Download Conservative Amino Acid Substitution Table

In the Blosum 45 table Ser and Thr form a two member conservative substitution group with no other possible members. The last difference we will mention is that only Phe and Tyr are members of an aromatic conservative group in the PAM 250 table while Trp is also a member in the Blosum 45 table.In some cases, the effects of amino acid exchanges may be given, not by assignment to categories, but by a continuous value x from some measurement that does not have the units of relative wild-type activity (e.g., x i is a K d or ??G value).There are 20 naturally occurring amino acids, however some of these share similar characteristics. For example, leucine and isoleucine are both aliphatic , branched hydrophobes . Similarly, aspartic acid and glutamic acid are both small, negatively charged residues.Summary. It is commonly recognised that many evolutionary changes of amino acid sequence in proteins are conservative: a substitution of one amino acid residue for another has a far greater chance of being accepted if the two residues are similar in properties.