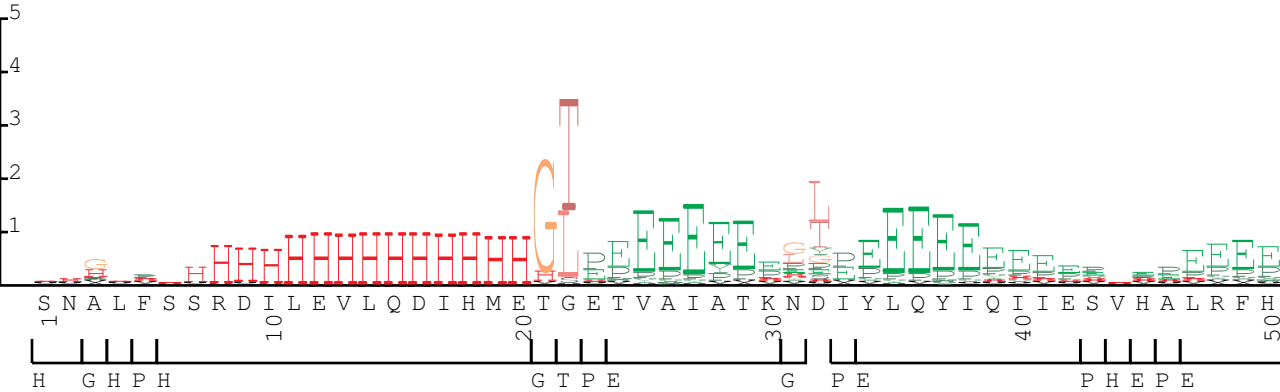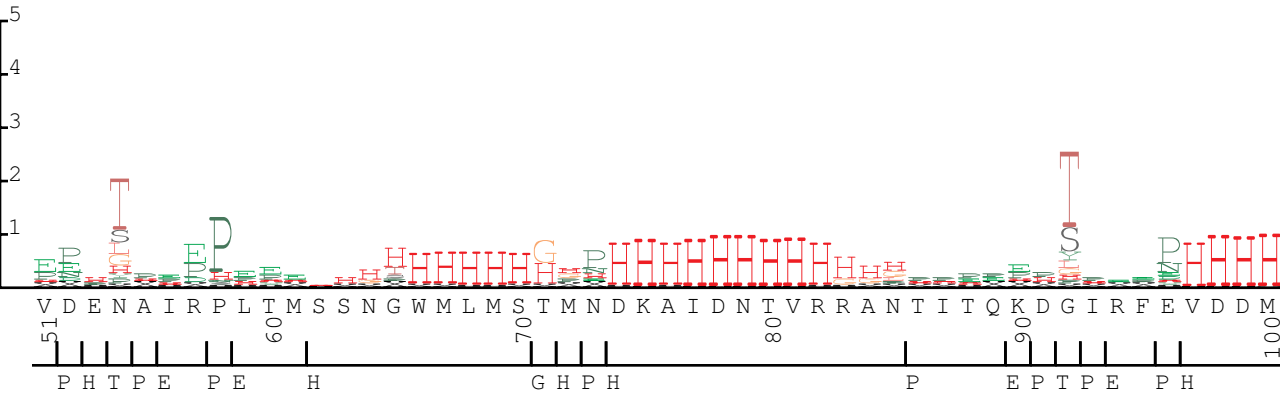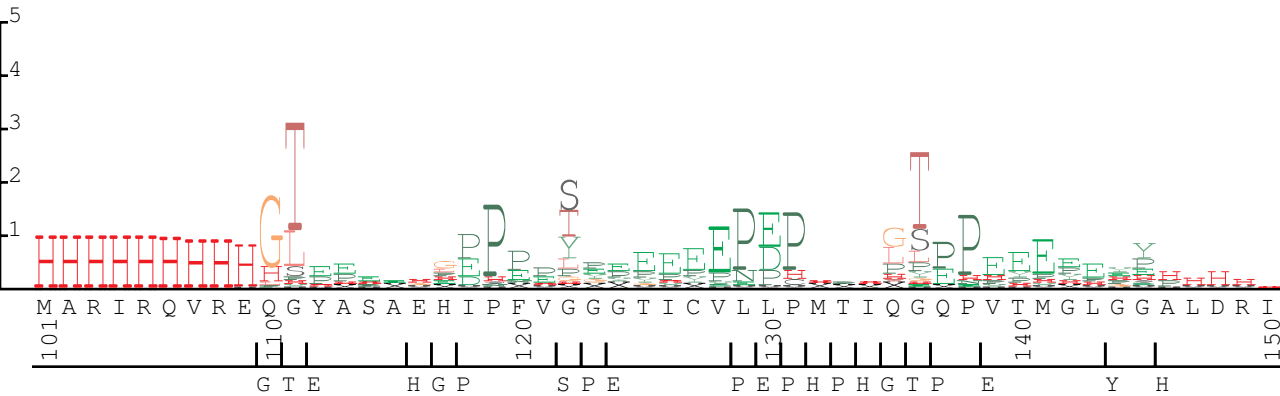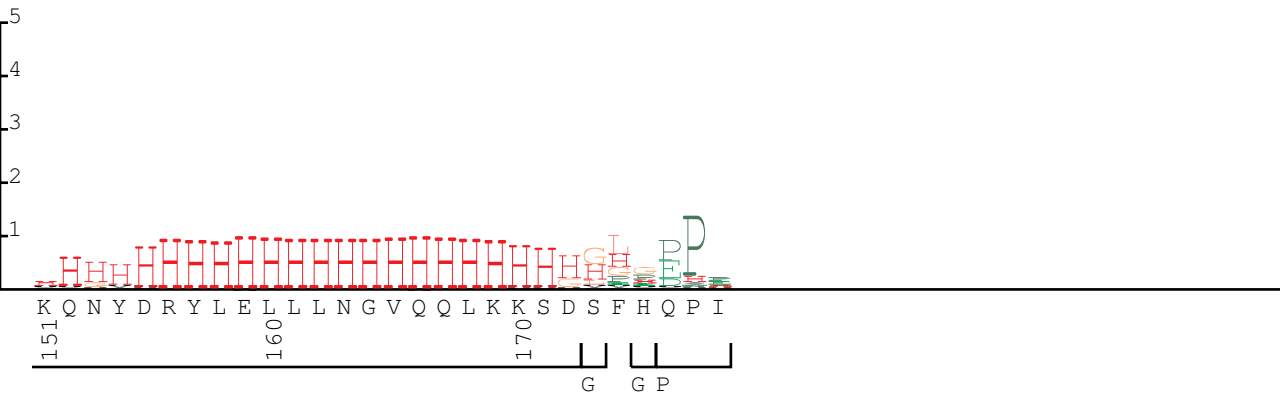T0412.t2k bys