

505 **Supplementary figures**

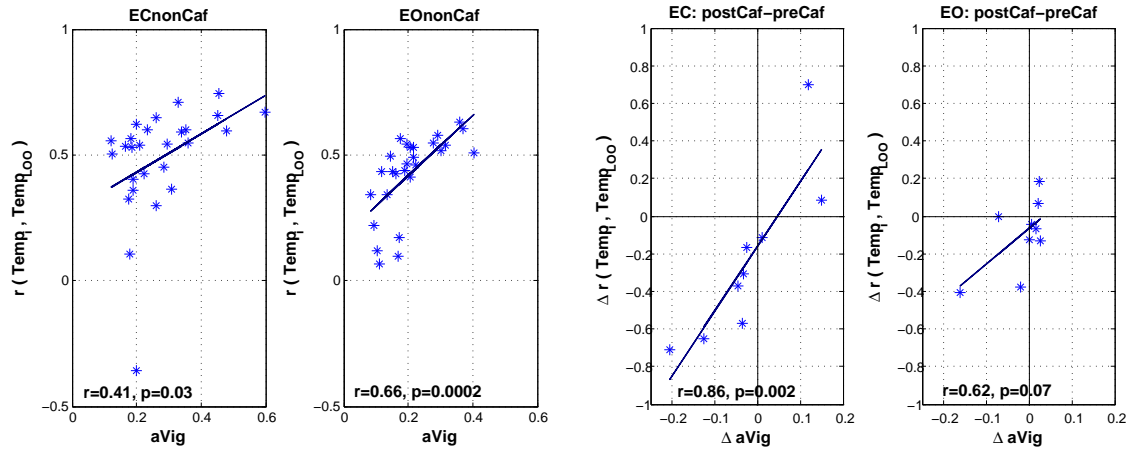


Figure S1: Left: Similarity between the individual templates ($Temp_i$) and $Temp_{LOO}$ in non caffeine sessions versus the amplitude of vigilance time series ($aVig$). Right: Changes (post-caffeine minus pre-caffeine) in the correlation between $Temp_i$ and $Temp_{LOO}$ derived from non caffeine sessions versus the changes in the vigilance amplitude after taking caffeine. The linear fits are shown by dark blue lines. The vertical and horizontal black lines show zeros for x and y axes.

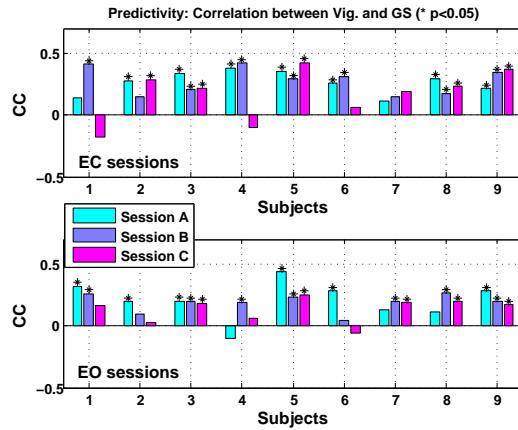


Figure S2: Correlation between the EEG-based vigilance time series and global signal (inverted) for ECnonCaf in the top row and EOnonCaf in the bottom row

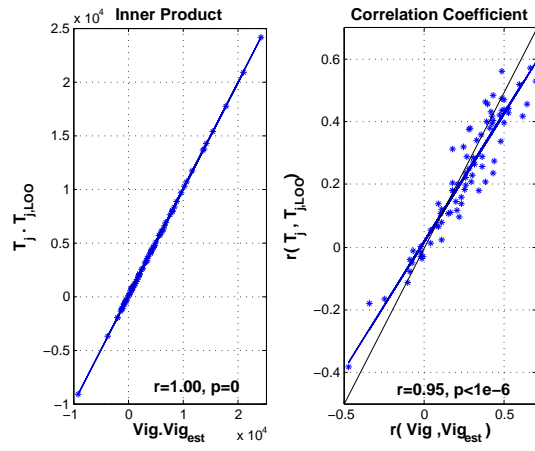


Figure S3: Left: Inner product of the individual template ($Temp_i$) and $Temp_{LOO}$ versus the inner product between the EEG-based vigilance time series and the estimated vigilance. Right: Correlations between $Temp_i$ and $Temp_{LOO}$ vs the correlation between the EEG-based vigilance time series and the estimated vigilance. The blue and black lines show the linear fits and the unity lines, respectively. The slopes for the linear fits are 1 and 0.82 for the inner product on the left and the correlation on the right panel, respectively.