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| Title                       | The composition of human milk and infant faecal microbiota over the first three months of life: a pilot study                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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**University College Cork, Ireland**  
Coláiste na hOllscoile Corcaigh

## **SUPPLEMENTARY INFORMATION**

### **The Composition of Human Milk and Infant Faecal Microbiota Over the First Three Months of Life: A Pilot Study**

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**Supplementary Table S1: Relative abundance (%) of the core microbiota at genus level and remaining taxa for each mother, M1 – M10, at week 1, 3, 6 and 12.**

\* = Sample not collected.

|                             | <b>M1-W1</b> | <b>M1-W3*</b> | <b>M1-W6</b> | <b>M1-W12</b> |
|-----------------------------|--------------|---------------|--------------|---------------|
| <b>Core</b>                 | <b>68.52</b> |               | <b>78.41</b> | <b>67.25</b>  |
| <i>Telmatobacter</i>        |              |               |              | 0.37          |
| <i>Iamia</i>                |              |               |              | 0.26          |
| <i>Actinomyces</i>          |              |               |              | 0.08          |
| <i>Atopobium</i>            |              |               |              | 0.14          |
| <i>Mycobacterium</i>        |              |               |              | 0.33          |
| <i>Humicoccus</i>           |              |               |              | 0.14          |
| <i>Brevibacterium</i>       |              |               |              | 0.02          |
| <i>Dermacoccus</i>          |              |               |              | 0.13          |
| <i>Rhodoluna</i>            | 0.20         |               |              |               |
| <i>Microbacterium</i>       | 0.58         |               |              | 0.17          |
| <i>Kocuria</i>              | 0.52         |               |              | 0.01          |
| <i>Nesterenkonia</i>        | 1.85         |               |              |               |
| <i>Bacteroides</i>          | 0.55         |               |              |               |
| <i>Cloacibacterium</i>      | 0.07         |               | 0.11         |               |
| <i>Corynebacterium</i>      |              |               | 0.18         |               |
| <i>Rhodococcus</i>          |              |               | 0.06         |               |
| <i>Micrococcus</i>          |              |               |              | 0.31          |
| <i>Nocardioides</i>         |              |               |              | 0.16          |
| <i>Propionibacterium</i>    |              |               | 0.03         | 0.66          |
| Chitinophagaceae uncultured |              |               |              | 0.29          |
| <i>Pseudonocardia</i>       |              |               |              | 0.13          |
| <i>Patulibacter</i>         |              |               |              | 0.53          |
| <i>Prevotella</i>           |              |               |              | 0.19          |
| <i>Alistipes</i>            |              |               |              | 0.07          |
| <i>Chryseobacterium</i>     |              |               |              | 3.58          |
| <i>Pedobacter</i>           | 0.13         |               | 0.50         | 2.15          |

|                                    |      |  |      |      |
|------------------------------------|------|--|------|------|
| <i>Sphingobacterium</i>            | 0.07 |  |      |      |
| Candidate division OD1 uncultured  | 2.12 |  | 1.53 | 1.35 |
| Candidate division OP11 uncultured |      |  | 0.33 | 0.19 |
| Candidate division TM7 uncultured  | 0.19 |  | 0.35 | 0.15 |
| <i>Bacillus</i>                    | 3.43 |  |      |      |
| Anaerolineaceae uncultured         |      |  | 0.10 |      |
| Chloroflexi uncultured             |      |  | 0.77 | 0.05 |
| Cyanobacteria uncultured           |      |  | 1.22 | 0.58 |
| Fibrobacteraceae uncultured        |      |  |      | 0.23 |
| <i>Anoxybacillus</i>               |      |  | 0.57 | 0.39 |
| <i>Gemella</i>                     | 0.05 |  |      |      |
| <i>Aerococcus</i>                  | 1.81 |  |      |      |
| <i>Exiguobacterium</i>             |      |  |      | 0.37 |
| <i>Planomicrobium</i>              |      |  |      | 0.02 |
| <i>Leuconostoc</i>                 |      |  |      | 0.26 |
| <i>Granulicatella</i>              | 0.09 |  |      |      |
| <i>Lactococcus</i>                 | 0.40 |  | 0.11 | 0.08 |
| <i>Anaerococcus</i>                |      |  |      | 0.37 |
| <i>Finegoldia</i>                  |      |  |      | 1.65 |
| <i>Helcococcus</i>                 |      |  |      | 0.02 |
| <i>Peptoniphilus</i>               |      |  |      | 0.52 |
| <i>Anaerostipes</i>                |      |  |      | 0.65 |
| <i>Coprococcus</i>                 |      |  |      | 0.66 |
| Lachnospiraceae Incertae Sedis     |      |  |      | 1.00 |
| Lachnospiraceae uncultured         | 0.24 |  |      | 1.08 |
| <i>Roseburia</i>                   |      |  | 0.66 |      |
| <i>Fastidiosipila</i>              |      |  |      | 0.14 |
| <i>Dialister</i>                   |      |  |      | 0.37 |
| <i>Veillonella</i>                 | 3.72 |  | 0.01 | 0.01 |
| <i>Fusobacterium</i>               | 1.01 |  |      |      |
| Erysipelotrichaceae Incertae Sedis |      |  | 0.48 | 2.16 |
| <i>Devosia</i>                     |      |  | 1.20 |      |
| <i>Aminobacter</i>                 |      |  | 0.01 |      |
| <i>Ochrobactrum</i>                | 0.82 |  | 0.01 |      |
| <i>Phyllobacterium</i>             |      |  | 0.53 |      |
| Phyllobacteriaceae uncultured      |      |  | 0.29 |      |
| <i>Leptotrichia/Sneathia</i>       |      |  |      | 0.30 |
| <i>Rhizobium</i>                   |      |  | 2.49 | 2.79 |
| <i>Paracoccus</i>                  |      |  | 0.60 |      |
| <i>Methylobacterium</i>            | 0.17 |  |      |      |
| Rhodospirillaceae uncultured       |      |  |      | 0.57 |
| <i>Sphingomonas</i>                | 0.33 |  |      | 1.16 |
| <i>Achromobacter</i>               | 1.84 |  | 3.01 | 0.41 |
| <i>Ralstonia</i>                   | 0.01 |  | 3.22 | 0.88 |
| <i>Acidovorax</i>                  | 4.13 |  | 0.32 | 0.52 |
| <i>Aquabacterium</i>               | 0.09 |  |      |      |
| <i>Curvibacter</i>                 |      |  | 0.74 | 0.22 |
| <i>Limnohabitans</i>               | 0.01 |  | 0.01 | 0.14 |
| <i>Massilia</i>                    | 2.28 |  |      |      |
| <i>Pseudorhodofex</i>              |      |  |      | 0.18 |

|                             |      |  |      |      |
|-----------------------------|------|--|------|------|
| Comamonadaceae uncultured   |      |  | 0.19 | 0.07 |
| <i>Undibacterium</i>        | 0.39 |  | 0.07 |      |
| Methylophilaceae uncultured | 0.02 |  |      |      |
| <i>Nitrosococcus</i>        |      |  | 0.83 |      |
| <i>Bilophila</i>            |      |  |      | 0.28 |
| 0319-6G20 uncultured        |      |  |      | 0.17 |
| <i>Shewanella</i>           |      |  |      | 0.16 |
| <i>Citrobacter</i>          | 0.21 |  | 0.13 | 0.17 |
| <i>Erwinia</i>              |      |  | 0.01 |      |
| <i>Escherichia-Shigella</i> |      |  |      | 0.16 |
| <i>Haemophilus</i>          |      |  | 0.17 | 0.06 |
| <i>Acinetobacter</i>        | 0.63 |  | 0.41 | 0.31 |
| <i>Pseudoxanthomonas</i>    | 1.87 |  |      |      |
| <i>Chthoniobacter</i>       | 0.12 |  |      |      |
| <i>Enhydrobacter</i>        |      |  |      | 0.24 |
| <i>Akkermansia</i>          |      |  |      | 0.26 |

|                                      | M2-W1        | M2-W3        | M2-W6        | M2-W12       |
|--------------------------------------|--------------|--------------|--------------|--------------|
| <b>Core</b>                          | <b>85.06</b> | <b>81.10</b> | <b>83.93</b> | <b>50.02</b> |
| <i>Corynebacterium</i>               | 0.09         |              | 0.12         |              |
| <i>Leifsonia</i>                     | 0.15         |              |              |              |
| <i>Bryobacter</i>                    |              |              |              | 0.10         |
| <i>Iamia</i>                         |              |              |              | 0.25         |
| <i>Actinomyces</i>                   |              |              |              | 0.16         |
| <i>Microbacterium</i>                | 0.51         |              |              | 0.04         |
| <i>Micrococcus</i>                   |              |              |              | 0.30         |
| <i>Sphingobacterium</i>              | 0.01         |              |              |              |
| <i>Rothia</i>                        |              |              |              | 0.32         |
| <i>Propionibacterium</i>             |              | 0.31         |              | 0.23         |
| <i>Yaniella</i>                      |              |              | 0.03         |              |
| <i>Prevotella</i>                    |              |              |              | 0.13         |
| <i>Chryseobacterium</i>              |              |              |              | 1.13         |
| <i>Pedobacter</i>                    |              |              | 2.65         | 0.56         |
| Candidate division OD1 uncultured    | 0.98         | 1.44         | 2.49         | 1.34         |
| Candidate division OP11 uncultured   |              |              |              | 0.31         |
| Cyanobacteria uncultured             | 0.04         |              |              |              |
| <i>Gemella</i>                       |              |              |              |              |
| Cyanobacteria uncultured             |              |              |              | 0.49         |
| <i>Anoxybacillus</i>                 |              | 0.10         |              | 0.14         |
| <i>Enterococcus</i>                  | 1.96         | 3.28         |              |              |
| <i>Blautia</i>                       |              | 0.10         |              |              |
| <i>Coproccoccus</i>                  |              |              | 0.09         |              |
| <i>Abiotrophia</i>                   |              |              |              | 0.05         |
| <i>Facklamia</i>                     |              |              |              | 0.55         |
| <i>Granulicatella</i>                |              |              |              | 0.30         |
| Lachnospiraceae Incertae Sedis       | 1.41         | 0.95         | 0.08         | 0.01         |
| Lachnospiraceae uncultured           |              | 0.21         |              | 0.47         |
| Peptostreptococcaceae Incertae Sedis | 0.56         |              |              |              |

|                                    |      |      |      |       |
|------------------------------------|------|------|------|-------|
| <i>Ruminococcus</i>                |      | 1.39 |      |       |
| Erysipelotrichaceae Incertae Sedis | 0.13 | 0.40 |      |       |
| <i>Selenomonas</i>                 |      |      |      | 0.10  |
| <i>Veillonella</i>                 |      |      |      | 1.46  |
| <i>Fusobacterium</i>               |      |      |      | 0.01  |
| <i>Leptotrichia/Sneathia</i>       |      |      |      | 0.09  |
| <i>Ochrobactrum</i>                | 0.01 | 0.01 |      | 0.27  |
| <i>Bosea</i>                       |      |      | 0.05 |       |
| <i>Devosia</i>                     | 0.02 |      | 0.01 | 0.47  |
| <i>Methylobacterium</i>            |      |      |      |       |
| <i>Phyllobacterium</i>             | 1.76 | 1.99 |      | 0.90  |
| Phyllobacteriaceae uncultured      |      | 0.10 |      |       |
| <i>Rhizobium</i>                   | 0.65 | 2.24 | 3.19 | 2.38  |
| <i>Paracoccus</i>                  |      |      |      | 0.02  |
| <i>Sphingobium</i>                 |      |      |      | 1.27  |
| <i>Sphingomonas</i>                | 0.79 |      | 0.08 | 0.34  |
| <i>Ralstonia</i>                   |      | 0.43 | 1.59 | 1.40  |
| <i>Achromobacter</i>               | 0.17 | 0.74 |      | 1.23  |
| <i>Burkholderia</i>                | 0.01 |      |      | 0.13  |
| <i>Acidovorax</i>                  | 0.14 | 0.47 | 0.34 |       |
| <i>Curvibacter</i>                 |      |      |      | 0.04  |
| <i>Limnohabitans</i>               | 0.02 | 0.82 | 1.27 | 0.60  |
| <i>Pelomonas</i>                   |      | 0.09 |      |       |
| <i>Polaromonas</i>                 |      |      |      | 0.10  |
| <i>Pseudorhodofex</i>              |      | 0.02 | 0.04 | 0.02  |
| Comamonadaceae uncultured          |      | 0.01 | 0.01 | 0.09  |
| <i>Massilia</i>                    |      | 1.67 |      |       |
| <i>Undibacterium</i>               | 0.17 | 0.10 | 0.74 |       |
| <i>Neisseria</i>                   |      |      |      | 0.72  |
| <i>Citrobacter</i>                 | 0.04 | 0.30 | 0.20 | 0.08  |
| <i>Escherichia-Shigella</i>        | 0.01 | 0.06 | 2.58 |       |
| <i>Actinobacillus</i>              |      |      |      | 0.11  |
| <i>Haemophilus</i>                 |      |      |      | 0.10  |
| <i>Acinetobacter</i>               |      | 0.03 |      | 31.70 |
| <i>Akkermansia</i>                 |      |      | 0.38 |       |

|                          | M3-W1        | M3-W3        | M3-W6        | M3-W12       |
|--------------------------|--------------|--------------|--------------|--------------|
| <b>Core</b>              | <b>64.54</b> | <b>90.17</b> | <b>60.97</b> | <b>80.62</b> |
| <i>Gardnerella</i>       | 0.01         | 0.03         |              |              |
| <i>Corynebacterium</i>   |              | 0.06         |              |              |
| <i>Yaniella</i>          |              | 0.10         |              |              |
| <i>Marmoricola</i>       |              | 0.01         |              |              |
| <i>Blastococcus</i>      |              |              | 0.58         |              |
| <i>Agrococcus</i>        |              |              | 0.09         |              |
| <i>Leifsonia</i>         |              |              | 0.16         |              |
| <i>Rhodococcus</i>       |              |              |              | 1.12         |
| <i>Microbacterium</i>    |              |              | 0.20         | 0.08         |
| <i>Propionibacterium</i> | 0.02         | 0.06         | 0.63         |              |
| <i>Bacteroides</i>       | 4.50         |              | 1.00         |              |

|                                           |      |      |      |      |
|-------------------------------------------|------|------|------|------|
| <i>Mucilaginibacter</i>                   | 2.56 |      |      |      |
| <i>Chryseobacterium</i>                   |      |      |      | 3.36 |
| <i>Cloacibacterium</i>                    |      | 0.23 |      |      |
| <i>Prevotella</i>                         |      |      | 1.30 |      |
| env.OPS 17 uncultured                     |      |      | 1.07 |      |
| <i>Pedobacter</i>                         | 3.95 | 0.48 | 3.12 | 1.36 |
| Candidate division OD1 uncultured         | 1.89 | 0.04 | 1.50 | 1.66 |
| <i>Candidate division OP11</i> uncultured |      |      | 0.84 |      |
| Candidate division TM7 uncultured         | 0.26 |      | 0.65 |      |
| Chloroflexi uncultured                    | 0.31 | 0.01 | 0.78 |      |
| Cyanobacteria uncultured                  | 1.50 |      | 0.64 | 0.16 |
| <i>Bacillus</i>                           | 1.27 |      | 1.19 |      |
| <i>Anoxybacillus</i>                      |      | 0.35 |      |      |
| <i>Gemella</i>                            |      | 2.16 |      | 0.53 |
| <i>Alkalibacterium</i>                    |      | 0.12 |      |      |
| <i>Granulicatella</i>                     |      | 0.03 |      |      |
| <i>Planomicrobium</i>                     |      |      | 2.00 | 0.01 |
| <i>Carnobacterium</i>                     |      |      | 0.28 |      |
| <i>Enterococcus</i>                       |      | 0.12 | 0.71 |      |
| <i>Blautia</i>                            |      | 0.01 | 0.52 |      |
| Lachnospiraceae Incertae Sedis            | 0.01 | 0.03 | 1.25 | 2.25 |
| Lachnospiraceae uncultured                |      |      | 0.01 | 0.03 |
| Peptostreptococcaceae Incertae Sedis      |      |      | 0.25 |      |
| Peptostreptococcaceae uncultured          |      |      | 0.05 |      |
| <i>Faecalibacterium</i>                   | 2.61 |      | 1.39 |      |
| <i>Subdoligranulum</i>                    | 4.12 |      | 0.03 |      |
| Ruminococcaceae uncultured                | 3.93 |      | 0.02 |      |
| <i>Phyllobacterium</i>                    | 0.10 | 0.15 |      |      |
| <i>Veillonella</i>                        |      | 1.48 |      |      |
| Erysipelotrichaceae Incertae Sedis        |      | 0.07 | 0.53 |      |
| <i>Gemmatimonas</i>                       |      | 0.01 | 0.28 | 0.26 |
| <i>Rhizobium</i>                          | 1.55 | 0.23 |      |      |
| Rhodospirillaceae uncultured              | 1.19 |      |      |      |
| Planctomycetaceae uncultured              |      |      | 0.88 |      |
| <i>Devosia</i>                            |      |      | 0.26 | 0.30 |
| <i>Methylobacterium</i>                   |      |      | 0.67 | 0.65 |
| <i>Geminicoccus</i>                       |      |      | 0.48 |      |
| Erythrobacteraceae uncultured             |      |      | 0.75 |      |
| <i>Rhizobium</i>                          |      |      | 3.13 | 2.18 |
| <i>Sphingobium</i>                        |      |      | 0.30 | 0.01 |
| <i>Sphingomonas</i>                       |      |      | 0.75 |      |
| <i>Sphingopyxis</i>                       |      |      | 0.46 |      |
| <i>Paracoccus</i>                         |      | 0.06 | 2.46 |      |
| <i>Achromobacter</i>                      |      | 0.03 | 1.41 | 2.57 |
| <i>Ralstonia</i>                          | 1.15 | 0.31 | 1.84 | 3.10 |
| <i>Acidovorax</i>                         |      | 0.01 |      |      |
| <i>Limnohabitans</i>                      | 0.02 |      | 0.19 | 0.83 |
| <i>Pseudorhodofex</i>                     |      |      |      | 0.06 |
| Comamonadaceae uncultured                 | 0.04 |      |      | 0.36 |
| <i>Collimonas</i>                         |      |      |      | 0.79 |

|                             |      |      |      |      |
|-----------------------------|------|------|------|------|
| <i>Massilia</i>             |      |      |      |      |
| <i>Undibacterium</i>        | 2.55 |      |      | 0.18 |
| <i>Polaromonas</i>          |      | 0.01 | 0.37 |      |
| Comamonadaceae uncultured   |      |      | 0.04 |      |
| <i>Aquaspirillum</i>        |      | 0.01 |      |      |
| <i>Neisseria</i>            |      | 0.13 |      |      |
| <i>Bdellovibrio</i>         | 0.05 | 0.01 | 0.02 |      |
| <i>Bilophila</i>            |      |      | 1.42 |      |
| <i>Azovibrio</i>            |      |      |      | 0.33 |
| <i>Syntrophorhabdus</i>     |      |      |      | 0.21 |
| <i>Citrobacter</i>          | 0.07 | 1.55 | 0.16 | 0.10 |
| <i>Serratia</i>             |      |      | 0.01 |      |
| <i>Aquicella</i>            |      |      | 0.35 |      |
| <i>Escherichia-Shigella</i> | 0.01 | 0.06 |      |      |
| <i>Piscirickettsia</i>      | 0.36 |      |      |      |
| <i>Pseudofulvimonas</i>     | 0.06 |      |      |      |
| <i>Acinetobacter</i>        |      | 0.67 | 0.37 |      |
| <i>Lysobacter</i>           |      |      | 0.44 |      |

|                                   | <b>M4-W1</b> | <b>M4-W3</b> | <b>M4-W6</b> | <b>M4-W12</b> |
|-----------------------------------|--------------|--------------|--------------|---------------|
| <b>Core</b>                       | <b>82.89</b> | <b>78.72</b> | <b>87.75</b> | <b>74.24</b>  |
| <i>Corynebacterium</i>            | 1.01         |              |              |               |
| <i>Mycobacterium</i>              | 0.07         |              |              |               |
| <i>Actinomyces</i>                |              |              | 0.01         | 0.12          |
| <i>Atopobium</i>                  |              |              | 0.20         |               |
| <i>Rhodococcus</i>                |              |              | 0.24         |               |
| <i>Collinsella</i>                |              |              |              | 0.04          |
| <i>Leucobacter</i>                |              |              |              | 0.38          |
| <i>Microbacterium</i>             | 0.01         | 0.01         | 0.45         | 0.10          |
| Chitinophagaceae uncultured       | 0.99         |              |              |               |
| <i>Rothia</i>                     |              |              |              | 0.65          |
| <i>Yaniella</i>                   |              |              |              | 0.37          |
| <i>Propionibacterium</i>          |              |              | 0.13         | 0.43          |
| <i>Solirubrobacter</i>            |              |              |              | 0.10          |
| <i>Alistipes</i>                  |              |              |              | 0.09          |
| S24-7 uncultured                  |              |              |              | 0.49          |
| <i>Capnocytophaga</i>             |              |              |              | 0.57          |
| <i>Chryseobacterium</i>           |              |              |              | 1.84          |
| <i>Wautersiella</i>               |              |              |              | 0.12          |
| <i>Pedobacter</i>                 | 0.98         | 0.08         | 0.03         | 1.16          |
| <i>Sphingobacterium</i>           | 0.17         |              |              | 0.01          |
| Candidate division OD1 uncultured | 0.28         | 0.11         | 1.07         | 1.50          |
| Candidate division TM7 uncultured | 0.03         |              |              |               |
| Chloroflexi uncultured            |              |              |              | 0.17          |
| Cyanobacteria uncultured          | 0.36         |              | 0.16         |               |
| <i>Anoxybacillus</i>              |              |              |              | 0.86          |
| <i>Gemella</i>                    | 3.50         | 0.48         | 1.15         | 0.06          |
| <i>Trichococcus</i>               | 0.04         |              |              |               |

|                                      |      |       |      |      |
|--------------------------------------|------|-------|------|------|
| <i>Enterococcus</i>                  | 0.58 |       | 0.12 | 0.12 |
| <i>Anaerostipes</i>                  |      |       |      | 0.15 |
| <i>Coproccoccus</i>                  |      |       |      | 0.87 |
| Lachnospiraceae Incertae Sedis       |      |       | 0.33 | 2.78 |
| Lachnospiraceae uncultured           | 0.24 |       | 0.48 | 0.77 |
| Peptostreptococcaceae Incertae Sedis | 0.17 |       |      |      |
| <i>Selenomonas</i>                   |      |       |      | 0.59 |
| <i>Veillonella</i>                   | 0.13 | 0.52  | 1.84 | 4.03 |
| Erysipelotrichaceae Incertae Sedis   | 0.13 |       |      | 0.14 |
| <i>Ochrobactrum</i>                  | 1.04 |       |      |      |
| <i>Devosia</i>                       | 0.01 |       |      |      |
| <i>Methylobacterium</i>              | 0.01 |       |      |      |
| <i>Phyllobacterium</i>               | 0.08 |       |      |      |
| Phyllobacteriaceae uncultured        | 0.47 |       |      |      |
| Planctomycetaceae uncultured         |      |       | 0.48 |      |
| <i>Gemmatimonas</i>                  |      |       |      | 0.09 |
| <i>Rhodopseudomonas</i>              |      |       |      | 0.28 |
| <i>Rhizobium</i>                     | 0.69 | 0.04  | 0.55 | 0.77 |
| <i>Paracoccus</i>                    | 0.09 |       |      | 1.05 |
| <i>Sphingobium</i>                   |      | 0.11  |      |      |
| <i>Sphingomonas</i>                  |      |       |      | 0.22 |
| <i>Achromobacter</i>                 | 0.64 | 0.04  | 0.01 | 1.31 |
| <i>Ralstonia</i>                     | 1.32 | 0.11  | 0.90 | 0.97 |
| <i>Acidovorax</i>                    |      | 0.08  | 0.21 | 0.68 |
| <i>Comamonas</i>                     |      |       |      | 0.11 |
| <i>Limnohabitans</i>                 | 0.01 |       | 0.32 | 0.61 |
| <i>Pseudorhodoferax</i>              |      |       |      | 0.03 |
| Comamonadaceae uncultured            | 0.01 |       | 0.27 | 0.09 |
| <i>Undibacterium</i>                 | 0.01 |       | 0.52 | 0.06 |
| Methylophilaceae uncultured          |      | 0.12  | 0.61 |      |
| <i>Azospira</i>                      |      |       | 0.65 |      |
| Sandaracinaceae uncultured           |      |       |      | 0.21 |
| <i>Shewanella</i>                    |      |       |      | 0.32 |
| <i>Citrobacter</i>                   | 1.25 | 0.76  | 0.09 | 0.07 |
| <i>Erwinia</i>                       |      | 0.05  | 0.74 |      |
| <i>Escherichia-Shigella</i>          | 0.16 |       | 0.01 | 0.40 |
| <i>Haemophilus</i>                   | 0.01 |       |      |      |
| <i>Acinetobacter</i>                 | 0.01 | 18.64 | 0.50 | 1.06 |
| <i>Enhydrobacter</i>                 |      |       | 0.02 |      |

|                        | M5-W1        | M5-W3        | M5-W6* | M5-W12       |
|------------------------|--------------|--------------|--------|--------------|
| <b>Core</b>            | <b>85.66</b> | <b>73.43</b> |        | <b>73.80</b> |
| <i>Corynebacterium</i> | 0.01         |              |        |              |
| <i>Rhodococcus</i>     | 0.19         |              |        |              |
| <i>Leifsonia</i>       | 0.03         |              |        |              |
| <i>Atopobium</i>       |              | 0.11         |        |              |
| <i>Leucobacter</i>     |              | 0.12         |        |              |

|                                    |      |       |  |      |
|------------------------------------|------|-------|--|------|
| <i>Microbacterium</i>              |      | 0.04  |  | 0.11 |
| <i>Yaniella</i>                    |      | 0.27  |  |      |
| <i>Propionibacterium</i>           | 0.03 | 0.07  |  |      |
| <i>Bergeyella</i>                  |      | 0.22  |  |      |
| <i>Kocuria</i>                     |      |       |  | 0.64 |
| <i>Chryseobacterium</i>            |      |       |  | 3.36 |
| <i>Pedobacter</i>                  | 0.22 | 0.75  |  | 4.86 |
| Candidate division OD1 uncultured  | 2.63 | 0.07  |  | 0.31 |
| <i>Chloroflexi</i> uncultured      |      | 0.05  |  |      |
| Cyanobacteria uncultured           | 0.46 |       |  | 0.11 |
| <i>Anoxybacillus</i>               |      | 0.13  |  | 0.53 |
| <i>Gemella</i>                     | 1.75 | 3.32  |  |      |
| <i>Granulicatella</i>              | 0.22 | 1.24  |  |      |
| <i>Enterococcus</i>                | 0.03 | 0.20  |  |      |
| <i>Bacillus</i>                    |      |       |  | 2.57 |
| Lachnospiraceae Incertae Sedis     | 0.44 | 0.12  |  | 1.00 |
| Lachnospiraceae uncultured         | 0.24 | 0.04  |  |      |
| <i>Veillonella</i>                 | 0.72 | 13.54 |  | 0.01 |
| Erysipelotrichaceae Incertae Sedis | 0.01 | 0.06  |  |      |
| <i>Gemmatimonas</i>                |      | 1.06  |  |      |
| <i>Ochrobactrum</i>                | 0.18 | 0.12  |  | 0.05 |
| <i>Devosia</i>                     | 0.06 |       |  | 0.61 |
| <i>Phyllobacterium</i>             |      |       |  | 1.65 |
| Phyllobacteriaceae uncultured      | 0.01 |       |  |      |
| <i>Methylobacterium</i>            |      | 0.33  |  |      |
| <i>Albibacter</i>                  |      | 0.06  |  |      |
| <i>Rhizobium</i>                   | 0.60 | 0.45  |  | 2.27 |
| Rhodospirillaceae uncultured       | 0.57 |       |  | 0.36 |
| <i>Paracoccus</i>                  |      | 0.03  |  |      |
| <i>Novosphingobium</i>             |      | 0.12  |  |      |
| <i>Achromobacter</i>               | 0.01 | 0.19  |  | 0.26 |
| <i>Ralstonia</i>                   | 0.88 | 0.27  |  | 2.73 |
| <i>Acidovorax</i>                  | 2.01 | 0.01  |  | 1.88 |
| <i>Delftia</i>                     | 0.01 |       |  |      |
| <i>Curvibacter</i>                 |      | 0.01  |  |      |
| <i>Limnohabitans</i>               | 0.02 | 0.03  |  | 0.01 |
| <i>Pelomonas</i>                   |      | 0.05  |  |      |
| Comamonadaceae uncultured          | 0.04 | 0.04  |  | 0.19 |
| <i>Undibacterium</i>               |      |       |  | 0.34 |
| <i>Neisseria</i>                   |      | 0.11  |  | 0.16 |
| <i>Bilophila</i>                   |      |       |  | 0.19 |
| <i>Citrobacter</i>                 | 0.13 | 0.03  |  | 0.41 |
| <i>Escherichia-Shigella</i>        | 0.01 | 0.13  |  | 0.01 |
| <i>Haemophilus</i>                 | 0.18 | 0.79  |  | 0.01 |
| <i>Piscirickettsia</i>             |      |       |  | 0.25 |
| <i>Acinetobacter</i>               | 0.58 |       |  |      |

|  |       |       |       |        |
|--|-------|-------|-------|--------|
|  | M6-W1 | M6-W3 | M6-W6 | M6-W12 |
|--|-------|-------|-------|--------|

| <b>Core</b>                        | <b>83.05</b> | <b>84.97</b> | <b>79.89</b> | <b>74.05</b> |
|------------------------------------|--------------|--------------|--------------|--------------|
| <i>Chloracidobacterium</i>         | 0.07         |              |              |              |
| <i>Actinomyces</i>                 | 0.01         |              |              |              |
| <i>Rhodococcus</i>                 | 0.02         |              |              |              |
| <i>Kocuria</i>                     | 0.31         |              |              |              |
| <i>Leifsonia</i>                   |              | 0.01         |              |              |
| <i>Microbacterium</i>              |              | 0.09         |              |              |
| <i>Rothia</i>                      |              | 0.05         |              |              |
| <i>Microthrix</i>                  |              |              |              | 0.20         |
| <i>Yaniella</i>                    |              |              |              | 0.53         |
| <i>Propionibacterium</i>           | 0.02         | 0.02         |              | 0.01         |
| <i>Bacteroides</i>                 | 0.02         |              |              |              |
| Rikenellaceae uncultured           |              |              |              | 0.04         |
| <i>Chryseobacterium</i>            |              |              |              | 2.95         |
| <i>Leifsonia</i>                   |              |              | 0.14         |              |
| <i>Pedobacter</i>                  | 0.60         | 0.46         | 1.77         | 2.01         |
| Candidate division OD1 uncultured  | 0.08         | 0.31         | 3.40         | 3.35         |
| Candidate division TM7 uncultured  |              |              | 0.02         | 1.67         |
| Cyanobacteria uncultured           | 0.01         | 0.01         |              | 0.26         |
| <i>Anoxybacillus</i>               | 0.87         |              | 0.39         | 2.39         |
| <i>Gemella</i>                     | 1.45         | 9.00         | 0.01         |              |
| <i>Granulicatella</i>              | 0.01         |              |              |              |
| <i>Enterococcus</i>                | 0.03         | 0.40         | 0.06         |              |
| Lachnospiraceae Incertae Sedis     | 0.37         | 0.12         |              | 1.12         |
| Lachnospiraceae uncultured         |              | 0.04         | 0.15         | 0.23         |
| <i>Roseburia</i>                   | 0.12         |              |              |              |
| <i>Veillonella</i>                 | 1.61         | 0.52         | 0.01         | 0.01         |
| <i>Gemmatimonas</i>                | 0.01         |              |              |              |
| <i>Caulobacter</i>                 | 0.09         |              |              |              |
| <i>Devosia</i>                     | 0.01         | 0.26         | 1.23         |              |
| <i>Methylobacterium</i>            | 0.01         | 0.21         |              |              |
| <i>Aminobacter</i>                 | 0.74         |              |              |              |
| Erysipelotrichaceae Incertae Sedis |              |              |              | 0.08         |
| <i>Ochrobactrum</i>                |              |              |              | 0.53         |
| <i>Phyllobacterium</i>             |              | 0.26         | 0.43         | 0.01         |
| Phyllobacteriaceae uncultured      | 0.10         | 0.08         |              |              |
| <i>Rhizobium</i>                   | 0.14         | 0.39         | 1.68         | 3.80         |
| <i>Paracoccus</i>                  | 0.13         |              | 2.79         |              |
| Rhodospirillaceae uncultured       | 0.17         |              |              |              |
| <i>Achromobacter</i>               | 0.14         | 0.65         | 4.31         | 1.06         |
| <i>Ralstonia</i>                   | 0.90         | 0.12         | 2.38         | 0.50         |
| <i>Acidovorax</i>                  | 0.01         | 0.04         | 0.01         | 0.82         |
| <i>Curvibacter</i>                 | 0.34         |              |              | 0.14         |
| <i>Delftia</i>                     | 0.01         |              |              | 0.01         |
| <i>Limnohabitans</i>               | 0.03         |              | 0.02         | 0.14         |
| <i>Schlegelella</i>                |              |              | 0.37         |              |
| Comamonadaceae uncultured          | 0.07         |              | 0.15         |              |
| <i>Massilia</i>                    | 0.01         |              |              |              |
| <i>Pseudorhodoferrax</i>           |              | 0.26         |              | 0.01         |

|                             |      |      |      |      |
|-----------------------------|------|------|------|------|
| <i>Bdellovibrio</i>         |      |      | 0.59 |      |
| <i>Massilia</i>             |      |      |      | 0.25 |
| <i>Citrobacter</i>          | 0.04 | 0.01 | 0.12 | 0.17 |
| <i>Erwinia</i>              |      |      |      | 0.01 |
| <i>Escherichia-Shigella</i> | 0.02 |      |      | 0.14 |
| <i>Haemophilus</i>          | 0.48 | 0.62 |      |      |
| <i>Silanimonas</i>          |      |      |      | 0.55 |
| <i>Lysobacter</i>           |      | 0.15 |      |      |
| Sinobacteraceae uncultured  | 0.29 |      |      |      |
| <i>Akkermansia</i>          | 0.09 |      |      |      |

|                                    | <b>M7-W1</b> | <b>M7-W3</b> | <b>M7-W6</b> | <b>M7-W12</b> |
|------------------------------------|--------------|--------------|--------------|---------------|
| <b>Core</b>                        | <b>87.09</b> | <b>84.87</b> | <b>85.80</b> | <b>82.72</b>  |
| <i>Bacteroides</i>                 | 0.02         |              |              |               |
| S24-7 uncultured                   | 0.28         |              |              |               |
| <i>Gardnerella</i>                 |              |              | 0.01         |               |
| <i>Corynebacterium</i>             |              | 0.27         | 1.19         |               |
| <i>Agrococcus</i>                  |              |              |              | 0.01          |
| <i>Leifsonia</i>                   |              |              |              | 0.11          |
| <i>Microbacterium</i>              |              |              |              | 0.48          |
| <i>Yaniella</i>                    |              | 0.08         |              | 0.47          |
| <i>Alpinimonas</i>                 |              |              | 0.96         |               |
| <i>Rhodoluna</i>                   |              |              | 0.43         |               |
| <i>Microbacterium</i>              |              |              | 0.10         |               |
| <i>Propionibacterium</i>           |              |              | 0.05         | 0.28          |
| <i>Bacteroides</i>                 |              |              |              | 0.01          |
| <i>Chryseobacterium</i>            |              |              |              | 2.98          |
| <i>Pedobacter</i>                  | 2.67         | 0.35         | 0.04         | 2.19          |
| Candidate division OD1 uncultured  | 0.48         | 1.01         | 3.01         | 0.40          |
| <i>Cyanobacteria</i> uncultured    |              |              |              | 0.18          |
| <i>Gemella</i>                     |              |              | 0.01         |               |
| <i>Granulicatella</i>              |              |              | 0.02         | 0.46          |
| <i>Enterococcus</i>                | 1.49         | 2.51         | 0.13         |               |
| <i>Anaerostipes</i>                | 0.11         |              |              |               |
| <i>Blautia</i>                     |              | 2.54         |              | 0.18          |
| Lachnospiraceae Incertae Sedis     | 0.54         | 0.01         |              | 0.67          |
| Lachnospiraceae uncultured         | 1.55         | 2.10         |              | 0.14          |
| Erysipelotrichaceae Incertae Sedis |              | 0.01         |              |               |
| <i>Caulobacter</i>                 |              | 0.01         |              |               |
| <i>Ochrobactrum</i>                |              | 0.01         |              |               |
| <i>Devosia</i>                     | 0.59         | 0.12         |              |               |
| <i>Oscillibacter</i>               |              |              |              | 0.28          |
| <i>Veillonella</i>                 |              |              | 0.03         | 3.08          |
| Erysipelotrichaceae Incertae Sedis |              |              |              | 0.26          |
| <i>Devosia</i>                     |              |              |              | 0.48          |
| <i>Phyllobacterium</i>             | 1.93         | 0.72         | 0.07         | 0.10          |
| Phyllobacteriaceae uncultured      |              |              | 0.15         |               |

|                                   |      |      |      |      |
|-----------------------------------|------|------|------|------|
| Rhizobium                         | 0.11 | 0.36 |      | 0.24 |
| Rhodospirillaceae uncultured      |      | 0.06 | 1.27 |      |
| <i>Paracoccus</i>                 |      |      |      | 0.22 |
| <i>Achromobacter</i>              | 0.26 | 1.01 | 1.39 | 1.17 |
| <i>Ralstonia</i>                  | 0.03 | 1.10 | 1.94 | 2.53 |
| <i>Acidovorax</i>                 | 0.22 | 0.57 | 0.86 | 0.61 |
| <i>Limnohabitans</i>              | 1.20 |      | 0.04 | 0.62 |
| <i>Pseudorhodoferax</i>           | 0.02 |      | 0.15 | 0.03 |
| <i>Delftia</i>                    |      | 0.01 |      |      |
| Comamonadaceae uncultured         |      | 0.05 | 0.10 | 0.10 |
| <i>Undibacterium</i>              | 0.01 | 0.26 | 0.55 |      |
| Methylophilaceae uncultured       | 0.48 |      |      |      |
| <i>Citrobacter</i>                |      | 0.32 | 0.14 | 0.33 |
| <i>Sinobacteraceae</i> uncultured |      | 0.13 |      |      |
| <i>Erwinia</i>                    |      |      |      | 0.01 |
| <i>Escherichia-Shigella</i>       | 0.01 |      | 0.01 | 0.81 |
| <i>Akkermansia</i>                |      |      | 0.01 |      |
| <i>Acinetobacter</i>              |      |      |      | 0.37 |

|                                      | M8-W1        | M8-W3        | M8-W6        | M8-W12       |
|--------------------------------------|--------------|--------------|--------------|--------------|
| <b>Core</b>                          | <b>81.07</b> | <b>81.71</b> | <b>75.92</b> | <b>80.93</b> |
| <i>Corynebacterium</i>               |              |              | 0.01         |              |
| <i>Agrococcus</i>                    |              |              | 0.01         |              |
| <i>Microbacterium</i>                | 0.31         |              | 0.61         |              |
| <i>Yaniella</i>                      | 0.30         |              |              |              |
| <i>Bacteroides</i>                   | 0.04         |              |              |              |
| <i>Parabacteroides</i>               | 0.05         |              |              |              |
| <i>Lacibacter</i>                    | 0.01         |              |              |              |
| <i>Actinomyces</i>                   |              | 0.11         |              |              |
| <i>Propionibacterium</i>             |              | 0.29         |              |              |
| <i>Chryseobacterium</i>              |              |              |              | 5.47         |
| <i>Pedobacter</i>                    | 0.11         | 1.93         | 4.38         | 1.16         |
| Candidate division OD1 uncultured    | 2.35         | 0.86         | 0.96         | 1.11         |
| Candidate division TM7 uncultured    |              | 0.02         |              |              |
| Cyanobacteria uncultured             |              |              | 2.52         |              |
| <i>Anoxybacillus</i>                 |              | 1.12         |              |              |
| <i>Bacillus</i>                      | 0.01         | 0.91         |              |              |
| <i>Gemella</i>                       | 0.45         | 2.06         | 1.41         |              |
| <i>Carnobacterium</i>                |              |              |              | 0.37         |
| <i>Enterococcus</i>                  | 1.43         | 6.32         |              | 0.44         |
| <i>Blautia</i>                       | 2.16         | 0.07         |              | 0.17         |
| <i>Coproccoccus</i>                  |              | 0.01         |              |              |
| Lachnospiraceae Incertae Sedis       | 0.64         | 0.02         |              | 1.42         |
| Lachnospiraceae uncultured           | 1.90         | 0.02         |              |              |
| Peptostreptococcaceae Incertae Sedis |              | 0.01         |              |              |
| Peptostreptococcaceae uncultured     |              | 0.12         |              |              |
| <i>Veillonella</i>                   |              | 0.17         |              | 0.48         |
| Erysipelotrichaceae Incertae Sedis   | 1.98         | 0.24         |              | 0.20         |

|                               |      |      |      |      |
|-------------------------------|------|------|------|------|
| <i>Caulobacter</i>            | 0.05 |      |      |      |
| Phyllobacteriaceae uncultured |      |      |      | 0.08 |
| <i>Rhizobium</i>              | 1.91 | 0.26 |      | 0.98 |
| <i>Achromobacter</i>          | 0.98 | 0.08 |      |      |
| <i>Granulicatella</i>         |      |      | 1.21 |      |
| <i>Bosea</i>                  |      |      |      | 0.09 |
| <i>Ochrobactrum</i>           |      |      | 0.75 | 0.22 |
| <i>Devosia</i>                |      |      | 1.91 | 1.46 |
| <i>Sphingomonas</i>           |      |      | 2.71 | 0.33 |
| <i>Derxia</i>                 |      |      |      | 0.51 |
| <i>Ralstonia</i>              | 1.03 | 0.36 | 0.17 | 1.13 |
| <i>Acidovorax</i>             | 0.88 | 0.01 | 0.01 | 0.83 |
| <i>Curvibacter</i>            |      |      |      | 0.09 |
| <i>Limnohabitans</i>          | 1.07 | 0.17 | 3.01 | 2.35 |
| Neisseriaceae uncultured      | 0.12 |      |      |      |
| <i>Pseudorhodoferrax</i>      |      |      | 0.11 | 0.08 |
| Comamonadaceae uncultured     |      |      | 0.02 | 0.14 |
| <i>Undibacterium</i>          |      | 0.13 | 0.50 | 0.40 |
| Methylophilaceae uncultured   |      |      |      | 0.10 |
| <i>Kingella</i>               |      |      |      | 1.52 |
| <i>Neisseria</i>              |      |      |      | 0.12 |
| <i>Bdellovibrio</i>           |      |      |      | 1.33 |
| 0319-6G20 uncultured          |      |      |      | 0.41 |
| <i>Sulfurimonas</i>           |      |      |      | 0.41 |
| <i>Citrobacter</i>            | 0.27 | 0.01 | 0.07 | 0.13 |
| <i>Escherichia-Shigella</i>   | 0.11 | 0.08 |      |      |
| <i>Pantoea</i>                | 0.16 |      |      |      |
| <i>Legionella</i>             |      |      |      | 0.29 |
| <i>Aggregatibacter</i>        |      |      |      | 0.11 |
| <i>Haemophilus</i>            |      |      |      | 0.13 |
| <i>Acinetobacter</i>          |      | 0.01 |      | 0.12 |

|                                    | M9-W1        | M9-W3        | M9-W6        | M9-W12       |
|------------------------------------|--------------|--------------|--------------|--------------|
| <b>CORE</b>                        | <b>67.65</b> | <b>66.54</b> | <b>90.42</b> | <b>70.87</b> |
| <i>Actinomyces</i>                 |              |              | 0.06         |              |
| <i>Gardnerella</i>                 |              |              | 0.01         |              |
| <i>Collinsella</i>                 |              |              | 0.02         |              |
| <i>Rhodococcus</i>                 |              |              | 0.01         | 0.18         |
| <i>Leifsonia</i>                   |              |              | 0.17         | 0.27         |
| <i>Yaniella</i>                    |              |              | 0.13         |              |
| <i>Microbacterium</i>              |              | 0.16         |              | 0.37         |
| <i>Rothia</i>                      |              |              |              | 0.48         |
| <i>Propionibacterium</i>           | 0.05         | 1.29         |              | 0.90         |
| <i>Bacteroides</i>                 | 4.42         | 0.01         |              |              |
| <i>Prevotella</i>                  |              |              |              | 0.15         |
| <i>Chryseobacterium</i>            |              |              |              | 1.19         |
| <i>Ferruginibacter</i>             |              |              |              | 0.24         |
| <i>Chitinophagaceae</i> uncultured |              |              |              | 0.92         |

|                                    |       |       |      |      |
|------------------------------------|-------|-------|------|------|
| <i>Pedobacter</i>                  | 0.79  | 10.29 |      | 0.28 |
| Candidate division OD1 uncultured  | 0.13  | 0.12  | 1.11 | 4.08 |
| Candidate division SR1 uncultured  |       |       |      | 0.50 |
| Candidate division TM7 uncultured  |       |       |      | 0.01 |
| <i>Chloroflexi</i> uncultured      |       | 1.03  |      |      |
| <i>Anoxybacillus</i>               |       |       |      | 0.02 |
| <i>Gemella</i>                     | 1.21  |       |      | 0.63 |
| <i>Enterococcus</i>                |       | 0.10  | 0.01 | 0.71 |
| <i>Clostridium</i>                 |       | 0.04  |      |      |
| <i>Blautia</i>                     |       |       |      | 1.14 |
| Lachnospiraceae Incertae Sedis     | 0.02  | 0.07  |      | 1.81 |
| Lachnospiraceae uncultured         |       |       |      | 0.12 |
| <i>Subdoligranulum</i>             |       |       | 0.01 |      |
| <i>Rhodopseudomonas</i>            |       |       | 0.05 |      |
| <i>Selenomonas</i>                 |       |       |      | 0.17 |
| <i>Veillonella</i>                 |       |       |      | 2.77 |
| Erysipelotrichaceae Incertae Sedis |       |       |      | 0.83 |
| <i>Ochrobactrum</i>                | 0.01  |       | 0.01 | 0.40 |
| <i>Devosia</i>                     | 0.01  | 0.37  |      |      |
| <i>Methylobacterium</i>            | 0.01  | 0.53  |      |      |
| <i>Albibacter</i>                  | 0.01  |       |      |      |
| <i>Aminobacter</i>                 | 0.01  |       | 0.10 |      |
| <i>Phyllobacterium</i>             |       | 0.47  | 0.39 | 1.49 |
| Phyllobacteriaceae uncultured      |       |       | 0.41 |      |
| <i>Rhizobium</i>                   |       | 2.43  | 0.96 | 3.69 |
| <i>Paracoccus</i>                  |       |       | 0.42 |      |
| Rhodospirillaceae uncultured       |       |       |      | 0.13 |
| <i>Sphingomonas</i>                |       | 1.16  | 0.59 | 1.37 |
| <i>Achromobacter</i>               |       | 1.42  | 3.62 | 0.74 |
| <i>Ralstonia</i>                   |       | 1.35  | 0.06 | 1.38 |
| <i>Acidovorax</i>                  | 0.02  | 0.04  |      | 0.10 |
| <i>Undibacterium</i>               | 0.02  |       |      |      |
| <i>Limnohabitans</i>               |       | 1.47  | 0.03 | 0.55 |
| <i>Pelomonas</i>                   |       |       |      | 0.48 |
| <i>Pseudorhodofex</i>              |       | 3.26  |      | 0.02 |
| Comamonadaceae uncultured          |       | 0.17  | 0.01 | 0.08 |
| <i>Massilia</i>                    |       | 1.00  |      |      |
| <i>Undibacterium</i>               |       | 0.82  | 0.18 |      |
| <i>Bdellovibrio</i>                |       | 0.98  | 0.52 |      |
| <i>Citrobacter</i>                 | 0.01  | 0.33  | 0.09 | 0.19 |
| <i>Erwinia</i>                     |       | 0.04  | 0.01 |      |
| <i>Escherichia-Shigella</i>        | 0.02  | 3.29  | 0.45 | 0.01 |
| <i>Serratia</i>                    |       |       | 0.01 |      |
| <i>Haemophilus</i>                 | 24.13 | 0.01  |      |      |
| <i>Acinetobacter</i>               |       |       |      | 0.35 |

|             |               |               |
|-------------|---------------|---------------|
|             | <b>M10-W1</b> | <b>M10-W3</b> |
| <b>Core</b> | <b>91.15</b>  | <b>63.79</b>  |

|                                    |      |       |
|------------------------------------|------|-------|
| <i>Gardnerella</i>                 | 0.01 |       |
| <i>Leifsonia</i>                   | 0.11 |       |
| <i>Corynebacterium</i>             |      | 10.27 |
| <i>Brevibacterium</i>              |      | 0.52  |
| <i>Agrococcus</i>                  |      | 0.01  |
| <i>Alpinimonas</i>                 |      | 0.01  |
| <i>Rhodoluna</i>                   |      | 0.01  |
| <i>Leucobacter</i>                 |      | 0.31  |
| <i>Microbacterium</i>              | 0.18 | 0.21  |
| <i>Marmoricola</i>                 | 0.09 |       |
| <i>Propionibacterium</i>           |      | 1.03  |
| <i>Fluviicola</i>                  |      | 0.44  |
| <i>Bergeyella</i>                  |      | 0.06  |
| <i>Hydrotalea</i>                  |      | 0.41  |
| <i>Pedobacter</i>                  | 1.09 | 0.89  |
| Candidate division OD1 uncultured  | 0.20 | 0.24  |
| Candidate division TM7 uncultured  |      | 0.09  |
| Chloroflexi uncultured             |      | 0.01  |
| Cyanobacteria uncultured           |      | 0.01  |
| <i>Gemella</i>                     |      | 2.74  |
| <i>Enterococcus</i>                | 0.38 | 0.77  |
| <i>Lactococcus</i>                 |      | 0.43  |
| Lachnospiraceae Incertae Sedis     | 0.02 | 0.05  |
| Lachnospiraceae uncultured         |      | 0.13  |
| <i>Veillonella</i>                 | 2.64 | 1.20  |
| <i>Phyllobacterium</i>             |      |       |
| <i>Rhizobium</i>                   | 0.51 |       |
| Erythrobacteraceae uncultured      | 0.05 |       |
| Erysipelotrichaceae Incertae Sedis |      | 0.38  |
| <i>Devosia</i>                     |      | 0.01  |
| <i>Achromobacter</i>               | 0.04 | 0.17  |
| <i>Burkholderia</i>                | 0.01 |       |
| <i>Alcaligenes</i>                 |      | 0.24  |
| <i>Ralstonia</i>                   | 0.54 | 0.46  |
| <i>Acidovorax</i>                  | 0.35 | 0.17  |
| <i>Curvibacter</i>                 |      | 0.01  |
| <i>Limnohabitans</i>               | 0.01 | 0.13  |
| Comamonadaceae uncultured          | 0.01 |       |
| <i>Undibacterium</i>               | 0.21 | 0.40  |
| <i>Bdellovibrio</i>                |      | 0.01  |
| Aeromonadaceae uncultured          |      | 4.37  |
| <i>Marinobacter</i>                |      | 0.44  |
| <i>Pseudoalteromonas</i>           |      | 2.64  |
| <i>Citrobacter</i>                 | 0.10 | 0.09  |
| <i>Haemophilus</i>                 | 0.09 |       |
| <i>Escherichia-Shigella</i>        |      | 0.66  |
| <i>Halomonas</i>                   |      | 2.23  |

**Supplementary Table S2: Relative abundance (%) of the core microbiota at genus level and remaining taxa for each infant, M1 – M10, at week 1, 3, 6 and 12.**

\* = Breast milk sample not collected.

|                                      | <b>F1-W1</b> | <b>F1-W3</b> | <b>F1-W6</b> | <b>F1-W12</b> |
|--------------------------------------|--------------|--------------|--------------|---------------|
| <i>Actinobaculum</i>                 | 0.00         | 0.00         | 0.00         | 0.01          |
| <i>Actinomyces</i>                   | 0.00         | 0.00         | 0.00         | 0.73          |
| <i>Bifidobacterium</i>               | 2.08         | 46.90        | 35.75        | 6.85          |
| <i>Gardnerella</i>                   | 18.04        | 5.85         | 7.48         | 9.82          |
| <i>Eggerthella</i>                   | 0.00         | 0.00         | 0.00         | 0.01          |
| <i>Corynebacterium</i>               | 0.01         | 0.00         | 0.00         | 0.00          |
| <i>Rhodococcus</i>                   | 0.03         | 0.00         | 0.00         | 0.00          |
| <i>Rothia</i>                        | 0.01         | 0.04         | 0.05         | 0.00          |
| <i>Propionibacterium</i>             | 0.00         | 0.00         | 0.00         | 0.00          |
| <i>Bacteroides</i>                   | 5.47         | 0.01         | 0.01         | 0.01          |
| <i>Parabacteroides</i>               | 10.75        | 0.27         | 0.41         | 17.10         |
| <i>Prevotella</i>                    | 0.00         | 0.00         | 0.01         | 0.00          |
| <i>Gemella</i>                       | 0.06         | 0.00         | 0.01         | 0.02          |
| <i>Staphylococcus</i>                | 41.82        | 15.52        | 10.78        | 0.04          |
| <i>Enterococcus</i>                  | 0.42         | 0.71         | 1.11         | 2.60          |
| <i>Lactobacillus</i>                 | 0.25         | 3.95         | 5.80         | 1.30          |
| <i>Lactococcus</i>                   | 0.02         | 0.00         | 0.00         | 0.00          |
| <i>Streptococcus</i>                 | 10.78        | 11.81        | 36.80        | 0.50          |
| Lachnospiraceae Incertae Sedis       | 10.02        | 0.29         | 0.41         | 22.97         |
| Peptostreptococcaceae Incertae Sedis | 0.00         | 0.01         | 0.00         | 0.00          |
| <i>Veillonella</i>                   | 0.00         | 0.02         | 0.01         | 10.33         |
| Erysipelotrichaceae Incertae Sedis   | 0.01         | 0.00         | 0.00         | 0.00          |
| <i>Citrobacter</i>                   | 0.12         | 0.00         | 0.00         | 0.08          |
| <i>Enterobacter</i>                  | 0.05         | 0.02         | 0.00         | 0.72          |
| <i>Erwinia</i>                       | 0.00         | 0.01         | 0.00         | 0.03          |

|                             |      |       |      |       |
|-----------------------------|------|-------|------|-------|
| <i>Escherichia-Shigella</i> | 0.04 | 14.56 | 0.62 | 26.81 |
| <i>Haemophilus</i>          | 0.00 | 0.00  | 0.74 | 0.02  |

|                                          | <b>F2-W1</b> | <b>F2-W3</b> | <b>F2-W6</b> | <b>F2-W12</b> |
|------------------------------------------|--------------|--------------|--------------|---------------|
| <i>Actinomyces</i>                       | 0.00         | 0.02         | 0.02         | 0.03          |
| <i>Bifidobacterium</i>                   | 24.51        | 46.39        | 20.34        | 19.79         |
| <i>Gardnerella</i>                       | 0.00         | 0.01         | 0.01         | 0.01          |
| <i>Atopobium</i>                         | 0.00         | 0.01         | 0.00         | 0.01          |
| <i>Corynebacterium</i>                   | 0.00         | 0.03         | 0.01         | 0.00          |
| <i>Rhodococcus</i>                       | 0.01         | 0.04         | 0.21         | 0.10          |
| <i>Rothia</i>                            | 0.03         | 0.02         | 0.01         | 0.04          |
| <i>Bacteroides</i>                       | 0.00         | 0.01         | 0.01         | 0.06          |
| <i>Candidate division TM7 uncultured</i> | 0.00         | 0.00         | 0.00         | 0.11          |
| <i>Gemella</i>                           | 0.09         | 0.01         | 0.01         | 0.07          |
| <i>Staphylococcus</i>                    | 8.87         | 0.52         | 0.01         | 0.02          |
| <i>Dolosigranulum</i>                    | 0.00         | 0.02         | 0.01         | 0.01          |
| <i>Enterococcus</i>                      | 0.17         | 0.27         | 2.15         | 10.62         |
| <i>Lactobacillus</i>                     | 1.38         | 0.84         | 0.01         | 0.01          |
| <i>Streptococcus</i>                     | 2.58         | 5.84         | 0.27         | 3.75          |
| <i>Clostridium</i>                       | 0.00         | 11.02        | 1.67         | 2.13          |
| Peptostreptococcaceae Incertae Sedis     | 0.00         | 1.48         | 1.30         | 0.04          |
| <i>Flavonifractor</i>                    | 0.00         | 0.00         | 0.00         | 1.21          |
| <i>Veillonella</i>                       | 5.87         | 8.60         | 12.52        | 14.84         |
| Erysipelotrichaceae Incertae Sedis       | 0.00         | 0.00         | 0.00         | 1.30          |
| <i>Citrobacter</i>                       | 43.40        | 10.82        | 28.51        | 4.92          |
| <i>Enterobacter</i>                      | 12.37        | 13.51        | 32.33        | 6.59          |
| <i>Erwinia</i>                           | 0.15         | 0.11         | 0.27         | 1.03          |
| <i>Escherichia-Shigella</i>              | 0.01         | 0.01         | 0.27         | 29.45         |
| <i>Haemophilus</i>                       | 0.51         | 0.37         | 0.04         | 0.06          |

|                        | <b>F3-W1</b> | <b>F3-W3</b> | <b>F3-W6</b> | <b>F3-W12*</b> |
|------------------------|--------------|--------------|--------------|----------------|
| <i>Bifidobacterium</i> | 0.02         | 23.07        | 8.59         |                |
| <i>Gardnerella</i>     | 0.01         | 0.00         | 0.02         |                |
| <i>Atopobium</i>       | 0.00         | 0.00         | 0.04         |                |
| <i>Eggerthella</i>     | 0.00         | 0.00         | 0.11         |                |
| <i>Gordonibacter</i>   | 0.00         | 0.00         | 0.00         |                |
| <i>Corynebacterium</i> | 0.00         | 0.04         | 0.00         |                |
| <i>Rothia</i>          | 0.06         | 0.16         | 0.07         |                |
| <i>Bacteroides</i>     | 0.00         | 0.01         | 44.88        |                |
| <i>Prevotella</i>      | 0.00         | 0.00         | 0.02         |                |

|                                    |       |       |       |  |
|------------------------------------|-------|-------|-------|--|
| <i>Gemella</i>                     | 0.01  | 0.01  | 0.07  |  |
| <i>Staphylococcus</i>              | 41.47 | 6.65  | 0.35  |  |
| <i>Dolosigranulum</i>              | 0.00  | 0.01  | 0.00  |  |
| <i>Enterococcus</i>                | 3.31  | 0.06  | 0.01  |  |
| <i>Lactobacillus</i>               | 0.00  | 20.50 | 11.18 |  |
| <i>Streptococcus</i>               | 21.78 | 18.53 | 6.36  |  |
| <i>Clostridium</i>                 | 5.17  | 14.50 | 0.00  |  |
| <i>Sarcina</i>                     | 0.62  | 0.04  | 0.00  |  |
| Lachnospiraceae Incertae Sedis     | 0.00  | 0.00  | 5.23  |  |
| <i>Veillonella</i>                 | 2.13  | 4.30  | 19.91 |  |
| Erysipelotrichaceae Incertae Sedis | 25.34 | 11.80 | 3.07  |  |
| <i>Enterobacter</i>                | 0.00  | 0.01  | 0.02  |  |
| <i>Escherichia-Shigella</i>        | 0.01  | 0.01  | 0.03  |  |
| <i>Haemophilus</i>                 | 0.05  | 0.26  | 0.01  |  |

|                                      | <b>F4-W1</b> | <b>F4-W3</b> | <b>F4-W6</b> | <b>F4-W12</b> |
|--------------------------------------|--------------|--------------|--------------|---------------|
| <i>Actinobaculum</i>                 | 0.00         | 0.00         | 0.23         | 0.03          |
| <i>Actinomyces</i>                   | 0.00         | 0.46         | 2.15         | 2.76          |
| <i>Bifidobacterium</i>               | 9.53         | 17.18        | 7.16         | 20.99         |
| <i>Gardnerella</i>                   | 5.86         | 20.26        | 4.76         | 0.96          |
| <i>Scardovia</i>                     | 0.00         | 0.00         | 0.07         | 0.04          |
| <i>Atopobium</i>                     | 0.00         | 0.00         | 0.12         | 0.01          |
| <i>Collinsella</i>                   | 0.59         | 0.18         | 1.41         | 5.02          |
| <i>Eggerthella</i>                   | 0.00         | 0.15         | 1.40         | 0.15          |
| <i>Corynebacterium</i>               | 0.00         | 0.00         | 0.00         | 0.01          |
| <i>Rothia</i>                        | 0.01         | 0.00         | 0.00         | 0.01          |
| <i>Propionibacterium</i>             | 0.00         | 0.00         | 0.26         | 0.09          |
| <i>Bacteroides</i>                   | 0.00         | 0.01         | 0.01         | 0.01          |
| <i>Porphyromonas</i>                 | 0.00         | 0.04         | 0.00         | 0.00          |
| <i>Prevotella</i>                    | 0.00         | 0.08         | 0.00         | 0.00          |
| <i>Gemella</i>                       | 0.02         | 0.01         | 0.00         | 0.00          |
| <i>Staphylococcus</i>                | 1.55         | 0.23         | 0.06         | 0.08          |
| <i>Dolosigranulum</i>                | 0.00         | 0.00         | 0.01         | 0.00          |
| <i>Enterococcus</i>                  | 1.06         | 0.38         | 3.43         | 3.66          |
| <i>Lactobacillus</i>                 | 0.02         | 1.33         | 10.02        | 7.55          |
| <i>Streptococcus</i>                 | 0.85         | 1.02         | 1.82         | 0.22          |
| <i>Clostridium</i>                   | 0.00         | 0.00         | 0.00         | 1.93          |
| <i>Anaerococcus</i>                  | 0.00         | 0.02         | 0.01         | 0.61          |
| <i>Finegoldia</i>                    | 0.01         | 0.02         | 0.02         | 0.61          |
| <i>Peptoniphilus</i>                 | 0.00         | 0.00         | 0.00         | 0.25          |
| <i>Coprococcus</i>                   | 0.00         | 0.00         | 0.00         | 0.54          |
| Peptostreptococcaceae Incertae Sedis | 0.00         | 0.00         | 0.00         | 0.44          |
| <i>Negativicoccus</i>                | 0.00         | 0.01         | 0.00         | 0.00          |
| <i>Veillonella</i>                   | 42.81        | 37.09        | 37.73        | 21.04         |

|                                    |       |       |       |       |
|------------------------------------|-------|-------|-------|-------|
| Erysipelotrichaceae Incertae Sedis | 0.00  | 0.00  | 0.00  | 0.01  |
| <i>Citrobacter</i>                 | 0.00  | 0.00  | 0.02  | 0.00  |
| <i>Enterobacter</i>                | 0.00  | 0.01  | 0.07  | 0.00  |
| <i>Erwinia</i>                     | 0.00  | 0.00  | 0.01  | 0.00  |
| <i>Escherichia-Shigella</i>        | 37.66 | 21.47 | 29.22 | 32.73 |
| <i>Haemophilus</i>                 | 0.00  | 0.00  | 0.01  | 0.00  |

|                                    | <b>F5-W1</b> | <b>F5-W3</b> | <b>F5-W6</b> | <b>F5-W12</b> |
|------------------------------------|--------------|--------------|--------------|---------------|
| <i>Actinomyces</i>                 | 0.43         | 0.00         | 0.00         | 0.07          |
| <i>Bifidobacterium</i>             | 9.42         | 5.34         | 6.97         | 11.22         |
| <i>Gardnerella</i>                 | 0.01         | 10.29        | 24.23        | 27.60         |
| <i>Scardovia</i>                   | 0.00         | 0.00         | 0.00         | 0.03          |
| <i>Atopobium</i>                   | 0.00         | 0.00         | 0.08         | 0.04          |
| <i>Collinsella</i>                 | 0.17         | 0.00         | 0.00         | 0.00          |
| <i>Eggerthella</i>                 | 0.11         | 0.00         | 0.00         | 0.00          |
| <i>Corynebacterium</i>             | 0.00         | 0.02         | 0.15         | 0.02          |
| <i>Rhodococcus</i>                 | 0.00         | 0.00         | 0.00         | 0.01          |
| <i>Rothia</i>                      | 0.01         | 0.00         | 0.23         | 0.05          |
| <i>Bacteroides</i>                 | 8.15         | 0.00         | 0.01         | 0.01          |
| <i>Parabacteroides</i>             | 4.69         | 0.00         | 0.00         | 0.00          |
| <i>Prevotella</i>                  | 0.00         | 0.00         | 0.00         | 0.04          |
| <i>Gemella</i>                     | 0.18         | 0.09         | 0.18         | 0.06          |
| <i>Staphylococcus</i>              | 11.48        | 2.73         | 6.47         | 0.08          |
| <i>Granulicatella</i>              | 0.08         | 0.01         | 0.10         | 0.00          |
| <i>Enterococcus</i>                | 1.58         | 0.00         | 0.01         | 1.40          |
| <i>Lactobacillus</i>               | 0.01         | 0.02         | 0.00         | 0.00          |
| <i>Streptococcus</i>               | 22.37        | 24.10        | 30.78        | 13.40         |
| <i>Peptoniphilus</i>               | 0.00         | 0.00         | 0.00         | 0.01          |
| Lachnospiraceae Incertae Sedis     | 2.48         | 0.00         | 0.00         | 0.01          |
| <i>Veillonella</i>                 | 3.37         | 15.07        | 6.82         | 1.67          |
| Erysipelotrichaceae Incertae Sedis | 0.00         | 0.00         | 0.01         | 0.01          |
| <i>Enterobacter</i>                | 0.00         | 0.00         | 0.01         | 0.02          |
| <i>Erwinia</i>                     | 0.00         | 0.01         | 0.01         | 0.00          |
| <i>Escherichia-Shigella</i>        | 35.20        | 42.17        | 23.71        | 44.23         |
| <i>Haemophilus</i>                 | 0.23         | 0.12         | 0.21         | 0.01          |

|                        | <b>F6-W1</b> | <b>F6-W3</b> | <b>F6-W6</b> | <b>F6-W12</b> |
|------------------------|--------------|--------------|--------------|---------------|
| <i>Actinomyces</i>     | 0.00         | 0.00         | 0.00         | 0.01          |
| <i>Bifidobacterium</i> | 0.13         | 0.08         | 0.26         | 0.21          |
| <i>Gardnerella</i>     | 27.91        | 29.77        | 48.29        | 35.20         |
| <i>Eggerthella</i>     | 0.00         | 0.00         | 0.00         | 0.29          |
| <i>Corynebacterium</i> | 0.00         | 0.00         | 0.00         | 0.01          |
| <i>Rhodococcus</i>     | 0.00         | 0.00         | 0.00         | 0.73          |

|                                      |       |       |       |       |
|--------------------------------------|-------|-------|-------|-------|
| <i>Rothia</i>                        | 0.03  | 0.05  | 0.04  | 0.00  |
| <i>Propionibacterium</i>             | 0.00  | 0.00  | 0.04  | 0.07  |
| <i>Bacteroides</i>                   | 0.01  | 0.01  | 0.00  | 0.00  |
| <i>Elizabethkingia</i>               | 0.00  | 0.00  | 0.01  | 0.00  |
| <i>Gemella</i>                       | 0.18  | 0.17  | 0.10  | 0.00  |
| <i>Staphylococcus</i>                | 7.49  | 21.27 | 4.62  | 0.09  |
| <i>Enterococcus</i>                  | 0.01  | 0.01  | 6.94  | 1.29  |
| <i>Lactobacillus</i>                 | 59.81 | 45.31 | 30.06 | 4.44  |
| <i>Streptococcus</i>                 | 0.97  | 0.38  | 2.18  | 0.22  |
| <i>Clostridium</i>                   | 0.00  | 0.00  | 0.05  | 0.29  |
| Peptostreptococcaceae Incertae Sedis | 0.02  | 0.00  | 0.01  | 0.44  |
| <i>Veillonella</i>                   | 0.20  | 0.01  | 0.03  | 1.39  |
| Erysipelotrichaceae Incertae Sedis   | 0.01  | 0.00  | 0.00  | 4.05  |
| <i>Citrobacter</i>                   | 0.00  | 0.00  | 4.85  | 1.06  |
| <i>Enterobacter</i>                  | 0.00  | 0.00  | 2.21  | 49.07 |
| <i>Erwinia</i>                       | 0.00  | 0.00  | 0.03  | 1.04  |
| <i>Escherichia-Shigella</i>          | 0.02  | 0.02  | 0.05  | 0.06  |
| <i>Haemophilus</i>                   | 3.20  | 2.92  | 0.23  | 0.03  |

|                                      | <b>F7-W1</b> | <b>F7-W3</b> | <b>F7-W6</b> | <b>F7-W12</b> |
|--------------------------------------|--------------|--------------|--------------|---------------|
| <i>Actinomyces</i>                   | 0.00         | 0.20         | 0.00         | 0.06          |
| <i>Bifidobacterium</i>               | 41.74        | 34.67        | 32.28        | 43.47         |
| <i>Gardnerella</i>                   | 8.97         | 12.16        | 4.05         | 0.21          |
| <i>Atopobium</i>                     | 0.00         | 0.00         | 0.01         | 0.03          |
| <i>Corynebacterium</i>               | 0.01         | 0.06         | 0.01         | 0.01          |
| <i>Rothia</i>                        | 0.00         | 1.40         | 0.00         | 0.00          |
| <i>Bacteroides</i>                   | 0.02         | 0.01         | 0.01         | 0.00          |
| <i>Elizabethkingia</i>               | 0.00         | 0.00         | 0.01         | 0.00          |
| <i>Gemella</i>                       | 0.01         | 0.01         | 0.00         | 0.02          |
| <i>Staphylococcus</i>                | 32.83        | 15.31        | 0.63         | 0.69          |
| <i>Dolosigranulum</i>                | 0.01         | 0.06         | 0.01         | 0.01          |
| <i>Enterococcus</i>                  | 0.02         | 0.00         | 0.01         | 5.30          |
| <i>Lactobacillus</i>                 | 0.03         | 0.01         | 0.12         | 1.46          |
| <i>Streptococcus</i>                 | 16.19        | 17.11        | 14.46        | 28.56         |
| <i>Clostridium</i>                   | 0.01         | 16.51        | 0.00         | 0.45          |
| Peptostreptococcaceae Incertae Sedis | 0.00         | 0.00         | 0.00         | 0.18          |
| <i>Veillonella</i>                   | 0.02         | 0.01         | 48.08        | 1.68          |
| Erysipelotrichaceae Incertae Sedis   | 0.01         | 0.00         | 0.00         | 0.00          |
| <i>Enterobacter</i>                  | 0.00         | 0.01         | 0.01         | 0.00          |
| <i>Escherichia-Shigella</i>          | 0.03         | 2.00         | 0.19         | 17.77         |
| <i>Haemophilus</i>                   | 0.03         | 0.01         | 0.00         | 0.00          |

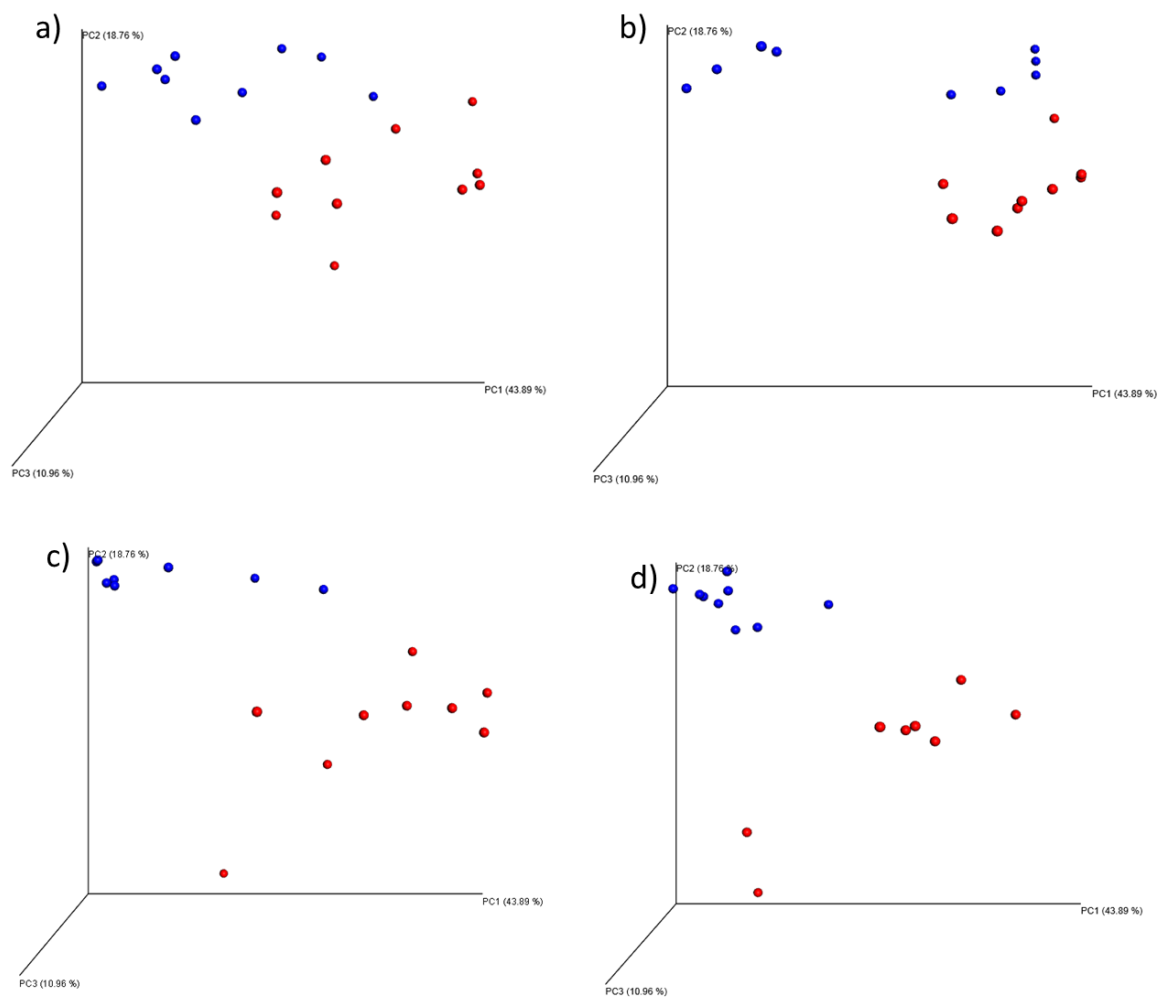
|  | <b>F8-W1</b> | <b>F8-W3</b> | <b>F8-W6</b> | <b>F8-W12</b> |
|--|--------------|--------------|--------------|---------------|
|--|--------------|--------------|--------------|---------------|

|                                      |       |       |       |       |
|--------------------------------------|-------|-------|-------|-------|
| <i>Actinomyces</i>                   | 0.00  | 0.00  | 0.00  | 0.02  |
| <i>Bifidobacterium</i>               | 7.72  | 2.24  | 2.62  | 8.01  |
| <i>Gardnerella</i>                   | 40.72 | 14.37 | 5.45  | 8.88  |
| <i>Eggerthella</i>                   | 0.00  | 0.00  | 0.00  | 0.14  |
| <i>Corynebacterium</i>               | 0.01  | 0.00  | 0.00  | 0.00  |
| <i>Rhodococcus</i>                   | 0.00  | 0.00  | 0.00  | 0.01  |
| <i>Rothia</i>                        | 0.01  | 0.01  | 0.03  | 0.01  |
| <i>Propionibacterium</i>             | 0.00  | 0.00  | 0.00  | 0.02  |
| <i>Bacteroides</i>                   | 0.03  | 0.07  | 16.04 | 43.01 |
| <i>Elizabethkingia</i>               | 0.00  | 0.00  | 0.00  | 0.01  |
| <i>Gemella</i>                       | 0.06  | 0.02  | 0.00  | 0.01  |
| <i>Staphylococcus</i>                | 30.43 | 0.34  | 0.00  | 0.10  |
| <i>Dolosigranulum</i>                | 0.00  | 0.01  | 0.00  | 0.00  |
| <i>Enterococcus</i>                  | 0.00  | 0.08  | 0.51  | 10.83 |
| <i>Lactobacillus</i>                 | 0.01  | 0.01  | 0.15  | 2.60  |
| <i>Streptococcus</i>                 | 14.71 | 0.36  | 0.15  | 0.24  |
| <i>Clostridium</i>                   | 0.00  | 0.00  | 0.15  | 0.01  |
| <i>Coprococcus</i>                   | 0.00  | 0.00  | 0.03  | 0.00  |
| Lachnospiraceae Incertae Sedis       | 0.00  | 0.00  | 0.03  | 0.26  |
| Peptostreptococcaceae Incertae Sedis | 0.00  | 0.00  | 0.00  | 0.88  |
| <i>Veillonella</i>                   | 2.16  | 67.31 | 63.52 | 10.03 |
| <i>Citrobacter</i>                   | 0.00  | 0.01  | 0.00  | 0.03  |
| <i>Enterobacter</i>                  | 0.00  | 0.00  | 0.03  | 0.69  |
| <i>Erwinia</i>                       | 0.00  | 0.00  | 0.00  | 0.06  |
| <i>Escherichia-Shigella</i>          | 3.89  | 15.13 | 11.28 | 14.13 |
| <i>Haemophilus</i>                   | 0.23  | 0.02  | 0.00  | 0.00  |

|                          | <b>F9-W1</b> | <b>F9-W3</b> | <b>F9-W6</b> | <b>F9-W12</b> |
|--------------------------|--------------|--------------|--------------|---------------|
| <i>Actinomyces</i>       | 0.42         | 0.05         | 0.17         | 1.10          |
| <i>Bifidobacterium</i>   | 0.02         | 0.01         | 0.03         | 0.00          |
| <i>Gardnerella</i>       | 0.00         | 0.01         | 0.00         | 0.00          |
| <i>Eggerthella</i>       | 0.00         | 0.00         | 0.02         | 0.02          |
| <i>Corynebacterium</i>   | 0.00         | 0.00         | 0.01         | 0.00          |
| <i>Rothia</i>            | 0.00         | 0.00         | 0.00         | 0.08          |
| <i>Propionibacterium</i> | 0.00         | 0.00         | 0.26         | 0.00          |
| <i>Bacteroides</i>       | 0.01         | 0.01         | 0.00         | 0.01          |
| <i>Gemella</i>           | 0.06         | 0.16         | 0.00         | 0.00          |
| <i>Staphylococcus</i>    | 11.76        | 7.06         | 0.67         | 0.05          |
| <i>Dolosigranulum</i>    | 0.00         | 0.00         | 0.00         | 0.01          |
| <i>Enterococcus</i>      | 0.00         | 0.00         | 0.00         | 0.04          |
| <i>Lactobacillus</i>     | 0.01         | 0.01         | 0.54         | 0.21          |
| <i>Streptococcus</i>     | 27.51        | 57.78        | 40.35        | 0.98          |
| <i>Clostridium</i>       | 0.00         | 13.27        | 15.35        | 1.02          |
| <i>Sarcina</i>           | 0.00         | 0.02         | 0.01         | 0.00          |

|                                      |       |       |       |       |
|--------------------------------------|-------|-------|-------|-------|
| <i>Anaerococcus</i>                  | 0.00  | 0.00  | 0.00  | 0.00  |
| <i>Finegoldia</i>                    | 0.00  | 0.00  | 0.00  | 0.00  |
| <i>Peptoniphilus</i>                 | 0.00  | 0.24  | 0.12  | 0.00  |
| <i>Coproccoccus</i>                  | 0.00  | 0.00  | 0.00  | 0.00  |
| Lachnospiraceae Incertae Sedis       | 0.00  | 0.00  | 16.78 | 32.09 |
| Peptostreptococcaceae Incertae Sedis | 0.00  | 0.04  | 1.33  | 0.10  |
| <i>Flavonifractor</i>                | 0.00  | 0.00  | 0.00  | 0.00  |
| Ruminococcaceae Incertae Sedis       | 0.00  | 0.00  | 0.00  | 0.00  |
| <i>Megasphaera</i>                   | 0.00  | 0.08  | 1.27  | 0.56  |
| <i>Negativicoccus</i>                | 0.00  | 2.35  | 0.36  | 0.15  |
| <i>Phascolarctobacterium</i>         | 0.00  | 0.00  | 0.00  | 0.00  |
| <i>Veillonella</i>                   | 27.18 | 11.26 | 15.92 | 22.80 |
| Erysipelotrichaceae Incertae Sedis   | 0.00  | 0.00  | 0.00  | 0.00  |
| <i>Citrobacter</i>                   | 0.00  | 0.00  | 0.00  | 0.20  |
| <i>Enterobacter</i>                  | 0.00  | 0.00  | 0.00  | 0.04  |
| <i>Erwinia</i>                       | 0.00  | 0.00  | 0.00  | 0.00  |
| <i>Escherichia-Shigella</i>          | 0.02  | 0.02  | 0.01  | 0.01  |
| <i>Haemophilus</i>                   | 32.79 | 7.32  | 6.54  | 0.03  |
| <i>Akkermansia</i>                   | 0.00  | 0.00  | 0.00  | 39.49 |

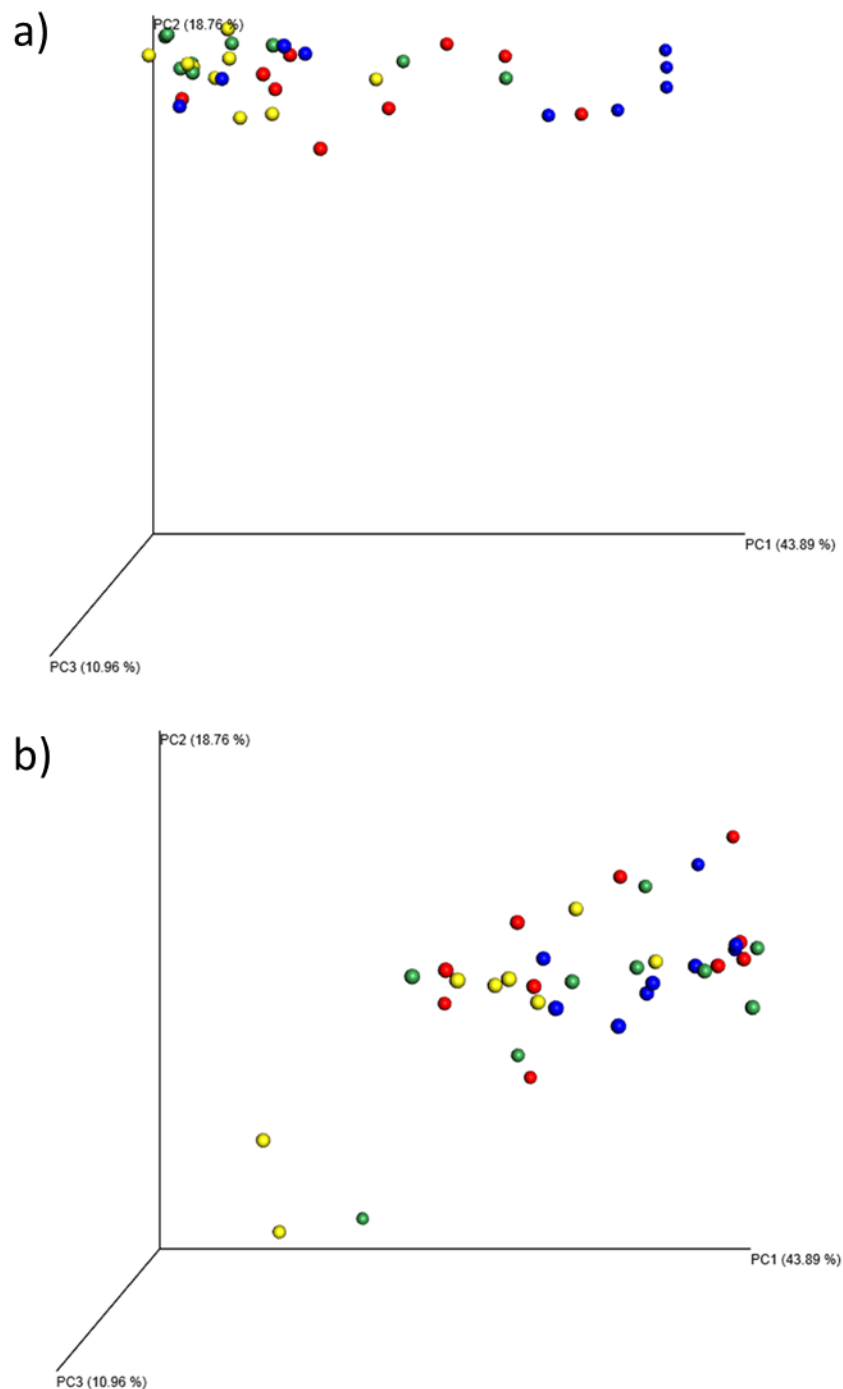
|                                    | <b>F10-W1</b> | <b>F10-W3</b> | <b>F10-W6*</b> | <b>F10-W12*</b> |
|------------------------------------|---------------|---------------|----------------|-----------------|
| <i>Bifidobacterium</i>             | 1.62          | 6.14          |                |                 |
| <i>Gardnerella</i>                 | 0.00          | 0.02          |                |                 |
| <i>Eggerthella</i>                 | 0.00          | 0.02          |                |                 |
| <i>Corynebacterium</i>             | 0.01          | 0.09          |                |                 |
| <i>Rhodococcus</i>                 | 0.00          | 0.01          |                |                 |
| <i>Rothia</i>                      | 0.01          | 0.01          |                |                 |
| <i>Bacteroides</i>                 | 0.01          | 0.01          |                |                 |
| <i>Elizabethkingia</i>             | 0.02          | 0.00          |                |                 |
| <i>Flavobacterium</i>              | 0.01          | 0.00          |                |                 |
| <i>Gemella</i>                     | 0.01          | 0.00          |                |                 |
| <i>Staphylococcus</i>              | 1.38          | 3.06          |                |                 |
| <i>Dolosigranulum</i>              | 0.00          | 0.01          |                |                 |
| <i>Enterococcus</i>                | 0.48          | 0.01          |                |                 |
| <i>Lactobacillus</i>               | 0.00          | 0.01          |                |                 |
| <i>Streptococcus</i>               | 0.73          | 1.60          |                |                 |
| <i>Clostridium</i>                 | 0.47          | 0.01          |                |                 |
| Lachnospiraceae Incertae Sedis     | 0.01          | 6.76          |                |                 |
| <i>Veillonella</i>                 | 52.83         | 3.24          |                |                 |
| Erysipelotrichaceae Incertae Sedis | 0.01          | 1.42          |                |                 |
| <i>Enterobacter</i>                | 0.00          | 0.01          |                |                 |
| <i>Escherichia-Shigella</i>        | 41.18         | 77.36         |                |                 |
| <i>Haemophilus</i>                 | 1.15          | 0.14          |                |                 |



**Supplementary Figure S1:**

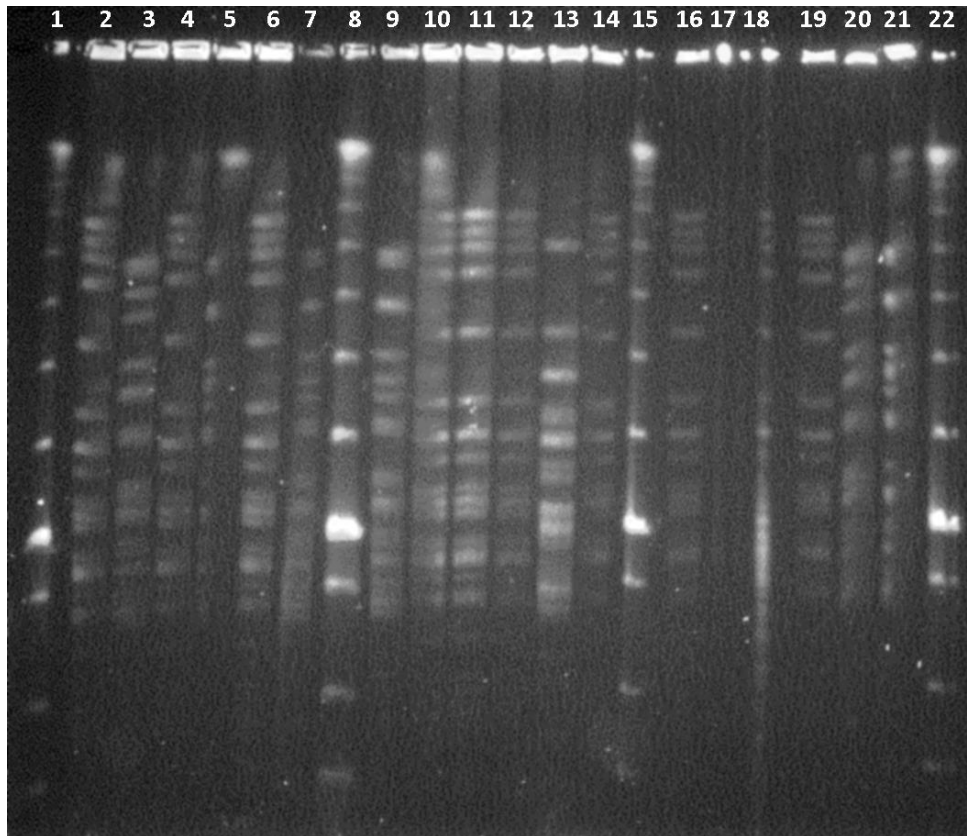
**Principal coordinates analysis of Weighted UniFrac values between milk (blue) and faecal (red) samples over time with the axes scaled by the percentage of the variance that they contain. a) Week 1, b) Week 3, c) Week 6 and d) Week 12.**





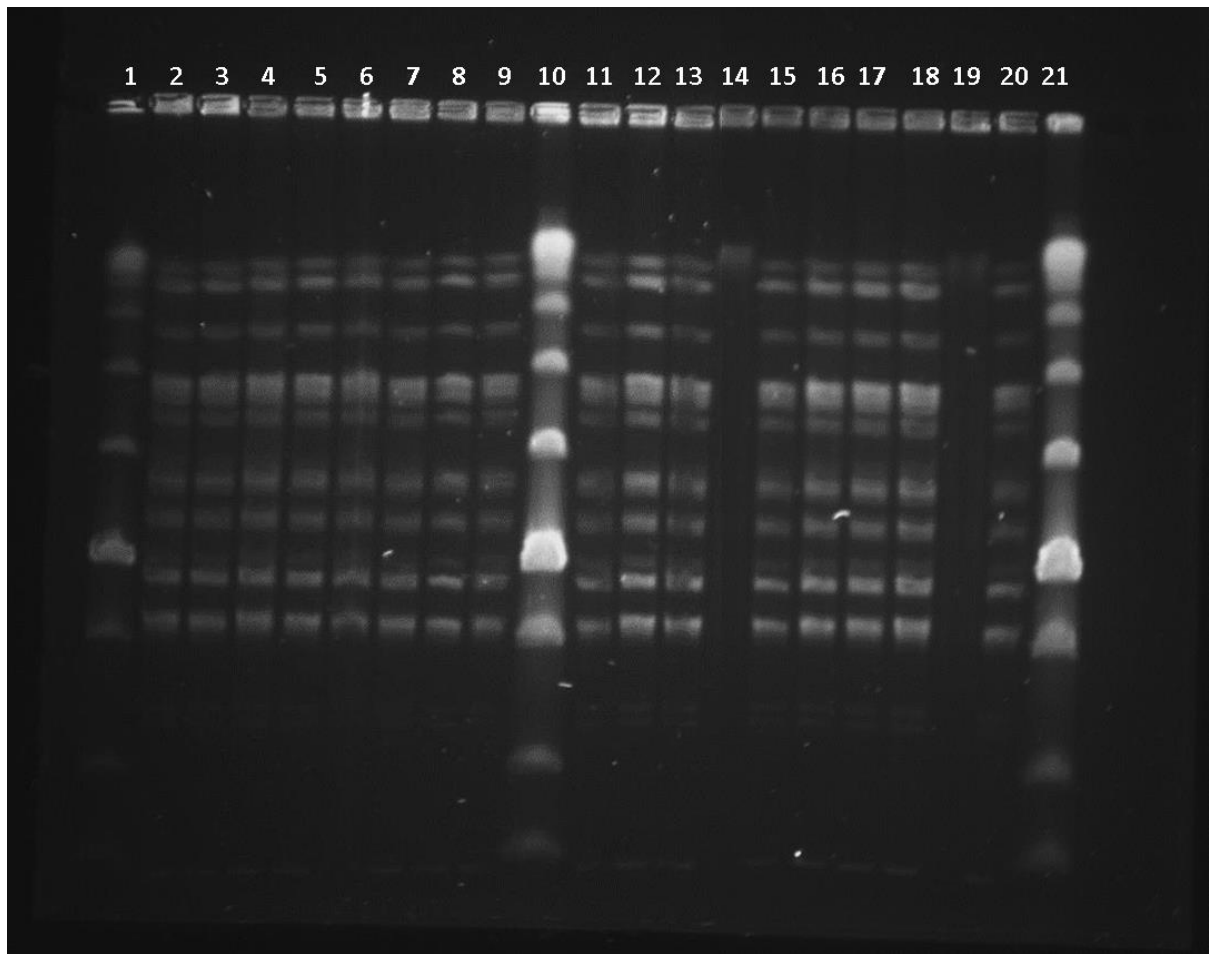
**Supplementary Figure S2:**

**Principal coordinates analysis of Weighted UniFrac values between a) milk samples over time and b) faecal samples over time, with the axes scaled by the percentage of the variance that they contain. Red = Week 1, Blue = Week 3, Green = Week 6 and Yellow = Week 12.**



**Supplementary Figure S3:**

Un-edited image of pulse-field gel electrophoresis patterns of XbaI-digested genomic DNA of *B. breve* isolates from human milk and infant faeces. Lanes 1, 8 and 15 contain a low molecular weight marker; Lanes 2, 4, 6 10 and 11 contain isolates from breast-milk; Lanes 12, 14, 16 and 19 contain isolates from infant faeces.



**Supplementary Figure S4:**

**Un-edited image of pulse-field gel electrophoresis patterns of Apal-digested genomic DNA of *L. plantarum* isolates from human milk and infant faeces. Lanes 1, 10 and 21 contain a low molecular weight marker; Lanes 2-9 contain isolates from breast-milk; Lanes 11-20 contain isolates from infant faeces.**