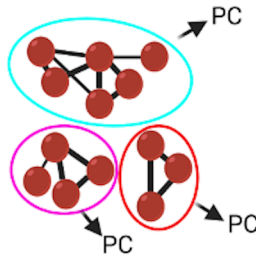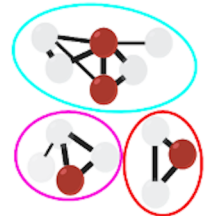# Analysis pipeline

1019 metabolites following quality control

1) Group metabolites into modules of highly coexpressed metabolites using weighted gene coexpression network analysis (WGCNA). Derive the first principal component (PC) of each module to be used for association analyses
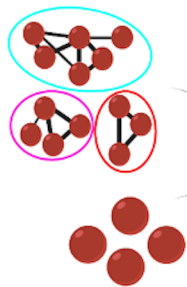
PC

PC

PC

WGCNA modules

2) Identify metabolites highly correlated to the module that are likely to be driving module expression

Hub metabolites

Are modules and hub metabolites associated with imaging measures? *N=437*

Amyloid status

Mean hippocampal volume

Whole-brain volume

Are key modules and hub metabolites additionally associated with polygenic risk scores (PRS) for Alzheimer's disease? *N=1638*

APOE+ PRS

Σ

APOE- PRS

Alzheimer's disease PRS