

Table 1S. List of the novel species *Stenotrophomyces fumitolerans* WT5, the representatives of the family *Saccharomycetaceae* and outgroup taxa from families *Debaryomycetaceae*, *Phaffomycetaceae*, and *Pichiaceae* used for multi-locus phylogenetic analysis. Type strains were used for the analysis.

| Strains | GenBank accession number for sequences | | | | |
|--|--|-----------|-----------|----------|---------------|
| | ITS | 18S | 26S | TEF1 | RPB2 |
| <i>Barnettozyma populi</i> CBS 8094 | NR_153632 | JQ698877 | EF550277 | EF552501 | JQ698938 |
| <i>Candida glabrata</i> CBS 138 | AY046165 | AY046237 | U44808 | AF402029 | AF527898 |
| <i>Cyberlindnera americana</i> CBS 5644 | NR_152479 | JQ698878 | EF550328 | EF552552 | JQ698940 |
| <i>Debaryomyces hansenii</i> JCM 1990 | NR_120016 | JQ698910 | JQ689041 | JQ699068 | JQ698984 |
| <i>Dekkera bruxellensis</i> CBS 72 | NR_165974 | JQ698898 | JQ689028 | JQ699055 | JQ698969 |
| <i>Eremothecium cymbalariae</i> NRRL Y-17582 | AY046219 | JQ698891 | JQ689024 | AF402090 | JQ698962 |
| <i>Eremothecium gossypii</i> NRRL Y-1056 | AY046216 | AY046265 | U43389 | AF402087 | AY497595 |
| <i>Kazachstania africana</i> CBS 2517 | AY046155 | AY046229 | AY048159 | AF402019 | AF527887 |
| <i>Kazachstania exigua</i> NRRL Y-12640 | AY046170 | X98868 | AY048163 | AF402034 | AF527902 |
| <i>Kazachstania humilis</i> CBS 5658 | AY046174 | AY046243 | U69878 | AF402039 | AF527906 |
| <i>Kazachstania lodderae</i> CBS 2757 | AY046160 | X83824 | AY048161 | AF402024 | AF527893 |
| <i>Kazachstania martiniae</i> CBS 6334 | AY046157 | AY046231 | AF398481 | AF402021 | AF527890 |
| <i>Kazachstania piceae</i> CBS 7738 | AY046159 | AY046233 | U84346 | AF402023 | AF527892 |
| <i>Kazachstania servazzii</i> CBS 4311 | AY046153 | Z75581 | AY048157 | AF402017 | AF527885 |
| <i>Kazachstania telluris</i> CBS 2685 | AY046164 | AY046236 | U72158 | AF402028 | AF527897 |
| <i>Kazachstania viticola</i> CBS 6463 | AY046162 | JQ698889 | JQ689020 | AF402026 | AF527895 |
| <i>Kluyveromyces lactis</i> NRRL Y-8278 | AY046213 | AY046264 | U94919 | AF402084 | AY497620 |
| <i>Kluyveromyces marxianus</i> NRRL Y-8281 | AY046214 | X89523 | JQ689023 | AF402085 | JQ698961 |
| <i>Kregervanrija fluxuum</i> CBS 2287 | NR_111196 | JQ698897 | EF550268 | JQ699054 | JQ698968 |
| <i>Lachancea kluyveri</i> CBS 3082 | AY046209 | Z75580 | U68552 | AF402079 | AY497609 |
| <i>Lachancea thermotolerans</i> CBS 6340 | AY046207 | X89526 | JQ689022 | AF402077 | JQ698960 |
| <i>Lodderomyces elongisporus</i> CBS 2605 | NR_111593 | JQ698906 | JQ689035 | JQ699062 | JQ698978 |
| <i>Meyerozyma guilliermondii</i> CBS 2030 | NR_111247 | JQ698913 | JQ689047 | JQ699074 | JQ698990 |
| <i>Millerozyma farinosa</i> CBS 185 | NR_111254 | AB054281 | JQ689046 | JQ699073 | JQ698989 |
| <i>Nakaseomyces delphensis</i> CBS 2170 | AY046166 | X83823 | JQ689014 | AF402030 | AF527899 |
| <i>Naumovozya castellii</i> CBS 4309 | AY046180 | Z75577 | AY048167 | AF402045 | AY548498 |
| <i>Naumovozya dairenensis</i> CBS 421 | AY046181 | Z75579 | JQ689019 | AF402046 | AF527908 |
| <i>Pichia membranifaciens</i> CBS 107 | NR_111195 | JQ698896 | EF550227 | JQ699053 | JQ698967 |
| <i>Saccharomyces cerevisiae</i> NRRL Y-12632 | AY046146 | EU011664 | JQ689017 | AF402004 | AF527884 |
| <i>Saccharomyces kudriavzevii</i> CBS 8840 | AY046150 | AY046226 | AF398480 | AF402011 | KC881091 |
| <i>Saccharomycodes ludwigii</i> NRRL Y-12793 | AY046204 | JQ698892 | U73601 | AF402074 | JQ698963 |
| <i>Saturnispora dispersa</i> CBS 794 | NR_155832 | JQ698895 | JQ689027 | JQ699052 | JQ698966 |
| <i>Schizosaccharomyces pombe</i> ATCC 38366 | NR121563.1 | AY046272 | JQ689077 | AF402093 | NM_001018498 |
| <i>Starmera amethionina</i> CBS 6940 | CBS data | JQ698876 | JQ689006 | EF552506 | JQ698937 |
| <i>Stenotrophomyces fumitolerans</i> WT5 | OQ708375 | OQ708375 | OQ708375 | pending | OQ715316 |
| <i>Tetrapisispora arboricola</i> CBS 8765 | NR_155927 | NG_064806 | NG_058411 | AF402043 | GCA_030557565 |
| <i>Tetrapisispora blattae</i> CBS 6284 | NR_155928 | NG_063244 | KY109818 | AF402040 | GCF_000315915 |
| <i>Tetrapisispora phaffii</i> CBS 4417 | AY046176 | JQ698887 | JQ689013 | AF402041 | JQ698951 |
| <i>Torulaspora delbrueckii</i> NRRL Y-866 | AY046187 | X98120 | JQ689018 | AF402052 | JQ698956 |
| <i>Vanderwaltozyma polyspora</i> CBS 2163 | AY046182 | JQ698890 | JQ689021 | AF402047 | AF527909 |
| <i>Wickerhamomyces anomalus</i> NRRL Y-366 | AY046221 | EF550479 | U74592 | AF402092 | EF599479 |
| <i>Wickerhamomyces canadensis</i> CBS 1992 | KY105899 | EF550438 | JQ689007 | EF552524 | JQ698939 |
| <i>Yueomyces sinensis</i> CBS 7075 | NR_159012 | KP866235 | NG_055015 | KP866224 | KP866228 |

| | | | | | |
|---|----------|----------|----------|----------|----------|
| <i>Zygosaccharomyces bailii</i> CBS 680 | AY046191 | X91083 | U72161 | AF402060 | KC678068 |
| <i>Zygotorulaspora dagestanica</i> KBP:Y-4591 | MW036827 | MW036827 | MW036827 | LR884242 | LR884244 |
| <i>Zygotorulaspora florentina</i> CBS 746 | AY046168 | X91086 | U72165 | AF402032 | AF527900 |
| <i>Zygosaccharomyces kombuchaensis</i> CBS 8849 | AY046193 | AF339890 | AF339904 | AF402062 | KT728704 |
| <i>Zygotorulaspora mrakii</i> CBS 4218 | AY046169 | JQ698888 | JQ689015 | AF402033 | AF527901 |
| <i>Zygosaccharomyces rouxii</i> CBS 732 | AY046189 | AY046251 | JQ689016 | AF402054 | JQ698954 |
