Table S4. The 237 properties of amino acids.

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| INDEX | PROPERTY NAME |
| 1 | Hydrophobicity index |
| 2 | Conformational parameter of beta-structure |
| 3 | Conformational parameter of beta-turn |
| 4 | Average flexibility indices |
| 5 | Residue volume |
| 6 | Information value for accessibility; average fraction 35% |
| 7 | Information value for accessibility; average fraction 23% |
| 8 | Retention coefficient in TFA |
| 9 | Retention coefficient in HFBA |
| 10 | Transfer free energy to surface |
| 11 | Apparent partial specific volume |
| 12 | Normalized frequency of alpha-helix |
| 13 | Normalized frequency of extended structure |
| 14 | Steric parameter |
| 15 | Polarizability parameter |
| 16 | The Chou-Fasman parameter of the coil conformation |
| 17 | Average volume of buried residue |
| 18 | Residue accessible surface area in tripeptide |
| 19 | Residue accessible surface area in folded protein |
| 20 | Proportion of residues 95% buried |
| 21 | Proportion of residues 100% buried |
| 22 | Normalized frequency of beta-turn |
| 23 | Normalized frequency of alpha-helix |
| 24 | Normalized frequency of beta-sheet |
| 25 | Normalized frequency of beta-turn |
| 26 | Normalized average hydrophobicity scales |
| 27 | Partial specific volume |
| 28 | Normalized frequency of beta-sheet |
| 29 | Normalized frequency of turn |
| 30 | Size |
| 31 | Amino acid composition |
| 32 | Relative mutability |
| 33 | Consensus normalized hydrophobicity scale |
| 34 | Solvation free energy |
| 35 | Atom-based hydrophobic moment |
| 36 | Molecular weight |
| 37 | Hydrophobic parameter pi |
| 38 | Graph shape index |
| 39 | Normalized van der Waals volume |
| 40 | STERIMOL length of the side chain |
| 41 | STERIMOL minimum width of the side chain |
| 42 | STERIMOL maximum width of the side chain |
| 43 | Number of hydrogen bond donors |
| 44 | Positive charge |
| 45 | Negative charge |
| 46 | Helix-coil equilibrium constant |
| 47 | Partition coefficient |
| 48 | Alpha-helix indices |
| 49 | Beta-strand indices |
| 50 | Hydrophobicity factor |
| 51 | Residue volume |
| 52 | Composition |
| 53 | Polarity |
| 54 | Volume |
| 55 | Partition energy |
| 56 | Hydration number |
| 57 | Hydrophilicity value |
| 58 | Heat capacity |
| 59 | Absolute entropy |
| 60 | Entropy of formation |
| 61 | Normalized relative frequency of alpha-helix |
| 62 | Normalized relative frequency of extended structure |
| 63 | Normalized relative frequency of bend |
| 64 | Normalized relative frequency of coil |
| 65 | Average accessible surface area |
| 66 | Percentage of buried residues |
| 67 | Percentage of exposed residues |
| 68 | Ratio of buried and accessible molar fractions |
| 69 | Transfer free energy |
| 70 | Hydrophobicity |
| 71 | Relative frequency of occurrence |
| 72 | Relative mutability |
| 73 | Amino acid distribution |
| 74 | Sequence frequency |
| 75 | Average relative probability of helix |
| 76 | Average relative probability of beta-sheet |
| 77 | Flexibility parameter for no rigid neighbors |
| 78 | Flexibility parameter for one rigid neighbor |
| 79 | Flexibility parameter for two rigid neighbors |
| 80 | Net charge |
| 81 | Side chain interaction parameter |
| 82 | Side chain interaction parameter |
| 83 | Fraction of site occupied by water |
| 84 | Side chain volume |
| 85 | Hydropathy index |
| 86 | Transfer free energy, CHP/water |
| 87 | Hydrophobic parameter |
| 88 | Distance between C-alpha and centroid of side chain |
| 89 | Side chain torsion angle phi |
| 90 | Radius of gyration of side chain |
| 91 | van der Waals parameter R0 |
| 92 | van der Waals parameter epsilon |
| 93 | Normalized frequency of alpha-helix, with weights |
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| 95 | Normalized frequency of reverse turn, with weights |
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| 97 | Normalized frequency of beta-sheet, unweighted |
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| 100 | Conformational preference for parallel beta-strands |
| 101 | Conformational preference for antiparallel beta-strands |
| 102 | Average surrounding hydrophobicity |
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| 104 | Normalized frequency of extended structure |
| 105 | Normalized frequency of left-handed alpha-helix |
| 106 | Refractivity |
| 107 | Retention coefficient in HPLC, pH7.4 |
| 108 | Retention coefficient in HPLC, pH2.1 |
| 109 | Retention coefficient in NaClO4 |
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| 112 | Average reduced distance for side chain |
| 113 | Average side chain orientation angle |
| 114 | Effective partition energy |
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| 116 | Normalized frequency of beta-structure |
| 117 | Normalized frequency of coil |
| 118 | AA composition of total proteins |
| 119 | Sof AA composition of total proteins |
| 120 | AA composition of membrane proteins |
| 121 | Normalized composition of membrane proteins |
| 122 | Ratio of average and computed composition |
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| 143 | Surrounding hydrophobicity in folded form |
| 144 | Average gain in surrounding hydrophobicity |
| 145 | Average gain ratio in surrounding hydrophobicity |
| 146 | Surrounding hydrophobicity in alpha-helix |
| 147 | Surrounding hydrophobicity in beta-sheet |
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| 149 | Accessibility reduction ratio |
| 150 | Average number of surrounding residues |
| 151 | Intercept in regression analysis |
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| 153 | Correlation coefficient in regression analysis |
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| 182 | Zimm-Bragg parameter sigma x 1.0E4 |
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| 210 | Normalized flexibility parameters (B-values) |
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| 234 | beta-turn |
| 235 | Coil |
| 236 | Amino acid composition |
| 237 | Amino acid composition in SWISS-PROT |