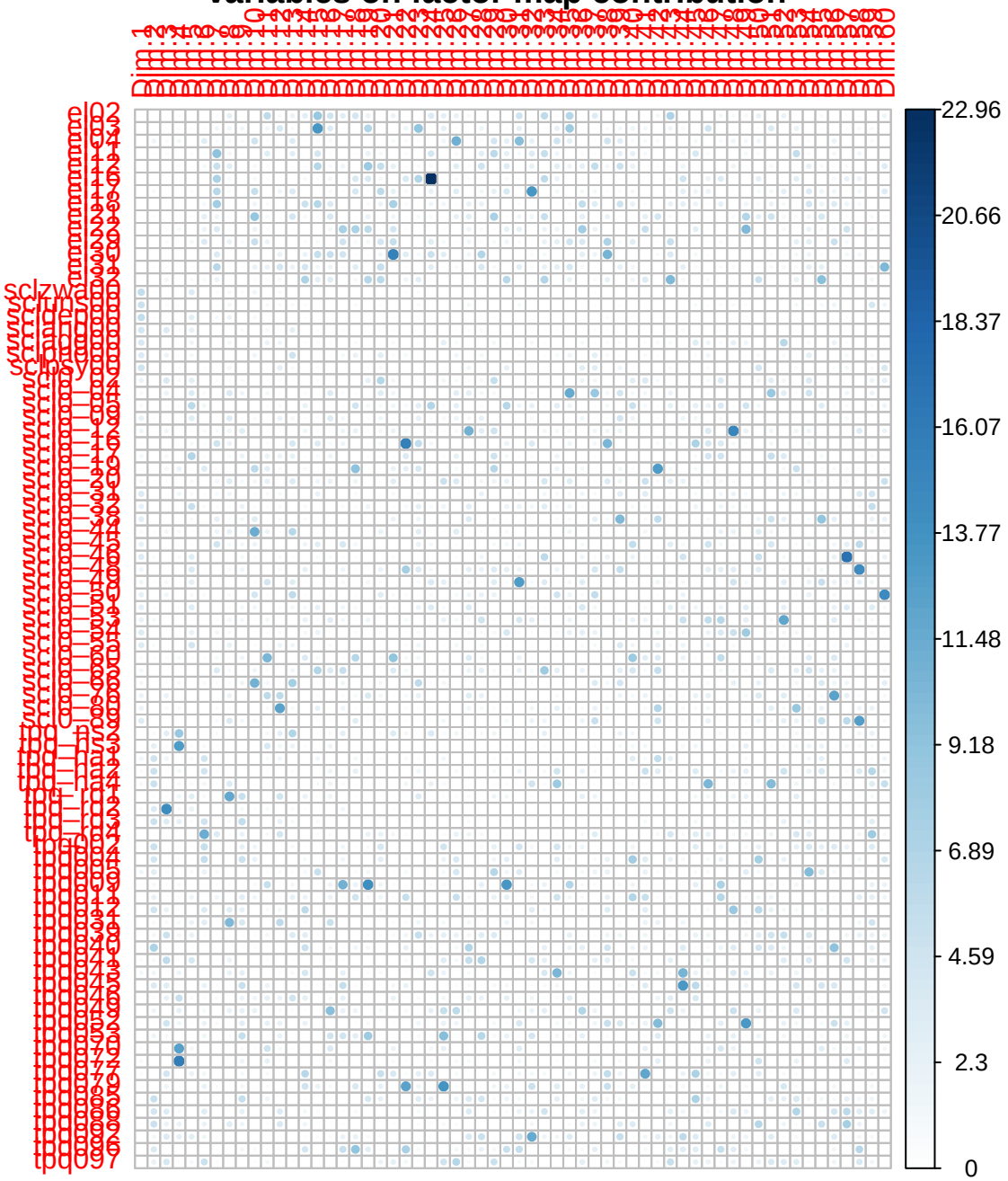variables on factor map contribution