



### Comparison of the distribution of SAP and SCA scores in bSVRs and aSVRs

The values for SCA and SAP were found to be normally distributed. A specific peak is observed for all scores (before and after realignment) at 1.1, (See supplementary Figure S1). The bSVRs and aSVRs in this range are dominated by PB notations for  $\beta$ -strand and  $\alpha$ -helix. As per our scoring scheme, an alignment of  $m$  and  $d$  with itself is scored 1.1 and 1.4, respectively which explains why a peak is observed for values between 1.1 and 1.2. The mean SAP values are respectively 0.73, -0.30 and 0.25 for SCRs (data not shown), bSVRs and aSVRs. The mean SCA

values for bSVRs and aSVRs are significantly different going originally from -1.06 to -0.73 respectively (Figure S1).