

Glass Fusion Preparation Instructions
Version 1.2
3/9/11

- 1) Heat muffle furnace(s) to 1100 C. Do 1 sample at a time in each furnace.
- 2) Weigh 1 g sample into Platinum crucible, then weigh 5 g Lithium Borates into crucible (not Lithium Metaborate!) then a pinch of Lithium Bromide. Mix thoroughly in crucible.
- 3) Place crucible in center of muffle furnace with tongs. Let heat for 7 min., swirl gently with tongs, then let heat for an additional 3-5 minutes (10-12 min total heating time).
- 4) Place Platinum mold on stand above Bunsen burner, then light Bunsen burner and have hottest part of flame on mold. Heat mold until glowing (may have to turn off lab lights to check this). Remove sample from muffle furnace with tongs at the proper time, then pour sample with one smooth motion into mold. It's OK if a small drop of sample remains in the mold.
- 5) Let sample heat in mold for approx. 1-5 min, until no bubbles are present or liquid just starts to circulate. Turn off flame. Let sample cool for 15+ minutes. A light popping sound may be heard, signifying the glass separating from the mold.
- 6) With tongs, remove mold from stand and gently dump cooled sample on to a Kimwipe or piece of paper. Label sample by gluing a 6.5 font identification label to the edge.
- 7) Sonicate dirty crucibles and molds in water for 5-10 minutes. Wash with soap, then rinse 3 times with DI water.
- 8) LOI (loss on ignition) needs to be performed in conjunction with the fusion preparation. Weigh approx. 1 g of sample into ceramic crucible, heat for 12+ hours at 110C, let cool in desiccator, then re-weigh sample. Calculate the percentage weight loss between the two measurements.