Grossmont College Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chemistry 141, Spring 2016

Quiz (25 points) Date: \_\_\_\_\_\_\_\_\_\_\_\_

1. (8 points) The manufacture of aluminum includes the production of cryolite from the following reaction:

6 HF (g) + 3 NaAlO2 (s) 🡪 Na3AlF6 (s) + 3 H2O (l) + Al2O3 (s)

How much NaAlO2 (sodium aluminate) is required to produce 2.40 kg of Na3AlF6?

1. (9 points) Write balanced chemical equations for the conventional total and the net ionic equations. If no reaction occurs, write No Reaction. Use subscripts [(s), (aq), (g), etc.] to indicate the phase of each compound or ion. (Can ask for chemical formula of starting materials, -2 points)

 Ammonium sulfite (aq) + Nitric acid (aq) 🡪

Conventional:

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Total Ionic:

Net Ionic:

1. (8 points) The compound is chair geraniol is on the GRAS (generally recognized as safe) list and can be used in food and personal care products. By itself, geraniol smells like roses but it is frequency blended with other fragrances on the GRAS list and then added two products to reduce a pleasant peach or lemon like aroma. In an analysis, the complete combustion of 174.7 mg of geraniol produced 499 mg CO2 and 184 mg H2O. What is the empirical of formula him for geraniol? (compound contains C, H and O)