



**Figure S6.** ROC curves for the profile data (NHLBI data set [1]). For each of the four scoring functions considered, a set of ROC curves is shown. These ROC curves include the results from running the designated program associated with that scoring function, the results from running RAId\_aPS in the database search mode, and the results from combining with each one of the three other scoring functions. Panel (A) shows the results from RAId score, whose designated program is RAId\_DbS. Panel (B) displays the results from K-score, whose designated program is X!Tandem. Panel (C) exhibits the results from XCorr, which is mostly employed by SEQUEST. Panel (D) presents the results from Hyperscore, whose designated program is also X!Tandem.

## References

1. Alves G, Ogurtsov AY, Wu WW, Wang G, Shen RF, et al. (2007) Calibrating E-values for MS<sup>2</sup> library search methods. *Biology Direct* 2: 26.