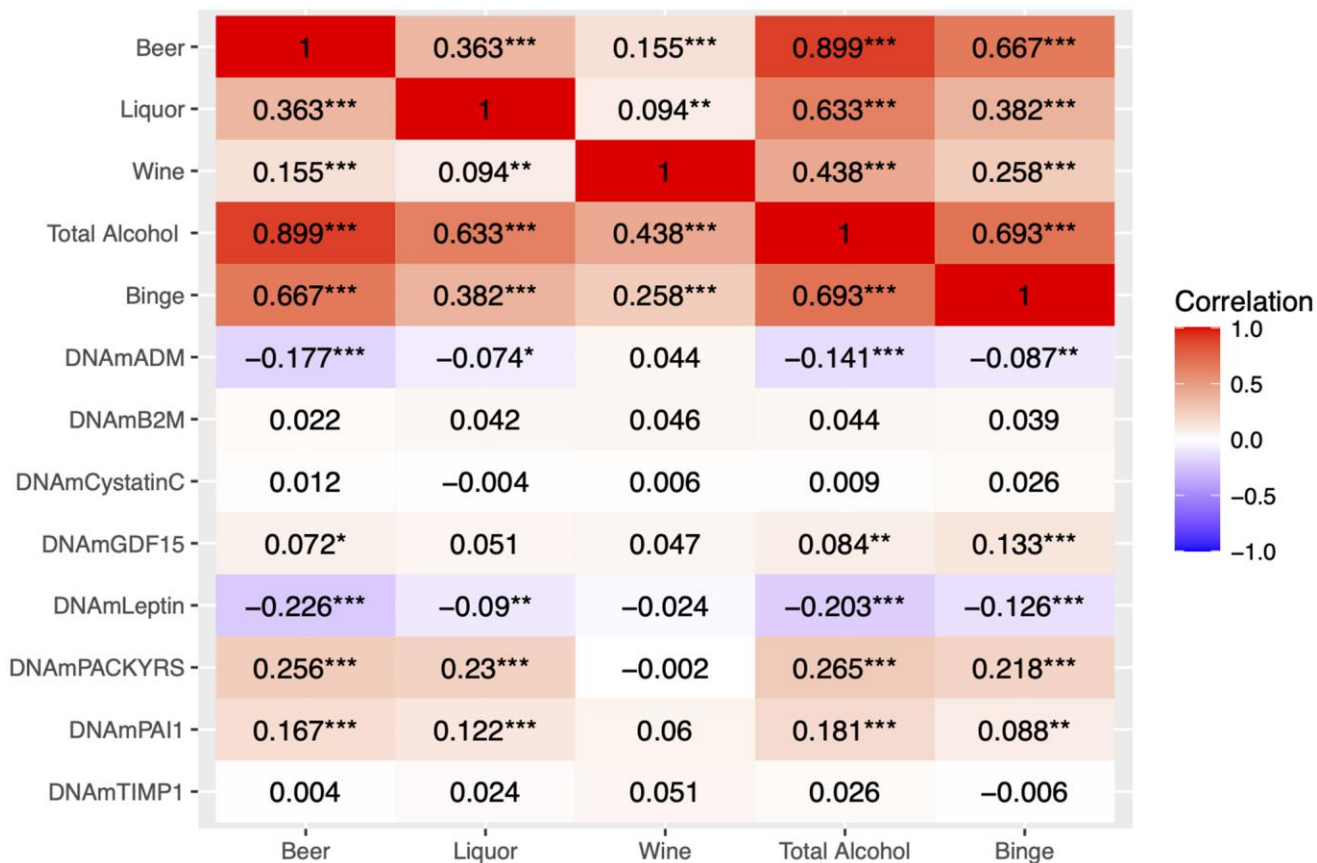
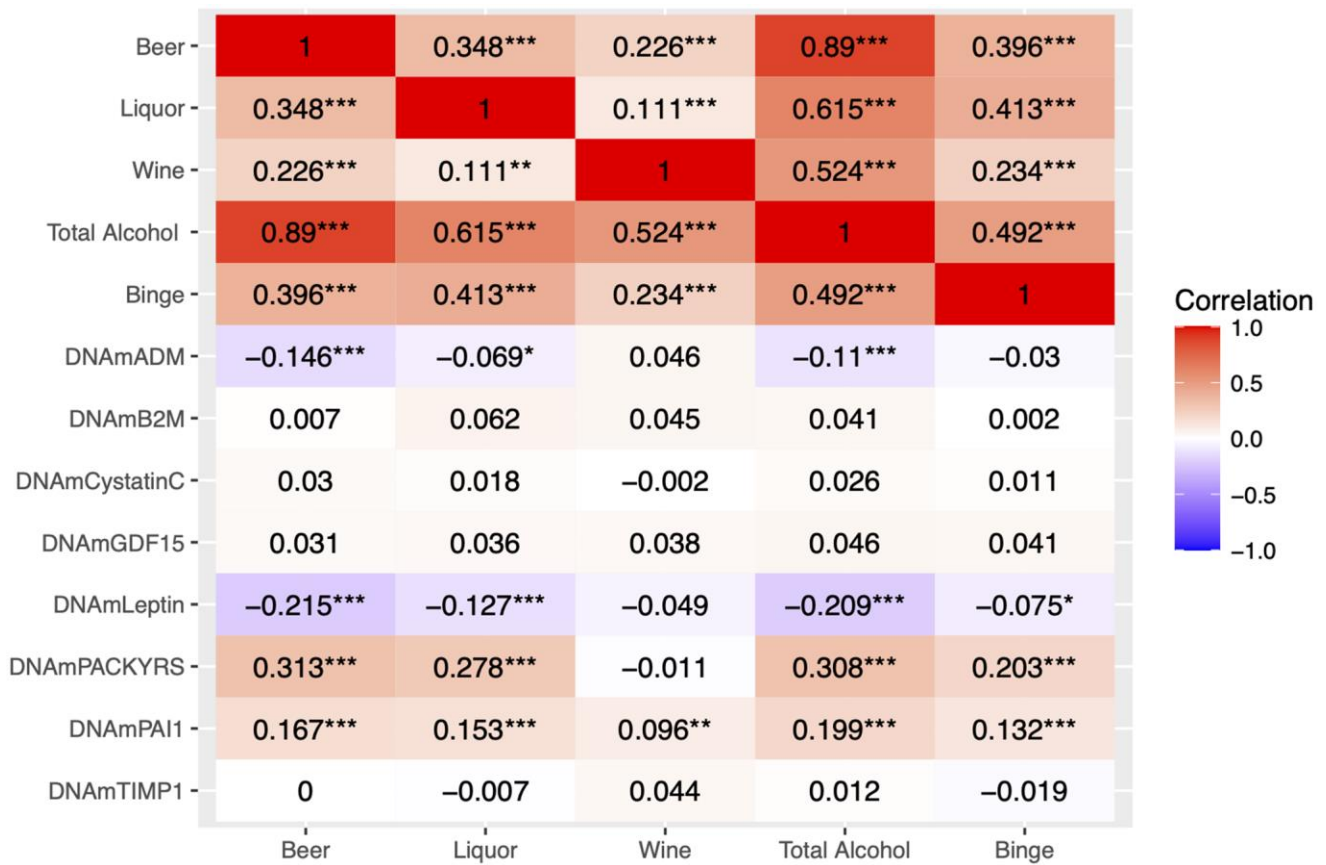


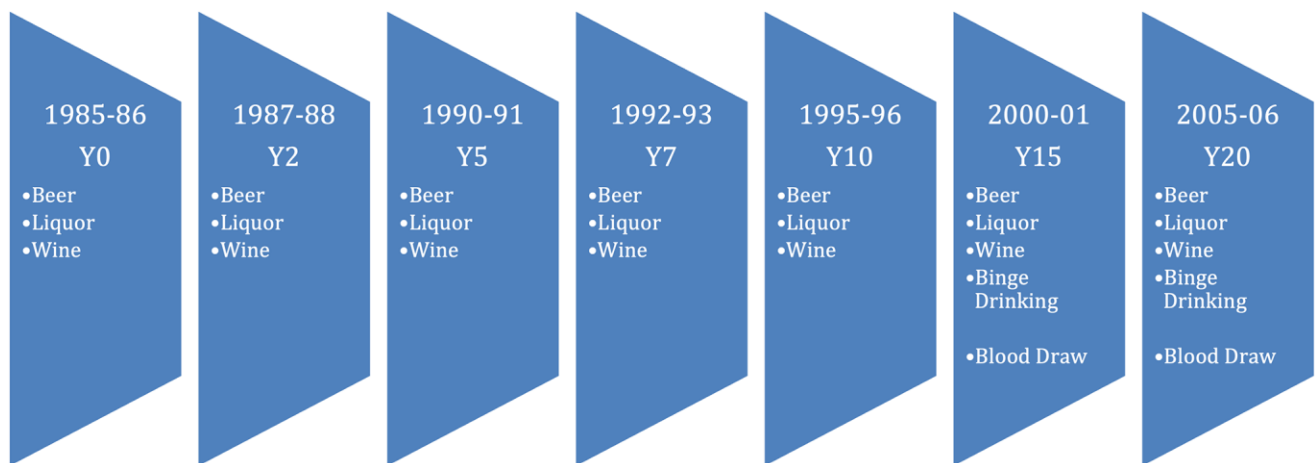
## SUPPLEMENTARY FIGURES



**Supplementary Figure 1. Pairwise correlation of cumulative alcohol consumption and binge drinking and DNA methylation-based biomarkers of GrimAge at Y15.** The columns represent the cumulative alcohol consumption variables and the number of days of binge drinking and the rows represent the DNA methylation-based biomarkers of GrimAge with the Pearson correlation coefficient reported within each box. \*\*\* $P < 0.001$ , \*\* $P < 0.01$ , \* $P < 0.05$ . Abbreviations: DNA<sub>m</sub>ADM: adrenomedullin; DNA<sub>m</sub>B2M: beta-2 microglobulin; DNA<sub>m</sub>CystatinC: cystatin C; DNA<sub>m</sub>GDF15: growth differentiation factor 15; DNA<sub>m</sub>Leptin: leptin; DNA<sub>m</sub>PACKYRS: smoking pack-years; DNA<sub>m</sub>PAI1: plasminogen activation inhibitor 1; DNA<sub>m</sub>TIMP1: tissue inhibitor metalloproteinase 1.



**Supplementary Figure 2. Pairwise correlation of cumulative alcohol consumption and binge drinking and DNA methylation-based biomarkers of GrimAge at Y20.** The columns represent the cumulative alcohol consumption variables and the rows represent the DNA methylation-based biomarkers of GrimAge with the Pearson correlation coefficient reported within each box. \*\*\* $P < 0.001$ , \*\* $P < 0.01$ , \* $P < 0.05$ . Abbreviations: DNAmADM: adrenomedullin; DNAmB2M: beta-2 microglobulin; DNAmCystatinC: cystatin C; DNAmGDF15: growth differentiation factor 15; DNAmLeptin: leptin; DNAmPACKYRS: smoking pack-years; DNAmPAI1: plasminogen activation inhibitor 1; DNAmTIMP1: tissue inhibitor metalloproteinase 1.



**Supplementary Figure 3. CARDIA study timeline and data collection.** Chronological timeline of alcohol consumption and blood collection in the CARDIA study.