

Table 4. Amino acid composition of protein-protein interfaces

Type	All complexes		Protease-inhibitor		Antibody-antigen		Others		Oligomeric proteins ^a		
	A	B	A	B	A	B	A	B	Surface	Interior	Interface
Ala	4.0	2.6	4.6	2.3	3.1	1.8	4.5	3.2	5.9	6.3	4.1
Arg	8.9	10.1	8.8	11.9	7.8	9.2	9.8	9.3	8.4	6.3	9.9
Asn	6.2	5.5	7.7	3.6	6.1	9.2	5.5	5.1	5.2	3.8	4.6
Asp	7.1	5.2	6.0	2.3	6.6	7.3	8.0	6.1	7.8	4.4	4.8
Cys	0.7	1.5	1.1	3.2	0.6	0.0	0.6	1.1	0.4	1.6	0.8
Gln	6.0	4.2	5.9	4.4	6.2	3.8	5.9	4.3	5.4	3.3	3.5
Glu	9.8	6.1	7.5	6.1	7.1	4.0	12.9	7.2	10.3	4.9	4.1
Gly	4.5	4.6	5.0	5.7	5.2	5.9	3.8	3.4	4.8	4.0	4.2
His	1.9	3.6	1.6	3.9	1.4	1.4	2.4	4.4	3.5	3.4	4.5
Ile	2.4	4.2	2.6	5.2	2.1	3.1	2.5	4.0	2.2	6.8	4.6
Leu	4.1	5.5	4.3	7.0	3.5	3.0	4.4	5.6	3.8	11.4	10.5
Lys	11.8	6.7	11.8	5.5	11.6	6.8	12.0	7.6	14.9	5.6	5.4
Met	1.2	3.2	0.7	3.2	0.6	0.8	1.8	4.2	1.5	2.9	3.9
Phe	2.0	4.4	2.4	4.4	1.4	3.0	2.2	5.0	1.9	5.9	6.0
Pro	5.1	4.0	5.3	4.8	5.2	2.6	4.8	4.2	5.6	3.6	5.3
Ser	8.4	5.5	8.5	5.7	12.6	7.4	5.1	4.6	6.3	4.5	4.1
Thr	7.3	5.1	6.6	4.7	9.8	6.4	5.7	4.8	5.5	4.8	4.7
Trp	1.3	4.5	1.2	5.2	1.6	5.7	1.1	3.4	0.8	2.5	2.4
Tyr	3.2	9.1	4.4	6.8	3.0	16.6	2.7	7.2	2.7	5.1	5.4
Val	3.5	3.8	3.6	3.9	3.5	1.5	3.5	4.7	3.2	9.1	7.3
Others ^b	0.7	0.6	0.3	0.2	1.0	0.5	0.7	0.9			
Ratio ^c	2.9	1.3	2.5	1.1	3.0	2.4	3.0	1.3	3.3	0.6	0.7

The amino acid compositions are given as per cent area contributions to the solvent-accessible surface area, *A*, and the interface area, *B*, in protein-protein complexes.

^a Composition of the solvent accessible surface area, of the area of protein surface buried inside subunits (interior) and of the area of the interfaces between subunits in a sample of 23 oligomeric proteins (Janin *et al.*, 1988).

^b Non-protein groups.

^c Charged/hydrophobic ratio of the sums (Arg,Lys,Asp,Glu) and (Ile,Leu,Val,Phe,Met).