|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Dimer RMSDs** | **4** | **7** | **6** | **8**  **(chains A&B)** | **A1**  **(chains A&B)** | **A1**  **(chains C&D)** | **A8** | **B** | **B** | **B7**  **(crystal form 1)** | **B7**  **(crystal form 2)** |
| **4** |  | 1.9 Å  (779) | 4.7 Å  (788) | 3.7 Å  (776) | 4.7 Å (803) | 7.7 Å (782) | 11.7 Å (812) | 3.0 Å  (776) | 5.0 Å  (795) | 2.2 Å (775) | 1.8 Å (756) |
| **7** | 1.9 Å  (779) |  | 4.7 Å  (793) | 3.9 Å  (783) | 4.3 Å (796) | 6.9 Å (811) | 10.3 Å (812) | 3.4 Å  (965) | 4.6 Å  (765) | 2.9 Å (798) | 2.5 Å (775) |
| **6** | 4.7 Å  (788) | 4.7 Å  (793) |  | 1.6 Å  (715) | 5.0 Å (814) | 7.9 Å (804) | 11.2 Å (793) | 4.2 Å  (798) | 3.4 Å  (773) | 4.0 Å (800) | 3.9 Å (791) |
| **8**  **(chains A&B)** | 3.7 Å  (776) | 3.9 Å  (783) | 1.6 Å  (715) |  | 4.5 Å (810) | 7.2 Å (799) | 10.2 Å (786) | 3.3 Å  (790) | 3.0 Å  (770) | 3.3 Å (784) | 3.3 Å (790) |
| **A1**  **(chains A&B)** | 4.7 Å (803) | 4.3 Å (796) | 5.0 Å (814) | 4.5 Å (810) |  | 5.6 Å (791) | 9.2 Å (792) | 5.4 Å  (805) | 5.5 Å  (817) | 4.7 Å (804) | 4.5 Å (800) |
| **A1**  **(chains C&D)** | 7.7 Å (782) | 6.9 Å (811) | 7.9 Å (804) | 7.2 Å (799) | 5.6 Å (791) |  | 4.8 Å (802) | 7.9 Å  (816) | 7.3 Å  (799) | 7.7 Å (802) | 7.3 Å (776) |
| **A8** | 11.7 Å (812) | 10.3 Å (812) | 11.2 Å (793) | 10.2 Å (786) | 9.2 Å (792) | 4.8 Å (802) |  | 11.2 Å  (810) | 8.2 Å  (711) | 11.2 Å (800) | 10.9 Å (795) |
| **B** | 3.0 Å  (776) | 3.4 Å  (965) | 4.2 Å  (798) | 3.3 Å  (790) | 5.4 Å  (805) | 7.9 Å  (816) | 11.2 Å  (810) |  | 3.3 Å  (796) | 3.4 Å  (813) | 2.8 Å  (790) |
| **B** | 5.0 Å  (795) | 4.6 Å  (765) | 3.4 Å  (773) | 3.0 Å  (770) | 5.5 Å  (817) | 7.3 Å  (799) | 8.2 Å  (711) | 3.3 Å  (796) |  | 5.4 Å  (823) | 5.0 Å  (812) |
| **B7**  **(crystal form 1)** | 2.2 Å (775) | 2.9 Å (798) | 4.0 Å (800) | 3.3 Å (784) | 4.7 Å (804) | 7.7 Å (802) | 11.2 Å (800) | 3.4 Å  (813) | 5.4 Å  (823) |  | 1.5 Å (805) |
| **B7**  **(crystal form 2)** | 1.8 Å (756) | 2.5 Å (775) | 3.9 Å (791) | 3.3 Å (790) | 4.5 Å (800) | 7.3 Å (776) | 10.9 Å (795) | 2.8 Å  (790) | 5.0 Å  (812) | 1.5 Å (805) |  |

#### Figure 1—source data 3. Overall structural similarity between -, -, and -Pcdh EC1–4 *trans* dimer structures

Root mean square deviations over aligned C’s (RMSDs) between pairs of 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.