**Table S2** The microbes with significant differences between PN and PP.

|  |  |  |  |
| --- | --- | --- | --- |
| Genera | PN | PP | p value |
| Mean(%) | SD | Mean(%) | SD |
| Bacteroides | 19.2800  | 5.8730  | 15.3300  | 7.0620  | 0.030  |
| Rikenellaceae\_RC9\_gut\_group | 6.5370  | 2.6160  | 9.8730  | 5.8790  | 0.022  |
| Desulfovibrio | 5.1190  | 3.7350  | 1.9360  | 2.4000  | 0.000  |
| Helicobacter | 2.7100  | 2.9500  | 1.7260  | 2.5840  | 0.048  |
| Faecalibacterium | 2.4930  | 1.9260  | 1.5080  | 1.1900  | 0.018  |
| Brachyspira | 1.3180  | 1.9420  | 2.6650  | 5.1090  | 0.040  |
| Phascolarctobacterium | 2.2710  | 1.1620  | 1.3270  | 0.8888  | 0.002  |
| Prevotellaceae\_UCG-001 | 1.6090  | 1.4930  | 1.0760  | 0.9290  | 0.041  |
| Megamonas | 1.7020  | 1.7560  | 0.6064  | 1.1350  | 0.000  |
| Synergistes | 1.0960  | 0.8324  | 0.7726  | 0.6648  | 0.047  |
| Sutterella | 0.3842  | 0.2062  | 0.3391  | 0.3680  | 0.015  |
| Colidextribacter | 0.3123  | 0.1629  | 0.1663  | 0.0916  | 0.000  |
| Negativibacillus | 0.2633  | 0.1002  | 0.2145  | 0.1427  | 0.035  |
| Oribacterium | 0.1762  | 0.0703  | 0.2996  | 0.1880  | 0.000  |
| Erysipelatoclostridium | 0.2878  | 0.2276  | 0.1806  | 0.1245  | 0.009  |
| Elusimicrobium | 0.2695  | 0.2645  | 0.1472  | 0.1798  | 0.018  |
| Parasutterella | 0.2338  | 0.0877  | 0.1786  | 0.1150  | 0.038  |
| Collinsella | 0.1261  | 0.0799  | 0.2481  | 0.2446  | 0.007  |
| norank\_f\_\_Eubacterium\_coprostanoligenes\_group | 0.2031  | 0.1026  | 0.1074  | 0.0860  | 0.000  |
| Oscillibacter | 0.1743  | 0.0704  | 0.1111  | 0.0556  | 0.001  |
| norank\_f\_\_norank\_o\_\_Rhodospirillales | 0.1313  | 0.0916  | 0.0656  | 0.0652  | 0.001  |
| Megasphaera | 0.1375  | 0.1445  | 0.0547  | 0.0915  | 0.009  |
| Eubacterium\_brachy\_group | 0.0537  | 0.0485  | 0.1234  | 0.1321  | 0.002  |
| Anaerosporobacter | 0.0085  | 0.0139  | 0.1492  | 0.3632  | 0.001  |
| unclassified\_f\_\_Barnesiellaceae | 0.1088  | 0.1033  | 0.0391  | 0.0499  | 0.000  |
| unclassified\_f\_\_Sutterellaceae | 0.0966  | 0.0578  | 0.0391  | 0.0316  | 0.000  |
| norank\_f\_\_norank\_o\_\_Gastranaerophilales | 0.0806  | 0.0725  | 0.0548  | 0.0662  | 0.039  |
| norank\_f\_\_Barnesiellaceae | 0.0626  | 0.0576  | 0.0412  | 0.0571  | 0.014  |
| Succinatimonas | 0.0760  | 0.0436  | 0.0195  | 0.0171  | 0.000  |
| Mailhella | 0.0657  | 0.0415  | 0.0215  | 0.0152  | 0.000  |
| unclassified\_f\_\_Succinivibrionaceae | 0.0598  | 0.2136  | 0.0196  | 0.0442  | 0.028  |
| Candidatus\_Arthromitus | 0.0663  | 0.1573  | 0.0024  | 0.0040  | 0.000  |
| Eubacterium\_nodatum\_group | 0.0198  | 0.0218  | 0.0471  | 0.0601  | 0.045  |
| unclassified\_c\_\_Gammaproteobacteria | 0.0540  | 0.1534  | 0.0064  | 0.0220  | 0.024  |
| unclassified\_c\_\_Bacteroidia | 0.0000  | 0.0000  | 0.0569  | 0.1164  | 0.000  |
| norank\_f\_\_Victivallaceae | 0.0271  | 0.0154  | 0.0199  | 0.0184  | 0.041  |
| Anaerobiospirillum | 0.0383  | 0.0642  | 0.0040  | 0.0064  | 0.003  |
| Tuzzerella | 0.0233  | 0.0167  | 0.0169  | 0.0171  | 0.048  |
| Lachnospiraceae\_UCG-002 | 0.0133  | 0.0083  | 0.0252  | 0.0214  | 0.036  |
| Bilophila | 0.0203  | 0.0153  | 0.0153  | 0.0255  | 0.025  |
| Solobacterium | 0.0066  | 0.0169  | 0.0249  | 0.0659  | 0.041  |
| Family\_XIII\_UCG-001 | 0.0145  | 0.0107  | 0.0088  | 0.0069  | 0.027  |
| unclassified\_f\_\_Desulfovibrionaceae | 0.0111  | 0.0088  | 0.0066  | 0.0049  | 0.048  |
| ASF356 | 0.0130  | 0.0318  | 0.0016  | 0.0039  | 0.013  |
| norank\_f\_\_Puniceicoccaceae | 0.0109  | 0.0143  | 0.0025  | 0.0028  | 0.000  |
| Rhodococcus | 0.0086  | 0.0100  | 0.0035  | 0.0046  | 0.010  |
| Intestinimonas | 0.0072  | 0.0061  | 0.0032  | 0.0047  | 0.000  |
| Ralstonia | 0.0075  | 0.0070  | 0.0018  | 0.0034  | 0.000  |
| unclassified\_o\_\_Erysipelotrichales | 0.0017  | 0.0022  | 0.0074  | 0.0368  | 0.005  |
| unclassified\_f\_\_Xanthobacteraceae | 0.0025  | 0.0058  | 0.0064  | 0.0075  | 0.005  |
| Anaerostipes | 0.0068  | 0.0157  | 0.0014  | 0.0032  | 0.008  |
| norank\_f\_\_Erysipelatoclostridiaceae | 0.0064  | 0.0104  | 0.0016  | 0.0026  | 0.009  |
| Hydrogenoanaerobacterium | 0.0035  | 0.0031  | 0.0020  | 0.0024  | 0.043  |
| Acinetobacter | 0.0031  | 0.0031  | 0.0019  | 0.0032  | 0.024  |
| Veillonella | 0.0003  | 0.0009  | 0.0032  | 0.0077  | 0.010  |
| unclassified\_o\_\_Rhodospirillales | 0.0025  | 0.0050  | 0.0005  | 0.0019  | 0.015  |
| Rikenella | 0.0017  | 0.0026  | 0.0007  | 0.0022  | 0.008  |
| Salmonella | 0.0003  | 0.0012  | 0.0016  | 0.0039  | 0.037  |
| Burkholderia-Caballeronia-Paraburkholderia | 0.0016  | 0.0024  | 0.0001  | 0.0004  | 0.000  |
| Prevotellaceae\_UCG-004 | 0.0002  | 0.0008  | 0.0014  | 0.0028  | 0.040  |
| unclassified\_c\_\_Negativicutes | 0.0013  | 0.0024  | 0.0002  | 0.0006  | 0.011  |
| Sphingomonas | 0.0010  | 0.0016  | 0.0001  | 0.0004  | 0.003  |
| Pseudomonas | 0.0005  | 0.0010  | 0.0001  | 0.0004  | 0.013  |
| Paracoccus | 0.0005  | 0.0012  | 0.0001  | 0.0004  | 0.029  |
| Brevundimonas | 0.0005  | 0.0009  | 0.0001  | 0.0004  | 0.016  |
| Nakamurella | 0.0003  | 0.0008  | 0.0000  | 0.0000  | 0.022  |
| Sediminibacterium | 0.0002  | 0.0006  | 0.0000  | 0.0000  | 0.042  |
| unclassified\_f\_\_Micrococcaceae | 0.0002  | 0.0005  | 0.0000  | 0.0000  | 0.042  |

Note: PN: S. Pullorum-negative group, PP: S. Pullorum-positive group, SD means standard deviation..