



Figure S8. For a sufficiently large fitting range, the hierarchy of timescales is found independent of the exclusion of small time lags during fitting. For a large fitting range with $T_{\max} = 10$ s, we consistently find a hierarchy of correlation timescales τ_C , whereas T_{\min} only slightly affects the exact layout of the hierarchy, and the median values of τ_C (c.f. Supplementary Fig. S5). Here, correlation timescales were computed for spiking activity under natural movie stimulation in the *Functional Connectivity* data set. Moreover, timescales were obtained using the two-timescale fitting procedure (Methods), because this is the analysis used for all main results obtained in this paper.