**Table 1. Hard 211 targets of LOMETS2 dataset**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Methods** | **TM-score** | ***p*-value** | **#Correct fold**1 | **Success rate (%)** |
| **DisCovER** | **0.5457** | - | 142 | 67.3 |
| CEthreadera | 0.5071 | 6.98E-06 | 111 | 52.6 |
| EigenThreaderb | 0.4130 |  | 49 |  |
| map\_alignb | 0.4140 |  | 59 |  |
| HHpreda | 0.4068 |  | 68 | 32.2 |
| SparkXa | 0.3957 |  | 59 | 28.0 |
| FFAS3Da | 0.3938 |  | 54 | 25.6 |
| HHsearcha | 0.3725 |  | 57 | 27.0 |
| MUSTERa | 0.3664 |  | 50 | 23.7 |
| Neff-MUSTERa | 0.3596 |  | 46 |  |
| SP3a | 0.3522 |  | 46 |  |
| PPASa | 0.3608 |  | 49 |  |
| PROSPECT2a | 0.3425 |  | 38 |  |
| PRCa | 0.3301 |  | 41 |  |

**Table 2. Hard 160 targets of scope dataset**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | **TM-align<0.4** | |  |  |  | | **TM- align <0.5** | |  |
| TM-score | *p*-value | | #Correct fold | Success rate (%) |  | TM-score | *p*-value | | #Correct fold | Success rate (%) |
| **DisCovER** | **0.409** | **-** | | **35** | **21.9** |  | **0.472** | **-** | | **74** | **46.3** |
| CEthreader | 0.374 | 7.1E-05 | | 12 | 7.5 |  | 0.425 | 2.7E-06 | | 36 | 22.5 |
| EigenThreader | 0.33 |  | | 1 | 0.6 |  | 0.4 |  | | 13 | 8.1 |
| map\_align |  |  | |  |  |  |  |  | |  |  |
|  |  | | **TM- align <0.6** | |  |  |  | | **TM- align <0.7** | |  |
| TM-score | *p*-value | | #Correct fold | Success rate (%) |  | TM-score | *p*-value | | #Correct fold | Success rate (%) |
| **DisCovER** | **0.516** | **-** | | **95** | **59.4** |  | **0.548** | **-** | | **109** | **68.1** |
| CEthreader | 0.478 | 0.0003 | | 70 | 43.8 |  | 0.508 | 5.3E-05 | | 85 | 53.1 |
| EigenThreader | 0.45 |  | | 51 | 31.9 |  | 0.467 |  | | 65 | 40.1 |
| map\_align |  |  | |  |  |  |  |  | |  |  |

**Table 3. 500 targets of MUSTER dataset**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **TM- align <0.5** | | |  |  |  | | **TM- align <0.6** | |  |
| TM-score | *p*-value | #Correct fold | Success rate (%) | |  | TM-score | *p*-value | | #Correct fold | Success rate (%) |
| **DisCovER** | **0.46** |  | **209** | | **41.8** |  | **0.52** |  | | **308** | **61.6** |
| **DisCovER**ranking | 0.43 |  | 156 | | 31.2 |  | 0.49 |  | | 251 | 50.2 |
| **DisCovER**Pure threading | 0.33 |  | 18 | | 3.6 |  | 0.42 |  | | 208 | 41.6 |