

## SUPPLEMENTARY MATERIAL

**Table 2.** Log ratios and p-values for gene expression comparisons between two mutant *Halobacterium* strains (LH5 and LH7a), and the parent strain NRC-1. Gene id reflects relative position of each potential ORF; Gene name is the genetic designation for each gene. Those of unknown function have the genetic designation “vng”. For each comparison, the log<sub>10</sub> ratio for each feature is presented, as well as the relative change (fold change) and the significance value (p-value)(see Materials and Methods). The functional category describes the known or anticipated cellular function of each ORF.

| Gene id | Gene Name    | LH5 vs. NRC-1 |             |          | LH7a vs. NRC-1 |             |          | functional category              |
|---------|--------------|---------------|-------------|----------|----------------|-------------|----------|----------------------------------|
|         |              | log ratio     | fold change | p value  | log ratio      | fold change | p value  |                                  |
| 1       | <i>vng1</i>  | -0.044        | 0.904       | 0.326478 | 0.077          | 1.195       | 0.150633 | unknown                          |
| 2       | <i>yvrO</i>  | -0.081        | 0.829       | 0.294532 | 0.062          | 1.153       | 0.32265  | transport                        |
| 3       | <i>vng3</i>  | -0.064        | 0.864       | 0.361413 | 0.021          | 1.051       | 0.705    | cellular process                 |
| 5       | <i>vng5</i>  | 0.015         | 1.036       | 0.566339 | -0.005         | 0.989       | 0.713333 | unknown                          |
| 6       | <i>glmS</i>  | -0.022        | 0.951       | 0.430965 | 0.034          | 1.080       | 0.566917 | amino acid metabolism            |
| 8       | <i>graD5</i> | -0.024        | 0.947       | 0.461229 | 0.052          | 1.127       | 0.332592 | nucleotide metabolism            |
| 9       | <i>graD2</i> | -0.016        | 0.964       | 0.514761 | 0.036          | 1.088       | 0.7115   | nucleotide metabolism            |
| 11      | <i>hsx</i>   | -0.093        | 0.808       | 0.193372 | 0.060          | 1.148       | 0.305833 | general function prediction only |
| 13      | <i>vng13</i> | 0.089         | 1.227       | 0.341297 | 0.056          | 1.138       | 0.381893 | DNA metabolism                   |
| 14      | <i>vng14</i> | -0.019        | 0.958       | 0.660281 | 0.022          | 1.053       | 0.875833 | amino acid metabolism            |
| 15      | <i>vng15</i> | -0.080        | 0.832       | 0.663868 | -0.009         | 0.979       | 0.86225  | unknown                          |
| 16      | <i>vng16</i> | -0.034        | 0.924       | 0.557449 | -0.041         | 0.909       | 0.438333 | unknown                          |
| 17      | <i>vng17</i> | -0.043        | 0.906       | 0.538786 | 0.061          | 1.150       | 0.637917 | unknown                          |
| 18      | <i>vng18</i> | 0.125         | 1.334       | 0.081921 | 0.009          | 1.022       | 0.50905  | unknown                          |
| 20      | <i>vng20</i> | -0.014        | 0.968       | 0.55031  | 0.022          | 1.053       | 0.93     | unknown                          |
| 21      | <i>vng21</i> | -0.089        | 0.815       | 0.204453 | -0.040         | 0.912       | 0.78575  | DNA metabolism                   |
| 22      | <i>vng22</i> | -0.027        | 0.939       | 0.380721 | -0.016         | 0.964       | 0.690917 | unknown                          |
| 23      | <i>vng23</i> | 0.062         | 1.152       | 0.426539 | 0.002          | 1.005       | 0.766167 | unknown                          |
| 24      | <i>vng24</i> | 0.055         | 1.136       | 0.237963 | 0.024          | 1.058       | 0.546733 | unknown                          |
| 25      | <i>vng25</i> | -0.137        | 0.729       | 0.104324 | 0.062          | 1.154       | 0.378667 | unknown                          |
| 26      | <i>vng26</i> | 0.002         | 1.004       | 0.229905 | 0.038          | 1.091       | 0.534    | DNA metabolism                   |
| 27      | <i>vng27</i> | -0.134        | 0.734       | 0.404226 | 0.038          | 1.091       | 0.536317 | unknown                          |
| 28      | <i>vng28</i> | -0.012        | 0.972       | 0.702273 | 0.056          | 1.138       | 0.369363 | DNA metabolism                   |
| 29      | <i>vng29</i> | -0.020        | 0.956       | 0.310077 | 0.048          | 1.118       | 0.53475  | unknown                          |
| 30      | <i>vng30</i> | 0.033         | 1.078       | 0.421542 | 0.031          | 1.075       | 0.60525  | unknown                          |
| 31      | <i>vng31</i> | 0.000         | 1.001       | 0.360254 | -0.044         | 0.903       | 0.454167 | unknown                          |

|    |              |        |       |          |        |       |          |                                    |
|----|--------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 32 | <i>vng32</i> | 0.046  | 1.111 | 0.512991 | 0.011  | 1.026 | 0.7125   | unknown                            |
| 33 | <i>vng33</i> | 0.029  | 1.068 | 0.229254 | 0.005  | 1.012 | 0.812333 | unknown                            |
| 34 | <i>vng34</i> | 0.015  | 1.036 | 0.888032 | -0.010 | 0.976 | 0.682    | unknown                            |
| 35 | <i>vng35</i> | -0.030 | 0.933 | 0.605471 | 0.022  | 1.053 | 0.755417 | DNA metabolism                     |
| 37 | <i>vng37</i> | 0.065  | 1.162 | 0.498761 | -0.072 | 0.847 | 0.152    | unknown                            |
| 38 | <i>vng38</i> | 0.009  | 1.021 | 0.596209 | 0.006  | 1.015 | 0.494    | unknown                            |
| 39 | <i>arlR1</i> | -0.151 | 0.707 | 0.148702 | 0.029  | 1.068 | 0.685667 | transcription and regulation       |
| 40 | <i>ptr1</i>  | -0.029 | 0.936 | 0.476658 | 0.004  | 1.009 | 0.466917 | transcription and regulation       |
| 41 | <i>vng41</i> | -0.085 | 0.823 | 0.144353 | -0.005 | 0.988 | 0.789167 | unknown                            |
| 42 | <i>tnp1</i>  | 0.058  | 1.142 | 0.42401  | -0.056 | 0.879 | 0.116863 | DNA metabolism                     |
| 43 | <i>vng43</i> | -0.205 | 0.624 | 0.165622 | 0.010  | 1.024 | 0.59775  | DNA metabolism                     |
| 44 | <i>vng44</i> | -0.071 | 0.849 | 0.254016 | 0.004  | 1.010 | 0.372167 | DNA metabolism                     |
| 45 | <i>vng45</i> | -0.008 | 0.982 | 0.524912 | 0.010  | 1.023 | 0.703167 | DNA metabolism                     |
| 46 | <i>ugd</i>   | 0.036  | 1.086 | 0.551393 | -0.015 | 0.967 | 0.828333 | nucleotide metabolism              |
| 47 | <i>graD6</i> | -0.011 | 0.975 | 0.424789 | 0.054  | 1.131 | 0.341967 | nucleotide metabolism              |
| 50 | <i>vng50</i> | -0.187 | 0.650 | 0.110524 | -0.025 | 0.944 | 0.48215  | unknown                            |
| 51 | <i>rfbU1</i> | 0.021  | 1.049 | 0.330056 | -0.017 | 0.962 | 0.621    | translation                        |
| 53 | <i>vng53</i> | -0.088 | 0.816 | 0.377444 | -0.010 | 0.977 | 0.865    | unknown                            |
| 54 | <i>vng54</i> | 0.035  | 1.085 | 0.439189 | 0.050  | 1.122 | 0.456333 | unknown                            |
| 55 | <i>vng55</i> | 0.000  | 1.000 | 1        | -0.262 | 0.547 | 0.781    | unknown                            |
| 56 | <i>vng56</i> | -0.135 | 0.733 | 0.236267 | 0.046  | 1.112 | 0.668167 | DNA metabolism                     |
| 57 | <i>vng57</i> | 0.006  | 1.013 | 0.411551 | -0.053 | 0.886 | 0.462667 | unknown                            |
| 58 | <i>vng58</i> | -0.127 | 0.746 | 0.163981 | -0.149 | 0.710 | 0.013973 | unknown                            |
| 60 | <i>lpg</i>   | -0.027 | 0.940 | 0.675291 | -0.063 | 0.866 | 0.275417 | cellular process                   |
| 61 | <i>vng61</i> | -0.019 | 0.957 | 0.549027 | -0.036 | 0.921 | 0.523333 | unknown                            |
| 62 | <i>lpb</i>   | -0.074 | 0.844 | 0.310097 | 0.010  | 1.024 | 0.480333 | cellular process                   |
| 63 | <i>galE2</i> | -0.047 | 0.898 | 0.476802 | -0.016 | 0.965 | 0.612    | carbohydrate and lipid metabolism  |
| 64 | <i>graD3</i> | 0.026  | 1.063 | 0.324249 | 0.029  | 1.070 | 0.72725  | nucleotide metabolism              |
| 65 | <i>gmd</i>   | 0.042  | 1.102 | 0.352229 | -0.023 | 0.948 | 0.553167 | carbohydrate and lipid metabolism  |
| 66 | <i>vng66</i> | 0.011  | 1.027 | 0.187195 | -0.031 | 0.932 | 0.580417 | unknown                            |
| 67 | <i>vng67</i> | -0.024 | 0.946 | 0.732971 | -0.053 | 0.886 | 0.457    | unknown                            |
| 68 | <i>vng68</i> | 0.121  | 1.322 | 0.075759 | -0.015 | 0.966 | 0.891    | unknown                            |
| 69 | <i>vng69</i> | -0.066 | 0.858 | 0.338643 | -0.082 | 0.829 | 0.107725 | unknown                            |
| 70 | <i>vng70</i> | -0.052 | 0.886 | 0.484482 | -0.011 | 0.975 | 0.4505   | unknown                            |
| 72 | <i>nbp1</i>  | -0.022 | 0.950 | 0.652188 | -0.037 | 0.919 | 0.593667 | transcription and regulation       |
| 73 | <i>vng73</i> | 0.066  | 1.164 | 0.241595 | 0.016  | 1.038 | 0.836    | unknown                            |
| 75 | <i>vng75</i> | -0.107 | 0.782 | 0.348958 | 0.012  | 1.029 | 0.8435   | unknown                            |
| 76 | <i>vng76</i> | 0.098  | 1.252 | 0.309096 | -0.027 | 0.939 | 0.7525   | unknown                            |
| 77 | <i>vng77</i> | -0.030 | 0.934 | 0.504992 | -0.072 | 0.848 | 0.245258 | unknown                            |
| 79 | <i>vng79</i> | -0.030 | 0.934 | 0.597437 | 0.053  | 1.129 | 0.6675   | unknown                            |
| 80 | <i>vng80</i> | 0.035  | 1.084 | 0.422627 | -0.065 | 0.862 | 0.509    | unknown                            |
| 81 | <i>moaE</i>  | 0.001  | 1.002 | 0.639423 | -0.023 | 0.949 | 0.327633 | cofactor and secondary metabolites |
| 84 | <i>moeB</i>  | 0.071  | 1.176 | 0.354562 | -0.009 | 0.981 | 0.688417 | cofactor and secondary metabolites |
| 85 | <i>moaA</i>  | -0.124 | 0.751 | 0.376908 | -0.047 | 0.897 | 0.5349   | cofactor and secondary metabolites |
| 86 | <i>moeA2</i> | -0.002 | 0.995 | 0.750474 | 0.005  | 1.012 | 0.532667 | cofactor and secondary metabolites |
| 89 | <i>moeA1</i> | -0.080 | 0.832 | 0.230508 | -0.057 | 0.877 | 0.30922  | cofactor and secondary metabolites |
| 90 | <i>pimT1</i> | -0.035 | 0.922 | 0.312918 | -0.009 | 0.978 | 0.358817 | cellular process                   |
| 91 | <i>vng91</i> | 0.024  | 1.058 | 0.618553 | 0.055  | 1.136 | 0.308    | unknown                            |
| 94 | <i>vng94</i> | 0.065  | 1.162 | 0.422203 | -0.006 | 0.986 | 0.81725  | unknown                            |
| 95 | <i>gapB</i>  | 0.444  | 2.781 | 4.68E-07 | -0.063 | 0.866 | 0.293938 | carbohydrate and lipid metabolism  |

|     |               |        |       |          |        |       |          |                                   |
|-----|---------------|--------|-------|----------|--------|-------|----------|-----------------------------------|
| 96  | <i>vng96</i>  | 0.030  | 1.072 | 0.347588 | -0.048 | 0.896 | 0.426625 | amino acid metabolism             |
| 97  | <i>hsp2</i>   | 0.052  | 1.127 | 0.29275  | -0.084 | 0.824 | 0.1348   | cellular process                  |
| 98  | <i>rimK</i>   | -0.015 | 0.967 | 0.669505 | 0.077  | 1.194 | 0.205475 | translation                       |
| 99  | <i>rpl10e</i> | 0.134  | 1.360 | 0.055751 | -0.045 | 0.901 | 0.405217 | translation                       |
| 101 | <i>cspD1</i>  | 0.111  | 1.292 | 0.496509 | 0.021  | 1.050 | 0.6785   | cellular process                  |
| 102 | <i>vng102</i> | 0.006  | 1.014 | 0.54495  | -0.041 | 0.910 | 0.5188   | unknown                           |
| 104 | <i>serA3</i>  | -0.014 | 0.969 | 0.788012 | 0.052  | 1.128 | 0.3595   | amino acid metabolism             |
| 105 | <i>vng105</i> | -0.065 | 0.861 | 0.477894 | -0.081 | 0.829 | 0.524233 | unknown                           |
| 106 | <i>rmeM</i>   | 0.037  | 1.088 | 0.175875 | 0.012  | 1.028 | 0.756333 | DNA metabolism                    |
| 107 | <i>rmeS</i>   | -0.212 | 0.614 | 0.044526 | -0.046 | 0.899 | 0.384167 | DNA metabolism                    |
| 108 | <i>rmeR</i>   | -0.185 | 0.653 | 0.098988 | 0.001  | 1.002 | 0.724167 | DNA metabolism                    |
| 110 | <i>vng110</i> | -0.069 | 0.854 | 0.215352 | -0.043 | 0.905 | 0.613833 | unknown                           |
| 112 | <i>vng112</i> | -0.073 | 0.846 | 0.248892 | -0.100 | 0.795 | 0.275925 | unknown                           |
| 113 | <i>bolR1</i>  | 0.096  | 1.246 | 0.452711 | -0.025 | 0.944 | 0.723667 | transcription and regulation      |
| 115 | <i>yusZ1</i>  | 0.075  | 1.187 | 0.329874 | -0.116 | 0.765 | 0.040887 | general function prediction only  |
| 116 | <i>vng116</i> | -0.052 | 0.887 | 0.438563 | 0.043  | 1.103 | 0.645583 | unknown                           |
| 117 | <i>vng117</i> | -0.070 | 0.852 | 0.425075 | 0.043  | 1.103 | 0.4863   | unknown                           |
| 118 | <i>vng118</i> | -0.036 | 0.921 | 0.474246 | 0.032  | 1.078 | 0.475008 | unknown                           |
| 119 | <i>vng119</i> | 0.026  | 1.061 | 0.587989 | 0.051  | 1.126 | 0.39525  | unknown                           |
| 120 | <i>vng120</i> | 0.112  | 1.293 | 0.08796  | 0.076  | 1.190 | 0.18045  | unknown                           |
| 121 | <i>vng121</i> | 0.027  | 1.063 | 0.838606 | 0.020  | 1.048 | 0.893833 | unknown                           |
| 123 | <i>trp1</i>   | 0.025  | 1.059 | 0.210146 | -0.046 | 0.900 | 0.553494 | transport                         |
| 124 | <i>vng124</i> | -0.023 | 0.949 | 0.536382 | 0.007  | 1.016 | 0.9155   | unknown                           |
| 125 | <i>vng125</i> | -0.024 | 0.946 | 0.362433 | 0.008  | 1.019 | 0.865    | unknown                           |
| 127 | <i>vng127</i> | 0.070  | 1.174 | 0.251614 | -0.042 | 0.908 | 0.5225   | unknown                           |
| 128 | <i>rfr</i>    | 0.042  | 1.101 | 0.515686 | -0.037 | 0.919 | 0.501667 | general function prediction only  |
| 129 | <i>hsp4</i>   | 0.012  | 1.028 | 0.392245 | 0.014  | 1.032 | 0.71925  | cellular process                  |
| 130 | <i>vng130</i> | -0.100 | 0.794 | 0.388444 | -0.021 | 0.953 | 0.72775  | unknown                           |
| 132 | <i>vng132</i> | 0.047  | 1.115 | 0.40274  | 0.025  | 1.060 | 0.612    | unknown                           |
| 133 | <i>rfa1</i>   | -0.039 | 0.914 | 0.38935  | 0.029  | 1.070 | 0.382125 | DNA metabolism                    |
| 134 | <i>hpyA</i>   | -0.099 | 0.797 | 0.28588  | -0.047 | 0.896 | 0.445583 | DNA metabolism                    |
| 136 | <i>hdf</i>    | -0.004 | 0.990 | 0.383891 | -0.010 | 0.977 | 0.759    | cellular process                  |
| 137 | <i>cca</i>    | -0.038 | 0.917 | 0.513241 | 0.062  | 1.154 | 0.251783 | translation                       |
| 138 | <i>vng138</i> | 0.054  | 1.132 | 0.510784 | -0.008 | 0.981 | 0.79025  | unknown                           |
| 139 | <i>vng139</i> | -0.016 | 0.965 | 0.811185 | 0.050  | 1.121 | 0.4435   | unknown                           |
| 140 | <i>vng140</i> | 0.026  | 1.061 | 0.391067 | 0.059  | 1.146 | 0.334167 | unknown                           |
| 141 | <i>vng141</i> | -0.001 | 0.997 | 0.351493 | 0.005  | 1.012 | 0.415067 | unknown                           |
| 142 | <i>arlR2</i>  | 0.054  | 1.131 | 0.028005 | 0.053  | 1.131 | 0.437253 | transcription and regulation      |
| 143 | <i>vng143</i> | -0.051 | 0.888 | 0.564655 | 0.001  | 1.003 | 0.45165  | unknown                           |
| 144 | <i>vng144</i> | 0.191  | 1.551 | 0.166972 | -0.037 | 0.919 | 0.58775  | unknown                           |
| 146 | <i>vng146</i> | 0.199  | 1.580 | 0.083652 | -0.207 | 0.622 | 0.002927 | unknown                           |
| 147 | <i>hmr</i>    | -0.068 | 0.854 | 0.362329 | 0.010  | 1.023 | 0.682083 | transcription and regulation      |
| 148 | <i>vng148</i> | 0.136  | 1.368 | 0.180353 | -0.062 | 0.868 | 0.3375   | unknown                           |
| 149 | <i>zntA</i>   | -0.075 | 0.841 | 0.056399 | -0.070 | 0.850 | 0.275583 | transport                         |
| 150 | <i>vng150</i> | -0.027 | 0.940 | 0.577426 | 0.004  | 1.010 | 0.675542 | unknown                           |
| 151 | <i>vng151</i> | -0.021 | 0.953 | 0.674698 | 0.062  | 1.152 | 0.237    | unknown                           |
| 152 | <i>prrC</i>   | -0.024 | 0.947 | 0.593101 | 0.004  | 1.010 | 0.79725  | transcription and regulation      |
| 153 | <i>vng153</i> | 0.167  | 1.470 | 0.157761 | -0.012 | 0.972 | 0.78     | unknown                           |
| 154 | <i>merA</i>   | -0.012 | 0.973 | 0.563188 | 0.007  | 1.015 | 0.692417 | cellular process                  |
| 156 | <i>bolR2</i>  | -0.138 | 0.728 | 0.648671 | 0.010  | 1.022 | 0.85075  | transcription and regulation      |
| 157 | <i>oxIT</i>   | 0.002  | 1.004 | 0.372859 | 0.030  | 1.072 | 0.745333 | transport                         |
| 158 | <i>kdgK</i>   | 0.078  | 1.197 | 0.217223 | 0.025  | 1.060 | 0.6405   | carbohydrate and lipid metabolism |

|     |               |        |       |          |        |       |          |                                    |
|-----|---------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 159 | <i>mutL</i>   | -0.036 | 0.920 | 0.514836 | 0.000  | 0.999 | 0.538667 | DNA metabolism                     |
| 160 | <i>boa1</i>   | -0.022 | 0.950 | 0.44896  | -0.003 | 0.993 | 0.849333 | transcription and regulation       |
| 161 | <i>gdhB</i>   | -0.009 | 0.980 | 0.343149 | -0.199 | 0.632 | 0.012428 | amino acid metabolism              |
| 162 | <i>alkK</i>   | -0.286 | 0.518 | 0.000248 | -0.133 | 0.736 | 0.028662 | carbohydrate and lipid metabolism  |
| 163 | <i>mutS1a</i> | -0.121 | 0.757 | 0.246969 | 0.023  | 1.055 | 0.6125   | DNA metabolism                     |
| 164 | <i>hef</i>    | -0.017 | 0.963 | 0.695047 | 0.037  | 1.089 | 0.593567 | cellular process                   |
| 166 | <i>psmB</i>   | 0.227  | 1.686 | 0.00103  | -0.011 | 0.976 | 0.825167 | cellular process                   |
| 167 | <i>vng167</i> | 0.051  | 1.124 | 0.207542 | -0.136 | 0.731 | 0.008588 | unknown                            |
| 168 | <i>vng168</i> | -0.165 | 0.684 | 0.204453 | -0.068 | 0.855 | 0.32125  | unknown                            |
| 170 | <i>vng170</i> | 0.097  | 1.251 | 0.364998 | 0.040  | 1.097 | 0.7435   | cofactor and secondary metabolites |
| 171 | <i>vng171</i> | 0.075  | 1.188 | 0.851924 | -0.015 | 0.966 | 0.89     | DNA metabolism                     |
| 172 | <i>mutS1b</i> | -0.001 | 0.999 | 0.65583  | 0.006  | 1.013 | 0.781167 | DNA metabolism                     |
| 174 | <i>cat1</i>   | -0.084 | 0.825 | 0.391066 | 0.006  | 1.013 | 0.717167 | transport                          |
| 175 | <i>trkA1</i>  | 0.086  | 1.218 | 0.151163 | -0.019 | 0.958 | 0.7175   | transport                          |
| 176 | <i>act1</i>   | -0.030 | 0.934 | 0.530723 | 0.028  | 1.066 | 0.474833 | transcription and regulation       |
| 177 | <i>rpl15e</i> | -0.017 | 0.961 | 0.571833 | 0.071  | 1.179 | 0.317433 | translation                        |
| 178 | <i>vng178</i> | -0.039 | 0.914 | 0.517479 | 0.019  | 1.046 | 0.47475  | unknown                            |
| 179 | <i>stk2</i>   | -0.067 | 0.857 | 0.285492 | -0.050 | 0.891 | 0.513523 | cellular process                   |
| 180 | <i>hop</i>    | -0.002 | 0.996 | 0.54996  | 0.037  | 1.090 | 0.5898   | cellular process                   |
| 181 | <i>lpl</i>    | -0.012 | 0.972 | 0.443423 | -0.058 | 0.874 | 0.527417 | cofactor and secondary metabolites |
| 183 | <i>xthA</i>   | 0.037  | 1.089 | 0.193463 | 0.018  | 1.041 | 0.569625 | DNA metabolism                     |
| 184 | <i>vng184</i> | 0.058  | 1.142 | 0.414216 | 0.017  | 1.041 | 0.465417 | cofactor and secondary metabolites |
| 186 | <i>pepB1</i>  | 0.044  | 1.107 | 0.342953 | -0.019 | 0.957 | 0.719667 | amino acid metabolism              |
| 187 | <i>vng187</i> | -0.021 | 0.953 | 0.74123  | 0.020  | 1.046 | 0.9125   | unknown                            |
| 188 | <i>vng188</i> | 0.045  | 1.109 | 0.436291 | -0.030 | 0.933 | 0.807333 | carbohydrate and lipid metabolism  |
| 189 | <i>vng189</i> | 0.077  | 1.195 | 0.432247 | 0.013  | 1.030 | 0.6215   | unknown                            |
| 190 | <i>vng190</i> | -0.087 | 0.818 | 0.11388  | -0.033 | 0.927 | 0.546583 | cellular process                   |
| 192 | <i>ftsZ2</i>  | 0.272  | 1.870 | 0.004604 | 0.024  | 1.056 | 0.515667 | cellular process                   |
| 194 | <i>camR1</i>  | 0.162  | 1.451 | 0.007993 | -0.060 | 0.870 | 0.278225 | transcription and regulation       |
| 195 | <i>vng195</i> | -0.017 | 0.961 | 0.484248 | -0.024 | 0.947 | 0.50675  | unknown                            |
| 196 | <i>vng196</i> | -0.093 | 0.807 | 0.25834  | 0.052  | 1.127 | 0.497125 | unknown                            |
| 197 | <i>vng197</i> | -0.096 | 0.802 | 0.466287 | -0.004 | 0.991 | 0.612    | unknown                            |
| 198 | <i>vng198</i> | -0.019 | 0.957 | 0.701149 | 0.030  | 1.072 | 0.6755   | unknown                            |
| 199 | <i>vng199</i> | -0.045 | 0.901 | 0.297535 | 0.027  | 1.063 | 0.64675  | unknown                            |
| 200 | <i>vng200</i> | -0.058 | 0.875 | 0.692867 | -0.029 | 0.935 | 0.879667 | unknown                            |
| 203 | <i>vng204</i> | -0.014 | 0.967 | 0.585967 | 0.008  | 1.019 | 0.8135   | unknown                            |
| 204 | <i>vng203</i> | 0.003  | 1.006 | 0.40445  | 0.007  | 1.016 | 0.75075  | unknown                            |
| 205 | <i>vng205</i> | -0.088 | 0.817 | 0.081727 | -0.405 | 0.394 | 9.87E-12 | unknown                            |
| 207 | <i>vng207</i> | -0.024 | 0.947 | 0.631356 | 0.042  | 1.101 | 0.397    | unknown                            |
| 208 | <i>vng208</i> | -0.152 | 0.704 | 0.003963 | 0.014  | 1.033 | 0.615917 | unknown                            |
| 209 | <i>vng209</i> | -0.052 | 0.888 | 0.197705 | 0.090  | 1.229 | 0.259094 | DNA metabolism                     |
| 212 | <i>vng212</i> | 0.019  | 1.044 | 0.745517 | -0.102 | 0.791 | 0.0601   | unknown                            |
| 213 | <i>vng213</i> | 0.111  | 1.290 | 0.155914 | 0.098  | 1.252 | 0.26785  | unknown                            |
| 214 | <i>vng214</i> | -0.073 | 0.846 | 0.236461 | 0.036  | 1.085 | 0.60475  | unknown                            |
| 215 | <i>vng215</i> | -0.176 | 0.667 | 0.227618 | 0.008  | 1.019 | 0.6735   | unknown                            |
| 216 | <i>vng216</i> | 0.016  | 1.038 | 0.789819 | 0.059  | 1.146 | 0.449    | unknown                            |
| 217 | <i>vng217</i> | -0.127 | 0.746 | 0.050703 | -0.128 | 0.745 | 0.065025 | unknown                            |
| 218 | <i>gspE1</i>  | -0.069 | 0.853 | 0.370364 | -0.045 | 0.902 | 0.697225 | cellular process                   |
| 219 | <i>vng219</i> | 0.045  | 1.110 | 0.425138 | -0.038 | 0.916 | 0.498    | unknown                            |
| 220 | <i>vng220</i> | -0.076 | 0.839 | 0.266212 | -0.023 | 0.948 | 0.5318   | unknown                            |
| 222 | <i>vng222</i> | 0.022  | 1.052 | 0.594932 | 0.006  | 1.014 | 0.71465  | unknown                            |

|     |               |        |       |          |        |       |          |                                    |
|-----|---------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 223 | <i>moxR</i>   | 0.030  | 1.072 | 0.592606 | -0.021 | 0.954 | 0.562767 | cofactor and secondary metabolites |
| 226 | <i>htrA</i>   | -0.005 | 0.990 | 0.602046 | -0.010 | 0.977 | 0.822333 | cellular process                   |
| 227 | <i>vng227</i> | -0.055 | 0.881 | 0.317551 | 0.051  | 1.125 | 0.4037   | unknown                            |
| 228 | <i>guaAa</i>  | 0.013  | 1.029 | 0.345802 | -0.068 | 0.856 | 0.296875 | nucleotide metabolism              |
| 230 | <i>vng230</i> | 0.048  | 1.116 | 0.407908 | -0.008 | 0.982 | 0.651167 | unknown                            |
| 231 | <i>vng231</i> | 0.061  | 1.151 | 0.617818 | -0.110 | 0.776 | 0.537    | unknown                            |
| 233 | <i>vng233</i> | -0.145 | 0.716 | 0.17625  | -0.003 | 0.992 | 0.854625 | unknown                            |
| 234 | <i>vng234</i> | 0.001  | 1.002 | 0.695085 | -0.029 | 0.936 | 0.21875  | cellular process                   |
| 237 | <i>rpoP</i>   | -0.004 | 0.991 | 0.597038 | 0.013  | 1.031 | 0.7265   | transcription and regulation       |
| 238 | <i>vng238</i> | 0.170  | 1.480 | 0.001395 | 0.032  | 1.077 | 0.541    | unknown                            |
| 239 | <i>vng239</i> | -0.014 | 0.969 | 0.426686 | -0.050 | 0.892 | 0.424942 | translation                        |
| 240 | <i>vng240</i> | 0.001  | 1.003 | 0.567339 | 0.004  | 1.008 | 0.809167 | unknown                            |
| 243 | <i>vng243</i> | 0.005  | 1.011 | 0.641892 | -0.044 | 0.904 | 0.494517 | unknown                            |
| 244 | <i>vng244</i> | -0.007 | 0.985 | 0.869048 | 0.017  | 1.039 | 0.66725  | unknown                            |
| 245 | <i>dtd</i>    | -0.075 | 0.841 | 0.302198 | 0.008  | 1.019 | 0.5225   | nucleotide metabolism              |
| 247 | <i>xrlR1</i>  | 0.008  | 1.018 | 0.691131 | 0.011  | 1.025 | 0.853    | transcription and regulation       |
| 248 | <i>vng248</i> | 0.005  | 1.012 | 0.507417 | 0.006  | 1.014 | 0.7575   | unknown                            |
| 249 | <i>hlp1</i>   | -0.189 | 0.647 | 0.223379 | -0.032 | 0.929 | 0.623667 | energy metabolism                  |
| 250 | <i>vng250</i> | -0.006 | 0.986 | 0.749851 | 0.019  | 1.046 | 0.50645  | unknown                            |
| 251 | <i>vng251</i> | -0.046 | 0.899 | 0.535244 | -0.017 | 0.962 | 0.54375  | unknown                            |
| 252 | <i>vng252</i> | -0.021 | 0.953 | 0.722025 | 0.018  | 1.043 | 0.478917 | unknown                            |
| 254 | <i>tfbG</i>   | 0.155  | 1.428 | 0.256884 | 0.010  | 1.023 | 0.748917 | transcription and regulation       |
| 255 | <i>vng255</i> | 0.079  | 1.200 | 0.273682 | -0.023 | 0.948 | 0.59125  | DNA metabolism                     |
| 256 | <i>vng256</i> | 0.054  | 1.131 | 0.422752 | -0.031 | 0.930 | 0.5475   | unknown                            |
| 258 | <i>prlR1</i>  | -0.079 | 0.833 | 0.12329  | 0.026  | 1.061 | 0.6035   | transcription and regulation       |
| 259 | <i>ipp</i>    | 0.085  | 1.216 | 0.322213 | -0.022 | 0.951 | 0.41025  | energy metabolism                  |
| 261 | <i>vng261</i> | -0.129 | 0.742 | 0.139952 | 0.022  | 1.053 | 0.67275  | unknown                            |
| 262 | <i>vng262</i> | -0.013 | 0.970 | 0.652189 | -0.037 | 0.917 | 0.488825 | unknown                            |
| 264 | <i>vng264</i> | 0.121  | 1.320 | 0.073369 | -0.060 | 0.871 | 0.400537 | unknown                            |
| 265 | <i>ftsZ4</i>  | -0.096 | 0.802 | 0.10058  | 0.065  | 1.160 | 0.2794   | cellular process                   |
| 266 | <i>vng266</i> | -0.039 | 0.914 | 0.577998 | -0.008 | 0.981 | 0.879375 | unknown                            |
| 267 | <i>vng267</i> | 0.016  | 1.039 | 0.307238 | 0.004  | 1.010 | 0.81975  | unknown                            |
| 268 | <i>vng268</i> | -0.036 | 0.921 | 0.461072 | -0.023 | 0.949 | 0.499667 | energy metabolism                  |
| 270 | <i>vng270</i> | -0.005 | 0.988 | 0.406569 | -0.018 | 0.959 | 0.493833 | carbohydrate and lipid metabolism  |
| 271 | <i>vng271</i> | 0.137  | 1.371 | 0.024743 | -0.078 | 0.835 | 0.13     | unknown                            |
| 272 | <i>vng272</i> | -0.018 | 0.960 | 0.585445 | -0.006 | 0.987 | 0.605917 | unknown                            |
| 274 | <i>vng274</i> | 0.019  | 1.044 | 0.562292 | -0.013 | 0.971 | 0.561333 | DNA metabolism                     |
| 277 | <i>crtI3</i>  | 0.065  | 1.160 | 0.543831 | 0.023  | 1.054 | 0.643333 | cofactor and secondary metabolites |
| 280 | <i>vng280</i> | 0.004  | 1.009 | 0.47997  | 0.034  | 1.080 | 0.491567 | unknown                            |
| 281 | <i>soxB</i>   | 0.099  | 1.256 | 0.109359 | -0.001 | 0.999 | 0.482583 | amino acid metabolism              |
| 282 | <i>vng282</i> | 0.062  | 1.154 | 0.220826 | 0.007  | 1.016 | 0.63625  | unknown                            |
| 283 | <i>vng283</i> | -0.048 | 0.896 | 0.247582 | -0.071 | 0.850 | 0.22315  | cellular process                   |
| 284 | <i>vng284</i> | -0.033 | 0.927 | 0.443279 | -0.049 | 0.894 | 0.478451 | energy metabolism                  |
| 285 | <i>vng285</i> | -0.070 | 0.851 | 0.571998 | 0.041  | 1.098 | 0.41725  | DNA metabolism                     |
| 286 | <i>vng286</i> | 0.046  | 1.112 | 0.271233 | -0.212 | 0.614 | 0.080287 | DNA metabolism                     |
| 287 | <i>vng287</i> | 0.165  | 1.463 | 0.083116 | -0.046 | 0.899 | 0.618    | unknown                            |
| 289 | <i>vng289</i> | -0.088 | 0.817 | 0.281945 | 0.025  | 1.059 | 0.621125 | unknown                            |
| 291 | <i>vng291</i> | -0.003 | 0.992 | 0.52887  | 0.011  | 1.027 | 0.436842 | unknown                            |
| 293 | <i>arlR3</i>  | -0.094 | 0.806 | 0.121295 | 0.026  | 1.062 | 0.6005   | transcription and regulation       |
| 294 | <i>pnm</i>    | -0.084 | 0.823 | 0.206742 | -0.076 | 0.840 | 0.144433 | cofactor and secondary metabolites |
| 296 | <i>vng296</i> | 0.008  | 1.019 | 0.401346 | 0.006  | 1.015 | 0.65175  | unknown                            |

|     |               |        |       |          |        |       |          |                                    |
|-----|---------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 297 | <i>vng297</i> | -0.024 | 0.946 | 0.366822 | -0.003 | 0.992 | 0.285183 | unknown                            |
| 298 | <i>vng298</i> | 0.025  | 1.058 | 0.627964 | 0.039  | 1.095 | 0.53425  | unknown                            |
| 300 | <i>vng300</i> | -0.065 | 0.861 | 0.324095 | -0.009 | 0.979 | 0.2879   | unknown                            |
| 301 | <i>vng301</i> | 0.023  | 1.053 | 0.785162 | -0.017 | 0.961 | 0.5745   | cofactor and secondary metabolites |
| 303 | <i>lon</i>    | 0.199  | 1.580 | 0.204784 | -0.087 | 0.819 | 0.231828 | cellular process                   |
| 305 | <i>ogt</i>    | 0.061  | 1.150 | 0.341725 | -0.042 | 0.907 | 0.447017 | DNA metabolism                     |
| 306 | <i>trpC</i>   | -0.024 | 0.946 | 0.40266  | -0.062 | 0.867 | 0.410583 | amino acid metabolism              |
| 307 | <i>trpB</i>   | -0.012 | 0.974 | 0.405143 | -0.117 | 0.764 | 0.577417 | amino acid metabolism              |
| 308 | <i>trpA</i>   | -0.052 | 0.888 | 0.352507 | -0.013 | 0.971 | 0.675    | amino acid metabolism              |
| 309 | <i>vng309</i> | 0.141  | 1.383 | 0.057599 | -0.073 | 0.846 | 0.2447   | carbohydrate and lipid metabolism  |
| 310 | <i>vng311</i> | 0.031  | 1.075 | 0.197754 | -0.060 | 0.870 | 0.229    | amino acid metabolism              |
| 311 | <i>vng310</i> | 0.006  | 1.014 | 0.688905 | -0.008 | 0.982 | 0.227375 | unknown                            |
| 312 | <i>vng312</i> | 0.081  | 1.204 | 0.554831 | 0.005  | 1.011 | 0.75     | unknown                            |
| 314 | <i>aroD</i>   | 0.016  | 1.038 | 0.488896 | -0.038 | 0.915 | 0.623133 | amino acid metabolism              |
| 315 | <i>tfbF</i>   | -0.007 | 0.983 | 0.411002 | 0.016  | 1.039 | 0.7415   | transcription and regulation       |
| 316 | <i>vng316</i> | -0.014 | 0.968 | 0.745772 | -0.019 | 0.957 | 0.727    | unknown                            |
| 318 | <i>dpg</i>    | -0.053 | 0.885 | 0.427936 | -0.058 | 0.876 | 0.586671 | cellular process                   |
| 319 | <i>vng319</i> | 0.035  | 1.083 | 0.542096 | -0.118 | 0.762 | 0.066235 | transcription and regulation       |
| 320 | <i>arlR4</i>  | -0.111 | 0.775 | 0.275232 | 0.054  | 1.131 | 0.407133 | transcription and regulation       |
| 321 | <i>ids</i>    | 0.048  | 1.117 | 0.459917 | 0.015  | 1.035 | 0.537083 | cellular process                   |
| 322 | <i>vng322</i> | 0.003  | 1.006 | 0.631188 | 0.006  | 1.014 | 0.592875 | cellular process                   |
| 323 | <i>vng323</i> | 0.036  | 1.086 | 0.53138  | -0.016 | 0.965 | 0.699    | unknown                            |
| 324 | <i>pykA</i>   | -0.212 | 0.613 | 0.198102 | 0.033  | 1.080 | 0.46605  | energy metabolism                  |
| 326 | <i>metS</i>   | -0.006 | 0.986 | 0.593786 | 0.022  | 1.052 | 0.5259   | translation                        |
| 327 | <i>gadD</i>   | -0.047 | 0.897 | 0.508424 | -0.016 | 0.965 | 0.685083 | amino acid metabolism              |
| 329 | <i>caaX</i>   | 0.020  | 1.047 | 0.350884 | -0.001 | 0.998 | 0.641167 | cellular process                   |
| 330 | <i>ppsA</i>   | 0.299  | 1.990 | 0.000269 | 0.084  | 1.213 | 0.274869 | carbohydrate and lipid metabolism  |
| 331 | <i>vng331</i> | -0.068 | 0.855 | 0.124214 | -0.105 | 0.785 | 0.0378   | unknown                            |
| 332 | <i>vng332</i> | -0.010 | 0.978 | 0.666212 | -0.100 | 0.794 | 0.188    | unknown                            |
| 335 | <i>gptA1</i>  | 0.127  | 1.341 | 0.21277  | -0.012 | 0.973 | 0.715833 | nucleotide metabolism              |
| 337 | <i>vng337</i> | -0.283 | 0.522 | 5.08E-06 | 0.030  | 1.072 | 0.551    | DNA metabolism                     |
| 339 | <i>vng339</i> | 0.048  | 1.118 | 0.571744 | -0.078 | 0.835 | 0.267    | unknown                            |
| 340 | <i>vng340</i> | 0.017  | 1.041 | 0.665899 | -0.016 | 0.963 | 0.447858 | unknown                            |
| 342 | <i>smc1</i>   | -0.001 | 0.999 | 0.509779 | -0.019 | 0.957 | 0.664    | cellular process                   |
| 343 | <i>vng343</i> | 0.127  | 1.339 | 0.130597 | -0.081 | 0.829 | 0.21575  | unknown                            |
| 345 | <i>gatB2</i>  | -0.154 | 0.702 | 0.284616 | 0.015  | 1.035 | 0.724167 | translation                        |
| 346 | <i>vng346</i> | -0.014 | 0.967 | 0.779659 | 0.026  | 1.061 | 0.888    | unknown                            |
| 347 | <i>vng347</i> | 0.003  | 1.008 | 0.362037 | 0.040  | 1.096 | 0.475167 | unknown                            |
| 349 | <i>topA</i>   | -0.022 | 0.951 | 0.243338 | -0.003 | 0.993 | 0.642167 | DNA metabolism                     |
| 351 | <i>vng351</i> | 0.022  | 1.052 | 0.212565 | 0.013  | 1.029 | 0.760583 | unknown                            |
| 352 | <i>vng352</i> | 0.111  | 1.291 | 0.243077 | -0.006 | 0.987 | 0.6485   | unknown                            |
| 354 | <i>vng354</i> | 0.115  | 1.305 | 0.241255 | -0.024 | 0.945 | 0.628583 | unknown                            |
| 355 | <i>htr14</i>  | -0.067 | 0.856 | 0.576293 | 0.060  | 1.149 | 0.36665  | cellular process                   |
| 357 | <i>vng357</i> | 0.057  | 1.141 | 0.26771  | -0.011 | 0.974 | 0.643    | unknown                            |
| 359 | <i>vng359</i> | 0.075  | 1.188 | 0.378703 | -0.060 | 0.871 | 0.644917 | unknown                            |
| 360 | <i>vng360</i> | 0.026  | 1.062 | 0.47728  | -0.017 | 0.961 | 0.710833 | unknown                            |
| 361 | <i>vng361</i> | 0.014  | 1.032 | 0.138702 | 0.007  | 1.017 | 0.729167 | unknown                            |
| 363 | <i>nfi</i>    | 0.019  | 1.044 | 0.631898 | -0.010 | 0.978 | 0.779417 | DNA metabolism                     |
| 364 | <i>yusZ3</i>  | 0.067  | 1.168 | 0.318905 | -0.005 | 0.988 | 0.84575  | general function prediction only   |
| 365 | <i>arsA1</i>  | 0.025  | 1.058 | 0.6947   | -0.045 | 0.902 | 0.567333 | transport                          |
| 367 | <i>vng367</i> | 0.021  | 1.049 | 0.285685 | -0.027 | 0.941 | 0.609917 | unknown                            |

|     |               |        |       |          |        |       |          |                                    |
|-----|---------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 368 | <i>vng368</i> | 0.053  | 1.130 | 0.422475 | -0.040 | 0.911 | 0.429    | unknown                            |
| 370 | <i>vng370</i> | -0.088 | 0.816 | 0.137316 | 0.012  | 1.028 | 0.763    | general function prediction only   |
| 371 | <i>acd1</i>   | 0.066  | 1.164 | 0.493743 | -0.081 | 0.830 | 0.213658 | carbohydrate and lipid metabolism  |
| 373 | <i>vng373</i> | -0.111 | 0.775 | 0.235297 | -0.027 | 0.939 | 0.479667 | unknown                            |
| 374 | <i>nusG</i>   | -0.005 | 0.988 | 0.494148 | -0.023 | 0.948 | 0.600333 | transcription and regulation       |
| 375 | <i>secE</i>   | 0.061  | 1.150 | 0.341978 | -0.057 | 0.877 | 0.32475  | cellular process                   |
| 376 | <i>ftsZ1</i>  | 0.065  | 1.160 | 0.22801  | 0.011  | 1.026 | 0.686333 | cellular process                   |
| 378 | <i>vng378</i> | -0.058 | 0.875 | 0.412749 | 0.049  | 1.119 | 0.518317 | unknown                            |
| 380 | <i>caa</i>    | 0.016  | 1.037 | 0.603882 | -0.017 | 0.963 | 0.625083 | transport                          |
| 382 | <i>aroE</i>   | -0.040 | 0.912 | 0.393967 | 0.005  | 1.012 | 0.769125 | amino acid metabolism              |
| 383 | <i>vng383</i> | -0.020 | 0.955 | 0.698128 | -0.023 | 0.948 | 0.63675  | unknown                            |
| 384 | <i>trpE2</i>  | -0.151 | 0.706 | 0.240605 | -0.054 | 0.882 | 0.414717 | amino acid metabolism              |
| 386 | <i>trpG2</i>  | -0.014 | 0.969 | 0.20572  | -0.034 | 0.924 | 0.518    | amino acid metabolism              |
| 387 | <i>ilvE1</i>  | -0.056 | 0.879 | 0.510405 | -0.067 | 0.857 | 0.3142   | amino acid metabolism              |
| 388 | <i>vng388</i> | 0.109  | 1.285 | 0.202928 | -0.023 | 0.948 | 0.72075  | unknown                            |
| 389 | <i>tzhR1</i>  | -0.021 | 0.952 | 0.46123  | -0.018 | 0.960 | 0.786    | transcription and regulation       |
| 390 | <i>graD1</i>  | -0.050 | 0.891 | 0.052766 | -0.060 | 0.870 | 0.292875 | nucleotide metabolism              |
| 391 | <i>vng391</i> | 0.003  | 1.006 | 0.546894 | -0.042 | 0.909 | 0.52975  | unknown                            |
| 393 | <i>vng393</i> | 0.013  | 1.031 | 0.511304 | 0.028  | 1.067 | 0.625167 | unknown                            |
| 394 | <i>vng394</i> | 0.087  | 1.221 | 0.095675 | 0.038  | 1.090 | 0.465    | unknown                            |
| 396 | <i>vng396</i> | 0.068  | 1.170 | 0.429092 | -0.053 | 0.885 | 0.3636   | unknown                            |
| 398 | <i>nthA1</i>  | 0.063  | 1.157 | 0.447504 | 0.009  | 1.022 | 0.758833 | DNA metabolism                     |
| 399 | <i>vng399</i> | -0.085 | 0.822 | 0.424255 | 0.012  | 1.029 | 0.640667 | unknown                            |
| 401 | <i>epf2</i>   | -0.067 | 0.856 | 0.331069 | -0.008 | 0.983 | 0.59125  | transcription and regulation       |
| 402 | <i>vng402</i> | 0.138  | 1.374 | 0.39376  | -0.132 | 0.738 | 0.036406 | unknown                            |
| 403 | <i>proS</i>   | -0.174 | 0.670 | 0.175104 | -0.007 | 0.983 | 0.158065 | translation                        |
| 404 | <i>vng404</i> | -0.052 | 0.887 | 0.566009 | -0.021 | 0.954 | 0.785833 | unknown                            |
| 405 | <i>vng405</i> | 0.015  | 1.035 | 0.524954 | -0.085 | 0.823 | 0.422391 | unknown                            |
| 406 | <i>vng406</i> | -0.038 | 0.916 | 0.584345 | 0.017  | 1.041 | 0.607417 | energy metabolism                  |
| 407 | <i>vng407</i> | -0.027 | 0.940 | 0.511424 | 0.036  | 1.086 | 0.5335   | unknown                            |
| 408 | <i>vng408</i> | 0.032  | 1.078 | 0.54097  | -0.025 | 0.943 | 0.757333 | unknown                            |
| 409 | <i>vng409</i> | -0.019 | 0.958 | 0.30561  | 0.021  | 1.050 | 0.5296   | amino acid metabolism              |
| 410 | <i>rfbU2</i>  | -0.004 | 0.990 | 0.589505 | -0.025 | 0.944 | 0.605083 | translation                        |
| 412 | <i>folP</i>   | -0.101 | 0.793 | 0.1038   | 0.057  | 1.140 | 0.301867 | cofactor and secondary metabolites |
| 414 | <i>purH</i>   | 0.079  | 1.199 | 0.14638  | 0.105  | 1.275 | 0.131875 | nucleotide metabolism              |
| 415 | <i>purB</i>   | 0.131  | 1.352 | 0.253717 | 0.054  | 1.131 | 0.436167 | nucleotide metabolism              |
| 417 | <i>vng417</i> | -0.097 | 0.801 | 0.219127 | -0.071 | 0.848 | 0.257633 | unknown                            |
| 419 | <i>vng419</i> | 0.037  | 1.089 | 0.344767 | -0.038 | 0.917 | 0.52075  | unknown                            |
| 420 | <i>vng420</i> | 0.026  | 1.062 | 0.259805 | -0.068 | 0.854 | 0.193625 | unknown                            |
| 421 | <i>vng421</i> | -0.044 | 0.904 | 0.375783 | -0.032 | 0.929 | 0.5675   | cellular process                   |
| 422 | <i>cyc</i>    | 0.108  | 1.283 | 0.440029 | 0.008  | 1.018 | 0.749    | cofactor and secondary metabolites |
| 424 | <i>nacR</i>   | 0.055  | 1.136 | 0.266418 | -0.015 | 0.966 | 0.7615   | transcription and regulation       |
| 425 | <i>pimT2</i>  | -0.008 | 0.981 | 0.138417 | -0.021 | 0.953 | 0.50425  | translation                        |
| 426 | <i>rpoM</i>   | -0.147 | 0.712 | 0.021842 | -0.028 | 0.938 | 0.2857   | transcription and regulation       |
| 427 | <i>yfmO2</i>  | -0.042 | 0.908 | 0.35065  | 0.022  | 1.053 | 0.792333 | transport                          |
| 428 | <i>fad2</i>   | 0.017  | 1.040 | 0.422599 | -0.038 | 0.916 | 0.4867   | carbohydrate and lipid metabolism  |
| 429 | <i>vng429</i> | 0.067  | 1.167 | 0.249856 | 0.002  | 1.005 | 0.783    | unknown                            |
| 430 | <i>vng430</i> | -0.139 | 0.727 | 0.007715 | 0.093  | 1.239 | 0.071975 | unknown                            |
| 431 | <i>apa</i>    | -0.066 | 0.858 | 0.277148 | -0.001 | 0.998 | 0.461917 | DNA metabolism                     |
| 433 | <i>vng433</i> | -0.021 | 0.953 | 0.593453 | -0.070 | 0.851 | 0.17425  | translation                        |
| 435 | <i>vng435</i> | -0.078 | 0.836 | 0.31763  | -0.148 | 0.711 | 0.111905 | unknown                            |

|     |               |        |       |          |        |       |          |                                    |
|-----|---------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 436 | <i>nhaC1</i>  | 0.098  | 1.254 | 0.202716 | -0.123 | 0.753 | 0.07535  | transport                          |
| 437 | <i>vng437</i> | 0.034  | 1.083 | 0.519363 | 0.027  | 1.065 | 0.306667 | cellular process                   |
| 438 | <i>vng439</i> | 0.089  | 1.228 | 0.116572 | -0.035 | 0.923 | 0.618625 | unknown                            |
| 439 | <i>ferA3</i>  | 0.016  | 1.038 | 0.375113 | 0.062  | 1.154 | 0.452857 | energy metabolism                  |
| 440 | <i>vng440</i> | -0.036 | 0.920 | 0.532323 | 0.067  | 1.167 | 0.2289   | unknown                            |
| 441 | <i>vng441</i> | 0.020  | 1.046 | 0.666214 | -0.066 | 0.859 | 0.3263   | unknown                            |
| 442 | <i>rspA</i>   | 0.001  | 1.003 | 0.578023 | 0.025  | 1.058 | 0.490917 | cellular process                   |
| 444 | <i>dapA</i>   | -0.122 | 0.755 | 0.575413 | 0.006  | 1.014 | 0.45225  | amino acid metabolism              |
| 446 | <i>tdh1</i>   | -0.003 | 0.993 | 0.27478  | -0.250 | 0.562 | 0.021493 | amino acid metabolism              |
| 447 | <i>gcd</i>    | 0.018  | 1.042 | 0.708412 | 0.036  | 1.086 | 0.548333 | unknown                            |
| 448 | <i>pyrE1</i>  | -0.005 | 0.990 | 0.424552 | -0.023 | 0.949 | 0.299667 | nucleotide metabolism              |
| 450 | <i>vng450</i> | 0.014  | 1.033 | 0.656325 | -0.066 | 0.859 | 0.183    | cellular process                   |
| 451 | <i>phoU</i>   | -0.135 | 0.734 | 0.203795 | -0.027 | 0.940 | 0.698958 | transcription and regulation       |
| 452 | <i>pstB2</i>  | 0.022  | 1.052 | 0.652816 | -0.070 | 0.851 | 0.16995  | transport                          |
| 453 | <i>pstA2</i>  | -0.531 | 0.294 | 3.92E-13 | -0.030 | 0.933 | 0.5765   | transport                          |
| 455 | <i>pstC2</i>  | -0.306 | 0.494 | 0.141415 | -0.054 | 0.883 | 0.333    | transport                          |
| 457 | <i>phoX</i>   | -0.170 | 0.675 | 0.372558 | -0.031 | 0.931 | 0.55975  | transport                          |
| 458 | <i>prp1</i>   | -0.032 | 0.928 | 0.509126 | -0.093 | 0.808 | 0.205993 | transcription and regulation       |
| 459 | <i>cysH</i>   | 0.177  | 1.505 | 0.00417  | -0.095 | 0.804 | 0.124958 | amino acid metabolism              |
| 461 | <i>aspS</i>   | -0.004 | 0.990 | 0.612547 | -0.048 | 0.895 | 0.3383   | translation                        |
| 462 | <i>mriR</i>   | -0.061 | 0.870 | 0.903282 | 0.033  | 1.078 | 0.8875   | transcription and regulation       |
| 463 | <i>vng463</i> | 0.063  | 1.156 | 0.342466 | -0.036 | 0.920 | 0.52201  | unknown                            |
| 465 | <i>nosF2</i>  | 0.097  | 1.251 | 0.217381 | 0.013  | 1.031 | 0.684083 | transport                          |
| 466 | <i>vng466</i> | 0.090  | 1.232 | 0.24497  | 0.011  | 1.025 | 0.7905   | unknown                            |
| 467 | <i>yafB</i>   | 0.203  | 1.598 | 0.061325 | 0.026  | 1.063 | 0.6095   | general function prediction only   |
| 468 | <i>vng468</i> | -0.043 | 0.907 | 0.383695 | 0.005  | 1.011 | 0.735    | energy metabolism                  |
| 469 | <i>vng469</i> | 0.091  | 1.233 | 0.278493 | 0.017  | 1.041 | 0.657083 | unknown                            |
| 470 | <i>trp3</i>   | 0.027  | 1.063 | 0.729602 | -0.023 | 0.948 | 0.700375 | transport                          |
| 471 | <i>xrlR2</i>  | 0.053  | 1.130 | 0.295843 | -0.022 | 0.951 | 0.662    | transcription and regulation       |
| 472 | <i>vng472</i> | 0.069  | 1.173 | 0.166856 | 0.005  | 1.012 | 0.716167 | unknown                            |
| 473 | <i>korB</i>   | 0.058  | 1.144 | 0.212098 | 0.005  | 1.012 | 0.688083 | energy metabolism                  |
| 474 | <i>korA</i>   | 0.058  | 1.143 | 0.291271 | 0.010  | 1.024 | 0.37375  | energy metabolism                  |
| 475 | <i>fpr</i>    | 0.012  | 1.029 | 0.459809 | 0.002  | 1.004 | 0.553917 | cellular process                   |
| 478 | <i>vng478</i> | 0.123  | 1.326 | 0.236624 | 0.014  | 1.032 | 0.83125  | amino acid metabolism              |
| 479 | <i>yajO1</i>  | 0.041  | 1.098 | 0.65205  | 0.005  | 1.012 | 0.504    | cofactor and secondary metabolites |
| 481 | <i>mcmA1</i>  | -0.009 | 0.979 | 0.677365 | -0.029 | 0.936 | 0.522833 | carbohydrate and lipid metabolism  |
| 482 | <i>vng482</i> | -0.132 | 0.738 | 0.098029 | 0.039  | 1.094 | 0.473125 | transcription and regulation       |
| 483 | <i>vng483</i> | -0.058 | 0.875 | 0.444473 | 0.015  | 1.036 | 0.560417 | unknown                            |
| 484 | <i>acs1</i>   | 0.004  | 1.008 | 0.497161 | 0.022  | 1.052 | 0.7685   | carbohydrate and lipid metabolism  |
| 485 | <i>vng485</i> | 0.013  | 1.030 | 0.727553 | -0.018 | 0.959 | 0.6525   | unknown                            |
| 486 | <i>hat1</i>   | 0.048  | 1.116 | 0.5362   | -0.010 | 0.977 | 0.737875 | translation                        |
| 487 | <i>vng487</i> | -0.046 | 0.899 | 0.552503 | 0.016  | 1.037 | 0.724583 | translation                        |
| 488 | <i>vng488</i> | -0.003 | 0.993 | 0.360988 | 0.034  | 1.082 | 0.545917 | unknown                            |
| 489 | <i>dnaJ</i>   | -0.116 | 0.766 | 0.051251 | 0.041  | 1.099 | 0.414    | cellular process                   |
| 491 | <i>dnaK</i>   | -0.059 | 0.872 | 0.41602  | -0.004 | 0.991 | 0.894667 | cellular process                   |
| 492 | <i>vng492</i> | 0.022  | 1.053 | 0.70206  | 0.024  | 1.057 | 0.69575  | unknown                            |
| 494 | <i>grpE</i>   | -0.005 | 0.989 | 0.616965 | -0.033 | 0.926 | 0.499292 | cellular process                   |
| 496 | <i>vng496</i> | -0.016 | 0.964 | 0.401727 | 0.016  | 1.038 | 0.4609   | unknown                            |
| 498 | <i>vng498</i> | -0.050 | 0.891 | 0.566657 | 0.031  | 1.074 | 0.72025  | unknown                            |
| 499 | <i>cna</i>    | -0.050 | 0.892 | 0.369277 | 0.047  | 1.114 | 0.45725  | translation                        |
| 500 | <i>ppd</i>    | 0.079  | 1.199 | 0.256448 | -0.062 | 0.866 | 0.364503 | carbohydrate and lipid metabolism  |



|     |               |        |       |          |        |       |          |                                    |
|-----|---------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 501 | <i>yfmO1</i>  | -0.004 | 0.992 | 0.47004  | 0.060  | 1.148 | 0.3335   | transport                          |
| 502 | <i>aspB1</i>  | 0.144  | 1.393 | 0.016395 | -0.015 | 0.965 | 0.7455   | amino acid metabolism              |
| 503 | <i>vng503</i> | 0.013  | 1.030 | 0.500639 | -0.076 | 0.840 | 0.851875 | cofactor and secondary metabolites |
| 504 | <i>gbp5</i>   | -0.088 | 0.817 | 0.295371 | 0.025  | 1.058 | 0.787167 | translation                        |
| 505 | <i>vng505</i> | 0.009  | 1.021 | 0.370059 | 0.075  | 1.189 | 0.446467 | unknown                            |
| 506 | <i>vng506</i> | 0.030  | 1.073 | 0.844418 | -0.002 | 0.996 | 0.887    | unknown                            |
| 507 | <i>vng507</i> | 0.055  | 1.134 | 0.526433 | -0.007 | 0.983 | 0.779    | unknown                            |
| 508 | <i>vng508</i> | -0.037 | 0.918 | 0.700464 | -0.038 | 0.916 | 0.5355   | unknown                            |
| 509 | <i>vng509</i> | -0.034 | 0.925 | 0.485897 | -0.047 | 0.897 | 0.4305   | unknown                            |
| 510 | <i>prlV2</i>  | 0.160  | 1.447 | 0.121503 | 0.056  | 1.137 | 0.4331   | cellular process                   |
| 511 | <i>arlR5</i>  | -0.006 | 0.987 | 0.409182 | -0.043 | 0.905 | 0.488125 | transcription and regulation       |
| 512 | <i>ppe</i>    | 0.017  | 1.039 | 0.626528 | -0.010 | 0.977 | 0.61525  | DNA metabolism                     |
| 514 | <i>vng514</i> | -0.149 | 0.710 | 0.252428 | 0.013  | 1.031 | 0.6855   | DNA metabolism                     |
| 516 | <i>vng516</i> | 0.015  | 1.036 | 0.126104 | -0.051 | 0.889 | 0.481    | unknown                            |
| 518 | <i>vng518</i> | -0.073 | 0.845 | 0.439726 | -0.036 | 0.920 | 0.614    | unknown                            |
| 520 | <i>vng520</i> | -0.015 | 0.966 | 0.409923 | -0.059 | 0.873 | 0.514    | unknown                            |
| 521 | <i>polB1</i>  | 0.018  | 1.042 | 0.670085 | -0.019 | 0.957 | 0.541583 | DNA metabolism                     |
| 523 | <i>inb</i>    | 0.028  | 1.066 | 0.471942 | 0.000  | 1.000 | 0.679917 | general function prediction only   |
| 524 | <i>yurY</i>   | -0.193 | 0.641 | 0.006591 | 0.078  | 1.198 | 0.113    | transport                          |
| 525 | <i>vng525</i> | -0.230 | 0.589 | 0.109609 | 0.035  | 1.084 | 0.51575  | cellular process                   |
| 527 | <i>vng527</i> | -0.044 | 0.904 | 0.45367  | -0.007 | 0.984 | 0.53775  | cellular process                   |
| 529 | <i>vng529</i> | -0.049 | 0.893 | 0.602143 | -0.045 | 0.902 | 0.6605   | unknown                            |
| 530 | <i>troR</i>   | -0.110 | 0.777 | 0.32615  | -0.061 | 0.869 | 0.2797   | transcription and regulation       |
| 532 | <i>vng532</i> | -0.023 | 0.949 | 0.455806 | -0.049 | 0.894 | 0.688875 | unknown                            |
| 533 | <i>vng533</i> | 0.081  | 1.205 | 0.471712 | 0.011  | 1.026 | 0.734167 | unknown                            |
| 534 | <i>vng534</i> | -0.022 | 0.950 | 0.208194 | -0.022 | 0.950 | 0.65475  | unknown                            |
| 535 | <i>vng535</i> | -0.111 | 0.775 | 0.368574 | 0.010  | 1.024 | 0.7815   | unknown                            |
| 536 | <i>sirR</i>   | -0.087 | 0.819 | 0.299135 | 0.021  | 1.049 | 0.688    | transcription and regulation       |
| 537 | <i>vng537</i> | 0.020  | 1.048 | 0.601641 | 0.006  | 1.015 | 0.6285   | unknown                            |
| 539 | <i>vng539</i> | 0.075  | 1.189 | 0.36017  | -0.048 | 0.895 | 0.439217 | unknown                            |
| 540 | <i>imp</i>    | 0.177  | 1.502 | 0.157427 | -0.033 | 0.926 | 0.502917 | general function prediction only   |
| 541 | <i>thrC2</i>  | -0.001 | 0.997 | 0.606394 | -0.055 | 0.881 | 0.394245 | amino acid metabolism              |
| 542 | <i>vng542</i> | -0.041 | 0.911 | 0.457424 | -0.014 | 0.969 | 0.279867 | cofactor and secondary metabolites |
| 543 | <i>vng543</i> | -0.076 | 0.840 | 0.454057 | -0.085 | 0.822 | 0.518833 | unknown                            |
| 544 | <i>vng544</i> | -0.024 | 0.947 | 0.691544 | 0.003  | 1.007 | 0.484583 | unknown                            |
| 546 | <i>vng546</i> | -0.107 | 0.782 | 0.127827 | 0.080  | 1.202 | 0.175183 | unknown                            |
| 548 | <i>vng548</i> | -0.017 | 0.961 | 0.549501 | 0.013  | 1.031 | 0.7905   | translation                        |
| 549 | <i>elf2a</i>  | -0.045 | 0.902 | 0.489441 | 0.088  | 1.223 | 0.092025 | translation                        |
| 550 | <i>rps27e</i> | -0.063 | 0.866 | 0.537067 | 0.081  | 1.204 | 0.10535  | translation                        |
| 551 | <i>rpl44e</i> | -0.075 | 0.841 | 0.137356 | 0.026  | 1.061 | 0.63125  | translation                        |
| 553 | <i>vng553</i> | -0.090 | 0.813 | 0.206597 | -0.045 | 0.901 | 0.3945   | unknown                            |
| 555 | <i>vng555</i> | -0.071 | 0.848 | 0.340857 | 0.039  | 1.094 | 0.590667 | unknown                            |
| 556 | <i>sgb</i>    | 0.033  | 1.078 | 0.366605 | 0.015  | 1.034 | 0.676667 | general function prediction only   |
| 557 | <i>vng557</i> | -0.009 | 0.980 | 0.356378 | 0.029  | 1.070 | 0.59225  | unknown                            |
| 559 | <i>apt</i>    | 0.024  | 1.057 | 0.443812 | -0.038 | 0.917 | 0.4541   | nucleotide metabolism              |
| 560 | <i>vng560</i> | -0.026 | 0.941 | 0.744985 | 0.002  | 1.004 | 0.941833 | energy metabolism                  |
| 562 | <i>vng562</i> | 0.010  | 1.023 | 0.555804 | 0.026  | 1.062 | 0.660333 | energy metabolism                  |
| 563 | <i>ndhG2</i>  | -0.026 | 0.943 | 0.470904 | 0.020  | 1.047 | 0.667833 | energy metabolism                  |
| 564 | <i>vng565</i> | 0.028  | 1.066 | 0.537833 | -0.010 | 0.977 | 0.6295   | unknown                            |
| 565 | <i>vng564</i> | 0.008  | 1.018 | 0.210054 | -0.003 | 0.994 | 0.516    | unknown                            |
| 566 | <i>vng566</i> | -0.049 | 0.894 | 0.452059 | -0.001 | 0.998 | 0.64125  | unknown                            |

|     |               |        |       |          |        |       |          |                                    |
|-----|---------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 568 | <i>vng570</i> | 0.043  | 1.104 | 0.39948  | 0.014  | 1.032 | 0.8      | unknown                            |
| 570 | <i>vng568</i> | 0.117  | 1.310 | 0.0931   | -0.052 | 0.887 | 0.289    | unknown                            |
| 571 | <i>vng571</i> | 0.030  | 1.072 | 0.341458 | -0.014 | 0.967 | 0.618917 | unknown                            |
| 572 | <i>dfp</i>    | -0.067 | 0.857 | 0.440488 | 0.006  | 1.015 | 0.667    | cofactor and secondary metabolites |
| 573 | <i>hcpE</i>   | -0.008 | 0.981 | 0.340217 | -0.003 | 0.992 | 0.7475   | energy metabolism                  |
| 574 | <i>vng574</i> | 0.032  | 1.077 | 0.442131 | -0.025 | 0.945 | 0.63875  | unknown                            |
| 575 | <i>ywaD</i>   | -0.044 | 0.903 | 0.554021 | -0.033 | 0.926 | 0.608883 | amino acid metabolism              |
| 576 | <i>vng576</i> | 0.065  | 1.161 | 0.456273 | -0.054 | 0.884 | 0.382333 | carbohydrate and lipid metabolism  |
| 578 | <i>vng578</i> | 0.111  | 1.290 | 0.44419  | -0.082 | 0.827 | 0.15046  | unknown                            |
| 579 | <i>vng579</i> | -0.040 | 0.912 | 0.552485 | 0.012  | 1.028 | 0.581333 | unknown                            |
| 581 | <i>vng581</i> | 0.021  | 1.049 | 0.591083 | -0.007 | 0.984 | 0.7195   | unknown                            |
| 582 | <i>cybB1</i>  | 0.059  | 1.146 | 0.225487 | -0.014 | 0.969 | 0.675167 | energy metabolism                  |
| 583 | <i>cybB2</i>  | 0.029  | 1.068 | 0.486285 | -0.019 | 0.958 | 0.537067 | energy metabolism                  |
| 584 | <i>cybA</i>   | -0.089 | 0.814 | 0.129117 | 0.026  | 1.063 | 0.599625 | energy metabolism                  |
| 585 | <i>cybD</i>   | -0.058 | 0.875 | 0.379463 | 0.056  | 1.138 | 0.264667 | energy metabolism                  |
| 586 | <i>cybE</i>   | -0.077 | 0.838 | 0.212524 | 0.036  | 1.086 | 0.495417 | energy metabolism                  |
| 587 | <i>vng587</i> | -0.052 | 0.887 | 0.496892 | -0.007 | 0.983 | 0.35965  | unknown                            |
| 590 | <i>vng590</i> | 0.099  | 1.255 | 0.277559 | -0.046 | 0.899 | 0.576167 | unknown                            |
| 591 | <i>arlR6</i>  | 0.037  | 1.088 | 0.548129 | -0.004 | 0.991 | 0.458    | transcription and regulation       |
| 592 | <i>nthA2</i>  | -0.010 | 0.977 | 0.664499 | 0.013  | 1.030 | 0.6342   | DNA metabolism                     |
| 593 | <i>dmd</i>    | -0.005 | 0.989 | 0.512368 | -0.003 | 0.992 | 0.674667 | carbohydrate and lipid metabolism  |
| 594 | <i>vng594</i> | -0.058 | 0.875 | 0.266383 | -0.004 | 0.992 | 0.804    | unknown                            |
| 595 | <i>vng595</i> | 0.096  | 1.247 | 0.354933 | -0.038 | 0.916 | 0.652333 | amino acid metabolism              |
| 597 | <i>vng597</i> | 0.035  | 1.085 | 0.617992 | -0.047 | 0.897 | 0.386    | unknown                            |
| 598 | <i>vng598</i> | 0.013  | 1.032 | 0.519409 | 0.027  | 1.064 | 0.707417 | unknown                            |
| 599 | <i>vng600</i> | 0.076  | 1.193 | 0.21008  | -0.070 | 0.851 | 0.2622   | translation                        |
| 600 | <i>str</i>    | 0.026  | 1.062 | 0.472171 | 0.068  | 1.170 | 0.33665  | general function prediction only   |
| 601 | <i>vng601</i> | -0.207 | 0.621 | 0.024266 | 0.036  | 1.087 | 0.482    | translation                        |
| 602 | <i>vng602</i> | 0.073  | 1.182 | 0.548005 | 0.043  | 1.105 | 0.599625 | cellular process                   |
| 604 | <i>vng604</i> | 0.102  | 1.265 | 0.136631 | -0.149 | 0.709 | 0.011199 | unknown                            |
| 606 | <i>yrhA</i>   | 0.113  | 1.297 | 0.286319 | -0.045 | 0.901 | 0.379667 | amino acid metabolism              |
| 608 | <i>vng608</i> | -0.022 | 0.951 | 0.608573 | 0.051  | 1.124 | 0.462625 | unknown                            |
| 609 | <i>vng609</i> | -0.131 | 0.739 | 0.129568 | 0.096  | 1.246 | 0.113307 | unknown                            |
| 610 | <i>hhoA</i>   | -0.005 | 0.988 | 0.560297 | 0.029  | 1.070 | 0.503667 | cofactor and secondary metabolites |
| 611 | <i>vng611</i> | -0.133 | 0.736 | 0.063719 | 0.041  | 1.100 | 0.532467 | unknown                            |
| 612 | <i>vng612</i> | -0.095 | 0.804 | 0.299925 | 0.042  | 1.100 | 0.602875 | unknown                            |
| 613 | <i>vng613</i> | -0.033 | 0.927 | 0.464975 | 0.004  | 1.009 | 0.36475  | unknown                            |
| 614 | <i>htr16</i>  | -0.022 | 0.951 | 0.641788 | -0.029 | 0.935 | 0.691    | cellular process                   |
| 615 | <i>trkA7</i>  | -0.022 | 0.950 | 0.660868 | -0.003 | 0.994 | 0.87725  | transport                          |
| 617 | <i>vng617</i> | -0.048 | 0.895 | 0.561773 | -0.046 | 0.899 | 0.4296   | unknown                            |
| 620 | <i>edp</i>    | 0.096  | 1.248 | 0.218498 | -0.032 | 0.929 | 0.574    | cellular process                   |
| 622 | <i>vng622</i> | 0.012  | 1.028 | 0.582856 | 0.001  | 1.003 | 0.647333 | unknown                            |
| 623 | <i>yngE</i>   | 0.051  | 1.124 | 0.478868 | 0.015  | 1.036 | 0.674833 | carbohydrate and lipid metabolism  |
| 624 | <i>vng624</i> | -0.024 | 0.946 | 0.377876 | 0.031  | 1.074 | 0.61875  | unknown                            |
| 626 | <i>maoC2</i>  | 0.108  | 1.284 | 0.303125 | -0.029 | 0.935 | 0.693417 | carbohydrate and lipid metabolism  |
| 627 | <i>citE</i>   | -0.077 | 0.837 | 0.657542 | 0.033  | 1.078 | 0.6715   | energy metabolism                  |
| 628 | <i>gdhA1</i>  | 0.222  | 1.668 | 0.212167 | -0.023 | 0.948 | 0.449    | amino acid metabolism              |
| 629 | <i>aspB2</i>  | -0.042 | 0.909 | 0.499587 | -0.034 | 0.924 | 0.5592   | amino acid metabolism              |
| 630 | <i>ribE</i>   | -0.039 | 0.913 | 0.44244  | 0.036  | 1.086 | 0.537    | cofactor and secondary metabolites |
| 631 | <i>vng631</i> | -0.070 | 0.852 | 0.272573 | -0.031 | 0.931 | 0.591167 | cellular process                   |
| 632 | <i>purK</i>   | -0.029 | 0.935 | 0.283154 | 0.022  | 1.052 | 0.604133 | nucleotide metabolism              |

|     |                 |        |       |          |        |       |          |                                    |
|-----|-----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 633 | <i>purE</i>     | 0.078  | 1.197 | 0.2524   | 0.031  | 1.075 | 0.5928   | nucleotide metabolism              |
| 635 | <i>nolB</i>     | -0.079 | 0.834 | 0.278209 | -0.005 | 0.988 | 0.757333 | energy metabolism                  |
| 636 | <i>ndhG1</i>    | -0.119 | 0.761 | 0.099946 | 0.009  | 1.021 | 0.846833 | energy metabolism                  |
| 637 | <i>ndhG5</i>    | -0.100 | 0.793 | 0.237864 | 0.010  | 1.023 | 0.430433 | energy metabolism                  |
| 639 | <i>ndhG4</i>    | 0.005  | 1.011 | 0.389529 | 0.014  | 1.032 | 0.621167 | energy metabolism                  |
| 640 | <i>nolD</i>     | -0.105 | 0.786 | 0.185639 | 0.021  | 1.048 | 0.661667 | energy metabolism                  |
| 641 | <i>vng641</i>   | 0.072  | 1.180 | 0.299618 | -0.002 | 0.995 | 0.891667 | energy metabolism                  |
| 642 | <i>vng642</i>   | 0.036  | 1.086 | 0.505511 | -0.017 | 0.961 | 0.7265   | energy metabolism                  |
| 643 | <i>nolC</i>     | 0.003  | 1.007 | 0.575539 | 0.018  | 1.042 | 0.67     | energy metabolism                  |
| 646 | <i>nuoL</i>     | -0.014 | 0.967 | 0.253379 | 0.052  | 1.127 | 0.3155   | energy metabolism                  |
| 647 | <i>nuoM</i>     | 0.019  | 1.046 | 0.200753 | 0.052  | 1.127 | 0.323883 | energy metabolism                  |
| 648 | <i>ndhG3</i>    | 0.040  | 1.096 | 0.417393 | -0.026 | 0.943 | 0.480333 | energy metabolism                  |
| 650 | <i>vng650</i>   | 0.004  | 1.010 | 0.602308 | -0.003 | 0.992 | 0.828333 | unknown                            |
| 651 | <i>imd1</i>     | 0.029  | 1.069 | 0.43492  | 0.000  | 1.000 | 0.650667 | transcription and regulation       |
| 652 | <i>vng652</i>   | 0.038  | 1.092 | 0.175695 | 0.022  | 1.053 | 0.43275  | unknown                            |
| 653 | <i>mcmA1</i>    | 0.133  | 1.359 | 0.089582 | -0.009 | 0.980 | 0.570583 | carbohydrate and lipid metabolism  |
| 654 | <i>act3</i>     | -0.050 | 0.892 | 0.350046 | 0.042  | 1.102 | 0.514867 | transcription and regulation       |
| 656 | <i>vng656</i>   | -0.047 | 0.898 | 0.350533 | -0.014 | 0.968 | 0.5825   | unknown                            |
| 657 | <i>coxA</i>     | -0.053 | 0.885 | 0.178845 | 0.002  | 1.004 | 0.371017 | energy metabolism                  |
| 659 | <i>vng659</i>   | -0.043 | 0.905 | 0.681927 | -0.071 | 0.850 | 0.1555   | unknown                            |
| 660 | <i>vng660</i>   | 0.013  | 1.030 | 0.504271 | -0.038 | 0.917 | 0.49     | unknown                            |
| 662 | <i>coxC</i>     | 0.125  | 1.332 | 0.330643 | -0.053 | 0.885 | 0.375333 | energy metabolism                  |
| 664 | <i>birA</i>     | -0.058 | 0.875 | 0.578022 | 0.009  | 1.021 | 0.749917 | cofactor and secondary metabolites |
| 665 | <i>coxB</i>     | 0.053  | 1.129 | 0.306202 | -0.074 | 0.844 | 0.1797   | energy metabolism                  |
| 666 | <i>ctaB</i>     | -0.005 | 0.989 | 0.644785 | 0.018  | 1.043 | 0.664833 | cofactor and secondary metabolites |
| 667 | <i>trp4</i>     | -0.014 | 0.969 | 0.543478 | 0.026  | 1.060 | 0.671333 | transport                          |
| 668 | <i>vng668</i>   | 0.054  | 1.131 | 0.381902 | -0.025 | 0.944 | 0.738333 | cellular process                   |
| 669 | <i>vng669</i>   | 0.139  | 1.376 | 0.268165 | -0.028 | 0.937 | 0.730667 | cellular process                   |
| 670 | <i>vng670</i>   | -0.006 | 0.987 | 0.446081 | -0.014 | 0.967 | 0.759292 | unknown                            |
| 671 | <i>vng671</i>   | 0.092  | 1.236 | 0.259417 | -0.030 | 0.934 | 0.558    | unknown                            |
| 673 | <i>mcmA3</i>    | 0.021  | 1.049 | 0.444664 | -0.031 | 0.932 | 0.641625 | carbohydrate and lipid metabolism  |
| 674 | <i>tsk</i>      | 0.117  | 1.309 | 0.264866 | -0.006 | 0.987 | 0.821375 | amino acid metabolism              |
| 675 | <i>vng675</i>   | 0.119  | 1.317 | 0.134657 | -0.032 | 0.930 | 0.55725  | unknown                            |
| 676 | <i>nbp2</i>     | 0.084  | 1.213 | 0.408295 | -0.006 | 0.987 | 0.3125   | transcription and regulation       |
| 677 | <i>Vng0677h</i> | -0.003 | 0.992 | 0.44238  | -0.002 | 0.995 | 0.728    | unknown                            |
| 678 | <i>acaB1</i>    | 0.030  | 1.072 | 0.427171 | 0.036  | 1.088 | 0.52725  | carbohydrate and lipid metabolism  |
| 679 | <i>acd4</i>     | 0.296  | 1.979 | 0.008147 | -0.025 | 0.944 | 0.53925  | carbohydrate and lipid metabolism  |
| 680 | <i>fdFT</i>     | 0.051  | 1.125 | 0.219759 | -0.074 | 0.843 | 0.224033 | carbohydrate and lipid metabolism  |
| 681 | <i>hbd1</i>     | 0.040  | 1.096 | 0.401768 | -0.063 | 0.866 | 0.327925 | carbohydrate and lipid metabolism  |
| 682 | <i>vng682</i>   | -0.037 | 0.919 | 0.380406 | 0.041  | 1.100 | 0.518167 | unknown                            |
| 683 | <i>vng683</i>   | 0.155  | 1.427 | 0.174676 | -0.057 | 0.876 | 0.252667 | carbohydrate and lipid metabolism  |
| 684 | <i>fbp</i>      | 0.150  | 1.413 | 0.002952 | 0.006  | 1.015 | 0.877    | carbohydrate and lipid metabolism  |
| 686 | <i>vng686</i>   | 0.021  | 1.050 | 0.490526 | -0.014 | 0.969 | 0.6965   | unknown                            |
| 688 | <i>vng688</i>   | -0.007 | 0.983 | 0.733566 | -0.030 | 0.932 | 0.838125 | unknown                            |
| 689 | <i>trp5</i>     | 0.041  | 1.099 | 0.550906 | -0.136 | 0.732 | 0.108028 | transport                          |
| 690 | <i>vng690</i>   | 0.070  | 1.174 | 0.334592 | 0.033  | 1.079 | 0.53625  | transport                          |
| 692 | <i>vng692</i>   | -0.145 | 0.716 | 0.26897  | 0.007  | 1.017 | 0.69175  | transport                          |
| 694 | <i>nthB</i>     | 0.006  | 1.013 | 0.17786  | 0.026  | 1.062 | 0.59775  | DNA metabolism                     |
| 697 | <i>vng697</i>   | 0.023  | 1.055 | 0.649551 | -0.016 | 0.963 | 0.75475  | unknown                            |
| 698 | <i>vng698</i>   | 0.031  | 1.073 | 0.618764 | -0.017 | 0.962 | 0.66675  | unknown                            |
| 700 | <i>yvgX</i>     | -0.067 | 0.858 | 0.280395 | 0.028  | 1.067 | 0.817667 | transport                          |

|     |               |        |       |          |        |       |          |                                    |
|-----|---------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 702 | <i>vng702</i> | 0.240  | 1.737 | 4.45E-06 | -0.054 | 0.883 | 0.2775   | unknown                            |
| 703 | <i>arlR7</i>  | -0.060 | 0.870 | 0.395812 | -0.028 | 0.937 | 0.46225  | transcription and regulation       |
| 704 | <i>marR</i>   | 0.063  | 1.157 | 0.543245 | -0.047 | 0.897 | 0.615417 | transcription and regulation       |
| 705 | <i>vng705</i> | 0.071  | 1.178 | 0.251751 | 0.026  | 1.061 | 0.681667 | unknown                            |
| 707 | <i>vng707</i> | 0.015  | 1.035 | 0.726168 | -0.034 | 0.926 | 0.550917 | DNA metabolism                     |
| 708 | <i>vng708</i> | 0.045  | 1.109 | 0.372804 | 0.063  | 1.155 | 0.31115  | unknown                            |
| 709 | <i>vng709</i> | 0.156  | 1.432 | 0.0835   | -0.026 | 0.941 | 0.552917 | unknown                            |
| 711 | <i>vng711</i> | 0.242  | 1.746 | 8.53E-05 | -0.018 | 0.958 | 0.728    | cellular process                   |
| 713 | <i>vng713</i> | 0.023  | 1.054 | 0.645286 | 0.017  | 1.040 | 0.4975   | unknown                            |
| 715 | <i>thiC</i>   | -0.020 | 0.955 | 0.201141 | 0.139  | 1.377 | 0.21353  | cofactor and secondary metabolites |
| 716 | <i>afsQ2</i>  | 0.000  | 1.001 | 0.387037 | 0.025  | 1.059 | 0.571525 | cellular process                   |
| 717 | <i>vng717</i> | 0.162  | 1.451 | 0.00477  | 0.002  | 1.004 | 0.73125  | unknown                            |
| 718 | <i>vng718</i> | 0.012  | 1.028 | 0.583029 | -0.002 | 0.995 | 0.62875  | unknown                            |
| 719 | <i>araL</i>   | 0.007  | 1.015 | 0.398167 | -0.024 | 0.946 | 0.366567 | carbohydrate and lipid metabolism  |
| 720 | <i>dip2</i>   | 0.046  | 1.111 | 0.454673 | -0.021 | 0.952 | 0.810417 | DNA metabolism                     |
| 723 | <i>pepQ1</i>  | 0.034  | 1.082 | 0.423297 | 0.008  | 1.018 | 0.816167 | amino acid metabolism              |
| 724 | <i>vng724</i> | -0.201 | 0.629 | 0.123871 | 0.043  | 1.105 | 0.45775  | unknown                            |
| 725 | <i>vng725</i> | 0.022  | 1.052 | 0.178341 | -0.009 | 0.978 | 0.576583 | unknown                            |
| 726 | <i>acrR2</i>  | -0.015 | 0.967 | 0.304513 | -0.037 | 0.917 | 0.52075  | transcription and regulation       |
| 727 | <i>vng727</i> | 0.139  | 1.376 | 0.122478 | -0.082 | 0.828 | 0.132933 | cellular process                   |
| 729 | <i>vng729</i> | 0.077  | 1.195 | 0.402676 | -0.035 | 0.922 | 0.167683 | unknown                            |
| 730 | <i>vng730</i> | -0.079 | 0.833 | 0.469092 | -0.012 | 0.972 | 0.654458 | cofactor and secondary metabolites |
| 731 | <i>vng731</i> | -0.013 | 0.971 | 0.178394 | -0.014 | 0.968 | 0.7005   | unknown                            |
| 732 | <i>tpc</i>    | 0.009  | 1.021 | 0.394393 | 0.022  | 1.052 | 0.695667 | translation                        |
| 733 | <i>vng733</i> | -0.032 | 0.928 | 0.507604 | -0.018 | 0.958 | 0.680667 | unknown                            |
| 734 | <i>tfbB</i>   | 0.011  | 1.026 | 0.22611  | 0.072  | 1.179 | 0.389997 | transcription and regulation       |
| 735 | <i>hlx2</i>   | 0.086  | 1.220 | 0.253248 | -0.084 | 0.825 | 0.122588 | transcription and regulation       |
| 736 | <i>kinA2</i>  | -0.061 | 0.868 | 0.569208 | -0.136 | 0.731 | 0.023839 | cellular process                   |
| 737 | <i>vng738</i> | -0.033 | 0.927 | 0.393548 | 0.007  | 1.016 | 0.873    | unknown                            |
| 738 | <i>vng737</i> | -0.070 | 0.852 | 0.516854 | 0.012  | 1.028 | 0.726    | unknown                            |
| 740 | <i>vng740</i> | 0.034  | 1.081 | 0.554923 | -0.014 | 0.967 | 0.706917 | unknown                            |
| 741 | <i>vng741</i> | 0.080  | 1.203 | 0.155794 | 0.077  | 1.195 | 0.1394   | unknown                            |
| 742 | <i>vng742</i> | -0.049 | 0.893 | 0.208323 | -0.033 | 0.927 | 0.598083 | cellular process                   |
| 743 | <i>vng743</i> | 0.132  | 1.355 | 0.155256 | -0.133 | 0.736 | 0.0343   | cellular process                   |
| 745 | <i>spoVR</i>  | -0.020 | 0.954 | 0.496586 | 0.008  | 1.018 | 0.448617 | cellular process                   |
| 746 | <i>vng746</i> | -0.040 | 0.912 | 0.613304 | 0.037  | 1.089 | 0.597833 | unknown                            |
| 748 | <i>prkA</i>   | -0.065 | 0.862 | 0.462524 | 0.058  | 1.142 | 0.551083 | cellular process                   |
| 749 | <i>prk</i>    | 0.016  | 1.038 | 0.33866  | 0.041  | 1.099 | 0.556167 | cellular process                   |
| 750 | <i>gdp</i>    | 0.164  | 1.458 | 0.292417 | -0.073 | 0.844 | 0.361975 | cellular process                   |
| 751 | <i>prlR2</i>  | -0.021 | 0.953 | 0.239206 | -0.050 | 0.892 | 0.34665  | transcription and regulation       |
| 752 | <i>galE1</i>  | -0.008 | 0.981 | 0.274297 | 0.025  | 1.059 | 0.373183 | nucleotide metabolism              |
| 753 | <i>ylnA</i>   | -0.053 | 0.886 | 0.652972 | 0.011  | 1.026 | 0.4657   | transport                          |
| 754 | <i>vng754</i> | -0.057 | 0.877 | 0.194771 | -0.004 | 0.990 | 0.854    | unknown                            |
| 755 | <i>vng755</i> | 0.055  | 1.134 | 0.288634 | 0.016  | 1.037 | 0.6225   | unknown                            |
| 757 | <i>tfeA</i>   | 0.063  | 1.157 | 0.338689 | 0.007  | 1.017 | 0.763    | transcription and regulation       |
| 758 | <i>vng758</i> | -0.072 | 0.847 | 0.370816 | 0.057  | 1.140 | 0.3005   | unknown                            |
| 759 | <i>vng759</i> | 0.078  | 1.196 | 0.302758 | -0.024 | 0.947 | 0.545417 | unknown                            |
| 761 | <i>dip3</i>   | -0.006 | 0.987 | 0.357181 | -0.045 | 0.902 | 0.508293 | general function prediction only   |
| 762 | <i>vng762</i> | 0.092  | 1.236 | 0.181836 | -0.104 | 0.787 | 0.0648   | unknown                            |
| 763 | <i>ybjG</i>   | -0.009 | 0.980 | 0.670123 | 0.024  | 1.057 | 0.426617 | general function prediction only   |
| 764 | <i>vng764</i> | -0.003 | 0.994 | 0.489762 | -0.010 | 0.976 | 0.81925  | unknown                            |

|     |               |        |       |          |        |       |          |                                    |
|-----|---------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 765 | <i>vng765</i> | -0.122 | 0.755 | 0.214194 | -0.129 | 0.742 | 0.015958 | unknown                            |
| 766 | <i>prp2</i>   | 0.039  | 1.094 | 0.637986 | -0.043 | 0.905 | 0.568833 | transcription and regulation       |
| 767 | <i>vng767</i> | 0.054  | 1.134 | 0.530118 | -0.052 | 0.888 | 0.3165   | unknown                            |
| 768 | <i>vng768</i> | 0.008  | 1.018 | 0.672453 | -0.038 | 0.916 | 0.532125 | transcription and regulation       |
| 769 | <i>vng769</i> | -0.198 | 0.634 | 0.231079 | 0.018  | 1.043 | 0.202038 | unknown                            |
| 771 | <i>aldY2</i>  | 0.224  | 1.676 | 0.010862 | 0.021  | 1.049 | 0.605583 | cofactor and secondary metabolites |
| 772 | <i>vng772</i> | -0.060 | 0.872 | 0.697918 | 0.025  | 1.059 | 0.77175  | unknown                            |
| 775 | <i>acd2</i>   | 0.030  | 1.073 | 0.370766 | -0.001 | 0.997 | 0.823583 | carbohydrate and lipid metabolism  |
| 777 | <i>taqD</i>   | 0.022  | 1.051 | 0.646261 | -0.042 | 0.907 | 0.4035   | nucleotide metabolism              |
| 778 | <i>vng778</i> | -0.001 | 0.998 | 0.829305 | -0.074 | 0.844 | 0.221463 | unknown                            |
| 779 | <i>vng779</i> | -0.100 | 0.794 | 0.120347 | -0.039 | 0.914 | 0.51375  | DNA metabolism                     |
| 780 | <i>vng780</i> | -0.020 | 0.956 | 0.696668 | -0.022 | 0.951 | 0.68425  | unknown                            |
| 782 | <i>vng782</i> | -0.020 | 0.956 | 0.677642 | -0.005 | 0.989 | 0.709667 | unknown                            |
| 784 | <i>pssA</i>   | -0.006 | 0.986 | 0.323705 | 0.012  | 1.027 | 0.423    | carbohydrate and lipid metabolism  |
| 786 | <i>hcpF</i>   | -0.044 | 0.903 | 0.432997 | -0.006 | 0.986 | 0.745417 | energy metabolism                  |
| 787 | <i>rps3e</i>  | -0.075 | 0.841 | 0.164931 | 0.006  | 1.013 | 0.572892 | translation                        |
| 788 | <i>vng788</i> | -0.086 | 0.821 | 0.479316 | 0.070  | 1.174 | 0.1739   | unknown                            |
| 789 | <i>vng789</i> | -0.225 | 0.595 | 0.036856 | 0.032  | 1.076 | 0.557083 | unknown                            |
| 790 | <i>rps15p</i> | -0.070 | 0.851 | 0.450988 | 0.039  | 1.094 | 0.443    | translation                        |
| 793 | <i>htr6</i>   | -0.031 | 0.931 | 0.635321 | -0.025 | 0.945 | 0.684083 | cellular process                   |
| 794 | <i>yufN</i>   | 0.030  | 1.072 | 0.512484 | -0.036 | 0.921 | 0.53     | transport                          |
| 795 | <i>hcpC</i>   | -0.021 | 0.952 | 0.192274 | -0.050 | 0.891 | 0.283334 | energy metabolism                  |
| 798 | <i>vng798</i> | -0.032 | 0.929 | 0.385428 | 0.000  | 1.000 | 0.711083 | unknown                            |
| 799 | <i>vng799</i> | 0.014  | 1.032 | 0.230035 | -0.048 | 0.895 | 0.509588 | cellular process                   |
| 800 | <i>vng800</i> | 0.001  | 1.002 | 0.386756 | -0.005 | 0.989 | 0.481917 | cellular process                   |
| 801 | <i>vng801</i> | 0.062  | 1.153 | 0.328484 | -0.098 | 0.798 | 0.0547   | cellular process                   |
| 804 | <i>vng804</i> | 0.007  | 1.016 | 0.410894 | -0.047 | 0.898 | 0.546167 | unknown                            |
| 806 | <i>htr4</i>   | 0.013  | 1.030 | 0.348368 | 0.010  | 1.024 | 0.62375  | cellular process                   |
| 808 | <i>gabD</i>   | 0.014  | 1.034 | 0.343736 | 0.003  | 1.006 | 0.825    | amino acid metabolism              |
| 810 | <i>vng810</i> | -0.007 | 0.985 | 0.532548 | 0.000  | 0.999 | 0.684833 | unknown                            |
| 811 | <i>vng811</i> | 0.095  | 1.244 | 0.320443 | 0.026  | 1.062 | 0.638375 | unknown                            |
| 812 | <i>htr18</i>  | -0.053 | 0.884 | 0.367674 | -0.005 | 0.989 | 0.55975  | cellular process                   |
| 813 | <i>potD</i>   | -0.071 | 0.849 | 0.519118 | 0.022  | 1.052 | 0.63275  | transport                          |
| 814 | <i>vng814</i> | -0.010 | 0.978 | 0.349053 | -0.072 | 0.847 | 0.494674 | unknown                            |
| 815 | <i>yfmJ</i>   | 0.059  | 1.147 | 0.362008 | -0.013 | 0.970 | 0.655    | general function prediction only   |
| 816 | <i>chi</i>    | 0.018  | 1.043 | 0.123618 | -0.050 | 0.892 | 0.432597 | carbohydrate and lipid metabolism  |
| 818 | <i>vng818</i> | -0.064 | 0.862 | 0.510174 | 0.009  | 1.021 | 0.510417 | unknown                            |
| 819 | <i>vng819</i> | 0.048  | 1.117 | 0.663665 | 0.001  | 1.001 | 0.6985   | unknown                            |
| 821 | <i>vng821</i> | -0.017 | 0.961 | 0.618133 | 0.043  | 1.105 | 0.491325 | cofactor and secondary metabolites |
| 822 | <i>vng822</i> | -0.163 | 0.688 | 0.221229 | 0.037  | 1.089 | 0.463833 | cellular process                   |
| 823 | <i>gspE2</i>  | -0.105 | 0.785 | 0.103595 | 0.017  | 1.041 | 0.793917 | cellular process                   |
| 824 | <i>gdb</i>    | -0.083 | 0.825 | 0.509461 | -0.043 | 0.906 | 0.6615   | cofactor and secondary metabolites |
| 825 | <i>mobB</i>   | 0.032  | 1.076 | 0.353873 | 0.000  | 0.999 | 0.649375 | cofactor and secondary metabolites |
| 826 | <i>dmsR</i>   | 0.025  | 1.060 | 0.473831 | -0.067 | 0.857 | 0.5225   | transcription and regulation       |
| 828 | <i>dmsE</i>   | -0.047 | 0.898 | 0.32189  | -0.137 | 0.729 | 0.4065   | energy metabolism                  |
| 829 | <i>dmsA</i>   | -0.009 | 0.978 | 0.324467 | -0.027 | 0.939 | 0.512212 | energy metabolism                  |
| 830 | <i>dmsB</i>   | 0.041  | 1.099 | 0.481828 | 0.008  | 1.018 | 0.795    | energy metabolism                  |
| 831 | <i>dmsC</i>   | 0.045  | 1.108 | 0.657679 | 0.026  | 1.063 | 0.658042 | energy metabolism                  |
| 832 | <i>dmsD</i>   | 0.025  | 1.060 | 0.53112  | -0.043 | 0.906 | 0.4727   | energy metabolism                  |
| 834 | <i>vng834</i> | -0.010 | 0.977 | 0.442555 | 0.004  | 1.010 | 0.781333 | unknown                            |

|     |               |        |       |          |        |       |          |                                    |
|-----|---------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 835 | <i>idr2</i>   | -0.118 | 0.761 | 0.162074 | -0.003 | 0.993 | 0.77175  | transcription and regulation       |
| 836 | <i>vng836</i> | 0.024  | 1.057 | 0.406367 | 0.021  | 1.050 | 0.579667 | unknown                            |
| 837 | <i>vng837</i> | 0.046  | 1.111 | 0.416966 | 0.075  | 1.188 | 0.172567 | transcription and regulation       |
| 838 | <i>ssrA</i>   | -0.071 | 0.849 | 0.548462 | 0.028  | 1.067 | 0.695833 | DNA metabolism                     |
| 840 | <i>vng840</i> | -0.058 | 0.874 | 0.29178  | 0.007  | 1.017 | 0.835    | unknown                            |
| 841 | <i>icfA</i>   | 0.001  | 1.002 | 0.730065 | -0.052 | 0.887 | 0.583167 | cellular process                   |
| 845 | <i>vng845</i> | 0.028  | 1.067 | 0.348646 | -0.080 | 0.833 | 0.360733 | cofactor and secondary metabolites |
| 846 | <i>vng846</i> | -0.056 | 0.878 | 0.48813  | 0.029  | 1.069 | 0.633083 | unknown                            |
| 847 | <i>vng847</i> | -0.103 | 0.789 | 0.212003 | -0.051 | 0.889 | 0.396475 | unknown                            |
| 849 | <i>vng849</i> | 0.105  | 1.273 | 0.33967  | -0.033 | 0.927 | 0.5375   | unknown                            |
| 851 | <i>vng851</i> | -0.040 | 0.912 | 0.566698 | -0.124 | 0.752 | 0.045673 | unknown                            |
| 852 | <i>bolR3</i>  | -0.002 | 0.996 | 0.679231 | -0.009 | 0.980 | 0.797667 | transcription and regulation       |
| 853 | <i>vng853</i> | 0.112  | 1.295 | 0.086699 | -0.079 | 0.835 | 0.1304   | unknown                            |
| 854 | <i>vng854</i> | 0.051  | 1.125 | 0.518284 | -0.075 | 0.841 | 0.2015   | translation                        |
| 857 | <i>vng857</i> | 0.064  | 1.158 | 0.191784 | 0.037  | 1.089 | 0.52575  | translation                        |
| 858 | <i>vng858</i> | -0.031 | 0.930 | 0.620378 | -0.001 | 0.997 | 0.22051  | unknown                            |
| 860 | <i>rpoL</i>   | 0.022  | 1.052 | 0.573552 | -0.027 | 0.940 | 0.5825   | transcription and regulation       |
| 861 | <i>vng861</i> | -0.033 | 0.926 | 0.392668 | 0.063  | 1.157 | 0.256    | unknown                            |
| 862 | <i>hisF</i>   | -0.042 | 0.908 | 0.708508 | -0.016 | 0.963 | 0.809625 | amino acid metabolism              |
| 863 | <i>vng863</i> | -0.042 | 0.908 | 0.494235 | -0.023 | 0.949 | 0.66325  | unknown                            |
| 864 | <i>purL1</i>  | -0.032 | 0.930 | 0.660088 | 0.052  | 1.127 | 0.413117 | nucleotide metabolism              |
| 865 | <i>vng865</i> | 0.051  | 1.125 | 0.268493 | -0.009 | 0.981 | 0.565833 | unknown                            |
| 867 | <i>asnA</i>   | -0.071 | 0.848 | 0.313126 | 0.007  | 1.015 | 0.800167 | amino acid metabolism              |
| 868 | <i>vng868</i> | -0.039 | 0.915 | 0.336631 | -0.022 | 0.951 | 0.683333 | DNA metabolism                     |
| 869 | <i>tfbD</i>   | 0.004  | 1.008 | 0.496811 | -0.005 | 0.988 | 0.7085   | transcription and regulation       |
| 870 | <i>gatC</i>   | 0.015  | 1.036 | 0.62291  | -0.031 | 0.931 | 0.4895   | translation                        |
| 872 | <i>gatA</i>   | 0.011  | 1.026 | 0.374214 | -0.020 | 0.956 | 0.695    | translation                        |
| 873 | <i>ykhA</i>   | 0.106  | 1.275 | 0.386193 | -0.050 | 0.891 | 0.58875  | carbohydrate and lipid metabolism  |
| 874 | <i>traB</i>   | 0.019  | 1.046 | 0.363798 | -0.003 | 0.993 | 0.67675  | cellular process                   |
| 875 | <i>vng875</i> | -0.023 | 0.947 | 0.575988 | -0.009 | 0.979 | 0.569417 | cellular process                   |
| 876 | <i>purM</i>   | 0.016  | 1.037 | 0.859986 | 0.121  | 1.321 | 0.053425 | nucleotide metabolism              |
| 878 | <i>gul1</i>   | 0.206  | 1.606 | 0.013778 | -0.017 | 0.962 | 0.6365   | transcription and regulation       |
| 879 | <i>vng879</i> | -0.033 | 0.927 | 0.532298 | -0.033 | 0.927 | 0.5225   | unknown                            |
| 880 | <i>psmA</i>   | 0.042  | 1.101 | 0.337975 | -0.004 | 0.990 | 0.690917 | cellular process                   |
| 881 | <i>lig</i>    | -0.088 | 0.816 | 0.31356  | -0.028 | 0.937 | 0.553275 | DNA metabolism                     |
| 882 | <i>pho2</i>   | -0.043 | 0.906 | 0.198569 | 0.007  | 1.015 | 0.75425  | carbohydrate and lipid metabolism  |
| 883 | <i>vng883</i> | 0.002  | 1.004 | 0.52167  | -0.010 | 0.977 | 0.626    | unknown                            |
| 884 | <i>top6A</i>  | -0.036 | 0.921 | 0.510293 | -0.054 | 0.882 | 0.395325 | DNA metabolism                     |
| 885 | <i>top6B</i>  | -0.052 | 0.888 | 0.423964 | -0.029 | 0.936 | 0.594    | DNA metabolism                     |
| 887 | <i>gyrB</i>   | -0.114 | 0.770 | 0.146203 | 0.017  | 1.039 | 0.540417 | DNA metabolism                     |
| 889 | <i>gyrA</i>   | -0.118 | 0.763 | 0.405683 | 0.023  | 1.054 | 0.59425  | DNA metabolism                     |
| 890 | <i>imd2</i>   | 0.012  | 1.028 | 0.500132 | -0.009 | 0.980 | 0.807917 | transcription and regulation       |
| 891 | <i>yjlD</i>   | 0.038  | 1.092 | 0.455105 | 0.030  | 1.072 | 0.659067 | general function prediction only   |
| 892 | <i>vng892</i> | 0.090  | 1.231 | 0.258028 | -0.006 | 0.987 | 0.703875 | unknown                            |
| 893 | <i>udp2</i>   | 0.102  | 1.264 | 0.284005 | -0.051 | 0.890 | 0.438242 | nucleotide metabolism              |
| 896 | <i>cda</i>    | -0.015 | 0.966 | 0.764715 | -0.020 | 0.955 | 0.704    | nucleotide metabolism              |
| 897 | <i>rbsC1</i>  | -0.016 | 0.963 | 0.316193 | 0.018  | 1.043 | 0.597417 | transport                          |
| 898 | <i>rbsC2</i>  | 0.014  | 1.032 | 0.462766 | 0.050  | 1.121 | 0.376333 | transport                          |
| 901 | <i>rbsA</i>   | -0.085 | 0.823 | 0.221997 | -0.002 | 0.996 | 0.6425   | transport                          |
| 903 | <i>vng903</i> | -0.053 | 0.885 | 0.40185  | 0.031  | 1.075 | 0.57025  | unknown                            |
| 905 | <i>pmu2</i>   | -0.044 | 0.904 | 0.579744 | 0.014  | 1.033 | 0.588167 | carbohydrate and lipid metabolism  |

|     |               |        |       |          |        |       |          |                                   |
|-----|---------------|--------|-------|----------|--------|-------|----------|-----------------------------------|
| 906 | <i>vng906</i> | -0.044 | 0.905 | 0.401614 | 0.035  | 1.084 | 0.508933 | unknown                           |
| 907 | <i>vng907</i> | -0.003 | 0.994 | 0.637359 | 0.040  | 1.098 | 0.444    | unknown                           |
| 908 | <i>putP</i>   | -0.060 | 0.871 | 0.364541 | 0.041  | 1.100 | 0.514833 | transport                         |
| 909 | <i>vng909</i> | -0.027 | 0.940 | 0.391095 | -0.031 | 0.932 | 0.63     | unknown                           |
| 911 | <i>vng911</i> | -0.040 | 0.911 | 0.479268 | -0.022 | 0.951 | 0.640317 | unknown                           |
| 913 | <i>vng913</i> | -0.006 | 0.987 | 0.81696  | -0.023 | 0.948 | 0.616833 | unknown                           |
| 914 | <i>vng914</i> | -0.005 | 0.989 | 0.702931 | -0.012 | 0.973 | 0.77125  | unknown                           |
| 915 | <i>hakA</i>   | -0.003 | 0.994 | 0.84594  | -0.005 | 0.990 | 0.4985   | amino acid metabolism             |
| 916 | <i>ark</i>    | -0.028 | 0.937 | 0.17242  | 0.005  | 1.011 | 0.644583 | cellular process                  |
| 917 | <i>hrg</i>    | -0.051 | 0.889 | 0.440022 | -0.056 | 0.878 | 0.502378 | transcription and regulation      |
| 919 | <i>gst</i>    | 0.008  | 1.019 | 0.41126  | -0.131 | 0.740 | 0.020481 | DNA metabolism                    |
| 920 | <i>vng920</i> | -0.064 | 0.862 | 0.407646 | 0.025  | 1.060 | 0.625367 | carbohydrate and lipid metabolism |
| 921 | <i>potA1</i>  | -0.154 | 0.702 | 0.306684 | 0.027  | 1.063 | 0.554417 | unknown                           |
| 923 | <i>sfuB</i>   | -0.242 | 0.573 | 0.13551  | -0.020 | 0.955 | 0.728333 | transport                         |
| 924 | <i>ibp</i>    | -0.076 | 0.840 | 0.210472 | -0.106 | 0.783 | 0.04045  | transport                         |
| 925 | <i>vng925</i> | 0.017  | 1.041 | 0.778909 | -0.075 | 0.841 | 0.3025   | transport                         |
| 926 | <i>vng926</i> | -0.061 | 0.870 | 0.306288 | 0.020  | 1.047 | 0.67725  | unknown                           |
| 927 | <i>vng927</i> | -0.032 | 0.930 | 0.562769 | 0.017  | 1.040 | 0.496917 | unknown                           |
| 928 | <i>mak</i>    | -0.042 | 0.908 | 0.683934 | 0.032  | 1.077 | 0.67325  | unknown                           |
| 930 | <i>yvbT</i>   | 0.125  | 1.332 | 0.122455 | -0.010 | 0.977 | 0.771833 | general function prediction only  |
| 931 | <i>acaB2</i>  | 0.097  | 1.250 | 0.226041 | -0.038 | 0.916 | 0.501    | energy metabolism                 |
| 932 | <i>nbp3</i>   | 0.046  | 1.112 | 0.5009   | -0.030 | 0.932 | 0.548333 | carbohydrate and lipid metabolism |
| 933 | <i>yqjM</i>   | 0.090  | 1.231 | 0.383245 | -0.034 | 0.926 | 0.588    | transcription and regulation      |
| 934 | <i>vng934</i> | 0.050  | 1.121 | 0.473159 | -0.076 | 0.840 | 0.269975 | energy metabolism                 |
| 935 | <i>noxC</i>   | 0.107  | 1.278 | 0.223584 | -0.066 | 0.859 | 0.28     | unknown                           |
| 936 | <i>vng936</i> | 0.108  | 1.281 | 0.375812 | -0.063 | 0.865 | 0.292175 | energy metabolism                 |
| 937 | <i>gap</i>    | -0.321 | 0.477 | 0.085932 | -0.019 | 0.957 | 0.786333 | unknown                           |
| 938 | <i>gufA</i>   | 0.066  | 1.165 | 0.401043 | 0.007  | 1.017 | 0.292375 | energy metabolism                 |
| 940 | <i>acs3</i>   | -0.181 | 0.659 | 0.136972 | -0.061 | 0.869 | 0.255367 | general function prediction only  |
| 941 | <i>vng941</i> | -0.164 | 0.685 | 0.016846 | -0.045 | 0.901 | 0.389083 | energy metabolism                 |
| 942 | <i>cheW2</i>  | -0.015 | 0.967 | 0.535698 | -0.065 | 0.861 | 0.2615   | unknown                           |
| 943 | <i>arlR8</i>  | -0.004 | 0.990 | 0.25724  | -0.065 | 0.861 | 0.2505   | cellular process                  |
| 945 | <i>vng945</i> | 0.083  | 1.209 | 0.514541 | -0.095 | 0.803 | 0.222625 | transcription and regulation      |
| 946 | <i>minD1</i>  | 0.034  | 1.080 | 0.405147 | -0.025 | 0.944 | 0.636667 | unknown                           |
| 947 | <i>fapJ</i>   | -0.021 | 0.953 | 0.551658 | -0.015 | 0.967 | 0.544667 | cellular process                  |
| 949 | <i>gspE3</i>  | -0.028 | 0.938 | 0.552958 | 0.044  | 1.106 | 0.516167 | cellular process                  |
| 950 | <i>flaH</i>   | -0.056 | 0.880 | 0.328039 | 0.034  | 1.081 | 0.516    | cellular process                  |
| 953 | <i>vng953</i> | 0.004  | 1.010 | 0.264    | -0.003 | 0.993 | 0.651417 | cellular process                  |
| 954 | <i>vng954</i> | -0.041 | 0.909 | 0.364709 | -0.004 | 0.991 | 0.678583 | cellular process                  |
| 955 | <i>fapE</i>   | 0.000  | 1.000 | 0.810065 | 0.015  | 1.034 | 0.467583 | cellular process                  |
| 958 | <i>htr15</i>  | -0.007 | 0.984 | 0.704299 | 0.007  | 1.016 | 0.629333 | cellular process                  |
| 959 | <i>vng959</i> | 0.044  | 1.106 | 0.429496 | -0.020 | 0.955 | 0.8135   | cellular process                  |
| 963 | <i>flaB2</i>  | -0.106 | 0.784 | 0.08514  | 0.027  | 1.063 | 0.570833 | cellular process                  |
| 964 | <i>flaB3</i>  | -0.234 | 0.584 | 0.000194 | -0.006 | 0.986 | 0.576958 | cellular process                  |
| 965 | <i>cpcE</i>   | 0.033  | 1.080 | 0.662817 | -0.028 | 0.938 | 0.620975 | cellular process                  |
| 966 | <i>cheR</i>   | 0.002  | 1.005 | 0.659296 | -0.024 | 0.947 | 0.658583 | cellular process                  |
| 967 | <i>cheD</i>   | -0.069 | 0.854 | 0.178879 | 0.027  | 1.065 | 0.588    | cellular process                  |
| 969 | <i>vng969</i> | -0.030 | 0.934 | 0.356562 | 0.004  | 1.010 | 0.715833 | cellular process                  |
| 970 | <i>cheC1</i>  | -0.181 | 0.659 | 0.176017 | 0.021  | 1.049 | 0.537    | cellular process                  |
| 971 | <i>cheA</i>   | -0.153 | 0.703 | 0.100628 | 0.007  | 1.016 | 0.532667 | cellular process                  |
| 973 | <i>cheB</i>   | -0.120 | 0.759 | 0.290401 | 0.009  | 1.021 | 0.656833 | cellular process                  |
| 974 | <i>cheY</i>   | -0.129 | 0.743 | 0.024369 | 0.009  | 1.020 | 0.677083 | cellular process                  |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 976  | <i>cheW1</i>   | -0.013 | 0.971 | 0.494337 | 0.026  | 1.062 | 0.55875  | cellular process                   |
| 978  | <i>vng978</i>  | -0.020 | 0.956 | 0.166385 | -0.016 | 0.964 | 0.5411   | unknown                            |
| 979  | <i>vng979</i>  | 0.059  | 1.147 | 0.309989 | 0.025  | 1.060 | 0.722167 | unknown                            |
| 981  | <i>vng981</i>  | 0.070  | 1.175 | 0.344463 | -0.264 | 0.545 | 0.491833 | unknown                            |
| 982  | <i>vng982</i>  | 0.064  | 1.159 | 0.333538 | -0.045 | 0.902 | 0.367417 | amino acid metabolism              |
| 983  | <i>vng983</i>  | -0.022 | 0.951 | 0.666291 | -0.027 | 0.939 | 0.506333 | unknown                            |
| 985  | <i>vng985</i>  | -0.079 | 0.833 | 0.157392 | 0.115  | 1.304 | 0.2784   | unknown                            |
| 986  | <i>vng986</i>  | 0.070  | 1.174 | 0.203805 | 0.047  | 1.116 | 0.459067 | unknown                            |
| 989  | <i>vng989</i>  | -0.051 | 0.889 | 0.328333 | 0.004  | 1.008 | 0.547033 | unknown                            |
| 990  | <i>vng990</i>  | 0.093  | 1.239 | 0.214042 | 0.025  | 1.059 | 0.74865  | DNA metabolism                     |
| 991  | <i>vng991</i>  | -0.023 | 0.947 | 0.227832 | 0.118  | 1.313 | 0.187375 | unknown                            |
| 992  | <i>vng992</i>  | -0.065 | 0.860 | 0.337294 | 0.066  | 1.163 | 0.37645  | unknown                            |
| 993  | <i>vng993</i>  | -0.161 | 0.691 | 0.105334 | 0.001  | 1.003 | 0.4808   | unknown                            |
| 995  | <i>vng995</i>  | -0.243 | 0.572 | 0.003639 | -0.029 | 0.935 | 0.412    | unknown                            |
| 996  | <i>boa4</i>    | -0.045 | 0.901 | 0.641746 | 0.028  | 1.068 | 0.654667 | unknown                            |
| 997  | <i>acs2</i>    | 0.103  | 1.267 | 0.424028 | 0.012  | 1.028 | 0.76975  | transcription and regulation       |
| 998  | <i>yajO2</i>   | 0.183  | 1.525 | 0.181311 | -0.094 | 0.806 | 0.19575  | energy metabolism                  |
| 999  | <i>vng999</i>  | -0.048 | 0.895 | 0.51294  | 0.095  | 1.245 | 0.140275 | energy metabolism                  |
| 1000 | <i>vng1000</i> | 0.036  | 1.087 | 0.405356 | -0.001 | 0.998 | 0.819    | unknown                            |
| 1001 | <i>guaB</i>    | -0.014 | 0.968 | 0.461407 | -0.004 | 0.992 | 0.745    | unknown                            |
| 1002 | <i>vng1002</i> | 0.028  | 1.066 | 0.563044 | -0.034 | 0.925 | 0.58675  | nucleotide metabolism              |
| 1003 | <i>vng1003</i> | 0.081  | 1.206 | 0.315701 | -0.055 | 0.880 | 0.357075 | unknown                            |
| 1005 | <i>vng1005</i> | -0.101 | 0.792 | 0.110106 | -0.065 | 0.862 | 0.6155   | unknown                            |
| 1006 | <i>vng1006</i> | -0.075 | 0.841 | 0.423475 | -0.066 | 0.859 | 0.1965   | unknown                            |
| 1007 | <i>vng1007</i> | -0.090 | 0.814 | 0.128251 | -0.058 | 0.875 | 0.3584   | unknown                            |
| 1009 | <i>flaA2</i>   | 0.192  | 1.556 | 0.002995 | 0.011  | 1.026 | 0.817    | cellular process                   |
| 1011 | <i>vng1011</i> | -0.185 | 0.653 | 0.195647 | 0.017  | 1.041 | 0.625833 | unknown                            |
| 1012 | <i>vng1012</i> | -0.191 | 0.644 | 0.013253 | 0.012  | 1.029 | 0.764    | cellular process                   |
| 1013 | <i>htr13</i>   | 0.015  | 1.035 | 0.475379 | -0.024 | 0.946 | 0.185567 | cellular process                   |
| 1014 | <i>yqjH</i>    | -0.001 | 0.998 | 0.810109 | 0.016  | 1.038 | 0.600933 | DNA metabolism                     |
| 1015 | <i>vng1015</i> | 0.033  | 1.078 | 0.871611 | -0.023 | 0.948 | 0.6135   | unknown                            |
| 1017 | <i>vng1017</i> | 0.052  | 1.127 | 0.476939 | -0.055 | 0.882 | 0.434    | unknown                            |
| 1018 | <i>adh3</i>    | 0.053  | 1.131 | 0.705646 | 0.043  | 1.103 | 0.773167 | general function prediction only   |
| 1020 | <i>vng1020</i> | -0.004 | 0.991 | 0.327583 | 0.023  | 1.054 | 0.540417 | carbohydrate and lipid metabolism  |
| 1021 | <i>vng1021</i> | 0.001  | 1.003 | 0.638616 | -0.053 | 0.884 | 0.452    | unknown                            |
| 1023 | <i>vng1023</i> | 0.096  | 1.248 | 0.422631 | -0.120 | 0.758 | 0.216378 | amino acid metabolism              |
| 1024 | <i>vng1024</i> | -0.027 | 0.939 | 0.677495 | -0.045 | 0.902 | 0.395    | cofactor and secondary metabolites |
| 1025 | <i>vng1025</i> | 0.015  | 1.035 | 0.750514 | -0.117 | 0.763 | 0.18225  | unknown                            |
| 1026 | <i>vng1026</i> | 0.027  | 1.065 | 0.546529 | 0.003  | 1.006 | 0.804    | unknown                            |
| 1027 | <i>tpiA</i>    | 0.002  | 1.004 | 0.856761 | -0.002 | 0.995 | 0.272625 | carbohydrate and lipid metabolism  |
| 1029 | <i>xrlR3</i>   | 0.120  | 1.318 | 0.284335 | -0.017 | 0.961 | 0.677833 | transcription and regulation       |
| 1030 | <i>pgsA</i>    | 0.029  | 1.070 | 0.743894 | 0.031  | 1.075 | 0.669333 | carbohydrate and lipid metabolism  |
| 1031 | <i>vng1031</i> | 0.035  | 1.083 | 0.643884 | 0.006  | 1.014 | 0.802    | nucleotide metabolism              |
| 1033 | <i>hisC1</i>   | -0.012 | 0.972 | 0.64651  | -0.016 | 0.964 | 0.696167 | amino acid metabolism              |
| 1034 | <i>vng1034</i> | -0.049 | 0.894 | 0.356317 | -0.078 | 0.835 | 0.216583 | unknown                            |
| 1035 | <i>vng1035</i> | 0.005  | 1.012 | 0.654434 | -0.024 | 0.947 | 0.512092 | amino acid metabolism              |
| 1036 | <i>vng1036</i> | 0.124  | 1.329 | 0.406429 | -0.049 | 0.892 | 0.688    | unknown                            |
| 1037 | <i>hpcE</i>    | 0.120  | 1.318 | 0.393561 | -0.032 | 0.930 | 0.571333 | cofactor and secondary metabolites |
| 1038 | <i>vng1038</i> | 0.176  | 1.501 | 0.05085  | -0.077 | 0.838 | 0.16645  | unknown                            |
| 1039 | <i>vng1039</i> | -0.058 | 0.875 | 0.241484 | 0.067  | 1.167 | 0.2035   | unknown                            |
| 1041 | <i>vng1041</i> | -0.034 | 0.924 | 0.468855 | -0.057 | 0.877 | 0.417661 | unknown                            |



|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1042 | <i>vng1042</i> | -0.093 | 0.807 | 0.072402 | -0.045 | 0.902 | 0.399    | unknown                            |
| 1046 | <i>vng1047</i> | 0.271  | 1.866 | 0.003291 | -0.019 | 0.956 | 0.745    | unknown                            |
| 1047 | <i>vng1046</i> | 0.078  | 1.198 | 0.173519 | 0.013  | 1.031 | 0.83425  | unknown                            |
| 1048 | <i>udg1</i>    | 0.149  | 1.410 | 0.182709 | 0.010  | 1.023 | 0.6855   | nucleotide metabolism              |
| 1050 | <i>vng1050</i> | -0.021 | 0.952 | 0.577754 | -0.042 | 0.909 | 0.2709   | unknown                            |
| 1052 | <i>vng1052</i> | 0.063  | 1.155 | 0.475718 | -0.072 | 0.847 | 0.197    | unknown                            |
| 1053 | <i>gtl</i>     | -0.011 | 0.976 | 0.572412 | 0.000  | 1.001 | 0.642667 | general function prediction only   |
| 1054 | <i>ptp</i>     | -0.018 | 0.960 | 0.525221 | -0.001 | 0.998 | 0.755333 | transport                          |
| 1055 | <i>graD4</i>   | 0.075  | 1.190 | 0.245496 | -0.046 | 0.900 | 0.4478   | nucleotide metabolism              |
| 1056 | <i>vng1056</i> | -0.114 | 0.769 | 0.096511 | -0.013 | 0.971 | 0.737917 | unknown                            |
| 1057 | <i>vng1057</i> | 0.014  | 1.032 | 0.470302 | -0.030 | 0.933 | 0.592    | unknown                            |
| 1058 | <i>vng1058</i> | -0.137 | 0.729 | 0.139628 | 0.009  | 1.020 | 0.610917 | unknown                            |
| 1059 | <i>gyf</i>     | -0.066 | 0.859 | 0.380489 | -0.033 | 0.926 | 0.6945   | general function prediction only   |
| 1060 | <i>vng1060</i> | -0.017 | 0.962 | 0.684987 | -0.029 | 0.935 | 0.67325  | unknown                            |
| 1062 | <i>rfbQ</i>    | -0.014 | 0.969 | 0.713298 | -0.001 | 0.997 | 0.681667 | carbohydrate and lipid metabolism  |
| 1063 | <i>vng1063</i> | -0.009 | 0.979 | 0.539069 | 0.000  | 0.999 | 0.535167 | unknown                            |
| 1064 | <i>vng1064</i> | -0.118 | 0.762 | 0.095203 | 0.024  | 1.058 | 0.7415   | unknown                            |
| 1065 | <i>vng1065</i> | 0.027  | 1.064 | 0.350991 | 0.019  | 1.044 | 0.658833 | cofactor and secondary metabolites |
| 1066 | <i>vng1066</i> | 0.056  | 1.137 | 0.389052 | -0.012 | 0.972 | 0.712417 | unknown                            |
| 1067 | <i>exoM</i>    | 0.017  | 1.041 | 0.678835 | -0.029 | 0.935 | 0.657333 | cellular process                   |
| 1068 | <i>tot</i>     | -0.017 | 0.962 | 0.567372 | -0.012 | 0.972 | 0.5415   | general function prediction only   |
| 1069 | <i>vng1069</i> | -0.051 | 0.890 | 0.326703 | 0.047  | 1.115 | 0.41     | unknown                            |
| 1070 | <i>gpdA1</i>   | -0.003 | 0.994 | 0.539187 | -0.034 | 0.925 | 0.531625 | carbohydrate and lipid metabolism  |
| 1071 | <i>cinR</i>    | -0.040 | 0.912 | 0.317238 | -0.048 | 0.896 | 0.360333 | transcription and regulation       |
| 1073 | <i>menE</i>    | -0.019 | 0.956 | 0.509357 | -0.025 | 0.945 | 0.604333 | cofactor and secondary metabolites |
| 1074 | <i>menC</i>    | 0.000  | 0.999 | 0.747879 | -0.001 | 0.998 | 0.840875 | cofactor and secondary metabolites |
| 1075 | <i>menA</i>    | -0.132 | 0.738 | 0.163209 | 0.036  | 1.086 | 0.536367 | cofactor and secondary metabolites |
| 1077 | <i>opuD</i>    | -0.013 | 0.971 | 0.481046 | -0.006 | 0.986 | 0.682917 | transport                          |
| 1079 | <i>menB</i>    | 0.013  | 1.029 | 0.459929 | 0.010  | 1.024 | 0.653083 | cofactor and secondary metabolites |
| 1081 | <i>menD</i>    | -0.048 | 0.896 | 0.463531 | 0.021  | 1.049 | 0.723083 | cofactor and secondary metabolites |
| 1083 | <i>menF</i>    | -0.001 | 0.997 | 0.180573 | -0.010 | 0.977 | 0.321383 | cofactor and secondary metabolites |
| 1084 | <i>yuiH</i>    | -0.055 | 0.882 | 0.482705 | 0.026  | 1.061 | 0.65875  | general function prediction only   |
| 1085 | <i>vng1085</i> | 0.135  | 1.364 | 0.204113 | -0.059 | 0.873 | 0.289063 | unknown                            |
| 1086 | <i>vng1086</i> | 0.102  | 1.263 | 0.141586 | -0.036 | 0.921 | 0.543588 | unknown                            |
| 1087 | <i>vng1087</i> | 0.019  | 1.044 | 0.55465  | -0.004 | 0.992 | 0.543133 | unknown                            |
| 1088 | <i>vng1088</i> | -0.017 | 0.962 | 0.285517 | -0.083 | 0.825 | 0.0966   | unknown                            |
| 1089 | <i>purA</i>    | 0.017  | 1.040 | 0.403098 | -0.024 | 0.947 | 0.644167 | nucleotide metabolism              |
| 1090 | <i>vng1090</i> | 0.050  | 1.121 | 0.47325  | -0.059 | 0.872 | 0.24225  | unknown                            |
| 1092 | <i>vng1092</i> | 0.032  | 1.077 | 0.554096 | -0.030 | 0.934 | 0.5605   | unknown                            |
| 1093 | <i>vng1093</i> | 0.054  | 1.132 | 0.291097 | -0.004 | 0.992 | 0.69175  | unknown                            |
| 1094 | <i>vng1094</i> | -0.172 | 0.674 | 0.172013 | 0.010  | 1.023 | 0.580917 | unknown                            |
| 1095 | <i>vng1095</i> | 0.133  | 1.359 | 0.142545 | -0.009 | 0.979 | 0.80975  | unknown                            |
| 1096 | <i>arlR9</i>   | -0.074 | 0.844 | 0.27607  | -0.008 | 0.981 | 0.77175  | transcription and regulation       |
| 1097 | <i>cysS</i>    | 0.012  | 1.028 | 0.635173 | 0.035  | 1.085 | 0.521    | translation                        |
| 1099 | <i>vng1099</i> | -0.148 | 0.711 | 0.15267  | -0.020 | 0.956 | 0.68625  | unknown                            |
| 1100 | <i>vng1100</i> | -0.147 | 0.713 | 0.079953 | -0.018 | 0.960 | 0.7535   | cofactor and secondary metabolites |
| 1101 | <i>vng1101</i> | -0.018 | 0.958 | 0.544671 | 0.041  | 1.100 | 0.559625 | unknown                            |
| 1103 | <i>rpl12p</i>  | 0.165  | 1.462 | 0.01298  | 0.086  | 1.220 | 0.0843   | translation                        |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1104 | <i>rpl10p</i>  | -0.003 | 0.993 | 0.267947 | 0.047  | 1.114 | 0.36975  | translation                        |
| 1105 | <i>rpl1p</i>   | 0.095  | 1.245 | 0.150856 | 0.074  | 1.186 | 0.188983 | translation                        |
| 1108 | <i>rpl11p</i>  | -0.019 | 0.957 | 0.54545  | -0.033 | 0.927 | 0.5385   | translation                        |
| 1110 | <i>vng1110</i> | 0.087  | 1.221 | 0.455198 | -0.054 | 0.882 | 0.274    | unknown                            |
| 1111 | <i>drg</i>     | -0.049 | 0.894 | 0.305074 | 0.027  | 1.064 | 0.501917 | translation                        |
| 1112 | <i>vng1112</i> | -0.039 | 0.915 | 0.543402 | -0.003 | 0.993 | 0.705    | unknown                            |
| 1114 | <i>glo1</i>    | -0.008 | 0.983 | 0.470328 | -0.012 | 0.972 | 0.556667 | amino acid metabolism              |
| 1115 | <i>vng1115</i> | -0.014 | 0.968 | 0.822756 | 0.065  | 1.161 | 0.2885   | unknown                            |
| 1117 | <i>vng1117</i> | 0.054  | 1.132 | 0.556431 | -0.034 | 0.925 | 0.749    | unknown                            |
| 1118 | <i>vng1118</i> | -0.094 | 0.805 | 0.3112   | -0.049 | 0.893 | 0.420333 | translation                        |
| 1119 | <i>vng1119</i> | -0.179 | 0.662 | 0.189    | 0.014  | 1.033 | 0.7985   | unknown                            |
| 1120 | <i>vng1120</i> | 0.048  | 1.116 | 0.520379 | 0.006  | 1.013 | 0.63425  | unknown                            |
| 1121 | <i>aspC2</i>   | -0.136 | 0.731 | 0.499114 | -0.009 | 0.979 | 0.740833 | amino acid metabolism              |
| 1123 | <i>asxR1</i>   | -0.079 | 0.834 | 0.26063  | 0.011  | 1.026 | 0.490375 | transcription and regulation       |
| 1125 | <i>porB</i>    | -0.040 | 0.913 | 0.546015 | 0.074  | 1.186 | 0.197785 | energy metabolism                  |
| 1128 | <i>porA</i>    | -0.045 | 0.901 | 0.413681 | 0.101  | 1.262 | 0.0697   | energy metabolism                  |
| 1130 | <i>vng1130</i> | -0.050 | 0.891 | 0.367382 | -0.010 | 0.978 | 0.8345   | unknown                            |
| 1131 | <i>mrp</i>     | -0.022 | 0.951 | 0.412424 | -0.023 | 0.948 | 0.662417 | cellular process                   |
| 1132 | <i>rps13p</i>  | -0.199 | 0.632 | 0.001548 | 0.048  | 1.116 | 0.34225  | translation                        |
| 1133 | <i>rps4p</i>   | -0.164 | 0.685 | 0.008361 | 0.040  | 1.097 | 0.446417 | translation                        |
| 1134 | <i>rps11p</i>  | -0.166 | 0.682 | 0.046558 | 0.038  | 1.092 | 0.44525  | translation                        |
| 1136 | <i>rpb3</i>    | -0.153 | 0.703 | 0.007778 | 0.057  | 1.140 | 0.329213 | transcription and regulation       |
| 1137 | <i>rpl18e</i>  | -0.218 | 0.606 | 0.003761 | 0.053  | 1.130 | 0.339117 | translation                        |
| 1138 | <i>rpl13p</i>  | -0.226 | 0.594 | 0.003456 | 0.077  | 1.195 | 0.169975 | translation                        |
| 1139 | <i>rps9p</i>   | -0.170 | 0.676 | 0.000959 | 0.079  | 1.199 | 0.1171   | translation                        |
| 1140 | <i>rpoN</i>    | -0.269 | 0.538 | 4.4E-07  | 0.042  | 1.102 | 0.392    | transcription and regulation       |
| 1141 | <i>rpoK</i>    | -0.209 | 0.618 | 4.81E-05 | 0.074  | 1.187 | 0.13825  | transcription and regulation       |
| 1142 | <i>eno</i>     | -0.268 | 0.539 | 6.82E-05 | 0.058  | 1.144 | 0.313917 | carbohydrate and lipid metabolism  |
| 1143 | <i>rps2p</i>   | -0.133 | 0.736 | 0.279954 | 0.062  | 1.152 | 0.344133 | translation                        |
| 1144 | <i>vng1144</i> | 0.020  | 1.047 | 0.372186 | -0.107 | 0.782 | 0.090829 | unknown                            |
| 1145 | <i>mvk</i>     | -0.010 | 0.977 | 0.564774 | 0.034  | 1.081 | 0.609067 | carbohydrate and lipid metabolism  |
| 1148 | <i>argB</i>    | -0.060 | 0.870 | 0.222978 | 0.056  | 1.139 | 0.28575  | amino acid metabolism              |
| 1149 | <i>vng1149</i> | -0.061 | 0.870 | 0.296968 | 0.034  | 1.082 | 0.485833 | general function prediction only   |
| 1150 | <i>idsA</i>    | -0.079 | 0.834 | 0.245832 | 0.045  | 1.108 | 0.425483 | cofactor and secondary metabolites |
| 1151 | <i>vng1151</i> | -0.108 | 0.781 | 0.205974 | -0.013 | 0.971 | 0.7745   | unknown                            |
| 1153 | <i>gltS</i>    | 0.001  | 1.002 | 0.498423 | 0.004  | 1.008 | 0.706    | translation                        |
| 1154 | <i>vng1154</i> | 0.011  | 1.025 | 0.538912 | 0.031  | 1.073 | 0.601375 | unknown                            |
| 1156 | <i>hsp3</i>    | 0.045  | 1.110 | 0.404091 | -0.047 | 0.897 | 0.447833 | cellular process                   |
| 1157 | <i>rphs6</i>   | 0.076  | 1.192 | 0.310131 | 0.053  | 1.129 | 0.31875  | translation                        |
| 1158 | <i>rps28e</i>  | 0.081  | 1.204 | 0.105495 | 0.069  | 1.172 | 0.2467   | translation                        |
| 1159 | <i>rpl24e</i>  | 0.034  | 1.082 | 0.512475 | 0.056  | 1.138 | 0.32285  | translation                        |
| 1160 | <i>ndk</i>     | 0.036  | 1.087 | 0.565343 | 0.058  | 1.142 | 0.3531   | nucleotide metabolism              |
| 1162 | <i>vng1162</i> | 0.027  | 1.065 | 0.334177 | -0.016 | 0.963 | 0.75875  | unknown                            |
| 1163 | <i>hemK</i>    | -0.050 | 0.891 | 0.384562 | -0.035 | 0.923 | 0.498    | cofactor and secondary metabolites |
| 1164 | <i>vng1164</i> | 0.008  | 1.018 | 0.668004 | -0.002 | 0.995 | 0.789333 | unknown                            |
| 1165 | <i>ksgA</i>    | 0.037  | 1.089 | 0.577529 | 0.015  | 1.035 | 0.778417 | translation                        |
| 1168 | <i>vng1168</i> | 0.115  | 1.303 | 0.227096 | 0.022  | 1.051 | 0.62175  | translation                        |
| 1169 | <i>vng1169</i> | 0.035  | 1.085 | 0.500083 | -0.008 | 0.983 | 0.794    | unknown                            |
| 1170 | <i>rpl21e</i>  | 0.070  | 1.176 | 0.41396  | -0.019 | 0.957 | 0.705    | translation                        |
| 1172 | <i>metB</i>    | 0.139  | 1.379 | 0.156709 | -0.017 | 0.961 | 0.685833 | amino acid metabolism              |
| 1173 | <i>eef1b</i>   | -0.068 | 0.856 | 0.270058 | -0.042 | 0.908 | 0.52645  | translation                        |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1174 | <i>nop58</i>   | 0.032  | 1.076 | 0.358708 | -0.060 | 0.870 | 0.390267 | translation                        |
| 1175 | <i>phoR</i>    | -0.245 | 0.569 | 0.268902 | -0.034 | 0.925 | 0.483092 | cellular process                   |
| 1176 | <i>fib</i>     | -0.022 | 0.951 | 0.202874 | -0.018 | 0.959 | 0.507083 | translation                        |
| 1178 | <i>vng1178</i> | -0.050 | 0.892 | 0.669247 | -0.008 | 0.982 | 0.9285   | unknown                            |
| 1179 | <i>acxR</i>    | 0.038  | 1.091 | 0.646511 | -0.053 | 0.885 | 0.55725  | transcription and regulation       |
| 1180 | <i>msrA</i>    | 0.003  | 1.008 | 0.34428  | -0.004 | 0.990 | 0.66     | cellular process                   |
| 1181 | <i>flaA1b</i>  | 0.031  | 1.074 | 0.492426 | -0.049 | 0.894 | 0.573483 | cellular process                   |
| 1182 | <i>vng1182</i> | 0.000  | 1.000 | 0.545927 | 0.012  | 1.027 | 0.806583 | unknown                            |
| 1183 | <i>nirJ</i>    | 0.023  | 1.055 | 0.640616 | -0.107 | 0.782 | 0.082355 | unknown                            |
| 1184 | <i>vng1183</i> | 0.064  | 1.159 | 0.567241 | 0.029  | 1.068 | 0.602583 | cofactor and secondary metabolites |
| 1185 | <i>pqqE</i>    | 0.040  | 1.096 | 0.410609 | 0.064  | 1.158 | 0.23535  | cofactor and secondary metabolites |
| 1187 | <i>pan1</i>    | 0.037  | 1.089 | 0.509893 | -0.054 | 0.883 | 0.555258 | energy metabolism                  |
| 1188 | <i>hcpD</i>    | -0.012 | 0.974 | 0.814744 | 0.049  | 1.119 | 0.3755   | energy metabolism                  |
| 1189 | <i>vng1189</i> | 0.038  | 1.090 | 0.516765 | -0.106 | 0.784 | 0.04545  | unknown                            |
| 1190 | <i>sod1</i>    | 0.394  | 2.477 | 9.03E-09 | 0.022  | 1.052 | 0.661    | cellular process                   |
| 1191 | <i>acd3</i>    | 0.025  | 1.060 | 0.692548 | 0.001  | 1.003 | 0.859083 | carbohydrate and lipid metabolism  |
| 1193 | <i>hik1</i>    | -0.043 | 0.907 | 0.39923  | -0.112 | 0.772 | 0.264817 | cellular process                   |
| 1194 | <i>vng1194</i> | -0.028 | 0.938 | 0.559434 | -0.043 | 0.905 | 0.4285   | unknown                            |
| 1196 | <i>vng1196</i> | -0.042 | 0.908 | 0.546216 | -0.176 | 0.666 | 0.000753 | unknown                            |
| 1197 | <i>bcp</i>     | 0.156  | 1.434 | 0.043264 | -0.068 | 0.855 | 0.217583 | cellular process                   |
| 1198 | <i>vng1198</i> | 0.021  | 1.049 | 0.554699 | 0.005  | 1.013 | 0.711917 | energy metabolism                  |
| 1200 | <i>vng1200</i> | 0.048  | 1.118 | 0.615038 | 0.078  | 1.196 | 0.324125 | unknown                            |
| 1201 | <i>fucA</i>    | -0.034 | 0.925 | 0.339155 | -0.061 | 0.870 | 0.39725  | carbohydrate and lipid metabolism  |
| 1202 | <i>vng1202</i> | -0.122 | 0.754 | 0.334159 | 0.004  | 1.009 | 0.842083 | unknown                            |
| 1204 | <i>gdhA2</i>   | -0.067 | 0.858 | 0.257105 | -0.004 | 0.990 | 0.8025   | amino acid metabolism              |
| 1205 | <i>vng1205</i> | 0.023  | 1.054 | 0.271139 | 0.082  | 1.208 | 0.287982 | nucleotide metabolism              |
| 1207 | <i>bolR4</i>   | -0.038 | 0.917 | 0.533929 | -0.044 | 0.903 | 0.598625 | transcription and regulation       |
| 1208 | <i>hutU</i>    | -0.032 | 0.930 | 0.541442 | 0.027  | 1.065 | 0.555417 | amino acid metabolism              |
| 1209 | <i>hutG</i>    | 0.007  | 1.016 | 0.366907 | -0.007 | 0.983 | 0.758083 | amino acid metabolism              |
| 1211 | <i>hutI</i>    | 0.004  | 1.009 | 0.449435 | 0.000  | 1.000 | 0.3881   | amino acid metabolism              |
| 1212 | <i>hutH</i>    | 0.022  | 1.051 | 0.700657 | 0.015  | 1.034 | 0.6907   | amino acid metabolism              |
| 1213 | <i>vng1213</i> | 0.091  | 1.233 | 0.26307  | -0.005 | 0.989 | 0.853583 | DNA metabolism                     |
| 1214 | <i>vng1214</i> | -0.043 | 0.906 | 0.476107 | 0.005  | 1.013 | 0.83575  | unknown                            |
| 1215 | <i>pai1</i>    | 0.020  | 1.046 | 0.668489 | -0.010 | 0.977 | 0.3715   | transcription and regulation       |
| 1216 | <i>pgk</i>     | 0.010  | 1.023 | 0.069506 | 0.007  | 1.015 | 0.8645   | carbohydrate and lipid metabolism  |
| 1218 | <i>vng1218</i> | 0.046  | 1.113 | 0.760099 | -0.036 | 0.920 | 0.684833 | unknown                            |
| 1219 | <i>urk</i>     | -0.092 | 0.808 | 0.411449 | -0.016 | 0.963 | 0.558667 | nucleotide metabolism              |
| 1220 | <i>vng1220</i> | 0.011  | 1.025 | 0.373897 | 0.000  | 0.999 | 0.7155   | unknown                            |
| 1224 | <i>orc8</i>    | -0.168 | 0.680 | 0.198518 | 0.050  | 1.123 | 0.477283 | DNA metabolism                     |
| 1226 | <i>vng1226</i> | -0.040 | 0.913 | 0.425506 | 0.035  | 1.083 | 0.6105   | unknown                            |
| 1227 | <i>vng1227</i> | 0.026  | 1.062 | 0.582669 | -0.001 | 0.998 | 0.678583 | unknown                            |
| 1228 | <i>vng1228</i> | 0.065  | 1.161 | 0.460962 | -0.042 | 0.908 | 0.489667 | DNA metabolism                     |
| 1229 | <i>vng1229</i> | 0.054  | 1.133 | 0.448475 | 0.021  | 1.050 | 0.732583 | transcription and regulation       |
| 1230 | <i>aroC</i>    | -0.021 | 0.952 | 0.692906 | 0.039  | 1.093 | 0.540417 | amino acid metabolism              |
| 1232 | <i>psc</i>     | -0.006 | 0.987 | 0.539962 | 0.045  | 1.110 | 0.526667 | amino acid metabolism              |
| 1233 | <i>pepQ2</i>   | 0.172  | 1.485 | 0.15379  | -0.045 | 0.902 | 0.47475  | amino acid metabolism              |
| 1234 | <i>hik2</i>    | -0.030 | 0.934 | 0.685947 | -0.020 | 0.956 | 0.699667 | cellular process                   |
| 1235 | <i>vng1235</i> | -0.056 | 0.879 | 0.398733 | -0.040 | 0.911 | 0.474125 | amino acid metabolism              |
| 1236 | <i>vng1236</i> | -0.031 | 0.931 | 0.631792 | -0.044 | 0.904 | 0.390893 | unknown                            |
| 1237 | <i>asxR2</i>   | -0.038 | 0.917 | 0.159942 | -0.010 | 0.976 | 0.576167 | transcription and regulation       |
| 1238 | <i>vng1239</i> | 0.016  | 1.037 | 0.461979 | -0.360 | 0.437 | 0.000286 | unknown                            |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1239 | <i>vng1238</i> | -0.024 | 0.947 | 0.640347 | 0.056  | 1.139 | 0.34305  | unknown                            |
| 1240 | <i>yhdG</i>    | -0.096 | 0.801 | 0.338979 | -0.679 | 0.210 | 9.5E-14  | transport                          |
| 1241 | <i>surE</i>    | 0.040  | 1.097 | 0.248556 | -0.091 | 0.811 | 0.19539  | general function prediction only   |
| 1244 | <i>vng1244</i> | -0.025 | 0.943 | 0.752072 | 0.103  | 1.267 | 0.126    | amino acid metabolism              |
| 1245 | <i>vng1245</i> | 0.062  | 1.154 | 0.34147  | 0.028  | 1.067 | 0.581625 | amino acid metabolism              |
| 1246 | <i>vng1246</i> | 0.015  | 1.036 | 0.464561 | -0.060 | 0.872 | 0.30905  | unknown                            |
| 1247 | <i>ybhF</i>    | -0.045 | 0.902 | 0.416675 | 0.012  | 1.028 | 0.7115   | transport                          |
| 1249 | <i>vng1249</i> | -0.141 | 0.723 | 0.433738 | 0.060  | 1.149 | 0.3765   | unknown                            |
| 1250 | <i>vng1250</i> | -0.089 | 0.814 | 0.286173 | 0.069  | 1.172 | 0.2051   | unknown                            |
| 1251 | <i>helA</i>    | -0.051 | 0.889 | 0.445395 | 0.026  | 1.063 | 0.691833 | DNA metabolism                     |
| 1252 | <i>yhcR</i>    | 0.056  | 1.138 | 0.371538 | -0.058 | 0.875 | 0.317533 | general function prediction only   |
| 1253 | <i>vng1253</i> | -0.220 | 0.602 | 0.167789 | -0.039 | 0.914 | 0.69625  | unknown                            |
| 1255 | <i>vng1255</i> | -0.064 | 0.863 | 0.270715 | -0.154 | 0.701 | 0.239056 | DNA metabolism                     |
| 1256 | <i>ribG</i>    | -0.041 | 0.910 | 0.327279 | -0.024 | 0.947 | 0.65722  | cofactor and secondary metabolites |
| 1257 | <i>vng1257</i> | 0.008  | 1.019 | 0.684337 | -0.047 | 0.897 | 0.3815   | unknown                            |
| 1259 | <i>trxB2</i>   | 0.014  | 1.033 | 0.371511 | 0.031  | 1.073 | 0.480083 | nucleotide metabolism              |
| 1260 | <i>vng1260</i> | 0.131  | 1.352 | 0.277642 | -0.048 | 0.896 | 0.547    | unknown                            |
| 1261 | <i>vng1261</i> | 0.245  | 1.759 | 0.000239 | -0.177 | 0.666 | 0.002834 | unknown                            |
| 1262 | <i>ef2b</i>    | 0.030  | 1.071 | 0.587663 | -0.046 | 0.899 | 0.38825  | translation                        |
| 1263 | <i>vng1263</i> | 0.056  | 1.137 | 0.385844 | -0.003 | 0.993 | 0.9475   | unknown                            |
| 1264 | <i>vng1264</i> | 0.018  | 1.043 | 0.747845 | 0.003  | 1.006 | 0.642875 | unknown                            |
| 1266 | <i>ogg</i>     | 0.022  | 1.051 | 0.079735 | -0.009 | 0.980 | 0.787083 | DNA metabolism                     |
| 1268 | <i>vng1268</i> | -0.216 | 0.608 | 0.182681 | 0.064  | 1.159 | 0.298083 | unknown                            |
| 1270 | <i>vng1270</i> | -0.076 | 0.840 | 0.544644 | -0.027 | 0.939 | 0.89775  | unknown                            |
| 1271 | <i>vng1271</i> | 0.101  | 1.262 | 0.296749 | -0.041 | 0.911 | 0.593625 | unknown                            |
| 1272 | <i>vng1272</i> | 0.036  | 1.087 | 0.545394 | -0.019 | 0.957 | 0.693583 | unknown                            |
| 1273 | <i>moaC</i>    | -0.001 | 0.997 | 0.277206 | -0.005 | 0.988 | 0.320875 | cofactor and secondary metabolites |
| 1275 | <i>hflX2</i>   | 0.020  | 1.047 | 0.590433 | -0.022 | 0.950 | 0.682417 | cellular process                   |
| 1276 | <i>vng1276</i> | -0.003 | 0.994 | 0.406927 | -0.018 | 0.959 | 0.748833 | translation                        |
| 1279 | <i>vng1279</i> | -0.045 | 0.902 | 0.564437 | 0.031  | 1.074 | 0.72125  | translation                        |
| 1280 | <i>vng1280</i> | -0.013 | 0.970 | 0.498362 | 0.015  | 1.035 | 0.768    | cofactor and secondary metabolites |
| 1281 | <i>vng1281</i> | -0.181 | 0.658 | 0.192621 | 0.077  | 1.195 | 0.178325 | translation                        |
| 1282 | <i>trkA5</i>   | -0.032 | 0.929 | 0.275835 | 0.000  | 1.000 | 0.74125  | transport                          |
| 1283 | <i>vng1283</i> | -0.128 | 0.745 | 0.456531 | -0.019 | 0.958 | 0.86325  | unknown                            |
| 1284 | <i>trkH1</i>   | -0.075 | 0.842 | 0.345179 | 0.020  | 1.047 | 0.458317 | transport                          |
| 1285 | <i>asxR3</i>   | 0.020  | 1.046 | 0.527123 | 0.026  | 1.061 | 0.617017 | transcription and regulation       |
| 1287 | <i>vng1287</i> | -0.019 | 0.958 | 0.398989 | -0.019 | 0.958 | 0.7325   | translation                        |
| 1289 | <i>vng1289</i> | -0.068 | 0.855 | 0.306832 | -0.165 | 0.684 | 0.00139  | unknown                            |
| 1291 | <i>vng1291</i> | 0.007  | 1.017 | 0.74382  | 0.013  | 1.031 | 0.7685   | unknown                            |
| 1292 | <i>vng1292</i> | 0.001  | 1.002 | 0.742682 | -0.003 | 0.993 | 0.839    | unknown                            |
| 1294 | <i>slyD</i>    | 0.020  | 1.048 | 0.569987 | -0.004 | 0.990 | 0.809917 | cellular process                   |
| 1295 | <i>vng1295</i> | 0.023  | 1.054 | 0.252637 | -0.011 | 0.975 | 0.73075  | unknown                            |
| 1296 | <i>vng1296</i> | -0.099 | 0.796 | 0.386504 | -0.021 | 0.952 | 0.72375  | nucleotide metabolism              |
| 1297 | <i>vng1297</i> | 0.040  | 1.098 | 0.514493 | -0.065 | 0.860 | 0.27165  | amino acid metabolism              |
| 1299 | <i>vng1299</i> | 0.064  | 1.160 | 0.347439 | -0.008 | 0.982 | 0.741417 | cofactor and secondary metabolites |
| 1300 | <i>vng1300</i> | -0.027 | 0.941 | 0.359237 | -0.025 | 0.943 | 0.417875 | unknown                            |
| 1301 | <i>cysK</i>    | -0.007 | 0.983 | 0.689341 | -0.047 | 0.898 | 0.562525 | amino acid metabolism              |
| 1302 | <i>vng1302</i> | 0.147  | 1.403 | 0.014266 | -0.081 | 0.829 | 0.13045  | cellular process                   |
| 1303 | <i>vng1303</i> | -0.022 | 0.951 | 0.566574 | 0.009  | 1.022 | 0.528167 | cellular process                   |
| 1305 | <i>purD</i>    | 0.002  | 1.004 | 0.523444 | 0.033  | 1.080 | 0.546833 | nucleotide metabolism              |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1306 | <i>sdhA</i>    | -0.088 | 0.817 | 0.212496 | 0.054  | 1.132 | 0.32575  | energy metabolism                  |
| 1308 | <i>sdhB</i>    | -0.040 | 0.911 | 0.538863 | 0.049  | 1.119 | 0.37225  | energy metabolism                  |
| 1309 | <i>sdhD</i>    | 0.048  | 1.117 | 0.262107 | 0.073  | 1.182 | 0.3271   | energy metabolism                  |
| 1310 | <i>sdhC</i>    | 0.004  | 1.010 | 0.531501 | 0.065  | 1.162 | 0.249233 | energy metabolism                  |
| 1311 | <i>alkA</i>    | 0.011  | 1.025 | 0.833652 | 0.047  | 1.114 | 0.7885   | DNA metabolism                     |
| 1313 | <i>hbd2</i>    | 0.176  | 1.499 | 0.083115 | -0.015 | 0.967 | 0.78575  | carbohydrate and lipid metabolism  |
| 1314 | <i>vng1314</i> | 0.007  | 1.016 | 0.6968   | 0.084  | 1.213 | 0.13205  | unknown                            |
| 1315 | <i>vng1315</i> | 0.021  | 1.050 | 0.690545 | 0.096  | 1.247 | 0.08465  | unknown                            |
| 1317 | <i>vng1317</i> | 0.018  | 1.042 | 0.512463 | 0.024  | 1.057 | 0.531583 | unknown                            |
| 1318 | <i>vng1318</i> | -0.016 | 0.963 | 0.569509 | -0.085 | 0.823 | 0.20665  | unknown                            |
| 1319 | <i>vng1319</i> | 0.047  | 1.113 | 0.157177 | 0.025  | 1.059 | 0.646125 | unknown                            |
| 1320 | <i>cbp</i>     | -0.247 | 0.567 | 0.237123 | 0.052  | 1.126 | 0.500833 | cellular process                   |
| 1323 | <i>vng1323</i> | -0.132 | 0.737 | 0.316899 | 0.017  | 1.040 | 0.349317 | unknown                            |
| 1324 | <i>vng1324</i> | -0.035 | 0.923 | 0.642943 | -0.035 | 0.923 | 0.60275  | unknown                            |
| 1325 | <i>vng1325</i> | 0.120  | 1.318 | 0.191145 | 0.015  | 1.036 | 0.754417 | nucleotide metabolism              |
| 1326 | <i>vng1326</i> | 0.027  | 1.064 | 0.234208 | -0.038 | 0.916 | 0.474875 | unknown                            |
| 1327 | <i>fprA</i>    | 0.126  | 1.336 | 0.035299 | -0.016 | 0.964 | 0.727    | general function prediction only   |
| 1329 | <i>vng1329</i> | 0.110  | 1.289 | 0.047948 | 0.015  | 1.035 | 0.7685   | unknown                            |
| 1330 | <i>vng1330</i> | -0.007 | 0.984 | 0.311984 | -0.048 | 0.896 | 0.428367 | unknown                            |
| 1332 | <i>sod2</i>    | 0.404  | 2.536 | 1.21E-08 | 0.034  | 1.080 | 0.503    | cellular process                   |
| 1335 | <i>phr2</i>    | 0.113  | 1.298 | 0.247921 | -0.018 | 0.958 | 0.739833 | DNA metabolism                     |
| 1336 | <i>vng1336</i> | -0.001 | 0.997 | 0.296433 | -0.004 | 0.991 | 0.512583 | cofactor and secondary metabolites |
| 1337 | <i>vng1337</i> | -0.060 | 0.871 | 0.491862 | -0.030 | 0.934 | 0.72725  | unknown                            |
| 1339 | <i>vng1339</i> | 0.373  | 2.361 | 0.0049   | 0.007  | 1.017 | 0.640458 | carbohydrate and lipid metabolism  |
| 1340 | <i>vng1340</i> | 0.064  | 1.159 | 0.454011 | -0.013 | 0.970 | 0.640442 | unknown                            |
| 1341 | <i>fabG</i>    | 0.143  | 1.389 | 0.007682 | -0.006 | 0.987 | 0.78825  | cofactor and secondary metabolites |
| 1342 | <i>mer</i>     | 0.052  | 1.128 | 0.50106  | -0.006 | 0.987 | 0.77525  | energy metabolism                  |
| 1343 | <i>vng1343</i> | -0.016 | 0.963 | 0.520386 | -0.011 | 0.975 | 0.783333 | unknown                            |
| 1344 | <i>dhpS</i>    | -0.022 | 0.951 | 0.553255 | 0.010  | 1.023 | 0.430733 | cofactor and secondary metabolites |
| 1345 | <i>vng1345</i> | 0.019  | 1.045 | 0.670066 | -0.017 | 0.961 | 0.73175  | unknown                            |
| 1347 | <i>vng1347</i> | 0.008  | 1.019 | 0.692549 | -0.232 | 0.586 | 0.12975  | translation                        |
| 1349 | <i>vng1349</i> | -0.141 | 0.723 | 0.012778 | 0.024  | 1.058 | 0.652    | carbohydrate and lipid metabolism  |
| 1350 | <i>vng1350</i> | -0.016 | 0.965 | 0.761595 | 0.040  | 1.095 | 0.509667 | carbohydrate and lipid metabolism  |
| 1351 | <i>asxR4</i>   | 0.062  | 1.154 | 0.210371 | -0.061 | 0.870 | 0.361925 | transcription and regulation       |
| 1352 | <i>gatB1</i>   | -0.117 | 0.763 | 0.479398 | 0.020  | 1.047 | 0.729667 | translation                        |
| 1353 | <i>vng1353</i> | 0.023  | 1.055 | 0.527519 | 0.031  | 1.073 | 0.66575  | unknown                            |
| 1355 | <i>vng1355</i> | -0.024 | 0.947 | 0.632185 | -0.013 | 0.970 | 0.69675  | unknown                            |
| 1356 | <i>fumC</i>    | 0.216  | 1.643 | 0.073567 | -0.010 | 0.976 | 0.738583 | energy metabolism                  |
| 1357 | <i>balR</i>    | -0.074 | 0.844 | 0.390655 | 0.004  | 1.010 | 0.8395   | transcription and regulation       |
| 1359 | <i>rad2</i>    | 0.011  | 1.025 | 0.569664 | -0.081 | 0.831 | 0.417464 | DNA metabolism                     |
| 1360 | <i>vng1360</i> | 0.055  | 1.134 | 0.254793 | 0.001  | 1.002 | 0.9375   | unknown                            |
| 1362 | <i>vng1362</i> | 0.073  | 1.184 | 0.389231 | 0.011  | 1.025 | 0.776    | unknown                            |
| 1364 | <i>ocd2</i>    | 0.121  | 1.323 | 0.087478 | -0.031 | 0.930 | 0.5065   | amino acid metabolism              |
| 1365 | <i>vng1365</i> | 0.005  | 1.012 | 0.680168 | -0.012 | 0.973 | 0.775167 | unknown                            |
| 1366 | <i>vng1366</i> | 0.041  | 1.098 | 0.696743 | -0.017 | 0.961 | 0.840875 | translation                        |
| 1367 | <i>srp19</i>   | 0.059  | 1.145 | 0.277273 | 0.004  | 1.010 | 0.89225  | cellular process                   |
| 1369 | <i>hemV1</i>   | 0.078  | 1.197 | 0.307635 | -0.035 | 0.923 | 0.562    | transport                          |
| 1370 | <i>hemU</i>    | 0.002  | 1.005 | 0.468647 | 0.035  | 1.083 | 0.6445   | transport                          |
| 1371 | <i>hemV2</i>   | -0.086 | 0.820 | 0.433523 | -0.016 | 0.965 | 0.669667 | transport                          |
| 1372 | <i>vng1372</i> | 0.030  | 1.071 | 0.215736 | -0.087 | 0.819 | 0.349601 | unknown                            |
| 1374 | <i>kinA1</i>   | -0.020 | 0.956 | 0.249695 | -0.040 | 0.911 | 0.253334 | cellular process                   |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1375 | <i>vng1375</i> | -0.078 | 0.836 | 0.153444 | -0.098 | 0.797 | 0.251465 | cellular process                   |
| 1376 | <i>vng1376</i> | -0.058 | 0.875 | 0.350247 | 0.006  | 1.014 | 0.784625 | unknown                            |
| 1377 | <i>asnC</i>    | 0.002  | 1.005 | 0.58864  | -0.032 | 0.929 | 0.247525 | transcription and regulation       |
| 1379 | <i>suhB</i>    | -0.013 | 0.971 | 0.799067 | 0.044  | 1.106 | 0.40375  | carbohydrate and lipid metabolism  |
| 1380 | <i>vng1380</i> | 0.109  | 1.284 | 0.353529 | -0.006 | 0.987 | 0.58925  | unknown                            |
| 1381 | <i>vng1381</i> | 0.117  | 1.310 | 0.068696 | -0.015 | 0.966 | 0.6455   | unknown                            |
| 1382 | <i>vng1382</i> | -0.023 | 0.949 | 0.600692 | -0.140 | 0.724 | 0.533833 | unknown                            |
| 1383 | <i>rad3a</i>   | 0.010  | 1.023 | 0.485189 | -0.020 | 0.954 | 0.536633 | DNA metabolism                     |
| 1384 | <i>vng1384</i> | -0.070 | 0.851 | 0.485715 | -0.055 | 0.881 | 0.43075  | unknown                            |
| 1385 | <i>yvoF</i>    | 0.012  | 1.027 | 0.45117  | -0.028 | 0.937 | 0.62825  | general function prediction only   |
| 1387 | <i>vng1387</i> | 0.055  | 1.134 | 0.452404 | 0.031  | 1.075 | 0.515767 | unknown                            |
| 1388 | <i>vng1388</i> | -0.026 | 0.942 | 0.522302 | -0.004 | 0.990 | 0.313067 | unknown                            |
| 1389 | <i>vng1389</i> | 0.070  | 1.175 | 0.443469 | -0.046 | 0.900 | 0.452417 | unknown                            |
| 1390 | <i>tfl</i>     | 0.140  | 1.379 | 0.140177 | -0.046 | 0.899 | 0.6925   | transcription and regulation       |
| 1394 | <i>arlR10</i>  | 0.110  | 1.288 | 0.091138 | -0.068 | 0.856 | 0.237825 | transcription and regulation       |
| 1395 | <i>htr9</i>    | 0.022  | 1.053 | 0.517603 | -0.008 | 0.982 | 0.424208 | cellular process                   |
| 1397 | <i>vng1397</i> | 0.024  | 1.057 | 0.43971  | -0.013 | 0.971 | 0.697    | unknown                            |
| 1398 | <i>act4</i>    | -0.019 | 0.958 | 0.714138 | 0.025  | 1.060 | 0.543    | transcription and regulation       |
| 1401 | <i>vng1401</i> | 0.037  | 1.089 | 0.29498  | 0.012  | 1.027 | 0.8045   | unknown                            |
| 1402 | <i>vng1402</i> | 0.034  | 1.081 | 0.563308 | -0.018 | 0.960 | 0.85125  | unknown                            |
| 1403 | <i>vng1403</i> | -0.001 | 0.997 | 0.276913 | -0.221 | 0.601 | 0.39375  | unknown                            |
| 1404 | <i>trh1</i>    | 0.068  | 1.170 | 0.054831 | -0.081 | 0.831 | 0.26785  | cellular process                   |
| 1405 | <i>mrlR</i>    | -0.091 | 0.811 | 0.268966 | 0.036  | 1.086 | 0.565    | transcription and regulation       |
| 1406 | <i>rad25b</i>  | -0.017 | 0.963 | 0.633603 | -0.046 | 0.900 | 0.42035  | DNA metabolism                     |
| 1407 | <i>vng1407</i> | 0.021  | 1.050 | 0.661305 | -0.044 | 0.903 | 0.409375 | unknown                            |
| 1408 | <i>ush</i>     | 0.230  | 1.696 | 0.000239 | 0.029  | 1.070 | 0.601167 | nucleotide metabolism              |
| 1409 | <i>vng1409</i> | 0.078  | 1.196 | 0.047544 | 0.002  | 1.004 | 0.764833 | unknown                            |
| 1410 | <i>vng1410</i> | -0.036 | 0.920 | 0.55512  | -0.006 | 0.985 | 0.736    | unknown                            |
| 1412 | <i>vng1412</i> | 0.081  | 1.205 | 0.37828  | -0.018 | 0.959 | 0.730375 | unknown                            |
| 1413 | <i>vng1413</i> | -0.019 | 0.958 | 0.548887 | 0.027  | 1.063 | 0.547483 | unknown                            |
| 1414 | <i>glyA</i>    | 0.128  | 1.343 | 0.096834 | 0.068  | 1.169 | 0.3196   | amino acid metabolism              |
| 1416 | <i>folD</i>    | 0.076  | 1.190 | 0.365463 | 0.063  | 1.157 | 0.284375 | cofactor and secondary metabolites |
| 1417 | <i>vng1417</i> | 0.034  | 1.081 | 0.246601 | -0.004 | 0.991 | 0.729917 | unknown                            |
| 1418 | <i>vng1418</i> | 0.030  | 1.073 | 0.621395 | -0.069 | 0.853 | 0.381507 | unknown                            |
| 1420 | <i>vng1420</i> | -0.149 | 0.709 | 0.073131 | -0.003 | 0.993 | 0.858    | unknown                            |
| 1422 | <i>vng1422</i> | 0.033  | 1.079 | 0.507841 | -0.025 | 0.944 | 0.615875 | unknown                            |
| 1423 | <i>vng1423</i> | -0.084 | 0.824 | 0.255802 | -0.060 | 0.871 | 0.456313 | unknown                            |
| 1425 | <i>vng1425</i> | 0.024  | 1.056 | 0.748285 | -0.001 | 0.998 | 0.69525  | unknown                            |
| 1426 | <i>prlR2</i>   | 0.105  | 1.274 | 0.175212 | -0.024 | 0.946 | 0.64925  | transcription and regulation       |
| 1427 | <i>vng1427</i> | 0.040  | 1.096 | 0.612385 | -0.069 | 0.854 | 0.29157  | unknown                            |
| 1428 | <i>htlA</i>    | -0.017 | 0.961 | 0.721196 | 0.035  | 1.084 | 0.47925  | cellular process                   |
| 1429 | <i>vng1429</i> | 0.035  | 1.084 | 0.473861 | 0.048  | 1.116 | 0.359    | unknown                            |
| 1431 | <i>vng1431</i> | 0.038  | 1.090 | 0.275885 | 0.003  | 1.008 | 0.76825  | translation                        |
| 1432 | <i>dys</i>     | -0.149 | 0.709 | 0.365183 | 0.055  | 1.134 | 0.364458 | translation                        |
| 1433 | <i>rps17e</i>  | 0.085  | 1.216 | 0.274871 | -0.098 | 0.798 | 0.05635  | translation                        |
| 1435 | <i>asd</i>     | 0.005  | 1.011 | 0.577351 | 0.034  | 1.081 | 0.51875  | amino acid metabolism              |
| 1437 | <i>serA2</i>   | 0.122  | 1.324 | 0.027276 | -0.056 | 0.880 | 0.29825  | amino acid metabolism              |
| 1438 | <i>arlR10</i>  | 0.154  | 1.424 | 0.028858 | -0.015 | 0.966 | 0.6165   | transcription and regulation       |
| 1440 | <i>vng1440</i> | -0.003 | 0.993 | 0.415811 | 0.021  | 1.049 | 0.689    | unknown                            |
| 1442 | <i>htr12</i>   | -0.106 | 0.783 | 0.102934 | 0.026  | 1.061 | 0.636    | cellular process                   |
| 1444 | <i>hisD</i>    | 0.062  | 1.153 | 0.390048 | 0.012  | 1.027 | 0.519067 | amino acid metabolism              |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1446 | <i>vng1446</i> | -0.103 | 0.789 | 0.144529 | 0.087  | 1.222 | 0.1153   | unknown                            |
| 1447 | <i>vng1447</i> | 0.015  | 1.036 | 0.340384 | -0.036 | 0.921 | 0.534    | unknown                            |
| 1448 | <i>vng1448</i> | -0.054 | 0.882 | 0.298868 | 0.017  | 1.040 | 0.439358 | unknown                            |
| 1450 | <i>yfkN</i>    | 0.006  | 1.014 | 0.661665 | -0.027 | 0.939 | 0.59175  | cofactor and secondary metabolites |
| 1451 | <i>sstR1</i>   | -0.009 | 0.980 | 0.509143 | -0.025 | 0.944 | 0.663917 | transcription and regulation       |
| 1452 | <i>elf2bd</i>  | -0.165 | 0.683 | 0.401074 | 0.032  | 1.078 | 0.475571 | translation                        |
| 1453 | <i>vng1453</i> | 0.125  | 1.333 | 0.150685 | 0.030  | 1.072 | 0.566167 | unknown                            |
| 1454 | <i>vng1454</i> | 0.035  | 1.083 | 0.659511 | 0.016  | 1.037 | 0.633158 | unknown                            |
| 1455 | <i>vng1455</i> | 0.092  | 1.236 | 0.354031 | 0.000  | 1.000 | 0.519083 | unknown                            |
| 1456 | <i>vng1456</i> | 0.051  | 1.125 | 0.520253 | -0.026 | 0.943 | 0.81425  | unknown                            |
| 1457 | <i>vng1457</i> | -0.119 | 0.760 | 0.079643 | -0.046 | 0.900 | 0.3895   | unknown                            |
| 1458 | <i>crtB1</i>   | -0.064 | 0.864 | 0.490885 | 0.060  | 1.147 | 0.605    | carbohydrate and lipid metabolism  |
| 1459 | <i>vng1459</i> | -0.051 | 0.889 | 0.469871 | 0.087  | 1.221 | 0.1245   | unknown                            |
| 1461 | <i>vng1461</i> | -0.090 | 0.813 | 0.544937 | 0.062  | 1.152 | 0.42225  | unknown                            |
| 1462 | <i>cdc48a</i>  | 0.023  | 1.054 | 0.64727  | 0.016  | 1.037 | 0.532083 | cellular process                   |
| 1463 | <i>blp</i>     | -0.003 | 0.994 | 0.380257 | 0.031  | 1.074 | 0.635917 | energy metabolism                  |
| 1464 | <i>bat</i>     | -0.049 | 0.893 | 0.651315 | 0.024  | 1.056 | 0.846417 | transcription and regulation       |
| 1465 | <i>brp</i>     | -0.020 | 0.956 | 0.678546 | 0.038  | 1.091 | 0.700333 | energy metabolism                  |
| 1466 | <i>vng1466</i> | 0.073  | 1.183 | 0.426187 | -0.094 | 0.806 | 0.242463 | energy metabolism                  |
| 1467 | <i>bop</i>     | -0.219 | 0.604 | 0.280747 | 0.206  | 1.606 | 0.206848 | energy metabolism                  |
| 1468 | <i>vng1468</i> | 0.084  | 1.213 | 0.437013 | 0.113  | 1.298 | 0.0652   | unknown                            |
| 1470 | <i>pri</i>     | -0.067 | 0.857 | 0.395277 | 0.020  | 1.048 | 0.463583 | DNA metabolism                     |
| 1471 | <i>vng1471</i> | -0.046 | 0.899 | 0.378799 | 0.027  | 1.065 | 0.587208 | unknown                            |
| 1472 | <i>cdc48b</i>  | 0.052  | 1.128 | 0.119714 | 0.039  | 1.094 | 0.464667 | cellular process                   |
| 1473 | <i>vng1473</i> | 0.172  | 1.485 | 0.363164 | 0.083  | 1.210 | 0.12265  | unknown                            |
| 1474 | <i>est</i>     | 0.095  | 1.244 | 0.270725 | -0.043 | 0.905 | 0.483367 | general function prediction only   |
| 1475 | <i>vng1475</i> | 0.006  | 1.014 | 0.585737 | -0.005 | 0.989 | 0.755833 | unknown                            |
| 1476 | <i>vng1476</i> | 0.055  | 1.135 | 0.410343 | -0.036 | 0.921 | 0.573292 | unknown                            |
| 1478 | <i>panB</i>    | 0.224  | 1.675 | 0.113975 | -0.022 | 0.951 | 0.695875 | cofactor and secondary metabolites |
| 1479 | <i>vng1479</i> | -0.108 | 0.779 | 0.059563 | -0.071 | 0.849 | 0.25125  | unknown                            |
| 1480 | <i>vng1480</i> | -0.057 | 0.877 | 0.379361 | 0.010  | 1.022 | 0.843    | unknown                            |
| 1481 | <i>sat</i>     | 0.105  | 1.274 | 0.140907 | 0.014  | 1.033 | 0.7775   | amino acid metabolism              |
| 1482 | <i>acd5</i>    | 0.082  | 1.208 | 0.299358 | -0.020 | 0.954 | 0.65075  | carbohydrate and lipid metabolism  |
| 1483 | <i>mbf</i>     | 0.045  | 1.109 | 0.459602 | -0.030 | 0.934 | 0.555367 | transcription and regulation       |
| 1484 | <i>vng1484</i> | 0.011  | 1.027 | 0.722924 | -0.067 | 0.858 | 0.500915 | unknown                            |
| 1486 | <i>vng1486</i> | 0.019  | 1.046 | 0.275346 | -0.030 | 0.934 | 0.6365   | unknown                            |
| 1487 | <i>vng1487</i> | -0.051 | 0.890 | 0.20714  | -0.011 | 0.976 | 0.473    | unknown                            |
| 1488 | <i>boa2</i>    | 0.102  | 1.265 | 0.147692 | -0.016 | 0.964 | 0.7585   | transcription and regulation       |
| 1490 | <i>arlR11</i>  | 0.105  | 1.275 | 0.376588 | -0.044 | 0.904 | 0.325375 | transcription and regulation       |
| 1492 | <i>vng1492</i> | -0.011 | 0.976 | 0.722637 | -0.017 | 0.961 | 0.757167 | unknown                            |
| 1493 | <i>purF</i>    | 0.052  | 1.126 | 0.439948 | 0.125  | 1.335 | 0.024154 | nucleotide metabolism              |
| 1494 | <i>rpl37e</i>  | 0.135  | 1.366 | 0.047862 | -0.062 | 0.866 | 0.27025  | translation                        |
| 1496 | <i>snp</i>     | 0.027  | 1.063 | 0.011742 | -0.100 | 0.793 | 0.0578   | transcription and regulation       |
| 1497 | <i>Vng1497</i> | -0.080 | 0.832 | 0.287317 | 0.013  | 1.030 | 0.702917 | unknown                            |
| 1498 | <i>celM</i>    | 0.155  | 1.429 | 0.037008 | 0.056  | 1.138 | 0.358    | carbohydrate and lipid metabolism  |
| 1500 | <i>vng1500</i> | 0.058  | 1.144 | 0.366672 | -0.005 | 0.989 | 0.8685   | unknown                            |
| 1501 | <i>hel</i>     | 0.067  | 1.167 | 0.430406 | -0.008 | 0.982 | 0.638    | DNA metabolism                     |
| 1503 | <i>vng1503</i> | 0.011  | 1.026 | 0.585421 | -0.137 | 0.730 | 0.2719   | unknown                            |
| 1505 | <i>htr10</i>   | -0.090 | 0.812 | 0.606968 | 0.011  | 1.026 | 0.8435   | cellular process                   |
| 1506 | <i>pelA</i>    | -0.020 | 0.956 | 0.49381  | 0.020  | 1.048 | 0.700667 | cellular process                   |
| 1508 | <i>snp2</i>    | 0.021  | 1.049 | 0.275967 | 0.013  | 1.030 | 0.753333 | transcription and regulation       |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1510 | <i>act5</i>    | 0.029  | 1.068 | 0.630277 | 0.029  | 1.069 | 0.620167 | transcription and regulation       |
| 1511 | <i>vng1511</i> | -0.015 | 0.965 | 0.371943 | -0.011 | 0.975 | 0.723167 | DNA metabolism                     |
| 1513 | <i>vng1513</i> | 0.038  | 1.090 | 0.547906 | -0.216 | 0.608 | 0.00029  | unknown                            |
| 1514 | <i>vng1514</i> | 0.063  | 1.155 | 0.506648 | 0.040  | 1.097 | 0.493375 | unknown                            |
| 1515 | <i>tdk</i>     | -0.048 | 0.895 | 0.41244  | 0.059  | 1.145 | 0.29975  | nucleotide metabolism              |
| 1518 | <i>vng1518</i> | 0.054  | 1.131 | 0.254564 | 0.003  | 1.007 | 0.515875 | cellular process                   |
| 1519 | <i>vng1519</i> | -0.047 | 0.898 | 0.483436 | -0.012 | 0.973 | 0.8675   | unknown                            |
| 1520 | <i>mutY</i>    | 0.010  | 1.022 | 0.369763 | 0.024  | 1.057 | 0.62275  | DNA metabolism                     |
| 1523 | <i>htr8</i>    | -0.033 | 0.927 | 0.288662 | 0.004  | 1.010 | 0.855667 | cellular process                   |
| 1524 | <i>vng1524</i> | 0.233  | 1.708 | 0.048145 | 0.011  | 1.025 | 0.6665   | amino acid metabolism              |
| 1525 | <i>vng1525</i> | -0.039 | 0.914 | 0.554599 | 0.030  | 1.071 | 0.633217 | unknown                            |
| 1526 | <i>trp7</i>    | 0.075  | 1.188 | 0.429332 | -0.014 | 0.968 | 0.519083 | transport                          |
| 1528 | <i>nac</i>     | 0.086  | 1.219 | 0.504901 | -0.038 | 0.915 | 0.79425  | transport                          |
| 1529 | <i>mmdA</i>    | 0.066  | 1.164 | 0.302065 | 0.034  | 1.082 | 0.502417 | carbohydrate and lipid metabolism  |
| 1530 | <i>vng1530</i> | -0.137 | 0.730 | 0.639408 | 0.012  | 1.029 | 0.83025  | unknown                            |
| 1532 | <i>acc</i>     | -0.007 | 0.983 | 0.459025 | 0.073  | 1.183 | 0.254142 | carbohydrate and lipid metabolism  |
| 1533 | <i>vng1533</i> | -0.026 | 0.942 | 0.686406 | 0.035  | 1.084 | 0.605333 | unknown                            |
| 1534 | <i>birA</i>    | -0.130 | 0.742 | 0.036442 | -0.006 | 0.987 | 0.5605   | transcription and regulation       |
| 1536 | <i>birL</i>    | 0.148  | 1.405 | 0.247226 | 0.008  | 1.018 | 0.8965   | cofactor and secondary metabolites |
| 1537 | <i>vng1536</i> | -0.018 | 0.959 | 0.000354 | 0.044  | 1.107 | 0.43775  | cellular process                   |
| 1538 | <i>vng1537</i> | 0.097  | 1.252 | 0.203805 | 0.022  | 1.052 | 0.697417 | unknown                            |
| 1540 | <i>vng1538</i> | 0.105  | 1.274 | 0.302284 | -0.030 | 0.934 | 0.714875 | unknown                            |
| 1541 | <i>ywfD</i>    | 0.182  | 1.521 | 0.017798 | 0.036  | 1.085 | 0.496583 | general function prediction only   |
| 1542 | <i>sucC</i>    | 0.250  | 1.778 | 0.000202 | 0.066  | 1.165 | 0.256275 | energy metabolism                  |
| 1543 | <i>sucD</i>    | -0.033 | 0.926 | 0.447098 | 0.063  | 1.157 | 0.306333 | energy metabolism                  |
| 1544 | <i>zim</i>     | -0.010 | 0.976 | 0.261691 | -0.058 | 0.875 | 0.46067  | DNA metabolism                     |
| 1546 | <i>clc</i>     | 0.066  | 1.163 | 0.186064 | -0.032 | 0.929 | 0.55825  | transport                          |
| 1547 | <i>vng1547</i> | 0.033  | 1.080 | 0.534491 | -0.037 | 0.918 | 0.5115   | unknown                            |
| 1548 | <i>calR</i>    | -0.102 | 0.791 | 0.366083 | -0.009 | 0.980 | 0.46455  | transcription and regulation       |
| 1550 | <i>cbiT</i>    | -0.080 | 0.832 | 0.351607 | 0.004  | 1.010 | 0.899    | cofactor and secondary metabolites |
| 1551 | <i>cbiL</i>    | -0.061 | 0.869 | 0.218684 | -0.032 | 0.929 | 0.5235   | cofactor and secondary metabolites |
| 1553 | <i>cbiF</i>    | -0.246 | 0.567 | 0.006521 | 0.017  | 1.040 | 0.7315   | cofactor and secondary metabolites |
| 1554 | <i>cbiG</i>    | -0.271 | 0.536 | 0.271921 | 0.047  | 1.114 | 0.325083 | cofactor and secondary metabolites |
| 1555 | <i>cobH</i>    | -0.324 | 0.475 | 0.002074 | 0.028  | 1.067 | 0.585417 | cofactor and secondary metabolites |
| 1557 | <i>cbiH</i>    | -0.245 | 0.569 | 0.075976 | 0.067  | 1.167 | 0.224325 | cofactor and secondary metabolites |
| 1558 | <i>vng1558</i> | -0.532 | 0.294 | 7.58E-13 | 0.060  | 1.148 | 0.278825 | unknown                            |
| 1559 | <i>vng1559</i> | -0.472 | 0.338 | 1.83E-06 | 0.023  | 1.055 | 0.610667 | unknown                            |
| 1561 | <i>vng1561</i> | -0.349 | 0.448 | 0.131437 | 0.002  | 1.004 | 0.6205   | cofactor and secondary metabolites |
| 1562 | <i>vng1562</i> | -0.059 | 0.874 | 0.430925 | 0.009  | 1.021 | 0.584167 | unknown                            |
| 1564 | <i>vng1564</i> | -0.030 | 0.933 | 0.679055 | -0.063 | 0.864 | 0.729    | unknown                            |
| 1565 | <i>hmcA</i>    | 0.073  | 1.183 | 0.490704 | -0.030 | 0.932 | 0.610167 | cofactor and secondary metabolites |
| 1566 | <i>cobN</i>    | -0.243 | 0.571 | 0.014044 | 0.067  | 1.166 | 0.226383 | cofactor and secondary metabolites |
| 1567 | <i>cbiC</i>    | -0.355 | 0.442 | 0.000111 | 0.086  | 1.220 | 0.105275 | cofactor and secondary metabolites |
| 1568 | <i>cbiJ</i>    | -0.098 | 0.798 | 0.162053 | 0.019  | 1.044 | 0.597917 | cofactor and secondary metabolites |
| 1570 | <i>vng1570</i> | 0.032  | 1.076 | 0.531556 | -0.098 | 0.799 | 0.0762   | unknown                            |
| 1572 | <i>vng1572</i> | -0.103 | 0.789 | 0.098356 | 0.037  | 1.090 | 0.473    | cofactor and secondary metabolites |



|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1573 | <i>cbiA</i>    | -0.151 | 0.707 | 0.28479  | 0.126  | 1.337 | 0.094253 | cofactor and secondary metabolites |
| 1574 | <i>cobI</i>    | -0.290 | 0.513 | 0.131664 | 0.091  | 1.232 | 0.225985 | cofactor and secondary metabolites |
| 1576 | <i>cbiP</i>    | -0.251 | 0.561 | 0.077747 | 0.092  | 1.236 | 0.13905  | cofactor and secondary metabolites |
| 1577 | <i>vng1577</i> | -0.037 | 0.919 | 0.510268 | 0.006  | 1.013 | 0.523983 | unknown                            |
| 1578 | <i>vng1578</i> | -0.157 | 0.696 | 0.128275 | 0.036  | 1.087 | 0.585375 | cofactor and secondary metabolites |
| 1580 | <i>vng1580</i> | -0.112 | 0.774 | 0.7545   | 0.123  | 1.328 | 0.745    | cofactor and secondary metabolites |
| 1581 | <i>cobY</i>    | -0.190 | 0.646 | 0.163124 | -0.021 | 0.953 | 0.6615   | cofactor and secondary metabolites |
| 1582 | <i>hisC2</i>   | -0.052 | 0.886 | 0.028586 | -0.008 | 0.981 | 0.522333 | cofactor and secondary metabolites |
| 1583 | <i>cbiZ</i>    | -0.014 | 0.969 | 0.382893 | -0.016 | 0.965 | 0.75075  | cofactor and secondary metabolites |
| 1585 | <i>vng1585</i> | -0.118 | 0.762 | 0.30521  | -0.087 | 0.818 | 0.13545  | unknown                            |
| 1587 | <i>vng1587</i> | 0.139  | 1.379 | 0.334132 | 0.084  | 1.214 | 0.306    | unknown                            |
| 1589 | <i>vng1589</i> | -0.111 | 0.775 | 0.089612 | 0.009  | 1.021 | 0.76225  | unknown                            |
| 1590 | <i>vng1590</i> | 0.034  | 1.082 | 0.595058 | 0.088  | 1.226 | 0.271267 | unknown                            |
| 1591 | <i>vng1591</i> | 0.074  | 1.185 | 0.135883 | 0.000  | 1.000 | 0.942    | unknown                            |
| 1592 | <i>cysU</i>    | -0.085 | 0.823 | 0.124076 | -0.018 | 0.959 | 0.727    | transport                          |
| 1595 | <i>modA</i>    | 0.010  | 1.022 | 0.495597 | -0.052 | 0.888 | 0.359333 | transport                          |
| 1598 | <i>vng1598</i> | -0.018 | 0.959 | 0.542147 | 0.060  | 1.148 | 0.441    | unknown                            |
| 1601 | <i>gcvP2</i>   | 0.101  | 1.262 | 0.185857 | 0.050  | 1.123 | 0.403583 | amino acid metabolism              |
| 1603 | <i>gcvP1</i>   | 0.152  | 1.419 | 0.12656  | 0.078  | 1.198 | 0.161967 | amino acid metabolism              |
| 1605 | <i>gdcH</i>    | 0.197  | 1.574 | 0.141592 | 0.013  | 1.029 | 0.7695   | amino acid metabolism              |
| 1606 | <i>gcvT1</i>   | 0.060  | 1.149 | 0.171592 | 0.033  | 1.079 | 0.5085   | amino acid metabolism              |
| 1607 | <i>cheC2</i>   | 0.185  | 1.530 | 0.050691 | -0.057 | 0.878 | 0.325217 | cellular process                   |
| 1608 | <i>vng1608</i> | -0.034 | 0.924 | 0.480229 | 0.054  | 1.131 | 0.539667 | unknown                            |
| 1609 | <i>vng1609</i> | -0.048 | 0.895 | 0.450133 | -0.012 | 0.974 | 0.813    | unknown                            |
| 1610 | <i>vng1610</i> | -0.033 | 0.928 | 0.563145 | 0.035  | 1.085 | 0.639333 | unknown                            |
| 1611 | <i>vng1611</i> | 0.114  | 1.300 | 0.083029 | 0.029  | 1.069 | 0.558625 | unknown                            |
| 1613 | <i>vng1613</i> | -0.121 | 0.758 | 0.134102 | 0.096  | 1.247 | 0.231617 | unknown                            |
| 1615 | <i>mvaB</i>    | 0.333  | 2.154 | 0.026326 | -0.030 | 0.933 | 0.548833 | carbohydrate and lipid metabolism  |
| 1616 | <i>xrlR4</i>   | 0.076  | 1.190 | 0.369572 | -0.036 | 0.921 | 0.711083 | transcription and regulation       |
| 1617 | <i>act6</i>    | 0.088  | 1.224 | 0.406789 | 0.022  | 1.053 | 0.7285   | transcription and regulation       |
| 1618 | <i>vng1617</i> | 0.254  | 1.796 | 0.390496 | 0.016  | 1.038 | 0.78475  | unknown                            |
| 1619 | <i>vng1619</i> | 0.026  | 1.061 | 0.529299 | -0.067 | 0.856 | 0.336753 | unknown                            |
| 1621 | <i>vng1621</i> | -0.015 | 0.966 | 0.074647 | -0.033 | 0.926 | 0.51225  | unknown                            |
| 1622 | <i>rfcB</i>    | 0.028  | 1.066 | 0.484108 | 0.006  | 1.014 | 0.886917 | DNA metabolism                     |
| 1623 | <i>ccp</i>     | 0.160  | 1.447 | 0.013171 | -0.014 | 0.968 | 0.732583 | cellular process                   |
| 1624 | <i>mdh</i>     | 0.028  | 1.066 | 0.495941 | 0.017  | 1.040 | 0.62175  | energy metabolism                  |
| 1625 | <i>vng1625</i> | 0.021  | 1.050 | 0.559069 | -0.170 | 0.677 | 0.31625  | unknown                            |
| 1626 | <i>vng1626</i> | 0.196  | 1.570 | 0.026241 | -0.017 | 0.962 | 0.595    | carbohydrate and lipid metabolism  |
| 1628 | <i>aad</i>     | -0.040 | 0.912 | 0.565468 | -0.015 | 0.967 | 0.719    | energy metabolism                  |
| 1630 | <i>vng1630</i> | 0.055  | 1.135 | 0.177612 | -0.065 | 0.862 | 0.244325 | unknown                            |
| 1631 | <i>cbiO2</i>   | 0.008  | 1.019 | 0.415672 | -0.055 | 0.880 | 0.3624   | transport                          |
| 1632 | <i>cbiQ</i>    | 0.145  | 1.396 | 0.167905 | -0.012 | 0.974 | 0.7      | transport                          |
| 1634 | <i>cbiN</i>    | 0.458  | 2.871 | 6.25E-13 | -0.005 | 0.989 | 0.82125  | transport                          |
| 1635 | <i>cbiM</i>    | 0.453  | 2.836 | 2.42E-09 | -0.016 | 0.965 | 0.705417 | cofactor and secondary metabolites |
| 1637 | <i>hcpA</i>    | -0.021 | 0.952 | 0.464282 | -0.015 | 0.966 | 0.659917 | energy metabolism                  |
| 1638 | <i>vng1638</i> | 0.191  | 1.552 | 0.002236 | 0.021  | 1.050 | 0.703875 | unknown                            |
| 1640 | <i>vng1640</i> | 0.012  | 1.028 | 0.878842 | 0.008  | 1.020 | 0.928    | transcription and regulation       |
| 1641 | <i>vng1641</i> | 0.050  | 1.121 | 0.416988 | 0.011  | 1.027 | 0.695667 | unknown                            |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1642 | <i>vng1642</i> | -0.394 | 0.403 | 1.9E-08  | 0.060  | 1.147 | 0.2805   | unknown                            |
| 1644 | <i>nrdJ</i>    | -0.164 | 0.686 | 0.080157 | 0.149  | 1.410 | 0.008456 | nucleotide metabolism              |
| 1645 | <i>vng1645</i> | 0.043  | 1.104 | 0.396648 | 0.031  | 1.075 | 0.54875  | unknown                            |
| 1646 | <i>trpG1</i>   | 0.020  | 1.048 | 0.300146 | -0.012 | 0.974 | 0.477133 | amino acid metabolism              |
| 1647 | <i>trpE1</i>   | 0.004  | 1.008 | 0.597741 | 0.025  | 1.060 | 0.78625  | amino acid metabolism              |
| 1648 | <i>trpF</i>    | 0.024  | 1.057 | 0.471844 | -0.011 | 0.976 | 0.782    | amino acid metabolism              |
| 1649 | <i>trpD1</i>   | 0.017  | 1.039 | 0.423988 | -0.144 | 0.717 | 0.260965 | amino acid metabolism              |
| 1650 | <i>vng1650</i> | -0.030 | 0.933 | 0.258877 | 0.061  | 1.152 | 0.65675  | unknown                            |
| 1654 | <i>cdc48E</i>  | -0.146 | 0.714 | 0.223    | 0.035  | 1.084 | 0.427075 | cellular process                   |
| 1656 | <i>vng1656</i> | -0.019 | 0.958 | 0.506309 | 0.034  | 1.081 | 0.607083 | unknown                            |
| 1657 | <i>vng1657</i> | -0.004 | 0.991 | 0.161869 | 0.017  | 1.039 | 0.3669   | unknown                            |
| 1658 | <i>vng1658</i> | 0.089  | 1.228 | 0.077122 | -0.021 | 0.953 | 0.6865   | cellular process                   |
| 1659 | <i>htr1</i>    | 0.056  | 1.139 | 0.450364 | 0.007  | 1.016 | 0.81975  | cellular process                   |
| 1660 | <i>sop1</i>    | 0.059  | 1.144 | 0.38024  | -0.006 | 0.986 | 0.686833 | cellular process                   |
| 1663 | <i>vng1663</i> | 0.194  | 1.563 | 0.13974  | 0.010  | 1.023 | 0.575167 | unknown                            |
| 1664 | <i>vng1664</i> | 0.009  | 1.022 | 0.836139 | -0.040 | 0.911 | 0.52     | unknown                            |
| 1665 | <i>radA2</i>   | 0.009  | 1.021 | 0.728358 | -0.091 | 0.811 | 0.517667 | DNA metabolism                     |
| 1666 | <i>vng1666</i> | 0.085  | 1.216 | 0.460238 | -0.078 | 0.836 | 0.186    | unknown                            |
| 1667 | <i>cdc48c</i>  | 0.111  | 1.293 | 0.260082 | 0.020  | 1.047 | 0.577167 | cellular process                   |
| 1668 | <i>rps8e</i>   | 0.204  | 1.601 | 0.001341 | -0.061 | 0.870 | 0.2195   | translation                        |
| 1670 | <i>vng1670</i> | -0.004 | 0.991 | 0.795174 | 0.034  | 1.082 | 0.519    | unknown                            |
| 1672 | <i>vng1672</i> | -0.034 | 0.925 | 0.289108 | 0.043  | 1.105 | 0.5143   | unknown                            |
| 1673 | <i>pyrF</i>    | 0.083  | 1.211 | 0.309934 | 0.021  | 1.050 | 0.667625 | nucleotide metabolism              |
| 1674 | <i>vng1674</i> | -0.001 | 0.998 | 0.86     | 0.006  | 1.014 | 0.902    | unknown                            |
| 1675 | <i>vng1675</i> | 0.061  | 1.150 | 0.210749 | 0.057  | 1.140 | 0.2765   | general function prediction only   |
| 1676 | <i>gbp2</i>    | -0.001 | 0.999 | 0.384977 | 0.023  | 1.054 | 0.230117 | cellular process                   |
| 1678 | <i>vng1678</i> | -0.046 | 0.900 | 0.420869 | -0.005 | 0.988 | 0.5405   | unknown                            |
| 1679 | <i>vng1679</i> | 0.156  | 1.431 | 0.081182 | -0.057 | 0.878 | 0.282    | unknown                            |
| 1680 | <i>crtB2</i>   | 0.070  | 1.176 | 0.380366 | 0.030  | 1.071 | 0.586    | cofactor and secondary metabolites |
| 1681 | <i>vng1681</i> | 0.024  | 1.057 | 0.223927 | 0.002  | 1.005 | 0.662083 | unknown                            |
| 1682 | <i>vng1682</i> | -0.048 | 0.896 | 0.458255 | 0.018  | 1.043 | 0.6485   | cofactor and secondary metabolites |
| 1684 | <i>crtI1</i>   | 0.004  | 1.010 | 0.511177 | -0.024 | 0.946 | 0.48     | cofactor and secondary metabolites |
| 1686 | <i>mch</i>     | 0.055  | 1.136 | 0.647264 | -0.037 | 0.919 | 0.615    | cofactor and secondary metabolites |
| 1687 | <i>vng1687</i> | -0.074 | 0.843 | 0.23937  | 0.019  | 1.044 | 0.537583 | carbohydrate and lipid metabolism  |
| 1688 | <i>vng1688</i> | -0.338 | 0.459 | 9.7E-07  | 0.086  | 1.220 | 0.105383 | unknown                            |
| 1689 | <i>rpl3p</i>   | -0.364 | 0.433 | 4.72E-08 | 0.118  | 1.312 | 0.038568 | translation                        |
| 1690 | <i>rpl4e</i>   | -0.401 | 0.397 | 0.034    | 0.090  | 1.229 | 0.125008 | translation                        |
| 1691 | <i>rpl23p</i>  | -0.535 | 0.292 | 4.23E-13 | 0.127  | 1.339 | 0.011298 | translation                        |
| 1692 | <i>rpl2p</i>   | -0.531 | 0.294 | 0.006    | 0.099  | 1.257 | 0.066385 | translation                        |
| 1693 | <i>rps19p</i>  | -0.551 | 0.281 | 1.32E-11 | 0.088  | 1.226 | 0.110233 | translation                        |
| 1695 | <i>rpl22p</i>  | -0.636 | 0.231 | 6.54E-14 | 0.106  | 1.277 | 0.047112 | translation                        |
| 1697 | <i>rps3p</i>   | -0.689 | 0.205 | 1.17E-14 | 0.131  | 1.352 | 0.011325 | translation                        |
| 1698 | <i>rpl29p</i>  | -0.677 | 0.210 | 6.33E-15 | 0.101  | 1.261 | 0.04265  | translation                        |
| 1699 | <i>vng1699</i> | -0.725 | 0.188 | 1.07E-14 | 0.075  | 1.188 | 0.134767 | translation                        |
| 1700 | <i>rps17p</i>  | -0.474 | 0.336 | 0.066    | 0.088  | 1.224 | 0.080933 | translation                        |
| 1701 | <i>rpl14p</i>  | -0.747 | 0.179 | 1.29E-15 | 0.071  | 1.178 | 0.161317 | translation                        |
| 1702 | <i>rpl24p</i>  | -0.597 | 0.253 | 2.28E-09 | 0.073  | 1.182 | 0.15535  | translation                        |
| 1703 | <i>rps4e</i>   | -0.510 | 0.309 | 0.181664 | 0.054  | 1.133 | 0.299833 | translation                        |
| 1705 | <i>rpl5p</i>   | -0.828 | 0.149 | 1.87E-18 | 0.071  | 1.177 | 0.157983 | translation                        |
| 1706 | <i>rps14p</i>  | -0.770 | 0.170 | 3.43E-17 | 0.068  | 1.169 | 0.293125 | translation                        |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1707 | <i>rps8p</i>   | -0.452 | 0.353 | 0.13175  | 0.101  | 1.261 | 0.04925  | translation                        |
| 1709 | <i>rpl6p</i>   | -0.668 | 0.215 | 1.47E-13 | 0.091  | 1.234 | 0.072842 | translation                        |
| 1711 | <i>rpl32e</i>  | -0.482 | 0.330 | 0.01657  | 0.074  | 1.187 | 0.139492 | translation                        |
| 1713 | <i>rpl19e</i>  | -0.654 | 0.222 | 0.000792 | 0.088  | 1.226 | 0.082633 | translation                        |
| 1714 | <i>rpl18p</i>  | -0.674 | 0.212 | 6.87E-13 | 0.081  | 1.204 | 0.128179 | translation                        |
| 1715 | <i>rps5p</i>   | -0.573 | 0.268 | 6.28E-11 | 0.112  | 1.294 | 0.03128  | translation                        |
| 1716 | <i>rpl30p</i>  | -0.627 | 0.236 | 2.51E-16 | 0.106  | 1.275 | 0.04819  | translation                        |
| 1718 | <i>rpl15p</i>  | -0.283 | 0.521 | 0.000697 | 0.073  | 1.183 | 0.224075 | translation                        |
| 1719 | <i>secY</i>    | -0.402 | 0.397 | 7.49E-09 | 0.053  | 1.131 | 0.293083 | cellular process                   |
| 1720 | <i>vng1720</i> | -0.095 | 0.804 | 0.311375 | -0.011 | 0.975 | 0.803583 | unknown                            |
| 1721 | <i>trkH2</i>   | 0.049  | 1.119 | 0.252163 | 0.012  | 1.028 | 0.552667 | transport                          |
| 1723 | <i>vng1723</i> | -0.019 | 0.956 | 0.726015 | -0.102 | 0.790 | 0.144963 | unknown                            |
| 1724 | <i>adk</i>     | 0.040  | 1.096 | 0.132656 | 0.035  | 1.084 | 0.5005   | nucleotide metabolism              |
| 1726 | <i>htlB</i>    | 0.074  | 1.187 | 0.28616  | 0.008  | 1.020 | 0.69425  | cellular process                   |
| 1727 | <i>cmk</i>     | 0.029  | 1.068 | 0.602322 | 0.025  | 1.060 | 0.609    | nucleotide metabolism              |
| 1729 | <i>sus</i>     | 0.022  | 1.053 | 0.610823 | 0.013  | 1.031 | 0.632417 | translation                        |
| 1732 | <i>vng1732</i> | 0.049  | 1.119 | 0.395043 | 0.029  | 1.070 | 0.67225  | unknown                            |
| 1733 | <i>htr17</i>   | -0.098 | 0.798 | 0.368807 | 0.035  | 1.084 | 0.618333 | cellular process                   |
| 1734 | <i>vng1734</i> | 0.112  | 1.296 | 0.065118 | 0.029  | 1.069 | 0.6355   | unknown                            |
| 1735 | <i>vng1735</i> | 0.019  | 1.044 | 0.44625  | 0.017  | 1.039 | 0.76225  | unknown                            |
| 1737 | <i>vng1737</i> | 0.101  | 1.260 | 0.339643 | -0.004 | 0.991 | 0.524333 | unknown                            |
| 1739 | <i>htlC</i>    | -0.021 | 0.952 | 0.612081 | 0.033  | 1.078 | 0.500917 | cellular process                   |
| 1740 | <i>vng1740</i> | -0.056 | 0.879 | 0.354182 | 0.035  | 1.085 | 0.545933 | unknown                            |
| 1743 | <i>tfs</i>     | -0.006 | 0.986 | 0.632242 | 0.012  | 1.027 | 0.603333 | transcription and regulation       |
| 1744 | <i>vng1744</i> | 0.086  | 1.220 | 0.332107 | -0.082 | 0.827 | 0.239012 | unknown                            |
| 1746 | <i>vng1746</i> | 0.039  | 1.094 | 0.354604 | -0.034 | 0.925 | 0.58475  | unknown                            |
| 1748 | <i>vng1748</i> | -0.005 | 0.989 | 0.924153 | 0.035  | 1.083 | 0.58175  | cofactor and secondary metabolites |
| 1749 | <i>gbp1</i>    | 0.003  | 1.006 | 0.60991  | 0.004  | 1.009 | 0.83175  | translation                        |
| 1751 | <i>pcp</i>     | -0.016 | 0.965 | 0.777012 | 0.028  | 1.068 | 0.844    | cellular process                   |
| 1752 | <i>vng1752</i> | 0.072  | 1.180 | 0.31846  | -0.011 | 0.974 | 0.649375 | cellular process                   |
| 1754 | <i>phr1</i>    | -0.101 | 0.792 | 0.366124 | -0.012 | 0.973 | 0.534    | DNA metabolism                     |
| 1755 | <i>crtI2</i>   | 0.080  | 1.201 | 0.303444 | -0.054 | 0.883 | 0.393088 | cofactor and secondary metabolites |
| 1756 | <i>EIF1A2</i>  | -0.104 | 0.787 | 0.235042 | -0.045 | 0.903 | 0.477375 | translation                        |
| 1758 | <i>vng1758</i> | 0.003  | 1.006 | 0.416688 | 0.055  | 1.135 | 0.4925   | unknown                            |
| 1759 | <i>htr7</i>    | -0.054 | 0.883 | 0.538766 | 0.024  | 1.057 | 0.746    | cellular process                   |
| 1760 | <i>htr5</i>    | -0.015 | 0.965 | 0.534783 | 0.001  | 1.002 | 0.602583 | cellular process                   |
| 1762 | <i>proX</i>    | -0.083 | 0.827 | 0.350866 | 0.024  | 1.057 | 0.545    | transport                          |
| 1764 | <i>sop2</i>    | -0.115 | 0.768 | 0.322629 | -0.033 | 0.927 | 0.5635   | cellular process                   |
| 1765 | <i>htr2</i>    | -0.155 | 0.701 | 0.196096 | -0.048 | 0.895 | 0.35     | cellular process                   |
| 1766 | <i>vng1766</i> | 0.039  | 1.093 | 0.499945 | 0.070  | 1.174 | 0.176775 | unknown                            |
| 1767 | <i>speB</i>    | 0.072  | 1.181 | 0.215313 | -0.076 | 0.840 | 0.285775 | amino acid metabolism              |
| 1768 | <i>EIF5A</i>   | 0.146  | 1.401 | 0.147378 | -0.019 | 0.958 | 0.705667 | translation                        |
| 1769 | <i>vng1769</i> | 0.184  | 1.527 | 0.02613  | -0.027 | 0.939 | 0.5875   | general function prediction only   |
| 1770 | <i>upk</i>     | -0.036 | 0.920 | 0.521522 | 0.013  | 1.030 | 0.7045   | cellular process                   |
| 1771 | <i>vng1771</i> | 0.040  | 1.098 | 0.454781 | 0.064  | 1.160 | 0.21775  | cellular process                   |
| 1772 | <i>pgp</i>     | 0.074  | 1.187 | 0.219881 | 0.025  | 1.059 | 0.72175  | carbohydrate and lipid metabolism  |
| 1773 | <i>cad</i>     | -0.053 | 0.886 | 0.315028 | -0.129 | 0.743 | 0.011855 | cofactor and secondary metabolites |
| 1774 | <i>hemA</i>    | -0.001 | 0.999 | 0.539216 | 0.059  | 1.147 | 0.37045  | cofactor and secondary metabolites |
| 1775 | <i>vng1775</i> | -0.072 | 0.848 | 0.387527 | 0.044  | 1.107 | 0.549333 | cofactor and secondary metabolites |
| 1776 | <i>nirH</i>    | -0.047 | 0.897 | 0.220607 | 0.054  | 1.133 | 0.29075  | transcription and regulation       |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1779 | <i>vng1779</i> | 0.157  | 1.435 | 0.124511 | 0.064  | 1.159 | 0.2565   | carbohydrate and lipid metabolism  |
| 1781 | <i>vng1781</i> | 0.181  | 1.518 | 0.058736 | -0.001 | 0.999 | 0.685558 | carbohydrate and lipid metabolism  |
| 1782 | <i>vng1782</i> | -0.041 | 0.910 | 0.553938 | 0.003  | 1.007 | 0.912    | unknown                            |
| 1783 | <i>vng1784</i> | 0.054  | 1.133 | 0.37715  | -0.041 | 0.911 | 0.56     | unknown                            |
| 1784 | <i>vng1783</i> | -0.071 | 0.850 | 0.407571 | 0.032  | 1.076 | 0.462333 | DNA metabolism                     |
| 1785 | <i>panF</i>    | 0.060  | 1.147 | 0.323637 | -0.092 | 0.809 | 0.390197 | transport                          |
| 1786 | <i>prlR3</i>   | -0.034 | 0.925 | 0.4991   | -0.016 | 0.964 | 0.82875  | transcription and regulation       |
| 1787 | <i>vng1787</i> | 0.045  | 1.110 | 0.464365 | 0.026  | 1.062 | 0.409667 | unknown                            |
| 1788 | <i>vng1788</i> | 0.054  | 1.132 | 0.524502 | 0.006  | 1.014 | 0.467417 | unknown                            |
| 1790 | <i>vng1790</i> | -0.005 | 0.988 | 0.489322 | 0.051  | 1.124 | 0.397288 | unknown                            |
| 1791 | <i>vng1791</i> | 0.065  | 1.163 | 0.297871 | 0.025  | 1.060 | 0.327975 | unknown                            |
| 1793 | <i>vng1793</i> | 0.182  | 1.520 | 0.006842 | 0.035  | 1.085 | 0.561583 | cofactor and secondary metabolites |
| 1794 | <i>vng1794</i> | -0.026 | 0.941 | 0.416679 | -0.064 | 0.864 | 0.380942 | DNA metabolism                     |
| 1795 | <i>vng1795</i> | 0.089  | 1.226 | 0.30957  | 0.039  | 1.093 | 0.556333 | cofactor and secondary metabolites |
| 1796 | <i>vng1796</i> | 0.007  | 1.017 | 0.465799 | -0.011 | 0.975 | 0.643417 | unknown                            |
| 1797 | <i>thrB</i>    | -0.011 | 0.975 | 0.601108 | -0.121 | 0.757 | 0.07575  | amino acid metabolism              |
| 1798 | <i>vng1798</i> | 0.062  | 1.153 | 0.302955 | -0.013 | 0.971 | 0.757417 | unknown                            |
| 1800 | <i>vng1800</i> | 0.022  | 1.051 | 0.65996  | -0.007 | 0.984 | 0.891    | unknown                            |
| 1801 | <i>hsp1</i>    | 0.052  | 1.128 | 0.276433 | -0.049 | 0.892 | 0.34395  | cellular process                   |
| 1802 | <i>vng1802</i> | 0.067  | 1.166 | 0.214429 | -0.201 | 0.629 | 0.219283 | unknown                            |
| 1804 | <i>noxA</i>    | 0.019  | 1.045 | 0.342404 | 0.072  | 1.179 | 0.262133 | general function prediction only   |
| 1806 | <i>vng1806</i> | 0.045  | 1.108 | 0.296062 | -0.128 | 0.744 | 0.01771  | unknown                            |
| 1807 | <i>vng1807</i> | 0.094  | 1.243 | 0.143642 | -0.057 | 0.877 | 0.372113 | unknown                            |
| 1809 | <i>vng1809</i> | -0.016 | 0.964 | 0.808534 | 0.007  | 1.016 | 0.532625 | unknown                            |
| 1811 | <i>eye</i>     | 0.035  | 1.084 | 0.260153 | -0.035 | 0.922 | 0.455308 | general function prediction only   |
| 1814 | <i>carB</i>    | -0.086 | 0.820 | 0.232255 | 0.076  | 1.192 | 0.417533 | amino acid metabolism              |
| 1815 | <i>carA</i>    | -0.087 | 0.818 | 0.228573 | -0.073 | 0.845 | 0.238967 | amino acid metabolism              |
| 1816 | <i>trh3</i>    | -0.130 | 0.740 | 0.382062 | 0.023  | 1.055 | 0.7225   | transcription and regulation       |
| 1818 | <i>idi</i>     | 0.064  | 1.160 | 0.239956 | -0.026 | 0.942 | 0.60825  | carbohydrate and lipid metabolism  |
| 1820 | <i>vng1820</i> | 0.086  | 1.219 | 0.254923 | 0.017  | 1.040 | 0.645917 | unknown                            |
| 1821 | <i>adh4</i>    | 0.065  | 1.161 | 0.151721 | 0.005  | 1.012 | 0.613917 | energy metabolism                  |
| 1822 | <i>moaB</i>    | 0.022  | 1.051 | 0.627611 | 0.007  | 1.016 | 0.602375 | cofactor and secondary metabolites |
| 1823 | <i>vng1823</i> | 0.092  | 1.235 | 0.092464 | -0.181 | 0.659 | 0.000677 | cofactor and secondary metabolites |
| 1826 | <i>vng1826</i> | 0.083  | 1.209 | 0.156379 | 0.008  | 1.018 | 0.90875  | unknown                            |
| 1827 | <i>vng1827</i> | 0.060  | 1.149 | 0.49016  | 0.024  | 1.057 | 0.6815   | unknown                            |
| 1829 | <i>guaAb</i>   | -0.105 | 0.784 | 0.16964  | -0.006 | 0.987 | 0.715583 | nucleotide metabolism              |
| 1830 | <i>pyrG</i>    | -0.083 | 0.826 | 0.257739 | 0.026  | 1.061 | 0.4845   | nucleotide metabolism              |
| 1831 | <i>vng1831</i> | -0.032 | 0.928 | 0.406937 | 0.052  | 1.126 | 0.48975  | unknown                            |
| 1832 | <i>vng1832</i> | -0.118 | 0.762 | 0.220399 | 0.083  | 1.209 | 0.5455   | unknown                            |
| 1833 | <i>vng1833</i> | 0.078  | 1.196 | 0.553673 | -0.059 | 0.873 | 0.37015  | unknown                            |
| 1834 | <i>hyrA</i>    | 0.048  | 1.117 | 0.29789  | -0.014 | 0.968 | 0.682917 | cellular process                   |
| 1835 | <i>thrS</i>    | 0.166  | 1.466 | 0.006851 | -0.048 | 0.895 | 0.356417 | translation                        |
| 1836 | <i>cspD2</i>   | 0.123  | 1.329 | 0.229    | 0.055  | 1.134 | 0.267    | cellular process                   |
| 1837 | <i>ykfB1</i>   | 0.052  | 1.127 | 0.402999 | -0.016 | 0.964 | 0.669583 | amino acid metabolism              |
| 1839 | <i>vng1838</i> | 0.024  | 1.057 | 0.440999 | -0.046 | 0.899 | 0.41575  | unknown                            |
| 1842 | <i>vng1842</i> | 0.076  | 1.191 | 0.432405 | -0.003 | 0.994 | 0.659833 | translation                        |
| 1843 | <i>arlR12</i>  | 0.010  | 1.022 | 0.40252  | -0.036 | 0.920 | 0.535583 | transcription and regulation       |
| 1844 | <i>ansA</i>    | -0.030 | 0.933 | 0.493237 | 0.029  | 1.070 | 0.61625  | amino acid metabolism              |
| 1845 | <i>act7</i>    | -0.007 | 0.984 | 0.722771 | 0.046  | 1.111 | 0.447317 | transcription and regulation       |
| 1846 | <i>ugpQ</i>    | 0.070  | 1.175 | 0.322716 | 0.005  | 1.011 | 0.704333 | energy metabolism                  |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1847 | <i>pchA</i>    | 0.025  | 1.058 | 0.577165 | 0.020  | 1.047 | 0.664333 | transport                          |
| 1848 | <i>Vng1848</i> | 0.036  | 1.085 | 0.495706 | -0.049 | 0.893 | 0.33975  | cofactor and secondary metabolites |
| 1849 | <i>vng1849</i> | 0.082  | 1.208 | 0.466898 | 0.000  | 1.000 | 0.85375  | unknown                            |
| 1850 | <i>udp1</i>    | 0.146  | 1.398 | 0.106064 | 0.019  | 1.045 | 0.66375  | nucleotide metabolism              |
| 1851 | <i>suk</i>     | 0.120  | 1.317 | 0.07097  | 0.040  | 1.096 | 0.42925  | carbohydrate and lipid metabolism  |
| 1852 | <i>vng1852</i> | 0.129  | 1.346 | 0.03062  | -0.007 | 0.984 | 0.472833 | unknown                            |
| 1853 | <i>EIF2BA</i>  | 0.006  | 1.015 | 0.481623 | 0.002  | 1.004 | 0.819833 | translation                        |
| 1856 | <i>htr3</i>    | 0.059  | 1.145 | 0.592714 | 0.001  | 1.001 | 0.753833 | cellular process                   |
| 1857 | <i>vng1857</i> | 0.044  | 1.106 | 0.372054 | -0.024 | 0.946 | 0.652667 | amino acid metabolism              |
| 1859 | <i>deoC</i>    | 0.020  | 1.047 | 0.361866 | -0.036 | 0.919 | 0.610975 | nucleotide metabolism              |
| 1861 | <i>vng1861</i> | -0.019 | 0.957 | 0.535718 | 0.037  | 1.089 | 0.495667 | translation                        |
| 1862 | <i>cef</i>     | -0.048 | 0.896 | 0.445559 | -0.032 | 0.929 | 0.5235   | transport                          |
| 1864 | <i>hit2</i>    | 0.178  | 1.505 | 0.014859 | -0.092 | 0.809 | 0.127758 | nucleotide metabolism              |
| 1865 | <i>vng1865</i> | 0.186  | 1.535 | 0.016289 | -0.127 | 0.747 | 0.092175 | unknown                            |
| 1866 | <i>map</i>     | -0.035 | 0.923 | 0.508438 | 0.016  | 1.037 | 0.66925  | translation                        |
| 1867 | <i>potC</i>    | -0.127 | 0.746 | 0.708211 | 0.013  | 1.031 | 0.9265   | transport                          |
| 1868 | <i>potB</i>    | 0.038  | 1.091 | 0.597431 | 0.029  | 1.069 | 0.634083 | transport                          |
| 1869 | <i>vng1869</i> | -0.006 | 0.987 | 0.624373 | -0.243 | 0.571 | 0.276034 | amino acid metabolism              |
| 1871 | <i>potA2</i>   | -0.013 | 0.970 | 0.783287 | 0.084  | 1.213 | 0.128175 | transport                          |
| 1872 | <i>vng1872</i> | -0.059 | 0.873 | 0.38892  | -0.015 | 0.966 | 0.76325  | amino acid metabolism              |
| 1873 | <i>icd</i>     | 0.172  | 1.487 | 0.06846  | 0.079  | 1.200 | 0.22754  | energy metabolism                  |
| 1874 | <i>vng1874</i> | 0.089  | 1.229 | 0.528493 | 0.017  | 1.040 | 0.70075  | unknown                            |
| 1875 | <i>mvaA</i>    | 0.088  | 1.225 | 0.164048 | 0.006  | 1.015 | 0.633125 | carbohydrate and lipid metabolism  |
| 1877 | <i>vng1877</i> | 0.227  | 1.686 | 0.000478 | 0.024  | 1.058 | 0.57225  | unknown                            |
| 1879 | <i>thb</i>     | 0.117  | 1.309 | 0.325983 | 0.019  | 1.045 | 0.572    | cofactor and secondary metabolites |
| 1880 | <i>vng1880</i> | -0.011 | 0.974 | 0.652405 | 0.027  | 1.065 | 0.565267 | unknown                            |
| 1882 | <i>nadA</i>    | 0.025  | 1.060 | 0.669766 | 0.061  | 1.152 | 0.408417 | cofactor and secondary metabolites |
| 1883 | <i>nadB</i>    | 0.001  | 1.002 | 0.714427 | 0.027  | 1.064 | 0.660625 | cofactor and secondary metabolites |
| 1884 | <i>nadC</i>    | -0.019 | 0.956 | 0.410053 | -0.027 | 0.939 | 0.6465   | cofactor and secondary metabolites |
| 1886 | <i>sstR2</i>   | 0.124  | 1.330 | 0.42394  | -0.070 | 0.851 | 0.650167 | transcription and regulation       |
| 1887 | <i>gpm</i>     | 0.320  | 2.091 | 0.211412 | 0.003  | 1.008 | 0.57875  | carbohydrate and lipid metabolism  |
| 1889 | <i>vng1889</i> | 0.703  | 5.048 | 8.75E-14 | 0.044  | 1.107 | 0.4005   | unknown                            |
| 1890 | <i>vng1890</i> | 0.034  | 1.082 | 0.211881 | 0.067  | 1.166 | 0.407158 | unknown                            |
| 1891 | <i>vng1891</i> | 0.002  | 1.006 | 0.554434 | -0.004 | 0.990 | 0.874167 | unknown                            |
| 1893 | <i>trp2</i>    | 0.011  | 1.026 | 0.324019 | -0.012 | 0.972 | 0.669667 | transport                          |
| 1894 | <i>vng1894</i> | 0.017  | 1.040 | 0.470177 | 0.014  | 1.032 | 0.710833 | unknown                            |
| 1895 | <i>vng1895</i> | -0.019 | 0.957 | 0.859417 | 0.032  | 1.077 | 0.7835   | unknown                            |
| 1896 | <i>vng1896</i> | 0.009  | 1.021 | 0.47383  | 0.017  | 1.041 | 0.657667 | unknown                            |
| 1898 | <i>vng1898</i> | 0.164  | 1.460 | 0.267335 | -0.036 | 0.921 | 0.511417 | cellular process                   |
| 1899 | <i>kaiC</i>    | 0.131  | 1.354 | 0.203073 | 0.002  | 1.004 | 0.731583 | cellular process                   |
| 1900 | <i>vng1900</i> | 0.037  | 1.088 | 0.598583 | 0.011  | 1.025 | 0.770458 | carbohydrate and lipid metabolism  |
| 1901 | <i>vng1901</i> | 0.121  | 1.320 | 0.148302 | -0.041 | 0.910 | 0.549583 | unknown                            |
| 1902 | <i>vng1902</i> | 0.178  | 1.506 | 0.106379 | 0.008  | 1.019 | 0.922    | unknown                            |
| 1903 | <i>sstR3</i>   | 0.125  | 1.333 | 0.135295 | -0.006 | 0.987 | 0.65875  | transcription and regulation       |
| 1904 | <i>vng1904</i> | 0.023  | 1.056 | 0.221579 | -0.083 | 0.825 | 0.151775 | unknown                            |
| 1905 | <i>vng1905</i> | -0.046 | 0.899 | 0.518161 | 0.031  | 1.074 | 0.523    | cellular process                   |
| 1906 | <i>vng1906</i> | 0.077  | 1.194 | 0.655368 | -0.059 | 0.873 | 0.5505   | unknown                            |
| 1907 | <i>vng1907</i> | -0.133 | 0.737 | 0.261155 | 0.021  | 1.049 | 0.201075 | unknown                            |
| 1910 | <i>vng1910</i> | 0.075  | 1.190 | 0.569997 | -0.066 | 0.858 | 0.607838 | unknown                            |
| 1911 | <i>nirD</i>    | 0.049  | 1.119 | 0.571057 | -0.027 | 0.940 | 0.711    | transcription and regulation       |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1912 | <i>trpD2</i>   | 0.077  | 1.194 | 0.496589 | 0.001  | 1.002 | 0.7455   | amino acid metabolism              |
| 1914 | <i>ppiA</i>    | 0.107  | 1.280 | 0.133449 | -0.026 | 0.941 | 0.603    | cellular process                   |
| 1916 | <i>vng1916</i> | 0.068  | 1.169 | 0.190182 | 0.005  | 1.012 | 0.9175   | unknown                            |
| 1917 | <i>vng1917</i> | -0.130 | 0.742 | 0.080056 | 0.050  | 1.122 | 0.3245   | unknown                            |
| 1918 | <i>vng1918</i> | 0.018  | 1.042 | 0.459584 | -0.023 | 0.949 | 0.5375   | unknown                            |
| 1919 | <i>vng1919</i> | -0.179 | 0.663 | 0.001495 | 0.024  | 1.057 | 0.643    | cellular process                   |
| 1920 | <i>vng1920</i> | 0.016  | 1.037 | 0.667851 | -0.005 | 0.990 | 0.9135   | unknown                            |
| 1921 | <i>vng1921</i> | -0.027 | 0.940 | 0.531242 | -0.018 | 0.959 | 0.810125 | cellular process                   |
| 1922 | <i>asxR5</i>   | -0.040 | 0.912 | 0.541076 | -0.012 | 0.972 | 0.4215   | transcription and regulation       |
| 1924 | <i>trkA6</i>   | 0.103  | 1.267 | 0.118077 | -0.059 | 0.873 | 0.368008 | transport                          |
| 1925 | <i>vng1925</i> | 0.009  | 1.021 | 0.788098 | 0.020  | 1.048 | 0.805    | unknown                            |
| 1926 | <i>pdhA1</i>   | 0.111  | 1.292 | 0.365774 | -0.012 | 0.973 | 0.749417 | energy metabolism                  |
| 1927 | <i>vng1927</i> | 0.017  | 1.040 | 0.732062 | 0.022  | 1.053 | 0.67175  | unknown                            |
| 1929 | <i>tmk</i>     | 0.007  | 1.016 | 0.712735 | -0.038 | 0.917 | 0.53525  | nucleotide metabolism              |
| 1932 | <i>nolA</i>    | -0.144 | 0.717 | 0.49722  | 0.071  | 1.177 | 0.243225 | general function prediction only   |
| 1933 | <i>ftsZ3</i>   | 0.098  | 1.253 | 0.210732 | -0.014 | 0.969 | 0.714583 | cellular process                   |
| 1934 | <i>vng1934</i> | 0.072  | 1.181 | 0.394378 | -0.020 | 0.954 | 0.566917 | unknown                            |
| 1935 | <i>vng1935</i> | 0.083  | 1.210 | 0.362747 | 0.043  | 1.105 | 0.470625 | unknown                            |
| 1937 | <i>vng1937</i> | 0.033  | 1.078 | 0.598473 | 0.038  | 1.092 | 0.579167 | cofactor and secondary metabolites |
| 1938 | <i>vng1938</i> | 0.082  | 1.208 | 0.166409 | -0.074 | 0.843 | 0.19735  | cofactor and secondary metabolites |
| 1939 | <i>purC</i>    | 0.012  | 1.029 | 0.552259 | 0.116  | 1.305 | 0.064518 | nucleotide metabolism              |
| 1940 | <i>vng1940</i> | 0.252  | 1.787 | 4.96E-05 | 0.023  | 1.055 | 0.6455   | unknown                            |
| 1941 | <i>vng1941</i> | 0.052  | 1.127 | 0.504984 | 0.023  | 1.055 | 0.718917 | unknown                            |
| 1942 | <i>vng1942</i> | 0.055  | 1.134 | 0.376123 | 0.089  | 1.226 | 0.1007   | unknown                            |
| 1943 | <i>vng1943</i> | 0.000  | 1.001 | 0.651319 | 0.023  | 1.054 | 0.46325  | unknown                            |
| 1944 | <i>purS</i>    | 0.046  | 1.112 | 0.417102 | 0.123  | 1.329 | 0.018715 | nucleotide metabolism              |
| 1945 | <i>purL2</i>   | 0.008  | 1.018 | 0.742295 | 0.111  | 1.292 | 0.0385   | nucleotide metabolism              |
| 1946 | <i>purU</i>    | 0.049  | 1.118 | 0.487562 | -0.002 | 0.994 | 0.76225  | nucleotide metabolism              |
| 1948 | <i>vng1948</i> | 0.082  | 1.206 | 0.364974 | -0.037 | 0.919 | 0.250243 | unknown                            |
| 1949 | <i>gul2</i>    | 0.007  | 1.017 | 0.707418 | -0.043 | 0.905 | 0.4      | general function prediction only   |
| 1951 | <i>sub</i>     | 0.046  | 1.111 | 0.38595  | -0.054 | 0.883 | 0.357    | cellular process                   |
| 1952 | <i>vng1952</i> | 0.032  | 1.076 | 0.644795 | -0.030 | 0.933 | 0.567222 | unknown                            |
| 1953 | <i>vng1953</i> | 0.006  | 1.014 | 0.803718 | -0.063 | 0.865 | 0.324417 | unknown                            |
| 1954 | <i>vng1954</i> | -0.056 | 0.879 | 0.171752 | -0.007 | 0.983 | 0.47925  | unknown                            |
| 1956 | <i>vng1956</i> | 0.080  | 1.202 | 0.333025 | 0.027  | 1.065 | 0.7075   | unknown                            |
| 1957 | <i>tgtA2</i>   | 0.023  | 1.054 | 0.635061 | -0.004 | 0.992 | 0.5585   | translation                        |
| 1959 | <i>tgtA1</i>   | 0.005  | 1.011 | 0.455188 | -0.090 | 0.813 | 0.256993 | translation                        |
| 1960 | <i>vng1960</i> | 0.046  | 1.111 | 0.408219 | -0.066 | 0.859 | 0.269    | unknown                            |
| 1962 | <i>vng1962</i> | 0.003  | 1.007 | 0.656069 | -0.003 | 0.993 | 0.67775  | DNA metabolism                     |
| 1963 | <i>vng1963</i> | 0.042  | 1.101 | 0.621103 | 0.030  | 1.071 | 0.573417 | unknown                            |
| 1964 | <i>csi</i>     | -0.109 | 0.778 | 0.344833 | -0.131 | 0.740 | 0.438252 | cellular process                   |
| 1965 | <i>vng1965</i> | -0.342 | 0.455 | 0.001274 | 0.015  | 1.036 | 0.470483 | unknown                            |
| 1967 | <i>glpK</i>    | -0.162 | 0.689 | 0.080945 | 0.023  | 1.054 | 0.6465   | carbohydrate and lipid metabolism  |
| 1969 | <i>gpdA2</i>   | -0.465 | 0.343 | 4.07E-06 | 0.031  | 1.074 | 0.665917 | carbohydrate and lipid metabolism  |
| 1971 | <i>gpdB</i>    | 0.028  | 1.067 | 0.412384 | 0.021  | 1.050 | 0.555917 | carbohydrate and lipid metabolism  |
| 1972 | <i>gpdC</i>    | -0.223 | 0.598 | 0.169934 | -0.010 | 0.976 | 0.564217 | carbohydrate and lipid metabolism  |
| 1973 | <i>vng1973</i> | 0.003  | 1.006 | 0.473629 | 0.064  | 1.159 | 0.2984   | unknown                            |
| 1974 | <i>vng1974</i> | -0.052 | 0.887 | 0.55905  | 0.011  | 1.027 | 0.692167 | unknown                            |
| 1976 | <i>vng1976</i> | -0.031 | 0.931 | 0.633216 | 0.028  | 1.066 | 0.6575   | unknown                            |
| 1977 | <i>vng1977</i> | 0.045  | 1.110 | 0.456487 | -0.076 | 0.840 | 0.21345  | unknown                            |
| 1978 | <i>vng1978</i> | -0.109 | 0.779 | 0.143267 | -0.066 | 0.859 | 0.30425  | unknown                            |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 1980 | <i>vng1980</i> | 0.045  | 1.108 | 0.376687 | 0.024  | 1.058 | 0.6205   | unknown                            |
| 1982 | <i>vng1983</i> | -0.012 | 0.973 | 0.376605 | 0.002  | 1.006 | 0.6945   | translation                        |
| 1983 | <i>vng1982</i> | -0.050 | 0.892 | 0.456695 | -0.035 | 0.923 | 0.536667 | unknown                            |
| 1984 | <i>rnh</i>     | -0.050 | 0.892 | 0.7743   | 0.063  | 1.156 | 0.479783 | DNA metabolism                     |
| 1985 | <i>nhaC4</i>   | 0.148  | 1.405 | 0.2808   | -0.019 | 0.958 | 0.64925  | energy metabolism                  |
| 1986 | <i>vng1986</i> | 0.029  | 1.069 | 0.548295 | -0.016 | 0.963 | 0.715917 | DNA metabolism                     |
| 1987 | <i>secD</i>    | 0.144  | 1.392 | 0.188086 | 0.004  | 1.009 | 0.9025   | cellular process                   |
| 1988 | <i>secF</i>    | 0.139  | 1.378 | 0.090823 | -0.002 | 0.994 | 0.841    | cellular process                   |
| 1989 | <i>vng1989</i> | 0.016  | 1.038 | 0.345498 | -0.216 | 0.608 | 0.028625 | unknown                            |
| 1991 | <i>vng1991</i> | -0.017 | 0.961 | 0.534395 | 0.007  | 1.015 | 0.724625 | unknown                            |
| 1992 | <i>pgi</i>     | -0.009 | 0.980 | 0.513707 | -0.002 | 0.996 | 0.575167 | carbohydrate and lipid metabolism  |
| 1993 | <i>vng1993</i> | -0.011 | 0.975 | 0.655962 | 0.035  | 1.083 | 0.44625  | unknown                            |
| 1994 | <i>pzb</i>     | 0.126  | 1.338 | 0.174265 | -0.013 | 0.970 | 0.795    | transcription and regulation       |
| 1995 | <i>vng1995</i> | 0.195  | 1.567 | 0.198254 | -0.062 | 0.867 | 0.237875 | unknown                            |
| 1997 | <i>infB</i>    | -0.069 | 0.853 | 0.508947 | 0.035  | 1.084 | 0.554667 | translation                        |
| 1998 | <i>vng1998</i> | -0.003 | 0.993 | 0.231139 | -0.027 | 0.939 | 0.604667 | unknown                            |
| 1999 | <i>vng1999</i> | 0.059  | 1.145 | 0.15957  | -0.002 | 0.994 | 0.86775  | unknown                            |
| 2000 | <i>prfV1</i>   | 0.100  | 1.258 | 0.196791 | -0.038 | 0.915 | 0.469167 | cellular process                   |
| 2001 | <i>yjbG</i>    | 0.360  | 2.289 | 6.63E-09 | -0.087 | 0.818 | 0.0999   | amino acid metabolism              |
| 2002 | <i>vng2002</i> | 0.025  | 1.060 | 0.554226 | -0.003 | 0.992 | 0.577267 | unknown                            |
| 2003 | <i>truA</i>    | -0.038 | 0.916 | 0.334242 | -0.042 | 0.907 | 0.39     | translation                        |
| 2005 | <i>hisS</i>    | -0.029 | 0.935 | 0.487202 | 0.051  | 1.123 | 0.399783 | translation                        |
| 2006 | <i>vng2006</i> | -0.004 | 0.990 | 0.374034 | -0.012 | 0.973 | 0.429725 | translation                        |
| 2008 | <i>pdb</i>     | 0.001  | 1.001 | 0.195291 | 0.043  | 1.104 | 0.41125  | transcription and regulation       |
| 2010 | <i>rps19e</i>  | 0.067  | 1.167 | 0.308057 | 0.021  | 1.049 | 0.6745   | translation                        |
| 2011 | <i>thiL</i>    | -0.001 | 0.997 | 0.371261 | 0.028  | 1.066 | 0.64375  | cofactor and secondary metabolites |
| 2012 | <i>vng2012</i> | 0.077  | 1.193 | 0.258664 | -0.030 | 0.934 | 0.386133 | unknown                            |
| 2014 | <i>vng2014</i> | -0.092 | 0.808 | 0.297924 | -0.199 | 0.632 | 0.000486 | transcription and regulation       |
| 2015 | <i>vng2015</i> | -0.054 | 0.884 | 0.45461  | 0.008  | 1.018 | 0.877    | nucleotide metabolism              |
| 2017 | <i>lysS</i>    | 0.027  | 1.063 | 0.540913 | 0.045  | 1.110 | 0.430333 | translation                        |
| 2019 | <i>vng2019</i> | -0.010 | 0.976 | 0.660823 | -0.047 | 0.898 | 0.483742 | unknown                            |
| 2020 | <i>prfR4</i>   | 0.026  | 1.063 | 0.561503 | 0.023  | 1.054 | 0.702    | transcription and regulation       |
| 2021 | <i>vng2021</i> | 0.070  | 1.175 | 0.265696 | 0.001  | 1.003 | 0.64025  | unknown                            |
| 2023 | <i>gsp</i>     | 0.084  | 1.214 | 0.143243 | 0.037  | 1.089 | 0.472333 | cellular process                   |
| 2024 | <i>vng2024</i> | 0.056  | 1.138 | 0.563073 | 0.036  | 1.088 | 0.689    | unknown                            |
| 2025 | <i>yyaI</i>    | -0.040 | 0.912 | 0.455392 | 0.013  | 1.029 | 0.342917 | general function prediction only   |
| 2027 | <i>vng2027</i> | 0.050  | 1.123 | 0.699132 | 0.003  | 1.007 | 0.8855   | unknown                            |
| 2028 | <i>vng2028</i> | 0.021  | 1.049 | 0.584069 | 0.023  | 1.055 | 0.340125 | unknown                            |
| 2029 | <i>vng2029</i> | 0.018  | 1.043 | 0.669797 | 0.007  | 1.016 | 0.8835   | unknown                            |
| 2031 | <i>nadE</i>    | 0.174  | 1.492 | 0.007158 | -0.088 | 0.817 | 0.09405  | cofactor and secondary metabolites |
| 2032 | <i>fad1</i>    | -0.171 | 0.674 | 0.53999  | -0.007 | 0.984 | 0.973    | carbohydrate and lipid metabolism  |
| 2034 | <i>vng2034</i> | 0.040  | 1.096 | 0.541442 | 0.049  | 1.119 | 0.642    | unknown                            |
| 2035 | <i>vng2035</i> | -0.063 | 0.865 | 0.220585 | -0.029 | 0.935 | 0.5885   | unknown                            |
| 2036 | <i>hlx1</i>    | 0.087  | 1.223 | 0.22502  | -0.054 | 0.883 | 0.379925 | transcription and regulation       |
| 2037 | <i>hik4</i>    | -0.020 | 0.956 | 0.352579 | -0.067 | 0.856 | 0.221883 | cellular process                   |
| 2039 | <i>vng2039</i> | 0.006  | 1.015 | 0.585631 | 0.025  | 1.058 | 0.658083 | unknown                            |
| 2041 | <i>vng2041</i> | -0.039 | 0.913 | 0.473542 | 0.062  | 1.154 | 0.53445  | unknown                            |
| 2042 | <i>vng2042</i> | 0.042  | 1.102 | 0.483261 | 0.000  | 1.000 | 0.839    | unknown                            |
| 2043 | <i>ham1</i>    | 0.009  | 1.022 | 0.476445 | 0.025  | 1.058 | 0.662792 | nucleotide metabolism              |
| 2044 | <i>vng2044</i> | 0.154  | 1.427 | 0.170271 | -0.007 | 0.985 | 0.418    | unknown                            |
| 2045 | <i>gcp</i>     | -0.131 | 0.740 | 0.215579 | 0.049  | 1.119 | 0.500417 | cellular process                   |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 2047 | <i>rps27ae</i> | 0.173  | 1.490 | 0.00755  | 0.047  | 1.116 | 0.39325  | translation                        |
| 2048 | <i>rps24e</i>  | -0.064 | 0.862 | 0.438755 | 0.007  | 1.017 | 0.554833 | translation                        |
| 2051 | <i>rpoE''</i>  | -0.092 | 0.810 | 0.117016 | 0.046  | 1.113 | 0.4135   | transcription and regulation       |
| 2053 | <i>rpoE'</i>   | -0.056 | 0.880 | 0.419683 | 0.066  | 1.165 | 0.2176   | transcription and regulation       |
| 2054 | <i>vng2054</i> | -0.078 | 0.837 | 0.32123  | 0.044  | 1.107 | 0.47195  | unknown                            |
| 2056 | <i>elf2g</i>   | -0.037 | 0.919 | 0.592128 | 0.052  | 1.128 | 0.400433 | translation                        |
| 2059 | <i>vng2059</i> | -0.122 | 0.756 | 0.460634 | 0.027  | 1.063 | 0.811083 | unknown                            |
| 2060 | <i>phnP</i>    | -0.032 | 0.930 | 0.187925 | -0.077 | 0.837 | 0.152888 | general function prediction only   |
| 2062 | <i>atp</i>     | -0.110 | 0.777 | 0.147101 | -0.054 | 0.884 | 0.381933 | cellular process                   |
| 2063 | <i>aca</i>     | 0.108  | 1.282 | 0.362032 | -0.005 | 0.988 | 0.695    | general function prediction only   |
| 2064 | <i>Vng2064</i> | -0.103 | 0.788 | 0.1172   | 0.006  | 1.014 | 0.690167 | cellular process                   |
| 2065 | <i>dgs</i>     | -0.054 | 0.884 | 0.373969 | -0.005 | 0.989 | 0.646667 | cofactor and secondary metabolites |
| 2067 | <i>vng2067</i> | 0.005  | 1.012 | 0.721965 | 0.016  | 1.038 | 0.823    | unknown                            |
| 2068 | <i>trp11</i>   | -0.051 | 0.889 | 0.673947 | -0.021 | 0.952 | 0.666167 | transport                          |
| 2071 | <i>flf2</i>    | 0.065  | 1.162 | 0.328226 | -0.028 | 0.937 | 0.4815   | carbohydrate and lipid metabolism  |
| 2072 | <i>serS</i>    | -0.001 | 0.998 | 0.512463 | 0.060  | 1.148 | 0.29865  | translation                        |
| 2073 | <i>vng2073</i> | 0.118  | 1.313 | 0.452332 | -0.044 | 0.903 | 0.4275   | unknown                            |
| 2074 | <i>vng2074</i> | 0.000  | 1.000 | 0.801362 | -0.044 | 0.903 | 0.417    | transcription and regulation       |
| 2075 | <i>vng2075</i> | -0.010 | 0.978 | 0.755666 | 0.037  | 1.088 | 0.72925  | unknown                            |
| 2076 | <i>rpl40e</i>  | 0.105  | 1.274 | 0.370388 | -0.048 | 0.896 | 0.602    | translation                        |
| 2078 | <i>hat2</i>    | 0.049  | 1.120 | 0.528524 | -0.123 | 0.752 | 0.039923 | translation                        |
| 2079 | <i>mutT</i>    | 0.162  | 1.453 | 0.005086 | -0.085 | 0.821 | 0.18025  | DNA metabolism                     |
| 2080 | <i>gloB</i>    | 0.020  | 1.048 | 0.723991 | -0.055 | 0.882 | 0.3645   | general function prediction only   |
| 2081 | <i>vng2081</i> | -0.017 | 0.962 | 0.561715 | -0.043 | 0.907 | 0.396325 | unknown                            |
| 2082 | <i>urg3</i>    | 0.032  | 1.077 | 0.561231 | -0.028 | 0.937 | 0.798    | DNA metabolism                     |
| 2084 | <i>phnE</i>    | -0.148 | 0.711 | 0.166231 | 0.017  | 1.041 | 0.680667 | transport                          |
| 2085 | <i>phnC</i>    | -0.088 | 0.817 | 0.212973 | -0.019 | 0.957 | 0.7055   | transport                          |
| 2086 | <i>hpb</i>     | 0.090  | 1.230 | 0.372385 | -0.097 | 0.799 | 0.346826 | general function prediction only   |
| 2087 | <i>hisH2</i>   | 0.043  | 1.103 | 0.321835 | -0.106 | 0.783 | 0.476667 | amino acid metabolism              |
| 2088 | <i>trm1</i>    | 0.019  | 1.046 | 0.702846 | 0.042  | 1.102 | 0.520083 | translation                        |
| 2089 | <i>vng2089</i> | -0.053 | 0.884 | 0.528667 | 0.015  | 1.034 | 0.462583 | unknown                            |
| 2091 | <i>vng2091</i> | -0.060 | 0.871 | 0.526031 | -0.046 | 0.900 | 0.456    | carbohydrate and lipid metabolism  |
| 2093 | <i>glnA</i>    | 0.053  | 1.131 | 0.282434 | -0.021 | 0.953 | 0.546417 | amino acid metabolism              |
| 2094 | <i>asxR6</i>   | 0.097  | 1.249 | 0.191693 | -0.014 | 0.969 | 0.6685   | transcription and regulation       |
| 2096 | <i>cctB</i>    | -0.043 | 0.906 | 0.489706 | 0.064  | 1.160 | 0.302925 | cellular process                   |
| 2097 | <i>vng2097</i> | 0.064  | 1.159 | 0.397044 | 0.053  | 1.129 | 0.411917 | unknown                            |
| 2098 | <i>vng2098</i> | 0.192  | 1.557 | 0.012559 | -0.022 | 0.951 | 0.687    | unknown                            |
| 2099 | <i>vng2099</i> | 0.201  | 1.589 | 0.0081   | -0.056 | 0.880 | 0.31085  | translation                        |
| 2100 | <i>iluA</i>    | 0.056  | 1.137 | 0.31572  | -0.027 | 0.940 | 0.628083 | amino acid metabolism              |
| 2101 | <i>vng2101</i> | 0.014  | 1.033 | 0.422934 | -0.063 | 0.864 | 0.521849 | unknown                            |
| 2102 | <i>citZ</i>    | 0.251  | 1.783 | 0.196011 | 0.016  | 1.038 | 0.720125 | energy metabolism                  |
| 2104 | <i>pchB</i>    | 0.060  | 1.147 | 0.467067 | 0.009  | 1.020 | 0.463583 | transport                          |
| 2105 | <i>vng2105</i> | -0.105 | 0.785 | 0.278884 | -0.049 | 0.893 | 0.35225  | unknown                            |
| 2106 | <i>sdh</i>     | -0.004 | 0.990 | 0.315272 | 0.012  | 1.029 | 0.575283 | general function prediction only   |
| 2108 | <i>thrC3</i>   | 0.031  | 1.073 | 0.551031 | 0.041  | 1.100 | 0.51175  | amino acid metabolism              |
| 2109 | <i>vng2109</i> | 0.022  | 1.051 | 0.618623 | -0.137 | 0.729 | 0.238    | unknown                            |
| 2110 | <i>dzr</i>     | -0.048 | 0.896 | 0.532162 | -0.052 | 0.887 | 0.359083 | transcription and regulation       |
| 2112 | <i>xrlR5</i>   | -0.188 | 0.649 | 0.312602 | 0.059  | 1.146 | 0.41724  | transcription and regulation       |
| 2113 | <i>imp3</i>    | -0.007 | 0.985 | 0.693679 | -0.054 | 0.882 | 0.440117 | general function prediction only   |
| 2115 | <i>vng2115</i> | 0.101  | 1.261 | 0.441006 | -0.113 | 0.770 | 0.08344  | cellular process                   |
| 2116 | <i>vng2116</i> | 0.037  | 1.089 | 0.522369 | 0.096  | 1.247 | 0.075912 | unknown                            |



|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 2117 | <i>vng2117</i> | 0.013  | 1.031 | 0.19535  | -0.045 | 0.902 | 0.515077 | nucleotide metabolism              |
| 2118 | <i>pyrE2</i>   | 0.053  | 1.130 | 0.50254  | -0.002 | 0.995 | 0.802    | nucleotide metabolism              |
| 2119 | <i>vng2119</i> | 0.049  | 1.119 | 0.375934 | -0.044 | 0.903 | 0.538833 | carbohydrate and lipid metabolism  |
| 2120 | <i>yusM</i>    | 0.144  | 1.394 | 0.154824 | 0.020  | 1.048 | 0.47075  | amino acid metabolism              |
| 2121 | <i>vng2121</i> | -0.007 | 0.984 | 0.42486  | -0.003 | 0.993 | 0.77125  | unknown                            |
| 2122 | <i>ilvE2</i>   | 0.221  | 1.664 | 0.001272 | -0.028 | 0.937 | 0.528167 | amino acid metabolism              |
| 2123 | <i>nhaC2</i>   | 0.010  | 1.024 | 0.673686 | 0.019  | 1.044 | 0.607    | transport                          |
| 2124 | <i>nhaC5</i>   | 0.012  | 1.027 | 0.581206 | 0.016  | 1.038 | 0.748167 | transport                          |
| 2125 | <i>ribA</i>    | 0.007  | 1.017 | 0.375225 | -0.065 | 0.862 | 0.2518   | cofactor and secondary metabolites |
| 2126 | <i>rflrR</i>   | -0.063 | 0.864 | 0.369653 | 0.053  | 1.131 | 0.447058 | transcription and regulation       |
| 2128 | <i>vng2128</i> | -0.141 | 0.723 | 0.466301 | 0.024  | 1.056 | 0.692833 | energy metabolism                  |
| 2129 | <i>vng2129</i> | 0.060  | 1.147 | 0.506008 | -0.042 | 0.908 | 0.394    | unknown                            |
| 2130 | <i>minD2</i>   | -0.029 | 0.935 | 0.727395 | 0.023  | 1.054 | 0.63475  | cellular process                   |
| 2131 | <i>erf1</i>    | 0.028  | 1.066 | 0.50281  | 0.016  | 1.037 | 0.771417 | translation                        |
| 2132 | <i>ferA1</i>   | -0.001 | 0.998 | 0.962146 | 0.043  | 1.104 | 0.5985   | energy metabolism                  |
| 2133 | <i>vng2133</i> | -0.033 | 0.927 | 0.594622 | -0.004 | 0.990 | 0.644917 | transcription and regulation       |
| 2135 | <i>atpD</i>    | -0.115 | 0.767 | 0.154208 | 0.026  | 1.061 | 0.2832   | energy metabolism                  |
| 2136 | <i>blh</i>     | 0.076  | 1.192 | 0.374093 | -0.012 | 0.972 | 0.6715   | energy metabolism                  |
| 2137 | <i>crtY</i>    | -0.014 | 0.968 | 0.698247 | 0.041  | 1.100 | 0.496875 | cofactor and secondary metabolites |
| 2138 | <i>atpB</i>    | -0.004 | 0.992 | 0.147408 | 0.017  | 1.039 | 0.631833 | energy metabolism                  |
| 2139 | <i>atpA</i>    | -0.204 | 0.625 | 0.010679 | 0.080  | 1.203 | 0.147792 | energy metabolism                  |
| 2140 | <i>atpF</i>    | -0.064 | 0.863 | 0.292572 | 0.099  | 1.257 | 0.0506   | energy metabolism                  |
| 2141 | <i>atpC</i>    | -0.254 | 0.557 | 0.000548 | 0.078  | 1.198 | 0.12855  | energy metabolism                  |
| 2142 | <i>atpE</i>    | -0.142 | 0.721 | 0.010262 | 0.055  | 1.134 | 0.27     | energy metabolism                  |
| 2143 | <i>atpK</i>    | -0.206 | 0.622 | 0.014382 | -0.014 | 0.968 | 0.53375  | energy metabolism                  |
| 2144 | <i>atpI</i>    | -0.165 | 0.684 | 0.009025 | 0.007  | 1.016 | 0.857833 | energy metabolism                  |
| 2146 | <i>atpH</i>    | 0.078  | 1.198 | 0.238585 | 0.066  | 1.164 | 0.1975   | energy metabolism                  |
| 2147 | <i>hmp</i>     | 0.020  | 1.047 | 0.637103 | -0.002 | 0.995 | 0.636833 | cofactor and secondary metabolites |
| 2148 | <i>vng2148</i> | -0.012 | 0.972 | 0.577312 | -0.080 | 0.832 | 0.259933 | unknown                            |
| 2149 | <i>vng2149</i> | -0.021 | 0.952 | 0.620455 | 0.054  | 1.133 | 0.31845  | unknown                            |
| 2150 | <i>etfB</i>    | 0.129  | 1.347 | 0.21052  | 0.011  | 1.027 | 0.663    | energy metabolism                  |
| 2151 | <i>etfA</i>    | 0.019  | 1.045 | 0.529026 | 0.016  | 1.038 | 0.72275  | energy metabolism                  |
| 2152 | <i>vng2152</i> | 0.107  | 1.279 | 0.174937 | -0.021 | 0.954 | 0.643167 | unknown                            |
| 2153 | <i>fps</i>     | -0.065 | 0.861 | 0.429542 | 0.094  | 1.243 | 0.2227   | cofactor and secondary metabolites |
| 2154 | <i>vng2154</i> | 0.116  | 1.307 | 0.16839  | -0.228 | 0.592 | 0.36025  | unknown                            |
| 2155 | <i>vng2155</i> | -0.070 | 0.851 | 0.252917 | 0.008  | 1.018 | 0.55805  | unknown                            |
| 2156 | <i>vng2156</i> | 0.028  | 1.067 | 0.020845 | -0.080 | 0.831 | 0.159417 | cellular process                   |
| 2157 | <i>vng2157</i> | 0.030  | 1.071 | 0.381953 | -0.001 | 0.997 | 0.602    | unknown                            |
| 2158 | <i>oxrA</i>    | -0.114 | 0.770 | 0.125582 | 0.069  | 1.171 | 0.414922 | cofactor and secondary metabolites |
| 2159 | <i>manC</i>    | 0.100  | 1.260 | 0.124616 | -0.066 | 0.859 | 0.216    | energy metabolism                  |
| 2160 | <i>rfa3</i>    | 0.508  | 3.220 | 7.66E-13 | 0.737  | 5.458 | 2.86E-23 | DNA metabolism                     |
| 2162 | <i>rfa8</i>    | 0.284  | 1.922 | 0.002387 | 0.558  | 3.617 | 2.88E-12 | DNA metabolism                     |
| 2163 | <i>ral</i>     | 0.355  | 2.264 | 6.5E-08  | 0.529  | 3.382 | 4.09E-15 | DNA metabolism                     |
| 2164 | <i>vng2164</i> | -0.034 | 0.924 | 0.503439 | -0.128 | 0.744 | 0.014185 | unknown                            |
| 2165 | <i>vng2165</i> | -0.072 | 0.847 | 0.422535 | 0.034  | 1.082 | 0.559925 | unknown                            |
| 2166 | <i>vng2166</i> | -0.002 | 0.996 | 0.70604  | -0.240 | 0.575 | 8.8E-06  | unknown                            |
| 2167 | <i>dbp</i>     | 0.027  | 1.063 | 0.478625 | -0.005 | 0.989 | 0.250325 | DNA metabolism                     |
| 2168 | <i>vng2168</i> | 0.013  | 1.029 | 0.117274 | 0.007  | 1.017 | 0.42475  | unknown                            |
| 2170 | <i>vng2170</i> | 0.184  | 1.528 | 0.334009 | 0.032  | 1.076 | 0.668    | unknown                            |
| 2171 | <i>adh1</i>    | 0.004  | 1.009 | 0.423139 | -0.053 | 0.885 | 0.3896   | energy metabolism                  |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 2172 | <i>vng2172</i> | 0.042  | 1.102 | 0.447229 | -0.035 | 0.922 | 0.593055 | unknown                            |
| 2173 | <i>rad24a</i>  | -0.079 | 0.833 | 0.299522 | -0.024 | 0.946 | 0.28158  | DNA metabolism                     |
| 2176 | <i>vng2176</i> | -0.108 | 0.781 | 0.451537 | -0.029 | 0.936 | 0.56975  | unknown                            |
| 2178 | <i>phlR</i>    | -0.056 | 0.878 | 0.315725 | 0.023  | 1.055 | 0.607333 | transcription and regulation       |
| 2179 | <i>vng2179</i> | 0.008  | 1.019 | 0.612451 | -0.010 | 0.976 | 0.787417 | unknown                            |
| 2180 | <i>hik5</i>    | -0.237 | 0.580 | 0.000494 | 0.002  | 1.004 | 0.687125 | cellular process                   |
| 2181 | <i>mcm</i>     | -0.046 | 0.899 | 0.434572 | 0.019  | 1.045 | 0.459083 | DNA metabolism                     |
| 2182 | <i>vng2182</i> | -0.057 | 0.878 | 0.374596 | 0.059  | 1.146 | 0.365817 | unknown                            |
| 2183 | <i>vng2183</i> | -0.057 | 0.877 | 0.605615 | 0.055  | 1.134 | 0.400925 | unknown                            |
| 2184 | <i>ffbA</i>    | 0.132  | 1.354 | 0.323264 | -0.027 | 0.941 | 0.522833 | transcription and regulation       |
| 2185 | <i>vng2185</i> | -0.007 | 0.984 | 0.667239 | 0.015  | 1.036 | 0.559083 | unknown                            |
| 2186 | <i>hit1</i>    | 0.057  | 1.140 | 0.383497 | -0.199 | 0.633 | 0.000278 | nucleotide metabolism              |
| 2187 | <i>vng2187</i> | -0.017 | 0.962 | 0.432278 | 0.057  | 1.140 | 0.4687   | unknown                            |
| 2189 | <i>vng2189</i> | -0.038 | 0.915 | 0.490245 | -0.041 | 0.909 | 0.55775  | unknown                            |
| 2190 | <i>ileS</i>    | 0.025  | 1.059 | 0.448124 | 0.043  | 1.105 | 0.446575 | translation                        |
| 2191 | <i>vng2191</i> | 0.050  | 1.123 | 0.379248 | -0.024 | 0.947 | 0.65575  | unknown                            |
| 2193 | <i>cbaA</i>    | 0.087  | 1.221 | 0.274076 | -0.040 | 0.912 | 0.489583 | energy metabolism                  |
| 2195 | <i>cbaB</i>    | 0.072  | 1.181 | 0.46526  | -0.150 | 0.709 | 0.5075   | energy metabolism                  |
| 2196 | <i>cbaD</i>    | 0.171  | 1.483 | 0.046399 | -0.022 | 0.951 | 0.669583 | energy metabolism                  |
| 2197 | <i>vng2197</i> | -0.006 | 0.985 | 0.643322 | -0.020 | 0.955 | 0.76375  | unknown                            |
| 2199 | <i>vng2199</i> | -0.003 | 0.993 | 0.646935 | -0.008 | 0.983 | 0.7475   | unknown                            |
| 2201 | <i>cpx</i>     | 0.032  | 1.077 | 0.613862 | 0.027  | 1.065 | 0.65875  | transport                          |
| 2202 | <i>vng2202</i> | -0.007 | 0.983 | 0.774283 | 0.008  | 1.018 | 0.80225  | unknown                            |
| 2203 | <i>prsA</i>    | 0.018  | 1.043 | 0.572861 | -0.030 | 0.933 | 0.5655   | nucleotide metabolism              |
| 2204 | <i>vng2204</i> | 0.021  | 1.050 | 0.718788 | -0.019 | 0.956 | 0.7145   | unknown                            |
| 2205 | <i>vng2205</i> | -0.095 | 0.804 | 0.249033 | 0.030  | 1.072 | 0.412833 | unknown                            |
| 2206 | <i>pmu1</i>    | -0.060 | 0.872 | 0.463959 | -0.051 | 0.889 | 0.433907 | carbohydrate and lipid metabolism  |
| 2207 | <i>vng2207</i> | -0.019 | 0.957 | 0.528572 | -0.040 | 0.912 | 0.513667 | unknown                            |
| 2208 | <i>trpS1</i>   | -0.032 | 0.930 | 0.515054 | -0.027 | 0.941 | 0.6864   | translation                        |
| 2210 | <i>endA</i>    | -0.173 | 0.672 | 0.178954 | 0.006  | 1.014 | 0.817    | translation                        |
| 2211 | <i>vng2211</i> | 0.010  | 1.024 | 0.65054  | 0.019  | 1.045 | 0.648558 | unknown                            |
| 2213 | <i>brr2</i>    | -0.084 | 0.825 | 0.231261 | -0.009 | 0.979 | 0.524    | transcription and regulation       |
| 2214 | <i>dinF</i>    | 0.050  | 1.121 | 0.449526 | 0.029  | 1.069 | 0.526833 | DNA metabolism                     |
| 2216 | <i>lip</i>     | 0.091  | 1.234 | 0.296179 | 0.007  | 1.016 | 0.76625  | cofactor and secondary metabolites |
| 2217 | <i>pdhA2</i>   | -0.046 | 0.900 | 0.25058  | 0.036  | 1.087 | 0.477083 | energy metabolism                  |
| 2218 | <i>pdhB</i>    | -0.053 | 0.885 | 0.427174 | 0.001  | 1.002 | 0.291867 | energy metabolism                  |
| 2219 | <i>dsa</i>     | -0.068 | 0.854 | 0.327566 | -0.029 | 0.936 | 0.5615   | energy metabolism                  |
| 2220 | <i>lpdA</i>    | 0.002  | 1.004 | 0.504137 | -0.004 | 0.991 | 0.675875 | energy metabolism                  |
| 2222 | <i>pheA</i>    | -0.016 | 0.965 | 0.290437 | 0.006  | 1.014 | 0.504783 | amino acid metabolism              |
| 2223 | <i>leuS</i>    | 0.058  | 1.142 | 0.371222 | 0.038  | 1.092 | 0.468    | translation                        |
| 2224 | <i>ocd1</i>    | 0.188  | 1.541 | 0.001031 | -0.053 | 0.885 | 0.293    | amino acid metabolism              |
| 2226 | <i>cctA</i>    | 0.373  | 2.361 | 0.019116 | -0.036 | 0.920 | 0.4125   | cellular process                   |
| 2227 | <i>vng2227</i> | 0.045  | 1.108 | 0.448412 | 0.005  | 1.011 | 0.747375 | unknown                            |
| 2230 | <i>vng2230</i> | 0.008  | 1.017 | 0.43886  | -0.008 | 0.982 | 0.634917 | unknown                            |
| 2231 | <i>vng2231</i> | 0.040  | 1.096 | 0.468644 | 0.010  | 1.024 | 0.719167 | carbohydrate and lipid metabolism  |
| 2232 | <i>trpS2</i>   | -0.078 | 0.836 | 0.504575 | 0.005  | 1.011 | 0.492683 | translation                        |
| 2233 | <i>stk</i>     | -0.097 | 0.800 | 0.302935 | -0.015 | 0.967 | 0.726833 | cellular process                   |
| 2234 | <i>eif1a1</i>  | -0.009 | 0.979 | 0.490118 | -0.061 | 0.869 | 0.2845   | translation                        |
| 2236 | <i>vng2236</i> | -0.035 | 0.922 | 0.510146 | -0.008 | 0.982 | 0.799    | unknown                            |
| 2237 | <i>tyrS</i>    | 0.011  | 1.026 | 0.504099 | 0.055  | 1.134 | 0.331467 | translation                        |
| 2238 | <i>vng2238</i> | -0.098 | 0.798 | 0.387372 | 0.052  | 1.127 | 0.348167 | unknown                            |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 2239 | <i>vng2239</i> | 0.011  | 1.025 | 0.531665 | 0.015  | 1.034 | 0.78325  | unknown                            |
| 2240 | <i>rfcC</i>    | 0.074  | 1.185 | 0.274386 | 0.001  | 1.003 | 0.892833 | DNA metabolism                     |
| 2241 | <i>vng2241</i> | -0.037 | 0.919 | 0.524524 | 0.017  | 1.040 | 0.7725   | unknown                            |
| 2243 | <i>tbpE</i>    | 0.221  | 1.665 | 0.000393 | -0.046 | 0.899 | 0.381    | transcription and regulation       |
| 2244 | <i>vng2244</i> | 0.036  | 1.087 | 0.630468 | 0.025  | 1.060 | 0.629    | unknown                            |
| 2246 | <i>vng2246</i> | -0.030 | 0.933 | 0.652328 | 0.029  | 1.069 | 0.792833 | unknown                            |
| 2247 | <i>hisG</i>    | 0.010  | 1.023 | 0.531374 | 0.001  | 1.003 | 0.558375 | amino acid metabolism              |
| 2248 | <i>vng2248</i> | 0.001  | 1.002 | 0.669256 | -0.014 | 0.969 | 0.519375 | unknown                            |
| 2249 | <i>trzA</i>    | 0.030  | 1.072 | 0.557669 | -0.007 | 0.984 | 0.4005   | nucleotide metabolism              |
| 2251 | <i>achY</i>    | 0.115  | 1.304 | 0.153944 | -0.002 | 0.996 | 0.742917 | cofactor and secondary metabolites |
| 2252 | <i>hjr</i>     | 0.067  | 1.166 | 0.247087 | -0.022 | 0.951 | 0.6675   | DNA metabolism                     |
| 2253 | <i>vng2253</i> | -0.006 | 0.987 | 0.623704 | -0.064 | 0.864 | 0.293563 | unknown                            |
| 2254 | <i>vng2254</i> | -0.070 | 0.851 | 0.296257 | -0.059 | 0.874 | 0.401118 | DNA metabolism                     |
| 2255 | <i>vng2255</i> | -0.030 | 0.934 | 0.393631 | 0.030  | 1.071 | 0.561675 | carbohydrate and lipid metabolism  |
| 2256 | <i>pcn</i>     | 0.130  | 1.348 | 0.144808 | -0.033 | 0.926 | 0.4115   | DNA metabolism                     |
| 2257 | <i>nce</i>     | 0.061  | 1.151 | 0.466715 | 0.035  | 1.084 | 0.692833 | transport                          |
| 2259 | <i>vng2259</i> | 0.017  | 1.040 | 0.674269 | -0.003 | 0.992 | 0.64225  | unknown                            |
| 2260 | <i>vng2260</i> | -0.040 | 0.912 | 0.429781 | 0.005  | 1.012 | 0.656583 | unknown                            |
| 2262 | <i>vng2262</i> | 0.020  | 1.047 | 0.534759 | 0.006  | 1.015 | 0.542083 | unknown                            |
| 2263 | <i>ftsJ</i>    | 0.001  | 1.002 | 0.338866 | 0.076  | 1.192 | 0.223233 | cellular process                   |
| 2264 | <i>vng2264</i> | -0.077 | 0.838 | 0.380579 | -0.011 | 0.975 | 0.7745   | unknown                            |
| 2267 | <i>tatC2</i>   | -0.034 | 0.925 | 0.362707 | -0.014 | 0.967 | 0.687    | cellular process                   |
| 2268 | <i>Vng2268</i> | -0.034 | 0.925 | 0.309178 | -0.060 | 0.871 | 0.4213   | unknown                            |
| 2269 | <i>tatC1</i>   | -0.007 | 0.985 | 0.550073 | 0.033  | 1.079 | 0.43625  | cellular process                   |
| 2270 | <i>mutS3</i>   | -0.091 | 0.811 | 0.259735 | 0.040  | 1.097 | 0.586258 | DNA metabolism                     |
| 2271 | <i>orc6</i>    | -0.017 | 0.962 | 0.523595 | 0.023  | 1.054 | 0.512525 | DNA metabolism                     |
| 2272 | <i>rpi</i>     | -0.048 | 0.895 | 0.356592 | 0.030  | 1.071 | 0.614033 | carbohydrate and lipid metabolism  |
| 2273 | <i>vng2273</i> | 0.020  | 1.047 | 0.008926 |        | 1.000 |          | unknown                            |
| 2274 | <i>vng2274</i> | -0.036 | 0.919 | 0.099675 | 0.022  | 1.053 | 0.8625   | DNA metabolism                     |
| 2276 | <i>pmm</i>     | 0.090  | 1.231 | 0.194974 | 0.017  | 1.041 | 0.558    | carbohydrate and lipid metabolism  |
| 2277 | <i>act8</i>    | 0.044  | 1.107 | 0.430875 | -0.004 | 0.990 | 0.7395   | transcription and regulation       |
| 2279 | <i>vng2279</i> | 0.047  | 1.115 | 0.479517 | 0.014  | 1.034 | 0.775583 | cofactor and secondary metabolites |
| 2280 | <i>rfcA</i>    | 0.015  | 1.036 | 0.757344 | 0.028  | 1.067 | 0.593    | DNA metabolism                     |
| 2281 | <i>vng2281</i> | 0.098  | 1.253 | 0.230547 | -0.065 | 0.861 | 0.328725 | cellular process                   |
| 2282 | <i>vng2282</i> | 0.107  | 1.278 | 0.258354 | -0.005 | 0.988 | 0.826    | cellular process                   |
| 2283 | <i>alaS</i>    | -0.051 | 0.890 | 0.414808 | 0.005  | 1.012 | 0.732583 | translation                        |
| 2284 | <i>hisJ</i>    | 0.083  | 1.211 | 0.109422 | -0.223 | 0.599 | 5.03E-05 | amino acid metabolism              |
| 2285 | <i>vng2285</i> | -0.090 | 0.813 | 0.20644  | -0.032 | 0.928 | 0.515167 | cellular process                   |
| 2286 | <i>mamA</i>    | 0.052  | 1.127 | 0.435249 | -0.080 | 0.832 | 0.375067 | amino acid metabolism              |
| 2288 | <i>mamB</i>    | 0.010  | 1.023 | 0.395241 | 0.005  | 1.012 | 0.488825 | amino acid metabolism              |
| 2289 | <i>mal</i>     | 0.006  | 1.014 | 0.295012 | 0.058  | 1.142 | 0.362483 | amino acid metabolism              |
| 2290 | <i>maoC1</i>   | -0.042 | 0.908 | 0.397832 | 0.013  | 1.031 | 0.786    | carbohydrate and lipid metabolism  |
| 2291 | <i>cat</i>     | 0.018  | 1.042 | 0.542339 | 0.030  | 1.071 | 0.568725 | carbohydrate and lipid metabolism  |
| 2292 | <i>vng2292</i> | 0.065  | 1.162 | 0.405372 | 0.050  | 1.121 | 0.384708 | unknown                            |
| 2293 | <i>ferA2</i>   | 0.251  | 1.782 | 0.000102 | 0.026  | 1.063 | 0.606833 | energy metabolism                  |
| 2294 | <i>hisA</i>    | 0.000  | 1.001 | 0.541644 | 0.005  | 1.012 | 0.653583 | amino acid metabolism              |
| 2295 | <i>hisB</i>    | 0.045  | 1.108 | 0.371411 | -0.069 | 0.853 | 0.763    | amino acid metabolism              |
| 2296 | <i>aamR</i>    | 0.035  | 1.083 | 0.713386 | -0.024 | 0.946 | 0.8085   | transcription and regulation       |
| 2297 | <i>vng2296</i> | 0.101  | 1.262 | 0.257707 | -0.036 | 0.919 | 0.47425  | unknown                            |
| 2298 | <i>vng2298</i> | 0.090  | 1.230 | 0.135419 | -0.041 | 0.909 | 0.436083 | unknown                            |
| 2299 | <i>vng2299</i> | 0.018  | 1.042 | 0.538846 | -0.032 | 0.929 | 0.55425  | unknown                            |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 2301 | <i>txrB3</i>   | 0.058  | 1.143 | 0.521288 | 0.057  | 1.141 | 0.3215   | cellular process                   |
| 2302 | <i>yuxL</i>    | 0.041  | 1.099 | 0.367651 | 0.030  | 1.073 | 0.596792 | amino acid metabolism              |
| 2304 | <i>vng2304</i> | 0.017  | 1.040 | 0.652362 | 0.050  | 1.122 | 0.39325  | unknown                            |
| 2305 | <i>vng2305</i> | 0.073  | 1.182 | 0.251823 | -0.026 | 0.941 | 0.6545   | nucleotide metabolism              |
| 2306 | <i>vng2306</i> | -0.010 | 0.976 | 0.6808   | 0.021  | 1.050 | 0.6185   | unknown                            |
| 2307 | <i>vng2307</i> | -0.043 | 0.906 | 0.39772  | 0.024  | 1.057 | 0.603417 | unknown                            |
| 2308 | <i>hlp</i>     | 0.088  | 1.225 | 0.254834 | 0.025  | 1.059 | 0.629167 | general function prediction only   |
| 2310 | <i>vng2310</i> | 0.009  | 1.022 | 0.030703 | 0.028  | 1.068 | 0.63175  | cellular process                   |
| 2311 | <i>vng2311</i> | 0.110  | 1.289 | 0.499353 | 0.026  | 1.063 | 0.800125 | cellular process                   |
| 2312 | <i>vng2312</i> | -0.040 | 0.912 | 0.548566 | 0.020  | 1.046 | 0.78675  | translation                        |
| 2313 | <i>vng2313</i> | 0.030  | 1.070 | 0.575668 | -0.013 | 0.971 | 0.807417 | unknown                            |
| 2314 | <i>vng2314</i> | -0.021 | 0.952 | 0.424493 | 0.004  | 1.009 | 0.658833 | unknown                            |
| 2315 | <i>vng2315</i> | -0.021 | 0.952 | 0.406354 | -0.121 | 0.757 | 0.050818 | unknown                            |
| 2316 | <i>vng2316</i> | 0.005  | 1.012 | 0.433808 | 0.008  | 1.019 | 0.8775   | unknown                            |
| 2317 | <i>cbiO1</i>   | 0.080  | 1.204 | 0.698951 | 0.033  | 1.080 | 0.624    | transport                          |
| 2320 | <i>hdrD</i>    | -0.048 | 0.895 | 0.133947 | 0.029  | 1.069 | 0.547417 | energy metabolism                  |
| 2321 | <i>ydaJ</i>    | 0.139  | 1.376 | 0.223619 | -0.108 | 0.780 | 0.087663 | translation                        |
| 2322 | <i>hem2</i>    | -0.003 | 0.992 | 0.62497  | 0.002  | 1.006 | 0.785125 | cofactor and secondary metabolites |
| 2323 | <i>vng2323</i> | 0.009  | 1.021 | 0.726968 | 0.010  | 1.022 | 0.596558 | unknown                            |
| 2324 | <i>vng2324</i> | -0.179 | 0.662 | 0.260391 | -0.030 | 0.932 | 0.696125 | unknown                            |
| 2326 | <i>hemL</i>    | 0.015  | 1.035 | 0.465293 | 0.034  | 1.081 | 0.771833 | cofactor and secondary metabolites |
| 2328 | <i>vng2328</i> | -0.140 | 0.724 | 0.387544 | -0.015 | 0.967 | 0.464634 | unknown                            |
| 2329 | <i>vng2329</i> | 0.036  | 1.086 | 0.423829 | 0.016  | 1.037 | 0.6995   | unknown                            |
| 2330 | <i>hem3</i>    | -0.066 | 0.860 | 0.270148 | 0.039  | 1.094 | 0.5955   | cofactor and secondary metabolites |
| 2331 | <i>uroM</i>    | -0.072 | 0.848 | 0.411412 | 0.054  | 1.131 | 0.411225 | cofactor and secondary metabolites |
| 2332 | <i>cysG</i>    | -0.011 | 0.975 | 0.826147 | 0.018  | 1.042 | 0.7175   | cofactor and secondary metabolites |
| 2333 | <i>vng2333</i> | -0.003 | 0.993 | 0.696406 | 0.031  | 1.074 | 0.608667 | DNA metabolism                     |
| 2334 | <i>prh</i>     | 0.002  | 1.004 | 0.661316 | 0.015  | 1.036 | 0.727333 | cellular process                   |
| 2335 | <i>vng2335</i> | -0.011 | 0.975 | 0.606829 | -0.008 | 0.982 | 0.829333 | unknown                            |
| 2337 | <i>vng2337</i> | 0.069  | 1.172 | 0.266377 | -0.010 | 0.977 | 0.618333 | cellular process                   |
| 2338 | <i>polA2</i>   | -0.178 | 0.664 | 0.063699 | -0.038 | 0.915 | 0.484167 | DNA metabolism                     |
| 2339 | <i>vng2339</i> | 0.053  | 1.131 | 0.350946 | -0.032 | 0.928 | 0.5855   | unknown                            |
| 2340 | <i>vng2340</i> | 0.114  | 1.299 | 0.127392 | -0.057 | 0.877 | 0.4304   | unknown                            |
| 2341 | <i>vng2341</i> | 0.179  | 1.509 | 0.047625 | -0.093 | 0.807 | 0.13775  | unknown                            |
| 2342 | <i>vng2342</i> | 0.045  | 1.109 | 0.28339  | -0.030 | 0.933 | 0.567167 | unknown                            |
| 2343 | <i>ykfD</i>    | 0.067  | 1.166 | 0.336737 | -0.041 | 0.910 | 0.485042 | transport                          |
| 2344 | <i>oppD2</i>   | -0.064 | 0.863 | 0.217566 | 0.006  | 1.013 | 0.85325  | transport                          |
| 2346 | <i>dppC2</i>   | -0.094 | 0.806 | 0.103825 | 0.034  | 1.081 | 0.536033 | transport                          |
| 2347 | <i>dppB1</i>   | 0.224  | 1.674 | 0.000157 | -0.015 | 0.967 | 0.77225  | transport                          |
| 2349 | <i>dppA</i>    | 0.387  | 2.441 | 0.149    | 0.003  | 1.007 | 0.583417 | transport                          |
| 2351 | <i>vng2351</i> | -0.056 | 0.879 | 0.443427 | 0.016  | 1.038 | 0.610333 | unknown                            |
| 2352 | <i>glyS</i>    | -0.030 | 0.934 | 0.508785 | 0.006  | 1.014 | 0.658917 | translation                        |
| 2353 | <i>vng2353</i> | 0.047  | 1.114 | 0.445628 | 0.042  | 1.102 | 0.421225 | unknown                            |
| 2356 | <i>EIF4a</i>   | 0.000  | 1.000 | 0.57953  | 0.035  | 1.084 | 0.578275 | translation                        |
| 2358 | <i>appA</i>    | 0.033  | 1.079 | 0.617939 | 0.042  | 1.101 | 0.662917 | transport                          |
| 2359 | <i>appB</i>    | 0.011  | 1.026 | 0.516325 | 0.059  | 1.145 | 0.435667 | transport                          |
| 2361 | <i>appC</i>    | 0.058  | 1.142 | 0.516136 | 0.052  | 1.128 | 0.41     | transport                          |
| 2363 | <i>oppD1</i>   | -0.057 | 0.876 | 0.390609 | 0.015  | 1.036 | 0.52945  | transport                          |
| 2365 | <i>appF</i>    | 0.025  | 1.059 | 0.431455 | 0.003  | 1.007 | 0.503688 | transport                          |
| 2366 | <i>vng2366</i> | -0.005 | 0.988 | 0.916638 | -0.065 | 0.861 | 0.1895   | unknown                            |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 2367 | <i>mdhA</i>    | 0.032  | 1.076 | 0.459433 | 0.049  | 1.118 | 0.341    | energy metabolism                  |
| 2368 | <i>rad24b</i>  | -0.076 | 0.840 | 0.271346 | 0.033  | 1.080 | 0.578583 | DNA metabolism                     |
| 2369 | <i>vng2369</i> | -0.028 | 0.937 | 0.574845 | 0.053  | 1.130 | 0.41035  | unknown                            |
| 2370 | <i>vng2370</i> | -0.041 | 0.909 | 0.570157 | -0.041 | 0.911 | 0.487    | energy metabolism                  |
| 2371 | <i>vng2371</i> | 0.020  | 1.048 | 0.523469 | 0.123  | 1.327 | 0.116591 | nucleotide metabolism              |
| 2372 | <i>rad24c</i>  | 0.025  | 1.059 | 0.520318 | -0.014 | 0.969 | 0.354983 | DNA metabolism                     |
| 2373 | <i>tnaA</i>    | 0.046  | 1.112 | 0.223564 | 0.013  | 1.031 | 0.595667 | amino acid metabolism              |
| 2374 | <i>lysC</i>    | -0.056 | 0.880 | 0.205806 | -0.045 | 0.902 | 0.386875 | amino acid metabolism              |
| 2376 | <i>vng2376</i> | -0.065 | 0.860 | 0.433963 | -0.007 | 0.983 | 0.851167 | unknown                            |
| 2377 | <i>nosY</i>    | 0.019  | 1.046 | 0.549836 | 0.013  | 1.030 | 0.804    | transport                          |
| 2378 | <i>nosF1</i>   | 0.030  | 1.072 | 0.340644 | -0.021 | 0.952 | 0.488267 | transport                          |
| 2379 | <i>vng2379</i> | -0.048 | 0.896 | 0.711    | -0.088 | 0.817 | 0.0848   | unknown                            |
| 2380 | <i>vng2380</i> | 0.211  | 1.626 | 0.000836 | 0.002  | 1.004 | 0.92225  | unknown                            |
| 2381 | <i>uvrC</i>    | 0.021  | 1.049 | 0.533392 | 0.014  | 1.032 | 0.695    | DNA metabolism                     |
| 2383 | <i>nrdA</i>    | 0.219  | 1.657 | 0.03815  | 0.010  | 1.024 | 0.859    | nucleotide metabolism              |
| 2384 | <i>nrdB</i>    | 0.166  | 1.464 | 0.125019 | 0.001  | 1.002 | 0.579667 | nucleotide metabolism              |
| 2385 | <i>vng2385</i> | 0.156  | 1.433 | 0.141497 | -0.016 | 0.965 | 0.823    | unknown                            |
| 2386 | <i>vng2386</i> | -0.017 | 0.962 | 0.616474 | 0.006  | 1.013 | 0.676833 | cellular process                   |
| 2387 | <i>vng2387</i> | -0.066 | 0.860 | 0.288233 | -0.041 | 0.910 | 0.645538 | unknown                            |
| 2390 | <i>uvrB</i>    | -0.025 | 0.944 | 0.313061 | -0.046 | 0.899 | 0.293917 | DNA metabolism                     |
| 2392 | <i>vng2392</i> | 0.016  | 1.038 | 0.492938 | -0.018 | 0.959 | 0.737125 | unknown                            |
| 2393 | <i>tssA</i>    | 0.086  | 1.220 | 0.309275 | -0.013 | 0.970 | 0.615083 | cellular process                   |
| 2394 | <i>tssB</i>    | 0.004  | 1.010 | 0.825886 | 0.010  | 1.024 | 0.668125 | cellular process                   |
| 2395 | <i>vng2395</i> | 0.032  | 1.077 | 0.611506 | 0.045  | 1.108 | 0.388625 | cofactor and secondary metabolites |
| 2396 | <i>cysT1</i>   | 0.033  | 1.079 | 0.373368 | -0.008 | 0.982 | 0.602525 | transport                          |
| 2397 | <i>cysA</i>    | -0.105 | 0.785 | 0.310065 | 0.040  | 1.097 | 0.396667 | transport                          |
| 2398 | <i>scm</i>     | -0.001 | 0.997 | 0.646497 | 0.023  | 1.054 | 0.706    | cofactor and secondary metabolites |
| 2399 | <i>vng2399</i> | -0.069 | 0.853 | 0.470261 | 0.006  | 1.014 | 0.599    | unknown                            |
| 2400 | <i>vng2400</i> | 0.044  | 1.108 | 0.421413 | -0.045 | 0.902 | 0.487196 | unknown                            |
| 2402 | <i>vng2403</i> | 0.059  | 1.145 | 0.265632 | -0.023 | 0.947 | 0.64     | unknown                            |
| 2403 | <i>vng2402</i> | 0.039  | 1.095 | 0.380656 | -0.001 | 0.998 | 0.7875   | unknown                            |
| 2404 | <i>dip1</i>    | 0.011  | 1.025 | 0.546046 | -0.005 | 0.988 | 0.708833 | DNA metabolism                     |
| 2406 | <i>vng2406</i> | 0.117  | 1.311 | 0.080672 | -0.035 | 0.922 | 0.50075  | unknown                            |
| 2408 | <i>vng2408</i> | 0.110  | 1.288 | 0.056412 | 0.001  | 1.002 | 0.8705   | unknown                            |
| 2410 | <i>gbp3</i>    | 0.131  | 1.351 | 0.082133 | -0.037 | 0.919 | 0.528917 | cellular process                   |
| 2411 | <i>orc7</i>    | -0.049 | 0.893 | 0.091293 | 0.024  | 1.057 | 0.262258 | DNA metabolism                     |
| 2412 | <i>vng2412</i> | -0.113 | 0.771 | 0.140508 | 0.096  | 1.246 | 0.387    | unknown                            |
| 2413 | <i>vng2413</i> | 0.003  | 1.007 | 0.46014  | 0.047  | 1.114 | 0.395833 | unknown                            |
| 2414 | <i>arlR13</i>  | -0.024 | 0.946 | 0.518617 | -0.073 | 0.845 | 0.205583 | transcription and regulation       |
| 2415 | <i>vng2415</i> | 0.000  | 1.000 | 0.477017 | -0.022 | 0.951 | 0.70625  | unknown                            |
| 2416 | <i>sec11</i>   | -0.078 | 0.836 | 0.37419  | 0.019  | 1.046 | 0.716833 | cellular process                   |
| 2417 | <i>polA1</i>   | -0.288 | 0.516 | 0.211251 | -0.037 | 0.919 | 0.525833 | DNA metabolism                     |
| 2418 | <i>aspC1</i>   | -0.035 | 0.923 | 0.494732 | 0.048  | 1.117 | 0.5065   | amino acid metabolism              |
| 2419 | <i>vng2419</i> | 0.003  | 1.007 | 0.387445 | -0.054 | 0.883 | 0.079063 | carbohydrate and lipid metabolism  |
| 2420 | <i>metA</i>    | 0.032  | 1.077 | 0.555679 | -0.091 | 0.811 | 0.149604 | amino acid metabolism              |
| 2421 | <i>hal</i>     | 0.033  | 1.079 | 0.503206 | -0.037 | 0.918 | 0.523973 | amino acid metabolism              |
| 2422 | <i>glcD</i>    | -0.103 | 0.788 | 0.481729 | -0.061 | 0.869 | 0.509942 | carbohydrate and lipid metabolism  |
| 2423 | <i>serB</i>    | -0.009 | 0.979 | 0.528675 | 0.025  | 1.059 | 0.685    | amino acid metabolism              |
| 2424 | <i>serA1</i>   | -0.010 | 0.977 | 0.289087 | -0.089 | 0.816 | 0.208512 | amino acid metabolism              |
| 2426 | <i>act</i>     | -0.073 | 0.846 | 0.361922 | -0.077 | 0.838 | 0.300042 | carbohydrate and lipid metabolism  |
| 2429 | <i>dld</i>     | 0.106  | 1.277 | 0.244355 | 0.025  | 1.060 | 0.6476   | carbohydrate and lipid metabolism  |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 2430 | <i>thrC1</i>   | 0.000  | 1.000 | 0.508736 | 0.004  | 1.010 | 0.69975  | amino acid metabolism              |
| 2431 | <i>vng2431</i> | 0.060  | 1.148 | 0.377641 | -0.092 | 0.809 | 0.0724   | unknown                            |
| 2432 | <i>vng2432</i> | 0.015  | 1.035 | 0.447959 | -0.021 | 0.954 | 0.69     | unknown                            |
| 2433 | <i>vng2433</i> | -0.083 | 0.827 | 0.096604 | 0.085  | 1.216 | 0.11275  | unknown                            |
| 2436 | <i>argH</i>    | -0.054 | 0.883 | 0.327982 | -0.045 | 0.901 | 0.29735  | amino acid metabolism              |
| 2437 | <i>argG</i>    | -0.103 | 0.789 | 0.462693 | 0.045  | 1.109 | 0.4535   | amino acid metabolism              |
| 2439 | <i>vng2439</i> | -0.005 | 0.989 | 0.282746 | 0.045  | 1.109 | 0.452083 | unknown                            |
| 2440 | <i>vng2440</i> | 0.131  | 1.353 | 0.010451 | -0.043 | 0.905 | 0.4135   | unknown                            |
| 2441 | <i>rad3b</i>   | -0.052 | 0.886 | 0.433729 | 0.037  | 1.090 | 0.460417 | DNA metabolism                     |
| 2442 | <i>vng2442</i> | -0.051 | 0.890 | 0.211057 | -0.056 | 0.878 | 0.3105   | unknown                            |
| 2443 | <i>dpsA</i>    | 0.179  | 1.510 | 0.081429 | 0.058  | 1.144 | 0.409665 | cellular process                   |
| 2444 | <i>vng2444</i> | -0.016 | 0.964 | 0.349418 | -0.238 | 0.579 | 0.009485 | unknown                            |
| 2445 | <i>arlR14</i>  | -0.041 | 0.910 | 0.391935 | 0.056  | 1.138 | 0.34045  | transcription and regulation       |
| 2446 | <i>vng2446</i> | 0.012  | 1.029 | 0.189149 | -0.095 | 0.803 | 0.0979   | unknown                            |
| 2447 | <i>lta</i>     | -0.071 | 0.849 | 0.25951  | 0.035  | 1.085 | 0.60245  | amino acid metabolism              |
| 2449 | <i>pepB2</i>   | 0.039  | 1.095 | 0.499342 | -0.121 | 0.758 | 0.020733 | amino acid metabolism              |
| 2451 | <i>vng2451</i> | 0.114  | 1.301 | 0.046012 | -0.106 | 0.784 | 0.038    | unknown                            |
| 2452 | <i>vng2452</i> | -0.059 | 0.872 | 0.414113 | -0.066 | 0.859 | 0.2668   | cofactor and secondary metabolites |
| 2454 | <i>vng2454</i> | -0.029 | 0.935 | 0.643082 | -0.088 | 0.817 | 0.14685  | unknown                            |
| 2455 | <i>vng2455</i> | 0.011  | 1.026 | 0.595945 | 0.026  | 1.062 | 0.589333 | unknown                            |
| 2456 | <i>vng2456</i> | -0.085 | 0.822 | 0.418346 | 0.081  | 1.206 | 0.1927   | unknown                            |
| 2458 | <i>vng2458</i> | -0.003 | 0.993 | 0.778293 | 0.021  | 1.050 | 0.68325  | unknown                            |
| 2459 | <i>srp54</i>   | -0.042 | 0.908 | 0.428198 | 0.064  | 1.159 | 0.310783 | cellular process                   |
| 2461 | <i>vng2461</i> | 0.015  | 1.034 | 0.205803 | -0.057 | 0.878 | 0.303    | unknown                            |
| 2462 | <i>dpa</i>     | -0.010 | 0.978 | 0.730025 | 0.026  | 1.062 | 0.541    | cellular process                   |
| 2465 | <i>vng2465</i> | -0.001 | 0.999 | 0.646022 | 0.052  | 1.126 | 0.332    | cellular process                   |
| 2466 | <i>EIF6</i>    | -0.058 | 0.875 | 0.34924  | -0.015 | 0.967 | 0.747583 | translation                        |
| 2467 | <i>rpl31e</i>  | 0.048  | 1.117 | 0.224373 | -0.021 | 0.954 | 0.545167 | translation                        |
| 2468 | <i>vng2468</i> | -0.067 | 0.857 | 0.449315 | 0.015  | 1.035 | 0.801    | unknown                            |
| 2469 | <i>rpl39e</i>  | -0.033 | 0.927 | 0.305033 | -0.080 | 0.832 | 0.21605  | translation                        |
| 2470 | <i>vng2470</i> | -0.230 | 0.589 | 0.001759 | 0.026  | 1.063 | 0.69     | unknown                            |
| 2471 | <i>nifS</i>    | 0.032  | 1.076 | 0.260587 | -0.022 | 0.950 | 0.677833 | amino acid metabolism              |
| 2472 | <i>nifU</i>    | 0.150  | 1.411 | 0.123653 | -0.030 | 0.934 | 0.568333 | transport                          |
| 2473 | <i>radA1</i>   | 0.211  | 1.624 | 0.06592  | 0.012  | 1.027 | 0.821917 | DNA metabolism                     |
| 2474 | <i>vng2474</i> | -0.083 | 0.826 | 0.334646 | 0.036  | 1.085 | 0.495767 | translation                        |
| 2475 | <i>vng2475</i> | -0.042 | 0.907 | 0.219993 | -0.008 | 0.982 | 0.64825  | unknown                            |
| 2476 | <i>vng2476</i> | -0.038 | 0.917 | 0.457262 | 0.021  | 1.050 | 0.822417 | DNA metabolism                     |
| 2477 | <i>vng2477</i> | -0.093 | 0.807 | 0.219659 | 0.009  | 1.021 | 0.8845   | unknown                            |
| 2480 | <i>phoU</i>    | -0.003 | 0.992 | 0.384744 | 0.067  | 1.167 | 0.269017 | transcription and regulation       |
| 2482 | <i>pstB1</i>   | -0.045 | 0.902 | 0.029694 | 0.013  | 1.030 | 0.663958 | transport                          |
| 2483 | <i>pstA1</i>   | 0.010  | 1.023 | 0.626526 | 0.026  | 1.063 | 0.37375  | transport                          |
| 2484 | <i>pstC1</i>   | -0.062 | 0.867 | 0.267088 | 0.014  | 1.033 | 0.82275  | transport                          |
| 2486 | <i>yqgG</i>    | -0.052 | 0.887 | 0.343091 | 0.050  | 1.121 | 0.533583 | transport                          |
| 2488 | <i>epi</i>     | 0.115  | 1.304 | 0.163143 | -0.013 | 0.971 | 0.718875 | general function prediction only   |
| 2490 | <i>vng2490</i> | 0.050  | 1.122 | 0.282426 | 0.011  | 1.026 | 0.82575  | unknown                            |
| 2493 | <i>vng2493</i> | 0.071  | 1.177 | 0.333295 | -0.083 | 0.826 | 0.157813 | unknown                            |
| 2495 | <i>vng2495</i> | 0.045  | 1.108 | 0.488344 | 0.006  | 1.014 | 0.665917 | unknown                            |
| 2496 | <i>ferB</i>    | -0.108 | 0.779 | 0.421787 | -0.028 | 0.938 | 0.604833 | energy metabolism                  |
| 2497 | <i>ucp</i>     | 0.018  | 1.042 | 0.225635 | -0.041 | 0.910 | 0.4585   | transcription and regulation       |
| 2498 | <i>vng2498</i> | 0.075  | 1.190 | 0.522521 | -0.034 | 0.925 | 0.631    | unknown                            |
| 2499 | <i>gcdH</i>    | 0.150  | 1.413 | 0.03066  | -0.029 | 0.936 | 0.613    | carbohydrate and lipid metabolism  |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 2501 | <i>vng2501</i> | -0.013 | 0.972 | 0.455631 | 0.077  | 1.193 | 0.18125  | nucleotide metabolism              |
| 2502 | <i>vng2502</i> | -0.005 | 0.989 | 0.612496 | -0.076 | 0.839 | 0.163125 | unknown                            |
| 2504 | <i>pheS</i>    | -0.151 | 0.706 | 0.110857 | -0.020 | 0.956 | 0.52725  | translation                        |
| 2505 | <i>pheY</i>    | 0.014  | 1.032 | 0.219198 | -0.066 | 0.860 | 0.263    | translation                        |
| 2507 | <i>pyrD</i>    | 0.070  | 1.176 | 0.318644 | 0.020  | 1.048 | 0.30925  | nucleotide metabolism              |
| 2508 | <i>vng2508</i> | 0.107  | 1.279 | 0.187142 | -0.008 | 0.982 | 0.833083 | unknown                            |
| 2509 | <i>vng2509</i> | 0.041  | 1.100 | 0.400897 | -0.074 | 0.843 | 0.199108 | unknown                            |
| 2510 | <i>vng2510</i> | 0.048  | 1.116 | 0.417863 | -0.026 | 0.941 | 0.613    | unknown                            |
| 2511 | <i>vng2511</i> | -0.096 | 0.801 | 0.058973 | 0.072  | 1.180 | 0.155    | unknown                            |
| 2512 | <i>epf1</i>    | 0.103  | 1.269 | 0.109343 | -0.021 | 0.954 | 0.6625   | translation                        |
| 2513 | <i>aldY1</i>   | 0.238  | 1.730 | 0.150774 | -0.008 | 0.982 | 0.618    | cofactor and secondary metabolites |
| 2514 | <i>rps6e</i>   | 0.111  | 1.291 | 0.1886   | -0.030 | 0.934 | 0.600888 | translation                        |
| 2515 | <i>vng2515</i> | -0.025 | 0.945 | 0.616    | 0.038  | 1.091 | 0.5265   | unknown                            |
| 2516 | <i>vng2516</i> | -0.013 | 0.969 | 0.784358 | 0.009  | 1.021 | 0.9075   | carbohydrate and lipid metabolism  |
| 2518 | <i>vng2518</i> | 0.076  | 1.191 | 0.541824 | 0.001  | 1.002 | 0.40775  | unknown                            |
| 2519 | <i>vng2519</i> | 0.111  | 1.290 | 0.092951 | -0.004 | 0.992 | 0.546125 | unknown                            |
| 2520 | <i>vng2520</i> | -0.042 | 0.908 | 0.507985 | 0.050  | 1.122 | 0.3265   | cellular process                   |
| 2521 | <i>vng2521</i> | 0.099  | 1.257 | 0.303538 | -0.039 | 0.915 | 0.4385   | cellular process                   |
| 2522 | <i>act9</i>    | 0.058  | 1.144 | 0.326159 | 0.050  | 1.122 | 0.3895   | transcription and regulation       |
| 2523 | <i>vng2523</i> | -0.001 | 0.997 | 0.34141  | 0.076  | 1.191 | 0.245133 | cellular process                   |
| 2524 | <i>vng2524</i> | 0.060  | 1.148 | 0.466121 | 0.000  | 1.000 | 0.578    | unknown                            |
| 2525 | <i>vng2525</i> | 0.033  | 1.080 | 0.562385 | 0.014  | 1.033 | 0.4385   | unknown                            |
| 2526 | <i>dppF</i>    | 0.095  | 1.245 | 0.188662 | 0.001  | 1.002 | 0.682    | transport                          |
| 2527 | <i>dppD</i>    | 0.450  | 2.820 | 1.67E-11 | -0.064 | 0.863 | 0.249367 | transport                          |
| 2529 | <i>dppB2</i>   | 0.104  | 1.270 | 0.324618 | -0.025 | 0.943 | 0.552167 | transport                          |
| 2531 | <i>dppC1</i>   | 0.054  | 1.132 | 0.33708  | -0.006 | 0.987 | 0.765083 | transport                          |
| 2532 | <i>vng2532</i> | 0.025  | 1.060 | 0.679691 | 0.040  | 1.096 | 0.4865   | unknown                            |
| 2533 | <i>pyrC</i>    | 0.050  | 1.122 | 0.475958 | -0.016 | 0.964 | 0.693583 | nucleotide metabolism              |
| 2534 | <i>vng2536</i> | 0.005  | 1.011 | 0.485484 | -0.008 | 0.981 | 0.713875 | unknown                            |
| 2535 | <i>vng2534</i> | -0.010 | 0.977 | 0.532838 | 0.015  | 1.036 | 0.75825  | unknown                            |
| 2536 | <i>vng2535</i> | -0.081 | 0.830 | 0.107381 | -0.009 | 0.979 | 0.865    | cofactor and secondary metabolites |
| 2537 | <i>entB</i>    | 0.114  | 1.300 | 0.388164 | -0.026 | 0.943 | 0.484167 | cofactor and secondary metabolites |
| 2539 | <i>vng2539</i> | 0.313  | 2.055 | 0.115334 | -0.088 | 0.817 | 0.373574 | unknown                            |
| 2541 | <i>cobB</i>    | 0.131  | 1.352 | 0.340151 | -0.012 | 0.972 | 0.791333 | cofactor and secondary metabolites |
| 2543 | <i>vng2543</i> | 0.134  | 1.362 | 0.150902 | 0.005  | 1.013 | 0.637333 | unknown                            |
| 2546 | <i>pepB3</i>   | 0.124  | 1.331 | 0.225931 | -0.005 | 0.989 | 0.7645   | amino acid metabolism              |
| 2547 | <i>valS</i>    | -0.084 | 0.824 | 0.314893 | -0.135 | 0.733 | 0.263483 | translation                        |
| 2549 | <i>vng2549</i> | 0.066  | 1.164 | 0.231819 | -0.078 | 0.835 | 0.150792 | unknown                            |
| 2551 | <i>fhuG</i>    | 0.126  | 1.336 | 0.110575 | -0.062 | 0.866 | 0.24175  | transport                          |
| 2552 | <i>yfmF</i>    | 0.012  | 1.028 | 0.03777  | -0.018 | 0.960 | 0.680017 | transport                          |
| 2553 | <i>yqeC</i>    | 0.086  | 1.218 | 0.31068  | -0.017 | 0.962 | 0.735667 | carbohydrate and lipid metabolism  |
| 2554 | <i>vng2554</i> | 0.020  | 1.046 | 0.608693 | -0.028 | 0.938 | 0.572    | unknown                            |
| 2555 | <i>vng2555</i> | 0.123  | 1.327 | 0.037084 | 0.007  | 1.017 | 0.854167 | energy metabolism                  |
| 2556 | <i>vng2556</i> | 0.147  | 1.404 | 0.155321 | 0.005  | 1.013 | 0.666333 | unknown                            |
| 2558 | <i>vng2558</i> | -0.086 | 0.819 | 0.476545 | -0.020 | 0.956 | 0.3936   | unknown                            |
| 2560 | <i>vng2560</i> | 0.019  | 1.046 | 0.566883 | -0.059 | 0.873 | 0.483333 | unknown                            |
| 2562 | <i>vng2562</i> | 0.074  | 1.185 | 0.421214 | -0.129 | 0.744 | 0.04515  | unknown                            |
| 2563 | <i>vng2563</i> | -0.049 | 0.894 | 0.576981 | 0.022  | 1.052 | 0.826333 | unknown                            |
| 2565 | <i>trkH3</i>   | 0.038  | 1.091 | 0.328615 | -0.031 | 0.931 | 0.66     | transport                          |
| 2566 | <i>vng2566</i> | 0.087  | 1.221 | 0.401213 | 0.009  | 1.022 | 0.804083 | unknown                            |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 2567 | <i>vng2567</i> | 0.035  | 1.083 | 0.430535 | -0.028 | 0.937 | 0.55075  | cellular process                   |
| 2569 | <i>vng2569</i> | 0.033  | 1.080 | 0.614734 | 0.034  | 1.082 | 0.59375  | unknown                            |
| 2570 | <i>dcd</i>     | -0.005 | 0.987 | 0.568604 | 0.009  | 1.021 | 0.734667 | nucleotide metabolism              |
| 2573 | <i>hly</i>     | 0.210  | 1.621 | 0.04487  | -0.020 | 0.955 | 0.742    | cellular process                   |
| 2574 | <i>can</i>     | 0.079  | 1.199 | 0.408713 | -0.114 | 0.769 | 0.089211 | energy metabolism                  |
| 2575 | <i>rimI</i>    | -0.176 | 0.667 | 0.07569  | 0.019  | 1.045 | 0.66175  | translation                        |
| 2576 | <i>vng2576</i> | -0.116 | 0.766 | 0.39341  | -0.003 | 0.994 | 0.911875 | unknown                            |
| 2577 | <i>vng2577</i> | -0.108 | 0.779 | 0.097568 | 0.000  | 0.999 | 0.85125  | unknown                            |
| 2579 | <i>idr1</i>    | 0.103  | 1.268 | 0.385097 | 0.017  | 1.040 | 0.754625 | transcription and regulation       |
| 2580 | <i>vng2580</i> | 0.024  | 1.056 | 0.627005 | -0.045 | 0.901 | 0.460383 | DNA metabolism                     |
| 2581 | <i>vng2581</i> | 0.251  | 1.780 | 0.000651 | -0.048 | 0.895 | 0.329    | unknown                            |
| 2582 | <i>vng2582</i> | 0.168  | 1.472 | 0.001368 | -0.023 | 0.948 | 0.639    | unknown                            |
| 2584 | <i>vng2584</i> | -0.004 | 0.990 | 0.419066 | -0.077 | 0.838 | 0.159725 | translation                        |
| 2585 | <i>vng2585</i> | 0.106  | 1.277 | 0.108486 | -0.070 | 0.851 | 0.1858   | unknown                            |
| 2586 | <i>vng2586</i> | 0.013  | 1.031 | 0.650875 | -0.021 | 0.954 | 0.63725  | unknown                            |
| 2587 | <i>vng2587</i> | 0.006  | 1.013 | 0.585327 | -0.017 | 0.961 | 0.6125   | unknown                            |
| 2589 | <i>vng2589</i> | 0.105  | 1.275 | 0.055001 | -0.010 | 0.978 | 0.674    | unknown                            |
| 2591 | <i>vng2591</i> | -0.021 | 0.952 | 0.233491 | -0.021 | 0.953 | 0.699667 | unknown                            |
| 2593 | <i>vng2593</i> | 0.062  | 1.152 | 0.595942 | -0.086 | 0.820 | 0.308    | unknown                            |
| 2594 | <i>Vng2594</i> | -0.034 | 0.925 | 0.546655 | 0.032  | 1.077 | 0.50675  | unknown                            |
| 2595 | <i>gpb4</i>    | 0.046  | 1.112 | 0.301914 | -0.004 | 0.992 | 0.61375  | cellular process                   |
| 2596 | <i>hisI</i>    | -0.015 | 0.967 | 0.705647 | -0.007 | 0.984 | 0.68875  | amino acid metabolism              |
| 2597 | <i>vng2597</i> | -0.031 | 0.931 | 0.806684 | -0.030 | 0.933 | 0.686    | unknown                            |
| 2598 | <i>hisH1</i>   | 0.070  | 1.174 | 0.360664 | -0.004 | 0.990 | 0.843417 | amino acid metabolism              |
| 2599 | <i>vng2599</i> | 0.005  | 1.012 | 0.530047 | 0.002  | 1.004 | 0.604625 | cellular process                   |
| 2600 | <i>trxA2</i>   | 0.034  | 1.082 | 0.4858   | -0.085 | 0.821 | 0.189075 | nucleotide metabolism              |
| 2602 | <i>arsB</i>    | 0.012  | 1.029 | 0.438893 | -0.013 | 0.970 | 0.76275  | transport                          |
| 2603 | <i>vng2603</i> | 0.099  | 1.257 | 0.065337 | 0.011  | 1.027 | 0.733375 | unknown                            |
| 2604 | <i>thi1</i>    | -0.025 | 0.944 | 0.42192  | -0.027 | 0.939 | 0.486733 | cofactor and secondary metabolites |
| 2606 | <i>thiD</i>    | -0.238 | 0.578 | 0.079359 | 0.012  | 1.027 | 0.615417 | cofactor and secondary metabolites |
| 2607 | <i>vng2607</i> | 0.014  | 1.034 | 0.550069 | -0.042 | 0.907 | 0.47125  | unknown                            |
| 2608 | <i>vng2608</i> | -0.018 | 0.960 | 0.688723 | 0.018  | 1.042 | 0.506583 | unknown                            |
| 2610 | <i>vng2610</i> | 0.067  | 1.167 | 0.416026 | -0.042 | 0.909 | 0.446583 | unknown                            |
| 2611 | <i>hflX1</i>   | -0.200 | 0.632 | 0.039538 | 0.048  | 1.118 | 0.513667 | cellular process                   |
| 2612 | <i>rli</i>     | -0.100 | 0.793 | 0.314128 | -0.009 | 0.979 | 0.68275  | general function prediction only   |
| 2613 | <i>vng2613</i> | -0.011 | 0.976 | 0.563307 | -0.044 | 0.903 | 0.509917 | unknown                            |
| 2614 | <i>arl15</i>   | 0.139  | 1.377 | 0.208005 | -0.099 | 0.797 | 0.063767 | transcription and regulation       |
| 2615 | <i>vng2615</i> | -0.075 | 0.842 | 0.388695 | 0.032  | 1.077 | 0.459667 | unknown                            |
| 2616 | <i>cxp</i>     | 0.609  | 4.065 | 6.66E-07 | -0.061 | 0.870 | 0.261242 | amino acid metabolism              |
| 2617 | <i>tdh2</i>    | 0.026  | 1.062 | 0.686868 | 0.029  | 1.069 | 0.613    | amino acid metabolism              |
| 2619 | <i>vng2619</i> | 0.003  | 1.008 | 0.615648 | -0.065 | 0.861 | 0.20125  | unknown                            |
| 2620 | <i>uvrD</i>    | -0.173 | 0.671 | 0.111419 | 0.061  | 1.150 | 0.242    | DNA metabolism                     |
| 2622 | <i>vng2622</i> | -0.159 | 0.694 | 0.023899 | 0.011  | 1.025 | 0.76025  | unknown                            |
| 2624 | <i>ribC</i>    | -0.094 | 0.806 | 0.371276 | 0.028  | 1.068 | 0.69575  | cofactor and secondary metabolites |
| 2625 | <i>vng2625</i> | 0.046  | 1.113 | 0.354867 | 0.049  | 1.119 | 0.444108 | unknown                            |
| 2626 | <i>vng2626</i> | -0.016 | 0.964 | 0.558173 | 0.061  | 1.152 | 0.2275   | unknown                            |
| 2627 | <i>vng2627</i> | -0.029 | 0.936 | 0.591399 | 0.004  | 1.009 | 0.75375  | translation                        |
| 2628 | <i>vng2628</i> | -0.015 | 0.966 | 0.616968 | 0.024  | 1.057 | 0.606833 | cellular process                   |
| 2629 | <i>glcK</i>    | -0.011 | 0.975 | 0.429521 | 0.027  | 1.064 | 0.690833 | carbohydrate and lipid metabolism  |
| 2631 | <i>vng2631</i> | -0.018 | 0.959 | 0.453936 | 0.037  | 1.090 | 0.56425  | unknown                            |



|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 2632 | <i>yusZ2</i>   | 0.071  | 1.178 | 0.337041 | -0.016 | 0.963 | 0.77725  | cofactor and secondary metabolites |
| 2633 | <i>vng2633</i> | -0.046 | 0.899 | 0.362468 | 0.008  | 1.018 | 0.6205   | unknown                            |
| 2634 | <i>vng2634</i> | -0.041 | 0.909 | 0.4176   | 0.001  | 1.003 | 0.70425  | unknown                            |
| 2636 | <i>uvrA</i>    | -0.112 | 0.773 | 0.221422 | -0.017 | 0.961 | 0.727417 | DNA metabolism                     |
| 2637 | <i>vng2637</i> | -0.138 | 0.727 | 0.383158 | -0.013 | 0.970 | 0.765917 | unknown                            |
| 2638 | <i>bchP</i>    | -0.037 | 0.919 | 0.484228 | -0.046 | 0.899 | 0.388333 | cofactor and secondary metabolites |
| 2639 | <i>uae</i>     | -0.017 | 0.962 | 0.466289 | -0.021 | 0.952 | 0.454583 | nucleotide metabolism              |
| 2640 | <i>gcvT2</i>   | -0.033 | 0.927 | 0.54365  | 0.043  | 1.105 | 0.508883 | amino acid metabolism              |
| 2641 | <i>vng2641</i> | -0.047 | 0.897 | 0.595283 | 0.005  | 1.011 | 0.824875 | transcription and regulation       |
| 2642 | <i>vng2642</i> | 0.027  | 1.064 | 0.397711 | -0.041 | 0.910 | 0.437083 | unknown                            |
| 2643 | <i>vng2643</i> | -0.015 | 0.966 | 0.476732 | -0.035 | 0.922 | 0.492833 | unknown                            |
| 2644 | <i>vng2644</i> | 0.165  | 1.463 | 0.036533 | -0.019 | 0.958 | 0.728    | unknown                            |
| 2645 | <i>vng2646</i> | -0.002 | 0.996 | 0.427516 | -0.049 | 0.892 | 0.318    | unknown                            |
| 2646 | <i>vng2645</i> | -0.078 | 0.836 | 0.458903 | -0.001 | 0.998 | 0.552    | translation                        |
| 2647 | <i>vacB</i>    | 0.029  | 1.069 | 0.622027 | -0.057 | 0.877 | 0.294217 | transcription and regulation       |
| 2648 | <i>rps10p</i>  | 0.119  | 1.316 | 0.212525 | 0.004  | 1.009 | 0.8065   | translation                        |
| 2649 | <i>eef1a</i>   | 0.126  | 1.335 | 0.194422 | 0.068  | 1.168 | 0.257875 | translation                        |
| 2650 | <i>hom</i>     | -0.015 | 0.966 | 0.386164 | 0.016  | 1.039 | 0.473583 | amino acid metabolism              |
| 2652 | <i>vng2652</i> | 0.269  | 1.860 | 0.000529 | -0.095 | 0.804 | 0.365338 | DNA metabolism                     |
| 2653 | <i>vng2653</i> | -0.017 | 0.963 | 0.570863 | 0.063  | 1.157 | 0.3324   | DNA metabolism                     |
| 2654 | <i>eef2</i>    | -0.032 | 0.929 | 0.345396 | 0.058  | 1.143 | 0.246667 | translation                        |
| 2656 | <i>vng2656</i> | 0.073  | 1.183 | 0.438809 | -0.067 | 0.857 | 0.22065  | unknown                            |
| 2657 | <i>rps7p</i>   | 0.041  | 1.098 | 0.361187 | 0.027  | 1.065 | 0.57525  | translation                        |
| 2658 | <i>rps12p</i>  | -0.049 | 0.894 | 0.340266 | 0.030  | 1.072 | 0.54075  | translation                        |
| 2661 | <i>nusA</i>    | -0.090 | 0.813 | 0.077868 | -0.048 | 0.895 | 0.33225  | transcription and regulation       |
| 2662 | <i>rpoC</i>    | -0.274 | 0.533 | 1.22E-05 | 0.043  | 1.103 | 0.430333 | transcription and regulation       |
| 2664 | <i>rpoA</i>    | -0.223 | 0.599 | 0.106787 | -0.005 | 0.988 | 0.22885  | transcription and regulation       |
| 2665 | <i>rpoB'</i>   | -0.575 | 0.266 | 4.12E-13 | 0.091  | 1.234 | 0.080829 | transcription and regulation       |
| 2666 | <i>rpoB''</i>  | -0.069 | 0.853 | 0.390009 | 0.089  | 1.226 | 0.188313 | transcription and regulation       |
| 2668 | <i>rpoH</i>    | -0.106 | 0.784 | 0.305791 | 0.102  | 1.265 | 0.046275 | transcription and regulation       |
| 2669 | <i>imp7</i>    | 0.045  | 1.110 | 0.535939 | 0.024  | 1.056 | 0.686417 | energy metabolism                  |
| 2673 | <i>vng2673</i> | 0.023  | 1.055 | 0.682917 | 0.077  | 1.194 | 0.2487   | unknown                            |
| 2674 | <i>vng2674</i> | 0.019  | 1.046 | 0.595962 | 0.082  | 1.207 | 0.196333 | unknown                            |
| 2675 | <i>acrR</i>    | -0.033 | 0.928 | 0.402689 | -0.016 | 0.963 | 0.664483 | transcription and regulation       |
| 2677 | <i>vng2677</i> | -0.068 | 0.854 | 0.261076 | -0.005 | 0.988 | 0.545417 | unknown                            |
| 2678 | <i>vng2678</i> | 0.089  | 1.228 | 0.248809 | 0.038  | 1.092 | 0.4755   | unknown                            |
| 2679 | <i>csg</i>     | 0.153  | 1.421 | 0.010772 | -0.007 | 0.985 | 0.751    | cellular process                   |
| 3000 | <i>tRNA</i>    | 0.119  | 1.314 | 0.035567 | 0.016  | 1.038 | 0.40152  | translation                        |
| 3001 | <i>tRNA</i>    | 0.314  | 2.063 | 2.51E-08 | 0.106  | 1.277 | 0.055528 | translation                        |
| 3002 | <i>tRNA</i>    | 0.000  | 0.999 | 0.131238 | -0.078 | 0.835 | 0.258925 | translation                        |
| 3003 | <i>tRNA</i>    | 0.393  | 2.473 | 3.4E-08  | 0.219  | 1.658 | 7.73E-05 | translation                        |
| 3004 | <i>tRNA</i>    | 0.025  | 1.060 | 0.470113 | 0.041  | 1.100 | 0.173504 | translation                        |
| 3005 | <i>tRNA</i>    | -0.028 | 0.938 | 0.555293 | -0.026 | 0.941 | 0.8155   | translation                        |
| 3006 | <i>tRNA</i>    | -0.177 | 0.666 | 0.46896  | -0.010 | 0.978 | 0.9275   | translation                        |
| 3007 | <i>tRNA</i>    | -0.062 | 0.868 | 0.621429 | 0.064  | 1.159 | 0.56075  | translation                        |
| 3008 | <i>tRNA</i>    | -0.050 | 0.892 | 0.565564 | -0.046 | 0.900 | 0.564    | translation                        |
| 3009 | <i>tRNA</i>    | -0.178 | 0.664 | 0.171007 | -0.198 | 0.633 | 0.004584 | translation                        |
| 3010 | <i>tRNA</i>    | -0.106 | 0.783 | 0.410509 | -0.173 | 0.671 | 0.1248   | translation                        |
| 3011 | <i>tRNA</i>    | -0.019 | 0.957 | 0.541344 | -0.089 | 0.815 | 0.169308 | translation                        |
| 3012 | <i>tRNA</i>    | 0.010  | 1.023 | 0.605356 | -0.007 | 0.983 | 0.88825  | translation                        |
| 3013 | <i>tRNA</i>    | -0.014 | 0.967 | 0.003602 | 0.059  | 1.146 | 0.256    | translation                        |

|      |                |        |       |          |        |       |          |                              |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------|
| 3014 | <i>tRNA</i>    | -0.158 | 0.695 | 0.01848  | 0.060  | 1.148 | 0.2295   | translation                  |
| 3015 | <i>tRNA</i>    | 0.163  | 1.455 | 0.474648 | -0.003 | 0.993 | 0.7565   | translation                  |
| 3016 | <i>tRNA</i>    | -0.087 | 0.818 | 0.387377 | 0.027  | 1.063 | 0.7085   | translation                  |
| 3017 | <i>tRNA</i>    | -0.149 | 0.709 | 0.363234 | -0.059 | 0.873 | 0.619    | translation                  |
| 3018 | <i>tRNA</i>    | 0.200  | 1.584 | 0.015527 | -0.019 | 0.957 | 0.72175  | translation                  |
| 3019 | <i>tRNA</i>    | 0.200  | 1.585 | 0.003996 | 0.036  | 1.087 | 0.489    | translation                  |
| 3021 | <i>tRNA</i>    | -0.092 | 0.809 | 0.271202 | -0.045 | 0.901 | 0.4365   | translation                  |
| 3022 | <i>tRNA</i>    | -0.134 | 0.735 | 0.402319 | 0.015  | 1.036 | 0.7585   | translation                  |
| 3023 | <i>tRNA</i>    | 0.027  | 1.065 | 0.142714 | -0.024 | 0.947 | 0.68075  | translation                  |
| 3024 | <i>tRNA</i>    | -0.127 | 0.747 | 0.198157 | -0.039 | 0.914 | 0.5015   | translation                  |
| 3025 | <i>tRNA</i>    | -0.045 | 0.902 | 0.3946   | -0.118 | 0.762 | 0.03243  | translation                  |
| 3026 | <i>tRNA</i>    | -0.093 | 0.807 | 0.340357 | -0.074 | 0.842 | 0.66175  | translation                  |
| 3027 | <i>tRNA</i>    | -0.169 | 0.678 | 0.046252 | -0.110 | 0.777 | 0.10105  | translation                  |
| 3028 | <i>tRNA</i>    | 0.014  | 1.033 | 0.701634 | 0.024  | 1.056 | 0.699    | translation                  |
| 3029 | <i>tRNA</i>    | -0.125 | 0.751 | 0.126396 | -0.001 | 0.998 | 0.2345   | translation                  |
| 3030 | <i>tRNA</i>    | -0.100 | 0.794 | 0.161178 | 0.045  | 1.109 | 0.377    | translation                  |
| 3031 | <i>tRNA</i>    | -0.133 | 0.737 | 0.239301 | -0.023 | 0.948 | 0.6365   | translation                  |
| 3032 | <i>tRNA</i>    | -0.088 | 0.817 | 0.430897 | -0.160 | 0.692 | 0.00622  | translation                  |
| 3033 | <i>tRNA</i>    | 0.015  | 1.034 | 0.579953 | 0.039  | 1.094 | 0.58     | translation                  |
| 3034 | <i>tRNA</i>    | 0.062  | 1.155 | 0.673442 | 0.010  | 1.023 | 0.866    | translation                  |
| 3035 | <i>tRNA</i>    | -0.108 | 0.781 | 0.211551 | -0.007 | 0.985 | 0.77425  | translation                  |
| 3036 | <i>tRNA</i>    | -0.103 | 0.790 | 0.131444 | -0.031 | 0.931 | 0.53425  | translation                  |
| 3037 | <i>tRNA</i>    | 0.044  | 1.106 | 0.607989 | -0.097 | 0.800 | 0.0649   | translation                  |
| 3038 | <i>tRNA</i>    | 0.078  | 1.197 | 0.430678 | -0.155 | 0.700 | 0.0355   | translation                  |
| 3039 | <i>tRNA</i>    | -0.117 | 0.764 | 0.316588 | -0.027 | 0.940 | 0.6755   | translation                  |
| 3040 | <i>tRNA</i>    | -0.358 | 0.438 | 2.51E-07 | -0.150 | 0.709 | 0.037272 | translation                  |
| 3041 | <i>tRNA</i>    | -0.029 | 0.935 | 0.8084   | -0.067 | 0.857 | 0.3365   | translation                  |
| 3042 | <i>tRNA</i>    | -0.069 | 0.854 | 0.448467 | -0.208 | 0.620 | 0.012852 | translation                  |
| 3043 | <i>tRNA</i>    | -0.176 | 0.666 | 0.075531 | -0.033 | 0.927 | 0.7455   | translation                  |
| 3044 | <i>tRNA</i>    | 0.120  | 1.318 | 0.069364 | 0.036  | 1.087 | 0.722    | translation                  |
| 3045 | <i>tRNA</i>    | -0.132 | 0.738 | 0.118692 | -0.062 | 0.868 | 0.325175 | translation                  |
| 3046 | <i>tRNA</i>    | -0.256 | 0.554 | 0.250283 | -0.130 | 0.741 | 0.028435 | translation                  |
| 3047 | <i>tRNA</i>    | -0.001 | 0.997 | 0.880274 | 0.088  | 1.225 | 0.1907   | translation                  |
| 3048 | <i>tRNA</i>    | 0.085  | 1.215 | 0.166421 | -0.115 | 0.768 | 0.191775 | translation                  |
| 3049 | <i>tRNA</i>    | 0.067  | 1.167 | 0.355877 | -0.151 | 0.706 | 0.029033 | translation                  |
| 3050 | <i>tRNA</i>    | -0.169 | 0.678 | 0.199877 | -0.116 | 0.766 | 0.2047   | translation                  |
| 3051 | <i>tRNA</i>    | 0.025  | 1.058 | 0.787865 | -0.013 | 0.970 | 0.7975   | translation                  |
| 5001 | <i>vng5001</i> | -0.179 | 0.662 | 0.02356  | -0.050 | 0.891 | 0.4828   | unknown                      |
| 5003 | <i>vng5003</i> | -0.256 | 0.555 | 1.24E-06 | -0.067 | 0.857 | 0.3401   | unknown                      |
| 5005 | <i>vng5005</i> | -0.088 | 0.816 | 0.291859 | -0.009 | 0.979 | 0.8685   | unknown                      |
| 5007 | <i>vng5007</i> | -0.023 | 0.949 | 0.07113  | 0.039  | 1.094 | 0.4415   | unknown                      |
| 5008 | <i>vng5008</i> | 0.046  | 1.111 | 0.357729 | -0.028 | 0.937 | 0.5835   | unknown                      |
| 5010 | <i>sojA</i>    | 0.345  | 2.213 | 6.45E-10 | -0.063 | 0.864 | 0.28005  | transcription and regulation |
| 5011 | <i>vng5011</i> | -0.193 | 0.641 | 0.051648 | -0.071 | 0.849 | 0.2335   | unknown                      |
| 5013 | <i>repH</i>    | -0.069 | 0.853 | 0.510309 | -0.041 | 0.910 | 0.4905   | DNA metabolism               |
| 5015 | <i>vng5015</i> | -0.058 | 0.874 | 0.300351 | -0.091 | 0.811 | 0.30695  | unknown                      |
| 5016 | <i>vng5016</i> | 0.061  | 1.152 | 0.293605 | -0.043 | 0.906 | 0.4365   | unknown                      |
| 5017 | <i>vng5017</i> | 0.005  | 1.012 | 0.62617  | 0.043  | 1.105 | 0.416    | unknown                      |
| 5019 | <i>gvpM1</i>   | -0.308 | 0.492 | 0.4065   | 0.079  | 1.198 | 0.20785  | cellular process             |
| 5020 | <i>gvpL1</i>   | -0.538 | 0.290 | 3.08E-14 | 0.080  | 1.201 | 0.1126   | cellular process             |
| 5021 | <i>gvpK1</i>   | -1.084 | 0.082 | 5.93E-25 | 0.056  | 1.137 | 0.28725  | cellular process             |
| 5022 | <i>gvpJ1</i>   | -0.989 | 0.102 | 6.5E-28  | 0.070  | 1.176 | 0.306175 | cellular process             |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 5023 | <i>gvpI1</i>   | -0.701 | 0.199 | 2.06E-18 | 0.077  | 1.194 | 0.12825  | cellular process                   |
| 5025 | <i>gvpH1</i>   | -1.176 | 0.067 | 3.99E-28 | 0.048  | 1.116 | 0.3635   | cellular process                   |
| 5026 | <i>gvpG1</i>   | -1.021 | 0.095 | 6E-29    | 0.043  | 1.105 | 0.3935   | cellular process                   |
| 5027 | <i>gvpF1</i>   | -0.910 | 0.123 | 2.47E-27 | 0.051  | 1.125 | 0.313    | cellular process                   |
| 5028 | <i>gvpE1</i>   | -0.530 | 0.295 | 4.43E-15 | 0.055  | 1.134 | 0.3095   | cellular process                   |
| 5029 | <i>gvpD1</i>   | -0.273 | 0.534 | 5.2E-05  | 0.080  | 1.202 | 0.202    | cellular process                   |
| 5030 | <i>gvpA1</i>   | -0.271 | 0.536 | 5.46E-07 | 0.059  | 1.145 | 0.233    | cellular process                   |
| 5032 | <i>gvpC1</i>   | -0.198 | 0.634 | 0.275    | 0.064  | 1.159 | 0.42585  | cellular process                   |
| 5033 | <i>gvpN1</i>   | -0.644 | 0.227 | 1.65E-18 | 0.036  | 1.086 | 0.49125  | cellular process                   |
| 5034 | <i>gvpO1</i>   | -0.478 | 0.333 | 5.2E-12  | 0.020  | 1.046 | 0.708    | cellular process                   |
| 5035 | <i>sojB</i>    | -0.350 | 0.446 | 1.52E-09 | -0.006 | 0.986 | 0.81525  | transcription and regulation       |
| 5037 | <i>htlD</i>    | -0.118 | 0.763 | 0.033357 | 0.047  | 1.113 | 0.4718   | cellular process                   |
| 5038 | <i>vng5038</i> | -0.017 | 0.961 | 0.450768 | 0.067  | 1.167 | 0.20775  | unknown                            |
| 5039 | <i>tbpA</i>    | 0.096  | 1.247 | 0.120559 | -0.034 | 0.926 | 0.612    | transcription and regulation       |
| 5040 | <i>vng5040</i> | 0.022  | 1.053 | 0.501255 | -0.070 | 0.851 | 0.20955  | unknown                            |
| 5041 | <i>vng5041</i> | -0.081 | 0.830 | 0.15135  | 0.093  | 1.240 | 0.1877   | unknown                            |
| 5042 | <i>vng5042</i> | 0.008  | 1.019 | 0.739453 | 0.047  | 1.115 | 0.68475  | unknown                            |
| 5044 | <i>vng5044</i> | -0.040 | 0.911 | 0.660686 | 0.059  | 1.147 | 0.4705   | unknown                            |
| 5045 | <i>vng5045</i> | 0.209  | 1.619 | 0.015669 | 0.091  | 1.233 | 0.2815   | unknown                            |
| 5047 | <i>vng5047</i> | 0.046  | 1.113 | 0.353352 | -0.035 | 0.922 | 0.579    | unknown                            |
| 5048 | <i>vng5048</i> | 0.077  | 1.193 | 0.479092 | -0.043 | 0.905 | 0.3815   | unknown                            |
| 5052 | <i>tbpB</i>    | -0.034 | 0.924 | 0.558184 | -0.107 | 0.781 | 0.03685  | transcription and regulation       |
| 5053 | <i>vng5053</i> | -0.136 | 0.731 | 0.169416 | -0.858 | 0.139 | 1.04E-08 | unknown                            |
| 5055 | <i>cydA</i>    | -0.021 | 0.952 | 0.43635  | 0.026  | 1.063 | 0.75     | energy metabolism                  |
| 5057 | <i>cydB</i>    | 0.093  | 1.240 | 0.430982 | -0.009 | 0.981 | 0.822    | energy metabolism                  |
| 5059 | <i>vng5059</i> | 0.136  | 1.368 | 0.067808 | -0.572 | 0.268 | 3.45E-14 | unknown                            |
| 5061 | <i>vng5061</i> | 0.011  | 1.026 | 0.757023 | -0.624 | 0.237 | 1.72E-19 | unknown                            |
| 5062 | <i>vng5062</i> | -0.021 | 0.953 | 0.563709 | -0.183 | 0.657 | 0.034763 | unknown                            |
| 5063 | <i>vng5063</i> | 0.066  | 1.165 | 0.363293 | -0.103 | 0.789 | 0.18     | unknown                            |
| 5064 | <i>vng5064</i> | -0.033 | 0.927 | 0.776754 | -0.384 | 0.413 | 0.1605   | unknown                            |
| 5066 | <i>phoT1</i>   | -0.016 | 0.964 | 0.39697  | 0.054  | 1.133 | 0.4525   | transport                          |
| 5068 | <i>boa3</i>    | -0.297 | 0.505 | 0.233    | -0.592 | 0.256 | 1.35E-09 | transcription and regulation       |
| 5069 | <i>vng5069</i> | -0.053 | 0.884 | 0.4974   | -0.048 | 0.896 | 0.8725   | unknown                            |
| 5071 | <i>yfmO2</i>   | -0.014 | 0.968 | 0.646364 | -0.100 | 0.795 | 0.366    | general function prediction only   |
| 5073 | <i>vng5073</i> | -0.027 | 0.941 | 0.689483 | -0.006 | 0.987 | 0.70875  | unknown                            |
| 5074 | <i>vng5074</i> | -0.032 | 0.929 | 0.8177   | -0.032 | 0.929 | 0.838    | unknown                            |
| 5075 | <i>vng5075</i> | 0.086  | 1.218 | 0.132667 | -0.100 | 0.795 | 0.0534   | unknown                            |
| 5076 | <i>trxA1</i>   | -0.310 | 0.490 | 8.54E-07 | -0.140 | 0.724 | 0.025503 | nucleotide metabolism              |
| 5077 | <i>trxB1</i>   | 0.014  | 1.033 | 0.450191 | -0.137 | 0.730 | 0.069675 | nucleotide metabolism              |
| 5078 | <i>trh</i>     | 0.004  | 1.010 | 0.644885 | -0.006 | 0.986 | 0.889    | general function prediction only   |
| 5079 | <i>vng5079</i> | 0.006  | 1.013 | 0.711857 | -0.266 | 0.542 | 0.17     | unknown                            |
| 5080 | <i>vng5080</i> | -0.037 | 0.918 | 0.468685 | -0.001 | 0.999 | 0.642    | unknown                            |
| 5081 | <i>vng5081</i> | -0.109 | 0.778 | 0.099572 | -0.324 | 0.474 | 1.73E-07 | unknown                            |
| 5082 | <i>vng5082</i> | -0.291 | 0.512 | 1.71E-07 | 0.027  | 1.063 | 0.633    | unknown                            |
| 5084 | <i>crt</i>     | -0.066 | 0.860 | 0.329583 | -0.147 | 0.712 | 0.006885 | cofactor and secondary metabolites |
| 5085 | <i>vng5085</i> | -0.130 | 0.742 | 0.604864 | -0.054 | 0.883 | 0.4145   | unknown                            |
| 5086 | <i>vng5086</i> | -0.006 | 0.986 | 0.568228 | 0.044  | 1.106 | 0.48925  | unknown                            |
| 5087 | <i>vng5087</i> | -0.493 | 0.321 | 0.131372 | -0.019 | 0.956 | 0.6845   | unknown                            |
| 5088 | <i>vng5088</i> | -0.017 | 0.961 | 0.863342 | -0.072 | 0.847 | 0.1985   | unknown                            |
| 5089 | <i>sojC1</i>   | 0.039  | 1.094 | 0.457159 | -0.076 | 0.840 | 0.1509   | transcription and regulation       |
| 5090 | <i>vng5090</i> | 0.005  | 1.012 | 0.754081 | 0.013  | 1.031 | 0.8105   | unknown                            |

|      |                |        |       |          |        |       |          |                              |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------|
| 5091 | <i>vng5091</i> | 0.033  | 1.078 | 0.414643 | -0.041 | 0.909 | 0.4725   | unknown                      |
| 5093 | <i>vng5093</i> | 0.062  | 1.153 | 0.300155 | -0.080 | 0.832 | 0.12795  | unknown                      |
| 5094 | <i>orc9</i>    | 0.037  | 1.088 | 0.626685 | -0.112 | 0.772 | 0.0692   | cellular process             |
| 5100 | <i>vng5100</i> | 0.131  | 1.352 | 0.253496 | -0.191 | 0.645 | 0.012245 | unknown                      |
| 5102 | <i>vng5102</i> | -0.030 | 0.934 | 0.594186 | -0.268 | 0.539 | 0.36625  | unknown                      |
| 5104 | <i>vng5104</i> | 0.003  | 1.006 | 0.729016 | -0.042 | 0.907 | 0.6585   | unknown                      |
| 5105 | <i>vng5105</i> | 0.012  | 1.028 | 0.591297 | -0.431 | 0.370 | 8.28E-07 | unknown                      |
| 5106 | <i>vng5106</i> | 0.033  | 1.079 | 0.511855 | -0.181 | 0.659 | 0.000491 | unknown                      |
| 5108 | <i>vng5108</i> | -0.218 | 0.606 | 0.081388 | -0.198 | 0.633 | 0.000216 | transcription and regulation |
| 5109 | <i>vng5109</i> | -0.092 | 0.809 | 0.178308 | -0.122 | 0.755 | 0.048294 | unknown                      |
| 5114 | <i>vng5114</i> | -0.084 | 0.823 | 0.233614 | -0.095 | 0.804 | 0.335175 | unknown                      |
| 5115 | <i>vng5115</i> | 0.001  | 1.003 | 0.978503 | 0.025  | 1.060 | 0.6145   | unknown                      |
| 5116 | <i>vng5116</i> | -0.032 | 0.928 | 0.582065 | 0.032  | 1.077 | 0.528    | unknown                      |
| 5118 | <i>vng5118</i> | -0.114 | 0.769 | 0.284    | 0.010  | 1.023 | 0.844    | unknown                      |
| 5119 | <i>vng5119</i> | -0.015 | 0.966 | 0.78151  | -0.027 | 0.939 | 0.623    | unknown                      |
| 5122 | <i>vng5122</i> | -0.061 | 0.869 | 0.157769 | 0.022  | 1.051 | 0.69125  | unknown                      |
| 5123 | <i>vng5123</i> | -0.004 | 0.991 | 0.195699 | -0.014 | 0.968 | 0.6925   | unknown                      |
| 5124 | <i>vng5124</i> | 0.107  | 1.280 | 0.045045 | -0.029 | 0.936 | 0.53975  | unknown                      |
| 5126 | <i>sojD</i>    | -0.017 | 0.962 | 0.566517 | -0.039 | 0.915 | 0.509    | transcription and regulation |
| 5129 | <i>vng5129</i> | -0.071 | 0.850 | 0.350411 | 0.081  | 1.205 | 0.12435  | unknown                      |
| 5130 | <i>vng5130</i> | 0.016  | 1.038 | 0.759651 | -0.111 | 0.775 | 0.0949   | unknown                      |
| 5131 | <i>vng5131</i> | 0.051  | 1.125 | 0.456072 | -0.065 | 0.861 | 0.268    | unknown                      |
| 5132 | <i>vng5132</i> | -0.007 | 0.984 | 0.652234 | -0.012 | 0.972 | 0.79075  | unknown                      |
| 5133 | <i>vng5133</i> | -0.126 | 0.747 | 0.103952 | -0.008 | 0.982 | 0.928    | unknown                      |
| 5134 | <i>rad25</i>   | -0.018 | 0.959 | 0.730852 | -0.043 | 0.906 | 0.438    | DNA metabolism               |
| 5135 | <i>vng5135</i> | -0.063 | 0.865 | 0.363958 | -0.031 | 0.931 | 0.515    | unknown                      |
| 5136 | <i>repl</i>    | 0.004  | 1.009 | 0.134443 | 0.023  | 1.053 | 0.709167 | DNA metabolism               |
| 5138 | <i>rme</i>     | -0.002 | 0.996 | 0.169013 | 0.012  | 1.029 | 0.8585   | DNA metabolism               |
| 5139 | <i>vng5139</i> | -0.073 | 0.846 | 0.375888 | -0.147 | 0.713 | 0.0494   | unknown                      |
| 5141 | <i>hepA</i>    | -0.162 | 0.689 | 0.073816 | -0.094 | 0.806 | 0.2565   | translation                  |
| 5142 | <i>tbpC</i>    | 0.053  | 1.131 | 0.520235 | -0.019 | 0.957 | 0.768    | transcription and regulation |
| 5143 | <i>vng5143</i> | 0.126  | 1.338 | 0.190458 | -0.066 | 0.860 | 0.42575  | unknown                      |
| 5144 | <i>prlR5</i>   | 0.066  | 1.165 | 0.200995 | -0.030 | 0.933 | 0.5925   | transcription and regulation |
| 5145 | <i>vng5145</i> | 0.442  | 2.769 | 7.37E-05 | -0.037 | 0.919 | 0.56155  | unknown                      |
| 5146 | <i>vng5146</i> | -0.031 | 0.931 | 0.393972 | -0.006 | 0.986 | 0.732083 | unknown                      |
| 5147 | <i>repJ</i>    | 0.004  | 1.009 | 0.610011 | 0.056  | 1.138 | 0.558667 | DNA metabolism               |
| 5148 | <i>vng5148</i> | -0.039 | 0.915 | 0.277127 | -0.048 | 0.896 | 0.5615   | unknown                      |
| 5149 | <i>vng5149</i> | -0.071 | 0.849 | 0.246492 | 0.035  | 1.084 | 0.5495   | unknown                      |
| 5150 | <i>vng5150</i> | -0.250 | 0.562 | 0.45277  | 0.029  | 1.069 | 0.714542 | unknown                      |
| 5152 | <i>vng5152</i> | -0.095 | 0.804 | 0.298356 | 0.078  | 1.196 | 0.549625 | unknown                      |
| 5153 | <i>vng5153</i> | -0.062 | 0.868 | 0.409672 | 0.072  | 1.181 | 0.621833 | unknown                      |
| 5154 | <i>vng5154</i> | 0.025  | 1.059 | 0.186227 | 0.095  | 1.244 | 0.4285   | unknown                      |
| 5156 | <i>arlR16</i>  | -0.074 | 0.843 | 0.239924 | 0.057  | 1.141 | 0.460458 | transcription and regulation |
| 5157 | <i>vng5157</i> | -0.068 | 0.855 | 0.228948 | 0.083  | 1.211 | 0.262117 | unknown                      |
| 5160 | <i>vng5160</i> | -0.099 | 0.796 | 0.266025 | 0.081  | 1.204 | 0.440517 | unknown                      |
| 5163 | <i>tbpD</i>    | -0.025 | 0.944 | 0.566874 | 0.071  | 1.177 | 0.390233 | transcription and regulation |
| 5164 | <i>vng5164</i> | -0.067 | 0.857 | 0.35442  | 0.121  | 1.322 | 0.058075 | unknown                      |
| 5165 | <i>vng5165</i> | 0.019  | 1.045 | 0.63621  | 0.077  | 1.194 | 0.22925  | unknown                      |
| 5166 | <i>vng5166</i> | -0.061 | 0.870 | 0.291869 | 0.089  | 1.228 | 0.26615  | unknown                      |
| 5167 | <i>vng5167</i> | -0.049 | 0.893 | 0.552739 | 0.027  | 1.064 | 0.796125 | unknown                      |
| 5168 | <i>vng5168</i> | -0.102 | 0.791 | 0.230491 | -0.160 | 0.692 | 0.075083 | unknown                      |
| 5169 | <i>vng5169</i> | -0.012 | 0.973 | 0.754996 | 0.092  | 1.236 | 0.266583 | unknown                      |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 5170 | <i>vng5170</i> | -0.054 | 0.882 | 0.287528 | -0.076 | 0.840 | 0.1938   | unknown                            |
| 5173 | <i>vng5173</i> | -0.189 | 0.648 | 0.119037 | 0.008  | 1.019 | 0.68875  | unknown                            |
| 5174 | <i>vng5174</i> | -0.048 | 0.895 | 0.275433 | 0.079  | 1.199 | 0.33475  | unknown                            |
| 5175 | <i>vng5175</i> | 0.104  | 1.269 | 0.365722 | -0.129 | 0.743 | 0.01164  | unknown                            |
| 5176 | <i>arsR2</i>   | 0.092  | 1.235 | 0.25243  | -0.009 | 0.980 | 0.747667 | transcription and regulation       |
| 5177 | <i>arsM</i>    | 0.043  | 1.104 | 0.274777 | 0.032  | 1.078 | 0.585417 | cofactor and secondary metabolites |
| 5178 | <i>vng5178</i> | -0.149 | 0.709 | 0.131267 | 0.049  | 1.119 | 0.6585   | unknown                            |
| 5180 | <i>arsA</i>    | -0.052 | 0.888 | 0.391327 | 0.098  | 1.252 | 0.263942 | transport                          |
| 5181 | <i>arsD</i>    | -0.082 | 0.827 | 0.164743 | 0.041  | 1.100 | 0.45125  | transcription and regulation       |
| 5182 | <i>arsR</i>    | -0.106 | 0.783 | 0.456566 | 0.099  | 1.255 | 0.103367 | transcription and regulation       |
| 5183 | <i>arsC</i>    | -0.579 | 0.264 | 7.59E-15 | 0.174  | 1.491 | 0.004506 | cellular process                   |
| 5185 | <i>vng5185</i> | 0.081  | 1.205 | 0.380166 | 0.013  | 1.030 | 0.644833 | unknown                            |
| 5186 | <i>vng5186</i> | -0.030 | 0.933 | 0.915752 | 0.083  | 1.211 | 0.563    | unknown                            |
| 5189 | <i>vng5189</i> | 0.379  | 2.394 | 0.255115 | -0.022 | 0.952 | 0.620333 | unknown                            |
| 5191 | <i>vng5191</i> | 0.228  | 1.689 | 0.266131 | -0.017 | 0.963 | 0.706    | unknown                            |
| 5192 | <i>vng5192</i> | 0.268  | 1.851 | 0.042732 | -0.018 | 0.960 | 0.561113 | unknown                            |
| 5194 | <i>vng5194</i> | 0.102  | 1.265 | 0.473793 | 0.025  | 1.059 | 0.616167 | unknown                            |
| 5195 | <i>vng5195</i> | 0.112  | 1.293 | 0.430313 | 0.034  | 1.081 | 0.67975  | unknown                            |
| 5197 | <i>vng5197</i> | 0.158  | 1.440 | 0.305654 | 0.084  | 1.213 | 0.418483 | unknown                            |
| 5199 | <i>vng5199</i> | -0.071 | 0.850 | 0.393978 | -0.056 | 0.879 | 0.40045  | unknown                            |
| 5200 | <i>vng5200</i> | -0.313 | 0.487 | 3.04E-06 | -0.215 | 0.610 | 0.000118 | unknown                            |
| 5203 | <i>vng5203</i> | 0.116  | 1.306 | 0.024495 | -0.003 | 0.992 | 0.60725  | unknown                            |
| 5204 | <i>vng5204</i> | 0.093  | 1.238 | 0.068704 | -0.071 | 0.849 | 0.179775 | unknown                            |
| 5206 | <i>vng5206</i> | 0.002  | 1.004 | 0.592389 | -0.041 | 0.911 | 0.453    | unknown                            |
| 5207 | <i>vng5207</i> | -0.028 | 0.937 | 0.731538 | 0.024  | 1.057 | 0.677    | unknown                            |
| 5208 | <i>sojC1</i>   | 0.017  | 1.040 | 0.745484 | -0.063 | 0.866 | 0.225    | transcription and regulation       |
| 5209 | <i>vng5209</i> | -0.011 | 0.974 | 0.564611 | -0.071 | 0.850 | 0.20745  | unknown                            |
| 5210 | <i>vng5210</i> | -0.098 | 0.798 | 0.104479 | -0.016 | 0.964 | 0.847    | unknown                            |
| 5211 | <i>vng5211</i> | -0.041 | 0.910 | 0.405311 | 0.045  | 1.110 | 0.46     | unknown                            |
| 5212 | <i>vng5212</i> | -0.043 | 0.905 | 0.489506 | -0.051 | 0.889 | 0.51375  | unknown                            |
| 5213 | <i>crt</i>     | -0.047 | 0.897 | 0.54385  | -0.140 | 0.724 | 0.008105 | cofactor and secondary metabolites |
| 5215 | <i>vng5215</i> | -0.294 | 0.508 | 1.98E-07 | 0.015  | 1.035 | 0.631    | unknown                            |
| 5216 | <i>vng5216</i> | -0.101 | 0.793 | 0.277906 | -0.335 | 0.463 | 7.43E-05 | unknown                            |
| 5217 | <i>vng5217</i> | -0.038 | 0.916 | 0.454505 | -0.001 | 0.998 | 0.573    | unknown                            |
| 5218 | <i>vng5218</i> | -0.022 | 0.950 | 0.66829  | -0.202 | 0.628 | 0.254    | unknown                            |
| 5219 | <i>trh</i>     | 0.026  | 1.061 | 0.628    | -0.004 | 0.991 | 0.8765   | general function prediction only   |
| 5220 | <i>trxB1</i>   | 0.038  | 1.091 | 0.749105 | -0.137 | 0.729 | 0.04305  | nucleotide metabolism              |
| 5221 | <i>trxA1</i>   | -0.290 | 0.513 | 1.03E-05 | -0.132 | 0.737 | 0.0709   | nucleotide metabolism              |
| 5222 | <i>vng5222</i> | 0.016  | 1.038 | 0.084072 | -0.099 | 0.795 | 0.0468   | unknown                            |
| 5223 | <i>vng5223</i> | -0.089 | 0.815 | 0.614116 | 0.005  | 1.011 | 0.948    | unknown                            |
| 5224 | <i>vng5224</i> | -0.005 | 0.988 | 0.852418 | -0.031 | 0.932 | 0.8355   | unknown                            |
| 5225 | <i>yfmO2</i>   | 0.010  | 1.024 | 0.630995 | -0.054 | 0.883 | 0.485    | general function prediction only   |
| 5228 | <i>vng5228</i> | -0.070 | 0.851 | 0.353413 | -0.036 | 0.920 | 0.9      | unknown                            |
| 5229 | <i>boa3</i>    | -0.082 | 0.828 | 0.466238 | -0.575 | 0.266 | 6.81E-09 | transcription and regulation       |
| 5231 | <i>phoT1</i>   | -0.029 | 0.935 | 0.616443 | 0.079  | 1.200 | 0.28     | transport                          |
| 5233 | <i>vng5233</i> | -0.009 | 0.979 | 0.447077 | -0.283 | 0.521 | 0.1645   | unknown                            |
| 5234 | <i>vng5234</i> | 0.037  | 1.089 | 0.666635 | -0.109 | 0.778 | 0.21625  | unknown                            |
| 5235 | <i>vng5235</i> | -0.006 | 0.987 | 0.652245 | -0.207 | 0.621 | 0.016703 | unknown                            |
| 5236 | <i>vng5236</i> | -0.014 | 0.968 | 0.748799 | -0.643 | 0.227 | 1.87E-19 | unknown                            |
| 5238 | <i>vng5238</i> | 0.084  | 1.215 | 0.399293 | -0.485 | 0.327 | 6.94E-14 | unknown                            |
| 5240 | <i>cydB</i>    | 0.095  | 1.244 | 0.119387 | -0.024 | 0.946 | 0.71075  | energy metabolism                  |

|      |                |        |       |          |        |       |          |                              |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------|
| 5242 | <i>cydA</i>    | 0.016  | 1.037 | 0.640042 | 0.021  | 1.049 | 0.525    | energy metabolism            |
| 5244 | <i>vng5244</i> | -0.125 | 0.749 | 0.323011 | -0.916 | 0.121 | 3.83E-06 | unknown                      |
| 5245 | <i>tbpB</i>    | -0.007 | 0.984 | 0.231474 | -0.098 | 0.798 | 0.0823   | transcription and regulation |
| 5249 | <i>vng5249</i> | 0.046  | 1.111 | 0.420097 | -0.042 | 0.908 | 0.3935   | unknown                      |
| 5250 | <i>vng5250</i> | 0.051  | 1.124 | 0.331549 | -0.040 | 0.912 | 0.4675   | unknown                      |
| 5252 | <i>vng5252</i> | 0.084  | 1.213 | 0.503962 | 0.088  | 1.225 | 0.2995   | unknown                      |
| 5253 | <i>vng5253</i> | -0.058 | 0.875 | 0.546774 | 0.046  | 1.111 | 0.5905   | unknown                      |
| 5255 | <i>vng5255</i> | -0.033 | 0.928 | 0.619803 | 0.078  | 1.198 | 0.5035   | unknown                      |
| 5256 | <i>vng5256</i> | -0.087 | 0.819 | 0.08774  | 0.124  | 1.331 | 0.06344  | unknown                      |
| 6131 | <i>vng6131</i> | -0.069 | 0.854 | 0.230798 | 0.070  | 1.175 | 0.241    | unknown                      |
| 6133 | <i>vng6133</i> | -0.061 | 0.869 | 0.3165   | 0.049  | 1.118 | 0.598538 | unknown                      |
| 6139 | <i>hepA</i>    | -0.033 | 0.928 | 0.555602 | -0.056 | 0.878 | 0.66225  | translation                  |
| 6142 | <i>vng6142</i> | 0.033  | 1.079 | 0.545301 | 0.056  | 1.138 | 0.610583 | unknown                      |
| 6143 | <i>vng6143</i> | 0.014  | 1.032 | 0.831241 | 0.050  | 1.123 | 0.707    | unknown                      |
| 6144 | <i>trsE</i>    | 0.002  | 1.004 | 0.426854 | 0.047  | 1.114 | 0.451167 | transport                    |
| 6145 | <i>vng6145</i> | 0.165  | 1.461 | 0.089378 | 0.061  | 1.150 | 0.408667 | unknown                      |
| 6148 | <i>vng6148</i> | 0.038  | 1.090 | 0.347085 | -0.006 | 0.987 | 0.296    | unknown                      |
| 6149 | <i>vng6149</i> | 0.058  | 1.144 | 0.579402 | 0.067  | 1.168 | 0.286342 | unknown                      |
| 6150 | <i>orc1</i>    | 0.093  | 1.238 | 0.279266 | 0.021  | 1.049 | 0.697417 | cellular process             |
| 6152 | <i>vng6152</i> | -0.038 | 0.917 | 0.290921 | 0.054  | 1.132 | 0.5337   | unknown                      |
| 6153 | <i>sojC2</i>   | -0.088 | 0.817 | 0.460563 | 0.030  | 1.072 | 0.749    | transcription and regulation |
| 6155 | <i>vng6155</i> | -0.086 | 0.821 | 0.663422 | 0.020  | 1.048 | 0.821583 | unknown                      |
| 6156 | <i>vng6156</i> | 0.028  | 1.068 | 0.537293 | 0.024  | 1.057 | 0.6195   | unknown                      |
| 6157 | <i>vng6157</i> | 0.004  | 1.009 | 0.420349 | 0.109  | 1.286 | 0.204175 | unknown                      |
| 6158 | <i>vng6158</i> | 0.044  | 1.107 | 0.853    | 0.086  | 1.220 | 0.4505   | unknown                      |
| 6159 | <i>vng6159</i> | 0.805  | 6.388 | 3.09E-18 | -0.018 | 0.960 | 0.89925  | unknown                      |
| 6160 | <i>vng6160</i> | 0.114  | 1.301 | 0.561316 | 0.063  | 1.157 | 0.490575 | unknown                      |
| 6162 | <i>vng6162</i> | 0.013  | 1.031 | 0.539605 | 0.010  | 1.024 | 0.906333 | unknown                      |
| 6163 | <i>vng6163</i> | 0.056  | 1.138 | 0.696495 | 0.066  | 1.164 | 0.77225  | unknown                      |
| 6164 | <i>orc2</i>    | -0.006 | 0.987 | 0.890419 | 0.095  | 1.243 | 0.086    | cellular process             |
| 6165 | <i>vng6165</i> | -0.097 | 0.800 | 0.398768 | 0.053  | 1.130 | 0.4205   | unknown                      |
| 6166 | <i>nbp4</i>    | 0.037  | 1.090 | 0.326717 | -0.032 | 0.930 | 0.582    | transcription and regulation |
| 6168 | <i>vng6168</i> | 0.046  | 1.111 | 0.301336 | 0.044  | 1.108 | 0.492    | unknown                      |
| 6170 | <i>vng6170</i> | 0.084  | 1.214 | 0.517926 | -0.009 | 0.979 | 0.66725  | unknown                      |
| 6171 | <i>vng6171</i> | -0.135 | 0.733 | 0.187153 | 0.063  | 1.157 | 0.40725  | unknown                      |
| 6173 | <i>vng6173</i> | -0.011 | 0.974 | 0.597229 | -0.057 | 0.877 | 0.502333 | unknown                      |
| 6175 | <i>trkA2</i>   | 0.017  | 1.039 | 0.348707 | -0.023 | 0.948 | 0.616083 | transport                    |
| 6176 | <i>kdpA</i>    | -0.010 | 0.977 | 0.68634  | 0.022  | 1.052 | 0.843917 | transport                    |
| 6177 | <i>kdpB</i>    | -0.024 | 0.947 | 0.583726 | 0.049  | 1.120 | 0.450167 | transport                    |
| 6178 | <i>kdpC</i>    | -0.064 | 0.864 | 0.632841 | -0.025 | 0.943 | 0.534117 | transport                    |
| 6179 | <i>cat3</i>    | -0.180 | 0.660 | 0.510806 | 0.014  | 1.033 | 0.821833 | transport                    |
| 6180 | <i>vng6180</i> | 0.027  | 1.063 | 0.624142 | 0.012  | 1.029 | 0.528417 | unknown                      |
| 6181 | <i>vng6181</i> | -0.070 | 0.851 | 0.27556  | -0.096 | 0.802 | 0.246654 | unknown                      |
| 6182 | <i>vng6182</i> | -0.009 | 0.979 | 0.538828 | -0.022 | 0.950 | 0.402667 | unknown                      |
| 6183 | <i>vng6183</i> | -0.130 | 0.742 | 0.248762 | 0.011  | 1.026 | 0.704417 | unknown                      |
| 6184 | <i>cat4</i>    | 0.007  | 1.016 | 0.726784 | -0.014 | 0.969 | 0.893583 | transport                    |
| 6185 | <i>vng6185</i> | 0.062  | 1.154 | 0.520823 | -0.022 | 0.950 | 0.694    | unknown                      |
| 6186 | <i>vng6186</i> | 0.085  | 1.217 | 0.513169 | -0.054 | 0.884 | 0.39     | unknown                      |
| 6187 | <i>orc3</i>    | -0.010 | 0.977 | 0.361439 | 0.049  | 1.120 | 0.547    | cellular process             |
| 6188 | <i>vng6188</i> | -0.013 | 0.971 | 0.685961 | -0.122 | 0.755 | 0.091539 | unknown                      |
| 6189 | <i>vng6189</i> | -0.021 | 0.953 | 0.422301 | 0.060  | 1.149 | 0.505333 | unknown                      |
| 6191 | <i>vng6191</i> | 0.102  | 1.265 | 0.208376 | 0.023  | 1.055 | 0.615    | unknown                      |

|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 6193 | <i>camR3</i>   | -0.030 | 0.932 | 0.432379 | -0.004 | 0.990 | 0.728083 | transcription and regulation       |
| 6195 | <i>vng6195</i> | -0.048 | 0.895 | 0.385064 | -0.112 | 0.773 | 0.16657  | unknown                            |
| 6196 | <i>phoT2</i>   | -0.021 | 0.954 | 0.608671 | 0.044  | 1.107 | 0.624083 | transport                          |
| 6197 | <i>vng6197</i> | -0.018 | 0.960 | 0.726929 | 0.061  | 1.150 | 0.3441   | unknown                            |
| 6198 | <i>vng6198</i> | -0.040 | 0.911 | 0.523206 | 0.017  | 1.041 | 0.9265   | unknown                            |
| 6199 | <i>cdc48d</i>  | -0.166 | 0.683 | 0.393715 | -0.008 | 0.982 | 0.877167 | cellular process                   |
| 6201 | <i>hsp5</i>    | 0.072  | 1.179 | 0.47186  | -0.100 | 0.794 | 0.173186 | cellular process                   |
| 6203 | <i>vng6203</i> | -0.077 | 0.838 | 0.602084 | 0.018  | 1.043 | 0.822917 | unknown                            |
| 6204 | <i>vng6204</i> | -0.039 | 0.913 | 0.410954 | 0.002  | 1.005 | 0.7275   | unknown                            |
| 6205 | <i>vng6205</i> | -0.113 | 0.771 | 0.045563 | -0.008 | 0.982 | 0.6645   | unknown                            |
| 6206 | <i>vng6206</i> | 0.043  | 1.104 | 0.554267 | -0.025 | 0.943 | 0.760333 | unknown                            |
| 6208 | <i>imp5</i>    | -0.199 | 0.632 | 0.035321 | -0.053 | 0.886 | 0.3895   | general function prediction only   |
| 6209 | <i>vng6209</i> | -0.045 | 0.901 | 0.400675 | -0.012 | 0.974 | 0.682    | unknown                            |
| 6210 | <i>gabT1</i>   | 0.002  | 1.005 | 0.307169 | -0.010 | 0.976 | 0.378333 | amino acid metabolism              |
| 6211 | <i>bdb</i>     | -0.200 | 0.630 | 0.413012 | -0.049 | 0.893 | 0.54896  | amino acid metabolism              |
| 6212 | <i>iucA</i>    | -0.045 | 0.901 | 0.657355 | -0.035 | 0.923 | 0.845208 | transport                          |
| 6213 | <i>iucB</i>    | -0.127 | 0.746 | 0.32608  | -0.047 | 0.898 | 0.505333 | transport                          |
| 6214 | <i>hxyA</i>    | -0.072 | 0.847 | 0.685793 | -0.075 | 0.842 | 0.3885   | cofactor and secondary metabolites |
| 6216 | <i>iucC</i>    | -0.015 | 0.967 | 0.617274 | -0.021 | 0.954 | 0.52055  | transport                          |
| 6218 | <i>trkA3</i>   | -0.078 | 0.836 | 0.353607 | -0.020 | 0.954 | 0.644875 | transport                          |
| 6220 | <i>cat2</i>    | 0.018  | 1.042 | 0.182528 | -0.072 | 0.847 | 0.189067 | transport                          |
| 6221 | <i>vng6221</i> | 0.012  | 1.028 | 0.612577 | 0.021  | 1.049 | 0.587833 | unknown                            |
| 6222 | <i>vng6222</i> | -0.139 | 0.726 | 0.126748 | -0.019 | 0.958 | 0.673083 | unknown                            |
| 6223 | <i>vng6223</i> | 0.049  | 1.119 | 0.315965 | -0.051 | 0.889 | 0.4085   | unknown                            |
| 6224 | <i>vng6224</i> | 0.116  | 1.307 | 0.301554 | 0.024  | 1.057 | 0.666667 | unknown                            |
| 6225 | <i>vng6225</i> | 0.009  | 1.020 | 0.628128 | -0.032 | 0.930 | 0.578667 | unknown                            |
| 6226 | <i>vng6226</i> | 0.011  | 1.027 | 0.651675 | -0.023 | 0.949 | 0.714417 | unknown                            |
| 6229 | <i>gvpL2</i>   | -0.186 | 0.652 | 0.434416 | 0.057  | 1.141 | 0.6565   | cellular process                   |
| 6230 | <i>gvpK2</i>   | 0.044  | 1.107 | 0.729793 | 0.016  | 1.038 | 0.919    | cellular process                   |
| 6232 | <i>gvpJ2</i>   | -0.140 | 0.725 | 0.162329 | 0.021  | 1.048 | 0.818    | cellular process                   |
| 6233 | <i>gvpI2</i>   | 0.072  | 1.179 | 0.342415 | -0.024 | 0.947 | 0.55575  | cellular process                   |
| 6235 | <i>gvpH2</i>   | 0.029  | 1.070 | 0.352745 | 0.004  | 1.008 | 0.387    | cellular process                   |
| 6236 | <i>gvpG2</i>   | -0.040 | 0.913 | 0.247989 | -0.021 | 0.953 | 0.5049   | cellular process                   |
| 6237 | <i>gvpF2</i>   | -0.004 | 0.991 | 0.281062 | -0.060 | 0.872 | 0.386    | cellular process                   |
| 6239 | <i>gvpE2</i>   | -0.111 | 0.775 | 0.281722 | 0.003  | 1.008 | 0.622083 | cellular process                   |
| 6240 | <i>gvpD2</i>   | -0.086 | 0.820 | 0.37545  | -0.080 | 0.832 | 0.356947 | cellular process                   |
| 6241 | <i>gvpA2</i>   | -0.549 | 0.283 | 6.09E-17 | 0.025  | 1.060 | 0.6355   | cellular process                   |
| 6242 | <i>gvpC2</i>   | -0.109 | 0.778 | 0.558507 | 0.017  | 1.041 | 0.661317 | cellular process                   |
| 6244 | <i>gvpN2</i>   | -0.062 | 0.867 | 0.51432  | 0.012  | 1.028 | 0.604    | cellular process                   |
| 6246 | <i>gvpO2</i>   | 0.101  | 1.260 | 0.368747 | -0.025 | 0.944 | 0.7375   | cellular process                   |
| 6247 | <i>trkA4</i>   | 0.061  | 1.150 | 0.422389 | -0.023 | 0.948 | 0.675083 | transport                          |
| 6250 | <i>phoT3</i>   | -0.036 | 0.921 | 0.404966 | -0.018 | 0.959 | 0.62375  | transport                          |
| 6251 | <i>vng6251</i> | 0.016  | 1.039 | 0.556447 | -0.061 | 0.868 | 0.427193 | transcription and regulation       |
| 6254 | <i>vng6254</i> | 0.059  | 1.146 | 0.427799 | -0.107 | 0.782 | 0.157663 | unknown                            |
| 6255 | <i>vng6255</i> | 0.044  | 1.106 | 0.584681 | -0.094 | 0.805 | 0.2076   | unknown                            |
| 6256 | <i>lipB</i>    | -0.020 | 0.955 | 0.597847 | 0.022  | 1.052 | 0.667417 | cofactor and secondary metabolites |
| 6258 | <i>hacA</i>    | 0.067  | 1.167 | 0.372381 | -0.061 | 0.869 | 0.390917 | amino acid metabolism              |
| 6260 | <i>ftsZ5</i>   | -0.022 | 0.952 | 0.654784 | -0.007 | 0.984 | 0.767417 | cellular process                   |
| 6261 | <i>yocR</i>    | -0.084 | 0.824 | 0.23238  | -0.138 | 0.728 | 0.074431 | transport                          |
| 6262 | <i>zurM</i>    | -0.163 | 0.687 | 0.311826 | 0.008  | 1.019 | 0.815833 | transport                          |
| 6264 | <i>zurA</i>    | -0.096 | 0.801 | 0.250059 | 0.004  | 1.008 | 0.3245   | transport                          |

|      |                |        |       |          |        |       |          |                                  |
|------|----------------|--------|-------|----------|--------|-------|----------|----------------------------------|
| 6265 | <i>adcH</i>    | -0.112 | 0.773 | 0.416416 | -0.019 | 0.957 | 0.707917 | transport                        |
| 6266 | <i>vng6266</i> | -0.040 | 0.913 | 0.233503 | 0.049  | 1.120 | 0.480083 | unknown                          |
| 6268 | <i>imp6</i>    | 0.042  | 1.103 | 0.290067 | -0.004 | 0.990 | 0.543333 | general function prediction only |
| 6269 | <i>vng6269</i> | -0.061 | 0.870 | 0.555645 | -0.040 | 0.911 | 0.705167 | unknown                          |
| 6270 | <i>gldA</i>    | -0.187 | 0.650 | 0.003691 | -0.024 | 0.946 | 0.5205   | energy metabolism                |
| 6272 | <i>orc5</i>    | -0.111 | 0.775 | 0.41789  | 0.039  | 1.095 | 0.492833 | cellular process                 |
| 6275 | <i>vng6275</i> | -0.040 | 0.912 | 0.447014 | 0.003  | 1.006 | 0.733167 | unknown                          |
| 6276 | <i>vng6276</i> | -0.295 | 0.507 | 6.09E-06 | -0.120 | 0.758 | 0.0691   | unknown                          |
| 6277 | <i>ugpB</i>    | -0.294 | 0.509 | 0.132493 | -0.030 | 0.933 | 0.610333 | transport                        |
| 6279 | <i>ugpA</i>    | -0.216 | 0.608 | 0.221475 | -0.001 | 0.998 | 0.702833 | transport                        |
| 6280 | <i>ugpE</i>    | -0.023 | 0.948 | 0.456176 | -0.033 | 0.927 | 0.677583 | transport                        |
| 6281 | <i>ugpC</i>    | -0.138 | 0.727 | 0.172784 | -0.015 | 0.966 | 0.671667 | transport                        |
| 6283 | <i>vng6283</i> | -0.101 | 0.793 | 0.2549   | 0.032  | 1.076 | 0.734    | unknown                          |
| 6284 | <i>vng6284</i> | -0.029 | 0.936 | 0.287351 | 0.018  | 1.043 | 0.717167 | unknown                          |
| 6286 | <i>vng6286</i> | -0.113 | 0.770 | 0.285807 | 0.019  | 1.045 | 0.746833 | unknown                          |
| 6287 | <i>arlR17</i>  | -0.135 | 0.732 | 0.029158 | 0.050  | 1.122 | 0.39875  | transcription and regulation     |
| 6288 | <i>vng6288</i> | -0.173 | 0.671 | 0.074871 | -0.022 | 0.951 | 0.616917 | unknown                          |
| 6290 | <i>vng6290</i> | -0.106 | 0.783 | 0.312608 | 0.074  | 1.186 | 0.305625 | unknown                          |
| 6291 | <i>vng6291</i> | -0.006 | 0.985 | 0.450263 | 0.042  | 1.100 | 0.768125 | unknown                          |
| 6292 | <i>vng6292</i> | -0.078 | 0.836 | 0.213617 | -0.016 | 0.964 | 0.82125  | unknown                          |
| 6293 | <i>vng6293</i> | -0.042 | 0.907 | 0.580362 | -0.090 | 0.813 | 0.2444   | unknown                          |
| 6294 | <i>perA</i>    | -0.266 | 0.542 | 0.008448 | 0.026  | 1.061 | 0.6105   | cellular process                 |
| 6296 | <i>vng6296</i> | 0.051  | 1.124 | 0.345447 | -0.107 | 0.782 | 0.088108 | unknown                          |
| 6297 | <i>vng6297</i> | -0.110 | 0.777 | 0.274909 | -0.003 | 0.993 | 0.6975   | unknown                          |
| 6298 | <i>pct</i>     | 0.013  | 1.030 | 0.439028 | 0.001  | 1.002 | 0.813    | general function prediction only |
| 6299 | <i>hypE</i>    | 0.006  | 1.014 | 0.573681 | -0.021 | 0.953 | 0.629333 | translation                      |
| 6301 | <i>aph</i>     | -0.090 | 0.812 | 0.526895 | -0.049 | 0.894 | 0.759833 | cellular process                 |
| 6302 | <i>tlyC</i>    | -0.045 | 0.903 | 0.536962 | -0.006 | 0.986 | 0.855667 | general function prediction only |
| 6303 | <i>exsB</i>    | 0.005  | 1.012 | 0.265803 | 0.051  | 1.125 | 0.4995   | cellular process                 |
| 6305 | <i>vng6305</i> | -0.177 | 0.665 | 0.154728 | 0.009  | 1.021 | 0.162645 | unknown                          |
| 6306 | <i>vng6306</i> | -0.172 | 0.673 | 0.127188 | 0.111  | 1.291 | 0.197065 | unknown                          |
| 6308 | <i>glpP</i>    | 0.054  | 1.134 | 0.418731 | -0.111 | 0.774 | 0.118808 | transport                        |
| 6309 | <i>pyrB</i>    | 0.293  | 1.965 | 2.77E-06 | -0.125 | 0.749 | 0.02214  | nucleotide metabolism            |
| 6311 | <i>pyrI</i>    | 0.298  | 1.985 | 3.8E-06  | -0.133 | 0.736 | 0.009068 | nucleotide metabolism            |
| 6312 | <i>argS</i>    | 0.117  | 1.308 | 0.182389 | -0.142 | 0.721 | 0.00933  | translation                      |
| 6313 | <i>nhaC3</i>   | -0.055 | 0.881 | 0.544415 | -0.779 | 0.166 | 1.95E-14 | transport                        |
| 6315 | <i>arcB</i>    | 0.183  | 1.524 | 0.090477 | -0.643 | 0.227 | 1.02E-20 | amino acid metabolism            |
| 6316 | <i>arcC</i>    | 0.130  | 1.348 | 0.154476 | -0.773 | 0.169 | 2.28E-24 | amino acid metabolism            |
| 6317 | <i>arcA</i>    | 0.193  | 1.559 | 0.163895 | -0.351 | 0.446 | 5.39E-07 | amino acid metabolism            |
| 6318 | <i>arcR</i>    | -0.042 | 0.908 | 0.603536 | -0.078 | 0.835 | 0.198883 | transcription and regulation     |
| 6319 | <i>vng6319</i> | 0.165  | 1.462 | 0.013309 | -0.060 | 0.871 | 0.407508 | unknown                          |
| 6320 | <i>vng6320</i> | -0.030 | 0.933 | 0.559741 | 0.060  | 1.147 | 0.275667 | unknown                          |
| 6321 | <i>vng6321</i> | -0.066 | 0.859 | 0.554369 | -0.015 | 0.967 | 0.500583 | unknown                          |
| 6322 | <i>vng6322</i> | -0.038 | 0.916 | 0.523955 | 0.035  | 1.085 | 0.640875 | unknown                          |
| 6323 | <i>vng6323</i> | 0.078  | 1.196 | 0.40583  | 0.003  | 1.006 | 0.715    | unknown                          |
| 6325 | <i>vng6325</i> | 0.018  | 1.041 | 0.585006 | -0.041 | 0.909 | 0.492933 | unknown                          |
| 6326 | <i>trp6</i>    | -0.036 | 0.920 | 0.585213 | -0.036 | 0.920 | 0.564933 | transport                        |
| 6327 | <i>vng6327</i> | -0.056 | 0.880 | 0.341407 | 0.078  | 1.197 | 0.324183 | unknown                          |
| 6329 | <i>vng6329</i> | -0.070 | 0.851 | 0.280217 | -0.480 | 0.331 | 0.1805   | unknown                          |
| 6332 | <i>vng6332</i> | -0.042 | 0.907 | 0.377391 | -0.072 | 0.846 | 0.163725 | unknown                          |
| 6334 | <i>vng6334</i> | 0.008  | 1.018 | 0.275542 | -0.466 | 0.342 | 3.86E-11 | unknown                          |
| 6335 | <i>vng6335</i> | 0.063  | 1.155 | 0.565122 | -0.980 | 0.105 | 1.8E-20  | unknown                          |



|      |                |        |       |          |        |       |          |                                    |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------------|
| 6337 | <i>sojE</i>    | 0.113  | 1.297 | 0.295145 | -0.143 | 0.720 | 0.272031 | transcription and regulation       |
| 6339 | <i>vng6339</i> | -0.044 | 0.903 | 0.640285 | -0.074 | 0.843 | 0.324875 | unknown                            |
| 6340 | <i>vng6340</i> | -0.009 | 0.979 | 0.581887 | -0.204 | 0.625 | 0.007696 | unknown                            |
| 6343 | <i>vng6343</i> | -0.037 | 0.919 | 0.509537 | 0.052  | 1.127 | 0.40525  | unknown                            |
| 6346 | <i>vng6346</i> | -0.014 | 0.969 | 0.749952 | 0.041  | 1.100 | 0.543667 | unknown                            |
| 6347 | <i>vng6347</i> | -0.084 | 0.825 | 0.268967 | -0.126 | 0.749 | 0.020798 | unknown                            |
| 6348 | <i>vng6348</i> | 0.010  | 1.023 | 0.474254 | -0.016 | 0.963 | 0.479167 | unknown                            |
| 6349 | <i>vng6349</i> | 0.128  | 1.344 | 0.293615 | -0.024 | 0.947 | 0.602083 | unknown                            |
| 6351 | <i>tfbC</i>    | -0.058 | 0.876 | 0.248649 | 0.004  | 1.009 | 0.5965   | transcription and regulation       |
| 6353 | <i>vng6353</i> | -0.023 | 0.949 | 0.715471 | -0.008 | 0.982 | 0.72075  | unknown                            |
| 6354 | <i>comA</i>    | -0.044 | 0.903 | 0.470743 | -0.017 | 0.962 | 0.65125  | cellular process                   |
| 6355 | <i>vng6355</i> | 0.078  | 1.196 | 0.3832   | -0.083 | 0.827 | 0.268267 | unknown                            |
| 6357 | <i>vng6357</i> | 0.024  | 1.058 | 0.454862 | -0.049 | 0.894 | 0.471333 | unknown                            |
| 6359 | <i>vng6359</i> | -0.019 | 0.958 | 0.710433 | 0.041  | 1.098 | 0.675    | unknown                            |
| 6361 | <i>tnp2</i>    | -0.040 | 0.911 | 0.401015 | 0.176  | 1.499 | 0.026733 | cellular process                   |
| 6362 | <i>polB2</i>   | 0.008  | 1.018 | 0.523754 | 0.023  | 1.054 | 0.411233 | DNA metabolism                     |
| 6363 | <i>orc4</i>    | 0.096  | 1.248 | 0.209379 | 0.034  | 1.081 | 0.283942 | cellular process                   |
| 6364 | <i>vng6364</i> | 0.019  | 1.045 | 0.768319 | 0.056  | 1.139 | 0.502    | unknown                            |
| 6365 | <i>vng6365</i> | -0.035 | 0.923 | 0.513882 | 0.084  | 1.213 | 0.09615  | unknown                            |
| 6366 | <i>vng6366</i> | -0.024 | 0.946 | 0.628875 | 0.052  | 1.126 | 0.555    | unknown                            |
| 6367 | <i>vng6367</i> | 0.010  | 1.024 | 0.54956  | 0.049  | 1.118 | 0.729    | unknown                            |
| 6368 | <i>vng6368</i> | 0.087  | 1.223 | 0.282801 | 0.069  | 1.171 | 0.2066   | unknown                            |
| 6370 | <i>vng6370</i> | 0.077  | 1.194 | 0.497675 | 0.028  | 1.068 | 0.633    | unknown                            |
| 6371 | <i>mrr</i>     | -0.172 | 0.674 | 0.294422 | 0.025  | 1.060 | 0.039408 | DNA metabolism                     |
| 6372 | <i>vng6372</i> | 0.026  | 1.062 | 0.311504 | 0.124  | 1.330 | 0.03015  | unknown                            |
| 6373 | <i>phrH</i>    | 0.180  | 1.514 | 0.021568 | 0.016  | 1.038 | 0.754    | transcription and regulation       |
| 6375 | <i>vng6375</i> | 0.100  | 1.260 | 0.427789 | 0.069  | 1.173 | 0.56325  | unknown                            |
| 6377 | <i>vng6377</i> | 0.075  | 1.187 | 0.499467 | 0.044  | 1.107 | 0.6515   | unknown                            |
| 6378 | <i>vng6378</i> | 0.092  | 1.236 | 0.283053 | 0.078  | 1.196 | 0.404    | unknown                            |
| 6379 | <i>fes</i>     | -0.047 | 0.897 | 0.390906 | 0.137  | 1.371 | 0.039003 | general function prediction only   |
| 6381 | <i>vng6381</i> | -0.017 | 0.962 | 0.477945 | 0.120  | 1.318 | 0.048958 | unknown                            |
| 6383 | <i>lctP</i>    | 0.097  | 1.249 | 0.235913 | 0.015  | 1.034 | 0.494583 | transport                          |
| 6384 | <i>vng6384</i> | 0.021  | 1.049 | 0.761104 | 0.048  | 1.118 | 0.8285   | unknown                            |
| 6385 | <i>vng6385</i> | 0.022  | 1.052 | 0.774203 | 0.076  | 1.193 | 0.375317 | unknown                            |
| 6387 | <i>vng6387</i> | 0.039  | 1.095 | 0.510805 | 0.037  | 1.088 | 0.553917 | unknown                            |
| 6389 | <i>tfbE</i>    | 0.015  | 1.035 | 0.662484 | 0.050  | 1.122 | 0.651658 | transcription and regulation       |
| 6390 | <i>vng6390</i> | 0.032  | 1.078 | 0.561096 | 0.054  | 1.133 | 0.35525  | unknown                            |
| 6393 | <i>vng6393</i> | 0.114  | 1.300 | 0.357035 | 0.200  | 1.586 | 0.315517 | unknown                            |
| 6396 | <i>nbp5</i>    | -0.038 | 0.916 | 0.40082  | 0.392  | 2.468 | 0.023164 | transcription and regulation       |
| 6397 | <i>vng6397</i> | -0.036 | 0.921 | 0.791768 | 0.215  | 1.640 | 0.328083 | unknown                            |
| 6400 | <i>vng6400</i> | -0.067 | 0.856 | 0.664055 | 0.278  | 1.898 | 0.475833 | unknown                            |
| 6401 | <i>vng6401</i> | -0.033 | 0.927 | 0.441862 | 0.185  | 1.530 | 0.043093 | unknown                            |
| 6402 | <i>arlR18</i>  | -0.043 | 0.906 | 0.411958 | 0.515  | 3.274 | 0.00531  | transcription and regulation       |
| 6403 | <i>vng6403</i> | -0.040 | 0.913 | 0.458883 | 0.298  | 1.985 | 0.000405 | unknown                            |
| 6404 | <i>vng6404</i> | -0.023 | 0.949 | 0.645973 | 0.054  | 1.133 | 0.584917 | unknown                            |
| 6406 | <i>vng6406</i> | -0.036 | 0.920 | 0.404944 | 0.005  | 1.012 | 0.628167 | unknown                            |
| 6407 | <i>vng6407</i> | 0.182  | 1.521 | 0.002876 | 0.000  | 1.000 | 0.286    | unknown                            |
| 6408 | <i>phzF</i>    | 0.125  | 1.334 | 0.267353 | 0.439  | 2.751 | 0.001187 | cofactor and secondary metabolites |
| 6409 | <i>vng6409</i> | 0.080  | 1.202 | 0.502999 | 0.441  | 2.758 | 5.33E-05 | unknown                            |
| 6411 | <i>vng6411</i> | 0.081  | 1.205 | 0.288498 | 0.311  | 2.045 | 0.087643 | unknown                            |
| 6412 | <i>vng6412</i> | -0.056 | 0.880 | 0.532677 | 0.290  | 1.949 | 0.008309 | unknown                            |

|      |                |        |       |          |        |       |          |                              |
|------|----------------|--------|-------|----------|--------|-------|----------|------------------------------|
| 6413 | <i>vng6413</i> | -0.041 | 0.909 | 0.520033 | 0.893  | 7.823 | 6.7E-12  | unknown                      |
| 6416 | <i>vng6416</i> | 0.079  | 1.200 | 0.405132 | 0.104  | 1.271 | 0.335217 | unknown                      |
| 6418 | <i>vng6418</i> | 0.001  | 1.001 | 0.501978 | -0.014 | 0.969 | 0.505708 | unknown                      |
| 6419 | <i>vng6419</i> | 0.137  | 1.371 | 0.259116 | 0.050  | 1.121 | 0.7625   | unknown                      |
| 6420 | <i>vng6420</i> | 0.063  | 1.156 | 0.094898 | 0.498  | 3.150 | 6.12E-08 | unknown                      |
| 6424 | <i>vng6424</i> | 0.026  | 1.061 | 0.486663 | 0.018  | 1.043 | 0.789917 | unknown                      |
| 6427 | <i>vng6427</i> | -0.015 | 0.965 | 0.46848  | 0.047  | 1.114 | 0.619833 | unknown                      |
| 6429 | <i>vng6429</i> | -0.030 | 0.934 | 0.51214  | 0.040  | 1.097 | 0.5159   | unknown                      |
| 6430 | <i>vng6430</i> | 0.070  | 1.175 | 0.448742 | 0.043  | 1.104 | 0.5355   | unknown                      |
| 6431 | <i>vng6431</i> | -0.132 | 0.738 | 0.513332 | 0.063  | 1.155 | 0.6725   | unknown                      |
| 6432 | <i>vng6432</i> | 0.058  | 1.144 | 0.456059 | 0.065  | 1.160 | 0.373717 | unknown                      |
| 6434 | <i>vng6434</i> | 0.019  | 1.045 | 0.182211 | 0.017  | 1.040 | 0.628875 | unknown                      |
| 6437 | <i>vng6437</i> | -0.012 | 0.973 | 0.430677 | 0.052  | 1.127 | 0.513833 | unknown                      |
| 6438 | <i>tbpF</i>    | -0.051 | 0.888 | 0.553077 | 0.028  | 1.066 | 0.90725  | transcription and regulation |
| 6439 | <i>vng6439</i> | 0.022  | 1.053 | 0.37037  | 0.040  | 1.095 | 0.497167 | unknown                      |
| 6441 | <i>vng6441</i> | -0.378 | 0.419 | 6.8E-07  | -0.001 | 0.998 | 0.80125  | unknown                      |