1068564 + | TSS_007445 | 1000 | 138  | 0 | 0 Ai  | antisense to gene(s) PMM1121;                          |
| 1068570 - | TSS_020357 | 1000 | 1511 | 0 | 9 I   | within gene(s) PMM1121;                                |
| 1068588 - | TSS_020360 | 1000 | 478  | 0 | 3 I   | within gene(s) PMM1121;                                |
| 1068603 - | TSS_020363 | 1000 | 2418 | 0 | 20 I  | within gene(s) PMM1121;                                |
| 1068625 + | TSS_007449 | 1000 | 523  | 0 | 13 Ai | antisense to gene(s) PMM1121;                          |
| 1068645 - | TSS_020368 | 1000 | 324  | 0 | 0 I   | within gene(s) PMM1121;                                |
| 1068662 + | TSS_007453 | 1000 | 287  | 0 | 0 Ai  | antisense to gene(s) PMM1121;                          |
| 1068666 - | TSS_020374 | 1000 | 2059 | 0 | 26 I  | within gene(s) PMM1121;                                |
| 1068693 - | TSS_020381 | 1000 | 599  | 0 | 12 I  | within gene(s) PMM1121;                                |
| 1068760 + | TSS_007454 | 1000 | 132  | 0 | 0 Ai  | antisense to gene(s) PMM1121;                          |
| 1068967 + | TSS_007456 | 1000 | 249  | 0 | 0 Ai  | antisense to gene(s) PMM1121;                          |
| 1069050 - | TSS_020387 | 1000 | 1845 | 0 | 18 I  | within gene(s) PMM1121;                                |
| 1069074 - | TSS_020391 | 1000 | 1030 | 0 | 48 I  | within gene(s) PMM1121;                                |
| 1069166 + | TSS_007461 | 1000 | 140  | 0 | 1 Ai  | antisense to gene(s) PMM1121;                          |
| 1069167 - | TSS_020421 | 1000 | 802  | 0 | 36 I  | within gene(s) PMM1121;                                |
| 1069179 - | TSS_020423 | 1000 | 636  | 0 | 3 I   | within gene(s) PMM1121;                                |
| 1069197 - | TSS_020427 | 1000 | 1097 | 0 | 18 I  | within gene(s) PMM1121;                                |
| 1069204 + | TSS_007463 | 1000 | 128  | 0 | 0 Ai  | antisense to gene(s) PMM1121;                          |
| 1069227 - | TSS_020433 | 1000 | 263  | 0 | 0 I   | within gene(s) PMM1121;                                |
| 1069243 + | TSS_007465 | 1000 | 1192 | 0 | 1 Ai  | antisense to gene(s) PMM1121;                          |
| 1069251 - | TSS_020434 | 1000 | 629  | 0 | 3 I   | within gene(s) PMM1121;                                |
| 1069261 + | TSS_007466 | 1000 | 279  | 0 | 1 Ai  | antisense to gene(s) PMM1121;                          |
| 1069269 - | TSS_020438 | 1000 | 410  | 0 | 3 I   | within gene(s) PMM1121;                                |
| 1069296 - | TSS_020441 | 1000 | 126  | 0 | 12 I  | within gene(s) PMM1121;                                |
| 1069339 + | TSS_007468 | 1000 | 276  | 0 | 0 Ai  | antisense to gene(s) PMM1121;                          |
| 1069447 - | TSS_020442 | 1000 | 1914 | 0 | 2 P   | 28nt upstream of gene PMM1121;                         |
| 1071728 + | TSS_007475 | 1000 | 810  | 0 | 0 Ai  | antisense to gene(s) PMM1123;                          |
| 1071742 - | TSS_020460 | 1000 | 105  | 0 | 0 I   | within gene(s) PMM1123;                                |
| 1071763 - | TSS_020463 | 1000 | 124  | 0 | 10 I  | within gene(s) PMM1123;                                |
| 1071771 + | TSS_007476 | 1000 | 110  | 0 | 3 Ai  | antisense to gene(s) PMM1123;                          |
| 1071780 - | TSS_020466 | 1000 | 596  | 0 | 0 I   | within gene(s) PMM1123;                                |
| 1071792 - | TSS_020467 | 1000 | 142  | 0 | 0 I   | within gene(s) PMM1123;                                |
| 1071805 - | TSS_020469 | 1000 | 295  | 0 | 20 I  | within gene(s) PMM1123;                                |
| 1071856 - | TSS_020477 | 1000 | 117  | 0 | 0 I   | within gene(s) PMM1123;                                |
| 1071889 - | TSS_020482 | 1000 | 129  | 0 | 24 I  | within gene(s) PMM1123;                                |
| 1071928 - | TSS_020488 | 1000 | 709  | 0 | 16 I  | within gene(s) PMM1123;                                |
| 1071975 - | TSS_020498 | 1000 | 183  | 0 | 12 I  | within gene(s) PMM1123;                                |
| 1072021 - | TSS_020503 | 1000 | 152  | 0 | 12 I  | within gene(s) PMM1123;                                |
| 1072087 - | TSS_020508 | 1000 | 249  | 0 | 1 I   | within gene(s) PMM1123;                                |
| 1072132 - | TSS_020515 | 1000 | 560  | 0 | 30 I  | within gene(s) PMM1123;                                |
| 1072161 - | TSS_020525 | 1000 | 109  | 0 | 2 I   | within gene(s) PMM1123;                                |
| 1072179 - | TSS_020527 | 1000 | 154  | 0 | 3 I   | within gene(s) PMM1123;                                |
| 1072201 - | TSS_020532 | 1000 | 950  | 0 | 21 I  | within gene(s) PMM1123;                                |
| 1072334 - | TSS_020540 | 1000 | 141  | 0 | 1 I   | within gene(s) PMM1123;                                |
| 1072352 - | TSS_020543 | 1000 | 342  | 0 | 6 I   | within gene(s) PMM1123;                                |
| 1072364 + | TSS_007478 | 1000 | 249  | 0 | 0 Ai  | antisense to gene(s) PMM1123;                          |
| 1072388 - | TSS_020548 | 1000 | 134  | 0 | 6 P   | 13nt upstream of gene PMM1123;                         |
| 1074287 - | TSS_020555 | 1000 | 634  | 0 | 1 I   | within gene(s) PMM1124;                                |
| 1078286 - | TSS_020560 | 1000 | 784  | 0 | 2 I   | within gene(s) PMM1127;                                |
| 1078972 - | TSS_020563 | 1000 | 110  | 0 | 0 O   | -  |
| 1079462 - | TSS_020565 | 1000 | 1897 | 0 | 3 P   | 17nt upstream of gene PMM1128;                         |
| 1080845 + | TSS_007500 | 1000 | 192  | 0 | 1 P   | 24nt upstream of gene PMM1131;                         |
| 1082063 - | TSS_020572 | 1000 | 2016 | 0 | 3 O   | -  |
| 1082218 + | TSS_007509 | 1000 | 2110 | 0 | 4 P   | 51nt upstream of gene PMM1132;                         |
| 1083365 - | TSS_020576 | 1000 | 201  | 0 | 1 Ai  | antisense to gene(s) PMM1132;                          |
| 1083716 + | TSS_007520 | 1000 | 122  | 0 | 0 I   | within gene(s) PMM1132;                                |
| 1085043 + | TSS_007523 | 1000 | 2727 | 0 | 1 P   | 19nt upstream of gene PMM1134;                         |
| 1085641 + | TSS_007530 | 1000 | 4065 | 0 | 4 P   | 15nt upstream of gene PMM1135;                         |
| 1087615 + | TSS_007541 | 1000 | 500  | 0 | 0 O   | -  |
| 1090775 + | TSS_007546 | 1000 | 395  | 0 | 0 I   | within gene(s) PMM1140;                                |
| 1094754 + | TSS_007555 | 1000 | 477  | 0 | 1 P   | 29nt upstream of gene PMM1142;                         |
| 1095730 + | TSS_007561 | 1000 | 217  | 0 | 0 I   | within gene(s) PMM1142;                                |
| 1098755 - | TSS_020628 | 1000 | 126  | 0 | 2 I   | within gene(s) PMM1145;                                |
| 1099273 - | TSS_020634 | 1000 | 225  | 0 | 0 IP  | within gene(s) PMM1147; 96nt upstream of gene PMM1146; |
| 1100340 - | TSS_020654 | 1000 | 1394 | 0 | 7 P   | 17nt upstream of gene PMM1147;                         |
| 1100440 + | TSS_007578 | 1000 | 611  | 0 | 1 P   | 16nt upstream of gene PMM1148;                         |
| 1100588 + | TSS_007582 | 1000 | 111  | 0 | 0 I   | within gene(s) PMM1148;                                |
| 1100603 + | TSS_007584 | 1000 | 258  | 0 | 3 I   | within gene(s) PMM1148;                                |
| 1100633 + | TSS_007589 | 1000 | 249  | 0 | 40 I  | within gene(s) PMM1148;                                |
| 1100672 + | TSS_007599 | 1000 | 110  | 0 | 0 I   | within gene(s) PMM1148;                                |
| 1100708 + | TSS_007607 | 1000 | 222  | 0 | 21 I  | within gene(s) PMM1148;                                |

|           |            |      |       |   |       |   |
|-----------|------------|------|-------|---|-------|---|
| 1100717 + | TSS_007608 | 1000 | 124   | 0 | 0 I   | within gene(s) PMM1148;                                       |
| 1100756 + | TSS_007612 | 1000 | 180   | 0 | 22 I  | within gene(s) PMM1148;                                       |
| 1100792 + | TSS_007618 | 1000 | 234   | 0 | 15 I  | within gene(s) PMM1148;                                       |
| 1100867 + | TSS_007633 | 1000 | 271   | 0 | 5 I   | within gene(s) PMM1148;                                       |
| 1100965 - | TSS_020659 | 1000 | 151   | 0 | 0 Ai  | antisense to gene(s) PMM1148;                                 |
| 1101175 + | TSS_007638 | 1000 | 5020  | 0 | 2 P   | 15nt upstream of gene PMM1149;                                |
| 1102029 + | TSS_007680 | 1000 | 149   | 0 | 2 I   | within gene(s) PMM1150;                                       |
| 1103158 - | TSS_020670 | 1000 | 2067  | 0 | 2 P   | 16nt upstream of gene PMM1151;                                |
| 1103474 - | TSS_020672 | 1000 | 929   | 0 | 2 O   | -   |
| 1104384 + | TSS_007707 | 1000 | 107   | 0 | 0 Ai  | antisense to gene(s) PMM1152;                                 |
| 1104451 + | TSS_007708 | 1000 | 405   | 0 | 0 PAI | 217nt upstream of gene PMM1153; antisense to gene(s) PMM1152; |
| 1104492 - | TSS_020680 | 1000 | 279   | 0 | 0 P   | 18nt upstream of gene PMM1152;                                |
| 1104544 - | TSS_020682 | 1000 | 307   | 0 | 6 IP  | within gene(s) PMM1152a; 70nt upstream of gene PMM1152;       |
| 1104586 - | TSS_020686 | 1000 | 3384  | 0 | 1 IP  | within gene(s) PMM1152a; 112nt upstream of gene PMM1152;      |
| 1105595 + | TSS_007711 | 1000 | 476   | 0 | 5 IP  | within gene(s) PMM1153; 99nt upstream of gene PMM1154;        |
| 1107430 - | TSS_020693 | 1000 | 1140  | 0 | 3 P   | 2nt upstream of gene PMM1156;                                 |
| 1108089 + | TSS_007720 | 1000 | 985   | 0 | 9 I   | within gene(s) PMM1157;                                       |
| 1108099 + | TSS_007722 | 1000 | 362   | 0 | 0 I   | within gene(s) PMM1157;                                       |
| 1108108 + | TSS_007723 | 1000 | 2406  | 0 | 1 I   | within gene(s) PMM1157;                                       |
| 1108118 + | TSS_007726 | 1000 | 586   | 0 | 1 I   | within gene(s) PMM1157;                                       |
| 1108135 + | TSS_007730 | 1000 | 247   | 0 | 9 I   | within gene(s) PMM1157;                                       |
| 1108144 + | TSS_007731 | 1000 | 196   | 0 | 3 I   | within gene(s) PMM1157;                                       |
| 1108162 + | TSS_007733 | 1000 | 772   | 0 | 1 I   | within gene(s) PMM1157;                                       |
| 1108207 + | TSS_007735 | 1000 | 181   | 0 | 0 I   | within gene(s) PMM1157;                                       |
| 1108225 + | TSS_007737 | 1000 | 519   | 0 | 6 I   | within gene(s) PMM1157;                                       |
| 1108300 + | TSS_007751 | 1000 | 2212  | 0 | 93 I  | within gene(s) PMM1157;                                       |
| 1108361 - | TSS_020701 | 1000 | 1327  | 0 | 4 Ai  | antisense to gene(s) PMM1157;                                 |
| 1108375 + | TSS_007770 | 1000 | 717   | 0 | 6 I   | within gene(s) PMM1157;                                       |
| 1108441 + | TSS_007787 | 1000 | 4344  | 0 | 50 IP | within gene(s) PMM1157; 232nt upstream of gene PMM1158;       |
| 1108450 + | TSS_007788 | 1000 | 3103  | 0 | 10 IP | within gene(s) PMM1157; 223nt upstream of gene PMM1158;       |
| 1108498 + | TSS_007798 | 1000 | 5902  | 0 | 15 IP | within gene(s) PMM1157; 175nt upstream of gene PMM1158;       |
| 1108513 + | TSS_007801 | 1000 | 1352  | 0 | 9 IP  | within gene(s) PMM1157; 160nt upstream of gene PMM1158;       |
| 1108534 + | TSS_007803 | 1000 | 399   | 0 | 0 IP  | within gene(s) PMM1157; 139nt upstream of gene PMM1158;       |
| 1108543 + | TSS_007804 | 1000 | 261   | 0 | 0 IP  | within gene(s) PMM1157; 130nt upstream of gene PMM1158;       |
| 1108576 + | TSS_007805 | 1000 | 338   | 0 | 0 IP  | within gene(s) PMM1157; 97nt upstream of gene PMM1158;        |
| 1108597 + | TSS_007806 | 1000 | 293   | 0 | 0 IP  | within gene(s) PMM1157; 76nt upstream of gene PMM1158;        |
| 1108620 + | TSS_007812 | 1000 | 18120 | 0 | 21 IP | within gene(s) PMM1157; 53nt upstream of gene PMM1158;        |
| 1108639 + | TSS_007816 | 1000 | 585   | 0 | 6 IP  | within gene(s) PMM1157; 34nt upstream of gene PMM1158;        |
| 1108654 + | TSS_007820 | 1000 | 527   | 0 | 0 IP  | within gene(s) PMM1157; 19nt upstream of gene PMM1158;        |
| 1108670 + | TSS_007821 | 1000 | 1039  | 0 | 2 IP  | within gene(s) PMM1157; 3nt upstream of gene PMM1158;         |
| 1108757 + | TSS_007827 | 1000 | 881   | 0 | 12 I  | within gene(s) PMM1158;                                       |
| 1108805 + | TSS_007834 | 1000 | 4289  | 0 | 23 I  | within gene(s) PMM1158;                                       |
| 1108911 - | TSS_020708 | 1000 | 156   | 0 | 0 Ai  | antisense to gene(s) PMM1158;                                 |
| 1108924 - | TSS_020709 | 1000 | 240   | 0 | 0 Ai  | antisense to gene(s) PMM1158;                                 |
| 1108925 + | TSS_007839 | 1000 | 167   | 0 | 0 I   | within gene(s) PMM1158;                                       |
| 1108940 + | TSS_007840 | 1000 | 468   | 0 | 0 I   | within gene(s) PMM1158;                                       |
| 1108955 + | TSS_007841 | 1000 | 232   | 0 | 0 I   | within gene(s) PMM1158;                                       |
| 1108982 + | TSS_007848 | 1000 | 1466  | 0 | 19 I  | within gene(s) PMM1158;                                       |
| 1109017 - | TSS_020710 | 1000 | 144   | 0 | 0 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109018 + | TSS_007853 | 1000 | 1382  | 0 | 10 I  | within gene(s) PMM1158;                                       |
| 1109031 - | TSS_020712 | 1000 | 207   | 0 | 1 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109039 + | TSS_007855 | 1000 | 228   | 0 | 3 I   | within gene(s) PMM1158;                                       |
| 1109043 - | TSS_020714 | 1000 | 240   | 0 | 6 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109073 + | TSS_007861 | 1000 | 373   | 0 | 27 I  | within gene(s) PMM1158;                                       |
| 1109084 - | TSS_020717 | 1000 | 1125  | 0 | 0 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109099 + | TSS_007866 | 1000 | 446   | 0 | 6 I   | within gene(s) PMM1158;                                       |
| 1109108 + | TSS_007867 | 1000 | 213   | 0 | 0 I   | within gene(s) PMM1158;                                       |
| 1109147 + | TSS_007868 | 1000 | 225   | 0 | 0 I   | within gene(s) PMM1158;                                       |
| 1109165 - | TSS_020719 | 1000 | 268   | 0 | 1 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109196 - | TSS_020721 | 1000 | 1089  | 0 | 3 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109204 + | TSS_007876 | 1000 | 862   | 0 | 36 I  | within gene(s) PMM1158;                                       |
| 1109212 - | TSS_020726 | 1000 | 467   | 0 | 6 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109264 + | TSS_007889 | 1000 | 713   | 0 | 22 I  | within gene(s) PMM1158;                                       |
| 1109279 + | TSS_007892 | 1000 | 281   | 0 | 9 I   | within gene(s) PMM1158;                                       |
| 1109298 - | TSS_020727 | 1000 | 109   | 0 | 0 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109375 + | TSS_007897 | 1000 | 103   | 0 | 0 I   | within gene(s) PMM1158;                                       |
| 1109387 + | TSS_007898 | 1000 | 180   | 0 | 3 I   | within gene(s) PMM1158;                                       |
| 1109398 - | TSS_020728 | 1000 | 830   | 0 | 1 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109399 + | TSS_007901 | 1000 | 300   | 0 | 16 I  | within gene(s) PMM1158;                                       |
| 1109436 + | TSS_007911 | 1000 | 190   | 0 | 6 I   | within gene(s) PMM1158;                                       |
| 1109461 - | TSS_020730 | 1000 | 722   | 0 | 0 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109465 + | TSS_007918 | 1000 | 254   | 0 | 18 I  | within gene(s) PMM1158;                                       |
| 1109477 + | TSS_007920 | 1000 | 318   | 0 | 1 I   | within gene(s) PMM1158;                                       |
| 1109540 + | TSS_007925 | 1000 | 542   | 0 | 35 I  | within gene(s) PMM1158;                                       |
| 1109582 - | TSS_020732 | 1000 | 105   | 0 | 0 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109618 + | TSS_007943 | 1000 | 126   | 0 | 0 I   | within gene(s) PMM1158;                                       |
| 1109653 - | TSS_020734 | 1000 | 289   | 0 | 0 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109680 - | TSS_020736 | 1000 | 109   | 0 | 1 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109694 - | TSS_020737 | 1000 | 1675  | 0 | 1 Ai  | antisense to gene(s) PMM1158;                                 |

|           |            |      |       |   |       |   |
|-----------|------------|------|-------|---|-------|---|
| 1109705 - | TSS_020739 | 1000 | 286   | 0 | 1 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109792 - | TSS_020741 | 1000 | 480   | 0 | 1 Ai  | antisense to gene(s) PMM1158;                                 |
| 1109834 + | TSS_007962 | 1000 | 149   | 0 | 0 I   | within gene(s) PMM1158;                                       |
| 1109873 + | TSS_007963 | 1000 | 187   | 0 | 0 I   | within gene(s) PMM1158;                                       |
| 1115277 + | TSS_007978 | 1000 | 140   | 0 | 1 O   | -   |
| 1115437 + | TSS_007981 | 1000 | 405   | 0 | 1 O   | -   |
| 1118179 - | TSS_020766 | 1000 | 312   | 0 | 1 P   | 33nt upstream of gene PMM1165;                                |
| 1120049 + | TSS_007990 | 1000 | 1097  | 0 | 1 P   | 15nt upstream of gene PMM1169;                                |
| 1121150 + | TSS_007994 | 1000 | 313   | 0 | 0 Ai  | antisense to gene(s) PMM1171;                                 |
| 1121159 + | TSS_007995 | 1000 | 448   | 0 | 0 Ai  | antisense to gene(s) PMM1171;                                 |
| 1121311 + | TSS_007997 | 1000 | 154   | 0 | 0 Ai  | antisense to gene(s) PMM1171;                                 |
| 1121377 + | TSS_007999 | 1000 | 159   | 0 | 1 Ai  | antisense to gene(s) PMM1171;                                 |
| 1121400 - | TSS_020791 | 1000 | 338   | 0 | 0 I   | within gene(s) PMM1171;                                       |
| 1121448 - | TSS_020792 | 1000 | 135   | 0 | 3 I   | within gene(s) PMM1171;                                       |
| 1121466 - | TSS_020795 | 1000 | 529   | 0 | 7 I   | within gene(s) PMM1171;                                       |
| 1121481 - | TSS_020798 | 1000 | 114   | 0 | 0 I   | within gene(s) PMM1171;                                       |
| 1121493 - | TSS_020799 | 1000 | 151   | 0 | 0 I   | within gene(s) PMM1171;                                       |
| 1121508 - | TSS_020800 | 1000 | 276   | 0 | 15 I  | within gene(s) PMM1171;                                       |
| 1121580 - | TSS_020805 | 1000 | 4491  | 0 | 0 P   | 27nt upstream of gene PMM1171;                                |
| 1122779 + | TSS_008001 | 1000 | 400   | 0 | 1 P   | 17nt upstream of gene PMM1174;                                |
| 1123430 - | TSS_020808 | 1000 | 662   | 0 | 6 Ai  | antisense to gene(s) PMM1175;                                 |
| 1124119 + | TSS_008006 | 1000 | 155   | 0 | 0 I   | within gene(s) PMM1176;                                       |
| 1127018 + | TSS_008013 | 1000 | 499   | 0 | 0 Ai  | antisense to gene(s) PMM1178;                                 |
| 1127626 + | TSS_008018 | 1000 | 3732  | 0 | 2 Ai  | antisense to gene(s) PMM1179;                                 |
| 1128259 + | TSS_008025 | 1000 | 699   | 0 | 1 P   | 28nt upstream of gene PMM1180;                                |
| 1128268 + | TSS_008027 | 1000 | 437   | 0 | 3 P   | 19nt upstream of gene PMM1180;                                |
| 1128474 - | TSS_020829 | 1000 | 1259  | 0 | 2 PAi | 241nt upstream of gene PMM1179; antisense to gene(s) PMM1180; |
| 1128570 - | TSS_020830 | 1000 | 962   | 0 | 0 Ai  | antisense to gene(s) PMM1180;                                 |
| 1130036 + | TSS_008058 | 1000 | 164   | 0 | 15 IP | within gene(s) PMM1182; 123nt upstream of gene PMM1183;       |
| 1130146 + | TSS_008065 | 1000 | 17023 | 0 | 4 P   | 13nt upstream of gene PMM1183;                                |
| 1130398 - | TSS_020839 | 1000 | 362   | 0 | 0 Ai  | antisense to gene(s) PMM1184;                                 |
| 1130619 + | TSS_008067 | 1000 | 116   | 0 | 1 IP  | within gene(s) PMM1184; 74nt upstream of gene PMM1185;        |
| 1130649 + | TSS_008070 | 1000 | 1022  | 0 | 0 IP  | within gene(s) PMM1184; 44nt upstream of gene PMM1185;        |
| 1131120 + | TSS_008074 | 1000 | 244   | 0 | 2 P   | 59nt upstream of gene PMM1186;                                |
| 1131150 + | TSS_008076 | 1000 | 5266  | 0 | 4 P   | 29nt upstream of gene PMM1186;                                |
| 1131452 + | TSS_008089 | 1000 | 142   | 0 | 12 I  | within gene(s) PMM1186;                                       |
| 1131719 + | TSS_008097 | 1000 | 637   | 0 | 12 I  | within gene(s) PMM1186;                                       |
| 1131752 + | TSS_008101 | 1000 | 113   | 0 | 1 I   | within gene(s) PMM1186;                                       |
| 1131989 + | TSS_008109 | 1000 | 179   | 0 | 1 I   | within gene(s) PMM1186;                                       |
| 1133995 + | TSS_008119 | 1000 | 678   | 0 | 5 I   | within gene(s) PMM1188;                                       |
| 1136341 + | TSS_008129 | 1000 | 154   | 0 | 0 P   | 18nt upstream of gene PMM1190;                                |
| 1136852 + | TSS_008136 | 1000 | 1079  | 0 | 1 P   | 0nt upstream of gene PMM1191;                                 |
| 1136948 + | TSS_008141 | 1000 | 132   | 0 | 0 I   | within gene(s) PMM1191;                                       |
| 1136957 + | TSS_008142 | 1000 | 122   | 0 | 0 I   | within gene(s) PMM1191;                                       |
| 1137017 + | TSS_008147 | 1000 | 169   | 0 | 18 I  | within gene(s) PMM1191;                                       |
| 1137053 + | TSS_008151 | 1000 | 240   | 0 | 7 I   | within gene(s) PMM1191;                                       |
| 1137057 - | TSS_020853 | 1000 | 101   | 0 | 0 Ai  | antisense to gene(s) PMM1191;                                 |
| 1137073 - | TSS_020856 | 1000 | 286   | 0 | 11 Ai | antisense to gene(s) PMM1191;                                 |
| 1137086 + | TSS_008154 | 1000 | 165   | 0 | 3 I   | within gene(s) PMM1191;                                       |
| 1137131 + | TSS_008158 | 1000 | 124   | 0 | 4 I   | within gene(s) PMM1191;                                       |
| 1137144 + | TSS_008162 | 1000 | 610   | 0 | 15 I  | within gene(s) PMM1191;                                       |
| 1137185 + | TSS_008169 | 1000 | 156   | 0 | 0 I   | within gene(s) PMM1191;                                       |
| 1137200 + | TSS_008171 | 1000 | 245   | 0 | 8 I   | within gene(s) PMM1191;                                       |
| 1137233 + | TSS_008175 | 1000 | 208   | 0 | 0 I   | within gene(s) PMM1191;                                       |
| 1137285 - | TSS_020860 | 1000 | 208   | 0 | 0 Ai  | antisense to gene(s) PMM1191;                                 |
| 1137321 - | TSS_020861 | 1000 | 270   | 0 | 0 Ai  | antisense to gene(s) PMM1191;                                 |
| 1137362 + | TSS_008187 | 1000 | 102   | 0 | 12 I  | within gene(s) PMM1191;                                       |
| 1137382 - | TSS_020863 | 1000 | 1874  | 0 | 1 Ai  | antisense to gene(s) PMM1191;                                 |
| 1137394 - | TSS_020864 | 1000 | 387   | 0 | 0 Ai  | antisense to gene(s) PMM1191;                                 |
| 1137842 + | TSS_008207 | 1000 | 203   | 0 | 6 I   | within gene(s) PMM1191;                                       |
| 1137863 + | TSS_008212 | 1000 | 106   | 0 | 6 I   | within gene(s) PMM1191;                                       |
| 1137881 + | TSS_008214 | 1000 | 149   | 0 | 4 I   | within gene(s) PMM1191;                                       |
| 1138019 + | TSS_008226 | 1000 | 129   | 0 | 23 I  | within gene(s) PMM1191;                                       |
| 1138050 - | TSS_020872 | 1000 | 185   | 0 | 1 Ai  | antisense to gene(s) PMM1191;                                 |
| 1138133 + | TSS_008241 | 1000 | 164   | 0 | 21 I  | within gene(s) PMM1191;                                       |
| 1138172 + | TSS_008252 | 1000 | 597   | 0 | 36 I  | within gene(s) PMM1191;                                       |
| 1138187 + | TSS_008256 | 1000 | 112   | 0 | 0 I   | within gene(s) PMM1191;                                       |
| 1138235 + | TSS_008260 | 1000 | 214   | 0 | 15 I  | within gene(s) PMM1191;                                       |
| 1138412 + | TSS_008269 | 1000 | 917   | 0 | 15 I  | within gene(s) PMM1191;                                       |
| 1138460 + | TSS_008277 | 1000 | 120   | 0 | 3 I   | within gene(s) PMM1191;                                       |
| 1138493 + | TSS_008280 | 1000 | 167   | 0 | 3 I   | within gene(s) PMM1191;                                       |
| 1138553 + | TSS_008288 | 1000 | 158   | 0 | 1 I   | within gene(s) PMM1191;                                       |
| 1138651 - | TSS_020883 | 1000 | 174   | 0 | 0 Ai  | antisense to gene(s) PMM1191;                                 |
| 1138670 + | TSS_008297 | 1000 | 139   | 0 | 12 I  | within gene(s) PMM1191;                                       |
| 1138673 - | TSS_020884 | 1000 | 113   | 0 | 0 Ai  | antisense to gene(s) PMM1191;                                 |
| 1138742 + | TSS_008310 | 1000 | 159   | 0 | 51 I  | within gene(s) PMM1191;                                       |
| 1138799 + | TSS_008320 | 1000 | 145   | 0 | 18 I  | within gene(s) PMM1191;                                       |
| 1138805 - | TSS_020886 | 1000 | 142   | 0 | 1 Ai  | antisense to gene(s) PMM1191;                                 |
| 1138862 - | TSS_020888 | 1000 | 1187  | 0 | 0 Ai  | antisense to gene(s) PMM1191;                                 |

|           |            |      |      |   |       |   |
|-----------|------------|------|------|---|-------|---|
| 1138882 - | TSS_020891 | 1000 | 347  | 0 | 5 Ai  | antisense to gene(s) PMM1191;   |
| 1138904 - | TSS_020893 | 1000 | 317  | 0 | 0 Ai  | antisense to gene(s) PMM1191;   |
| 1138932 - | TSS_020896 | 1000 | 229  | 0 | 0 Ai  | antisense to gene(s) PMM1191;   |
| 1139830 + | TSS_008325 | 1000 | 152  | 0 | 0 PAi | 95nt upstream of gene PMM1193; antisense to gene(s) PMM1192;            |
| 1152750 - | TSS_020919 | 1000 | 145  | 0 | 0 I   | within gene(s) PMM1204;   |
| 1152998 - | TSS_020920 | 1000 | 257  | 0 | 0 IP  | within gene(s) PMM1205; 88nt upstream of gene PMM1204;                  |
| 1157220 + | TSS_008358 | 1000 | 491  | 0 | 0 Ai  | antisense to gene(s) PMM1208;   |
| 1181446 - | TSS_020966 | 1000 | 245  | 0 | 2 Ai  | antisense to gene(s) PMM1229;   |
| 1183984 + | TSS_008415 | 1000 | 581  | 0 | 6 I   | within gene(s) PMM1232;   |
| 1186173 + | TSS_008418 | 1000 | 399  | 0 | 2 I   | within gene(s) PMM1234;   |
| 1186359 - | TSS_020975 | 1000 | 482  | 0 | 2 Ai  | antisense to gene(s) PMM1234;   |
| 1186823 + | TSS_008424 | 1000 | 2357 | 0 | 2 I   | within gene(s) PMM1234;   |
| 1187821 + | TSS_008434 | 1000 | 447  | 0 | 2 IP  | within gene(s) PMM1235; 110nt upstream of gene PMM1236;                 |
| 1192382 + | TSS_008443 | 1000 | 156  | 0 | 8 IP  | within gene(s) PMM1239; 39nt upstream of gene PMM1240;                  |
| 1192406 + | TSS_008445 | 1000 | 545  | 0 | 2 IP  | within gene(s) PMM1239; 15nt upstream of gene PMM1240;                  |
| 1201748 - | TSS_021001 | 1000 | 162  | 0 | 0 I   | within gene(s) PMM1249;   |
| 1202453 - | TSS_021005 | 1000 | 124  | 0 | 1 I   | within gene(s) PMM1250;   |
| 1203802 + | TSS_008457 | 1000 | 339  | 0 | 1 Ai  | antisense to gene(s) PMM1251;   |
| 1204621 - | TSS_021015 | 1000 | 235  | 0 | 0 P   | 82nt upstream of gene PMM1251;  |
| 1206887 + | TSS_008463 | 1000 | 102  | 0 | 0 Ai  | antisense to gene(s) PMM1254;   |
| 1209541 - | TSS_021027 | 1000 | 973  | 0 | 1 I   | within gene(s) PMM1256;   |
| 1211786 + | TSS_008473 | 1000 | 215  | 0 | 0 I   | within gene(s) PMM1258;   |
| 1212906 + | TSS_008479 | 1000 | 314  | 0 | 0 I   | within gene(s) PMM1259;   |
| 1213317 + | TSS_008487 | 1000 | 511  | 0 | 1 I   | within gene(s) PMM1259;   |
| 1214724 + | TSS_008492 | 1000 | 712  | 0 | 0 IP  | within gene(s) PMM1260; 140nt upstream of gene PMM1261;                 |
| 1214740 + | TSS_008493 | 1000 | 107  | 0 | 0 IP  | within gene(s) PMM1260; 124nt upstream of gene PMM1261;                 |
| 1216537 + | TSS_008504 | 1000 | 102  | 0 | 0 Ai  | antisense to gene(s) PMM1262;   |
| 1216690 + | TSS_008506 | 1000 | 102  | 0 | 0 Ai  | antisense to gene(s) PMM1262;   |
| 1218110 + | TSS_008514 | 1000 | 185  | 0 | 1 Ai  | antisense to gene(s) PMM1264;   |
| 1218175 - | TSS_021056 | 1000 | 342  | 0 | 6 I   | within gene(s) PMM1264;   |
| 1218209 + | TSS_008516 | 1000 | 148  | 0 | 0 Ai  | antisense to gene(s) PMM1264;   |
| 1218313 - | TSS_021070 | 1000 | 194  | 0 | 15 I  | within gene(s) PMM1264;   |
| 1218440 + | TSS_008522 | 1000 | 103  | 0 | 0 Ai  | antisense to gene(s) PMM1264;   |
| 1218445 - | TSS_021082 | 1000 | 157  | 0 | 19 I  | within gene(s) PMM1264;   |
| 1218465 - | TSS_021087 | 1000 | 280  | 0 | 1 I   | within gene(s) PMM1264;   |
| 1218507 + | TSS_008524 | 1000 | 142  | 0 | 0 Ai  | antisense to gene(s) PMM1264;   |
| 1218563 + | TSS_008525 | 1000 | 328  | 0 | 4 Ai  | antisense to gene(s) PMM1264;   |
| 1218613 - | TSS_021099 | 1000 | 171  | 0 | 3 I   | within gene(s) PMM1264;   |
| 1218623 + | TSS_008528 | 1000 | 1842 | 0 | 1 Ai  | antisense to gene(s) PMM1264;   |
| 1218649 - | TSS_021104 | 1000 | 904  | 0 | 27 I  | within gene(s) PMM1264;   |
| 1218735 + | TSS_008529 | 1000 | 115  | 0 | 1 Ai  | antisense to gene(s) PMM1264;   |
| 1218757 - | TSS_021115 | 1000 | 481  | 0 | 2 I   | within gene(s) PMM1264;   |
| 1218769 - | TSS_021117 | 1000 | 152  | 0 | 2 I   | within gene(s) PMM1264;   |
| 1218787 - | TSS_021119 | 1000 | 103  | 0 | 3 I   | within gene(s) PMM1264;   |
| 1218832 - | TSS_021123 | 1000 | 161  | 0 | 0 I   | within gene(s) PMM1264;   |
| 1218868 - | TSS_021124 | 1000 | 103  | 0 | 6 I   | within gene(s) PMM1264;   |
| 1218904 - | TSS_021133 | 1000 | 204  | 0 | 6 I   | within gene(s) PMM1264;   |
| 1218920 + | TSS_008532 | 1000 | 158  | 0 | 0 Ai  | antisense to gene(s) PMM1264;   |
| 1218931 - | TSS_021138 | 1000 | 101  | 0 | 10 I  | within gene(s) PMM1264;   |
| 1218939 + | TSS_008533 | 1000 | 513  | 0 | 0 Ai  | antisense to gene(s) PMM1264;   |
| 1218943 - | TSS_021141 | 1000 | 382  | 0 | 3 I   | within gene(s) PMM1264;   |
| 1218964 - | TSS_021145 | 1000 | 278  | 0 | 12 I  | within gene(s) PMM1264;   |
| 1218994 - | TSS_021148 | 1000 | 124  | 0 | 12 I  | within gene(s) PMM1264;   |
| 1219090 - | TSS_021153 | 1000 | 336  | 0 | 6 I   | within gene(s) PMM1264;   |
| 1219102 - | TSS_021154 | 1000 | 109  | 0 | 0 I   | within gene(s) PMM1264;   |
| 1219126 - | TSS_021157 | 1000 | 186  | 0 | 10 I  | within gene(s) PMM1264;   |
| 1219135 - | TSS_021160 | 1000 | 370  | 0 | 13 I  | within gene(s) PMM1264;   |
| 1219165 - | TSS_021167 | 1000 | 513  | 0 | 14 I  | within gene(s) PMM1264;   |
| 1219183 - | TSS_021173 | 1000 | 166  | 0 | 1 I   | within gene(s) PMM1264;   |
| 1219195 - | TSS_021175 | 1000 | 228  | 0 | 18 I  | within gene(s) PMM1264;   |
| 1219255 + | TSS_008537 | 1000 | 301  | 0 | 1 Ai  | antisense to gene(s) PMM1264;   |
| 1219300 - | TSS_021182 | 1000 | 206  | 0 | 9 I   | within gene(s) PMM1264;   |
| 1219348 - | TSS_021187 | 1000 | 117  | 0 | 6 I   | within gene(s) PMM1264;   |
| 1219417 - | TSS_021193 | 1000 | 403  | 0 | 12 I  | within gene(s) PMM1264;   |
| 1219521 - | TSS_021210 | 1000 | 116  | 0 | 6 I   | within gene(s) PMM1264;   |
| 1219704 - | TSS_021220 | 1000 | 109  | 0 | 7 I   | within gene(s) PMM1264;   |
| 1219762 - | TSS_021223 | 1000 | 188  | 0 | 0 I   | within gene(s) PMM1264;   |
| 1219801 - | TSS_021224 | 1000 | 304  | 0 | 1 P   | 24nt upstream of gene PMM1264;  |
| 1219908 - | TSS_021226 | 1000 | 140  | 0 | 0 IP  | within gene(s) PMM1265; 131nt upstream of gene PMM1264;                 |
| 1220160 + | TSS_008542 | 1000 | 173  | 0 | 5 Ai  | antisense to gene(s) PMM1265;   |
| 1221551 - | TSS_021233 | 1000 | 103  | 0 | 2 IP  | within gene(s) PMM1267; 57nt upstream of gene PMM1266;                  |
| 1223066 + | TSS_008550 | 1000 | 170  | 0 | 2 IAd | within gene(s) PMM1268; antisense to gene(s) PMM1269 (28nt downstream); |
| 1223096 + | TSS_008553 | 1000 | 160  | 0 | 0 Ai  | antisense to gene(s) PMM1269;   |
| 1223572 - | TSS_021241 | 1000 | 127  | 0 | 3 I   | within gene(s) PMM1269;   |
| 1224017 - | TSS_021249 | 1000 | 4451 | 0 | 8 P   | 16nt upstream of gene PMM1269;  |
| 1224107 + | TSS_008556 | 1000 | 987  | 0 | 2 Ai  | antisense to gene(s) PMM1270;   |
| 1224306 - | TSS_021254 | 1000 | 551  | 0 | 3 I   | within gene(s) PMM1270;   |
| 1224483 + | TSS_008561 | 1000 | 1634 | 0 | 1 Ai  | antisense to gene(s) PMM1270;   |
| 1225097 + | TSS_008563 | 1000 | 354  | 0 | 0 P   | 51nt upstream of gene PMM1271;  |

|           |            |      |       |   |       |   |
|-----------|------------|------|-------|---|-------|---|
| 1225100 - | TSS_021280 | 1000 | 606   | 0 | 2 P   | 20nt upstream of gene PMM1270;                                |
| 1226226 + | TSS_008565 | 1000 | 111   | 0 | 0 Ai  | antisense to gene(s) PMM1272;                                 |
| 1226399 + | TSS_008567 | 1000 | 2457  | 0 | 2 PAI | 139nt upstream of gene PMM1273; antisense to gene(s) PMM1272; |
| 1226493 - | TSS_021285 | 1000 | 5091  | 0 | 2 P   | 23nt upstream of gene PMM1272;                                |
| 1228824 + | TSS_008574 | 1000 | 528   | 0 | 4 P   | 13nt upstream of gene PMM1276;                                |
| 1229316 + | TSS_008579 | 1000 | 742   | 0 | 1 Ai  | antisense to gene(s) PMM1278;                                 |
| 1230756 - | TSS_021305 | 1000 | 171   | 0 | 0 I   | within gene(s) PMM1280;                                       |
| 1230808 - | TSS_021306 | 1000 | 415   | 0 | 2 I   | within gene(s) PMM1280;                                       |
| 1231722 - | TSS_021313 | 1000 | 711   | 0 | 2 IP  | within gene(s) PMM1281; 194nt upstream of gene PMM1280;       |
| 1233089 + | TSS_008592 | 1000 | 2654  | 0 | 1 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233102 + | TSS_008593 | 1000 | 249   | 0 | 1 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233159 + | TSS_008595 | 1000 | 207   | 0 | 0 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233255 + | TSS_008597 | 1000 | 227   | 0 | 5 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233266 - | TSS_021316 | 1000 | 446   | 0 | 3 I   | within gene(s) PMM1283;                                       |
| 1233281 - | TSS_021319 | 1000 | 563   | 0 | 3 I   | within gene(s) PMM1283;                                       |
| 1233285 + | TSS_008600 | 1000 | 206   | 0 | 0 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233298 - | TSS_021322 | 1000 | 575   | 0 | 9 I   | within gene(s) PMM1283;                                       |
| 1233300 + | TSS_008601 | 1000 | 478   | 0 | 0 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233311 + | TSS_008603 | 1000 | 702   | 0 | 1 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233320 - | TSS_021325 | 1000 | 285   | 0 | 0 I   | within gene(s) PMM1283;                                       |
| 1233322 + | TSS_008605 | 1000 | 342   | 0 | 1 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233365 - | TSS_021336 | 1000 | 804   | 0 | 75 I  | within gene(s) PMM1283;                                       |
| 1233366 + | TSS_008606 | 1000 | 104   | 0 | 0 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233384 + | TSS_008608 | 1000 | 200   | 0 | 1 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233399 + | TSS_008610 | 1000 | 529   | 0 | 1 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233419 - | TSS_021352 | 1000 | 312   | 0 | 0 I   | within gene(s) PMM1283;                                       |
| 1233429 + | TSS_008613 | 1000 | 191   | 0 | 1 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233437 - | TSS_021354 | 1000 | 292   | 0 | 6 I   | within gene(s) PMM1283;                                       |
| 1233452 - | TSS_021358 | 1000 | 693   | 0 | 12 I  | within gene(s) PMM1283;                                       |
| 1233465 + | TSS_008614 | 1000 | 253   | 0 | 0 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233473 + | TSS_008615 | 1000 | 431   | 0 | 4 Ai  | antisense to gene(s) PMM1283;                                 |
| 1233494 - | TSS_021368 | 1000 | 830   | 0 | 42 I  | within gene(s) PMM1283;                                       |
| 1233547 - | TSS_021380 | 1000 | 967   | 0 | 60 I  | within gene(s) PMM1283;                                       |
| 1233611 - | TSS_021394 | 1000 | 294   | 0 | 0 I   | within gene(s) PMM1283;                                       |
| 1233623 - | TSS_021395 | 1000 | 175   | 0 | 0 I   | within gene(s) PMM1283;                                       |
| 1233635 - | TSS_021396 | 1000 | 312   | 0 | 6 I   | within gene(s) PMM1283;                                       |
| 1233652 - | TSS_021400 | 1000 | 448   | 0 | 3 I   | within gene(s) PMM1283;                                       |
| 1233677 - | TSS_021405 | 1000 | 460   | 0 | 6 I   | within gene(s) PMM1283;                                       |
| 1233722 - | TSS_021415 | 1000 | 518   | 0 | 48 I  | within gene(s) PMM1283;                                       |
| 1233764 - | TSS_021426 | 1000 | 310   | 0 | 9 I   | within gene(s) PMM1283;                                       |
| 1233822 - | TSS_021428 | 1000 | 652   | 0 | 2 P   | 22nt upstream of gene PMM1283;                                |
| 1235226 - | TSS_021447 | 1000 | 9509  | 0 | 4 P   | 16nt upstream of gene PMM1285;                                |
| 1235758 + | TSS_008625 | 1000 | 241   | 0 | 0 Ai  | antisense to gene(s) PMM1286;                                 |
| 1236777 - | TSS_021486 | 1000 | 5818  | 0 | 7 P   | 16nt upstream of gene PMM1286;                                |
| 1238666 - | TSS_021500 | 1000 | 217   | 0 | 0 I   | within gene(s) PMM1287;                                       |
| 1238943 - | TSS_021501 | 1000 | 1469  | 0 | 2 P   | 24nt upstream of gene PMM1287;                                |
| 1239039 + | TSS_008635 | 1000 | 381   | 0 | 0 P   | 30nt upstream of gene PMM1288;                                |
| 1239358 - | TSS_021504 | 1000 | 253   | 0 | 1 Ai  | antisense to gene(s) PMM1288;                                 |
| 1239789 - | TSS_021507 | 1000 | 104   | 0 | 0 Ai  | antisense to gene(s) PMM1288;                                 |
| 1239822 + | TSS_008671 | 1000 | 241   | 0 | 19 I  | within gene(s) PMM1288;                                       |
| 1239889 - | TSS_021509 | 1000 | 121   | 0 | 1 Ai  | antisense to gene(s) PMM1288;                                 |
| 1239949 - | TSS_021512 | 1000 | 442   | 0 | 0 Ai  | antisense to gene(s) PMM1288;                                 |
| 1240190 + | TSS_008676 | 1000 | 902   | 0 | 1 Ai  | antisense to gene(s) PMM1289;                                 |
| 1240340 + | TSS_008683 | 1000 | 288   | 0 | 0 Ai  | antisense to gene(s) PMM1289;                                 |
| 1240490 - | TSS_021526 | 1000 | 578   | 0 | 2 I   | within gene(s) PMM1289;                                       |
| 1240521 - | TSS_021528 | 1000 | 212   | 0 | 9 I   | within gene(s) PMM1289;                                       |
| 1240674 - | TSS_021537 | 1000 | 142   | 0 | 10 I  | within gene(s) PMM1289;                                       |
| 1240780 + | TSS_008687 | 1000 | 195   | 0 | 0 Ai  | antisense to gene(s) PMM1289;                                 |
| 1240970 - | TSS_021544 | 1000 | 250   | 0 | 0 I   | within gene(s) PMM1289;                                       |
| 1241067 - | TSS_021550 | 1000 | 12375 | 0 | 2 P   | 18nt upstream of gene PMM1289;                                |
| 1241345 + | TSS_008696 | 1000 | 112   | 0 | 0 Ai  | antisense to gene(s) PMM1290;                                 |
| 1242168 + | TSS_008699 | 1000 | 240   | 0 | 0 Ai  | antisense to gene(s) PMM1290;                                 |
| 1242445 + | TSS_008700 | 1000 | 712   | 0 | 0 Ai  | antisense to gene(s) PMM1290;                                 |
| 1242497 + | TSS_008701 | 1000 | 200   | 0 | 0 Ai  | antisense to gene(s) PMM1290;                                 |
| 1243222 + | TSS_008708 | 1000 | 121   | 0 | 0 I   | within gene(s) PMM1291;                                       |
| 1243570 - | TSS_021566 | 1000 | 103   | 0 | 0 Ai  | antisense to gene(s) PMM1291;                                 |
| 1244009 + | TSS_008715 | 1000 | 247   | 0 | 0 Ai  | antisense to gene(s) PMM1292;                                 |
| 1245509 + | TSS_008720 | 1000 | 1670  | 0 | 0 P   | 17nt upstream of gene PMM1293;                                |
| 1245566 + | TSS_008722 | 1000 | 417   | 0 | 5 I   | within gene(s) PMM1293;                                       |
| 1245584 + | TSS_008724 | 1000 | 280   | 0 | 0 I   | within gene(s) PMM1293;                                       |
| 1245700 + | TSS_008729 | 1000 | 691   | 0 | 0 I   | within gene(s) PMM1293;                                       |
| 1245796 + | TSS_008740 | 1000 | 1773  | 0 | 6 I   | within gene(s) PMM1293;                                       |
| 1245812 + | TSS_008743 | 1000 | 510   | 0 | 4 I   | within gene(s) PMM1293;                                       |
| 1245832 + | TSS_008747 | 1000 | 136   | 0 | 3 I   | within gene(s) PMM1293;                                       |
| 1245841 + | TSS_008748 | 1000 | 217   | 0 | 3 I   | within gene(s) PMM1293;                                       |
| 1245861 + | TSS_008750 | 1000 | 108   | 0 | 0 I   | within gene(s) PMM1293;                                       |
| 1247681 - | TSS_021585 | 1000 | 153   | 0 | 0 P   | 20nt upstream of gene PMM1296;                                |
| 1250117 + | TSS_008786 | 1000 | 101   | 0 | 0 Ai  | antisense to gene(s) PMM1299;                                 |
| 1250130 - | TSS_021621 | 1000 | 1890  | 0 | 6 IP  | within gene(s) PMM1299; 75nt upstream of gene PMM1298;        |

|           |            |      |       |   |       |   |
|-----------|------------|------|-------|---|-------|---|
| 1250468 - | TSS_021626 | 1000 | 440   | 0 | 3 I   | within gene(s) PMM1299;                                 |
| 1251088 + | TSS_008789 | 1000 | 167   | 0 | 0 P   | 15nt upstream of gene PMM1300;                          |
| 1252148 + | TSS_008795 | 1000 | 112   | 0 | 2 I   | within gene(s) PMM1300;                                 |
| 1252727 - | TSS_021638 | 1000 | 1662  | 0 | 1 O   | -   |
| 1252970 + | TSS_008806 | 1000 | 922   | 0 | 6 P   | 32nt upstream of gene PMM1301;                          |
| 1253102 + | TSS_008807 | 1000 | 212   | 0 | 5 I   | within gene(s) PMM1301;                                 |
| 1258142 - | TSS_021650 | 1000 | 214   | 0 | 12 P  | 16nt upstream of gene PMM1304;                          |
| 1258258 + | TSS_008821 | 1000 | 689   | 0 | 6 P   | 151nt upstream of gene PMM1305;                         |
| 1259122 - | TSS_021659 | 1000 | 161   | 0 | 1 Ai  | antisense to gene(s) PMM1305;                           |
| 1261120 + | TSS_008832 | 1000 | 125   | 0 | 0 IP  | within gene(s) PMM1307; 179nt upstream of gene PMM1308; |
| 1262176 + | TSS_008836 | 1000 | 1346  | 0 | 2 P   | 26nt upstream of gene PMM1309;                          |
| 1262799 + | TSS_008860 | 1000 | 110   | 0 | 4 I   | within gene(s) PMM1309;                                 |
| 1262859 + | TSS_008868 | 1000 | 121   | 0 | 9 I   | within gene(s) PMM1309;                                 |
| 1262904 + | TSS_008873 | 1000 | 115   | 0 | 1 I   | within gene(s) PMM1309;                                 |
| 1263425 - | TSS_021678 | 1000 | 522   | 0 | 1 O   | -   |
| 1263674 + | TSS_008890 | 1000 | 857   | 0 | 1 I   | within gene(s) PMM1310;                                 |
| 1264866 + | TSS_008896 | 1000 | 140   | 0 | 4 Ai  | antisense to gene(s) PMM1311;                           |
| 1265561 + | TSS_008901 | 1000 | 14113 | 0 | 4 I   | within gene(s) PMM1312;                                 |
| 1266213 - | TSS_021686 | 1000 | 228   | 0 | 1 Ai  | antisense to gene(s) PMM1312;                           |
| 1266337 + | TSS_008927 | 1000 | 105   | 0 | 1 I   | within gene(s) PMM1312;                                 |
| 1266690 + | TSS_008933 | 1000 | 16907 | 0 | 2 P   | 20nt upstream of gene PMM1313;                          |
| 1266702 + | TSS_008935 | 1000 | 355   | 0 | 0 P   | 8nt upstream of gene PMM1313;                           |
| 1266713 + | TSS_008936 | 1000 | 106   | 0 | 0 I   | within gene(s) PMM1313;                                 |
| 1266750 + | TSS_008942 | 1000 | 138   | 0 | 16 I  | within gene(s) PMM1313;                                 |
| 1266761 + | TSS_008943 | 1000 | 133   | 0 | 18 I  | within gene(s) PMM1313;                                 |
| 1267025 + | TSS_008965 | 1000 | 108   | 0 | 3 I   | within gene(s) PMM1313;                                 |
| 1267067 + | TSS_008971 | 1000 | 508   | 0 | 66 I  | within gene(s) PMM1313;                                 |
| 1267140 - | TSS_021696 | 1000 | 140   | 0 | 1 Ai  | antisense to gene(s) PMM1313;                           |
| 1267176 - | TSS_021698 | 1000 | 156   | 0 | 0 Ai  | antisense to gene(s) PMM1313;                           |
| 1267212 - | TSS_021699 | 1000 | 200   | 0 | 6 Ai  | antisense to gene(s) PMM1313;                           |
| 1267259 + | TSS_008999 | 1000 | 166   | 0 | 12 IP | within gene(s) PMM1313; 147nt upstream of gene PMM1314; |
| 1267775 + | TSS_009032 | 1000 | 112   | 0 | 15 I  | within gene(s) PMM1314;                                 |
| 1268104 + | TSS_009038 | 1000 | 2547  | 0 | 2 P   | 24nt upstream of gene PMM1315;                          |
| 1270161 + | TSS_009088 | 1000 | 225   | 0 | 7 P   | 15nt upstream of gene PMM1317;                          |
| 1270931 - | TSS_021721 | 1000 | 177   | 0 | 8 I   | within gene(s) PMM1318;                                 |
| 1272067 - | TSS_021730 | 1000 | 76260 | 0 | 8 P   | 65nt upstream of gene PMM1321;                          |
| 1273518 - | TSS_021736 | 1000 | 1364  | 0 | 2 Ai  | antisense to gene(s) PMM1322;                           |
| 1273866 - | TSS_021738 | 1000 | 109   | 0 | 0 Ai  | antisense to gene(s) PMM1322;                           |
| 1274764 + | TSS_009112 | 1000 | 717   | 0 | 1 P   | 86nt upstream of gene PMM1323;                          |
| 1275301 - | TSS_021744 | 1000 | 132   | 0 | 0 Ai  | antisense to gene(s) PMM1323;                           |
| 1276011 - | TSS_021746 | 1000 | 709   | 0 | 2 Ai  | antisense to gene(s) PMM1323;                           |
| 1276210 + | TSS_009126 | 1000 | 227   | 0 | 0 I   | within gene(s) PMM1324;                                 |
| 1276620 - | TSS_021750 | 1000 | 306   | 0 | 0 Ai  | antisense to gene(s) PMM1324;                           |
| 1276627 - | TSS_021751 | 1000 | 154   | 0 | 0 Ai  | antisense to gene(s) PMM1324;                           |
| 1276641 + | TSS_009130 | 1000 | 376   | 0 | 0 I   | within gene(s) PMM1324;                                 |
| 1278318 + | TSS_009140 | 1000 | 399   | 0 | 4 IP  | within gene(s) PMM1326; 106nt upstream of gene PMM1327; |
| 1281106 - | TSS_021761 | 1000 | 273   | 0 | 0 IP  | within gene(s) PMM1330; 132nt upstream of gene PMM1329; |
| 1281349 - | TSS_021764 | 1000 | 103   | 0 | 0 P   | 30nt upstream of gene PMM1330;                          |
| 1285667 - | TSS_021775 | 1000 | 120   | 0 | 3 I   | within gene(s) PMM1335;                                 |
| 1285747 - | TSS_021778 | 1000 | 111   | 0 | 0 I   | within gene(s) PMM1335;                                 |
| 1286203 + | TSS_009172 | 1000 | 117   | 0 | 2 Ai  | antisense to gene(s) PMM1335;                           |
| 1286762 + | TSS_009175 | 1000 | 258   | 0 | 5 Ai  | antisense to gene(s) PMM1337;                           |
| 1287550 - | TSS_021787 | 1000 | 136   | 0 | 0 IP  | within gene(s) PMM1338; 17nt upstream of gene PMM1337;  |
| 1287887 - | TSS_021797 | 1000 | 377   | 0 | 1 I   | within gene(s) PMM1338;                                 |
| 1287977 - | TSS_021798 | 1000 | 261   | 0 | 0 I   | within gene(s) PMM1338;                                 |
| 1288162 + | TSS_009182 | 1000 | 208   | 0 | 6 Ai  | antisense to gene(s) PMM1338;                           |
| 1288975 - | TSS_021813 | 1000 | 211   | 0 | 2 I   | within gene(s) PMM1338;                                 |
| 1291245 - | TSS_021830 | 1000 | 144   | 0 | 0 Ai  | antisense to gene(s) PMM1340;                           |
| 1291318 - | TSS_021831 | 1000 | 182   | 0 | 0 Ai  | antisense to gene(s) PMM1340;                           |
| 1291478 + | TSS_009198 | 1000 | 1785  | 0 | 2 I   | within gene(s) PMM1340;                                 |
| 1291709 - | TSS_021832 | 1000 | 123   | 0 | 0 Ai  | antisense to gene(s) PMM1340;                           |
| 1293363 + | TSS_009216 | 1000 | 119   | 0 | 0 I   | within gene(s) PMM1341;                                 |
| 1293438 + | TSS_009220 | 1000 | 385   | 0 | 5 I   | within gene(s) PMM1341;                                 |
| 1293828 + | TSS_009225 | 1000 | 154   | 0 | 2 I   | within gene(s) PMM1341;                                 |
| 1294828 - | TSS_021853 | 1000 | 157   | 0 | 3 I   | within gene(s) PMM1342;                                 |
| 1295467 - | TSS_021870 | 1000 | 167   | 0 | 6 I   | within gene(s) PMM1342;                                 |
| 1295522 - | TSS_021872 | 1000 | 102   | 0 | 0 P   | 13nt upstream of gene PMM1342;                          |
| 1295547 - | TSS_021873 | 1000 | 121   | 0 | 1 P   | 38nt upstream of gene PMM1342;                          |
| 1295976 + | TSS_009237 | 1000 | 1070  | 0 | 10 P  | 65nt upstream of gene PMM1344;                          |
| 1296395 + | TSS_009250 | 1000 | 8460  | 0 | 7 IP  | within gene(s) PMM1344; 96nt upstream of gene PMM1345;  |
| 1296404 + | TSS_009253 | 1000 | 161   | 0 | 4 IP  | within gene(s) PMM1344; 87nt upstream of gene PMM1345;  |
| 1296628 - | TSS_021884 | 1000 | 238   | 0 | 0 Ai  | antisense to gene(s) PMM1345;                           |
| 1297508 - | TSS_021886 | 1000 | 346   | 0 | 6 P   | 89nt upstream of gene PMM1346;                          |
| 1299151 + | TSS_009265 | 1000 | 362   | 0 | 0 Ai  | antisense to gene(s) PMM1348;                           |
| 1299740 + | TSS_009266 | 1000 | 184   | 0 | 0 P   | 25nt upstream of gene PMM1349;                          |
| 1299756 + | TSS_009267 | 1000 | 103   | 0 | 2 P   | 9nt upstream of gene PMM1349;                           |
| 1300005 + | TSS_009269 | 1000 | 113   | 0 | 5 I   | within gene(s) PMM1349;                                 |
| 1300739 + | TSS_009275 | 1000 | 203   | 0 | 0 P   | 24nt upstream of gene PMM1350;                          |
| 1300764 + | TSS_009277 | 1000 | 7149  | 0 | 2 I   | within gene(s) PMM1350;                                 |



|           |            |      |       |   |       |   |
|-----------|------------|------|-------|---|-------|---|
| 1300820 + | TSS_009282 | 1000 | 185   | 0 | 0 I   | within gene(s) PMM1350;                                 |
| 1300862 + | TSS_009289 | 1000 | 234   | 0 | 18 I  | within gene(s) PMM1350;                                 |
| 1300907 + | TSS_009295 | 1000 | 182   | 0 | 21 I  | within gene(s) PMM1350;                                 |
| 1300946 + | TSS_009302 | 1000 | 135   | 0 | 0 I   | within gene(s) PMM1350;                                 |
| 1300973 + | TSS_009303 | 1000 | 148   | 0 | 0 I   | within gene(s) PMM1350;                                 |
| 1301001 + | TSS_009313 | 1000 | 245   | 0 | 39 I  | within gene(s) PMM1350;                                 |
| 1301039 + | TSS_009321 | 1000 | 103   | 0 | 0 I   | within gene(s) PMM1350;                                 |
| 1301738 - | TSS_021902 | 1000 | 251   | 0 | 3 P   | 22nt upstream of gene PMM1351;                          |
| 1301991 - | TSS_021906 | 1000 | 366   | 0 | 22 I  | within gene(s) PMM1352;                                 |
| 1302034 - | TSS_021914 | 1000 | 369   | 0 | 12 I  | within gene(s) PMM1352;                                 |
| 1302064 - | TSS_021921 | 1000 | 387   | 0 | 3 I   | within gene(s) PMM1352;                                 |
| 1302079 - | TSS_021924 | 1000 | 123   | 0 | 6 I   | within gene(s) PMM1352;                                 |
| 1302130 - | TSS_021928 | 1000 | 12800 | 0 | 2 P   | 33nt upstream of gene PMM1352;                          |
| 1304163 + | TSS_009334 | 1000 | 635   | 0 | 0 Ai  | antisense to gene(s) PMM1354;                           |
| 1304348 + | TSS_009336 | 1000 | 168   | 0 | 1 Ai  | antisense to gene(s) PMM1354;                           |
| 1304765 - | TSS_021972 | 1000 | 996   | 0 | 0 P   | 19nt upstream of gene PMM1354;                          |
| 1304776 - | TSS_021973 | 1000 | 293   | 0 | 6 P   | 30nt upstream of gene PMM1354;                          |
| 1307622 + | TSS_009348 | 1000 | 460   | 0 | 0 O   | -   |
| 1309146 - | TSS_021985 | 1000 | 133   | 0 | 0 I   | within gene(s) PMM1360;                                 |
| 1313108 + | TSS_009360 | 1000 | 904   | 0 | 2 P   | 16nt upstream of gene PMM1365;                          |
| 1313370 + | TSS_009368 | 1000 | 102   | 0 | 12 I  | within gene(s) PMM1365;                                 |
| 1315509 - | TSS_021995 | 1000 | 1269  | 0 | 15 P  | 15nt upstream of gene PMM1368;                          |
| 1316344 - | TSS_022008 | 1000 | 481   | 0 | 5 P   | 10nt upstream of gene PMM1369;                          |
| 1318282 - | TSS_022017 | 1000 | 184   | 0 | 0 O   | -   |
| 1319591 + | TSS_009381 | 1000 | 2747  | 0 | 2 O   | -   |
| 1319966 + | TSS_009388 | 1000 | 438   | 0 | 2 P   | 13nt upstream of gene PMM1372;                          |
| 1319980 + | TSS_009389 | 1000 | 1817  | 0 | 5 I   | within gene(s) PMM1372;                                 |
| 1320260 - | TSS_022021 | 1000 | 186   | 0 | 1 Ad  | antisense to gene(s) PMM1372 (4nt downstream);          |
| 1321010 + | TSS_009393 | 1000 | 4163  | 0 | 2 O   | -   |
| 1322462 - | TSS_022026 | 1000 | 443   | 0 | 1 O   | -   |
| 1322954 - | TSS_022028 | 1000 | 101   | 0 | 0 P   | 15nt upstream of gene PMM1374;                          |
| 1324248 + | TSS_009403 | 1000 | 324   | 0 | 0 P   | 19nt upstream of gene PMM1377;                          |
| 1326668 - | TSS_022036 | 1000 | 6129  | 0 | 2 O   | -   |
| 1327175 + | TSS_009414 | 1000 | 472   | 0 | 1 O   | -   |
| 1328956 - | TSS_022041 | 1000 | 3951  | 0 | 2 O   | -   |
| 1329106 + | TSS_009420 | 1000 | 215   | 0 | 1 O   | -   |
| 1332432 + | TSS_009433 | 1000 | 1863  | 0 | 2 O   | -   |
| 1334143 + | TSS_009437 | 1000 | 468   | 0 | 0 O   | -   |
| 1335359 + | TSS_009441 | 1000 | 20628 | 0 | 2 O   | -   |
| 1336436 + | TSS_009446 | 1000 | 774   | 0 | 1 O   | -   |
| 1338319 - | TSS_022065 | 1000 | 180   | 0 | 5 Ai  | antisense to gene(s) PMM1386;                           |
| 1338981 + | TSS_009453 | 1000 | 177   | 0 | 0 P   | 17nt upstream of gene PMM1387;                          |
| 1339834 - | TSS_022068 | 1000 | 289   | 0 | 0 P   | 32nt upstream of gene PMM1388;                          |
| 1341205 - | TSS_022072 | 1000 | 240   | 0 | 1 P   | 20nt upstream of gene PMM1390;                          |
| 1341449 + | TSS_009458 | 1000 | 196   | 0 | 0 P   | 15nt upstream of gene PMM1391;                          |
| 1343374 + | TSS_009461 | 1000 | 112   | 0 | 0 I   | within gene(s) PMM1394;                                 |
| 1343856 - | TSS_022077 | 1000 | 2847  | 0 | 7 O   | -   |
| 1344022 - | TSS_022079 | 1000 | 153   | 0 | 2 O   | -   |
| 1345064 - | TSS_022086 | 1000 | 185   | 0 | 1 I   | within gene(s) PMM1396;                                 |
| 1345196 - | TSS_022094 | 1000 | 168   | 0 | 23 IP | within gene(s) PMM1397; 129nt upstream of gene PMM1396; |
| 1345665 - | TSS_022114 | 1000 | 139   | 0 | 0 IP  | within gene(s) PMM1399; 98nt upstream of gene PMM1398;  |
| 1346141 + | TSS_009470 | 1000 | 132   | 0 | 1 Ai  | antisense to gene(s) PMM1400;                           |
| 1346356 - | TSS_022133 | 1000 | 150   | 0 | 3 I   | within gene(s) PMM1400;                                 |
| 1346398 - | TSS_022139 | 1000 | 305   | 0 | 15 I  | within gene(s) PMM1400;                                 |
| 1346413 - | TSS_022143 | 1000 | 168   | 0 | 6 I   | within gene(s) PMM1400;                                 |
| 1346865 - | TSS_022147 | 1000 | 38541 | 0 | 2 P   | 239nt upstream of gene PMM1400;                         |
| 1346985 + | TSS_009478 | 1000 | 1282  | 0 | 0 P   | 146nt upstream of gene PMM1401;                         |
| 1347056 + | TSS_009479 | 1000 | 158   | 0 | 0 P   | 75nt upstream of gene PMM1401;                          |
| 1347808 + | TSS_009482 | 1000 | 185   | 0 | 2 P   | 21nt upstream of gene PMM1402;                          |
| 1350449 - | TSS_022157 | 1000 | 384   | 0 | 2 P   | 81nt upstream of gene PMM1404;                          |
| 1351013 - | TSS_022159 | 1000 | 548   | 0 | 4 P   | 26nt upstream of gene PMM1405;                          |
| 1352055 - | TSS_022163 | 1000 | 361   | 0 | 0 P   | 24nt upstream of gene PMM1408;                          |
| 1352429 - | TSS_022164 | 1000 | 1277  | 0 | 2 P   | 18nt upstream of gene PMM1409;                          |
| 1353625 - | TSS_022173 | 1000 | 256   | 0 | 7 O   | -   |
| 1353716 - | TSS_022177 | 1000 | 1380  | 0 | 1 O   | -   |
| 1354656 + | TSS_009501 | 1000 | 960   | 0 | 1 P   | 26nt upstream of gene PMM1412;                          |
| 1354742 + | TSS_009503 | 1000 | 141   | 0 | 9 I   | within gene(s) PMM1412;                                 |
| 1354868 + | TSS_009516 | 1000 | 129   | 0 | 17 I  | within gene(s) PMM1412;                                 |
| 1355165 + | TSS_009521 | 1000 | 970   | 0 | 3 P   | 17nt upstream of gene PMM1413;                          |
| 1355765 + | TSS_009529 | 1000 | 116   | 0 | 1 IP  | within gene(s) PMM1414; 230nt upstream of gene PMM1415; |
| 1356437 - | TSS_022186 | 1000 | 273   | 0 | 0 Ai  | antisense to gene(s) PMM1415;                           |
| 1358219 + | TSS_009547 | 1000 | 112   | 0 | 2 I   | within gene(s) PMM1416;                                 |
| 1358428 - | TSS_022195 | 1000 | 114   | 0 | 1 Ai  | antisense to gene(s) PMM1416;                           |
| 1358652 + | TSS_009554 | 1000 | 675   | 0 | 1 I   | within gene(s) PMM1416;                                 |
| 1358898 - | TSS_022197 | 1000 | 403   | 0 | 0 Ai  | antisense to gene(s) PMM1416;                           |
| 1359128 - | TSS_022199 | 1000 | 130   | 0 | 0 Ai  | antisense to gene(s) PMM1416;                           |
| 1359810 - | TSS_022204 | 1000 | 407   | 0 | 1 Ai  | antisense to gene(s) PMM1416;                           |
| 1359899 - | TSS_022211 | 1000 | 361   | 0 | 7 O   | -   |
| 1360152 + | TSS_009564 | 1000 | 113   | 0 | 1 O   | -   |

|           |            |      |       |          |      |  |
|-----------|------------|------|-------|----------|------|--|
| 1360185 - | TSS_022214 | 1000 | 10601 | 0        | 2 O  | -  |
| 1362875 + | TSS_009575 | 1000 | 187   | 0        | 0 Ai | antisense to gene(s) PMM1421 PMM1422;                  |
| 1363264 - | TSS_022221 | 1000 | 252   | 0        | 0 I  | within gene(s) PMM1422;                                |
| 1363417 - | TSS_022222 | 1000 | 141   | 0        | 0 P  | 27nt upstream of gene PMM1422;                         |
| 1364219 - | TSS_022223 | 1000 | 111   | 0        | 12 P | 69nt upstream of gene PMM1424;                         |
| 1364352 - | TSS_022229 | 1000 | 1567  | 0        | 1 P  | 202nt upstream of gene PMM1424;                        |
| 1364483 + | TSS_009579 | 1000 | 152   | 0        | 0 O  | -  |
| 1366150 - | TSS_022234 | 1000 | 144   | 0        | 2 Ai | antisense to gene(s) PMM1425;                          |
| 1366222 - | TSS_022236 | 1000 | 242   | 0        | 0 Ai | antisense to gene(s) PMM1425;                          |
| 1367120 + | TSS_009587 | 1000 | 132   | 0        | 0 P  | 6nt upstream of gene PMM1427;                          |
| 1367587 + | TSS_009590 | 1000 | 238   | 0        | 1 P  | 92nt upstream of gene PMM1428;                         |
| 1369959 + | TSS_009596 | 1000 | 183   | 0        | 4 I  | within gene(s) PMM1432;                                |
| 1370154 - | TSS_022246 | 1000 | 107   | 0        | 0 Ai | antisense to gene(s) PMM1432;                          |
| 1371646 + | TSS_009605 | 1000 | 896   | 0        | 4 P  | 31nt upstream of gene PMM1434;                         |
| 1371875 + | TSS_009609 | 1000 | 175   | 0        | 10 I | within gene(s) PMM1434;                                |
| 1372149 - | TSS_022253 | 1000 | 1739  | 0        | 2 Ai | antisense to gene(s) PMM1434;                          |
| 1372986 + | TSS_009622 | 1000 | 141   | 0        | 0 I  | within gene(s) PMM1434;                                |
| 1373308 + | TSS_009626 | 1000 | 1295  | 0        | 4 P  | 17nt upstream of gene PMM1435;                         |
| 1373532 + | TSS_009629 | 1000 | 513   | 0        | 1 I  | within gene(s) PMM1435;                                |
| 1373670 + | TSS_009632 | 1000 | 203   | 0        | 2 Ai | antisense to gene(s) PMM1436;                          |
| 1373679 + | TSS_009633 | 1000 | 1833  | 0        | 0 Ai | antisense to gene(s) PMM1436;                          |
| 1373844 + | TSS_009635 | 1000 | 717   | 0        | 1 Ai | antisense to gene(s) PMM1436;                          |
| 1373856 + | TSS_009636 | 1000 | 383   | 0        | 0 Ai | antisense to gene(s) PMM1436;                          |
| 1373858 - | TSS_022261 | 1000 | 136   | 0        | 0 I  | within gene(s) PMM1436;                                |
| 1373890 - | TSS_022265 | 1000 | 184   | 0        | 12 I | within gene(s) PMM1436;                                |
| 1373898 + | TSS_009637 | 1000 | 277   | 0        | 0 Ai | antisense to gene(s) PMM1436;                          |
| 1373900 - | TSS_022267 | 1000 | 181   | 0        | 2 I  | within gene(s) PMM1436;                                |
| 1373912 - | TSS_022270 | 1000 | 388   | 0        | 16 I | within gene(s) PMM1436;                                |
| 1373925 + | TSS_009638 | 1000 | 128   | 0        | 0 Ai | antisense to gene(s) PMM1436;                          |
| 1373945 - | TSS_022278 | 1000 | 111   | 0        | 3 I  | within gene(s) PMM1436;                                |
| 1373993 - | TSS_022282 | 1000 | 191   | 0        | 3 I  | within gene(s) PMM1436;                                |
| 1374014 - | TSS_022285 | 1000 | 241   | 0        | 14 I | within gene(s) PMM1436;                                |
| 1374056 - | TSS_022295 | 1000 | 335   | 0        | 27 I | within gene(s) PMM1436;                                |
| 1374134 - | TSS_022303 | 1000 | 272   | 0        | 0 I  | within gene(s) PMM1436;                                |
| 1374185 - | TSS_022315 | 1000 | 413   | 0        | 36 I | within gene(s) PMM1436;                                |
| 1374224 - | TSS_022320 | 1000 | 640   | 0        | 9 I  | within gene(s) PMM1436;                                |
| 1374229 + | TSS_009643 | 1000 | 1059  | 0        | 0 Ai | antisense to gene(s) PMM1436;                          |
| 1374236 + | TSS_009644 | 1000 | 160   | 0        | 0 Ai | antisense to gene(s) PMM1436;                          |
| 1374253 + | TSS_009646 | 1000 | 542   | 0        | 1 Ai | antisense to gene(s) PMM1436;                          |
| 1374254 - | TSS_022327 | 1000 | 591   | 0        | 15 I | within gene(s) PMM1436;                                |
| 1374273 + | TSS_009647 | 1000 | 226   | 0        | 0 Ai | antisense to gene(s) PMM1436;                          |
| 1374296 - | TSS_022338 | 1000 | 727   | 0        | 24 I | within gene(s) PMM1436;                                |
| 1374323 - | TSS_022344 | 1000 | 572   | 0        | 27 I | within gene(s) PMM1436;                                |
| 1374347 - | TSS_022352 | 1000 | 209   | 0        | 6 I  | within gene(s) PMM1436;                                |
| 1374365 - | TSS_022355 | 1000 | 169   | 0        | 3 I  | within gene(s) PMM1436;                                |
| 1374386 - | TSS_022358 | 1000 | 218   | 0        | 6 I  | within gene(s) PMM1436;                                |
| 1374404 - | TSS_022361 | 1000 | 479   | 0        | 12 I | within gene(s) PMM1436;                                |
| 1374444 + | TSS_009651 | 1000 | 410   | 0        | 4 Ai | antisense to gene(s) PMM1436;                          |
| 1374445 - | TSS_022369 | 1000 | 675   | 0        | 60 I | within gene(s) PMM1436;                                |
| 1374468 + | TSS_009653 | 1000 | 158   | 0        | 0 Ai | antisense to gene(s) PMM1436;                          |
| 1374509 - | TSS_022388 | 1000 | 224   | 0        | 12 I | within gene(s) PMM1436;                                |
| 1374560 - | TSS_022401 | 1000 | 238   | 0        | 51 I | within gene(s) PMM1436;                                |
| 1374596 - | TSS_022408 | 1000 | 204   | 0        | 12 I | within gene(s) PMM1436;                                |
| 1374643 - | TSS_022412 | 1000 | 161   | 0        | 6 I  | within gene(s) PMM1436;                                |
| 1374653 - | TSS_022414 | 1000 | 230   | 0        | 0 I  | within gene(s) PMM1436;                                |
| 1374662 - | TSS_022415 | 1000 | 214   | 0        | 3 I  | within gene(s) PMM1436;                                |
| 1374674 - | TSS_022417 | 1000 | 252   | 0        | 3 I  | within gene(s) PMM1436;                                |
| 1374675 + | TSS_009659 | 1000 | 116   | 0        | 2 Ai | antisense to gene(s) PMM1436;                          |
| 1374692 - | TSS_022421 | 1000 | 635   | 0        | 12 I | within gene(s) PMM1436;                                |
| 1374706 + | TSS_009661 | 1000 | 282   | 0        | 0 Ai | antisense to gene(s) PMM1436;                          |
| 1374707 - | TSS_022425 | 1000 | 136   | 0        | 0 I  | within gene(s) PMM1436;                                |
| 1374722 - | TSS_022426 | 1000 | 203   | 0        | 0 I  | within gene(s) PMM1436;                                |
| 1374752 - | TSS_022429 | 1000 | 616   | 0        | 31 I | within gene(s) PMM1436;                                |
| 1374806 - | TSS_022443 | 1000 | 2357  | 0        | 30 I | within gene(s) PMM1436;                                |
| 1374836 - | TSS_022449 | 1000 | 122   | 1.10E-08 | 0 I  | within gene(s) PMM1436;                                |
| 1374851 - | TSS_022451 | 1000 | 483   | 0        | 9 I  | within gene(s) PMM1436;                                |
| 1374887 + | TSS_009662 | 1000 | 392   | 0        | 0 Ai | antisense to gene(s) PMM1436;                          |
| 1374911 - | TSS_022469 | 1000 | 406   | 0        | 60 I | within gene(s) PMM1436;                                |
| 1374953 - | TSS_022478 | 1000 | 232   | 0        | 21 I | within gene(s) PMM1436;                                |
| 1374974 - | TSS_022483 | 1000 | 154   | 0        | 15 I | within gene(s) PMM1436;                                |
| 1375031 - | TSS_022493 | 1000 | 221   | 0        | 21 I | within gene(s) PMM1436;                                |
| 1375038 + | TSS_009664 | 1000 | 501   | 0        | 0 Ai | antisense to gene(s) PMM1436;                          |
| 1375058 - | TSS_022499 | 1000 | 573   | 0        | 1 I  | within gene(s) PMM1436;                                |
| 1375076 - | TSS_022502 | 1000 | 113   | 0        | 9 I  | within gene(s) PMM1436;                                |
| 1375139 - | TSS_022505 | 1000 | 165   | 0        | 6 I  | within gene(s) PMM1436;                                |
| 1375217 - | TSS_022514 | 1000 | 291   | 0        | 12 I | within gene(s) PMM1436;                                |
| 1375244 - | TSS_022519 | 1000 | 236   | 0        | 15 I | within gene(s) PMM1436;                                |
| 1375257 + | TSS_009668 | 1000 | 3530  | 0        | 1 Ai | antisense to gene(s) PMM1436;                          |
| 1375334 - | TSS_022523 | 1000 | 241   | 0        | 0 IP | within gene(s) PMM1437; 60nt upstream of gene PMM1436; |

|           |            |      |      |   |       |   |
|-----------|------------|------|------|---|-------|---|
| 1375343 - | TSS_022525 | 1000 | 610  | 0 | 1 IP  | within gene(s) PMM1437; 69nt upstream of gene PMM1436;  |
| 1375373 - | TSS_022528 | 1000 | 317  | 0 | 21 IP | within gene(s) PMM1437; 99nt upstream of gene PMM1436;  |
| 1375391 + | TSS_009669 | 1000 | 200  | 0 | 1 Ai  | antisense to gene(s) PMM1437;                           |
| 1375404 + | TSS_009671 | 1000 | 142  | 0 | 0 Ai  | antisense to gene(s) PMM1437;                           |
| 1375412 - | TSS_022538 | 1000 | 336  | 0 | 14 IP | within gene(s) PMM1437; 138nt upstream of gene PMM1436; |
| 1375436 - | TSS_022542 | 1000 | 228  | 0 | 4 IP  | within gene(s) PMM1437; 162nt upstream of gene PMM1436; |
| 1375451 - | TSS_022544 | 1000 | 131  | 0 | 2 IP  | within gene(s) PMM1437; 177nt upstream of gene PMM1436; |
| 1375472 - | TSS_022546 | 1000 | 359  | 0 | 0 IP  | within gene(s) PMM1437; 198nt upstream of gene PMM1436; |
| 1375502 - | TSS_022554 | 1000 | 358  | 0 | 21 IP | within gene(s) PMM1437; 228nt upstream of gene PMM1436; |
| 1375529 - | TSS_022555 | 1000 | 113  | 0 | 0 I   | within gene(s) PMM1437;                                 |
| 1375544 - | TSS_022558 | 1000 | 281  | 0 | 9 I   | within gene(s) PMM1437;                                 |
| 1375586 - | TSS_022567 | 1000 | 737  | 0 | 21 I  | within gene(s) PMM1437;                                 |
| 1375613 - | TSS_022568 | 1000 | 454  | 0 | 18 I  | within gene(s) PMM1437;                                 |
| 1375640 - | TSS_022573 | 1000 | 374  | 0 | 0 P   | 3nt upstream of gene PMM1437;                           |
| 1375676 - | TSS_022574 | 1000 | 131  | 0 | 0 P   | 39nt upstream of gene PMM1437;                          |
| 1375697 - | TSS_022575 | 1000 | 402  | 0 | 0 P   | 60nt upstream of gene PMM1437;                          |
| 1375837 + | TSS_009676 | 1000 | 909  | 0 | 0 P   | 21nt upstream of gene PMM1438;                          |
| 1376056 + | TSS_009683 | 1000 | 102  | 0 | 6 I   | within gene(s) PMM1438;                                 |
| 1376113 + | TSS_009690 | 1000 | 213  | 0 | 2 I   | within gene(s) PMM1438;                                 |
| 1376221 + | TSS_009698 | 1000 | 224  | 0 | 1 I   | within gene(s) PMM1438;                                 |
| 1376350 + | TSS_009706 | 1000 | 101  | 0 | 0 I   | within gene(s) PMM1438;                                 |
| 1376400 - | TSS_022581 | 1000 | 233  | 0 | 1 Ai  | antisense to gene(s) PMM1438;                           |
| 1376407 + | TSS_009717 | 1000 | 611  | 0 | 16 I  | within gene(s) PMM1438;                                 |
| 1376440 - | TSS_022584 | 1000 | 484  | 0 | 0 Ai  | antisense to gene(s) PMM1438;                           |
| 1376473 + | TSS_009727 | 1000 | 177  | 0 | 6 I   | within gene(s) PMM1438;                                 |
| 1376500 + | TSS_009729 | 1000 | 211  | 0 | 6 I   | within gene(s) PMM1438;                                 |
| 1376542 + | TSS_009734 | 1000 | 188  | 0 | 11 I  | within gene(s) PMM1438;                                 |
| 1376547 - | TSS_022589 | 1000 | 564  | 0 | 4 Ai  | antisense to gene(s) PMM1438;                           |
| 1376572 + | TSS_009738 | 1000 | 227  | 0 | 6 I   | within gene(s) PMM1438;                                 |
| 1376665 + | TSS_009744 | 1000 | 257  | 0 | 36 I  | within gene(s) PMM1438;                                 |
| 1376719 + | TSS_009757 | 1000 | 152  | 0 | 12 I  | within gene(s) PMM1438;                                 |
| 1376761 + | TSS_009764 | 1000 | 161  | 0 | 18 I  | within gene(s) PMM1438;                                 |
| 1376776 + | TSS_009766 | 1000 | 218  | 0 | 1 I   | within gene(s) PMM1438;                                 |
| 1376893 + | TSS_009770 | 1000 | 141  | 0 | 12 I  | within gene(s) PMM1438;                                 |
| 1377151 + | TSS_009796 | 1000 | 153  | 0 | 19 IP | within gene(s) PMM1438; 216nt upstream of gene PMM1439; |
| 1377944 + | TSS_009824 | 1000 | 218  | 0 | 1 Ai  | antisense to gene(s) PMM1440;                           |
| 1378081 + | TSS_009827 | 1000 | 177  | 0 | 0 Ai  | antisense to gene(s) PMM1440;                           |
| 1378110 - | TSS_022617 | 1000 | 158  | 0 | 6 I   | within gene(s) PMM1440;                                 |
| 1378250 - | TSS_022623 | 1000 | 250  | 0 | 0 I   | within gene(s) PMM1440;                                 |
| 1378674 + | TSS_009831 | 1000 | 251  | 0 | 2 Ai  | antisense to gene(s) PMM1442;                           |
| 1379477 + | TSS_009835 | 1000 | 8362 | 0 | 7 Ai  | antisense to gene(s) PMM1442;                           |
| 1379514 + | TSS_009837 | 1000 | 142  | 0 | 0 Ai  | antisense to gene(s) PMM1442;                           |
| 1379556 + | TSS_009838 | 1000 | 1235 | 0 | 0 Ai  | antisense to gene(s) PMM1442;                           |
| 1380019 + | TSS_009844 | 1000 | 270  | 0 | 6 I   | within gene(s) PMM1443;                                 |
| 1380027 + | TSS_009845 | 1000 | 237  | 0 | 0 I   | within gene(s) PMM1443;                                 |
| 1380876 + | TSS_009853 | 1000 | 2074 | 0 | 1 IP  | within gene(s) PMM1443; 80nt upstream of gene PMM1444;  |
| 1382749 + | TSS_009860 | 1000 | 105  | 0 | 0 IP  | within gene(s) PMM1445; 31nt upstream of gene PMM1446;  |
| 1385792 + | TSS_009869 | 1000 | 715  | 0 | 3 Ai  | antisense to gene(s) PMM1449;                           |
| 1385823 + | TSS_009871 | 1000 | 124  | 0 | 0 Ai  | antisense to gene(s) PMM1449;                           |
| 1386095 + | TSS_009873 | 1000 | 372  | 0 | 1 Ai  | antisense to gene(s) PMM1450;                           |
| 1386549 + | TSS_009875 | 1000 | 109  | 0 | 0 Ai  | antisense to gene(s) PMM1450;                           |
| 1386617 - | TSS_022660 | 1000 | 115  | 0 | 15 I  | within gene(s) PMM1450;                                 |
| 1386624 + | TSS_009878 | 1000 | 213  | 0 | 1 Ai  | antisense to gene(s) PMM1450;                           |
| 1386653 - | TSS_022667 | 1000 | 105  | 0 | 19 I  | within gene(s) PMM1450;                                 |
| 1386700 + | TSS_009879 | 1000 | 288  | 0 | 0 Ai  | antisense to gene(s) PMM1450;                           |
| 1386725 - | TSS_022679 | 1000 | 143  | 0 | 42 I  | within gene(s) PMM1450;                                 |
| 1386887 - | TSS_022700 | 1000 | 258  | 0 | 13 I  | within gene(s) PMM1450;                                 |
| 1386935 - | TSS_022707 | 1000 | 107  | 0 | 11 I  | within gene(s) PMM1450;                                 |
| 1387001 - | TSS_022717 | 1000 | 112  | 0 | 9 I   | within gene(s) PMM1450;                                 |
| 1387066 + | TSS_009880 | 1000 | 182  | 0 | 1 Ai  | antisense to gene(s) PMM1451;                           |
| 1387078 + | TSS_009882 | 1000 | 106  | 0 | 0 Ai  | antisense to gene(s) PMM1451;                           |
| 1387102 - | TSS_022729 | 1000 | 113  | 0 | 15 IP | within gene(s) PMM1451; 59nt upstream of gene PMM1450;  |
| 1387132 - | TSS_022734 | 1000 | 112  | 0 | 3 IP  | within gene(s) PMM1451; 89nt upstream of gene PMM1450;  |
| 1387162 - | TSS_022737 | 1000 | 119  | 0 | 6 IP  | within gene(s) PMM1451; 119nt upstream of gene PMM1450; |
| 1387408 - | TSS_022763 | 1000 | 122  | 0 | 3 I   | within gene(s) PMM1451;                                 |
| 1387543 - | TSS_022776 | 1000 | 186  | 0 | 3 I   | within gene(s) PMM1451;                                 |
| 1387588 - | TSS_022783 | 1000 | 294  | 0 | 0 I   | within gene(s) PMM1451;                                 |
| 1387615 - | TSS_022785 | 1000 | 184  | 0 | 15 I  | within gene(s) PMM1451;                                 |
| 1387660 - | TSS_022794 | 1000 | 230  | 0 | 6 I   | within gene(s) PMM1451;                                 |
| 1387661 + | TSS_009889 | 1000 | 291  | 0 | 2 Ai  | antisense to gene(s) PMM1451;                           |
| 1387681 - | TSS_022798 | 1000 | 194  | 0 | 1 I   | within gene(s) PMM1451;                                 |
| 1387738 - | TSS_022802 | 1000 | 117  | 0 | 0 I   | within gene(s) PMM1451;                                 |
| 1387867 - | TSS_022814 | 1000 | 237  | 0 | 5 I   | within gene(s) PMM1451;                                 |
| 1387900 - | TSS_022821 | 1000 | 364  | 0 | 24 I  | within gene(s) PMM1451;                                 |
| 1387904 + | TSS_009895 | 1000 | 146  | 0 | 8 Ai  | antisense to gene(s) PMM1451;                           |
| 1387921 - | TSS_022827 | 1000 | 261  | 0 | 0 I   | within gene(s) PMM1451;                                 |
| 1387936 - | TSS_022830 | 1000 | 236  | 0 | 18 I  | within gene(s) PMM1451;                                 |
| 1387990 - | TSS_022834 | 1000 | 390  | 0 | 3 I   | within gene(s) PMM1451;                                 |
| 1388011 - | TSS_022837 | 1000 | 406  | 0 | 12 I  | within gene(s) PMM1451;                                 |

|           |            |      |      |   |       |   |
|-----------|------------|------|------|---|-------|---|
| 1388096 - | TSS_022844 | 1000 | 116  | 0 | 0 I   | within gene(s) PMM1451;                                 |
| 1388119 - | TSS_022845 | 1000 | 127  | 0 | 0 I   | within gene(s) PMM1451;                                 |
| 1388140 - | TSS_022847 | 1000 | 639  | 0 | 12 I  | within gene(s) PMM1451;                                 |
| 1388164 - | TSS_022850 | 1000 | 326  | 0 | 6 I   | within gene(s) PMM1451;                                 |
| 1388180 + | TSS_009904 | 1000 | 775  | 0 | 6 Ai  | antisense to gene(s) PMM1451;                           |
| 1388188 - | TSS_022856 | 1000 | 485  | 0 | 18 I  | within gene(s) PMM1451;                                 |
| 1388209 - | TSS_022860 | 1000 | 188  | 0 | 7 I   | within gene(s) PMM1451;                                 |
| 1388224 - | TSS_022862 | 1000 | 384  | 0 | 6 I   | within gene(s) PMM1451;                                 |
| 1388251 - | TSS_022865 | 1000 | 204  | 0 | 1 I   | within gene(s) PMM1451;                                 |
| 1388308 - | TSS_022881 | 1000 | 571  | 0 | 49 I  | within gene(s) PMM1451;                                 |
| 1388326 - | TSS_022883 | 1000 | 454  | 0 | 0 I   | within gene(s) PMM1451;                                 |
| 1388338 - | TSS_022885 | 1000 | 197  | 0 | 7 I   | within gene(s) PMM1451;                                 |
| 1388346 + | TSS_009909 | 1000 | 193  | 0 | 1 Ai  | antisense to gene(s) PMM1451;                           |
| 1388353 - | TSS_022889 | 1000 | 123  | 0 | 0 I   | within gene(s) PMM1451;                                 |
| 1388530 - | TSS_022904 | 1000 | 374  | 0 | 9 I   | within gene(s) PMM1451;                                 |
| 1388669 - | TSS_022915 | 1000 | 3658 | 0 | 8 IP  | within gene(s) PMM1452; 88nt upstream of gene PMM1451;  |
| 1388726 - | TSS_022922 | 1000 | 189  | 0 | 9 IP  | within gene(s) PMM1452; 145nt upstream of gene PMM1451; |
| 1388825 - | TSS_022925 | 1000 | 302  | 0 | 3 IP  | within gene(s) PMM1452; 244nt upstream of gene PMM1451; |
| 1389346 - | TSS_022943 | 1000 | 1030 | 0 | 13 IP | within gene(s) PMM1453; 191nt upstream of gene PMM1452; |
| 1389389 + | TSS_009916 | 1000 | 138  | 0 | 9 Ai  | antisense to gene(s) PMM1453;                           |
| 1390725 - | TSS_022970 | 1000 | 160  | 0 | 0 I   | within gene(s) PMM1456;                                 |
| 1390773 - | TSS_022973 | 1000 | 120  | 0 | 2 I   | within gene(s) PMM1456;                                 |
| 1390805 - | TSS_022976 | 1000 | 190  | 0 | 15 I  | within gene(s) PMM1456;                                 |
| 1391900 - | TSS_023018 | 1000 | 173  | 0 | 1 P   | 44nt upstream of gene PMM1457;                          |
| 1392904 - | TSS_023021 | 1000 | 132  | 0 | 0 Ai  | antisense to gene(s) PMM1458;                           |
| 1393119 + | TSS_009926 | 1000 | 114  | 0 | 0 I   | within gene(s) PMM1458;                                 |
| 1393186 + | TSS_009927 | 1000 | 414  | 0 | 0 I   | within gene(s) PMM1458;                                 |
| 1393368 + | TSS_009929 | 1000 | 1342 | 0 | 1 P   | 69nt upstream of gene PMM1459;                          |
| 1393733 + | TSS_009934 | 1000 | 101  | 0 | 0 I   | within gene(s) PMM1459;                                 |
| 1395953 + | TSS_009937 | 1000 | 1201 | 0 | 1 P   | 14nt upstream of gene PMM1462;                          |
| 1396223 + | TSS_009945 | 1000 | 3110 | 0 | 4 P   | 14nt upstream of gene PMM1463;                          |
| 1397666 + | TSS_009961 | 1000 | 2452 | 0 | 2 P   | 16nt upstream of gene PMM1465;                          |
| 1398489 + | TSS_009981 | 1000 | 176  | 0 | 9 I   | within gene(s) PMM1465;                                 |
| 1398534 + | TSS_009986 | 1000 | 107  | 0 | 1 I   | within gene(s) PMM1465;                                 |
| 1401712 - | TSS_023039 | 1000 | 107  | 0 | 0 I   | within gene(s) PMM1467;                                 |
| 1403187 - | TSS_023044 | 1000 | 1071 | 0 | 1 P   | 46nt upstream of gene PMM1467;                          |
| 1411576 - | TSS_023074 | 1000 | 8556 | 0 | 10 P  | 17nt upstream of gene PMM1479;                          |
| 1412048 + | TSS_010017 | 1000 | 228  | 0 | 0 Ai  | antisense to gene(s) PMM1480;                           |
| 1412609 - | TSS_023081 | 1000 | 345  | 0 | 0 P   | 161nt upstream of gene PMM1480;                         |
| 1413912 + | TSS_010021 | 1000 | 538  | 0 | 0 O   | -   |
| 1414000 + | TSS_010023 | 1000 | 104  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1414077 - | TSS_023094 | 1000 | 112  | 0 | 1 IP  | within gene(s) PMM1483; 184nt upstream of gene PMM1482; |
| 1414293 - | TSS_023100 | 1000 | 136  | 0 | 1 I   | within gene(s) PMM1483;                                 |
| 1414327 + | TSS_010027 | 1000 | 127  | 0 | 7 Ai  | antisense to gene(s) PMM1483;                           |
| 1414329 - | TSS_023105 | 1000 | 111  | 0 | 0 I   | within gene(s) PMM1483;                                 |
| 1414401 - | TSS_023115 | 1000 | 142  | 0 | 3 I   | within gene(s) PMM1483;                                 |
| 1414437 - | TSS_023121 | 1000 | 196  | 0 | 6 I   | within gene(s) PMM1483;                                 |
| 1414482 - | TSS_023126 | 1000 | 194  | 0 | 15 I  | within gene(s) PMM1483;                                 |
| 1414653 - | TSS_023138 | 1000 | 288  | 0 | 12 I  | within gene(s) PMM1483;                                 |
| 1414707 - | TSS_023147 | 1000 | 113  | 0 | 15 I  | within gene(s) PMM1483;                                 |
| 1414911 - | TSS_023166 | 1000 | 141  | 0 | 15 I  | within gene(s) PMM1483;                                 |
| 1414936 + | TSS_010038 | 1000 | 199  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1414968 - | TSS_023172 | 1000 | 681  | 0 | 10 I  | within gene(s) PMM1483;                                 |
| 1414998 - | TSS_023177 | 1000 | 135  | 0 | 21 I  | within gene(s) PMM1483;                                 |
| 1415040 - | TSS_023184 | 1000 | 188  | 0 | 0 I   | within gene(s) PMM1483;                                 |
| 1415079 - | TSS_023185 | 1000 | 137  | 0 | 3 I   | within gene(s) PMM1483;                                 |
| 1415124 - | TSS_023189 | 1000 | 135  | 0 | 1 I   | within gene(s) PMM1483;                                 |
| 1415133 - | TSS_023191 | 1000 | 303  | 0 | 19 I  | within gene(s) PMM1483;                                 |
| 1415169 - | TSS_023197 | 1000 | 258  | 0 | 12 I  | within gene(s) PMM1483;                                 |
| 1415199 - | TSS_023203 | 1000 | 281  | 0 | 7 I   | within gene(s) PMM1483;                                 |
| 1415214 - | TSS_023205 | 1000 | 124  | 0 | 4 I   | within gene(s) PMM1483;                                 |
| 1415226 + | TSS_010044 | 1000 | 199  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1415400 - | TSS_023217 | 1000 | 506  | 0 | 12 I  | within gene(s) PMM1483;                                 |
| 1415466 - | TSS_023227 | 1000 | 239  | 0 | 18 I  | within gene(s) PMM1483;                                 |
| 1415715 + | TSS_010047 | 1000 | 187  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1415901 - | TSS_023248 | 1000 | 125  | 0 | 15 I  | within gene(s) PMM1483;                                 |
| 1415907 + | TSS_010050 | 1000 | 605  | 0 | 2 Ai  | antisense to gene(s) PMM1483;                           |
| 1415943 - | TSS_023254 | 1000 | 122  | 0 | 0 I   | within gene(s) PMM1483;                                 |
| 1415974 + | TSS_010052 | 1000 | 116  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1415981 - | TSS_023256 | 1000 | 113  | 0 | 0 I   | within gene(s) PMM1483;                                 |
| 1416012 - | TSS_023261 | 1000 | 298  | 0 | 18 I  | within gene(s) PMM1483;                                 |
| 1416036 - | TSS_023266 | 1000 | 375  | 0 | 30 I  | within gene(s) PMM1483;                                 |
| 1416081 - | TSS_023280 | 1000 | 296  | 0 | 42 I  | within gene(s) PMM1483;                                 |
| 1416227 - | TSS_023296 | 1000 | 244  | 0 | 1 I   | within gene(s) PMM1483;                                 |
| 1416255 - | TSS_023300 | 1000 | 163  | 0 | 39 I  | within gene(s) PMM1483;                                 |
| 1416383 + | TSS_010059 | 1000 | 135  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1416401 + | TSS_010060 | 1000 | 444  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1416408 - | TSS_023319 | 1000 | 108  | 0 | 19 I  | within gene(s) PMM1483;                                 |
| 1416430 + | TSS_010062 | 1000 | 878  | 0 | 6 Ai  | antisense to gene(s) PMM1483;                           |

|           |            |      |      |   |       |   |
|-----------|------------|------|------|---|-------|---|
| 1416495 - | TSS_023332 | 1000 | 166  | 0 | 0 I   | within gene(s) PMM1483;                                 |
| 1416518 + | TSS_010065 | 1000 | 152  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1416930 - | TSS_023365 | 1000 | 137  | 0 | 0 I   | within gene(s) PMM1483;                                 |
| 1416931 + | TSS_010071 | 1000 | 200  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1416963 - | TSS_023370 | 1000 | 119  | 0 | 6 I   | within gene(s) PMM1483;                                 |
| 1416988 + | TSS_010072 | 1000 | 137  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1416999 - | TSS_023376 | 1000 | 2663 | 0 | 15 I  | within gene(s) PMM1483;                                 |
| 1417014 - | TSS_023382 | 1000 | 190  | 0 | 0 I   | within gene(s) PMM1483;                                 |
| 1417047 + | TSS_010074 | 1000 | 127  | 0 | 1 Ai  | antisense to gene(s) PMM1483;                           |
| 1417062 - | TSS_023388 | 1000 | 317  | 0 | 10 I  | within gene(s) PMM1483;                                 |
| 1417098 - | TSS_023392 | 1000 | 195  | 0 | 9 I   | within gene(s) PMM1483;                                 |
| 1417128 - | TSS_023396 | 1000 | 308  | 0 | 0 I   | within gene(s) PMM1483;                                 |
| 1417253 + | TSS_010076 | 1000 | 197  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1417319 + | TSS_010080 | 1000 | 281  | 0 | 7 Ai  | antisense to gene(s) PMM1483;                           |
| 1417332 + | TSS_010082 | 1000 | 275  | 0 | 0 Ai  | antisense to gene(s) PMM1483;                           |
| 1417470 - | TSS_023435 | 1000 | 118  | 0 | 0 I   | within gene(s) PMM1483;                                 |
| 1417512 - | TSS_023442 | 1000 | 172  | 0 | 30 I  | within gene(s) PMM1483;                                 |
| 1417554 - | TSS_023451 | 1000 | 183  | 0 | 3 I   | within gene(s) PMM1483;                                 |
| 1417887 - | TSS_023478 | 1000 | 317  | 0 | 9 I   | within gene(s) PMM1483;                                 |
| 1418150 + | TSS_010089 | 1000 | 1074 | 0 | 0 Ai  | antisense to gene(s) PMM1484;                           |
| 1418301 + | TSS_010096 | 1000 | 208  | 0 | 0 Ai  | antisense to gene(s) PMM1484;                           |
| 1418436 - | TSS_023508 | 1000 | 112  | 0 | 0 I   | within gene(s) PMM1484;                                 |
| 1418469 - | TSS_023513 | 1000 | 208  | 0 | 18 I  | within gene(s) PMM1484;                                 |
| 1418489 + | TSS_010097 | 1000 | 681  | 0 | 4 Ai  | antisense to gene(s) PMM1484;                           |
| 1418507 + | TSS_010099 | 1000 | 1756 | 0 | 1 Ai  | antisense to gene(s) PMM1484;                           |
| 1418673 - | TSS_023526 | 1000 | 139  | 0 | 14 I  | within gene(s) PMM1484;                                 |
| 1418723 - | TSS_023534 | 1000 | 203  | 0 | 23 I  | within gene(s) PMM1484;                                 |
| 1418763 - | TSS_023541 | 1000 | 206  | 0 | 6 I   | within gene(s) PMM1484;                                 |
| 1418780 + | TSS_010103 | 1000 | 382  | 0 | 2 Ai  | antisense to gene(s) PMM1484;                           |
| 1418902 + | TSS_010107 | 1000 | 206  | 0 | 4 Ai  | antisense to gene(s) PMM1484;                           |
| 1418919 - | TSS_023554 | 1000 | 150  | 0 | 4 I   | within gene(s) PMM1484;                                 |
| 1418948 - | TSS_023556 | 1000 | 190  | 0 | 2 I   | within gene(s) PMM1484;                                 |
| 1418994 - | TSS_023565 | 1000 | 334  | 0 | 45 I  | within gene(s) PMM1484;                                 |
| 1419034 + | TSS_010111 | 1000 | 430  | 0 | 9 Ai  | antisense to gene(s) PMM1484;                           |
| 1419062 + | TSS_010113 | 1000 | 178  | 0 | 0 Ai  | antisense to gene(s) PMM1484;                           |
| 1419177 - | TSS_023576 | 1000 | 433  | 0 | 17 I  | within gene(s) PMM1484;                                 |
| 1419214 + | TSS_010114 | 1000 | 426  | 0 | 0 Ai  | antisense to gene(s) PMM1484;                           |
| 1419222 - | TSS_023587 | 1000 | 238  | 0 | 0 I   | within gene(s) PMM1484;                                 |
| 1419267 - | TSS_023595 | 1000 | 851  | 0 | 5 I   | within gene(s) PMM1484;                                 |
| 1419332 + | TSS_010115 | 1000 | 124  | 0 | 0 Ai  | antisense to gene(s) PMM1484;                           |
| 1419537 - | TSS_023610 | 1000 | 102  | 0 | 3 I   | within gene(s) PMM1484;                                 |
| 1419648 + | TSS_010121 | 1000 | 612  | 0 | 0 Ai  | antisense to gene(s) PMM1484;                           |
| 1419651 - | TSS_023614 | 1000 | 685  | 0 | 12 I  | within gene(s) PMM1484;                                 |
| 1419666 - | TSS_023620 | 1000 | 388  | 0 | 28 I  | within gene(s) PMM1484;                                 |
| 1419730 + | TSS_010123 | 1000 | 494  | 0 | 0 Ai  | antisense to gene(s) PMM1484;                           |
| 1419792 - | TSS_023637 | 1000 | 147  | 0 | 3 I   | within gene(s) PMM1484;                                 |
| 1419819 - | TSS_023641 | 1000 | 223  | 0 | 0 I   | within gene(s) PMM1484;                                 |
| 1419883 + | TSS_010127 | 1000 | 443  | 0 | 1 Ai  | antisense to gene(s) PMM1484;                           |
| 1420037 - | TSS_023652 | 1000 | 236  | 0 | 1 IP  | within gene(s) PMM1485; 56nt upstream of gene PMM1484;  |
| 1420066 - | TSS_023656 | 1000 | 128  | 0 | 9 IP  | within gene(s) PMM1485; 85nt upstream of gene PMM1484;  |
| 1420171 - | TSS_023668 | 1000 | 273  | 0 | 10 IP | within gene(s) PMM1485; 190nt upstream of gene PMM1484; |
| 1420202 - | TSS_023673 | 1000 | 158  | 0 | 3 IP  | within gene(s) PMM1485; 221nt upstream of gene PMM1484; |
| 1420412 - | TSS_023686 | 1000 | 200  | 0 | 7 I   | within gene(s) PMM1485;                                 |
| 1420518 + | TSS_010131 | 1000 | 226  | 0 | 2 Ai  | antisense to gene(s) PMM1485;                           |
| 1420690 + | TSS_010134 | 1000 | 121  | 0 | 0 Ai  | antisense to gene(s) PMM1485;                           |
| 1420706 - | TSS_023707 | 1000 | 550  | 0 | 0 I   | within gene(s) PMM1485;                                 |
| 1420720 + | TSS_010137 | 1000 | 563  | 0 | 4 Ai  | antisense to gene(s) PMM1485;                           |
| 1420736 - | TSS_023708 | 1000 | 158  | 0 | 0 I   | within gene(s) PMM1485;                                 |
| 1420845 + | TSS_010142 | 1000 | 147  | 0 | 3 Ai  | antisense to gene(s) PMM1485;                           |
| 1420925 - | TSS_023721 | 1000 | 111  | 0 | 3 I   | within gene(s) PMM1485;                                 |
| 1420978 - | TSS_023724 | 1000 | 124  | 0 | 0 I   | within gene(s) PMM1485;                                 |
| 1421000 - | TSS_023726 | 1000 | 127  | 0 | 6 I   | within gene(s) PMM1485;                                 |
| 1421015 + | TSS_010147 | 1000 | 248  | 0 | 3 Ai  | antisense to gene(s) PMM1485;                           |
| 1421414 - | TSS_023748 | 1000 | 103  | 0 | 13 I  | within gene(s) PMM1485;                                 |
| 1421475 + | TSS_010149 | 1000 | 132  | 0 | 0 Ai  | antisense to gene(s) PMM1485;                           |
| 1421499 + | TSS_010150 | 1000 | 170  | 0 | 0 Ai  | antisense to gene(s) PMM1485;                           |
| 1421567 + | TSS_010151 | 1000 | 125  | 0 | 0 Ai  | antisense to gene(s) PMM1485;                           |
| 1421594 - | TSS_023756 | 1000 | 197  | 0 | 4 I   | within gene(s) PMM1485;                                 |
| 1421612 - | TSS_023759 | 1000 | 303  | 0 | 19 I  | within gene(s) PMM1485;                                 |
| 1421688 + | TSS_010153 | 1000 | 426  | 0 | 1 Ai  | antisense to gene(s) PMM1485;                           |
| 1421690 - | TSS_023769 | 1000 | 124  | 0 | 0 I   | within gene(s) PMM1485;                                 |
| 1421699 + | TSS_010157 | 1000 | 107  | 0 | 3 Ai  | antisense to gene(s) PMM1485;                           |
| 1422014 - | TSS_023780 | 1000 | 158  | 0 | 12 I  | within gene(s) PMM1485;                                 |
| 1422142 + | TSS_010163 | 1000 | 350  | 0 | 0 Ai  | antisense to gene(s) PMM1485;                           |
| 1422371 - | TSS_023801 | 1000 | 122  | 0 | 3 I   | within gene(s) PMM1485;                                 |
| 1422611 - | TSS_023807 | 1000 | 131  | 0 | 3 I   | within gene(s) PMM1485;                                 |
| 1422752 - | TSS_023812 | 1000 | 324  | 0 | 2 I   | within gene(s) PMM1485;                                 |
| 1422856 - | TSS_023814 | 1000 | 580  | 0 | 0 I   | within gene(s) PMM1485;                                 |
| 1423046 - | TSS_023817 | 1000 | 117  | 0 | 0 I   | within gene(s) PMM1485;                                 |

|           |            |      |      |   |       |   |
|-----------|------------|------|------|---|-------|---|
| 1423524 - | TSS_023822 | 1000 | 778  | 0 | 5 P   | 211nt upstream of gene PMM1485;                               |
| 1423961 + | TSS_010170 | 1000 | 380  | 0 | 1 Ai  | antisense to gene(s) PMM1486;                                 |
| 1424666 - | TSS_023832 | 1000 | 208  | 0 | 6 P   | 20nt upstream of gene PMM1487;                                |
| 1426785 - | TSS_023852 | 1000 | 576  | 0 | 3 P   | 38nt upstream of gene PMM1489;                                |
| 1427278 + | TSS_010185 | 1000 | 271  | 0 | 2 Ai  | antisense to gene(s) PMM1490;                                 |
| 1428507 + | TSS_010187 | 1000 | 254  | 0 | 0 IP  | within gene(s) PMM1491; 98nt upstream of gene PMM1492;        |
| 1428986 + | TSS_010196 | 1000 | 129  | 0 | 0 I   | within gene(s) PMM1492;                                       |
| 1429041 - | TSS_023868 | 1000 | 120  | 0 | 0 Ai  | antisense to gene(s) PMM1492;                                 |
| 1429590 + | TSS_010218 | 1000 | 297  | 0 | 9 I   | within gene(s) PMM1492;                                       |
| 1429682 + | TSS_010225 | 1000 | 149  | 0 | 12 I  | within gene(s) PMM1492;                                       |
| 1429712 + | TSS_010231 | 1000 | 235  | 0 | 10 I  | within gene(s) PMM1492;                                       |
| 1429727 + | TSS_010235 | 1000 | 269  | 0 | 3 I   | within gene(s) PMM1492;                                       |
| 1429742 + | TSS_010237 | 1000 | 255  | 0 | 1 I   | within gene(s) PMM1492;                                       |
| 1431083 + | TSS_010259 | 1000 | 117  | 0 | 0 I   | within gene(s) PMM1494;                                       |
| 1431142 + | TSS_010263 | 1000 | 649  | 0 | 7 I   | within gene(s) PMM1494;                                       |
| 1431241 + | TSS_010267 | 1000 | 543  | 0 | 7 I   | within gene(s) PMM1494;                                       |
| 1431352 + | TSS_010273 | 1000 | 130  | 0 | 1 I   | within gene(s) PMM1494;                                       |
| 1431379 + | TSS_010275 | 1000 | 142  | 0 | 0 I   | within gene(s) PMM1494;                                       |
| 1431397 + | TSS_010278 | 1000 | 105  | 0 | 6 I   | within gene(s) PMM1494;                                       |
| 1431469 + | TSS_010282 | 1000 | 331  | 0 | 0 I   | within gene(s) PMM1494;                                       |
| 1431481 + | TSS_010285 | 1000 | 471  | 0 | 3 I   | within gene(s) PMM1494;                                       |
| 1431508 + | TSS_010289 | 1000 | 145  | 0 | 3 I   | within gene(s) PMM1494;                                       |
| 1431529 + | TSS_010293 | 1000 | 312  | 0 | 12 I  | within gene(s) PMM1494;                                       |
| 1431553 + | TSS_010295 | 1000 | 112  | 0 | 0 I   | within gene(s) PMM1494;                                       |
| 1431808 + | TSS_010308 | 1000 | 122  | 0 | 6 I   | within gene(s) PMM1494;                                       |
| 1431838 + | TSS_010309 | 1000 | 348  | 0 | 1 I   | within gene(s) PMM1494;                                       |
| 1431862 + | TSS_010316 | 1000 | 160  | 0 | 21 I  | within gene(s) PMM1494;                                       |
| 1431913 + | TSS_010325 | 1000 | 143  | 0 | 9 I   | within gene(s) PMM1494;                                       |
| 1432697 - | TSS_023901 | 1000 | 189  | 0 | 0 Ai  | antisense to gene(s) PMM1494;                                 |
| 1432963 + | TSS_010353 | 1000 | 183  | 0 | 1 I   | within gene(s) PMM1494;                                       |
| 1432991 + | TSS_010357 | 1000 | 512  | 0 | 4 I   | within gene(s) PMM1494;                                       |
| 1433023 + | TSS_010360 | 1000 | 771  | 0 | 7 I   | within gene(s) PMM1494;                                       |
| 1433164 + | TSS_010364 | 1000 | 165  | 0 | 0 I   | within gene(s) PMM1494;                                       |
| 1433296 + | TSS_010367 | 1000 | 322  | 0 | 0 I   | within gene(s) PMM1494;                                       |
| 1433326 + | TSS_010368 | 1000 | 156  | 0 | 6 I   | within gene(s) PMM1494;                                       |
| 1435445 + | TSS_010380 | 1000 | 138  | 0 | 0 I   | within gene(s) PMM1496;                                       |
| 1436999 + | TSS_010384 | 1000 | 708  | 0 | 0 P   | 24nt upstream of gene PMM1498;                                |
| 1437357 - | TSS_023917 | 1000 | 526  | 0 | 1 Ai  | antisense to gene(s) PMM1498;                                 |
| 1438103 + | TSS_010415 | 1000 | 175  | 0 | 7 I   | within gene(s) PMM1498;                                       |
| 1439023 - | TSS_023928 | 1000 | 771  | 0 | 0 I   | within gene(s) PMM1499;                                       |
| 1439138 + | TSS_010424 | 1000 | 242  | 0 | 0 Ai  | antisense to gene(s) PMM1500;                                 |
| 1439203 - | TSS_023931 | 1000 | 120  | 0 | 0 IP  | within gene(s) PMM1500; 170nt upstream of gene PMM1499;       |
| 1439379 - | TSS_023937 | 1000 | 116  | 0 | 4 I   | within gene(s) PMM1500;                                       |
| 1439399 + | TSS_010427 | 1000 | 145  | 0 | 0 Ai  | antisense to gene(s) PMM1500;                                 |
| 1439422 - | TSS_023941 | 1000 | 130  | 0 | 0 I   | within gene(s) PMM1500;                                       |
| 1439647 - | TSS_023953 | 1000 | 101  | 0 | 1 I   | within gene(s) PMM1500;                                       |
| 1440282 - | TSS_023971 | 1000 | 1043 | 0 | 1 P   | 23nt upstream of gene PMM1500;                                |
| 1440561 + | TSS_010434 | 1000 | 168  | 0 | 0 I   | within gene(s) PMM1501;                                       |
| 1443305 + | TSS_010441 | 1000 | 1408 | 0 | 2 PAi | 201nt upstream of gene PMM1504; antisense to gene(s) PMM1503; |
| 1443593 - | TSS_023980 | 1000 | 551  | 0 | 0 PAi | 140nt upstream of gene PMM1503; antisense to gene(s) PMM1504; |
| 1446052 + | TSS_010448 | 1000 | 147  | 0 | 0 Ai  | antisense to gene(s) PMM1507;                                 |
| 1446371 - | TSS_023996 | 1000 | 124  | 0 | 1 P   | 51nt upstream of gene PMM1507;                                |
| 1446380 - | TSS_023999 | 1000 | 3710 | 0 | 8 P   | 60nt upstream of gene PMM1507;                                |
| 1446495 - | TSS_024007 | 1000 | 112  | 0 | 15 IP | within gene(s) PMM1508; 175nt upstream of gene PMM1507;       |
| 1446507 + | TSS_010456 | 1000 | 181  | 0 | 2 Ai  | antisense to gene(s) PMM1508;                                 |
| 1446537 - | TSS_024012 | 1000 | 184  | 0 | 1 IP  | within gene(s) PMM1508; 217nt upstream of gene PMM1507;       |
| 1446580 + | TSS_010461 | 1000 | 354  | 0 | 0 Ai  | antisense to gene(s) PMM1508;                                 |
| 1446684 - | TSS_024016 | 1000 | 206  | 0 | 7 I   | within gene(s) PMM1508;                                       |
| 1446705 - | TSS_024018 | 1000 | 294  | 0 | 12 I  | within gene(s) PMM1508;                                       |
| 1446732 - | TSS_024024 | 1000 | 183  | 0 | 12 I  | within gene(s) PMM1508;                                       |
| 1446753 - | TSS_024028 | 1000 | 402  | 0 | 15 I  | within gene(s) PMM1508;                                       |
| 1446789 - | TSS_024036 | 1000 | 143  | 0 | 12 I  | within gene(s) PMM1508;                                       |
| 1446807 - | TSS_024039 | 1000 | 129  | 0 | 6 I   | within gene(s) PMM1508;                                       |
| 1446814 + | TSS_010469 | 1000 | 403  | 0 | 6 Ai  | antisense to gene(s) PMM1508;                                 |
| 1446816 - | TSS_024041 | 1000 | 163  | 0 | 1 I   | within gene(s) PMM1508;                                       |
| 1446855 - | TSS_024048 | 1000 | 174  | 0 | 24 I  | within gene(s) PMM1508;                                       |
| 1446894 - | TSS_024052 | 1000 | 125  | 0 | 1 I   | within gene(s) PMM1508;                                       |
| 1446906 - | TSS_024054 | 1000 | 151  | 0 | 9 I   | within gene(s) PMM1508;                                       |
| 1446963 - | TSS_024064 | 1000 | 149  | 0 | 15 I  | within gene(s) PMM1508;                                       |
| 1446987 - | TSS_024065 | 1000 | 461  | 0 | 7 I   | within gene(s) PMM1508;                                       |
| 1447023 - | TSS_024077 | 1000 | 800  | 0 | 27 I  | within gene(s) PMM1508;                                       |
| 1447047 + | TSS_010471 | 1000 | 157  | 0 | 0 Ai  | antisense to gene(s) PMM1508;                                 |
| 1447050 - | TSS_024082 | 1000 | 638  | 0 | 9 I   | within gene(s) PMM1508;                                       |
| 1447058 + | TSS_010473 | 1000 | 2374 | 0 | 1 Ai  | antisense to gene(s) PMM1508;                                 |
| 1447062 - | TSS_024083 | 1000 | 124  | 0 | 0 I   | within gene(s) PMM1508;                                       |
| 1447079 + | TSS_010474 | 1000 | 501  | 0 | 0 Ai  | antisense to gene(s) PMM1508;                                 |
| 1447086 - | TSS_024084 | 1000 | 3366 | 0 | 0 I   | within gene(s) PMM1508;                                       |
| 1447098 - | TSS_024085 | 1000 | 1887 | 0 | 3 I   | within gene(s) PMM1508;                                       |
| 1447116 - | TSS_024087 | 1000 | 131  | 0 | 0 I   | within gene(s) PMM1508;                                       |

|           |            |      |      |   |       |   |
|-----------|------------|------|------|---|-------|---|
| 1447125 - | TSS_024088 | 1000 | 747  | 0 | 81 I  | within gene(s) PMM1508;                                 |
| 1447224 + | TSS_010475 | 1000 | 228  | 0 | 0 Ai  | antisense to gene(s) PMM1508;                           |
| 1447254 - | TSS_024121 | 1000 | 130  | 0 | 30 I  | within gene(s) PMM1508;                                 |
| 1447398 - | TSS_024134 | 1000 | 119  | 0 | 18 I  | within gene(s) PMM1508;                                 |
| 1447433 - | TSS_024136 | 1000 | 245  | 0 | 0 I   | within gene(s) PMM1508;                                 |
| 1447577 - | TSS_024151 | 1000 | 144  | 0 | 14 I  | within gene(s) PMM1508;                                 |
| 1447617 - | TSS_024156 | 1000 | 121  | 0 | 0 I   | within gene(s) PMM1508;                                 |
| 1447634 + | TSS_010481 | 1000 | 702  | 0 | 1 O   | -   |
| 1447711 - | TSS_024157 | 1000 | 486  | 0 | 0 IP  | within gene(s) PMM1509; 82nt upstream of gene PMM1508;  |
| 1447723 - | TSS_024159 | 1000 | 186  | 0 | 3 IP  | within gene(s) PMM1509; 94nt upstream of gene PMM1508;  |
| 1447735 - | TSS_024161 | 1000 | 399  | 0 | 11 IP | within gene(s) PMM1509; 106nt upstream of gene PMM1508; |
| 1447786 - | TSS_024166 | 1000 | 266  | 0 | 3 IP  | within gene(s) PMM1509; 157nt upstream of gene PMM1508; |
| 1447795 - | TSS_024167 | 1000 | 161  | 0 | 3 IP  | within gene(s) PMM1509; 166nt upstream of gene PMM1508; |
| 1447813 - | TSS_024169 | 1000 | 385  | 0 | 0 IP  | within gene(s) PMM1509; 184nt upstream of gene PMM1508; |
| 1447831 - | TSS_024170 | 1000 | 345  | 0 | 0 IP  | within gene(s) PMM1509; 202nt upstream of gene PMM1508; |
| 1447864 - | TSS_024173 | 1000 | 493  | 0 | 9 IP  | within gene(s) PMM1509; 235nt upstream of gene PMM1508; |
| 1447894 - | TSS_024175 | 1000 | 182  | 0 | 3 I   | within gene(s) PMM1509;                                 |
| 1447903 - | TSS_024176 | 1000 | 112  | 0 | 0 I   | within gene(s) PMM1509;                                 |
| 1448269 - | TSS_024190 | 1000 | 101  | 0 | 12 I  | within gene(s) PMM1509;                                 |
| 1448310 - | TSS_024192 | 1000 | 275  | 0 | 3 I   | within gene(s) PMM1509;                                 |
| 1448332 - | TSS_024194 | 1000 | 354  | 0 | 12 I  | within gene(s) PMM1509;                                 |
| 1448434 - | TSS_024203 | 1000 | 241  | 0 | 6 I   | within gene(s) PMM1509;                                 |
| 1448485 - | TSS_024210 | 1000 | 1197 | 0 | 42 I  | within gene(s) PMM1509;                                 |
| 1448548 - | TSS_024223 | 1000 | 143  | 0 | 3 I   | within gene(s) PMM1509;                                 |
| 1448767 - | TSS_024241 | 1000 | 273  | 0 | 9 I   | within gene(s) PMM1509;                                 |
| 1448818 - | TSS_024251 | 1000 | 371  | 0 | 11 I  | within gene(s) PMM1509;                                 |
| 1448845 - | TSS_024257 | 1000 | 110  | 0 | 6 I   | within gene(s) PMM1509;                                 |
| 1448863 - | TSS_024260 | 1000 | 328  | 0 | 0 I   | within gene(s) PMM1509;                                 |
| 1449130 - | TSS_024272 | 1000 | 134  | 0 | 15 I  | within gene(s) PMM1509;                                 |
| 1449152 + | TSS_010495 | 1000 | 185  | 0 | 1 Ai  | antisense to gene(s) PMM1509;                           |
| 1449247 - | TSS_024282 | 1000 | 117  | 0 | 21 I  | within gene(s) PMM1509;                                 |
| 1449559 - | TSS_024303 | 1000 | 125  | 0 | 6 I   | within gene(s) PMM1509;                                 |
| 1449812 - | TSS_024308 | 1000 | 3344 | 0 | 5 P   | 64nt upstream of gene PMM1509;                          |
| 1449934 + | TSS_010503 | 1000 | 104  | 0 | 0 Ai  | antisense to gene(s) PMM1510;                           |
| 1449943 + | TSS_010504 | 1000 | 200  | 0 | 0 Ai  | antisense to gene(s) PMM1510;                           |
| 1450004 + | TSS_010505 | 1000 | 286  | 0 | 4 Ai  | antisense to gene(s) PMM1510;                           |
| 1450080 - | TSS_024316 | 1000 | 140  | 0 | 9 I   | within gene(s) PMM1510;                                 |
| 1450188 - | TSS_024326 | 1000 | 479  | 0 | 0 I   | within gene(s) PMM1510;                                 |
| 1450209 - | TSS_024329 | 1000 | 263  | 0 | 4 I   | within gene(s) PMM1510;                                 |
| 1450230 - | TSS_024332 | 1000 | 200  | 0 | 2 I   | within gene(s) PMM1510;                                 |
| 1450257 - | TSS_024334 | 1000 | 167  | 0 | 0 I   | within gene(s) PMM1510;                                 |
| 1450269 - | TSS_024335 | 1000 | 122  | 0 | 0 I   | within gene(s) PMM1510;                                 |
| 1450367 - | TSS_024339 | 1000 | 134  | 0 | 1 IP  | within gene(s) PMM1511; 44nt upstream of gene PMM1510;  |
| 1450427 - | TSS_024349 | 1000 | 1247 | 0 | 37 IP | within gene(s) PMM1511; 104nt upstream of gene PMM1510; |
| 1450569 - | TSS_024363 | 1000 | 122  | 0 | 4 IP  | within gene(s) PMM1511; 246nt upstream of gene PMM1510; |
| 1450891 + | TSS_010509 | 1000 | 107  | 0 | 1 P   | 31nt upstream of gene PMM1512;                          |
| 1450919 + | TSS_010511 | 1000 | 145  | 0 | 0 P   | 3nt upstream of gene PMM1512;                           |
| 1454166 + | TSS_010541 | 1000 | 140  | 0 | 15 I  | within gene(s) PMM1512;                                 |
| 1454543 + | TSS_010551 | 1000 | 176  | 0 | 0 I   | within gene(s) PMM1512;                                 |
| 1454745 + | TSS_010553 | 1000 | 106  | 0 | 1 I   | within gene(s) PMM1512;                                 |
| 1456713 - | TSS_024389 | 1000 | 2878 | 0 | 3 P   | 20nt upstream of gene PMM1514;                          |
| 1459395 - | TSS_024395 | 1000 | 164  | 0 | 0 Ai  | antisense to gene(s) PMM1518;                           |
| 1459609 + | TSS_010568 | 1000 | 120  | 0 | 0 Ai  | antisense to gene(s) PMM1519;                           |
| 1459813 + | TSS_010571 | 1000 | 125  | 0 | 0 Ai  | antisense to gene(s) PMM1519;                           |
| 1459836 - | TSS_024398 | 1000 | 152  | 0 | 3 I   | within gene(s) PMM1519;                                 |
| 1460021 - | TSS_024417 | 1000 | 139  | 0 | 1 I   | within gene(s) PMM1519;                                 |
| 1460363 - | TSS_024431 | 1000 | 9060 | 0 | 3 P   | 15nt upstream of gene PMM1520;                          |
| 1462056 + | TSS_010576 | 1000 | 473  | 0 | 0 Ai  | antisense to gene(s) PMM1523;                           |
| 1462103 - | TSS_024440 | 1000 | 193  | 0 | 10 I  | within gene(s) PMM1523;                                 |
| 1462123 + | TSS_010579 | 1000 | 127  | 0 | 1 Ai  | antisense to gene(s) PMM1523;                           |
| 1462135 - | TSS_024443 | 1000 | 250  | 0 | 15 I  | within gene(s) PMM1523;                                 |
| 1462153 - | TSS_024446 | 1000 | 502  | 0 | 24 I  | within gene(s) PMM1523;                                 |
| 1462195 - | TSS_024458 | 1000 | 1412 | 0 | 18 I  | within gene(s) PMM1523;                                 |
| 1462225 - | TSS_024467 | 1000 | 3184 | 0 | 17 I  | within gene(s) PMM1523;                                 |
| 1462258 - | TSS_024474 | 1000 | 977  | 0 | 4 I   | within gene(s) PMM1523;                                 |
| 1462266 + | TSS_010581 | 1000 | 260  | 0 | 0 Ai  | antisense to gene(s) PMM1523;                           |
| 1462270 - | TSS_024477 | 1000 | 1858 | 0 | 12 I  | within gene(s) PMM1523;                                 |
| 1462291 - | TSS_024484 | 1000 | 8221 | 0 | 13 I  | within gene(s) PMM1523;                                 |
| 1462301 + | TSS_010582 | 1000 | 139  | 0 | 0 Ai  | antisense to gene(s) PMM1523;                           |
| 1462312 - | TSS_024490 | 1000 | 611  | 0 | 1 I   | within gene(s) PMM1523;                                 |
| 1462327 - | TSS_024491 | 1000 | 764  | 0 | 0 I   | within gene(s) PMM1523;                                 |
| 1462339 - | TSS_024492 | 1000 | 505  | 0 | 0 I   | within gene(s) PMM1523;                                 |
| 1462348 - | TSS_024493 | 1000 | 530  | 0 | 0 I   | within gene(s) PMM1523;                                 |
| 1462369 - | TSS_024494 | 1000 | 422  | 0 | 0 I   | within gene(s) PMM1523;                                 |
| 1462387 - | TSS_024495 | 1000 | 315  | 0 | 0 I   | within gene(s) PMM1523;                                 |
| 1462416 - | TSS_024497 | 1000 | 9356 | 0 | 30 I  | within gene(s) PMM1523;                                 |
| 1462468 - | TSS_024509 | 1000 | 286  | 0 | 6 I   | within gene(s) PMM1523;                                 |
| 1462477 - | TSS_024510 | 1000 | 143  | 0 | 0 I   | within gene(s) PMM1523;                                 |
| 1462492 - | TSS_024511 | 1000 | 209  | 0 | 0 I   | within gene(s) PMM1523;                                 |

|           |            |      |      |          |       |   |
|-----------|------------|------|------|----------|-------|---|
| 1462501 - | TSS_024513 | 1000 | 279  | 0        | 1 I   | within gene(s) PMM1523;                                 |
| 1462519 - | TSS_024517 | 1000 | 544  | 0        | 9 I   | within gene(s) PMM1523;                                 |
| 1462546 - | TSS_024518 | 1000 | 310  | 0        | 0 I   | within gene(s) PMM1523;                                 |
| 1462555 - | TSS_024519 | 1000 | 245  | 0        | 2 I   | within gene(s) PMM1523;                                 |
| 1462573 - | TSS_024523 | 1000 | 732  | 0        | 12 I  | within gene(s) PMM1523;                                 |
| 1462603 - | TSS_024526 | 1000 | 160  | 0        | 6 I   | within gene(s) PMM1523;                                 |
| 1462630 - | TSS_024528 | 1000 | 139  | 0        | 0 I   | within gene(s) PMM1523;                                 |
| 1462639 - | TSS_024529 | 1000 | 378  | 0        | 2 I   | within gene(s) PMM1523;                                 |
| 1462651 - | TSS_024531 | 1000 | 630  | 0        | 33 I  | within gene(s) PMM1523;                                 |
| 1462696 - | TSS_024544 | 1000 | 299  | 0        | 6 I   | within gene(s) PMM1523;                                 |
| 1462714 - | TSS_024546 | 1000 | 758  | 0        | 21 I  | within gene(s) PMM1523;                                 |
| 1462747 - | TSS_024552 | 1000 | 258  | 0        | 3 I   | within gene(s) PMM1523;                                 |
| 1462771 - | TSS_024559 | 1000 | 1904 | 0        | 33 I  | within gene(s) PMM1523;                                 |
| 1462817 + | TSS_010588 | 1000 | 160  | 0        | 0 Ai  | antisense to gene(s) PMM1523;                           |
| 1462819 - | TSS_024566 | 1000 | 177  | 0        | 5 I   | within gene(s) PMM1523;                                 |
| 1462831 - | TSS_024568 | 1000 | 164  | 0        | 0 I   | within gene(s) PMM1523;                                 |
| 1462833 + | TSS_010590 | 1000 | 241  | 0        | 1 Ai  | antisense to gene(s) PMM1523;                           |
| 1462846 - | TSS_024572 | 1000 | 2476 | 0        | 6 I   | within gene(s) PMM1523;                                 |
| 1462857 + | TSS_010591 | 1000 | 470  | 0        | 0 Ai  | antisense to gene(s) PMM1523;                           |
| 1462873 - | TSS_024578 | 1000 | 562  | 0        | 30 I  | within gene(s) PMM1523;                                 |
| 1462918 - | TSS_024586 | 1000 | 213  | 0        | 18 I  | within gene(s) PMM1523;                                 |
| 1462930 - | TSS_024588 | 1000 | 328  | 0        | 3 I   | within gene(s) PMM1523;                                 |
| 1462947 - | TSS_024589 | 1000 | 678  | 0        | 1 I   | within gene(s) PMM1523;                                 |
| 1462965 - | TSS_024593 | 1000 | 180  | 0        | 9 I   | within gene(s) PMM1523;                                 |
| 1462981 - | TSS_024598 | 1000 | 644  | 0        | 25 I  | within gene(s) PMM1523;                                 |
| 1463008 - | TSS_024603 | 1000 | 103  | 5.30E-06 | 0 I   | within gene(s) PMM1523;                                 |
| 1463026 - | TSS_024604 | 1000 | 183  | 0        | 0 I   | within gene(s) PMM1523;                                 |
| 1463062 - | TSS_024606 | 1000 | 545  | 0        | 13 I  | within gene(s) PMM1523;                                 |
| 1463103 - | TSS_024616 | 1000 | 1212 | 0        | 12 I  | within gene(s) PMM1523;                                 |
| 1463146 - | TSS_024626 | 1000 | 689  | 0        | 33 I  | within gene(s) PMM1523;                                 |
| 1463155 - | TSS_024627 | 1000 | 138  | 0        | 0 I   | within gene(s) PMM1523;                                 |
| 1463179 - | TSS_024628 | 1000 | 104  | 1.10E-07 | 0 I   | within gene(s) PMM1523;                                 |
| 1463197 - | TSS_024632 | 1000 | 770  | 0        | 39 I  | within gene(s) PMM1523;                                 |
| 1463251 - | TSS_024645 | 1000 | 325  | 0        | 30 I  | within gene(s) PMM1523;                                 |
| 1463410 - | TSS_024658 | 1000 | 431  | 0        | 3 I   | within gene(s) PMM1523;                                 |
| 1463421 + | TSS_010596 | 1000 | 107  | 0        | 0 Ai  | antisense to gene(s) PMM1523;                           |
| 1463428 - | TSS_024662 | 1000 | 163  | 0        | 33 I  | within gene(s) PMM1523;                                 |
| 1463467 - | TSS_024672 | 1000 | 202  | 0        | 2 I   | within gene(s) PMM1523;                                 |
| 1463485 - | TSS_024675 | 1000 | 142  | 0        | 3 I   | within gene(s) PMM1523;                                 |
| 1463515 - | TSS_024679 | 1000 | 446  | 0        | 24 I  | within gene(s) PMM1523;                                 |
| 1463537 + | TSS_010599 | 1000 | 170  | 0        | 1 Ai  | antisense to gene(s) PMM1523;                           |
| 1463545 - | TSS_024684 | 1000 | 471  | 0        | 3 I   | within gene(s) PMM1523;                                 |
| 1463565 - | TSS_024691 | 1000 | 255  | 0        | 21 I  | within gene(s) PMM1523;                                 |
| 1463595 - | TSS_024699 | 1000 | 208  | 0        | 15 I  | within gene(s) PMM1523;                                 |
| 1463617 - | TSS_024705 | 1000 | 104  | 1.90E-09 | 0 I   | within gene(s) PMM1523;                                 |
| 1463659 - | TSS_024713 | 1000 | 362  | 0        | 36 I  | within gene(s) PMM1523;                                 |
| 1463677 - | TSS_024718 | 1000 | 447  | 0        | 3 I   | within gene(s) PMM1523;                                 |
| 1463689 - | TSS_024721 | 1000 | 202  | 0        | 0 I   | within gene(s) PMM1523;                                 |
| 1463698 - | TSS_024722 | 1000 | 247  | 0        | 9 I   | within gene(s) PMM1523;                                 |
| 1463722 - | TSS_024725 | 1000 | 242  | 0        | 5 I   | within gene(s) PMM1523;                                 |
| 1463734 - | TSS_024728 | 1000 | 159  | 0        | 3 I   | within gene(s) PMM1523;                                 |
| 1463744 + | TSS_010601 | 1000 | 153  | 0        | 0 Ai  | antisense to gene(s) PMM1523;                           |
| 1463746 - | TSS_024731 | 1000 | 555  | 0        | 10 I  | within gene(s) PMM1523;                                 |
| 1463763 - | TSS_024735 | 1000 | 156  | 0        | 0 I   | within gene(s) PMM1523;                                 |
| 1463781 - | TSS_024737 | 1000 | 114  | 2.60E-14 | 2 I   | within gene(s) PMM1523;                                 |
| 1463821 - | TSS_024741 | 1000 | 160  | 0        | 15 I  | within gene(s) PMM1523;                                 |
| 1463829 + | TSS_010606 | 1000 | 544  | 0        | 1 Ai  | antisense to gene(s) PMM1523;                           |
| 1463857 - | TSS_024745 | 1000 | 905  | 0        | 3 I   | within gene(s) PMM1523;                                 |
| 1463878 - | TSS_024750 | 1000 | 358  | 0        | 18 I  | within gene(s) PMM1523;                                 |
| 1463899 - | TSS_024756 | 1000 | 576  | 0        | 6 I   | within gene(s) PMM1523;                                 |
| 1463923 - | TSS_024758 | 1000 | 324  | 0        | 9 I   | within gene(s) PMM1523;                                 |
| 1463941 - | TSS_024762 | 1000 | 179  | 0        | 6 I   | within gene(s) PMM1523;                                 |
| 1463950 - | TSS_024763 | 1000 | 143  | 0        | 0 I   | within gene(s) PMM1523;                                 |
| 1463951 + | TSS_010608 | 1000 | 230  | 0        | 1 Ai  | antisense to gene(s) PMM1523;                           |
| 1463962 - | TSS_024764 | 1000 | 248  | 0        | 0 I   | within gene(s) PMM1523;                                 |
| 1464007 - | TSS_024766 | 1000 | 142  | 0        | 1 I   | within gene(s) PMM1523;                                 |
| 1464180 - | TSS_024767 | 1000 | 467  | 0        | 0 IP  | within gene(s) PMM1524; 47nt upstream of gene PMM1523;  |
| 1464188 - | TSS_024768 | 1000 | 462  | 0        | 0 IP  | within gene(s) PMM1524; 55nt upstream of gene PMM1523;  |
| 1464233 - | TSS_024769 | 1000 | 1283 | 0        | 0 IP  | within gene(s) PMM1524; 100nt upstream of gene PMM1523; |
| 1464257 - | TSS_024770 | 1000 | 330  | 0        | 0 IP  | within gene(s) PMM1524; 124nt upstream of gene PMM1523; |
| 1464278 - | TSS_024776 | 1000 | 5371 | 0        | 10 IP | within gene(s) PMM1524; 145nt upstream of gene PMM1523; |
| 1464296 - | TSS_024781 | 1000 | 869  | 0        | 9 IP  | within gene(s) PMM1524; 163nt upstream of gene PMM1523; |
| 1464314 - | TSS_024784 | 1000 | 1859 | 0        | 12 IP | within gene(s) PMM1524; 181nt upstream of gene PMM1523; |
| 1464338 - | TSS_024791 | 1000 | 1965 | 0        | 4 IP  | within gene(s) PMM1524; 205nt upstream of gene PMM1523; |
| 1464356 - | TSS_024794 | 1000 | 372  | 0        | 0 IP  | within gene(s) PMM1524; 223nt upstream of gene PMM1523; |
| 1464382 + | TSS_010614 | 1000 | 129  | 0        | 7 Ai  | antisense to gene(s) PMM1524;                           |
| 1464383 - | TSS_024795 | 1000 | 366  | 0        | 0 IP  | within gene(s) PMM1524; 250nt upstream of gene PMM1523; |
| 1464397 - | TSS_024796 | 1000 | 373  | 0        | 4 I   | within gene(s) PMM1524;                                 |
| 1464434 - | TSS_024799 | 1000 | 327  | 0        | 0 I   | within gene(s) PMM1524;                                 |



|           |            |      |      |          |      |                               |
|-----------|------------|------|------|----------|------|-------------------------------|
| 1464464 - | TSS_024804 | 1000 | 883  | 0        | 12 I | within gene(s) PMM1524;       |
| 1464474 - | TSS_024806 | 1000 | 475  | 0        | 1 I  | within gene(s) PMM1524;       |
| 1464503 - | TSS_024807 | 1000 | 1126 | 0        | 0 I  | within gene(s) PMM1524;       |
| 1464512 - | TSS_024808 | 1000 | 1604 | 0        | 0 I  | within gene(s) PMM1524;       |
| 1464527 - | TSS_024809 | 1000 | 901  | 0        | 9 I  | within gene(s) PMM1524;       |
| 1464560 - | TSS_024812 | 1000 | 480  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1464569 + | TSS_010623 | 1000 | 131  | 0        | 1 Ai | antisense to gene(s) PMM1524; |
| 1464575 - | TSS_024815 | 1000 | 3274 | 0        | 9 I  | within gene(s) PMM1524;       |
| 1464596 - | TSS_024819 | 1000 | 508  | 0        | 1 I  | within gene(s) PMM1524;       |
| 1464612 + | TSS_010624 | 1000 | 220  | 0        | 0 Ai | antisense to gene(s) PMM1524; |
| 1464662 - | TSS_024828 | 1000 | 1456 | 0        | 36 I | within gene(s) PMM1524;       |
| 1464704 - | TSS_024841 | 1000 | 4983 | 0        | 84 I | within gene(s) PMM1524;       |
| 1464785 - | TSS_024871 | 1000 | 209  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1464806 - | TSS_024872 | 1000 | 627  | 0        | 6 I  | within gene(s) PMM1524;       |
| 1464839 - | TSS_024874 | 1000 | 914  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1464848 - | TSS_024875 | 1000 | 144  | 6.30E-06 | 0 I  | within gene(s) PMM1524;       |
| 1464869 - | TSS_024876 | 1000 | 201  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1464876 + | TSS_010626 | 1000 | 531  | 0        | 4 Ai | antisense to gene(s) PMM1524; |
| 1464887 + | TSS_010629 | 1000 | 590  | 0        | 0 Ai | antisense to gene(s) PMM1524; |
| 1464887 - | TSS_024877 | 1000 | 191  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1464911 - | TSS_024879 | 1000 | 158  | 0        | 6 I  | within gene(s) PMM1524;       |
| 1464927 - | TSS_024882 | 1000 | 921  | 0        | 18 I | within gene(s) PMM1524;       |
| 1464959 + | TSS_010630 | 1000 | 1184 | 0        | 0 Ai | antisense to gene(s) PMM1524; |
| 1464959 - | TSS_024889 | 1000 | 839  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1464968 - | TSS_024890 | 1000 | 1478 | 0        | 2 I  | within gene(s) PMM1524;       |
| 1464980 - | TSS_024892 | 1000 | 125  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1465007 - | TSS_024894 | 1000 | 423  | 0        | 6 I  | within gene(s) PMM1524;       |
| 1465017 + | TSS_010631 | 1000 | 188  | 0        | 0 Ai | antisense to gene(s) PMM1524; |
| 1465031 - | TSS_024895 | 1000 | 169  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1465069 - | TSS_024896 | 1000 | 533  | 0        | 1 I  | within gene(s) PMM1524;       |
| 1465079 - | TSS_024898 | 1000 | 304  | 0        | 15 I | within gene(s) PMM1524;       |
| 1465112 - | TSS_024908 | 1000 | 274  | 0        | 12 I | within gene(s) PMM1524;       |
| 1465113 + | TSS_010633 | 1000 | 1076 | 0        | 8 Ai | antisense to gene(s) PMM1524; |
| 1465127 + | TSS_010637 | 1000 | 267  | 0        | 0 Ai | antisense to gene(s) PMM1524; |
| 1465139 - | TSS_024912 | 1000 | 128  | 0        | 12 I | within gene(s) PMM1524;       |
| 1465140 + | TSS_010638 | 1000 | 130  | 0        | 0 Ai | antisense to gene(s) PMM1524; |
| 1465157 - | TSS_024915 | 1000 | 301  | 0        | 12 I | within gene(s) PMM1524;       |
| 1465185 + | TSS_010642 | 1000 | 264  | 0        | 9 Ai | antisense to gene(s) PMM1524; |
| 1465196 - | TSS_024920 | 1000 | 462  | 0        | 18 I | within gene(s) PMM1524;       |
| 1465197 + | TSS_010643 | 1000 | 377  | 0        | 6 Ai | antisense to gene(s) PMM1524; |
| 1465286 - | TSS_024926 | 1000 | 337  | 0        | 27 I | within gene(s) PMM1524;       |
| 1465310 - | TSS_024935 | 1000 | 131  | 0        | 6 I  | within gene(s) PMM1524;       |
| 1465322 - | TSS_024937 | 1000 | 146  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1465341 - | TSS_024940 | 1000 | 261  | 0        | 4 I  | within gene(s) PMM1524;       |
| 1465363 - | TSS_024945 | 1000 | 934  | 0        | 30 I | within gene(s) PMM1524;       |
| 1465394 - | TSS_024955 | 1000 | 287  | 0        | 12 I | within gene(s) PMM1524;       |
| 1465412 - | TSS_024959 | 1000 | 431  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1465442 - | TSS_024964 | 1000 | 589  | 0        | 12 I | within gene(s) PMM1524;       |
| 1465453 - | TSS_024965 | 1000 | 408  | 0        | 1 I  | within gene(s) PMM1524;       |
| 1465475 - | TSS_024967 | 1000 | 910  | 0        | 3 I  | within gene(s) PMM1524;       |
| 1465524 + | TSS_010650 | 1000 | 117  | 0        | 5 Ai | antisense to gene(s) PMM1524; |
| 1465553 - | TSS_024971 | 1000 | 370  | 0        | 3 I  | within gene(s) PMM1524;       |
| 1465574 - | TSS_024975 | 1000 | 410  | 0        | 18 I | within gene(s) PMM1524;       |
| 1465592 - | TSS_024978 | 1000 | 152  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1465619 - | TSS_024985 | 1000 | 569  | 0        | 18 I | within gene(s) PMM1524;       |
| 1465640 - | TSS_024986 | 1000 | 496  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1465661 - | TSS_024992 | 1000 | 7318 | 0        | 21 I | within gene(s) PMM1524;       |
| 1465682 - | TSS_024997 | 1000 | 118  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1465694 - | TSS_025000 | 1000 | 390  | 0        | 10 I | within gene(s) PMM1524;       |
| 1465736 - | TSS_025004 | 1000 | 183  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1465769 - | TSS_025005 | 1000 | 129  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1465793 - | TSS_025008 | 1000 | 253  | 0        | 12 I | within gene(s) PMM1524;       |
| 1465843 - | TSS_025012 | 1000 | 319  | 0        | 1 I  | within gene(s) PMM1524;       |
| 1465864 - | TSS_025017 | 1000 | 189  | 0        | 8 I  | within gene(s) PMM1524;       |
| 1465874 - | TSS_025018 | 1000 | 186  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1465885 - | TSS_025019 | 1000 | 332  | 0        | 1 I  | within gene(s) PMM1524;       |
| 1465907 - | TSS_025023 | 1000 | 219  | 0        | 15 I | within gene(s) PMM1524;       |
| 1465964 - | TSS_025030 | 1000 | 636  | 0        | 21 I | within gene(s) PMM1524;       |
| 1465998 + | TSS_010654 | 1000 | 276  | 0        | 0 Ai | antisense to gene(s) PMM1524; |
| 1466014 - | TSS_025037 | 1000 | 202  | 0        | 12 I | within gene(s) PMM1524;       |
| 1466027 - | TSS_025041 | 1000 | 603  | 0        | 12 I | within gene(s) PMM1524;       |
| 1466034 + | TSS_010655 | 1000 | 136  | 0        | 0 Ai | antisense to gene(s) PMM1524; |
| 1466051 - | TSS_025046 | 1000 | 175  | 0        | 3 I  | within gene(s) PMM1524;       |
| 1466060 - | TSS_025047 | 1000 | 109  | 0        | 0 I  | within gene(s) PMM1524;       |
| 1466114 - | TSS_025048 | 1000 | 1362 | 0        | 2 I  | within gene(s) PMM1524;       |
| 1466147 - | TSS_025050 | 1000 | 140  | 0        | 3 I  | within gene(s) PMM1524;       |
| 1466177 - | TSS_025054 | 1000 | 667  | 0        | 10 I | within gene(s) PMM1524;       |
| 1466180 + | TSS_010658 | 1000 | 2245 | 0        | 2 Ai | antisense to gene(s) PMM1524; |
| 1466189 - | TSS_025055 | 1000 | 690  | 0        | 9 I  | within gene(s) PMM1524;       |

|           |            |      |      |   |       |   |
|-----------|------------|------|------|---|-------|---|
| 1466213 - | TSS_025059 | 1000 | 159  | 0 | 0 I   | within gene(s) PMM1524;                                 |
| 1466231 - | TSS_025061 | 1000 | 149  | 0 | 3 I   | within gene(s) PMM1524;                                 |
| 1466264 - | TSS_025067 | 1000 | 219  | 0 | 21 I  | within gene(s) PMM1524;                                 |
| 1466300 - | TSS_025070 | 1000 | 220  | 0 | 0 I   | within gene(s) PMM1524;                                 |
| 1466330 - | TSS_025072 | 1000 | 137  | 0 | 0 I   | within gene(s) PMM1524;                                 |
| 1466354 - | TSS_025074 | 1000 | 273  | 0 | 0 I   | within gene(s) PMM1524;                                 |
| 1466366 - | TSS_025077 | 1000 | 649  | 0 | 4 I   | within gene(s) PMM1524;                                 |
| 1466429 - | TSS_025081 | 1000 | 272  | 0 | 7 I   | within gene(s) PMM1524;                                 |
| 1466585 - | TSS_025082 | 1000 | 1075 | 0 | 0 P   | 120nt upstream of gene PMM1524;                         |
| 1468500 - | TSS_025086 | 1000 | 148  | 0 | 0 Ai  | antisense to gene(s) PMM1525;                           |
| 1468533 - | TSS_025088 | 1000 | 248  | 0 | 0 Ai  | antisense to gene(s) PMM1525;                           |
| 1469172 + | TSS_010666 | 1000 | 269  | 0 | 0 I   | within gene(s) PMM1526;                                 |
| 1470954 + | TSS_010672 | 1000 | 531  | 0 | 2 P   | 15nt upstream of gene PMM1528;                          |
| 1471756 + | TSS_010677 | 1000 | 207  | 0 | 0 Ai  | antisense to gene(s) PMM1529;                           |
| 1473037 - | TSS_025128 | 1000 | 777  | 0 | 18 IP | within gene(s) PMM1531; 166nt upstream of gene PMM1530; |
| 1473343 - | TSS_025140 | 1000 | 122  | 0 | 0 IP  | within gene(s) PMM1532; 48nt upstream of gene PMM1531;  |
| 1473409 - | TSS_025141 | 1000 | 252  | 0 | 6 IP  | within gene(s) PMM1532; 114nt upstream of gene PMM1531; |
| 1473445 - | TSS_025149 | 1000 | 127  | 0 | 6 IP  | within gene(s) PMM1532; 150nt upstream of gene PMM1531; |
| 1473676 - | TSS_025167 | 1000 | 113  | 0 | 24 I  | within gene(s) PMM1532;                                 |
| 1473735 - | TSS_025170 | 1000 | 134  | 0 | 2 I   | within gene(s) PMM1532;                                 |
| 1473764 - | TSS_025172 | 1000 | 3346 | 0 | 4 P   | 28nt upstream of gene PMM1532;                          |
| 1474126 - | TSS_025177 | 1000 | 166  | 0 | 0 I   | within gene(s) PMM1533;                                 |
| 1474891 - | TSS_025182 | 1000 | 141  | 0 | 12 IP | within gene(s) PMM1534; 232nt upstream of gene PMM1533; |
| 1474906 - | TSS_025185 | 1000 | 378  | 0 | 4 IP  | within gene(s) PMM1534; 247nt upstream of gene PMM1533; |
| 1474933 - | TSS_025189 | 1000 | 192  | 0 | 1 I   | within gene(s) PMM1534;                                 |
| 1474954 - | TSS_025190 | 1000 | 146  | 0 | 6 I   | within gene(s) PMM1534;                                 |
| 1474993 - | TSS_025194 | 1000 | 380  | 0 | 9 I   | within gene(s) PMM1534;                                 |
| 1475170 - | TSS_025198 | 1000 | 137  | 0 | 0 IP  | within gene(s) PMM1535; 123nt upstream of gene PMM1534; |
| 1475257 - | TSS_025199 | 1000 | 518  | 0 | 0 IP  | within gene(s) PMM1535; 210nt upstream of gene PMM1534; |
| 1475305 - | TSS_025202 | 1000 | 812  | 0 | 0 I   | within gene(s) PMM1535;                                 |
| 1475407 - | TSS_025204 | 1000 | 218  | 0 | 4 I   | within gene(s) PMM1535;                                 |
| 1475507 - | TSS_025212 | 1000 | 209  | 0 | 0 I   | within gene(s) PMM1535;                                 |
| 1475749 - | TSS_025221 | 1000 | 103  | 0 | 3 I   | within gene(s) PMM1535;                                 |
| 1475761 - | TSS_025223 | 1000 | 131  | 0 | 0 I   | within gene(s) PMM1535;                                 |
| 1476176 - | TSS_025241 | 1000 | 382  | 0 | 21 IP | within gene(s) PMM1536; 175nt upstream of gene PMM1535; |
| 1476251 - | TSS_025249 | 1000 | 146  | 0 | 12 IP | within gene(s) PMM1536; 250nt upstream of gene PMM1535; |
| 1476308 - | TSS_025255 | 1000 | 102  | 0 | 12 I  | within gene(s) PMM1536;                                 |
| 1476326 - | TSS_025258 | 1000 | 561  | 0 | 24 I  | within gene(s) PMM1536;                                 |
| 1476380 - | TSS_025265 | 1000 | 111  | 0 | 9 I   | within gene(s) PMM1536;                                 |
| 1476390 + | TSS_010693 | 1000 | 141  | 0 | 0 Ai  | antisense to gene(s) PMM1536;                           |
| 1476428 - | TSS_025272 | 1000 | 108  | 0 | 1 I   | within gene(s) PMM1536;                                 |
| 1476535 - | TSS_025277 | 1000 | 121  | 0 | 4 IP  | within gene(s) PMM1537; 95nt upstream of gene PMM1536;  |
| 1476546 + | TSS_010696 | 1000 | 206  | 0 | 7 Ai  | antisense to gene(s) PMM1537;                           |
| 1476569 - | TSS_025280 | 1000 | 157  | 0 | 0 IP  | within gene(s) PMM1537; 129nt upstream of gene PMM1536; |
| 1476583 + | TSS_010701 | 1000 | 169  | 0 | 0 Ai  | antisense to gene(s) PMM1537;                           |
| 1476589 - | TSS_025281 | 1000 | 178  | 0 | 13 IP | within gene(s) PMM1537; 149nt upstream of gene PMM1536; |
| 1476679 + | TSS_010703 | 1000 | 196  | 0 | 0 Ai  | antisense to gene(s) PMM1537;                           |
| 1476725 - | TSS_025293 | 1000 | 433  | 0 | 0 I   | within gene(s) PMM1537;                                 |
| 1476743 - | TSS_025296 | 1000 | 129  | 0 | 19 I  | within gene(s) PMM1537;                                 |
| 1476767 - | TSS_025302 | 1000 | 167  | 0 | 3 I   | within gene(s) PMM1537;                                 |
| 1476782 - | TSS_025305 | 1000 | 319  | 0 | 19 I  | within gene(s) PMM1537;                                 |
| 1478505 - | TSS_025344 | 1000 | 231  | 0 | 0 I   | within gene(s) PMM1540;                                 |
| 1478682 + | TSS_010711 | 1000 | 117  | 0 | 0 Ai  | antisense to gene(s) PMM1540;                           |
| 1478791 + | TSS_010712 | 1000 | 163  | 0 | 0 Ai  | antisense to gene(s) PMM1540;                           |
| 1479302 - | TSS_025358 | 1000 | 227  | 0 | 7 I   | within gene(s) PMM1541;                                 |
| 1479329 - | TSS_025364 | 1000 | 135  | 0 | 13 I  | within gene(s) PMM1541;                                 |
| 1479460 - | TSS_025373 | 1000 | 118  | 0 | 9 IP  | within gene(s) PMM1542; 43nt upstream of gene PMM1541;  |
| 1479524 + | TSS_010720 | 1000 | 115  | 0 | 0 Ai  | antisense to gene(s) PMM1542;                           |
| 1479631 - | TSS_025387 | 1000 | 151  | 0 | 9 IP  | within gene(s) PMM1542; 214nt upstream of gene PMM1541; |
| 1479671 + | TSS_010722 | 1000 | 344  | 0 | 0 Ai  | antisense to gene(s) PMM1542;                           |
| 1479684 + | TSS_010723 | 1000 | 1018 | 0 | 0 Ai  | antisense to gene(s) PMM1542;                           |
| 1479695 + | TSS_010724 | 1000 | 225  | 0 | 1 Ai  | antisense to gene(s) PMM1542;                           |
| 1479743 + | TSS_010726 | 1000 | 193  | 0 | 0 Ai  | antisense to gene(s) PMM1542;                           |
| 1479770 + | TSS_010727 | 1000 | 102  | 0 | 0 Ai  | antisense to gene(s) PMM1542;                           |
| 1479809 + | TSS_010729 | 1000 | 617  | 0 | 3 Ai  | antisense to gene(s) PMM1542;                           |
| 1479840 + | TSS_010731 | 1000 | 149  | 0 | 0 Ai  | antisense to gene(s) PMM1542;                           |
| 1479903 + | TSS_010733 | 1000 | 271  | 0 | 8 Ai  | antisense to gene(s) PMM1542;                           |
| 1479910 - | TSS_025417 | 1000 | 141  | 0 | 6 I   | within gene(s) PMM1542;                                 |
| 1479934 - | TSS_025421 | 1000 | 124  | 0 | 0 I   | within gene(s) PMM1542;                                 |
| 1479946 - | TSS_025423 | 1000 | 148  | 0 | 3 I   | within gene(s) PMM1542;                                 |
| 1479953 + | TSS_010738 | 1000 | 348  | 0 | 1 Ai  | antisense to gene(s) PMM1542;                           |
| 1479980 + | TSS_010739 | 1000 | 152  | 0 | 0 Ai  | antisense to gene(s) PMM1542;                           |
| 1480030 - | TSS_025426 | 1000 | 103  | 0 | 9 I   | within gene(s) PMM1542;                                 |
| 1480042 - | TSS_025429 | 1000 | 137  | 0 | 3 P   | 0nt upstream of gene PMM1542;                           |
| 1480075 - | TSS_025430 | 1000 | 101  | 0 | 0 IP  | within gene(s) PMM1543; 33nt upstream of gene PMM1542;  |
| 1480129 + | TSS_010740 | 1000 | 143  | 0 | 0 Ai  | antisense to gene(s) PMM1543;                           |
| 1480219 - | TSS_025437 | 1000 | 213  | 0 | 6 IP  | within gene(s) PMM1543; 177nt upstream of gene PMM1542; |
| 1480234 - | TSS_025439 | 1000 | 248  | 0 | 12 IP | within gene(s) PMM1543; 192nt upstream of gene PMM1542; |
| 1480267 - | TSS_025443 | 1000 | 132  | 0 | 24 IP | within gene(s) PMM1543; 225nt upstream of gene PMM1542; |

|           |            |      |       |   |       |   |
|-----------|------------|------|-------|---|-------|---|
| 1480372 - | TSS_025454 | 1000 | 111   | 0 | 2 I   | within gene(s) PMM1543;                                 |
| 1480470 - | TSS_025463 | 1000 | 168   | 0 | 12 IP | within gene(s) PMM1544; 44nt upstream of gene PMM1543;  |
| 1480500 - | TSS_025469 | 1000 | 280   | 0 | 7 IP  | within gene(s) PMM1544; 74nt upstream of gene PMM1543;  |
| 1480526 - | TSS_025475 | 1000 | 543   | 0 | 18 IP | within gene(s) PMM1544; 100nt upstream of gene PMM1543; |
| 1480548 - | TSS_025479 | 1000 | 280   | 0 | 12 IP | within gene(s) PMM1544; 122nt upstream of gene PMM1543; |
| 1480596 - | TSS_025485 | 1000 | 338   | 0 | 1 IP  | within gene(s) PMM1544; 170nt upstream of gene PMM1543; |
| 1480604 - | TSS_025487 | 1000 | 10845 | 0 | 5 IP  | within gene(s) PMM1544; 178nt upstream of gene PMM1543; |
| 1480623 - | TSS_025491 | 1000 | 129   | 0 | 12 IP | within gene(s) PMM1544; 197nt upstream of gene PMM1543; |
| 1480632 + | TSS_010751 | 1000 | 207   | 0 | 5 Ai  | antisense to gene(s) PMM1544;                           |
| 1480662 - | TSS_025495 | 1000 | 354   | 0 | 3 IP  | within gene(s) PMM1544; 236nt upstream of gene PMM1543; |
| 1480779 - | TSS_025500 | 1000 | 164   | 0 | 10 I  | within gene(s) PMM1544;                                 |
| 1480796 - | TSS_025503 | 1000 | 109   | 0 | 1 I   | within gene(s) PMM1544;                                 |
| 1480830 - | TSS_025514 | 1000 | 300   | 0 | 46 I  | within gene(s) PMM1544;                                 |
| 1480899 - | TSS_025530 | 1000 | 155   | 0 | 33 I  | within gene(s) PMM1544;                                 |
| 1480929 - | TSS_025534 | 1000 | 103   | 0 | 0 I   | within gene(s) PMM1544;                                 |
| 1480950 - | TSS_025538 | 1000 | 181   | 0 | 21 I  | within gene(s) PMM1544;                                 |
| 1480977 - | TSS_025544 | 1000 | 122   | 0 | 1 I   | within gene(s) PMM1544;                                 |
| 1480992 - | TSS_025546 | 1000 | 592   | 0 | 1 P   | 12nt upstream of gene PMM1544;                          |
| 1481019 - | TSS_025548 | 1000 | 102   | 0 | 0 IP  | within gene(s) PMM1545; 39nt upstream of gene PMM1544;  |
| 1481060 + | TSS_010764 | 1000 | 483   | 0 | 4 Ai  | antisense to gene(s) PMM1545;                           |
| 1481067 - | TSS_025550 | 1000 | 625   | 0 | 1 IP  | within gene(s) PMM1545; 87nt upstream of gene PMM1544;  |
| 1481088 - | TSS_025552 | 1000 | 240   | 0 | 4 IP  | within gene(s) PMM1545; 108nt upstream of gene PMM1544; |
| 1481118 - | TSS_025556 | 1000 | 175   | 0 | 10 IP | within gene(s) PMM1545; 138nt upstream of gene PMM1544; |
| 1481145 - | TSS_025560 | 1000 | 103   | 0 | 0 IP  | within gene(s) PMM1545; 165nt upstream of gene PMM1544; |
| 1481181 - | TSS_025563 | 1000 | 165   | 0 | 3 IP  | within gene(s) PMM1545; 201nt upstream of gene PMM1544; |
| 1481443 - | TSS_025577 | 1000 | 414   | 0 | 0 IP  | within gene(s) PMM1546; 49nt upstream of gene PMM1545;  |
| 1481455 - | TSS_025580 | 1000 | 239   | 0 | 18 IP | within gene(s) PMM1546; 61nt upstream of gene PMM1545;  |
| 1481518 - | TSS_025594 | 1000 | 267   | 0 | 9 IP  | within gene(s) PMM1546; 124nt upstream of gene PMM1545; |
| 1481554 - | TSS_025603 | 1000 | 168   | 0 | 9 IP  | within gene(s) PMM1546; 160nt upstream of gene PMM1545; |
| 1481701 - | TSS_025608 | 1000 | 148   | 0 | 3 I   | within gene(s) PMM1546;                                 |
| 1481752 - | TSS_025614 | 1000 | 378   | 0 | 0 I   | within gene(s) PMM1546;                                 |
| 1481803 - | TSS_025615 | 1000 | 415   | 0 | 0 I   | within gene(s) PMM1546;                                 |
| 1481827 - | TSS_025617 | 1000 | 182   | 0 | 21 I  | within gene(s) PMM1546;                                 |
| 1481890 - | TSS_025624 | 1000 | 130   | 0 | 0 I   | within gene(s) PMM1546;                                 |
| 1482034 - | TSS_025629 | 1000 | 477   | 0 | 1 IP  | within gene(s) PMM1547; 93nt upstream of gene PMM1546;  |
| 1482391 - | TSS_025639 | 1000 | 574   | 0 | 21 IP | within gene(s) PMM1548; 18nt upstream of gene PMM1547;  |
| 1482442 - | TSS_025649 | 1000 | 131   | 0 | 15 IP | within gene(s) PMM1548; 69nt upstream of gene PMM1547;  |
| 1482512 + | TSS_010782 | 1000 | 233   | 0 | 0 Ai  | antisense to gene(s) PMM1548;                           |
| 1482526 + | TSS_010783 | 1000 | 397   | 0 | 1 Ai  | antisense to gene(s) PMM1548;                           |
| 1482634 - | TSS_025663 | 1000 | 227   | 0 | 0 I   | within gene(s) PMM1548;                                 |
| 1482685 + | TSS_010792 | 1000 | 105   | 0 | 7 Ai  | antisense to gene(s) PMM1548;                           |
| 1482715 - | TSS_025677 | 1000 | 447   | 0 | 39 I  | within gene(s) PMM1548;                                 |
| 1482753 - | TSS_025680 | 1000 | 615   | 0 | 5 IP  | within gene(s) PMM1549; 14nt upstream of gene PMM1548;  |
| 1482783 - | TSS_025684 | 1000 | 138   | 0 | 12 IP | within gene(s) PMM1549; 44nt upstream of gene PMM1548;  |
| 1482804 - | TSS_025686 | 1000 | 1324  | 0 | 10 IP | within gene(s) PMM1549; 65nt upstream of gene PMM1548;  |
| 1482821 - | TSS_025691 | 1000 | 349   | 0 | 3 IP  | within gene(s) PMM1549; 82nt upstream of gene PMM1548;  |
| 1482876 - | TSS_025699 | 1000 | 1430  | 0 | 27 IP | within gene(s) PMM1549; 137nt upstream of gene PMM1548; |
| 1483028 - | TSS_025710 | 1000 | 107   | 0 | 9 IP  | within gene(s) PMM1550; 26nt upstream of gene PMM1549;  |
| 1483052 - | TSS_025714 | 1000 | 177   | 0 | 14 IP | within gene(s) PMM1550; 50nt upstream of gene PMM1549;  |
| 1483243 - | TSS_025733 | 1000 | 392   | 0 | 32 IP | within gene(s) PMM1551; 14nt upstream of gene PMM1550;  |
| 1483278 + | TSS_010796 | 1000 | 118   | 0 | 1 Ai  | antisense to gene(s) PMM1551;                           |
| 1483391 + | TSS_010802 | 1000 | 175   | 0 | 4 Ai  | antisense to gene(s) PMM1551;                           |
| 1483398 + | TSS_010803 | 1000 | 272   | 0 | 1 Ai  | antisense to gene(s) PMM1551;                           |
| 1483415 + | TSS_010805 | 1000 | 120   | 0 | 0 Ai  | antisense to gene(s) PMM1551;                           |
| 1483457 - | TSS_025752 | 1000 | 113   | 0 | 4 IP  | within gene(s) PMM1551; 228nt upstream of gene PMM1550; |
| 1483479 - | TSS_025757 | 1000 | 193   | 0 | 9 IP  | within gene(s) PMM1551; 250nt upstream of gene PMM1550; |
| 1483513 - | TSS_025763 | 1000 | 168   | 0 | 18 I  | within gene(s) PMM1551;                                 |
| 1483528 - | TSS_025768 | 1000 | 207   | 0 | 4 I   | within gene(s) PMM1551;                                 |
| 1483591 - | TSS_025773 | 1000 | 127   | 0 | 3 I   | within gene(s) PMM1551;                                 |
| 1483603 - | TSS_025776 | 1000 | 132   | 0 | 24 I  | within gene(s) PMM1551;                                 |
| 1483651 - | TSS_025782 | 1000 | 110   | 0 | 0 I   | within gene(s) PMM1551;                                 |
| 1483672 - | TSS_025786 | 1000 | 183   | 0 | 19 I  | within gene(s) PMM1551;                                 |
| 1483720 - | TSS_025791 | 1000 | 192   | 0 | 4 P   | 12nt upstream of gene PMM1551;                          |
| 1483737 - | TSS_025793 | 1000 | 114   | 0 | 4 IP  | within gene(s) PMM1552; 29nt upstream of gene PMM1551;  |
| 1483738 + | TSS_010809 | 1000 | 260   | 0 | 0 Ai  | antisense to gene(s) PMM1552;                           |
| 1483752 - | TSS_025797 | 1000 | 313   | 0 | 9 IP  | within gene(s) PMM1552; 44nt upstream of gene PMM1551;  |
| 1483824 - | TSS_025806 | 1000 | 106   | 0 | 9 IP  | within gene(s) PMM1552; 116nt upstream of gene PMM1551; |
| 1483845 - | TSS_025811 | 1000 | 128   | 0 | 6 IP  | within gene(s) PMM1552; 137nt upstream of gene PMM1551; |
| 1483902 - | TSS_025814 | 1000 | 162   | 0 | 0 IP  | within gene(s) PMM1552; 194nt upstream of gene PMM1551; |
| 1483955 + | TSS_010813 | 1000 | 186   | 0 | 8 Ai  | antisense to gene(s) PMM1552;                           |
| 1483975 + | TSS_010817 | 1000 | 2982  | 0 | 1 Ai  | antisense to gene(s) PMM1552;                           |
| 1483989 - | TSS_025818 | 1000 | 122   | 0 | 24 I  | within gene(s) PMM1552;                                 |
| 1484022 + | TSS_010818 | 1000 | 109   | 0 | 0 Ai  | antisense to gene(s) PMM1552;                           |
| 1484058 - | TSS_025829 | 1000 | 119   | 0 | 5 I   | within gene(s) PMM1552;                                 |
| 1484143 + | TSS_010822 | 1000 | 222   | 0 | 0 Ai  | antisense to gene(s) PMM1552;                           |
| 1484217 + | TSS_010825 | 1000 | 257   | 0 | 1 Ai  | antisense to gene(s) PMM1552;                           |
| 1484310 - | TSS_025848 | 1000 | 215   | 0 | 12 I  | within gene(s) PMM1552;                                 |
| 1484358 - | TSS_025854 | 1000 | 106   | 0 | 18 I  | within gene(s) PMM1552;                                 |
| 1484379 + | TSS_010828 | 1000 | 167   | 0 | 0 Ai  | antisense to gene(s) PMM1552;                           |

|           |            |      |      |   |    |    |   |
|-----------|------------|------|------|---|----|----|---|
| 1484481 - | TSS_025862 | 1000 | 123  | 0 | 2  | IP | within gene(s) PMM1553; 30nt upstream of gene PMM1552;  |
| 1484552 - | TSS_025866 | 1000 | 117  | 0 | 9  | IP | within gene(s) PMM1553; 101nt upstream of gene PMM1552; |
| 1484630 - | TSS_025873 | 1000 | 380  | 0 | 7  | IP | within gene(s) PMM1553; 179nt upstream of gene PMM1552; |
| 1484657 - | TSS_025877 | 1000 | 167  | 0 | 3  | IP | within gene(s) PMM1553; 206nt upstream of gene PMM1552; |
| 1484672 - | TSS_025878 | 1000 | 131  | 0 | 21 | IP | within gene(s) PMM1553; 221nt upstream of gene PMM1552; |
| 1484792 - | TSS_025893 | 1000 | 153  | 0 | 0  | I  | within gene(s) PMM1553;                                 |
| 1484951 - | TSS_025900 | 1000 | 130  | 0 | 0  | IP | within gene(s) PMM1554; 114nt upstream of gene PMM1553; |
| 1484971 - | TSS_025903 | 1000 | 961  | 0 | 10 | IP | within gene(s) PMM1554; 134nt upstream of gene PMM1553; |
| 1485026 - | TSS_025915 | 1000 | 210  | 0 | 0  | IP | within gene(s) PMM1554; 189nt upstream of gene PMM1553; |
| 1485044 - | TSS_025917 | 1000 | 112  | 0 | 6  | IP | within gene(s) PMM1554; 207nt upstream of gene PMM1553; |
| 1485191 + | TSS_010832 | 1000 | 368  | 0 | 2  | Ai | antisense to gene(s) PMM1555;                           |
| 1485223 + | TSS_010834 | 1000 | 332  | 0 | 0  | Ai | antisense to gene(s) PMM1555;                           |
| 1485343 - | TSS_025934 | 1000 | 1066 | 0 | 51 | IP | within gene(s) PMM1555; 230nt upstream of gene PMM1554; |
| 1485370 - | TSS_025941 | 1000 | 3143 | 0 | 1  | I  | within gene(s) PMM1555;                                 |
| 1485379 - | TSS_025942 | 1000 | 304  | 0 | 0  | I  | within gene(s) PMM1555;                                 |
| 1485406 - | TSS_025943 | 1000 | 102  | 0 | 0  | I  | within gene(s) PMM1555;                                 |
| 1485407 + | TSS_010838 | 1000 | 456  | 0 | 9  | Ai | antisense to gene(s) PMM1555;                           |
| 1485418 - | TSS_025944 | 1000 | 146  | 0 | 0  | I  | within gene(s) PMM1555;                                 |
| 1485420 + | TSS_010841 | 1000 | 115  | 0 | 0  | Ai | antisense to gene(s) PMM1555;                           |
| 1485445 - | TSS_025946 | 1000 | 295  | 0 | 15 | I  | within gene(s) PMM1555;                                 |
| 1485484 - | TSS_025952 | 1000 | 230  | 0 | 15 | I  | within gene(s) PMM1555;                                 |
| 1485505 - | TSS_025956 | 1000 | 358  | 0 | 21 | I  | within gene(s) PMM1555;                                 |
| 1485534 + | TSS_010843 | 1000 | 605  | 0 | 5  | Ai | antisense to gene(s) PMM1555;                           |
| 1485547 - | TSS_025965 | 1000 | 126  | 0 | 3  | I  | within gene(s) PMM1555;                                 |
| 1485567 + | TSS_010845 | 1000 | 300  | 0 | 1  | Ai | antisense to gene(s) PMM1555;                           |
| 1485568 - | TSS_025967 | 1000 | 115  | 0 | 0  | I  | within gene(s) PMM1555;                                 |
| 1485649 - | TSS_025975 | 1000 | 282  | 0 | 24 | I  | within gene(s) PMM1555;                                 |
| 1485667 - | TSS_025978 | 1000 | 273  | 0 | 9  | I  | within gene(s) PMM1555;                                 |
| 1485685 - | TSS_025981 | 1000 | 156  | 0 | 0  | I  | within gene(s) PMM1555;                                 |
| 1485699 - | TSS_025982 | 1000 | 108  | 0 | 10 | I  | within gene(s) PMM1555;                                 |
| 1485727 - | TSS_025988 | 1000 | 123  | 0 | 4  | I  | within gene(s) PMM1555;                                 |
| 1485748 + | TSS_010847 | 1000 | 221  | 0 | 0  | Ai | antisense to gene(s) PMM1555;                           |
| 1485766 - | TSS_025994 | 1000 | 136  | 0 | 39 | I  | within gene(s) PMM1555;                                 |
| 1485826 - | TSS_026002 | 1000 | 101  | 0 | 0  | I  | within gene(s) PMM1555;                                 |
| 1485844 + | TSS_010851 | 1000 | 199  | 0 | 7  | Ai | antisense to gene(s) PMM1555;                           |
| 1485868 - | TSS_026003 | 1000 | 122  | 0 | 12 | I  | within gene(s) PMM1555;                                 |
| 1485958 - | TSS_026007 | 1000 | 121  | 0 | 6  | I  | within gene(s) PMM1555;                                 |
| 1485992 + | TSS_010852 | 1000 | 108  | 0 | 0  | Ai | antisense to gene(s) PMM1555;                           |
| 1486047 + | TSS_010854 | 1000 | 168  | 0 | 1  | Ai | antisense to gene(s) PMM1555;                           |
| 1486051 - | TSS_026020 | 1000 | 169  | 0 | 3  | IP | within gene(s) PMM1556; 30nt upstream of gene PMM1555;  |
| 1486078 - | TSS_026026 | 1000 | 216  | 0 | 15 | IP | within gene(s) PMM1556; 57nt upstream of gene PMM1555;  |
| 1486129 - | TSS_026030 | 1000 | 494  | 0 | 1  | IP | within gene(s) PMM1556; 108nt upstream of gene PMM1555; |
| 1486161 - | TSS_026033 | 1000 | 544  | 0 | 11 | IP | within gene(s) PMM1556; 140nt upstream of gene PMM1555; |
| 1486264 - | TSS_026041 | 1000 | 137  | 0 | 6  | IP | within gene(s) PMM1556; 243nt upstream of gene PMM1555; |
| 1486353 - | TSS_026048 | 1000 | 119  | 0 | 23 | IP | within gene(s) PMM1557; 17nt upstream of gene PMM1556;  |
| 1486430 - | TSS_026056 | 1000 | 553  | 0 | 1  | IP | within gene(s) PMM1557; 94nt upstream of gene PMM1556;  |
| 1486752 - | TSS_026070 | 1000 | 104  | 0 | 10 | I  | within gene(s) PMM1557;                                 |
| 1486769 + | TSS_010860 | 1000 | 110  | 0 | 1  | Ai | antisense to gene(s) PMM1557;                           |
| 1486832 - | TSS_026082 | 1000 | 114  | 0 | 0  | I  | within gene(s) PMM1557;                                 |
| 1486899 - | TSS_026089 | 1000 | 710  | 0 | 21 | I  | within gene(s) PMM1557;                                 |
| 1486929 - | TSS_026093 | 1000 | 152  | 0 | 9  | I  | within gene(s) PMM1557;                                 |
| 1486979 - | TSS_026102 | 1000 | 247  | 0 | 14 | IP | within gene(s) PMM1558; 14nt upstream of gene PMM1557;  |
| 1487004 + | TSS_010866 | 1000 | 179  | 0 | 3  | Ai | antisense to gene(s) PMM1558;                           |
| 1487021 + | TSS_010867 | 1000 | 177  | 0 | 0  | Ai | antisense to gene(s) PMM1558;                           |
| 1487036 - | TSS_026108 | 1000 | 249  | 0 | 1  | IP | within gene(s) PMM1558; 71nt upstream of gene PMM1557;  |
| 1487133 + | TSS_010868 | 1000 | 103  | 0 | 0  | Ai | antisense to gene(s) PMM1558;                           |
| 1487189 - | TSS_026118 | 1000 | 118  | 0 | 9  | IP | within gene(s) PMM1558; 224nt upstream of gene PMM1557; |
| 1487222 - | TSS_026121 | 1000 | 716  | 0 | 26 | I  | within gene(s) PMM1558;                                 |
| 1487273 - | TSS_026130 | 1000 | 156  | 0 | 0  | I  | within gene(s) PMM1558;                                 |
| 1487282 - | TSS_026132 | 1000 | 179  | 0 | 1  | I  | within gene(s) PMM1558;                                 |
| 1487291 - | TSS_026133 | 1000 | 162  | 0 | 0  | I  | within gene(s) PMM1558;                                 |
| 1487366 - | TSS_026138 | 1000 | 151  | 0 | 2  | I  | within gene(s) PMM1558;                                 |
| 1487895 + | TSS_010874 | 1000 | 427  | 0 | 6  | P  | 13nt upstream of gene PMM1559;                          |
| 1489480 + | TSS_010886 | 1000 | 242  | 0 | 6  | P  | 92nt upstream of gene PMM1561;                          |
| 1490373 + | TSS_010891 | 1000 | 3164 | 0 | 1  | P  | 85nt upstream of gene PMM1562;                          |
| 1490482 + | TSS_010893 | 1000 | 170  | 0 | 3  | I  | within gene(s) PMM1562;                                 |
| 1490563 + | TSS_010901 | 1000 | 157  | 0 | 12 | I  | within gene(s) PMM1562;                                 |
| 1490578 + | TSS_010907 | 1000 | 387  | 0 | 12 | I  | within gene(s) PMM1562;                                 |
| 1490650 + | TSS_010917 | 1000 | 745  | 0 | 15 | I  | within gene(s) PMM1562;                                 |
| 1490668 + | TSS_010919 | 1000 | 142  | 0 | 9  | I  | within gene(s) PMM1562;                                 |
| 1490695 + | TSS_010926 | 1000 | 200  | 0 | 6  | I  | within gene(s) PMM1562;                                 |
| 1490734 + | TSS_010927 | 1000 | 103  | 0 | 0  | I  | within gene(s) PMM1562;                                 |
| 1490764 + | TSS_010933 | 1000 | 237  | 0 | 5  | I  | within gene(s) PMM1562;                                 |
| 1490788 - | TSS_026153 | 1000 | 148  | 0 | 2  | Ai | antisense to gene(s) PMM1562;                           |
| 1490794 + | TSS_010937 | 1000 | 504  | 0 | 30 | I  | within gene(s) PMM1562;                                 |
| 1490827 + | TSS_010944 | 1000 | 108  | 0 | 6  | I  | within gene(s) PMM1562;                                 |
| 1490845 + | TSS_010946 | 1000 | 189  | 0 | 5  | I  | within gene(s) PMM1562;                                 |
| 1490881 + | TSS_010951 | 1000 | 467  | 0 | 30 | I  | within gene(s) PMM1562;                                 |
| 1490956 - | TSS_026156 | 1000 | 122  | 0 | 3  | Ai | antisense to gene(s) PMM1562;                           |

|           |            |      |       |   |       |   |
|-----------|------------|------|-------|---|-------|---|
| 1491011 - | TSS_026159 | 1000 | 154   | 0 | 0 Ai  | antisense to gene(s) PMM1562;   |
| 1491067 + | TSS_010969 | 1000 | 416   | 0 | 6 I   | within gene(s) PMM1562;   |
| 1491070 - | TSS_026160 | 1000 | 125   | 0 | 1 Ai  | antisense to gene(s) PMM1562;   |
| 1491092 + | TSS_010970 | 1000 | 116   | 0 | 0 I   | within gene(s) PMM1562;   |
| 1491099 - | TSS_026162 | 1000 | 106   | 0 | 0 Ai  | antisense to gene(s) PMM1562;   |
| 1491112 + | TSS_010972 | 1000 | 183   | 0 | 6 I   | within gene(s) PMM1562;   |
| 1491124 + | TSS_010974 | 1000 | 125   | 0 | 6 I   | within gene(s) PMM1562;   |
| 1491478 + | TSS_011008 | 1000 | 254   | 0 | 36 I  | within gene(s) PMM1562;   |
| 1491629 - | TSS_026167 | 1000 | 109   | 0 | 0 I   | within gene(s) PMM1563;   |
| 1491832 - | TSS_026170 | 1000 | 171   | 0 | 2 P   | 14nt upstream of gene PMM1563;  |
| 1494281 + | TSS_011020 | 1000 | 254   | 0 | 0 Ai  | antisense to gene(s) PMM1566;   |
| 1495329 + | TSS_011024 | 1000 | 1412  | 0 | 5 Ai  | antisense to gene(s) PMM1566;   |
| 1495758 - | TSS_026182 | 1000 | 943   | 0 | 2 PAi | 19nt upstream of gene PMM1566; antisense to gene(s) PMM1567;            |
| 1495801 - | TSS_026184 | 1000 | 197   | 0 | 0 PAi | 62nt upstream of gene PMM1566; antisense to gene(s) PMM1567;            |
| 1496620 + | TSS_011028 | 1000 | 659   | 0 | 0 IAd | within gene(s) PMM1567; antisense to gene(s) PMM1568 (11nt downstream); |
| 1496904 - | TSS_026194 | 1000 | 132   | 0 | 0 I   | within gene(s) PMM1568;   |
| 1497016 - | TSS_026197 | 1000 | 7109  | 0 | 10 P  | 21nt upstream of gene PMM1568;  |
| 1499500 - | TSS_026211 | 1000 | 207   | 0 | 2 I   | within gene(s) PMM1570;   |
| 1499641 - | TSS_026213 | 1000 | 215   | 0 | 0 P   | 35nt upstream of gene PMM1570;  |
| 1499646 + | TSS_011046 | 1000 | 219   | 0 | 11 P  | 71nt upstream of gene PMM1571;  |
| 1499680 - | TSS_026214 | 1000 | 139   | 0 | 0 P   | 74nt upstream of gene PMM1570;  |
| 1499710 + | TSS_011051 | 1000 | 194   | 0 | 0 P   | 7nt upstream of gene PMM1571;   |
| 1501198 + | TSS_011054 | 1000 | 122   | 0 | 0 Ai  | antisense to gene(s) PMM1573;   |
| 1502320 - | TSS_026218 | 1000 | 132   | 0 | 0 I   | within gene(s) PMM1574;   |
| 1503407 + | TSS_011059 | 1000 | 150   | 0 | 1 Ai  | antisense to gene(s) PMM1575;   |
| 1504039 - | TSS_026250 | 1000 | 134   | 0 | 9 I   | within gene(s) PMM1575;   |
| 1504888 - | TSS_026260 | 1000 | 119   | 0 | 0 I   | within gene(s) PMM1575;   |
| 1504964 - | TSS_026261 | 1000 | 161   | 0 | 0 I   | within gene(s) PMM1575;   |
| 1505706 - | TSS_026268 | 1000 | 339   | 0 | 0 I   | within gene(s) PMM1575;   |
| 1508411 - | TSS_026278 | 1000 | 315   | 0 | 1 P   | 11nt upstream of gene PMM1577;  |
| 1508562 + | TSS_011073 | 1000 | 373   | 0 | 1 Ai  | antisense to gene(s) PMM1578;   |
| 1508766 + | TSS_011074 | 1000 | 118   | 0 | 0 Ai  | antisense to gene(s) PMM1578;   |
| 1508792 - | TSS_026290 | 1000 | 275   | 0 | 4 I   | within gene(s) PMM1578;   |
| 1508833 - | TSS_026295 | 1000 | 403   | 0 | 11 I  | within gene(s) PMM1578;   |
| 1508855 - | TSS_026302 | 1000 | 362   | 0 | 10 I  | within gene(s) PMM1578;   |
| 1508882 - | TSS_026307 | 1000 | 115   | 0 | 3 P   | 0nt upstream of gene PMM1578;   |
| 1510763 - | TSS_026312 | 1000 | 109   | 0 | 0 I   | within gene(s) PMM1580;   |
| 1511027 + | TSS_011079 | 1000 | 679   | 0 | 0 Ai  | antisense to gene(s) PMM1580;   |
| 1512795 - | TSS_026320 | 1000 | 319   | 0 | 0 P   | 92nt upstream of gene PMM1581;  |
| 1513707 - | TSS_026324 | 1000 | 395   | 0 | 0 Ai  | antisense to gene(s) PMM1582;   |
| 1513724 - | TSS_026325 | 1000 | 396   | 0 | 0 Ai  | antisense to gene(s) PMM1582;   |
| 1514262 - | TSS_026327 | 1000 | 115   | 0 | 0 I   | within gene(s) PMM1583;   |
| 1515544 - | TSS_026331 | 1000 | 617   | 0 | 1 I   | within gene(s) PMM1585;   |
| 1518815 - | TSS_026347 | 1000 | 169   | 0 | 3 I   | within gene(s) PMM1589;   |
| 1519244 - | TSS_026356 | 1000 | 735   | 0 | 1 P   | 24nt upstream of gene PMM1589;  |
| 1523570 - | TSS_026370 | 1000 | 1076  | 0 | 0 P   | 23nt upstream of gene PMM1594;  |
| 1524215 + | TSS_011115 | 1000 | 176   | 0 | 2 P   | 40nt upstream of gene PMM1596;  |
| 1525299 + | TSS_011129 | 1000 | 156   | 0 | 9 I   | within gene(s) PMM1596;   |
| 1528833 - | TSS_026398 | 1000 | 187   | 0 | 2 P   | 16nt upstream of gene PMM1599;  |
| 1529156 - | TSS_026405 | 1000 | 178   | 0 | 3 I   | within gene(s) PMM1600;   |
| 1529429 - | TSS_026418 | 1000 | 196   | 0 | 6 I   | within gene(s) PMM1600;   |
| 1529501 - | TSS_026421 | 1000 | 314   | 0 | 0 I   | within gene(s) PMM1600;   |
| 1529522 - | TSS_026422 | 1000 | 137   | 0 | 0 I   | within gene(s) PMM1600;   |
| 1529573 - | TSS_026423 | 1000 | 217   | 0 | 6 I   | within gene(s) PMM1600;   |
| 1530109 + | TSS_011152 | 1000 | 338   | 0 | 0 Ai  | antisense to gene(s) PMM1600;   |
| 1530254 - | TSS_026444 | 1000 | 3740  | 0 | 2 P   | 27nt upstream of gene PMM1600;  |
| 1530284 - | TSS_026449 | 1000 | 228   | 0 | 1 P   | 57nt upstream of gene PMM1600;  |
| 1530378 + | TSS_011157 | 1000 | 10424 | 0 | 3 P   | 3nt upstream of gene PMM1601;   |
| 1530519 + | TSS_011161 | 1000 | 171   | 0 | 3 I   | within gene(s) PMM1601;   |
| 1531203 - | TSS_026453 | 1000 | 104   | 0 | 1 Ai  | antisense to gene(s) PMM1601;   |
| 1531400 - | TSS_026454 | 1000 | 280   | 0 | 0 Ai  | antisense to gene(s) PMM1601;   |
| 1533693 - | TSS_026461 | 1000 | 141   | 0 | 3 I   | within gene(s) PMM1602;   |
| 1533752 - | TSS_026464 | 1000 | 11649 | 0 | 8 P   | 14nt upstream of gene PMM1602;  |
| 1533794 - | TSS_026467 | 1000 | 1096  | 0 | 0 P   | 56nt upstream of gene PMM1602;  |
| 1534044 - | TSS_026470 | 1000 | 170   | 0 | 0 O   | -   |
| 1534092 - | TSS_026472 | 1000 | 440   | 0 | 1 O   | -   |
| 1534100 - | TSS_026474 | 1000 | 151   | 0 | 1 O   | -   |
| 1534301 - | TSS_026480 | 1000 | 243   | 0 | 2 O   | -   |
| 1535304 + | TSS_011236 | 1000 | 107   | 0 | 7 I   | within gene(s) PMM1605;   |
| 1535492 - | TSS_026484 | 1000 | 139   | 0 | 0 PAi | 224nt upstream of gene PMM1604; antisense to gene(s) PMM1605;           |
| 1537533 - | TSS_026497 | 1000 | 508   | 0 | 0 I   | within gene(s) PMM1606;   |
| 1537744 + | TSS_011242 | 1000 | 372   | 0 | 0 Ai  | antisense to gene(s) PMM1606;   |
| 1537968 - | TSS_026505 | 1000 | 125   | 0 | 3 IP  | within gene(s) PMM1607; 222nt upstream of gene PMM1606;                 |
| 1538040 - | TSS_026513 | 1000 | 126   | 0 | 7 I   | within gene(s) PMM1607;   |
| 1538095 - | TSS_026519 | 1000 | 19583 | 0 | 13 P  | 22nt upstream of gene PMM1607;  |
| 1538226 + | TSS_011250 | 1000 | 168   | 0 | 0 IP  | within gene(s) PMM1608; 231nt upstream of gene PMM1609;                 |
| 1538236 + | TSS_011251 | 1000 | 117   | 0 | 0 IP  | within gene(s) PMM1608; 221nt upstream of gene PMM1609;                 |
| 1538256 + | TSS_011253 | 1000 | 129   | 0 | 0 IP  | within gene(s) PMM1608; 201nt upstream of gene PMM1609;                 |
| 1538307 + | TSS_011256 | 1000 | 184   | 0 | 0 IP  | within gene(s) PMM1608; 150nt upstream of gene PMM1609;                 |

|           |            |      |      |          |      |   |
|-----------|------------|------|------|----------|------|---|
| 1539467 + | TSS_011273 | 1000 | 2607 | 0        | 2 I  | within gene(s) PMM1609;                                 |
| 1539568 + | TSS_011276 | 1000 | 622  | 0        | 2 IP | within gene(s) PMM1609; 176nt upstream of gene PMM1610; |
| 1539778 - | TSS_026533 | 1000 | 1023 | 0        | 4 Ai | antisense to gene(s) PMM1610;                           |
| 1539903 + | TSS_011283 | 1000 | 141  | 0        | 3 I  | within gene(s) PMM1610;                                 |
| 1539930 + | TSS_011287 | 1000 | 406  | 0        | 9 I  | within gene(s) PMM1610;                                 |
| 1539957 + | TSS_011289 | 1000 | 121  | 0        | 9 I  | within gene(s) PMM1610;                                 |
| 1540053 + | TSS_011295 | 1000 | 162  | 0        | 6 I  | within gene(s) PMM1610;                                 |
| 1540104 + | TSS_011300 | 1000 | 108  | 0        | 3 I  | within gene(s) PMM1610;                                 |
| 1540526 - | TSS_026542 | 1000 | 124  | 0        | 1 Ai | antisense to gene(s) PMM1610;                           |
| 1540533 + | TSS_011328 | 1000 | 238  | 0        | 9 I  | within gene(s) PMM1610;                                 |
| 1540560 + | TSS_011330 | 1000 | 104  | 0        | 1 I  | within gene(s) PMM1610;                                 |
| 1540599 + | TSS_011333 | 1000 | 230  | 0        | 4 I  | within gene(s) PMM1610;                                 |
| 1540767 + | TSS_011337 | 1000 | 101  | 0        | 12 I | within gene(s) PMM1610;                                 |
| 1541079 + | TSS_011355 | 1000 | 142  | 0        | 0 I  | within gene(s) PMM1610;                                 |
| 1541091 + | TSS_011356 | 1000 | 337  | 0        | 0 I  | within gene(s) PMM1610;                                 |
| 1541109 + | TSS_011358 | 1000 | 248  | 0        | 2 I  | within gene(s) PMM1610;                                 |
| 1541313 + | TSS_011365 | 1000 | 102  | 0        | 8 I  | within gene(s) PMM1610;                                 |
| 1542021 + | TSS_011383 | 1000 | 167  | 0        | 3 Ai | antisense to gene(s) PMM1611;                           |
| 1542045 - | TSS_026564 | 1000 | 222  | 0        | 12 I | within gene(s) PMM1611;                                 |
| 1542189 - | TSS_026576 | 1000 | 128  | 0        | 3 I  | within gene(s) PMM1611;                                 |
| 1542336 - | TSS_026587 | 1000 | 185  | 0        | 9 I  | within gene(s) PMM1611;                                 |
| 1542447 - | TSS_026596 | 1000 | 144  | 0        | 3 I  | within gene(s) PMM1611;                                 |
| 1542801 - | TSS_026616 | 1000 | 170  | 0        | 0 I  | within gene(s) PMM1611;                                 |
| 1542926 - | TSS_026625 | 1000 | 135  | 0        | 27 I | within gene(s) PMM1611;                                 |
| 1543254 - | TSS_026636 | 1000 | 2749 | 0        | 3 P  | 126nt upstream of gene PMM1611;                         |
| 1543584 + | TSS_011393 | 1000 | 316  | 0        | 0 Ai | antisense to gene(s) PMM1613;                           |
| 1543786 + | TSS_011394 | 1000 | 244  | 0        | 0 Ai | antisense to gene(s) PMM1613;                           |
| 1546552 - | TSS_026650 | 1000 | 383  | 0        | 0 I  | within gene(s) PMM1615;                                 |
| 1547526 + | TSS_011413 | 1000 | 139  | 0        | 0 Ai | antisense to gene(s) PMM1618;                           |
| 1549170 - | TSS_026663 | 1000 | 120  | 0        | 6 IP | within gene(s) PMM1619; 227nt upstream of gene PMM1618; |
| 1549210 - | TSS_026667 | 1000 | 131  | 0        | 0 I  | within gene(s) PMM1619;                                 |
| 1549218 + | TSS_011421 | 1000 | 110  | 0        | 1 Ai | antisense to gene(s) PMM1619;                           |
| 1549235 - | TSS_026668 | 1000 | 902  | 0        | 0 I  | within gene(s) PMM1619;                                 |
| 1549500 - | TSS_026686 | 1000 | 172  | 0        | 12 I | within gene(s) PMM1619;                                 |
| 1549539 - | TSS_026688 | 1000 | 104  | 0        | 1 I  | within gene(s) PMM1619;                                 |
| 1551244 + | TSS_011424 | 1000 | 138  | 0        | 2 Ai | antisense to gene(s) PMM1622;                           |
| 1551407 - | TSS_026698 | 1000 | 130  | 0        | 1 IP | within gene(s) PMM1622; 205nt upstream of gene PMM1621; |
| 1551449 - | TSS_026700 | 1000 | 132  | 0        | 0 IP | within gene(s) PMM1622; 247nt upstream of gene PMM1621; |
| 1552273 - | TSS_026725 | 1000 | 2355 | 0        | 4 P  | 14nt upstream of gene PMM1622;                          |
| 1552380 + | TSS_011431 | 1000 | 293  | 0        | 1 P  | 12nt upstream of gene PMM1623;                          |
| 1552921 + | TSS_011440 | 1000 | 216  | 0        | 0 Ai | antisense to gene(s) PMM1624;                           |
| 1553709 - | TSS_026736 | 1000 | 115  | 0        | 12 I | within gene(s) PMM1625;                                 |
| 1553802 - | TSS_026741 | 1000 | 168  | 0        | 3 I  | within gene(s) PMM1625;                                 |
| 1553970 - | TSS_026754 | 1000 | 212  | 0        | 21 I | within gene(s) PMM1625;                                 |
| 1553991 - | TSS_026757 | 1000 | 312  | 0        | 9 I  | within gene(s) PMM1625;                                 |
| 1554018 - | TSS_026764 | 1000 | 224  | 0        | 12 I | within gene(s) PMM1625;                                 |
| 1554027 - | TSS_026765 | 1000 | 200  | 0        | 12 I | within gene(s) PMM1625;                                 |
| 1554048 - | TSS_026770 | 1000 | 288  | 0        | 3 I  | within gene(s) PMM1625;                                 |
| 1554065 + | TSS_011451 | 1000 | 493  | 0        | 4 Ai | antisense to gene(s) PMM1625;                           |
| 1554069 - | TSS_026775 | 1000 | 116  | 0        | 7 I  | within gene(s) PMM1625;                                 |
| 1554078 - | TSS_026776 | 1000 | 104  | 0        | 0 I  | within gene(s) PMM1625;                                 |
| 1554099 - | TSS_026778 | 1000 | 171  | 0        | 6 I  | within gene(s) PMM1625;                                 |
| 1554138 - | TSS_026788 | 1000 | 214  | 0        | 27 I | within gene(s) PMM1625;                                 |
| 1554156 - | TSS_026792 | 1000 | 155  | 0        | 12 I | within gene(s) PMM1625;                                 |
| 1554168 - | TSS_026794 | 1000 | 110  | 0        | 3 I  | within gene(s) PMM1625;                                 |
| 1554183 - | TSS_026797 | 1000 | 340  | 0        | 72 I | within gene(s) PMM1625;                                 |
| 1554300 - | TSS_026818 | 1000 | 222  | 0        | 15 I | within gene(s) PMM1625;                                 |
| 1554387 - | TSS_026826 | 1000 | 101  | 0        | 6 I  | within gene(s) PMM1625;                                 |
| 1554435 - | TSS_026830 | 1000 | 169  | 0        | 12 I | within gene(s) PMM1625;                                 |
| 1554450 - | TSS_026832 | 1000 | 228  | 0        | 3 I  | within gene(s) PMM1625;                                 |
| 1554465 - | TSS_026836 | 1000 | 650  | 0        | 4 I  | within gene(s) PMM1625;                                 |
| 1554486 - | TSS_026838 | 1000 | 143  | 0        | 2 I  | within gene(s) PMM1625;                                 |
| 1554498 - | TSS_026841 | 1000 | 1080 | 0        | 15 I | within gene(s) PMM1625;                                 |
| 1554519 - | TSS_026847 | 1000 | 179  | 0        | 0 I  | within gene(s) PMM1625;                                 |
| 1554538 + | TSS_011461 | 1000 | 121  | 0        | 0 Ai | antisense to gene(s) PMM1625;                           |
| 1554543 - | TSS_026849 | 1000 | 522  | 0        | 28 I | within gene(s) PMM1625;                                 |
| 1554588 - | TSS_026859 | 1000 | 104  | 6.80E-13 | 3 I  | within gene(s) PMM1625;                                 |
| 1554603 - | TSS_026862 | 1000 | 225  | 0        | 30 I | within gene(s) PMM1625;                                 |
| 1554651 - | TSS_026870 | 1000 | 119  | 0        | 0 I  | within gene(s) PMM1625;                                 |
| 1554666 - | TSS_026871 | 1000 | 242  | 0        | 0 I  | within gene(s) PMM1625;                                 |
| 1554678 - | TSS_026873 | 1000 | 129  | 0        | 6 I  | within gene(s) PMM1625;                                 |
| 1554690 - | TSS_026875 | 1000 | 153  | 0        | 0 I  | within gene(s) PMM1625;                                 |
| 1554708 - | TSS_026879 | 1000 | 479  | 0        | 32 I | within gene(s) PMM1625;                                 |
| 1554741 - | TSS_026888 | 1000 | 142  | 0        | 6 I  | within gene(s) PMM1625;                                 |
| 1554856 - | TSS_026896 | 1000 | 5625 | 0        | 4 P  | 16nt upstream of gene PMM1625;                          |
| 1554868 + | TSS_011463 | 1000 | 102  | 0        | 0 P  | 22nt upstream of gene PMM1626;                          |
| 1557422 + | TSS_011476 | 1000 | 147  | 0        | 0 Ai | antisense to gene(s) PMM1629;                           |
| 1557432 + | TSS_011478 | 1000 | 843  | 0        | 1 Ai | antisense to gene(s) PMM1629;                           |
| 1557493 - | TSS_026913 | 1000 | 216  | 0        | 10 I | within gene(s) PMM1629;                                 |

|           |            |      |      |   |       |   |
|-----------|------------|------|------|---|-------|---|
| 1557508 - | TSS_026915 | 1000 | 131  | 0 | 0 I   | within gene(s) PMM1629;                                       |
| 1557604 - | TSS_026927 | 1000 | 243  | 0 | 6 I   | within gene(s) PMM1629;                                       |
| 1557658 - | TSS_026931 | 1000 | 160  | 0 | 0 I   | within gene(s) PMM1629;                                       |
| 1557709 + | TSS_011482 | 1000 | 146  | 0 | 0 Ai  | antisense to gene(s) PMM1629;                                 |
| 1557709 - | TSS_026934 | 1000 | 391  | 0 | 3 I   | within gene(s) PMM1629;                                       |
| 1557730 - | TSS_026939 | 1000 | 145  | 0 | 24 I  | within gene(s) PMM1629;                                       |
| 1557781 - | TSS_026948 | 1000 | 221  | 0 | 3 I   | within gene(s) PMM1629;                                       |
| 1557793 - | TSS_026950 | 1000 | 117  | 0 | 0 I   | within gene(s) PMM1629;                                       |
| 1557838 - | TSS_026954 | 1000 | 157  | 0 | 10 I  | within gene(s) PMM1629;                                       |
| 1557985 - | TSS_026965 | 1000 | 263  | 0 | 9 I   | within gene(s) PMM1629;                                       |
| 1558039 - | TSS_026970 | 1000 | 265  | 0 | 13 I  | within gene(s) PMM1629;                                       |
| 1558072 - | TSS_026976 | 1000 | 250  | 0 | 7 I   | within gene(s) PMM1629;                                       |
| 1558291 - | TSS_026980 | 1000 | 580  | 0 | 2 P   | 18nt upstream of gene PMM1629;                                |
| 1558425 + | TSS_011487 | 1000 | 251  | 0 | 0 Ai  | antisense to gene(s) PMM1630;                                 |
| 1558456 + | TSS_011488 | 1000 | 190  | 0 | 0 Ai  | antisense to gene(s) PMM1630;                                 |
| 1558709 - | TSS_026987 | 1000 | 126  | 0 | 1 I   | within gene(s) PMM1630;                                       |
| 1559126 - | TSS_027006 | 1000 | 292  | 0 | 1 I   | within gene(s) PMM1630;                                       |
| 1559240 + | TSS_011496 | 1000 | 1185 | 0 | 4 Ai  | antisense to gene(s) PMM1630;                                 |
| 1559402 - | TSS_027016 | 1000 | 157  | 0 | 4 I   | within gene(s) PMM1630;                                       |
| 1559495 - | TSS_027025 | 1000 | 105  | 0 | 9 I   | within gene(s) PMM1630;                                       |
| 1559513 - | TSS_027027 | 1000 | 111  | 0 | 0 I   | within gene(s) PMM1630;                                       |
| 1559546 - | TSS_027029 | 1000 | 110  | 0 | 0 I   | within gene(s) PMM1630;                                       |
| 1559756 - | TSS_027037 | 1000 | 6258 | 0 | 6 I   | within gene(s) PMM1630;                                       |
| 1559776 - | TSS_027042 | 1000 | 207  | 0 | 4 I   | within gene(s) PMM1630;                                       |
| 1559806 - | TSS_027046 | 1000 | 2345 | 0 | 3 P   | 23nt upstream of gene PMM1630;                                |
| 1561053 - | TSS_027050 | 1000 | 281  | 0 | 6 IP  | within gene(s) PMM1634; 197nt upstream of gene PMM1633;       |
| 1561061 - | TSS_027052 | 1000 | 7012 | 0 | 3 IP  | within gene(s) PMM1634; 205nt upstream of gene PMM1633;       |
| 1561614 + | TSS_011506 | 1000 | 256  | 0 | 1 Ai  | antisense to gene(s) PMM1634;                                 |
| 1561620 - | TSS_027081 | 1000 | 106  | 0 | 12 I  | within gene(s) PMM1634;                                       |
| 1561701 + | TSS_011510 | 1000 | 292  | 0 | 2 Ai  | antisense to gene(s) PMM1634;                                 |
| 1562007 - | TSS_027099 | 1000 | 105  | 0 | 3 I   | within gene(s) PMM1634;                                       |
| 1562815 - | TSS_027128 | 1000 | 257  | 0 | 0 I   | within gene(s) PMM1634;                                       |
| 1562872 - | TSS_027129 | 1000 | 772  | 0 | 2 P   | 52nt upstream of gene PMM1634;                                |
| 1563062 - | TSS_027133 | 1000 | 108  | 0 | 2 PAI | 242nt upstream of gene PMM1634; antisense to gene(s) PMM1635; |
| 1563883 + | TSS_011523 | 1000 | 155  | 0 | 5 P   | 41nt upstream of gene PMM1636;                                |
| 1563968 - | TSS_027136 | 1000 | 282  | 0 | 0 Ai  | antisense to gene(s) PMM1636;                                 |
| 1564062 + | TSS_011526 | 1000 | 686  | 0 | 0 I   | within gene(s) PMM1636;                                       |
| 1564123 - | TSS_027137 | 1000 | 623  | 0 | 0 Ai  | antisense to gene(s) PMM1636;                                 |
| 1565022 - | TSS_027140 | 1000 | 153  | 0 | 0 Ai  | antisense to gene(s) PMM1637;                                 |
| 1565055 - | TSS_027141 | 1000 | 199  | 0 | 0 Ai  | antisense to gene(s) PMM1637;                                 |
| 1566190 - | TSS_027147 | 1000 | 177  | 0 | 0 Ai  | antisense to gene(s) PMM1638;                                 |
| 1566861 + | TSS_011541 | 1000 | 209  | 0 | 0 Ai  | antisense to gene(s) PMM1639;                                 |
| 1566981 + | TSS_011544 | 1000 | 107  | 0 | 0 Ai  | antisense to gene(s) PMM1639;                                 |
| 1567157 + | TSS_011549 | 1000 | 206  | 0 | 7 Ai  | antisense to gene(s) PMM1639;                                 |
| 1567175 - | TSS_027167 | 1000 | 173  | 0 | 12 I  | within gene(s) PMM1639;                                       |
| 1567265 - | TSS_027180 | 1000 | 175  | 0 | 3 I   | within gene(s) PMM1639;                                       |
| 1567784 - | TSS_027201 | 1000 | 117  | 0 | 9 I   | within gene(s) PMM1639;                                       |
| 1567848 + | TSS_011556 | 1000 | 121  | 0 | 1 Ai  | antisense to gene(s) PMM1639;                                 |
| 1567886 - | TSS_027211 | 1000 | 111  | 0 | 6 I   | within gene(s) PMM1639;                                       |
| 1568020 - | TSS_027226 | 1000 | 200  | 0 | 24 I  | within gene(s) PMM1639;                                       |
| 1568329 + | TSS_011558 | 1000 | 207  | 0 | 0 Ai  | antisense to gene(s) PMM1639;                                 |
| 1569177 - | TSS_027291 | 1000 | 282  | 0 | 0 P   | 31nt upstream of gene PMM1639;                                |
| 1569383 + | TSS_011566 | 1000 | 135  | 0 | 1 I   | within gene(s) PMM1640;                                       |
| 1570531 - | TSS_027297 | 1000 | 2311 | 0 | 1 I   | within gene(s) PMM1642;                                       |
| 1570615 - | TSS_027299 | 1000 | 317  | 0 | 0 I   | within gene(s) PMM1642;                                       |
| 1570654 - | TSS_027300 | 1000 | 1679 | 0 | 4 P   | 17nt upstream of gene PMM1642;                                |
| 1571379 - | TSS_027313 | 1000 | 117  | 0 | 0 P   | 16nt upstream of gene PMM1643;                                |
| 1571555 - | TSS_027317 | 1000 | 121  | 0 | 4 IP  | within gene(s) PMM1644; 192nt upstream of gene PMM1643;       |
| 1571567 - | TSS_027318 | 1000 | 124  | 0 | 0 IP  | within gene(s) PMM1644; 204nt upstream of gene PMM1643;       |
| 1571578 - | TSS_027319 | 1000 | 128  | 0 | 0 IP  | within gene(s) PMM1644; 215nt upstream of gene PMM1643;       |
| 1571608 - | TSS_027320 | 1000 | 168  | 0 | 0 IP  | within gene(s) PMM1644; 245nt upstream of gene PMM1643;       |
| 1571739 + | TSS_011572 | 1000 | 175  | 0 | 0 P   | 14nt upstream of gene PMM1645;                                |
| 1571777 + | TSS_011574 | 1000 | 254  | 0 | 1 I   | within gene(s) PMM1645;                                       |
| 1576258 + | TSS_011583 | 1000 | 460  | 0 | 0 I   | within gene(s) PMM1648;                                       |
| 1576861 + | TSS_011592 | 1000 | 562  | 0 | 2 I   | within gene(s) PMM1648;                                       |
| 1578502 - | TSS_027340 | 1000 | 185  | 0 | 0 I   | within gene(s) PMM1649;                                       |
| 1578931 - | TSS_027350 | 1000 | 136  | 0 | 6 I   | within gene(s) PMM1649;                                       |
| 1580087 - | TSS_027370 | 1000 | 205  | 0 | 3 P   | 22nt upstream of gene PMM1649;                                |
| 1580706 - | TSS_027382 | 1000 | 152  | 0 | 0 I   | within gene(s) PMM1650;                                       |
| 1580887 - | TSS_027387 | 1000 | 1167 | 0 | 3 I   | within gene(s) PMM1650;                                       |
| 1582153 + | TSS_011617 | 1000 | 110  | 0 | 0 Ai  | antisense to gene(s) PMM1652;                                 |
| 1582233 - | TSS_027392 | 1000 | 314  | 0 | 18 I  | within gene(s) PMM1652;                                       |
| 1582254 - | TSS_027397 | 1000 | 127  | 0 | 3 I   | within gene(s) PMM1652;                                       |
| 1582484 + | TSS_011620 | 1000 | 195  | 0 | 0 Ai  | antisense to gene(s) PMM1652;                                 |
| 1582766 - | TSS_027426 | 1000 | 243  | 0 | 1 I   | within gene(s) PMM1652;                                       |
| 1582966 + | TSS_011625 | 1000 | 121  | 0 | 0 Ai  | antisense to gene(s) PMM1652;                                 |
| 1583497 - | TSS_027460 | 1000 | 273  | 0 | 0 I   | within gene(s) PMM1652;                                       |
| 1584409 - | TSS_027474 | 1000 | 3917 | 0 | 7 I   | within gene(s) PMM1653;                                       |
| 1584725 + | TSS_011638 | 1000 | 144  | 0 | 1 Ai  | antisense to gene(s) PMM1653;                                 |

|           |            |      |      |   |       |   |
|-----------|------------|------|------|---|-------|---|
| 1585023 - | TSS_027481 | 1000 | 1286 | 0 | 1 IP  | within gene(s) PMM1654; 71nt upstream of gene PMM1653;                  |
| 1586076 + | TSS_011647 | 1000 | 136  | 0 | 8 P   | 32nt upstream of gene PMM1655;  |
| 1587579 + | TSS_011659 | 1000 | 344  | 0 | 2 P   | 16nt upstream of gene PMM1656;  |
| 1587964 + | TSS_011671 | 1000 | 138  | 0 | 3 I   | within gene(s) PMM1656;   |
| 1588301 + | TSS_011677 | 1000 | 1485 | 0 | 4 P   | 45nt upstream of gene PMM1657;  |
| 1588838 + | TSS_011689 | 1000 | 116  | 0 | 18 I  | within gene(s) PMM1657;   |
| 1588914 + | TSS_011703 | 1000 | 150  | 0 | 24 I  | within gene(s) PMM1657;   |
| 1588997 + | TSS_011708 | 1000 | 106  | 0 | 3 I   | within gene(s) PMM1657;   |
| 1589048 + | TSS_011717 | 1000 | 685  | 0 | 12 I  | within gene(s) PMM1657;   |
| 1590631 - | TSS_027496 | 1000 | 106  | 0 | 0 Ai  | antisense to gene(s) PMM1658;   |
| 1594453 + | TSS_011747 | 1000 | 1115 | 0 | 4 P   | 19nt upstream of gene PMM1661;  |
| 1594701 + | TSS_011749 | 1000 | 525  | 0 | 0 I   | within gene(s) PMM1662;   |
| 1596579 + | TSS_011758 | 1000 | 1420 | 0 | 2 P   | 30nt upstream of gene PMM1665;  |
| 1596903 + | TSS_011764 | 1000 | 118  | 0 | 18 I  | within gene(s) PMM1665;   |
| 1597137 + | TSS_011782 | 1000 | 151  | 0 | 11 I  | within gene(s) PMM1665;   |
| 1597361 - | TSS_027508 | 1000 | 106  | 0 | 0 Ai  | antisense to gene(s) PMM1665;   |
| 1597536 + | TSS_011795 | 1000 | 142  | 0 | 7 I   | within gene(s) PMM1665;   |
| 1597545 + | TSS_011797 | 1000 | 111  | 0 | 0 I   | within gene(s) PMM1665;   |
| 1599261 - | TSS_027521 | 1000 | 424  | 0 | 0 P   | 34nt upstream of gene PMM1667;  |
| 1599320 - | TSS_027522 | 1000 | 292  | 0 | 0 P   | 93nt upstream of gene PMM1667;  |
| 1600936 + | TSS_011821 | 1000 | 355  | 0 | 1 Ai  | antisense to gene(s) PMM1668;   |
| 1604240 - | TSS_027585 | 1000 | 323  | 0 | 0 IP  | within gene(s) PMM1671; 23nt upstream of gene PMM1670;                  |
| 1604740 - | TSS_027587 | 1000 | 461  | 0 | 2 P   | 24nt upstream of gene PMM1671;  |
| 1604757 + | TSS_011829 | 1000 | 346  | 0 | 12 I  | within gene(s) PMM1672;   |
| 1604952 + | TSS_011837 | 1000 | 180  | 0 | 1 I   | within gene(s) PMM1672;   |
| 1604976 + | TSS_011840 | 1000 | 128  | 0 | 9 I   | within gene(s) PMM1672;   |
| 1605372 + | TSS_011854 | 1000 | 112  | 0 | 0 I   | within gene(s) PMM1672;   |
| 1605445 + | TSS_011858 | 1000 | 158  | 0 | 4 I   | within gene(s) PMM1672;   |
| 1605722 - | TSS_027591 | 1000 | 104  | 0 | 0 Ai  | antisense to gene(s) PMM1672;   |
| 1605872 + | TSS_011868 | 1000 | 160  | 0 | 21 I  | within gene(s) PMM1673;   |
| 1606251 + | TSS_011882 | 1000 | 161  | 0 | 2 P   | 15nt upstream of gene PMM1674;  |
| 1606665 + | TSS_011884 | 1000 | 124  | 0 | 0 I   | within gene(s) PMM1674;   |
| 1607611 + | TSS_011889 | 1000 | 788  | 0 | 2 IP  | within gene(s) PMM1674; 49nt upstream of gene PMM1675;                  |
| 1607768 - | TSS_027596 | 1000 | 352  | 0 | 0 Ai  | antisense to gene(s) PMM1675;   |
| 1609627 + | TSS_011898 | 1000 | 413  | 0 | 2 P   | 4nt upstream of gene PMM1676;   |
| 1611481 + | TSS_011901 | 1000 | 1938 | 0 | 1 P   | 15nt upstream of gene PMM1678;  |
| 1611842 + | TSS_011913 | 1000 | 104  | 0 | 1 IP  | within gene(s) PMM1678; 91nt upstream of gene PMM1679;                  |
| 1612164 + | TSS_011915 | 1000 | 113  | 0 | 0 I   | within gene(s) PMM1679;   |
| 1616290 + | TSS_011926 | 1000 | 381  | 0 | 0 Ai  | antisense to gene(s) PMM1682;   |
| 1616930 - | TSS_027649 | 1000 | 564  | 0 | 6 P   | 26nt upstream of gene PMM1682;  |
| 1617422 - | TSS_027656 | 1000 | 462  | 0 | 9 P   | 93nt upstream of gene PMM1683;  |
| 1618289 + | TSS_011932 | 1000 | 150  | 0 | 6 IP  | within gene(s) PMM1684; 78nt upstream of gene PMM1685;                  |
| 1618516 + | TSS_011934 | 1000 | 209  | 0 | 0 I   | within gene(s) PMM1685;   |
| 1618595 + | TSS_011935 | 1000 | 159  | 0 | 0 I   | within gene(s) PMM1685;   |
| 1619698 - | TSS_027661 | 1000 | 165  | 0 | 0 Ai  | antisense to gene(s) PMM1686;   |
| 1619840 - | TSS_027662 | 1000 | 150  | 0 | 0 Ai  | antisense to gene(s) PMM1686;   |
| 1620131 + | TSS_011939 | 1000 | 269  | 0 | 4 P   | 24nt upstream of gene PMM1687;  |
| 1621301 + | TSS_011944 | 1000 | 359  | 0 | 4 P   | 25nt upstream of gene PMM1688;  |
| 1622476 - | TSS_027665 | 1000 | 1385 | 0 | 6 Ai  | antisense to gene(s) PMM1688;   |
| 1623168 + | TSS_011958 | 1000 | 1839 | 0 | 7 P   | 29nt upstream of gene PMM1689;  |
| 1623293 + | TSS_011964 | 1000 | 272  | 0 | 2 I   | within gene(s) PMM1689;   |
| 1624375 + | TSS_011977 | 1000 | 117  | 0 | 0 I   | within gene(s) PMM1689;   |
| 1625074 - | TSS_027674 | 1000 | 199  | 0 | 0 Ai  | antisense to gene(s) PMM1690;   |
| 1628185 - | TSS_027678 | 1000 | 196  | 0 | 0 Ai  | antisense to gene(s) PMM1693;   |
| 1628980 + | TSS_011987 | 1000 | 277  | 0 | 2 PAi | 173nt upstream of gene PMM1695; antisense to gene(s) PMM1694;           |
| 1629107 - | TSS_027684 | 1000 | 165  | 0 | 0 P   | 0nt upstream of gene PMM1694;   |
| 1632609 + | TSS_011994 | 1000 | 105  | 0 | 0 P   | 98nt upstream of gene PMM1697;  |
| 1632963 - | TSS_027689 | 1000 | 109  | 0 | 0 Ai  | antisense to gene(s) PMM1697;   |
| 1633040 + | TSS_012004 | 1000 | 140  | 0 | 0 I   | within gene(s) PMM1697;   |
| 1633252 - | TSS_027691 | 1000 | 217  | 0 | 0 Ai  | antisense to gene(s) PMM1697;   |
| 1633316 + | TSS_012015 | 1000 | 177  | 0 | 3 I   | within gene(s) PMM1697;   |
| 1633425 - | TSS_027695 | 1000 | 159  | 0 | 1 Ai  | antisense to gene(s) PMM1697;   |
| 1634577 + | TSS_012033 | 1000 | 157  | 0 | 0 Ai  | antisense to gene(s) PMM1699;   |
| 1634772 + | TSS_012034 | 1000 | 172  | 0 | 0 Ai  | antisense to gene(s) PMM1699;   |
| 1635344 + | TSS_012035 | 1000 | 134  | 0 | 2 PAi | 199nt upstream of gene PMM1700; antisense to gene(s) PMM1699;           |
| 1635526 + | TSS_012039 | 1000 | 3838 | 0 | 7 P   | 17nt upstream of gene PMM1700;  |
| 1636725 + | TSS_012087 | 1000 | 106  | 0 | 3 I   | within gene(s) PMM1700;   |
| 1640380 - | TSS_027718 | 1000 | 202  | 0 | 0 P   | 32nt upstream of gene PMM1702;  |
| 1640445 + | TSS_012121 | 1000 | 669  | 0 | 0 I   | within gene(s) PMM1703;   |
| 1641448 + | TSS_012125 | 1000 | 447  | 0 | 0 IAd | within gene(s) PMM1703; antisense to gene(s) PMM1704 (29nt downstream); |
| 1641583 - | TSS_027724 | 1000 | 208  | 0 | 12 I  | within gene(s) PMM1704;   |
| 1641604 - | TSS_027727 | 1000 | 165  | 0 | 0 I   | within gene(s) PMM1704;   |
| 1641616 - | TSS_027728 | 1000 | 112  | 0 | 3 I   | within gene(s) PMM1704;   |
| 1641634 - | TSS_027732 | 1000 | 190  | 0 | 6 I   | within gene(s) PMM1704;   |
| 1641652 - | TSS_027734 | 1000 | 131  | 0 | 0 I   | within gene(s) PMM1704;   |
| 1641673 - | TSS_027735 | 1000 | 163  | 0 | 6 I   | within gene(s) PMM1704;   |
| 1641692 - | TSS_027739 | 1000 | 180  | 0 | 4 I   | within gene(s) PMM1704;   |
| 1641724 - | TSS_027751 | 1000 | 894  | 0 | 48 I  | within gene(s) PMM1704;   |
| 1641808 - | TSS_027760 | 1000 | 209  | 0 | 2 I   | within gene(s) PMM1704;   |



|           |            |      |       |   |       |   |
|-----------|------------|------|-------|---|-------|---|
| 1641841 - | TSS_027764 | 1000 | 182   | 0 | 24 I  | within gene(s) PMM1704;                                       |
| 1641892 - | TSS_027771 | 1000 | 116   | 0 | 3 I   | within gene(s) PMM1704;                                       |
| 1641901 - | TSS_027772 | 1000 | 133   | 0 | 0 I   | within gene(s) PMM1704;                                       |
| 1641937 - | TSS_027780 | 1000 | 587   | 0 | 43 I  | within gene(s) PMM1704;                                       |
| 1641979 - | TSS_027792 | 1000 | 119   | 0 | 9 I   | within gene(s) PMM1704;                                       |
| 1642006 - | TSS_027796 | 1000 | 348   | 0 | 21 I  | within gene(s) PMM1704;                                       |
| 1642036 - | TSS_027801 | 1000 | 122   | 0 | 0 I   | within gene(s) PMM1704;                                       |
| 1642050 + | TSS_012131 | 1000 | 404   | 0 | 0 Ai  | antisense to gene(s) PMM1704;                                 |
| 1642057 - | TSS_027804 | 1000 | 151   | 0 | 3 I   | within gene(s) PMM1704;                                       |
| 1642069 - | TSS_027805 | 1000 | 272   | 0 | 6 I   | within gene(s) PMM1704;                                       |
| 1642093 - | TSS_027810 | 1000 | 116   | 0 | 3 I   | within gene(s) PMM1704;                                       |
| 1642100 + | TSS_012133 | 1000 | 104   | 0 | 0 Ai  | antisense to gene(s) PMM1704;                                 |
| 1642108 - | TSS_027811 | 1000 | 128   | 0 | 6 I   | within gene(s) PMM1704;                                       |
| 1642126 - | TSS_027813 | 1000 | 106   | 0 | 0 I   | within gene(s) PMM1704;                                       |
| 1642135 - | TSS_027815 | 1000 | 113   | 0 | 2 I   | within gene(s) PMM1704;                                       |
| 1642147 - | TSS_027816 | 1000 | 176   | 0 | 0 I   | within gene(s) PMM1704;                                       |
| 1642183 - | TSS_027817 | 1000 | 107   | 0 | 0 I   | within gene(s) PMM1704;                                       |
| 1642195 - | TSS_027818 | 1000 | 106   | 0 | 2 I   | within gene(s) PMM1704;                                       |
| 1642222 - | TSS_027826 | 1000 | 310   | 0 | 24 I  | within gene(s) PMM1704;                                       |
| 1642229 + | TSS_012134 | 1000 | 174   | 0 | 2 Ai  | antisense to gene(s) PMM1704;                                 |
| 1642264 - | TSS_027833 | 1000 | 208   | 0 | 21 I  | within gene(s) PMM1704;                                       |
| 1642285 - | TSS_027837 | 1000 | 627   | 0 | 39 I  | within gene(s) PMM1704;                                       |
| 1642348 - | TSS_027851 | 1000 | 186   | 0 | 0 I   | within gene(s) PMM1704;                                       |
| 1642378 - | TSS_027853 | 1000 | 122   | 0 | 3 I   | within gene(s) PMM1704;                                       |
| 1642387 - | TSS_027854 | 1000 | 161   | 0 | 0 I   | within gene(s) PMM1704;                                       |
| 1642402 - | TSS_027855 | 1000 | 117   | 0 | 0 I   | within gene(s) PMM1704;                                       |
| 1642444 - | TSS_027862 | 1000 | 894   | 0 | 36 I  | within gene(s) PMM1704;                                       |
| 1642477 - | TSS_027869 | 1000 | 436   | 0 | 27 I  | within gene(s) PMM1704;                                       |
| 1642606 - | TSS_027884 | 1000 | 580   | 0 | 16 I  | within gene(s) PMM1704;                                       |
| 1642639 - | TSS_027891 | 1000 | 157   | 0 | 9 I   | within gene(s) PMM1704;                                       |
| 1642648 - | TSS_027892 | 1000 | 104   | 0 | 0 I   | within gene(s) PMM1704;                                       |
| 1642678 - | TSS_027894 | 1000 | 110   | 0 | 3 I   | within gene(s) PMM1704;                                       |
| 1642717 - | TSS_027896 | 1000 | 117   | 0 | 0 I   | within gene(s) PMM1704;                                       |
| 1642759 - | TSS_027904 | 1000 | 360   | 0 | 30 I  | within gene(s) PMM1704;                                       |
| 1642771 - | TSS_027905 | 1000 | 262   | 0 | 15 I  | within gene(s) PMM1704;                                       |
| 1642795 - | TSS_027911 | 1000 | 263   | 0 | 37 I  | within gene(s) PMM1704;                                       |
| 1642810 + | TSS_012142 | 1000 | 201   | 0 | 0 Ai  | antisense to gene(s) PMM1704;                                 |
| 1642864 - | TSS_027928 | 1000 | 178   | 0 | 36 I  | within gene(s) PMM1704;                                       |
| 1642900 - | TSS_027935 | 1000 | 568   | 0 | 42 I  | within gene(s) PMM1704;                                       |
| 1642954 - | TSS_027949 | 1000 | 307   | 0 | 4 I   | within gene(s) PMM1704;                                       |
| 1643008 - | TSS_027956 | 1000 | 102   | 0 | 3 I   | within gene(s) PMM1704;                                       |
| 1643137 - | TSS_027969 | 1000 | 118   | 0 | 0 I   | within gene(s) PMM1704;                                       |
| 1643144 + | TSS_012145 | 1000 | 409   | 0 | 5 Ai  | antisense to gene(s) PMM1704;                                 |
| 1643153 + | TSS_012147 | 1000 | 362   | 0 | 1 Ai  | antisense to gene(s) PMM1704;                                 |
| 1643179 - | TSS_027976 | 1000 | 150   | 0 | 15 I  | within gene(s) PMM1704;                                       |
| 1643197 - | TSS_027979 | 1000 | 196   | 0 | 4 I   | within gene(s) PMM1704;                                       |
| 1643239 - | TSS_027985 | 1000 | 523   | 0 | 6 I   | within gene(s) PMM1704;                                       |
| 1643316 + | TSS_012149 | 1000 | 160   | 0 | 0 PAi | 182nt upstream of gene PMM1705; antisense to gene(s) PMM1704; |
| 1643320 - | TSS_027991 | 1000 | 107   | 0 | 9 I   | within gene(s) PMM1704;                                       |
| 1643332 - | TSS_027992 | 1000 | 102   | 0 | 3 I   | within gene(s) PMM1704;                                       |
| 1643399 - | TSS_027997 | 1000 | 12841 | 0 | 7 P   | 19nt upstream of gene PMM1704;                                |
| 1644415 + | TSS_012152 | 1000 | 1676  | 0 | 2 P   | 50nt upstream of gene PMM1706;                                |
| 1645357 - | TSS_028006 | 1000 | 225   | 0 | 0 I   | within gene(s) PMM1707;                                       |
| 1645691 - | TSS_028017 | 1000 | 131   | 0 | 0 I   | within gene(s) PMM1707;                                       |
| 1646195 - | TSS_028026 | 1000 | 950   | 0 | 5 P   | 48nt upstream of gene PMM1707;                                |
| 1646216 - | TSS_028029 | 1000 | 2235  | 0 | 0 P   | 69nt upstream of gene PMM1707;                                |
| 1646481 + | TSS_012177 | 1000 | 130   | 0 | 0 IP  | within gene(s) PMM1708; 217nt upstream of gene PMM1709;       |
| 1646490 + | TSS_012178 | 1000 | 136   | 0 | 0 IP  | within gene(s) PMM1708; 208nt upstream of gene PMM1709;       |
| 1646517 + | TSS_012181 | 1000 | 126   | 0 | 7 IP  | within gene(s) PMM1708; 181nt upstream of gene PMM1709;       |
| 1646542 + | TSS_012184 | 1000 | 142   | 0 | 3 IP  | within gene(s) PMM1708; 156nt upstream of gene PMM1709;       |
| 1647512 - | TSS_028034 | 1000 | 107   | 0 | 0 Ai  | antisense to gene(s) PMM1709;                                 |
| 1650015 - | TSS_028048 | 1000 | 103   | 0 | 3 I   | within gene(s) PMM1712;                                       |
| 1654524 + | TSS_012211 | 1000 | 159   | 0 | 2 I   | within gene(s) PMM1714;                                       |
| 1656926 + | TSS_012217 | 1000 | 160   | 0 | 0 I   | within gene(s) PMM1716;                                       |

\*\*Class represents the classification of the start site. I represents internal start sites, Ai represents antisense start sites, P represents primary start sites, IP represents internal or primary start sites, PAi represents primary or Antisense start sites, Ad represents Antisense or downstream IAd represents internal Antisense or downstream and O represents orphan.