

ABSTRACT

LARGE SCALE SYNTHESIS OF GERMANIUM SELENIDE GLASS AND GERMANIUM SELENIDE GLASS COMPOUNDS

Systems and methods for large scale synthesis of germanium selenide glass and germanium selenide glass compounds are provided. Up to about 750 grams of a germanium selenide glass or a glass compound can be synthesized at a time in about eight hours or less. Stoichiometrically proportional amounts of germanium (4) and selenium (6) are placed in an ampoule (2). A variable (5) may also be placed in the ampoule (2). The ampoule (2) is heated to above the softening temperature of the glass or glass compound being synthesized. The ampoule (2) is then rocked for a period of time while the temperature is held constant. The temperature of the ampoule (2) is then brought down to above the softening temperature of the glass or glass compound being synthesized and then quenched.

Figure 4