TLC Rf analysis — Student Worksheet

Chromatographic mobility and baseline corrections.

Name: _____ Date: _____ Section: _____

Learning goal: carry units through the calculation, show an equation, and explain the measurement assumptions.

Numerical practice

1. TLC spot migration 1

Baseline height: 1.0 cm; center of spot: 3.8 cm; solvent-front position: 7.0 cm.

(a) Subtract baseline height from spot height. [Answer in cm]

Working: _____

(b) Subtract baseline height from solvent-front height. [Answer in cm]

Working: _____

(c) Divide spot travel distance by solvent-front travel distance. [Answer in (unitless)]

Working: _____

2. TLC spot migration 2

Baseline height: 1.5 cm; center of spot: 5.1 cm; solvent-front position: 7.5 cm.

(a) Subtract baseline height from spot height. [Answer in cm]

Working: _____

(b) Subtract baseline height from solvent-front height. [Answer in cm]

Working: _____

(c) Divide spot travel distance by solvent-front travel distance. [Answer in (unitless)]

Working: _____

3. TLC spot migration 3

Baseline height: 0.8 cm; center of spot: 2.9 cm; solvent-front position: 6.8 cm.

(a) Subtract baseline height from spot height. [Answer in cm]

Working: _____

(b) Subtract baseline height from solvent-front height. [Answer in cm]

Working: _____

(c) Divide spot travel distance by solvent-front travel distance. [Answer in (unitless)]

Working: _____

4. TLC spot migration 4

Baseline height: 1.2 cm; center of spot: 4.5 cm; solvent-front position: 7.8 cm.

(a) Subtract baseline height from spot height. [Answer in cm]

Working: _____

(b) Subtract baseline height from solvent-front height. [Answer in cm]

Working: _____

(c) Divide spot travel distance by solvent-front travel distance. [Answer in (unitless)]

Working: _____

Concept and interpretation

5. Why is a pencil baseline preferred to ink?

_____

_____

6. Can two Rf values from different mobile phases be compared as definitive identity evidence?

_____

_____

Note: Report an appropriate number of significant figures for measured quantities. The online checker evaluates numeric accuracy separately from precision.