**Supplementary file 4. Conformational changes for the Mfd component of the Mfd-EC structures.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | L1(adp) | L2(adp) | C1(ATP) | C2(ATP) | C3(adp) | C4(ADP) | C5(ATP) |
|  | align | rms\_cur | align | rms\_cur | align | rms\_cur | align | rms\_cur | align | rms\_cur | align | rms\_cur | align | rms\_cur |
| 2EYQ | 4.998(916) | 9.179(1113) | 19.606(889) | 34(1106) | 12.002(897) | 36.909(1107) | 13.519(907) | 37.193(1115) | 18.508(940) | 36.746(1109) | 16.586(928) | 35.991(1109) | 10.253(891) | 36.375(1109) |
| L1(atp) |  | 20.303(910) | 32.199(1115) | 13.454(901) | 37.08(1110) | 16.895(930) | 36.536(1114) | 14.825(905) | 38.634(1114) | 13.717(900) | 37.494(1112) | 12.331(898) | 36.58(1112) |
| L2(adp) |  |  | 20.605(1032) | 26.011(1135) | 22.779(1075) | 25.75(1131) | 20.421(1076) | 23.088(1139) | 21.076(1140) | 21.205(1139) | 24.73(1140) | 24.818(1135) |
| C1(ATP) |  |  |  | 0.827(930) | 3.954(1134) | 3.686(1020) | 5.674(1138) | 4.714(976) | 7.676(1136) | 0.747(925) | 7.109(1136) |
| C2(ATP) |  |  |  |  | 3.888(1031) | 5.171(1136) | 4.449(1003) | 7.294(1134) | 0.667(915) | 5.769(1132) |
| C3(adp) |  |  |  |  |  | 1.453(953) | 5.61(1140) | 3.637(938) | 7.392(1138) |
| C4(ADP) |  |  |  |  |  |  | 4.946(1122) | 5.098(1136) |