

Table S1: The different alignment strategies on the Eukaryotes and Prokaryotes species used by TANA

| D3 (Pairwise-Eukaryotes) | D4 (Pairwise-Prokaryotes) |
|---------------------------------|----------------------------------|
| 4935_7227 | 243273_170187 |
| 4932_3702 | 243273_316407 |
| 4932_6239 | 243273_85962 |
| 4932_9606 | 243273_273057 |
| 4932_10090 | 243273_224308 |
| 4932_10116 | 243273_223283 |
| 4932_7955 | 243273_160488 |
| 44689_7227 | 85962_243232 |
| 44689_6239 | 85962_170187 |
| 44689_3702 | 85962_273057 |
| 44689_9606 | 85962_316407 |
| 44689_10090 | 85962_224308 |
| 44689_10116 | 85962_160488 |
| 44689_7955 | 85962_223283 |
| 7227_6239 | 243232_170187 |
| 7227_3702 | 243232_273057 |
| 7227_9606 | 243232_316407 |
| 7227_10090 | 243232_224308 |
| 7227_10116 | 243232_223283 |
| 7227_7955 | 243232_160488 |
| 6239_3702 | 170187_273057 |
| 6239_9606 | 170187_316407 |
| 6239_10090 | 170187_224308 |
| 6239_10116 | 170187_223283 |
| 6239_7955 | 170187_160488 |
| 3702_9606 | 273057_316407 |
| 3702_10090 | 273057_224308 |
| 3702_10116 | 273057_223283 |
| 3702_7955 | 273057_160488 |
| 9606_10090 | 316407_224308 |
| 9606_10116 | 316407_223283 |
| 9606_7955 | 316407_160488 |
| 10090_10116 | 224308_223283 |
| 10090_7955 | 224308_160488 |
| 10116_7955 | 223283_160488 |