



Figure S11. Temporal changes of the eigenvalues and the eigenvectors of the log-odds matrix $\log-O(\langle S \rangle(t))$ calculated by the ML-91+ model fitted to JTT as a function of sequence identity. In (A), the solid, the broken, and the dotted lines show the temporal changes of the first (λ_1), the second (λ_2), and the third (λ_3) principal eigenvalues, respectively. The inner products of the eigenvectors with the eigenvectors of the JTT 20-PAM log-odds matrix, $V_i(t) \cdot V_j^{JTT}(20\text{-PAM})$, are shown in (B) for the first principal eigenvector ($i = 1$), in (C) for the second principal eigenvector ($i = 2$), and in (D) for the third principal eigenvector ($i = 3$), by solid lines for $j = 1$, by broken lines for $j = 2$, and by dotted lines for $j = 3$.