# target := [residue], template := [residue], structure := [(residueName,residue)]

**BuildStructure**(target,template,structure):

i,j := 0

target\_structure := []

WHILE i < length(target) and j < length(structure):

IF template[i] == ‘-‘: # template[i] in alignment is blank

res := BlankResidue() # create a residue with blank atoms

target\_structure.append(res)

i++

if structure[j][0] == ‘-‘: # structure file missing residue

j++

continue

ENDIF

IF target[i] == ‘-‘: # target[i] in alignment is blank

i++, j++

continue

ENDIF

res := copyAtoms(structure[j][1]) # copy the atoms

changeResidueName(res,target[i]) # change the residue name for atoms

target\_structure.append(res)

i++, j++

ENDWHILE

final\_structure := []

FOR res IN target\_structure:

FOR atom IN res:

IF atom is not blank:

final\_structure.append(atom)

ENDIF

ENDFOR

ENDFOR