| Organism                  | Reads accumulation | Reads per million mapped reads |
|--------------------------|--------------------|--------------------------------|
| *Pseudomonas*            | 58,766             | 2108.4                         |
| *Pseudomonas aeruginosa* | 26,021             | 933.58                         |
| *Schaalia*               | 45,257             | 1623.73                        |
| *Schaalia odontolytica*  | 44,778             | 1606.54                        |
| *Schaalia meyeri*        | 113                | 4.05                           |
| *Schaalia georgiae*      | 55                 | 1.97                           |
| *Schaalia cardiffensis*  | 36                 | 1.29                           |
| *Schaalia vaccimaxillae* | 4                  | 0.14                           |
| *Schaalia hyovaginalis*  | 3                  | 0.11                           |
| *Schaalia turicensis*    | 1                  | 0.04                           |
| *Schaalia canis*         | 1                  | 0.04                           |
| *Neisseria*              | 31,493             | 1129.9                         |
| *Neisseria mucosa*       | 6,736              | 241.67                         |
| *Neisseria elongata*     | 4,768              | 171.07                         |
| *Neisseria subflava*     | 3,466              | 124.35                         |
| *Neisseria flavescens*   | 1,629              | 58.45                          |
| *Neisseria macacae*      | 909                | 32.61                          |
| *Neisseria meningitidis* | 301                | 10.8                           |
| *Neisseria sicca*        | 262                | 9.4                            |
| *Neisseria gonorrhoeae*  | 240                | 8.61                           |
| *Neisseria cinerea*      | 89                 | 3.19                           |
| *Neisseria lactamica*    | 68                 | 2.44                           |
| *Neisseria bacilliformis*| 50                 | 1.79                           |
| *Neisseria polysaccharea*| 34                 | 1.22                           |
| *Neisseria wadsworthii*  | 5                  | 0.18                           |
| *Neisseria animaloris*   | 4                  | 0.14                           |
| *Neisseria canis*        | 3                  | 0.11                           |
| *Neisseria weaveri*      | 3                  | 0.11                           |
| *Neisseria zoodegmatis*  | 1                  | 0.04                           |
| *Neisseria oralis*       | 1                  | 0.04                           |
| *Acinetobacter*          | 21,008             | 753.72                         |
| *Acinetobacter baumannii*| 13,941             | 500.17                         |
| *Porphyromonas*          | 16,016             | 574.62                         |
| *Porphyromonas somerae*  | 13,082             | 469.36                         |
| *Porphyromonas endodontalis* | 2,383         | 85.5                           |
| *Porphyromonas gingivalis*| 98                | 3.52                           |
| *Porphyromonas asaccharolytica* | 6          | 0.22                           |
| *Porphyromonas gulae*    | 1                  | 0.04                           |
| *Porphyromonas uenonis*  | 1                  | 0.04                           |
| *Veillonella*            | 9,356              | 335.67                         |
| *Veillonella parvula*    | 4,108              | 147.39                         |
| *Veillonella tobetsuensis*| 1,074             | 38.53                          |
| *Veillonella dispar*     | 375                | 13.45                          |
| *Veillonella atypica*    | 284                | 10.19                          |
| Species                               | Count | Percent |
|---------------------------------------|-------|---------|
| Veillonella denticariosi               | 28    | 1       |
| Veillonella seminalis                  | 1     | 0.04    |
| Streptococcus                         | 8,487 | 304.5   |
| Streptococcus mitis                   | 1,174 | 42.12   |
| Streptococcus sanguinis               | 490   | 17.58   |
| Streptococcus oralis                  | 458   | 16.43   |
| Streptococcus cristatus               | 395   | 14.17   |
| Streptococcus australis               | 363   | 13.02   |
| Streptococcus pneumoniae              | 261   | 9.36    |
| Streptococcus vestibularis            | 157   | 5.63    |
| Streptococcus gordonii                | 147   | 5.27    |
| Streptococcus parasanguinis           | 108   | 3.87    |
| Streptococcus pseudopneumoniae        | 80    | 2.87    |
| Streptococcus infantis                | 70    | 2.51    |
| Streptococcus intermedius             | 65    | 2.33    |
| Streptococcus salivarius              | 58    | 2.08    |
| Streptococcus anginosus               | 49    | 1.76    |
| Streptococcus milleri                 | 46    | 1.65    |
| Streptococcus peroris                 | 37    | 1.33    |
| Streptococcus sinensis                | 28    | 1       |
| Streptococcus constellatus            | 20    | 0.72    |
| Streptococcus thermophilus            | 12    | 0.43    |
| Streptococcus suis                    | 5     | 0.18    |
| Streptococcus pyogenes                | 5     | 0.18    |
| Streptococcus mutans                  | 4     | 0.14    |
| Streptococcus dysgalactiae            | 3     | 0.11    |
| Streptococcus equinus                 | 3     | 0.11    |
| Streptococcus equi                    | 3     | 0.11    |
| Streptococcus porcinus                | 2     | 0.07    |
| Streptococcus urinalis                | 2     | 0.07    |
| Streptococcus minor                   | 1     | 0.04    |
| Streptococcus pasteurianus            | 1     | 0.04    |
| Prevotella                            | 4,880 | 175.08  |
| Prevotella intermedia                 | 1,109 | 39.79   |
| Prevotella melaninogenica             | 770   | 27.63   |
| Prevotella nigrescens                 | 616   | 22.1    |
| Prevotella aurantiaca                 | 334   | 11.98   |
| Prevotella nanseiensis                | 244   | 8.75    |
| Prevotella oris                       | 224   | 8.04    |
| Prevotella shahii                     | 153   | 5.49    |
| Prevotella jejuni                     | 153   | 5.49    |
| Prevotella multiformis                | 98    | 3.52    |
| Prevotella pallens                    | 70    | 2.51    |
| Prevotella scopos                     | 52    | 1.87    |
| Prevotella enoeca                     | 45    | 1.61    |
| Prevotella micans                     | 41    | 1.47    |
| Prevotella buccae                     | 24    | 0.86    |
| Prevotella fusca                      | 17    | 0.61    |
| Species                          | Quantity | Abundance |
|---------------------------------|----------|-----------|
| Prevotella marshii              | 15       | 0.54      |
| Prevotella denticola            | 15       | 0.54      |
| Prevotella timonensis           | 6        | 0.22      |
| Prevotella oralis               | 5        | 0.18      |
| Prevotella dentalis             | 3        | 0.11      |
| Prevotella multisaccharivorax   | 3        | 0.11      |
| Prevotella odorum               | 3        | 0.11      |
| Prevotella disiens              | 2        | 0.07      |
| Prevotella loescheii            | 1        | 0.04      |
| Prevotella bryantii             | 1        | 0.04      |
| Prevotella hivia                | 1        | 0.04      |
| Prevotella buccalis             | 1        | 0.04      |
| Prevotella dentasini            | 1        | 0.04      |
| Mycoplasma                      | 3,780    | 135.62    |
| Mycoplasma orale                | 2,439    | 87.51     |
| Mycoplasma salivarium           | 1,316    | 47.22     |
| Mycoplasma hominis              | 2        | 0.07      |
| Campylobacter                   | 2,940    | 105.48    |
| Campylobacter concisus          | 1,521    | 54.57     |
| Campylobacter showae            | 784      | 28.13     |
| Campylobacter rectus            | 390      | 13.99     |
| Campylobacter gracilis          | 101      | 3.62      |
| Campylobacter curvus            | 22       | 0.79      |
| Campylobacter lari              | 1        | 0.04      |
| Campylobacter ureolyticus       | 1        | 0.04      |
| Campylobacter iguaniorum        | 1        | 0.04      |
| Lautropia                       | 2,462    | 88.33     |
| Lautropia mirabilis             | 2,462    | 88.33     |
| Haemophilus                     | 2,360    | 84.67     |
| Haemophilus parainfluenza       | 1,974    | 70.82     |
| Haemophilus haemolyticus        | 94       | 3.37      |
| Haemophilus influenzae          | 47       | 1.69      |
| Haemophilus pittmaniae          | 42       | 1.51      |
| Haemophilus parahaemolyticus    | 20       | 0.72      |
| Haemophilus paraphrohaemolyticus| 9        | 0.32      |
| Haemophilus quentini            | 4        | 0.14      |
| [Haemophilus] ducreyi           | 2        | 0.07      |
| Haemophilus sputorum            | 1        | 0.04      |
| Fusobacterium                  | 2,309    | 82.84     |
| Fusobacterium periodonticum     | 1,164    | 41.76     |
| Fusobacterium nucleatum         | 648      | 23.25     |
| Fusobacterium necrophorum       | 3        | 0.11      |
| Abiotrophia                    | 2,233    | 80.12     |
| Abiotrophia defectiva           | 2,233    | 80.12     |
| Tannerella                      | 2,018    | 72.4      |
| Tannerella forsythia            | 2,018    | 72.4      |
| Klebsiella                      | 1,834    | 65.8      |
| Klebsiella pneumoniae           | 1,321    | 47.39     |
| Species                          | Percentage | Relative Rank |
|---------------------------------|------------|---------------|
| **Klebsiella variicola**         | 8          | 0.29          |
| **Klebsiella quasipneumoniae**   | 8          | 0.29          |
| **Klebsiella michiganensis**     | 1          | 0.04          |
| **Rothia**                       | 1,739      | 62.39         |
| **Rothia mucilaginosa**          | 1,419      | 50.91         |
| **Rothia dentocariosa**          | 173        | 6.21          |
| **Rothia aeria**                 | 59         | 2.12          |
| **Alloprevotella**               | 1,698      | 60.92         |
| **Alloprevotella tannerae**      | 1,624      | 58.27         |
| **Staphylococcus**               | 1,643      | 58.95         |
| **Staphylococcus epidermidis**   | 1,549      | 55.57         |
| **Staphylococcus aureus**        | 43         | 1.54          |
| **Staphylococcus hominis**       | 6          | 0.22          |
| **Capnocytophaga**               | 1,468      | 52.67         |
| **Capnocytophaga sputigena**     | 469        | 16.83         |
| **Capnocytophaga gingivalis**    | 337        | 12.09         |
| **Capnocytophaga ochracea**      | 298        | 10.69         |
| **Capnocytophaga leadbetteri**   | 186        | 6.67          |
| **Capnocytophaga granulosa**     | 94         | 3.37          |
| **Capnocytophaga haemolytica**   | 4          | 0.14          |
| **Megasphaera**                  | 1,128      | 40.47         |
| **Megasphaera micronuciformis**  | 1,126      | 40.4          |
| **Aggregatibacter**              | 1,022      | 36.67         |
| **Aggregatibacter actinomycetemcomitans** | 522   | 18.73         |
| **Aggregatibacter segnis**       | 392        | 14.06         |
| **Aggregatibacter aphrophilus**  | 64         | 2.3           |
| **Actinomyces**                  | 956        | 34.3          |
| **Actinomyces massiliensis**     | 75         | 2.69          |
| **Actinomyces graevenitzii**     | 64         | 2.3           |
| **Actinomyces gerencseriae**     | 64         | 2.3           |
| **Actinomyces viscosus**         | 25         | 0.9           |
| **Actinomyces johnsonii**        | 22         | 0.79          |
| **Actinomyces oris**             | 12         | 0.43          |
| **Actinomyces naeslundii**       | 10         | 0.36          |
| **Actinomyces timonensis**       | 6          | 0.22          |
| **Actinomyces bowdenii**         | 2          | 0.07          |
| **Actinomyces urogenitalis**     | 1          | 0.04          |
| **Clostridiales incertae sedis** | 835        | 29.96         |
| **Clostridiales Family XIII. Incertae Sedis** | 834 | 29.92 |
| **Mogibacterium**               | 534        | 19.16         |
| **Mogibacterium diversum**      | 317        | 11.37         |
| **Mogibacterium pumilum**        | 123        | 4.41          |
| **Mogibacterium timidum**        | 50         | 1.79          |
| **[Eubacterium] nodatum**        | 1          | 0.04          |
| **Corynebacterium**              | 826        | 29.64         |
| **Corynebacterium matruchotii**  | 313        | 11.23         |
|菌株                      | 数量 | 百分比  |
|--------------------------|------|--------|
| Corynebacterium propinquum | 122  | 4.38   |
| Corynebacterium accolens  | 96   | 3.44   |
| Corynebacterium segmentosum | 89  | 3.19   |
| Corynebacterium macginleyi | 10   | 0.36   |
| Corynebacterium pseudodiphtheriticum | 7   | 0.25   |
| Corynebacterium striatum  | 5    | 0.18   |
| Corynebacterium aurimucosum | 5   | 0.18   |
| Corynebacterium diphtheriae | 4   | 0.14   |
| Corynebacterium timonense  | 1    | 0.04   |
| Corynebacterium riegelii  | 1    | 0.04   |
| Corynebacterium simulans  | 1    | 0.04   |
| Corynebacterium argentoratense | 1   | 0.04   |
| Stenotrophomonas          | 776  | 27.84  |
| Stenotrophomonas maltophilia | 731 | 26.23  |
| Granulicatella            | 770  | 27.63  |
| Granulicatella adiacens   | 553  | 19.84  |
| Granulicatella elegans    | 209  | 7.5    |
| Dialister                 | 625  | 22.42  |
| Dialister pneumosintes    | 256  | 9.18   |
| Leptotrichia              | 566  | 20.31  |
| Leptotrichia wadi         | 169  | 6.06   |
| Leptotrichia buccalis     | 124  | 4.45   |
| Leptotrichia shahtii      | 8    | 0.29   |
| Gemella                   | 537  | 19.27  |
| Gemella morbillorum       | 278  | 9.97   |
| Gemella sanguinis         | 194  | 6.96   |
| Gemella haemolysans       | 40   | 1.44   |
| Gemella cuniculi          | 2    | 0.07   |
| Arachnia                  | 496  | 17.8   |
| Pseudopropionibacterium propionicum | 367 | 13.17  |
| Enterobacter              | 439  | 15.75  |
| Enterobacter cloacae complex | 410 | 14.71  |
| Enterobacter cloacae      | 328  | 11.77  |
| Enterobacter kobei        | 9    | 0.32   |
| Enterobacter chengduensis | 2    | 0.07   |
| Enterobacter ludwigii     | 2    | 0.07   |
| Enterobacter asburiae     | 1    | 0.04   |
| Enterobacter hormaechei   | 1    | 0.04   |
| Enterobacter mori         | 2    | 0.07   |
| Enterobacter bugandensis  | 1    | 0.04   |
| Parvimonas                | 403  | 14.46  |
| Parvimonas micra          | 403  | 14.46  |
| Treponema                 | 372  | 13.35  |
| Treponema denticola       | 113  | 4.05   |
| Treponema maltophilum     | 68   | 2.44   |
| Treponema medium          | 62   | 2.22   |
| Bacteria Name                        | Count | Relative Abundance |
|--------------------------------------|-------|--------------------|
| Treponema vincentii                  | 56    | 2.01               |
| Treponema socranskii                 | 25    | 0.9                |
| Treponema putidum                    | 15    | 0.54               |
| Treponema lecithinolyticum           | 8     | 0.29               |
| Treponema phagedenis                 | 2     | 0.07               |
| Treponema pedis                      | 1     | 0.04               |
| Selenomonas                          | 303   | 10.87              |
| Selenomonas infelix                  | 34    | 1.22               |
| Eikenella                            | 165   | 5.92               |
| Eikenella corrodens                  | 165   | 5.92               |
| Oriibacterium                        | 126   | 4.52               |
| Oriibacterium sinus                  | 73    | 2.62               |
| Lancefieldella                       | 121   | 4.34               |
| Lancefieldella parvula               | 105   | 3.77               |
| Lancefieldella rimae                 | 15    | 0.54               |
| Olsenella                            | 120   | 4.31               |
| Olsenella ali                        | 88    | 3.16               |
| Cardiobacterium                      | 109   | 3.91               |
| Cardiobacterium hominis              | 94    | 3.37               |
| Cardiobacterium valvarum             | 12    | 0.43               |
| Peptostreptococcus                   | 104   | 3.73               |
| Peptostreptococcus stomatis          | 97    | 3.48               |
| Peptostreptococcus anaerobius        | 4     | 0.14               |
| Solobacterium                       | 103   | 3.7                |
| Solobacterium moorei                | 103   | 3.7                |
| Filifactor                           | 80    | 2.87               |
| Filifactor alocis                    | 80    | 2.87               |
| Candidatus Absconditabacteria        | 67    | 2.4                |
| unclassified Candidatus Absconditabacteria | 67 | 2.4                |
| Slackia                              | 58    | 2.08               |
| Slackia exigua                       | 58    | 2.08               |
| Morococcus                           | 50    | 1.79               |
| Morococcus cerebrosus                | 50    | 1.79               |
| Kingella                             | 43    | 1.54               |
| Kingella denitrificans               | 37    | 1.33               |
| Kingella oralis                      | 4     | 0.14               |
| Kingella kingae                      | 2     | 0.07               |
| Pauljensenia                         | 42    | 1.51               |
| Pauljensenia hongkongensis           | 42    | 1.51               |
| Anaeroglobus                         | 40    | 1.44               |
| Anaeroglobus geminatus               | 40    | 1.44               |
| Dolosigranulum                       | 38    | 1.36               |
| Dolosigranulum pigrum                | 38    | 1.36               |
| Catonella                            | 26    | 0.93               |
| Catonella morbi                      | 26    | 0.93               |
| Streptomyces                         | 26    | 0.93               |
| Streptomyces cattleya                | 26    | 0.93               |
| Genus/Microorganism                        | Count | Relative Abundance |
|------------------------------------------|-------|--------------------|
| Pseudoleptotrichia                       | 15    | 0.54               |
| Pseudoleptotrichia goodfellowii          | 15    | 0.54               |
| Bacteroides                              | 14    | 0.5                |
| Bacteroides heparinolyticus              | 5     | 0.18               |
| Bacteroides fragilis                     | 2     | 0.07               |
| Bacteroides pyogenes                     | 2     | 0.07               |
| Bacteroides zoogloeoformans              | 2     | 0.07               |
| Propionibacterium                        | 10    | 0.36               |
| Propionibacterium acidifaciens           | 8     | 0.29               |
| Propionibacterium freudenreichii         | 1     | 0.04               |
| Methanobrevibacter                       | 1     | 0.04               |
| Methanobrevibacter smithii               | 1     | 0.04               |
| Tissierellaceae                          | 8     | 0.29               |
| Tissierella                              | 1     | 0.04               |
| Tissierella praecuta                     | 1     | 0.04               |
| Cutibacterium                            | 8     | 0.29               |
| Cutibacterium acnes                      | 6     | 0.22               |
| Cutibacterium granulosum                 | 2     | 0.07               |
| Bulleidia                                | 7     | 0.25               |
| Bulleidia extracta                       | 7     | 0.25               |
| Eggerthia                                | 7     | 0.25               |
| Eggerthia catenaformis                   | 7     | 0.25               |
| Pantoea                                  | 4     | 0.14               |
| Pantoea ananatis                         | 3     | 0.11               |
| Shuttleworthia                           | 4     | 0.14               |
| Shuttleworthia satelles                  | 4     | 0.14               |
| Clostridioides                           | 4     | 0.14               |
| Clostridioides difficile                 | 4     | 0.14               |
| Escherichia                              | 3     | 0.11               |
| Escherichia coli                         | 3     | 0.11               |
| Streptobacillus                          | 3     | 0.11               |
| Streptobacillus moniliformis             | 3     | 0.11               |
| Alistipes                                | 3     | 0.11               |
| Alistipes shahii                         | 1     | 0.04               |
| Alistipes finegoldii                     | 1     | 0.04               |
| Enterococcus                             | 3     | 0.11               |
| Enterococcus faecalis                    | 1     | 0.04               |
| Peptoniphilus                            | 3     | 0.11               |
| Peptoniphilus asaccharolyticus           | 3     | 0.11               |
| Moraxella                                | 2     | 0.07               |
| Moraxella osloensis                      | 1     | 0.04               |
| Salmonella                               | 2     | 0.07               |
| Salmonella enterica                      | 2     | 0.07               |
| Kosakonia                                | 2     | 0.07               |
| Kosakonia sacchari                       | 1     | 0.04               |
| Cupriavidus                               | 2     | 0.07               |
| Mobiluncus                               | 2     | 0.07               |
| Bifidobacterium                          | 2     | 0.07               |
| Organism                          | Reads accumulation | Reads per million mapped reads |
|----------------------------------|--------------------|--------------------------------|
| Bifidobacterium scardovii        | 1                  | 0.04                           |
| Dermabacter                      | 2                  | 0.07                           |
| Dermabacter hominis              | 2                  | 0.07                           |
| Serratia                         | 1                  | 0.04                           |
| Serratia fonticola               | 1                  | 0.04                           |
| Actinobacillus                   | 1                  | 0.04                           |
| Actinobacillus ureae             | 1                  | 0.04                           |
| Pasteurella                      | 1                  | 0.04                           |
| Pasteurella canis                | 1                  | 0.04                           |
| Glaesserella                    | 1                  | 0.04                           |
| Glaesserella parassais           | 1                  | 0.04                           |
| Bordetella                       | 1                  | 0.04                           |
| Delfia                           | 1                  | 0.04                           |
| Delfia tsuruhatensis             | 1                  | 0.04                           |
| Ralstonia                        | 1                  | 0.04                           |
| Sanguibacteroides                | 1                  | 0.04                           |
| Sanguibacteroides justesenii     | 1                  | 0.04                           |
| Eubacterium                      | 1                  | 0.04                           |
| [Eubacterium] cellulosolvens     | 1                  | 0.04                           |
| Pseudoramibacter                 | 1                  | 0.04                           |
| Pseudoramibacter alactolyticus   | 1                  | 0.04                           |
| Erysipelothrix                   | 1                  | 0.04                           |
| Erysipelothrix rhusiopathiae     | 1                  | 0.04                           |
| Anaerococcus                     | 1                  | 0.04                           |
| Anaerococcus octavus             | 1                  | 0.04                           |
| Kocuria                          | 1                  | 0.04                           |
| Kocuria rhizophila               | 1                  | 0.04                           |
| Ureaplasma                       | 1                  | 0.04                           |
| Ureaplasma parvum                | 1                  | 0.04                           |
| Malassezia                       | 3                  | 0.11                           |
| Malassezia restricta             | 2                  | 0.07                           |
| Malassezia globosa               | 1                  | 0.04                           |

B, Urine sample

| Organism                          | Reads accumulation | Reads per million mapped reads |
|-----------------------------------|--------------------|--------------------------------|
| Ureaplasma                        | 1,710              | 75.37                          |
| Ureaplasma urealyticum            | 1,554              | 68.5                           |
| Ureaplasma parvum                 | 14                 | 0.62                           |
| Cutibacterium                     | 91                 | 4.01                           |
| Cutibacterium acnes               | 87                 | 3.83                           |
| Corynebacterium                   | 17                 | 0.75                           |
| Corynebacterium simulans          | 6                  | 0.26                           |
| Corynebacterium durum             | 1                  | 0.04                           |
| Corynebacterium matruchottii      | 1                  | 0.04                           |
| Corynebacterium gottingense       | 1                  | 0.04                           |
| Corynebacterium jeikeium          | 1                  | 0.04                           |
| Citrobacter                       | 16                 | 0.71                           |
| Citrobacter freundii complex      | 11                 | 0.48                           |
| Bacterium                           | Count | Percentage |
|------------------------------------|-------|------------|
| Citrobacter freundii               | 7     | 0.31       |
| Citrobacter braakii                | 2     | 0.09       |
| Citrobacter amalonaticus           | 2     | 0.09       |
| Citrobacter farmeri                | 1     | 0.04       |
| Achromobacter                      | 15    | 0.66       |
| Achromobacter denitrificans        | 7     | 0.31       |
| Achromobacter insolitus            | 3     | 0.13       |
| Moraxella                          | 11    | 0.48       |
| Moraxella osloensis                | 11    | 0.48       |
| Microbacterium                     | 10    | 0.44       |
| Microbacterium laevaniformans      | 5     | 0.22       |
| Microbacterium oxydans             | 2     | 0.09       |
| Microbacterium aurum               | 2     | 0.09       |
| Afipia                             | 8     | 0.35       |
| Afipia broomeae                    | 4     | 0.18       |
| Afipia felis                       | 2     | 0.09       |
| Afipia birgiae                     | 2     | 0.09       |
| Micrococcus                        | 8     | 0.35       |
| Micrococcus luteus                 | 7     | 0.31       |
| Kocuria                            | 8     | 0.35       |
| Kocuria rhizophila                 | 6     | 0.26       |
| Kocuria palustris                  | 1     | 0.04       |
| Kocuria rosea                      | 1     | 0.04       |
| Escherichia                        | 7     | 0.31       |
| Escherichia coli                   | 7     | 0.31       |
| Serratia                           | 6     | 0.26       |
| Serratia liquefaciens              | 5     | 0.22       |
| Serratia ficaria                   | 1     | 0.04       |
| Rhodococcus                        | 6     | 0.26       |
| Rhodococcus fascians               | 1     | 0.04       |
| Massilia                           | 5     | 0.22       |
| Staphylococcus                     | 5     | 0.22       |
| Staphylococcus epidermidis         | 3     | 0.13       |
| Staphylococcus haemolyticus        | 1     | 0.04       |
| Staphylococcus hominis             | 1     | 0.04       |
| Janibacter                         | 5     | 0.22       |
| Janibacter indicus                 | 1     | 0.04       |
| Janibacter terrae                  | 1     | 0.04       |
| Aeromonas                          | 4     | 0.18       |
| Aeromonas caviae                   | 1     | 0.04       |
| Mycoplasma                         | 4     | 0.18       |
| Mycoplasma hyorhinis               | 4     | 0.18       |
| Ochrobactrum                       | 3     | 0.13       |
| Ochrobactrum anthropi              | 1     | 0.04       |
| Paracoccus                         | 3     | 0.13       |
| Blastomonas                        | 3     | 0.13       |
| Blastomonas natatoria              | 1     | 0.04       |
| Enterobacter                       | 2     | 0.09       |
| Species                                      | Count | Percentage |
|----------------------------------------------|-------|------------|
| Enterobacter cloacae complex                 | 1     | 0.04       |
| Klebsiella                                  | 2     | 0.09       |
| Klebsiella pneumoniae                       | 1     | 0.04       |
| Kosakonia                                    | 2     | 0.09       |
| Morganella                                   | 2     | 0.09       |
| Morganella morganii                         | 2     | 0.09       |
| Neisseria                                    | 2     | 0.09       |
| Empedobacter                                 | 2     | 0.09       |
| Empedobacter falsenii                       | 2     | 0.09       |
| Lactiplantibacillus                         | 2     | 0.09       |
| Lactiplantibacillus plantarum               | 2     | 0.09       |
| Rothia                                       | 2     | 0.09       |
| Rothia mucilaginosa                          | 1     | 0.04       |
| Rothia kristinae                             | 1     | 0.04       |
| Dietzia                                      | 2     | 0.09       |
| Dietzia maris                                | 1     | 0.04       |
| Raoultella                                   | 1     | 0.04       |
| Raoultella planticola                        | 1     | 0.04       |
| Pluralibacter                                | 1     | 0.04       |
| Pluralibacter gergoviae                      | 1     | 0.04       |
| Lautropia                                    | 1     | 0.04       |
| Lautropia mirabilis                          | 1     | 0.04       |
| Fusobacterium                                | 1     | 0.04       |
| Fusobacterium periodonticum                 | 1     | 0.04       |
| Prevotella                                   | 1     | 0.04       |
| Prevotella buccae                            | 1     | 0.04       |
| Lactococcus                                  | 1     | 0.04       |
| Lactococcus lactis                           | 1     | 0.04       |
| Loigolactobacillus                          | 1     | 0.04       |
| Lactobacillus coryniformis                  | 1     | 0.04       |
| Aerococcus                                   | 1     | 0.04       |
| Enterocloster                                | 1     | 0.04       |
| Enterocloster citroniae                     | 1     | 0.04       |
| Peptoniphilus                                | 1     | 0.04       |
| Peptoniphilus duerdenii                     | 1     | 0.04       |
| Schaalia                                     | 1     | 0.04       |
| Schaalia odontolytica                        | 1     | 0.04       |
| Arachnia                                     | 1     | 0.04       |
| Pseudopropionibacterium propionicum          | 1     | 0.04       |
| Meyerozyma                                   | 48    | 2.12       |
| Meyerozyma guillermondii                    | 47    | 2.07       |
| Purpureocillium                             | 39    | 1.72       |
| Purpureocillium lilacinum                   | 39    | 1.72       |
| Malassezia                                  | 8     | 0.35       |
| Malassezia restricta                        | 8     | 0.35       |
| Yarrowia                                     | 6     | 0.26       |
| Yarrowia lipolytica                         | 5     | 0.22       |
| Organism                     | Reads accumulation | Reads per million mapped reads |
|------------------------------|--------------------|--------------------------------|
| **Debaryomyces**             | 3                  | 0.13                           |
| **Debaryomyces hansenii**    | 3                  | 0.13                           |
| **Aspergillus**              | 2                  | 0.09                           |
| **Aspergillus glaucus**      | 2                  | 0.09                           |
| **Schizophyllum**            | 1                  | 0.04                           |
| **Schizophyllum commune**    | 1                  | 0.04                           |
| **Wallemia**                 | 1                  | 0.04                           |
| **Wallemia mellicola**       | 1                  | 0.04                           |
| **Polyomaviridae**           | 86,875             | 3829.21                        |
| **Betapolyomavirus**         | 86,875             | 3829.21                        |
| Human polyomavirus 2 (JC polyomavirus) | 86,692             | 3821.14                        |
| **JC polyomavirus**          | 5,121              | 225.72                         |
| **JC polyomavirus type 3**   | 4                  | 0.18                           |
| **JC polyomavirus type 3A**  | 4                  | 0.18                           |
| C, Blood sample              |                    |                                |
| **Fusobacterium**            | 3                  | 0.09                           |
| **Fusobacterium mortiferum** | 1                  | 0.03                           |
| **Fusobacterium nucleatum**  | 1                  | 0.03                           |
| **Fusobacterium periodonticum** | 1               | 0.03                           |
| **Neisseria**                | 2                  | 0.06                           |
| **Neisseria elongata**       | 2                  | 0.06                           |
| **Alloprevotella**           | 2                  | 0.06                           |
| **Alloprevotella tannerae**  | 1                  | 0.03                           |
| **Klebsiella**               | 1                  | 0.03                           |
| **Aggregatibacter**          | 1                  | 0.03                           |
| **Aggregatibacter segnis**   | 1                  | 0.03                           |
| **Campylobacter**            | 1                  | 0.03                           |
| **Campylobacter concisus**   | 1                  | 0.03                           |
| **Schalia**                  | 1                  | 0.03                           |
| **Schalia odontolytica**     | 1                  | 0.03                           |
| **Cutibacterium**            | 1                  | 0.03                           |
| **Cutibacterium acnes**      | 1                  | 0.03                           |
| **Ureaplasma**               | 1                  | 0.03                           |
| **Ureaplasma urealyticum**   | 1                  | 0.03                           |
| **Polyomaviridae**           | 1                  | 0.03                           |
| **Betapolyomavirus**         | 1                  | 0.03                           |
| Human polyomavirus 2 (JC polyomavirus) | 1               | 0.03                           |
| Resistance gene | Resistant family | Main mechanism | Possible species name |
|-----------------|------------------|----------------|-----------------------|
| Mex             | Penicillins      | Antibiotic efflux | *Pseudomonas aeruginosa* |
| Mex             | Penicillins      | Reduced antibiotic penetration | *Klebsiella pneumoniae* |
| Mex             | Penicillanes     | Antibiotic efflux | *Pseudomonas aeruginosa* |
| Mex             | Penicillanes     | Reduced antibiotic penetration | *Acinetobacter baumannii* |
| Mex             | Tetracyclines    | Antibiotic efflux | *Pseudomonas aeruginosa* |
| Mex             | Cephalosporin    | Reduced antibiotic penetration | *Klebsiella pneumoniae* |
| Mex             | Fluoroquinolones | Antibiotic efflux | *Pseudomonas aeruginosa* |
| Mex             | Aminoglycosides  | Antibiotic efflux | *Pseudomonas aeruginosa* |
| Mex             | Aminocoumarin    | Antibiotic efflux | *Pseudomonas aeruginosa* |
| Mex             | Carbapenems      | Antibiotic efflux | *Acinetobacter baumannii* |
| Mex             | Carbapenems      | Antibiotic inactivation | *Klebsiella pneumoniae* |
| Mex             | Sulfonamides     | Antibiotic efflux | *Pseudomonas aeruginosa* |
| Mex             | Peptides         | Antibiotic efflux | *Acinetobacter baumannii* |
| Mex             | Peptides         | Antibiotic efflux | *Pseudomonas aeruginosa* |
| Mex             | Peptides         | Antibiotic efflux | *Acinetobacter baumannii* |
| Omp             | Peptides         | Antibiotic efflux | *Pseudomonas aeruginosa* |
| Omp             | Peptides         | Antibiotic efflux | *Klebsiella pneumoniae* |

1. *OXA*: This gene encodes class D carbapenemase, which has strong hydrolysis activity to oxacillin, low hydrolysis activity to imipenem, and weak hydrolysis activity to ceftazidime, cefotaxime and aztreonam. Except OXA-23, other enzymes can be inhibited by tazobactam and clavulanic acid. The OXA gene is located on a plasmid or chromosome, or in a type I integron gene cassette, and can be transferred to different bacteria.

2. *Omp*: (outer membrane protein) is the main structural component in the outer membrane of gram-negative bacteria. Outer membrane porins genes included *OmpK35, OmpK36* and *OmpK37*. Poor protein is missing or decreased in expression, corresponding to antibacterial Drugs cannot enter the bacteria by diffusion through the cell membrane, which causes the bacteria to develop resistance.
3. *Emr:* This gene is a relatively simple efflux pump, belonging to the small multidrug family (small multidrug resistance, SMR), and is also one of the most well-studied multi-drug resistant efflux pumps. It can express resistance to monovalent cations and lipophilic cations such as erythromycin, sulfathiazole sodium, tetracycline, sulfadiazine sodium, ethidium bromide and crystal violet.

4. *Abe:* Abe gene mainly includes AbeM and AbeS types. AbeM efflux pump may cause drug resistance to fluoroquinolones. Bioinformatics analysis shows that it is multi-drugged with aeruginosa. Similar to the efflux pump PmpM, it is a hydrogen ion coupled efflux pump.

5. *Mex:* This efflux pump gene belongs to resistance-nodulation-cell-division (RND) family. Its expression is mainly regulated by the mexR, nalC and nalD genes, and relies on the transmembrane proton gradient to drive the excretion of drugs to the outside of the cell, which reduces the drug concentration in the bacteria, which leads to a decrease in drug sensitivity. Among of them, the efflux pump MexAB-OprM is one of the most important mechanisms of *Pseudomonas aeruginosa* resistance to carbapenems, and it is also the most common efflux pump system in the efflux pump family.