**Table SI2: PCR composition and conditions.** All Amplifications were performed with negative controls.

|  |  |  |
| --- | --- | --- |
| Primary PCR stages | Time (seconds) | Temp °C |
| Initial denaturation | 180 | 95 |
| Cycle number | 40 |  |
| Denaturation | 30 | 95 |
| Annealing | 30 | 55 |
| Extension | 90 | 72 |
| Final extension | 600 | 72 |
| Hold | ∞ | 17 |
| Primary PCR Composition |  |  |
| Volume of PCR Reaction | 20 | μL |
| Volume of sample template | 1 | μL |
| dNTP Final Concentration | 0.4 | mM |
| Final MgCl2 Concentration | 2.5 | mM |
| Final Primer Concentration | 0.5 | pM/μL |
| BSA Concentration | 1 | μL/react |
|  | | |
| Secondary Illumina PCR stages | **Time (seconds)** | **Temp °C** |
| Initial denaturation | 3 | 72 |
| Cycle number | 12 |  |
| Denaturation | 10 | 95 |
| Annealing | 30 | 55 |
| Extension | 30 | 72 |
| Final extension | 300 | 72 |
| Hold | ∞ | 10 |
| Secondary Illumina PCR Composition |  |  |
| Illumina index i5 | 5 | μL |
| Illumina index i7 | 5 | μL |
| NPM | 15 | μL |
| Sample volume | 15 | μL |