



Fig 5. Surprise readouts. A) Example sequence with o_t in red, s_t in black with $s_t = 0$ for the slow-switching regime and $s_t = 1$ for the fast switching regime, and the HMM filtering posterior $\hat{y}_t(s_t)$ in between. The rare catch-trials are not plotted to facilitate a direct comparison between the HMM and DC models. B) The normalized probability estimates of the HMM TP₁ and DC TP₁ model with an observation half-life of 95, displaying differences in estimates arising from different adaptations to regime switches. C,E,G) The z-scored surprise readouts of the HMM TP₁ models: predictive surprise (PS), Bayesian surprise (BS), and confidence-corrected surprise (CS). D,F,H) The z-scored surprise readouts of the DC TP₁ models.