**Table S3. Detailed information of the 20 motifs in the 52 PKS proteins.**

|  |  |  |  |
| --- | --- | --- | --- |
| Motif | Width |  Sequences | Domain |
| 1 | 57 | EWGQPKSKITHLVFCTTSGVDMPGADYQLTKLLGLRPSVQRFMMYQQGCYAGGTVLR | Chal\_sti\_synt\_N |
| 2 | 51 | HPGGPAILDQVEAKLGLKPEKLRATRHVLSEYGNMSSACVLFILDEMRKKS | Chal\_sti\_synt\_C |
| 3 | 56 | LAKDLAENNKGARVLVVCSEITAVTFRGPSDTHLDSLVGQALFGDGAAAVIIGSDP | Chal\_sti\_synt\_N |
| 4 | 49 | ERPLFQLVSAAQTFIPNSDGAIDGHLREMGLTFHLWRDVPQLISKNIEK | Chal\_sti\_synt\_C |
| 5 | 35 | DKSMIKKRYMHMTEEILKENPNMCTYMAPSLDQRQ | Chal\_sti\_synt\_N |
| 6 | 29 | KATTGEGLEWGVLFGFGPGLTVETVVLHS | Chal\_sti\_synt\_C |
| 7 | 33 | PATILAIGTANPPNCVYQEDYPDYYFRITNCEH | Chal\_sti\_synt\_N |
| 8 | 15 | FDPIGISDWNSLFWI | \* |
| 9 | 15 | EVPKLGKEAALKCIK | \* |
| 10 | 11 | TELKEKFKRMC | \* |
| 11 | 15 | MVTVEEIRKAQRAQG | \* |
| 12 | 29 | KRYIHLTEEMLEEHPNICAYMAPSLNIRQ | Chal\_sti\_synt\_N |
| 13 | 21 | EWGLALAFGPGITFEGILLRS | Chal\_sti\_synt\_C |
| 14 | 11 | MAPLVKDQVEP | \* |
| 15 | 6 | FCHKLM | \* |
| 16 | 19 | MSQTDNNGAPKHYATPTRR | \* |
| 17 | 6 | FLTKTF | \* |
| 18 | 15 | MMYEQICYAGDTVLR | \* |
| 19 | 10 | METENNLEGC | \* |
| 20 | 8 | PVEQTIYS | \* |