

Spec Quiz

- | | |
|-------|-------|
| 1. B | 12. D |
| 2. C | 13. B |
| 3. D | 14. D |
| 4. C | 15. B |
| 5. C | 16. A |
| 6. A | 17. C |
| 7. A | 18. B |
| 8. A | 19. C |
| 9. A | 20. B |
| 10. C | |
| 11. B | |

21. $\lambda = \frac{c}{\nu}$ $\underline{\underline{\nu}} = \frac{c}{\lambda}$ $E = h\nu$

- 1st determine frequency based on wavelength
2nd determine energy using Planck's Law

What to review for the Spectroscopy test:

- Know the signal for spectroscopy
- Be familiar with the regions of EMR + what they relate to
- Be familiar with the regions of visible light
- Know the relationships between:
 - ① wavelength + frequency
 - ② frequency + energy
 - ③ absorbance + transmittance
- Know the formulas + constants listed on the notes page
- Know the "light + wavelength" scientists
 - Planck
 - Bohr
 - Einstein
 - Compton
 - De Broglie
- Review use of Spectrophotometer
- Review the diagram + use of mass spec.
- Be able to describe the following types of spectroscopy:
 - light absorption
 - atomic emission
 - mass spec
 - atomic adsorption
 - spark/arc emission
 - xray
- Be able to complete math problems for:
 - wavelength/frequency
 - absorbance
 - transmittance
 - Planck's Law
 - Beer's Law
 - Conc. vs. absorbance
- Be able to complete ave. atomic mass
- Be able to determine relative abundance

$$\frac{\# \text{ of isotope}}{\text{total isotopes}} \times 100$$



Mass Spectroscopy:

% Relative Abundance :

Isotope A = 27

$$\frac{27}{200} \times 100 = 13.5\% \text{ A}$$

$$\frac{164}{200} \times 100 = 82\% \text{ C}$$

Isotope B = 9

$$\frac{9}{200} \times 100 = 4.5\% \text{ B}$$

Isotope C = 164



Puzzle 3

11

41

71

82

112

123

F

N

U

FU

UN
NU

FUN

Puzzle 4

TEAM

present

MEAT

not present

Use alphabet + # from Mass Spec Packet :

1, 17, 41, 42, 43, 47, 59, 64, 67, ⁸⁹136, 148, 215

A H N AN O P R PH T Y RY

HAN