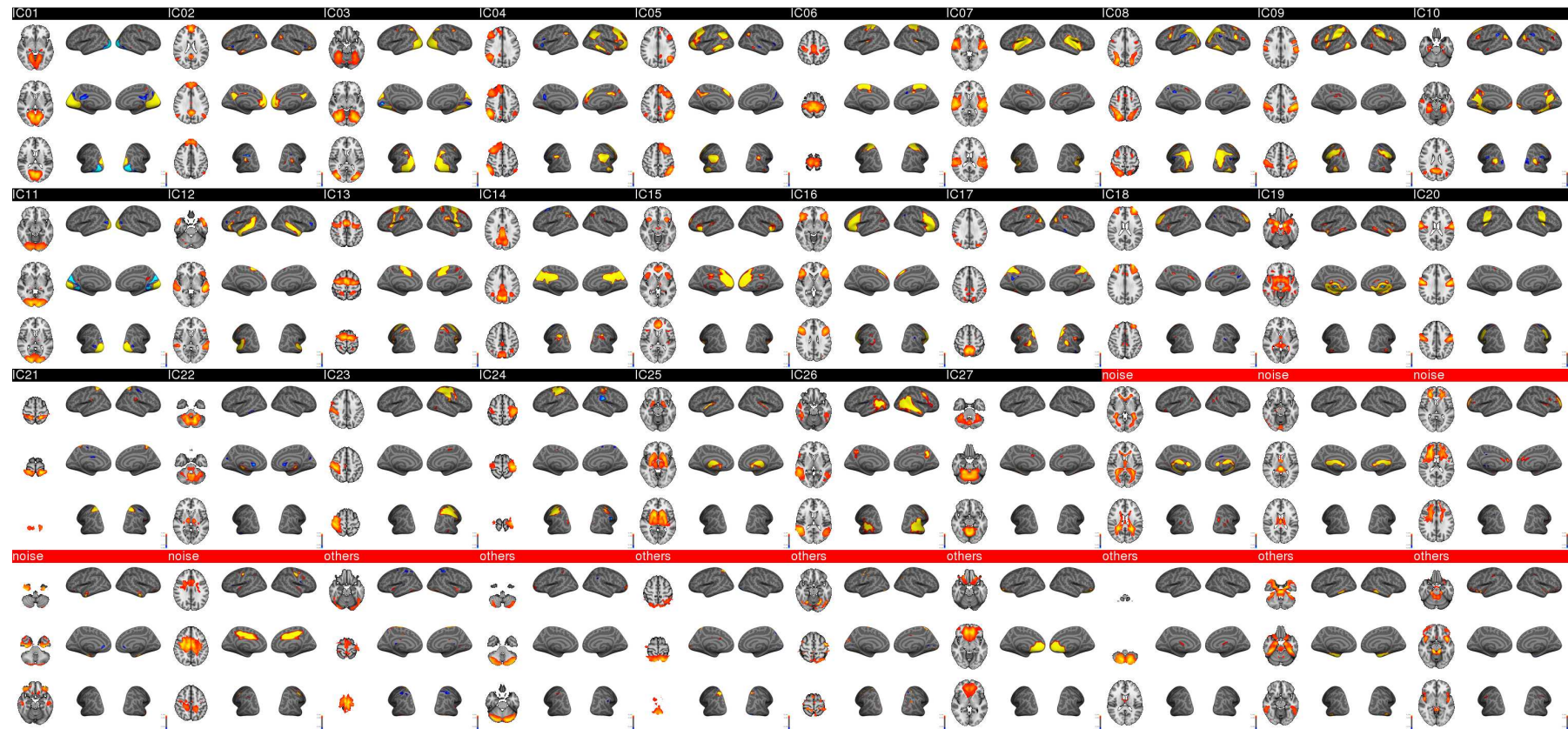
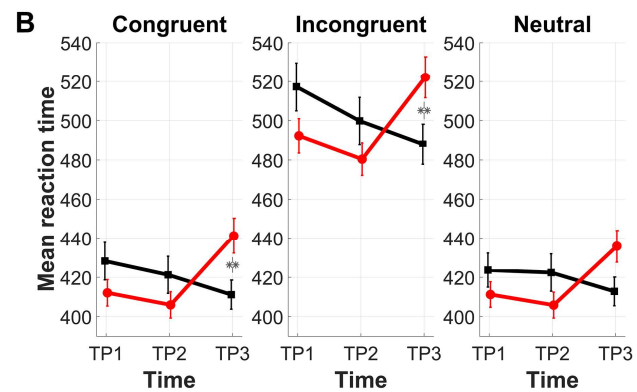
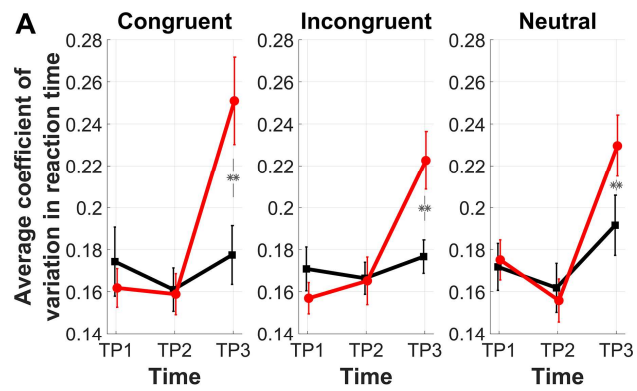


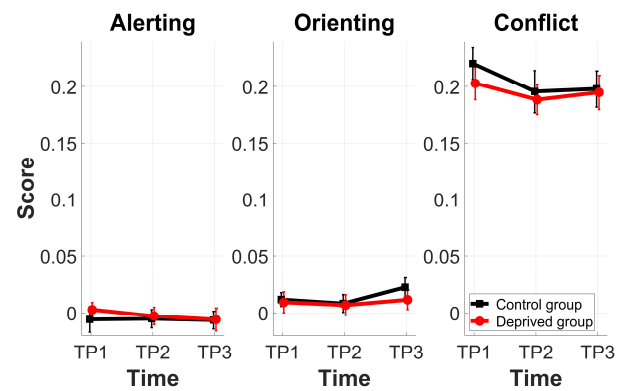
Supplementary figures



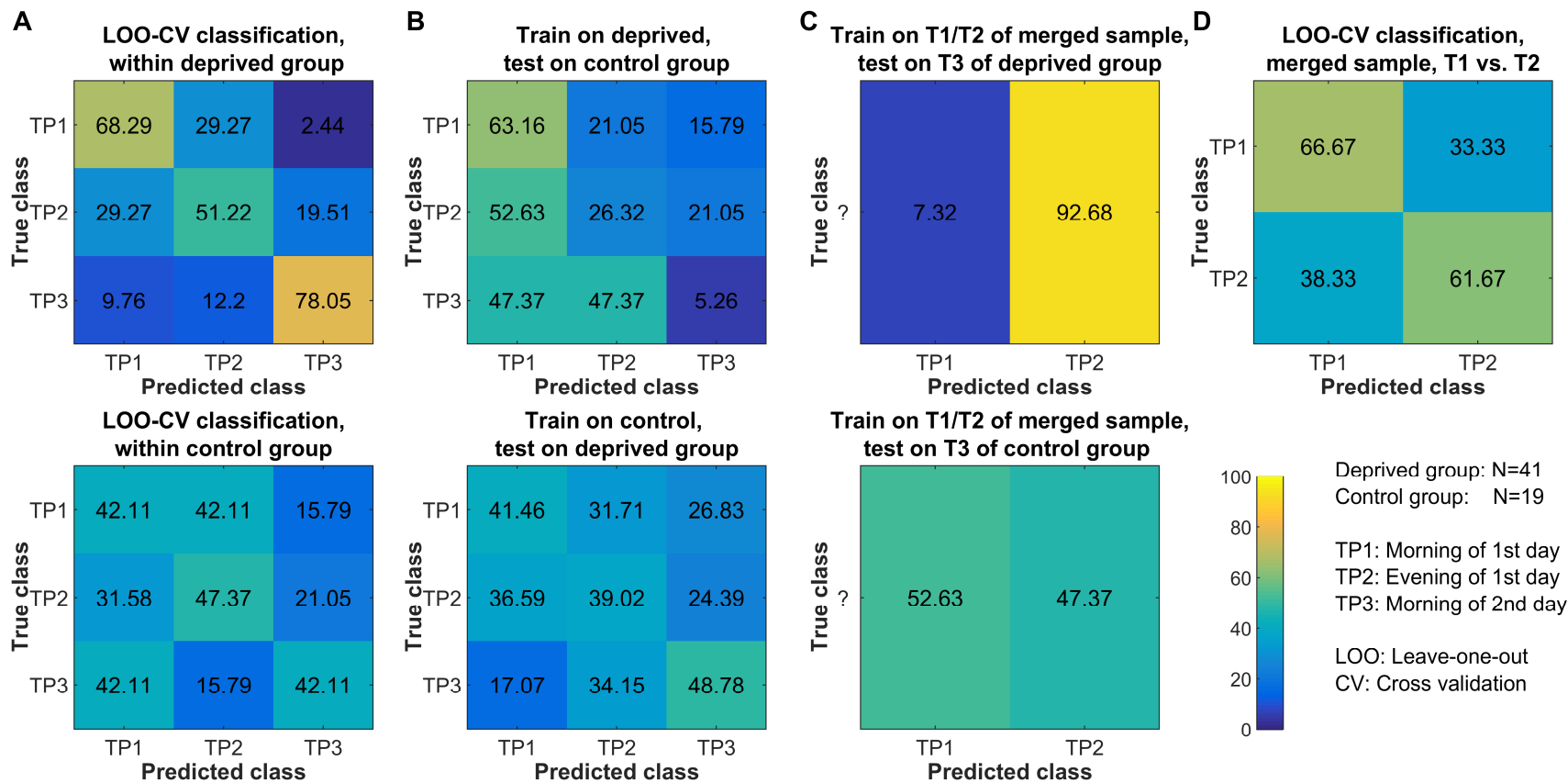
SI-Figure 1: Spatial maps for the 40 components. We identified five noise components and regressed the time-series from these five out of the remaining components. In addition, eight components were not considered for further analysis because their spatial maps were not corresponding to any interpretable neuronal origin or were outside the mask.



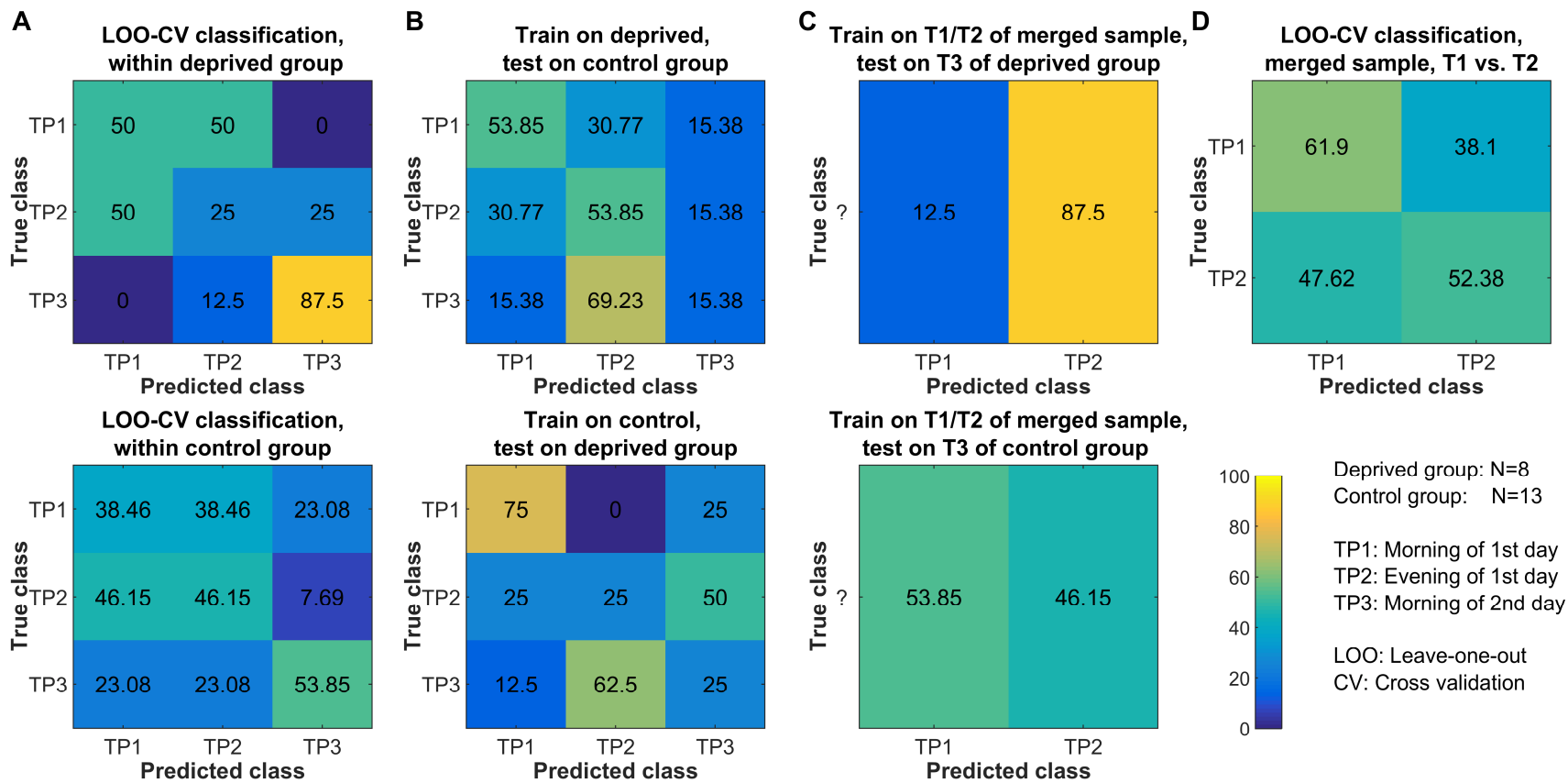
SI-Figure 2: IIV-RT (A) and mean reaction time (B) split by ANT condition. Group differences at TP3 were significant except for mean reaction time in the neutral condition.



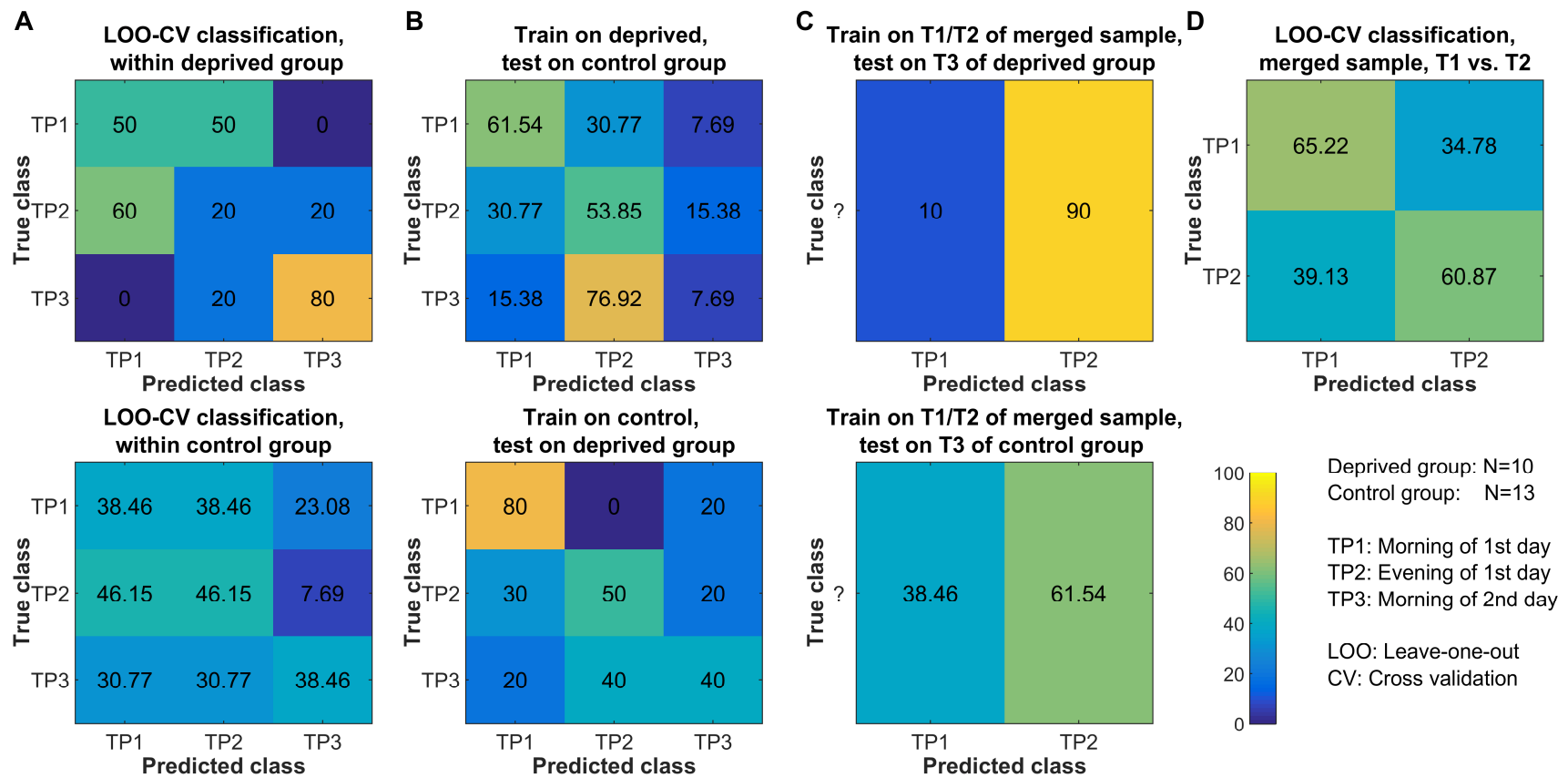
SI-Figure 3: Results from the three ANT components: alerting, orienting and conflict. No effect of sleep deprivation was found on any of the component scores.



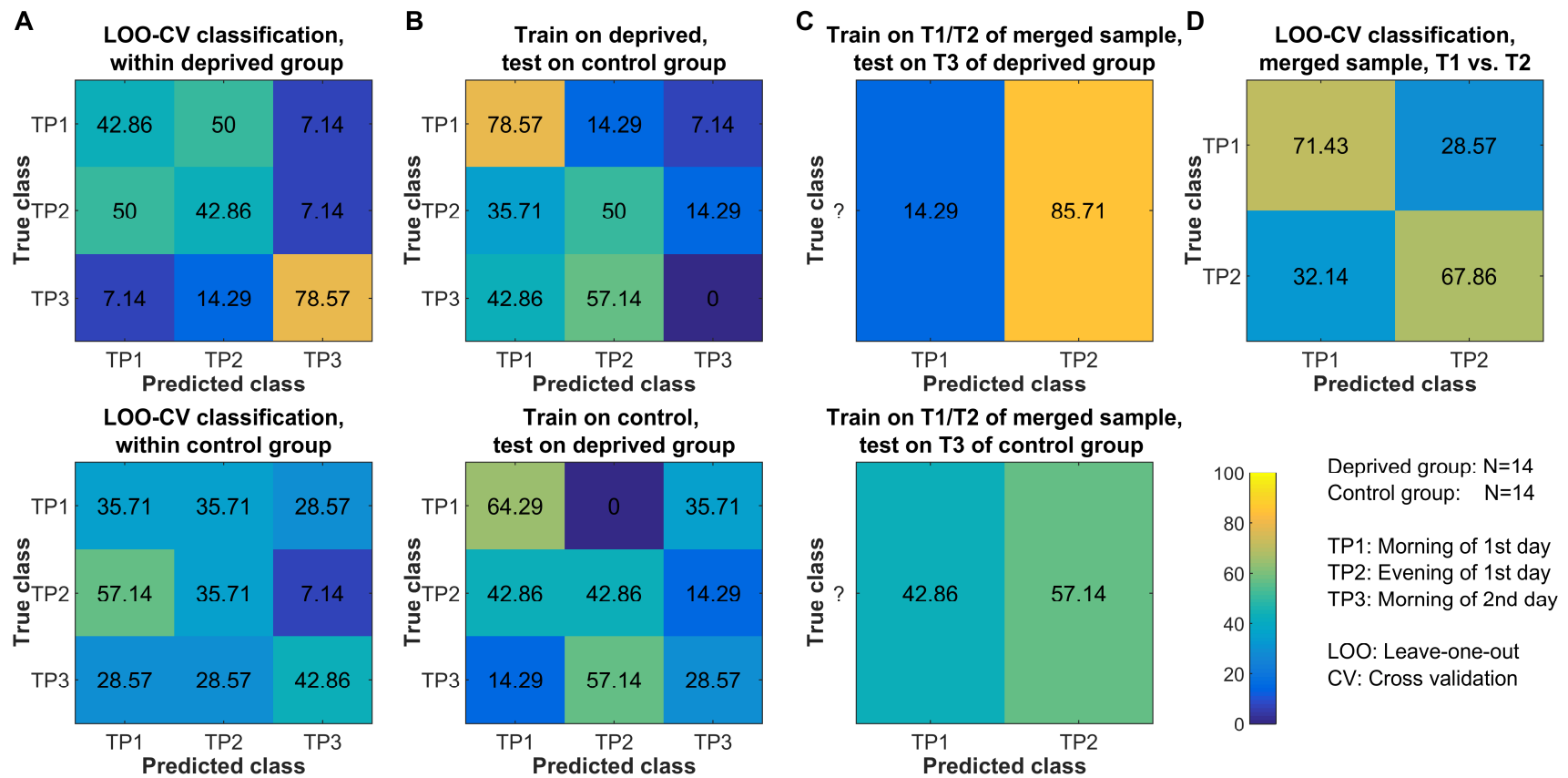
SI-Figure 4: Classification results for networks based on automatic optimization of regularisation strength on the single subject level. The patterns compare to those reported in Figure 2. For a direct comparison of the two network approaches (optimized lambda and static lambda of 0.025), we also correlated edge strength of networks computed with either of the two approaches for each subject and found strong correlations (min: $r=0.87$, max: $r=0.96$). Furthermore, univariate effect sizes of the main group x time interaction effect were highly correlated between the approaches, both for all 351 edges ($r=0.84$, $p<1e-93$) and for the 17 main edges reported in Figure 3 ($r=0.71$, $p=.001$) illustrating that the results from both approaches converge.



SI-Figure 5: Exclusion of TRs (or whole subjects) based on sleep stage classification for the 30-seconds criterion (see Methods, section *Automated sleep staging*). After removal of TRs, N=8 (deprived) and N=13 (controls) fulfilled the inclusion criterion.



SI-Figure 6: Exclusion of TRs (or whole subjects) based on sleep stage classification for the 60-seconds criterion (see Methods, section *Automated sleep staging*). After removal of TRs, N=10 (deprived) and N=13 (controls) fulfilled the inclusion criterion.



SI-Figure 7: Exclusion of TRs (or whole subjects) based on sleep stage classification for the 90-seconds criterion (see Methods, section *Automated sleep staging*). After removal of TRs, N=14 (deprived) and N=14 (controls) fulfilled the inclusion criterion.