|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EC14 RMSDs** | **4** | **7** | **6** | **8**  **(chains A&B)** | **A1**  **(chains A&B)** | **B** | **B** | **B7**  **(crystal form 1)** | **B7**  **(crystal form 2)** |
| **4** |  | 1.1 Å  (190) | 3.6 Å  (192) | 2.6 Å  (193) | 3.3 Å (192) | 1.8 Å  (180) | 2.9 Å  (190) | 1.8 Å (190) | 1.8 Å (189) |
| **7** | 1.1 Å  (190) |  | 3.8 Å  (186) | 2.7 Å  (190) | 3.4 Å (186 | 1.8 Å  (186) | 3.2 Å  (187) | 1.7 Å (187) | 1.7 Å (183) |
| **6** | 3.6 Å  (192) | 3.8 Å  (186) |  | 1.7 Å  (183) | 3.4 Å (188) | 2.6 Å  (184) | 2.2 Å  (187) | 2.6 Å (188) | 2.9 Å (187) |
| **8**  **(chains A&B)** | 2.6 Å  (193) | 2.7 Å  (190) | 1.7 Å  (183) |  | 3.1 Å (185) | 1.9 Å  (188) | 1.8 Å  (177) | 1.6 Å (181) | 2.0 Å (184) |
| **A1**  **(chains A&B)** | 3.3 Å (192) | 3.4 Å (186) | 3.4 Å (188) | 3.1 Å (185) |  | 3.4 Å  (190) | 3.0 Å  (186) | 3.0 Å (188) | 2.6 Å (187) |
| **B** | 1.8 Å  (180) | 1.8 Å  (186) | 2.6 Å  (184) | 1.9 Å  (188) | 3.4 Å  (190) |  | 2.0 Å  (188) | 1.4 Å  (187) | 2.1 Å  (185) |
| **B** | 2.9 Å  (190) | 3.2 Å  (187) | 2.2 Å  (187) | 1.8 Å  (177) | 3.0 Å  (186) | 2.0 Å  (188) |  | 2.1 Å  (185) | 2.7 Å  (189) |
| **B7**  **(crystal form 1)** | 1.8 Å (190) | 1.7 Å (187) | 2.6 Å (188) | 1.6 Å (181) | 3.0 Å (188) | 1.4 Å  (187) | 2.1 Å  (185) |  | 1.0 Å (174) |
| **B7**  **(crystal form 2)** | 1.8 Å (189) | 1.7 Å (183) | 2.9 Å (187) | 2.0 Å (184) | 2.6 Å (187) | 2.1 Å  (185) | 2.7 Å  (189) | 1.0 Å (174) |  |

#### Figure 1—source data 5. Overall structural similarity between -, -, and -Pcdh EC1:EC4interface regions

Root mean square deviations over aligned C’s (RMSDs) between pairs of interacting EC1(chain A):EC4(chain B) regions from the Pcdh *trans* dimer structures are shown. The number of aligned C’s for each pair is given in parentheses. The 4EC1–4, 7EC1–5, 6EC1–4, 8EC1–4, and B3EC1–4 structures correspond to PDBs: 5DZW, 5DZV, 5DZX, 5DZY, and 5K8R. RMSDs between pairs of dimers from the same subfamily are shaded by subfamily.