

## Supplementary Information

**Table S1.** Pairwise distance between 13 bacteria with *mefA* sequences.

Species 1	Species 2	Pairwise Distance
<i>Streptococcus pyogenes</i> MT345164	<i>Bacteroides</i> sp. MZ229610	0.0100698294
<i>Streptococcus pyogenes</i> MT345164	<i>Streptococcus agalactiae</i> DQ445272	0.0000000000
<i>Bacteroides</i> sp. MZ229610	<i>Streptococcus agalactiae</i> DQ445272	0.0100698294
<i>Streptococcus pyogenes</i> MT345164	<i>Streptococcus dysgalactiae</i> MT345166	0.0862912079
<i>Bacteroides</i> sp. MZ229610	<i>Streptococcus dysgalactiae</i> MT345166	0.0629251372
<i>Streptococcus agalactiae</i> DQ445272	<i>Streptococcus dysgalactiae</i> MT345166	0.1085876390
<i>Streptococcus pyogenes</i> MT345164	<i>Streptococcus salivarius</i> MT345165	0.0869961226
<i>Bacteroides</i> sp. MZ229610	<i>Streptococcus salivarius</i> MT345165	0.0629251372
<i>Streptococcus agalactiae</i> DQ445272	<i>Streptococcus salivarius</i> MT345165	0.1095739940
<i>Streptococcus dysgalactiae</i> MT345166	<i>Streptococcus anginosus</i> MT345159	0.0006083031
<i>Streptococcus pyogenes</i> MT345164	<i>Streptococcus anginosus</i> MT345159	0.0869961226
<i>Bacteroides</i> sp. MZ229610	<i>Streptococcus anginosus</i> MT345159	0.0629251372
<i>Streptococcus agalactiae</i> DQ445272	<i>Streptococcus anginosus</i> MT345159	0.1095739940
<i>Streptococcus dysgalactiae</i> MT345166	<i>Streptococcus anginosus</i> MT345159	0.0006083031
<i>Streptococcus salivarius</i> MT345165	<i>Streptococcus anginosus</i> MT345159	0.0000000000
<i>Streptococcus pyogenes</i> MT345164	<i>Streptococcus mitis</i> DQ304773	0.0052237464
<i>Bacteroides</i> sp. MZ229610	<i>Streptococcus mitis</i> DQ304773	0.0100698294
<i>Streptococcus agalactiae</i> DQ445272	<i>Streptococcus mitis</i> DQ304773	0.0024671964
<i>Streptococcus dysgalactiae</i> MT345166	<i>Streptococcus mitis</i> DQ304773	0.1044688145
<i>Streptococcus salivarius</i> MT345165	<i>Streptococcus mitis</i> DQ304773	0.1053560106
<i>Streptococcus anginosus</i> MT345159	<i>Streptococcus mitis</i> DQ304773	0.1053560106
<i>Streptococcus pyogenes</i> MT345164	<i>Streptococcus sanguinis</i> FJ667795	0.0000000000
<i>Bacteroides</i> sp. MZ229610	<i>Streptococcus sanguinis</i> FJ667795	0.0100698294
<i>Streptococcus agalactiae</i> DQ445272	<i>Streptococcus sanguinis</i> FJ667795	0.0000000000
<i>Streptococcus dysgalactiae</i> MT345166	<i>Streptococcus sanguinis</i> FJ667795	0.1209233685
<i>Streptococcus salivarius</i> MT345165	<i>Streptococcus sanguinis</i> FJ667795	0.1221784560
<i>Streptococcus anginosus</i> MT345159	<i>Streptococcus sanguinis</i> FJ667795	0.1221784560
<i>Streptococcus mitis</i> DQ304773	<i>Streptococcus sanguinis</i> FJ667795	0.0020502821
<i>Streptococcus pyogenes</i> MT345164	<i>Acidovorax</i> sp. MT345174	0.0018660331
<i>Bacteroides</i> sp. MZ229610	<i>Acidovorax</i> sp. MT345174	0.0151527144
<i>Streptococcus agalactiae</i> DQ445272	<i>Acidovorax</i> sp. MT345174	0.0016441042
<i>Streptococcus dysgalactiae</i> MT345166	<i>Acidovorax</i> sp. MT345174	0.0904253848
<i>Streptococcus salivarius</i> MT345165	<i>Acidovorax</i> sp. MT345174	0.0911499141
<i>Streptococcus anginosus</i> MT345159	<i>Acidovorax</i> sp. MT345174	0.0911499141

<i>Streptococcus mitis</i> DQ304773	<i>Acidovorax</i> sp. MT345174	0.0067238420
<i>Streptococcus sanguinis</i> FJ667795	<i>Acidovorax</i> sp. MT345174	0.0020502811
<i>Streptococcus pyogenes</i> MT345164	<i>Gemella haemolysans</i> DQ304772	0.0029802844
<i>Bacteroides</i> sp. MZ229610	<i>Gemella haemolysans</i> DQ304772	0.0100698294
<i>Streptococcus agalactiae</i> DQ445272	<i>Gemella haemolysans</i> DQ304772	0.0032917373
<i>Streptococcus dysgalactiae</i> MT345166	<i>Gemella haemolysans</i> DQ304772	0.1019883884
<i>Streptococcus salivarius</i> MT345165	<i>Gemella haemolysans</i> DQ304772	0.1028741520
<i>Streptococcus anginosus</i> MT345159	<i>Gemella haemolysans</i> DQ304772	0.1028741520
<i>Streptococcus mitis</i> DQ304773	<i>Gemella haemolysans</i> DQ304772	0.0044783390
<i>Streptococcus sanguinis</i> FJ667795	<i>Gemella haemolysans</i> DQ304772	0.0030770281
<i>Acidovorax</i> sp. MT345174	<i>Gemella haemolysans</i> DQ304772	0.0044746141
<i>Streptococcus pyogenes</i> MT345164	<i>Clostridium perfringens</i> EU553549	0.0085576428
<i>Bacteroides</i> sp. MZ229610	<i>Clostridium perfringens</i> EU553549	0.0203300302
<i>Streptococcus agalactiae</i> DQ445272	<i>Clostridium perfringens</i> EU553549	0.0115888336
<i>Streptococcus dysgalactiae</i> MT345166	<i>Clostridium perfringens</i> EU553549	0.0766916887
<i>Streptococcus salivarius</i> MT345165	<i>Clostridium perfringens</i> EU553549	0.0766968031
<i>Streptococcus anginosus</i> MT345159	<i>Clostridium perfringens</i> EU553549	0.0770387459
<i>Streptococcus mitis</i> DQ304773	<i>Clostridium perfringens</i> EU553549	0.0142643893
<i>Streptococcus sanguinis</i> FJ667795	<i>Clostridium perfringens</i> EU553549	0.0123896800
<i>Acidovorax</i> sp. MT345174	<i>Clostridium perfringens</i> EU553549	0.0106370189
<i>Gemella haemolysans</i> DQ304772	<i>Clostridium perfringens</i> EU553549	0.0119953608
<i>Streptococcus pyogenes</i> MT345164	<i>Bacteroides fragilis</i> KJ816753	0.1985502783
<i>Bacteroides</i> sp. MZ229610	<i>Bacteroides fragilis</i> KJ816753	0.0307034420
<i>Streptococcus agalactiae</i> DQ445272	<i>Bacteroides fragilis</i> KJ816753	0.0510422518
<i>Streptococcus dysgalactiae</i> MT345166	<i>Bacteroides fragilis</i> KJ816753	0.2601022081
<i>Streptococcus salivarius</i> MT345165	<i>Bacteroides fragilis</i> KJ816753	0.2678824923
<i>Streptococcus anginosus</i> MT345159	<i>Bacteroides fragilis</i> KJ816753	0.2639841949
<i>Streptococcus mitis</i> DQ304773	<i>Bacteroides fragilis</i> KJ816753	0.0920920481
<i>Streptococcus sanguinis</i> FJ667795	<i>Bacteroides fragilis</i> KJ816753	0.0541689674
<i>Acidovorax</i> sp. MT345174	<i>Bacteroides fragilis</i> KJ816753	0.1873087486
<i>Gemella haemolysans</i> DQ304772	<i>Bacteroides fragilis</i> KJ816753	0.0903839807
<i>Clostridium perfringens</i> EU553549	<i>Bacteroides fragilis</i> KJ816753	0.5188298811