Legends of the supplementary figures:

Figure S1: Phylogenetic diversity of gut microbiomes among AID, CID and HC group

Note Comparison of the Shannon **(A)**, and Simpson **(B)** index between different groups (Wilcoxon rank-sum test). **(C)** PCoA of weighted UniFrac distance (HC vs AID vs CID, $p<.001$) and (D) PCoA of unweighted UniFrac distance (HC vs AID vs CID, $p<.001$) demonstrated that the microbiome composition of acute and chronic insomnia patients clustered separately from HCs.

Figure S2: Comparison of relative abundance at the bacterial phylum levels between AID, CID and HC groups. Linear regression model controlled for age, gender, PHQ, GAD and abdominal dysfunction. **$p<.01$, ***$p<.001$, each group with respect to the HC group