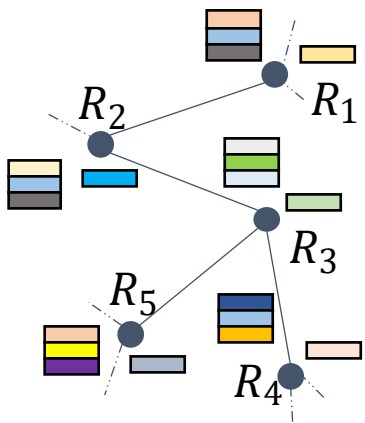


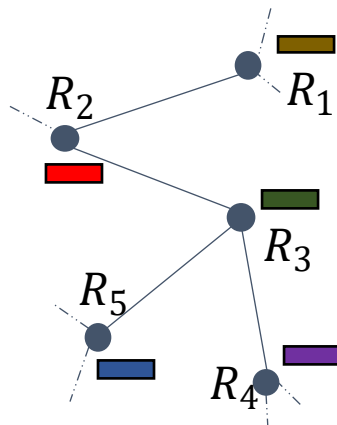
Scalar features

Vector features

$R_i$ : Amino acid  $i$



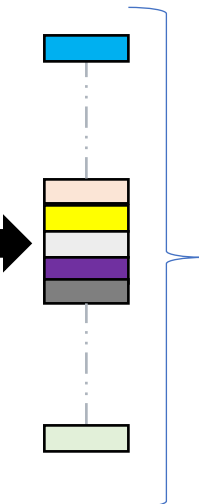
PG-GNN  
(3D-aware  
GNN)



Nodes re-arranged  
in amino-acid  
sequence order



PT-Encoder  
(Transformer  
Encoder)



Prediction

Protein structure with  
scalar & vector features

Output with 3D-  
geometry learned  
feature

Summation