

**Flowchart of SAS program, PLS\_with\_pretreatments\_19.sas. Contains structure of seven SAS macros (getspec, getchem, getSG, MSCnoSGloop, SGloop, SNVnoSGloop, and SNVloop), inclusive of datasets created (in bold) from data steps (parallelograms) or procedures (rectangles), with pedigree data steps or macro filename variables (e.g., &specfile) in parentheses.**























