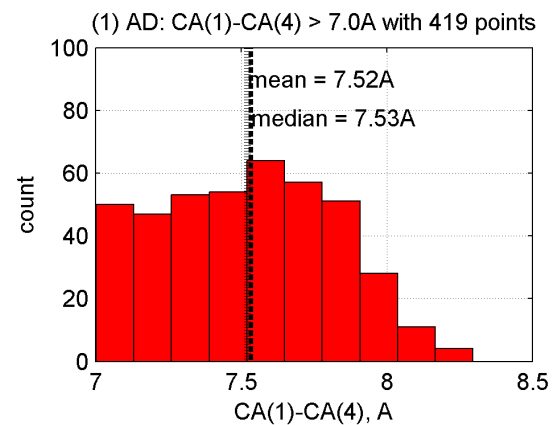
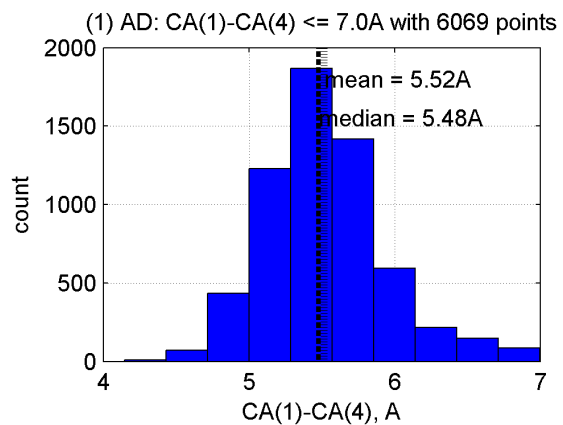
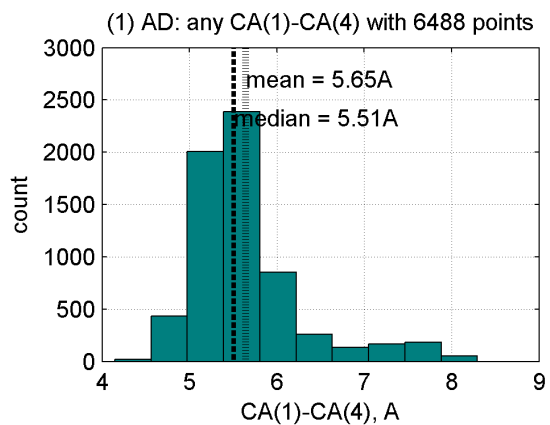
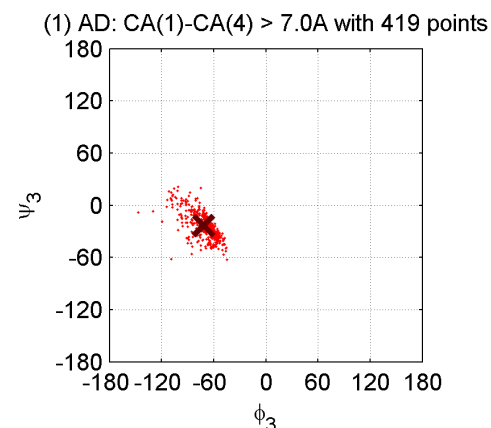
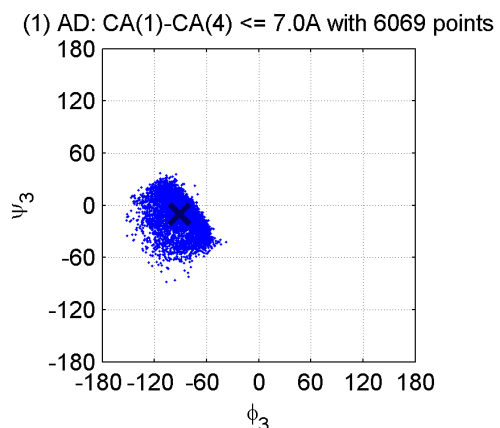
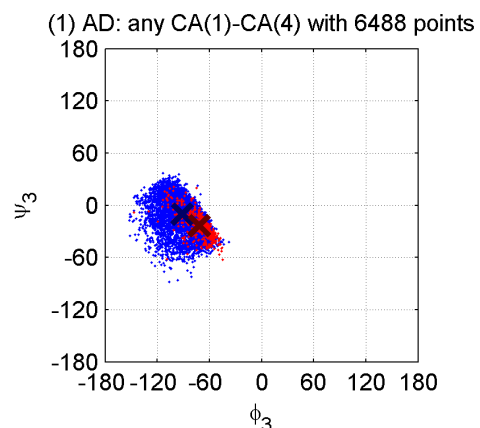
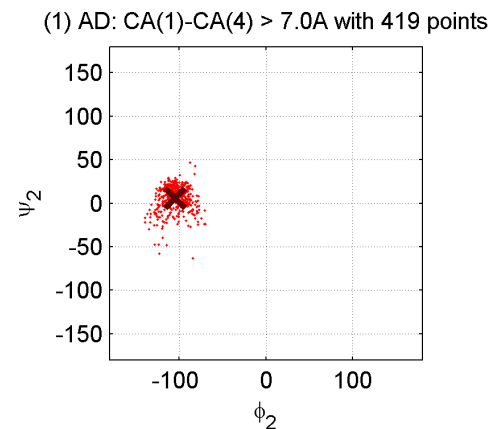
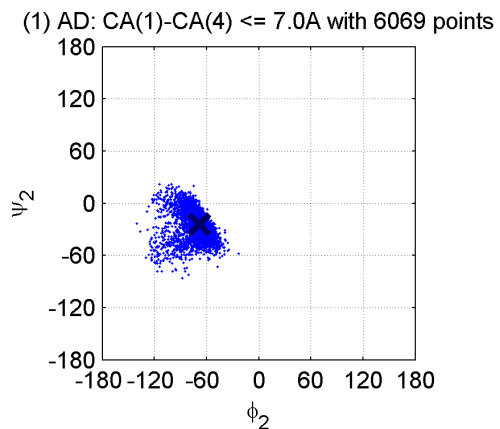
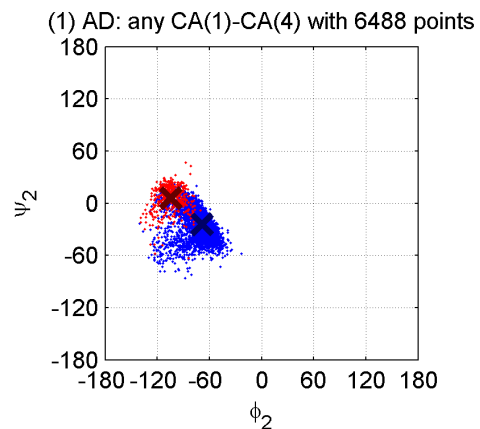
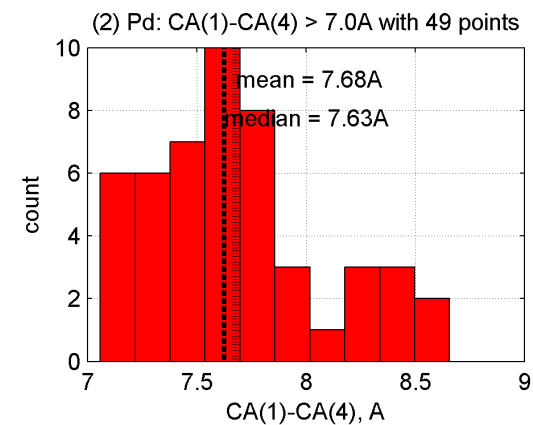
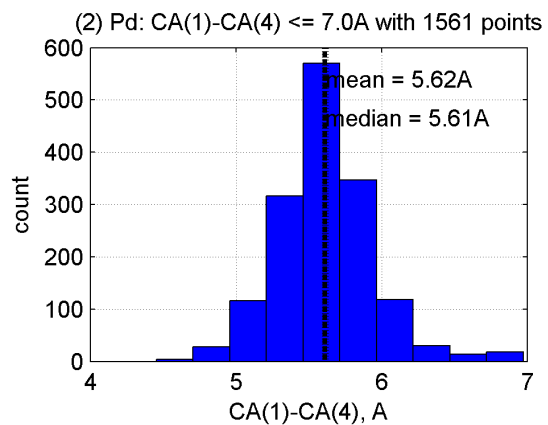
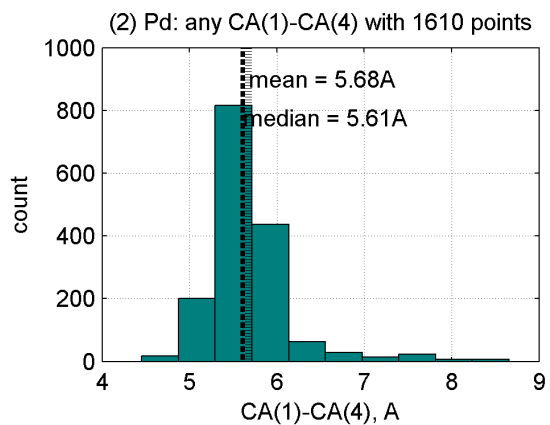
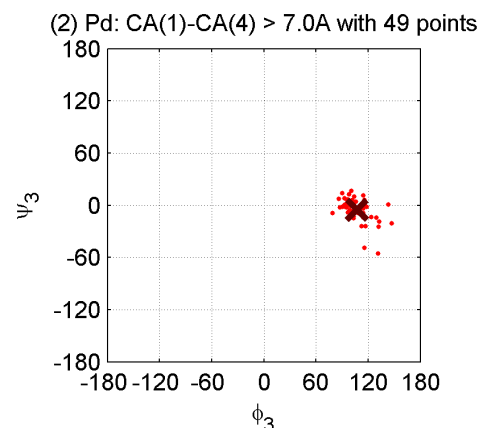
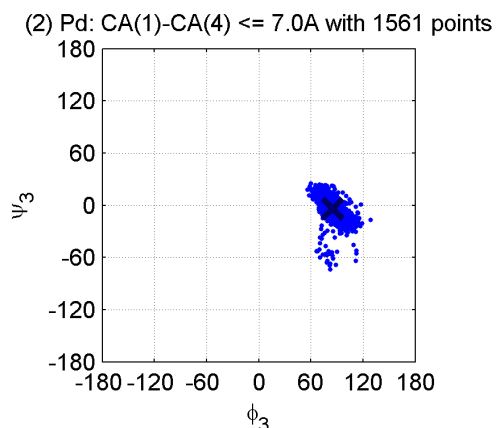
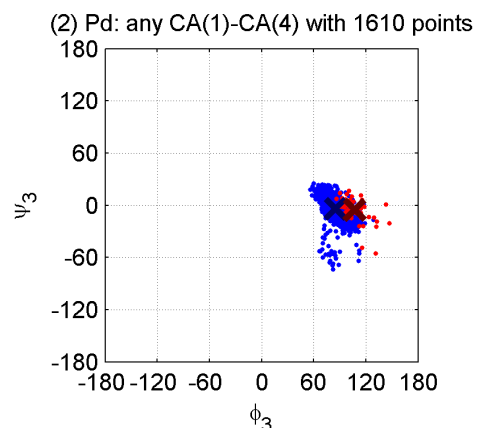
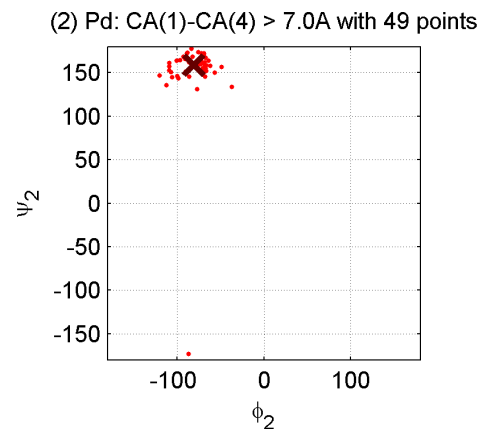
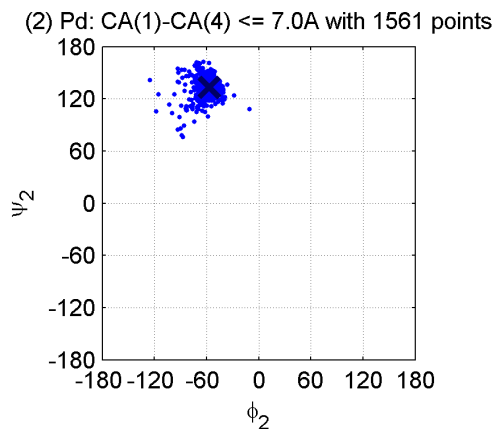
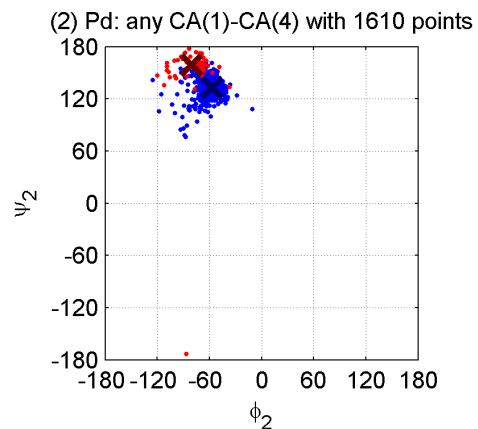
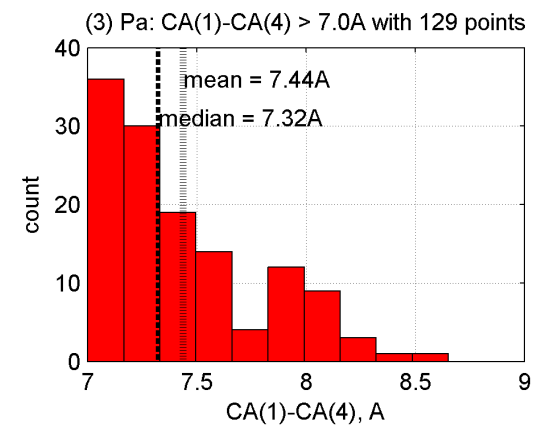
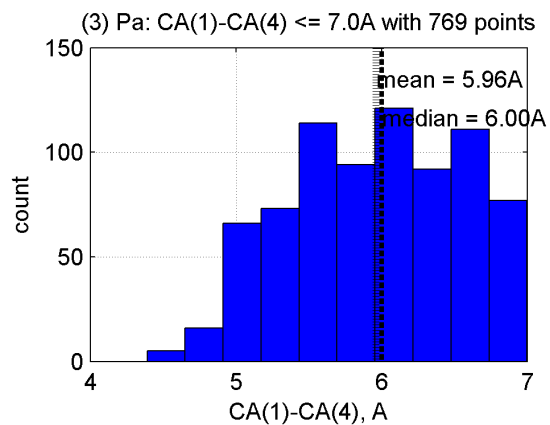
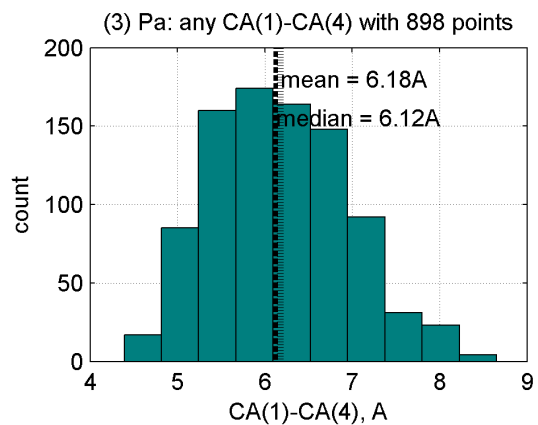
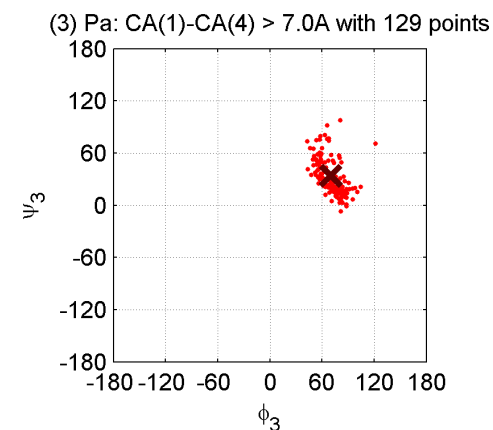
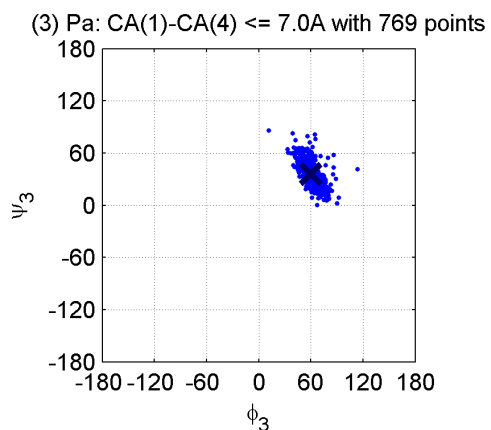
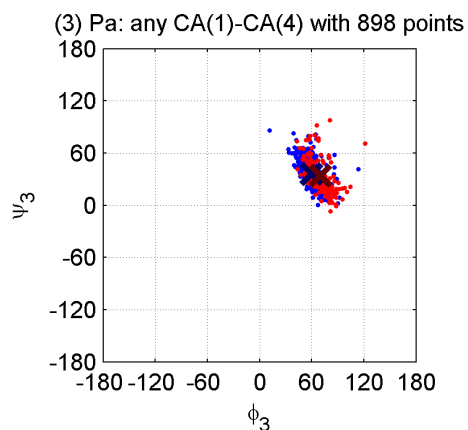
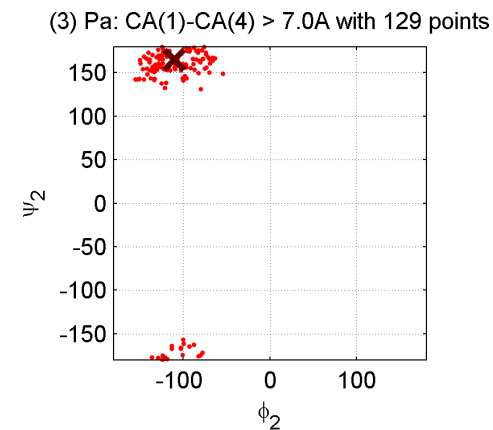
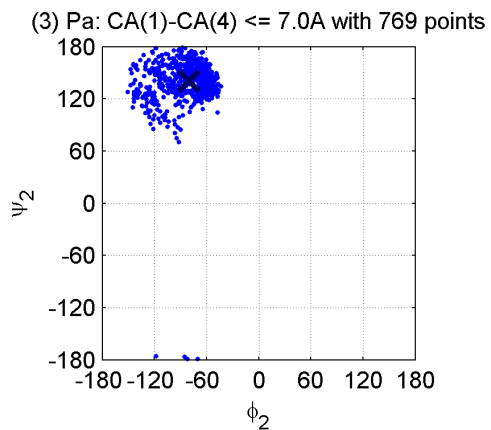
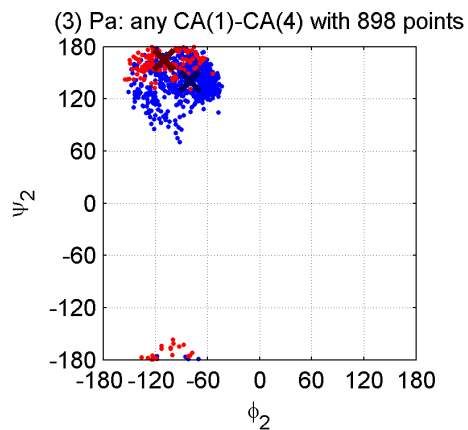
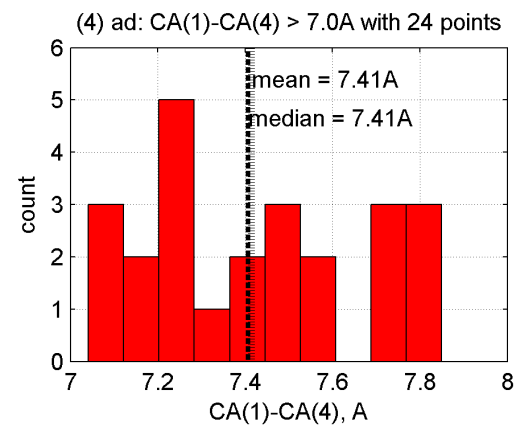
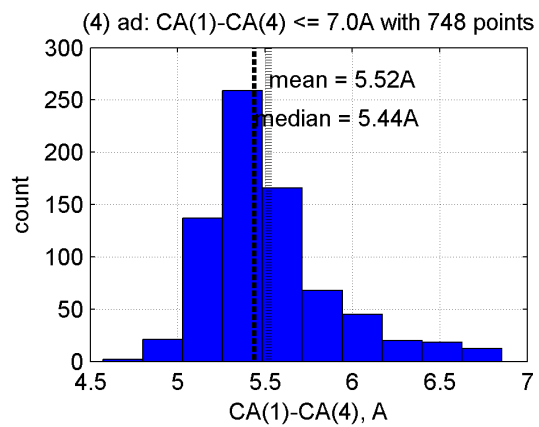
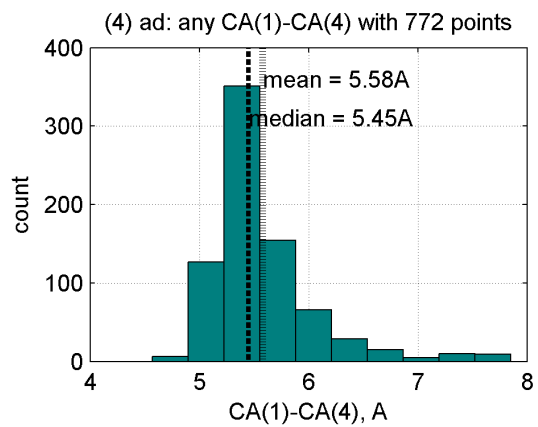
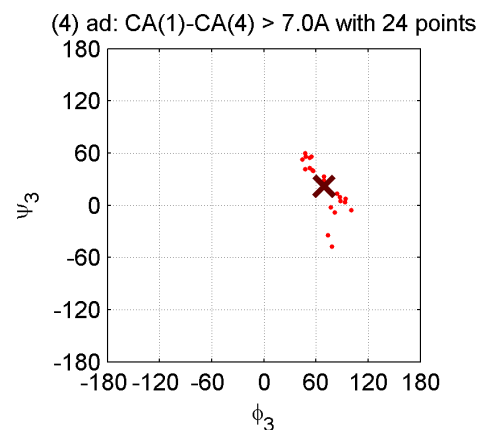
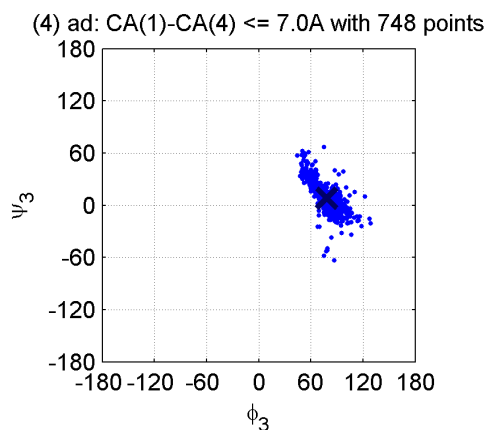
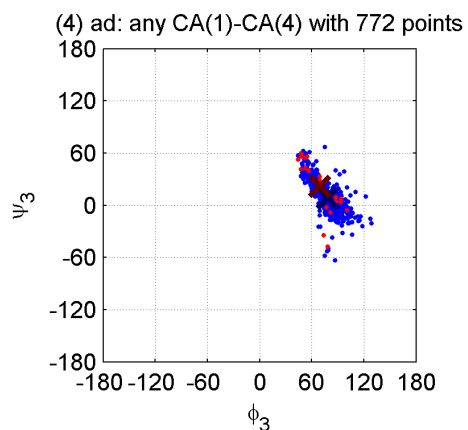
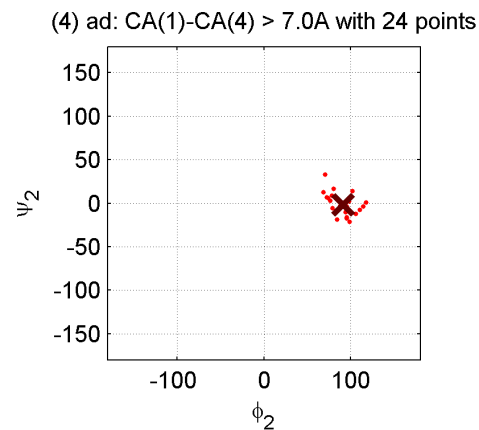
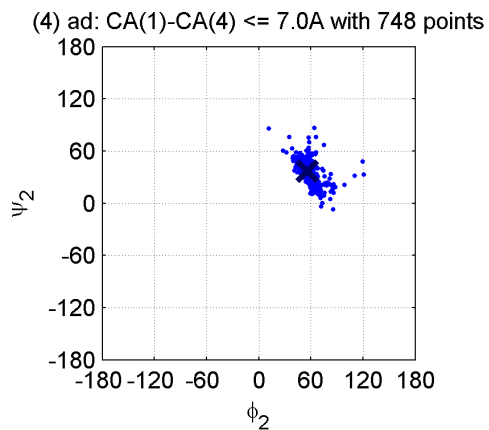
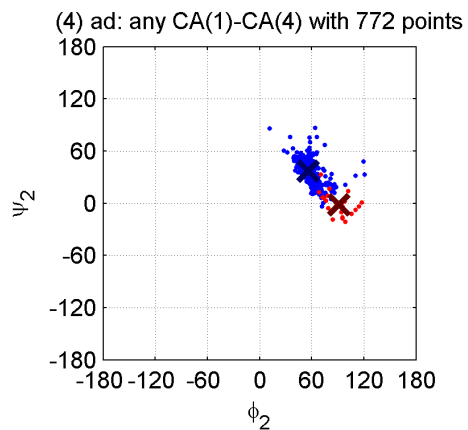


**S2 Supporting Information.** This file contains Ramachandran plots for all 18 clusters and *Other* turns when no Ca1-Ca4 distance cutoff is used. Points in blue have Ca1-Ca4 distance  $\leq 7.0$  Å; points in red have Ca1-Ca4  $> 7$  Å. The first column shows all points that can be assigned to the cluster by the dihedral angle metric regardless of Ca1-Ca4 distance. The second column shows data for those points with Ca1-Ca4  $\leq 7.0$  Å. The third column shows data for those points with Ca1-Ca4  $> 7$  Å. The histograms in the bottom row show the distribution of Ca1-Ca4 distances for each group. There is one page for each cluster and for the *Other* group. Four-residue segments with Ca1-Ca4 up to about 8 Å are shaped like turns. Those above 7 Å are wider and shallower than classical beta turns (Ca1-Ca4  $\leq 7.0$  Å). Segments with Ca1-Ca4 distance around 9 Å are L-shaped. Those at about 10 Å are significantly extended and similar to segments of beta sheet strands. Most 4-residue segments in the *Other* category are not shaped like turns since their Ca1-Ca4 distance is above 9 Å.

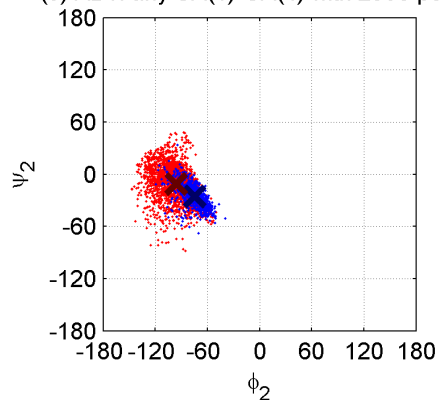




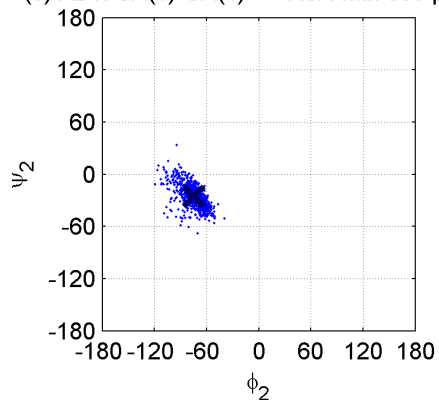




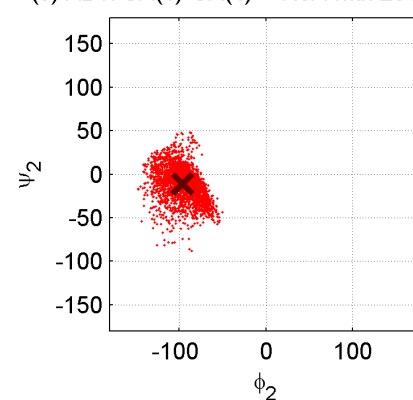
(5) AB1: any CA(1)-CA(4) with 2950 points



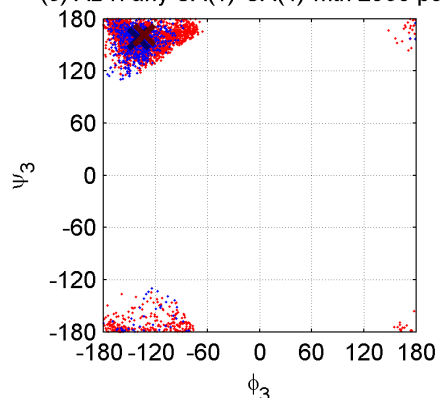
(5) AB1: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 635 points



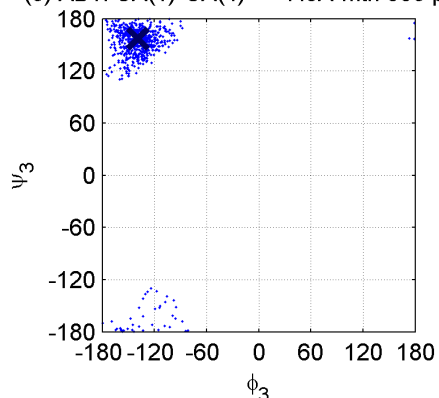
(5) AB1: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 2315 points



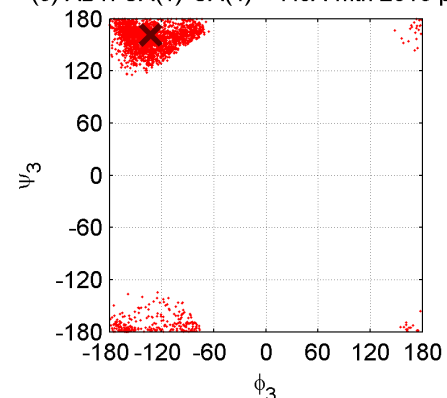
(5) AB1: any CA(1)-CA(4) with 2950 points



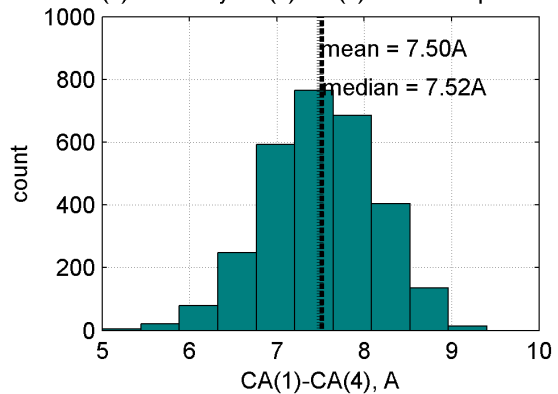
(5) AB1: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 635 points



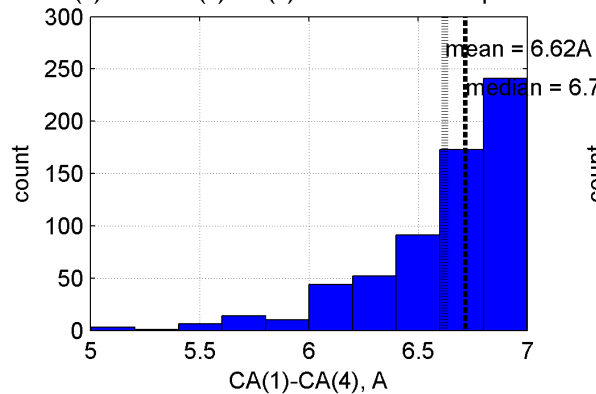
(5) AB1: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 2315 points



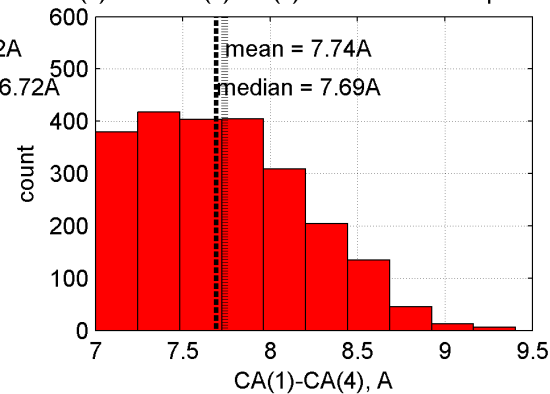
(5) AB1: any CA(1)-CA(4) with 2950 points

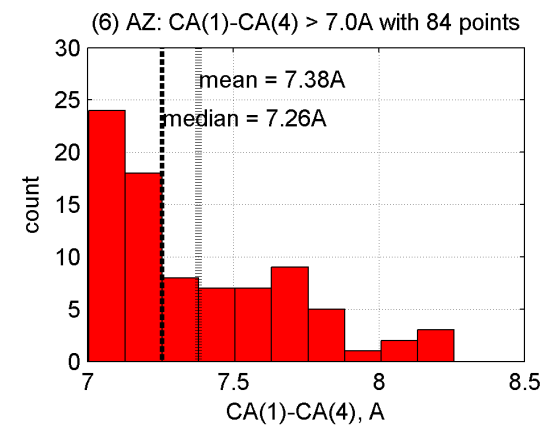
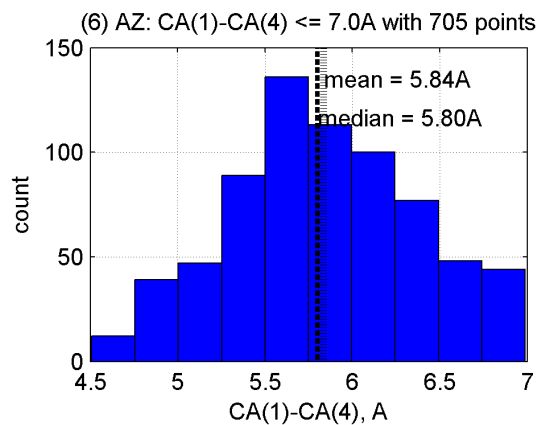
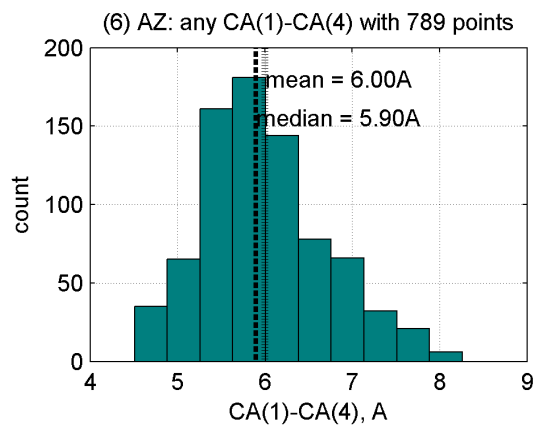
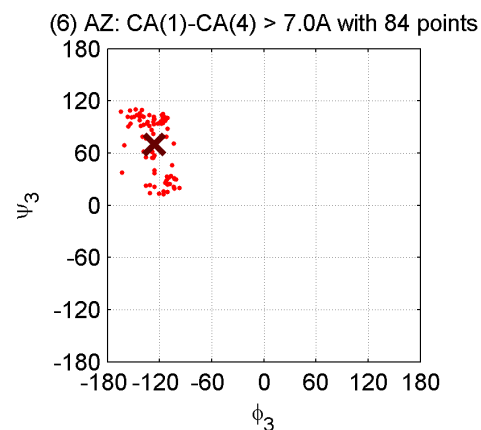
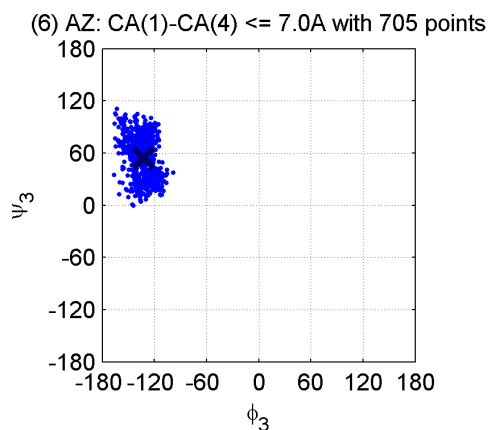
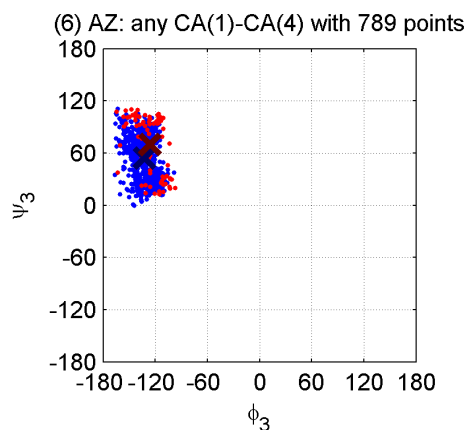
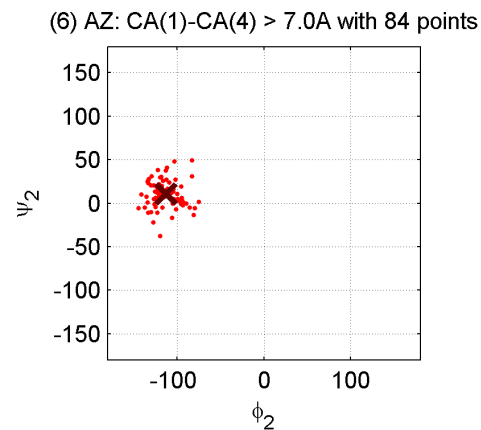
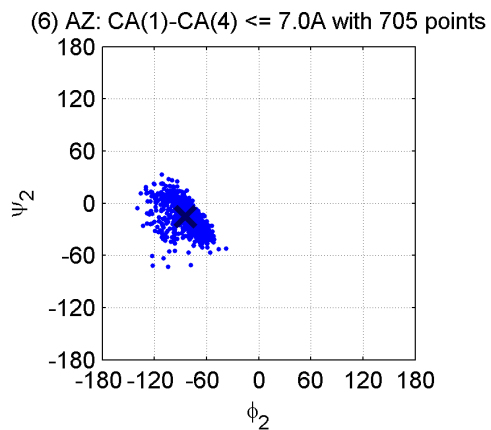
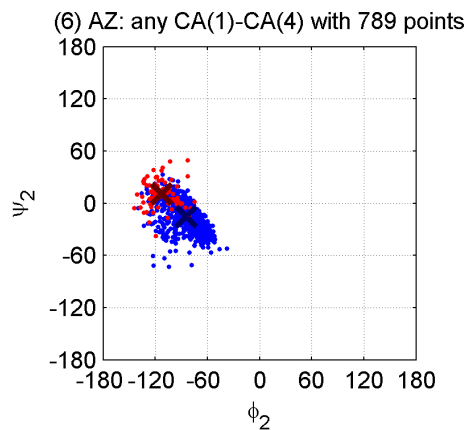


(5) AB1: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 635 points

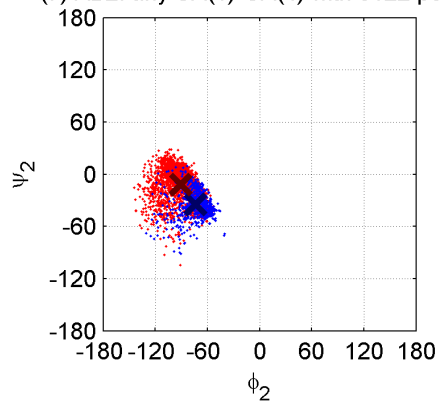


(5) AB1: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 2315 points

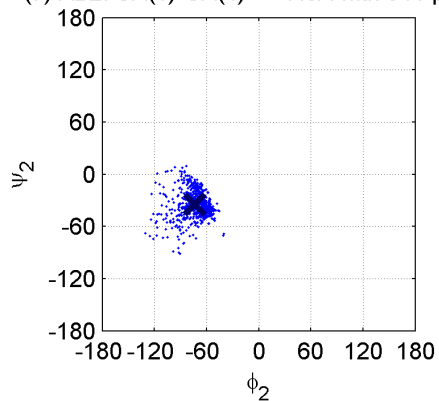




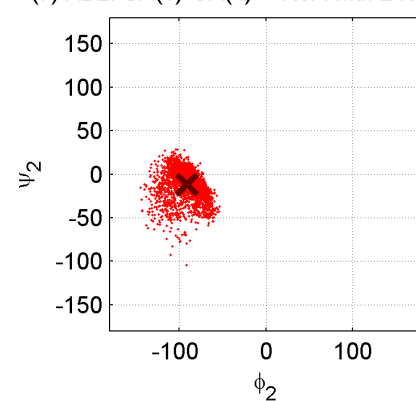
(7) AB2: any CA(1)-CA(4) with 3122 points



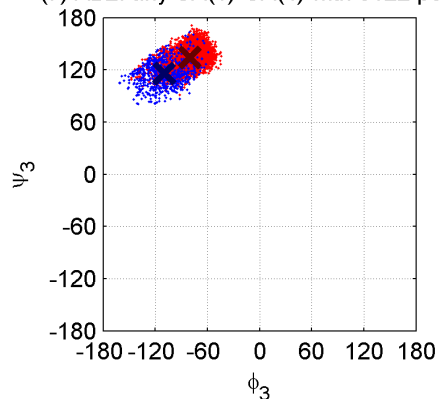
(7) AB2: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 641 points



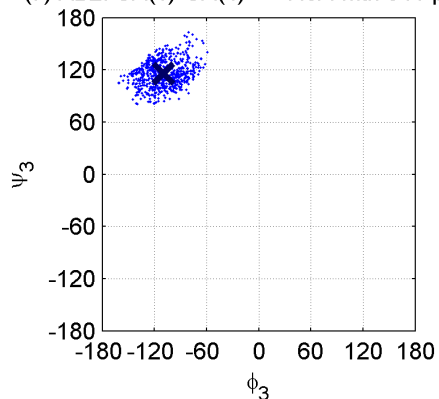
(7) AB2: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 2481 points



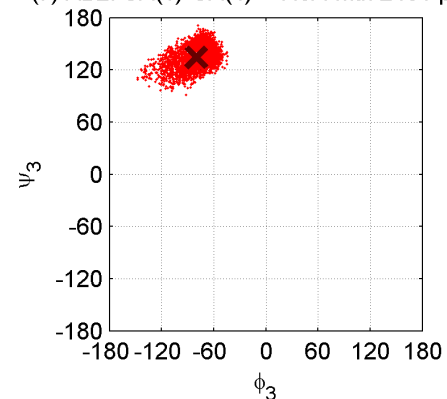
(7) AB2: any CA(1)-CA(4) with 3122 points



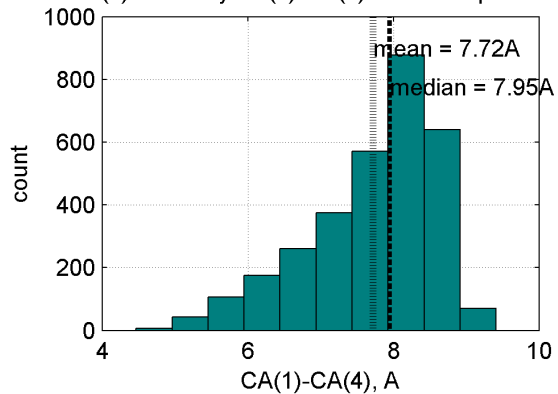
(7) AB2: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 641 points



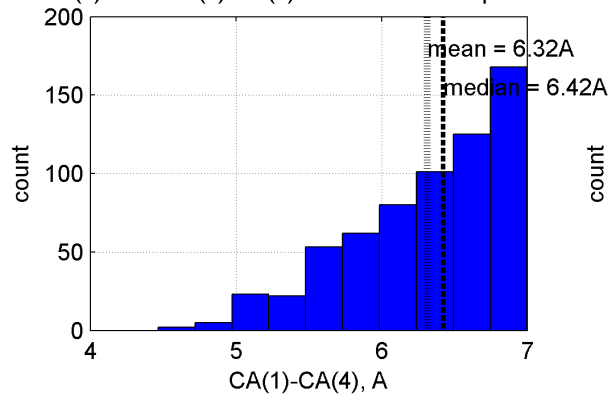
(7) AB2: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 2481 points



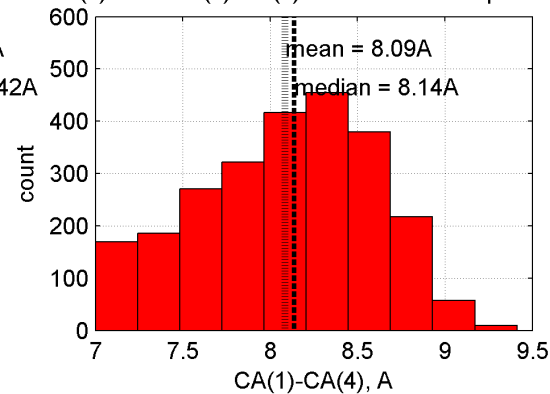
(7) AB2: any CA(1)-CA(4) with 3122 points



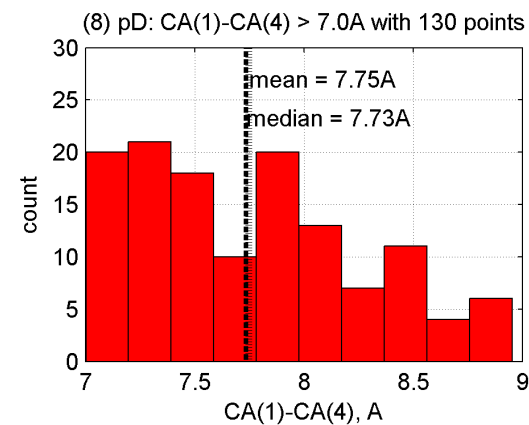
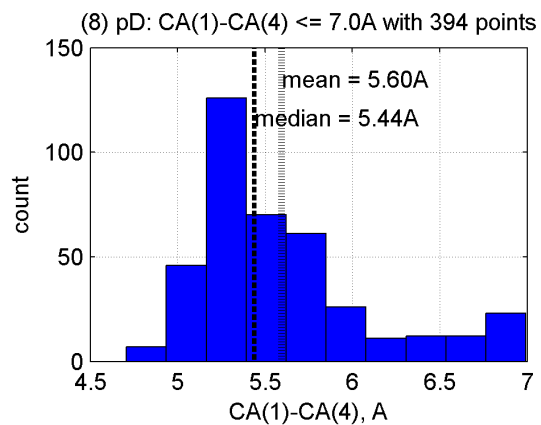
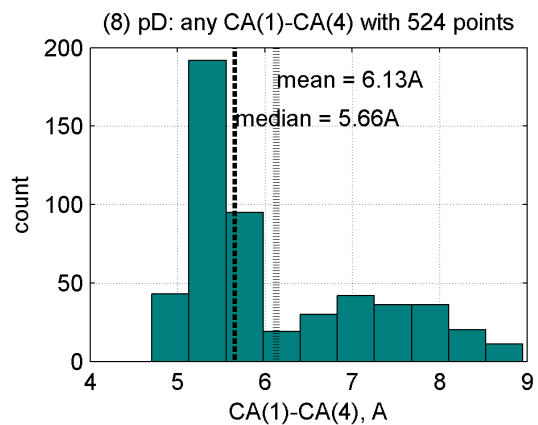
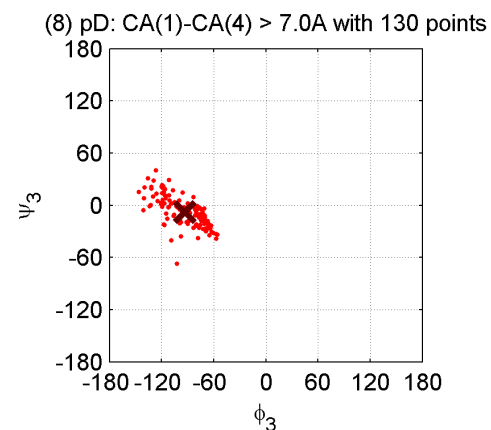
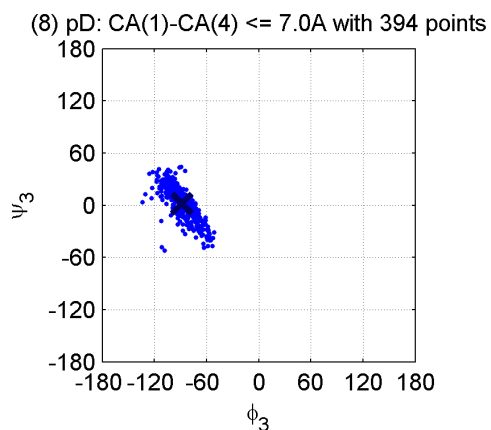
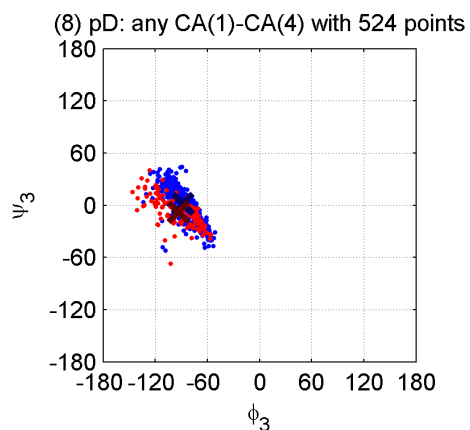
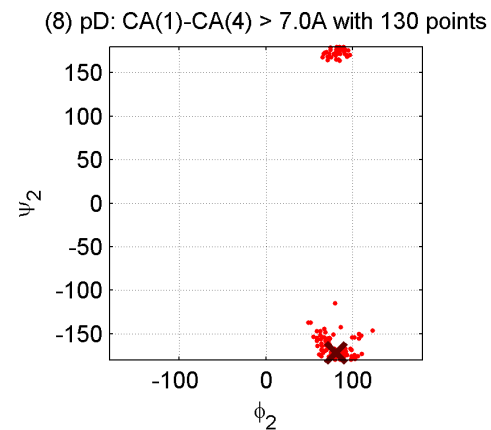
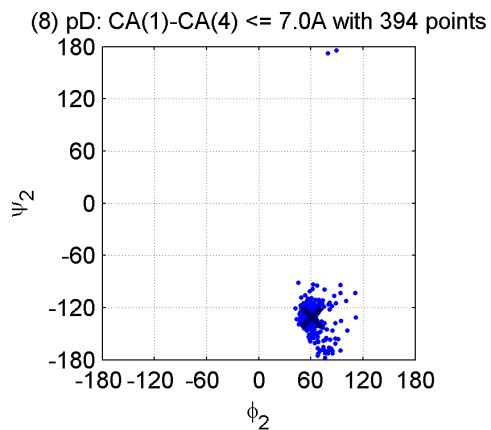
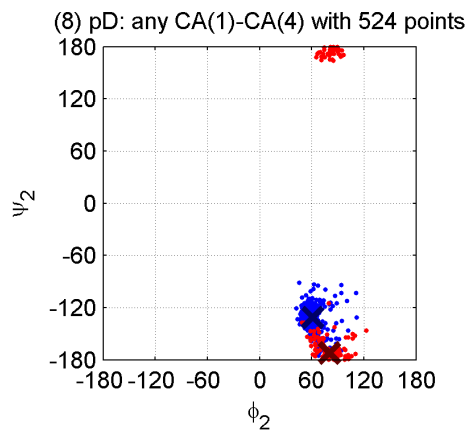
(7) AB2: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 641 points

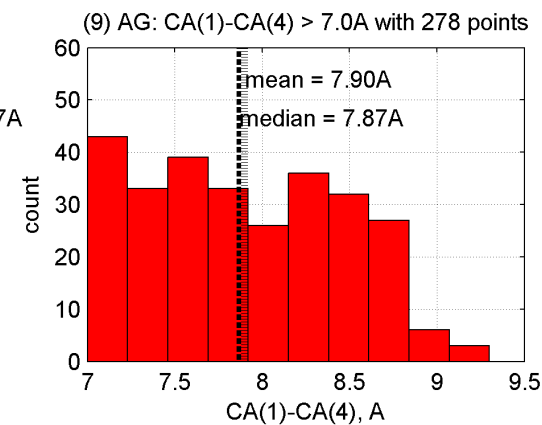
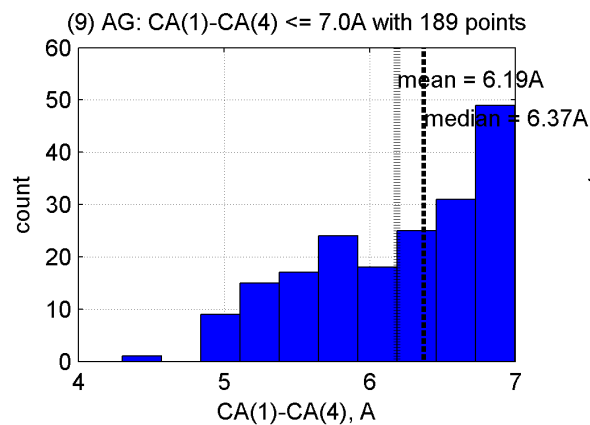
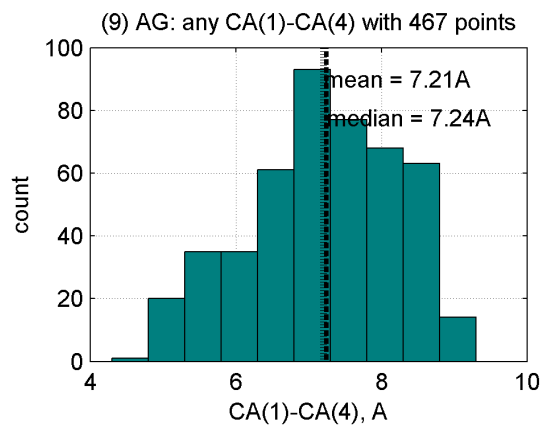
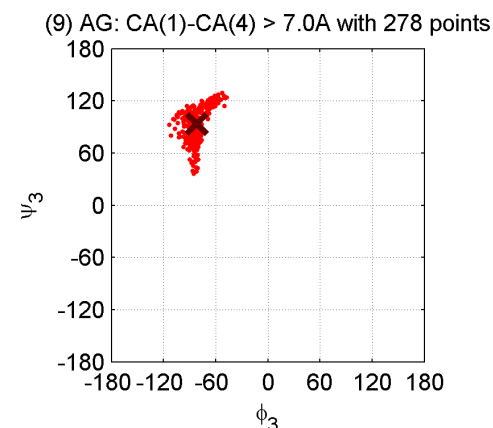
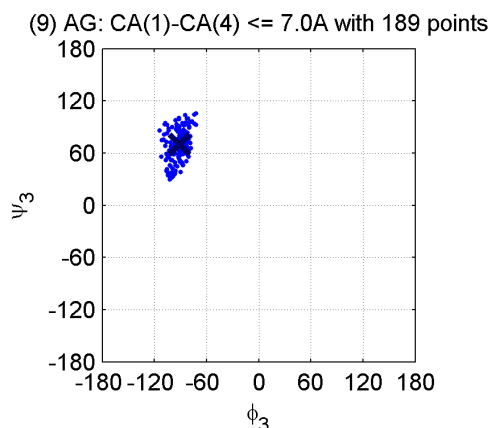
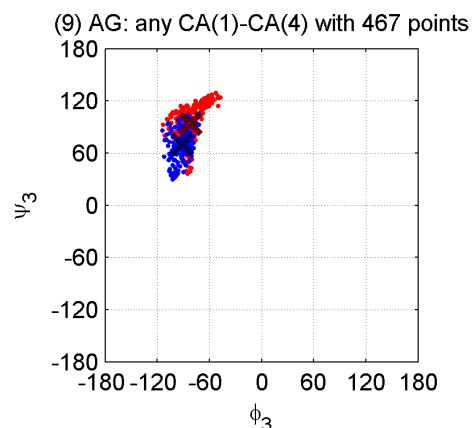
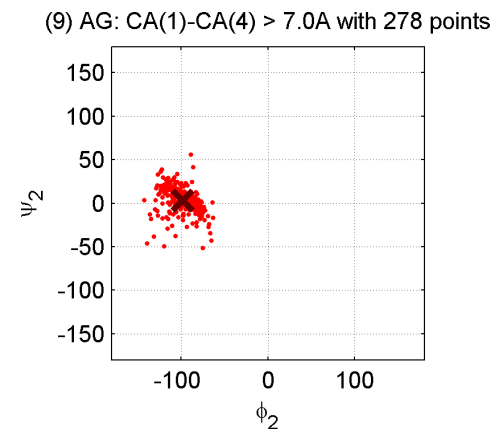
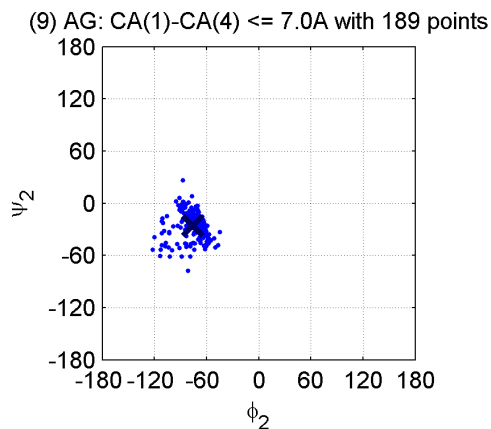
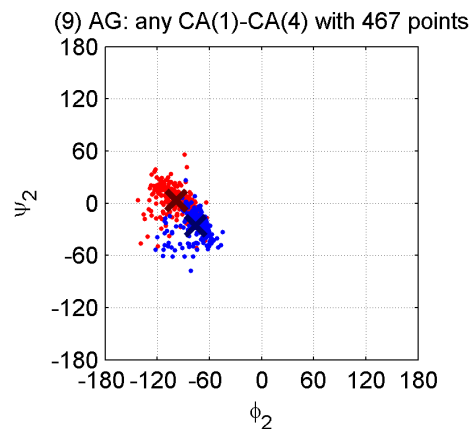


(7) AB2: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 2481 points

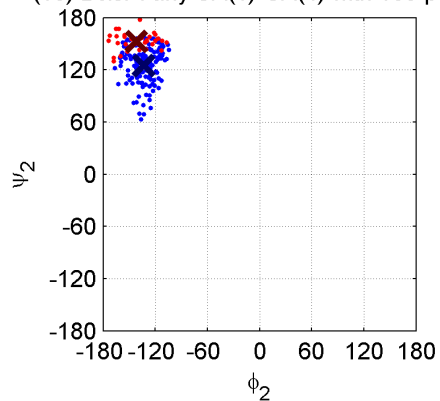




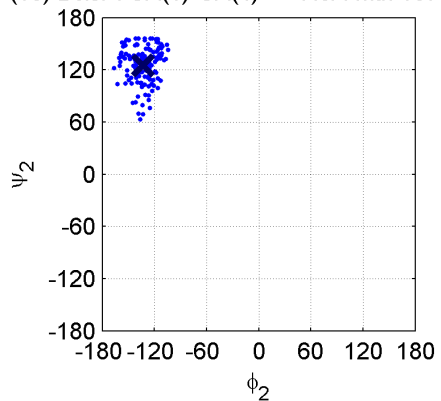




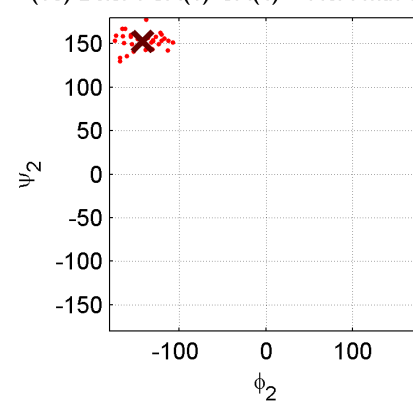
(10) BcisP: any CA(1)-CA(4) with 169 points



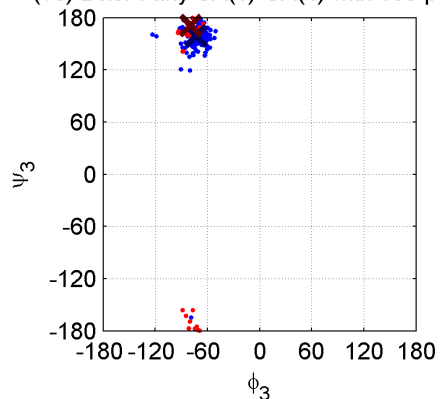
(10) BcisP: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 137 points



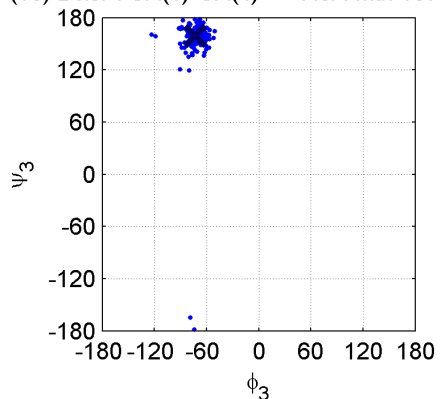
(10) BcisP: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 32 points



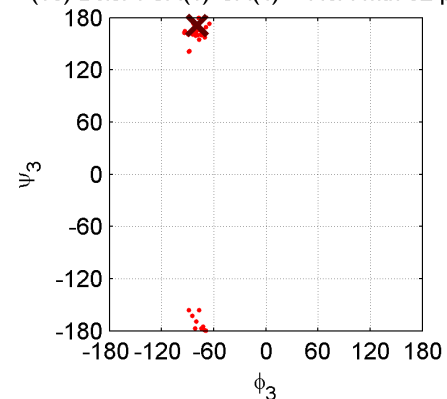
(10) BcisP: any CA(1)-CA(4) with 169 points



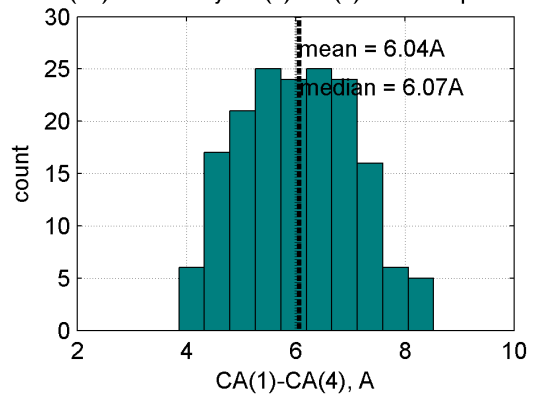
(10) BcisP: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 137 points



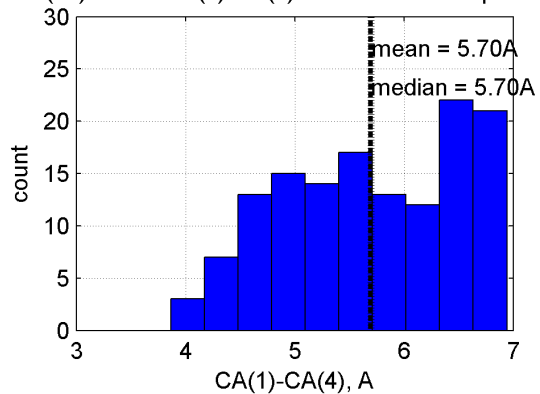
(10) BcisP: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 32 points



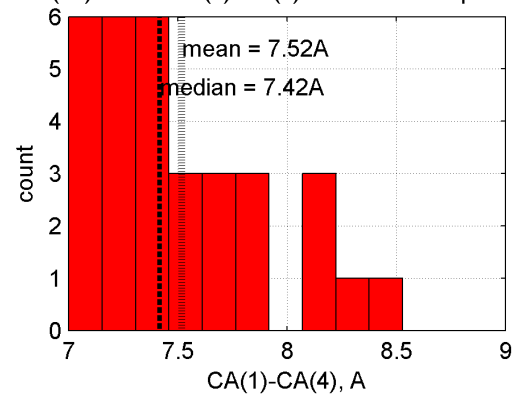
(10) BcisP: any CA(1)-CA(4) with 169 points



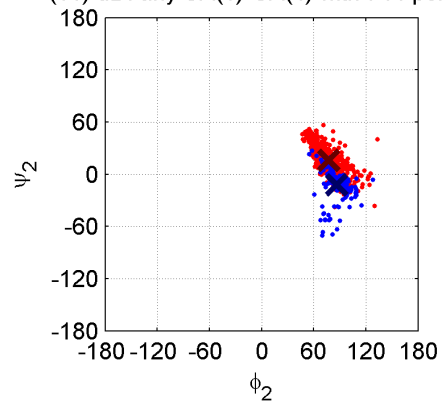
(10) BcisP: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 137 points



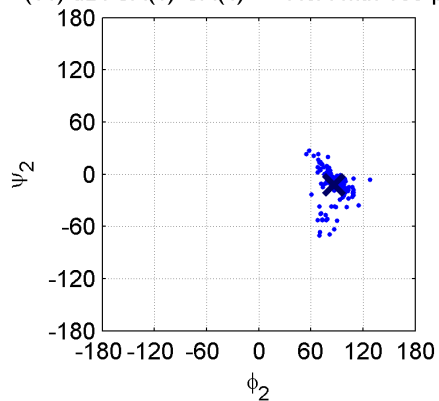
(10) BcisP: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 32 points



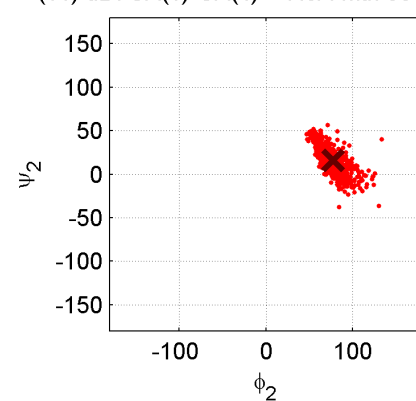
(11) dD: any CA(1)-CA(4) with 744 points



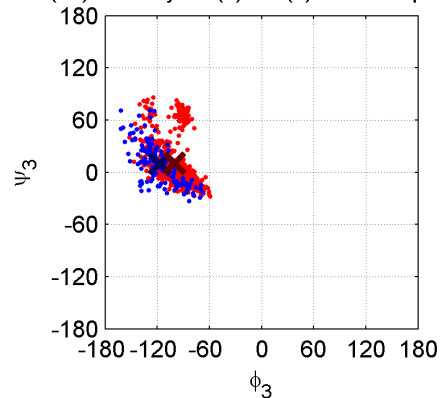
(11) dD: CA(1)-CA(4)  $\leq 7.0$ Å with 139 points



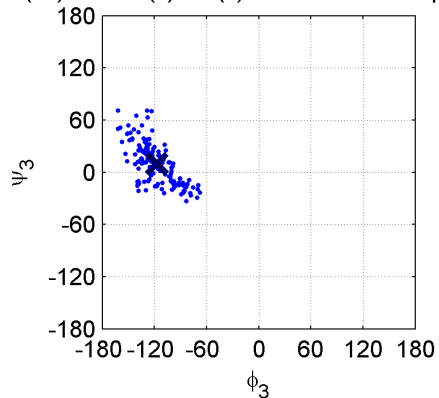
(11) dD: CA(1)-CA(4)  $> 7.0$ Å with 605 points



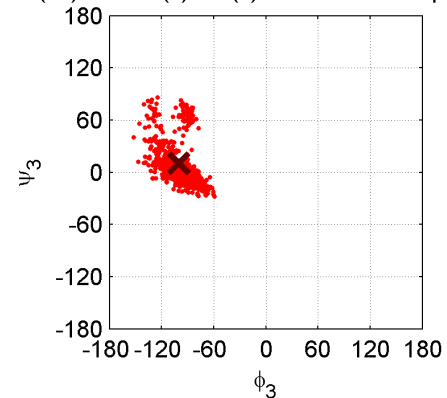
(11) dD: any CA(1)-CA(4) with 744 points



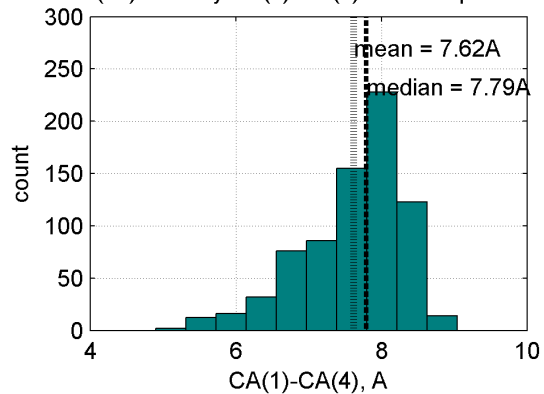
(11) dD: CA(1)-CA(4)  $\leq 7.0$ Å with 139 points



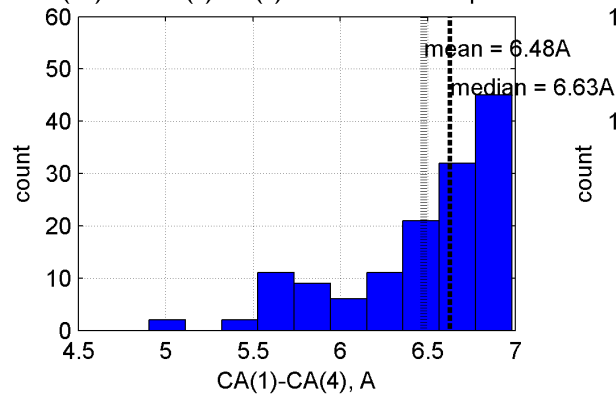
(11) dD: CA(1)-CA(4)  $> 7.0$ Å with 605 points



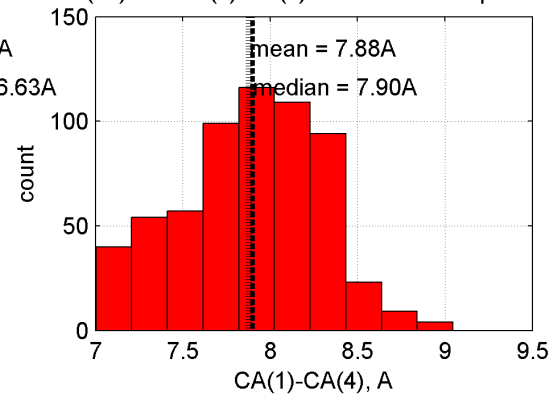
(11) dD: any CA(1)-CA(4) with 744 points



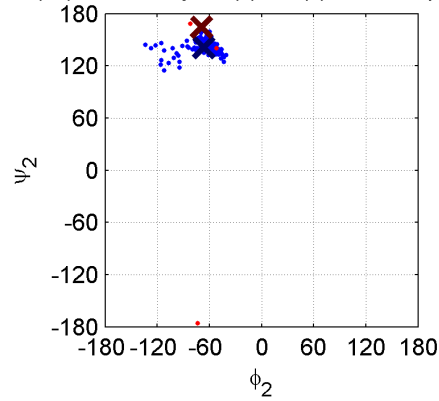
(11) dD: CA(1)-CA(4)  $\leq 7.0$ Å with 139 points



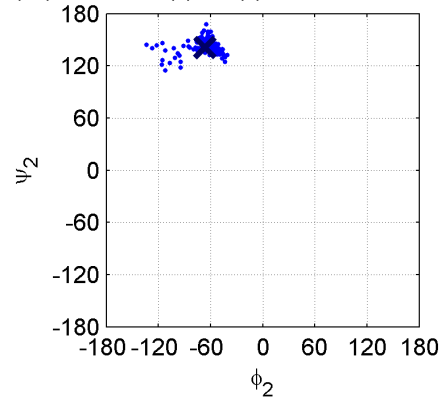
(11) dD: CA(1)-CA(4)  $> 7.0$ Å with 605 points



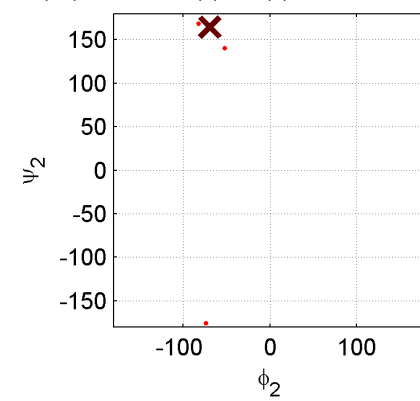
(12) PcisD: any CA(1)-CA(4) with 136 points



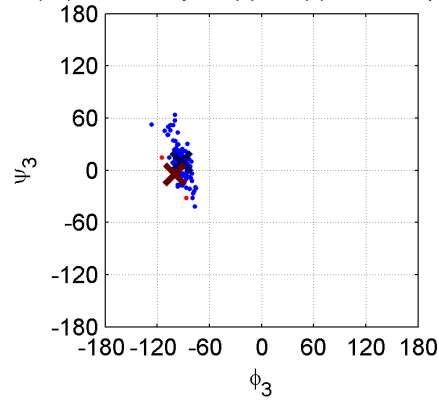
(12) PcisD: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 133 points



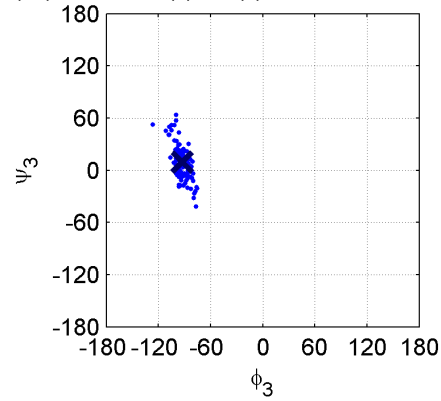
(12) PcisD: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 3 points



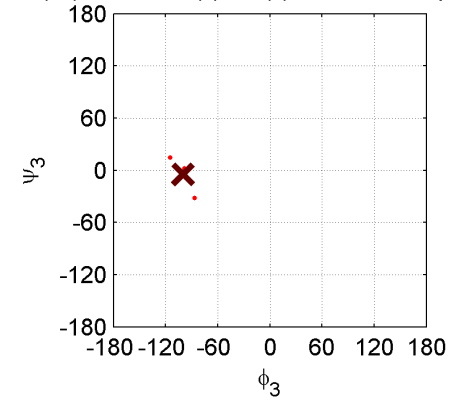
(12) PcisD: any CA(1)-CA(4) with 136 points



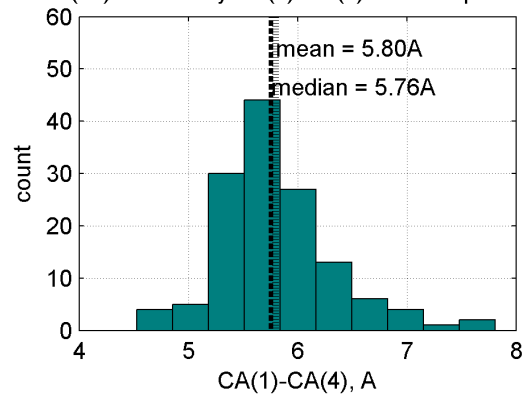
(12) PcisD: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 133 points



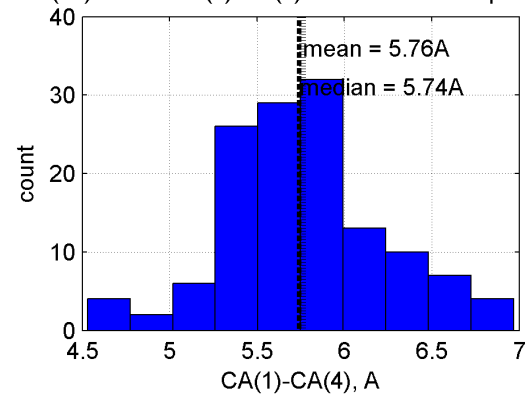
(12) PcisD: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 3 points



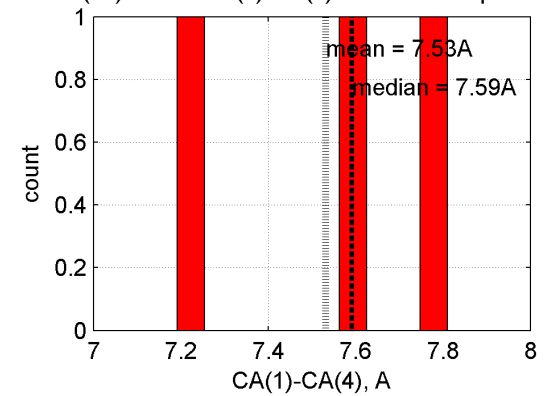
(12) PcisD: any CA(1)-CA(4) with 136 points



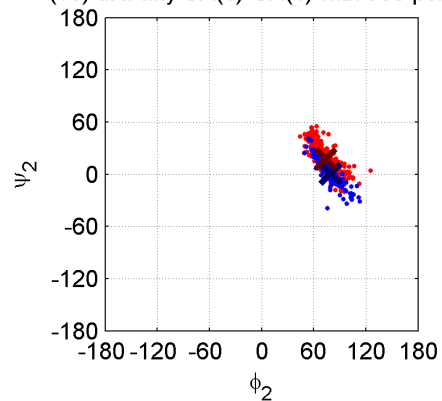
(12) PcisD: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 133 points



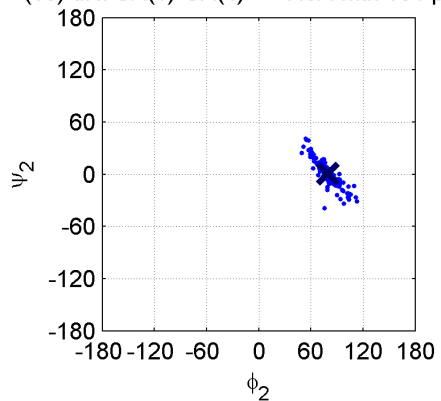
(12) PcisD: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 3 points



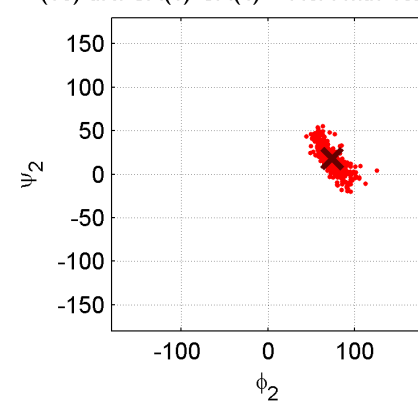
(13) dN: any CA(1)-CA(4) with 506 points



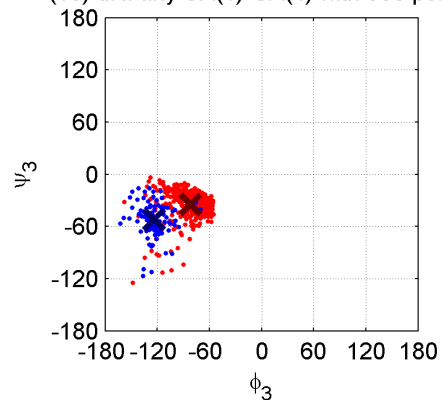
(13) dN: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 104 points



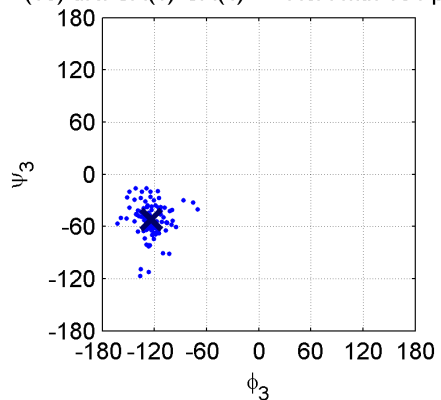
(13) dN: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 402 points



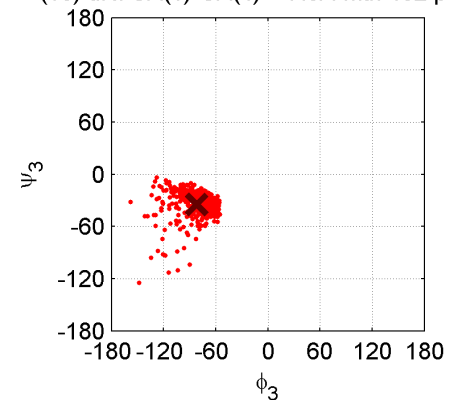
(13) dN: any CA(1)-CA(4) with 506 points



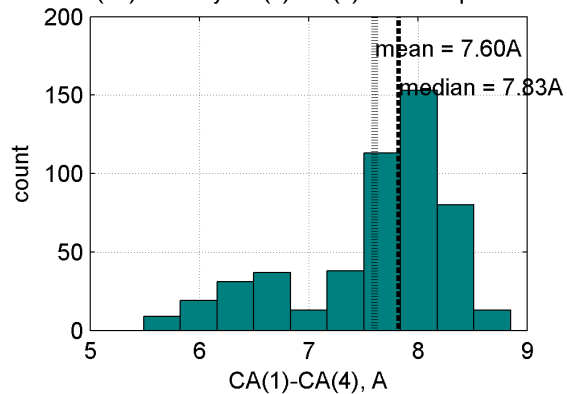
(13) dN: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 104 points



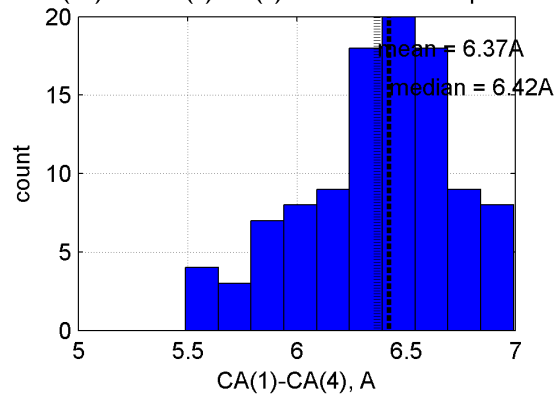
(13) dN: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 402 points



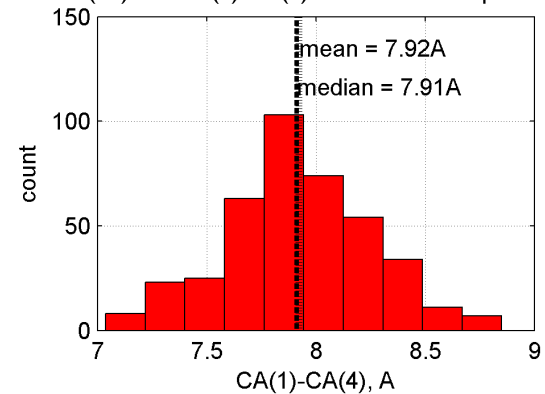
(13) dN: any CA(1)-CA(4) with 506 points



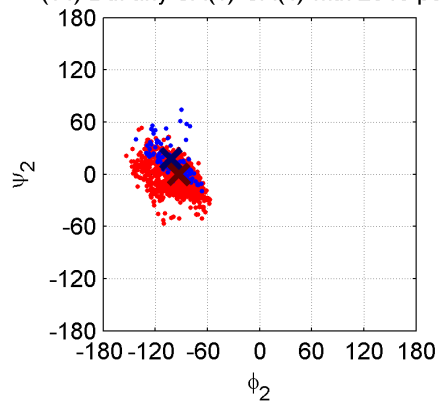
(13) dN: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 104 points



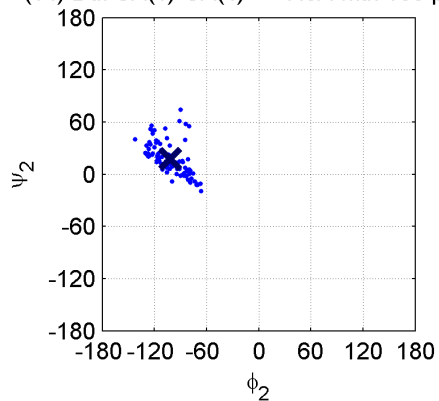
(13) dN: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 402 points



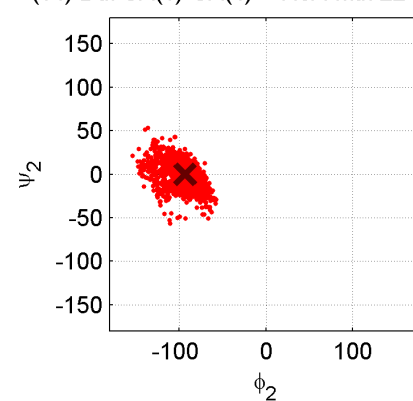
(14) Dd: any CA(1)-CA(4) with 2346 points



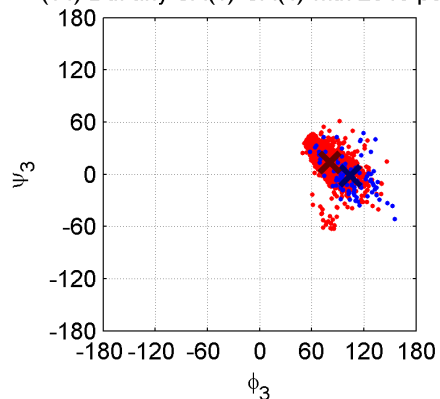
(14) Dd: CA(1)-CA(4)  $\leq 7.0$ Å with 100 points



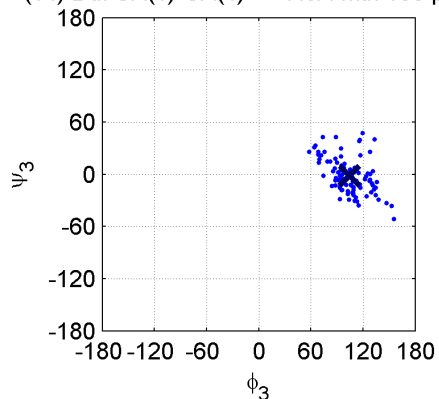
(14) Dd: CA(1)-CA(4)  $> 7.0$ Å with 2246 points



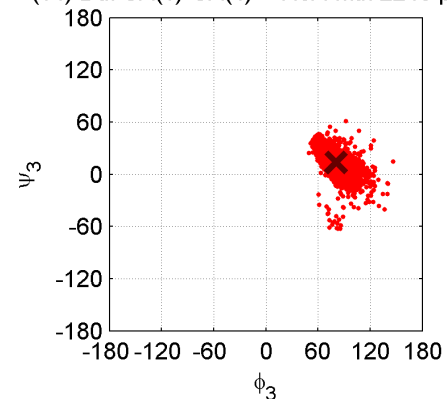
(14) Dd: any CA(1)-CA(4) with 2346 points



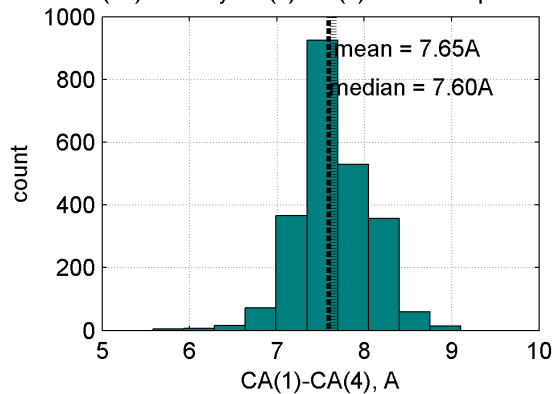
(14) Dd: CA(1)-CA(4)  $\leq 7.0$ Å with 100 points



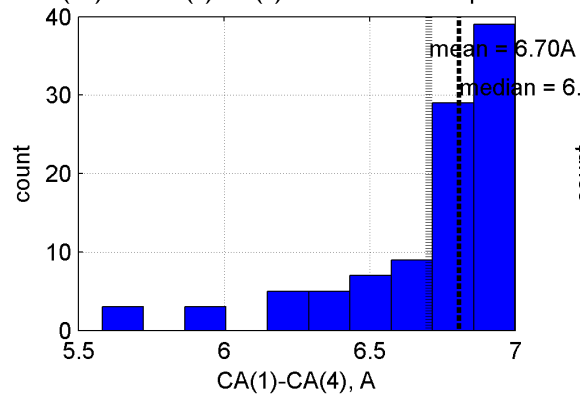
(14) Dd: CA(1)-CA(4)  $> 7.0$ Å with 2246 points



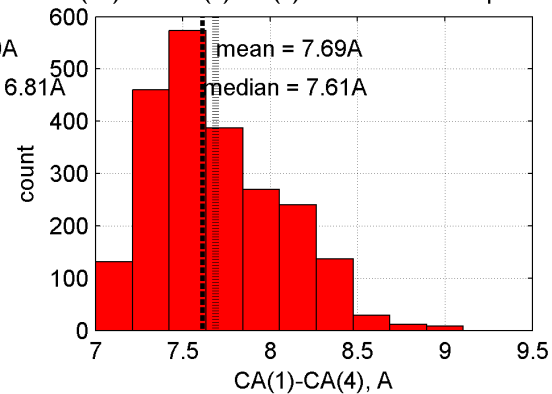
(14) Dd: any CA(1)-CA(4) with 2346 points



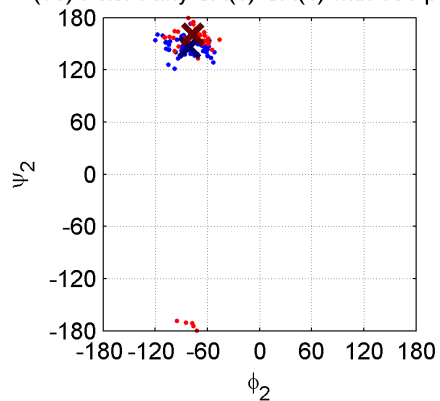
(14) Dd: CA(1)-CA(4)  $\leq 7.0$ Å with 100 points



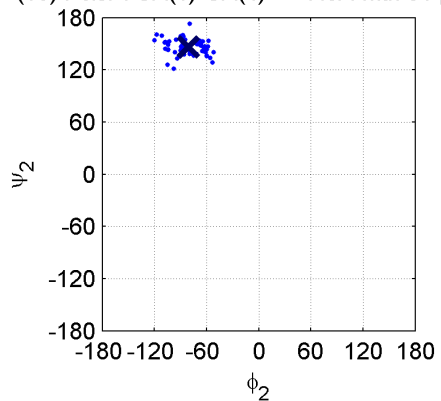
(14) Dd: CA(1)-CA(4)  $> 7.0$ Å with 2246 points



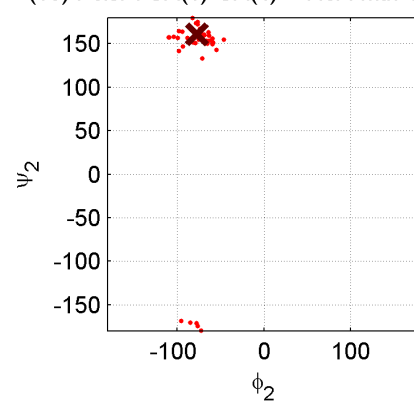
(15) PcisP: any CA(1)-CA(4) with 101 points



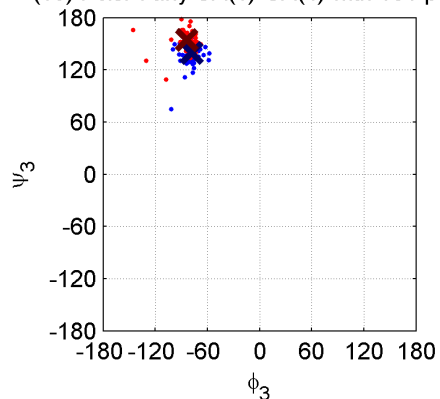
(15) PcisP: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 61 points



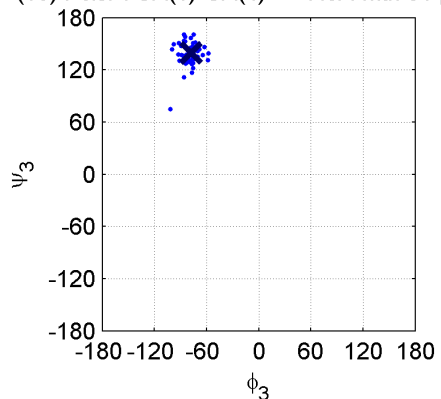
(15) PcisP: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 40 points



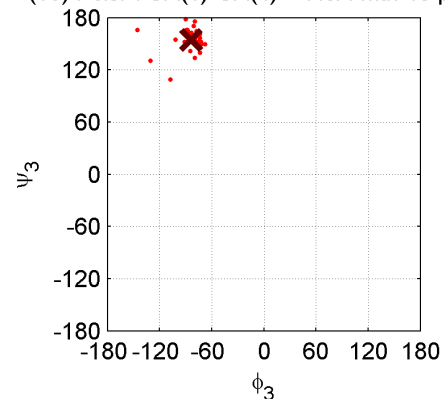
(15) PcisP: any CA(1)-CA(4) with 101 points



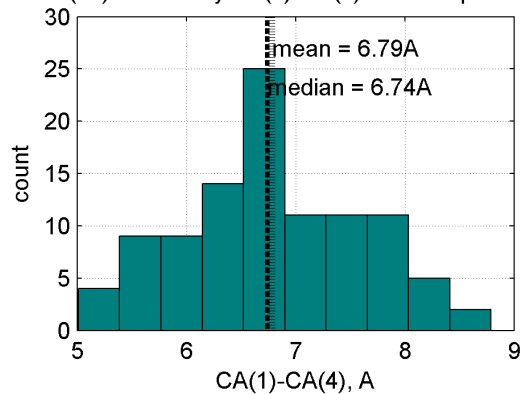
(15) PcisP: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 61 points



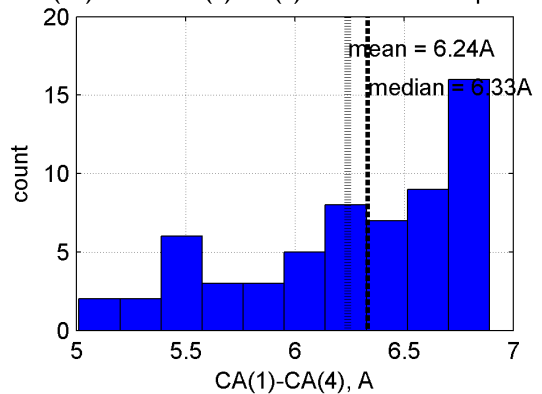
(15) PcisP: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 40 points



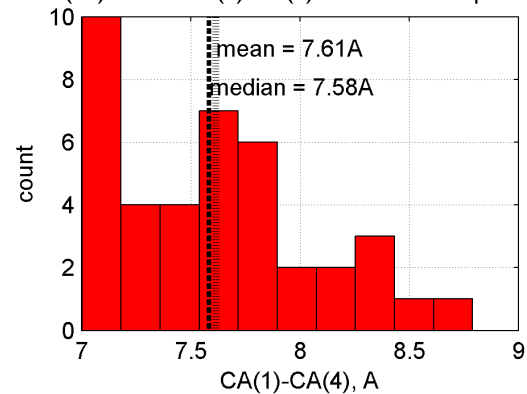
(15) PcisP: any CA(1)-CA(4) with 101 points



(15) PcisP: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 61 points

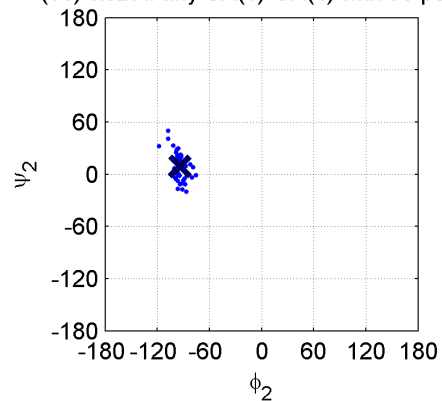


(15) PcisP: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 40 points

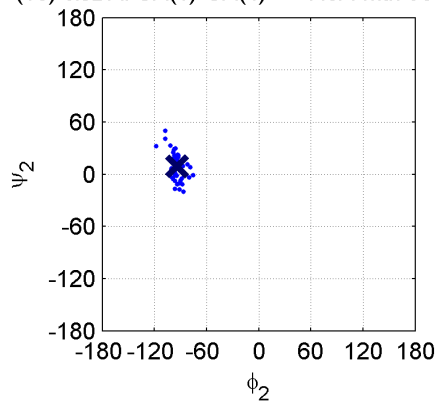




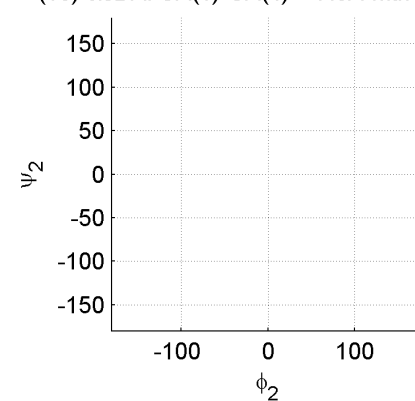
(16) cisDA: any CA(1)-CA(4) with 56 points



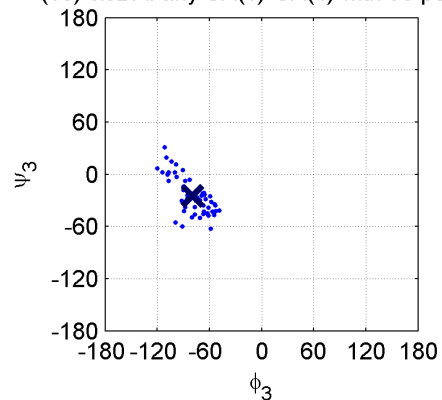
(16) cisDA: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 56 points



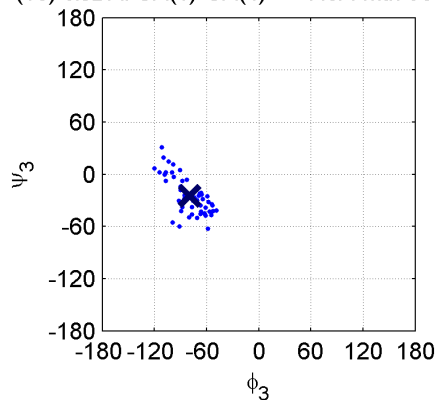
(16) cisDA: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 0 points



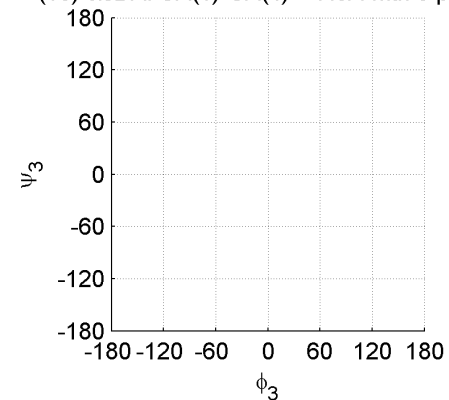
(16) cisDA: any CA(1)-CA(4) with 56 points



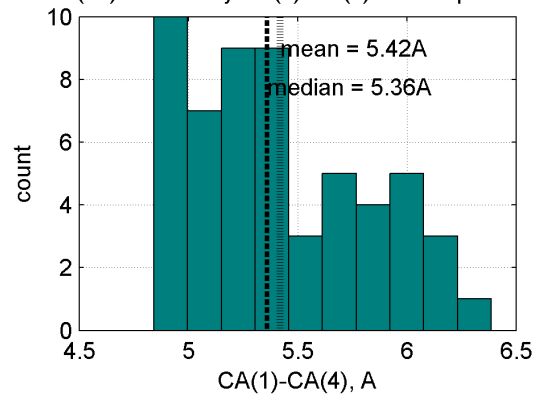
(16) cisDA: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 56 points



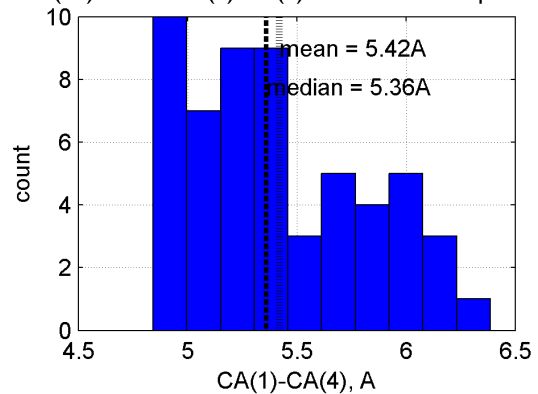
(16) cisDA: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 0 points



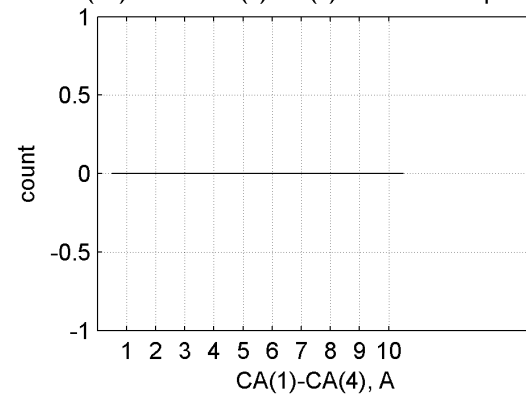
(16) cisDA: any CA(1)-CA(4) with 56 points



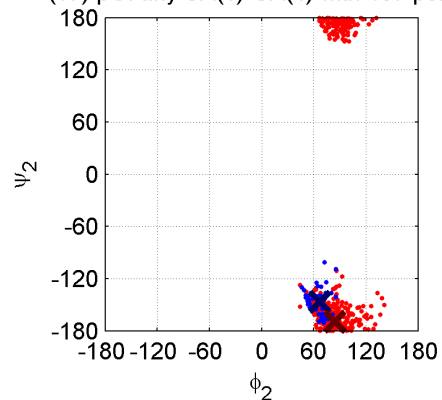
(16) cisDA: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 56 points



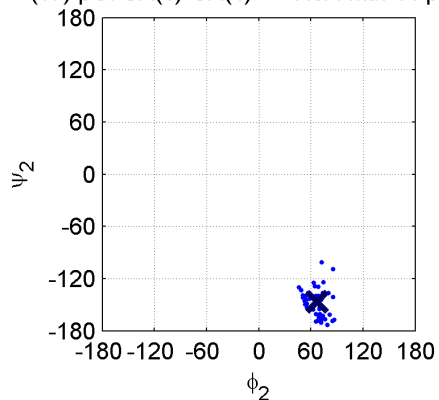
(16) cisDA: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 0 points



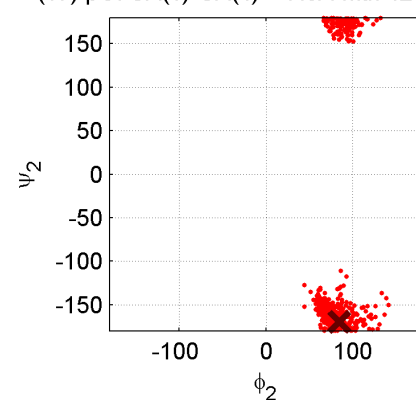
(17) pG: any CA(1)-CA(4) with 467 points



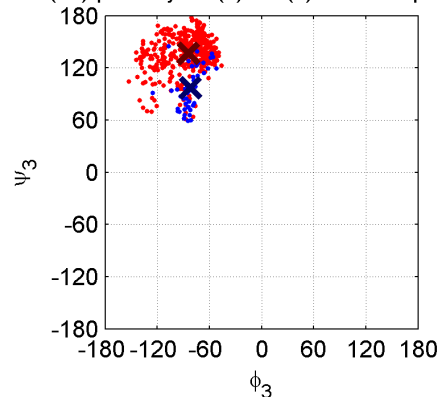
(17) pG: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 44 points



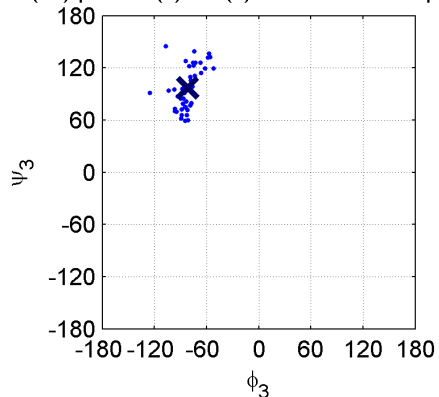
(17) pG: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 423 points



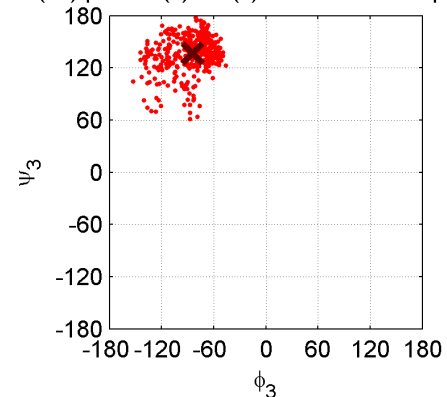
(17) pG: any CA(1)-CA(4) with 467 points



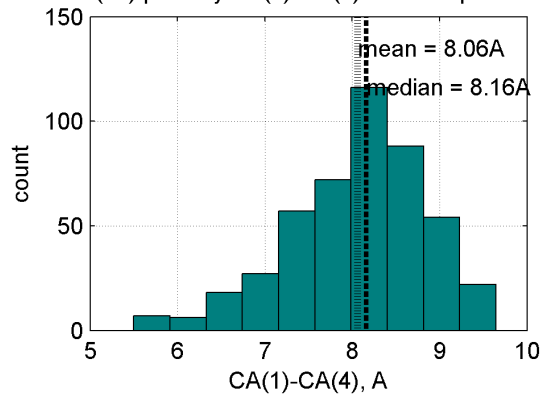
(17) pG: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 44 points



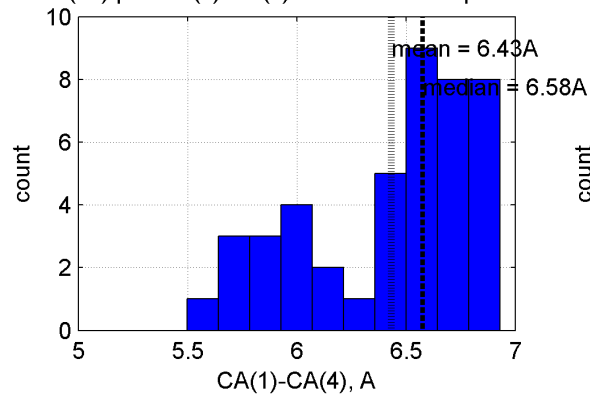
(17) pG: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 423 points



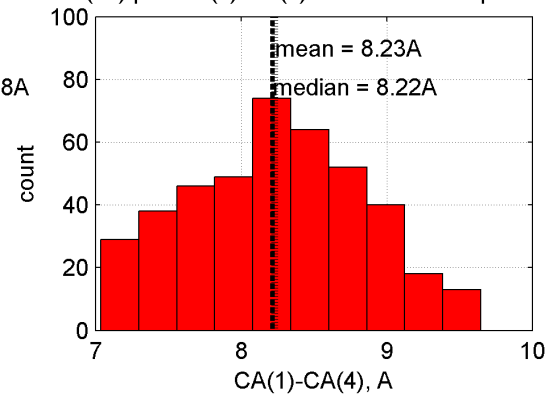
(17) pG: any CA(1)-CA(4) with 467 points



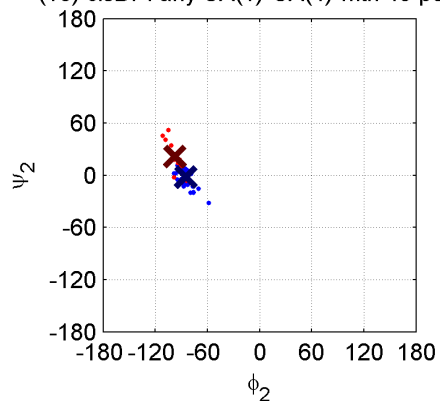
(17) pG: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 44 points



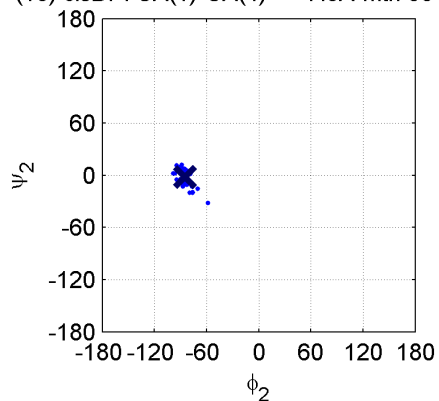
(17) pG: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 423 points



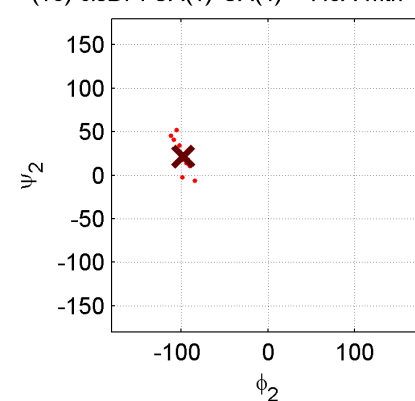
(18) cisDP: any CA(1)-CA(4) with 49 points



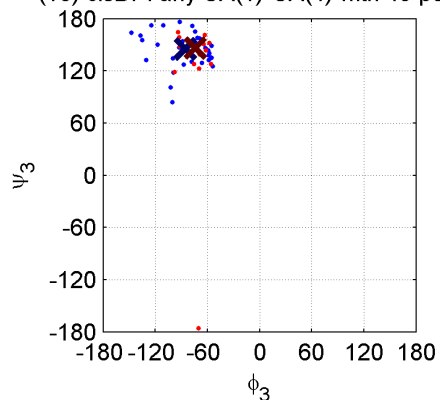
(18) cisDP: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 36 points



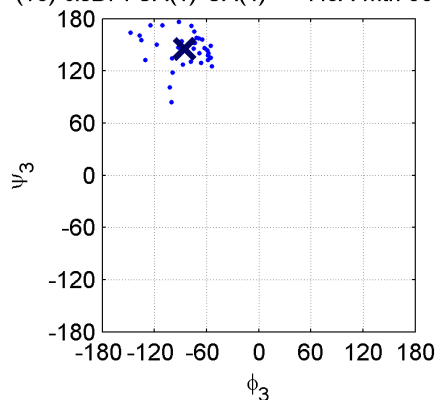
(18) cisDP: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 13 points



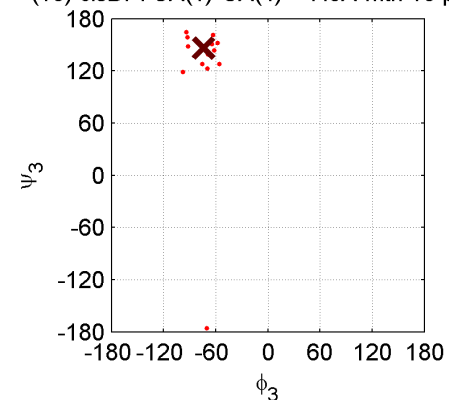
(18) cisDP: any CA(1)-CA(4) with 49 points



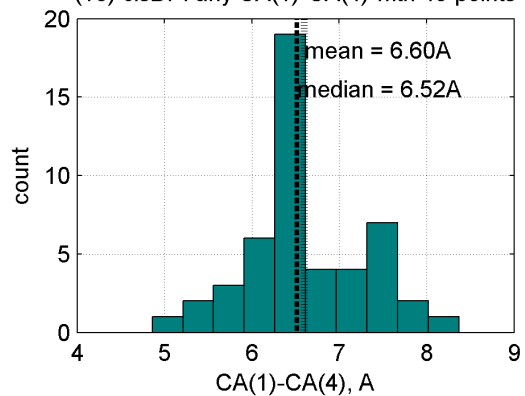
(18) cisDP: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 36 points



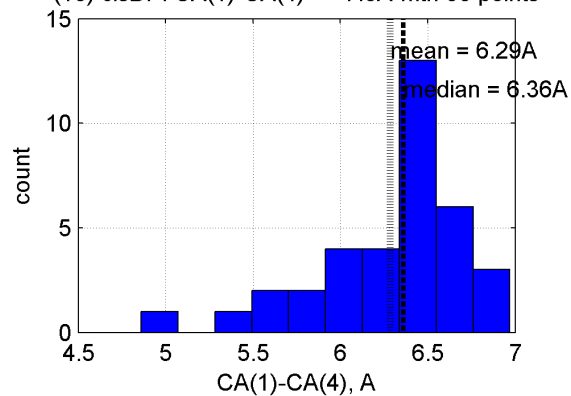
(18) cisDP: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 13 points



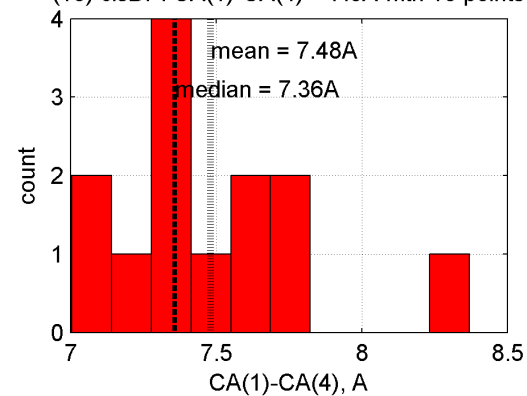
(18) cisDP: any CA(1)-CA(4) with 49 points



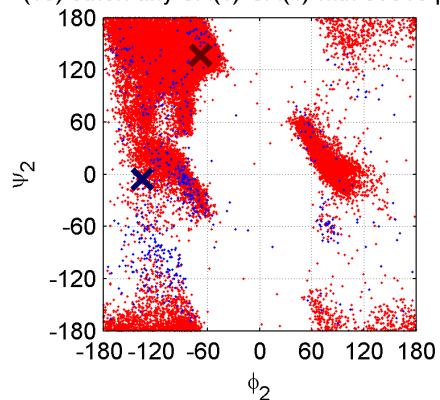
(18) cisDP: CA(1)-CA(4)  $\leq 7.0\text{\AA}$  with 36 points



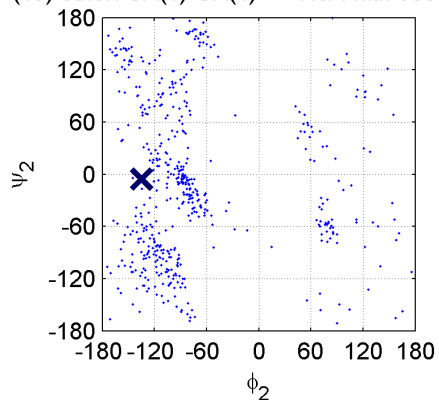
(18) cisDP: CA(1)-CA(4)  $> 7.0\text{\AA}$  with 13 points



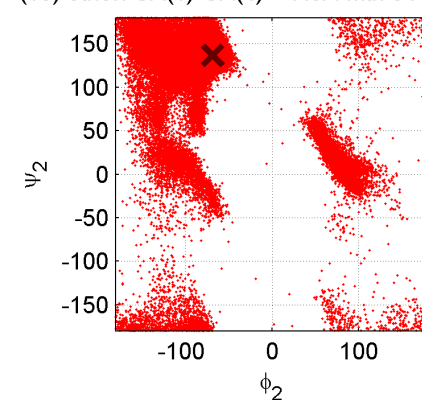
(19) other: any CA(1)-CA(4) with 35010 points



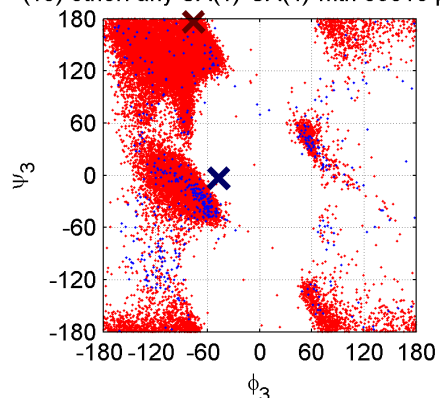
(19) other: CA(1)-CA(4) <= 7.0A with 509 points



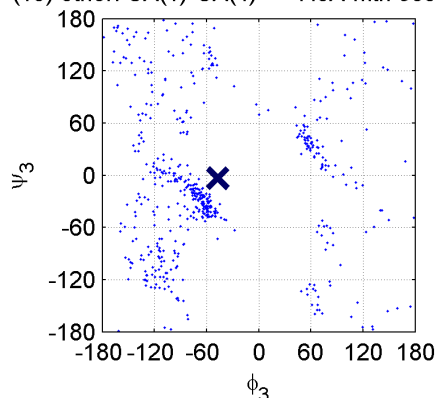
(19) other: CA(1)-CA(4) > 7.0A with 34501 points



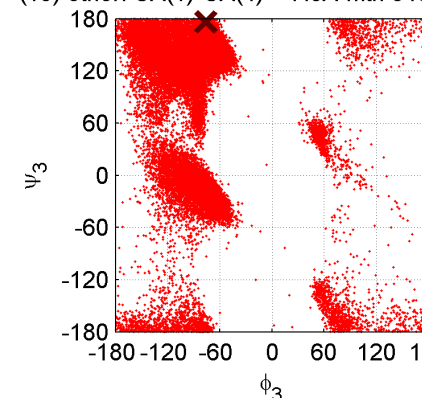
(19) other: any CA(1)-CA(4) with 35010 points



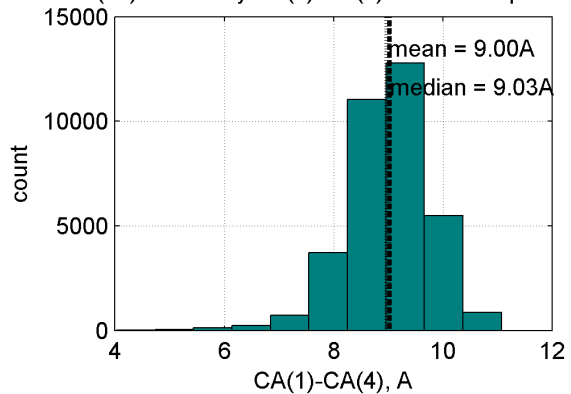
(19) other: CA(1)-CA(4) <= 7.0A with 509 points



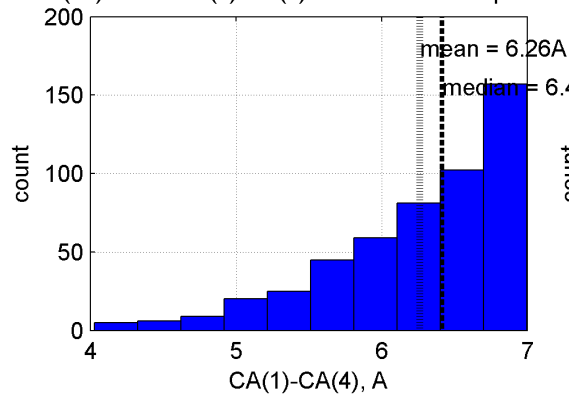
(19) other: CA(1)-CA(4) > 7.0A with 34501 points



(19) other: any CA(1)-CA(4) with 35010 points



(19) other: CA(1)-CA(4) <= 7.0A with 509 points



(19) other: CA(1)-CA(4) > 7.0A with 34501 points

