SUPPLEMENTARY FIG. S1. Multidimensional scaling plot based on Euclidean distances among amino acids exchange rate matrices. This plot expands fig. 4 to allow us to label all standard empirical models (pink circles); small arrows indicate the empirical models used in this study. Squares and triangles indicate rate matrices estimated using either all taxa (squares) or the reduced taxon set limited to choanozan outgroups (the Apoikozoa taxon set). Green and orange dotted ovals enclose clusters of rate matrices for exposed and buried residues, respectively; rate matrices based on all exposed or buried sites are emphasized by shaded boxes within those ovals. Rate matrices based on exposed or buried sites separated into subsets based on secondary structure are paired and labeled. Purple rectangular boxes indicate the three groups of rate matrices based on secondary structure (helix, sheet, and coil) without separating those residues into exposed and buried subsets.