Supplementary Material

# Supplementary Tables

**Supplementary material Table S1 CAP analysis**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Reads \_level | groups | taxonomy | one\_Xylanase\_activity | one\_Cellulase\_activity | one\_Enzyme\_activity | two\_Xylanase\_activity | two\_Cellulase\_activity | two\_Enzyme\_activity | three\_Xylanase\_activity | three\_Cellulase\_activity | three\_Enzyme\_activity | chao1\_1 | chao1\_2 | shannon\_1 | shannon\_2 |
| A\_45 | E | A | Ach | high | high | high | high | high | high | high | high | high | low | low | low | no |
| A\_101 | low | A | Bac | M | M | M | no | no | no | less | less | less | low | low | M | M |
| A\_138 | low | A | Bac | high | high | high | high | high | high | high | high | high | high | high | M | low |
| A\_152 | low | A | Bac | high | high | high | high | high | high | high | high | high | M | low | M | M |
| A\_165 | low | A | Bac | M | M | M | no | no | no | less | less | less | high | high | M | low |
| A\_183 | low | A | Bac | M | M | M | no | no | no | less | less | less | low | low | low | no |
| A\_186 | low | A | Bac | high | high | high | high | high | high | high | high | high | low | low | low | no |
| A\_1 | low | A | Bac | M | M | M | no | no | no | less | less | less | low | low | low | no |
| A\_204 | low | A | Bac | M | M | M | no | no | no | less | less | less | high | high | M | low |
| A\_208 | E | A | Pse | M | M | M | no | no | no | less | less | less | midle | low | M | low |
| A\_44 | E | A | Bac | no | less | less | no | no | no | no | less | less | M | low | M | M |
| A\_51 | low | A | Bac | high | high | high | high | high | high | high | high | high | high | high | M | low |
| A\_67 | low | A | Bac | M | M | M | no | no | no | less | less | less | M | low | M | low |
| A\_68 | E | A | Bac | no | no | no | no | no | no | no | no | no | high | high | low | no |
| A\_79 | E | A | Bac | high | high | high | high | high | high | high | high | high | high | high | M | low |
| A\_92 | low | A | Bac | M | M | M | no | no | no | less | less | less | low | low | low | no |
| A\_98 | low | A | Bac | M | M | M | no | no | no | less | less | less | low | low | low | no |
| A\_181 | E | A | Ent | less | less | less | no | no | no | less | less | less | low | low | low | no |
| A\_188 | E | A | Ent | high | high | high | high | high | high | high | high | high | low | low | low | no |
| A\_189 | E | A | Ent | less | less | less | no | no | no | less | less | less | M | low | low | no |
| A\_38 | low | A | Chr | no | less | less | no | no | no | no | less | less | high | high | high | high |
| A\_39 | E | A | Ent | no | less | less | no | no | no | no | less | less | high | high | M | M |
| A\_4 | E | A | Ent | M | M | M | no | no | no | less | less | less | M | low | M | low |
| A\_129 | low | A | Lel | no | no | no | no | no | no | no | no | no | M | low | M | low |
| A\_77 | low | A | Pse | high | high | high | high | high | high | high | high | high | M | low | M | low |
| A\_97 | low | A | Pse | less | less | less | no | no | no | less | less | less | high | high | M | low |
| A\_112 | low | A | Aci | less | less | less | no | no | no | less | less | less | low | low | low | no |
| A\_114 | E | A | Rhi | less | less | less | no | no | no | less | less | less | M | low | M | low |
| A\_130 | E | A | Rhi | less | less | less | no | no | no | less | less | less | high | high | M | low |
| A\_120 | E | A | Pan | no | no | no | no | no | no | no | no | no | low | low | low | no |
| A\_104 | low | A | Pse | high | high | high | high | high | high | high | high | high | M | low | M | low |
| A\_117 | E | A | Ent | M | M | M | no | no | no | less | less | less | low | low | low | no |
| A\_99 | E | A | Ser | no | no | no | no | no | no | no | no | no | M | low | M | low |
| A\_52 | low | A | Sta | M | M | M | no | no | no | less | less | less | low | low | low | no |
| A\_72 | low | A | Sta | M | M | M | no | no | no | less | less | less | M | high | M | M |
| A\_26 | E | A | Ste | less | less | less | no | no | no | less | less | less | high | high | high | high |
| B\_133 | low | B | Bac | M | M | M | no | no | no | less | less | less | M | high | M | low |
| B\_139 | low | B | Bac | high | high | high | high | high | high | high | high | high | high | high | M | M |
| B\_14 | low | B | Bac | no | no | no | no | no | no | no | no | no | high | high | high | high |
| B\_27 | low | B | Bac | less | less | less | no | no | no | less | less | less | high | high | high | high |
| B\_36 | low | B | Bac | less | less | less | no | no | no | less | less | less | high | high | high | high |
| B\_43 | low | B | Bac | no | less | less | no | no | no | no | less | less | high | high | high | high |
| B\_64 | E | B | Bac | M | M | M | no | no | no | less | less | less | M | high | M | M |
| B\_71 | E | B | Bac | high | high | high | high | high | high | high | high | high | high | high | M | M |
| B\_95 | E | B | Bur | no | no | no | no | no | no | no | no | no | high | high | low | no |
| B\_113 | E | B | Ent | less | less | less | no | no | no | less | less | less | M | high | M | low |
| B\_15 | E | B | Ent | no | less | less | no | no | no | no | less | less | high | high | high | high |
| B\_17 | E | B | Ent | less | less | less | no | no | no | less | less | less | high | high | high | high |
| B\_22 | E | B | Ent | no | no | no | no | no | no | no | no | no | high | high | high | high |
| B\_29 | E | B | Ent | no | no | no | no | no | no | no | no | no | high | high | M | M |
| B\_2 | E | B | Ent | less | less | less | no | no | no | less | less | less | high | high | M | low |
| B\_33 | E | B | Ent | less | less | less | no | no | no | less | less | less | high | high | high | high |
| B\_159 | low | B | Lys | less | no | less | no | no | no | less | no | no | M | high | M | M |
| B\_61 | E | B | Pse | M | M | M | no | no | no | less | less | less | high | high | M | M |
| B\_34 | E | B | Rhi | less | less | less | no | no | no | less | less | less | high | high | M | M |

Reads \_level：According to the number of reads after mapping with the representative sequence, more than 1000 are dominant bacteria(E)；group：According to the diversity of strain Shannon, PCOA analysis was performed and divided into AB groups；one\_Xylanase\_activity，one\_Cellulase\_activity：In enzyme activity, + stands for less. ++ stands for M, +++ stands for high, - stands for no ；one\_Enzyme\_activity：add up one\_Xylanase\_activity and one\_Cellulase\_activity；two\_Xylanase\_activity，two\_Cellulase\_activity：In enzyme activity, +++ stands for high, the remaining stands for no ；two\_Enzyme\_activity：add up two\_Xylanase\_activity and two\_Cellulase\_activity；

three\_Xylanase\_activity，three\_Cellulase\_activity：In enzyme activity, +++ stands for high, ++ and + stands for less, - stands for no ；three\_Enzyme\_activity：add up three\_Xylanase\_activity and three\_Cellulase\_activity；chao1\_1: Chao1 index above 100 is high, 50-100 is M, and below 50 is low; chao1\_2: Chao1 index above 93 is high, below 93 is low; shannon\_1: Shannon index above 3 is high, 1-3 is M, 0-1 is low; shannon\_2: Shannon index above 3 is high, 2-3 is M, 1-2 is low, 0-1 is no

**Supplementary Material Table S2: Table of Diversity and Richness of 58 Samples**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| sample | shannon | chao1 | sample | shannon | chao1 |
| Ach\_45 | 0.906537552 | 26 | Ent\_15 | 3.288469 | 178.6 |
| Aci\_112 | 0.791458252 | 45.5 | Ent\_17 | 3.219776 | 104.1667 |
| Bac\_1 | 0.564784491 | 42 | Ent\_181 | 0.059125 | 22.25 |
| Bac\_101 | 2.500994855 | 36.5 | Ent\_188 | 0.059376 | 26.33333 |
| Bac\_133 | 1.718425107 | 97.8 | Ent\_189 | 0.249284 | 93 |
| Bac\_138 | 1.484670153 | 115 | Ent\_2 | 1.573757 | 118.1429 |
| Bac\_139 | 2.449862987 | 126.9 | Ent\_22 | 3.845641 | 181.3684 |
| Bac\_14 | 3.532055288 | 159.8824 | Ent\_29 | 2.76321 | 123.2 |
| Bac\_152 | 2.035523768 | 50.375 | Ent\_33 | 3.388117 | 123.0667 |
| Bac\_165 | 1.834983246 | 149.75 | Ent\_39 | 2.95722 | 105.9091 |
| Bac\_183 | 0.037071492 | 27 | Ent\_4 | 1.264406 | 78.2 |
| Bac\_186 | 0.092334537 | 15 | Lel\_129 | 1.126556 | 62 |
| Bac\_204 | 1.780315125 | 134.3333 | Lys\_159 | 2.270462 | 96.06667 |
| Bac\_27 | 3.903579669 | 164.0435 | Pan\_120 | 0.798812 | 39 |
| Bac\_36 | 3.279390948 | 109.5455 | Pse\_104 | 1.262886 | 89.5 |
| Bac\_43 | 3.361529381 | 167.75 | Pse\_208 | 1.538134 | 71 |
| Bac\_44 | 2.203184024 | 59 | Pse\_61 | 2.713853 | 113.2308 |
| Bac\_51 | 1.351726354 | 101.4286 | Pse\_77 | 1.803441 | 65.16667 |
| Bac\_64 | 2.689669675 | 99 | Pse\_97 | 1.753833 | 104.1579 |
| Bac\_67 | 1.663964738 | 76.33333 | Rhi\_114 | 1.211675 | 70.6 |
| Bac\_68 | 0.789347693 | 101 | Rhi\_130 | 1.666164 | 133.4286 |
| Bac\_71 | 2.480483033 | 127.5 | Rhi\_34 | 2.468932 | 127.2174 |
| Bac\_79 | 1.457265707 | 107.1111 | Ser\_99 | 1.84451 | 88.3 |
| Bac\_92 | 0.083425226 | 21 | Sta\_52 | 0.286375 | 43.75 |
| Bac\_98 | 0.68117637 | 47 | Sta\_72 | 2.25975 | 94.6 |
| Bur\_95 | 0.909170415 | 101.3636 | Ste\_26 | 3.584415 | 135.625 |
| Chr\_38 | 3.910094916 | 211.1714 | WS8\_1 | 3.401877 | 97.2 |
| Ent\_113 | 1.448145978 | 93.17647 | WS8\_2 | 3.470694 | 79.66667 |
| Ent\_117 | 0.900669161 | 38.66667 | WS8\_3 | 3.545902 | 101.5714 |