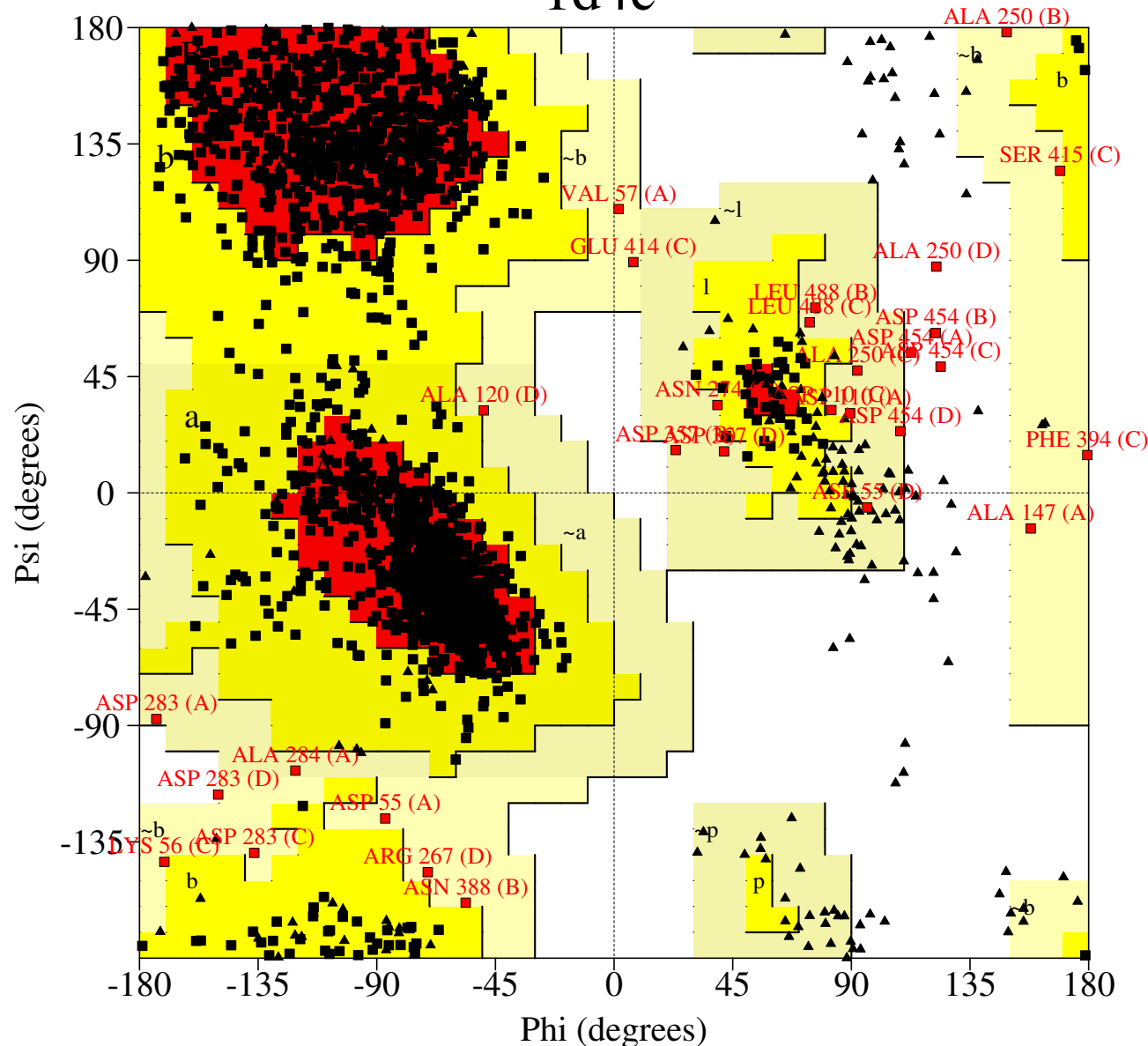


Ramachandran Plot

1d4c



Plot statistics

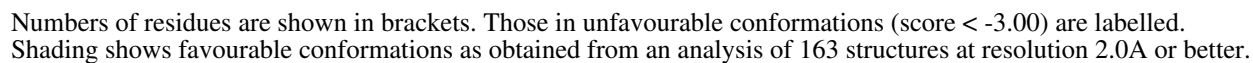
Residues in most favoured regions [A,B,L]	1598	83.4%
Residues in additional allowed regions [a,b,l,p]	290	15.1%
Residues in generously allowed regions [-a,-b,-l,-p]	24	1.3%
Residues in disallowed regions	5	0.3%

Number of non-glycine and non-proline residues	1917	100.0%
Number of end-residues (excl. Gly and Pro)	11	
Number of glycine residues (shown as triangles)	268	
Number of proline residues	78	

Total number of residues	2274	

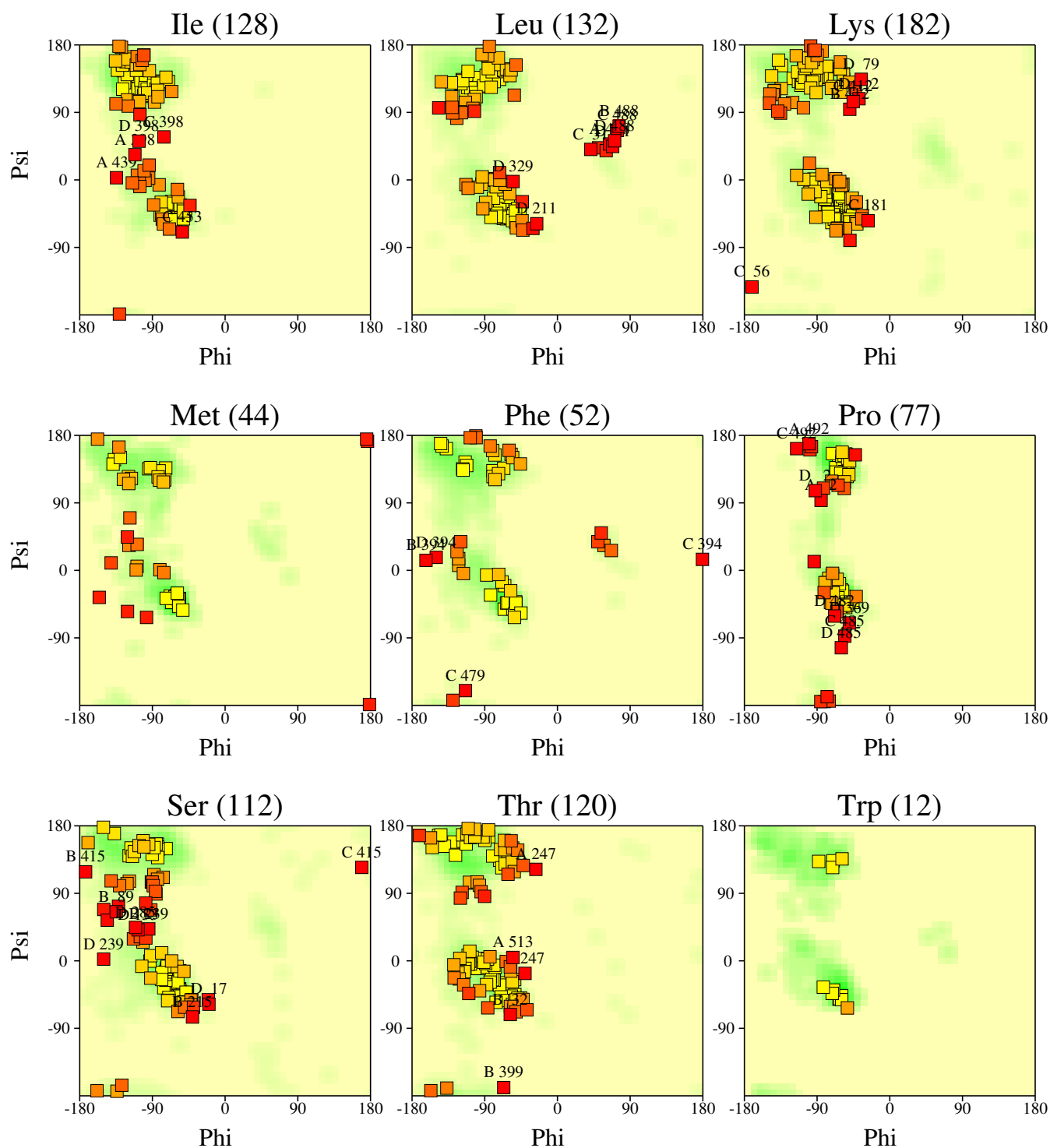
Based on an analysis of 118 structures of resolution of at least 2.0 Angstroms and R-factor no greater than 20%, a good quality model would be expected to have over 90% in the most favoured regions.

1d4c



Ramachandran plots for all residue types

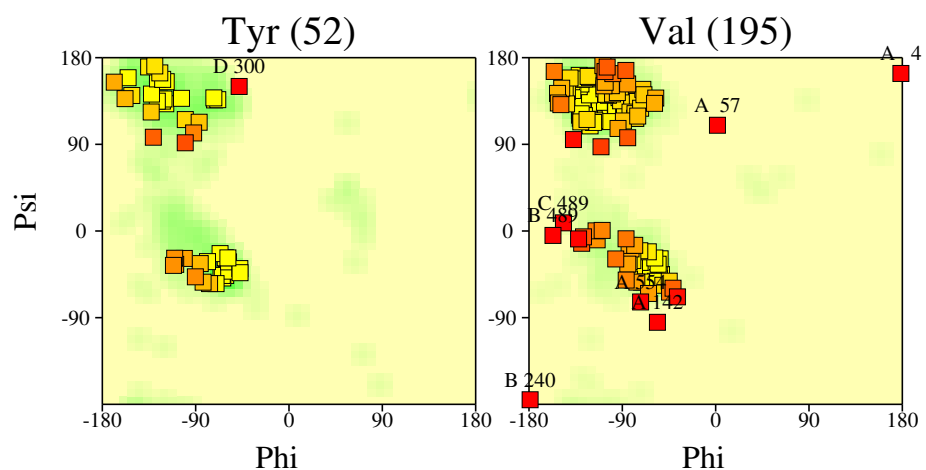
1d4c



Numbers of residues are shown in brackets. Those in unfavourable conformations (score < -3.00) are labelled. Shading shows favourable conformations as obtained from an analysis of 163 structures at resolution 2.0Å or better.

Ramachandran plots for all residue types

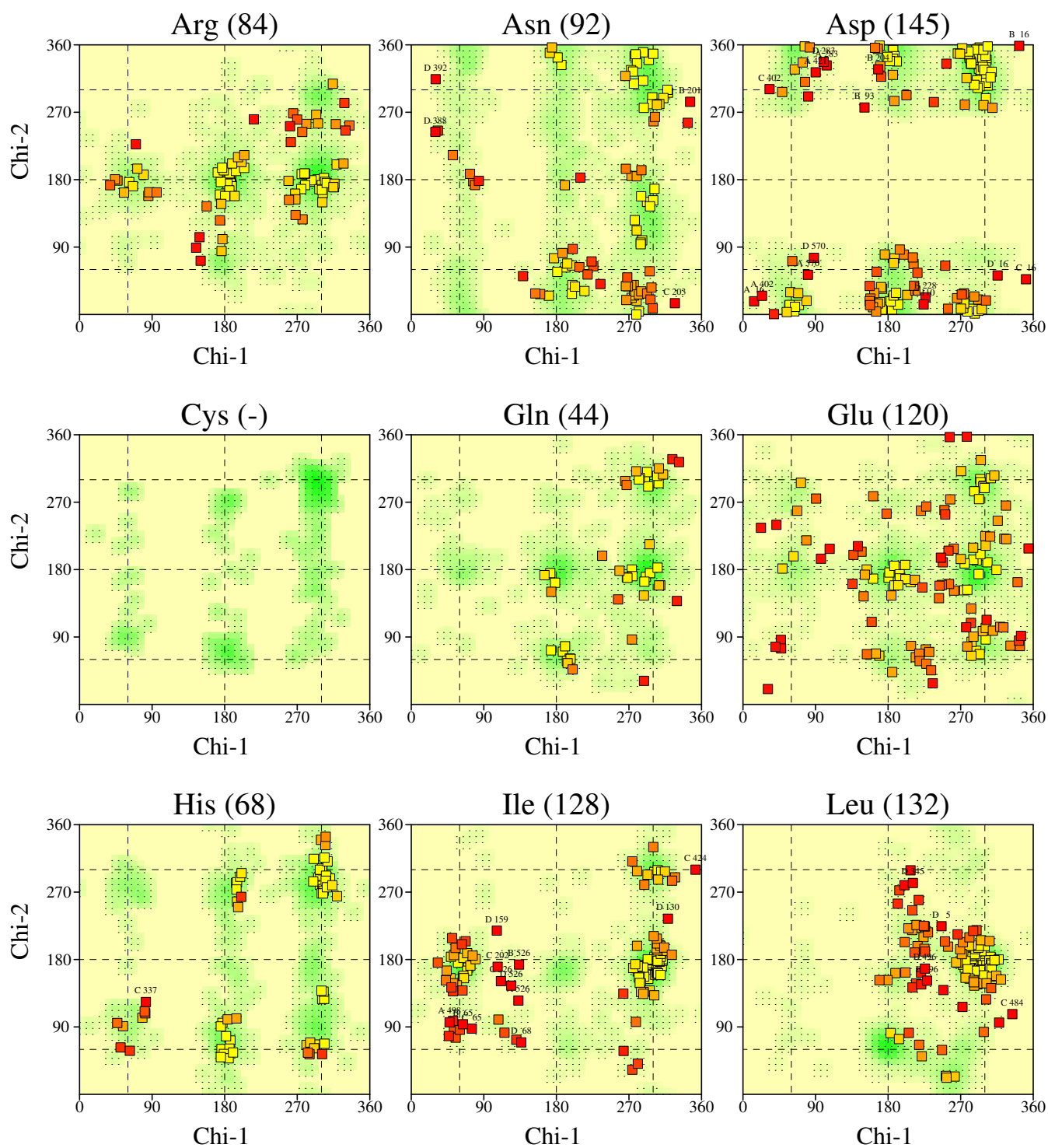
1d4c



Numbers of residues are shown in brackets. Those in unfavourable conformations (score < -3.00) are labelled. Shading shows favourable conformations as obtained from an analysis of 163 structures at resolution 2.0Å or better.

Chi1-Chi2 plots

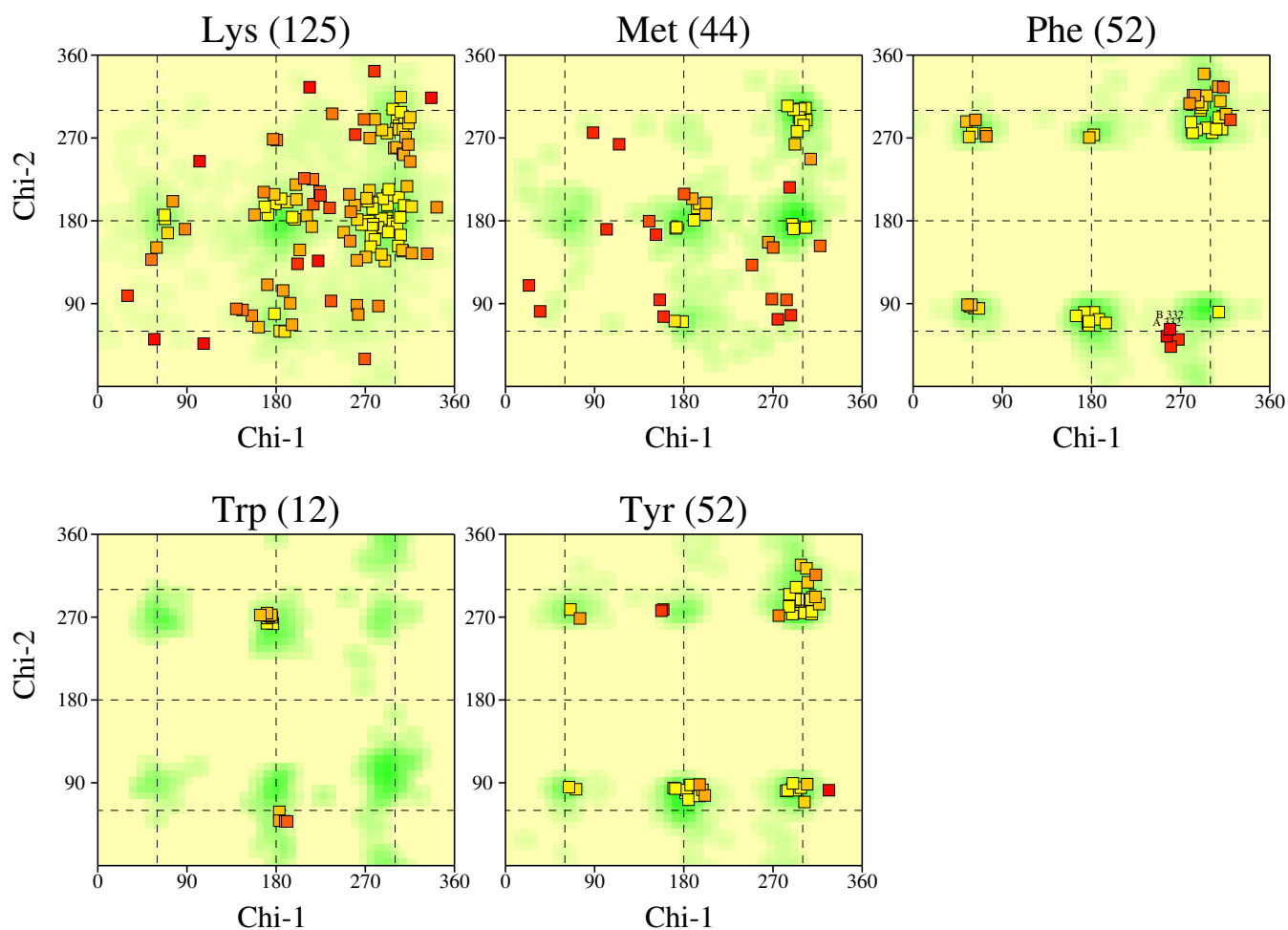
1d4c



Numbers of residues are shown in brackets. Those in unfavourable conformations (score < -3.00) are labelled. Shading shows favourable conformations as obtained from an analysis of 163 structures at resolution 2.0Å or better.

Chi1-Chi2 plots

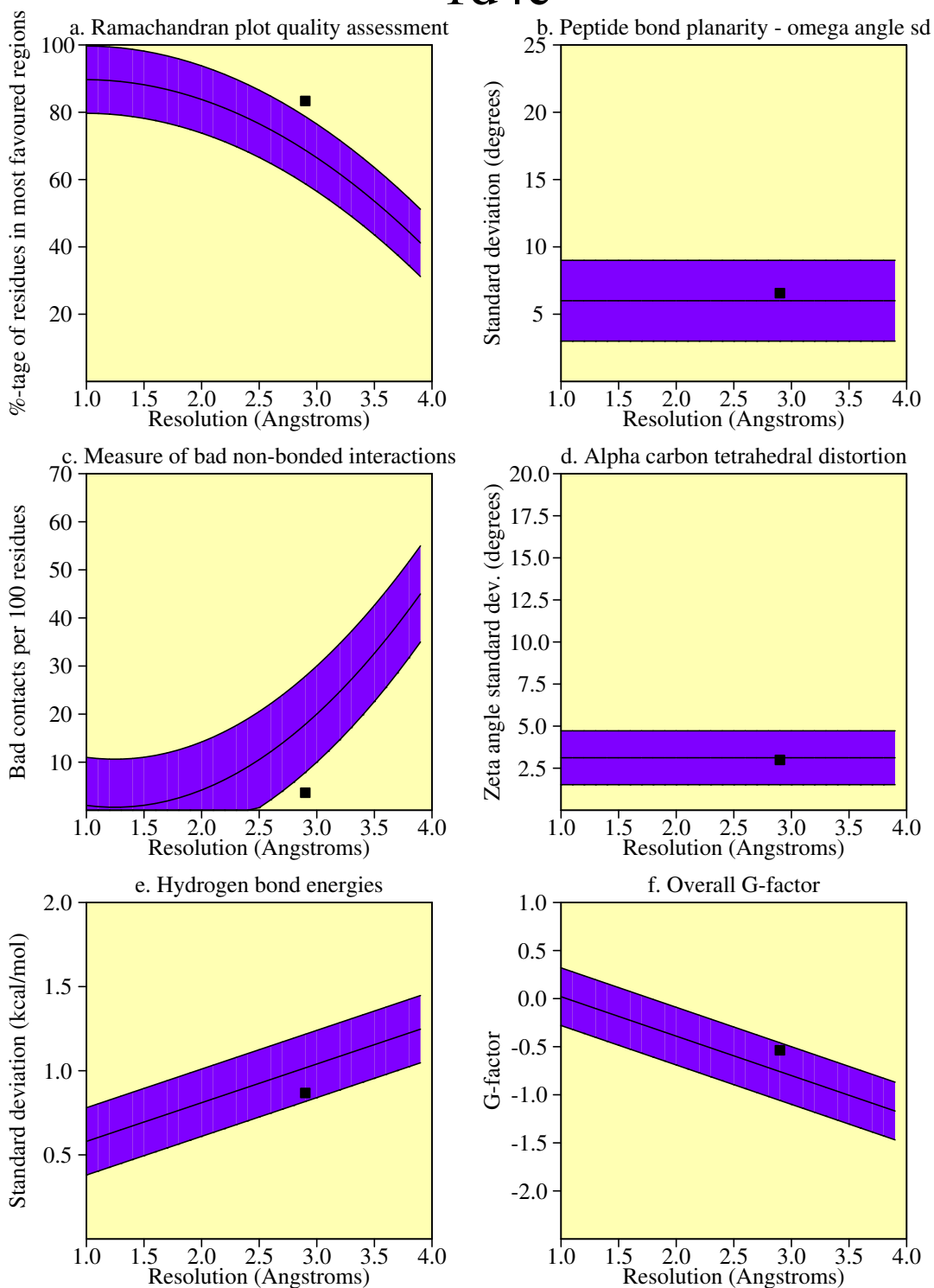
1d4c



Numbers of residues are shown in brackets. Those in unfavourable conformations (score < -3.00) are labelled. Shading shows favourable conformations as obtained from an analysis of 163 structures at resolution 2.0Å or better.

Main-chain parameters

1d4c

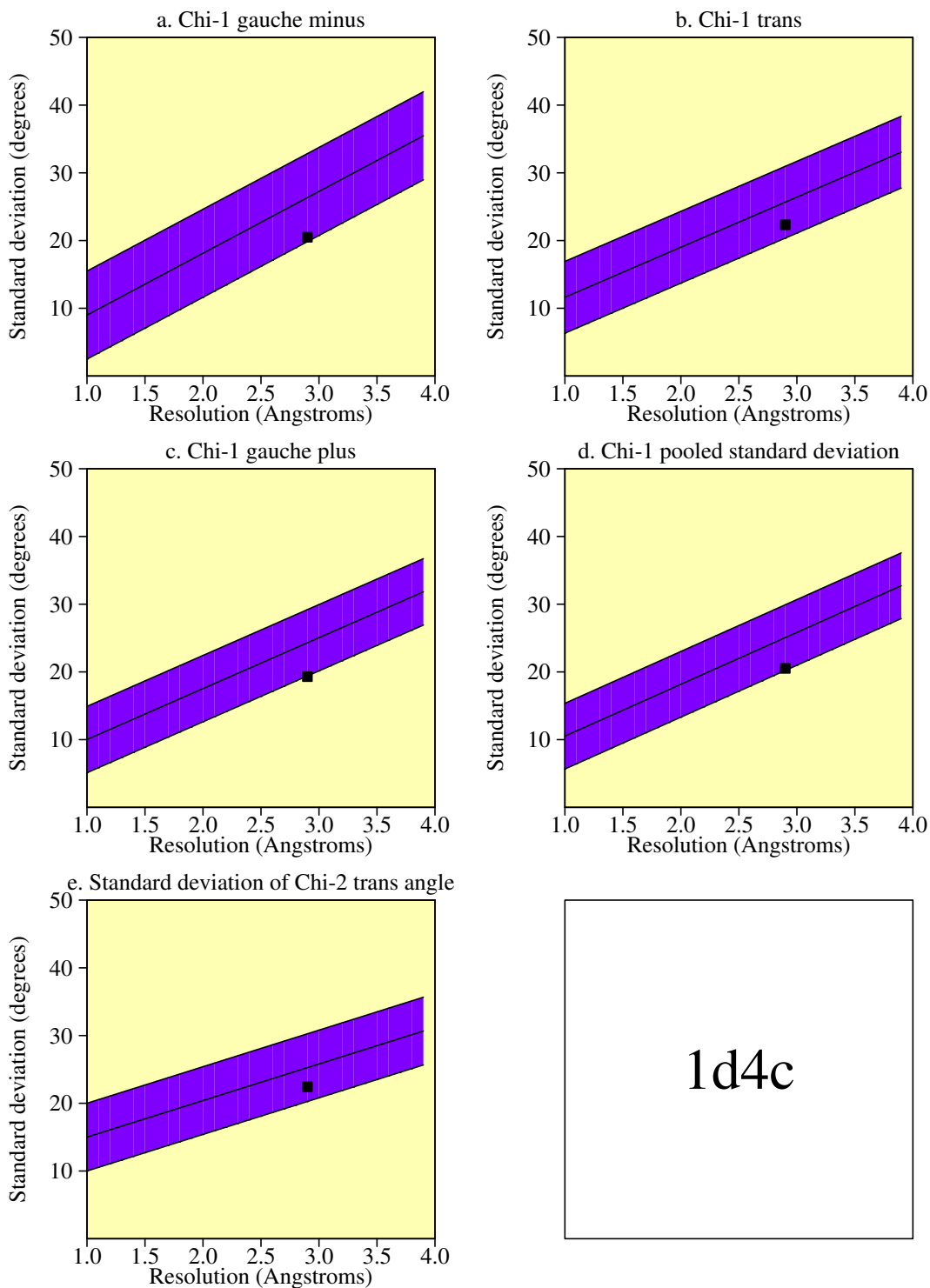


Plot statistics

Stereochemical parameter	No. of data pts	Parameter value	Comparison values Typical value	Band width	No. of band widths from mean	
a. %-tage residues in A, B, L	1917	83.4	68.7	10.0	1.5	BETTER
b. Omega angle st dev	2268	6.6	6.0	3.0	0.2	Inside
c. Bad contacts / 100 residues	83	3.6	17.9	10.0	-1.4	BETTER
d. Zeta angle st dev	2004	3.0	3.1	1.6	-0.1	Inside
e. H-bond energy st dev	1367	0.9	1.0	0.2	-0.7	Inside
f. Overall G-factor	2274	-0.5	-0.8	0.3	0.7	Inside

Side-chain parameters

1d4c



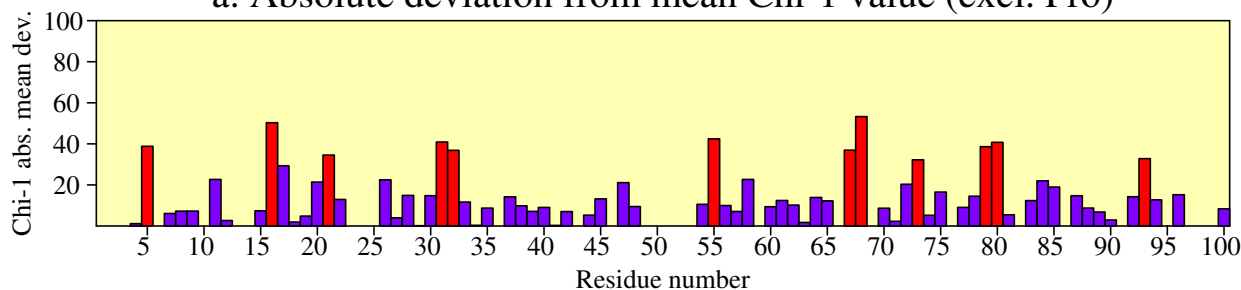
Plot statistics

Stereochemical parameter	No. of data pts	Parameter value	Comparison values		No. of band widths from mean	
			Typical value	Band width		
a. Chi-1 gauche minus st dev	273	20.5	26.3	6.5	-0.9	Inside
b. Chi-1 trans st dev	508	22.3	25.7	5.3	-0.6	Inside
c. Chi-1 gauche plus st dev	769	19.3	24.3	4.9	-1.0	BETTER
d. Chi-1 pooled st dev	1550	20.5	25.1	4.8	-0.9	Inside
e. Chi-2 trans st dev	451	22.4	25.3	5.0	-0.6	Inside

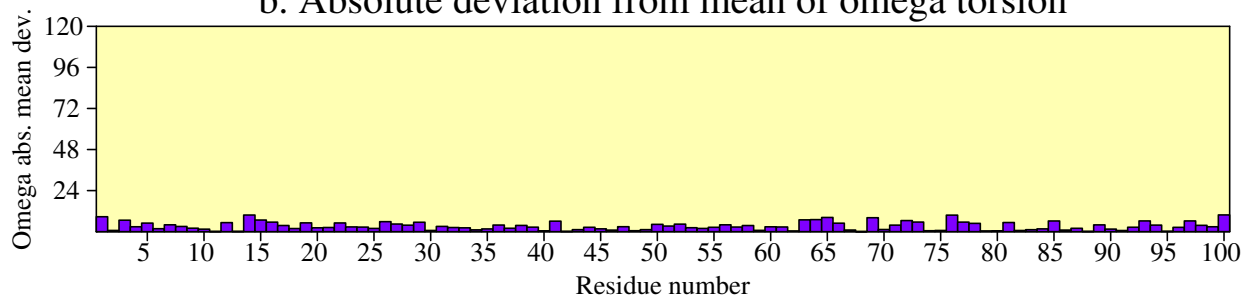
Residue properties

1d4c

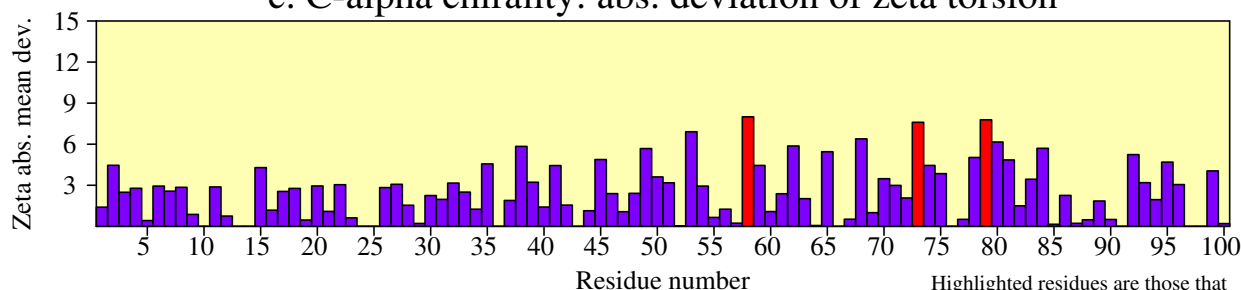
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

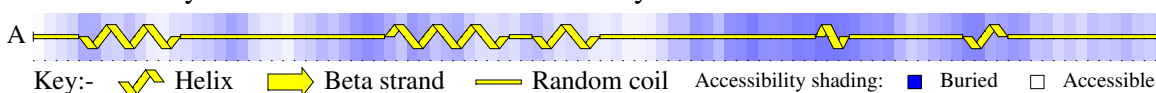


c. C-alpha chirality: abs. deviation of zeta torsion

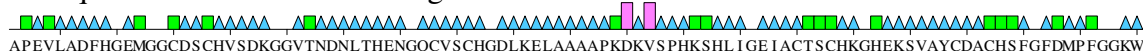


Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility



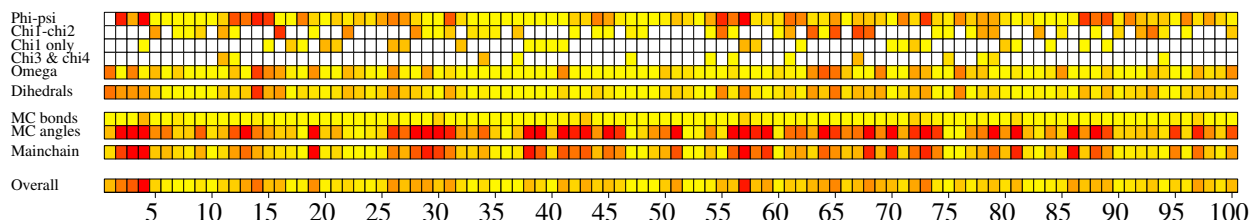
e. Sequence & Ramachandran regions Most favoured Allowed Generous Disallowed



f. Max. deviation (see listing)



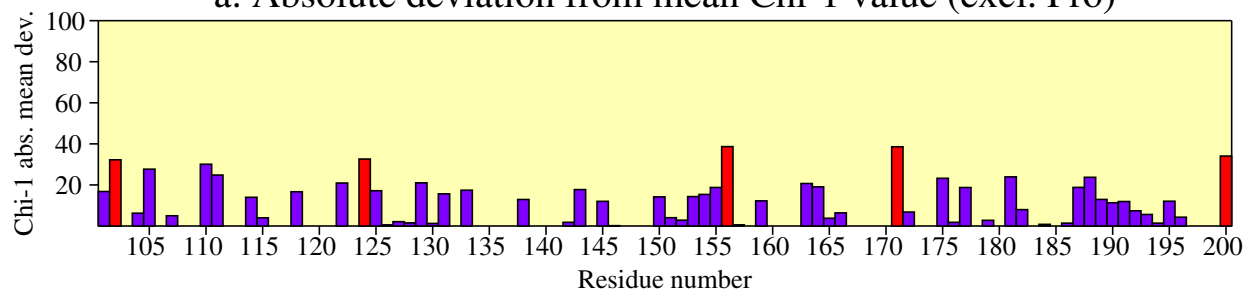
g. G-factors



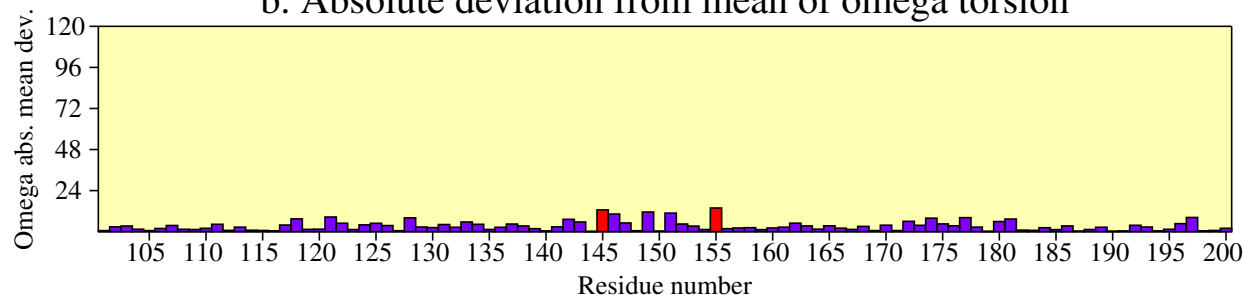
Residue properties

1d4c

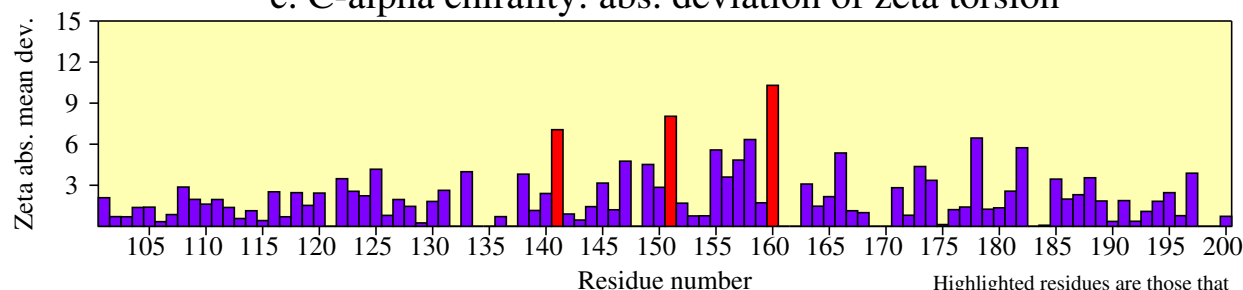
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

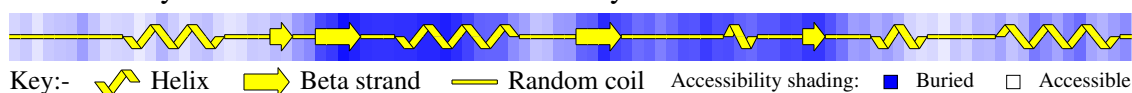


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility



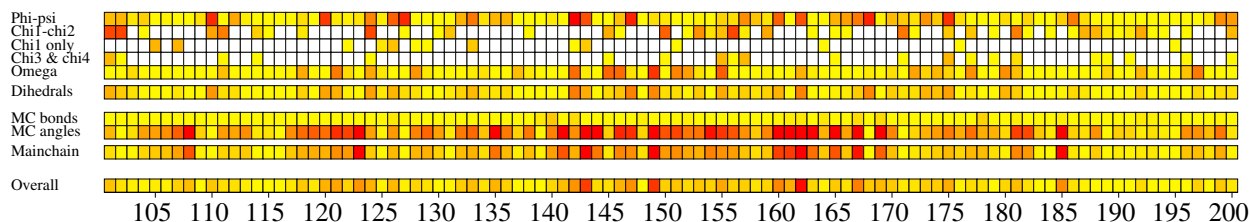
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



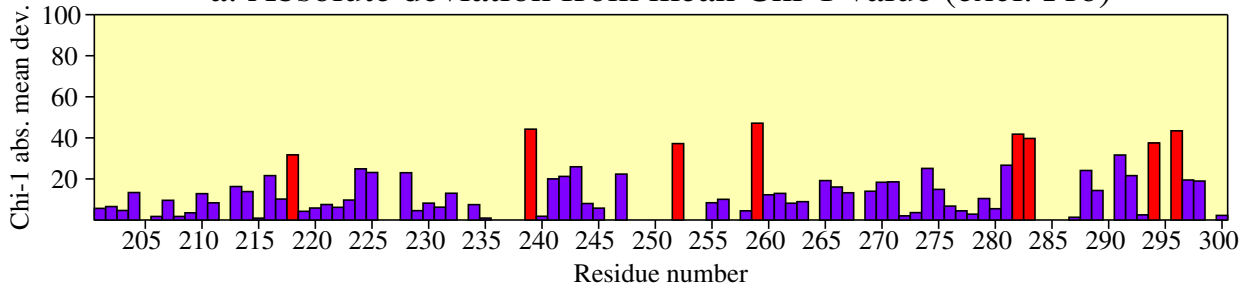
g. G-factors



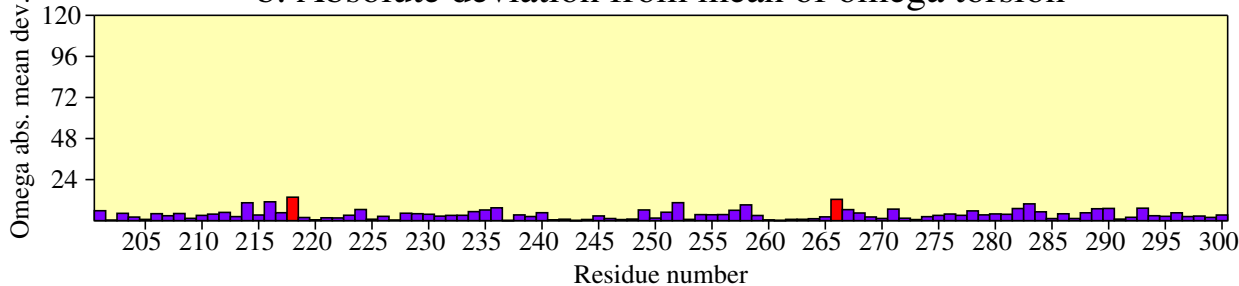
Residue properties

1d4c

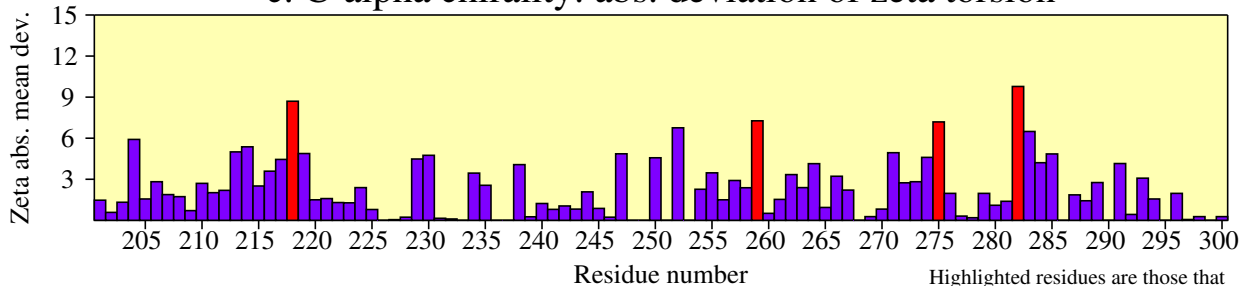
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

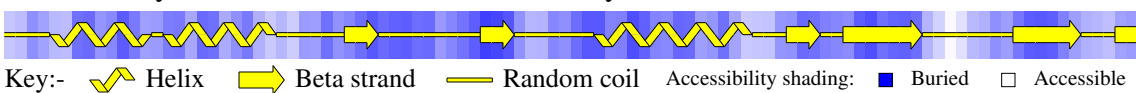


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility



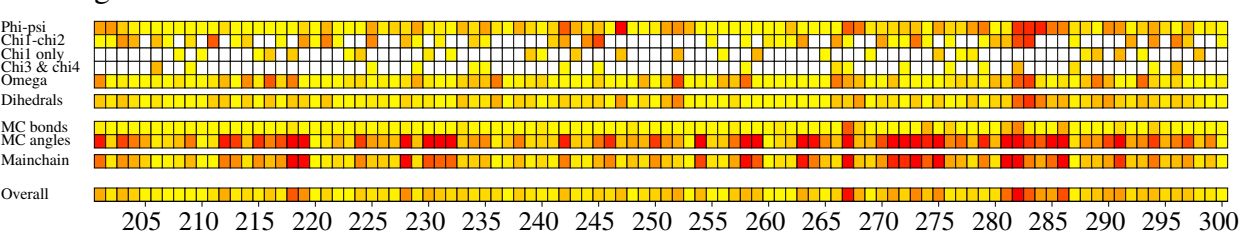
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



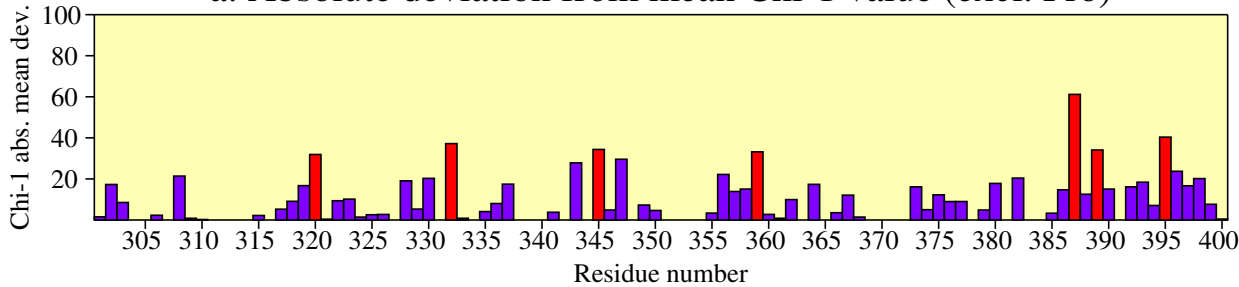
g. G-factors



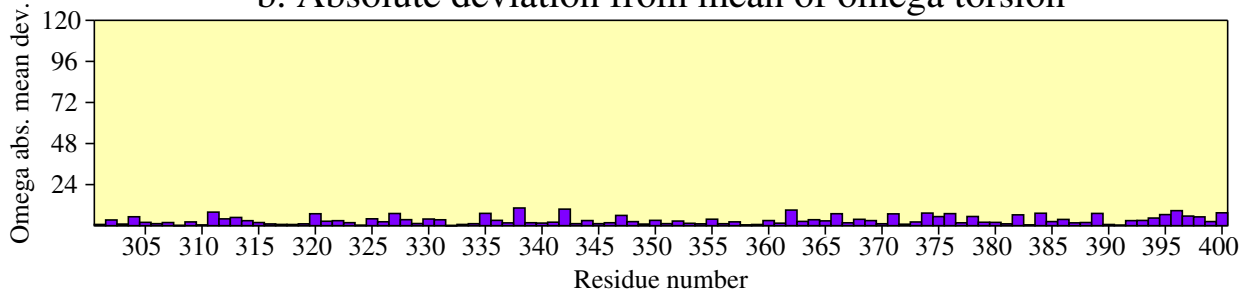
Residue properties

1d4c

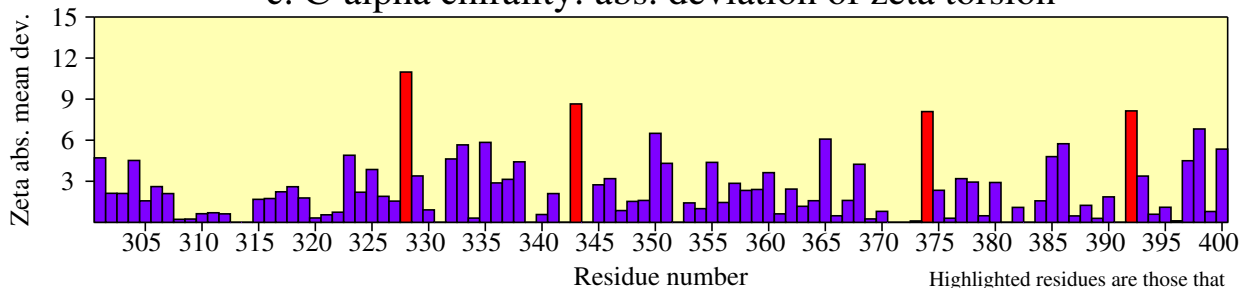
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

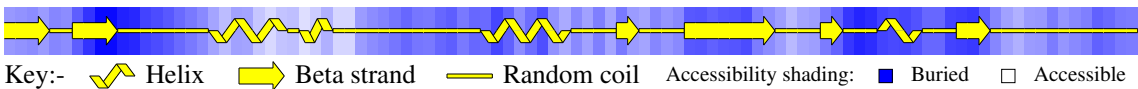


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility



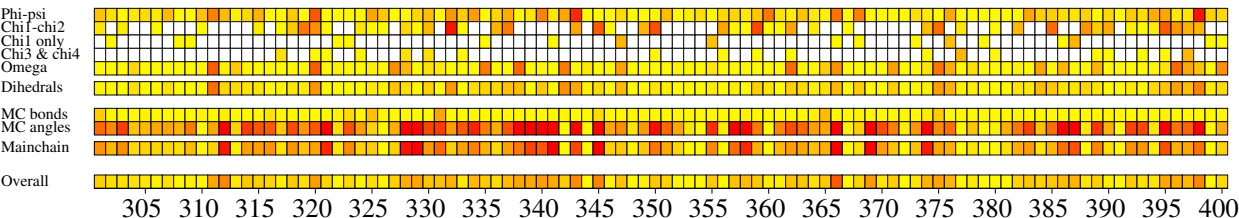
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



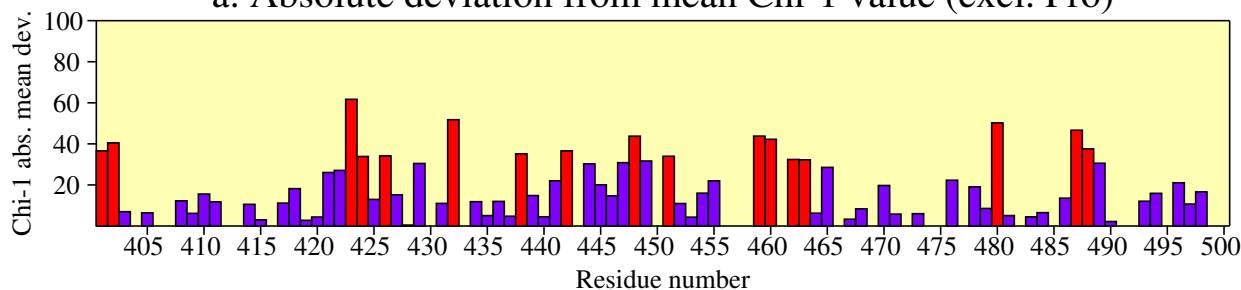
g. G-factors



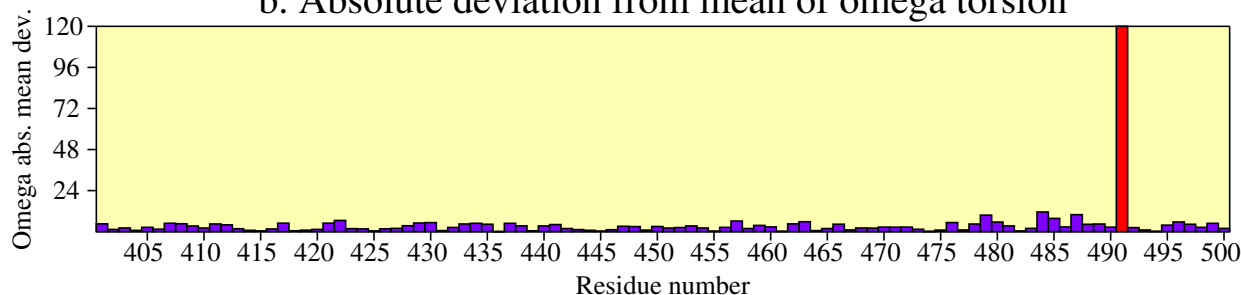
Residue properties

1d4c

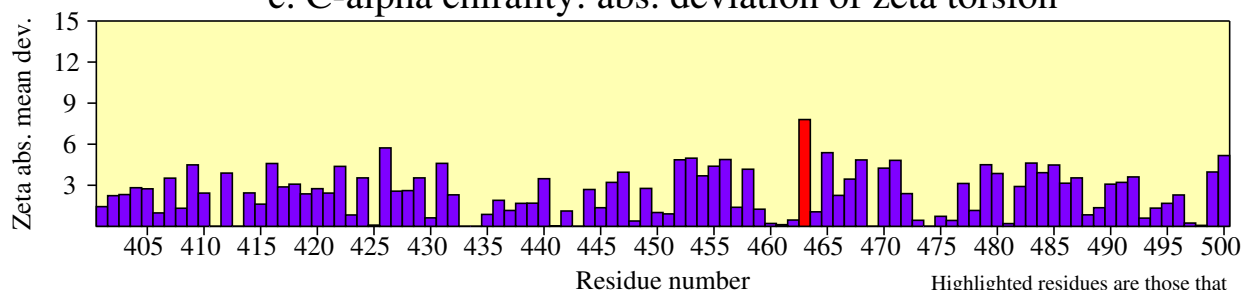
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

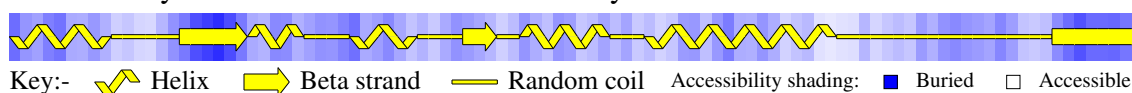


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

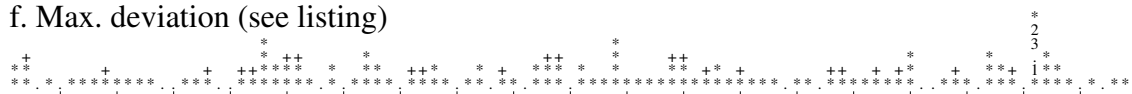
d. Secondary structure & estimated accessibility



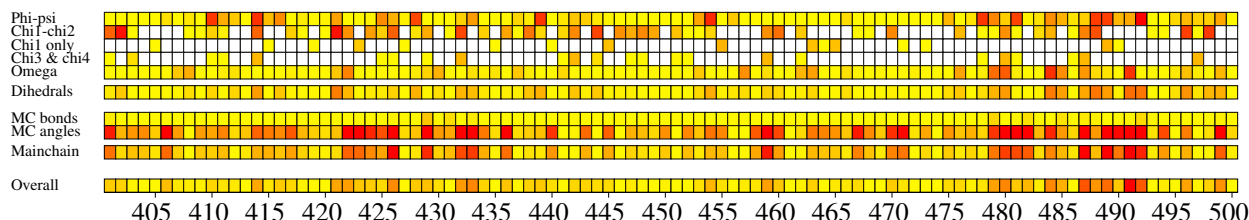
e. Sequence & Ramachandran regions Most favoured Allowed Generous Disallowed



f. Max. deviation (see listing)



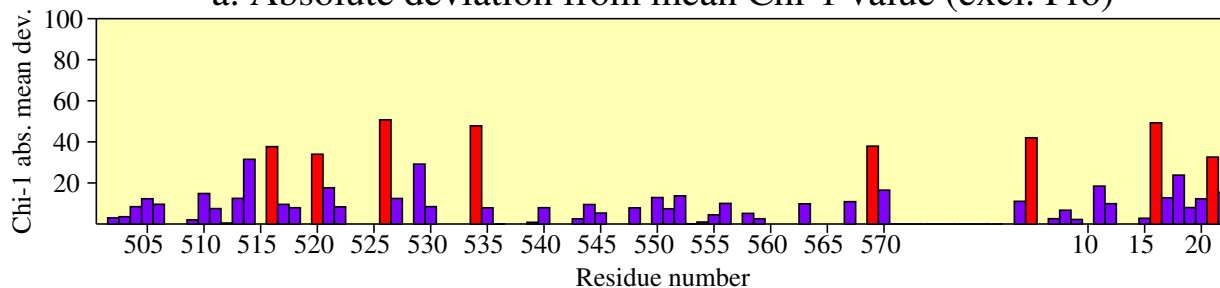
g. G-factors



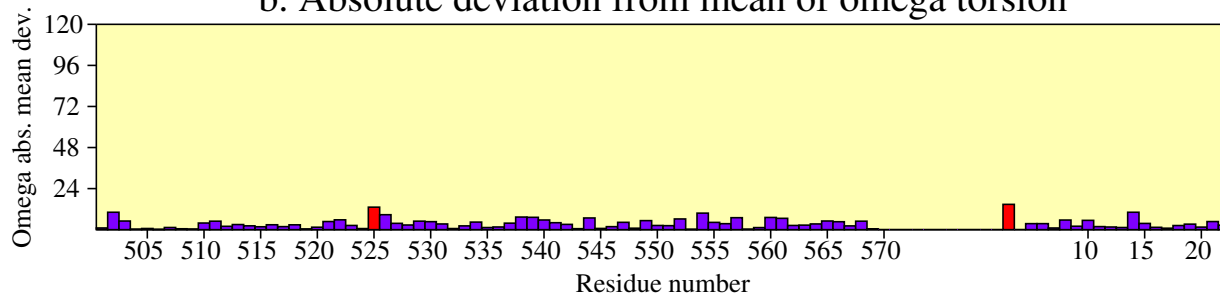
Residue properties

1d4c

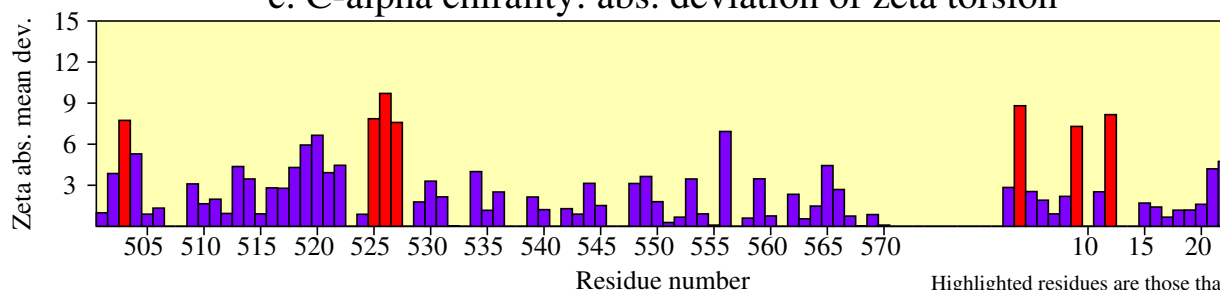
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

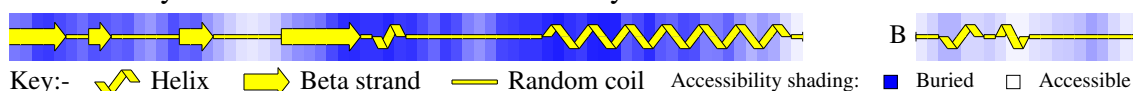


c. C-alpha chirality: abs. deviation of zeta torsion

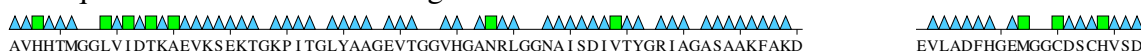


Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

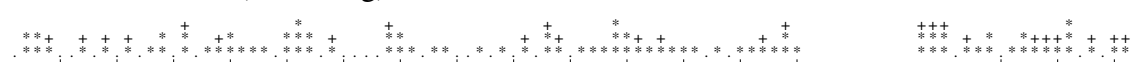
d. Secondary structure & estimated accessibility



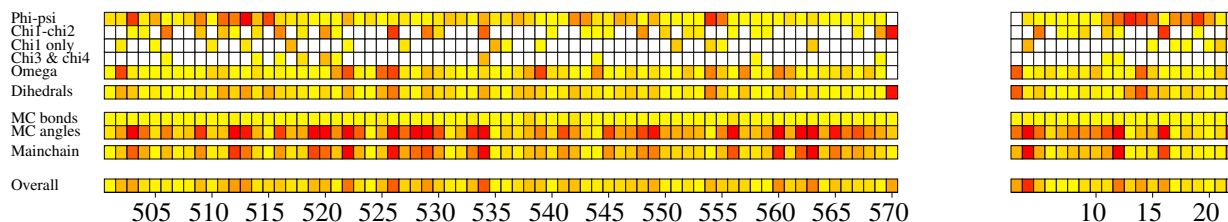
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



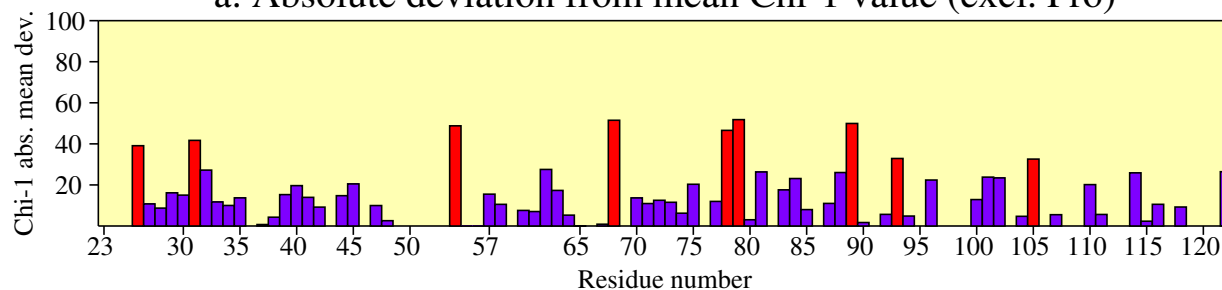
g. G-factors



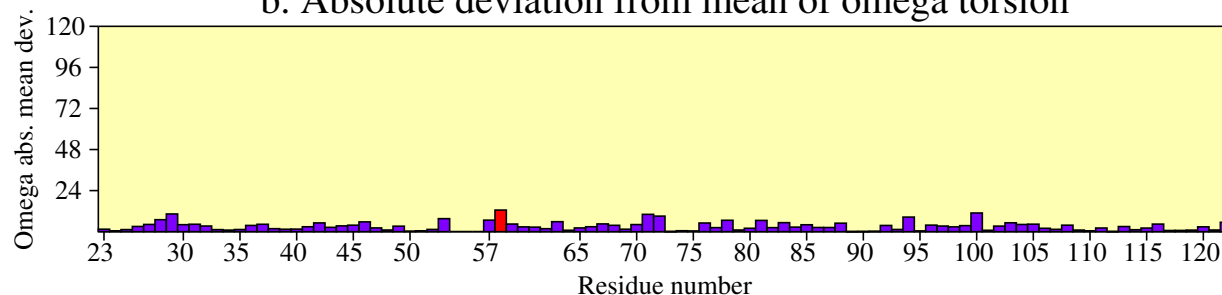
Residue properties

1d4c

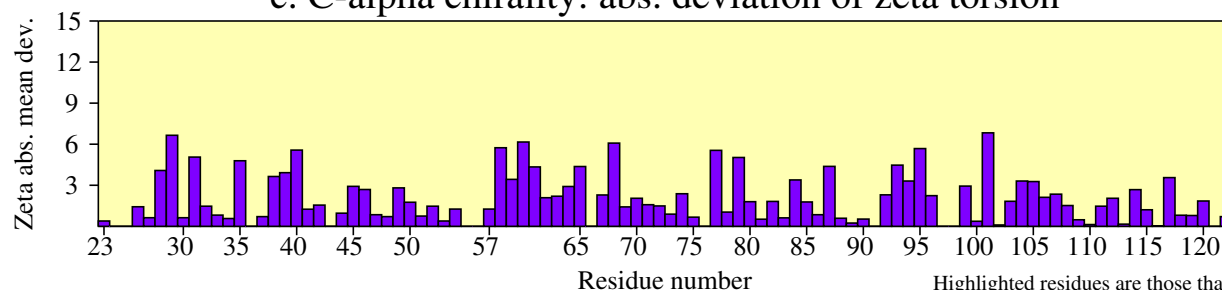
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

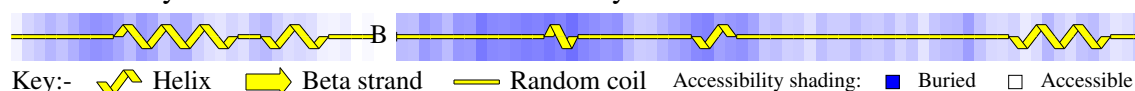


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

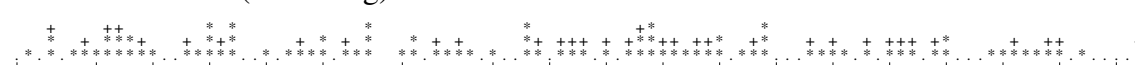
d. Secondary structure & estimated accessibility



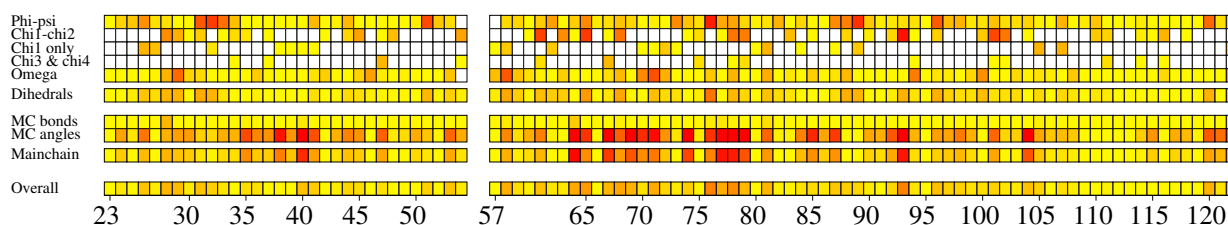
e. Sequence & Ramachandran regions



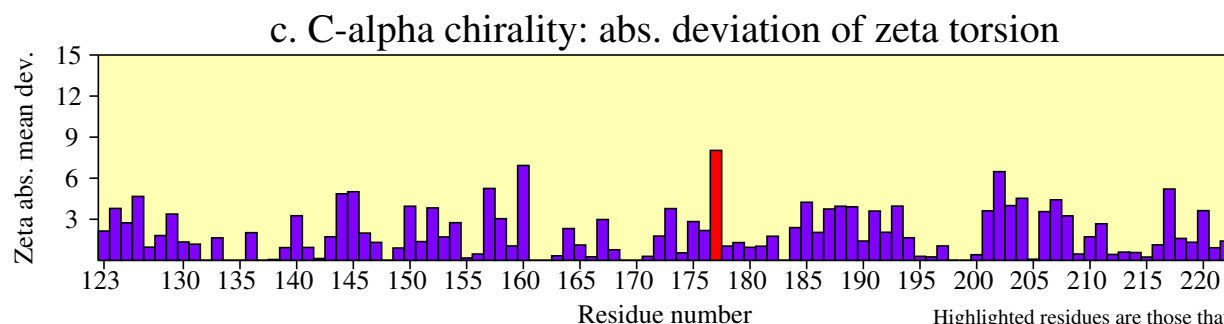
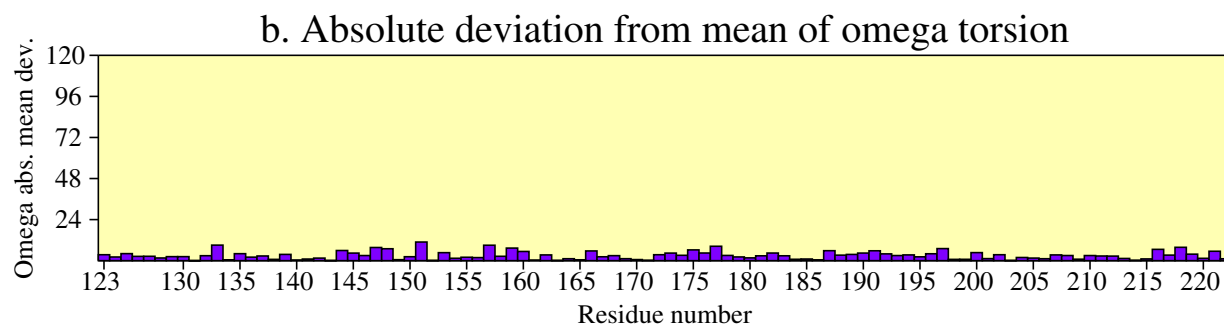
f. Max. deviation (see listing)



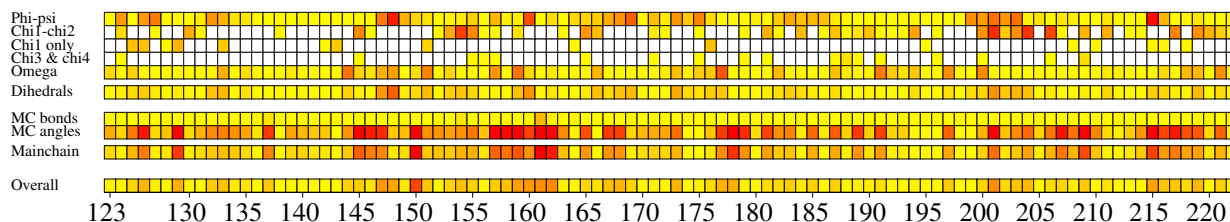
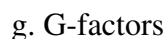
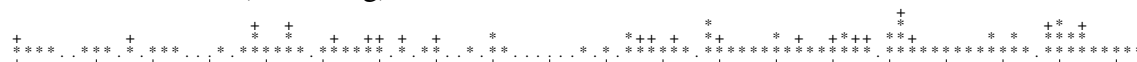
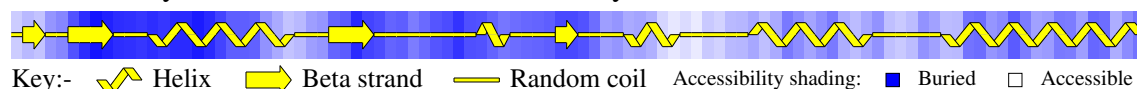
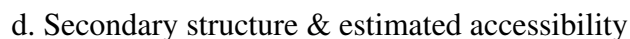
g. G-factors



a. Absolute deviation from mean Chi-1 value (excl. Pro)



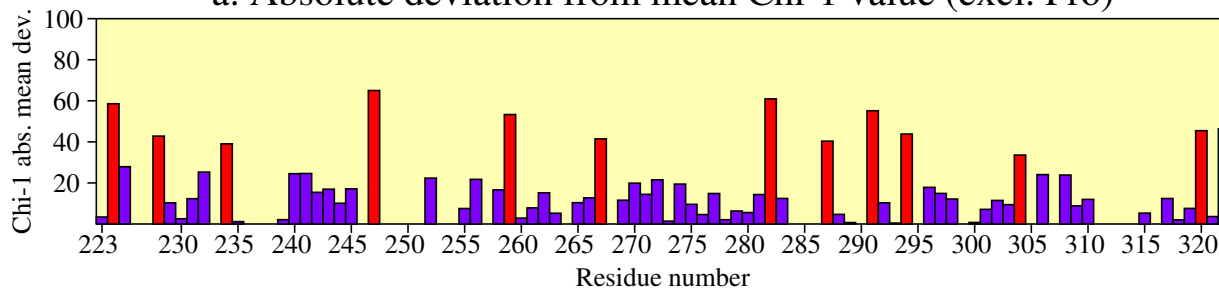
Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal



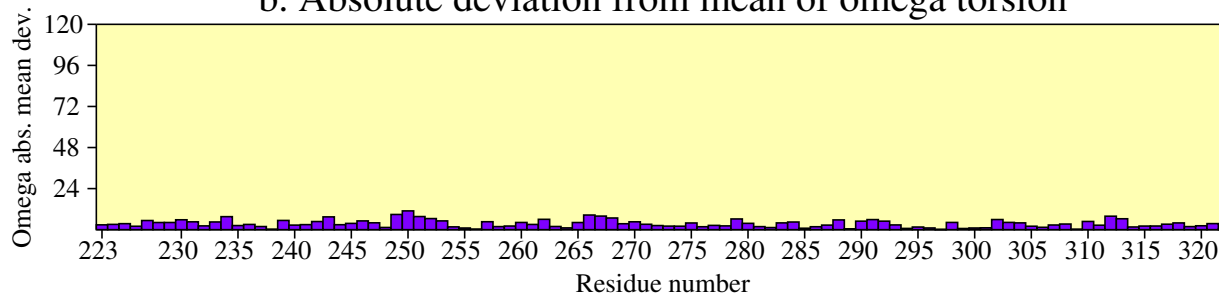
Residue properties

1d4c

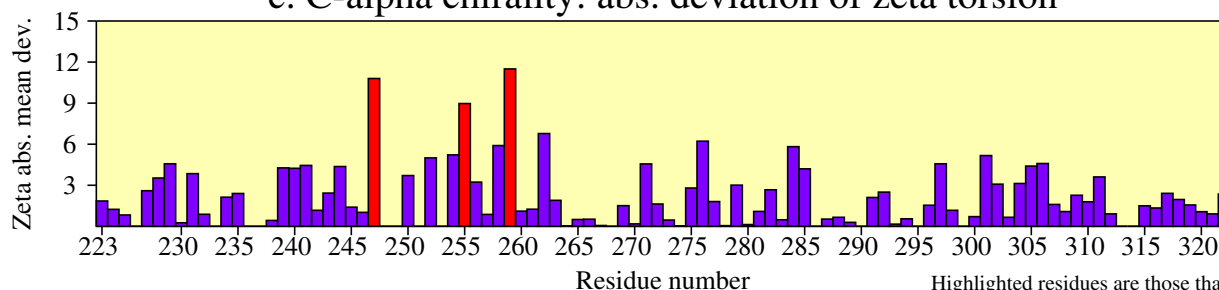
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

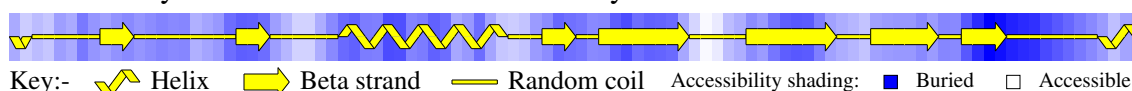


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility



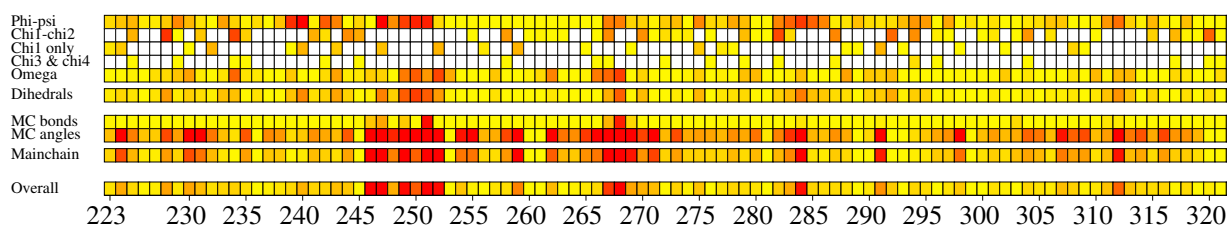
e. Sequence & Ramachandran regions Most favoured Allowed Generous Disallowed



f. Max. deviation (see listing)



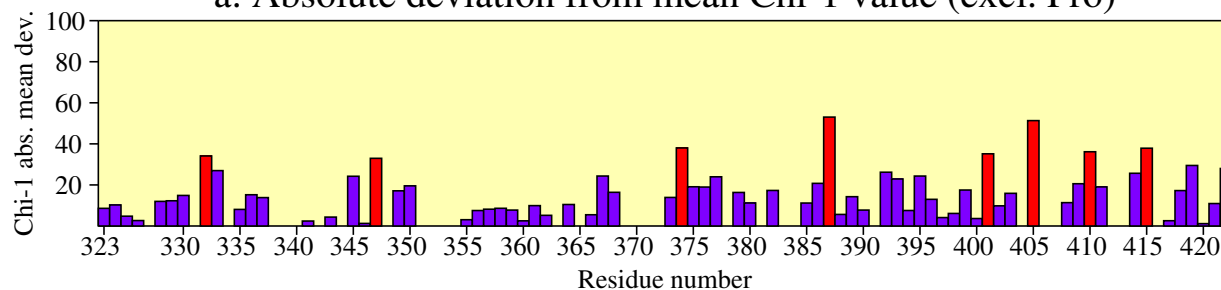
g. G-factors



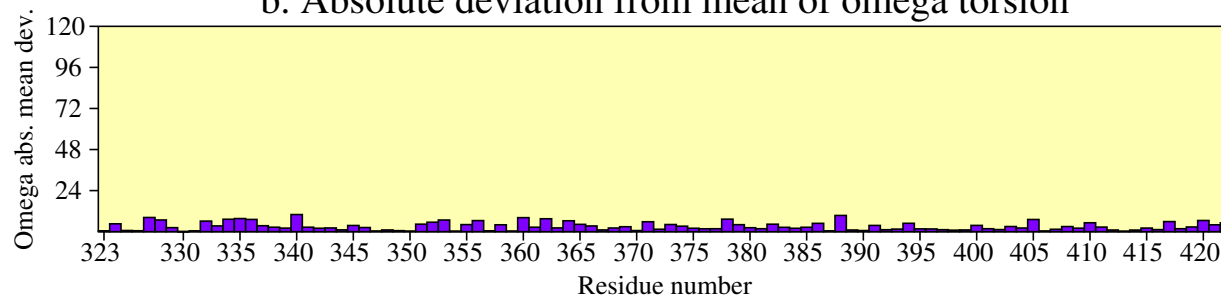
Residue properties

1d4c

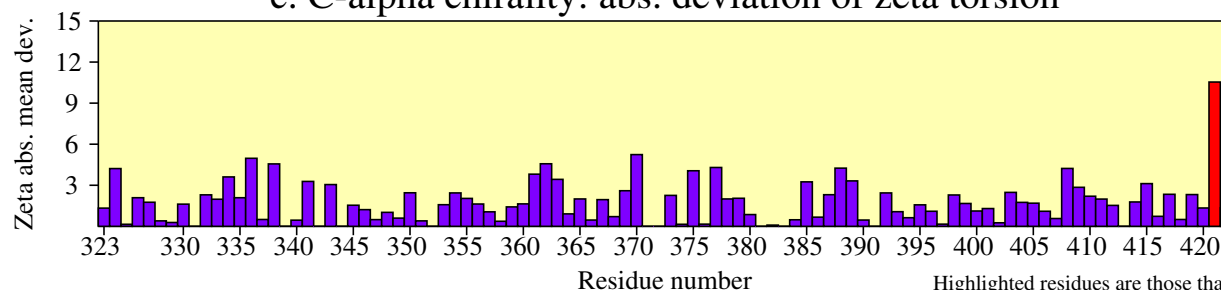
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

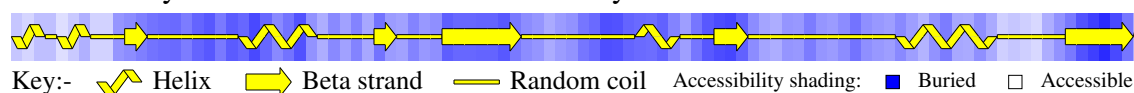


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

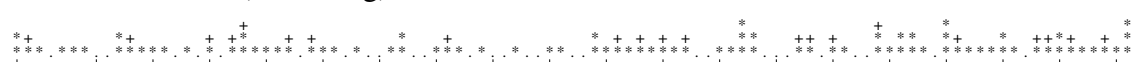
d. Secondary structure & estimated accessibility



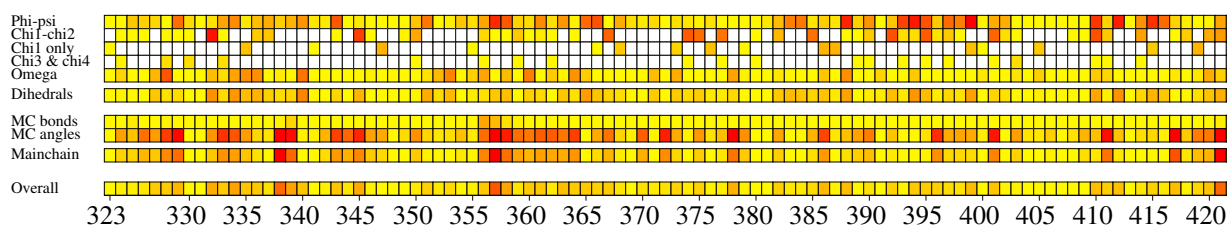
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



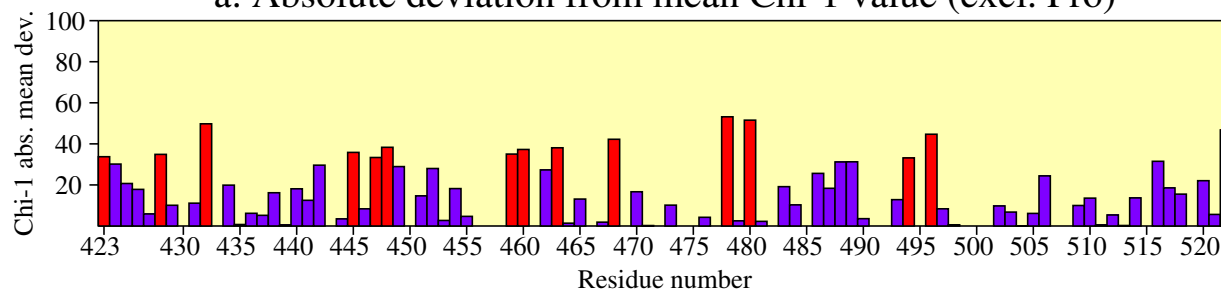
g. G-factors



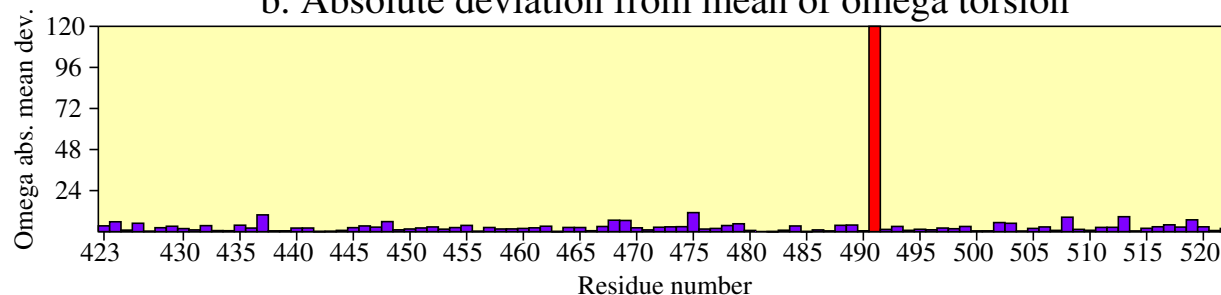
Residue properties

1d4c

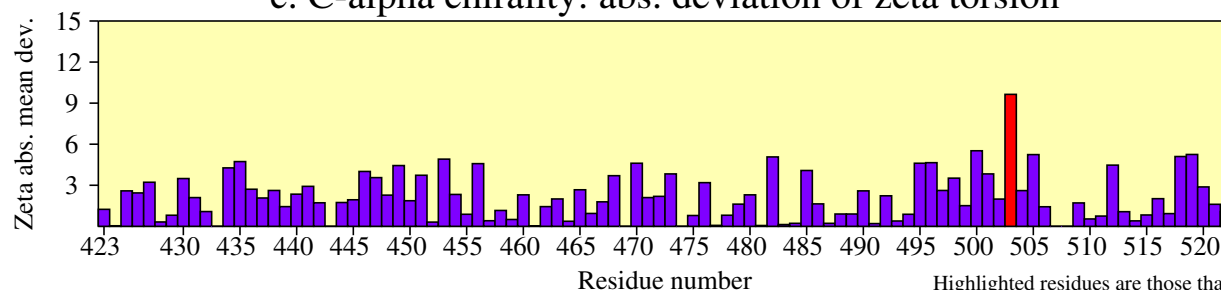
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion



c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility



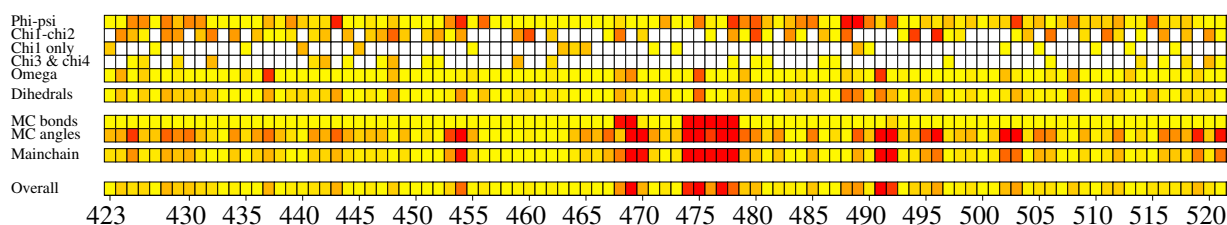
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



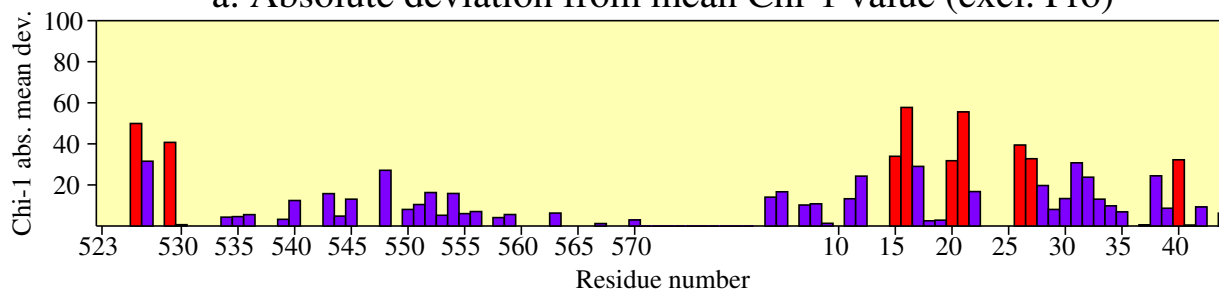
g. G-factors



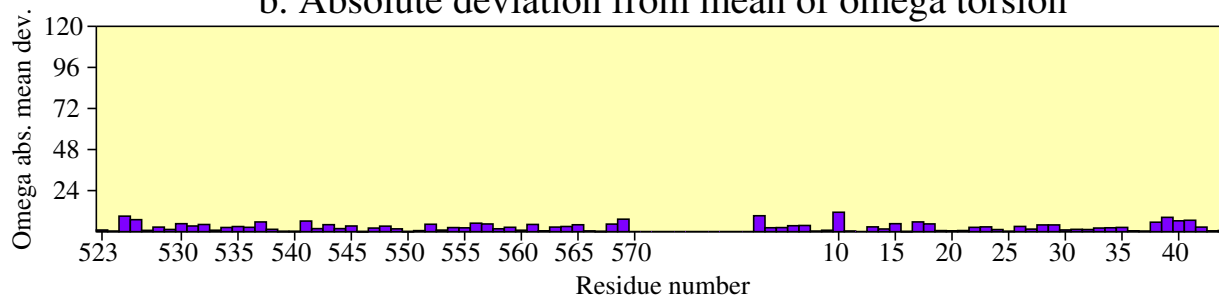
Residue properties

1d4c

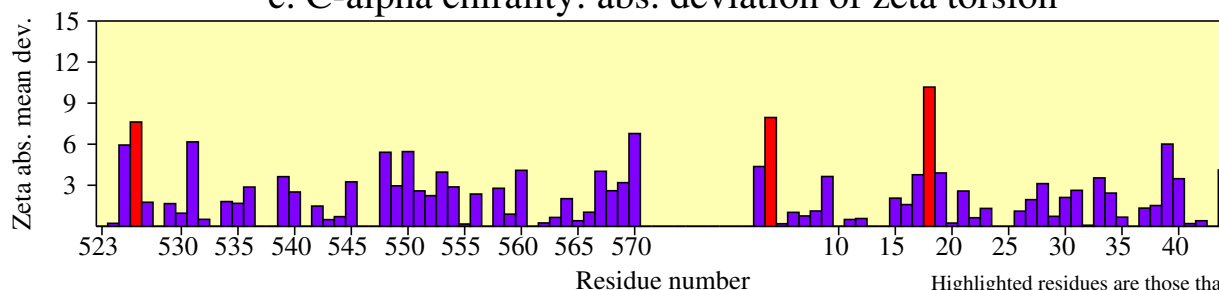
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

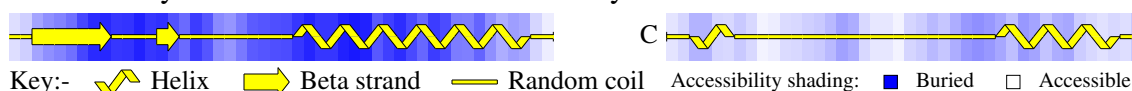


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

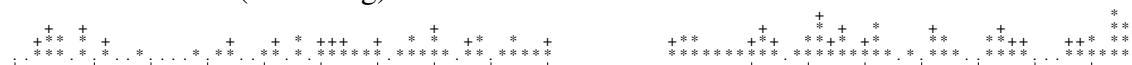
d. Secondary structure & estimated accessibility



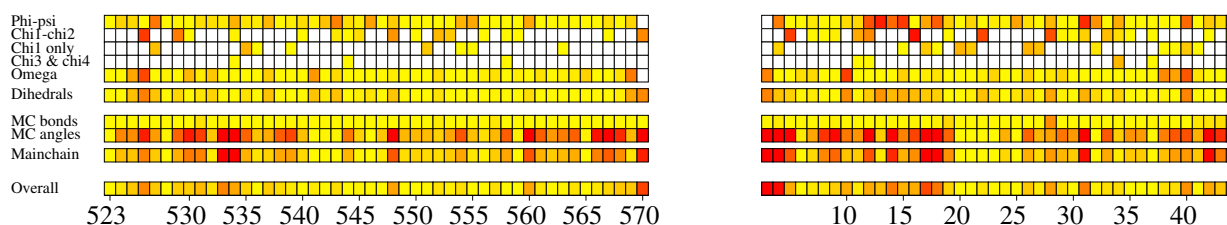
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



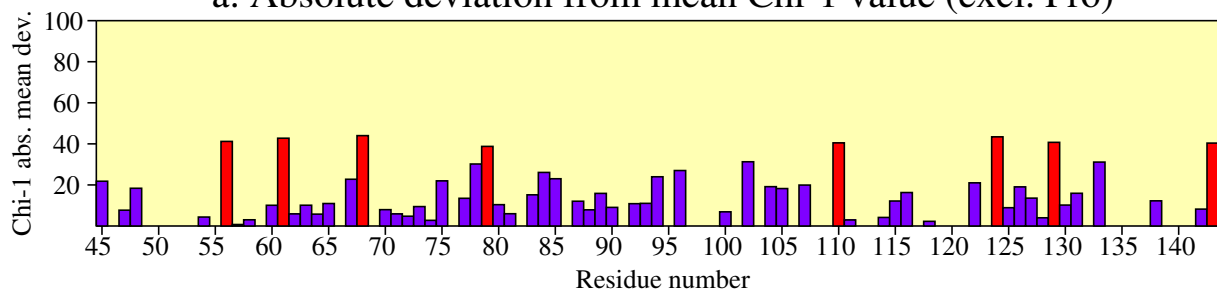
g. G-factors



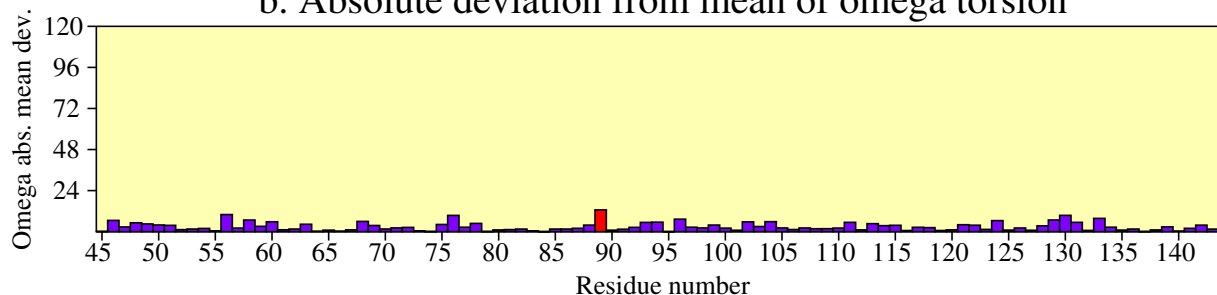
Residue properties

1d4c

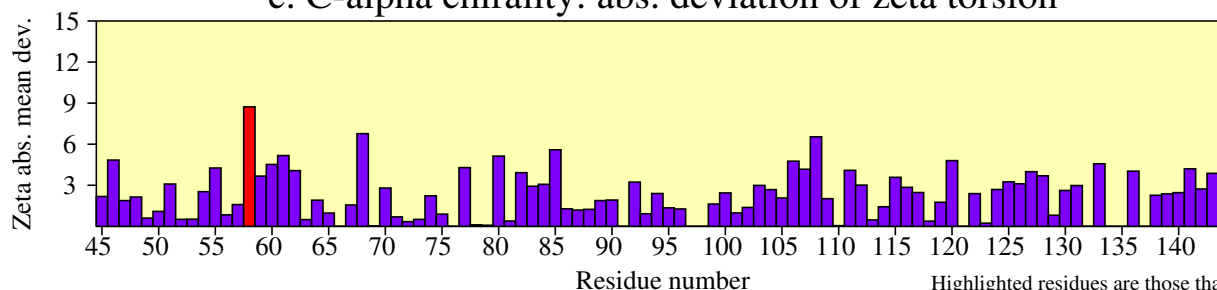
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

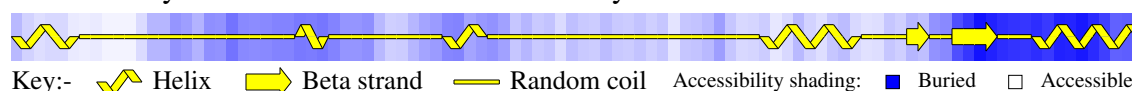


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

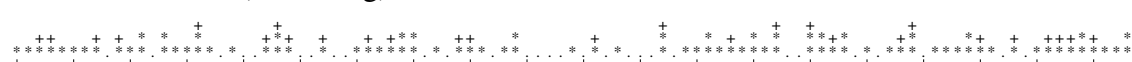
d. Secondary structure & estimated accessibility



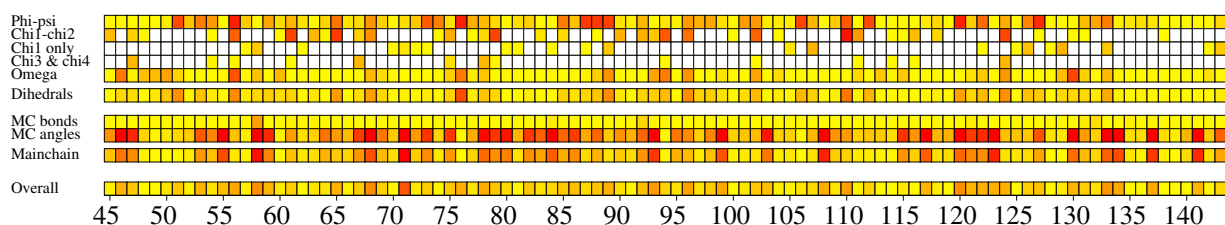
e. Sequence & Ramachandran regions Most favoured Allowed Generous Disallowed



f. Max. deviation (see listing)



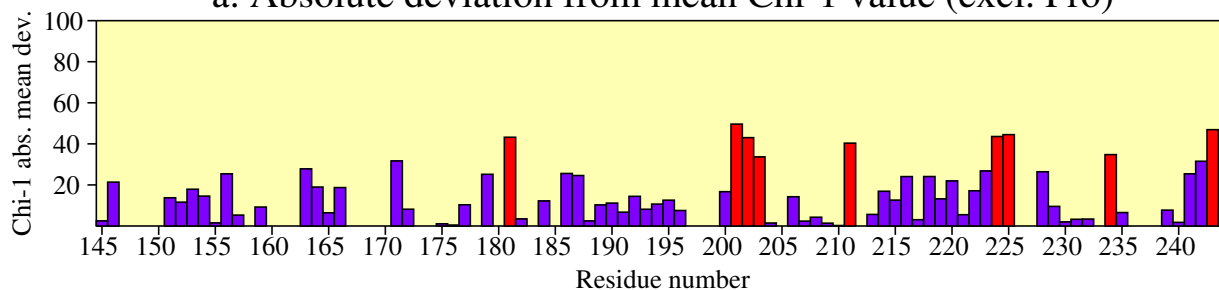
g. G-factors



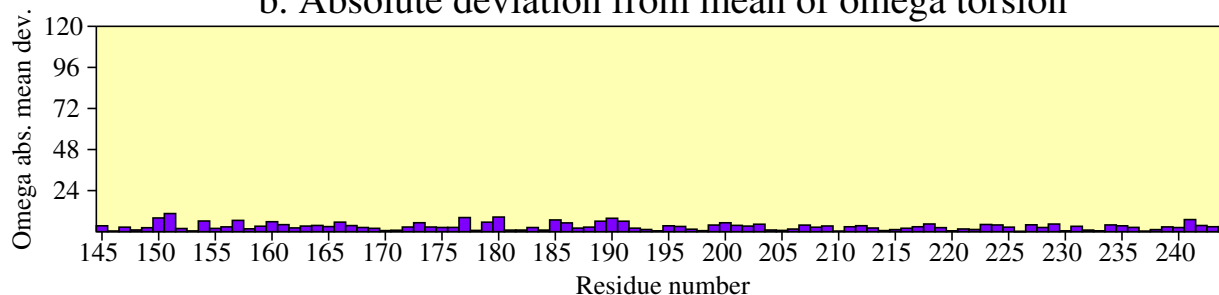
Residue properties

1d4c

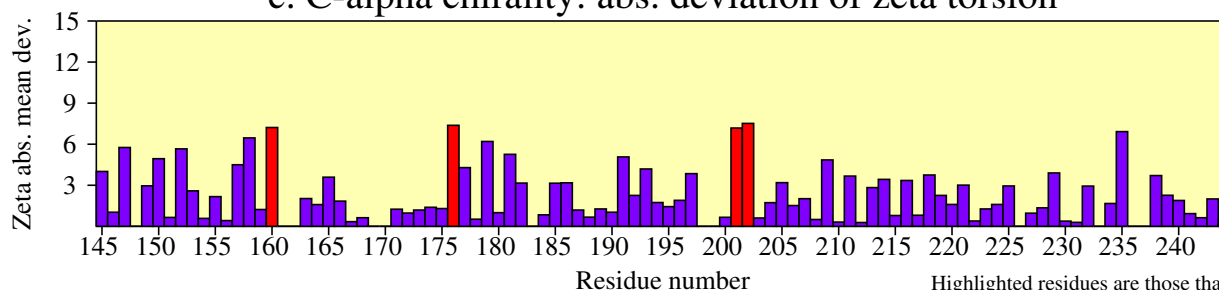
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

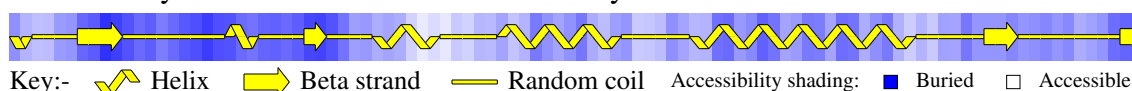


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility



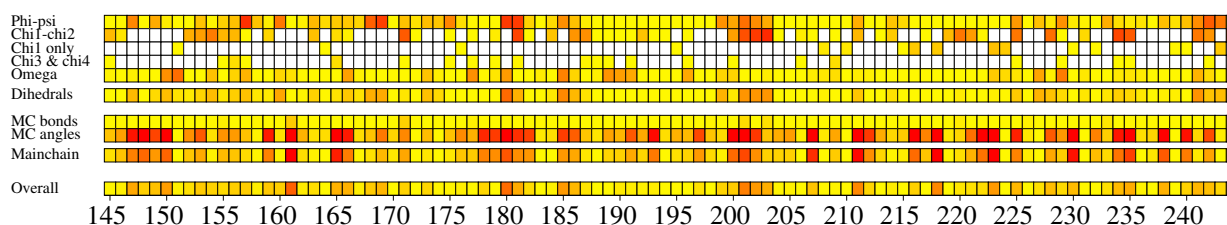
e. Sequence & Ramachandran regions Most favoured Allowed Generous Disallowed

RDAGAKV I LLEKEP I PGGNTKLAAGGMNAAETKPQAKLG I EDKKQ I M I DDTMKGGRN I NDPELVKVLANN S SDS I DWL T SMGADMTDVG RMGGASVNRSH

f. Max. deviation (see listing)



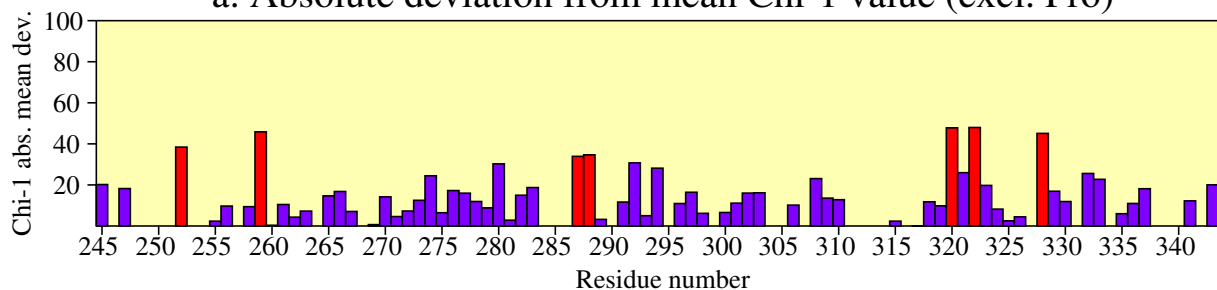
g. G-factors



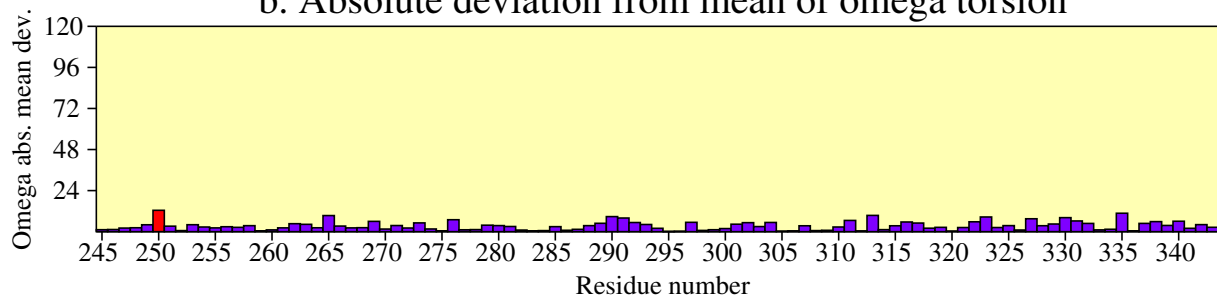
Residue properties

1d4c

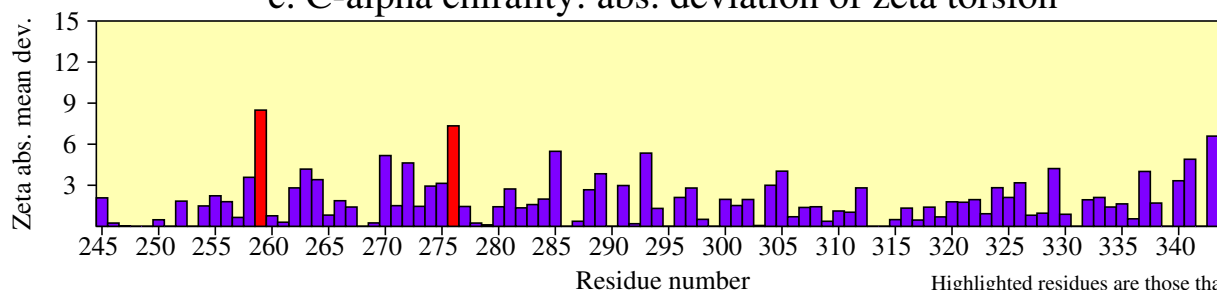
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

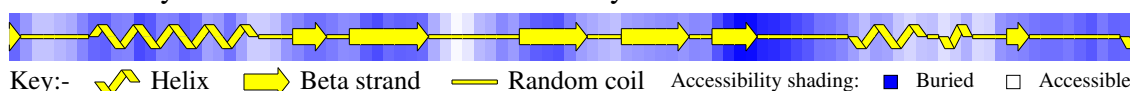


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

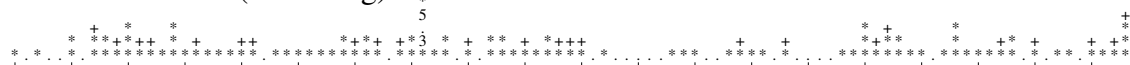
d. Secondary structure & estimated accessibility



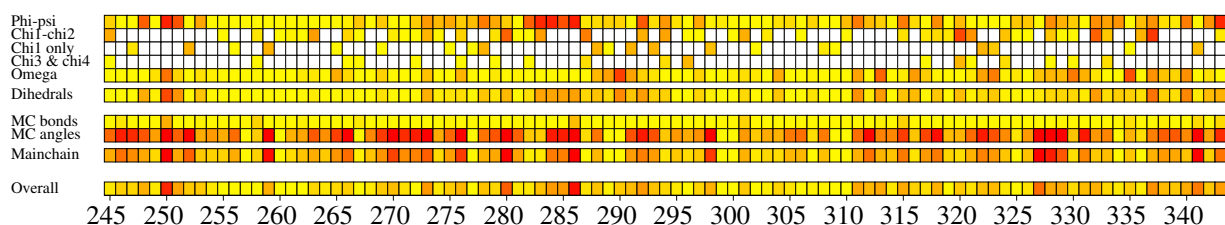
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



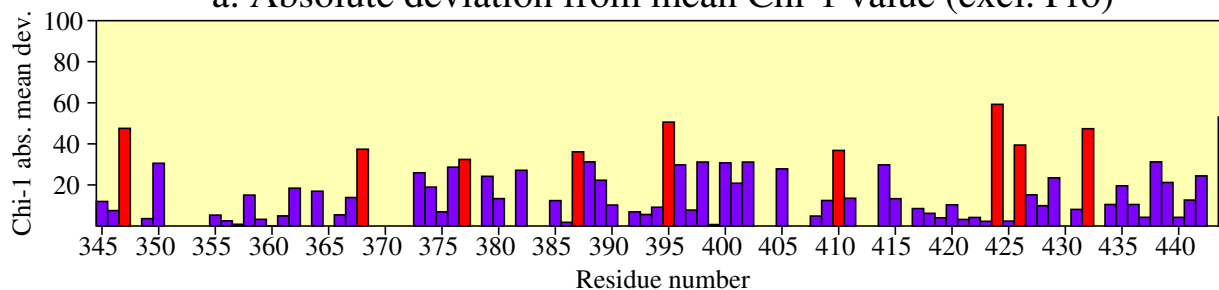
g. G-factors



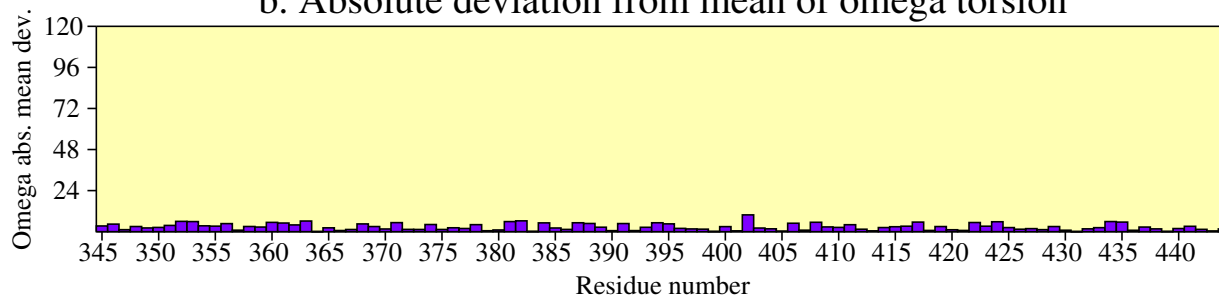
Residue properties

1d4c

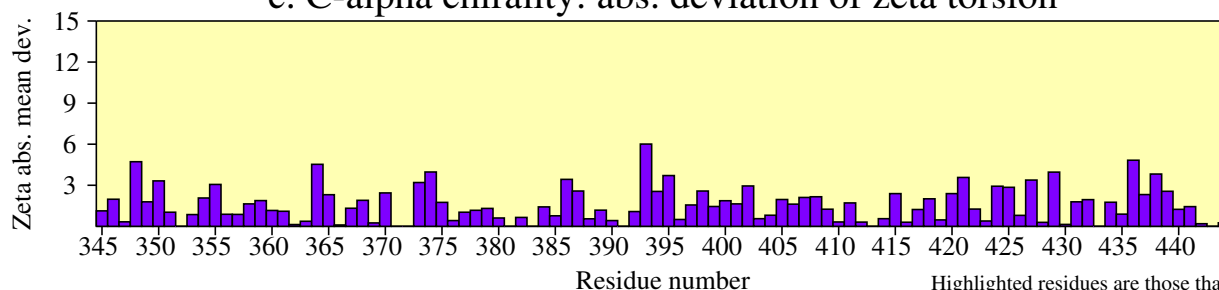
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

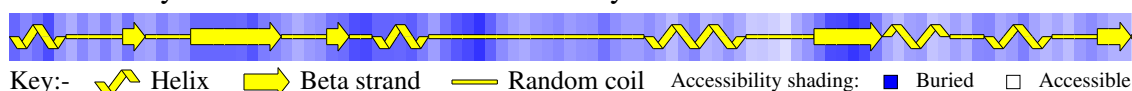


c. C-alpha chirality: abs. deviation of zeta torsion

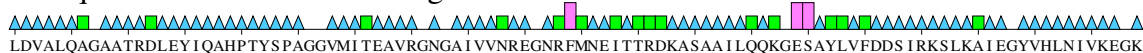


Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

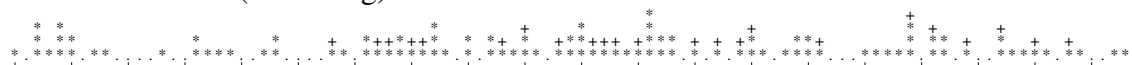
d. Secondary structure & estimated accessibility



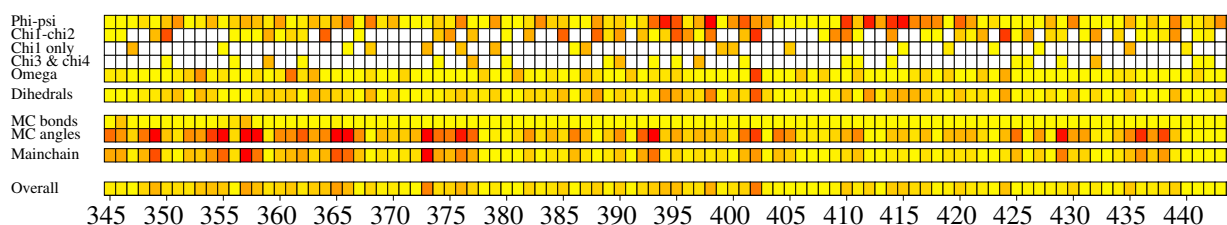
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



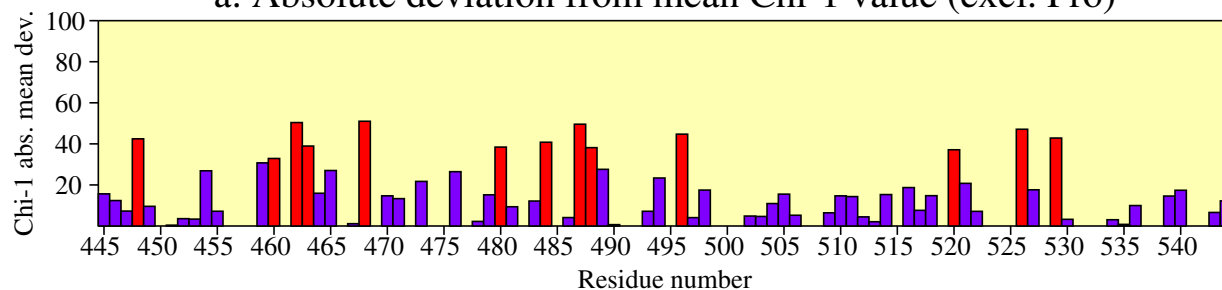
g. G-factors



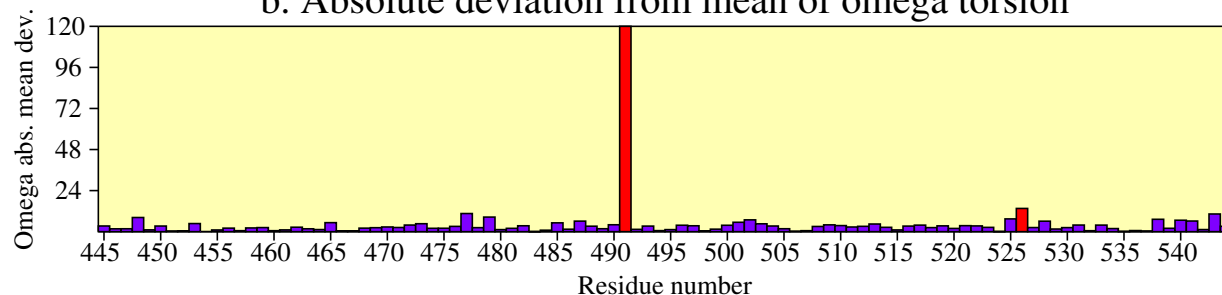
Residue properties

1d4c

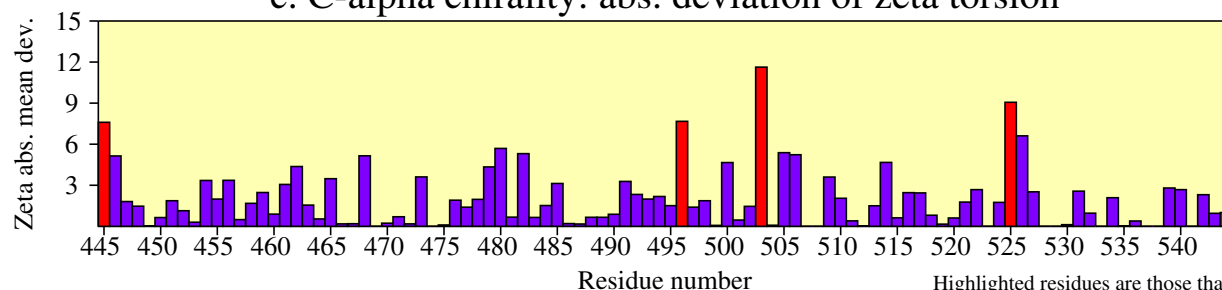
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

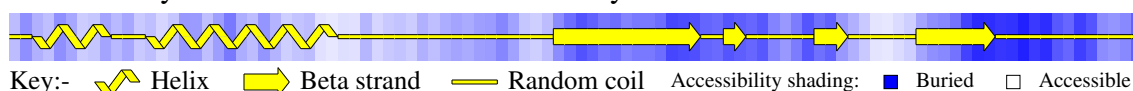


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

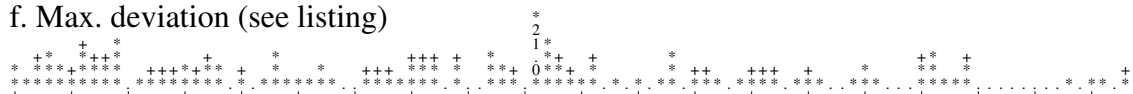
d. Secondary structure & estimated accessibility



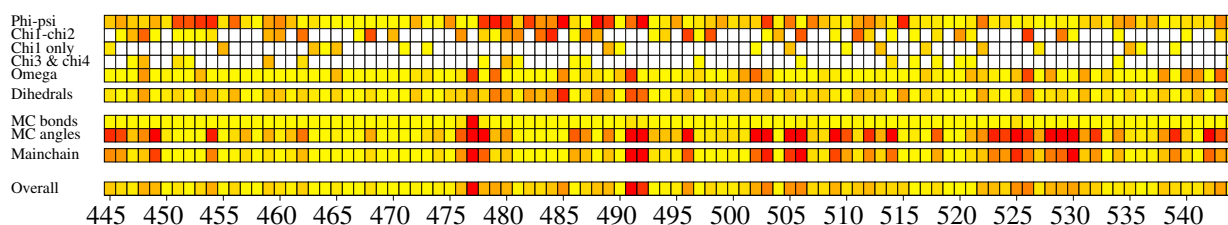
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



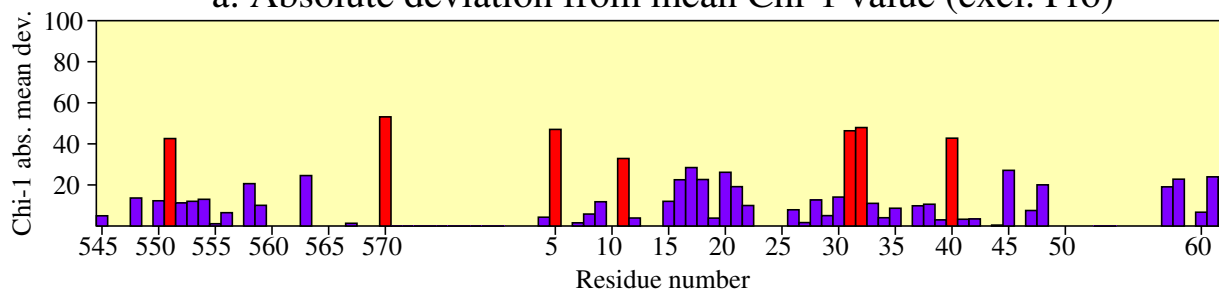
g. G-factors



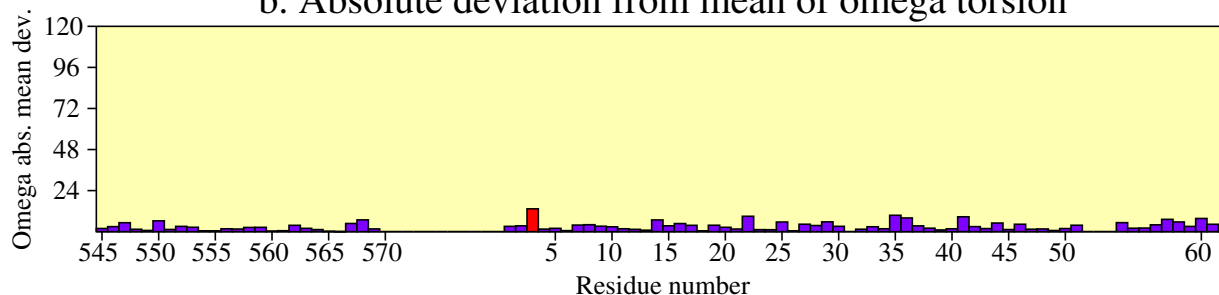
Residue properties

1d4c

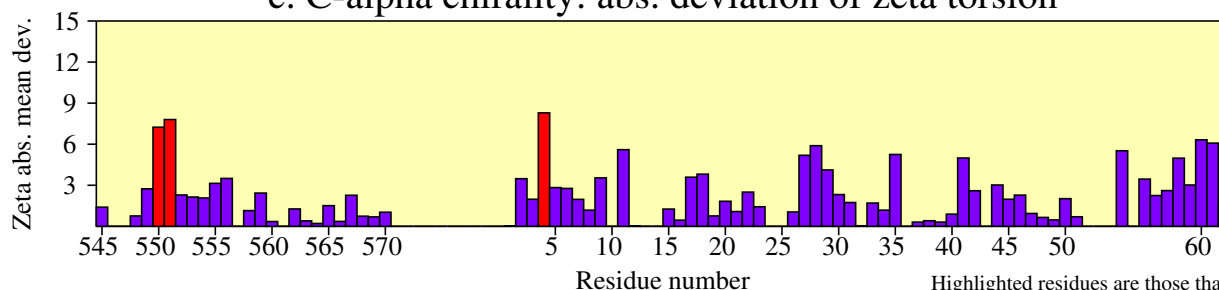
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

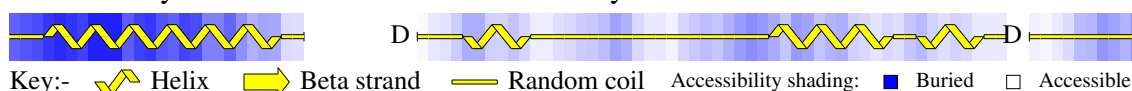


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

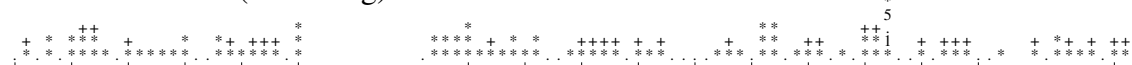
d. Secondary structure & estimated accessibility



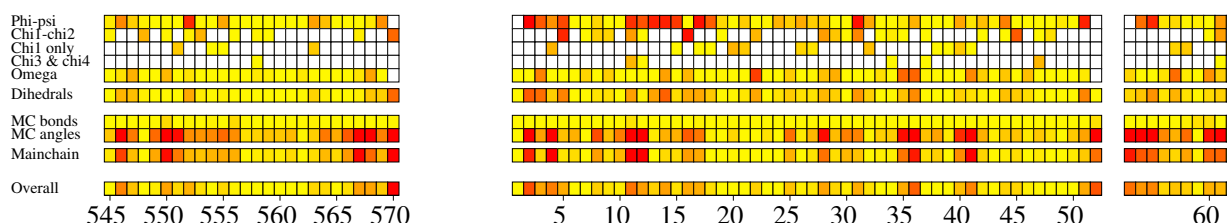
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



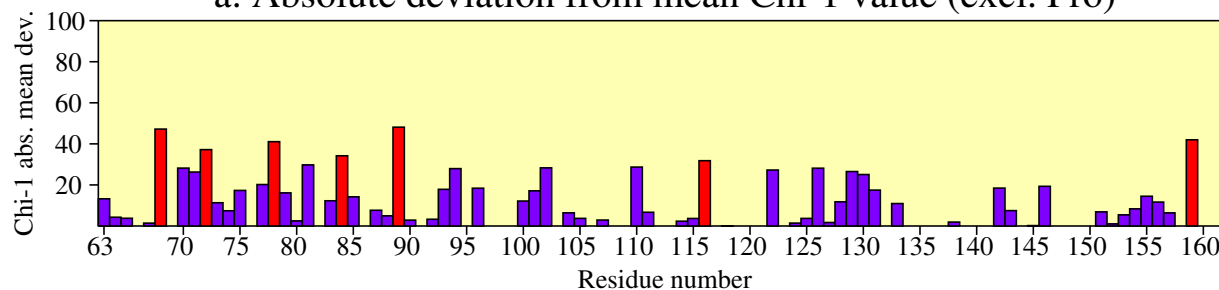
g. G-factors



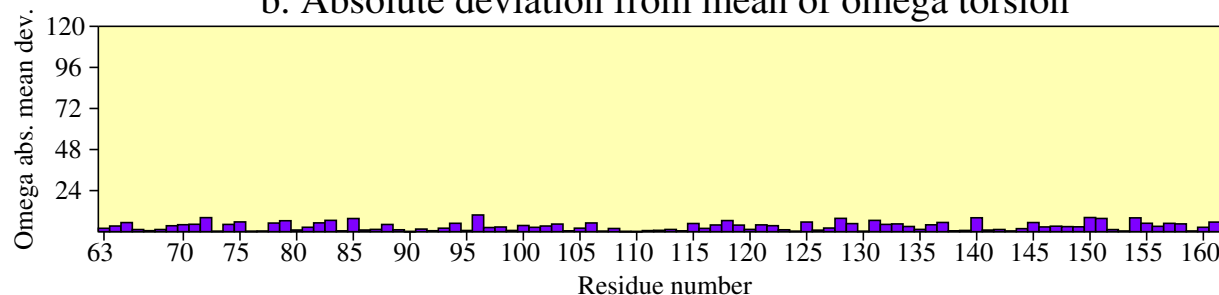
Residue properties

1d4c

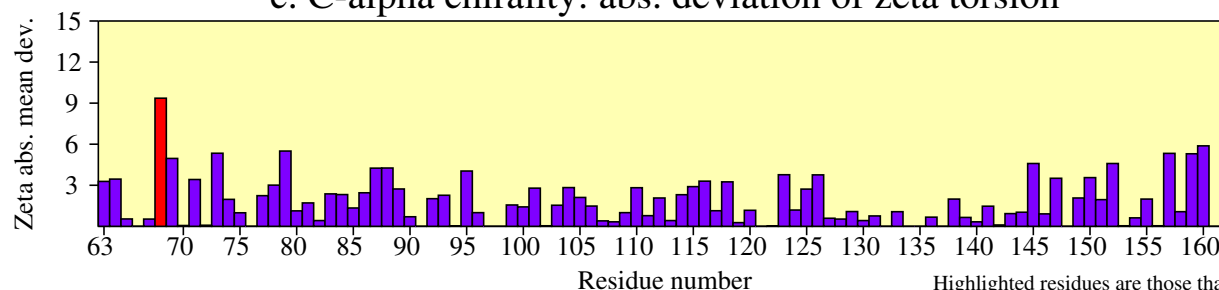
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

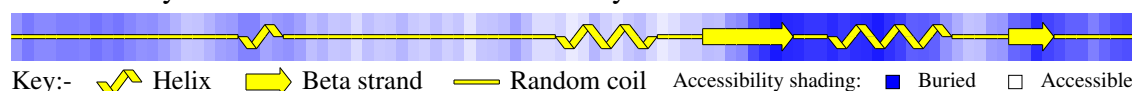


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility

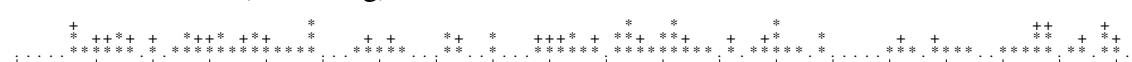


Key:- Helix Beta strand Random coil Accessibility shading: Buried Accessible

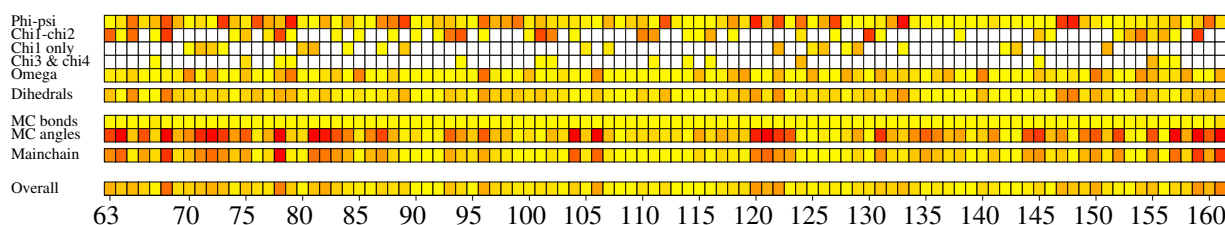
e. Sequence & Ramachandran regions Most favoured Allowed Generous Disallowed

HL IGE IACTSCHKGHEKSVAYCDACHSFGFDMPPGGKWERKFVPVDADKAAQDKA I AAGVKETTDVV I I GSGGAGLAAAVSARDAGAKV I LLEKEP I PGG

f. Max. deviation (see listing)



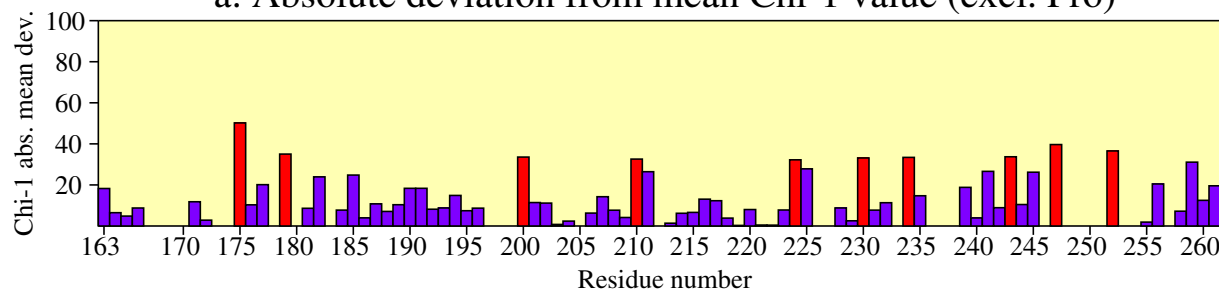
g. G-factors



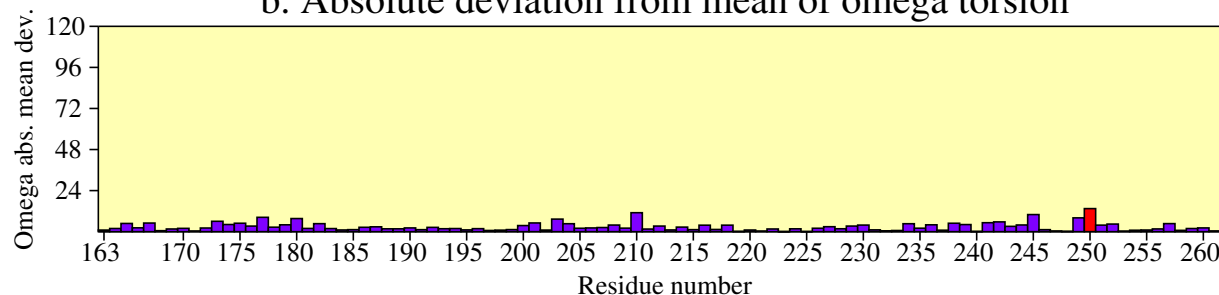
Residue properties

1d4c

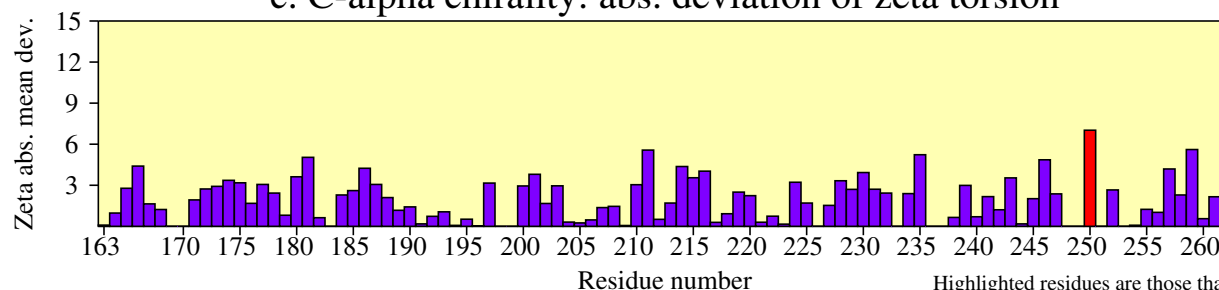
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

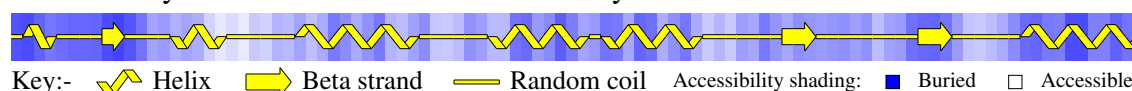


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility



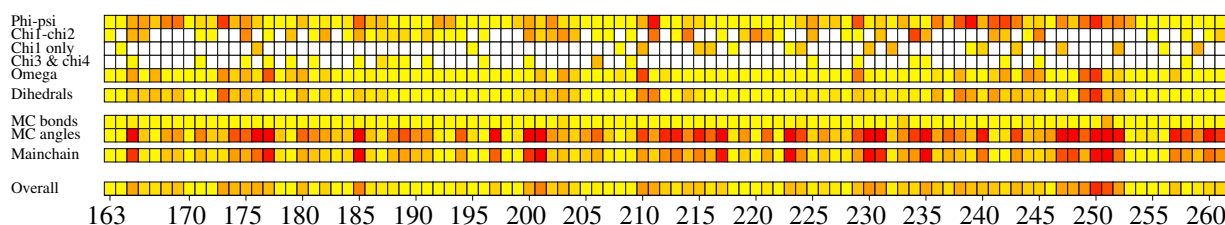
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



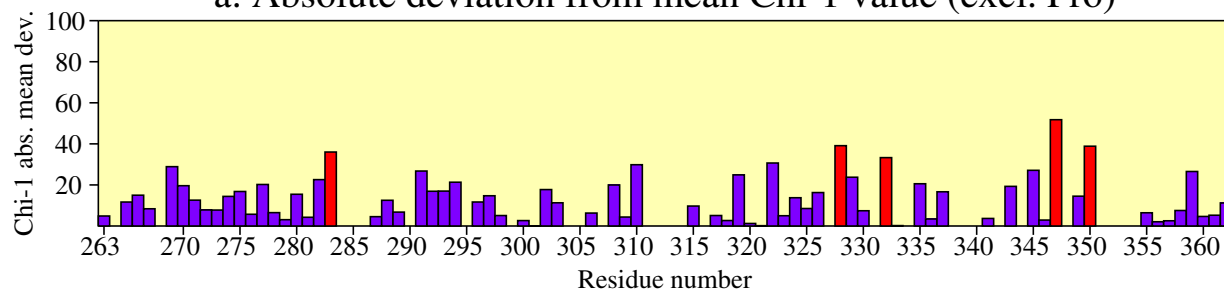
g. G-factors



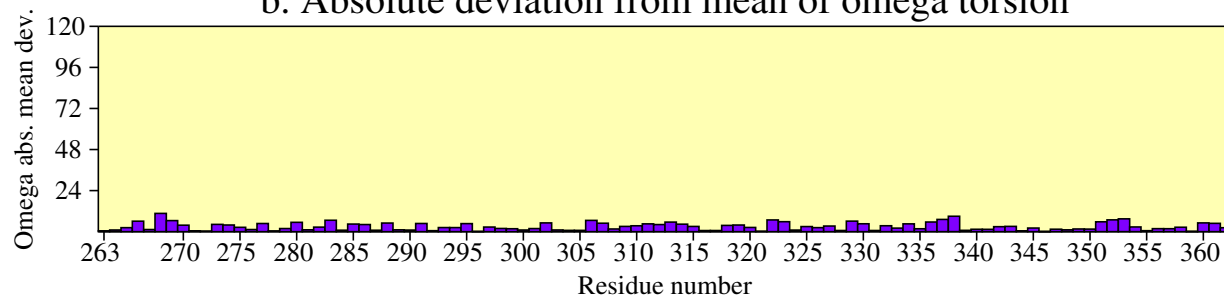
Residue properties

1d4c

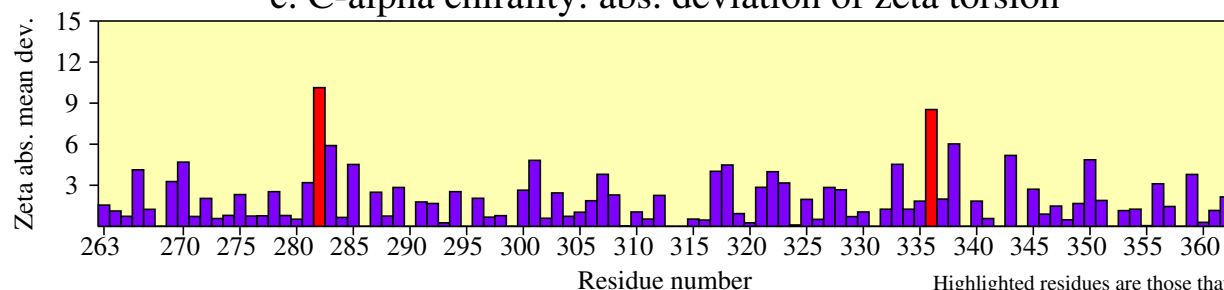
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

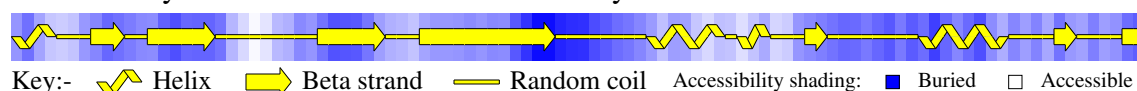


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility



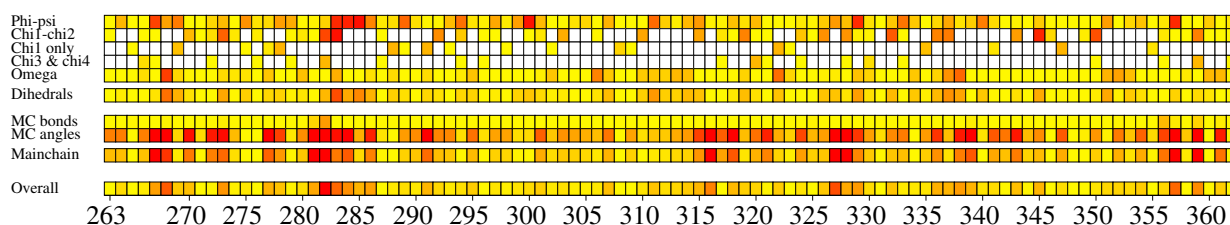
e. Sequence & Ramachandran regions Most favoured Allowed Generous Disallowed

NAVKRGTDIRLNSRVVRILEDASGKVTGVLVKG EYTGYYV I KADAVV I AAGGFAKNNERVSKYDPKLGFKATNHPGATGDGLDVALQAGAATRDLEYIQ

f. Max. deviation (see listing)



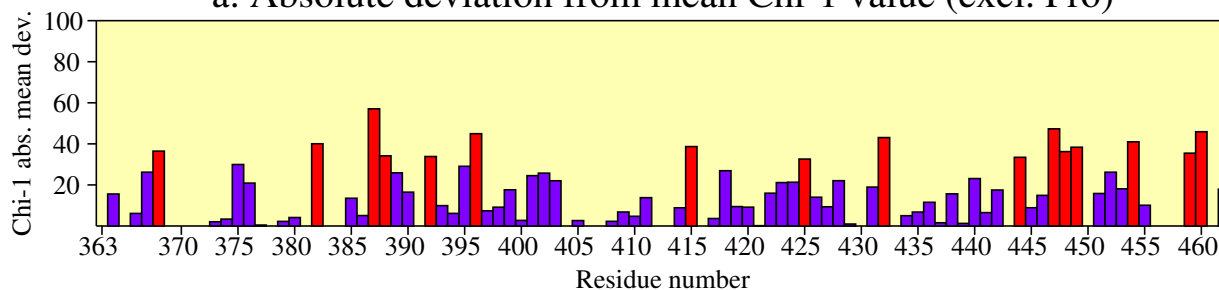
g. G-factors



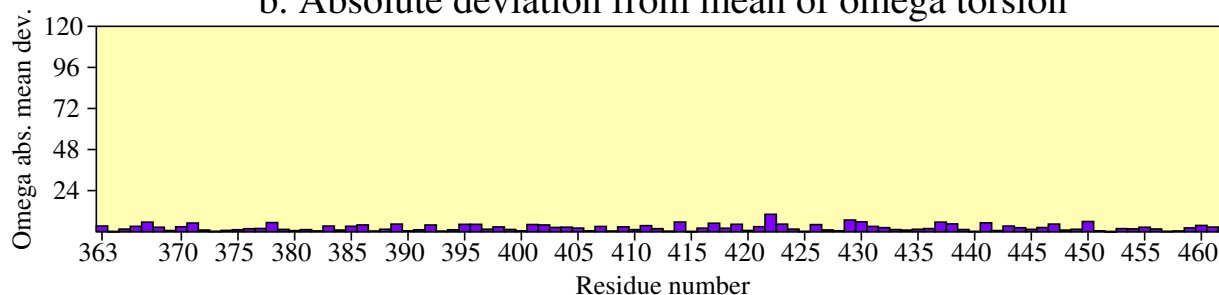
Residue properties

1d4c

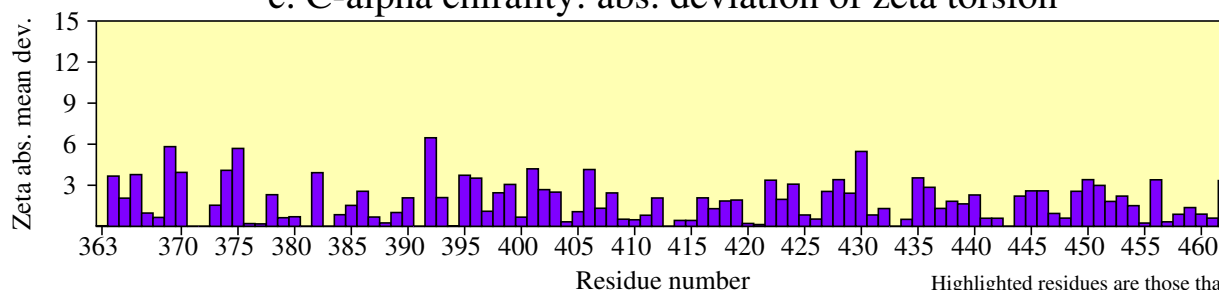
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

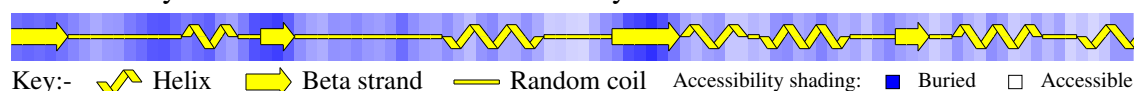


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

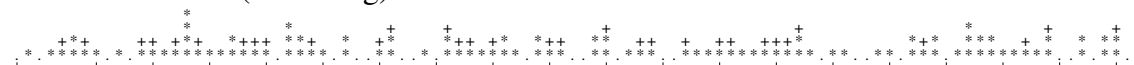
d. Secondary structure & estimated accessibility



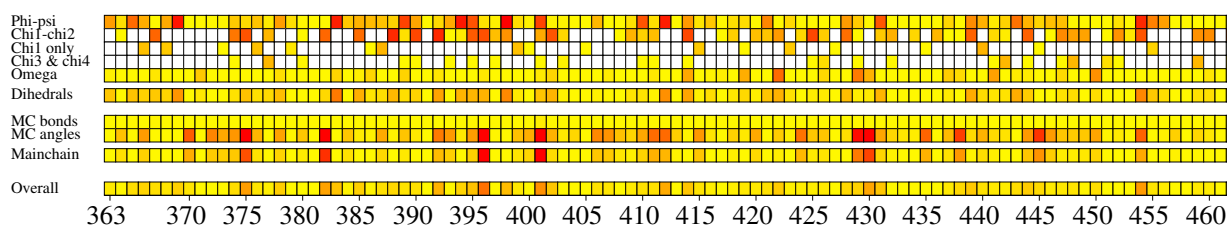
e. Sequence & Ramachandran regions Most favoured Allowed Generous Disallowed



f. Max. deviation (see listing)



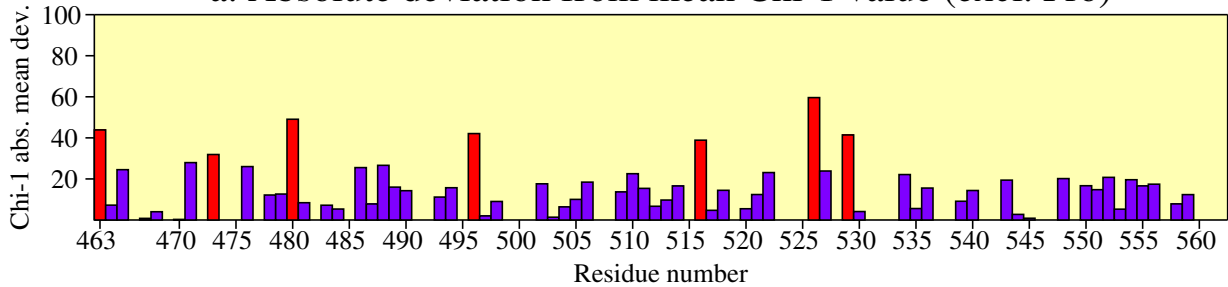
g. G-factors



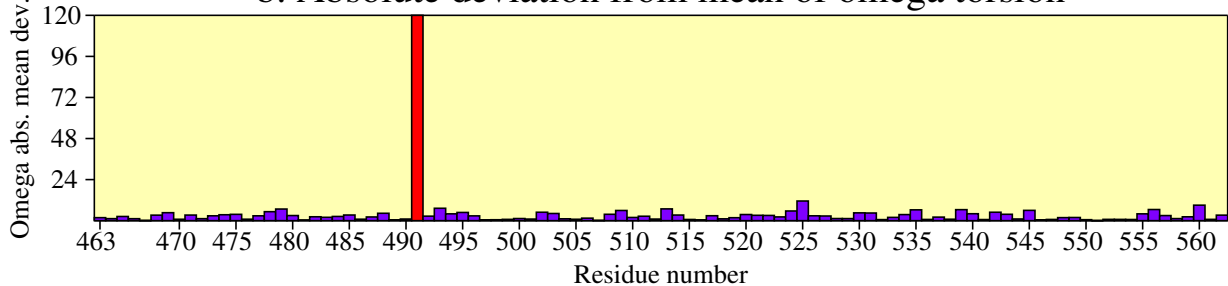
Residue properties

1d4c

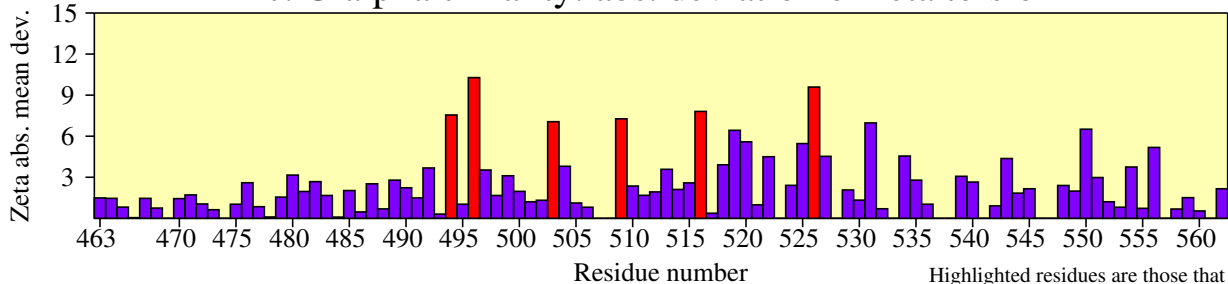
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion

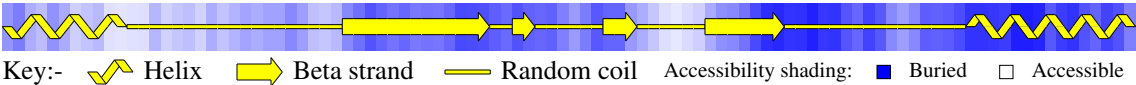


c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility



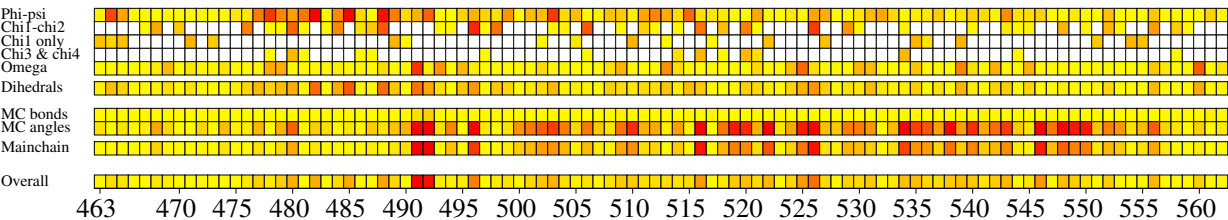
e. Sequence & Ramachandran regions



f. Max. deviation (see listing)



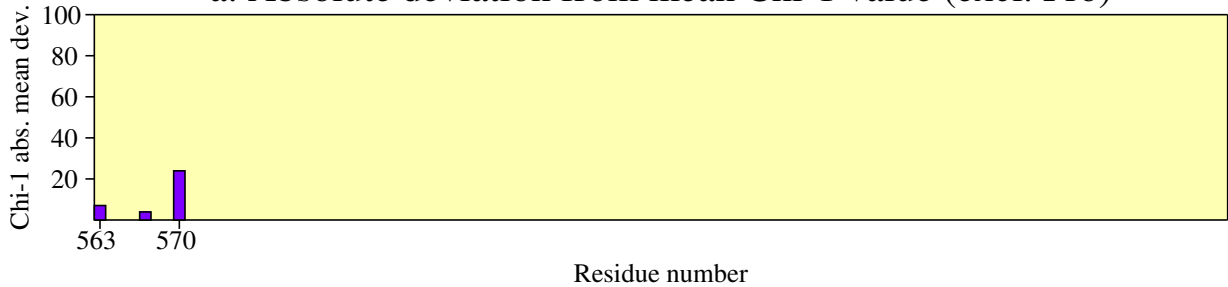
g. G-factors



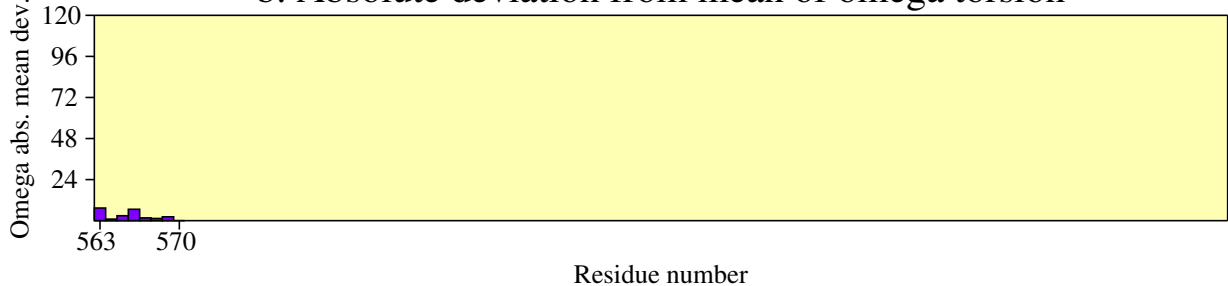
Residue properties

1d4c

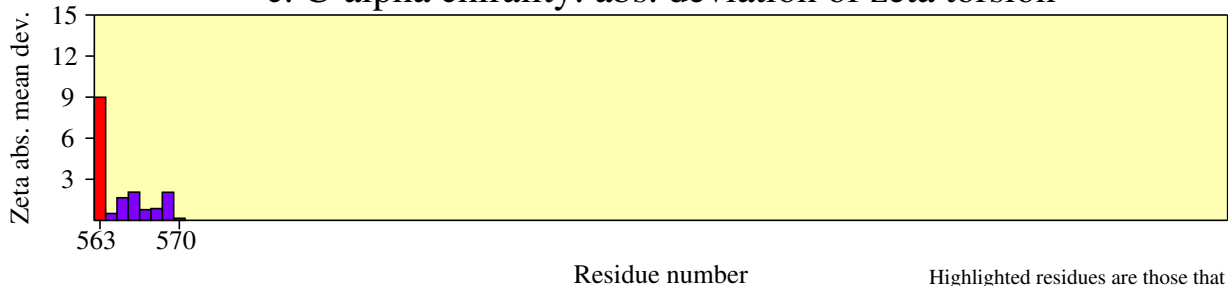
a. Absolute deviation from mean Chi-1 value (excl. Pro)



b. Absolute deviation from mean of omega torsion



c. C-alpha chirality: abs. deviation of zeta torsion



Highlighted residues are those that deviate by more than 2.0 st. devs. from ideal

d. Secondary structure & estimated accessibility



Key:- Helix Beta strand Random coil Accessibility shading: Buried Accessible

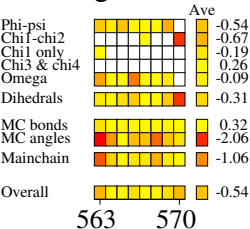
e. Sequence & Ramachandran regions Most favoured Allowed Generous Disallowed



f. Max. deviation (see listing)

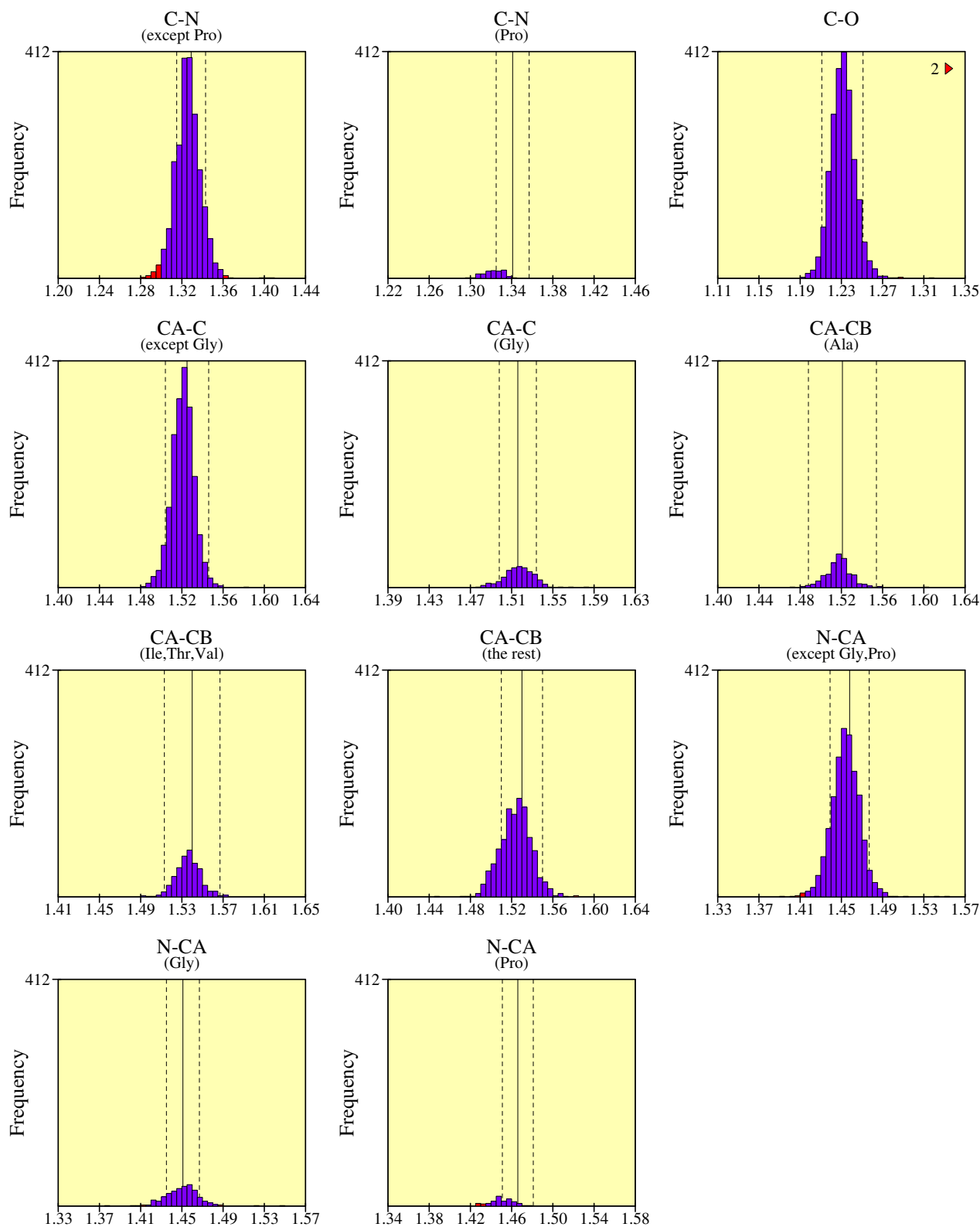


g. G-factors



Main-chain bond lengths

1d4c



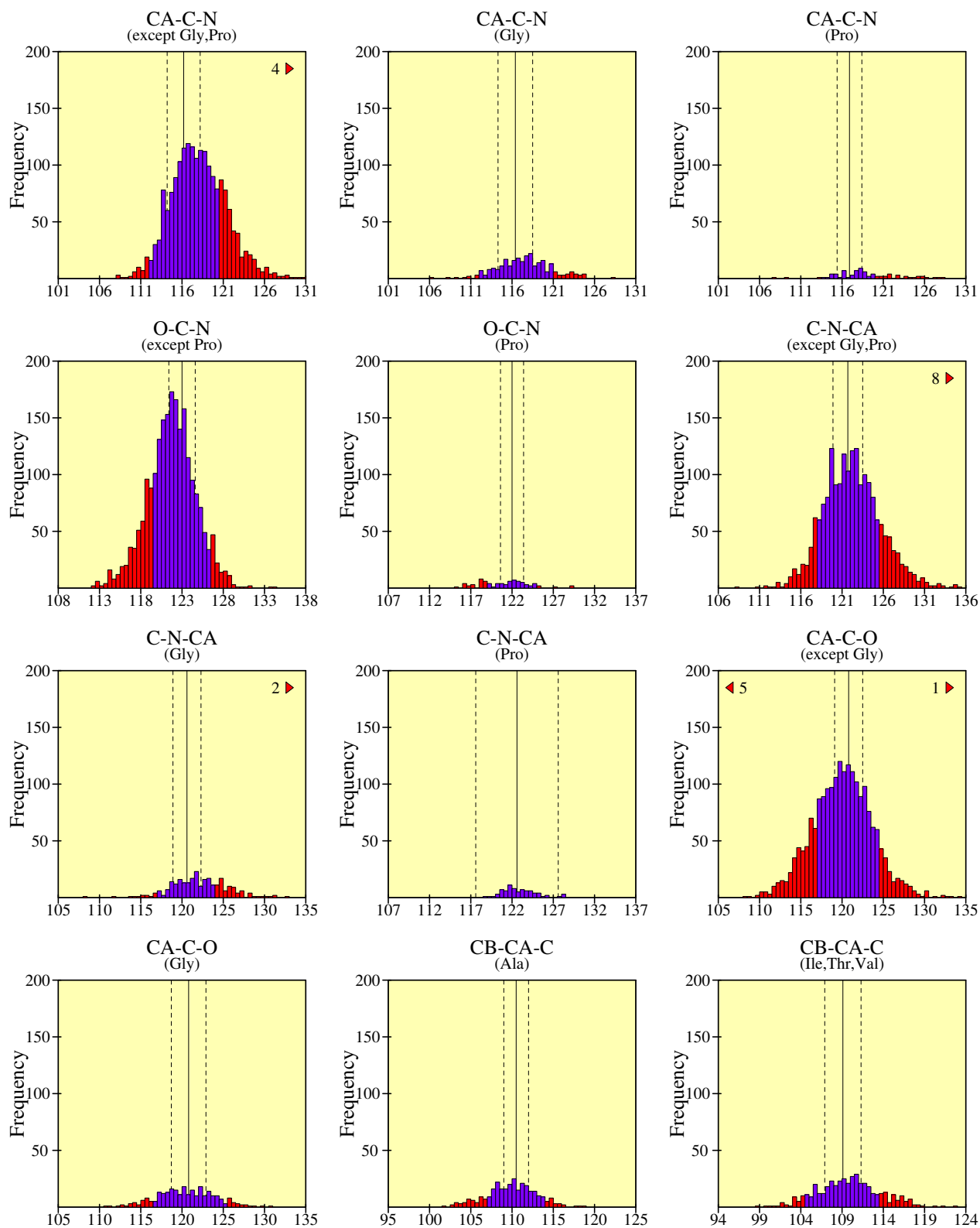
Black bars > 2.0 st. devs. from mean.

◀ or ▶ signifies data points off the graph in the direction shown.

Solid and dashed lines represent the mean and standard deviation values as per Engh & Huber small-molecule data.

Main-chain bond angles

1d4c



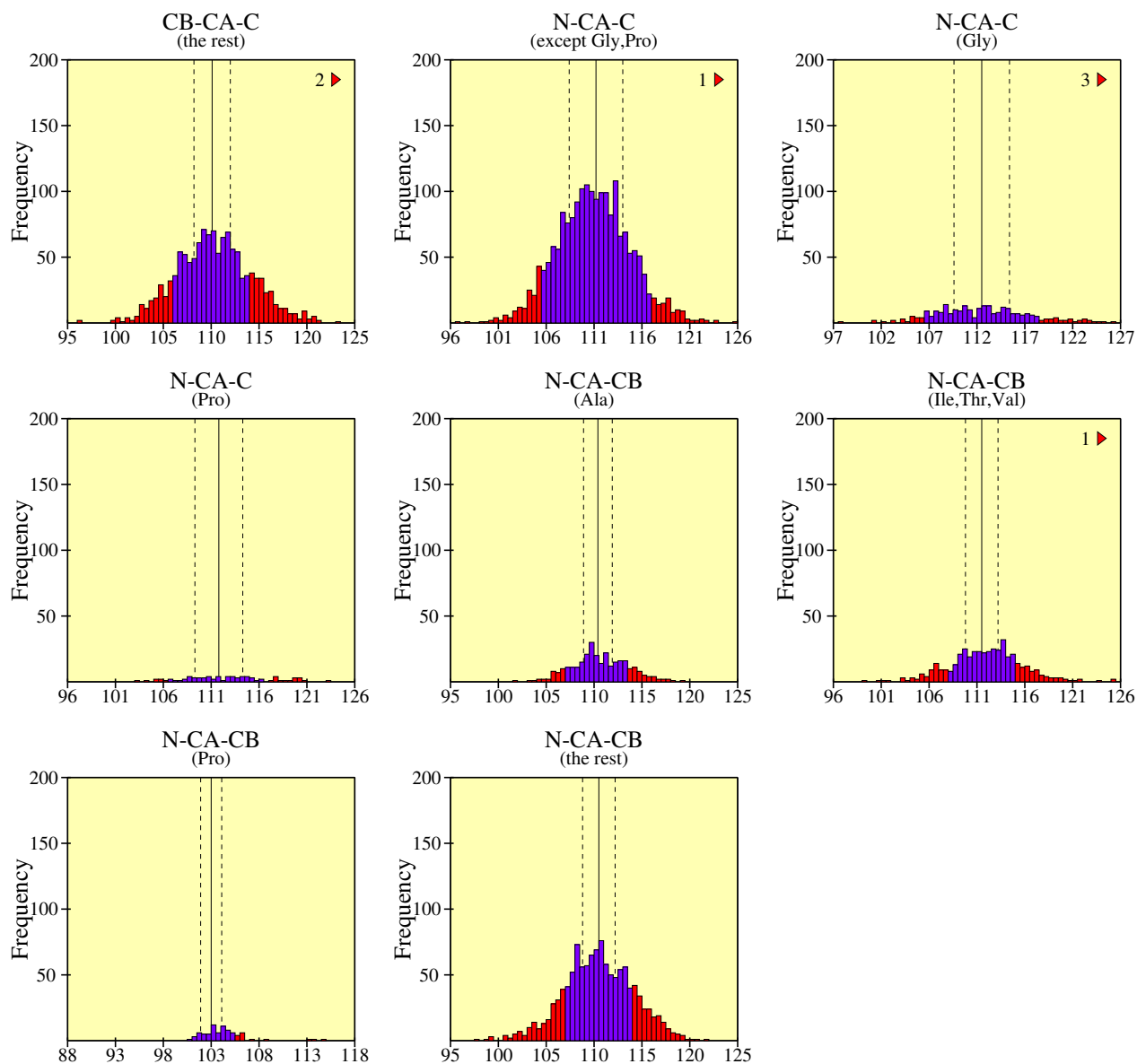
Black bars > 2.0 st. devs. from mean.

◀ or ▶ signifies data points off the graph in the direction shown.

Solid and dashed lines represent the mean and standard deviation values as per Engh & Huber small-molecule data.

Main-chain bond angles

1d4c



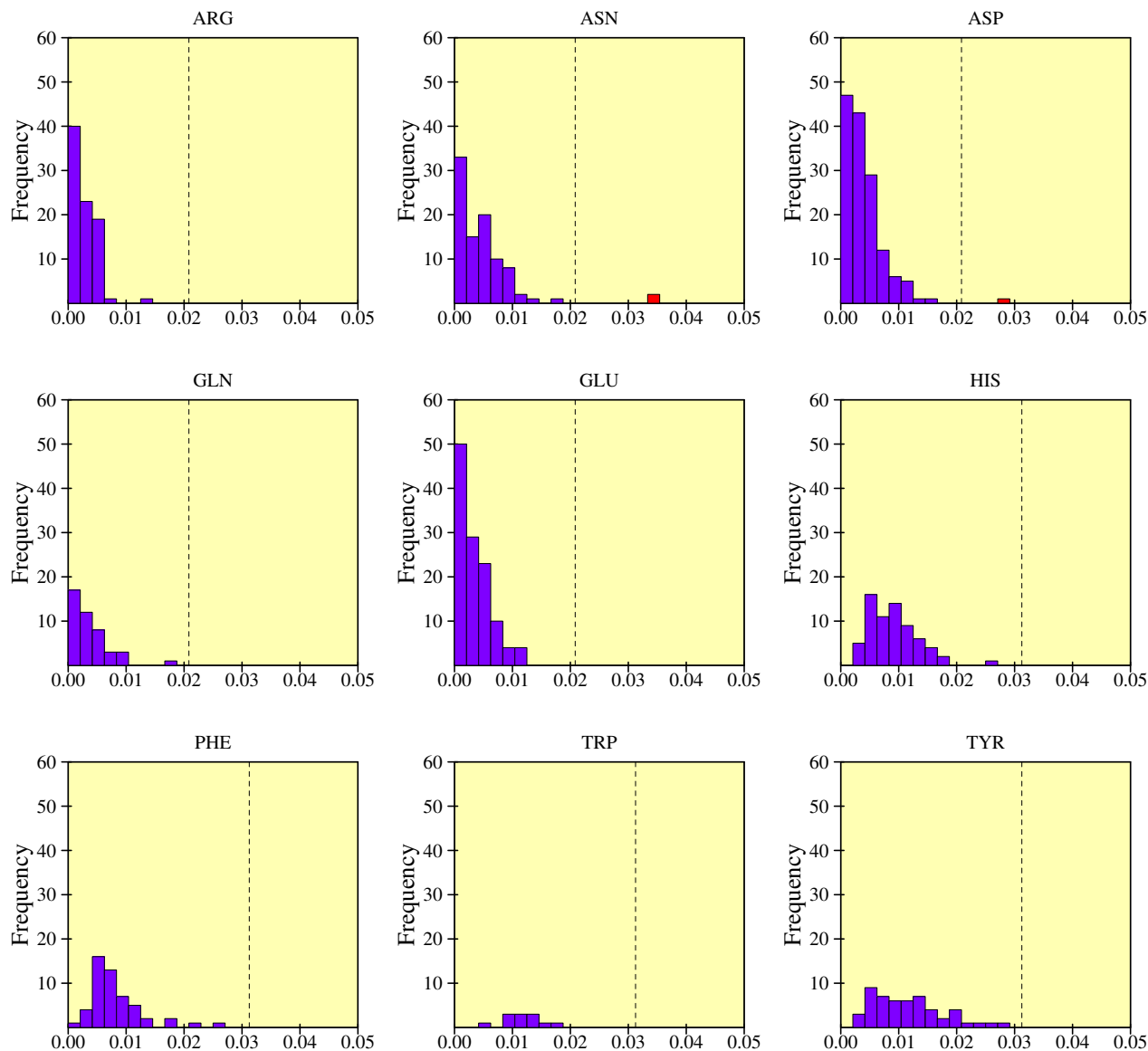
Black bars > 2.0 st. devs. from mean.

◀ or ▶ signifies data points off the graph in the direction shown.

Solid and dashed lines represent the mean and standard deviation values as per Engh & Huber small-molecule data.

RMS distances from planarity

1d4c



Histograms showing RMS distances of planar atoms from best-fit plane.
Black bars indicate large deviations from planarity: RMS dist > 0.03 for rings, and > 0.02 otherwise.

Distorted geometry

1d4c

Main-chain bond lengths

CA 1.530 CB 0.052 1.582 A Glu 282	N 1.458 CA 0.054 1.404 A Glu 282	CA 1.530 CB 0.056 1.474 A Lys 294	N 1.458 CA 0.067 1.391 B Thr 247	N 1.451 CA 0.075 1.376 B Gly 251	C 1.231 O 0.057 1.288 B Arg 267
N 1.451 CA 0.072 1.523 B Gly 268	C 1.231 O 0.089 1.320 B Asn 468	CA 1.516 C 0.053 1.569 B Gly 469	N 1.451 CA 0.099 1.550 B Gly 469	C 1.329 N 0.078 1.407 B Gly 469 - B Phe 470	C 1.231 O 0.055 1.286 B Gly 474
CA 1.516 C 0.068 1.584 B Gly 474	C 1.231 O 0.126 1.357 B Lys 475	N 1.458 CA 0.056 1.514 B Asp 476	C 1.329 N 0.074 1.403 B Asp 476 - B Ala 477	CA 1.525 C 0.056 1.581 B Ala 477	N 1.458 CA 0.092 1.550 B Ala 477
C 1.329 N 0.067 1.396 B Ala 477 - B Gln 478	N 1.458 CA 0.087 1.545 B Gln 478	CA 1.530 CB 0.080 1.450 C Asn 28	C 1.231 O 0.053 1.284 C Ala 250	CA 1.530 CB 0.053 1.477 C Tyr 301	C 1.231 O 0.122 1.353 C Ala 477
CA 1.521 CB 0.084 1.605 C Ala 477	CA 1.530 CB 0.051 1.581 D Glu 282	N 1.458 CA 0.052 1.406 D Glu 282			

Bonds differing by > 0.05Å from small-molecule values. Values shown: "ideal", difference, actual

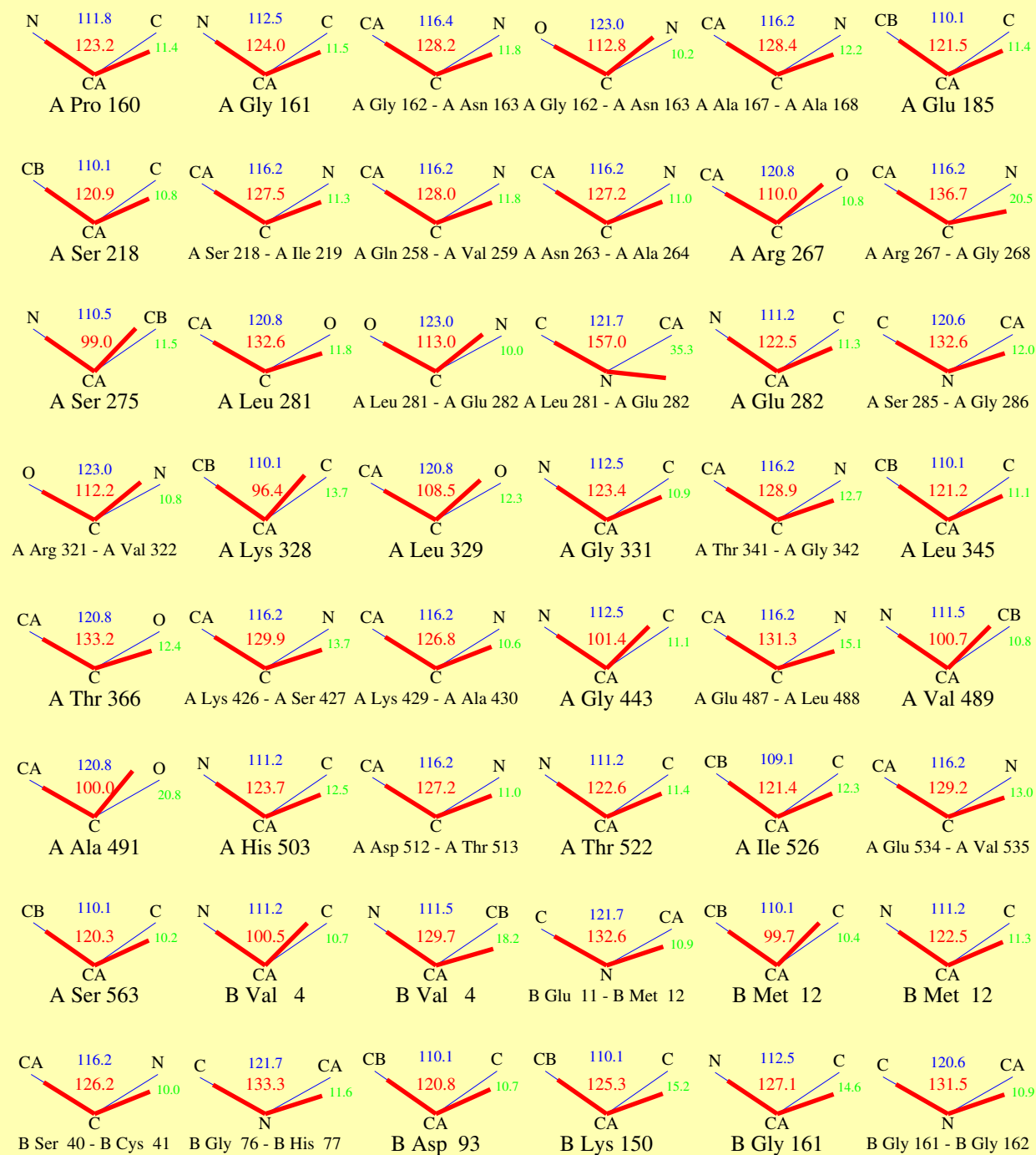
Main-chain bond angles

N 111.2 C 122.4 11.2 CA A Glu 3	C 121.7 CA 141.3 19.6 N A Glu 3 - A Val 4	CA 120.8 O 110.8 10.0 C A Val 4	N 111.5 CB 121.6 10.1 CA A Val 4	N 112.5 C 122.7 10.2 CA A Gly 13	N 112.5 C 123.2 10.7 CA A Gly 14
CA 120.8 O 131.2 10.4 C A His 19	O 123.0 N 112.9 10.1 C A His 19 - A Val 20	CB 110.1 C 96.4 13.7 CA A Cys 38	N 112.5 C 101.2 11.3 CA A Gly 43	C 121.7 CA 141.3 19.6 N A Lys 56 - A Val 57	C 121.7 CA 132.7 11.0 N A Ala 69 - A Cys 70
N 112.5 C 123.4 10.9 CA A Gly 97	C 121.7 CA 131.9 10.2 N A Val 107 - A Asp 108	CA 116.2 N 128.9 12.7 C A Lys 123 - A Glu 124	CA 116.2 N 131.0 14.8 C A Ser 143 - A Ala 144	C 121.7 CA 108.5 13.2 N A Gly 148 - A Ala 149	N 111.2 C 97.6 13.6 CA A Lys 150

Distorted geometry

1d4c

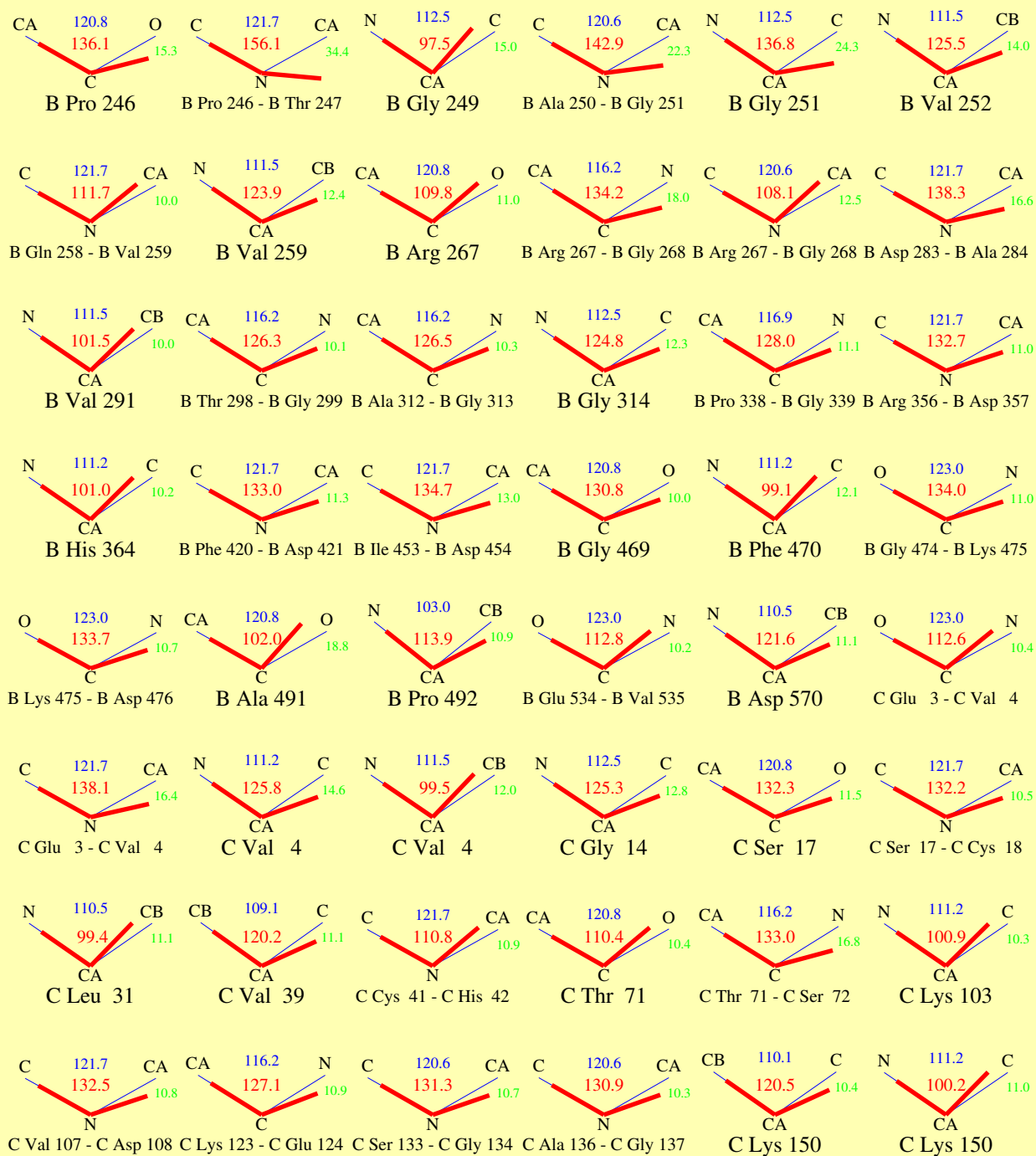
Main-chain bond angles (contd)



Distorted geometry

1d4c

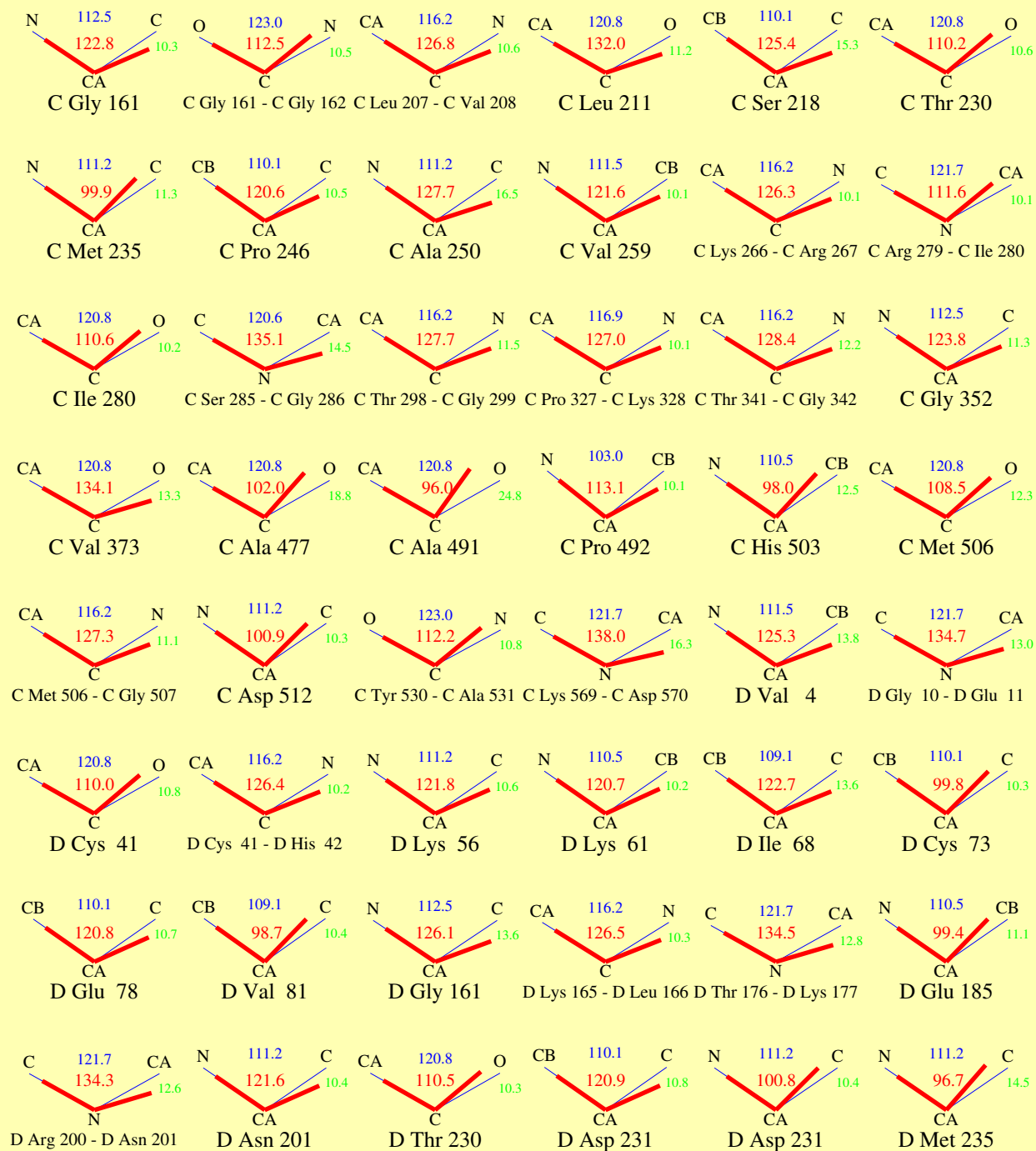
Main-chain bond angles (contd)



Distorted geometry

1d4c

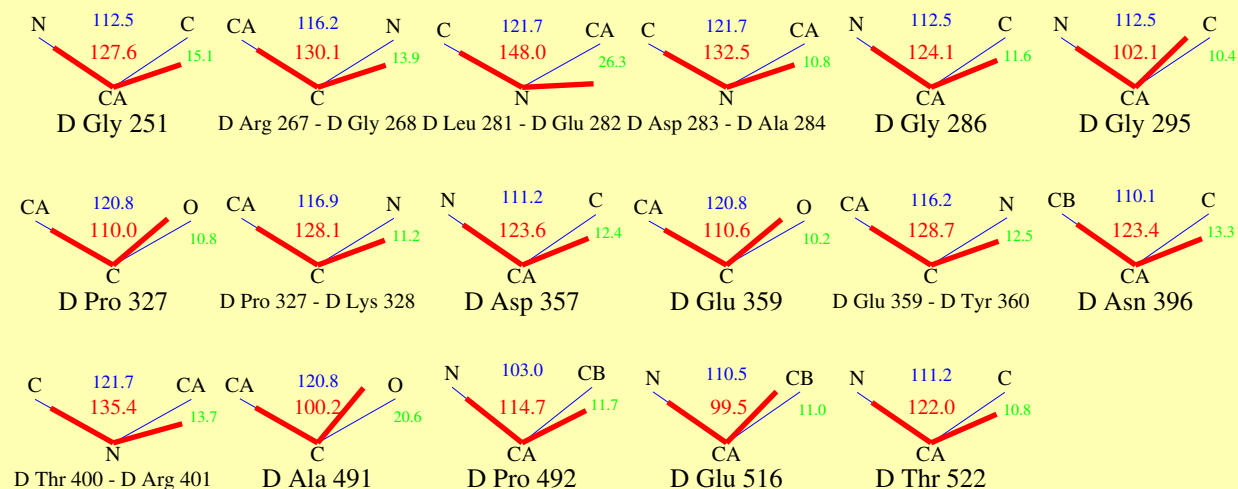
Main-chain bond angles (contd)



Distorted geometry

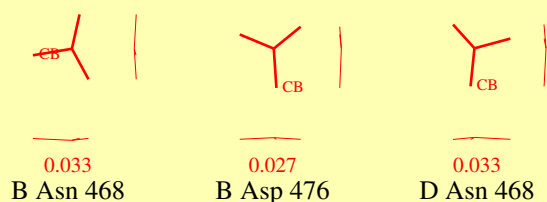
1d4c

Main-chain bond angles (contd)



Bond angles differing by > 10.0 degrees from small-molec values. Values shown: "ideal", actual, diff.

Planar groups



Sidechains with RMS dist. from planarity > 0.03A for rings, or > 0.02A otherwise. Value shown is RMS dist.