Screening and Optimizing the Fermentation Conditions for Cold-Active Amylase Production

**Table S1.** *Penicillium* and *Talaromyces* species, number of isolates per species, and isolation source of the isolates

| **Name** | **AUMC No.** | **Isolation source** |
| --- | --- | --- |
| *Penicillium aurantiogriseum* | 513 | Sweet potatoes |
| *P. aurantiogriseum* | 526 | Soil, Assiut*,* Egypt |
| *P. aurantiogriseum* | 589 | Water of train reservoir |
| *P. aurantiogriseum* | 14816 | Textile wastewater |
| *P. brevicompactum* | 528 | Cerealaphids, Egypt |
| *P. camemberti* | 14763 | T3A Pharmaceuticals |
| *P. canescens* | 1006 | CBS |
| *P. chrysogenum* | 286 | Petroleum-polluted soil, Egypt |
| *P. chrysogenum* | 507 | Sweet potatoes |
| *P. chrysogenum* | 509 | Air, Assiut*,* Egypt |
| *P. chrysogenum* | 511 | Air, Assiut*,* Egypt |
| *P. chrysogenum* | 520 | Air, Assiut*,* Egypt |
| *P. chrysogenum* | 588 | Water of train reservoir |
| *P. chrysogenum* | 1084 | Soil, Assiut*,* Egypt |
| *P. chrysogenum* | 1910 | Pear |
| *P. chrysogenum* | 2050 | Air, Assiut*,* Egypt |
| *P. chrysogenum* | 2086 | Rotted *Pronus* |
| *P. chrysogenum* | 2415 | Short Horn-Cattle, Saudi Arabia |
| *P. chrysogenum* | 11609 | Honey bees |
| *P. chrysogenum* | 13364 | Soil, Assiut, Egypt |
| *P. chrysogenum* | 13365 | Soil, Assiut, Egypt |
| *P. chrysogenum* | 13368 | Soil, Assiut, Egypt |
| *P. chrysogenum* | 14489 | Soil, Assiut, Egypt |
| *P. chrysogenum* | 14554 | Soil, Assiut, Egypt |
| *P. chrysogenum* | 15152 | Soil, Assiut, Egypt |
| *P. citrinum* | 576 | Water of train reservoir |
| *P. citrinum* | 11627 | Soil, Assiut, Egypt |
| *P. citrinum* | 11645 | Soil, Assiut, Egypt |
| *P. citrinum* | 14751 | Soil, Assiut, Egypt |
| *P. citrinum* | 14753 | T3A Pharmaceuticals |
| *P. citrinum* | 14824 | Conb |
| *P. citrinum* | 15179 | Soil, Assiut, Egypt |
| *P. corylophilum* | 1975 | Sparrow droplets, Egypt |
| *P. corylophilum* | 1976 | Sparrow droplets, Egypt |
| *P. corylophulum* | 14742 | Soil, Assiut, Egypt |
| *P. dierckxii* | 2417 | Short Horn-Cattle, Saudi Arabia |
| *P. digitatum* | 14737 | Orange fruit |
| *P. digitatum* | 14836 | Lemon fruit  |
| *P. expansum* | 515 | Air, Assiut*,* Egypt |
| *P. expansum* | 4018 | Air, Saudi Arabia |
| *P. expansum* | 4050 | Air, Saudi Arabia |
| *P. expansum* | 4060 | Air, Saudi Arabia |
| *P. expansum* | 14900 | Apple |
| *P. glucoroseum* | 14800 | Soil, Assiut, Egypt |
| *P. goetzii* | 498 | Soil, Assiut*,* Egypt |
| *P. griseofulvum* | 309 | Soil, Assiut*,* Egypt |
| *P. griseofulvum* | 503 | Soil, Assiut*,* Egypt |
| *P. griseofulvum* | 504 | Soil, Assiut*,* Egypt |
| *P. griseofulvum* | 534 | Soil, Assiut*,* Egypt |
| *P. griseofulvum* | 535 | Soil, Assiut*,* Egypt |
| *P. italicum* | 312 | Citrus fruit, Egypt |
| *P. italicum* | 522 | Citrus fruit, Egypt |
| *P. italicum* | 524 | Citrus fruit, Egypt |
| *P. italicum* | 13326 | Mandarine fruit |
| *P. janczewskii* | 314 | Soil, Germany |
| *P. jensenii* | 1515 | Wheat grains*,* Egypt |
| *P. jensenii* | 2049 | Soil, Assiut*,* Egypt |
| *P. oxalicum* | 2034 | Soil, Assiut*,* Egypt |
| *P. oxalicum* | 2036 | Soil, Assiut*,* Egypt |
| *P. oxalicum* | 14898 | Corrat plant |
| *P. oxalicum* | 15084 | *Nigella* seeds |
| *P. oxalicum* | 15097 | *Nigella* seeds |
| *P. polonicum* | 14487 | Soil, Assiut, Egypt |
| *P. scleratiogenum* | 14738 | Soil, Assiut, Egypt |
| *P.**simplicissimum*  | 529 | Soil, Assiut*,* Egypt |
| *P.**simplicissimum*  | 584 | Water of train reservoir |
| *P. solitum*  | 505 | Sweet potatoes |
| *P. solitum*  | 13366 | Soil, Assiut, Egypt |
| *P. solitum*  | 14747 | Soil, Assiut, Egypt |
| *P. solitum*  | 14755 | T3A Pharmaceuticals |
| *P. solitum*  | 14762 | T3A Pharmaceuticals |
| *P. solitum*  | 14887 | Onion, El-Minia |
| *P. solitum*  | 15155 | Soil, Assiut, Egypt |
| *P. solitum*  | 15156 | Soil, Assiut, Egypt |
| *P. solitum*  | 15162 | Soil, Assiut, Egypt |
| *P. solitum*  | 15163 | Soil, Assiut, Egypt |
| *P. velutinum* | 560 | Cerealaphids, Egypt |
| *Penicillium*sp*.* | 492 | Soil, Assiut*,* Egypt |
| *Penicillium*sp*.* | 494 | Soil, Assiut*,* Egypt |
| *Penicillium*sp*.* | 496 | Soil, Assiut*,* Egypt |
| *Penicillium*sp*.* | 497 | Soil, Assiut*,* Egypt |
| *Penicillium*sp*.* | 502 | Soil, Assiut*,* Egypt |
| *Penicillium*sp*.* | 506 | Air, Assiut*,* Egypt |
| *Penicillium*sp*.* | 517 | Air, Assiut*,* Egypt |
| *Penicillium*sp*.* | 519 | Air, Assiut*,* Egypt |
| *Penicillium*sp*.* | 542 | Air, Assiut*,* Egypt |
| *Penicillium*sp*.* | 579 | Water of train reservoir |
| *Penicillium*sp*.* | 580 | Water of train reservoir |
| *Penicillium*sp*.* | 581 | Water of train reservoir |
| *Penicillium*sp*.* | 583 | Water of train reservoir |
| *Penicillium*sp*.* | 586 | Water of train reservoir |
| *Penicillium*sp*.* | 1015 | Soil, Malayzia |
| *Penicillium*sp*.* | 1019 | Soil, Malayzia |
| *Penicillium*sp*.* | 1028 | Soil, Malayzia |
| *Penicillium*sp*.* | 1040 | Soil, Malayzia |
| *Penicillium*sp*.* | 1044 | Soil, Malayzia |
| *Penicillium*sp*.* | 1503 | Tomatoes*,* Egypt |
| *Penicillium*sp*.* | 1989 | Air, Assiut*,* Egypt |
| *Penicillium*sp*.* | 1992 | Soil, Assiut*,* Egypt |
| *Penicillium*sp*.* | 1996 | Water of Aqaba Gulf |
| *Penicillium*sp*.* | 2017 | Air, Assiut*,* Egypt |
| *Penicillium*sp*.* | 2043 | Soil, Assiut*,* Egypt |
| *Penicillium*sp*.* | 2447 | Soil, Aswan*,* Egypt |
| *Penicillium*sp*.* | 2451 | Soil, Aswan*,* Egypt |
| *Penicillium*sp*.* | 2506 | Banana soil, Assiut*,* Egypt |
| *Penicillium*sp*.* | 2596 | Soil, Assiut*,* Egypt |
| *Penicillium*sp*.* | 2905 | Air, Assiut*,* Egypt |
| *Penicillium*sp*.* | 3968 | Yoghourt |
| *Penicillium*sp*.* | 3992 | Dry fig fruit |
| *Penicillium*sp*.* | 4034 | Air, Saudi Arabia |
| *Penicillium*sp*.* | 4068 | Shoe cream |
| *Penicillium*sp*.* | 4085 | Soil, Assiut*,* Egypt |
| *Penicillium*sp*.* | 4099 | Kunafa |
| *Penicillium*sp*.* | 4100 | Kunafa |
| *Penicillium*sp*.* | 13317 | *Tinea capitis* |
| *Penicillium*sp*.* | 14723 | Yoghourt |
| *Talaromyces dduclauxii*  | 301 | Potato tuber, Egypt |
| *T. duclauxii*  | 1985 | Air, Assiut*,* Egypt |
| *T. duclauxii*  | 2507 | Banana soil, Assiut*,* Egypt |
| *T. duclauxii*  | 14729 | Bagase |
| *T. duclauxii*  | 14746 | Soil, Assiut, Egypt |
| *T. duclauxii*  | 14748 | Soil, Assiut, Egypt |
| *T. duclauxii*  | 14749 | Soil, Assiut, Egypt |
| *T. pinophilus* | 15075 | *Nigella* seeds |
| *T. purpureogenus* | 334 | Soil, Assiut*,* Egypt |
| *T. purpureogenus* | 14726 | Yoghourt |
| *T. purpureogenus* | 14799 | Soil, Assiut, Egypt |
| **Total** |  |  |
| **No. of genera** | **2** |  |
| **No. of species** | **25** |  |