



Supplementary Fig. S1 | EEG data within the 0-300ms cue-target interval. The amplitudes of the EEG signals averaged over the 0-300 ms relative to the cue onset shown as a function of reward (reward vs. no-reward) and brain hemisphere (contralateral vs. ipsilateral to the target direction) over the motor area (left) and the visual area (right). The ANOVA on the amplitudes of the motor area showed a significant main effect of reward, $F(1, 19) = 11.790$, $p = 0.003$, $\eta_p^2 = 0.383$. Neither the main effect of target direction, $F(1, 19) = 3.270$, $p = 0.086$, nor the interaction, $F(1, 19) = 2.09$, $p = 0.164$, reached significance. The ANOVA on the amplitudes of the visual area also showed a significant effect of reward, $F(1, 19) = 14.920$, $p = 0.001$, $\eta_p^2 = 0.440$. Neither the main effect of target direction nor the interaction reached significance, both $F < 1$. The topographical distribution of amplitude difference between reward and no-reward conditions within 0-300ms after cue onset.