strori = "DDHLSIVTLEEAPFVIVESVDPLSGTCMRNTVPCQKRGYIKKCCKGFCIDILKKISKSVKFTYDLYLVTNGKHGKKINGTWNGMIGEVVMKRAYMAVGSLTINEERSEVVDFSVPFIETGISVMVSAAFMIQEEYVDQVSGLSDKKFQRPNDFSPPFRFGTVPNGSTERNIRNNYAEMHAYMGKFNQRGVDDALLSLKTGKLDAFIYDAAVLNYMAGRDEGCKLVTIGSGKVFASTGYGIAIQKDSGWKRQVDLAILQLFGDGEMEELEALWLTGICHE";

strsplit = num2cell(char(strori));

pos = [403:1:439 451:1:539 651:1:803];

aminoacids = ["H","Q","P","R","L","D","E","A","G","V","Y","S","C","W","F","N","K","T","I","M"];

for i = 1:length(strsplit)

for k = 1:length(aminoacids)

if strsplit(i) == aminoacids(k)

continue

end

finalstr((i-1)\*20+k) = append(strsplit(i),int2str(pos(i)),aminoacids(k));

end

end