**Figure S2**



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| COG Assignment | Function | Number |
| D | Cell cycle control, cell division, chromosome partitioning | 3 |
| W | Extracellular structures | 9 |
| V | Defense mechanisms | 12 |
| U | Intracellular trafficking, secretion, and vesicular transport | 15 |
| Q | Secondary metabolites biosynthesis, transport and catabolism | 20 |
| I | Lipid transport and metabolism | 24 |
| F | Nucleotide transport and metabolism | 28 |
| L | Replication, recombination and repair | 29 |
| N | Cell motility | 29 |
| T | Signal transduction mechanisms | 39 |
| O | Posttranslational modification, protein turnover, chaperones | 40 |
| S | Uncharacterized protein conserved in bacteria | 42 |
| J | Translation, ribosomal structure and biogenesis | 56 |
| P | Inorganic ion transport and metabolism | 64 |
| C | Energy production and conversion | 65 |
| H | Coenzyme transport and metabolism | 66 |
| R | Predicted esterase | 66 |
| K | Transcription | 67 |
| M | Cell wall/membrane/envelope biogenesis | 81 |
| G | Carbohydrate transport and metabolism | 90 |
| E | Amino acid transport and metabolism | 95 |

**COG categories of the 928 genes carrying nsSNP variations shared by strains CT18 and GJ0703.** COG classification was conducted by RPS-BLAST against clusters of orthologous groups (COG) database available at NCBI (ncbi.nlm.nih.gov/COG) with e-value ≤ 0.01. And COG assignment frequencies and numbers of these 928 genes were indicated as well.