Chemistry 141 Name KEY

Cary Willard

Quiz 7a (20 points) October 23, 2013

All work must be show to receive credit. Remember, significant figures are important!

$$c=νλ, E=hν, N\_{A}=6.022×10^{23}/mol, c=3.00×10^{8}m/sec , h=6.626 ×10^{-34}J sec$$

1. (6 points) How did Neils Bohr explain the atomic spectrum of hydrogen? Be complete.
2. (14 points) The ionization energy of lithium is 520 kJ/mol.
	1. What is the energy required to ionize 1 atom of lithium?
	2. What is the minimum frequency of light which will ionize lithium?
	3. What frequency of light is required to ionize 100 atoms of lithium?(Explain your answer.)
	4. What is the maximum wavelength of light which will ionize lithium?
	5. What frequency of light is required to ionize an atom of lithium with an electron having a kinetic energy of 4.7 x 10-20 J?

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Quiz 7b (20 points) October 23, 2013

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$$c=νλ, E=hν, N\_{A}=6.022×10^{23}/mol, c=3.00×10^{8}m/sec , h=6.626 ×10^{-34}J sec$$

1. (6 points) How did Neils Bohr explain the atomic spectrum of hydrogen? Be complete.
2. (14 points) The ionization energy of potassium is 419 kJ/mol.
	1. What is the energy required to ionize 1 atom of potassium?
	2. What is the minimum frequency of light which will ionize potassium?
	3. What frequency of light is required to ionize 100 atoms of lithium?(Explain your answer.)
	4. What is the maximum wavelength of light which will ionize potassium?
	5. What frequency of light is required to ionize an atom of potassium with an electron having a kinetic energy of 5.2 x 10-20 J?