GFORSS LEARNING

Food Safety Laboratory Capacity Building

Module 7 Quiz

1. Which parameter(s) affect peak height in LC? (select all that apply)

a. Concentration
b. Flow rate
c. Temperature
d. Mobile phase composition
e. Column particle size

2. Which of these relationships apply in LC? (select all that apply)

a. Higher pressure creates a lower temperature
b. Higher pressure creates higher peaks
c. Higher temperature lowers the pressure
d. Smaller particles cause a higher pressure
e. Larger particles cause a higher pressure

3. What is the column void time in LC?

a. The retention time of the first peak
b. The smallest amount of time between two peaks
c. The time it takes for the mobile phase to pass through the column
d. The time is takes a sample to pass through the column

4. What characterizes an end-capped C18 column?

a. Two layers of coating on each particle
b. Core-shell particles
c. A secondary bonding limiting silanol groups
d. A secondary bonding freeing the silanol groups
e. Silanol groups are stripped off the C18 column

5. Approximately how much does a temperature increase of 1◦C decrease the retention time?

a. 1 minute
b. 1 second
c. 1%

6. What are the main advantages of photometric detectors? (select all that apply)

a. High selectivity
b. Linear response over a broad concentration range
c. High sensitivity
d. High cost
e. Low cost

7. Why is derivatization used in many fluorescence methods?

a. To reduce fluorescence
b. To increase fluorescence
c. To increase the retention time
d. To reduce the retention time

8. What can happen if your sample solvent is too different from the initial mobile phase of an LC run?

a. Saturated peak
b. Change in peak shape (fronting, splitting or tailing for example)
c. Increased temperature
d. Overlapping peaks

9. What is an advantage of a gradient run?

a. Shorter time needed to separate analytes with very different polarity
b. Longer retention time for components with high polarity
c. Longer time needed to separate analytes with a very different polarity
d. None of the above

10. Please match the cause and effect:

a. Increase column temperature	1. Increase pressure
b. Decrease particle size	2. Decrease pressure
c. Increase particle size	3. Decrease resolution