|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Conditionb** | **Helix**a**(%)** | **Parallel**a**(%)** | **Turn**a**(%)** | **Random**a**(%)** | **Total Sum(%)** |
| 0 mM SDS | 4.50%  | 53.80%  | 25.40%  | 29.50%  | 113.20%  |
| 30 mM SDS | 92.30%  | 1.40%  | 7.50%  | 0.80%  | 102.00%  |
| 60 mM SDS | 92.10%  | 1.40%  | 7.60%  | 0.80%  | 101.90%  |
| 90 mM SDS | 92.90%  | 1.40%  | 7.40%  | 0.70%  | 102.40%  |
| 120 mM SDS | 93.80%  | 1.40%  | 7.00%  | 0.70%  | 102.80%  |
| 0 mM NaCl | 92.40%  | 1.40%  | 7.70%  | 0.80%  | 102.30%  |
| 100 mM NaCl | 93.70%  | 1.30%  | 8.80%  | 0.40%  | 104.20%  |
| 200 mM NaCl | 93.30%  | 1.40%  | 7.80%  | 0.60%  | 103.10%  |
| 400 mM NaCl | 89.60%  | 1.40%  | 7.60%  | 1.10%  | 99.70%  |
| 20℃ | 94.00%  | 1.30%  | 7.40%  | 0.50%  | 103.20%  |
| 37℃ | 94.00%  | 1.30%  | 7.40%  | 0.50%  | 103.20%  |
| 50℃ | 93.50%  | 1.30%  | 7.30%  | 0.60%  | 102.70%  |
| 70℃ | 94.20%  | 1.30%  | 7.40%  | 0.50%  | 103.40%  |
| 90℃ | 95.10%  | 1.20%  | 7.60%  | 0.40%  | 104.30%  |
| LPS  | 31.40%  | 29.40%  | 12.50%  | 22.40%  | 95.60%  |
| LPS + Cath-MH  | 90.80%  | 1.80%  | 7.40%  | 1.50%  | 101.50%  |

**Supplementary file 1.** Secondary structural components of cath-MH in different environments.a CDNN software was used to deconvolute CD spectra into fractional contents and these data are the average value of three scans; b 213 µg/ml cath-MH was treated with various concentrations of SDS, salt solutions, temperatures, and 50 µM LPS.