Chemistry 141 Name

Dr. Cary Willard

Quiz 2a (20 points) February 7, 2012

1. (4 points) Write the isotopic symbol in the form and X-A for the molybdenum isotope with 51 neutrons.
2. (6 points) Magnesium has three naturally occurring isotopes (Mg-24, Mg-25, and Mg-26). The mass and natural abundance of Mg-24 are 23.9850 and 78.99% respectively. The mass and natural abundance of Mg-26 are 25.9826 amu and 11.01% respectively. Find the mass and natural abundance of Mg-25.
3. (4 points) A salt crystal has a mass of 0.23 mg. How many NaCl formula units does it contain?
4. (6 points) A metal (M) forms a compound with the formula MCl3. If the compound contains 67.16 % Cl by mass, what is the identity of the metal?

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Quiz 2b (20 points) February 7, 2012

1. (4 points) Write the isotopic symbol in the form and X-A for the molybdenum isotope with 54 neutrons.
2. (6 points) Silicon has three naturally occurring isotopes (Si-28, Si-29, and Si-30). The mass and natural abundance of Si-28 are 27.9769 and 92.22% respectively. The mass and natural abundance of Si-30 are 29.974 amu and 3.09% respectively. Find the mass and natural abundance of Si-29.
3. (4 points) A salt crystal has a mass of 0.41 mg. How many NaCl formula units does it contain?
4. (6 points) A metal (M) forms a compound with the formula MCl3. If the compound contains 64.43% Cl by mass, what is the identity of the metal?