

Exercise #8 : DSC Mixture Interpretations
Chem 6614 Chemical Instrumentation

ANSWERS

For the DSC-ograms shown below, pick the most likely material or combination of materials present that could have created them:

- 1) pure, stable $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$ crystal (CaCl_2 melts at 773°C)
- 2) pure silica glass (melts at $\sim 1720^\circ\text{C}$)
- 3) pure cristobalite quartz (silica crystal) {may undergo c-c change to tridymite at high temp} melts at $\sim 1720^\circ\text{C}$
- 4) pure PVC amorphous plastic ($T_g < 100^\circ\text{C}$, mp $\sim 160^\circ\text{C}$)
- 5) pure PVC crystalline plastic (mp $\sim 160^\circ\text{C}$)
- 6) Pyrex ($T_g \sim 550^\circ\text{C}$, mp $\sim 1200^\circ\text{C}$)
- 7) NaCl (stable, pure cubic crystal, mp $\sim 820^\circ\text{C}$)
- 8) KCl (stable, pure, cubic crystal, mp $\sim 740^\circ\text{C}$)
- 9) soda-lime glass ($T_g \sim 500^\circ\text{C}$, mp $\sim 1000^\circ\text{C}$)

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